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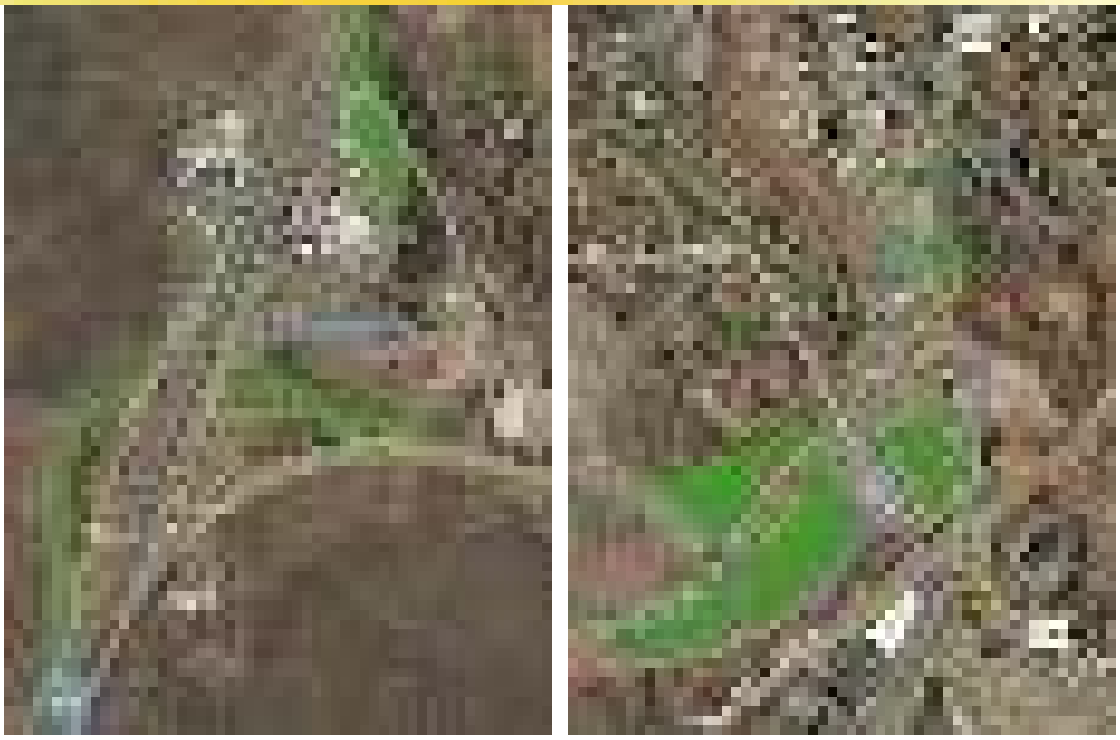

South Central Regional
Council of Governments

Final Report

Branford Connector Corridor Study
Branford, Connecticut

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Executive Summary

The South Central Regional Council of Governments (SCRCOG) has proposed a transportation planning study of the Branford Connector Corridor in order to improve the vehicular accessibility between I-95 at Interchange 53, Commercial Parkway, and US Route 1. This study also considered improving pedestrian circulation throughout the study area, stimulating economic growth along Commercial Parkway, as well as improved roadway safety and crash reduction. The following corridors were included in the study:

- Interstate 95 between Interchange 53 and 54
- US Route 1 between Route 142 (Short Beach Road) and Cedar Street
- Commercial Parkway
- Cedar Street between US Route 1 and I-95

The corridors were documented for existing traffic operating conditions in terms of capacity and safety. The weekday morning, weekday evening, and Saturday midday peak hour traffic volumes were collected in January 2017. The numbers were then adjusted with seasonal factors, provided by the Connecticut Department of Transportation (CTDOT), to account for the low volumes experienced in January.

Crash data for the study area was also collected using the UConn Crash Data Repository for the years 2013 - 2015. The crash history of the study area had the most collisions occurring on the surface streets at the intersection of US Route 1 (North Main Street) at Cedar Street (SR 740) with 96 collisions occurring in the three-year period. The most collisions on the expressway occurred at the I-95 northbound off ramp to Exit 54. A fatality occurred on the I-95 southbound off-ramp to the service plaza.

A detailed traffic analysis was performed on the corridors highlighted above at key intersections using methodologies outlined in the Highway Capacity Manual 2010, published by the Transportation Research Board. The analysis indicated that existing traffic operations were acceptable with exception of the Cedar Street (SR 740) at I-95 SB On and Off Ramps in the AM Peak Hour.

Data was then projected out 20 years, at 1% per year, to 2037 to ascertain the needs and deficiencies of the study area. The growth factor is generalized and representative of non-area wide specific growth. Traffic analysis was performed on this No-Build scenario and indicated that both intersections of the I-95 ramp termini at Cedar Street had unacceptable Levels of Service of "E" or "F". The following intersections had unacceptable Levels of Service on US Route 1 during the Saturday mid-day peak hour:

- US Route 1 at CT Route 142 (Short Beach Road)
- US Route 1 at Branford Connector (SR 794)
- US Route 1 at Commercial Parkway and Good Will Driveway

As for expressway segments analyzed in the No-Build scenario, the analysis indicated unacceptable Levels of Service of "E" on two lane segments east of Interchange 54 on both directions of I-95 in both the PM and SAT peak hours.

A crash model was also developed to analyze the No-Build Scenario using methodologies outlined in the Highway Safety Manual 2010, published by the American Association of State Highway and Transportation Officials. This data was projected out 20 years to the 2033 – 2035 period to compare with the existing crash data that was collected. The model indicated 189 collisions for the three-year period.

An origin-destination study was also performed to determine the major traffic patterns within the study area. The study found that 15% of the traffic travelling northbound on US Route 1 west of the Branford Connector would use the new I-95 northbound connection at Interchange 53. It also found that 5% of traffic east of Interchange 54 travelling on I-95 southbound would use the new southbound off ramp at Interchange 53.

With the existing and future traffic operation conditions documented, three alternates were developed:

Alternate 1 is highlighted with:

- The I-95 Northbound Service Plaza's tractor trailer parking relocated to the west to accommodate northbound access to I-95 from the Branford Connector.
- The existing access from the Service Plaza to I-95 Southbound modified to accommodate a loop ramp for vehicles exiting I-95 Southbound to the Branford connector. This loop ramp is expected to need a new bridge structure over the Branford Connector.
- The Branford Connector realigned with present day Commercial Parkway, forming a new signalized three-legged intersection.
- The Branford Connector and Route 146 are realigned to form a new signalized, four-way intersection, thereby eliminating two signalized intersections on U.S. Route 1.
- An additional left-turn lane from U.S. Route 1 to Route 142 (Short Beach Road).

Alternate 2 is highlighted with:

- A traditional full-access diamond interchange at Interchange 53.
- All traffic destined to the I-95 Northbound Service Plaza would utilize the newly constructed Interchange 53 and continue through the signalized intersection at the end of the off-ramp to enter the service plaza. All traffic exiting the Northbound Service Plaza will be rerouted to the newly constructed interchange to continue on I-95 Northbound.
- Tractor trailer parking will be relocated to the west and net parking will be increased.
- The I-95 Southbound Service Plaza's exit to I-95 is relocated to the Branford Connector to accommodate the I-95 Southbound exit to Branford Connector,
- The U.S. Route 1 at Route 146 (Main Street) intersection is relocated further north.
- An additional left-turn lane from U.S. Route 1 to Route 142 (Short Beach Road.

Alternate 3 is a combination of Alternates 1 and 2. The alternate proposes to include the same operational benefits from Alternate 1 such as the realignment of Route 146 with the Branford Connector and forming a signalized four-legged intersection, which would eliminate the need for the two adjacent traffic signals. For the proposed Interchange 53, Alternate 3 proposes the overpass design from Alternate 2. The combination of the two alternates attempts to maximize the benefits while minimizing environmental impacts as shown on drawing.

With the development of the three alternates, traffic and crash analysis was performed to compare the alternates with the No-Build scenario. Traffic analysis showed that benefits from the interchange were marginal in most areas with the exception of the improvement in the weave length in Alternate 2 and 3. The Levels of Service for the weave improves from a "B", "D", and "C" to a "B", "C", and "C" in the AM, PM, and SAT peak periods, respectively. The surface streets saw the largest improvement in traffic operation in the SAT peak period with the US Route 1

corridor improving overall with Levels of Service improving from "E" to "C" and "D." The change in traffic patterns also caused improvements to Levels of Service on the Cedar Street corridor with the corridor improving from "E" and "F" in the studied periods to "E" and "D". Crash analysis showed that traffic safety improved across the board with the least amount of crashes predicted for Alternate 2 with163 crashes within the three-year period analyzed.

Environmental impacts and economic viability were also considered with traffic and crash analysis to determine the preferred alternate. Environmental impacts for Alternate 1 were greatest with the proposal of a full trumpet interchange, which would have the greatest encroachment on adjacent wetlands and property. Alternate 2 and 3 do have similar impacts, however, the two alternates make the development of properties on US Route 1 more economically feasible.

After consideration of all the impacts, the preferred alternative is Alternate 2. This alternate minimized environmental impact and promoted economic development while also improving traffic operations, capacity, and safety. The breakdown of this project into smaller projects has been explored with the first phase being the realignment of Commercial Parkway and Branford Connector. The second phase would be reconstructing US Route 1 and CT Route 146. The last phase of the project consists of interchange 53 and the improvements at the service plazas. The total cost of all three projects is estimated to be $27.1 million.

1. Project Location and Study Area

This report describes the existing and future no-build traffic operating conditions along the Branford Connector Corridor. The study area (see Figure 1: Location Map) includes the following corridors:

- US Route 1 between CT Route 142 (Short Beach Road) to Cedar Street (SR 740)
- I-95 between Exit 53 (Branford Connector) and Exit 54
- Cedar Street between US Route 1 and the I-95 Exit 54 ramps.

The US Route 1 corridor consists mostly of commercial land uses, retail and smaller office facilities. Several large condominium/apartment complexes also exist along the corridor. Residential neighborhoods exist along CT Route 142 and Cherry Hill Road. Branford's downtown business district is located south of the US Route 1 corridor. Cherry Hill Road, Cedar Street and CT Route 146 provide access to downtown Branford as well as the shoreline.

Interstate 95 is a major expressway within the study area, running in an east/west direction carrying approximately 87,300 vehicles per day on average (2015). A service plaza exists in both directions along I-95. Cedar Street is a secondary state route and serves as a connection between I-95 and the US Route 1 corridor, downtown Branford, and the residential neighborhoods north of I-95.

2. Introduction

This report was prepared for the South Central Regional Council of Governments to analyze several build alternates within the study area to improve safety, traffic operations, and promote development in the area.

All the alternates focus on implementing a full access interchange at exit 53, realigning Branford Connector with Commercial Parkway, and intersection improvements along US Route 1. Also, a missing segment of sidewalk from Route 146 to Cherry Hill Road is proposed to complete the sidewalk system along US Route 1. The proposed improvements are expected to improve access and mobility within the study area. The underlying intent behind all the alternates is to provide additional access to and from I-95 at interchange 53. This would contribute to improved traffic operations along US Route 1 and Cedar Street as there will be fewer motorists traveling on US Route 1 to access the I-95 interchange at exit 54. The alternates are also devised and refined in order to provide impetus for future development along the Commercial Parkway and US Route 1.

This report includes traffic analysis done in both Synchro 9.0 and VISSIM 8.0 and is compiled within. The Interactive Highway Safety Design Model (IHSDM) software was utilized to predict the number of crashes for each alternate based on cross-sectional information and future volumes.

2.1 Potential Area Development

Several deficiencies exist today that hinder development along Commercial Parkway. Interchange 53 does not provide access from I-95 Southbound to US Route 1 or to I-95 Northbound from US Route 1. This does not provide the access necessary for businesses in this area to be successful. Travelling from the east to Commercial Parkway or vice-versa, motorists need to travel through the heavily congested Cedar Street and Route 1 to access any site on Commercial Parkway.

The proposed alternates directly address the access issue by realigning Branford Connector with Commercial Parkway and providing new access to I-95 Northbound and from I-95 Southbound. This funnels traffic from the I-95 exit 53 interchange directly on Commercial Parkway and Branford Connector. This realignment makes the Branford Connector corridor

accessible from both directions of I-95. With a full interchange, it is estimated that by 2037, the Average Daily Traffic (ADT) along Branford Connector will be nearly 22,000 vehicles, up from the today's ADT of 13,400.

3. Existing Conditions and No-Build Analysis

Data was collected beginning in the winter of 2017. An outline of the data collected in the field is outlined below. This information was taken and was used to develop an Existing and No-Build Scenario, which are subsequently outlined after data collection.

3.1 Study Area Roadways and Intersections

A site visit was performed to the various corridors and intersections contained in this report in the winter of 2017. Photographs taken during the visit are compiled in Appendix A.

3.1.1 Interstate 95

Interstate 95 is classified as a urban principal arterial - interstate within the study limits. The roadway geometry is relatively straight and flat. Northbound I-95 consists of three through lanes up to the service plaza. After the service plaza, the right-most lane becomes an exit-only lane for Exit 54 to Cedar Street. Northbound I-95 then continues with two through lanes. Southbound I-95 consists of two through lanes east of Exit 54 and then continues with three through lanes west of Exit 54. The posted speed limit throughout the study area is 65 mph.

The Exit 53 interchange consists of a northbound exit to Branford Connector and southbound access from Branford Connector. Access to and from Branford Connector is provided via free-flow turning roadways. The Exit 54 interchange includes a northbound exit to Cedar Street as well as access from Cedar Street to Northbound I-95. Southbound I-95 includes an exit to Cedar Street as well as access from Cedar Street to Southbound I-95. Access to and from Interstate 95 is provided via two signalized intersections that operate under a single controller.

3.1.2 Branford Connector (SR 794)

Branford Connector is classified as a minor arterial that serves as a link between I-95 and US Route 1. The roadway consists of one lane in each direction with a median barrier separating the two directions of travel. Branford Connector forms a signalized "T" intersection with US Route 1. The posted speed is 45 mph and the I-95 Northbound off-ramp has a posted advisory speed of 25 mph. The Branford connector approach consists of dual left-turn lanes and a channelizing right-turn lane.

3.1.3 Cedar Street (SR 740)

Cedar Street is classified as a north/south collector within the study area with a posted speed limit of 30 mph. Between the I-95 Northbound/Southbound on/off ramps, Cedar Street consists of two through lanes in each direction with auxiliary left-turn lanes for the I-95 Northbound On-Ramp and the I-95 Southbound On-Ramp. Outside of the study limits, the roadway tapers to provide one lane in each direction. Cedar Street provides access to downtown Branford south of the study limits.

Cedar Street at US Route 1 forms a signalized four-legged intersection. The southern approach ties into the intersection at a downward grade and consists of left-turn, through, and right-turn lanes. The northbound approach consists of left-turn, through,

and combination through/right lanes. The eastbound approach consists of dual left-turn lanes and a combination through/right lane. The westbound approach consists of left-turn, through, and right-turn lanes. The signalized intersection has an exclusive pedestrian phase with painted crosswalks across all approaches.

3.1.4 US Route 1

Within the study limits, US Route 1 is classified as a principal arterial that runs east/west. Two through lanes exist in each direction between Route 142 (Short Beach Road) and Route 146 (West Main Street). East of Route 146, the roadway tapers to one through lane in each direction. There are six major signalized intersections within the study area that provide access to/from Downtown Branford and the shoreline. Auxiliary left-turn lanes are provided at all signalized intersections. Apart from the signalized intersections, there are several un-signalized intersections that serve various land uses from residential to restaurant/retail. The posted speed limit is 40 mph west of Cherry Hill Road and 45 mph to the east.

3.1.5 Short Beach Road (Route 142)

Short Beach Road is classified as a minor arterial within the study limits. It is mainly a two-lane roadway with auxiliary turn lanes at major intersections. Immediately south of US Route 1, South Beach Road provides access to a major retail shopping plaza. However, south of the shopping plaza, Short Beach Road serves access to various residential neighborhoods. The posted speed limit is 30 mph.

At US Route 1, Short Beach Road forms a signalized "T" intersection with left and right-turn lanes. The US Route 1 eastbound approach consists of two through lanes and a right-turn lane. The westbound approach consists of two through lanes and a left-turn lane. The traffic signal accommodates pedestrians via an exclusive pedestrian phase. Crosswalks are painted across the southern and eastern legs of the intersection.

3.1.6 Commercial Parkway

Commercial Parkway is a dead-end, two lane, local roadway that serves residential, retail, and industrial land-uses. Also, there is access to a CTDOT Park and Ride commuter lot via Commercial Parkway.

Commercial Parkway forms a signalized four-legged intersection with US Route 1 and Goodwill Driveway. The Commercial Parkway and Goodwill Driveway approaches both consist of a left-turn lane and a combination through/right lane. The US Route 1 northbound approach consists of a left-turn, through, and combination through/right lanes. The US Route 1 southbound approach consists of a left-turn lane, two through lanes, and a right-turn lane. An exclusive pedestrian phase exists at the traffic signal to accommodate pedestrians. A single crosswalk is painted across the Commercial Parkway approach.

3.1.7 West Main Street (Route 146)

West Main Street is classified as a collector roadway within the study limits. The roadway runs east/west and provides direct access to downtown Branford. The land uses along West Main Street generally consist of residential neighborhoods, with more retail and restaurant uses closer to the center of town. West Main Street consists of one lane in each direction. The posted speed limit is 35 mph.

West Main Street forms a signalized "T" intersection with US Route 1. The westbound approach consists of dual left-turning lanes and a channelizing right-turn lane. US Route 1 consists of a left-turn lane, two through lanes, and a right-turn lane. The southbound approach consists of a left-turn lane, a through lane, and a combination through/right lane. The traffic signal includes an exclusive pedestrian signal that accommodates pedestrians across US Route 1. A single painted crosswalk exists at the southern leg of the intersection.

3.1.8 Cherry Hill Road

Cherry Hill Road is a local roadway serving primarily residential neighborhoods. The roadway consists of one lane in each direction. The posted speed limit is 25 mph. Cherry Hill Road forms a signalized four-legged intersection with US Route 1. The Cherry Hill Road southbound approach consists of a combination through/left lane and a right-turn lane. The northbound approach consists of a single left/through/right lane. US Route 1 in both eastbound and westbound directions consist of a left-turn lane and a combination through/right lane. The traffic signal includes an exclusive pedestrian phase accommodates pedestrians across US Route 1. A single crosswalk is painted across the northern leg of the intersection.

3.2 Crash Data

Data from the UCONN Crash Data Repository was compiled for the study area for the years 2013-2015. It includes the intersections along both US Route 1 and Cedar Street and the merges, diverges, and weave segments along I-95 in the study area. A crash detail of each location is provided in Appendix B and a breakdown by collision type is attached under Collision Data. A breakdown of the intersections by collision number and severity is below in Tables 1 and 2.

Table 1: 2013-2015 Collision Summary (Signalized Intersections)

	Fatalities	Injury	Property Damage Only	Total
Route 1 (West Main Street) @ Route 142 (Short Beach Road)	0 (0%)	3 (17%)	15 (83%)	18
Route 1 (West Main Street) @ Branford Connector (SR 794)	0 (0%)	3 (11%)	24 (89%)	27
Route 1 (West Main Street) @ Commercial Parkway/Goodwill Driveway	0 (0%)	7 (21%)	27 (79%)	34
Route 1 (West Main Street/North Main Street) @ Route 146 (West Main Street)	0 (0%)	7 (27%)	19 (73%)	26
Route 1 (North Main Street) @ Cherry Hill Road	0 (0%)	11 (30%)	26 (70%)	37
Route 1 (North Main Street) @ Cedar Street (SR 740)	0 (0%)	17 (18%)	79 (82%)	96
Cedar Street (SR 740) @ I-95 NB On Ramp/ Off Ramp	0 (0%)	7 (27%)	19 (73%)	26
Cedar Street (SR 740) @ I-95 SB On Ramp/ Off Ramp	0 (0%)	5 (21%)	19 (79%)	24

Table 2: 2013-2015 Collision Summary (Expressway Interchanges)

	Fatalities	Injury	Property Damage Only	Total
I-95 NB Exit 53 Off Ramp	0 (0%)	3 (50%)	3 (50%)	6
I-95 NB Service Plaza Off Ramp	0 (0%)	0 (0%)	0 (0%)	0
I-95 NB Service Plaza On Ramp	0 (0%)	0 (0%)	3 (100%)	3
I-95 NB Exit 54 Off Ramp	0 (0%)	2 (14%)	12 (86%)	14
I-95 NB Exit 54 On Ramp	0 (0%)	0 (0%)	2 (100%)	2
I-95 SB Exit 53 On Ramp	0 (0%)	1 (50%)	1 (50%)	2
I-95 SB Service Plaza On Ramp	0 (0%)	1 (50%)	1 (50%)	2
I-95 SB Service Plaza Off Ramp	1 (50%)	1 (50%)	0 (0%)	2
I-95 SB Exit 54 On Ramp	0 (0%)	2 (40%)	3 (60%)	5
I-95 SB Exit 54 Off Ramp	0 (0%)	1 (25%)	3 (75%)	4

The most prevalent collision is the rear end type within the study area. The intersection with the highest crash frequency was US Route 1 at Cedar Street (SR 740) with 96 collisions. The eastbound Route 1 approach had the most collisions with 46 (90%) of those collisions being of the rear end type.

One fatality occurred in the study area and was on I-95 SB at the Service Plaza Off Ramp. The crash was a sideswipe-opposite direction type that occurred on February 8, 2015 at 12:48 am. The contributing factor was not reported for the crash.

To estimate the number of crashes in the future No-Build scenario, the Interactive Highway Safety Design Model (IHSDM) software was utilized. The IHSDM software is based on the AASHTO Highway Safety Manual, and predicts crashes based on roadway cross-sectional features and traffic volumes. The basic cross-section features such as lane widths, shoulder widths, number of driveways, speeds, horizontal curves, vertical data, etc. were input into the model.

The Existing Conditions scenario was also analyzed to compare to the future No-Build scenario results. The Existing conditions used data from prior years 2013 through 2015 for analysis, while the No-Build Conditions used data from the years 2033 through 2035 for analysis. The results were rounded and are summarized in Table 3. Detailed reports can be found in Appendix C.

Table 3: IHSDM Predicted Crashes

	2017 Existing	2037 No-Build
I-95 Northbound Off-Ramp	4	4
I-95 Southbound On-Ramp	4	5
Branford Connector	23	30
Commercial Parkway	11	14
Route 1	71	90
Route 146	18	23
Short Beach Road	18	23
TOTAL	149	189

3.3 Existing Traffic Operations

Traffic data was collected for each of the intersections, interchanges, and corridors that were included in this study. During the field review, traffic operations were observed and helped to calibrate the capacity analysis performed and summarized below.

3.3.1 Traffic Data Collection

For the surface street analysis, manual turning movement counts were conducted at the following eight signalized intersections during the weekday morning, evening, and Saturday midday commuter peak periods in January 2017:

- US Route 1 (West Main Street) at Route 142 (Short Beach Road),
- US Route 1 (West Main Street) at SR 794 (Branford Connector),
- US Route 1 (West Main Street) at Commercial Parkway,
- US Route 1 (North Main Street) at Route 146 (West Main Street),
- US Route 1 (North Main Street) at Cherry Hill Road,

- US Route 1 (North Main Street) at SR 740 (Cedar Street),
- SR 740 (Cedar Street) at I-95 Northbound On/Off Ramps,
- SR 740 (Cedar Street) at I-95 Southbound On/Off Ramps

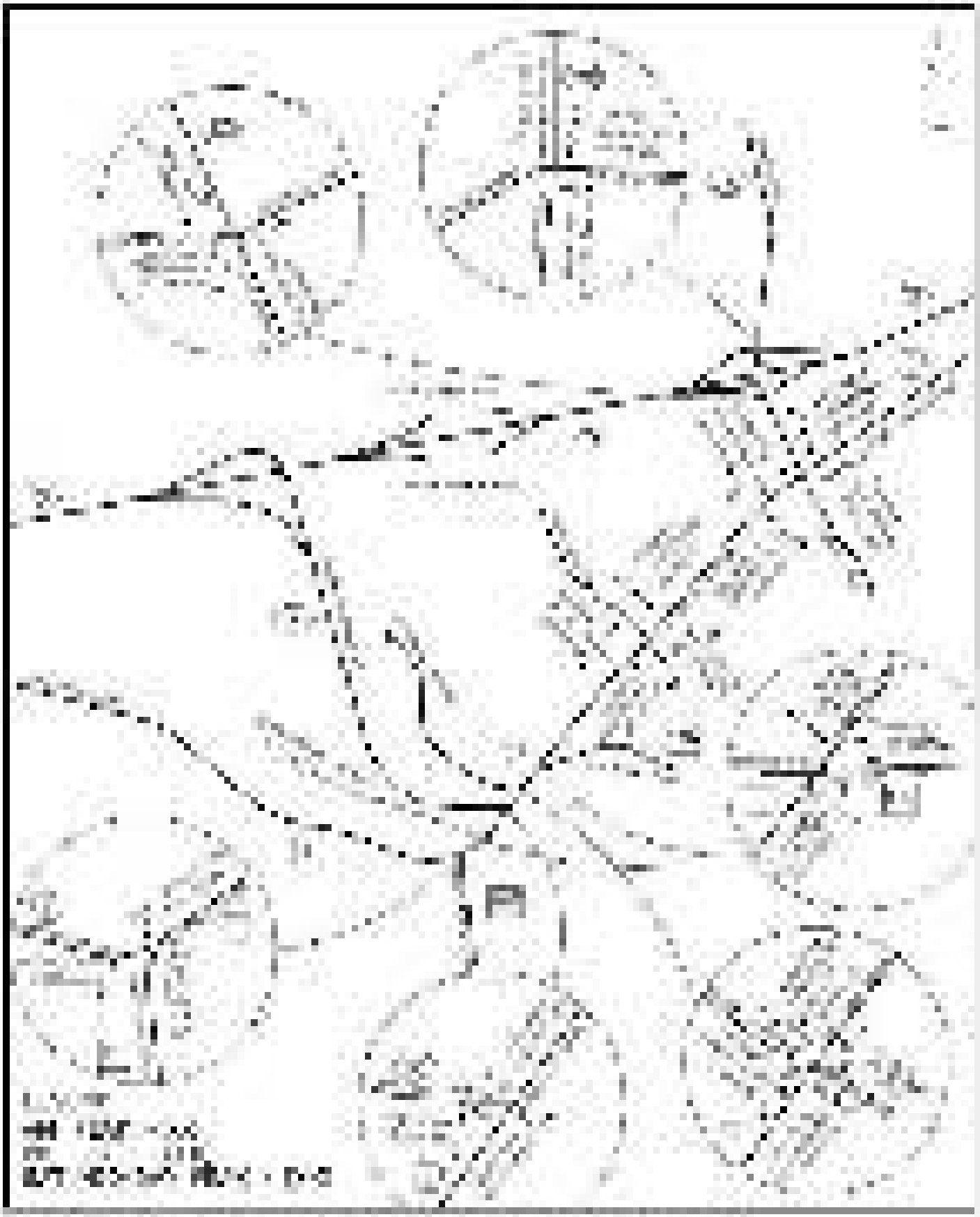
Counts were adjusted with seasonal factors, provided by CTDOT, to account for the low volumes that occur during this time of year.

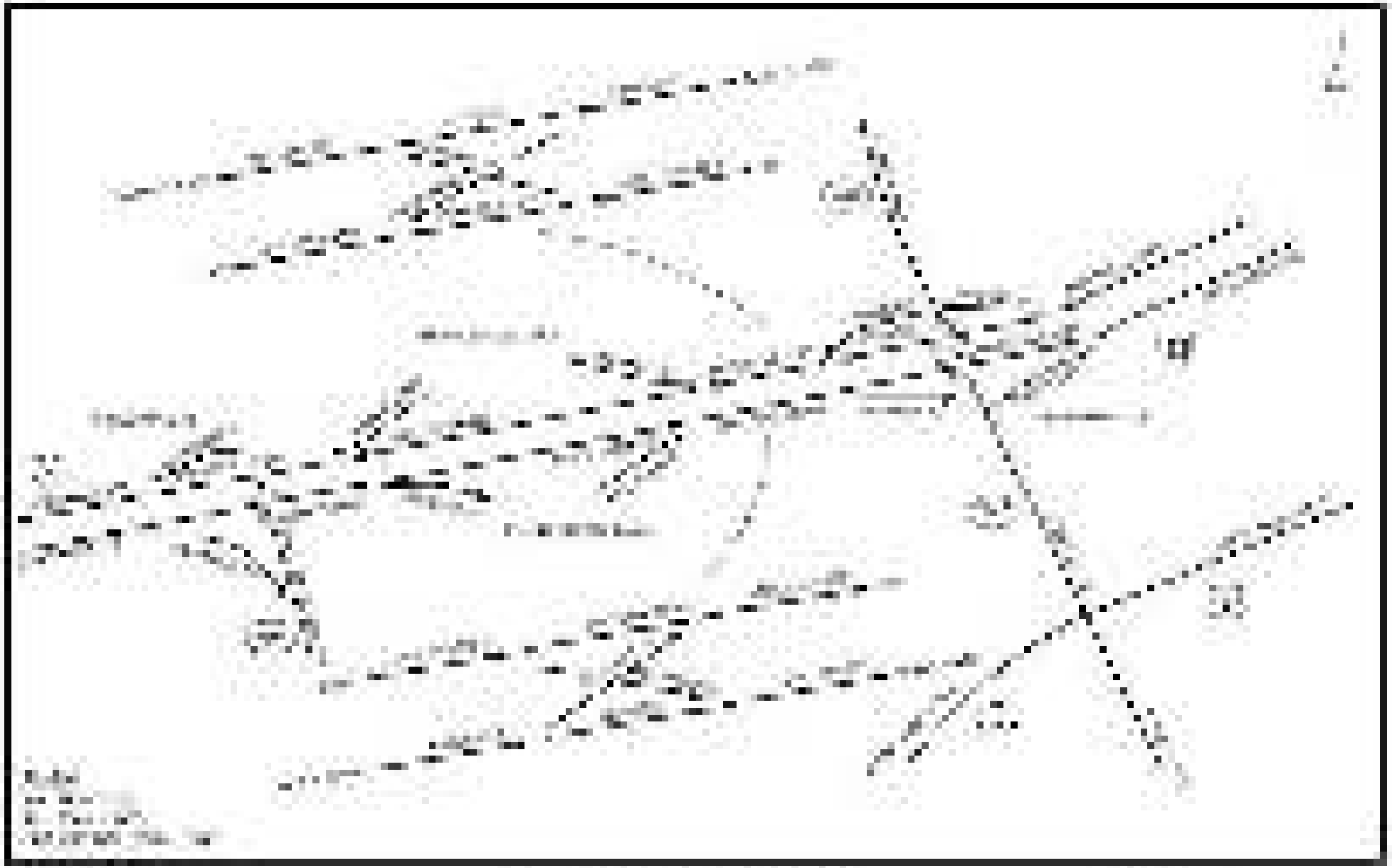
For the expressway analysis, volume information used for analysis was acquired from automatic traffic recorder counts done in late January and early February 2017, CTDOT continuous count station data available for Station #9032 on I-95 between Exit 54 and Exit 55, and information provided to BL companies by CTDOT. The data was adjusted to consider the time of year. January and February are typically the months with the lowest traffic volumes for the year. Figures 2 and 3 show existing volumes on surface streets and on the expressway, respectively. Figures 4 and 5 show No-Build projected volumes on surface streets and on the expressway, respectively.

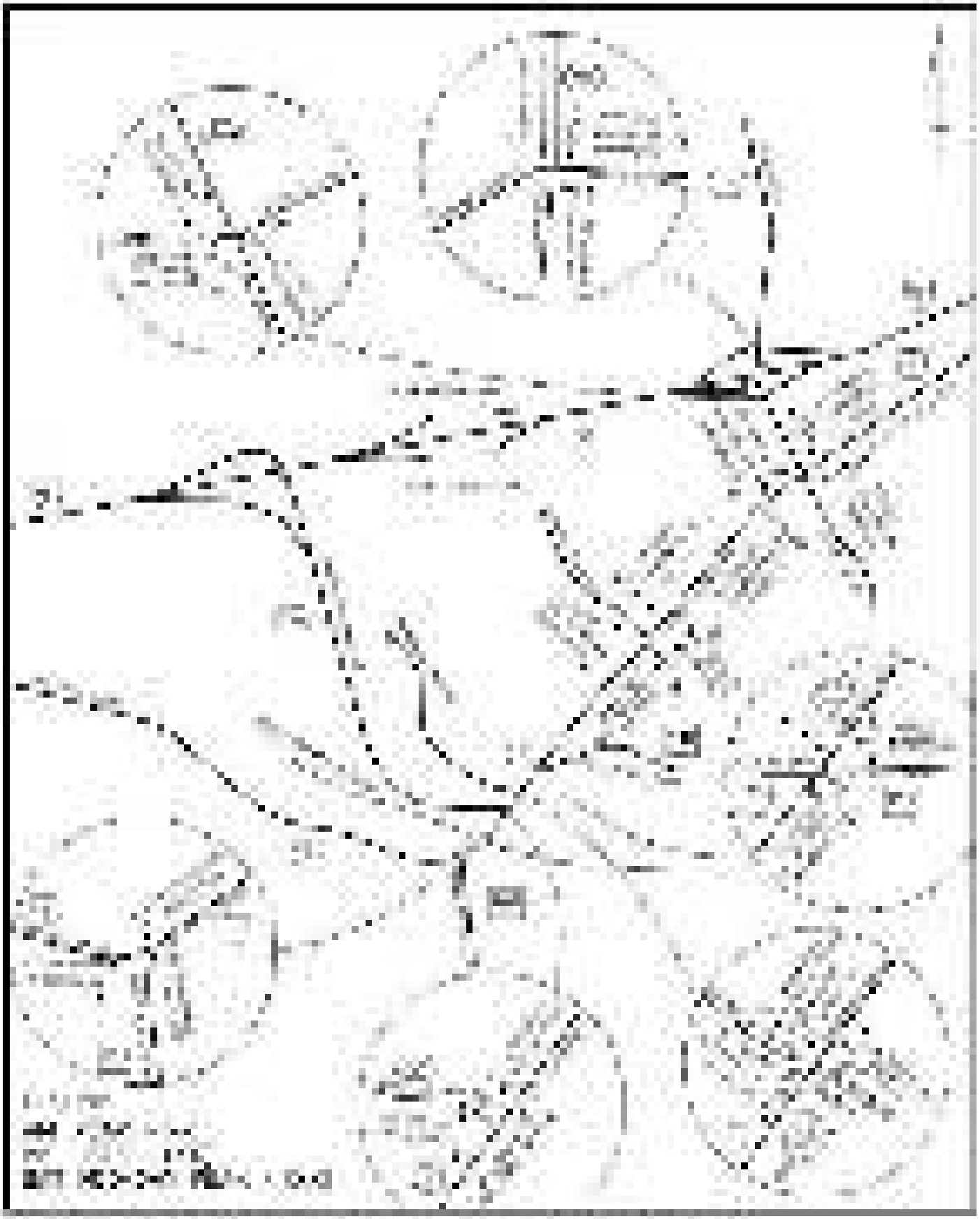
A 1% growth rate over 20 years was applied to the No-Build scenario to project volumes to 2037 conditions.

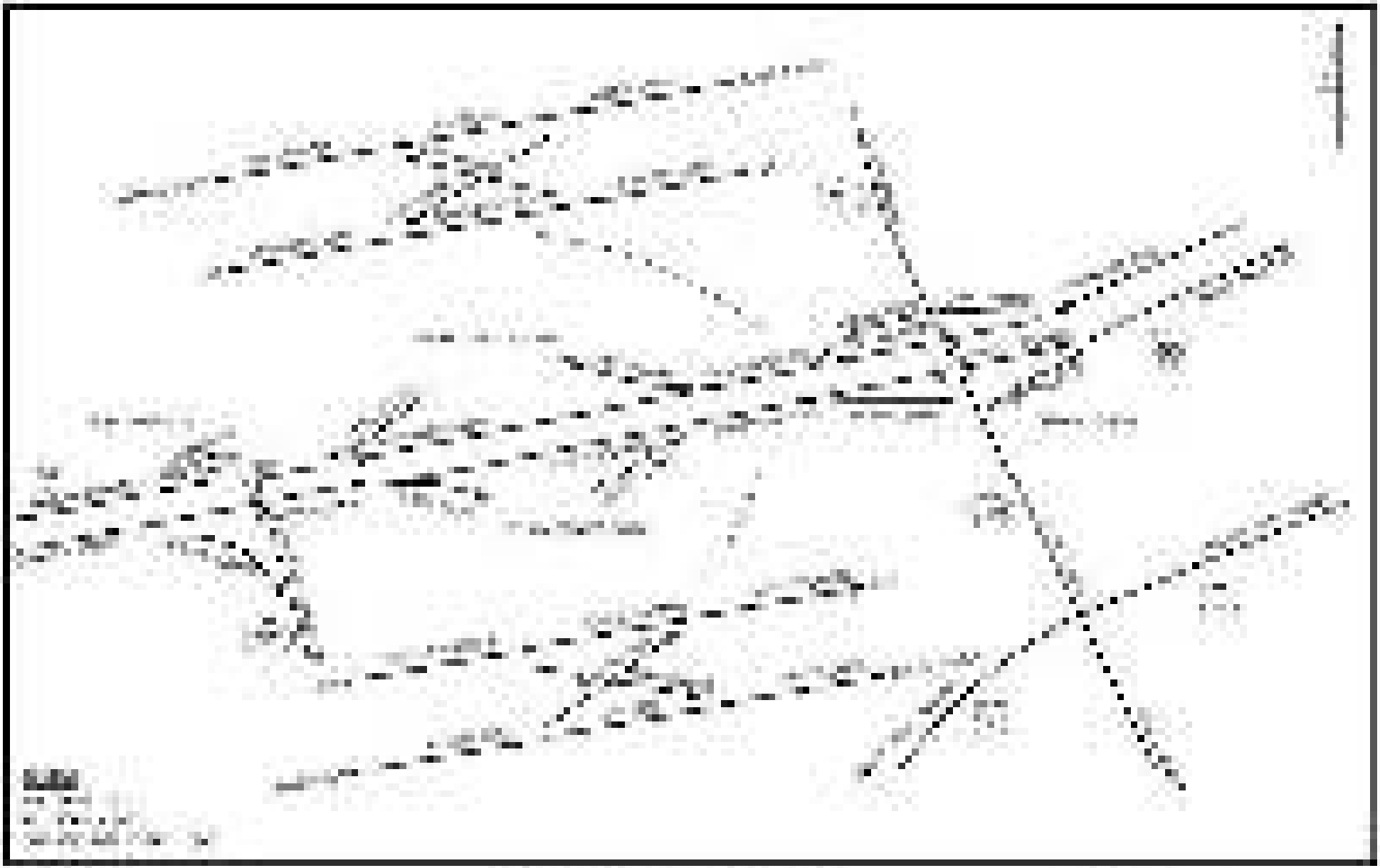
3.3.2 Existing Deficiencies

The existing roadway deficiencies can be broken up between the expressway and surface streets. There are two deficiencies regarding the expressway. First, the missing connections to I-95 Northbound from Branford Connector and I-95 Southbound to Branford Connector. Not only does this limit access and mobility in the area, it increases emergency services response times to potential incidents between exits 53 and 54. The second deficiency is the weave length on I-95 Northbound between the service plaza and Exit 54. A third through lane on I-95 Northbound would reduce the potential conflicts with motorists entering and exiting the expressway.









The surface street deficiencies include the closely spaced intersections on US Route 1 and lack of capacity at the Cedar Street intersections. The Branford Connector, Commercial Parkway, and West Main Street intersections along US Route 1 are all within 600' of each other. The lack of spacing between these intersections can occasionally cause vehicles backing-up into adjacent intersections and blocking conflicting approaches. Cedar Street lacks the capacity to serve the vehicles accessing I-95. A single 200' left-turn lane is provided to the I-95 Southbound On-Ramp. The vehicle demand exceeds the capacity of the left-turn lane resulting in spillover into the adjacent through lane, which adds to the congestion along Cedar Street.

The AMTRAK bridge in the vicinity of Branford Connector was a deficiency that was recently corrected. The result of this project allowed for the widening of US Route 1 and addressed capacity issued.

3.3.3 Expressway Analysis

The Level of Service (LOS) for freeway facilities is based on density in passenger cars per mile per lane, and is shown in the following table.

Table 4: Expressway Level of Service Criteria

Level of Service	Basic Freeway	Merge or Diverge
	Density(pc/mi/ln)	*Density(pc/mi/ln)*
A	≤11	≤10
B	>11-18	>10-20
C	>18-26	>20-28
D	>26-34	>28-35
E	>34-45	>35
F	>45 or V/C ≥1.0	V/C ≥1.0

Using the Highway Capacity Manual methods in Chapter 11 (Basic Freeway Segments), Chapter 12 (Freeway Weaving Segments), and Chapter 13 (Freeway Merge and Diverge Segments), I-95 was divided in each direction into main line, merge and diverge segments. The software used for analysis purposes was PTV VISSIM 8.0. VISSIM does not provide a direct output of HCM-compliant LOS, therefore, equations in the HCM were used with the outputs of VISSIM to develop LOS. Basic freeway segments were analyzed using Equation 11-4, weaves were analyzed using Equation 12-22, and merge/diverges were analyzed using Equation 13-21 and 13-22. The method of analysis and equations used are summarized in Appendix D. Tables 5-10 show the LOS for basic freeway, merges, and diverges by direction.

Table 5: I-95 NB – Basic Freeway Segments

	2017 Existing			2037 No-Build		
	AM Peak	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**
Exit 52 On Ramp – Exit 53 Off Ramp	B(16.7)	D(26.7)	C(20.7)	C(20.3)	E(39.2)	C(25.1)
Service Plaza Off Ramp – Service Plaza On Ramp	B(13.6)	C(19.2)	B(15.7)	B(16.4)	D(27.0)	C(19.4)
Exit 54 Off Ramp – Exit 54 On Ramp	B(17.9)	C(24.4)	C(21.5)	C(21.6)	E(38.3)	D(28.4)
Exit 54 On Ramp – Exit 55 Off Ramp	C(20.5)	D(27.8)	C(25.3)	D(26.5)	E(35.3)	D(32.1)

X(XX) – Level of Service (Basic Freeway Segment Density in pc/mile/lane)

Table 6: I-95 SB – Basic Freeway Segments

	2017 Existing			2037 No-Build		
	AM Peak	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**
Exit 52 Off Ramp – Exit 53 On Ramp	C(22.6)	C(20.0)	C(19.4)	D(26.8)	C(23.6)	C(23.2)
Service Plaza On Ramp – Service Plaza Off Ramp	C(18.2)	B(16.6)	B(15.8)	C(21.2)	C(19.5)	C(18.9)
Exit 54 On Ramp – Exit 54 Off Ramp	C(24.3)	C(22.8)	C(20.9)	D(29.0)	D(26.9)	D(25.1)
Exit 54 Off Ramp – Exit 55 On Ramp	D(28.3)	D(27.8)	C(24.6)	E(37.3)	E(38.1)	E(30.1)

X(XX) – Level of Service (Basic Freeway Segment Density in pc/mile/lane)

Table 7: I-95 NB – Merge/Diverge Segments

	2017 Existing			2037 No-Build		
	AM Peak	PM Peak	SAT Mid-Day Peak	AM Peak	PM Peak	SAT Mid-Day Peak
Exit 53 Off Ramp	B(19.6)	D(30.4)	C(24.1)	C(23.4)	D(34.1)	D(28.8)
Service Plaza Off Ramp	B(18.9)	C(23.9)	C(21.3)	C(22.1)	C(26.6)	C(24.9)
Exit 54 On Ramp	C(25.3)	D(31.6)	D(30.0)	D(30.9)	E(36.6)	E(35.7)

X(XX) – Level of Service (Merge/Diverge Segment Density in pc/mile/lane)

Table 8: I-95 SB – Merge/Diverge Segments

	2017 Existing			2037 No-Build		
	AM Peak	PM Peak	SAT Mid-Day Peak	AM Peak	PM Peak	SAT Mid-Day Peak
Exit 53 On Ramp	D(29.7)	C(26.1)	C(25.7)	E(34.7)	D(30.3)	D(30.4)
Service Plaza On Ramp	C(23.2)	C(20.2)	B(19.8)	C(26.6)	C(23.5)	C(23.4)
Exit 54 Off Ramp	D(32.4)	D(32.2)	D(28.9)	E(37.6)	E(37.4)	E(34.1)

X(XX) – Level of Service (Merge/Diverge Segment Density in pc/mile/lane)

Table 9: I-95 NB – Weave Segments

	2017 Existing			2037 No-Build		
	AM Peak	PM Peak	SAT Mid-Day Peak	AM Peak	PM Peak	SAT Mid-Day Peak
Service Plaza On Ramp – Exit 54 Off Ramp	B(14.3)	C(20.2)	B(16.5)	B(17.3)	E(33.3)	E(21.5)

X(XX) – Level of Service (Weave Segment Density in pc/mile/lane)

Table 10: I-95 SB – Weave Segment

	2017 Existing			2037 No-Build		
	AM Peak	PM Peak	SAT Mid-Day Peak	AM Peak	PM Peak	SAT Mid-Day Peak
Service Plaza Off Ramp – Exit 54 On Ramp	B(17.8)	B(15.6)	B(15.3)	C(21.4)	B(18.4)	C(18.5)

X(XX) – Level of Service (Weave Segment Density in pc/mile/lane)

Under Existing Conditions, northbound I-95 between Exit 52 on-ramp and Exit 53 off-ramp experiences congested conditions. Also, I-95 Southbound between Exit 54 off-ramp and Exit 55 on-ramp experiences congested conditions in the commuter peak periods.

Under future No-Build Conditions, both Southbound and Northbound I-95 are projected to continue to experience congested conditions, both during the weekday and weekend peak hours. A summary of VISSIM analysis in included in Appendix D.

3.3.4 Surface Street Intersection Analysis

Levels of Service for signalized intersections are based on the Highway Capacity Manual, which uses control delay per vehicle. Levels of Service are shown in Table 11 below.

Table 11: Level of Service Criteria- Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)
A	< 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

The counts were analyzed using Synchro and the Levels of Service for the overall intersections are tabulated in Table 12.

Table 12: Existing and No-Build Surface Street Intersection Levels of Service

	2017 Existing	2037 No-Build
Route 1 (West Main Street) @ Route 142 (Short Beach Road)	B(C)[C]	B(C)[E]
Route 1 (West Main Street) @ Branford Connector (SR 794)	B(C)[C]	B(D)[E]
Route 1 (West Main Street) @ Commercial Parkway/Goodwill Driveway	B(C)[D]	B(D)[E]
Route 1 (West Main Street/North Main Street) @ Route 146 (West Main Street)	B(B)[C]	B(B)[D]
Route 1 (North Main Street) @ Cherry Hill Road	A(B)[B]	B(C)[D]
Route 1 (North Main Street) @ Cedar Street (SR 740)	C(D)[D]	C(F)[F]
Cedar Street (SR 740) @ I-95 NB On Ramp/ Off Ramp	D(D)[D]	F(F)[F]
Cedar Street (SR 740) @ I-95 SB On Ramp/ Off Ramp	E(C)[D]	F(E)[F]

X(X)[X] – AM(PM)[SAT Mid-Day]

3.3.5 Existing Traffic Operations Summary

In the AM peak hour, congested conditions (LOS of "E" or "F") were detected at the following intersection movements:

- Cedar Street NB Left Turn Movement at I-95 SB Ramps,
- Cedar Street SB Left Turn Movement at I-95 NB Ramps,
- Cedar Street NB Through/Right Turn Movement at I-95 NB Ramps,
- Route 1 NB Left Turn Movement at Starbucks/West Main Street

In the PM peak hour, congested conditions (LOS of "E" or "F") were detected at the following intersection movements:

- I-95 NB Off-Ramp Right Turn Movement at Cedar Street,
- Cedar Street Southbound Left Movement at US Route 1,
- Cedar Street Southbound Through Movement at US Route 1,
- Cedar Street Northbound Through Movement at I-95 NB Ramps,
- US Route 1 NB Left Turn Movement at Starbucks/West Main Street,
- Commercial Parkway SB Left Turn Movement at US Route 1

In the Saturday Mid-Day Peak Hour, congested conditions (LOS of "E" or "F") were detected at the following intersection movements along the Cedar Street Corridor:

- Cedar Street SB Thru Movement at Route 1,
- Cedar Street NB Thru Movement at I-95 NB On/Off Ramps,
- Cedar Street NB Left Movement at I-95 SB On/Off Ramps,
- US Route 1 NB Left Movement at Cedar Street,
- US Route 1 SB Through Movement at Cedar Street,
- US Route 1 SB Through Movement at Route 146,

3.3.6 No-Build Operations Summary

With the increase in traffic, the intersection operation under the No-Build conditions are projected to worsen. The I-95 Northbound and Southbound ramps at Cedar Street experience a LOS of "E" or "F" for all three peak periods. During the morning and afternoon peak hours, the intersection operations are projected to remain unchanged or deteriorate marginally.

3.3.7 Surface Street Arterial Analysis

Arterial operation was analyzed on both the US Route 1 and Cedar Street Corridor. The arterial analysis was based on methods outlined in the Highway Capacity Manual 2010, Chapter 15 and implemented by Synchro 9.0 software. The Levels of Service are summarized in Table 13, below.

Table 13: Existing and No-Build Surface Street Arterial Levels of Service

	2017 Existing	2037 No-Build
Route 1 EB	C(D)[D]	D(E)[F]
Route 1 WB	D(E)[F]	D(F)[F]
Cedar Street (SR 794) NB	E(E)[F]	F(F)[F]
Cedar Street (SR 794) SB	D(E)[F]	D(F)[F]

X(X)[X] – AM(PM)[SAT Mid-Day]

Under Existing conditions, motorists experience the worst congestion along the arterials during the Saturday Mid-Day peak hour. The US Route 1 WB direction and Cedar Street in both directions experiences a LOS "F" during this peak hour, reflecting the greater amount of traffic generated from the shopping centers along Route 1 and downtown Branford. Under the future No-Build conditions, the US Route 1 and Cedar Street arterials all experience a LOS "F" in both PM, and Saturday Mid-Day peak hours.

The individual arterial segment Levels of Service, mean travel speed, and signal delay can be found in Appendix E.

3.3.8 Origin/Destination Study

An origin/destination study was conducted during Spring/Summer 2017 to determine the travel patterns along the major corridors, including US Route 1 and I-95. Media Access Control (MAC) addresses from Wi-Fi devices were collected at the following locations:

- US Route 1, west of Branford Connector (Station 1),
- Branford Connector (Station 2),
- US Route 1, east of Cherry Hill Road (Station 3),
- Cedar Street, south of US Route 1 (Station 4),
- I-95 Northbound, west of exit 54 (Station 5),
- I-95 Northbound, east of exit 54 (Station 6),
- I-95 Southbound, west of exit 54 (Station 7),
- I-95 Southbound, east of exit 54 (Station 8)

MAC addresses that matched at two stations were considered a trip. For example, if the recorded MAC address at Station 1 matched a MAC address recorded at Station 2, it can be inferred that a trip occurred from US Route 1 to Branford Connector. See Tables 14 and 15 for a summary of results. The percentage of trips was calculated by taking the number of trips traveling from the originating station to the destination station and dividing by the total number of MAC addresses recorded (not including duplicates) at the originating station. The percentage of motorists travelling along US Route 1 between Branford Connector and I-95 east of exit 54 were used in redistributing traffic volumes for the alternates. From the Origin/Destination data it can be inferred that approximately 15% of traffic travelling northbound on US Route 1, west of Branford Connector, will use the proposed I-95 Northbound access at exit 53. Also it was observed that 5% of I-95 Southbound traffic, east of exit 54, will continue on I-95 Southbound to access the proposed I-95 Southbound exit 53.

Table 14: Friday Peak Hour Origin/Destination Data

	DESTINATION					
ORIGIN	US ROUTE 1 WEST OF BRANFORD CONNECTOR	BRANFORD CONNECTOR	CHERRY HILL ROAD	CEDAR STREET SOUTH OF ROUTE 1	I-95 NB EAST OF EXIT 54	I-95 SB WEST OF EXIT 54
US ROUTE 1 WEST OF BRANFORD CONNECTOR	-	16.9%	25.1%	38.9%	15.1%	4.0%
I-95 SB EAST OF EXIT 54	4.5%	1.1%	1.3%	4.1%	-	89%

Table 15: Saturday Peak Hour Origin/Destination Data

	DESTINATION					
ORIGIN	US ROUTE 1 WEST OF BRANFORD CONNECTOR	BRANFORD CONNECTOR	CHERRY HILL ROAD	CEDAR STREET SOUTH OF ROUTE 1	I-95 NB EAST OF EXIT 54	I-95 SB WEST OF EXIT 54
US ROUTE 1 WEST OF BRANFORD CONNECTOR	-	37.4%	17.8%	27.8%	11.7%	5.2%
I-95 SB EAST OF EXIT 54	4.7%	1.3%	2.8%	8.6%	-	82.7%

3.3.9 Interchange 53 Build Volumes

Based on the Origin/Destination results, build traffic volumes were projected for the new Northbound I-95 access and Southbound I-95 exit. It is projected that 165, 235, and 280 vehicles will be utilizing the new Northbound I-95 On-Ramp during the AM, PM, and Saturday Mid-Day peak hours, respectively. Approximately 215, 215, and 190 vehicles are projected to utilize the new Southbound I-95 Off-Ramp during the AM, PM, and Saturday Mid-Day peak hours, respectively.

In typical urban conditions, with pronounced commuter traffic patterns during the weekdays and retail-destined patterns during the weekends, the peak hour traffic volumes have been observed to be approximately 8 to 10% of average daily traffic volumes. This results in an addition of approximately 2,830 vehicles per day on Branford Connector in the northbound direction and an addition of approximately 2,150 vehicles per day in the southbound direction. Thus, the Branford Connector with a full interchange at Exit 53 is projected to carry approximately 5,000 new vehicles.

4. Proposed Alternates

After collection of the existing data and analysis of the existing and no-build conditions, three Alternates were developed and are outlined below.

4.1 Alternate #1

This alternate features the following:

- I-95 Northbound Service Plaza's tractor trailer parking is proposed to be relocated to the west to accommodate northbound access to I-95 from Branford Connector,
- The existing access from the Service Plaza to I-95 Southbound is proposed to be modified to accommodate a loop ramp for vehicles exiting I-95 Southbound to Branford Connector. This loop ramp is expected to need a new bridge structure over Branford Connector,
- Branford Connector is realigned with present day Commercial Parkway, and Commercial Parkway forms a new signalized three-legged intersection with Branford Connector,
- Branford Connector and Route 146 are proposed to be realigned to form a new signalized, four-way intersection, thereby eliminating two signalized intersections on US Route 1.
- An additional left-turn lane from US Route 1 to Route 142 (Short Beach Road).

The benefit of this alternate is the reduction of two signalized intersections along US Route 1. With this configuration, traffic operations along US Route 1 improve significantly. Currently, each of the signalized intersections, US Route 1 at Branford Connector, US Route 1 at Commercial Parkway, and US Route 1 at Route 146 have exclusive pedestrian phases, stopping all traffic for pedestrian crossings. For the proposed configuration, only one exclusive pedestrian phase will be operational and less time will be needed for pedestrians to cross. This results in greater energy efficiency while enhancing access and mobility for all users. Safety will also be improved for both motorists and pedestrians, as there will be fewer conflict points and collectively shorter crossing distances for pedestrians. Also from a safety perspective, emergency services will have faster access to I-95 Northbound between exits 53 and 54, including the service plaza. Currently, emergency services destined to the I-95 Northbound service plaza would have to travel west on Route 1 and access I-95 Northbound at Exit 52 (approximately 2.5 miles west of Branford Connector). These deficiencies and others are explained in the "Existing Conditions Memorandum" as shown on drawing ALT-1 in Appendix F.

The ROW impacts of Alternate 1 include the acquisition of three properties totaling approximately 1.21 acres opposite Commercial Parkway to accommodate the Route 146 (Main Street) relocation. According to the Town's GIS website, two of the three properties are now or formerly owned by Jaron Realty Co Inc. and one of the parcels is owned by Lasala Anthony J Trustee ET ALS. Acquisition of two properties between present day Commercial Parkway and Branford Connector will be needed for the realignment of Branford Connector. The State of Connecticut owns a 7.2 acre parcel and 49 Commercial Parkway LLC now or formerly owns a 5.26 acre parcel. A 5 acre acquisition of property now or formerly owned by Rita Ann Sachs, just south of the I-95 Northbound Service Plaza will be required. Also, a partial 1.23 acre acquisition of the Branford Property Development LLC parcel south of the I-95 Northbound Service Plaza will be required to construct the I-95 Northbound on-ramp from Branford Connector. In the area of the proposed I-95 Southbound off-ramp, an approximate 1 acre acquisition of property owned by the New Haven Water Company will be required.

Alternate 1 will impact some wetland areas as well. The biggest wetlands area impact is anticipated to be just north of I-95 Southbound where the I-95 Southbound off-ramp to Branford Connector is proposed. The size of the wetlands impact is approximately 1.8 acres. An additional 0.27 acres of wetlands impact is projected to be impacted by the relocated

tractor trailer parking in the I-95 Northbound Service Plaza. Also, a small wetland impact of approximately 1,500 square feet is anticipated at the proposed on-ramp to I-95 Northbound from Branford Connector.

4.2 Alternate #2

This alternate features the following:

- A traditional full-access diamond interchange at exit 53,
- All traffic destined to the I-95 Northbound Service Plaza would utilize the newly constructed exit 53 interchange and continue through the signalized intersection at the end of the off-ramp to enter the service plaza. All exiting traffic will be rerouted to the newly constructed interchange to continue on I-95 Northbound,
- Tractor trailer parking will be relocated to the west and net parking will be increased.
- The I-95 Southbound Service Plaza's exit to I-95 gets relocated to the Branford Connector to accommodate the I-95 Southbound exit to Branford Connector,
- The US Route 1 at Route 146 (Main Street) intersection gets relocated further north.
- An additional left-turn lane from US Route 1 to Route 142 (Short Beach Road).

The reduction of traffic signals and the increased spacing between them is projected to improve operating conditions along Route 1 in the immediate vicinity. The reduction of traffic signals on US Route 1 will lead to shorter delays and better coordination. Greater spacing between signalized intersections also allows for longer storage lengths for turning lanes, which reduce the chances of vehicles spilling over into adjacent intersections, which would create an undesirable condition. Also, from a safety perspective, fewer signalized intersections reduce conflict points and crash potential. Emergency services will have faster access to I-95 Northbound between exits 53 and 54, including the I-95 Northbound service plaza.

To accommodate the diamond interchange just west of the service plazas, the I-95 Northbound Service Plaza's entrance and exit will need to be relocated. The entrance to the service plaza will be relocated to the Exit 53 off-ramp, where motorists would continue through the signalized intersection to enter the service plaza. To exit the service plaza, motorists would access the northbound Branford connector via a ramp and then proceed to a signalized intersection where they would take a right onto the I-95 Northbound on-ramp. The relocation of the service plaza on-ramp to the west increases the distance to the Exit 54 off-ramp, thereby improving the weave between the on-ramp and Exit 54 off-ramp. The existing Branford Connector underpass is proposed to be abandoned and a new Branford Connector overpass is proposed, as shown on drawing ALT-2 in Appendix F.

Two property acquisitions are required as part of Alternate 2 where Route 146 is proposed to be relocated. The acquisition consists of a 0.51 acre parcel now or formerly owned by Barons Realty LLC. The other property is the parcel that exists between Commercial Parkway and Branford Connector. This property is required to realign Branford Connector and relocate the commuter lot. It requires the same amount of property from the same owners as described in Alternate 1. A 5 acre acquisition of property owned by now or formerly Rita Ann Sachs, just south of the I-95 Northbound Service Plaza is also required to accommodate the relocation of the tractor trailer parking. For the construction of the new I-95 northbound on/off ramps, it is anticipated that there will be approximately 2.5 acres of property required from the New Haven Water Company.

It is anticipated that approximately 1.5 acres of wetlands will be impacted in the vicinity of the proposed I-95 Northbound on-off ramps. Also, a small 0.5 acre area of wetlands just south of the I-95 Northbound Service Plaza will be impacted by the relocation of tractor trailer parking.

4.3 Alternate #3

Alternate 3 is a combination of Alternates 1 and 2. The alternate proposes to include the same operational benefits from Alternate 1 such as the realignment of Route 146 with Branford Connector and forming signalized four-legged intersection; which will eliminate the need for the two adjacent traffic signals. For the proposed Exit 53 interchange, Alternate 3 proposes the overpass design from Alternate 2. The combination of the two alternates maximizes the benefits while minimizing environmental impacts as shown on drawing ALT-3 in Appendix F.

4.4 Environmental Permitting for Alternates

Environmental permitting for the three alternates was investigated for this study. The following permits were identified for Alternate #1:

- US ACOE (United States Army Corp of Engineers) Section 404 Individual Permit due to the anticipated 2.1 acres of wetland impact.
- CT DEEP (Connecticut Department of Energy and Environmental Protection) Section 401 Regular Water Quality Certification
- CT DEEP General Permit for Water Resource Construction Activities
- CT DEEP Flood Management Certificate due to anticipated fill in a flood plain
- CT DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities
- Require CT DEEP NDDB (Natural Diversity Data Base) correspondence due to proximity to NDDB areas

The following were identified for Alternate #2:

- US ACOE Section 404 Individual Permit due to the anticipated 2.0 acres of wetland impact.
- CT DEEP Section 401 Regular Water Quality Certification
- CT DEEP General Permit for Water Resource Construction Activities
- CT DEEP Flood Management Certificate due to the anticipated fill in a flood plain
- CT DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities
- Require CT DEEP NDDB correspondence due to proximity to NDDB areas

The following were identified for Alternate #3:

- US ACOE (United States Army Corp of Engineers) Section 404 Individual Permit due to the anticipated 1.8 acres of wetland impact
- CT DEEP Section 401 Regular Water Quality Certification
- CT DEEP General Permit for Water Resource Construction Activities
- CT DEEP Flood Management Certificate due to anticipated fill in a flood plain
- CT DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities
- Require CT DEEP NDDB correspondence due to proximity to NDDB areas

4.5 Federal Highway Administration – Access Modification

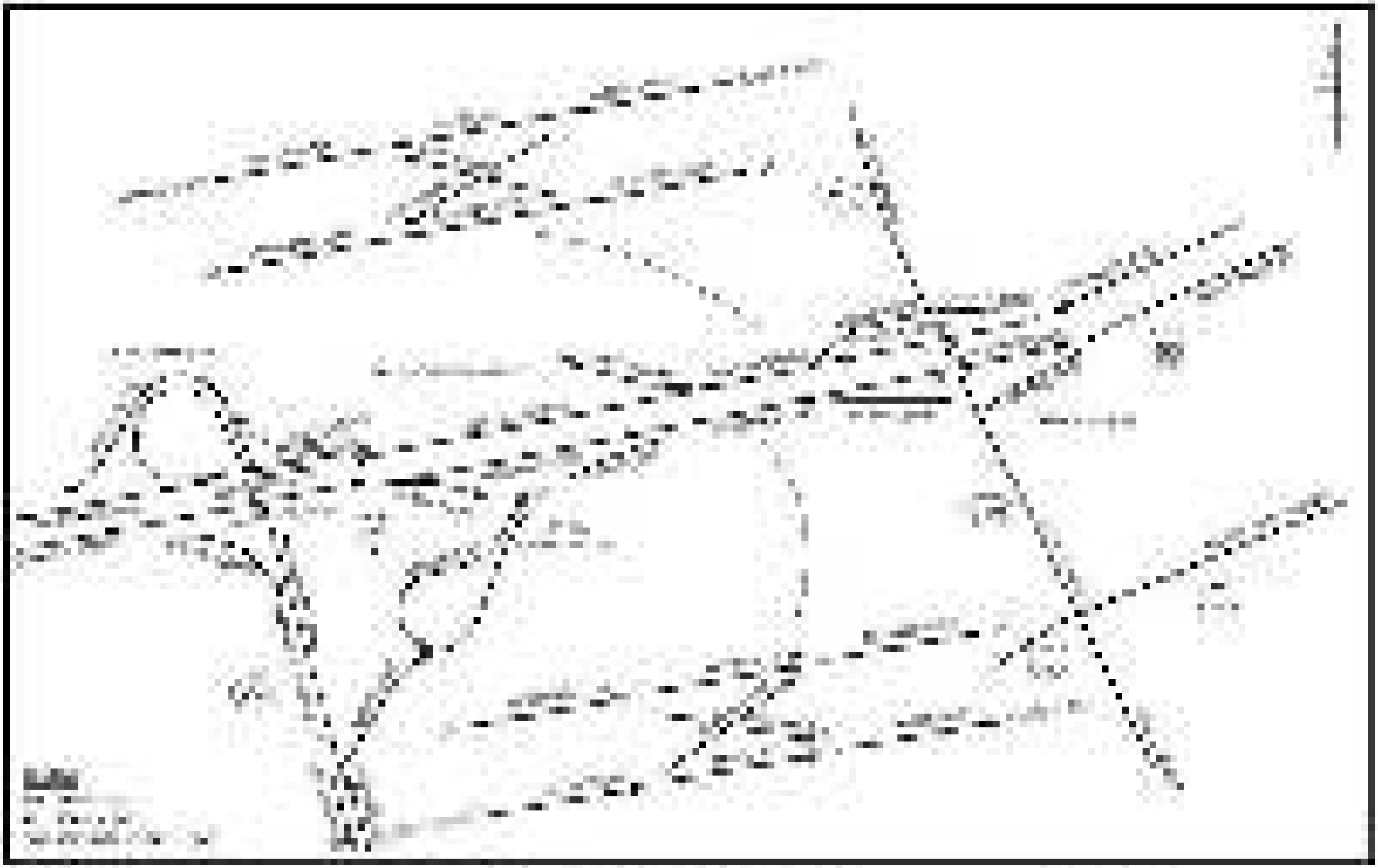
The Federal Highway Administration (FHWA) has a policy that a change in access along an interstate requires federal approval. The proposed I-95 Southbound off-ramp connecting to the Branford Connector and the proposed on-ramp connecting the Branford Connector to I-95 Northbound represent new access points to I-95. Therefore, an access modification approval from FHWA will be required. Since the approval is considered a Federal Action, National Environmental Policy Act (NEPA) requirements will also have to be met in order to achieve FHWA approval of the access modification request. Early coordination with the South Central Regional Council of Governments, CTDOT, and FHWA is essential for this task.

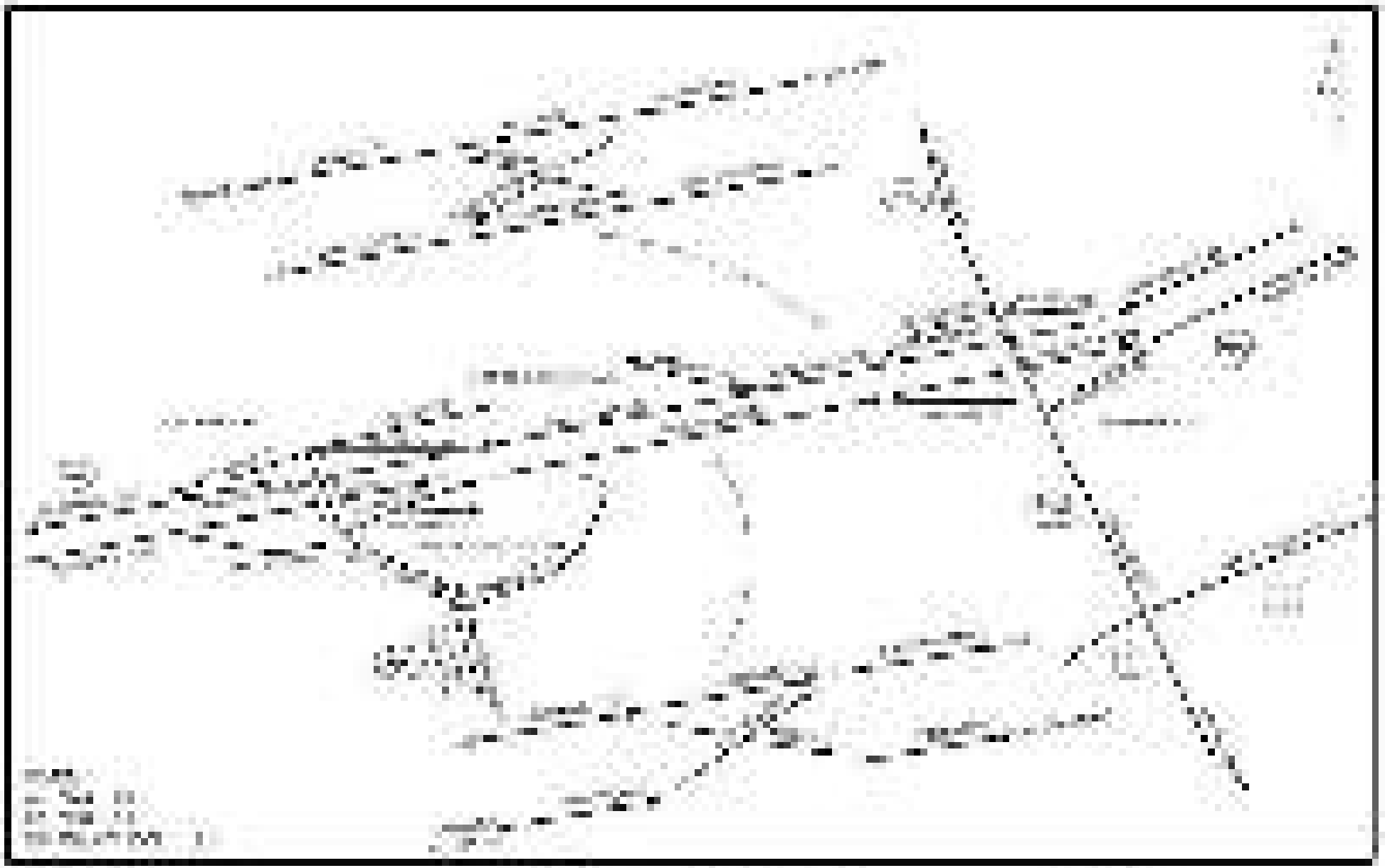
5. Analysis of Proposed Alternates

The three alternates were analyzed using the same methods as for the existing and No-Build scenarios. A summary of the analysis is shown below.

5.1 Expressway Analysis of Alternates

Using the Interchange 53 Build Volumes developed, the Level of Service (LOS) was analyzed using methods described in Section 5.3 and Appendix D. Tables 4-9 show the LOS for basic freeway, merges, and diverges by direction. Figures 6, 7, and 8 show expressway volumes for build Alternates 1, 2, and 3, respectively.





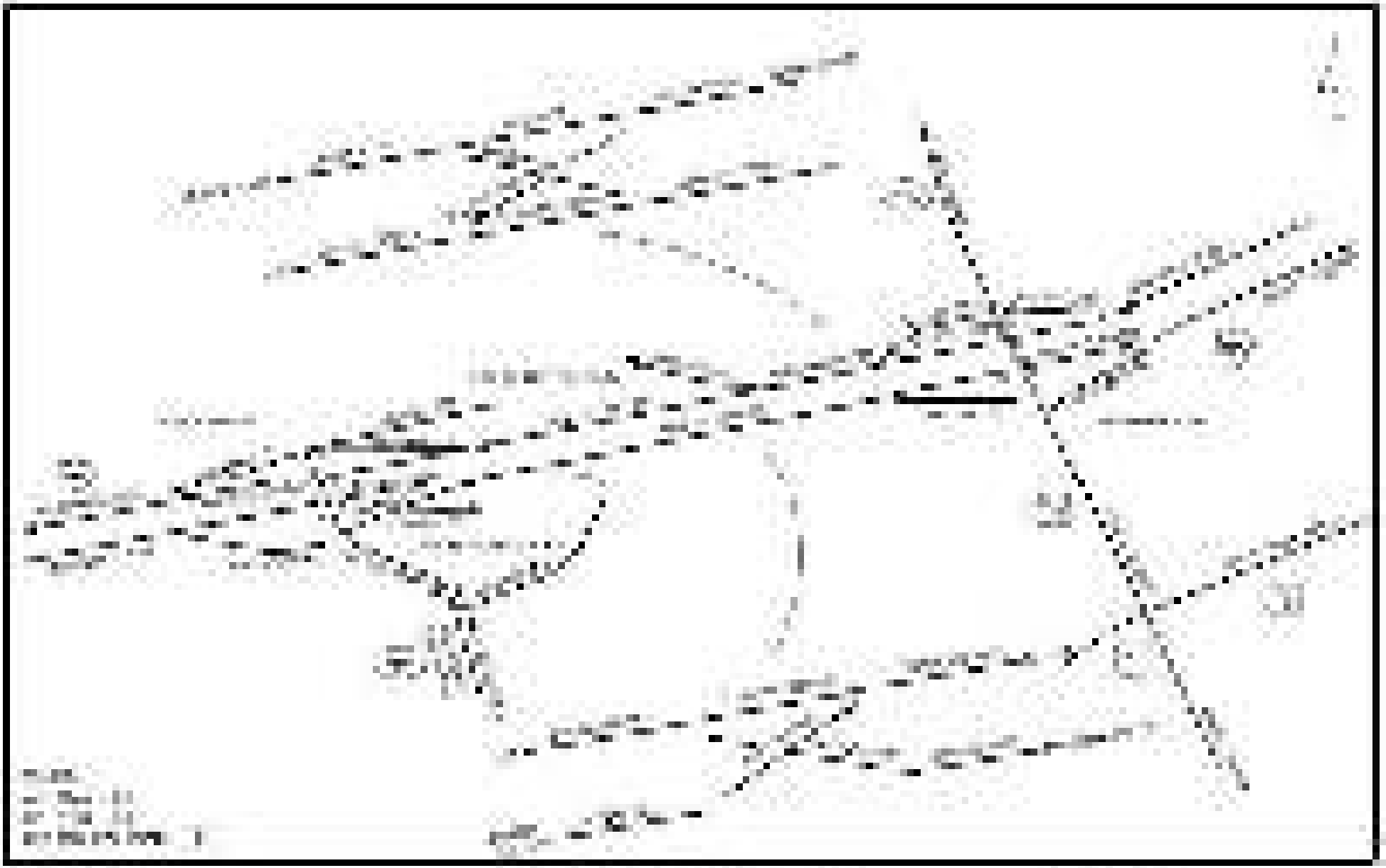


Table 16: I-95 NB – Basic Freeway Segments

	No-Build			Alternate 1			Alternate 2			Alternate 3		
	AM Peak	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**
Exit 52 On Ramp – Exit 53 Off Ramp	C(20.3)	E(39.2)	C(25.1)	C(20.3)	E(40.2)	C(25.0)	C(20.3)	E(40.6)	C(25.0)	C(20.3)	E(40.6)	C(25.0)
Exit 53 Off Ramp – Exit 53 On Ramp	-	-	-	-	-	-	B(16.6)	C(23.2)	C(19.3)	B(16.6)	C(23.2)	C(19.3)
Service Plaza Off Ramp – Service Plaza On Ramp	B(16.4)	D(27.0)	C(19.4)	B(16.5)	D(29.0)	C(19.5)	-	-	-	-	-	-
Exit 54 Off Ramp – Exit 54 On Ramp	C(21.6)	E(38.3)	D(28.4)	C(23.9)	E(35.9)	D(32.5)	C(23.0)	D(32.1)	D(29.0)	C(23.0)	D(32.1)	D(29.0)
Exit 54 On Ramp – Exit 55 Off Ramp	D(26.5)	E(35.3)	D(32.1)	D(26.4)	D(33.7)	D(31.8)	D(26.4)	D(33.3)	D(31.5)	D(26.4)	D(33.3)	D(31.5)

X(XX) – Level of Service (Basic Freeway Segment Density in pc/mile/lane)

Table 17: I-95 SB – Basic Freeway Segments

	No-Build			Alternate 1			Alternate 2			Alternate 3		
	AM Peak	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**
Exit 52 Off Ramp – Exit 53 On Ramp	D(26.8)	C(23.6)	C(23.2)	D(27.0)	C(23.7)	C(23.3)	D(27.1)	C(23.7)	C(23.4)	D(27.1)	C(23.7)	C(23.4)
Exit 53 On Ramp – Exit 53 Off Ramp	-	-	-	C(21.6)	C(19.6)	C(18.9)	C(21.5)	C(19.6)	C(18.9)	C(21.5)	C(19.6)	C(18.9)
Exit 54 On Ramp – Exit 54 Off Ramp	D(29.0)	D(26.9)	C(25.1)	D(30.8)	D(29.0)	D(26.8)	D(30.8)	D(28.9)	D(27.0)	D(30.8)	D(28.9)	D(27.0)
Exit 54 Off Ramp – Exit 55 On Ramp	E(37.3)	E(38.1)	D(30.1)	E(36.9)	E(36.6)	D(29.9)	E(37.1)	E(37.3)	D(29.9)	E(37.1)	E(37.3)	D(29.9)

X(XX) – Level of Service (Basic Freeway Segment Density in pc/mile/lane)

Table 18: I-95 NB – Merge/Diverge Segments

	No-Build			Alternate 1			Alternate 2			Alternate 3		
	AM Peak	PM Peak	SAT Mid-Day Peak	AM Peak	PM Peak	SAT Mid-Day Peak	AM Peak	PM Peak	SAT Mid-Day Peak	AM Peak	PM Peak	SAT Mid-Day Peak
Exit 53 Off Ramp	C(23.4)	D(34.1)	D(28.8)	C(23.5)	D(34.2)	D(28.8)	C(23.0)	D(32.9)	D(28.1)	C(23.0)	D(32.9)	D(28.1)
Service Plaza Off Ramp	C(22.1)	C(26.6)	C(24.9)	C(22.1)	C(26.7)	C(24.9)	-	-	-	-	-	-
Exit 53 On Ramp – Service Plaza On Ramp	-	-	-	A(6.4)	A(7.1)	A(8.1)	-	-	-	-	-	-
Exit 54 On Ramp	D(30.9)	E(36.6)	E(35.7)	D(29.8)	E(35.1)	D(33.9)	D(30.0)	E(35.5)	D(34.1)	D(30.0)	E(35.5)	D(34.1)

X(XX) – Level of Service (Merge/Diverge Segment Density in pc/mile/lane)

Table 19: I-95 SB – Merge/Diverge Segments

	No-Build			Alternate 1			Alternate 2			Alternate 3		
	AM Peak	PM Peak	SAT Mid-Day Peak	AM Peak	PM Peak	SAT Mid-Day Peak	AM Peak	PM Peak	SAT Mid-Day Peak	AM Peak	PM Peak	SAT Mid-Day Peak
Exit 53 On Ramp	E(34.7)	D(30.3)	D(30.4)	E(36.6)	D(31.7)	D(31.9)	E(36.9)	D(31.8)	D(32.1)	E(36.9)	D(31.8)	D(32.1)
Exit 53 On Ramp – Service Plaza On Ramp	-	-	-	B(12.6)	B(10.4)	B(10.9)	-	-	-	-	-	-
Exit 53 Off Ramp	-	-	-	C(26.9)	C(24.5)	C(24.1)	C(26.9)	C(24.5)	C(24.1)	C(26.9)	C(24.5)	C(24.1)
Service Plaza On Ramp	C(26.6)	C(23.5)	C(23.4)	-	-	-	-	-	-	-	-	-
Exit 54 Off Ramp	E(37.6)	E(37.4)	D(34.1)	E(37.9)	E(37.6)	D(34.1)	E(37.8)	E(37.6)	D(34.1)	E(37.8)	E(37.6)	D(34.1)

X(XX) – Level of Service (Merge/Diverge Segment Density in pc/mile/lane)

Table 20: I-95 NB – Weave Segments

	No-Build			Alternate 1			Alternate 2			Alternate 3		
	AM Peak	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**
Service Plaza On Ramp – Exit 54 Off Ramp	B(17.3)	D(33.3)	C(21.5)	B(18.7)	E(45.1)	C(26.2)	-	-	-	-	-	-
Exit 53 On Ramp – Exit 54 Off Ramp	-	-	-	-	-	-	B(17.1)	C(25.3)	C(20.3)	B(17.1)	C(25.3)	C(20.3)

X(XX) – Level of Service (Weave Segment Density in pc/mile/lane)

Table 21: I-95 SB – Weave Segment

	No-Build			Alternate 1			Alternate 2			Alternate 3		
	AM Peak	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**	**AM Peak**	**PM Peak**	**SAT Mid-Day Peak**
Service Plaza Off Ramp – Exit 54 On Ramp	C(21.4)	B(18.4)	B(18.5)	C(22.9)	C(20.3)	C(20.1)	C(22.9)	B(19.9)	C(20.1)	C(22.9)	B(19.9)	C(20.1)

X(XX) – Level of Service (Weave Segment Density in pc/mile/lane)

Overall, compared to 2037 No-Build conditions, the alternates do not have any perceptible impact on mainline I-95. This is due to the fact that traffic is rerouted from Route 1 to I-95 via the proposed new connections at exit 53. Under all the alternates, the proposed on and off-ramps at Interchange 53 will operate at acceptable Level of Service. Under all the alternates, the Exit 54 on and off ramps for both northbound and southbound I-95 will experience congested conditions, LOS "D" or worse. The weaving segments along southbound I-95 operate under acceptable Levels of Service. The I-95 Northbound weave segment LOS improves during the PM and Saturday peak hours under Alternate 2, where the on-ramp from the service plaza is relocated to the west.

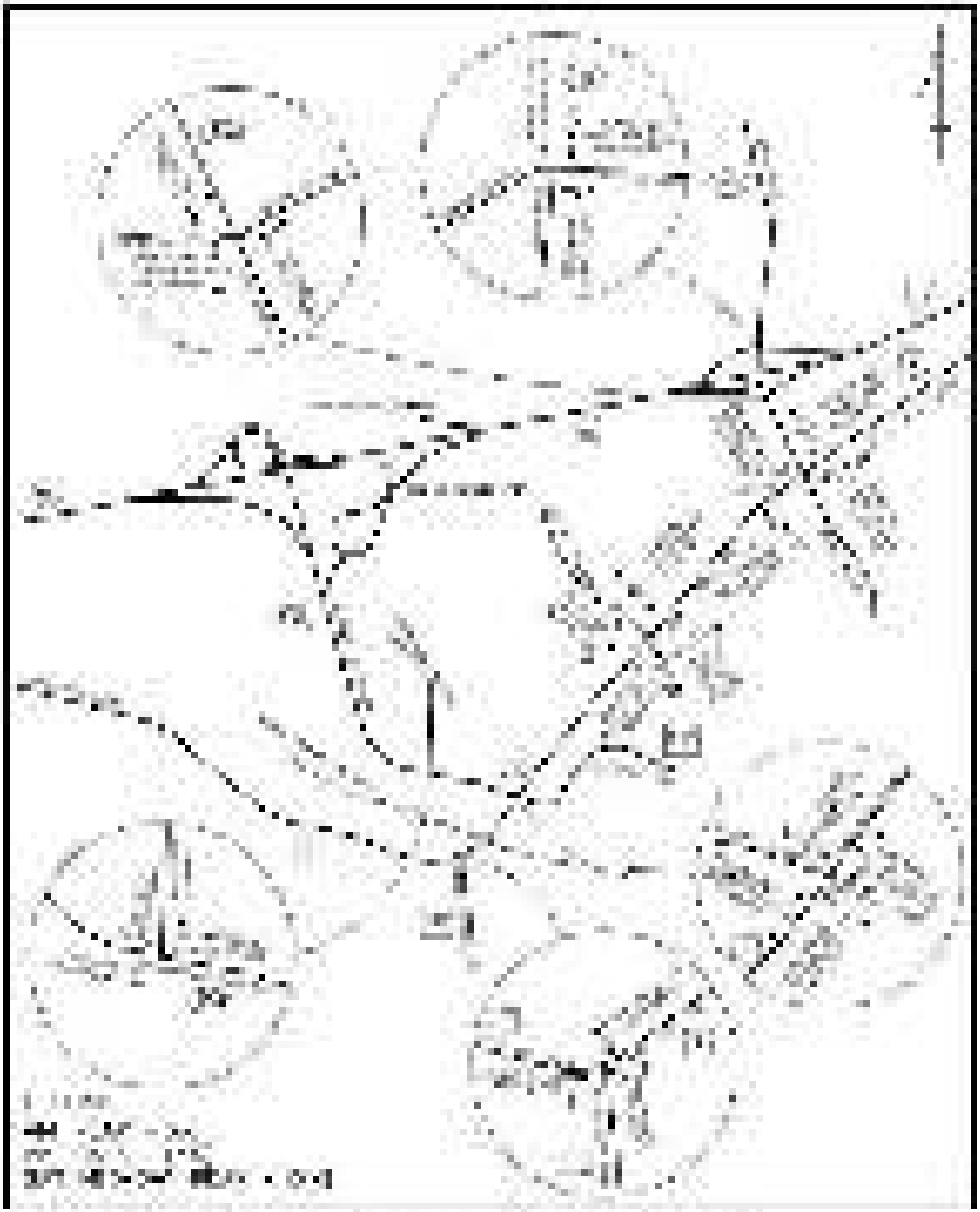
A summary of the inputs to the HCM equations provided by VISSIM is shown in Appendix D.

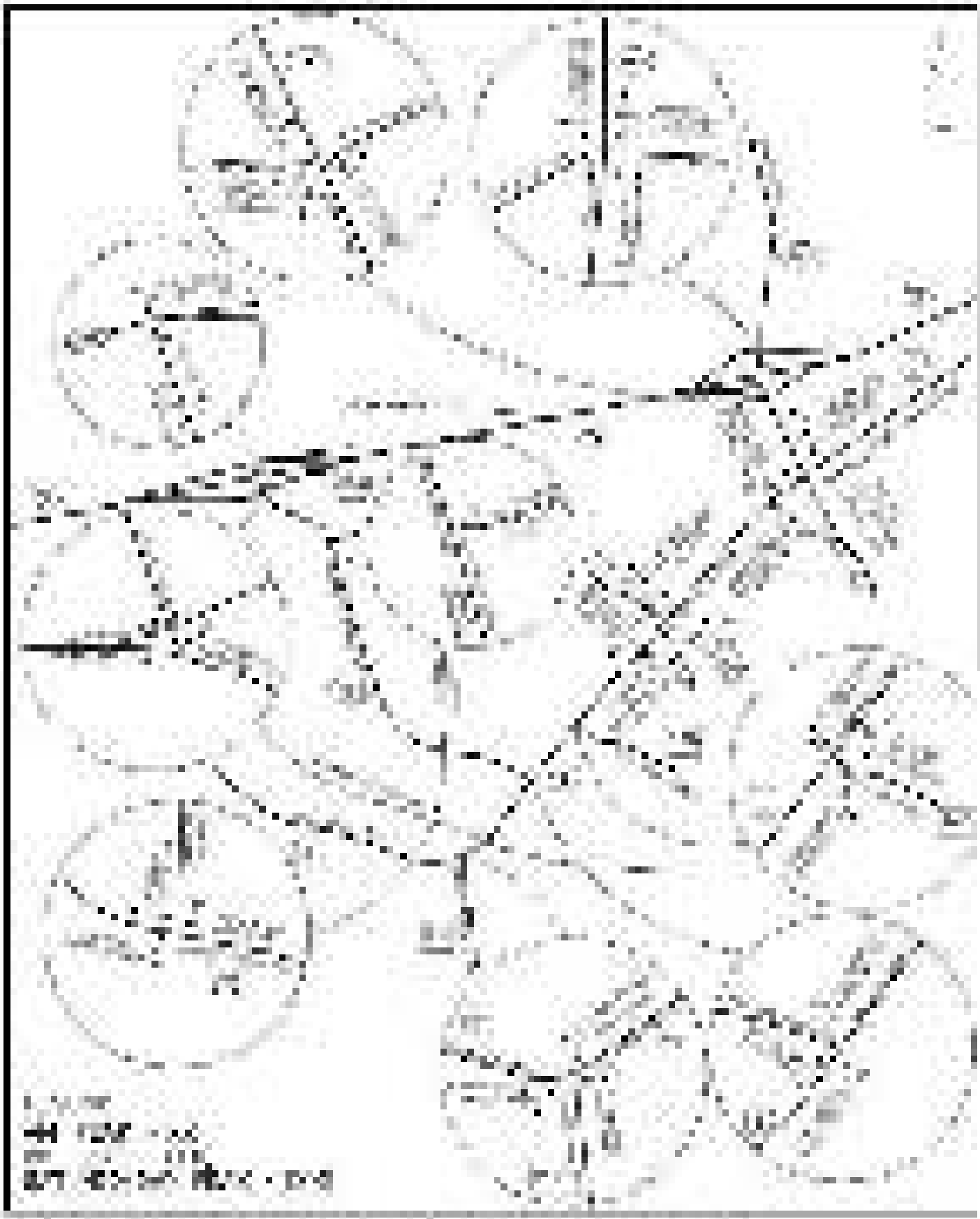
5.1.1 Potential State Project

At the time of this study, CTDOT is investigating the need for a third lane in both northbound and southbound directions of I-95 from Exit 54 to Exit 56. Based on the findings in this report it would be beneficial to extend the limits of the CTDOT study to analyze the benefits of a third lane at I-95 Northbound Exit 53 and also the removal of the weaving segment. It appears that I-95 Southbound at Exit 54 would benefit from the additional third lane or a deceleration lane.

5.2 Surface Street Intersection Analysis of Alternates

Using the traffic volumes developed for the 2037 No-Build Scenario and the Origin-Destination Study, the surface streets were analyzed using methods described in Section 5.5. The LOS for the overall intersections are tabulated in Table 21. Figures 9, 10, and 11 show surface street volumes for build Alternates 1, 2, and 3, respectively.





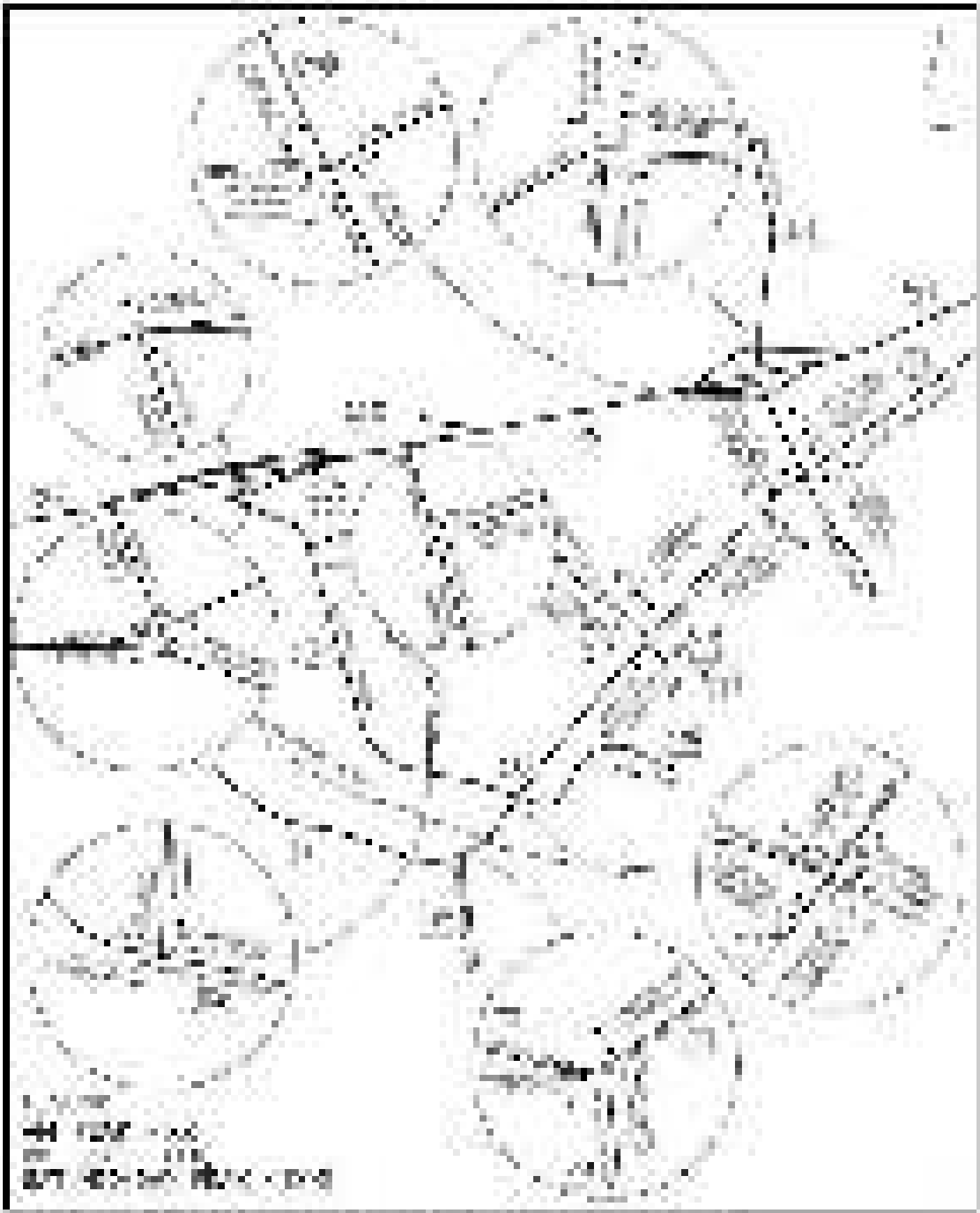


Table 21: Surface Street Intersection Levels of Service

	No-Build	Alternate 1	Alternate 2	Alternate 3
Route 1 (West Main Street) @ Route 142 (Short Beach Road)	B(C)[E]	B(B)[C]	B(C)[C]	B(B)[C]
Route 1 (West Main Street) @ Branford Connector (SR 794) & Route 146 (West Main Street)	-	C(C)[D]	-	C(C)[D]
Route 1 (West Main Street) @ Branford Connector (SR 794)	B(D)[E]	-	B(C)[C]	-
Route 1 (West Main Street) @ Commercial Parkway/Goodwill Driveway	B(D)[E]	-	-	-
Route 1 (West Main Street/North Main Street) @ Route 146 (West Main Street)	B(B)[D]	-	B(B)[B]	-
Route 1 (North Main Street) @ Cherry Hill Road	B(C)[D]	A(B)[B]	A(B)[B]	A(B)[B]
Route 1 (North Main Street) @ Cedar Street (SR 740)	C(F)[F]	C(E)[E]	C(E)[E]	C(E)[E]
Cedar Street (SR 740) @ I-95 NB On Ramp/ Off Ramp	F(F)[F]	B(C)[B]	B(C)[B]	B(C)[B]
Cedar Street (SR 740) @ I-95 SB On Ramp/ Off Ramp	F(E)[F]	E(D)[D]	E(D)[D]	E(D)[D]
Branford Connector @ Commercial Parkway	-	B(B)[B]	A(B)[B]	B(B)[B]
Branford Connector @ I-95 NB On-Ramp/I-95 NB Off Ramp/Service Plaza	-	-	B(B)[A]	B(B)[A]
Branford Connector @ I-95 SB On-Ramp/I-95 SB Off Ramp/Service Plaza	-	-	B(B)[B]	B(B)[B]

X(X)[X] – AM(PM)[SAT Mid-Day]

Generally, operating conditions at the studied signalized intersections improve under each alternate. The Cedar Street corridor is projected to improve just by implementing minor traffic signal timing revisions. The Cedar Street intersections are projected to improve during the PM and Saturday peak hours. US Route 1 at Cedar Street is projected to improve from a LOS F to an E in the PM and Saturday peak hours under all of the alternates. The Cedar Street at I-95 Northbound ramp's intersection is projected to improve substantially under all the alternates during the AM, PM, and Saturday peak hours. The Cedar Street at I-95 SB ramps intersection is projected to improve from a LOS F to a LOS D during the Saturday peak hour under all of the alternates.

5.2.1 Alternate 1 Projected Conditions

Alternate 1 proposes the fewest signalized intersections compared to the other alternates. The traffic flow at the I-95 Exit 53 Interchange is projected to operate unimpeded with no traffic signals proposed. US Route 1 operating conditions are projected to improve when compared to the No-Build scenario. Under Alternate 1, the intersection of US Route 1/Branford Connector/Route 146 is anticipated to operate at LOS C, C, and D during the AM, PM, and Saturday peak hours, respectively. The proposed design addresses capacity and operational deficiencies and is reflected in the analysis results.

5.2.2 Alternate 2 Projected Conditions

Alternate 2 does propose the highest number of signalized intersections among the alternates, however, they are projected to operate at acceptable levels of service. Instead of realigning Route 146 with Branford Connector, it is proposed to signalize these roadways with US Route 1 as individual signalized "T" intersections. Traffic operations improve when compared to the No-Build scenario due to reduction of traffic signals and greater spacing of intersections along US Route 1. The Branford Connector corridor has four traffic signals proposed between the I-95 Southbound On/Off ramp and US Route 1. However, all of the traffic signals consist of simple two or three phase operation which allows for greater vehicle throughput and shorter delays.

5.2.3 Alternate 3 Projected Conditions

Projected Alternate 3 conditions are similar to projected Alternate 1 conditions. The proposed design along US Route 1, from Short Beach Road to Cherry Hill Road in Alternate 3 is identical to the design in Alternate 1. For the Branford Connector corridor design, Alternate 3 is similar to Alternate 2.

5.3 Surface Street Arterial Analysis of Alternates

Arterial Levels of Service were analyzed on both the US Route 1 and Cedar Street Corridor. The arterial analysis was based on methods found in the HCM Chapter 15. The arterials were also analyzed in Synchro and the Levels of Service are summarized below.

Table 22: Surface Street Arterial Levels of Service

	No-Build	Alternate 1	Alternate 2	Alternate 3
Route 1 EB	D(E)[F]	C(D)[D]	C(C)[C]	C(D)[D]
Route 1 WB	D(F)[F]	D(D)[E]	D(E)[E]	D(D)[E]
Cedar Street (SR 794) NB	F(F)[F]	D(D)[D]	D(D)[D]	D(D)[D]
Cedar Street (SR 794) SB	D(F)[F]	D(D)[D]	D(D)[D]	D(D)[D]
Branford Connector NB	-	D(E)[D]	C(C)[C]	C(C)[C]
Branford Connector SB	-	C(D)[D]	C(C)[D]	C(C)[C]

X(X)[X] – AM(PM)[SAT Mid-Day]

The arterial Levels of Service improve slightly in the alternates from the No-Build scenario. This is due to motorists utilizing the new connections at Exit 53, instead of travelling along Route 1. The delays on Cedar Street are mainly due to the high number of motorists turning left from Cedar Street onto the I-95 Southbound ramp. Route 1 arterial Level of Service improves in Alternate 1 due to the reduction of traffic signals. Alternate 2 arterial Level of Service along Route 1 does not improve much. This is most likely due to the removal of only

one traffic signal along Route 1 instead of two. The individual arterial segment Levels of Service, mean travel speed, and signal delay can be found in Appendix E.

5.4 Interactive Highway Safety Design Model (IHSDM)

To estimate the number of crashes in the future between alternates, the Interactive Highway Safety Design Model (IHSDM) software was utilized.

The alternates used the years 2035 through 2037 for analysis. The number of predicted crashes are along the entire stretch of roadway, in both directions. The results are summarized in Table 23 and detailed charts and reports can be found in Appendix C.

Compared to the No-Build scenario, all of the alternates project fewer crashes. Each alternate predicts a different number of crashes, which can be attributed to the proposed geometry and number of signalized intersections. The differences for each roadway segment is summarized as follows:

- The alternates predict a higher number of crashes along Branford Connector due to the proposed interchange. A full-access interchange will increase the traffic volume along the roadway,
- Predicted crashes are reduced along Commercial Parkway due to the relocation of the roadway. Also, due to the relocation, the roadway shortens, resulting in fewer crashes,
- Predicted crashes along US Route 1 are reduced because the alternates proposed fewer signalized intersections,
- The discrepancy of predicted crashes between the alternates for Route 146 can be attributed to the roadway geometry. Alternates 1 and 3 proposed tight radius curves to align the roadway opposite Branford Connector. Alternate 2 proposed a large radius horizontal curve near the intersection with US Route 1.

Table 23: IHSDM Crash Prediction Model

Roadway Segment	No-Build	Alternate 1	Alternate 2	Alternate 3
I-95 Northbound Off-Ramp	4	4	2	2
I-95 Northbound On-Ramp	-	5	2	2
I-95 Southbound Off-Ramp	-	5	2	2
I-95 Southbound On-Ramp	5	7	3	3
Branford Connector	30	38	34	39
Commercial Parkway	14	2	2	2
US Route 1	90	64	75	62
Route 146	23	29	14	28
Short Beach Road	23	23	25	25
I-95 Northbound Off-Ramp Bypass	-	-	2	2
I-95 Northbound Service Plaza Exit	-	-	2	2
TOTAL	189	177	163	169

6. Conclusion

After analysis of the three Alternates, a preferred alternate was selected.

6.1 Preferred Alternate

After analysis of the proposed alternates, the preferred alternate is Alternate 2. This alternate provides maximum operation benefits while minimizing Right-of-Way and environmental impacts. The two traffic signals on Route 1 are projected to operate at acceptable levels of service and can be coordinated with each other to increase vehicle throughput. Also, Alternate 2 provides more development opportunities as the vacant parcel opposite Branford Connector can be utilized. The I-95 Southbound On/Off ramp signalized intersection design provides access to Branford Connector with the least amount of environmental impacts when compared to Alternate 1. Along with the selection of the preferred alternate, a conceptual typical section was developed to highlight roadway and pedestrian facilities in the study area. This typical section can be found in Appendix F.

6.2 Preferred Alternate – Potential Phasing

It is envisioned that the preferred alternate is built in phases rather than all at once. The phases can be broken out as follows, preferably in this order:

Phase 1

- The realignment of Branford Connector with Commercial Parkway can be the first breakout project. Once Branford Connector is realigned, the traffic signal on US Route 1 at present-day Branford Connector can be removed. A new traffic signal at the relocated Commercial Parkway would be installed at the intersection with Branford Connector.

Phase 2

- Following the completion of the realignment, it is anticipated that the next phase would be realigning Route 146 (Main Street) opposite present-day Branford Townhouse Restaurant. A new traffic signal would be installed and the traffic signal at the former US Route 1/Route 146 intersection would be removed. Also during this stage, widening along US Route 1 to accommodate future traffic would take place. A new traffic signal at the intersection of US Route 1/Branford Connector would complete the improvements under the second phase. The improvements under the first two phases may be the catalyst for new development along Commercial Parkway and in the immediate vicinity. Since the type of development is unknown at this point, it is anticipated that appropriate improvements along Commercial Parkway and potentially along Branford Connector, can be made by developers occupying the vacant parcels.

Phase 3

- The construction of a full-access interchange at exit 53 would be the final phase of the preferred alternate. With all the traffic being generated by new developments along US Route 1 and Commercial Parkway, the full benefits a new interchange would be realized. The interchange would alleviate traffic along US Route 1 from Cedar Street to Branford Connector.

6.3 Preferred Alternate Estimate

Preliminary cost estimates have been computed and summarized by phase in Table 24. The estimates include inflation (3.5%/yr.), incidentals (25%), and contingencies (25%). Detailed cost estimate sheets can be found in Appendix G.

Table 24: Preferred Alternate Cost Estimate

Phase	Cost (in millions)
1	$6.4
2	$5.3
3	$15.4
Preferred Alternate Total	$27.1

6.4 Next Steps

The next steps for the improvements being proposed as part of this study are for the Town of Branford to confirm the preferred alternate and for the Town to seek potential funding sources for the design and construction of the preferred alternate.

The Town can approach the CTDOT or other sources with this study and use it as a mechanism to enable the improvements to the Branford Connector to be designed and constructed. Phasing the project as presented in this report is a way to facilitate finding applicable funding sources and breaking the overall project into more manageable project sizes that align with funding sources. There are multiple federally funded programs that make up the Fixing America's Surface Transportation (FAST) Act. Programs such as the National Highway Performance Program (NHPP), Surface Transportation Program (STP) – New Haven, National Highway System (NHS), represent a few of the programs that could potentially be used by the State to fund the Phase 3 portion of the project. Other programs such as Transportation Alternatives (TA), the Surface Transportation Block Grant, and Local Transportation Capital Improvement Program (LOTCIP) are additional sources of funding for Phases 1 and 2 of the project. Economic development/redevelopment programs may also be available from the Connecticut Department of Economic Development (CTDECD) or the United States Economic Development Administration (USEDA).

Public-Private partnerships have become more widely implemented throughout the country and also in Connecticut. The Town should consider this as an additional way to fund some or all of Phases 1 and 2. A Masterplan of the area is recommended to encourage developers to consider how a public-private partnership can be a potential mode of seeing that the proposed improvements to the Branford Connector become a reality.

APPENDIX A
EXISTING INTERSECTION PHOTOS

Route 1 (West Main Street) @ Route 142 (Short Beach Road)

Route 1 (West Main Street) @ Branford Connector (SR 794)

Route 1 (West Main Street) @ Commercial Parkway/Goodwill Driveway

Route 1 (West Main Street/North Main Street) @ Route 146 (West Main Street)

Route 1 (North Main Street) @ Cherry Hill Road

Route 1 (North Main Street) @ Cedar Street (SR 740)

Cedar Street (SR 740) @ I-95 NB On Ramp/Off Ramp

Cedar Street (SR 740) @ I-95 SB On Ramp/Off Ramp

APPENDIX B
EXISTING CRASH DATA

I-95 NB Corridor

	Exit 53 Off Ramp		Service Plaza Off Ramp		Service Plaza On Ramp		Exit 54 Off Ramp		Exit 54 NB On Ramp	
Fatalities		0.0%		0.0%		0.0%		0.0%		0.0%
Injury	3	50.0%		0.0%		0.0%	2	14.3%		0.0%
Property Damage Only	3	50.0%		0.0%	3	100.0%	12	85.7%	2	100.0%
TOTAL =	**6**		**0**		**3**		**14**		**2**	
Turning - Same Direction		0.0%		0.0%		0.0%		0.0%		0.0%
Turning - Opposite Direction		0.0%		0.0%		0.0%		0.0%		0.0%
Turning - Intersecting Paths		0.0%		0.0%		0.0%		0.0%	1	50.0%
Sideswipe - Same Direction		0.0%		0.0%	1	33.3%	4	28.6%		0.0%
Sideswipe - Opposite Direction		0.0%		0.0%		0.0%		0.0%		0.0%
Miscellaneous - Non-Collision		0.0%		0.0%		0.0%	1	7.1%		0.0%
Overturn		0.0%		0.0%		0.0%		0.0%		0.0%
Angle		0.0%		0.0%		0.0%		0.0%		0.0%
Rear End	5	83.3%		0.0%	2	66.7%	6	42.9%		0.0%
Head-On		0.0%		0.0%		0.0%		0.0%		0.0%
Backing		0.0%		0.0%		0.0%		0.0%		0.0%
Parking		0.0%		0.0%		0.0%		0.0%		0.0%
Pedestrian		0.0%		0.0%		0.0%		0.0%		0.0%
Jackknife		0.0%		0.0%		0.0%		0.0%		0.0%
Fixed Object	1	16.7%		0.0%		0.0%	3	21.4%	1	50.0%
Moving Object		0.0%		0.0%		0.0%		0.0%		0.0%
Unknown		0.0%		0.0%		0.0%		0.0%		0.0%
TOTAL =	**6**		**0**		**3**		**14**		**2**	

I-95 SB Corridor

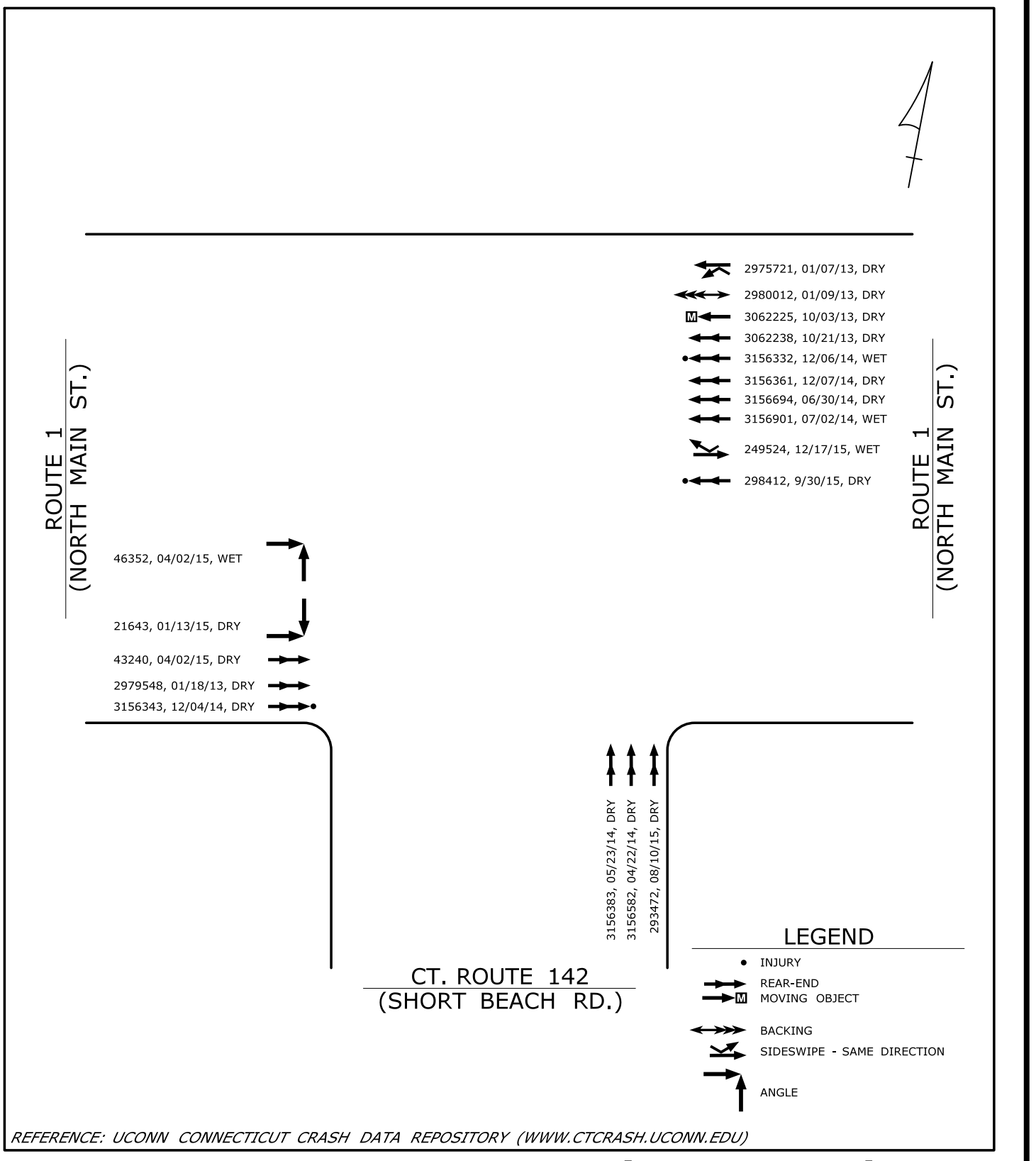
	Exit 53 On Ramp		Service Plaza On Ramp		Service Plaza Off Ramp		Exit 54 On Ramp		Exit 54 Off Ramp	
Fatalities		0.0%		0.0%	1	50.0%		0.0%		0.0%
Injury	1	50.0%	1	50.0%	1	50.0%	2	40.0%	1	25.0%
Property Damage Only	1	50.0%	1	50.0%		0.0%	3	60.0%	3	75.0%
TOTAL =	**2**		**2**		**2**		**5**		**4**	
Turning - Same Direction		0.0%		0.0%		0.0%		0.0%		0.0%
Turning - Opposite Direction		0.0%		0.0%		0.0%		0.0%		0.0%
Turning - Intersecting Paths		0.0%		0.0%		0.0%		0.0%		0.0%
Sideswipe - Same Direction		0.0%	1	50.0%	1	50.0%	4	80.0%	1	20.0%
Sideswipe - Opposite Direction		0.0%		0.0%	1	50.0%		0.0%		0.0%
Miscellaneous - Non-Collision		0.0%		0.0%		0.0%		0.0%		0.0%
Overturn		0.0%		0.0%		0.0%		0.0%		0.0%
Angle		0.0%		0.0%		0.0%		0.0%		0.0%
Rear End	1	50.0%	1	50.0%		0.0%	1	20.0%	2	40.0%
Head-On		0.0%		0.0%		0.0%		0.0%		0.0%
Backing	1	50.0%		0.0%		0.0%		0.0%		0.0%
Parking		0.0%		0.0%		0.0%		0.0%		0.0%
Pedestrian		0.0%		0.0%		0.0%		0.0%		0.0%
Jackknife		0.0%		0.0%		0.0%		0.0%		0.0%
Fixed Object		0.0%		0.0%		0.0%		0.0%	1	20.0%
Moving Object		0.0%		0.0%		0.0%		0.0%		0.0%
Unknown		0.0%		0.0%		0.0%		0.0%		0.0%
TOTAL =	**2**		**2**		**2**		**5**		**4**	

Route 1 Corridor

	Route 1 @ Route 142 (Short Beach Road		Route 1 @ Branford Connector (SR 794)		Route 1 @ Commercial Parkway/Good Will Driveway		Route 1 @ Route 146 (Main Street)/Starbucks Driveway		Route 1 @ Cherry Hill Road	
Fatalities		0.0%		0.0%		0.0%		0.0%		0.0%
Injury	3	16.7%	3	11.1%	7	20.6%	7	26.9%	11	29.7%
Property Damage Only	15	83.3%	24	88.9%	27	79.4%	19	73.1%	26	70.3%
TOTAL =	**18**		**27**		**34**		**26**		**37**	
Turning - Same Direction		0.0%	2	7.4%	1	2.9%	2	7.7%		0.0%
Turning - Opposite Direction		0.0%		0.0%	3	8.8%	1	3.8%	1	2.7%
Turning - Intersecting Paths		0.0%	3	11.1%	4	11.8%	5	19.2%	1	2.7%
Sideswipe - Same Direction	2	11.1%	2	7.4%	2	5.9%		0.0%		0.0%
Sideswipe - Opposite Direction		0.0%	1	3.7%	2	5.9%	2	7.7%		0.0%
Miscellaneous - Non-Collision		0.0%		0.0%		0.0%		0.0%		0.0%
Overturn		0.0%		0.0%		0.0%		0.0%		0.0%
Angle	2	11.1%	2	7.4%	2	5.9%	1	3.8%	12	32.4%
Rear End	12	66.7%	17	63.0%	19	55.9%	12	46.2%	21	56.8%
Head-On		0.0%		0.0%		0.0%		0.0%		0.0%
Backing	1	5.6%		0.0%		0.0%	1	3.8%		0.0%
Parking		0.0%		0.0%		0.0%		0.0%		0.0%
Pedestrian		0.0%		0.0%		0.0%		0.0%		0.0%
Jackknife		0.0%		0.0%		0.0%		0.0%		0.0%
Fixed Object		0.0%		0.0%	1	2.9%	2	7.7%	2	5.4%
Moving Object	1	5.6%		0.0%		0.0%		0.0%		0.0%
Unknown		0.0%		0.0%		0.0%		0.0%		0.0%
TOTAL =	**18**		**27**		**34**		**26**		**37**	

Cedar Street (SR 740) Corridor

	Route 1 @ Cedar Street (SR 740)		Cedar Street (SR 740) @ I-95 NB On/Off Ramps		Cedar Street (SR 740) @ I-95 SB On/Off Ramps	
Fatalities		0.0%		0.0%		0.0%
Injury	17	17.7%	7	26.9%	5	20.8%
Property Damage Only	79	82.3%	19	73.1%	19	79.2%
TOTAL =	**96**		**26**		**24**	
Turning - Same Direction	4	4.2%	1	3.8%	3	12.5%
Turning - Opposite Direction	5	5.2%	1	3.8%		0.0%
Turning - Intersecting Paths	3	3.1%	5	19.2%	3	12.5%
Sideswipe - Same Direction	9	9.4%	1	3.8%	2	8.3%
Sideswipe - Opposite Direction		0.0%		0.0%		0.0%
Miscellaneous - Non-Collision		0.0%		0.0%		0.0%
Overturn	1	1.0%		0.0%		0.0%
Angle	2	2.1%	1	3.8%	4	16.7%
Rear End	69	71.9%	16	61.5%	11	45.8%
Head-On	1	1.0%		0.0%		0.0%
Backing	1	1.0%		0.0%		0.0%
Parking		0.0%		0.0%		0.0%
Pedestrian		0.0%		0.0%		0.0%
Jackknife		0.0%		0.0%		0.0%
Fixed Object	1	1.0%	1	3.8%		0.0%
Moving Object		0.0%		0.0%		0.0%
Unknown		0.0%		0.0%	1	4.2%
TOTAL =	**96**		**26**		**24**	

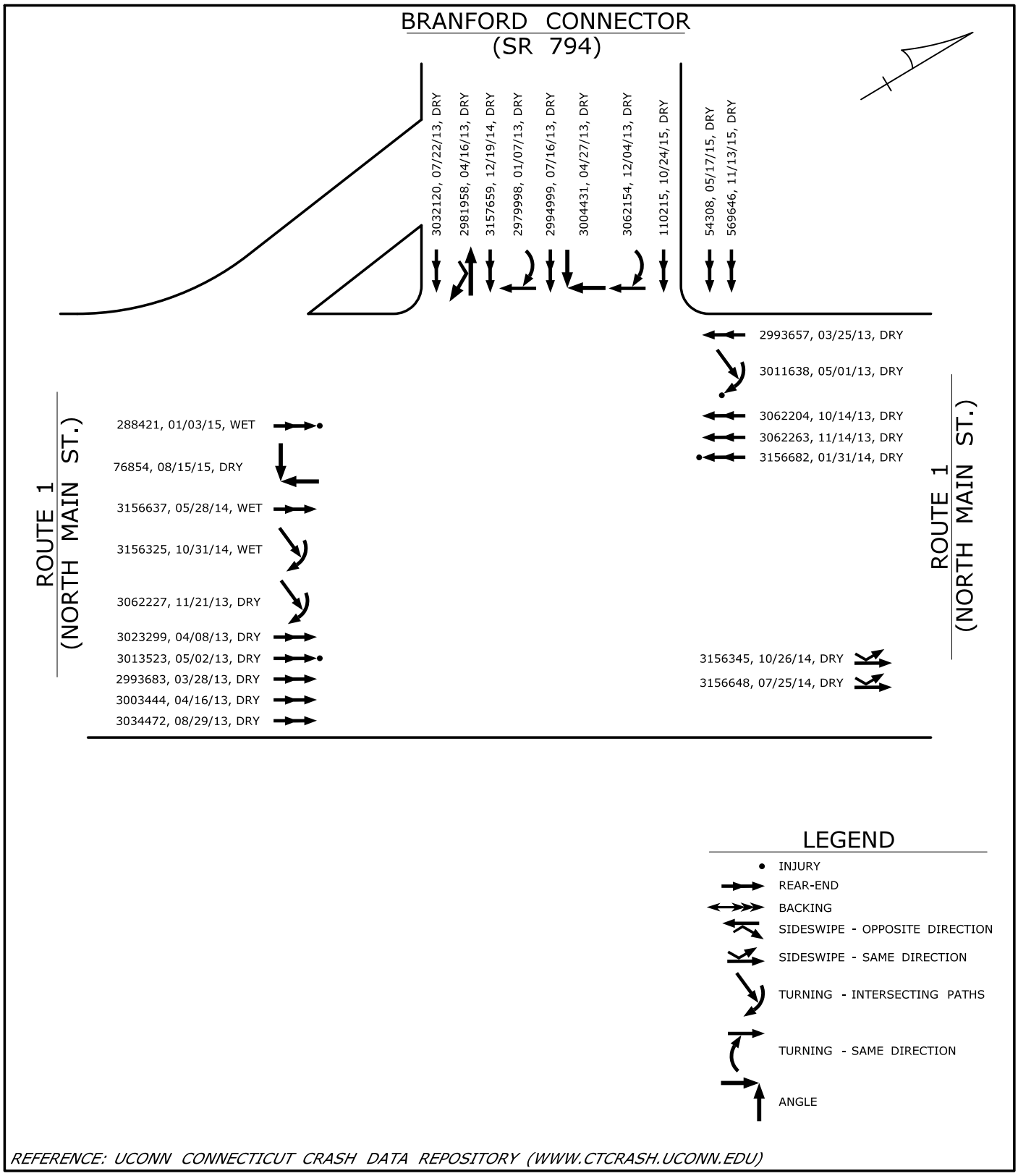


REFERENCE: UCONN CONNECTICUT CRASH DATA REPOSITORY (WWW.CTCRASH.UCONN.EDU)

COLLISION DIAGRAM (2013-2015)

SCHEMATIC - NOT TO SCALE

BL PROJECT NO.: 16C5934 CITY/TOWN: BRANFORD	SCRCOG SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS BRANFORD CONNECTOR CORRIDOR STUDY	BL Companies	DATE: FEBRUARY, 2017 CD-1

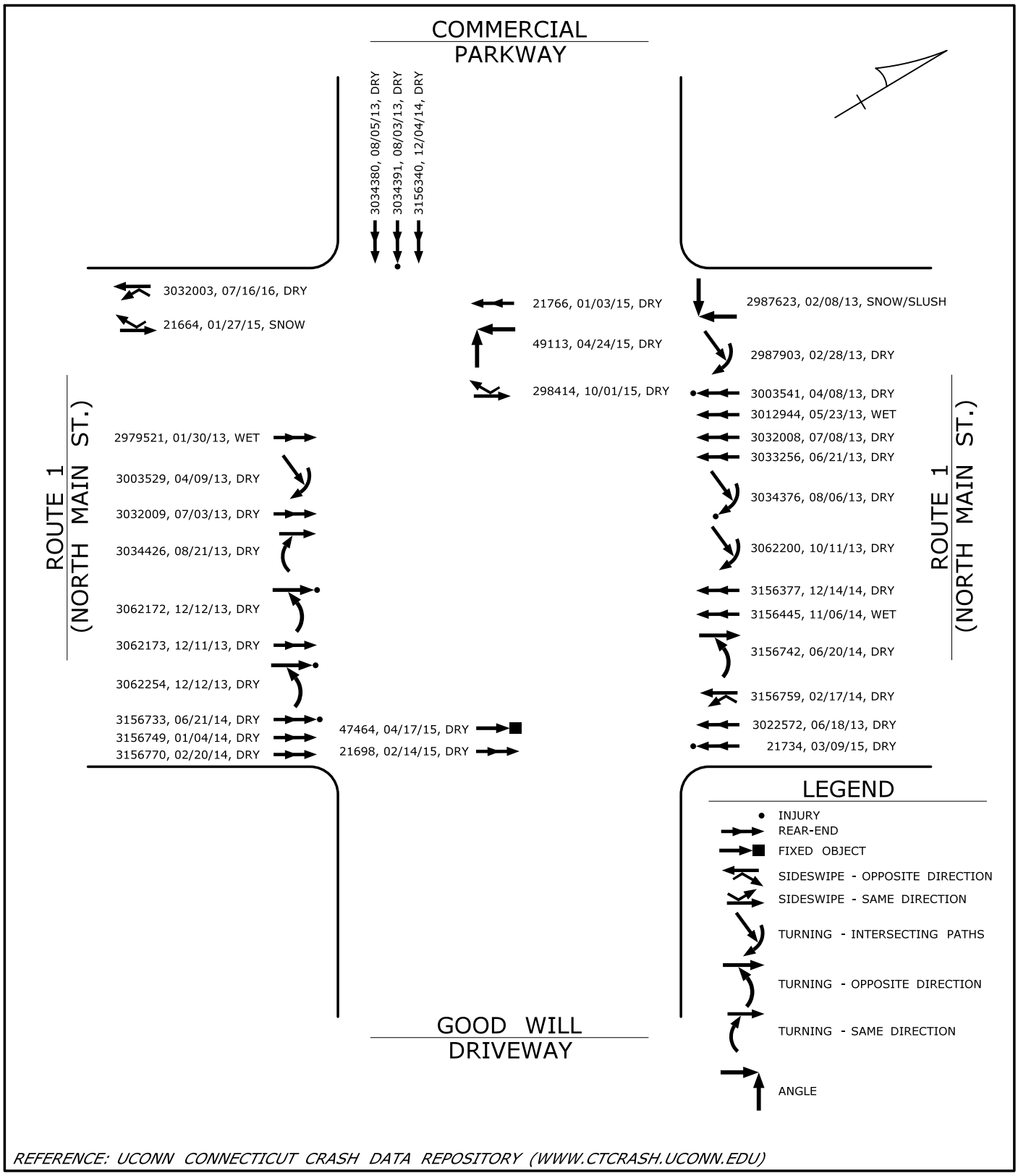


REFERENCE: UCONN CONNECTICUT CRASH DATA REPOSITORY (WWW.CTCRASH.UCONN.EDU)

COLLISION DIAGRAM (2013-2015)

SCHEMATIC - NOT TO SCALE

BL PROJECT NO.: 16C5934 CITY/TOWN: BRANFORD	SCRCOG SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS BRANFORD CONNECTOR CORRIDOR STUDY	BL Companies	DATE: FEBRUARY, 2017 CD-2

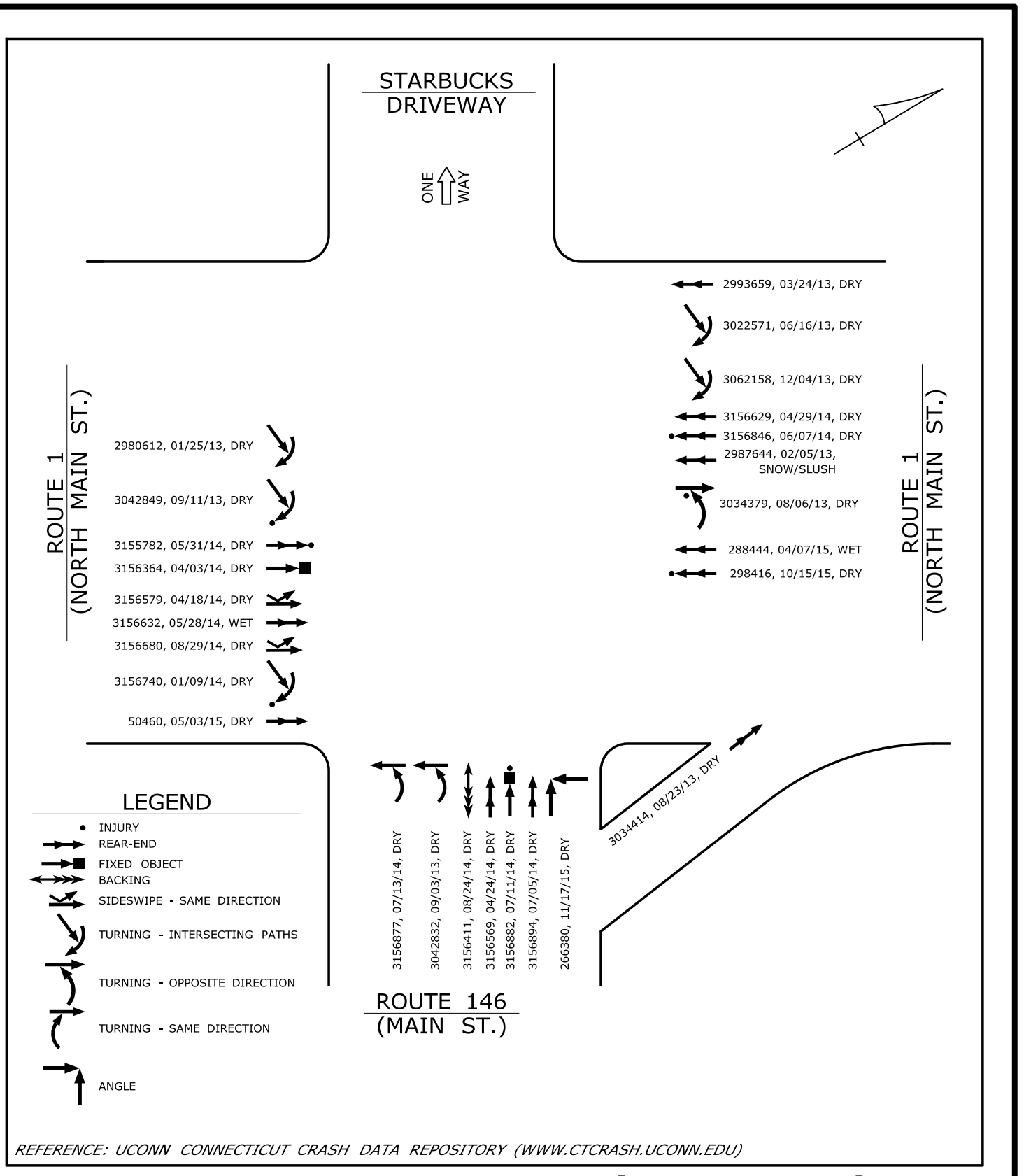


REFERENCE: UCONN CONNECTICUT CRASH DATA REPOSITORY (WWW.CTCRASH.UCONN.EDU)

COLLISION DIAGRAM (2013-2015)

SCHEMATIC - NOT TO SCALE

BL PROJECT NO.: 16C5934 CITY/TOWN: BRANFORD	SCRCOG SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS BRANFORD CONNECTOR CORRIDOR STUDY	BL Companies	DATE: FEBRUARY, 2017 CD-3

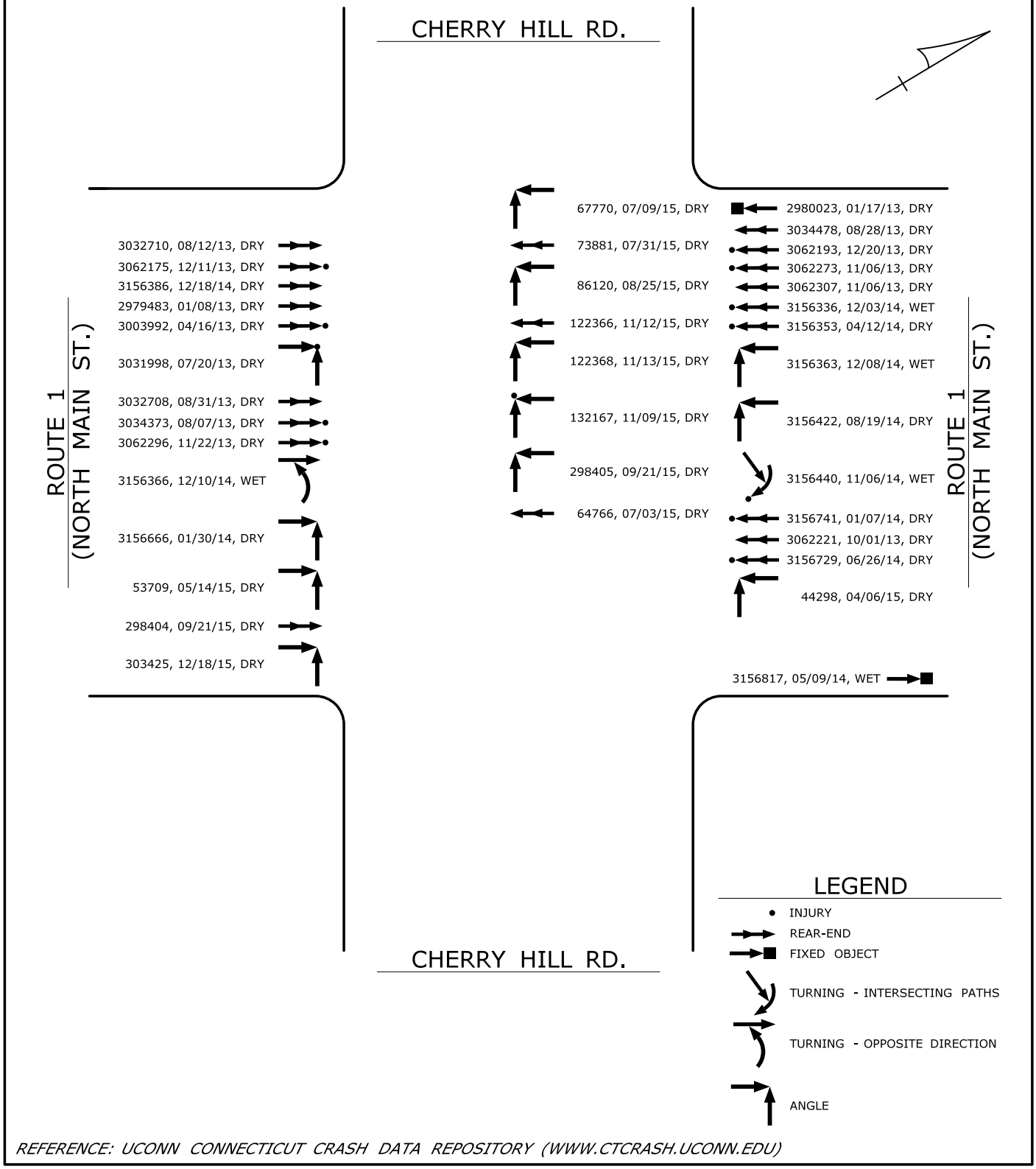


REFERENCE: UCONN CONNECTICUT CRASH DATA REPOSITORY (WWW.CTCRASH.UCONN.EDU)

COLLISION DIAGRAM (2013-2015)

SCHEMATIC - NOT TO SCALE

BL PROJECT NO.: 16C5934 CITY/TOWN: BRANFORD	SCRCOG SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS BRANFORD CONNECTOR CORRIDOR STUDY	BL Companies	DATE: FEBRUARY, 2017 CD-4



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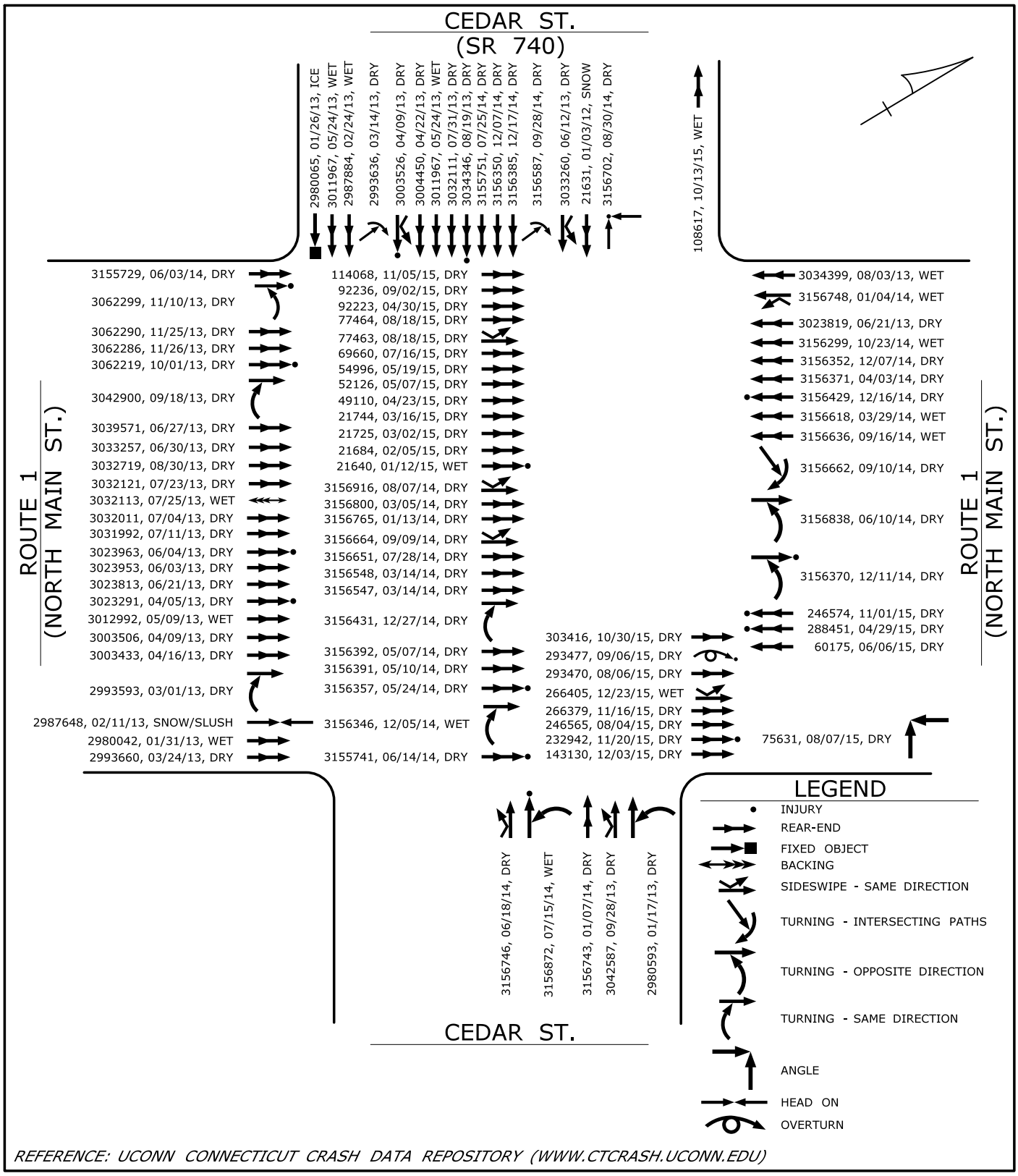
COLLISION DIAGRAM (2013-2015)

SCHEMATIC - NOT TO SCALE

BL PROJECT NO.: 16C5934 CITY/TOWN: BRANFORD	SCRCOG SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS BRANFORD CONNECTOR CORRIDOR STUDY	BL Companies	DATE: FEBRUARY, 2017 CD-5



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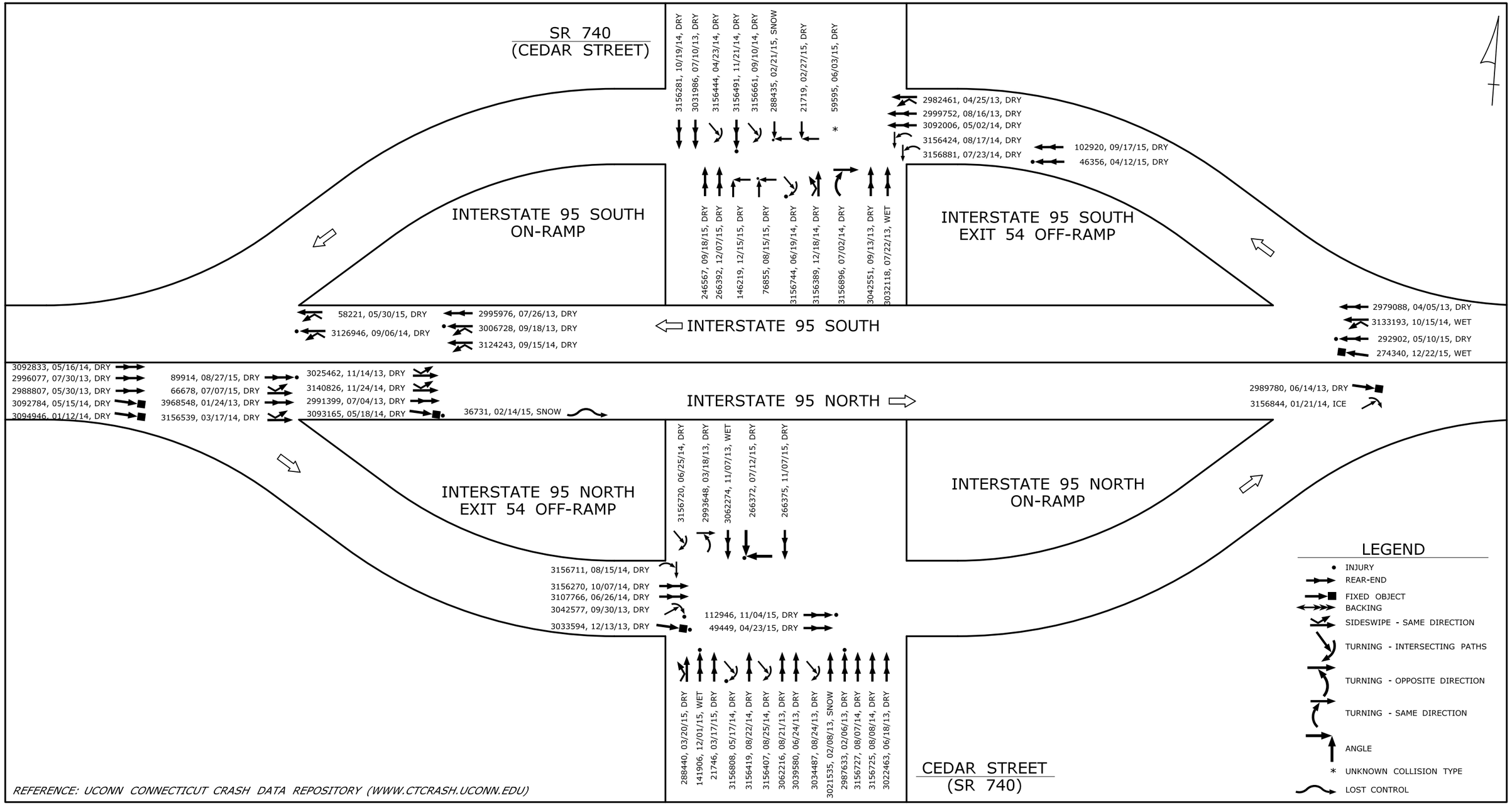
COLLISION DIAGRAM (2013-2015)

SCHEMATIC - NOT TO SCALE

BL PROJECT NO.: 16C5934 CITY/TOWN: BRANFORD	SCRCOG SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS BRANFORD CONNECTOR CORRIDOR STUDY	BL Companies	DATE: FEBRUARY, 2017 CD-6



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COLLISION DIAGRAM (2013-2015)

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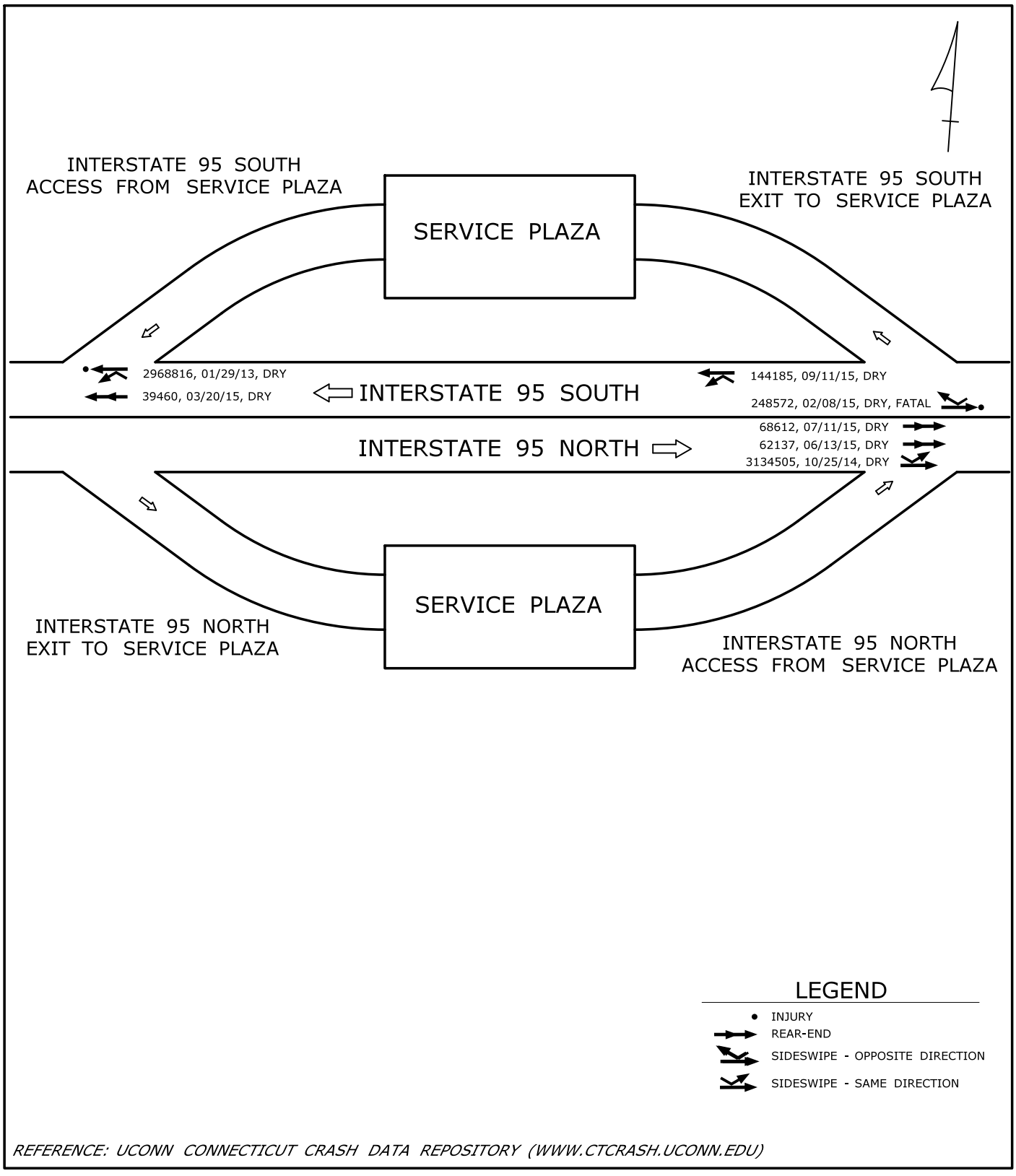
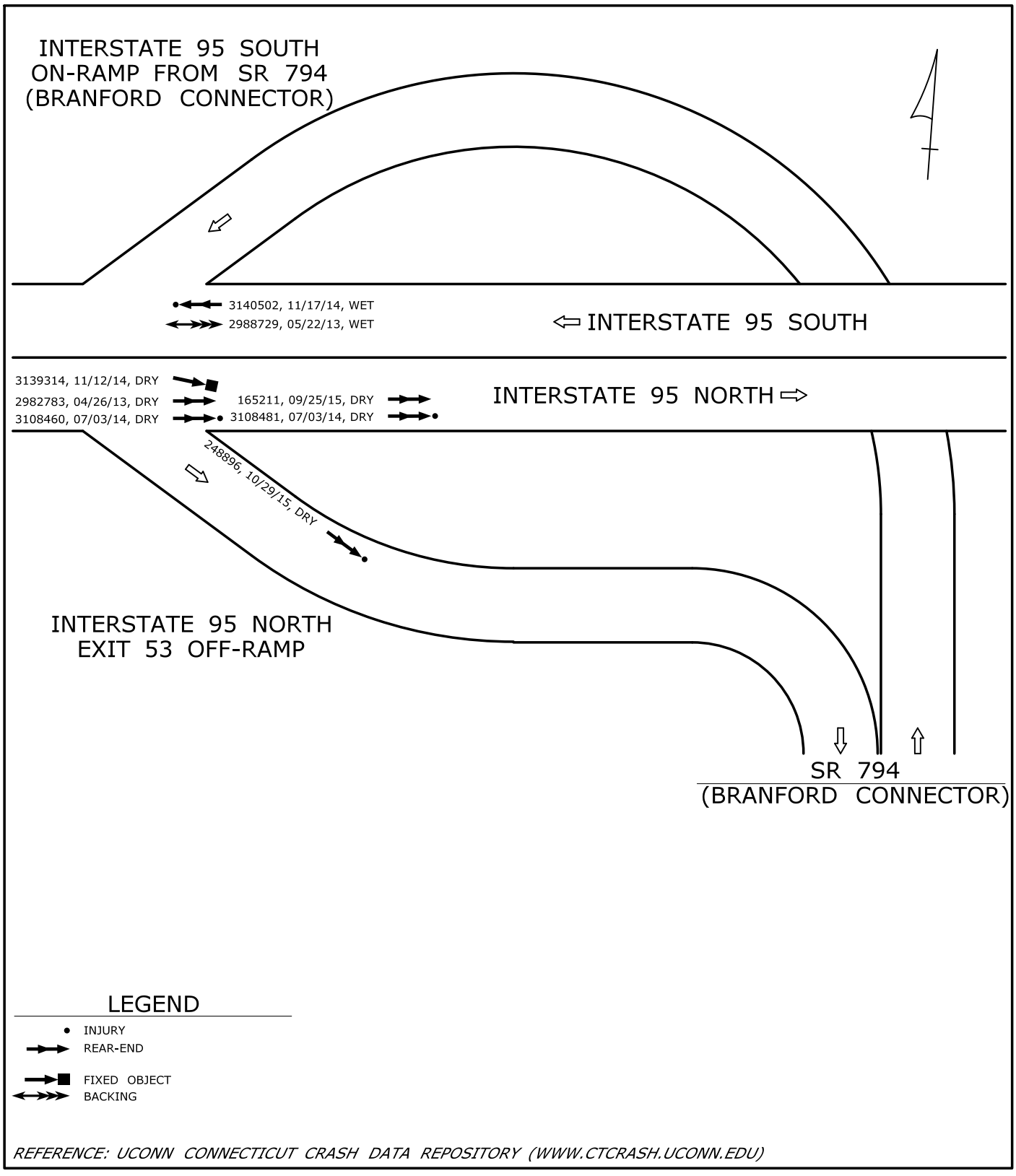


REFERENCE: UCONN CONNECTICUT CRASH DATA REPOSITORY (WWW.CTCRASH.UCONN.EDU)

COLLISION DIAGRAM (2013-2015)

SCHEMATIC - NOT TO SCALE

BL PROJECT NO.: 16C5934 CITY/TOWN: BRANFORD	SCRCOG SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS BRANFORD CONNECTOR CORRIDOR STUDY	BL Companies	DATE: FEBRUARY, 2017 CD-8



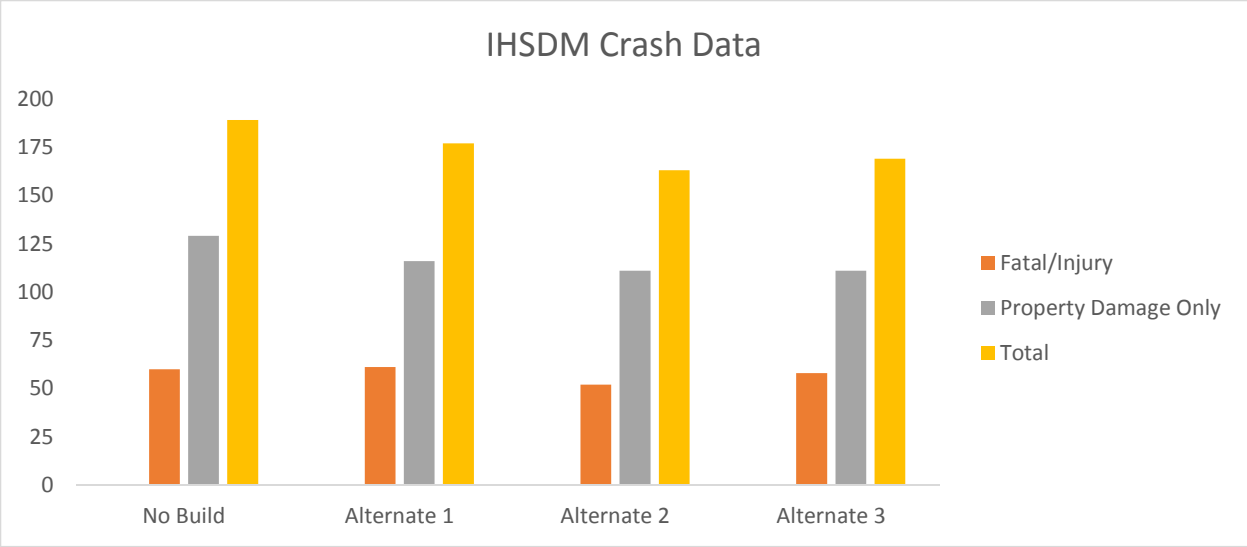
REFERENCE: UCONN CONNECTICUT CRASH DATA REPOSITORY (WWW.CTCRASH.UCONN.EDU)

COLLISION DIAGRAM (2013-2015)

SCHEMATIC - NOT TO SCALE

BL PROJECT NO.: 16C5934 CITY/TOWN: BRANFORD	SCRCOG SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS BRANFORD CONNECTOR CORRIDOR STUDY	BL Companies	DATE: FEBRUARY, 2017 CD-9

APPENDIX C
INTERACTIVE HIGHWAY SAFETY DESIGN MODEL (IHSDM)


IHSDM Crash Data
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125
100
75
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25
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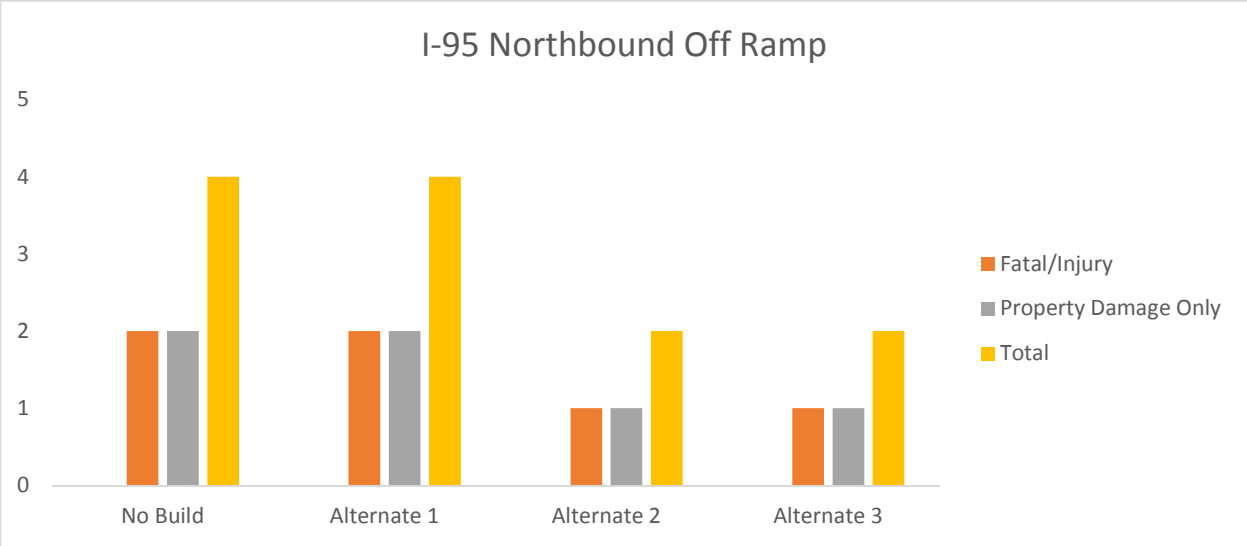
Alternate 2
Alternate 3
Fatal/Injury
Property Damage Only
Total


I-95 Northbound Off Ramp
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3
2
1
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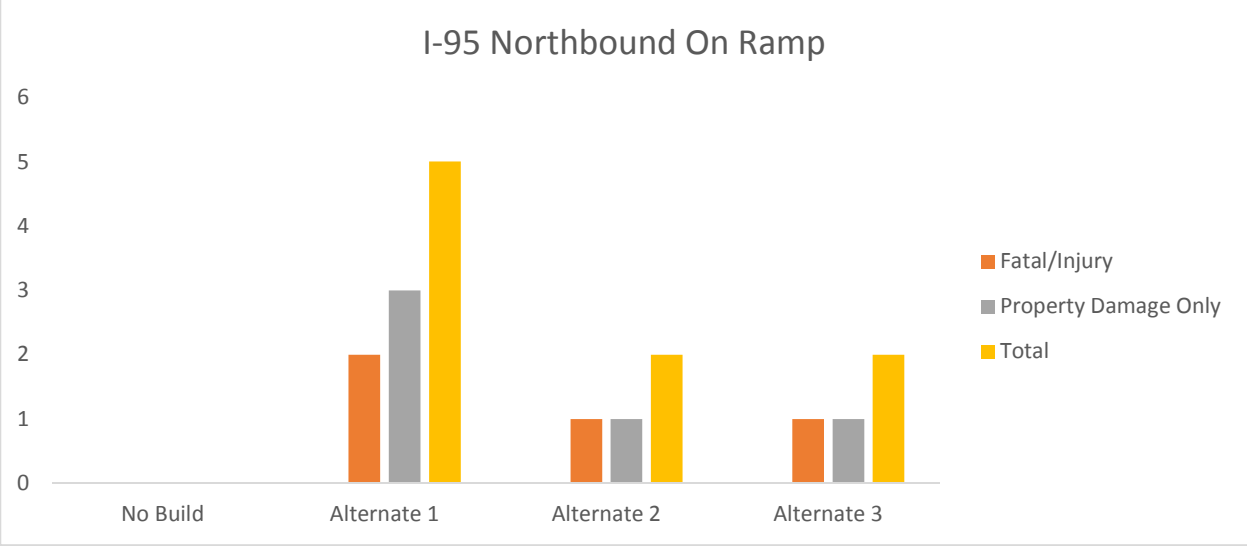
Alternate 1
Alternate 2
Alternate 3
Fatal/Injury
Property Damage Only
Total


I-95 Northbound On Ramp
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3
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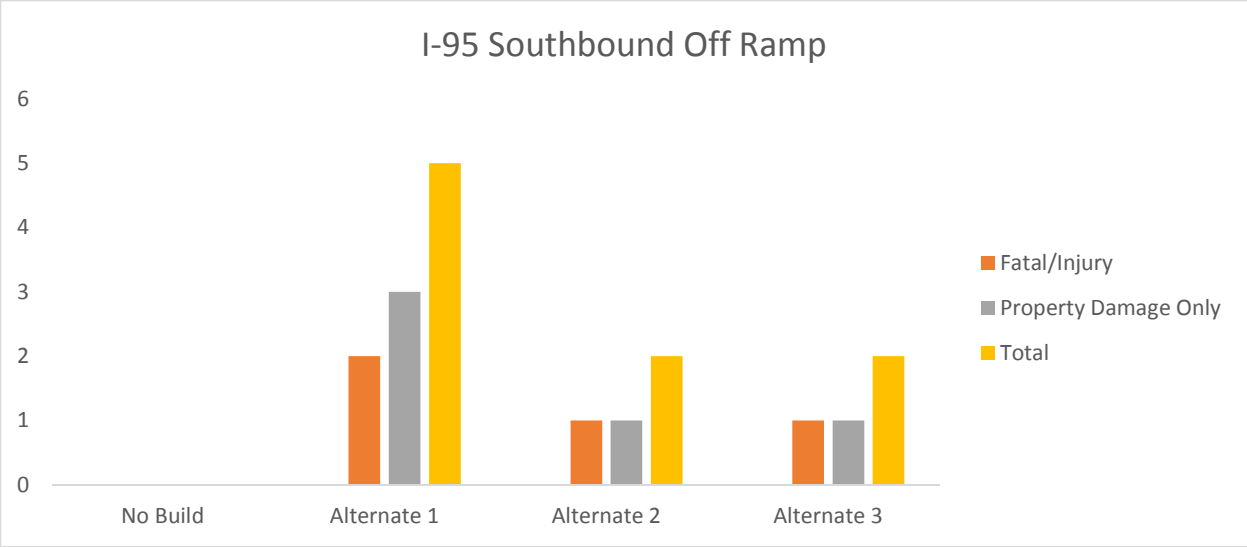
No Build
Alternate 1
Alternate 2
Alternate 3
Fatal/Injury
Property Damage Only
Total


I-95 Southbound Off Ramp
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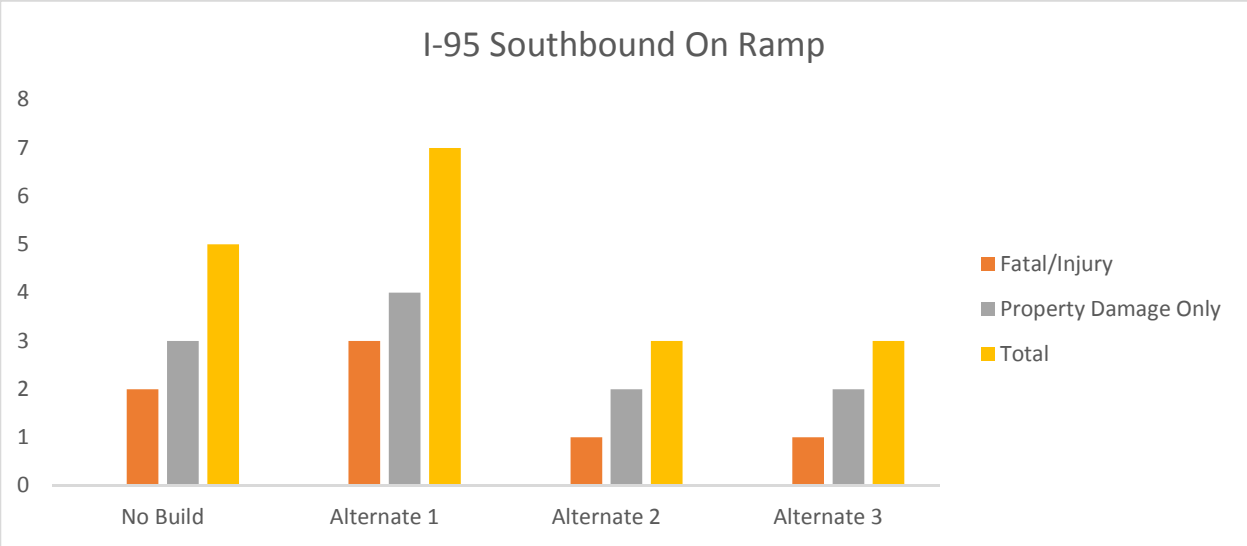
5
4
3
2
1
0
No Build
Alternate 1
Alternate 2
Alternate 3
Fatal/Injury
Property Damage Only
Total


I-95 Southbound On Ramp
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2
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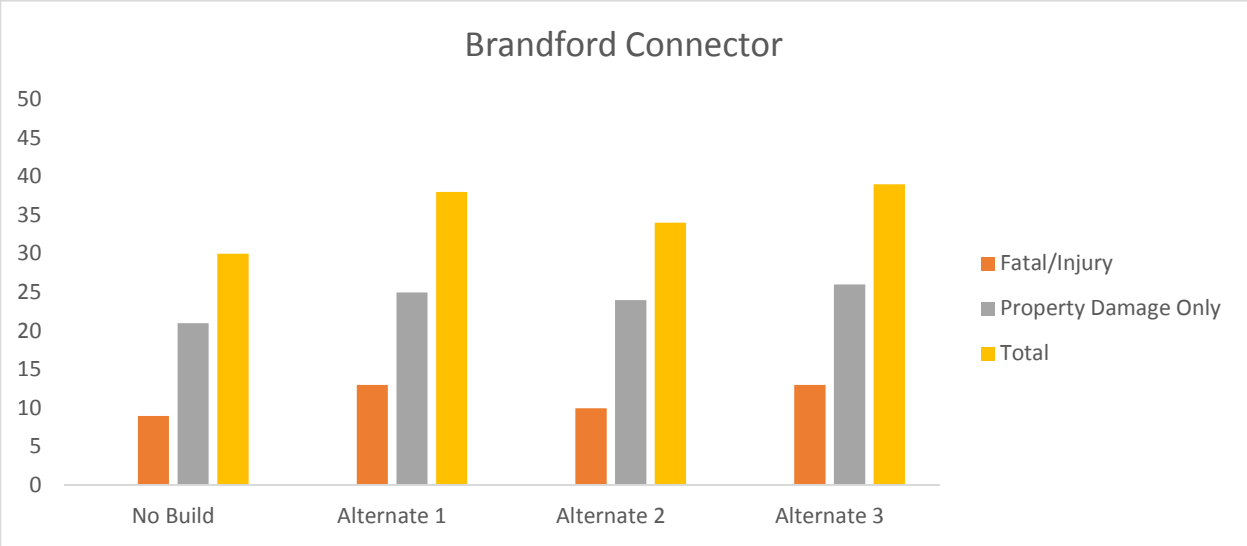
Alternate 1
Alternate 2
Alternate 3
Fatal/Injury
Property Damage Only
Total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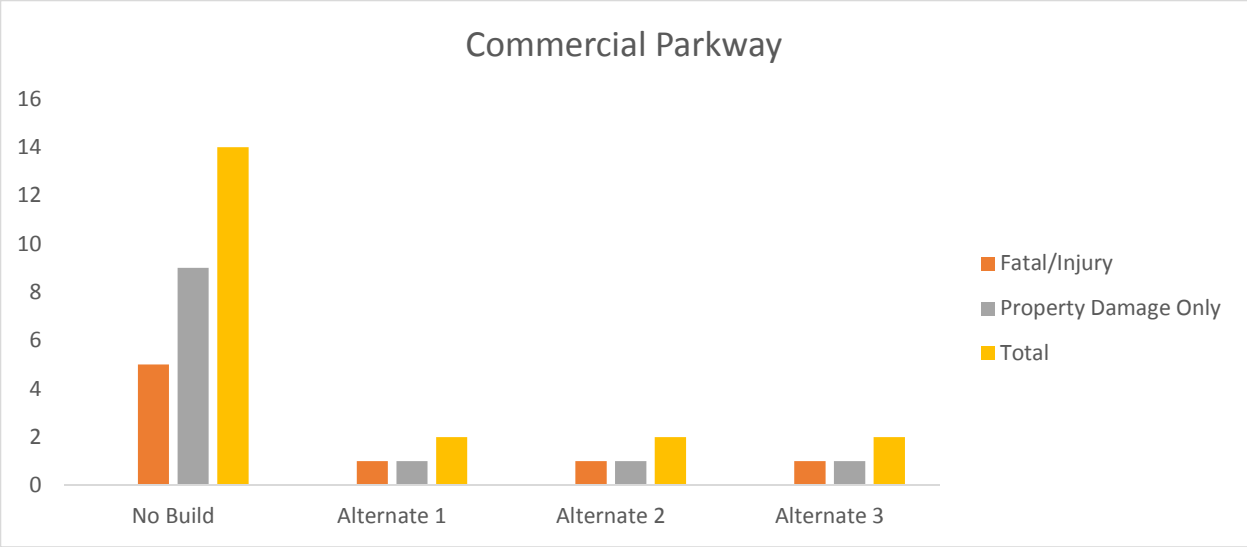
Alternate 2
Alternate 3
Fatal/Injury
Property Damage Only
Total


Commercial Parkway
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8
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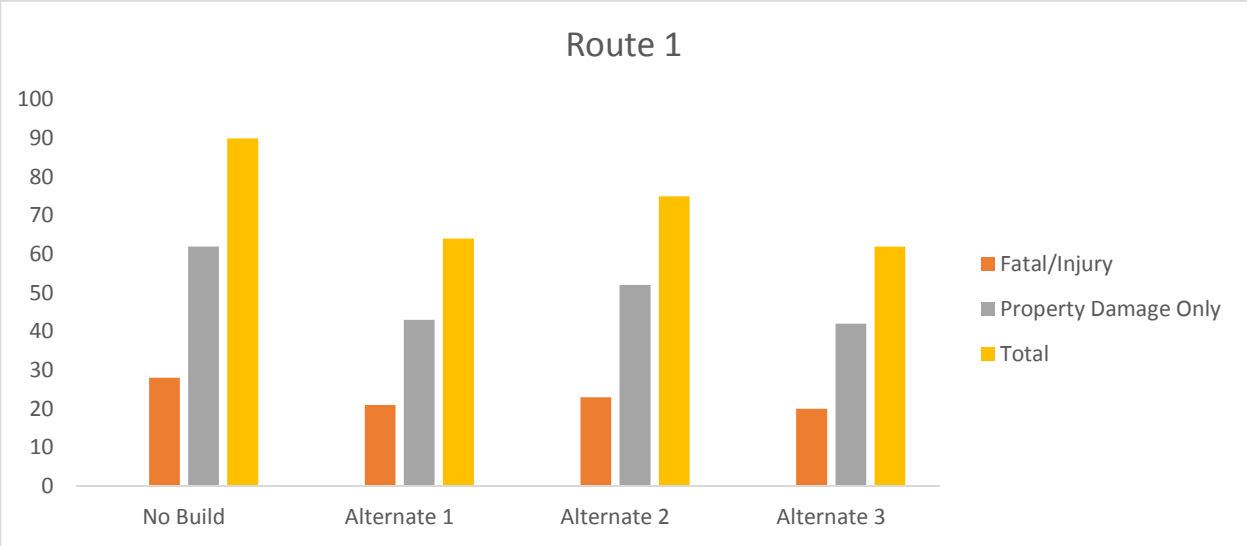
No Build
Alternate 1
Alternate 2
Alternate 3
Fatal/Injury
Property Damage Only
Total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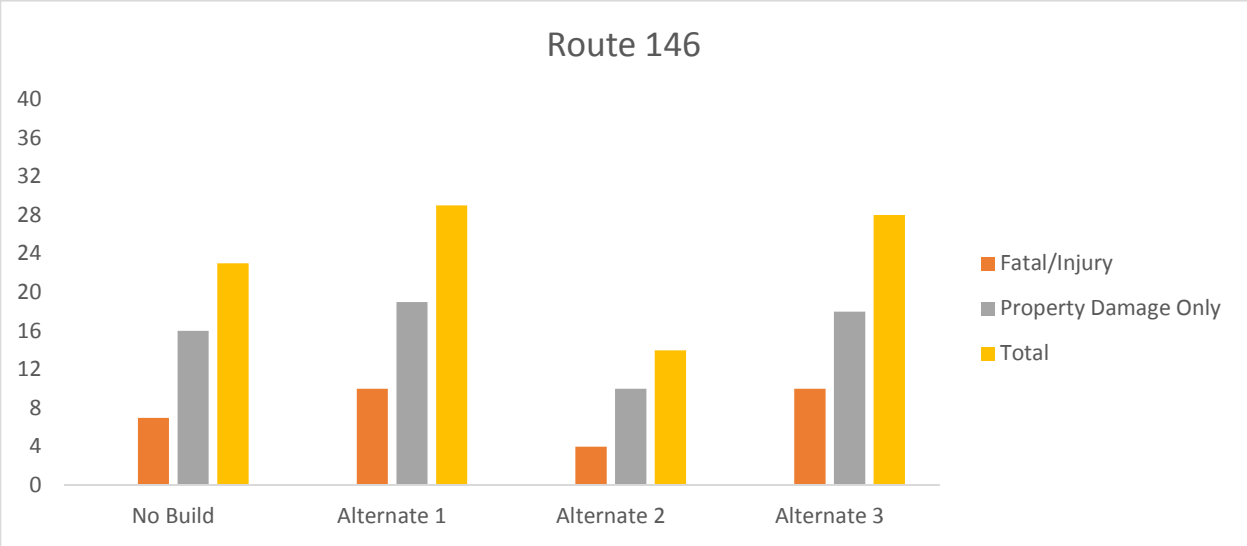
Alternate 2
Alternate 3
Fatal/Injury
Property Damage Only
Total


Route 146
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36
32
28
24
20
16
12
8
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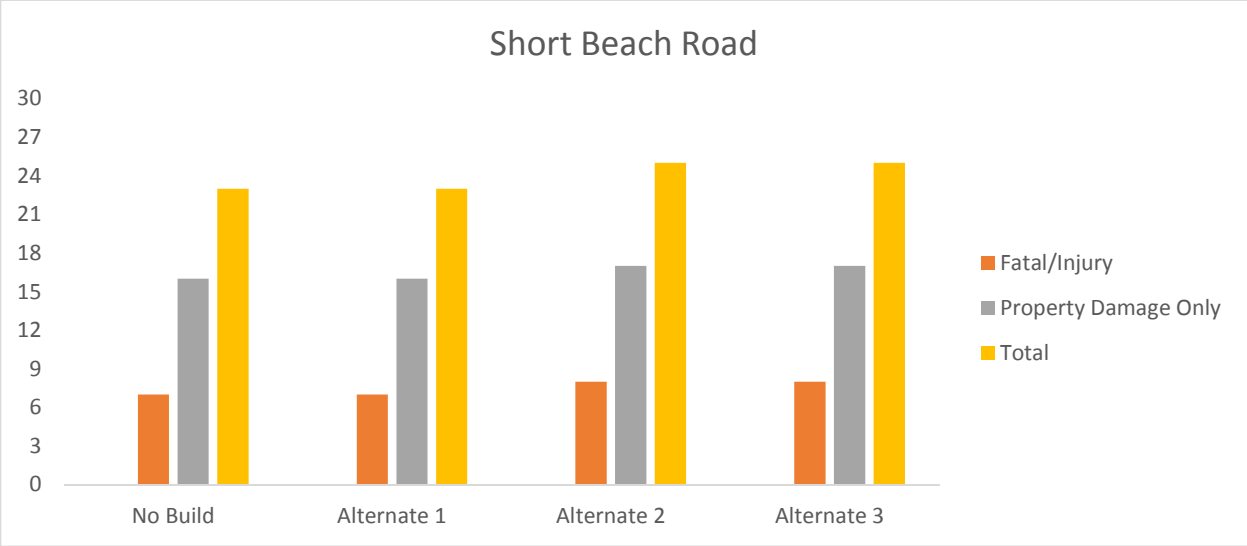
Alternate 2
Alternate 3
Fatal/Injury
Property Damage Only
Total



IHSDM Disclaimers

- No use of medians in IHSDM
- Ramp terminals (intersections with on/off ramps) not analyzed along roadway segments
    - Noted at the bottom of appropriate CPM Printouts
- Some volumes exceed program limits to ensure accurate results
    - Noted at the bottom of appropriate CPM Printouts

IHSDM Predicted Crashes For 2013-2015 Existing Conditions

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

July 25, 2017

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Report Overview

Report Generated: Jul 25, 2017 3:57 PM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Tue Jul 25 15:56:03 EDT 2017
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment BRANFORD CONNECTOR
Highway Comment: Imported from EXISTING I-95 NB OFF-RAMP ONLY.xml
Highway Version: 1

Evaluation Title: CPM EXISTING
Evaluation Comment: Created Tue Jul 25 15:55:14 EDT 2017

Minimum Station: 10+00.000
Maximum Station: 44+12.101
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2013
Last Year of Analysis: 2015

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 44+12.101
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

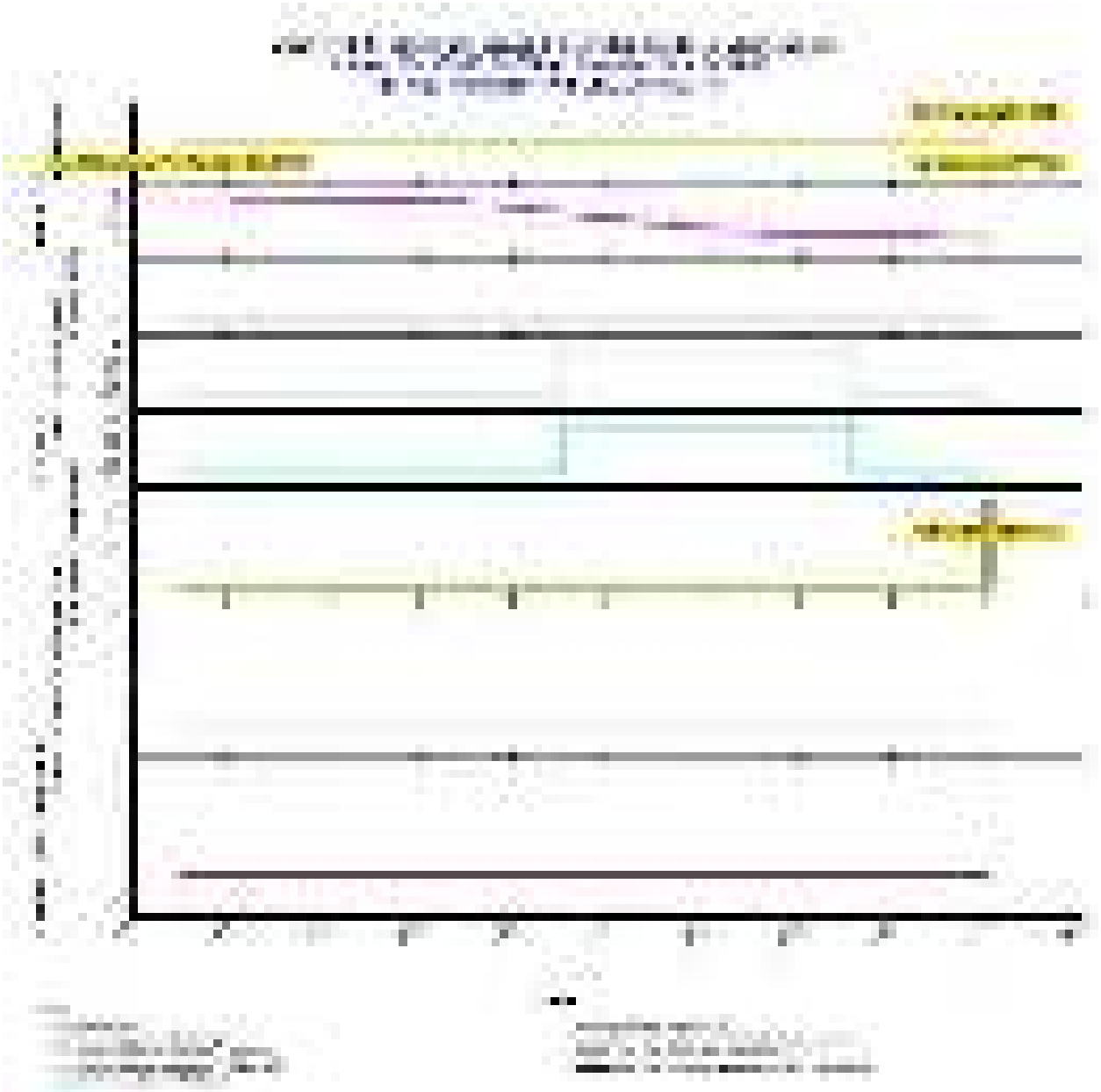

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	26+09.426	1,609.43	0.3048	2013-2015: 13,936	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.50	12.00
2	2U	26+09.426	38+34.478	1,225.05	0.2320	2013-2015: 13,936	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.50	12.00
3	2U	38+34.478	40+74.000	239.52	0.0454	2013-2015: 13,936	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.49	12.00
4	2U	40+74.000	40+91.000	17.00	0.0032	2013-2015: 13,936	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.97	12.00
5	2U	40+91.000	41+08.000	17.00	0.0032	2013-2015: 13,936	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	6.97	12.00
6	2U	41+08.000	41+15.434	7.43	0.0014	2013-2015: 13,936	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	6.25	12.00
7	2U	41+15.434	41+25.000	9.57	0.0018	2013-2015: 13,936	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.75	12.00
8	2U	41+25.000	41+42.000	17.00	0.0032	2013-2015: 13,936	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.97	12.00
9	2U	41+42.000	41+50.000	8.00	0.0015	2013-2015: 13,936	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.24	12.00
10	2U	41+50.000	44+12.101	262.10	0.0496	2013-2015: 13,936	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	RampTerminal 1	10+00.000	2013-2015: 6,968	2013-2015: 13,936	3	Uncontrolled	Unknown	0	0			false	false	false				false
2	ROUTE 1/CONNECTOR	44+12.098	2013-2015: 31,200	2013-2015: 13,936	3	Signalized	Three-Legged Signalized	2	2	0	15	false	false	false	0	0	6	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2013
Last Year of Analysis	2015
Evaluated Length (mi)	0.6462
Average Future Road AADT (vpd)	13,936
Expected Crashes	
Total Crashes	22.25
Fatal and Injury Crashes	6.74
Property-Damage-Only Crashes	15.50
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	30
Percent Property-Damage-Only Crashes (%)	70
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	11.4744
Fatal and Injury Crash Rate (crashes/mi/yr)	3.4774
Property-Damage-Only Crash Rate (crashes/mi/yr)	7.9970
Expected Travel Crash Rate	
Total Travel (million veh-mi)	9.86
Travel Crash Rate (crashes/million veh-mi)	2.26
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.68
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	1.57

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	26+09.426	0.3048	2.889	3.1595	0.62		
2	26+09.426	38+34.478	0.2320	2.199	3.1595	0.62		
3	38+34.478	40+74.000	0.0454	0.430	3.1595	0.62		
4	40+74.000	40+91.000	0.0032	0.030	3.1595	0.62		
5	40+91.000	41+08.000	0.0032	0.030	3.1595	0.62		
6	41+08.000	41+15.434	0.0014	0.013	3.1595	0.62		
7	41+15.434	41+25.000	0.0018	0.017	3.1595	0.62		
8	41+25.000	41+42.000	0.0032	0.030	3.1595	0.62		
9	41+42.000	41+50.000	0.0015	0.014	3.1595	0.62		
10	41+50.000	44+12.101	0.0496	0.470	3.1595	0.62		
ROUTE 1/CONNECTOR	44+12.098			16.120			0.39	5.3733

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/ yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	26+09.426	0.3048	2.889	3.1595	0.62
Simple Curve 1	26+09.426	38+34.478	0.2320	2.199	3.1595	0.62
Tangent	38+34.478	44+12.101	0.1094	1.037	3.1595	0.62

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.0	0.09	0.4	0.10	0.4
Highway Segment	Collision with Bicycle	0.02	0.1	0.00	0.0	0.02	0.1
Highway Segment	Collision with Fixed Object	0.25	1.1	1.03	4.6	1.28	5.8
Highway Segment	Collision with Other Object	0.00	0.0	0.02	0.1	0.02	0.1
Highway Segment	Other Single-vehicle Collision	0.08	0.4	0.22	1.0	0.30	1.4
Highway Segment	Collision with Pedestrian	0.03	0.1	0.00	0.0	0.03	0.1
Highway Segment	Total Segment Single Vehicle Crashes	0.40	1.8	1.36	6.1	1.76	7.9
Highway Segment	Angle Collision	0.11	0.5	0.24	1.1	0.35	1.6
Highway Segment	Driveway-related Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Head-on Collision	0.09	0.4	0.01	0.1	0.10	0.4
Highway Segment	Other Multi-vehicle Collision	0.04	0.2	0.16	0.7	0.20	0.9
Highway Segment	Rear-end Collision	0.93	4.2	2.40	10.8	3.33	15.0
Highway Segment	Sideswipe, Opposite Direction Collision	0.09	0.4	0.17	0.8	0.26	1.2
Highway Segment	Sideswipe, Same Direction Collision	0.02	0.1	0.10	0.4	0.12	0.5
Highway Segment	Total Segment Multiple Vehicle Crashes	1.27	5.7	3.09	13.9	4.36	19.6
Highway Segment	Total Highway Segment Crashes	1.68	7.5	4.45	20.0	6.12	27.5
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.17	0.8	0.00	0.0	0.17	0.8
Intersection	Collision with Fixed Object	0.20	0.9	0.62	2.8	0.83	3.7
Intersection	Non-Collision	0.07	0.3	0.01	0.0	0.07	0.3
Intersection	Collision with Other Object	0.03	0.1	0.05	0.2	0.08	0.3
Intersection	Other Single-vehicle Collision	0.01	0.1	0.01	0.1	0.03	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.03	0.1	0.00	0.0	0.03	0.1
Intersection	Total Intersection Single Vehicle Crashes	0.51	2.3	0.70	3.1	1.21	5.5
Intersection	Angle Collision	1.27	5.7	2.11	9.5	3.39	15.2
Intersection	Head-on Collision	0.17	0.8	0.21	0.9	0.38	1.7
Intersection	Other Multi-vehicle Collision	0.26	1.2	2.05	9.2	2.31	10.4
Intersection	Rear-end Collision	2.50	11.2	5.66	25.4	8.15	36.7
Intersection	Sideswipe	0.35	1.6	0.33	1.5	0.68	3.0
Intersection	Total Intersection Multiple Vehicle Crashes	4.55	20.5	10.36	46.6	14.91	67.0
Intersection	Total Intersection Crashes	5.07	22.8	11.05	49.7	16.12	72.5
	Total Crashes	6.74	30.3	15.50	69.7	22.25	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 7. Evaluation Message

Start Location	End Location	Message
10+00.000	10+00.000	for intersection #1 (10+00.000 to 10+00.000), Ramp Terminal: RampTerminal 1 can't be evaluated as part of this roadway.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

July 26, 2017

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jul 26 08:13:24 EDT 2017
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment COMMERCIAL PRKWY
Highway Comment: Imported from 16C5934_MDL_BASELINE-EXIST.xml
Highway Version: 1

Evaluation Title: CPM EXISTING
Evaluation Comment: Created Wed Jul 26 08:12:31 EDT 2017

Minimum Station: 10+00.000
Maximum Station: 27+77.480
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2013
Last Year of Analysis: 2015

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 27+77.480
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

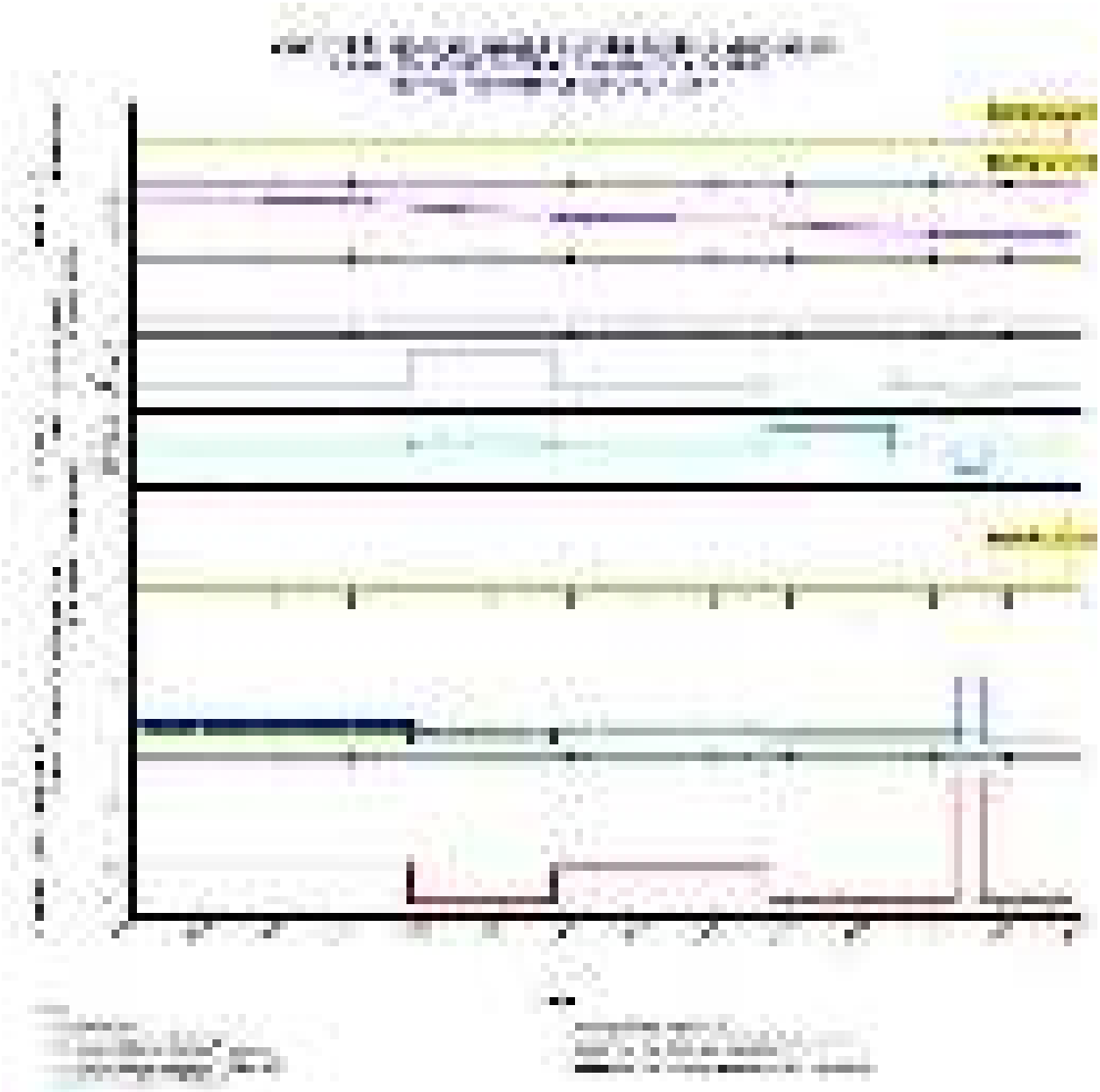

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length (mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	15+13.378	513.38	0.0972	2013-2015: 2,600	1	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
2	2U	15+13.378	17+88.781	275.40	0.0522	2013-2015: 2,600	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
3	2U	17+88.781	21+98.782	410.00	0.0776	2013-2015: 2,600	0	0	0	1	1	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
4	2U	21+98.782	24+38.409	239.63	0.0454	2013-2015: 2,600	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
5	2U	24+38.409	25+59.297	120.89	0.0229	2013-2015: 2,600	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
6	2U	25+59.297	25+63.332	4.04	0.0008	2013-2015: 2,600	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
7	2U	25+63.332	26+10.389	47.06	0.0089	2013-2015: 2,600	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
8	2U	26+10.389	27+77.480	167.09	0.0316	2013-2015: 2,600	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/COMM PKWY	27+77.477	2013-2015: 30,680	2013-2015: 2,600	3	Signalized	Three-Legged Signalized	3	1	0	15	false	false	false	0	0	6	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2013
Last Year of Analysis	2015
Evaluated Length (mi)	0.3366
Average Future Road AADT (vpd)	2,600
Expected Crashes	
Total Crashes	10.48
Fatal and Injury Crashes	3.74
Property-Damage-Only Crashes	6.74
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	36
Percent Property-Damage-Only Crashes (%)	64
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	10.3794
Fatal and Injury Crash Rate (crashes/mi/yr)	3.7063
Property-Damage-Only Crash Rate (crashes/mi/yr)	6.6731
Expected Travel Crash Rate	
Total Travel (million veh-mi)	0.96
Travel Crash Rate (crashes/million veh-mi)	10.94
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	3.90
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	7.03

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	15+13.378	0.0972	0.234	0.8009	0.84		
2	15+13.378	17+88.781	0.0522	0.079	0.5040	0.53		
3	17+88.781	21+98.782	0.0777	0.175	0.7534	0.79		
4	21+98.782	24+38.409	0.0454	0.069	0.5040	0.53		
5	24+38.409	25+59.297	0.0229	0.035	0.5040	0.53		
6	25+59.297	25+63.332	0.0008	0.001	0.5040	0.53		
7	25+63.332	26+10.389	0.0089	0.041	1.5290	1.61		
8	26+10.389	27+77.480	0.0316	0.048	0.5040	0.53		
ROUTE 1/COMM PKWY	27+77.477			9.801			0.28	3.2671

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/ yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	15+13.378	0.0972	0.234	0.8009	0.84
Simple Curve 1	15+13.378	17+88.781	0.0522	0.079	0.5040	0.53
Tangent	17+88.781	21+98.782	0.0777	0.175	0.7534	0.79
Simple Curve 2	21+98.782	24+38.409	0.0454	0.069	0.5040	0.53
Tangent	24+38.409	25+59.297	0.0229	0.035	0.5040	0.53
Simple Curve 3	25+59.297	26+10.389	0.0097	0.042	1.4480	1.53
Tangent	26+10.389	27+77.480	0.0316	0.048	0.5040	0.53

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.01	0.1	0.02	0.2
Highway Segment	Collision with Bicycle	0.01	0.1	0.00	0.0	0.01	0.1
Highway Segment	Collision with Fixed Object	0.09	0.8	0.17	1.7	0.26	2.5
Highway Segment	Collision with Other Object	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Single-vehicle Collision	0.03	0.3	0.04	0.4	0.07	0.6
Highway Segment	Collision with Pedestrian	0.02	0.2	0.00	0.0	0.02	0.2
Highway Segment	Total Segment Single Vehicle Crashes	0.15	1.5	0.23	2.2	0.38	3.6
Highway Segment	Angle Collision	0.00	0.0	0.01	0.1	0.01	0.1
Highway Segment	Driveway-related Collision	0.05	0.5	0.11	1.1	0.16	1.6
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Multi-vehicle Collision	0.00	0.0	0.01	0.0	0.01	0.1
Highway Segment	Rear-end Collision	0.03	0.3	0.07	0.7	0.10	1.0
Highway Segment	Sideswipe, Opposite Direction Collision	0.00	0.0	0.01	0.1	0.01	0.1
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Total Segment Multiple Vehicle Crashes	0.09	0.9	0.20	2.0	0.30	2.8
Highway Segment	Total Highway Segment Crashes	0.25	2.3	0.43	4.2	0.68	6.5
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.11	1.0	0.00	0.0	0.11	1.0
Intersection	Collision with Fixed Object	0.08	0.8	0.33	3.2	0.41	4.0
Intersection	Non-Collision	0.03	0.2	0.01	0.1	0.03	0.3
Intersection	Collision with Other Object	0.01	0.1	0.03	0.2	0.04	0.4
Intersection	Other Single-vehicle Collision	0.01	0.1	0.01	0.1	0.01	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.02	0.2	0.00	0.0	0.02	0.2
Intersection	Total Intersection Single Vehicle Crashes	0.25	2.4	0.37	3.6	0.62	5.9
Intersection	Angle Collision	0.91	8.7	1.21	11.5	2.12	20.2
Intersection	Head-on Collision	0.12	1.2	0.12	1.1	0.24	2.3
Intersection	Other Multi-vehicle Collision	0.18	1.8	1.17	11.2	1.36	13.0
Intersection	Rear-end Collision	1.78	17.0	3.24	30.9	5.02	47.9
Intersection	Sideswipe	0.25	2.4	0.19	1.8	0.44	4.2
Intersection	Total Intersection Multiple Vehicle Crashes	3.25	31.0	5.93	56.6	9.18	87.6
Intersection	Total Intersection Crashes	3.50	33.4	6.30	60.1	9.80	93.5
	Total Crashes	3.74	35.7	6.74	64.3	10.48	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

July 25, 2017

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Evaluation Date: Tue Jul 25 15:48:46 EDT 2017
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 NB OFF-RAMP
Highway Comment: Imported from EXISTING I-95 NB OFF-RAMP ONLY.xml
Highway Version: 1

Evaluation Title: CPM EXISTING
Evaluation Comment: Created Tue Jul 25 15:48:14 EDT 2017

Minimum Station: 10+00.000
Maximum Station: 37+03.240
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2013
Last Year of Analysis: 2015

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 37+03.240
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: EX_RAMP_MV_FI=1.0; EX_RAMP_MV_PDO=1.0; EX_RAMP_SV_FI=1.0; EX_RAMP_SV_PDO=1.0;

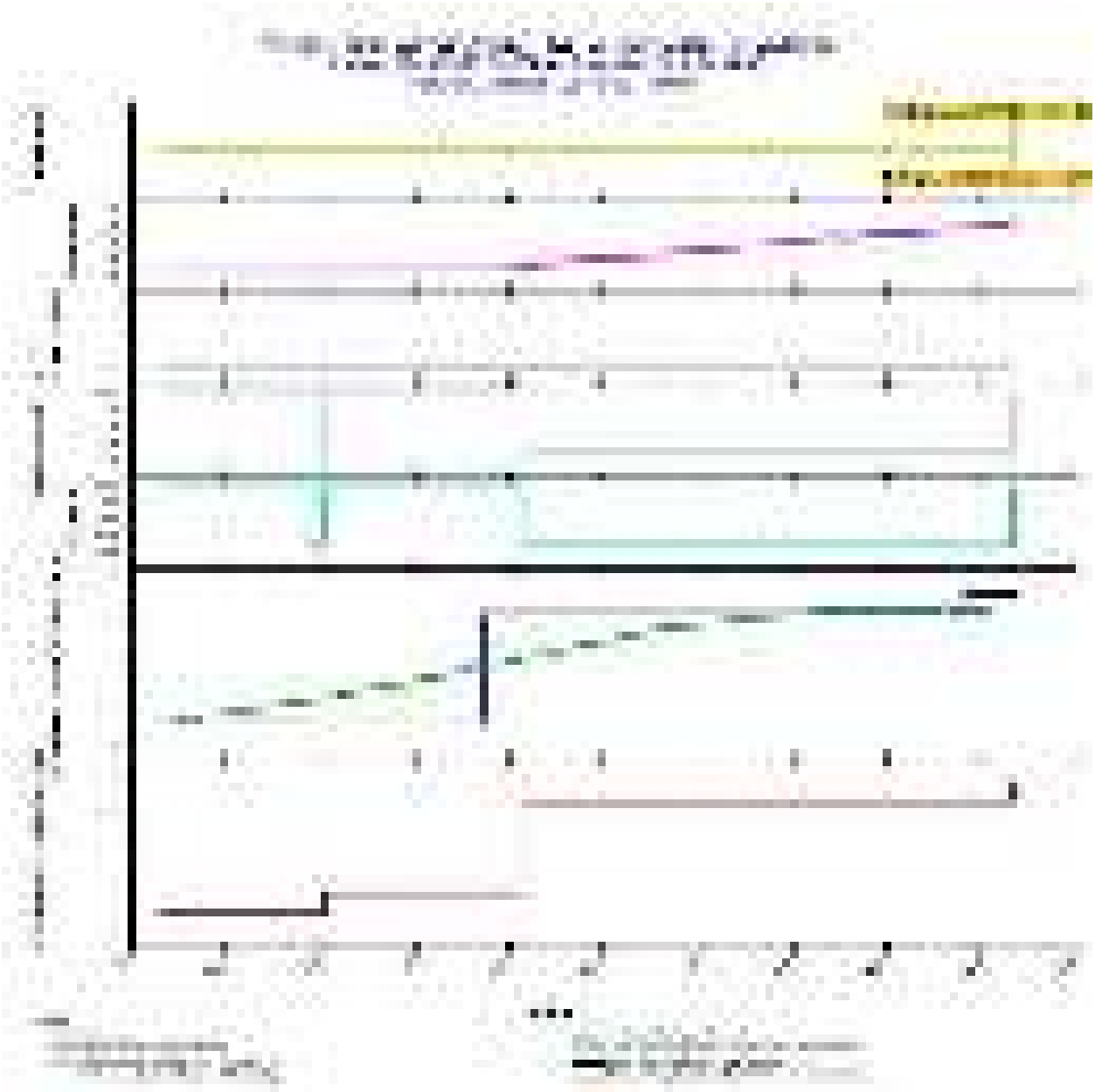

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EX	Urban	10+00.000	20+20.000	1,020.00	0.1932	2013-2015: 6,968
2	1EX	Urban	20+20.000	35+50.000	1,530.00	0.2898	2013-2015: 6,968
3	1EX	Urban	35+50.000	37+03.240	153.24	0.0290	2013-2015: 6,968

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2013
Last Year of Analysis	2015
Evaluated Length (mi)	0.5120
Average Future Road AADT (vpd)	6,968
Expected Crashes	
Total Crashes	3.10
Fatal and Injury Crashes	1.51
Property-Damage-Only Crashes	1.59
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	49
Percent Property-Damage-Only Crashes (%)	51
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	2.0204
Fatal and Injury Crash Rate (crashes/mi/yr)	0.9863
Property-Damage-Only Crash Rate (crashes/mi/yr)	1.0341
Expected Travel Crash Rate	
Total Travel (million veh-mi)	3.91
Travel Crash Rate (crashes/million veh-mi)	0.79
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.39
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.41

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	20+20.000	0.1932	1.072	1.8494	0.73
2	20+20.000	35+50.000	0.2898	1.843	2.1200	0.83
3	35+50.000	37+03.240	0.0290	0.188	2.1637	0.85

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	14+73.764	0.0897	0.498	1.8494	0.73
Simple Curve 1	14+73.764	15+14.968	0.0078	0.043	1.8494	0.73
Tangent	15+14.968	21+42.460	0.1188	0.678	1.9022	0.75
Simple Curve 2	21+42.460	36+98.040	0.2946	1.877	2.1241	0.83
Tangent	36+98.040	37+03.240	0.0010	0.006	2.1637	0.85

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0164	0.0496	0.2062	0.2517	0.5480
2	0.0281	0.0851	0.3538	0.4317	0.9442
3	0.0029	0.0087	0.0363	0.0443	0.0961
Total	0.0473	0.1434	0.5964	0.7277	1.5882

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.2	0.03	1.0	0.04	1.2
Highway Segment	Collision with Fixed Object	1.05	33.9	1.03	33.4	2.09	67.3
Highway Segment	Collision with Other Object	0.07	2.4	0.20	6.5	0.28	8.9
Highway Segment	Other Single-vehicle Collision	0.30	9.8	0.15	5.0	0.46	14.8
Highway Segment	Collision with Parked Vehicle	0.02	0.7	0.02	0.7	0.04	1.5
Highway Segment	Total Single Vehicle Crashes	1.46	47.0	1.45	46.6	2.90	93.6
Highway Segment	Right-Angle Collision	0.00	0.1	0.00	0.1	0.00	0.1
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Multi-vehicle Collision	0.00	0.1	0.00	0.1	0.01	0.2
Highway Segment	Rear-end Collision	0.04	1.3	0.10	3.2	0.14	4.5
Highway Segment	Sideswipe, Same Direction Collision	0.01	0.3	0.04	1.2	0.05	1.5
Highway Segment	Total Multiple Vehicle Crashes	0.06	1.8	0.14	4.6	0.20	6.4
Highway Segment	Total Highway Segment Crashes	1.51	48.8	1.59	51.2	3.10	100.0
	Total Crashes	1.51	48.8	1.59	51.2	3.10	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

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IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 SB EXIT 53 ON-RAMP
Highway Comment: Imported from EXISTING SB Mainline and On-Ramp ONLY.xml
Highway Version: 1

Evaluation Title: CPM EXISTING
Evaluation Comment: Created Tue Jul 25 15:38:30 EDT 2017

Minimum Station: 10+00.000
Maximum Station: 42+35.594
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2013
Last Year of Analysis: 2015

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 42+35.594
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: ENT_RAMP_MV_FI=1.0; ENT_RAMP_MV_PDO=1.0; ENT_RAMP_SV_FI=1.0; ENT_RAMP_SV_PDO=1.0;

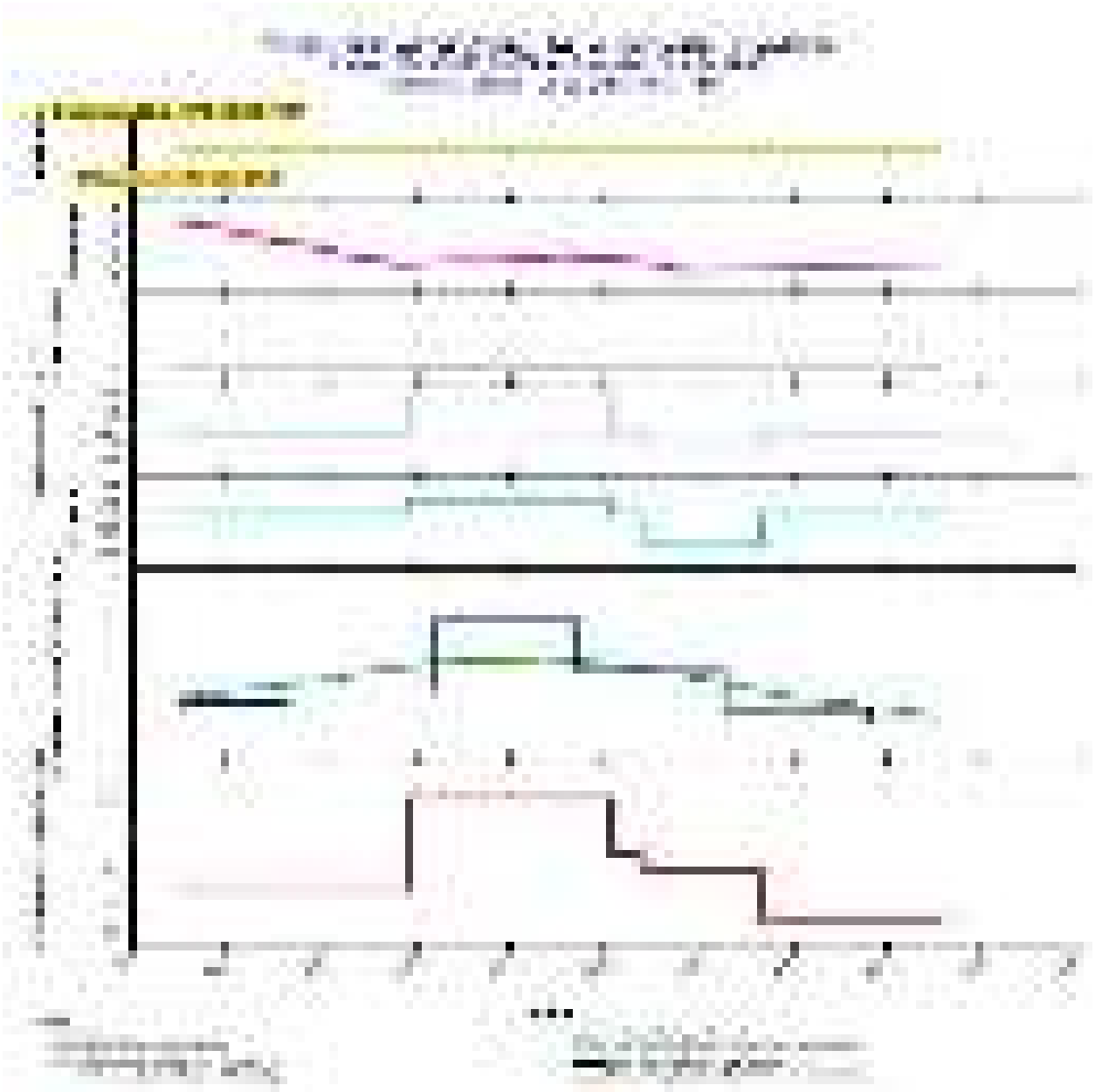

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EN	Urban	10+00.000	14+63.000	463.00	0.0877	2013-2015: 6,032
2	1EN	Urban	14+63.000	20+79.000	616.00	0.1167	2013-2015: 6,032
3	1EN	Urban	20+79.000	26+95.000	616.00	0.1167	2013-2015: 6,032
4	1EN	Urban	26+95.000	33+12.000	617.00	0.1169	2013-2015: 6,032
5	1EN	Urban	33+12.000	39+28.000	616.00	0.1167	2013-2015: 6,032
6	1EN	Urban	39+28.000	42+35.594	307.59	0.0583	2013-2015: 6,032

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2013
Last Year of Analysis	2015
Evaluated Length (mi)	0.6128
Average Future Road AADT (vpd)	6,032
Expected Crashes	
Total Crashes	3.22
Fatal and Injury Crashes	1.38
Property-Damage-Only Crashes	1.84
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	43
Percent Property-Damage-Only Crashes (%)	57
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	1.7509
Fatal and Injury Crash Rate (crashes/mi/yr)	0.7498
Property-Damage-Only Crash Rate (crashes/mi/yr)	1.0011
Expected Travel Crash Rate	
Total Travel (million veh-mi)	4.05
Travel Crash Rate (crashes/million veh-mi)	0.80
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.34
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.46

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	14+63.000	0.0877	0.397	1.5095	0.69
2	14+63.000	20+79.000	0.1167	0.574	1.6394	0.74
3	20+79.000	26+95.000	0.1167	0.871	2.4870	1.13
4	26+95.000	33+12.000	0.1169	0.655	1.8677	0.85
5	33+12.000	39+28.000	0.1167	0.502	1.4331	0.65
6	39+28.000	42+35.594	0.0583	0.221	1.2656	0.57

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	19+80.334	0.1857	0.879	1.5781	0.72
Simple Curve 1	19+80.334	28+28.300	0.1606	1.104	2.2911	1.04
Tangent	28+28.300	29+59.656	0.0249	0.139	1.8677	0.85
Simple Curve 2	29+59.656	34+77.064	0.0980	0.508	1.7290	0.79
Tangent	34+77.064	42+35.594	0.1437	0.588	1.3652	0.62

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0038	0.0116	0.0738	0.0901	0.2178
2	0.0054	0.0164	0.1042	0.1271	0.3207
3	0.0078	0.0237	0.1509	0.1841	0.5040
4	0.0059	0.0178	0.1134	0.1383	0.3793
5	0.0045	0.0137	0.0870	0.1061	0.2903
6	0.0020	0.0060	0.0382	0.0466	0.1283
Total	0.0294	0.0891	0.5675	0.6924	1.8405

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.1	0.03	1.0	0.04	1.1
Highway Segment	Collision with Fixed Object	0.83	25.8	1.04	32.4	1.87	58.2
Highway Segment	Collision with Other Object	0.06	1.8	0.20	6.3	0.26	8.1
Highway Segment	Other Single-vehicle Collision	0.24	7.4	0.16	4.8	0.40	12.3
Highway Segment	Collision with Parked Vehicle	0.02	0.5	0.02	0.7	0.04	1.3
Highway Segment	Total Single Vehicle Crashes	1.15	35.8	1.46	45.2	2.61	81.0
Highway Segment	Right-Angle Collision	0.01	0.2	0.01	0.2	0.01	0.4
Highway Segment	Head-on Collision	0.00	0.1	0.00	0.0	0.00	0.1
Highway Segment	Other Multi-vehicle Collision	0.01	0.2	0.01	0.3	0.02	0.5
Highway Segment	Rear-end Collision	0.17	5.3	0.27	8.3	0.44	13.6
Highway Segment	Sideswipe, Same Direction Collision	0.04	1.3	0.10	3.2	0.14	4.5
Highway Segment	Total Multiple Vehicle Crashes	0.23	7.1	0.39	12.0	0.61	19.0
Highway Segment	Total Highway Segment Crashes	1.38	42.8	1.84	57.2	3.22	100.0
	Total Crashes	1.38	42.8	1.84	57.2	3.22	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

July 25, 2017

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Report Overview

Report Generated: Jul 25, 2017 4:09 PM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Tue Jul 25 16:08:39 EDT 2017
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment ROUTE 1
Highway Comment: Imported from 16C5934_MDL_BASELINE-EXIST.xml
Highway Version: 1

Evaluation Title: CPM EXISTING
Evaluation Comment: Created Tue Jul 25 16:07:26 EDT 2017

Minimum Station: 10+00.000
Maximum Station: 35+25.118
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2013
Last Year of Analysis: 2015

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 35+25.118
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Multilane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0; 4U=1.0;

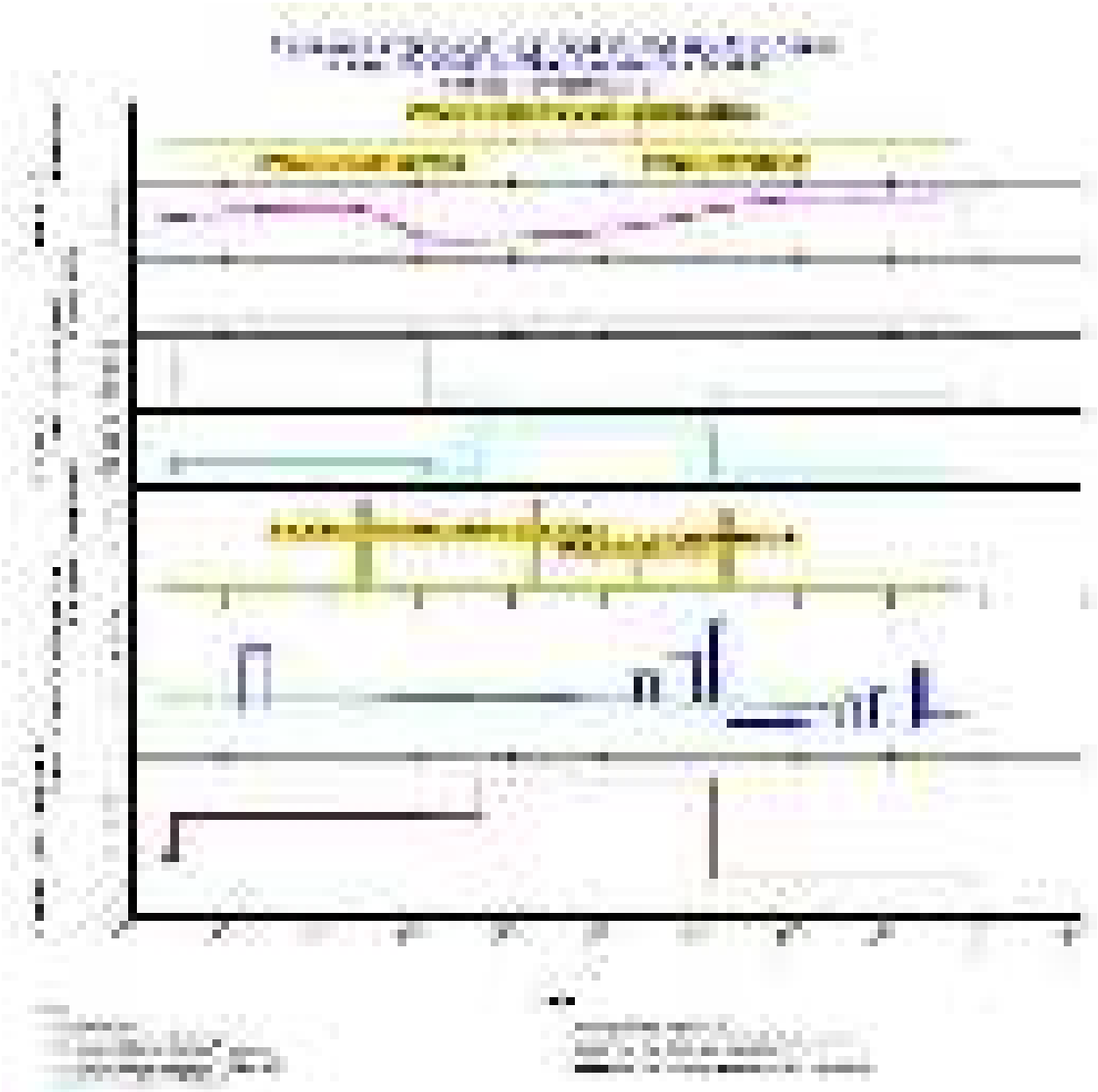

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	4U	10+00.000	10+11.000	11.00	0.0021	2013-2015: 26,000	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.62	12.00
2	4U	10+11.000	10+34.381	23.38	0.0044	2013-2015: 26,000	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.21	12.00
3	4U	10+34.381	10+53.000	18.62	0.0035	2013-2015: 26,000	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.70	12.00
4	4U	10+53.000	10+94.000	41.00	0.0078	2013-2015: 26,000	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.99	12.00
5	4U	10+94.000	11+25.000	31.00	0.0059	2013-2015: 26,000	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.12	12.00
6	4U	11+25.000	12+55.000	130.00	0.0246	2013-2015: 26,000	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.75	12.00
7	4U	12+55.000	13+40.000	85.00	0.0161	2013-2015: 26,000	0	2	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.75	12.00
8	4U	13+40.000	13+85.000	45.00	0.0085	2013-2015: 26,000	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.92	12.00
9	4U	13+85.000	14+10.000	25.00	0.0047	2013-2015: 26,000	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.54	12.00
10	4U	14+10.000	15+50.000	140.00	0.0265	2013-2015: 26,000	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.25	12.00
11	4U	15+50.000	16+34.012	84.01	0.0159	2013-2015: 26,000	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
12	4U	16+34.012	16+60.000	25.99	0.0049	2013-2015: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
13	4U	16+60.000	17+99.696	139.70	0.0265	2013-2015: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.98	12.00
14	4U	17+99.696	18+31.076	31.38	0.0059	2013-2015: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.19	12.00
15	4U	18+31.076	19+69.011	137.94	0.0261	2013-2015: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.15	12.00
16	4U	19+69.011	20+05.449	36.44	0.0069	2013-2015: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.11	12.00
17	4U	20+05.449	21+20.000	114.55	0.0217	2013-2015: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.07	12.00
18	4U	21+20.000	21+75.801	55.80	0.0106	2013-2015: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.53	12.00
19	4U	21+75.801	22+00.000	24.20	0.0046	2013-2015: 30,680	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.51	12.00
20	4U	22+00.000	22+58.000	58.00	0.0110	2013-2015: 30,680	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.99	12.00
21	4U	22+58.000	23+00.000	42.00	0.0080	2013-2015: 30,680	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.12	12.00
22	4U	23+00.000	24+25.000	125.00	0.0237	2013-2015: 30,680	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.75	12.00
23	4U	24+25.000	24+50.000	25.00	0.0047	2013-2015: 30,680	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.75	12.00
24	4U	24+50.000	24+97.433	47.43	0.0090	2013-2015: 30,680	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
25	4U	24+97.433	25+50.000	52.57	0.0100	2013-2015: 30,680	0	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
26	4U	25+50.000	25+93.150	43.15	0.0082	2013-2015: 30,680	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.50	12.00
27	4U	25+93.150	26+85.005	91.86	0.0174	2013-2015: 30,680	0	1	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.50	12.00
28	4U	26+85.005	27+36.197	51.19	0.0097	2013-2015: 30,680	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.50	12.00
29	4U	27+36.197	27+40.000	3.80	0.0007	2013-2015: 30,680	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.50	12.00
30	4U	27+40.000	27+80.219	40.22	0.0076	2013-2015: 30,680	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.75	12.00
31	4U	27+80.219	28+72.002	91.78	0.0174	2013-2015: 16,952	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.81	12.00
32	4U	28+72.002	29+00.000	28.00	0.0053	2013-2015: 16,952	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.96	12.00
33	4U	29+00.000	29+32.000	32.00	0.0061	2013-2015: 16,952	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.40	12.00
34	4U	29+32.000	30+29.579	97.58	0.0185	2013-2015: 16,952	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.82	12.00
35	2U	30+29.579	30+85.000	55.42	0.0105	2013-2015: 16,952	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.32	12.00
36	2U	30+85.000	31+50.000	65.00	0.0123	2013-2015: 16,952	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.72	12.00
37	2U	31+50.000	31+99.000	49.00	0.0093	2013-2015: 16,952	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.22	12.00
38	2U	31+99.000	32+50.000	51.00	0.0097	2013-2015: 16,952	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.80	12.00
39	2U	32+50.000	32+87.000	37.00	0.0070	2013-2015: 16,952	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	6.30	12.00
40	2U	32+87.000	33+78.000	91.00	0.0172	2013-2015: 16,952	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.01	12.00
41	2U	33+78.000	34+00.000	22.00	0.0042	2013-2015: 16,952	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.63	12.00
42	2U	34+00.000	35+25.118	125.12	0.0237	2013-2015: 16,952	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.75	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/SHORT BEACH RD	16+33.720	2013-2015: 31,200	2013-2015: 13,416	3	Signalized	Three-Legged Signalized	2	1	0	15	false	false	false	0	0	5	false
2	ROUTE 1/CONNECTOR	21+75.801	2013-2015: 31,200	2013-2015: 13,936	3	Signalized	Three-Legged Signalized	2	2	0	15	false	false	false	0	0	6	false
3	ROUTE 1/COMM PKWY	24+97.433	2013-2015: 30,680	2013-2015: 2,600	3	Signalized	Three-Legged Signalized	3	1	0	15	false	false	false	0	0	6	false
4	ROUTE 1/ROUTE 146	27+80.219	2013-2015: 30,680	2013-2015: 12,584	3	Signalized	Three-Legged Signalized	3	2	0	15	false	false	false	0	0	7	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2013
Last Year of Analysis	2015
Evaluated Length (mi)	0.4782
Average Future Road AADT (vpd)	25,567
Expected Crashes	
Total Crashes	70.61
Fatal and Injury Crashes	22.45
Property-Damage-Only Crashes	48.16
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	32
Percent Property-Damage-Only Crashes (%)	68
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	49.2135
Fatal and Injury Crash Rate (crashes/mi/yr)	15.6451
Property-Damage-Only Crash Rate (crashes/mi/yr)	33.5684
Expected Travel Crash Rate	
Total Travel (million veh-mi)	13.39
Travel Crash Rate (crashes/million veh-mi)	5.27
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	1.68
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	3.60

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	10+11.000	0.0021	0.050	7.9869	0.84		
2	10+11.000	10+34.381	0.0044	0.106	7.9869	0.84		
3	10+34.381	10+53.000	0.0035	0.085	7.9869	0.84		
4	10+53.000	10+94.000	0.0078	0.186	7.9869	0.84		
5	10+94.000	11+25.000	0.0059	0.141	7.9869	0.84		
6	11+25.000	12+55.000	0.0246	0.590	7.9869	0.84		
7	12+55.000	13+40.000	0.0161	1.056	21.8671	2.30		
8	13+40.000	13+85.000	0.0085	0.204	7.9869	0.84		
9	13+85.000	14+10.000	0.0047	0.114	7.9869	0.84		
10	14+10.000	15+50.000	0.0265	0.635	7.9869	0.84		
11	15+50.000	16+34.012	0.0159	0.381	7.9869	0.84		
ROUTE 1/SHORT BEACH RD	16+33.720			16.646			0.43	5.5487
12	16+34.012	16+60.000	0.0049	0.148	10.0298	0.88		
13	16+60.000	17+99.696	0.0265	0.796	10.0298	0.88		
14	17+99.696	18+31.076	0.0059	0.179	10.0298	0.88		
15	18+31.076	19+69.011	0.0261	0.786	10.0298	0.88		
16	19+69.011	20+05.449	0.0069	0.208	10.0298	0.88		
17	20+05.449	21+20.000	0.0217	0.653	10.0298	0.88		
18	21+20.000	21+75.801	0.0106	0.318	10.0298	0.88		
ROUTE 1/CONNECTOR	21+75.801			16.120			0.39	5.3733
19	21+75.801	22+00.000	0.0046	0.135	9.8210	0.88		
20	22+00.000	22+58.000	0.0110	0.324	9.8210	0.88		
21	22+58.000	23+00.000	0.0080	0.234	9.8210	0.88		
22	23+00.000	24+25.000	0.0237	0.698	9.8210	0.88		
23	24+25.000	24+50.000	0.0047	0.140	9.8210	0.88		
24	24+50.000	24+97.433	0.0090	0.265	9.8210	0.88		
ROUTE 1/COMM PKWY	24+97.433			9.801			0.28	3.2671
25	24+97.433	25+50.000	0.0100	0.476	15.9284	1.42		
26	25+50.000	25+93.150	0.0082	0.241	9.8210	0.88		
27	25+93.150	26+85.005	0.0174	1.102	21.1131	1.89		
28	26+85.005	27+36.197	0.0097	0.286	9.8210	0.88		
29	27+36.197	27+40.000	0.0007	0.021	9.8210	0.88		
30	27+40.000	27+80.219	0.0076	0.631	27.6282	2.47		
ROUTE 1/ROUTE 146	27+80.219			14.336			0.43	4.7786
31	27+80.219	28+72.002	0.0174	0.245	4.7040	0.76		
32	28+72.002	29+00.000	0.0053	0.075	4.7040	0.76		
33	29+00.000	29+32.000	0.0061	0.086	4.7040	0.76		
34	29+32.000	30+29.579	0.0185	0.261	4.7040	0.76		
35	30+29.579	30+85.000	0.0105	0.131	4.1475	0.67		
36	30+85.000	31+50.000	0.0123	0.153	4.1475	0.67		
37	31+50.000	31+99.000	0.0093	0.286	10.2912	1.66		
38	31+99.000	32+50.000	0.0097	0.120	4.1475	0.67		
39	32+50.000	32+87.000	0.0070	0.258	12.2837	1.99		
40	32+87.000	33+78.000	0.0172	0.214	4.1475	0.67		
41	33+78.000	34+00.000	0.0042	0.223	17.8312	2.88		
42	34+00.000	35+25.118	0.0237	0.466	6.5536	1.06		

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	10+34.381	0.0065	0.156	7.9869	0.84
Simple Curve 1	10+34.381	18+31.076	0.1509	4.514	9.9731	1.01
Tangent	18+31.076	20+05.449	0.0330	0.994	10.0298	0.88
Simple Curve 2	20+05.449	27+36.197	0.1384	4.870	11.7284	1.04
Tangent	27+36.197	35+25.118	0.1494	3.171	7.0741	1.04

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.02	0.0	0.02	0.0
Highway Segment	Collision with Bicycle	0.03	0.0	0.00	0.0	0.03	0.0
Highway Segment	Collision with Fixed Object	0.25	0.4	1.14	1.6	1.39	2.0
Highway Segment	Collision with Other Object	0.01	0.0	0.04	0.1	0.04	0.1
Highway Segment	Other Single-vehicle Collision	0.14	0.2	0.23	0.3	0.37	0.5
Highway Segment	Collision with Pedestrian	0.12	0.2	0.00	0.0	0.12	0.2
Highway Segment	Total Segment Single Vehicle Crashes	0.55	0.8	1.42	2.0	1.97	2.8
Highway Segment	Angle Collision	0.46	0.7	0.82	1.2	1.28	1.8
Highway Segment	Driveway-related Collision	0.84	1.2	1.66	2.4	2.51	3.6
Highway Segment	Head-on Collision	0.21	0.3	0.03	0.0	0.23	0.3
Highway Segment	Other Multi-vehicle Collision	0.14	0.2	0.51	0.7	0.65	0.9
Highway Segment	Rear-end Collision	1.44	2.0	3.48	4.9	4.91	7.0
Highway Segment	Sideswipe, Opposite Direction Collision	0.22	0.3	0.22	0.3	0.44	0.6
Highway Segment	Sideswipe, Same Direction Collision	0.23	0.3	1.49	2.1	1.72	2.4
Highway Segment	Total Segment Multiple Vehicle Crashes	3.54	5.0	8.19	11.6	11.74	16.6
Highway Segment	Total Highway Segment Crashes	4.09	5.8	9.61	13.6	13.71	19.4
Intersection	Collision with Animal	0.00	0.0	0.01	0.0	0.01	0.0
Intersection	Collision with Bicycle	0.62	0.9	0.00	0.0	0.62	0.9
Intersection	Collision with Fixed Object	0.67	0.9	2.16	3.1	2.83	4.0
Intersection	Non-Collision	0.21	0.3	0.03	0.0	0.25	0.3
Intersection	Collision with Other Object	0.09	0.1	0.17	0.2	0.26	0.4
Intersection	Other Single-vehicle Collision	0.05	0.1	0.04	0.1	0.09	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.11	0.2	0.00	0.0	0.11	0.2
Intersection	Total Intersection Single Vehicle Crashes	1.75	2.5	2.41	3.4	4.16	5.9
Intersection	Angle Collision	4.65	6.6	7.37	10.4	12.02	17.0
Intersection	Head-on Collision	0.63	0.9	0.72	1.0	1.35	1.9
Intersection	Other Multi-vehicle Collision	0.95	1.3	7.16	10.1	8.10	11.5
Intersection	Rear-end Collision	9.12	12.9	19.73	27.9	28.85	40.9
Intersection	Sideswipe	1.26	1.8	1.16	1.6	2.42	3.4
Intersection	Total Intersection Multiple Vehicle Crashes	16.61	23.5	36.14	51.2	52.74	74.7
Intersection	Total Intersection Crashes	18.35	26.0	38.55	54.6	56.90	80.6
	Total Crashes	22.45	31.8	48.16	68.2	70.61	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

July 26, 2017

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Report Overview

Report Generated: Jul 26, 2017 8:18 AM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jul 26 08:17:46 EDT 2017
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment ROUTE 146
Highway Comment: Imported from 16C5934_MDL_BASELINE-EXIST.xml
Highway Version: 1

Evaluation Title: CPM EXISTING
Evaluation Comment: Created Wed Jul 26 08:17:27 EDT 2017

Minimum Station: 10+00.000
Maximum Station: 21+87.764
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2013
Last Year of Analysis: 2015

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 21+87.764
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

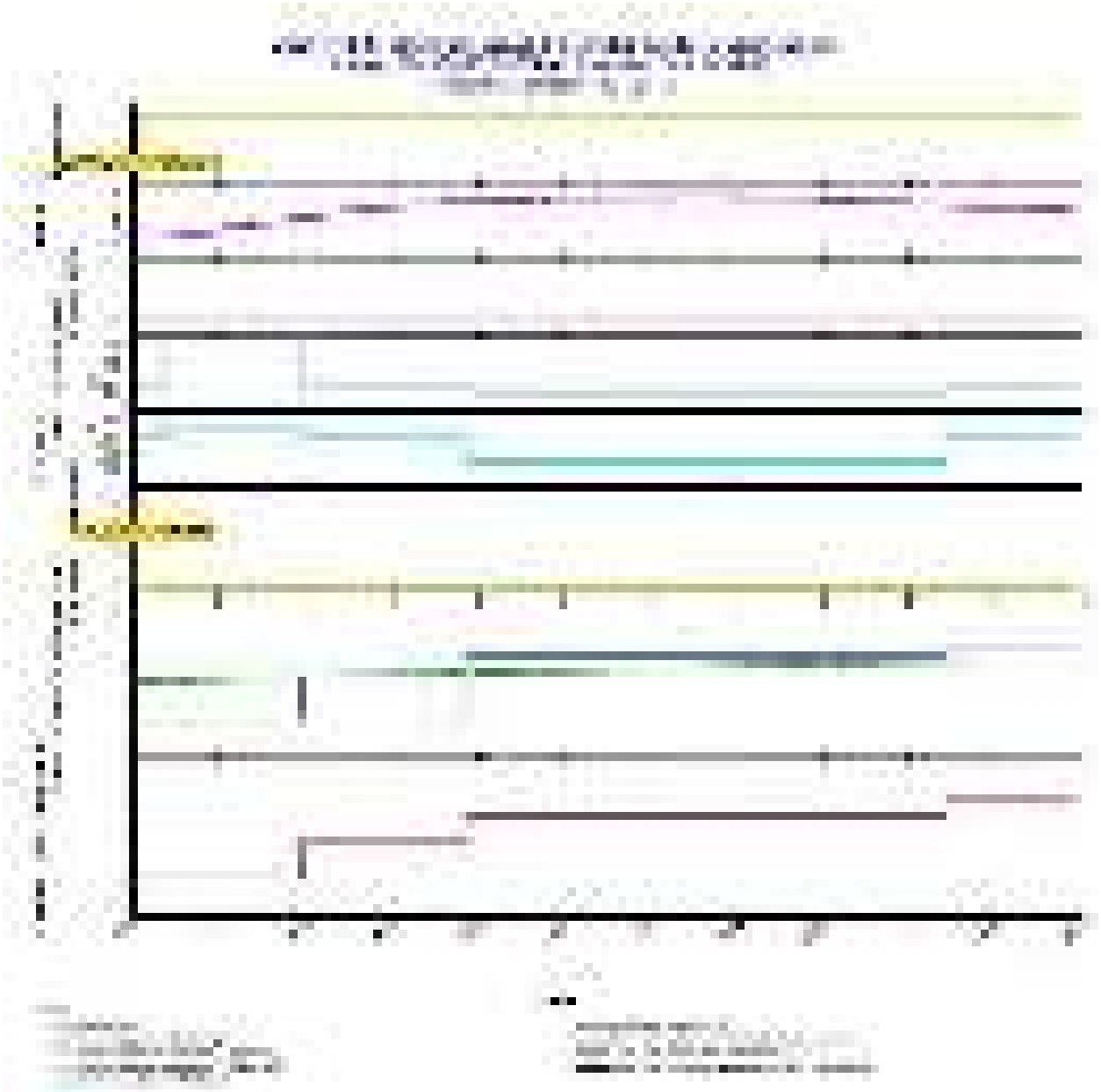

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	10+32.413	32.41	0.0061	2013-2015: 12,584	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
2	2U	10+32.413	12+03.666	171.25	0.0324	2013-2015: 12,584	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
3	2U	12+03.666	13+71.260	167.59	0.0317	2013-2015: 12,584	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
4	2U	13+71.260	14+15.132	43.87	0.0083	2013-2015: 12,584	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
5	2U	14+15.132	20+30.571	615.44	0.1166	2013-2015: 12,584	0	3	0	0	1	2	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
6	2U	20+30.571	21+87.764	157.19	0.0298	2013-2015: 12,584	0	1	0	0	0	2	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/ROUTE 146	10+00.000	2013-2015: 30,680	2013-2015: 12,584	3	Signalized	Three-Legged Signalized	3	2	0	15	false	false	false	0	0	7	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2013
Last Year of Analysis	2015
Evaluated Length (mi)	0.2250
Average Future Road AADT (vpd)	12,584
Expected Crashes	
Total Crashes	17.20
Fatal and Injury Crashes	5.39
Property-Damage-Only Crashes	11.81
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	31
Percent Property-Damage-Only Crashes (%)	69
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	25.4887
Fatal and Injury Crash Rate (crashes/mi/yr)	7.9858
Property-Damage-Only Crash Rate (crashes/mi/yr)	17.5030
Expected Travel Crash Rate	
Total Travel (million veh-mi)	3.10
Travel Crash Rate (crashes/million veh-mi)	5.55
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	1.74
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	3.81

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
ROUTE 1/ROUTE 146	10+00.000			14.336			0.43	4.7786
1	10+00.000	10+32.413	0.0061	0.051	2.7524	0.60		
2	10+32.413	12+03.666	0.0324	0.268	2.7524	0.60		
3	12+03.666	13+71.260	0.0317	0.389	4.0859	0.89		
4	13+71.260	14+15.132	0.0083	0.069	2.7524	0.60		
5	14+15.132	20+30.571	0.1166	1.635	4.6769	1.02		
6	20+30.571	21+87.764	0.0298	0.454	5.0839	1.11		

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/ yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	10+32.413	0.0061	0.051	2.7524	0.60
Simple Curve 1	10+32.413	12+03.666	0.0324	0.268	2.7524	0.60
Tangent	12+03.666	14+15.132	0.0401	0.458	3.8092	0.83
Simple Curve 2	14+15.132	20+30.571	0.1166	1.635	4.6769	1.02
Tangent	20+30.571	21+87.764	0.0298	0.454	5.0839	1.11

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.03	0.2	0.03	0.2
Highway Segment	Collision with Bicycle	0.01	0.1	0.00	0.0	0.01	0.1
Highway Segment	Collision with Fixed Object	0.09	0.5	0.34	2.0	0.42	2.5
Highway Segment	Collision with Other Object	0.00	0.0	0.01	0.0	0.01	0.0
Highway Segment	Other Single-vehicle Collision	0.03	0.2	0.07	0.4	0.10	0.6
Highway Segment	Collision with Pedestrian	0.01	0.1	0.00	0.0	0.01	0.1
Highway Segment	Total Segment Single Vehicle Crashes	0.14	0.8	0.44	2.6	0.59	3.4
Highway Segment	Angle Collision	0.03	0.2	0.07	0.4	0.10	0.6
Highway Segment	Driveway-related Collision	0.32	1.9	0.68	3.9	1.00	5.8
Highway Segment	Head-on Collision	0.03	0.1	0.00	0.0	0.03	0.2
Highway Segment	Other Multi-vehicle Collision	0.01	0.1	0.05	0.3	0.06	0.3
Highway Segment	Rear-end Collision	0.27	1.6	0.70	4.1	0.98	5.7
Highway Segment	Sideswipe, Opposite Direction Collision	0.03	0.2	0.05	0.3	0.08	0.4
Highway Segment	Sideswipe, Same Direction Collision	0.01	0.0	0.03	0.2	0.03	0.2
Highway Segment	Total Segment Multiple Vehicle Crashes	0.70	4.1	1.58	9.2	2.28	13.2
Highway Segment	Total Highway Segment Crashes	0.84	4.9	2.02	11.8	2.87	16.7
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.16	0.9	0.00	0.0	0.16	0.9
Intersection	Collision with Fixed Object	0.18	1.0	0.56	3.2	0.73	4.3
Intersection	Non-Collision	0.06	0.3	0.01	0.1	0.07	0.4
Intersection	Collision with Other Object	0.03	0.1	0.04	0.2	0.07	0.4
Intersection	Other Single-vehicle Collision	0.01	0.1	0.01	0.1	0.02	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.03	0.2	0.00	0.0	0.03	0.2
Intersection	Total Intersection Single Vehicle Crashes	0.46	2.7	0.62	3.6	1.08	6.3
Intersection	Angle Collision	1.15	6.7	1.87	10.9	3.02	17.5
Intersection	Head-on Collision	0.15	0.9	0.18	1.1	0.34	2.0
Intersection	Other Multi-vehicle Collision	0.23	1.4	1.81	10.6	2.05	11.9
Intersection	Rear-end Collision	2.25	13.1	5.00	29.1	7.25	42.1
Intersection	Sideswipe	0.31	1.8	0.29	1.7	0.60	3.5
Intersection	Total Intersection Multiple Vehicle Crashes	4.09	23.8	9.16	53.3	13.26	77.1
Intersection	Total Intersection Crashes	4.55	26.4	9.79	56.9	14.34	83.3
	Total Crashes	5.39	31.3	11.81	68.7	17.20	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

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Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

July 26, 2017

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Evaluation Date: Wed Jul 26 08:15:47 EDT 2017
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment SHORT BEACH RD
Highway Comment: Imported from EXISTING SHORT BEACH RD ONLY.xml
Highway Version: 1

Evaluation Title: CPM EXISTING
Evaluation Comment: Created Wed Jul 26 08:15:25 EDT 2017

Minimum Station: 10+00.000
Maximum Station: 15+25.319
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2013
Last Year of Analysis: 2015

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 15+25.319
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

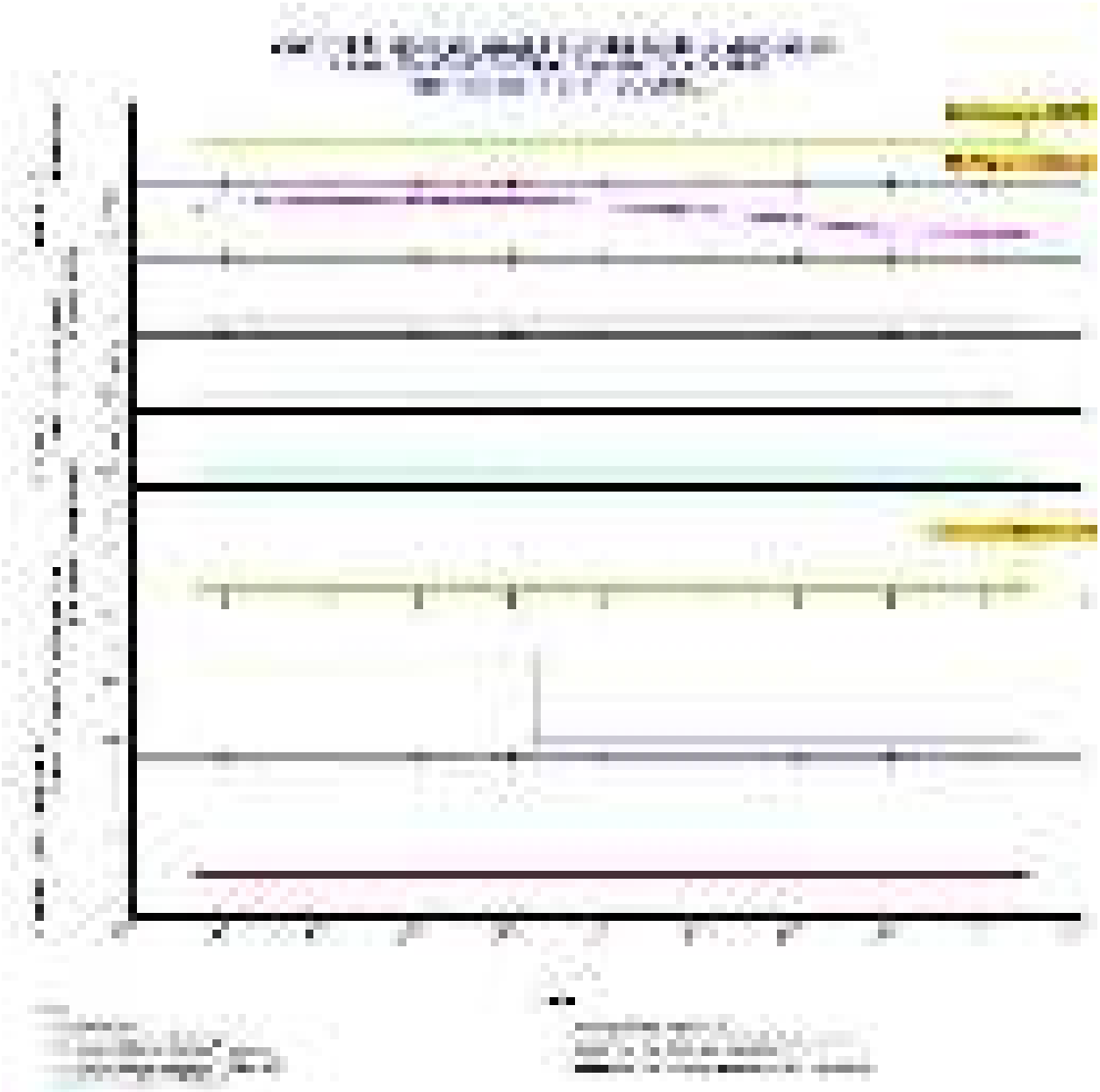

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	12+15.000	215.00	0.0407	2013-2015: 13,416	0	1	0	0	0	1	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
2	2U	12+15.000	15+25.319	310.32	0.0588	2013-2015: 13,416	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/SHORT BEACH RD	15+25.316	2013-2015: 31,200	2013-2015: 13,416	3	Signalized	Three-Legged Signalized	2	1	0	15	false	false	false	0	0	5	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2013
Last Year of Analysis	2015
Evaluated Length (mi)	0.0995
Average Future Road AADT (vpd)	13,416
Expected Crashes	
Total Crashes	17.86
Fatal and Injury Crashes	5.59
Property-Damage-Only Crashes	12.27
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	31
Percent Property-Damage-Only Crashes (%)	69
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	59.8222
Fatal and Injury Crash Rate (crashes/mi/yr)	18.7316
Property-Damage-Only Crash Rate (crashes/mi/yr)	41.0906
Expected Travel Crash Rate	
Total Travel (million veh-mi)	1.46
Travel Crash Rate (crashes/million veh-mi)	12.22
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	3.83
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	8.39

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	12+15.000	0.0407	0.545	4.4630	0.91		
2	12+15.000	15+25.319	0.0588	0.664	3.7680	0.77		
ROUTE 1/SHORT BEACH RD	15+25.316			16.646			0.43	5.5487

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	15+25.319	0.0995	1.210	4.0525	0.83

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.01	0.1	0.01	0.1
Highway Segment	Collision with Bicycle	0.01	0.0	0.00	0.0	0.01	0.0
Highway Segment	Collision with Fixed Object	0.04	0.2	0.15	0.9	0.19	1.1
Highway Segment	Collision with Other Object	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Single-vehicle Collision	0.01	0.1	0.03	0.2	0.05	0.3
Highway Segment	Collision with Pedestrian	0.01	0.0	0.00	0.0	0.01	0.0
Highway Segment	Total Segment Single Vehicle Crashes	0.06	0.4	0.20	1.1	0.27	1.5
Highway Segment	Angle Collision	0.02	0.1	0.04	0.2	0.05	0.3
Highway Segment	Driveway-related Collision	0.10	0.6	0.21	1.2	0.31	1.7
Highway Segment	Head-on Collision	0.01	0.1	0.00	0.0	0.01	0.1
Highway Segment	Other Multi-vehicle Collision	0.01	0.0	0.02	0.1	0.03	0.2
Highway Segment	Rear-end Collision	0.13	0.8	0.35	1.9	0.48	2.7
Highway Segment	Sideswipe, Opposite Direction Collision	0.01	0.1	0.03	0.1	0.04	0.2
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.0	0.01	0.1	0.02	0.1
Highway Segment	Total Segment Multiple Vehicle Crashes	0.28	1.6	0.66	3.7	0.94	5.3
Highway Segment	Total Highway Segment Crashes	0.35	2.0	0.86	4.8	1.21	6.8
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.18	1.0	0.00	0.0	0.18	1.0
Intersection	Collision with Fixed Object	0.21	1.2	0.64	3.6	0.85	4.8
Intersection	Non-Collision	0.07	0.4	0.01	0.1	0.08	0.4
Intersection	Collision with Other Object	0.03	0.2	0.05	0.3	0.08	0.4
Intersection	Other Single-vehicle Collision	0.01	0.1	0.01	0.1	0.03	0.2
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.03	0.2	0.00	0.0	0.03	0.2
Intersection	Total Intersection Single Vehicle Crashes	0.52	2.9	0.72	4.0	1.24	7.0
Intersection	Angle Collision	1.32	7.4	2.18	12.2	3.50	19.6
Intersection	Head-on Collision	0.18	1.0	0.21	1.2	0.39	2.2
Intersection	Other Multi-vehicle Collision	0.27	1.5	2.12	11.8	2.38	13.4
Intersection	Rear-end Collision	2.59	14.5	5.83	32.7	8.42	47.2
Intersection	Sideswipe	0.36	2.0	0.34	1.9	0.70	3.9
Intersection	Total Intersection Multiple Vehicle Crashes	4.72	26.4	10.68	59.8	15.40	86.3
Intersection	Total Intersection Crashes	5.24	29.4	11.40	63.9	16.65	93.2
	Total Crashes	5.59	31.3	12.27	68.7	17.86	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

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IHSDM Predicted Crashes For 2033-2035 No-Build Conditions

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

Report Generated: Jan 3, 2018 10:38 AM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 10:22:42 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING - NOBUILD
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment BRANFORD CONNECTOR
Highway Comment: Imported from EXISTING I-95 NB OFF-RAMP ONLY.xml
Highway Version: 1

Evaluation Title: CPM-NO BUILD
Evaluation Comment: Created Wed Jan 03 10:22:13 EST 2018

Minimum Station: 10+00.000
Maximum Station: 44+12.101
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 44+12.101
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

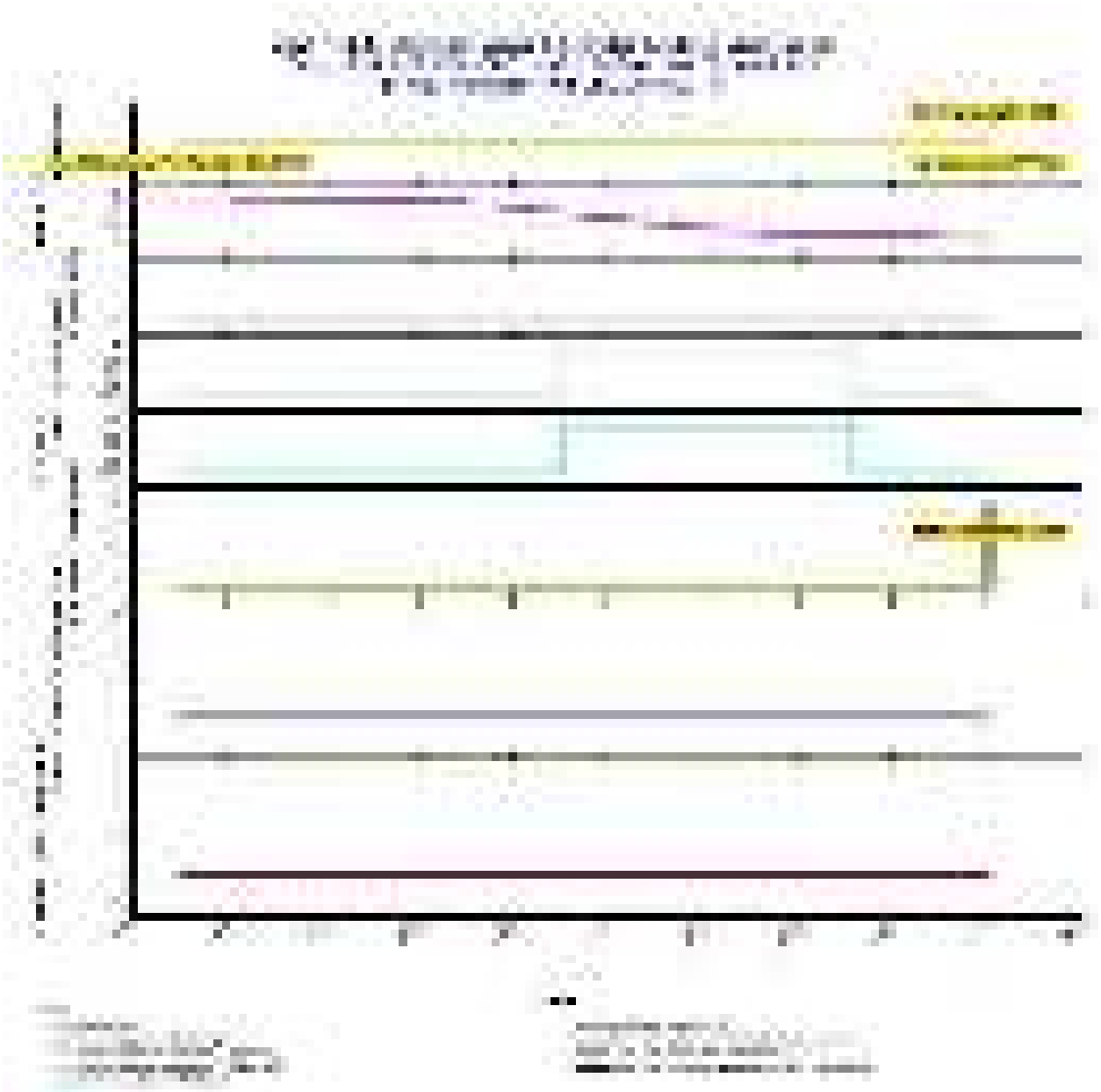

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	26+09.426	1,609.43	0.3048	2035-2037: 16,723	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.50	12.00
2	2U	26+09.426	38+34.478	1,225.05	0.2320	2035-2037: 16,723	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.50	12.00
3	2U	38+34.478	40+74.000	239.52	0.0454	2035-2037: 16,723	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.49	12.00
4	2U	40+74.000	40+91.000	17.00	0.0032	2035-2037: 16,723	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.97	12.00
5	2U	40+91.000	41+08.000	17.00	0.0032	2035-2037: 16,723	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	6.97	12.00
6	2U	41+08.000	41+15.434	7.43	0.0014	2035-2037: 16,723	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	6.25	12.00
7	2U	41+15.434	41+25.000	9.57	0.0018	2035-2037: 16,723	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.75	12.00
8	2U	41+25.000	41+42.000	17.00	0.0032	2035-2037: 16,723	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.97	12.00
9	2U	41+42.000	41+50.000	8.00	0.0015	2035-2037: 16,723	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.24	12.00
10	2U	41+50.000	44+12.101	262.10	0.0496	2035-2037: 16,723	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	RampTerminal 1	10+00.000	2035-2037: 8,362	2035-2037: 16,723	3	Uncontrolled	Unknown	0	0			false	false	false				false
2	ROUTE 1/CONNECTOR	44+12.098	2035-2037: 37,440	2035-2037: 16,723	3	Signalized	Three-Legged Signalized	2	2	0	15	false	false	false	0	0	6	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.6462
Average Future Road AADT (vpd)	16,723
Expected Crashes	
Total Crashes	28.45
Fatal and Injury Crashes	8.43
Property-Damage-Only Crashes	20.02
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	30
Percent Property-Damage-Only Crashes (%)	70
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	14.6742
Fatal and Injury Crash Rate (crashes/mi/yr)	4.3474
Property-Damage-Only Crash Rate (crashes/mi/yr)	10.3268
Expected Travel Crash Rate	
Total Travel (million veh-mi)	11.83
Travel Crash Rate (crashes/million veh-mi)	2.40
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.71
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	1.69

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	26+09.426	0.3048	3.721	4.0687	0.67		
2	26+09.426	38+34.478	0.2320	2.832	4.0687	0.67		
3	38+34.478	40+74.000	0.0454	0.554	4.0687	0.67		
4	40+74.000	40+91.000	0.0032	0.039	4.0687	0.67		
5	40+91.000	41+08.000	0.0032	0.039	4.0687	0.67		
6	41+08.000	41+15.434	0.0014	0.017	4.0687	0.67		
7	41+15.434	41+25.000	0.0018	0.022	4.0687	0.67		
8	41+25.000	41+42.000	0.0032	0.039	4.0687	0.67		
9	41+42.000	41+50.000	0.0015	0.018	4.0687	0.67		
10	41+50.000	44+12.101	0.0496	0.606	4.0687	0.67		
ROUTE 1/CONNECTOR	44+12.098			20.561			0.41	6.8536

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/ yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	26+09.426	0.3048	3.721	4.0687	0.67
Simple Curve 1	26+09.426	38+34.478	0.2320	2.832	4.0687	0.67
Tangent	38+34.478	44+12.101	0.1094	1.335	4.0687	0.67

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.0	0.10	0.4	0.11	0.4
Highway Segment	Collision with Bicycle	0.03	0.1	0.00	0.0	0.03	0.1
Highway Segment	Collision with Fixed Object	0.26	0.9	1.16	4.1	1.42	5.0
Highway Segment	Collision with Other Object	0.00	0.0	0.02	0.1	0.02	0.1
Highway Segment	Other Single-vehicle Collision	0.09	0.3	0.25	0.9	0.34	1.2
Highway Segment	Collision with Pedestrian	0.04	0.1	0.00	0.0	0.04	0.1
Highway Segment	Total Segment Single Vehicle Crashes	0.43	1.5	1.53	5.4	1.96	6.9
Highway Segment	Angle Collision	0.15	0.5	0.33	1.2	0.48	1.7
Highway Segment	Driveway-related Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Head-on Collision	0.12	0.4	0.02	0.1	0.13	0.5
Highway Segment	Other Multi-vehicle Collision	0.05	0.2	0.22	0.8	0.27	1.0
Highway Segment	Rear-end Collision	1.26	4.4	3.27	11.5	4.53	15.9
Highway Segment	Sideswipe, Opposite Direction Collision	0.13	0.4	0.23	0.8	0.36	1.3
Highway Segment	Sideswipe, Same Direction Collision	0.03	0.1	0.13	0.5	0.16	0.5
Highway Segment	Total Segment Multiple Vehicle Crashes	1.72	6.1	4.20	14.8	5.92	20.8
Highway Segment	Total Highway Segment Crashes	2.16	7.6	5.73	20.1	7.89	27.7
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.22	0.8	0.00	0.0	0.22	0.8
Intersection	Collision with Fixed Object	0.23	0.8	0.73	2.6	0.96	3.4
Intersection	Non-Collision	0.07	0.3	0.01	0.0	0.09	0.3
Intersection	Collision with Other Object	0.03	0.1	0.06	0.2	0.09	0.3
Intersection	Other Single-vehicle Collision	0.02	0.1	0.01	0.1	0.03	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.03	0.1	0.00	0.0	0.03	0.1
Intersection	Total Intersection Single Vehicle Crashes	0.61	2.2	0.81	2.9	1.42	5.0
Intersection	Angle Collision	1.58	5.6	2.75	9.7	4.33	15.2
Intersection	Head-on Collision	0.21	0.8	0.27	0.9	0.48	1.7
Intersection	Other Multi-vehicle Collision	0.32	1.1	2.67	9.4	2.99	10.5
Intersection	Rear-end Collision	3.11	10.9	7.36	25.9	10.47	36.8
Intersection	Sideswipe	0.43	1.5	0.43	1.5	0.86	3.0
Intersection	Total Intersection Multiple Vehicle Crashes	5.66	19.9	13.48	47.4	19.14	67.3
Intersection	Total Intersection Crashes	6.27	22.0	14.29	50.2	20.56	72.3
	Total Crashes	8.43	29.6	20.02	70.4	28.45	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 7. Evaluation Message

Start Location	End Location	Message
10+00.000	10+00.000	for intersection #1 (10+00.000 to 10+00.000), Ramp Terminal: RampTerminal 1 can't be evaluated as part of this roadway.
44+12.098	44+12.098	for intersection #2 (44+12.098 to 44+12.098), minor road traffic volume (16,723 vpd) for 2035 exceeds model limit (16,400 vpd) for reliable results for intersection type 3SG
44+12.098	44+12.098	for intersection #2 (44+12.098 to 44+12.098), minor road traffic volume (16,723 vpd) for 2036 exceeds model limit (16,400 vpd) for reliable results for intersection type 3SG
44+12.098	44+12.098	for intersection #2 (44+12.098 to 44+12.098), minor road traffic volume (16,723 vpd) for 2037 exceeds model limit (16,400 vpd) for reliable results for intersection type 3SG

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 10:21:37 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING - NOBUILD
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment COMMERCIAL PRKWY
Highway Comment: Imported from 16C5934_MDL_BASELINE-EXIST.xml
Highway Version: 1

Evaluation Title: CPM-NO BUILD
Evaluation Comment: Created Wed Jan 03 10:21:13 EST 2018

Minimum Station: 10+00.000
Maximum Station: 27+77.480
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 27+77.480
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

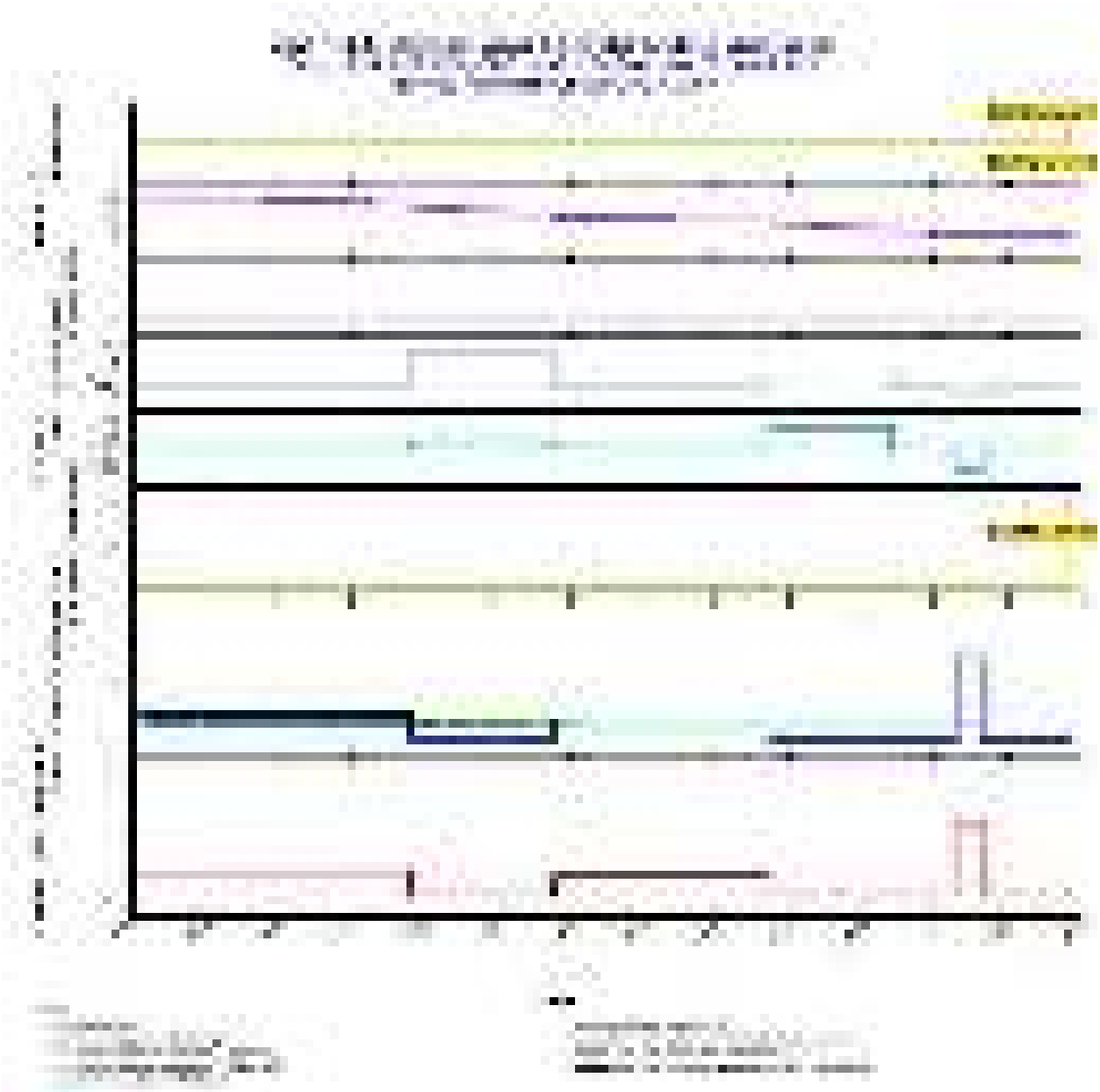

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length (mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	15+13.378	513.38	0.0972	2035-2037: 3,120	1	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
2	2U	15+13.378	17+88.781	275.40	0.0522	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
3	2U	17+88.781	21+98.782	410.00	0.0776	2035-2037: 3,120	0	0	0	1	1	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
4	2U	21+98.782	24+38.409	239.63	0.0454	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
5	2U	24+38.409	25+59.297	120.89	0.0229	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
6	2U	25+59.297	25+63.332	4.04	0.0008	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
7	2U	25+63.332	26+10.389	47.06	0.0089	2035-2037: 3,120	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00
8	2U	26+10.389	27+77.480	167.09	0.0316	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	0.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/COMM PKWY	27+77.477	2035-2037: 36,816	2035-2037: 3,120	3	Signalized	Three-Legged Signalized	3	1	0	15	false	false	false	0	0	6	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.3366
Average Future Road AADT (vpd)	3,120
Expected Crashes	
Total Crashes	13.32
Fatal and Injury Crashes	4.63
Property-Damage-Only Crashes	8.69
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	35
Percent Property-Damage-Only Crashes (%)	65
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	13.1906
Fatal and Injury Crash Rate (crashes/mi/yr)	4.5845
Property-Damage-Only Crash Rate (crashes/mi/yr)	8.6061
Expected Travel Crash Rate	
Total Travel (million veh-mi)	1.15
Travel Crash Rate (crashes/million veh-mi)	11.58
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	4.03
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	7.56

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	15+13.378	0.0972	0.277	0.9499	0.83		
2	15+13.378	17+88.781	0.0522	0.093	0.5937	0.52		
3	17+88.781	21+98.782	0.0777	0.208	0.8929	0.78		
4	21+98.782	24+38.409	0.0454	0.081	0.5937	0.52		
5	24+38.409	25+59.297	0.0229	0.041	0.5937	0.52		
6	25+59.297	25+63.332	0.0008	0.001	0.5937	0.52		
7	25+63.332	26+10.389	0.0089	0.049	1.8236	1.60		
8	26+10.389	27+77.480	0.0316	0.056	0.5937	0.52		
ROUTE 1/COMM PKWY	27+77.477			12.515			0.30	4.1718

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/ yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	15+13.378	0.0972	0.277	0.9499	0.83
Simple Curve 1	15+13.378	17+88.781	0.0522	0.093	0.5937	0.52
Tangent	17+88.781	21+98.782	0.0777	0.208	0.8929	0.78
Simple Curve 2	21+98.782	24+38.409	0.0454	0.081	0.5937	0.52
Tangent	24+38.409	25+59.297	0.0229	0.041	0.5937	0.52
Simple Curve 3	25+59.297	26+10.389	0.0097	0.050	1.7265	1.52
Tangent	26+10.389	27+77.480	0.0316	0.056	0.5937	0.52

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.02	0.1	0.02	0.2
Highway Segment	Collision with Bicycle	0.01	0.1	0.00	0.0	0.01	0.1
Highway Segment	Collision with Fixed Object	0.09	0.7	0.20	1.5	0.29	2.2
Highway Segment	Collision with Other Object	0.00	0.0	0.00	0.0	0.01	0.0
Highway Segment	Other Single-vehicle Collision	0.03	0.2	0.04	0.3	0.07	0.5
Highway Segment	Collision with Pedestrian	0.03	0.2	0.00	0.0	0.03	0.2
Highway Segment	Total Segment Single Vehicle Crashes	0.17	1.2	0.26	2.0	0.43	3.2
Highway Segment	Angle Collision	0.01	0.0	0.01	0.1	0.01	0.1
Highway Segment	Driveway-related Collision	0.06	0.5	0.13	1.0	0.20	1.5
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Multi-vehicle Collision	0.00	0.0	0.01	0.1	0.01	0.1
Highway Segment	Rear-end Collision	0.04	0.3	0.10	0.8	0.14	1.1
Highway Segment	Sideswipe, Opposite Direction Collision	0.00	0.0	0.01	0.1	0.01	0.1
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.0	0.00	0.0	0.01	0.0
Highway Segment	Total Segment Multiple Vehicle Crashes	0.12	0.9	0.26	2.0	0.38	2.9
Highway Segment	Total Highway Segment Crashes	0.28	2.1	0.52	3.9	0.81	6.1
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.14	1.0	0.00	0.0	0.14	1.0
Intersection	Collision with Fixed Object	0.09	0.7	0.39	2.9	0.48	3.6
Intersection	Non-Collision	0.03	0.2	0.01	0.0	0.04	0.3
Intersection	Collision with Other Object	0.01	0.1	0.03	0.2	0.04	0.3
Intersection	Other Single-vehicle Collision	0.01	0.0	0.01	0.1	0.01	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.02	0.1	0.00	0.0	0.02	0.1
Intersection	Total Intersection Single Vehicle Crashes	0.30	2.2	0.43	3.3	0.73	5.5
Intersection	Angle Collision	1.13	8.5	1.58	11.8	2.71	20.4
Intersection	Head-on Collision	0.15	1.2	0.15	1.2	0.31	2.3
Intersection	Other Multi-vehicle Collision	0.23	1.7	1.53	11.5	1.76	13.2
Intersection	Rear-end Collision	2.22	16.7	4.22	31.7	6.45	48.4
Intersection	Sideswipe	0.31	2.3	0.25	1.9	0.56	4.2
Intersection	Total Intersection Multiple Vehicle Crashes	4.05	30.4	7.74	58.1	11.78	88.5
Intersection	Total Intersection Crashes	4.35	32.6	8.17	61.3	12.52	93.9
	Total Crashes	4.63	34.8	8.69	65.2	13.32	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

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Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Evaluation Date: Wed Jan 03 10:18:43 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING - NOBUILD
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 NB OFF-RAMP
Highway Comment: Imported from EXISTING I-95 NB OFF-RAMP ONLY.xml
Highway Version: 1

Evaluation Title: CPM-NO BUILD
Evaluation Comment: Created Wed Jan 03 10:18:20 EST 2018

Minimum Station: 10+00.000
Maximum Station: 37+03.240
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 37+03.240
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: EX_RAMP_MV_FI=1.0; EX_RAMP_MV_PDO=1.0; EX_RAMP_SV_FI=1.0; EX_RAMP_SV_PDO=1.0;

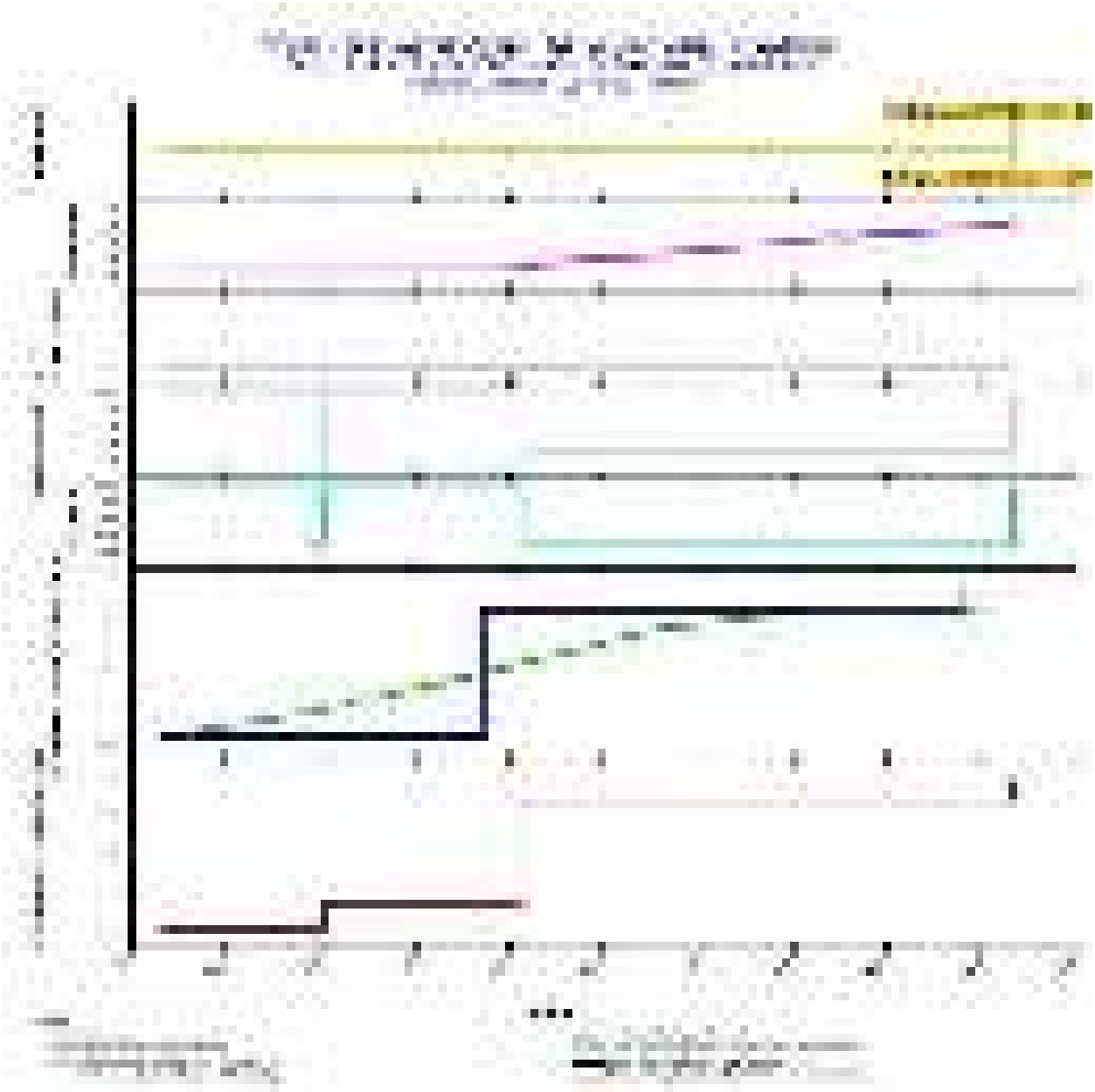

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EX	Urban	10+00.000	20+20.000	1,020.00	0.1932	2035-2037: 8,362
2	1EX	Urban	20+20.000	35+50.000	1,530.00	0.2898	2035-2037: 8,362
3	1EX	Urban	35+50.000	37+03.240	153.24	0.0290	2035-2037: 8,362

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.5120
Average Future Road AADT (vpd)	8,362
Expected Crashes	
Total Crashes	3.55
Fatal and Injury Crashes	1.73
Property-Damage-Only Crashes	1.82
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	49
Percent Property-Damage-Only Crashes (%)	51
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	2.3109
Fatal and Injury Crash Rate (crashes/mi/yr)	1.1270
Property-Damage-Only Crash Rate (crashes/mi/yr)	1.1840
Expected Travel Crash Rate	
Total Travel (million veh-mi)	4.69
Travel Crash Rate (crashes/million veh-mi)	0.76
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.37
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.39

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	20+20.000	0.1932	1.226	2.1162	0.69
2	20+20.000	35+50.000	0.2898	2.107	2.4244	0.79
3	35+50.000	37+03.240	0.0290	0.215	2.4743	0.81

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	14+73.764	0.0897	0.570	2.1162	0.69
Simple Curve 1	14+73.764	15+14.968	0.0078	0.050	2.1162	0.69
Tangent	15+14.968	21+42.460	0.1188	0.776	2.1763	0.71
Simple Curve 2	21+42.460	36+98.040	0.2946	2.147	2.4291	0.80
Tangent	36+98.040	37+03.240	0.0010	0.007	2.4743	0.81

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0187	0.0567	0.2357	0.2876	0.6278
2	0.0321	0.0972	0.4043	0.4933	1.0807
3	0.0033	0.0100	0.0415	0.0507	0.1100
Total	0.0541	0.1639	0.6815	0.8315	1.8185

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.2	0.04	1.0	0.04	1.2
Highway Segment	Collision with Fixed Object	1.20	33.8	1.17	33.1	2.38	66.9
Highway Segment	Collision with Other Object	0.09	2.4	0.23	6.4	0.31	8.8
Highway Segment	Other Single-vehicle Collision	0.35	9.7	0.17	4.9	0.52	14.7
Highway Segment	Collision with Parked Vehicle	0.03	0.7	0.03	0.7	0.05	1.4
Highway Segment	Total Single Vehicle Crashes	1.66	46.9	1.64	46.2	3.30	93.1
Highway Segment	Right-Angle Collision	0.00	0.1	0.00	0.1	0.01	0.1
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Multi-vehicle Collision	0.00	0.1	0.00	0.1	0.01	0.2
Highway Segment	Rear-end Collision	0.05	1.4	0.12	3.5	0.17	4.9
Highway Segment	Sideswipe, Same Direction Collision	0.01	0.3	0.05	1.3	0.06	1.7
Highway Segment	Total Multiple Vehicle Crashes	0.07	1.9	0.18	5.0	0.25	6.9
Highway Segment	Total Highway Segment Crashes	1.73	48.8	1.82	51.2	3.55	100.0
	Total Crashes	1.73	48.8	1.82	51.2	3.55	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 10:11:26 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING - NOBUILD
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 SB EXIT 53 ON-RAMP
Highway Comment: Imported from EXISTING SB Mainline and On-Ramp ONLY.xml
Highway Version: 1

Evaluation Title: CPM-NO BUILD
Evaluation Comment: Created Wed Jan 03 10:01:03 EST 2018

Minimum Station: 10+00.000
Maximum Station: 42+35.594
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 42+35.594
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: ENT_RAMP_MV_FI=1.0; ENT_RAMP_MV_PDO=1.0; ENT_RAMP_SV_FI=1.0; ENT_RAMP_SV_PDO=1.0;

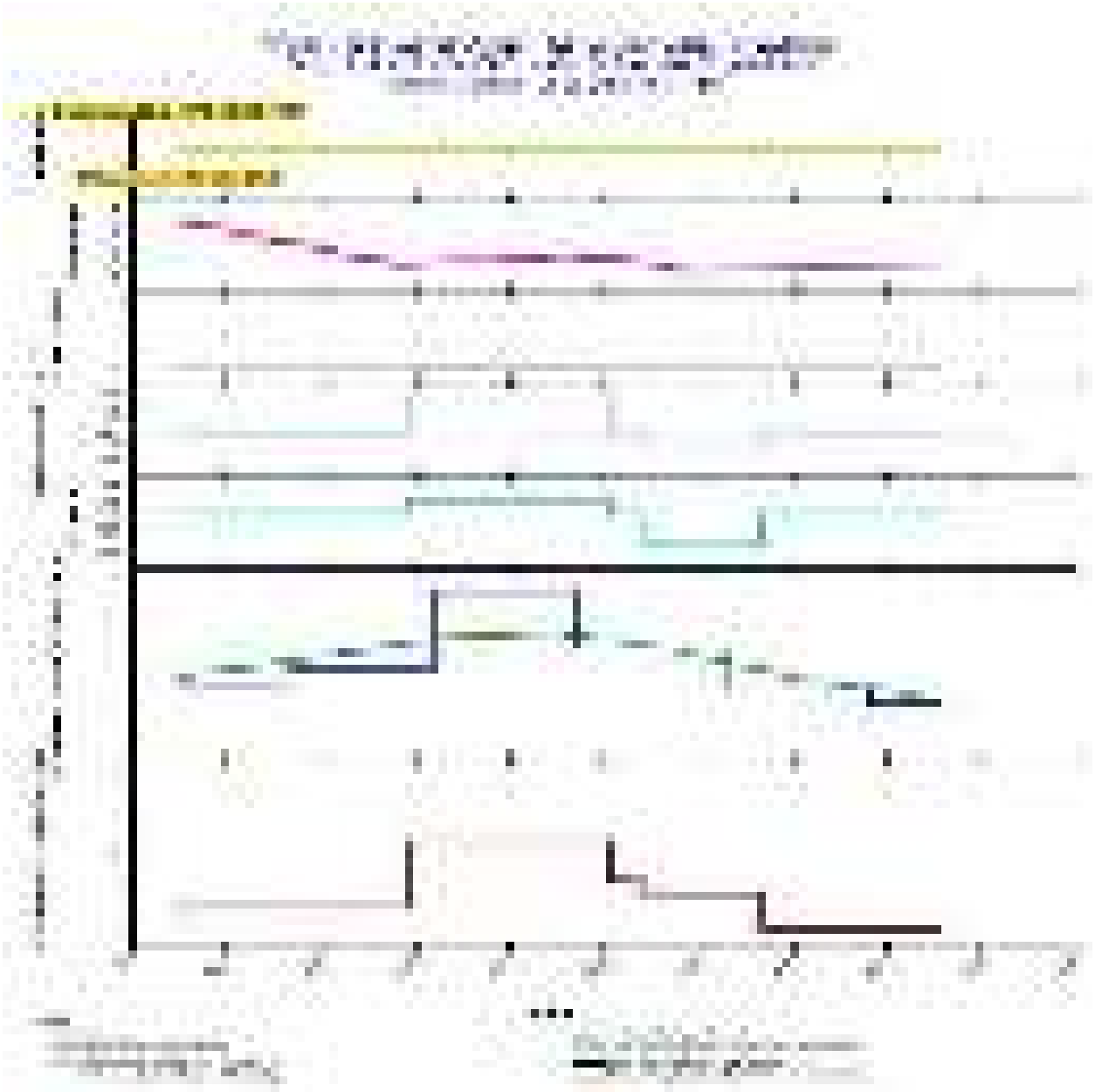

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EN	Urban	10+00.000	14+63.000	463.00	0.0877	2035-2037: 7,238
2	1EN	Urban	14+63.000	20+79.000	616.00	0.1167	2035-2037: 7,238
3	1EN	Urban	20+79.000	26+95.000	616.00	0.1167	2035-2037: 7,238
4	1EN	Urban	26+95.000	33+12.000	617.00	0.1169	2035-2037: 7,238
5	1EN	Urban	33+12.000	39+28.000	616.00	0.1167	2035-2037: 7,238
6	1EN	Urban	39+28.000	42+35.594	307.59	0.0583	2035-2037: 7,238

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.6128
Average Future Road AADT (vpd)	7,238
Expected Crashes	
Total Crashes	3.72
Fatal and Injury Crashes	1.58
Property-Damage-Only Crashes	2.13
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	43
Percent Property-Damage-Only Crashes (%)	57
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	2.0227
Fatal and Injury Crash Rate (crashes/mi/yr)	0.8617
Property-Damage-Only Crash Rate (crashes/mi/yr)	1.1609
Expected Travel Crash Rate	
Total Travel (million veh-mi)	4.86
Travel Crash Rate (crashes/million veh-mi)	0.77
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.33
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.44

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	14+63.000	0.0877	0.460	1.7487	0.66
2	14+63.000	20+79.000	0.1167	0.664	1.8964	0.72
3	20+79.000	26+95.000	0.1167	1.002	2.8635	1.08
4	26+95.000	33+12.000	0.1169	0.756	2.1554	0.82
5	33+12.000	39+28.000	0.1167	0.581	1.6586	0.63
6	39+28.000	42+35.594	0.0583	0.256	1.4668	0.56

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	19+80.334	0.1857	1.017	1.8266	0.69
Simple Curve 1	19+80.334	28+28.300	0.1606	1.272	2.6397	1.00
Tangent	28+28.300	29+59.656	0.0249	0.161	2.1554	0.82
Simple Curve 2	29+59.656	34+77.064	0.0980	0.587	1.9969	0.76
Tangent	34+77.064	42+35.594	0.1437	0.681	1.5808	0.60

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0044	0.0133	0.0849	0.1036	0.2537
2	0.0062	0.0188	0.1198	0.1462	0.3727
3	0.0090	0.0272	0.1732	0.2113	0.5816
4	0.0067	0.0205	0.1302	0.1589	0.4392
5	0.0052	0.0157	0.1000	0.1221	0.3375
6	0.0023	0.0069	0.0440	0.0537	0.1495
Total	0.0338	0.1024	0.6522	0.7958	2.1343

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.1	0.04	1.0	0.04	1.1
Highway Segment	Collision with Fixed Object	0.95	25.5	1.18	31.8	2.13	57.2
Highway Segment	Collision with Other Object	0.07	1.8	0.23	6.2	0.30	8.0
Highway Segment	Other Single-vehicle Collision	0.27	7.3	0.18	4.7	0.45	12.1
Highway Segment	Collision with Parked Vehicle	0.02	0.5	0.03	0.7	0.05	1.2
Highway Segment	Total Single Vehicle Crashes	1.31	35.3	1.65	44.4	2.96	79.7
Highway Segment	Right-Angle Collision	0.01	0.2	0.01	0.2	0.02	0.5
Highway Segment	Head-on Collision	0.00	0.1	0.00	0.0	0.00	0.1
Highway Segment	Other Multi-vehicle Collision	0.01	0.2	0.01	0.3	0.02	0.5
Highway Segment	Rear-end Collision	0.20	5.5	0.33	9.0	0.54	14.5
Highway Segment	Sideswipe, Same Direction Collision	0.05	1.3	0.13	3.5	0.18	4.8
Highway Segment	Total Multiple Vehicle Crashes	0.27	7.3	0.48	13.0	0.76	20.3
Highway Segment	Total Highway Segment Crashes	1.58	42.6	2.13	57.4	3.72	100.0
	Total Crashes	1.58	42.6	2.13	57.4	3.72	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

Report Generated: Jan 3, 2018 10:39 AM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 10:25:30 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING - NOBUILD
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment ROUTE 1
Highway Comment: Imported from 16C5934_MDL_BASELINE-EXIST.xml
Highway Version: 1

Evaluation Title: CPM-NO BUILD
Evaluation Comment: Created Wed Jan 03 10:25:04 EST 2018

Minimum Station: 10+00.000
Maximum Station: 35+25.118
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 35+25.118
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Multilane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0; 4U=1.0;

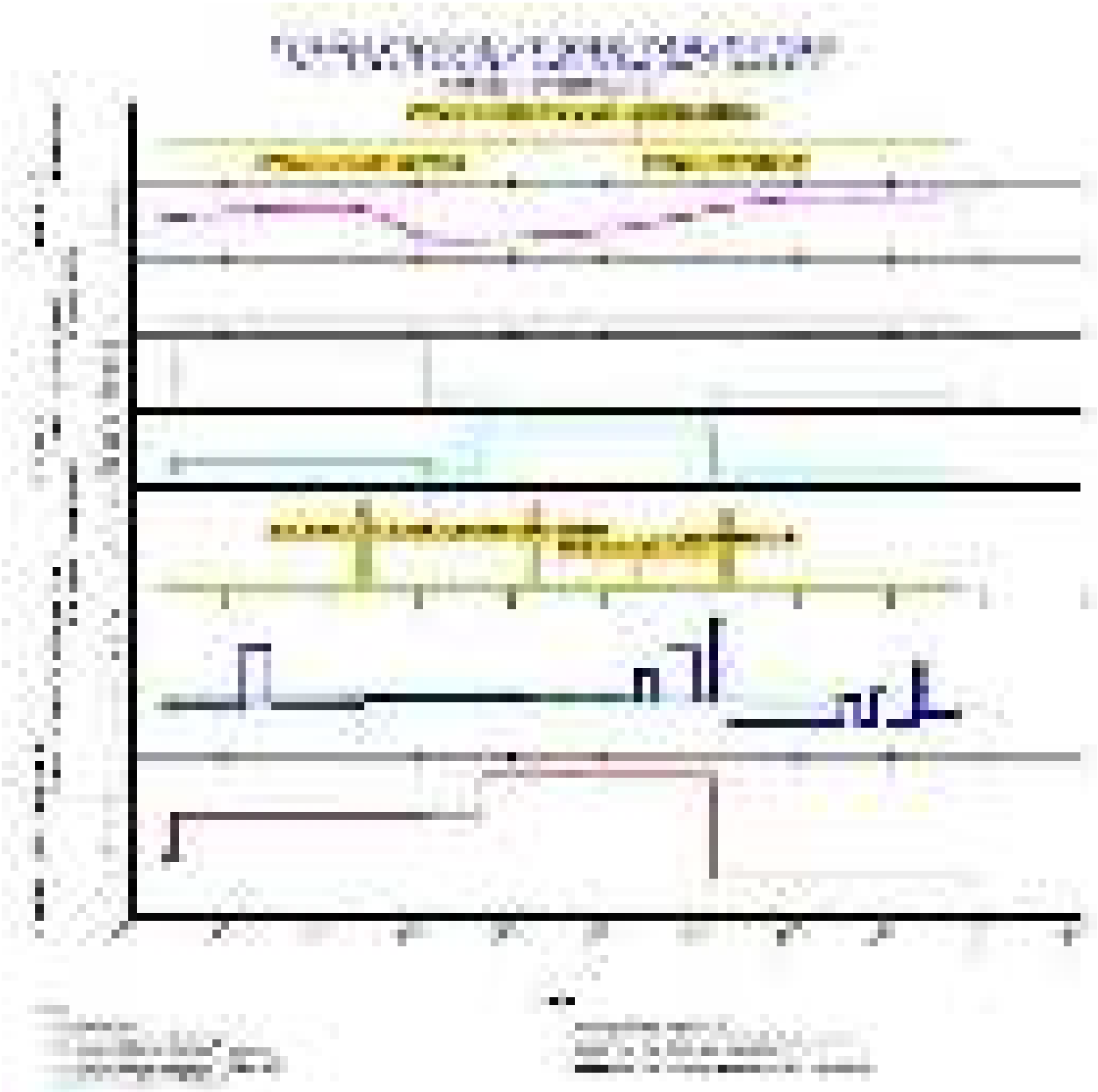

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	4U	10+00.000	10+11.000	11.00	0.0021	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.62	12.00
2	4U	10+11.000	10+34.381	23.38	0.0044	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.21	12.00
3	4U	10+34.381	10+53.000	18.62	0.0035	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.70	12.00
4	4U	10+53.000	10+94.000	41.00	0.0078	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.99	12.00
5	4U	10+94.000	11+25.000	31.00	0.0059	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.12	12.00
6	4U	11+25.000	12+55.000	130.00	0.0246	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.75	12.00
7	4U	12+55.000	13+40.000	85.00	0.0161	2035-2037: 31,200	0	2	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.75	12.00
8	4U	13+40.000	13+85.000	45.00	0.0085	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.92	12.00
9	4U	13+85.000	14+10.000	25.00	0.0047	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.54	12.00
10	4U	14+10.000	15+50.000	140.00	0.0265	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.25	12.00
11	4U	15+50.000	16+34.012	84.01	0.0159	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
12	4U	16+34.012	16+60.000	25.99	0.0049	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.50	12.00
13	4U	16+60.000	17+99.696	139.70	0.0265	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.98	12.00
14	4U	17+99.696	18+31.076	31.38	0.0059	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.19	12.00
15	4U	18+31.076	19+69.011	137.94	0.0261	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.15	12.00
16	4U	19+69.011	20+05.449	36.44	0.0069	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.11	12.00
17	4U	20+05.449	21+25.000	119.55	0.0226	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.07	12.00
18	4U	21+25.000	21+75.801	50.80	0.0096	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.52	12.00
19	4U	21+75.801	22+00.000	24.20	0.0046	2035-2037: 36,816	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.51	12.00
20	4U	22+00.000	22+58.000	58.00	0.0110	2035-2037: 36,816	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.99	12.00
21	4U	22+58.000	23+00.000	42.00	0.0080	2035-2037: 36,816	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.12	12.00
22	4U	23+00.000	24+25.000	125.00	0.0237	2035-2037: 36,816	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.75	12.00
23	4U	24+25.000	24+50.000	25.00	0.0047	2035-2037: 36,816	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.75	12.00
24	4U	24+50.000	24+97.433	47.43	0.0090	2035-2037: 36,816	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
25	4U	24+97.433	25+50.000	52.57	0.0100	2035-2037: 36,816	0	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
26	4U	25+50.000	25+93.150	43.15	0.0082	2035-2037: 36,816	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.50	12.00
27	4U	25+93.150	26+85.005	91.86	0.0174	2035-2037: 36,816	0	1	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.50	12.00
28	4U	26+85.005	27+36.197	51.19	0.0097	2035-2037: 36,816	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.50	12.00
29	4U	27+36.197	27+40.000	3.80	0.0007	2035-2037: 36,816	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.50	12.00
30	4U	27+40.000	27+80.219	40.22	0.0076	2035-2037: 36,816	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.75	12.00
31	4U	27+80.219	28+72.002	91.78	0.0174	2035-2037: 20,342	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.81	12.00
32	4U	28+72.002	29+00.000	28.00	0.0053	2035-2037: 20,342	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.96	12.00
33	4U	29+00.000	29+32.000	32.00	0.0061	2035-2037: 20,342	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.40	12.00
34	4U	29+32.000	30+29.579	97.58	0.0185	2035-2037: 20,342	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.82	12.00
35	2U	30+29.579	30+85.000	55.42	0.0105	2035-2037: 20,342	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.32	12.00
36	2U	30+85.000	31+50.000	65.00	0.0123	2035-2037: 20,342	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.72	12.00
37	2U	31+50.000	31+99.000	49.00	0.0093	2035-2037: 20,342	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.22	12.00
38	2U	31+99.000	32+50.000	51.00	0.0097	2035-2037: 20,342	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.80	12.00
39	2U	32+50.000	32+87.000	37.00	0.0070	2035-2037: 20,342	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	6.30	12.00
40	2U	32+87.000	33+78.000	91.00	0.0172	2035-2037: 20,342	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.01	12.00
41	2U	33+78.000	34+00.000	22.00	0.0042	2035-2037: 20,342	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.63	12.00
42	2U	34+00.000	35+25.118	125.12	0.0237	2035-2037: 20,342	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.75	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/SHORT BEACH RD	16+33.720	2035-2037: 37,440	2035-2037: 16,099	3	Signalized	Three-Legged Signalized	2	1	0	15	false	false	false	0	0	5	false
2	ROUTE 1/CONNECTOR	21+75.801	2035-2037: 37,440	2035-2037: 16,723	3	Signalized	Three-Legged Signalized	2	2	0	15	false	false	false	0	0	6	false
3	ROUTE 1/COMM PKWY	24+97.433	2035-2037: 36,816	2035-2037: 3,120	3	Signalized	Three-Legged Signalized	3	1	0	15	false	false	false	0	0	6	false
4	ROUTE 1/ROUTE 146	27+80.219	2035-2037: 36,816	2035-2037: 15,101	3	Signalized	Three-Legged Signalized	3	2	0	15	false	false	false	0	0	7	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.4782
Average Future Road AADT (vpd)	30,680
Expected Crashes	
Total Crashes	89.79
Fatal and Injury Crashes	27.82
Property-Damage-Only Crashes	61.97
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	31
Percent Property-Damage-Only Crashes (%)	69
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	62.5831
Fatal and Injury Crash Rate (crashes/mi/yr)	19.3900
Property-Damage-Only Crash Rate (crashes/mi/yr)	43.1931
Expected Travel Crash Rate	
Total Travel (million veh-mi)	16.07
Travel Crash Rate (crashes/million veh-mi)	5.59
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	1.73
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	3.86

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	10+11.000	0.0021	0.063	10.0298	0.88		
2	10+11.000	10+34.381	0.0044	0.133	10.0298	0.88		
3	10+34.381	10+53.000	0.0035	0.106	10.0298	0.88		
4	10+53.000	10+94.000	0.0078	0.234	10.0298	0.88		
5	10+94.000	11+25.000	0.0059	0.177	10.0298	0.88		
6	11+25.000	12+55.000	0.0246	0.741	10.0298	0.88		
7	12+55.000	13+40.000	0.0161	1.314	27.2166	2.39		
8	13+40.000	13+85.000	0.0085	0.256	10.0298	0.88		
9	13+85.000	14+10.000	0.0047	0.142	10.0298	0.88		
10	14+10.000	15+50.000	0.0265	0.798	10.0298	0.88		
11	15+50.000	16+34.012	0.0159	0.479	10.0298	0.88		
ROUTE 1/SHORT BEACH RD	16+33.720			21.233			0.46	7.0778
12	16+34.012	16+60.000	0.0049	0.186	12.6097	0.92		
13	16+60.000	17+99.696	0.0265	1.001	12.6097	0.92		
14	17+99.696	18+31.076	0.0059	0.225	12.6097	0.92		
15	18+31.076	19+69.011	0.0261	0.988	12.6097	0.92		
16	19+69.011	20+05.449	0.0069	0.261	12.6097	0.92		
17	20+05.449	21+25.000	0.0226	0.857	12.6097	0.92		
18	21+25.000	21+75.801	0.0096	0.364	12.6097	0.92		
ROUTE 1/CONNECTOR	21+75.801			20.561			0.41	6.8536
19	21+75.801	22+00.000	0.0046	0.170	12.3459	0.92		
20	22+00.000	22+58.000	0.0110	0.407	12.3459	0.92		
21	22+58.000	23+00.000	0.0080	0.295	12.3459	0.92		
22	23+00.000	24+25.000	0.0237	0.877	12.3459	0.92		
23	24+25.000	24+50.000	0.0047	0.175	12.3459	0.92		
24	24+50.000	24+97.433	0.0090	0.333	12.3459	0.92		
ROUTE 1/COMM PKWY	24+97.433			12.515			0.30	4.1718
25	24+97.433	25+50.000	0.0100	0.595	19.9083	1.48		
26	25+50.000	25+93.150	0.0082	0.303	12.3459	0.92		
27	25+93.150	26+85.005	0.0174	1.374	26.3281	1.96		
28	26+85.005	27+36.197	0.0097	0.359	12.3459	0.92		
29	27+36.197	27+40.000	0.0007	0.027	12.3459	0.92		
30	27+40.000	27+80.219	0.0076	0.786	34.3953	2.56		
ROUTE 1/ROUTE 146	27+80.219			18.284			0.46	6.0947
31	27+80.219	28+72.002	0.0174	0.307	5.8895	0.79		
32	28+72.002	29+00.000	0.0053	0.094	5.8895	0.79		
33	29+00.000	29+32.000	0.0061	0.107	5.8895	0.79		
34	29+32.000	30+29.579	0.0185	0.327	5.8895	0.79		
35	30+29.579	30+85.000	0.0105	0.170	5.3848	0.72		
36	30+85.000	31+50.000	0.0123	0.199	5.3848	0.72		
37	31+50.000	31+99.000	0.0093	0.355	12.7571	1.72		
38	31+99.000	32+50.000	0.0097	0.156	5.3848	0.72		
39	32+50.000	32+87.000	0.0070	0.319	15.1481	2.04		
40	32+87.000	33+78.000	0.0172	0.278	5.3848	0.72		
41	33+78.000	34+00.000	0.0042	0.273	21.8049	2.94		
42	34+00.000	35+25.118	0.0237	0.588	8.2720	1.11		

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	10+34.381	0.0065	0.196	10.0298	0.88
Simple Curve 1	10+34.381	18+31.076	0.1509	5.659	12.5016	1.05
Tangent	18+31.076	20+05.449	0.0330	1.249	12.6097	0.92
Simple Curve 2	20+05.449	27+36.197	0.1384	6.107	14.7089	1.09
Tangent	27+36.197	35+25.118	0.1494	3.984	8.8884	1.09

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.02	0.0	0.02	0.0
Highway Segment	Collision with Bicycle	0.04	0.0	0.00	0.0	0.04	0.0
Highway Segment	Collision with Fixed Object	0.28	0.3	1.32	1.5	1.60	1.8
Highway Segment	Collision with Other Object	0.01	0.0	0.04	0.0	0.05	0.1
Highway Segment	Other Single-vehicle Collision	0.16	0.2	0.27	0.3	0.42	0.5
Highway Segment	Collision with Pedestrian	0.14	0.2	0.00	0.0	0.14	0.2
Highway Segment	Total Segment Single Vehicle Crashes	0.63	0.7	1.65	1.8	2.28	2.5
Highway Segment	Angle Collision	0.58	0.7	1.05	1.2	1.64	1.8
Highway Segment	Driveway-related Collision	1.04	1.2	2.04	2.3	3.08	3.4
Highway Segment	Head-on Collision	0.26	0.3	0.03	0.0	0.29	0.3
Highway Segment	Other Multi-vehicle Collision	0.18	0.2	0.65	0.7	0.83	0.9
Highway Segment	Rear-end Collision	1.82	2.0	4.50	5.0	6.31	7.0
Highway Segment	Sideswipe, Opposite Direction Collision	0.28	0.3	0.28	0.3	0.56	0.6
Highway Segment	Sideswipe, Same Direction Collision	0.29	0.3	1.91	2.1	2.20	2.5
Highway Segment	Total Segment Multiple Vehicle Crashes	4.45	5.0	10.47	11.7	14.92	16.6
Highway Segment	Total Highway Segment Crashes	5.08	5.7	12.12	13.5	17.20	19.2
Intersection	Collision with Animal	0.00	0.0	0.01	0.0	0.01	0.0
Intersection	Collision with Bicycle	0.79	0.9	0.00	0.0	0.79	0.9
Intersection	Collision with Fixed Object	0.77	0.9	2.51	2.8	3.28	3.7
Intersection	Non-Collision	0.25	0.3	0.04	0.0	0.29	0.3
Intersection	Collision with Other Object	0.11	0.1	0.19	0.2	0.30	0.3
Intersection	Other Single-vehicle Collision	0.05	0.1	0.05	0.1	0.10	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.11	0.1	0.00	0.0	0.11	0.1
Intersection	Total Intersection Single Vehicle Crashes	2.08	2.3	2.80	3.1	4.88	5.4
Intersection	Angle Collision	5.79	6.4	9.60	10.7	15.38	17.1
Intersection	Head-on Collision	0.79	0.9	0.94	1.0	1.73	1.9
Intersection	Other Multi-vehicle Collision	1.18	1.3	9.32	10.4	10.49	11.7
Intersection	Rear-end Collision	11.34	12.6	25.69	28.6	37.03	41.2
Intersection	Sideswipe	1.57	1.7	1.51	1.7	3.08	3.4
Intersection	Total Intersection Multiple Vehicle Crashes	20.66	23.0	47.05	52.4	67.71	75.4
Intersection	Total Intersection Crashes	22.74	25.3	49.85	55.5	72.59	80.8
	Total Crashes	27.82	31.0	61.97	69.0	89.79	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 7. Evaluation Message

Start Location	End Location	Message
21+75.801	21+75.801	for intersection #2 (21+75.801 to 21+75.801), minor road traffic volume (16,723 vpd) for 2035 exceeds model limit (16,400 vpd) for reliable results for intersection type 3SG
21+75.801	21+75.801	for intersection #2 (21+75.801 to 21+75.801), minor road traffic volume (16,723 vpd) for 2036 exceeds model limit (16,400 vpd) for reliable results for intersection type 3SG
21+75.801	21+75.801	for intersection #2 (21+75.801 to 21+75.801), minor road traffic volume (16,723 vpd) for 2037 exceeds model limit (16,400 vpd) for reliable results for intersection type 3SG

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

Report Generated: Jan 3, 2018 10:37 AM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 10:21:00 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING - NOBUILD
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment ROUTE 146
Highway Comment: Imported from 16C5934_MDL_BASELINE-EXIST.xml
Highway Version: 1

Evaluation Title: CPM-NO BUILD
Evaluation Comment: Created Wed Jan 03 10:20:37 EST 2018

Minimum Station: 10+00.000
Maximum Station: 21+87.764
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 21+87.764
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

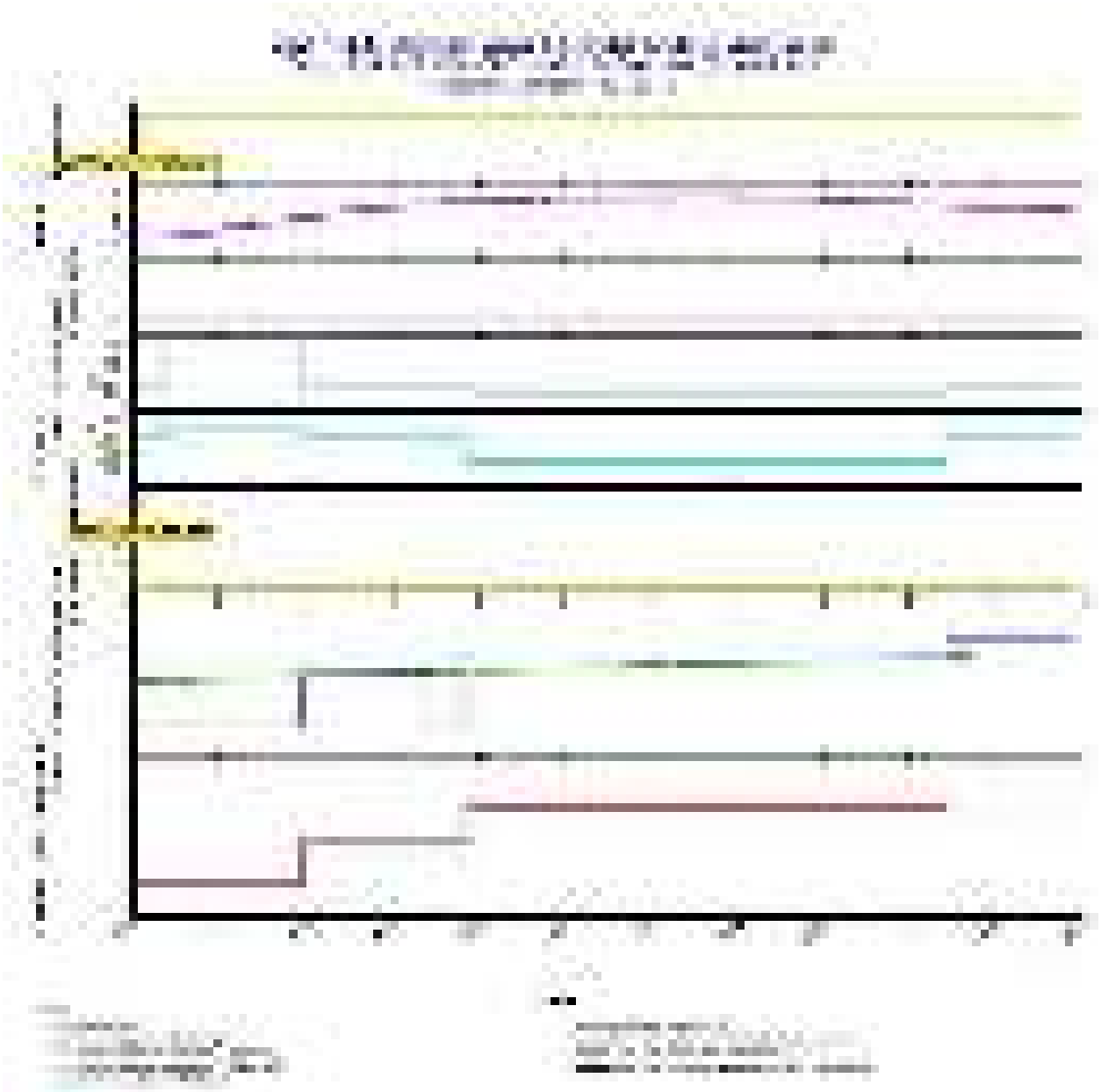

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	10+32.413	32.41	0.0061	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
2	2U	10+32.413	12+03.666	171.25	0.0324	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
3	2U	12+03.666	13+71.260	167.59	0.0317	2035-2037: 15,101	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
4	2U	13+71.260	14+15.132	43.87	0.0083	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
5	2U	14+15.132	20+30.571	615.44	0.1166	2035-2037: 15,101	0	3	0	0	1	2	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
6	2U	20+30.571	21+87.764	157.19	0.0298	2035-2037: 15,101	0	1	0	0	0	2	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/ROUTE 146	10+00.000	2035-2037: 36,816	2035-2037: 15,101	3	Signalized	Three-Legged Signalized	3	2	0	15	false	false	false	0	0	7	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.2250
Average Future Road AADT (vpd)	15,101
Expected Crashes	
Total Crashes	21.88
Fatal and Injury Crashes	6.68
Property-Damage-Only Crashes	15.19
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	31
Percent Property-Damage-Only Crashes (%)	69
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	32.4139
Fatal and Injury Crash Rate (crashes/mi/yr)	9.8998
Property-Damage-Only Crash Rate (crashes/mi/yr)	22.5141
Expected Travel Crash Rate	
Total Travel (million veh-mi)	3.72
Travel Crash Rate (crashes/million veh-mi)	5.88
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	1.80
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	4.08

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
ROUTE 1/ROUTE 146	10+00.000			18.284			0.46	6.0947
1	10+00.000	10+32.413	0.0061	0.065	3.5282	0.64		
2	10+32.413	12+03.666	0.0324	0.343	3.5282	0.64		
3	12+03.666	13+71.260	0.0317	0.488	5.1284	0.93		
4	13+71.260	14+15.132	0.0083	0.088	3.5282	0.64		
5	14+15.132	20+30.571	0.1166	2.041	5.8377	1.06		
6	20+30.571	21+87.764	0.0298	0.565	6.3261	1.15		

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/ yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	10+32.413	0.0061	0.065	3.5282	0.64
Simple Curve 1	10+32.413	12+03.666	0.0324	0.343	3.5282	0.64
Tangent	12+03.666	14+15.132	0.0401	0.576	4.7964	0.87
Simple Curve 2	14+15.132	20+30.571	0.1166	2.041	5.8377	1.06
Tangent	20+30.571	21+87.764	0.0298	0.565	6.3261	1.15

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.03	0.1	0.04	0.2
Highway Segment	Collision with Bicycle	0.01	0.1	0.00	0.0	0.01	0.1
Highway Segment	Collision with Fixed Object	0.09	0.4	0.38	1.7	0.47	2.1
Highway Segment	Collision with Other Object	0.00	0.0	0.01	0.0	0.01	0.0
Highway Segment	Other Single-vehicle Collision	0.03	0.1	0.08	0.4	0.11	0.5
Highway Segment	Collision with Pedestrian	0.02	0.1	0.00	0.0	0.02	0.1
Highway Segment	Total Segment Single Vehicle Crashes	0.16	0.7	0.50	2.3	0.65	3.0
Highway Segment	Angle Collision	0.04	0.2	0.10	0.4	0.14	0.6
Highway Segment	Driveway-related Collision	0.39	1.8	0.81	3.7	1.20	5.5
Highway Segment	Head-on Collision	0.03	0.2	0.01	0.0	0.04	0.2
Highway Segment	Other Multi-vehicle Collision	0.01	0.1	0.07	0.3	0.08	0.4
Highway Segment	Rear-end Collision	0.37	1.7	0.96	4.4	1.33	6.1
Highway Segment	Sideswipe, Opposite Direction Collision	0.04	0.2	0.07	0.3	0.10	0.5
Highway Segment	Sideswipe, Same Direction Collision	0.01	0.0	0.04	0.2	0.05	0.2
Highway Segment	Total Segment Multiple Vehicle Crashes	0.89	4.1	2.04	9.3	2.94	13.4
Highway Segment	Total Highway Segment Crashes	1.05	4.8	2.54	11.6	3.59	16.4
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.20	0.9	0.00	0.0	0.20	0.9
Intersection	Collision with Fixed Object	0.21	0.9	0.65	3.0	0.85	3.9
Intersection	Non-Collision	0.07	0.3	0.01	0.0	0.08	0.3
Intersection	Collision with Other Object	0.03	0.1	0.05	0.2	0.08	0.4
Intersection	Other Single-vehicle Collision	0.01	0.1	0.01	0.1	0.03	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.03	0.1	0.00	0.0	0.03	0.1
Intersection	Total Intersection Single Vehicle Crashes	0.55	2.5	0.72	3.3	1.27	5.8
Intersection	Angle Collision	1.42	6.5	2.43	11.1	3.86	17.6
Intersection	Head-on Collision	0.19	0.9	0.24	1.1	0.43	2.0
Intersection	Other Multi-vehicle Collision	0.29	1.3	2.36	10.8	2.65	12.1
Intersection	Rear-end Collision	2.79	12.8	6.51	29.8	9.31	42.5
Intersection	Sideswipe	0.39	1.8	0.38	1.7	0.77	3.5
Intersection	Total Intersection Multiple Vehicle Crashes	5.09	23.2	11.93	54.5	17.02	77.8
Intersection	Total Intersection Crashes	5.63	25.7	12.65	57.8	18.28	83.6
	Total Crashes	6.68	30.5	15.19	69.5	21.88	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

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Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Evaluation Date: Wed Jan 03 10:24:52 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD EXISTING - NOBUILD
Project Comment: Created using wizard
Project Unit System: U.S. Customary

Highway Title: Alignment SHORT BEACH RD
Highway Comment: Imported from EXISTING SHORT BEACH RD ONLY.xml
Highway Version: 1

Evaluation Title: CPM-NO BUILD
Evaluation Comment: Created Wed Jan 03 10:24:32 EST 2018

Minimum Station: 10+00.000
Maximum Station: 15+25.319
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 15+25.319
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

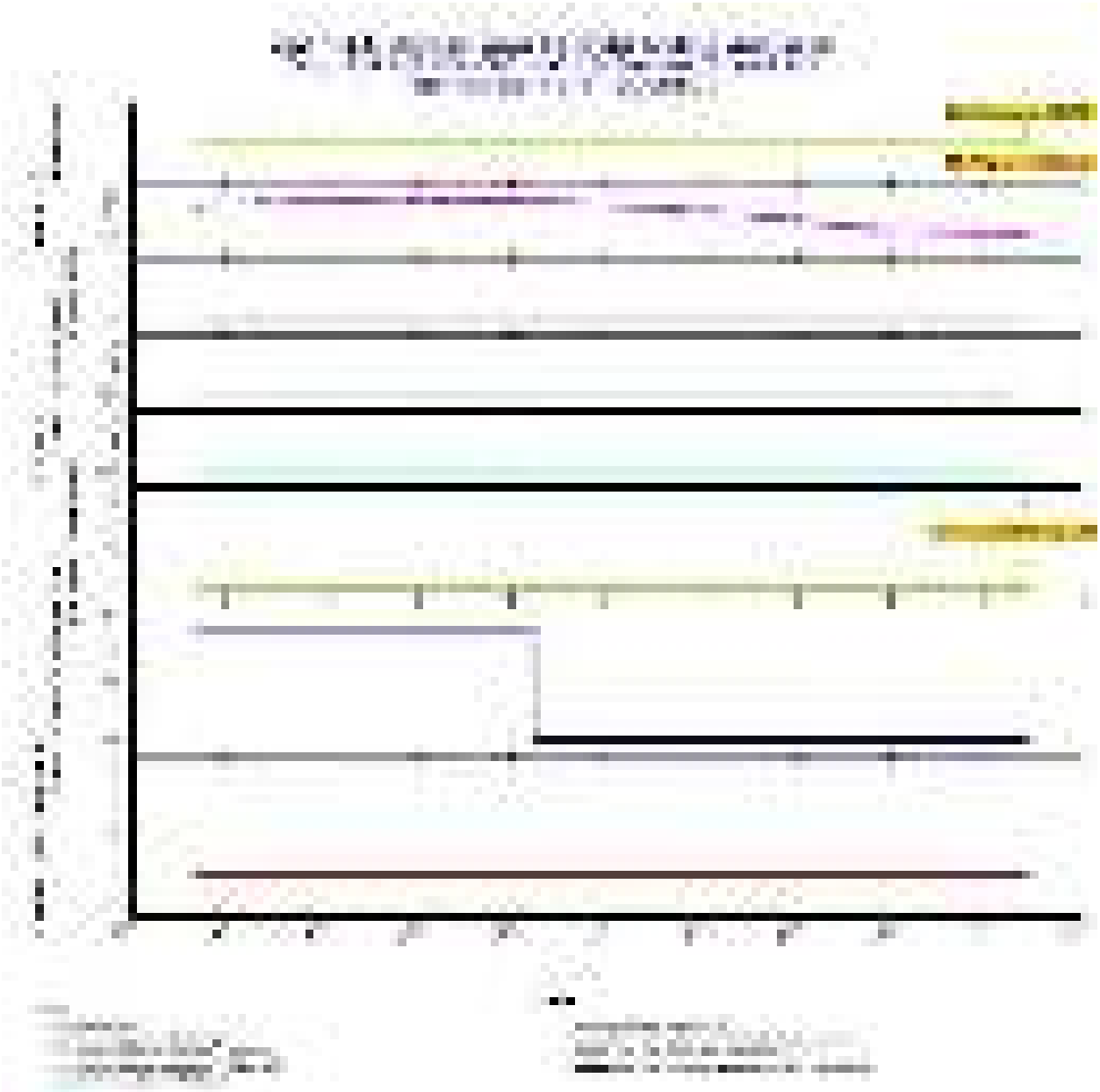

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	12+15.000	215.00	0.0407	2035-2037: 16,099	0	1	0	0	0	1	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
2	2U	12+15.000	15+25.319	310.32	0.0588	2035-2037: 16,099	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/SHORT BEACH RD	15+25.316	2035-2037: 37,440	2035-2037: 16,099	3	Signalized	Three-Legged Signalized	2	1	0	15	false	false	false	0	0	5	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.0995
Average Future Road AADT (vpd)	16,099
Expected Crashes	
Total Crashes	22.76
Fatal and Injury Crashes	6.93
Property-Damage-Only Crashes	15.83
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	30
Percent Property-Damage-Only Crashes (%)	70
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	76.2589
Fatal and Injury Crash Rate (crashes/mi/yr)	23.2222
Property-Damage-Only Crash Rate (crashes/mi/yr)	53.0367
Expected Travel Crash Rate	
Total Travel (million veh-mi)	1.75
Travel Crash Rate (crashes/million veh-mi)	12.98
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	3.95
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	9.03

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	12+15.000	0.0407	0.686	5.6123	0.95		
2	12+15.000	15+25.319	0.0588	0.843	4.7784	0.81		
ROUTE 1/SHORT BEACH RD	15+25.316			21.233			0.46	7.0778

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	15+25.319	0.0995	1.528	5.1197	0.87

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.01	0.1	0.02	0.1
Highway Segment	Collision with Bicycle	0.01	0.0	0.00	0.0	0.01	0.0
Highway Segment	Collision with Fixed Object	0.04	0.2	0.17	0.8	0.21	0.9
Highway Segment	Collision with Other Object	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Single-vehicle Collision	0.01	0.1	0.04	0.2	0.05	0.2
Highway Segment	Collision with Pedestrian	0.01	0.0	0.00	0.0	0.01	0.0
Highway Segment	Total Segment Single Vehicle Crashes	0.07	0.3	0.23	1.0	0.30	1.3
Highway Segment	Angle Collision	0.02	0.1	0.05	0.2	0.07	0.3
Highway Segment	Driveway-related Collision	0.12	0.5	0.25	1.1	0.37	1.6
Highway Segment	Head-on Collision	0.02	0.1	0.00	0.0	0.02	0.1
Highway Segment	Other Multi-vehicle Collision	0.01	0.0	0.03	0.1	0.04	0.2
Highway Segment	Rear-end Collision	0.18	0.8	0.47	2.1	0.65	2.9
Highway Segment	Sideswipe, Opposite Direction Collision	0.02	0.1	0.03	0.1	0.05	0.2
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.0	0.02	0.1	0.02	0.1
Highway Segment	Total Segment Multiple Vehicle Crashes	0.37	1.6	0.86	3.8	1.23	5.4
Highway Segment	Total Highway Segment Crashes	0.44	1.9	1.09	4.8	1.53	6.7
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.23	1.0	0.00	0.0	0.23	1.0
Intersection	Collision with Fixed Object	0.24	1.1	0.75	3.3	0.99	4.3
Intersection	Non-Collision	0.08	0.3	0.01	0.1	0.09	0.4
Intersection	Collision with Other Object	0.03	0.1	0.06	0.3	0.09	0.4
Intersection	Other Single-vehicle Collision	0.02	0.1	0.01	0.1	0.03	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.03	0.1	0.00	0.0	0.03	0.1
Intersection	Total Intersection Single Vehicle Crashes	0.62	2.7	0.83	3.7	1.46	6.4
Intersection	Angle Collision	1.64	7.2	2.84	12.5	4.48	19.7
Intersection	Head-on Collision	0.22	1.0	0.28	1.2	0.50	2.2
Intersection	Other Multi-vehicle Collision	0.33	1.5	2.75	12.1	3.09	13.6
Intersection	Rear-end Collision	3.22	14.2	7.59	33.4	10.81	47.5
Intersection	Sideswipe	0.45	2.0	0.45	2.0	0.89	3.9
Intersection	Total Intersection Multiple Vehicle Crashes	5.87	25.8	13.91	61.1	19.77	86.9
Intersection	Total Intersection Crashes	6.49	28.5	14.74	64.8	21.23	93.3
	Total Crashes	6.93	30.5	15.83	69.5	22.76	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

IHSDM Predicted Crashes For Alternate 1

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

Report Generated: Jan 3, 2018 2:10 PM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 14:02:13 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 1
Project Comment: Created Fri Jul 14 11:23:45 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment BRANFORD CONNECTOR
Highway Comment: Imported from MDL-01 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 1
Evaluation Comment: Created Wed Jan 03 14:01:21 EST 2018

Minimum Station: 10+00.000
Maximum Station: 59+05.476
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 59+05.476
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0; 4SG=1.0; 4U=1.0;

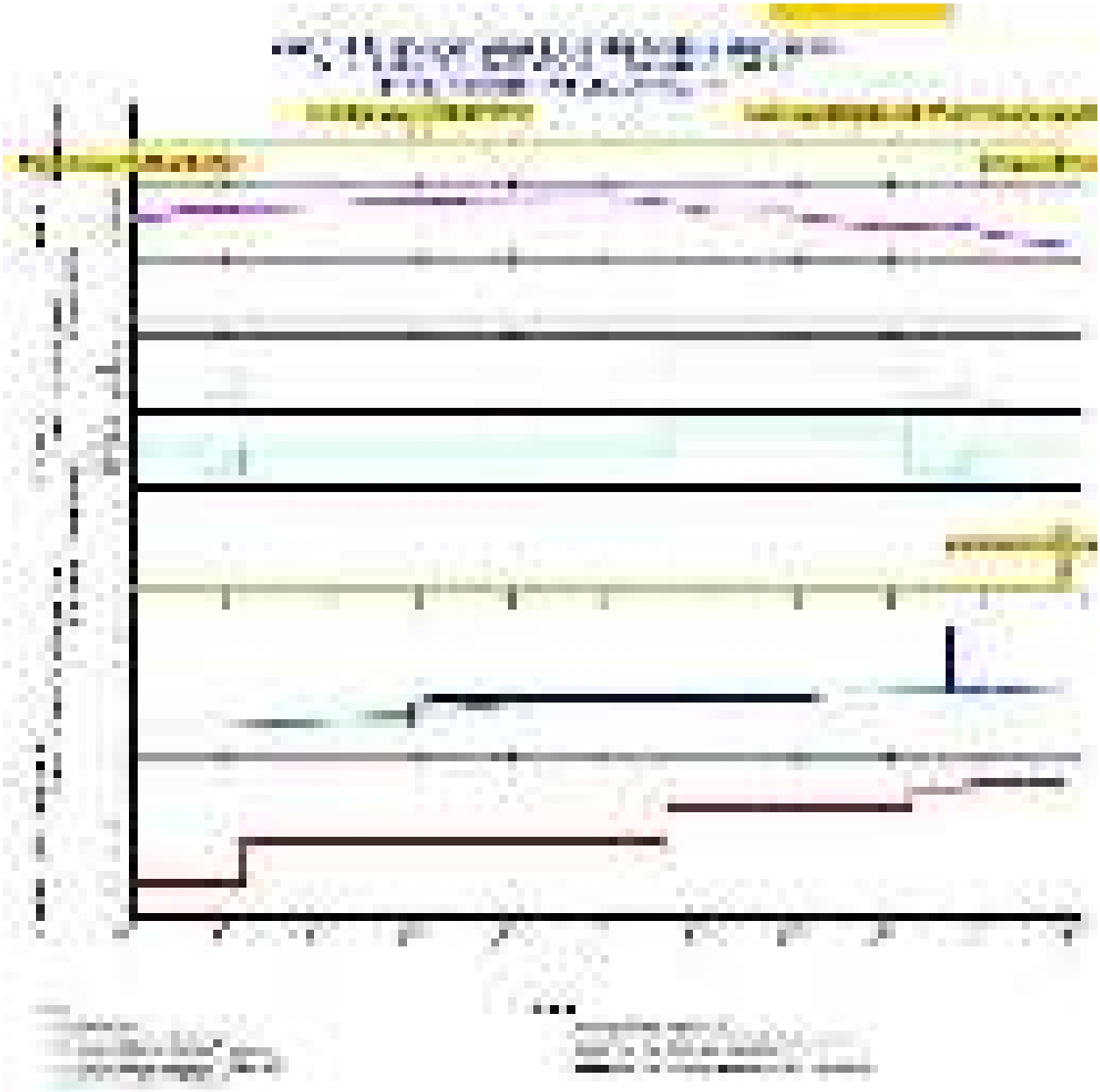

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	13+79.669	379.67	0.0719	2035-2037: 10,150	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
2	2U	13+79.669	15+88.494	208.82	0.0396	2035-2037: 10,150	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
3	2U	15+88.494	24+72.138	883.64	0.1674	2035-2037: 10,150	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
4	2U	24+72.138	25+71.583	99.44	0.0188	2035-2037: 18,512	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
5	2U	25+71.583	38+26.495	1,254.91	0.2377	2035-2037: 20,042	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
6	2U	38+26.495	43+58.644	532.15	0.1008	2035-2037: 20,042	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
7	2U	43+58.644	44+61.143	102.50	0.0194	2035-2037: 20,042	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
8	2U	44+61.143	45+19.565	58.42	0.0111	2035-2037: 20,042	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
9	2U	45+19.565	45+46.000	26.43	0.0050	2035-2037: 20,042	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.75	12.00
10	2U	45+46.000	45+98.000	52.00	0.0098	2035-2037: 20,042	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	6.99	12.00
11	2U	45+98.000	48+36.000	238.00	0.0451	2035-2037: 20,042	0	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.24	12.00
12	4U	48+36.000	51+02.882	266.88	0.0505	2035-2037: 20,042	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00
13	4U	51+02.882	53+09.651	206.77	0.0392	2035-2037: 20,042	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00
14	4U	53+09.651	53+36.000	26.35	0.0050	2035-2037: 20,042	0	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.00	12.00
15	4U	53+36.000	54+17.000	81.00	0.0153	2035-2037: 20,042	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.00	12.00
16	4U	54+17.000	59+05.476	488.48	0.0925	2035-2037: 20,042	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	CONNECTOR/NB OFF RAMP	24+66.837	2035-2037: 8,362	2035-2037: 18,512	3	Uncontrolled	Unknown	0	0			false	false	false				false
2	ROUTE 1/CONNECOTR/ROUTE 146	59+05.473	2035-2037: 37,440	2035-2037: 20,042	4	Signalized	Four-Legged Signalized	4	3	0	20	false	false	false	0	0	9	false
3	CONNECTOR/NB ON RAMP	25+64.773	2035-2037: 1,530	2035-2037: 20,042	3	Uncontrolled	Unknown	0	0			false	false	false				false
4	CONNECTOR/SB ON OFF RAMPS	10+00.000	2035-2037: 10,550	2035-2037: 10,150	3	Uncontrolled	Unknown	0	0			false	false	false				false
5	CONNECTOR/COMM PKWY	48+35.820	2035-2037: 20,042	2035-2037: 3,120	3	Signalized	Three-Legged Signalized	3	3	0	15	false	false	false	0	0	6	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.9291
Average Future Road AADT (vpd)	17,042
Expected Crashes	
Total Crashes	36.83
Fatal and Injury Crashes	12.11
Property-Damage-Only Crashes	24.72
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	33
Percent Property-Damage-Only Crashes (%)	67
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	13.2140
Fatal and Injury Crash Rate (crashes/mi/yr)	4.3453
Property-Damage-Only Crash Rate (crashes/mi/yr)	8.8687
Expected Travel Crash Rate	
Total Travel (million veh-mi)	17.34
Travel Crash Rate (crashes/million veh-mi)	2.12
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.70
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	1.43

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	13+79.669	0.0719	0.448	2.0775	0.56		
2	13+79.669	15+88.494	0.0396	0.246	2.0775	0.56		
3	15+88.494	24+72.138	0.1674	1.043	2.0775	0.56		
4	24+72.138	25+71.583	0.0188	0.266	4.7006	0.70		
5	25+71.583	38+26.495	0.2377	3.758	5.2700	0.72		
6	38+26.495	43+58.644	0.1008	1.593	5.2700	0.72		
7	43+58.644	44+61.143	0.0194	0.307	5.2700	0.72		
8	44+61.143	45+19.565	0.0111	0.175	5.2700	0.72		
9	45+19.565	45+46.000	0.0050	0.079	5.2700	0.72		
10	45+46.000	45+98.000	0.0098	0.156	5.2700	0.72		
11	45+98.000	48+36.000	0.0451	0.806	5.9579	0.81		
CONNECTOR/COMM PKWY	48+35.820							
12	48+36.000	51+02.882	0.0505	0.877	5.7823	0.79		
13	51+02.882	53+09.651	0.0392	0.679	5.7823	0.79		
14	53+09.651	53+36.000	0.0050	0.197	13.1799	1.80		
15	53+36.000	54+17.000	0.0153	0.266	5.7823	0.79		
16	54+17.000	59+05.476	0.0925	1.852	6.6725	0.91		
ROUTE 1/CONNECOTR/ROUTE 146	59+05.473			24.082			0.48	8.0273

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/ yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	13+79.669	0.0719	0.448	2.0775	0.56
Simple Curve 1	13+79.669	15+88.494	0.0396	0.246	2.0775	0.56
Tangent	15+88.494	38+26.495	0.4239	5.066	3.9842	0.66
Simple Curve 2	38+26.495	51+02.876	0.2417	3.993	5.5054	0.75
Simple Curve 3	51+02.876	54+17.000	0.0595	1.143	6.4028	0.88
Tangent	54+17.000	59+05.476	0.0925	1.852	6.6725	0.91

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.0	0.11	0.3	0.12	0.3
Highway Segment	Collision with Bicycle	0.04	0.1	0.00	0.0	0.04	0.1
Highway Segment	Collision with Fixed Object	0.38	1.0	1.65	4.5	2.03	5.5
Highway Segment	Collision with Other Object	0.01	0.0	0.04	0.1	0.04	0.1
Highway Segment	Other Single-vehicle Collision	0.15	0.4	0.35	0.9	0.50	1.4
Highway Segment	Collision with Pedestrian	0.08	0.2	0.00	0.0	0.08	0.2
Highway Segment	Total Segment Single Vehicle Crashes	0.67	1.8	2.14	5.8	2.81	7.6
Highway Segment	Angle Collision	0.32	0.9	0.63	1.7	0.95	2.6
Highway Segment	Driveway-related Collision	0.15	0.4	0.29	0.8	0.45	1.2
Highway Segment	Head-on Collision	0.20	0.5	0.03	0.1	0.22	0.6
Highway Segment	Other Multi-vehicle Collision	0.10	0.3	0.41	1.1	0.51	1.4
Highway Segment	Rear-end Collision	1.85	5.0	4.67	12.7	6.52	17.7
Highway Segment	Sideswipe, Opposite Direction Collision	0.21	0.6	0.32	0.9	0.53	1.4
Highway Segment	Sideswipe, Same Direction Collision	0.11	0.3	0.64	1.7	0.75	2.0
Highway Segment	Total Segment Multiple Vehicle Crashes	2.94	8.0	7.00	19.0	9.93	27.0
Highway Segment	Total Highway Segment Crashes	3.61	9.8	9.13	24.8	12.75	34.6
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.35	1.0	0.00	0.0	0.35	1.0
Intersection	Collision with Fixed Object	0.21	0.6	0.80	2.2	1.01	2.7
Intersection	Non-Collision	0.04	0.1	0.03	0.1	0.07	0.2
Intersection	Collision with Other Object	0.02	0.1	0.06	0.2	0.08	0.2
Intersection	Other Single-vehicle Collision	0.01	0.0	0.02	0.1	0.03	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.10	0.3	0.00	0.0	0.10	0.3
Intersection	Total Intersection Single Vehicle Crashes	0.74	2.0	0.92	2.5	1.66	4.5
Intersection	Angle Collision	2.70	7.3	3.58	9.7	6.28	17.0
Intersection	Head-on Collision	0.38	1.0	0.44	1.2	0.82	2.2
Intersection	Other Multi-vehicle Collision	0.43	1.2	3.09	8.4	3.52	9.6
Intersection	Rear-end Collision	3.50	9.5	7.08	19.2	10.59	28.7
Intersection	Sideswipe	0.77	2.1	0.47	1.3	1.24	3.4
Intersection	Total Intersection Multiple Vehicle Crashes	7.78	21.1	14.66	39.8	22.45	60.9
Intersection	Total Intersection Crashes	8.52	23.1	15.58	42.3	24.10	65.4
	Total Crashes	12.13	32.9	24.72	67.1	36.85	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.
Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 7. Evaluation Message

Start Location	End Location	Message
24+66.837	24+66.837	for intersection #1 (24+66.837 to 24+66.837), Ramp Terminal: CONNECTOR/NB OFF RAMP can't be evaluated as part of this roadway.
25+64.773	25+64.773	for intersection #3 (25+64.773 to 25+64.773), Ramp Terminal: CONNECTOR/NB ON RAMP can't be evaluated as part of this roadway.
10+00.000	10+00.000	for intersection #4 (10+00.000 to 10+00.000), Ramp Terminal: CONNECTOR/SB ON OFF RAMPS can't be evaluated as part of this roadway.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Evaluation Date: Wed Jan 03 14:03:06 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 1
Project Comment: Created Fri Jul 14 11:23:45 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment COMMERCIAL PRKWY
Highway Comment: Imported from MDL-01 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 1
Evaluation Comment: Created Wed Jan 03 14:02:41 EST 2018

Minimum Station: 10+00.000
Maximum Station: 25+28.381
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 25+28.381
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

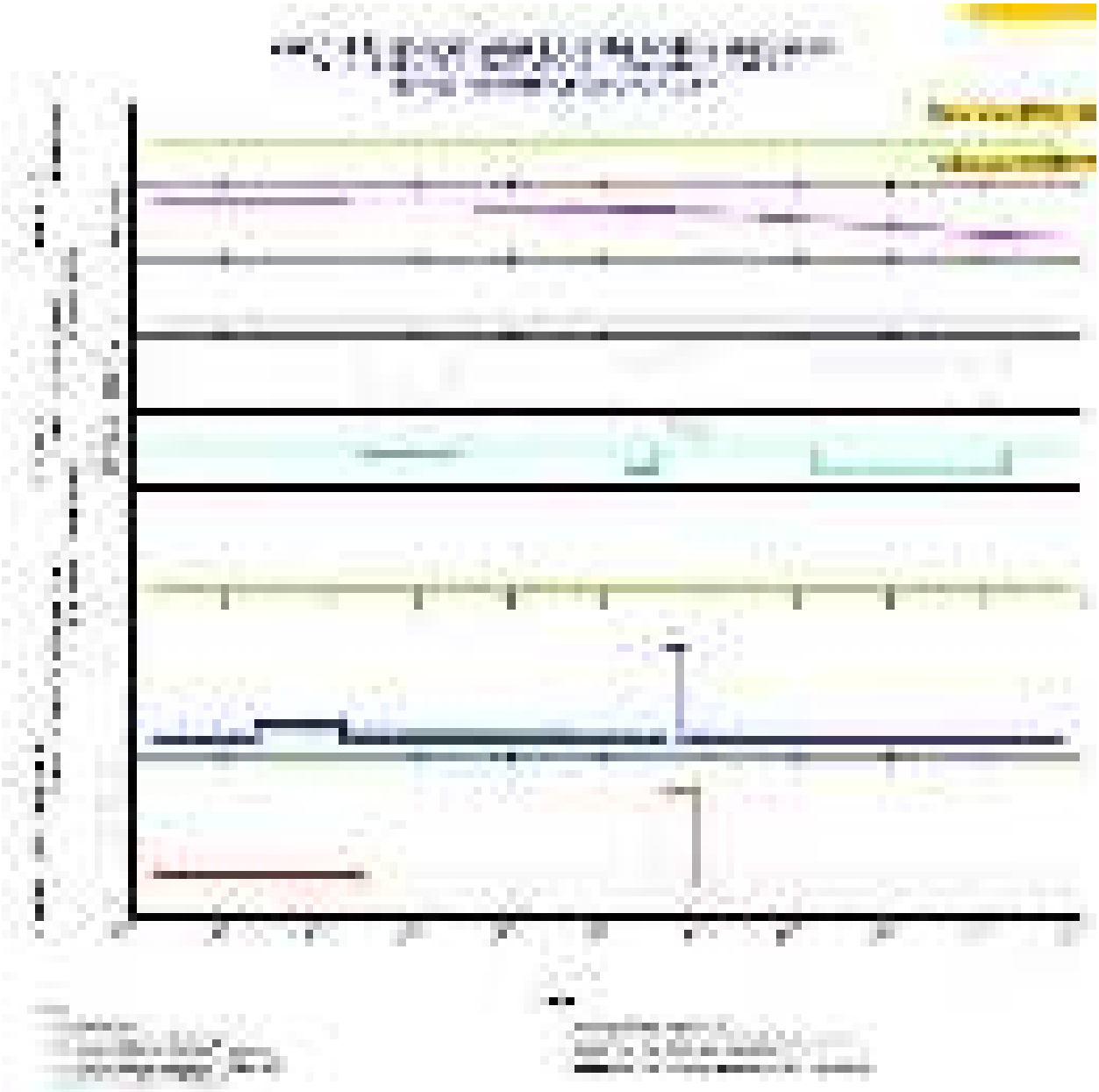

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length (mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	11+70.545	170.54	0.0323	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.50	12.00
2	2U	11+70.545	13+16.000	145.46	0.0276	2035-2037: 3,120	1	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.25	12.00
3	2U	13+16.000	13+51.875	35.88	0.0068	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.04	12.00
4	2U	13+51.875	15+06.198	154.32	0.0292	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.25	12.00
5	2U	15+06.198	15+45.000	38.80	0.0073	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.46	12.00
6	2U	15+45.000	16+97.342	152.34	0.0289	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.67	12.00
7	2U	16+97.342	17+92.968	95.63	0.0181	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.94	12.00
8	2U	17+92.968	18+25.000	32.03	0.0061	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.08	12.00
9	2U	18+25.000	18+44.883	19.88	0.0038	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.21	12.00
10	2U	18+44.883	18+65.000	20.12	0.0038	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.41	12.00
11	2U	18+65.000	18+90.000	25.00	0.0047	2035-2037: 3,120	1	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.00	12.00
12	2U	18+90.000	19+16.375	26.38	0.0050	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.60	11.75
13	2U	19+16.375	19+55.000	38.62	0.0073	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.85	11.75
14	2U	19+55.000	21+15.175	160.18	0.0303	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.00	11.75
15	2U	21+15.175	21+36.000	20.82	0.0039	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.50	11.75
16	2U	21+36.000	22+09.000	73.00	0.0138	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	4.00	11.75
17	2U	22+09.000	24+37.338	228.34	0.0432	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	4.00	11.75
18	2U	24+37.338	25+28.381	91.04	0.0172	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	4.00	11.75

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	CONNECTOR/COMM PKWY	25+28.378	2035-2037: 20,042	2035-2037: 3,120	3	Signalized	Three-Legged Signalized	3	3	0	15	false	false	false	0	0	6	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.2895
Average Future Road AADT (vpd)	3,120
Expected Crashes	
Total Crashes	0.75
Fatal and Injury Crashes	0.27
Property-Damage-Only Crashes	0.49
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	35
Percent Property-Damage-Only Crashes (%)	65
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	0.8678
Fatal and Injury Crash Rate (crashes/mi/yr)	0.3058
Property-Damage-Only Crash Rate (crashes/mi/yr)	0.5620
Expected Travel Crash Rate	
Total Travel (million veh-mi)	0.99
Travel Crash Rate (crashes/million veh-mi)	0.76
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.27
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.49

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	11+70.545	0.0323	0.058	0.5937	0.52
2	11+70.545	13+16.000	0.0275	0.168	2.0341	1.79
3	13+16.000	13+51.875	0.0068	0.012	0.5937	0.52
4	13+51.875	15+06.198	0.0292	0.052	0.5937	0.52
5	15+06.198	15+45.000	0.0073	0.013	0.5937	0.52
6	15+45.000	16+97.342	0.0289	0.051	0.5937	0.52
7	16+97.342	17+92.968	0.0181	0.032	0.5937	0.52
8	17+92.968	18+25.000	0.0061	0.011	0.5937	0.52
9	18+25.000	18+44.883	0.0038	0.007	0.5937	0.52
10	18+44.883	18+65.000	0.0038	0.007	0.5937	0.52
11	18+65.000	18+90.000	0.0047	0.128	8.9743	7.88
12	18+90.000	19+16.375	0.0050	0.009	0.5937	0.52
13	19+16.375	19+55.000	0.0073	0.013	0.5937	0.52
14	19+55.000	21+15.175	0.0303	0.054	0.5937	0.52
15	21+15.175	21+36.000	0.0039	0.007	0.5937	0.52
16	21+36.000	22+09.000	0.0138	0.025	0.5937	0.52
17	22+09.000	24+37.338	0.0432	0.077	0.5937	0.52
18	24+37.338	25+28.381	0.0172	0.031	0.5937	0.52
CONNECTOR/COMM PKWY	25+28.378					

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	13+51.875	0.0666	0.238	1.1891	1.04
Simple Curve 1	13+51.875	15+06.198	0.0292	0.052	0.5937	0.52
Tangent	15+06.198	17+92.968	0.0543	0.097	0.5937	0.52
Simple Curve 2	17+92.968	18+44.883	0.0098	0.018	0.5937	0.52
Tangent	18+44.883	18+64.402	0.0037	0.007	0.5937	0.52
Simple Curve 3	18+64.402	19+16.375	0.0098	0.137	4.6249	4.06
Tangent	19+16.375	21+15.175	0.0377	0.067	0.5937	0.52
Simple Curve 4	21+15.175	24+37.338	0.0610	0.109	0.5937	0.52
Tangent	24+37.338	25+28.381	0.0172	0.031	0.5937	0.52

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.4	0.01	1.9	0.02	2.3
Highway Segment	Collision with Bicycle	0.01	1.7	0.00	0.0	0.01	1.7
Highway Segment	Collision with Fixed Object	0.08	9.9	0.17	22.0	0.25	31.9
Highway Segment	Collision with Other Object	0.00	0.1	0.00	0.4	0.00	0.5
Highway Segment	Other Single-vehicle Collision	0.03	3.3	0.04	4.7	0.06	8.0
Highway Segment	Collision with Pedestrian	0.03	3.3	0.00	0.0	0.03	3.3
Highway Segment	Total Segment Single Vehicle Crashes	0.14	18.7	0.23	28.9	0.37	47.6
Highway Segment	Angle Collision	0.00	0.5	0.01	1.1	0.01	1.6
Highway Segment	Driveway-related Collision	0.07	9.4	0.15	19.7	0.23	29.1
Highway Segment	Head-on Collision	0.00	0.4	0.00	0.1	0.00	0.5
Highway Segment	Other Multi-vehicle Collision	0.00	0.2	0.01	0.8	0.01	0.9
Highway Segment	Rear-end Collision	0.04	4.5	0.09	11.1	0.12	15.6
Highway Segment	Sideswipe, Opposite Direction Collision	0.00	0.4	0.01	0.8	0.01	1.2
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.1	0.00	0.4	0.00	0.5
Highway Segment	Total Segment Multiple Vehicle Crashes	0.12	15.5	0.26	33.9	0.38	49.5
Highway Segment	Total Highway Segment Crashes	0.27	34.2	0.49	62.9	0.75	97.1
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Fixed Object	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Non-Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Other Object	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Other Single-vehicle Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.02	2.9	0.00	0.0	0.02	2.9
Intersection	Total Intersection Single Vehicle Crashes	0.02	2.9	0.00	0.0	0.02	2.9
Intersection	Angle Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Other Multi-vehicle Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Rear-end Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Sideswipe	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Total Intersection Multiple Vehicle Crashes	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Total Intersection Crashes	0.02	2.9	0.00	0.0	0.02	2.9
	Total Crashes	0.29	37.1	0.49	62.9	0.78	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

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Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

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Evaluation Date: Wed Jan 03 14:04:10 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 1
Project Comment: Created Fri Jul 14 11:23:45 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 NB OFF-RAMP
Highway Comment: Imported from MDL-01 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 1
Evaluation Comment: Created Wed Jan 03 14:03:47 EST 2018

Minimum Station: 10+00.000
Maximum Station: 37+03.292
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 37+03.292
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: EX_RAMP_MV_FI=1.0; EX_RAMP_MV_PDO=1.0; EX_RAMP_SV_FI=1.0; EX_RAMP_SV_PDO=1.0;

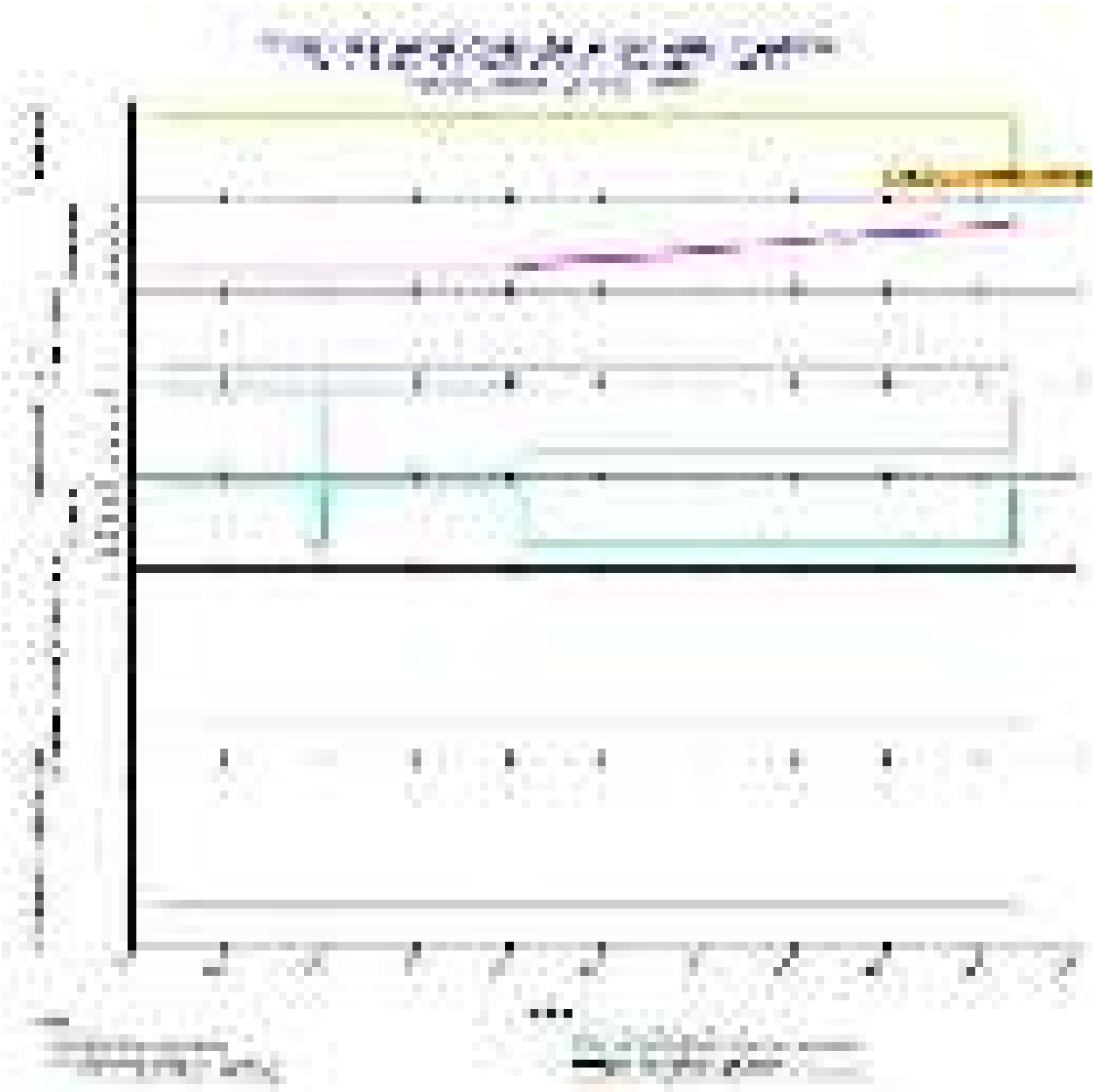

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EX	Urban	10+00.000	37+03.292	2,703.29	0.5120	2035-2037: 8,362

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.5120
Average Future Road AADT (vpd)	8,362
Expected Crashes	
Total Crashes	3.19
Fatal and Injury Crashes	1.50
Property-Damage-Only Crashes	1.70
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	47
Percent Property-Damage-Only Crashes (%)	53
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	2.0800
Fatal and Injury Crash Rate (crashes/mi/yr)	0.9754
Property-Damage-Only Crash Rate (crashes/mi/yr)	1.1045
Expected Travel Crash Rate	
Total Travel (million veh-mi)	4.69
Travel Crash Rate (crashes/million veh-mi)	0.68
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.32
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.36

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	37+03.292	0.5120	3.195	2.0800	0.68

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	14+73.764	0.0897	0.560	2.0800	0.68
Simple Curve 1	14+73.764	15+14.968	0.0078	0.049	2.0800	0.68
Tangent	15+14.968	21+42.460	0.1188	0.742	2.0800	0.68
Simple Curve 2	21+42.460	36+98.027	0.2946	1.838	2.0800	0.68
Tangent	36+98.027	37+03.292	0.0010	0.006	2.0800	0.68

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0468	0.1419	0.5899	0.7197	1.6965

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.2	0.03	1.1	0.04	1.2
Highway Segment	Collision with Fixed Object	1.04	32.5	1.09	34.3	2.13	66.8
Highway Segment	Collision with Other Object	0.07	2.3	0.21	6.7	0.29	9.0
Highway Segment	Other Single-vehicle Collision	0.30	9.4	0.16	5.1	0.46	14.5
Highway Segment	Collision with Parked Vehicle	0.02	0.7	0.02	0.8	0.05	1.4
Highway Segment	Total Single Vehicle Crashes	1.44	45.1	1.53	47.9	2.97	92.9
Highway Segment	Right-Angle Collision	0.00	0.1	0.00	0.1	0.01	0.2
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Multi-vehicle Collision	0.00	0.1	0.00	0.1	0.01	0.2
Highway Segment	Rear-end Collision	0.04	1.4	0.12	3.6	0.16	5.0
Highway Segment	Sideswipe, Same Direction Collision	0.01	0.3	0.04	1.4	0.06	1.7
Highway Segment	Total Multiple Vehicle Crashes	0.06	1.8	0.17	5.2	0.23	7.1
Highway Segment	Total Highway Segment Crashes	1.50	46.9	1.70	53.1	3.19	100.0
	Total Crashes	1.50	46.9	1.70	53.1	3.19	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 8, 2018

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Report Overview

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Mon Jan 08 14:29:22 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 1
Project Comment: Created Fri Jul 14 11:23:45 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 NB ON-RAMP
Highway Comment: Imported from MDL-01 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 1
Evaluation Comment: Created Mon Jan 08 14:29:05 EST 2018

Minimum Station: 10+00.000
Maximum Station: 36+23.709
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 36+23.709
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: ENT_RAMP_MV_FI=1.0; ENT_RAMP_MV_PDO=1.0; ENT_RAMP_SV_FI=1.0; ENT_RAMP_SV_PDO=1.0;

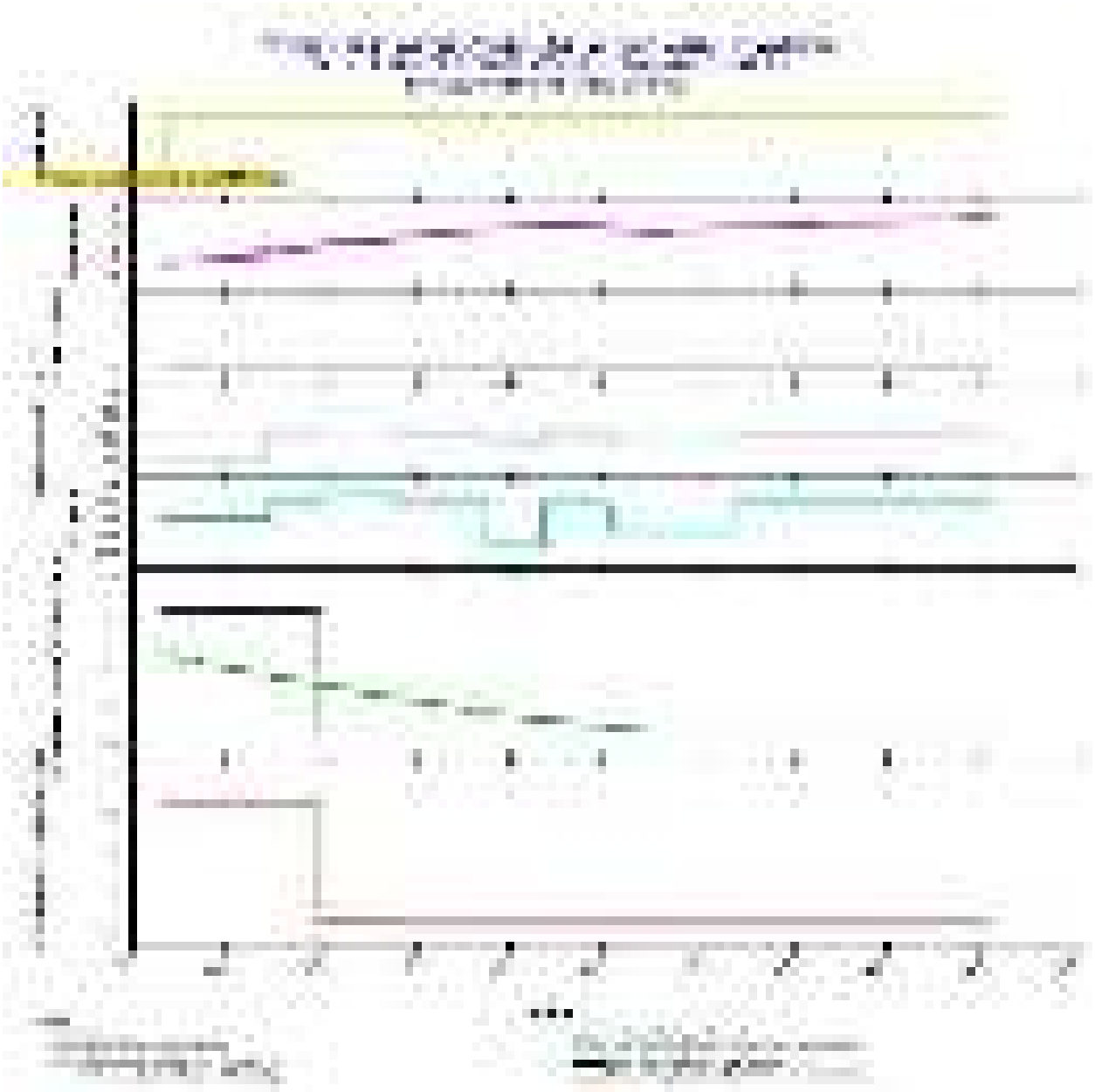

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EN	Urban	10+00.000	15+00.000	500.00	0.0947	2035-2037: 2,830
2	1EN	Urban	15+00.000	36+23.709	2,123.71	0.4022	2035-2037: 5,530

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.4969
Average Future Road AADT (vpd)	5,015
Expected Crashes	
Total Crashes	3.85
Fatal and Injury Crashes	1.61
Property-Damage-Only Crashes	2.24
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	42
Percent Property-Damage-Only Crashes (%)	58
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	2.5828
Fatal and Injury Crash Rate (crashes/mi/yr)	1.0800
Property-Damage-Only Crash Rate (crashes/mi/yr)	1.5028
Expected Travel Crash Rate	
Total Travel (million veh-mi)	2.73
Travel Crash Rate (crashes/million veh-mi)	1.41
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.59
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.82

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	15+00.000	0.0947	0.802	2.8244	2.73
2	15+00.000	36+23.709	0.4022	3.048	2.5259	1.25

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Simple Curve 1	10+00.000	13+34.007	0.0633	0.536	2.8244	2.73
Tangent	13+34.007	14+97.912	0.0310	0.263	2.8244	2.73
Simple Curve 2	14+97.912	17+15.252	0.0412	0.312	2.5288	1.27
Tangent	17+15.252	20+30.152	0.0596	0.452	2.5259	1.25
Simple Curve 3	20+30.152	22+08.336	0.0337	0.256	2.5259	1.25
Tangent	22+08.336	24+16.411	0.0394	0.299	2.5259	1.25
Simple Curve 4	24+16.411	28+10.785	0.0747	0.566	2.5259	1.25
Tangent	28+10.785	36+23.709	0.1540	1.167	2.5259	1.25

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0070	0.0214	0.1360	0.1660	0.4719
2	0.0273	0.0827	0.5268	0.6428	1.7683
Total	0.0343	0.1041	0.6628	0.8088	2.2402

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.1	0.04	1.1	0.05	1.3
Highway Segment	Collision with Fixed Object	1.02	26.4	1.39	36.1	2.41	62.6
Highway Segment	Collision with Other Object	0.07	1.9	0.27	7.0	0.34	8.9
Highway Segment	Other Single-vehicle Collision	0.29	7.6	0.21	5.4	0.50	13.0
Highway Segment	Collision with Parked Vehicle	0.02	0.5	0.03	0.8	0.05	1.4
Highway Segment	Total Single Vehicle Crashes	1.41	36.6	1.94	50.5	3.35	87.1
Highway Segment	Right-Angle Collision	0.01	0.2	0.01	0.1	0.01	0.3
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.1
Highway Segment	Other Multi-vehicle Collision	0.01	0.2	0.01	0.2	0.01	0.3
Highway Segment	Rear-end Collision	0.15	3.9	0.20	5.3	0.36	9.2
Highway Segment	Sideswipe, Same Direction Collision	0.04	0.9	0.08	2.1	0.12	3.0
Highway Segment	Total Multiple Vehicle Crashes	0.20	5.2	0.30	7.7	0.50	12.9
Highway Segment	Total Highway Segment Crashes	1.61	41.8	2.24	58.2	3.85	100.0
	Total Crashes	1.61	41.8	2.24	58.2	3.85	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

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Evaluation Date: Wed Jan 03 14:05:18 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 1
Project Comment: Created Fri Jul 14 11:23:45 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 SB OFF-RAMP
Highway Comment: Imported from MDL-01 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 1
Evaluation Comment: Created Wed Jan 03 14:05:01 EST 2018

Minimum Station: 10+00.000
Maximum Station: 29+22.594
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 29+22.594
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: EX_RAMP_MV_FI=1.0; EX_RAMP_MV_PDO=1.0; EX_RAMP_SV_FI=1.0; EX_RAMP_SV_PDO=1.0;

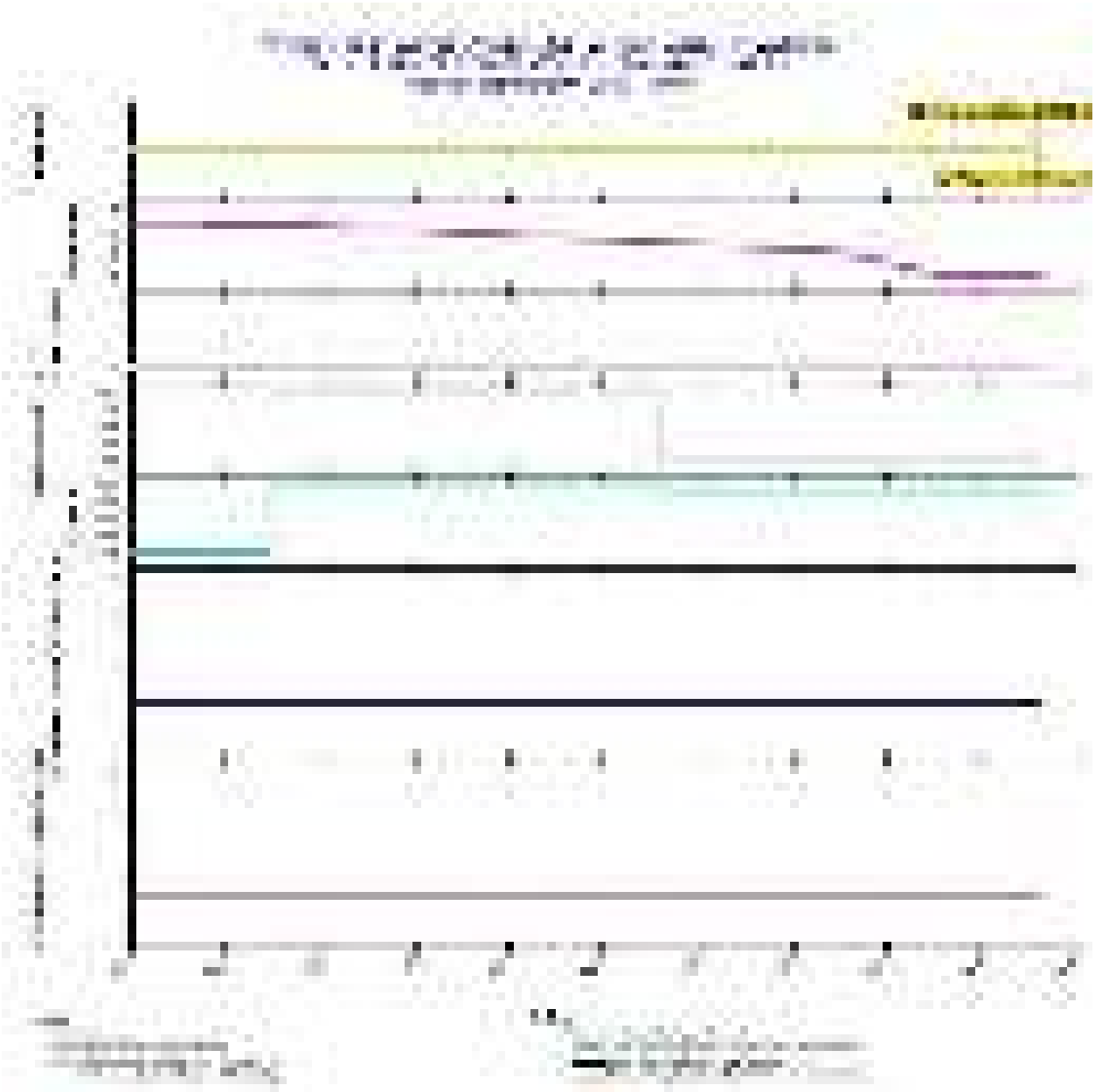

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EX	Urban	10+00.000	29+22.594	1,922.59	0.3641	2035-2037: 2,150

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.3641
Average Future Road AADT (vpd)	2,150
Expected Crashes	
Total Crashes	4.24
Fatal and Injury Crashes	1.81
Property-Damage-Only Crashes	2.43
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	43
Percent Property-Damage-Only Crashes (%)	57
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	3.8798
Fatal and Injury Crash Rate (crashes/mi/yr)	1.6547
Property-Damage-Only Crash Rate (crashes/mi/yr)	2.2251
Expected Travel Crash Rate	
Total Travel (million veh-mi)	0.86
Travel Crash Rate (crashes/million veh-mi)	4.94
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	2.11
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	2.83

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	29+22.594	0.3641	4.238	3.8798	4.94

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Simple Curve 1	10+00.000	12+95.600	0.0560	0.652	3.8798	4.94
Tangent	12+95.600	21+17.066	0.1556	1.811	3.8798	4.94
Simple Curve 2	21+17.066	29+22.594	0.1526	1.776	3.8798	4.94

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0564	0.1711	0.7116	0.8683	2.4307

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.2	0.05	1.2	0.06	1.4
Highway Segment	Collision with Fixed Object	1.28	30.3	1.71	40.4	3.00	70.7
Highway Segment	Collision with Other Object	0.09	2.1	0.33	7.8	0.42	10.0
Highway Segment	Other Single-vehicle Collision	0.37	8.7	0.26	6.0	0.63	14.8
Highway Segment	Collision with Parked Vehicle	0.03	0.6	0.04	0.9	0.07	1.5
Highway Segment	Total Single Vehicle Crashes	1.78	42.0	2.39	56.4	4.17	98.4
Highway Segment	Right-Angle Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Multi-vehicle Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Rear-end Collision	0.02	0.5	0.03	0.7	0.05	1.2
Highway Segment	Sideswipe, Same Direction Collision	0.01	0.1	0.01	0.3	0.02	0.4
Highway Segment	Total Multiple Vehicle Crashes	0.03	0.7	0.04	0.9	0.07	1.6
Highway Segment	Total Highway Segment Crashes	1.81	42.6	2.43	57.4	4.24	100.0
	Total Crashes	1.81	42.6	2.43	57.4	4.24	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 14:05:43 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 1
Project Comment: Created Fri Jul 14 11:23:45 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 SB ON-RAMP
Highway Comment: Imported from MDL-01 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 1
Evaluation Comment: Created Wed Jan 03 14:05:30 EST 2018

Minimum Station: 10+00.000
Maximum Station: 30+91.462
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 30+91.462
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: ENT_RAMP_MV_FI=1.0; ENT_RAMP_MV_PDO=1.0; ENT_RAMP_SV_FI=1.0; ENT_RAMP_SV_PDO=1.0;

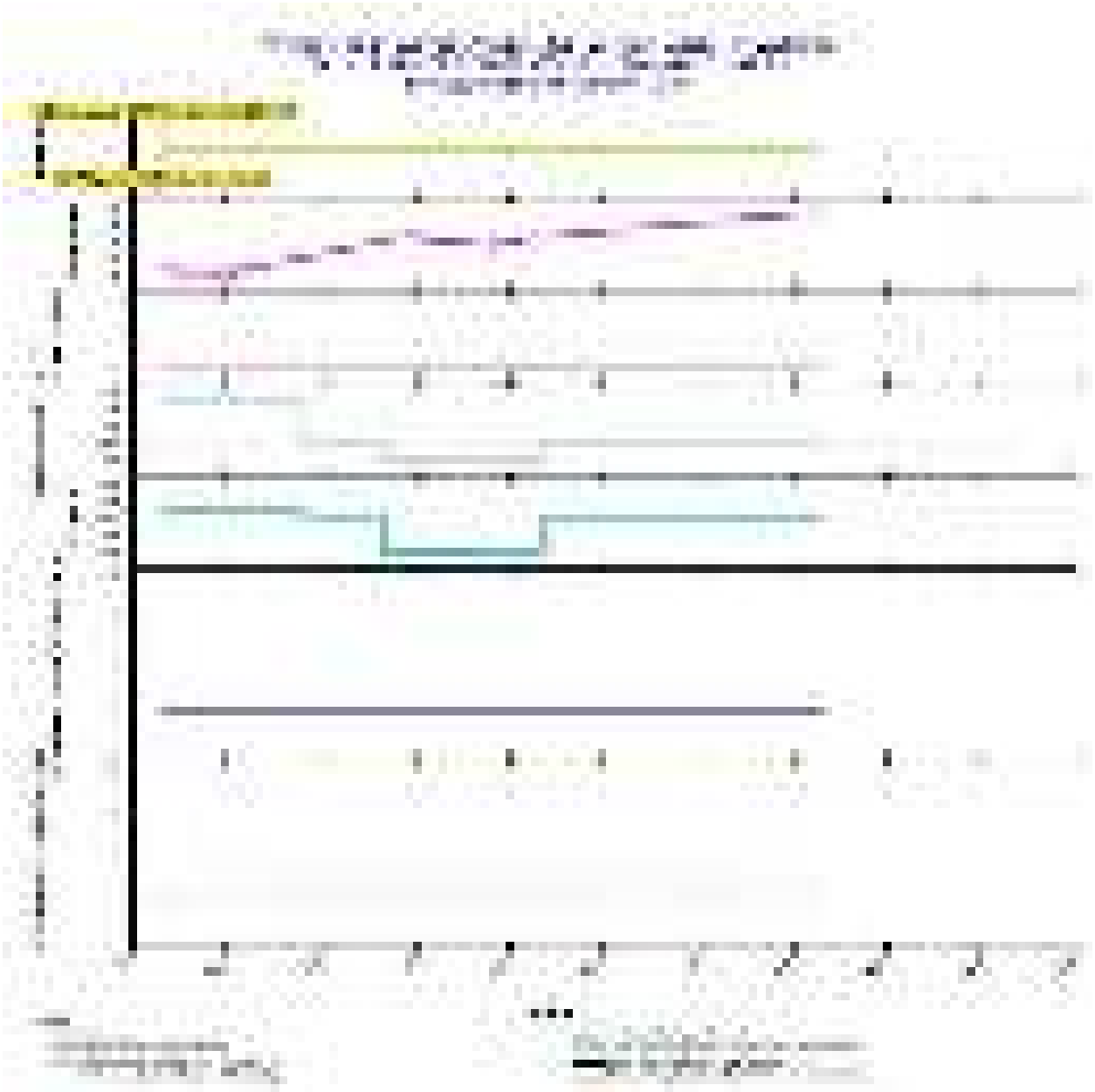

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EN	Urban	10+00.000	30+91.462	2,091.46	0.3961	2035-2037: 10,550

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.3961
Average Future Road AADT (vpd)	10,550
Expected Crashes	
Total Crashes	6.17
Fatal and Injury Crashes	2.55
Property-Damage-Only Crashes	3.62
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	41
Percent Property-Damage-Only Crashes (%)	59
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	5.1890
Fatal and Injury Crash Rate (crashes/mi/yr)	2.1472
Property-Damage-Only Crash Rate (crashes/mi/yr)	3.0418
Expected Travel Crash Rate	
Total Travel (million veh-mi)	4.58
Travel Crash Rate (crashes/million veh-mi)	1.35
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.56
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.79

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	30+91.462	0.3961	6.166	5.1890	1.35

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Simple Curve 1	10+00.000	14+44.565	0.0842	1.311	5.1890	1.35
Tangent	14+44.565	17+09.126	0.0501	0.780	5.1890	1.35
Simple Curve 2	17+09.126	22+03.617	0.0937	1.458	5.1890	1.35
Tangent	22+03.617	30+91.462	0.1682	2.618	5.1890	1.35

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0544	0.1650	1.0504	1.2817	3.6146

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.1	0.07	1.1	0.07	1.2
Highway Segment	Collision with Fixed Object	1.57	25.5	2.13	34.6	3.71	60.1
Highway Segment	Collision with Other Object	0.11	1.8	0.41	6.7	0.53	8.5
Highway Segment	Other Single-vehicle Collision	0.45	7.4	0.32	5.2	0.77	12.5
Highway Segment	Collision with Parked Vehicle	0.03	0.5	0.05	0.8	0.08	1.3
Highway Segment	Total Single Vehicle Crashes	2.18	35.4	2.98	48.3	5.16	83.7
Highway Segment	Right-Angle Collision	0.01	0.2	0.01	0.2	0.02	0.4
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.1
Highway Segment	Other Multi-vehicle Collision	0.01	0.2	0.01	0.2	0.03	0.4
Highway Segment	Rear-end Collision	0.28	4.5	0.44	7.1	0.72	11.6
Highway Segment	Sideswipe, Same Direction Collision	0.07	1.1	0.17	2.7	0.24	3.8
Highway Segment	Total Multiple Vehicle Crashes	0.37	6.0	0.64	10.3	1.01	16.3
Highway Segment	Total Highway Segment Crashes	2.55	41.4	3.62	58.6	6.17	100.0
	Total Crashes	2.55	41.4	3.62	58.6	6.17	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

Report Generated: Jan 3, 2018 2:13 PM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 14:08:52 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 1
Project Comment: Created Fri Jul 14 11:23:45 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment ROUTE 1
Highway Comment: Imported from MDL-01 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 1
Evaluation Comment: Created Wed Jan 03 14:08:33 EST 2018

Minimum Station: 10+00.000
Maximum Station: 35+25.118
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 35+25.118
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Multilane
Model Category: Urban/Suburban Arterial
Calibration Factor: 3SG=1.0; 4SG=1.0; 4U=1.0;

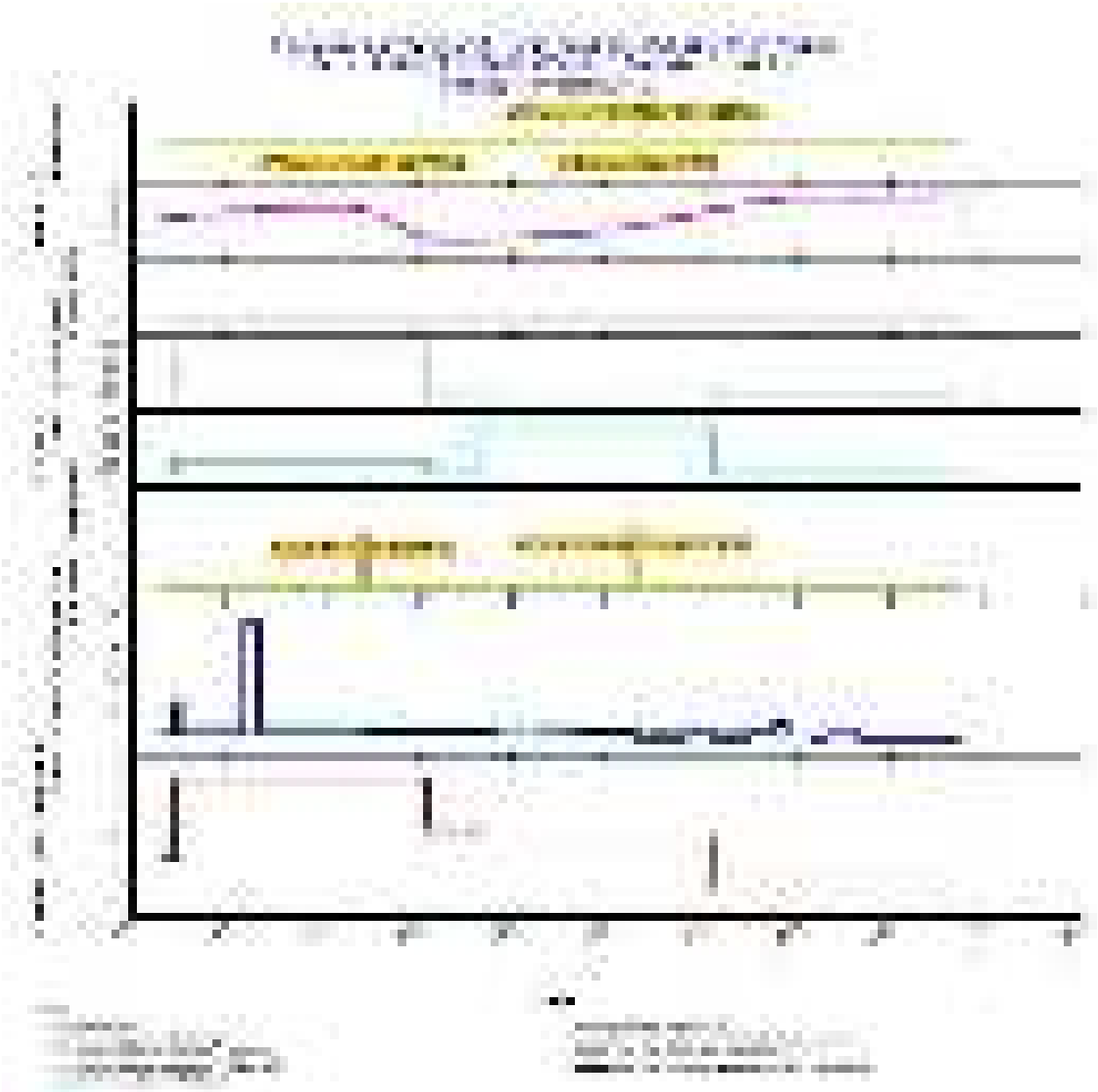

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	4U	10+00.000	10+12.000	12.00	0.0023	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.62	12.00
2	4U	10+12.000	10+34.381	22.38	0.0042	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.26	12.00
3	4U	10+34.381	10+59.000	24.62	0.0047	2035-2037: 31,200	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.75	12.00
4	4U	10+59.000	11+06.000	47.00	0.0089	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.99	12.00
5	4U	11+06.000	11+25.000	19.00	0.0036	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.29	12.00
6	4U	11+25.000	11+88.584	63.58	0.0120	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.10	12.00
7	4U	11+88.584	12+55.000	66.42	0.0126	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.15	12.00
8	4U	12+55.000	13+00.083	45.08	0.0085	2035-2037: 31,200	2	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.19	12.00
9	4U	13+00.083	13+30.000	29.92	0.0057	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.21	12.00
10	4U	13+30.000	13+75.000	45.00	0.0085	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.18	12.00
11	4U	13+75.000	15+50.000	175.00	0.0331	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.07	12.00
12	4U	15+50.000	15+60.000	10.00	0.0019	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.49	12.00
13	4U	15+60.000	16+25.000	65.00	0.0123	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.54	12.00
14	4U	16+25.000	16+34.254	9.25	0.0018	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.89	12.00
15	4U	16+34.254	16+84.000	49.75	0.0094	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.23	12.00
16	4U	16+84.000	18+31.076	147.08	0.0279	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.69	12.00
17	4U	18+31.076	19+18.300	87.22	0.0165	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.93	12.00
18	4U	19+18.300	19+30.000	11.70	0.0022	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.99	12.00
19	4U	19+30.000	19+95.151	65.15	0.0123	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.13	12.00
20	4U	19+95.151	20+05.449	10.30	0.0019	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.18	12.00
21	4U	20+05.449	20+49.000	43.55	0.0083	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.80	12.00
22	4U	20+49.000	20+57.000	8.00	0.0015	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.49	12.00
23	4U	20+57.000	23+10.000	253.00	0.0479	2035-2037: 37,440	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00
24	4U	23+10.000	23+50.000	40.00	0.0076	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00
25	4U	23+50.000	24+75.000	125.00	0.0237	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.00	12.00

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
26	4U	24+75.000	24+88.744	13.74	0.0026	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
27	4U	24+88.744	24+95.402	6.66	0.0013	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
28	4U	24+95.402	25+50.000	54.60	0.0103	2035-2037: 18,820	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
29	4U	25+50.000	25+65.000	15.00	0.0028	2035-2037: 18,820	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.47	12.00
30	4U	25+65.000	26+53.000	88.00	0.0167	2035-2037: 18,820	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.72	12.00
31	4U	26+53.000	27+36.197	83.20	0.0158	2035-2037: 18,820	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.29	12.00
32	4U	27+36.197	27+84.736	48.54	0.0092	2035-2037: 18,820	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.95	12.00
33	4U	27+84.736	28+50.000	65.26	0.0124	2035-2037: 18,820	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.66	12.00
34	4U	28+50.000	29+32.088	82.09	0.0155	2035-2037: 18,820	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.29	12.00
35	4U	29+32.088	29+75.000	42.91	0.0081	2035-2037: 18,820	0	1	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.97	12.00
36	4U	29+75.000	30+42.941	67.94	0.0129	2035-2037: 18,820	0	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.03	12.00
37	4U	30+42.941	30+92.487	49.55	0.0094	2035-2037: 18,820	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.33	12.00
38	4U	30+92.487	31+02.000	9.51	0.0018	2035-2037: 18,820	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.48	12.00
39	4U	31+02.000	32+00.958	98.96	0.0187	2035-2037: 18,820	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.76	12.00
40	4U	32+00.958	35+25.118	324.16	0.0614	2035-2037: 18,820	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.75	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/SHORT BEACH RD	16+34.012	2035-2037: 37,440	2035-2037: 16,099	3	Signalized	Three-Legged Signalized	2	1	0	15	false	false	false	0	0	6	false
2	ROUTE 1/CONNECOTR/ROUTE 146	24+95.402	2035-2037: 37,440	2035-2037: 20,042	4	Signalized	Four-Legged Signalized	4	3	0	20	false	false	false	0	0	9	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.4782
Average Future Road AADT (vpd)	28,280
Expected Crashes	
Total Crashes	62.89
Fatal and Injury Crashes	20.35
Property-Damage-Only Crashes	42.54
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	32
Percent Property-Damage-Only Crashes (%)	68
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	43.8339
Fatal and Injury Crash Rate (crashes/mi/yr)	14.1829
Property-Damage-Only Crash Rate (crashes/mi/yr)	29.6510
Expected Travel Crash Rate	
Total Travel (million veh-mi)	14.81
Travel Crash Rate (crashes/million veh-mi)	4.25
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	1.37
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	2.87

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	10+12.000	0.0023	0.068	10.0298	0.88		
2	10+12.000	10+34.381	0.0042	0.128	10.0298	0.88		
3	10+34.381	10+59.000	0.0047	0.555	39.6995	3.49		
4	10+59.000	11+06.000	0.0089	0.268	10.0298	0.88		
5	11+06.000	11+25.000	0.0036	0.108	10.0298	0.88		
6	11+25.000	11+88.584	0.0120	0.362	10.0298	0.88		
7	11+88.584	12+55.000	0.0126	0.379	10.0298	0.88		
8	12+55.000	13+00.083	0.0085	2.861	111.7118	9.81		
9	13+00.083	13+30.000	0.0057	0.171	10.0298	0.88		
10	13+30.000	13+75.000	0.0085	0.256	10.0298	0.88		
11	13+75.000	15+50.000	0.0331	0.997	10.0298	0.88		
12	15+50.000	15+60.000	0.0019	0.057	10.0298	0.88		
13	15+60.000	16+25.000	0.0123	0.370	10.0298	0.88		
14	16+25.000	16+34.254	0.0018	0.053	10.0298	0.88		
ROUTE 1/SHORT BEACH RD	16+34.012			21.236			0.46	7.0787
15	16+34.254	16+84.000	0.0094	0.356	12.6097	0.92		
16	16+84.000	18+31.076	0.0279	1.054	12.6097	0.92		
17	18+31.076	19+18.300	0.0165	0.625	12.6097	0.92		
18	19+18.300	19+30.000	0.0022	0.084	12.6097	0.92		
19	19+30.000	19+95.151	0.0123	0.467	12.6097	0.92		
20	19+95.151	20+05.449	0.0020	0.074	12.6097	0.92		
21	20+05.449	20+49.000	0.0082	0.312	12.6097	0.92		
22	20+49.000	20+57.000	0.0015	0.057	12.6097	0.92		
23	20+57.000	23+10.000	0.0479	2.326	16.1846	1.18		
24	23+10.000	23+50.000	0.0076	0.287	12.6097	0.92		
25	23+50.000	24+75.000	0.0237	0.896	12.6097	0.92		
26	24+75.000	24+88.744	0.0026	0.099	12.6097	0.92		
27	24+88.744	24+95.402	0.0013	0.048	12.6097	0.92		
ROUTE 1/CONNECOTR/ROUTE 146	24+95.402			24.082			0.48	8.0273
28	24+95.402	25+50.000	0.0103	0.166	5.3502	0.78		
29	25+50.000	25+65.000	0.0028	0.046	5.3502	0.78		
30	25+65.000	26+53.000	0.0167	0.268	5.3502	0.78		
31	26+53.000	27+36.197	0.0158	0.482	10.2051	1.49		
32	27+36.197	27+84.736	0.0092	0.148	5.3502	0.78		
33	27+84.736	28+50.000	0.0124	0.198	5.3502	0.78		
34	28+50.000	29+32.088	0.0155	0.479	10.2706	1.50		
35	29+32.088	29+75.000	0.0081	0.463	18.9822	2.76		
36	29+75.000	30+42.941	0.0129	0.309	8.0152	1.17		
37	30+42.941	30+92.487	0.0094	0.151	5.3502	0.78		
38	30+92.487	31+02.000	0.0018	0.029	5.3502	0.78		
39	31+02.000	32+00.958	0.0187	0.530	9.4318	1.37		
40	32+00.958	35+25.118	0.0614	0.985	5.3502	0.78		

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	10+34.381	0.0065	0.196	10.0298	0.88
Simple Curve 1	10+34.381	18+31.076	0.1509	7.848	17.3380	1.48
Tangent	18+31.076	20+05.449	0.0330	1.249	12.6097	0.92
Simple Curve 2	20+05.449	27+36.197	0.1384	4.986	12.0080	1.05
Tangent	27+36.197	35+25.118	0.1494	3.292	7.3451	1.07

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Collision with Bicycle	0.04	0.1	0.00	0.0	0.04	0.1
Highway Segment	Collision with Fixed Object	0.27	0.4	1.22	1.9	1.49	2.4
Highway Segment	Collision with Other Object	0.01	0.0	0.04	0.1	0.05	0.1
Highway Segment	Other Single-vehicle Collision	0.16	0.3	0.24	0.4	0.40	0.6
Highway Segment	Collision with Pedestrian	0.16	0.2	0.00	0.0	0.16	0.2
Highway Segment	Total Segment Single Vehicle Crashes	0.63	1.0	1.51	2.4	2.14	3.4
Highway Segment	Angle Collision	0.57	0.9	1.00	1.6	1.57	2.5
Highway Segment	Driveway-related Collision	1.57	2.5	3.03	4.8	4.61	7.3
Highway Segment	Head-on Collision	0.24	0.4	0.03	0.0	0.27	0.4
Highway Segment	Other Multi-vehicle Collision	0.18	0.3	0.61	1.0	0.79	1.3
Highway Segment	Rear-end Collision	1.61	2.6	3.88	6.2	5.49	8.7
Highway Segment	Sideswipe, Opposite Direction Collision	0.26	0.4	0.24	0.4	0.50	0.8
Highway Segment	Sideswipe, Same Direction Collision	0.29	0.5	1.91	3.0	2.21	3.5
Highway Segment	Total Segment Multiple Vehicle Crashes	4.72	7.5	10.71	17.0	15.43	24.5
Highway Segment	Total Highway Segment Crashes	5.36	8.5	12.22	19.4	17.57	27.9
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.01	0.0
Intersection	Collision with Bicycle	0.58	0.9	0.00	0.0	0.58	0.9
Intersection	Collision with Fixed Object	0.45	0.7	1.55	2.5	2.00	3.2
Intersection	Non-Collision	0.12	0.2	0.04	0.1	0.16	0.3
Intersection	Collision with Other Object	0.05	0.1	0.12	0.2	0.17	0.3
Intersection	Other Single-vehicle Collision	0.03	0.0	0.04	0.1	0.06	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.11	0.2	0.00	0.0	0.11	0.2
Intersection	Total Intersection Single Vehicle Crashes	1.34	2.1	1.76	2.8	3.10	4.9
Intersection	Angle Collision	4.34	6.9	6.42	10.2	10.76	17.1
Intersection	Head-on Collision	0.60	1.0	0.72	1.1	1.32	2.1
Intersection	Other Multi-vehicle Collision	0.76	1.2	5.85	9.3	6.61	10.5
Intersection	Rear-end Collision	6.72	10.7	14.68	23.3	21.40	34.0
Intersection	Sideswipe	1.22	1.9	0.91	1.5	2.13	3.4
Intersection	Total Intersection Multiple Vehicle Crashes	13.65	21.7	28.57	45.4	42.22	67.1
Intersection	Total Intersection Crashes	14.99	23.8	30.32	48.2	45.32	72.1
	Total Crashes	20.35	32.4	42.54	67.6	62.89	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

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Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 14:09:31 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 1
Project Comment: Created Fri Jul 14 11:23:45 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment ROUTE 146
Highway Comment: Imported from MDL-01 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 1
Evaluation Comment: Created Wed Jan 03 14:09:12 EST 2018

Minimum Station: 10+00.000
Maximum Station: 23+29.060
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 23+29.060
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 4SG=1.0; 4U=1.0;

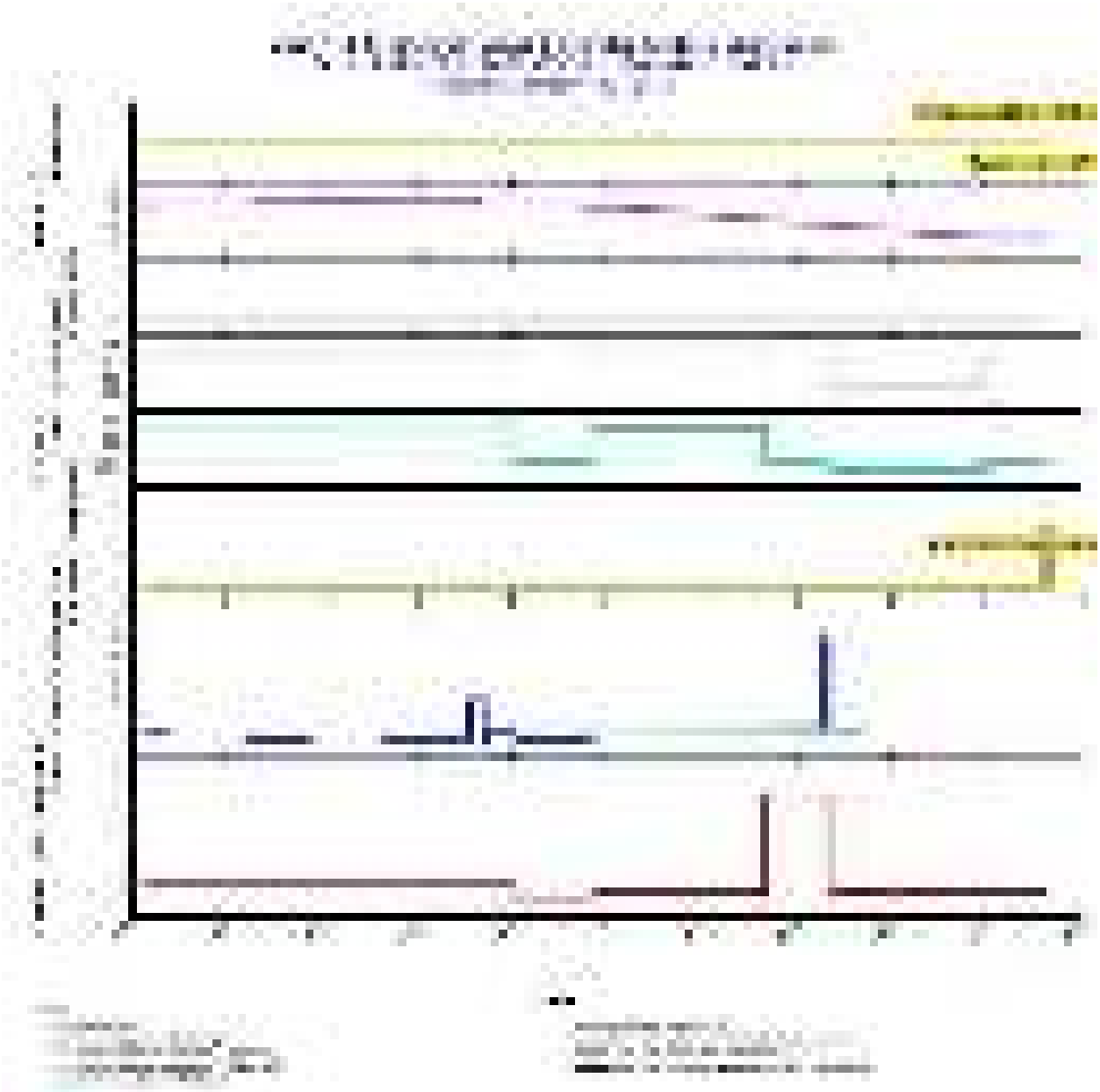

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	10+34.000	34.00	0.0064	2035-2037: 15,101	0	0	0	0	0	1	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.25	11.00
2	2U	10+34.000	11+00.000	66.00	0.0125	2035-2037: 15,101	0	0	0	0	0	1	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	11.00
3	2U	11+00.000	11+50.000	50.00	0.0095	2035-2037: 15,101	0	0	0	0	0	1	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.87	11.00
4	2U	11+50.000	12+00.000	50.00	0.0095	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.87	11.00
5	2U	12+00.000	12+41.000	41.00	0.0078	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.87	11.00
6	2U	12+41.000	12+96.000	55.00	0.0104	2035-2037: 15,101	0	0	0	0	0	1	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.99	11.00
7	2U	12+96.000	13+50.000	54.00	0.0102	2035-2037: 15,101	0	0	0	0	0	1	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.00	11.00
8	2U	13+50.000	14+05.000	55.00	0.0104	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	6.00	11.00
9	2U	14+05.000	14+60.000	55.00	0.0104	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.99	11.00
10	2U	14+60.000	14+79.000	19.00	0.0036	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.86	11.00
11	2U	14+79.000	15+00.000	21.00	0.0040	2035-2037: 15,101	0	0	0	0	1	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.06	11.00
12	2U	15+00.000	15+07.000	7.00	0.0013	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.57	11.00
13	2U	15+07.000	15+46.816	39.82	0.0075	2035-2037: 15,101	0	0	0	0	0	1	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.07	11.00
14	2U	15+46.816	15+54.000	7.18	0.0014	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	6.56	11.00
15	2U	15+54.000	16+00.000	46.00	0.0087	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.99	11.00
16	2U	16+00.000	16+61.311	61.31	0.0116	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.50	11.00
17	2U	16+61.311	19+18.701	257.39	0.0488	2035-2037: 15,101	0	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.50	11.00
18	4U	19+18.701	20+00.000	81.30	0.0154	2035-2037: 15,101	0	0	0	0	1	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.50	11.00
19	4U	20+00.000	20+09.225	9.22	0.0018	2035-2037: 15,101	0	0	0	0	1	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.50	11.00
20	4U	20+09.225	22+39.377	230.15	0.0436	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.50	11.00
21	4U	22+39.377	23+29.060	89.68	0.0170	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.50	11.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/CONNECOTR/ROUTE 146	23+29.057	2035-2037: 37,440	2035-2037: 20,042	4	Signalized	Four-Legged Signalized	4	3	0	20	false	false	false	0	0	9	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.2517
Average Future Road AADT (vpd)	15,101
Expected Crashes	
Total Crashes	28.08
Fatal and Injury Crashes	9.70
Property-Damage-Only Crashes	18.38
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	35
Percent Property-Damage-Only Crashes (%)	65
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	37.1819
Fatal and Injury Crash Rate (crashes/mi/yr)	12.8459
Property-Damage-Only Crash Rate (crashes/mi/yr)	24.3360
Expected Travel Crash Rate	
Total Travel (million veh-mi)	4.16
Travel Crash Rate (crashes/million veh-mi)	6.75
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	2.33
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	4.42

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	10+34.000	0.0064	0.117	6.0522	1.10		
2	10+34.000	11+00.000	0.0125	0.181	4.8285	0.88		
3	11+00.000	11+50.000	0.0095	0.149	5.2445	0.95		
4	11+50.000	12+00.000	0.0095	0.100	3.5282	0.64		
5	12+00.000	12+41.000	0.0078	0.082	3.5282	0.64		
6	12+41.000	12+96.000	0.0104	0.159	5.0885	0.92		
7	12+96.000	13+50.000	0.0102	0.157	5.1174	0.93		
8	13+50.000	14+05.000	0.0104	0.110	3.5282	0.64		
9	14+05.000	14+60.000	0.0104	0.110	3.5282	0.64		
10	14+60.000	14+79.000	0.0036	0.038	3.5282	0.64		
11	14+79.000	15+00.000	0.0040	0.295	24.7264	4.49		
12	15+00.000	15+07.000	0.0013	0.014	3.5282	0.64		
13	15+07.000	15+46.816	0.0075	0.129	5.6835	1.03		
14	15+46.816	15+54.000	0.0014	0.014	3.5282	0.64		
15	15+54.000	16+00.000	0.0087	0.092	3.5282	0.64		
16	16+00.000	16+61.311	0.0116	0.123	3.5282	0.64		
17	16+61.311	19+18.701	0.0487	0.586	4.0075	0.73		
18	19+18.701	20+00.000	0.0154	0.482	10.4351	1.89		
19	20+00.000	20+09.225	0.0017	0.315	60.0714	10.90		
20	20+09.225	22+39.377	0.0436	0.534	4.0820	0.74		
21	22+39.377	23+29.060	0.0170	0.208	4.0820	0.74		
ROUTE 1/CONNECOTR/ROUTE 146	23+29.057			24.082			0.48	8.0273

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Simple Curve 1	10+00.000	15+46.816	0.1036	1.642	5.2840	0.96
Tangent	15+46.816	16+61.311	0.0217	0.230	3.5282	0.64
Simple Curve 2	16+61.311	19+16.426	0.0483	0.581	4.0075	0.73
Tangent	19+16.426	20+09.225	0.0176	0.802	15.2118	2.76
Simple Curve 3	20+09.225	22+39.377	0.0436	0.534	4.0820	0.74
Tangent	22+39.377	23+29.060	0.0170	0.208	4.0820	0.74

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.03	0.1	0.03	0.1
Highway Segment	Collision with Bicycle	0.01	0.0	0.00	0.0	0.01	0.0
Highway Segment	Collision with Fixed Object	0.10	0.4	0.41	1.5	0.51	1.8
Highway Segment	Collision with Other Object	0.00	0.0	0.01	0.0	0.01	0.0
Highway Segment	Other Single-vehicle Collision	0.04	0.1	0.09	0.3	0.13	0.5
Highway Segment	Collision with Pedestrian	0.03	0.1	0.00	0.0	0.03	0.1
Highway Segment	Total Segment Single Vehicle Crashes	0.18	0.7	0.53	1.9	0.71	2.5
Highway Segment	Angle Collision	0.07	0.3	0.14	0.5	0.22	0.8
Highway Segment	Driveway-related Collision	0.40	1.4	0.80	2.8	1.19	4.2
Highway Segment	Head-on Collision	0.04	0.2	0.01	0.0	0.05	0.2
Highway Segment	Other Multi-vehicle Collision	0.02	0.1	0.09	0.3	0.12	0.4
Highway Segment	Rear-end Collision	0.41	1.4	1.00	3.6	1.41	5.0
Highway Segment	Sideswipe, Opposite Direction Collision	0.05	0.2	0.07	0.2	0.12	0.4
Highway Segment	Sideswipe, Same Direction Collision	0.03	0.1	0.16	0.6	0.19	0.7
Highway Segment	Total Segment Multiple Vehicle Crashes	1.02	3.6	2.27	8.1	3.28	11.7
Highway Segment	Total Highway Segment Crashes	1.20	4.3	2.79	9.9	4.00	14.2
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.35	1.3	0.00	0.0	0.35	1.3
Intersection	Collision with Fixed Object	0.21	0.7	0.80	2.9	1.01	3.6
Intersection	Non-Collision	0.04	0.1	0.03	0.1	0.07	0.3
Intersection	Collision with Other Object	0.02	0.1	0.06	0.2	0.08	0.3
Intersection	Other Single-vehicle Collision	0.01	0.0	0.02	0.1	0.03	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.08	0.3	0.00	0.0	0.08	0.3
Intersection	Total Intersection Single Vehicle Crashes	0.71	2.5	0.92	3.3	1.63	5.8
Intersection	Angle Collision	2.70	9.6	3.58	12.7	6.28	22.4
Intersection	Head-on Collision	0.38	1.4	0.44	1.6	0.82	2.9
Intersection	Other Multi-vehicle Collision	0.43	1.5	3.09	11.0	3.52	12.5
Intersection	Rear-end Collision	3.50	12.5	7.08	25.2	10.59	37.7
Intersection	Sideswipe	0.77	2.7	0.47	1.7	1.24	4.4
Intersection	Total Intersection Multiple Vehicle Crashes	7.78	27.7	14.66	52.2	22.45	79.9
Intersection	Total Intersection Crashes	8.50	30.3	15.58	55.5	24.08	85.8
	Total Crashes	9.70	34.5	18.38	65.5	28.08	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

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Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

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Evaluation Date: Wed Jan 03 14:10:02 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 1
Project Comment: Created Fri Jul 14 11:23:45 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment SHORT BEACH RD
Highway Comment: Imported from MDL-01 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 1
Evaluation Comment: Created Wed Jan 03 14:09:46 EST 2018

Minimum Station: 10+00.000
Maximum Station: 15+25.319
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 15+25.319
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

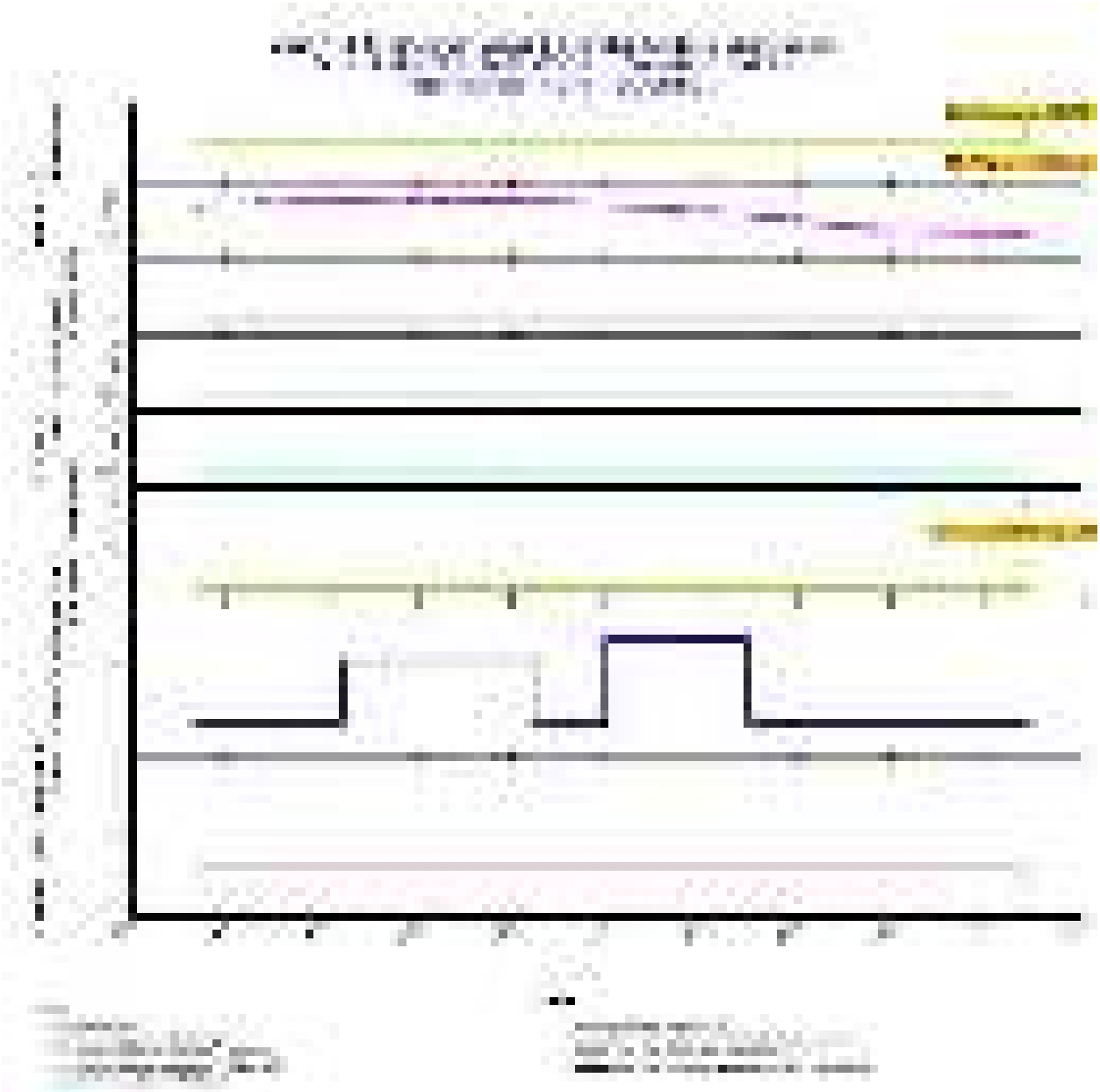

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	10+94.000	94.00	0.0178	2035-2037: 16,099	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.75	12.00
2	2U	10+94.000	12+15.000	121.00	0.0229	2035-2037: 16,099	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.00	12.00
3	2U	12+15.000	12+60.000	45.00	0.0085	2035-2037: 16,099	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.75	12.00
4	2U	12+60.000	13+50.000	90.00	0.0170	2035-2037: 16,099	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.88	12.00
5	2U	13+50.000	13+78.000	28.00	0.0053	2035-2037: 16,099	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	1.38	12.00
6	2U	13+78.000	14+63.000	85.00	0.0161	2035-2037: 16,099	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.75	12.00
7	2U	14+63.000	15+25.319	62.32	0.0118	2035-2037: 16,099	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/SHORT BEACH RD	15+25.316	2035-2037: 37,440	2035-2037: 16,099	3	Signalized	Three-Legged Signalized	2	1	0	15	false	false	false	0	0	6	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.0995
Average Future Road AADT (vpd)	16,099
Expected Crashes	
Total Crashes	22.71
Fatal and Injury Crashes	6.92
Property-Damage-Only Crashes	15.79
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	30
Percent Property-Damage-Only Crashes (%)	70
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	76.0934
Fatal and Injury Crash Rate (crashes/mi/yr)	23.1736
Property-Damage-Only Crash Rate (crashes/mi/yr)	52.9198
Expected Travel Crash Rate	
Total Travel (million veh-mi)	1.75
Travel Crash Rate (crashes/million veh-mi)	12.95
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	3.94
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	9.01

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	10+94.000	0.0178	0.206	3.8571	0.66		
2	10+94.000	12+15.000	0.0229	0.428	6.2198	1.06		
3	12+15.000	12+60.000	0.0085	0.099	3.8571	0.66		
4	12+60.000	13+50.000	0.0170	0.360	7.0337	1.20		
5	13+50.000	13+78.000	0.0053	0.061	3.8571	0.66		
6	13+78.000	14+63.000	0.0161	0.186	3.8571	0.66		
7	14+63.000	15+25.319	0.0118	0.137	3.8571	0.66		
ROUTE 1/SHORT BEACH RD	15+25.316			21.236			0.46	7.0787

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	15+25.319	0.0995	1.476	4.9455	0.84

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.01	0.1	0.02	0.1
Highway Segment	Collision with Bicycle	0.01	0.0	0.00	0.0	0.01	0.0
Highway Segment	Collision with Fixed Object	0.04	0.2	0.17	0.8	0.21	0.9
Highway Segment	Collision with Other Object	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Single-vehicle Collision	0.01	0.1	0.04	0.2	0.05	0.2
Highway Segment	Collision with Pedestrian	0.01	0.0	0.00	0.0	0.01	0.0
Highway Segment	Total Segment Single Vehicle Crashes	0.07	0.3	0.23	1.0	0.30	1.3
Highway Segment	Angle Collision	0.02	0.1	0.05	0.2	0.07	0.3
Highway Segment	Driveway-related Collision	0.10	0.5	0.22	1.0	0.32	1.4
Highway Segment	Head-on Collision	0.02	0.1	0.00	0.0	0.02	0.1
Highway Segment	Other Multi-vehicle Collision	0.01	0.0	0.03	0.1	0.04	0.2
Highway Segment	Rear-end Collision	0.18	0.8	0.47	2.1	0.65	2.9
Highway Segment	Sideswipe, Opposite Direction Collision	0.02	0.1	0.03	0.1	0.05	0.2
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.0	0.02	0.1	0.02	0.1
Highway Segment	Total Segment Multiple Vehicle Crashes	0.35	1.6	0.82	3.6	1.18	5.2
Highway Segment	Total Highway Segment Crashes	0.42	1.9	1.05	4.6	1.48	6.5
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.23	1.0	0.00	0.0	0.23	1.0
Intersection	Collision with Fixed Object	0.24	1.1	0.75	3.3	0.99	4.3
Intersection	Non-Collision	0.08	0.3	0.01	0.1	0.09	0.4
Intersection	Collision with Other Object	0.03	0.1	0.06	0.3	0.09	0.4
Intersection	Other Single-vehicle Collision	0.02	0.1	0.01	0.1	0.03	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.03	0.1	0.00	0.0	0.03	0.1
Intersection	Total Intersection Single Vehicle Crashes	0.63	2.8	0.83	3.7	1.46	6.4
Intersection	Angle Collision	1.64	7.2	2.84	12.5	4.48	19.7
Intersection	Head-on Collision	0.22	1.0	0.28	1.2	0.50	2.2
Intersection	Other Multi-vehicle Collision	0.33	1.5	2.75	12.1	3.09	13.6
Intersection	Rear-end Collision	3.22	14.2	7.59	33.4	10.81	47.6
Intersection	Sideswipe	0.45	2.0	0.45	2.0	0.89	3.9
Intersection	Total Intersection Multiple Vehicle Crashes	5.87	25.8	13.91	61.2	19.77	87.1
Intersection	Total Intersection Crashes	6.50	28.6	14.74	64.9	21.24	93.5
	Total Crashes	6.92	30.5	15.79	69.5	22.71	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

IHSDM Predicted Crashes For Alternate 2

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

April 10, 2018

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Report Overview

Report Generated: Apr 10, 2018 3:16 PM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Tue Apr 10 15:13:52 EDT 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 2
Project Comment: Created Tue Jul 18 15:48:57 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment BRANFORD CONNECTOR
Highway Comment: Imported from MDL-02 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 2
Evaluation Comment: Created Tue Apr 10 15:13:32 EDT 2018

Minimum Station: 10+00.000
Maximum Station: 59+10.779
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 59+10.779
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

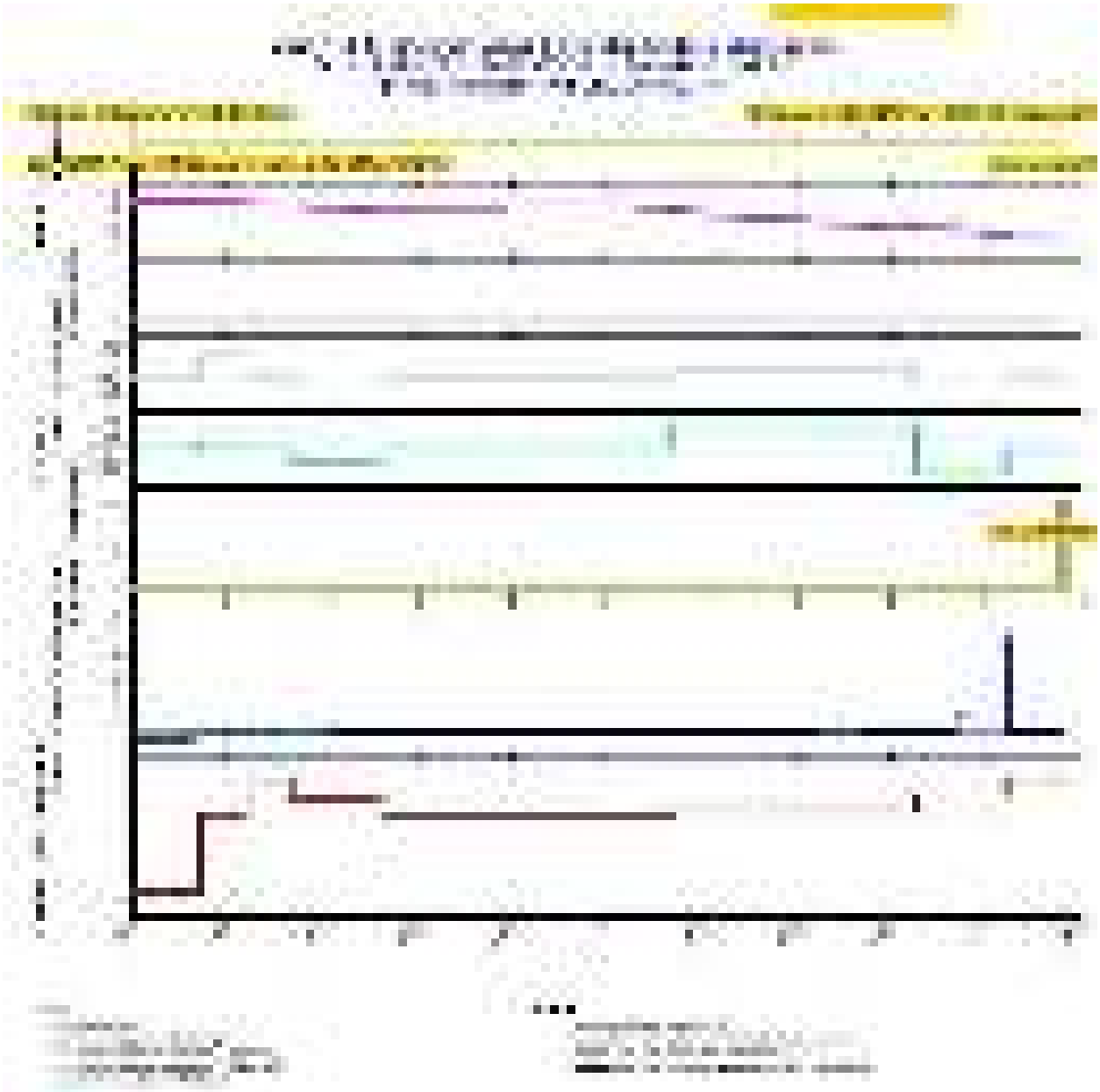

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	13+09.107	309.11	0.0585	2035-2037: 10,150	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
2	2U	13+09.107	13+60.737	51.63	0.0098	2035-2037: 15,700	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
3	2U	13+60.737	14+94.235	133.50	0.0253	2035-2037: 15,700	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
4	2U	14+94.235	16+12.607	118.37	0.0224	2035-2037: 21,362	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
5	2U	16+12.607	18+41.623	229.02	0.0434	2035-2037: 21,362	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
6	2U	18+41.623	20+59.107	217.48	0.0412	2035-2037: 21,362	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
7	2U	20+59.107	23+19.482	260.38	0.0493	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
8	2U	23+19.482	38+54.118	1,534.64	0.2907	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
9	2U	38+54.118	43+86.893	532.77	0.1009	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
10	2U	43+86.893	45+22.067	135.17	0.0256	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
11	2U	45+22.067	45+47.814	25.75	0.0049	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.80	12.00
12	2U	45+47.814	45+55.000	7.19	0.0014	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.55	12.00
13	2U	45+55.000	46+20.000	65.00	0.0123	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	6.99	12.00
14	2U	46+20.000	48+65.000	245.00	0.0464	2035-2037: 18,412	0	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.17	12.00
15	2U	48+65.000	51+17.564	252.56	0.0478	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.77	12.00
16	2U	51+17.564	51+31.484	13.92	0.0026	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.67	12.00
17	2U	51+31.484	53+49.595	218.11	0.0413	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.59	12.00
18	2U	53+49.595	53+76.792	27.20	0.0052	2035-2037: 18,412	0	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.51	12.00
19	2U	53+76.792	56+11.785	234.99	0.0445	2035-2037: 18,412	0	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.50	12.00
20	2U	56+11.785	56+21.000	9.21	0.0018	2035-2037: 18,412	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00
21	2U	56+21.000	59+10.779	289.78	0.0549	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.50	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	CONNECTOR/ SB ON OFF RAMPS	10+10.142	2035-2037: 10,550	2035-2037: 10,150	3	Stop-Controlled	Three-Legged w/STOP control	1	0			false	false	false				false
2	CONNECTOR/NB ON RAMP	12+89.336	2035-2037: 8,230	2035-2037: 15,700	3	Stop-Controlled	Three-Legged w/STOP control	0	0			false	false	false				false
3	CONNECTOR/NB OFF RAMP BYPASS	14+94.235	2035-2037: 5,662	2035-2037: 21,362	3	Uncontrolled	Unknown	0	0			false	false	false				false
4	CONNECTOR/NB SERVICE PLAZA RAMP	20+59.107	2035-2037: 2,950	2035-2037: 21,362	3	Signalized	Three-Legged Signalized	0	0	0	15	false	false	false	0	0	4	false
5	ROUTE 1/CONNECTOR	59+10.776	2035-2037: 37,440	2035-2037: 18,412	3	Signalized	Three-Legged Signalized	3	2	0	15	false	false	false	0	0	7	false
6	CONNECTOR/NB OFF RAMP	13+09.107	2035-2037: 2,700	2035-2037: 15,700	3	Stop-Controlled	Three-Legged w/STOP control	0	0			false	false	false				false
7	CONNECTOR/COMM PKWY	48+64.069	2035-2037: 18,412	2035-2037: 3,120	3	Signalized	Three-Legged Signalized	3	3	0	15	false	false	false	0	0	6	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.9301
Average Future Road AADT (vpd)	18,129
Expected Crashes	
Total Crashes	32.89
Fatal and Injury Crashes	9.60
Property-Damage-Only Crashes	23.29
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	29
Percent Property-Damage-Only Crashes (%)	71
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	11.7888
Fatal and Injury Crash Rate (crashes/mi/yr)	3.4412
Property-Damage-Only Crash Rate (crashes/mi/yr)	8.3476
Expected Travel Crash Rate	
Total Travel (million veh-mi)	18.46
Travel Crash Rate (crashes/million veh-mi)	1.78
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.52
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	1.26

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	13+09.107	0.0585	0.365	2.0775	0.56		
2	13+09.107	13+60.737	0.0098	0.109	3.7242	0.65		
3	13+60.737	14+94.235	0.0253	0.282	3.7242	0.65		
4	14+94.235	16+12.607	0.0224	0.389	5.7825	0.74		
5	16+12.607	18+41.623	0.0434	0.752	5.7825	0.74		
6	18+41.623	20+59.107	0.0412	0.715	5.7825	0.74		
7	20+59.107	23+19.482	0.0493	0.690	4.6643	0.69		
8	23+19.482	38+54.118	0.2907	4.067	4.6643	0.69		
9	38+54.118	43+86.893	0.1009	1.412	4.6643	0.69		
10	43+86.893	45+22.067	0.0256	0.358	4.6643	0.69		
11	45+22.067	45+47.814	0.0049	0.068	4.6643	0.69		
12	45+47.814	45+55.000	0.0014	0.019	4.6643	0.69		
13	45+55.000	46+20.000	0.0123	0.172	4.6643	0.69		
14	46+20.000	48+65.000	0.0464	0.735	5.2782	0.79		
CONNECTOR/COMM PKWY	48+64.069							
15	48+65.000	51+17.564	0.0478	0.669	4.6643	0.69		
16	51+17.564	51+31.484	0.0026	0.037	4.6643	0.69		
17	51+31.484	53+49.595	0.0413	0.578	4.6643	0.69		
18	53+49.595	53+76.792	0.0052	0.158	10.1945	1.52		
19	53+76.792	56+11.785	0.0445	0.708	5.3043	0.79		
20	56+11.785	56+21.000	0.0017	0.210	40.1464	5.97		
21	56+21.000	59+10.779	0.0549	0.768	4.6643	0.69		
ROUTE 1/CONNECTOR	59+10.776			19.631			0.40	6.5438

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	13+60.737	0.0683	0.474	2.3132	0.57
Simple Curve 1	13+60.737	16+12.607	0.0477	0.671	4.6915	0.69
Tangent	16+12.607	18+41.623	0.0434	0.752	5.7825	0.74
Simple Curve 2	18+41.623	23+19.482	0.0905	1.405	5.1732	0.72
Tangent	23+19.482	38+54.118	0.2907	4.067	4.6643	0.69
Simple Curve 3	38+54.118	51+31.484	0.2419	3.471	4.7820	0.71
Simple Curve 4	51+31.484	56+11.785	0.0910	1.444	5.2906	0.79
Tangent	56+11.785	59+10.779	0.0566	0.978	5.7578	0.86

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.0	0.15	0.5	0.17	0.5
Highway Segment	Collision with Bicycle	0.05	0.2	0.00	0.0	0.05	0.2
Highway Segment	Collision with Fixed Object	0.39	1.2	1.75	5.3	2.14	6.5
Highway Segment	Collision with Other Object	0.01	0.0	0.03	0.1	0.04	0.1
Highway Segment	Other Single-vehicle Collision	0.13	0.4	0.37	1.1	0.50	1.5
Highway Segment	Collision with Pedestrian	0.07	0.2	0.00	0.0	0.07	0.2
Highway Segment	Total Segment Single Vehicle Crashes	0.65	2.0	2.31	7.0	2.96	9.0
Highway Segment	Angle Collision	0.24	0.7	0.55	1.7	0.80	2.4
Highway Segment	Driveway-related Collision	0.14	0.4	0.30	0.9	0.44	1.3
Highway Segment	Head-on Collision	0.20	0.6	0.03	0.1	0.22	0.7
Highway Segment	Other Multi-vehicle Collision	0.08	0.3	0.37	1.1	0.45	1.4
Highway Segment	Rear-end Collision	2.09	6.3	5.45	16.5	7.54	22.9
Highway Segment	Sideswipe, Opposite Direction Collision	0.21	0.6	0.39	1.2	0.59	1.8
Highway Segment	Sideswipe, Same Direction Collision	0.04	0.1	0.22	0.7	0.26	0.8
Highway Segment	Total Segment Multiple Vehicle Crashes	3.00	9.1	7.30	22.2	10.30	31.3
Highway Segment	Total Highway Segment Crashes	3.65	11.1	9.61	29.2	13.26	40.3
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.21	0.6	0.00	0.0	0.21	0.6
Intersection	Collision with Fixed Object	0.23	0.7	0.70	2.1	0.93	2.8
Intersection	Non-Collision	0.07	0.2	0.01	0.0	0.08	0.3
Intersection	Collision with Other Object	0.03	0.1	0.05	0.2	0.09	0.3
Intersection	Other Single-vehicle Collision	0.02	0.0	0.01	0.0	0.03	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.06	0.2	0.00	0.0	0.06	0.2
Intersection	Total Intersection Single Vehicle Crashes	0.62	1.9	0.78	2.4	1.40	4.3
Intersection	Angle Collision	1.50	4.6	2.63	8.0	4.13	12.5
Intersection	Head-on Collision	0.20	0.6	0.26	0.8	0.46	1.4
Intersection	Other Multi-vehicle Collision	0.30	0.9	2.56	7.8	2.86	8.7
Intersection	Rear-end Collision	2.94	8.9	7.04	21.4	9.98	30.3
Intersection	Sideswipe	0.41	1.2	0.41	1.3	0.82	2.5
Intersection	Total Intersection Multiple Vehicle Crashes	5.35	16.3	12.90	39.2	18.25	55.5
Intersection	Total Intersection Crashes	5.97	18.1	13.68	41.6	19.65	59.7
	Total Crashes	9.62	29.2	23.29	70.8	32.92	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 7. Evaluation Message

Start Location	End Location	Message
10+10.142	10+10.142	for intersection #1 (10+10.142 to 10+10.142), Ramp Terminal: CONNECTOR/ SB ON OFF RAMPS can't be evaluated as part of this roadway.
12+89.336	12+89.336	for intersection #2 (12+89.336 to 12+89.336), Ramp Terminal: CONNECTOR/NB ON RAMP can't be evaluated as part of this roadway.
14+94.235	14+94.235	for intersection #3 (14+94.235 to 14+94.235), Ramp Terminal: CONNECTOR/NB OFF RAMP BYPASS can't be evaluated as part of this roadway.
20+59.107	20+59.107	for intersection #4 (20+59.107 to 20+59.107), Ramp Terminal: CONNECTOR/NB SERVICE PLAZA RAMP can't be evaluated as part of this roadway.
13+09.107	13+09.107	for intersection #6 (13+09.107 to 13+09.107), Ramp Terminal: CONNECTOR/NB OFF RAMP can't be evaluated as part of this roadway.
59+10.776	59+10.776	for intersection #5 (59+10.776 to 59+10.776), minor road traffic volume (18,412 vpd) for 2035 exceeds model limit (16,400 vpd) for reliable results for intersection type 3SG
59+10.776	59+10.776	for intersection #5 (59+10.776 to 59+10.776), minor road traffic volume (18,412 vpd) for 2036 exceeds model limit (16,400 vpd) for reliable results for intersection type 3SG
59+10.776	59+10.776	for intersection #5 (59+10.776 to 59+10.776), minor road traffic volume (18,412 vpd) for 2037 exceeds model limit (16,400 vpd) for reliable results for intersection type 3SG

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Generated: Jan 3, 2018 3:44 PM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 15:44:28 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 2
Project Comment: Created Tue Jul 18 15:48:57 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment COMMERCIAL PRKWY
Highway Comment: Imported from MDL-02 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 2
Evaluation Comment: Created Wed Jan 03 15:43:56 EST 2018

Minimum Station: 10+00.000
Maximum Station: 25+28.381
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 25+28.381
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

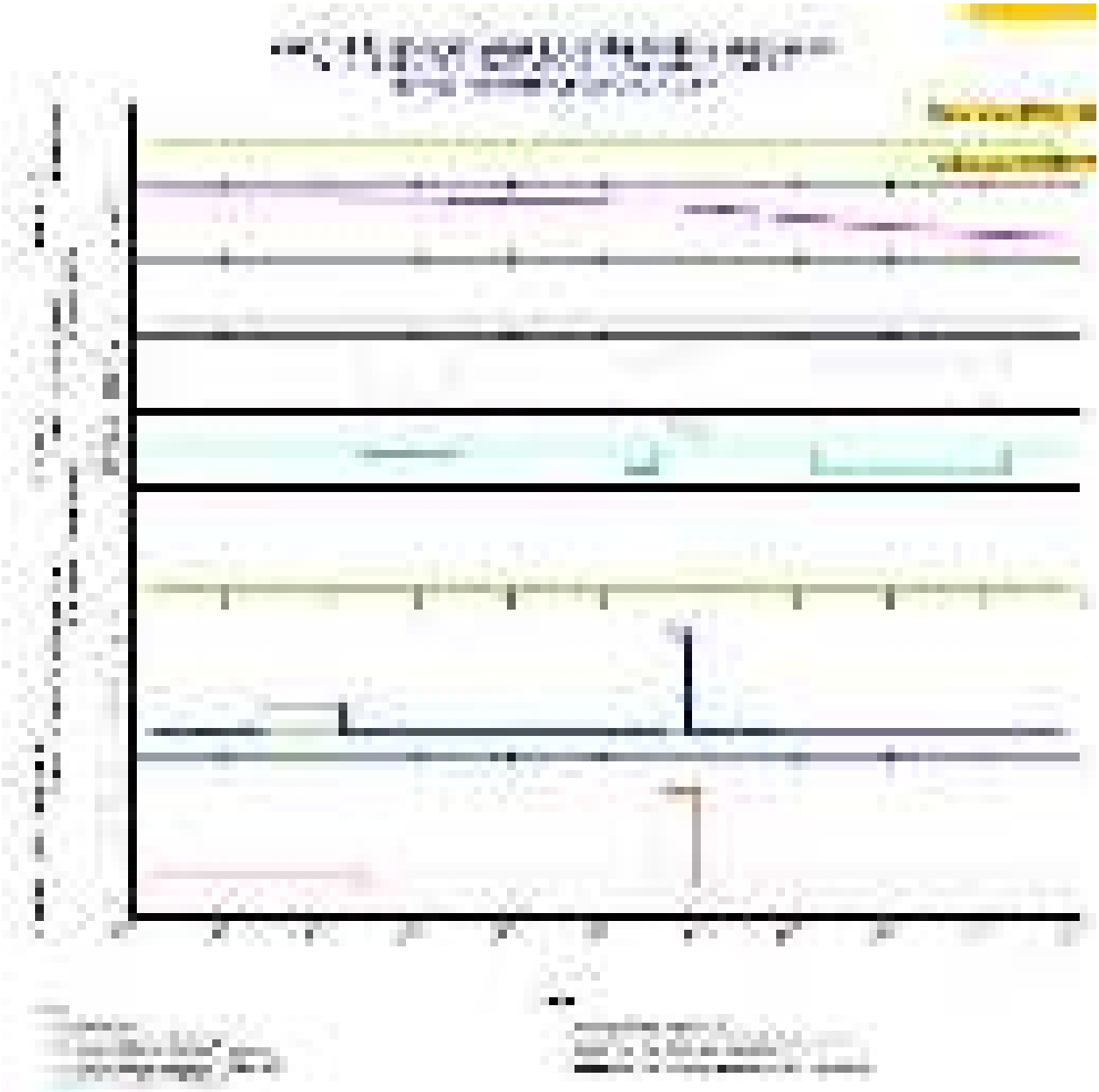

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length (mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	10+66.000	66.00	0.0125	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.75	11.00
2	2U	10+66.000	11+22.101	56.10	0.0106	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.28	11.00
3	2U	11+22.101	11+70.640	48.54	0.0092	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.87	11.00
4	2U	11+70.640	11+81.409	10.77	0.0020	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.65	11.00
5	2U	11+81.409	13+14.000	132.59	0.0251	2035-2037: 3,120	1	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.30	11.00
6	2U	13+14.000	13+51.875	37.88	0.0072	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.00	11.00
7	2U	13+51.875	15+06.198	154.32	0.0292	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.00	11.00
8	2U	15+06.198	16+97.437	191.24	0.0362	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.07	11.00
9	2U	16+97.437	17+92.968	95.53	0.0181	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.21	11.00
10	2U	17+92.968	18+44.883	51.91	0.0098	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.31	11.00
11	2U	18+44.883	18+64.402	19.52	0.0037	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.36	11.00
12	2U	18+64.402	18+98.885	34.48	0.0065	2035-2037: 3,120	1	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.39	11.00
13	2U	18+98.885	19+16.375	17.49	0.0033	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.43	11.00
14	2U	19+16.375	19+64.000	47.62	0.0090	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.47	11.00
15	2U	19+64.000	21+15.175	151.18	0.0286	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.60	11.00
16	2U	21+15.175	24+37.338	322.16	0.0610	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.92	11.00
17	2U	24+37.338	25+28.381	91.04	0.0172	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.19	11.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	CONNECTOR/COMM PKWY	25+28.378	2035-2037: 18,662	2035-2037: 3,120	3	Signalized	Three-Legged Signalized	3	3	0	15	false	false	false	0	0	6	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.2895
Average Future Road AADT (vpd)	3,120
Expected Crashes	
Total Crashes	0.77
Fatal and Injury Crashes	0.27
Property-Damage-Only Crashes	0.50
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	35
Percent Property-Damage-Only Crashes (%)	65
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	0.8883
Fatal and Injury Crash Rate (crashes/mi/yr)	0.3131
Property-Damage-Only Crash Rate (crashes/mi/yr)	0.5752
Expected Travel Crash Rate	
Total Travel (million veh-mi)	0.99
Travel Crash Rate (crashes/million veh-mi)	0.78
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.28
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.51

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	10+66.000	0.0125	0.022	0.5937	0.52
2	10+66.000	11+22.101	0.0106	0.019	0.5937	0.52
3	11+22.101	11+70.640	0.0092	0.016	0.5937	0.52
4	11+70.640	11+81.409	0.0020	0.004	0.5937	0.52
5	11+81.409	13+14.000	0.0251	0.181	2.4095	2.12
6	13+14.000	13+51.875	0.0072	0.013	0.5937	0.52
7	13+51.875	15+06.198	0.0292	0.052	0.5937	0.52
8	15+06.198	16+97.437	0.0362	0.065	0.5937	0.52
9	16+97.437	17+92.968	0.0181	0.032	0.5937	0.52
10	17+92.968	18+44.883	0.0098	0.018	0.5937	0.52
11	18+44.883	18+64.402	0.0037	0.007	0.5937	0.52
12	18+64.402	18+98.885	0.0065	0.131	6.6696	5.86
13	18+98.885	19+16.375	0.0033	0.006	0.5937	0.52
14	19+16.375	19+64.000	0.0090	0.016	0.5937	0.52
15	19+64.000	21+15.175	0.0286	0.051	0.5937	0.52
16	21+15.175	24+37.338	0.0610	0.109	0.5937	0.52
17	24+37.338	25+28.381	0.0172	0.031	0.5937	0.52
CONNECTOR/COMM PKWY	25+28.378					

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	13+51.875	0.0666	0.256	1.2779	1.12
Simple Curve 1	13+51.875	15+06.198	0.0292	0.052	0.5937	0.52
Tangent	15+06.198	17+92.968	0.0543	0.097	0.5937	0.52
Simple Curve 2	17+92.968	18+44.883	0.0098	0.018	0.5937	0.52
Tangent	18+44.883	18+64.402	0.0037	0.007	0.5937	0.52
Simple Curve 3	18+64.402	19+16.375	0.0098	0.137	4.6249	4.06
Tangent	19+16.375	21+15.175	0.0377	0.067	0.5937	0.52
Simple Curve 4	21+15.175	24+37.338	0.0610	0.109	0.5937	0.52
Tangent	24+37.338	25+28.381	0.0172	0.031	0.5937	0.52

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.3	0.01	1.9	0.02	2.2
Highway Segment	Collision with Bicycle	0.01	1.7	0.00	0.0	0.01	1.7
Highway Segment	Collision with Fixed Object	0.08	9.7	0.17	21.5	0.25	31.2
Highway Segment	Collision with Other Object	0.00	0.1	0.00	0.4	0.00	0.5
Highway Segment	Other Single-vehicle Collision	0.03	3.2	0.04	4.6	0.06	7.8
Highway Segment	Collision with Pedestrian	0.03	3.3	0.00	0.0	0.03	3.3
Highway Segment	Total Segment Single Vehicle Crashes	0.15	18.4	0.23	28.3	0.37	46.7
Highway Segment	Angle Collision	0.00	0.5	0.01	1.1	0.01	1.6
Highway Segment	Driveway-related Collision	0.08	9.9	0.16	20.7	0.24	30.6
Highway Segment	Head-on Collision	0.00	0.4	0.00	0.1	0.00	0.5
Highway Segment	Other Multi-vehicle Collision	0.00	0.2	0.01	0.7	0.01	0.9
Highway Segment	Rear-end Collision	0.04	4.4	0.09	10.8	0.12	15.2
Highway Segment	Sideswipe, Opposite Direction Collision	0.00	0.4	0.01	0.8	0.01	1.2
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.1	0.00	0.4	0.00	0.5
Highway Segment	Total Segment Multiple Vehicle Crashes	0.13	15.9	0.28	34.6	0.40	50.5
Highway Segment	Total Highway Segment Crashes	0.27	34.2	0.50	62.9	0.77	97.1
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Fixed Object	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Non-Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Other Object	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Other Single-vehicle Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.02	2.9	0.00	0.0	0.02	2.9
Intersection	Total Intersection Single Vehicle Crashes	0.02	2.9	0.00	0.0	0.02	2.9
Intersection	Angle Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Other Multi-vehicle Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Rear-end Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Sideswipe	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Total Intersection Multiple Vehicle Crashes	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Total Intersection Crashes	0.02	2.9	0.00	0.0	0.02	2.9
	Total Crashes	0.29	37.1	0.50	62.9	0.79	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

Report Generated: Jan 3, 2018 3:45 PM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 15:45:31 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 2
Project Comment: Created Tue Jul 18 15:48:57 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 NB OFF-RAMP
Highway Comment: Imported from MDL-02 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 2
Evaluation Comment: Created Wed Jan 03 15:45:14 EST 2018

Minimum Station: 10+00.000
Maximum Station: 25+32.501
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 25+32.501
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: ENT_RAMP_MV_FI=1.0; ENT_RAMP_MV_PDO=1.0; ENT_RAMP_SV_FI=1.0; ENT_RAMP_SV_PDO=1.0;

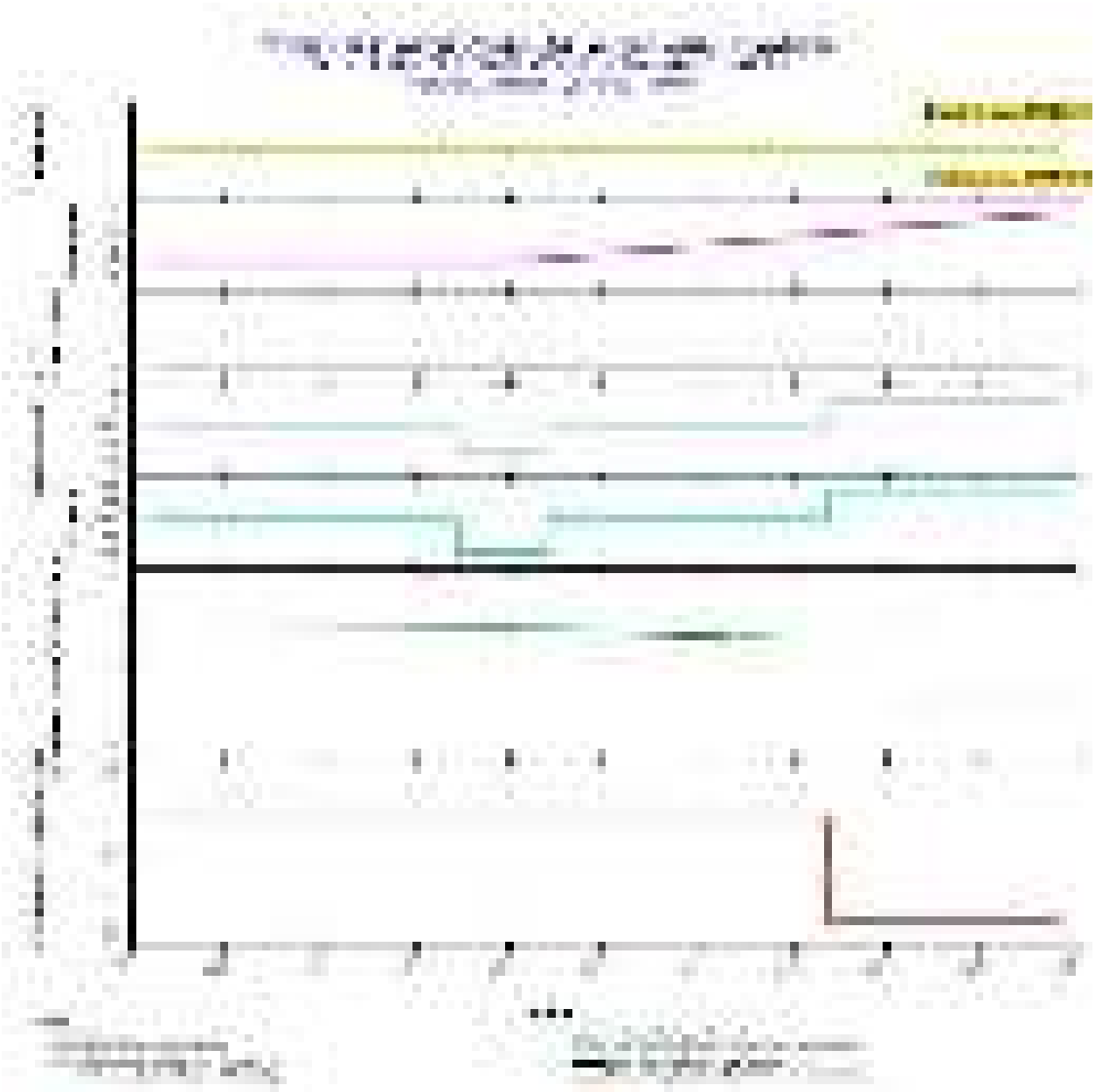

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EN	Urban	10+00.000	22+87.601	1,287.60	0.2439	2035-2037: 8,362
2	1EN	Urban	22+87.601	25+32.501	244.90	0.0464	2035-2037: 2,700

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.2902
Average Future Road AADT (vpd)	7,457
Expected Crashes	
Total Crashes	1.57
Fatal and Injury Crashes	0.68
Property-Damage-Only Crashes	0.89
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	43
Percent Property-Damage-Only Crashes (%)	57
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	1.8081
Fatal and Injury Crash Rate (crashes/mi/yr)	0.7859
Property-Damage-Only Crash Rate (crashes/mi/yr)	1.0222
Expected Travel Crash Rate	
Total Travel (million veh-mi)	2.37
Travel Crash Rate (crashes/million veh-mi)	0.66
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.29
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.38

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	22+87.601	0.2439	1.441	1.9693	0.65
2	22+87.601	25+32.501	0.0464	0.134	0.9607	0.97

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	15+13.671	0.0973	0.575	1.9693	0.65
Simple Curve 1	15+13.671	16+68.079	0.0292	0.173	1.9693	0.65
Tangent	16+68.079	21+38.210	0.0890	0.526	1.9693	0.65
Simple Curve 2	21+38.210	25+32.501	0.0747	0.301	1.3429	0.85

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0133	0.0404	0.2569	0.3135	0.8166
2	0.0013	0.0039	0.0248	0.0302	0.0735
Total	0.0146	0.0443	0.2817	0.3437	0.8901

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.1	0.01	0.9	0.02	1.1
Highway Segment	Collision with Fixed Object	0.40	25.1	0.47	29.8	0.86	54.9
Highway Segment	Collision with Other Object	0.03	1.8	0.09	5.8	0.12	7.6
Highway Segment	Other Single-vehicle Collision	0.11	7.2	0.07	4.5	0.18	11.7
Highway Segment	Collision with Parked Vehicle	0.01	0.5	0.01	0.7	0.02	1.2
Highway Segment	Total Single Vehicle Crashes	0.55	34.8	0.66	41.7	1.20	76.4
Highway Segment	Right-Angle Collision	0.00	0.3	0.00	0.3	0.01	0.5
Highway Segment	Head-on Collision	0.00	0.1	0.00	0.0	0.00	0.1
Highway Segment	Other Multi-vehicle Collision	0.00	0.3	0.01	0.4	0.01	0.6
Highway Segment	Rear-end Collision	0.10	6.5	0.16	10.3	0.26	16.8
Highway Segment	Sideswipe, Same Direction Collision	0.03	1.6	0.06	4.0	0.09	5.5
Highway Segment	Total Multiple Vehicle Crashes	0.14	8.7	0.23	14.9	0.37	23.6
Highway Segment	Total Highway Segment Crashes	0.68	43.5	0.89	56.5	1.57	100.0
	Total Crashes	0.68	43.5	0.89	56.5	1.57	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 15:52:46 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 2
Project Comment: Created Tue Jul 18 15:48:57 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 NB OFF RAMP BYPASS
Highway Comment: Created Mon Sep 11 16:21:46 EDT 2017
Highway Version: 1

Evaluation Title: CPM-ALT 2
Evaluation Comment: Created Wed Jan 03 15:52:32 EST 2018

Minimum Station: 10+00.000
Maximum Station: 13+00.000
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 13+00.000
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: ENT_RAMP_MV_FI=1.0; ENT_RAMP_MV_PDO=1.0; ENT_RAMP_SV_FI=1.0; ENT_RAMP_SV_PDO=1.0;

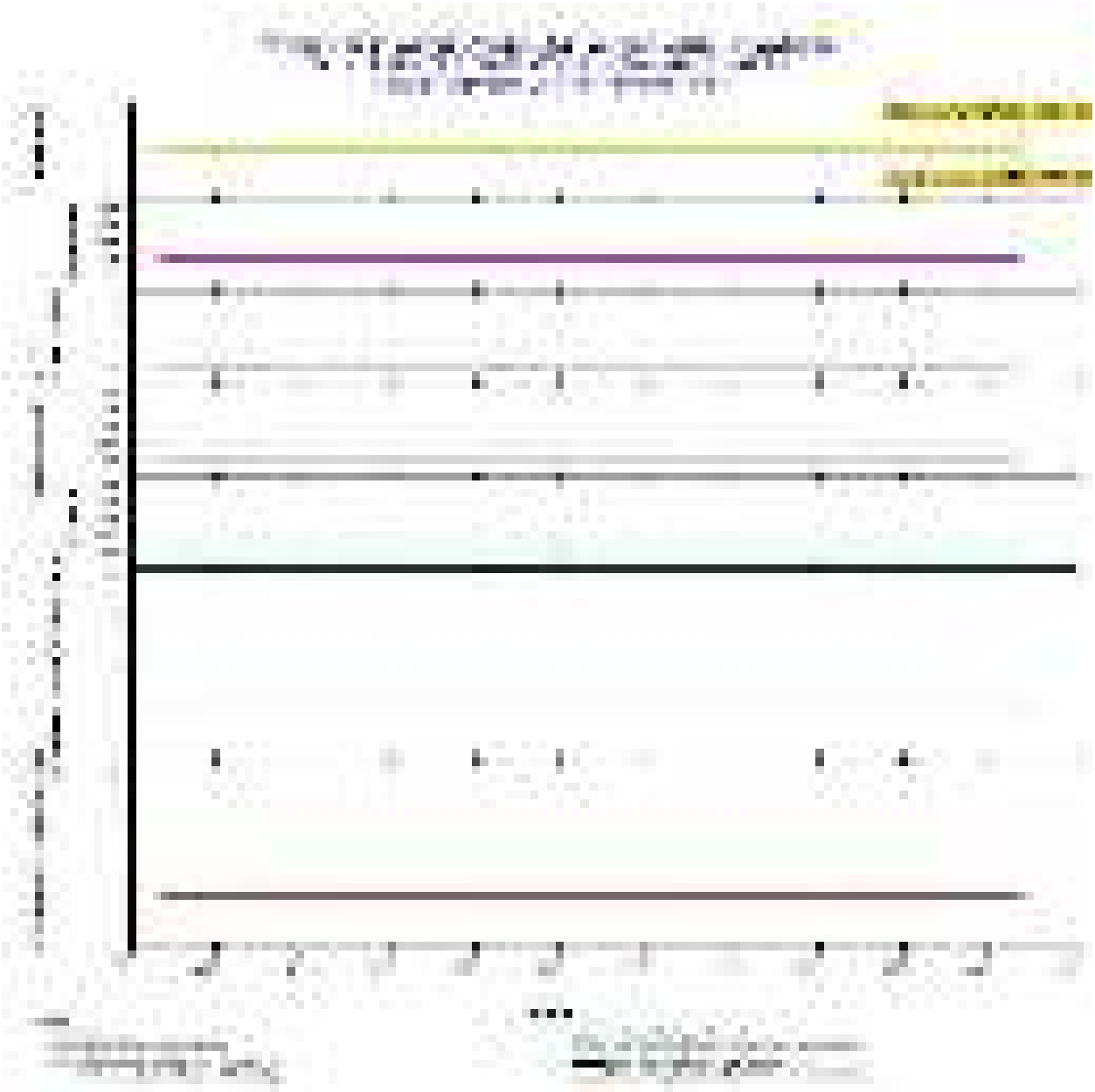

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EN	Urban	10+00.000	13+00.000	300.00	0.0568	2035-2037: 5,662

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.0568
Average Future Road AADT (vpd)	5,662
Expected Crashes	
Total Crashes	0.61
Fatal and Injury Crashes	0.26
Property-Damage-Only Crashes	0.35
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	43
Percent Property-Damage-Only Crashes (%)	57
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	3.6010
Fatal and Injury Crash Rate (crashes/mi/yr)	1.5424
Property-Damage-Only Crash Rate (crashes/mi/yr)	2.0586
Expected Travel Crash Rate	
Total Travel (million veh-mi)	0.35
Travel Crash Rate (crashes/million veh-mi)	1.74
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.75
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	1.00

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	13+00.000	0.0568	0.614	3.6010	1.74

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Simple Curve 1	10+00.000	13+00.000	0.0568	0.614	3.6010	1.74

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0056	0.0170	0.1082	0.1321	0.3509

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.2	0.01	1.1	0.01	1.2
Highway Segment	Collision with Fixed Object	0.17	27.3	0.22	35.7	0.39	63.0
Highway Segment	Collision with Other Object	0.01	1.9	0.04	6.9	0.05	8.9
Highway Segment	Other Single-vehicle Collision	0.05	7.9	0.03	5.3	0.08	13.2
Highway Segment	Collision with Parked Vehicle	0.00	0.6	0.01	0.8	0.01	1.4
Highway Segment	Total Single Vehicle Crashes	0.23	37.8	0.31	49.9	0.54	87.7
Highway Segment	Right-Angle Collision	0.00	0.2	0.00	0.1	0.00	0.3
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.1
Highway Segment	Other Multi-vehicle Collision	0.00	0.2	0.00	0.2	0.00	0.3
Highway Segment	Rear-end Collision	0.02	3.8	0.03	5.0	0.05	8.8
Highway Segment	Sideswipe, Same Direction Collision	0.01	0.9	0.01	1.9	0.02	2.8
Highway Segment	Total Multiple Vehicle Crashes	0.03	5.1	0.04	7.3	0.08	12.3
Highway Segment	Total Highway Segment Crashes	0.26	42.8	0.35	57.2	0.61	100.0
	Total Crashes	0.26	42.8	0.35	57.2	0.61	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

April 10, 2018

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Report Overview

Report Generated: Apr 10, 2018 3:16 PM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Tue Apr 10 15:15:24 EDT 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 2
Project Comment: Created Tue Jul 18 15:48:57 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 NB ON-RAMP
Highway Comment: Imported from MDL-02 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 2
Evaluation Comment: Created Tue Apr 10 15:15:07 EDT 2018

Minimum Station: 10+00.000
Maximum Station: 22+51.289
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 22+51.289
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: ENT_RAMP_MV_FI=1.0; ENT_RAMP_MV_PDO=1.0; ENT_RAMP_SV_FI=1.0; ENT_RAMP_SV_PDO=1.0;

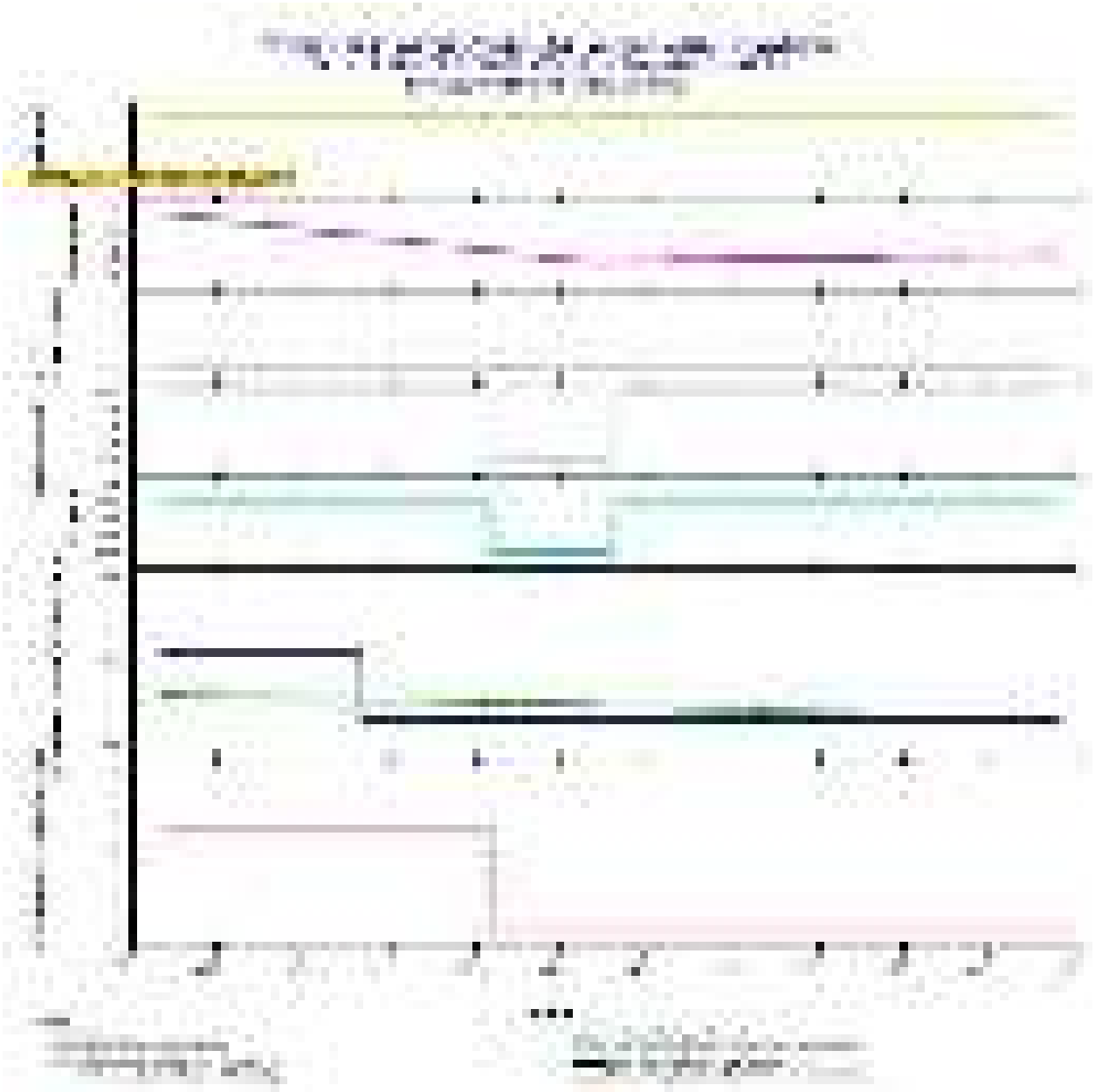

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EN	Urban	10+00.000	12+80.907	280.91	0.0532	2035-2037: 8,230
2	1EN	Urban	12+80.907	22+51.289	970.38	0.1838	2035-2037: 5,550

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.2370
Average Future Road AADT (vpd)	6,152
Expected Crashes	
Total Crashes	1.06
Fatal and Injury Crashes	0.46
Property-Damage-Only Crashes	0.60
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	44
Percent Property-Damage-Only Crashes (%)	56
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	1.4954
Fatal and Injury Crash Rate (crashes/mi/yr)	0.6526
Property-Damage-Only Crash Rate (crashes/mi/yr)	0.8428
Expected Travel Crash Rate	
Total Travel (million veh-mi)	1.60
Travel Crash Rate (crashes/million veh-mi)	0.67
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.29
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.38

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	12+80.907	0.0532	0.289	1.8087	0.60
2	12+80.907	22+51.289	0.1838	0.774	1.4048	0.69

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	14+61.510	0.0874	0.433	1.6506	0.64
Simple Curve 1	14+61.510	16+32.903	0.0325	0.137	1.4048	0.69
Tangent	16+32.903	22+51.289	0.1171	0.494	1.4048	0.69

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0027	0.0081	0.0515	0.0629	0.1635
2	0.0072	0.0219	0.1395	0.1702	0.4357
Total	0.0099	0.0300	0.1910	0.2331	0.5992

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.1	0.01	0.9	0.01	1.1
Highway Segment	Collision with Fixed Object	0.27	25.7	0.32	30.4	0.60	56.1
Highway Segment	Collision with Other Object	0.02	1.8	0.06	5.9	0.08	7.7
Highway Segment	Other Single-vehicle Collision	0.08	7.4	0.05	4.5	0.13	11.9
Highway Segment	Collision with Parked Vehicle	0.01	0.5	0.01	0.7	0.01	1.2
Highway Segment	Total Single Vehicle Crashes	0.38	35.6	0.45	42.5	0.83	78.1
Highway Segment	Right-Angle Collision	0.00	0.2	0.00	0.2	0.01	0.5
Highway Segment	Head-on Collision	0.00	0.1	0.00	0.0	0.00	0.1
Highway Segment	Other Multi-vehicle Collision	0.00	0.2	0.00	0.3	0.01	0.6
Highway Segment	Rear-end Collision	0.06	6.0	0.10	9.6	0.17	15.6
Highway Segment	Sideswipe, Same Direction Collision	0.01	1.4	0.04	3.7	0.06	5.1
Highway Segment	Total Multiple Vehicle Crashes	0.09	8.1	0.15	13.9	0.23	21.9
Highway Segment	Total Highway Segment Crashes	0.46	43.6	0.60	56.4	1.06	100.0
	Total Crashes	0.46	43.6	0.60	56.4	1.06	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 15:53:36 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 2
Project Comment: Created Tue Jul 18 15:48:57 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment NB SERVICE PLAZA RD
Highway Comment: Created Mon Sep 11 16:33:31 EDT 2017
Highway Version: 1

Evaluation Title: CPM-ALT 2
Evaluation Comment: Created Wed Jan 03 15:53:21 EST 2018

Minimum Station: 10+00.000
Maximum Station: 14+00.000
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 14+00.000
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: ENT_RAMP_MV_FI=1.0; ENT_RAMP_MV_PDO=1.0; ENT_RAMP_SV_FI=1.0; ENT_RAMP_SV_PDO=1.0;

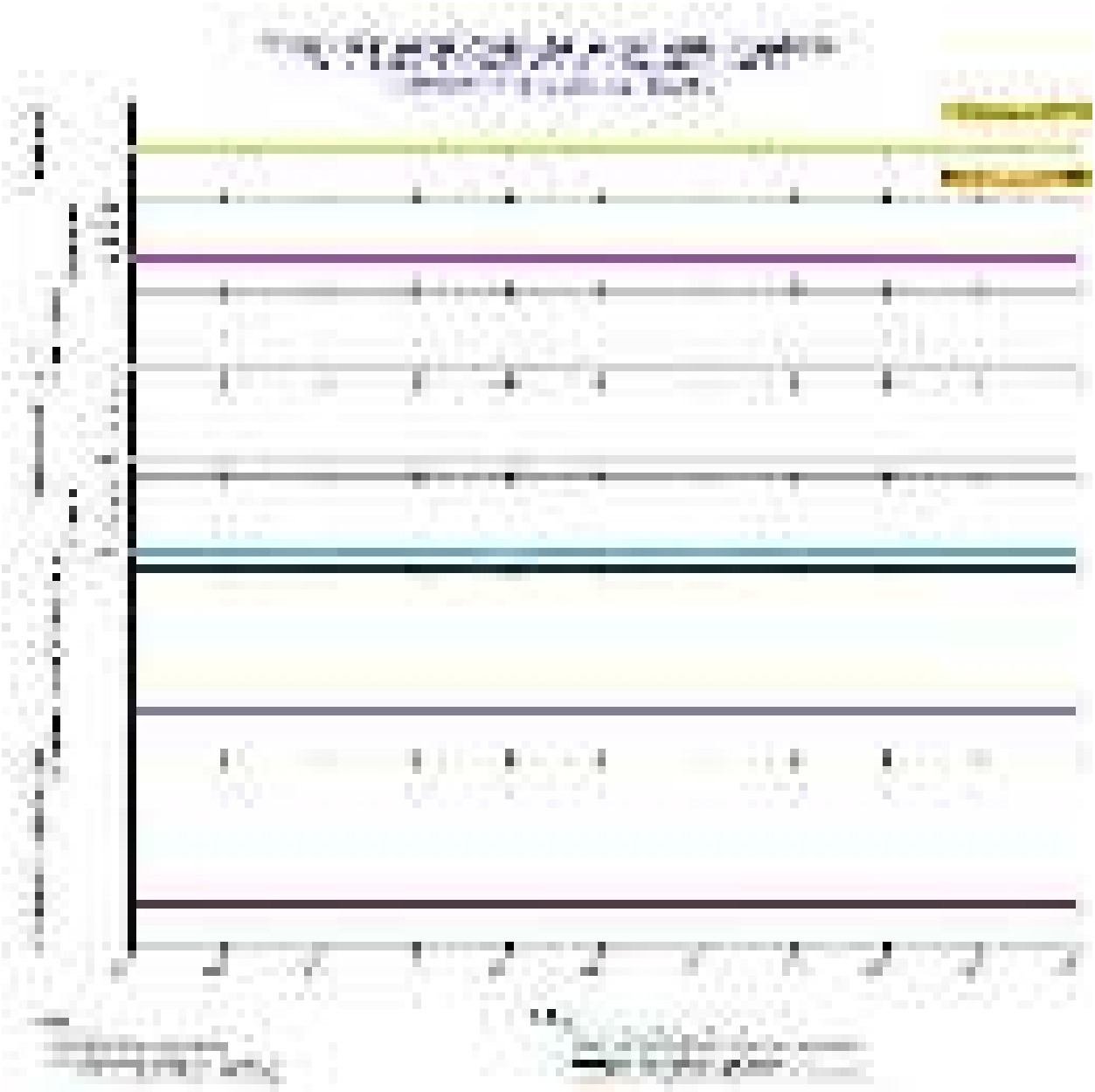

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EN	Urban	10+00.000	14+00.000	400.00	0.0758	2035-2037: 2,950

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.0758
Average Future Road AADT (vpd)	2,950
Expected Crashes	
Total Crashes	0.17
Fatal and Injury Crashes	0.07
Property-Damage-Only Crashes	0.10
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	44
Percent Property-Damage-Only Crashes (%)	56
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	0.7454
Fatal and Injury Crash Rate (crashes/mi/yr)	0.3264
Property-Damage-Only Crash Rate (crashes/mi/yr)	0.4189
Expected Travel Crash Rate	
Total Travel (million veh-mi)	0.24
Travel Crash Rate (crashes/million veh-mi)	0.69
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.30
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.39

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	14+00.000	0.0758	0.169	0.7454	0.69

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	14+00.000	0.0758	0.169	0.7454	0.69

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0016	0.0048	0.0305	0.0373	0.0952

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.1	0.00	1.0	0.00	1.2
Highway Segment	Collision with Fixed Object	0.04	26.1	0.06	32.8	0.10	58.9
Highway Segment	Collision with Other Object	0.00	1.8	0.01	6.4	0.01	8.2
Highway Segment	Other Single-vehicle Collision	0.01	7.5	0.01	4.9	0.02	12.4
Highway Segment	Collision with Parked Vehicle	0.00	0.5	0.00	0.7	0.00	1.3
Highway Segment	Total Single Vehicle Crashes	0.06	36.1	0.08	45.9	0.14	82.0
Highway Segment	Right-Angle Collision	0.00	0.2	0.00	0.2	0.00	0.4
Highway Segment	Head-on Collision	0.00	0.1	0.00	0.0	0.00	0.1
Highway Segment	Other Multi-vehicle Collision	0.00	0.2	0.00	0.2	0.00	0.5
Highway Segment	Rear-end Collision	0.01	5.8	0.01	7.1	0.02	12.9
Highway Segment	Sideswipe, Same Direction Collision	0.00	1.4	0.01	2.7	0.01	4.1
Highway Segment	Total Multiple Vehicle Crashes	0.01	7.7	0.02	10.3	0.03	18.0
Highway Segment	Total Highway Segment Crashes	0.07	43.8	0.10	56.2	0.17	100.0
	Total Crashes	0.07	43.8	0.10	56.2	0.17	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 15:47:58 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 2
Project Comment: Created Tue Jul 18 15:48:57 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 SB OFF-RAMP
Highway Comment: Imported from MDL-02 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 2
Evaluation Comment: Created Wed Jan 03 15:47:41 EST 2018

Minimum Station: 10+00.000
Maximum Station: 21+88.442
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 21+88.442
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: ENT_RAMP_MV_FI=1.0; ENT_RAMP_MV_PDO=1.0; ENT_RAMP_SV_FI=1.0; ENT_RAMP_SV_PDO=1.0;

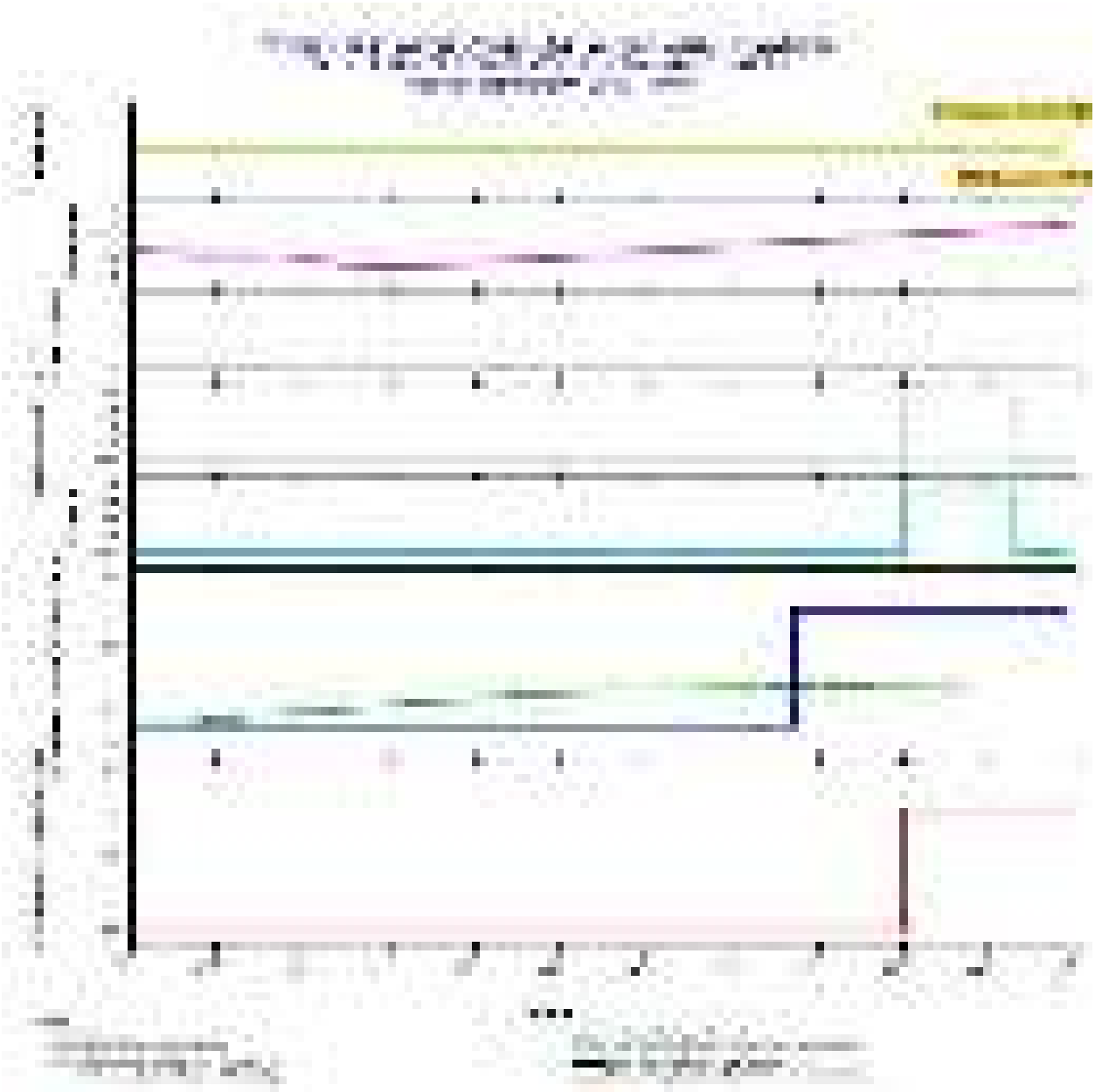

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EN	Urban	10+00.000	18+40.542	840.54	0.1592	2035-2037: 2,150
2	1EN	Urban	18+40.542	21+88.442	347.90	0.0659	2035-2037: 4,700

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.2251
Average Future Road AADT (vpd)	2,896
Expected Crashes	
Total Crashes	0.60
Fatal and Injury Crashes	0.27
Property-Damage-Only Crashes	0.34
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	44
Percent Property-Damage-Only Crashes (%)	56
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	0.8942
Fatal and Injury Crash Rate (crashes/mi/yr)	0.3977
Property-Damage-Only Crash Rate (crashes/mi/yr)	0.4965
Expected Travel Crash Rate	
Total Travel (million veh-mi)	0.71
Travel Crash Rate (crashes/million veh-mi)	0.85
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.38
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.47

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	18+40.542	0.1592	0.303	0.6341	0.81
2	18+40.542	21+88.442	0.0659	0.301	1.5226	0.89

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	19+77.809	0.1852	0.422	0.7588	0.82
Simple Curve 1	19+77.809	21+22.569	0.0274	0.125	1.5226	0.89
Tangent	21+22.569	21+88.442	0.0125	0.057	1.5226	0.89

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0030	0.0090	0.0570	0.0696	0.1643
2	0.0028	0.0084	0.0535	0.0653	0.1709
Total	0.0057	0.0174	0.1106	0.1349	0.3352

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.1	0.01	1.0	0.01	1.2
Highway Segment	Collision with Fixed Object	0.16	26.8	0.20	33.0	0.36	59.8
Highway Segment	Collision with Other Object	0.01	1.9	0.04	6.4	0.05	8.3
Highway Segment	Other Single-vehicle Collision	0.05	7.7	0.03	4.9	0.08	12.6
Highway Segment	Collision with Parked Vehicle	0.00	0.6	0.00	0.7	0.01	1.3
Highway Segment	Total Single Vehicle Crashes	0.22	37.1	0.28	46.1	0.50	83.2
Highway Segment	Right-Angle Collision	0.00	0.2	0.00	0.2	0.00	0.4
Highway Segment	Head-on Collision	0.00	0.1	0.00	0.0	0.00	0.1
Highway Segment	Other Multi-vehicle Collision	0.00	0.2	0.00	0.2	0.00	0.5
Highway Segment	Rear-end Collision	0.03	5.6	0.04	6.5	0.07	12.1
Highway Segment	Sideswipe, Same Direction Collision	0.01	1.3	0.01	2.5	0.02	3.8
Highway Segment	Total Multiple Vehicle Crashes	0.04	7.4	0.06	9.4	0.10	16.8
Highway Segment	Total Highway Segment Crashes	0.27	44.5	0.34	55.5	0.60	100.0
	Total Crashes	0.27	44.5	0.34	55.5	0.60	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 15:49:01 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 2
Project Comment: Created Tue Jul 18 15:48:57 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 SB ON-RAMP
Highway Comment: Imported from MDL-02 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 2
Evaluation Comment: Created Wed Jan 03 15:48:40 EST 2018

Minimum Station: 10+00.000
Maximum Station: 24+58.543
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 24+58.543
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: EX_RAMP_MV_FI=1.0; EX_RAMP_MV_PDO=1.0; EX_RAMP_SV_FI=1.0; EX_RAMP_SV_PDO=1.0;

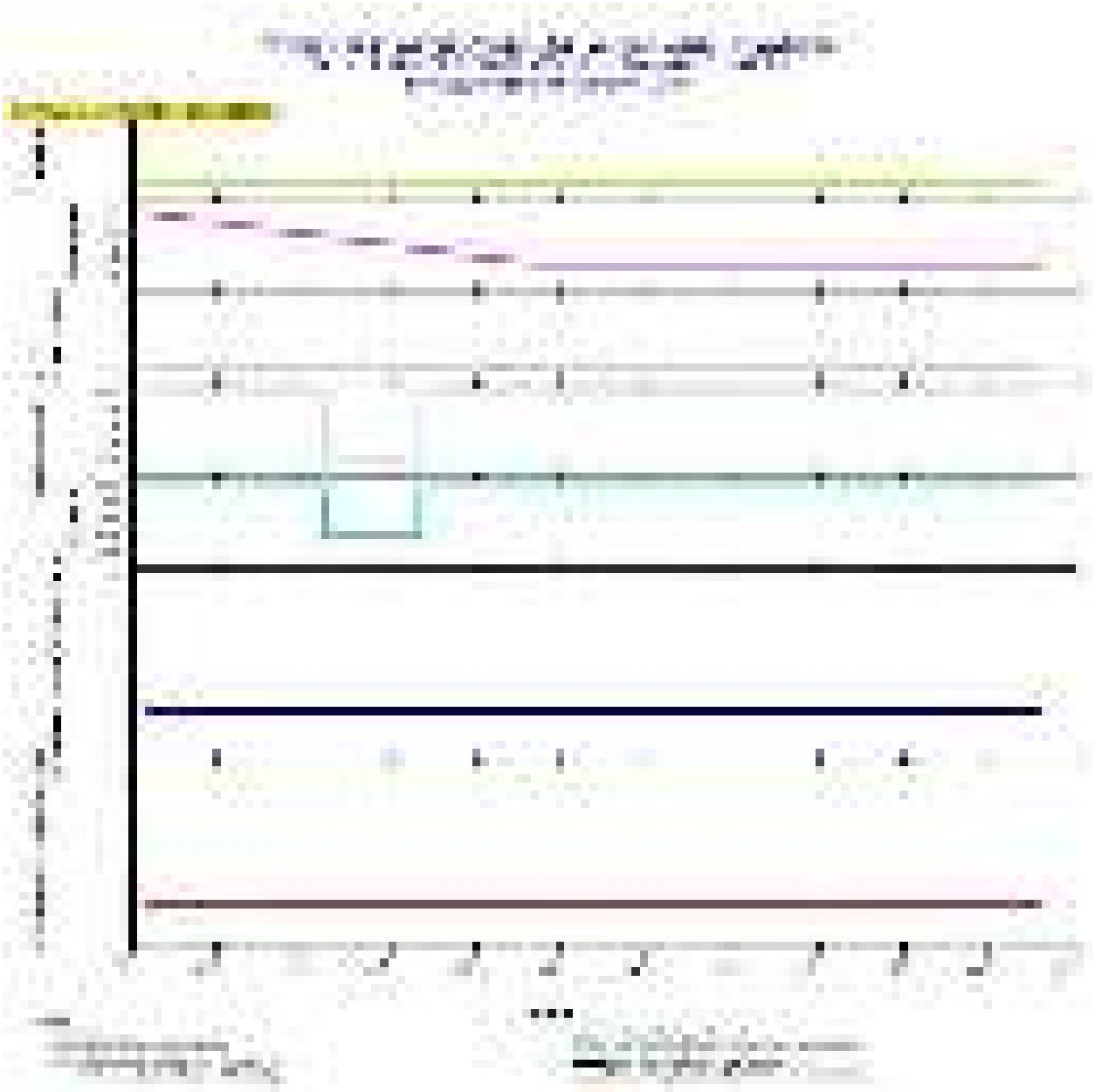

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EX	Urban	10+00.000	24+58.543	1,458.54	0.2762	2035-2037: 10,550

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.2762
Average Future Road AADT (vpd)	10,550
Expected Crashes	
Total Crashes	1.98
Fatal and Injury Crashes	0.93
Property-Damage-Only Crashes	1.05
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	47
Percent Property-Damage-Only Crashes (%)	53
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	2.3876
Fatal and Injury Crash Rate (crashes/mi/yr)	1.1219
Property-Damage-Only Crash Rate (crashes/mi/yr)	1.2657
Expected Travel Crash Rate	
Total Travel (million veh-mi)	3.19
Travel Crash Rate (crashes/million veh-mi)	0.62
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.29
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.33

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	24+58.543	0.2762	1.979	2.3876	0.62

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	12+96.779	0.0562	0.403	2.3876	0.62
Simple Curve 1	12+96.779	14+49.269	0.0289	0.207	2.3876	0.62
Tangent	14+49.269	24+58.543	0.1912	1.369	2.3876	0.62

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0290	0.0880	0.3660	0.4466	1.0489

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.2	0.02	1.0	0.02	1.2
Highway Segment	Collision with Fixed Object	0.64	32.4	0.67	33.6	1.31	66.0
Highway Segment	Collision with Other Object	0.04	2.3	0.13	6.5	0.17	8.8
Highway Segment	Other Single-vehicle Collision	0.18	9.3	0.10	5.0	0.28	14.4
Highway Segment	Collision with Parked Vehicle	0.01	0.7	0.01	0.8	0.03	1.4
Highway Segment	Total Single Vehicle Crashes	0.89	44.9	0.93	47.0	1.82	91.9
Highway Segment	Right-Angle Collision	0.00	0.1	0.00	0.1	0.00	0.2
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Multi-vehicle Collision	0.00	0.1	0.00	0.1	0.00	0.2
Highway Segment	Rear-end Collision	0.03	1.6	0.08	4.2	0.11	5.7
Highway Segment	Sideswipe, Same Direction Collision	0.01	0.4	0.03	1.6	0.04	2.0
Highway Segment	Total Multiple Vehicle Crashes	0.04	2.1	0.12	6.1	0.16	8.1
Highway Segment	Total Highway Segment Crashes	0.93	47.0	1.05	53.0	1.98	100.0
	Total Crashes	0.93	47.0	1.05	53.0	1.98	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Evaluation Date: Wed Jan 03 15:50:07 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 2
Project Comment: Created Tue Jul 18 15:48:57 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment ROUTE 1
Highway Comment: Imported from MDL-02 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 2
Evaluation Comment: Created Wed Jan 03 15:49:33 EST 2018

Minimum Station: 10+00.000
Maximum Station: 35+25.118
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 35+25.118
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Multilane
Model Category: Urban/Suburban Arterial
Calibration Factor: 3SG=1.0; 3ST=1.0; 4U=1.0;

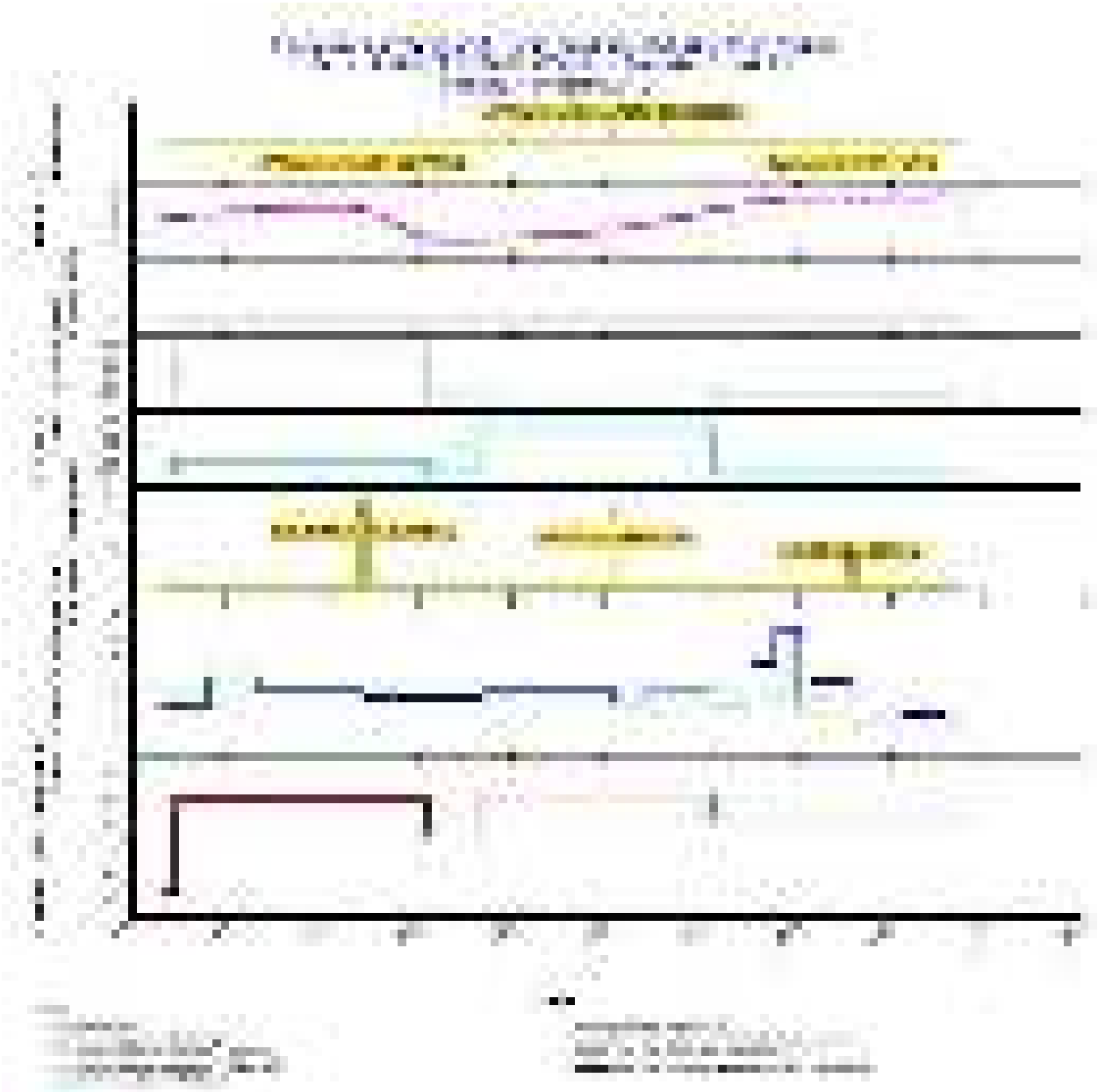

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	4U	10+00.000	10+34.381	34.38	0.0065	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.00	12.00
2	4U	10+34.381	11+42.064	107.68	0.0204	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.00	12.00
3	4U	11+42.064	13+07.524	165.46	0.0313	2035-2037: 31,200	0	2	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.00	12.00
4	4U	13+07.524	16+34.000	326.48	0.0618	2035-2037: 31,200	0	2	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.50	12.00
5	4U	16+34.000	18+31.076	197.08	0.0373	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00
6	4U	18+31.076	19+18.300	87.22	0.0165	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00
7	4U	19+18.300	19+95.151	76.85	0.0146	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00
8	4U	19+95.151	20+05.449	10.30	0.0019	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00
9	4U	20+05.449	24+28.000	422.55	0.0800	2035-2037: 37,440	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.50	12.00
10	4U	24+28.000	25+37.097	109.10	0.0207	2035-2037: 34,666	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.00	12.00
11	4U	25+37.097	27+26.192	189.09	0.0358	2035-2037: 34,666	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.00	12.00
12	4U	27+26.192	27+36.197	10.01	0.0019	2035-2037: 34,666	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.90	12.00
13	4U	27+36.197	27+51.000	14.80	0.0028	2035-2037: 34,666	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.64	12.00
14	4U	27+51.000	28+57.849	106.85	0.0202	2035-2037: 34,666	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.24	12.00
15	4U	28+57.849	29+36.197	78.35	0.0148	2035-2037: 34,666	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.00	12.00
16	4U	29+36.197	30+15.869	79.67	0.0151	2035-2037: 34,666	0	2	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.00	12.00
17	4U	30+15.869	30+50.154	34.28	0.0065	2035-2037: 34,666	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.00	12.00
18	4U	30+50.154	31+81.000	130.85	0.0248	2035-2037: 34,666	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.75	12.00
19	4U	31+81.000	33+40.075	159.07	0.0301	2035-2037: 18,150	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.50	12.00
20	4U	33+40.075	34+74.000	133.93	0.0254	2035-2037: 18,150	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.50	12.00
21	4U	34+74.000	35+25.118	51.12	0.0097	2035-2037: 18,150	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.50	11.68

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/SHORT BEACH RD	16+33.802	2035-2037: 37,440	2035-2037: 16,099	3	Signalized	Three-Legged Signalized	1	2	0	15	false	false	false	0	0	6	false
2	ROUTE 1/CONNECTOR	24+27.525	2035-2037: 37,440	2035-2037: 18,662	3	Signalized	Three-Legged Signalized	3	2	0	15	false	false	false	0	0	7	false
3	ROUTE 1/ROUTE 146	31+80.002	2035-2037: 34,666	2035-2037: 15,101	3	Stop-Controlled	Three-Legged w/STOP control	2	1			false	false	false				false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.4782
Average Future Road AADT (vpd)	32,417
Expected Crashes	
Total Crashes	73.35
Fatal and Injury Crashes	22.02
Property-Damage-Only Crashes	51.33
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	30
Percent Property-Damage-Only Crashes (%)	70
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	51.1244
Fatal and Injury Crash Rate (crashes/mi/yr)	15.3505
Property-Damage-Only Crash Rate (crashes/mi/yr)	35.7739
Expected Travel Crash Rate	
Total Travel (million veh-mi)	16.98
Travel Crash Rate (crashes/million veh-mi)	4.32
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	1.30
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	3.02

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	10+34.381	0.0065	0.196	10.0298	0.88		
2	10+34.381	11+42.064	0.0204	0.614	10.0298	0.88		
3	11+42.064	13+07.524	0.0313	1.773	18.8590	1.66		
4	13+07.524	16+34.000	0.0618	2.691	14.5045	1.27		
ROUTE 1/SHORT BEACH RD	16+33.802			22.006			0.47	7.3355
5	16+34.000	18+31.076	0.0373	1.412	12.6097	0.92		
6	18+31.076	19+18.300	0.0165	0.625	12.6097	0.92		
7	19+18.300	19+95.151	0.0146	0.551	12.6097	0.92		
8	19+95.151	20+05.449	0.0020	0.074	12.6097	0.92		
9	20+05.449	24+28.000	0.0800	3.541	14.7502	1.08		
ROUTE 1/CONNECTOR	24+27.525			19.702			0.40	6.5675
10	24+28.000	25+37.097	0.0207	0.710	11.4465	0.91		
11	25+37.097	27+26.192	0.0358	1.699	15.8169	1.25		
12	27+26.192	27+36.197	0.0019	0.065	11.4465	0.91		
13	27+36.197	27+51.000	0.0028	0.096	11.4465	0.91		
14	27+51.000	28+57.849	0.0202	0.695	11.4465	0.91		
15	28+57.849	29+36.197	0.0148	0.979	21.9946	1.74		
16	29+36.197	30+15.869	0.0151	1.457	32.1921	2.54		
17	30+15.869	30+50.154	0.0065	0.223	11.4465	0.91		
18	30+50.154	31+81.000	0.0248	1.321	17.7625	1.40		
ROUTE 1/ROUTE 146	31+80.002			11.700			0.31	3.8998
19	31+81.000	33+40.075	0.0301	0.462	5.1163	0.77		
20	33+40.075	34+74.000	0.0254	0.609	8.0069	1.21		
21	34+74.000	35+25.118	0.0097	0.149	5.1163	0.77		

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	10+34.381	0.0065	0.196	10.0298	0.88
Simple Curve 1	10+34.381	18+31.076	0.1509	6.489	14.3354	1.21
Tangent	18+31.076	20+05.449	0.0330	1.249	12.6097	0.92
Simple Curve 2	20+05.449	27+36.197	0.1384	6.015	14.4877	1.09
Tangent	27+36.197	35+25.118	0.1494	5.991	13.3662	1.25

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Collision with Bicycle	0.04	0.1	0.00	0.0	0.04	0.1
Highway Segment	Collision with Fixed Object	0.29	0.4	1.38	1.9	1.67	2.3
Highway Segment	Collision with Other Object	0.01	0.0	0.05	0.1	0.06	0.1
Highway Segment	Other Single-vehicle Collision	0.18	0.2	0.27	0.4	0.45	0.6
Highway Segment	Collision with Pedestrian	0.18	0.2	0.00	0.0	0.18	0.2
Highway Segment	Total Segment Single Vehicle Crashes	0.70	1.0	1.70	2.3	2.40	3.3
Highway Segment	Angle Collision	0.67	0.9	1.19	1.6	1.86	2.5
Highway Segment	Driveway-related Collision	1.60	2.2	3.09	4.2	4.69	6.4
Highway Segment	Head-on Collision	0.28	0.4	0.04	0.1	0.32	0.4
Highway Segment	Other Multi-vehicle Collision	0.21	0.3	0.73	1.0	0.94	1.3
Highway Segment	Rear-end Collision	1.89	2.6	4.63	6.3	6.52	8.9
Highway Segment	Sideswipe, Opposite Direction Collision	0.30	0.4	0.28	0.4	0.59	0.8
Highway Segment	Sideswipe, Same Direction Collision	0.34	0.5	2.28	3.1	2.62	3.6
Highway Segment	Total Segment Multiple Vehicle Crashes	5.31	7.2	12.23	16.7	17.54	23.9
Highway Segment	Total Highway Segment Crashes	6.01	8.2	13.94	19.0	19.94	27.2
Intersection	Collision with Animal	0.00	0.0	0.02	0.0	0.02	0.0
Intersection	Collision with Bicycle	0.63	0.9	0.00	0.0	0.63	0.9
Intersection	Collision with Fixed Object	0.68	0.9	2.03	2.8	2.71	3.7
Intersection	Non-Collision	0.18	0.2	0.04	0.1	0.22	0.3
Intersection	Collision with Other Object	0.09	0.1	0.17	0.2	0.27	0.4
Intersection	Other Single-vehicle Collision	0.04	0.1	0.04	0.1	0.09	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.01	0.0
Intersection	Collision with Pedestrian	0.30	0.4	0.00	0.0	0.30	0.4
Intersection	Total Intersection Single Vehicle Crashes	1.93	2.6	2.31	3.2	4.24	5.8
Intersection	Angle Collision	4.11	5.6	7.60	10.4	11.71	16.0
Intersection	Head-on Collision	0.55	0.8	0.72	1.0	1.28	1.7
Intersection	Other Multi-vehicle Collision	0.82	1.1	7.23	9.9	8.05	11.0
Intersection	Rear-end Collision	7.40	10.1	18.34	25.0	25.73	35.1
Intersection	Sideswipe	1.20	1.6	1.18	1.6	2.39	3.3
Intersection	Total Intersection Multiple Vehicle Crashes	14.09	19.2	35.08	47.8	49.17	67.0
Intersection	Total Intersection Crashes	16.02	21.8	37.39	51.0	53.41	72.8
	Total Crashes	22.02	30.0	51.33	70.0	73.35	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 7. Evaluation Message

Start Location	End Location	Message
24+27.525	24+27.525	for intersection #2 (24+27.525 to 24+27.525), minor road traffic volume (18,662 vpd) for 2035 exceeds model limit (16,400 vpd) for reliable results for intersection type 3SG
24+27.525	24+27.525	for intersection #2 (24+27.525 to 24+27.525), minor road traffic volume (18,662 vpd) for 2036 exceeds model limit (16,400 vpd) for reliable results for intersection type 3SG
24+27.525	24+27.525	for intersection #2 (24+27.525 to 24+27.525), minor road traffic volume (18,662 vpd) for 2037 exceeds model limit (16,400 vpd) for reliable results for intersection type 3SG
31+80.002	31+80.002	for intersection #3 (31+80.002 to 31+80.002), minor road traffic volume (15,101 vpd) for 2035 exceeds model limit (9,300 vpd) for reliable results for intersection type 3ST
31+80.002	31+80.002	for intersection #3 (31+80.002 to 31+80.002), minor road traffic volume (15,101 vpd) for 2036 exceeds model limit (9,300 vpd) for reliable results for intersection type 3ST
31+80.002	31+80.002	for intersection #3 (31+80.002 to 31+80.002), minor road traffic volume (15,101 vpd) for 2037 exceeds model limit (9,300 vpd) for reliable results for intersection type 3ST

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

Report Generated: Jan 3, 2018 3:51 PM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 15:51:02 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 2
Project Comment: Created Tue Jul 18 15:48:57 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment ROUTE 146
Highway Comment: Imported from MDL-02 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 2
Evaluation Comment: Created Wed Jan 03 15:50:40 EST 2018

Minimum Station: 10+00.000
Maximum Station: 17+29.755
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 17+29.755
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3ST=1.0;

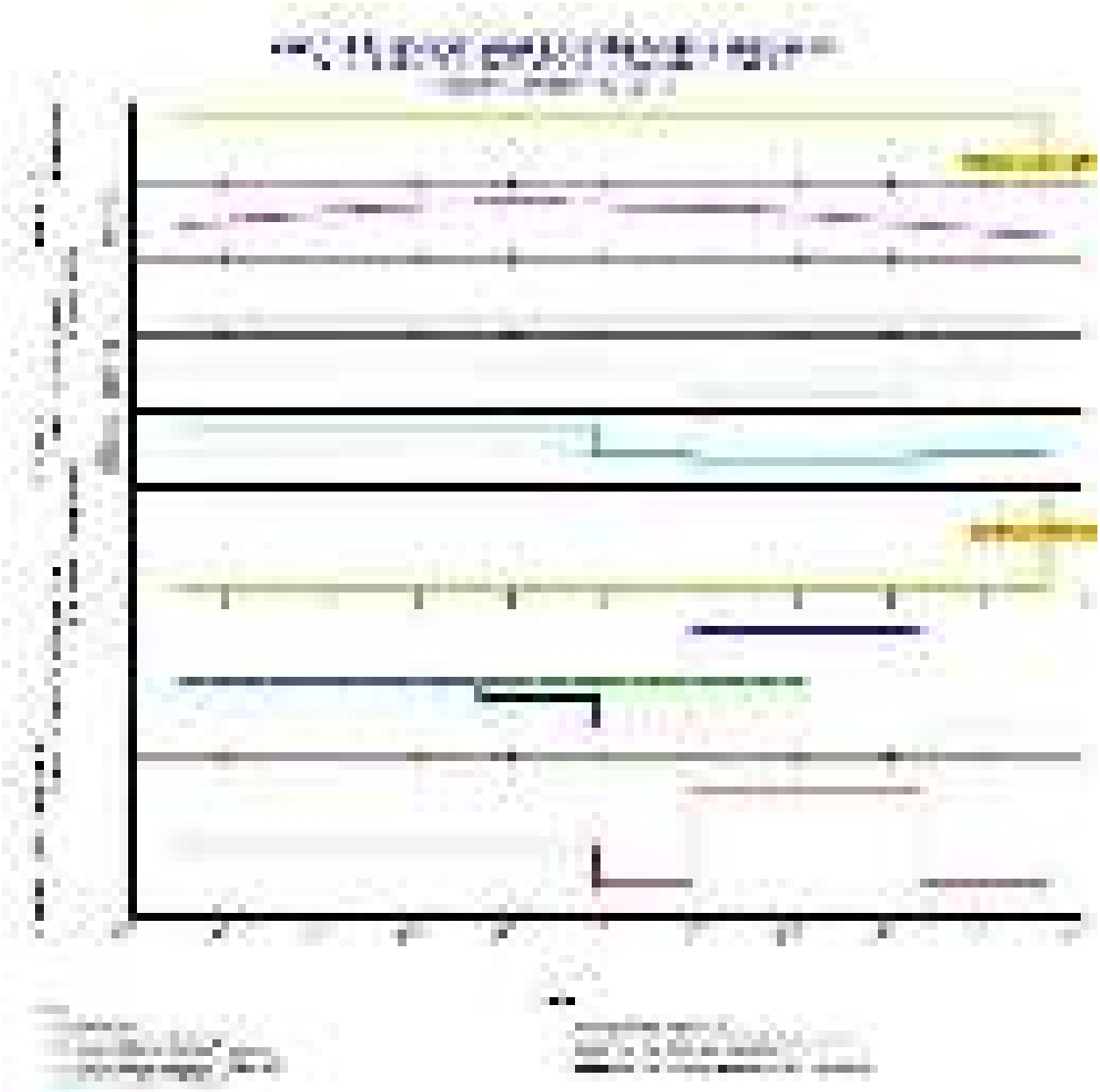

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	12+53.540	253.54	0.0480	2035-2037: 15,101	0	0	0	0	0	4	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.00	12.00
2	2U	12+53.540	13+51.899	98.36	0.0186	2035-2037: 15,101	0	0	0	0	0	1	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.00	12.00
3	2U	13+51.899	14+32.678	80.78	0.0153	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.00	12.00
4	2U	14+32.678	16+24.892	192.21	0.0364	2035-2037: 15,101	0	0	0	1	1	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.00	12.00
5	2U	16+24.892	17+29.755	104.86	0.0199	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/ROUTE 146	17+29.752	2035-2037: 34,666	2035-2037: 15,101	3	Stop-Controlled	Three-Legged w/STOP control	2	1			false	false	false				false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.1382
Average Future Road AADT (vpd)	15,101
Expected Crashes	
Total Crashes	13.73
Fatal and Injury Crashes	3.91
Property-Damage-Only Crashes	9.82
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	28
Percent Property-Damage-Only Crashes (%)	72
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	33.1119
Fatal and Injury Crash Rate (crashes/mi/yr)	9.4300
Property-Damage-Only Crash Rate (crashes/mi/yr)	23.6819
Expected Travel Crash Rate	
Total Travel (million veh-mi)	2.29
Travel Crash Rate (crashes/million veh-mi)	6.01
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	1.71
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	4.30

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	12+53.540	0.0480	0.703	4.8821	0.89		
2	12+53.540	13+51.899	0.0186	0.246	4.4007	0.80		
3	13+51.899	14+32.678	0.0153	0.162	3.5282	0.64		
4	14+32.678	16+24.892	0.0364	0.708	6.4860	1.18		
5	16+24.892	17+29.755	0.0199	0.210	3.5282	0.64		
ROUTE 1/ROUTE 146	17+29.752			11.700			0.31	3.8998

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Simple Curve 1	10+00.000	13+51.899	0.0666	0.949	4.7475	0.86
Tangent	13+51.899	14+32.678	0.0153	0.162	3.5282	0.64
Simple Curve 2	14+32.678	16+24.892	0.0364	0.708	6.4860	1.18
Tangent	16+24.892	17+29.755	0.0199	0.210	3.5282	0.64

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.02	0.1	0.02	0.2
Highway Segment	Collision with Bicycle	0.01	0.1	0.00	0.0	0.01	0.1
Highway Segment	Collision with Fixed Object	0.06	0.4	0.23	1.7	0.29	2.1
Highway Segment	Collision with Other Object	0.00	0.0	0.00	0.0	0.01	0.0
Highway Segment	Other Single-vehicle Collision	0.02	0.1	0.05	0.4	0.07	0.5
Highway Segment	Collision with Pedestrian	0.01	0.1	0.00	0.0	0.01	0.1
Highway Segment	Total Segment Single Vehicle Crashes	0.09	0.7	0.31	2.2	0.40	2.9
Highway Segment	Angle Collision	0.03	0.2	0.06	0.4	0.09	0.6
Highway Segment	Driveway-related Collision	0.18	1.3	0.38	2.8	0.56	4.1
Highway Segment	Head-on Collision	0.02	0.2	0.00	0.0	0.02	0.2
Highway Segment	Other Multi-vehicle Collision	0.01	0.1	0.04	0.3	0.05	0.4
Highway Segment	Rear-end Collision	0.23	1.7	0.59	4.3	0.82	5.9
Highway Segment	Sideswipe, Opposite Direction Collision	0.02	0.2	0.04	0.3	0.06	0.5
Highway Segment	Sideswipe, Same Direction Collision	0.01	0.0	0.02	0.2	0.03	0.2
Highway Segment	Total Segment Multiple Vehicle Crashes	0.49	3.6	1.14	8.3	1.63	11.9
Highway Segment	Total Highway Segment Crashes	0.59	4.3	1.44	10.5	2.03	14.8
Intersection	Collision with Animal	0.00	0.0	0.01	0.1	0.01	0.1
Intersection	Collision with Bicycle	0.18	1.3	0.00	0.0	0.18	1.3
Intersection	Collision with Fixed Object	0.20	1.4	0.55	4.0	0.75	5.5
Intersection	Non-Collision	0.03	0.2	0.02	0.1	0.05	0.3
Intersection	Collision with Other Object	0.02	0.2	0.06	0.4	0.08	0.6
Intersection	Other Single-vehicle Collision	0.01	0.1	0.01	0.1	0.03	0.2
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.24	1.7	0.00	0.0	0.24	1.7
Intersection	Total Intersection Single Vehicle Crashes	0.68	4.9	0.67	4.8	1.34	9.8
Intersection	Angle Collision	0.91	6.6	2.02	14.7	2.93	21.3
Intersection	Head-on Collision	0.12	0.9	0.18	1.3	0.30	2.2
Intersection	Other Multi-vehicle Collision	0.17	1.3	1.81	13.2	1.98	14.5
Intersection	Rear-end Collision	1.11	8.1	3.39	24.7	4.51	32.8
Intersection	Sideswipe	0.33	2.4	0.31	2.2	0.64	4.7
Intersection	Total Intersection Multiple Vehicle Crashes	2.65	19.3	7.71	56.2	10.36	75.5
Intersection	Total Intersection Crashes	3.32	24.2	8.38	61.0	11.70	85.2
	Total Crashes	3.91	28.5	9.82	71.5	13.73	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 7. Evaluation Message

Start Location	End Location	Message
17+29.752	17+29.752	for intersection #1 (17+29.752 to 17+29.752), minor road traffic volume (15,101 vpd) for 2035 exceeds model limit (9,300 vpd) for reliable results for intersection type 3ST
17+29.752	17+29.752	for intersection #1 (17+29.752 to 17+29.752), minor road traffic volume (15,101 vpd) for 2036 exceeds model limit (9,300 vpd) for reliable results for intersection type 3ST
17+29.752	17+29.752	for intersection #1 (17+29.752 to 17+29.752), minor road traffic volume (15,101 vpd) for 2037 exceeds model limit (9,300 vpd) for reliable results for intersection type 3ST

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 3, 2018

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Report Overview

Report Generated: Jan 3, 2018 3:52 PM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Jan 03 15:51:59 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 2
Project Comment: Created Tue Jul 18 15:48:57 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment SHORT BEACH RD
Highway Comment: Imported from MDL-02 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 2
Evaluation Comment: Created Wed Jan 03 15:51:34 EST 2018

Minimum Station: 10+00.000
Maximum Station: 15+13.297
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 15+13.297
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

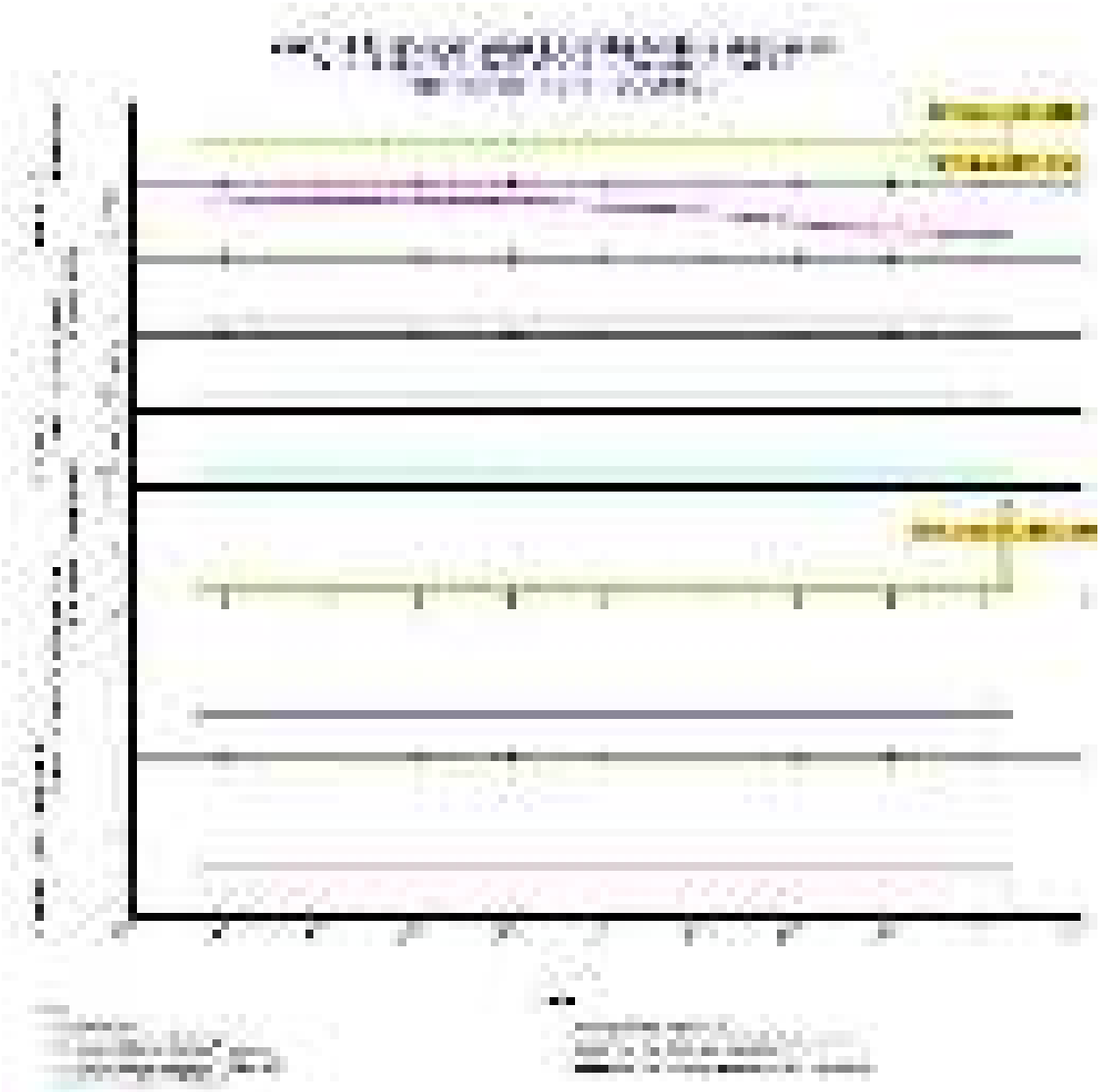

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	15+13.297	513.30	0.0972	2035-2037: 16,099	0	2	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.00	11.50

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/SHORT BEACH RD	15+13.294	2035-2037: 37,440	2035-2037: 16,099	3	Signalized	Three-Legged Signalized	1	2	0	15	false	false	false	0	0	6	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.0972
Average Future Road AADT (vpd)	16,099
Expected Crashes	
Total Crashes	23.46
Fatal and Injury Crashes	7.14
Property-Damage-Only Crashes	16.31
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	30
Percent Property-Damage-Only Crashes (%)	70
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	80.4274
Fatal and Injury Crash Rate (crashes/mi/yr)	24.4971
Property-Damage-Only Crash Rate (crashes/mi/yr)	55.9303
Expected Travel Crash Rate	
Total Travel (million veh-mi)	1.71
Travel Crash Rate (crashes/million veh-mi)	13.69
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	4.17
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	9.52

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	15+13.297	0.0972	1.450	4.9710	0.85		
ROUTE 1/SHORT BEACH RD	15+13.294			22.006			0.47	7.3355

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	15+13.297	0.0972	1.450	4.9710	0.85

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.01	0.1	0.02	0.1
Highway Segment	Collision with Bicycle	0.01	0.0	0.00	0.0	0.01	0.0
Highway Segment	Collision with Fixed Object	0.04	0.2	0.17	0.7	0.21	0.9
Highway Segment	Collision with Other Object	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Single-vehicle Collision	0.01	0.1	0.04	0.2	0.05	0.2
Highway Segment	Collision with Pedestrian	0.01	0.0	0.00	0.0	0.01	0.0
Highway Segment	Total Segment Single Vehicle Crashes	0.07	0.3	0.22	1.0	0.29	1.2
Highway Segment	Angle Collision	0.02	0.1	0.05	0.2	0.07	0.3
Highway Segment	Driveway-related Collision	0.10	0.4	0.22	0.9	0.32	1.4
Highway Segment	Head-on Collision	0.02	0.1	0.00	0.0	0.02	0.1
Highway Segment	Other Multi-vehicle Collision	0.01	0.0	0.03	0.1	0.04	0.2
Highway Segment	Rear-end Collision	0.18	0.8	0.46	2.0	0.64	2.7
Highway Segment	Sideswipe, Opposite Direction Collision	0.02	0.1	0.03	0.1	0.05	0.2
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.0	0.02	0.1	0.02	0.1
Highway Segment	Total Segment Multiple Vehicle Crashes	0.35	1.5	0.81	3.5	1.16	4.9
Highway Segment	Total Highway Segment Crashes	0.41	1.8	1.03	4.4	1.45	6.2
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.24	1.0	0.00	0.0	0.24	1.0
Intersection	Collision with Fixed Object	0.25	1.1	0.78	3.3	1.02	4.4
Intersection	Non-Collision	0.08	0.3	0.01	0.1	0.09	0.4
Intersection	Collision with Other Object	0.04	0.1	0.06	0.3	0.09	0.4
Intersection	Other Single-vehicle Collision	0.02	0.1	0.02	0.1	0.03	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.03	0.1	0.00	0.0	0.03	0.1
Intersection	Total Intersection Single Vehicle Crashes	0.65	2.8	0.87	3.7	1.51	6.5
Intersection	Angle Collision	1.70	7.3	2.94	12.5	4.64	19.8
Intersection	Head-on Collision	0.23	1.0	0.29	1.2	0.52	2.2
Intersection	Other Multi-vehicle Collision	0.35	1.5	2.85	12.2	3.20	13.6
Intersection	Rear-end Collision	3.34	14.2	7.87	33.5	11.21	47.8
Intersection	Sideswipe	0.46	2.0	0.46	2.0	0.92	3.9
Intersection	Total Intersection Multiple Vehicle Crashes	6.08	25.9	14.41	61.4	20.49	87.4
Intersection	Total Intersection Crashes	6.73	28.7	15.28	65.1	22.01	93.8
	Total Crashes	7.14	30.5	16.31	69.5	23.46	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

IHSDM Predicted Crashes For Alternate 3

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

April 11, 2018

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Report Overview

Report Generated: Apr 11, 2018 10:23 AM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Apr 11 10:23:43 EDT 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 3
Project Comment: Created Thu Jul 20 11:27:13 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment BRANFORD CONNECTOR
Highway Comment: Imported from MDL-03 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 3
Evaluation Comment: Created Wed Apr 11 10:23:26 EDT 2018

Minimum Station: 10+00.000
Maximum Station: 59+33.096
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 59+33.096
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0; 4SG=1.0; 4U=1.0;

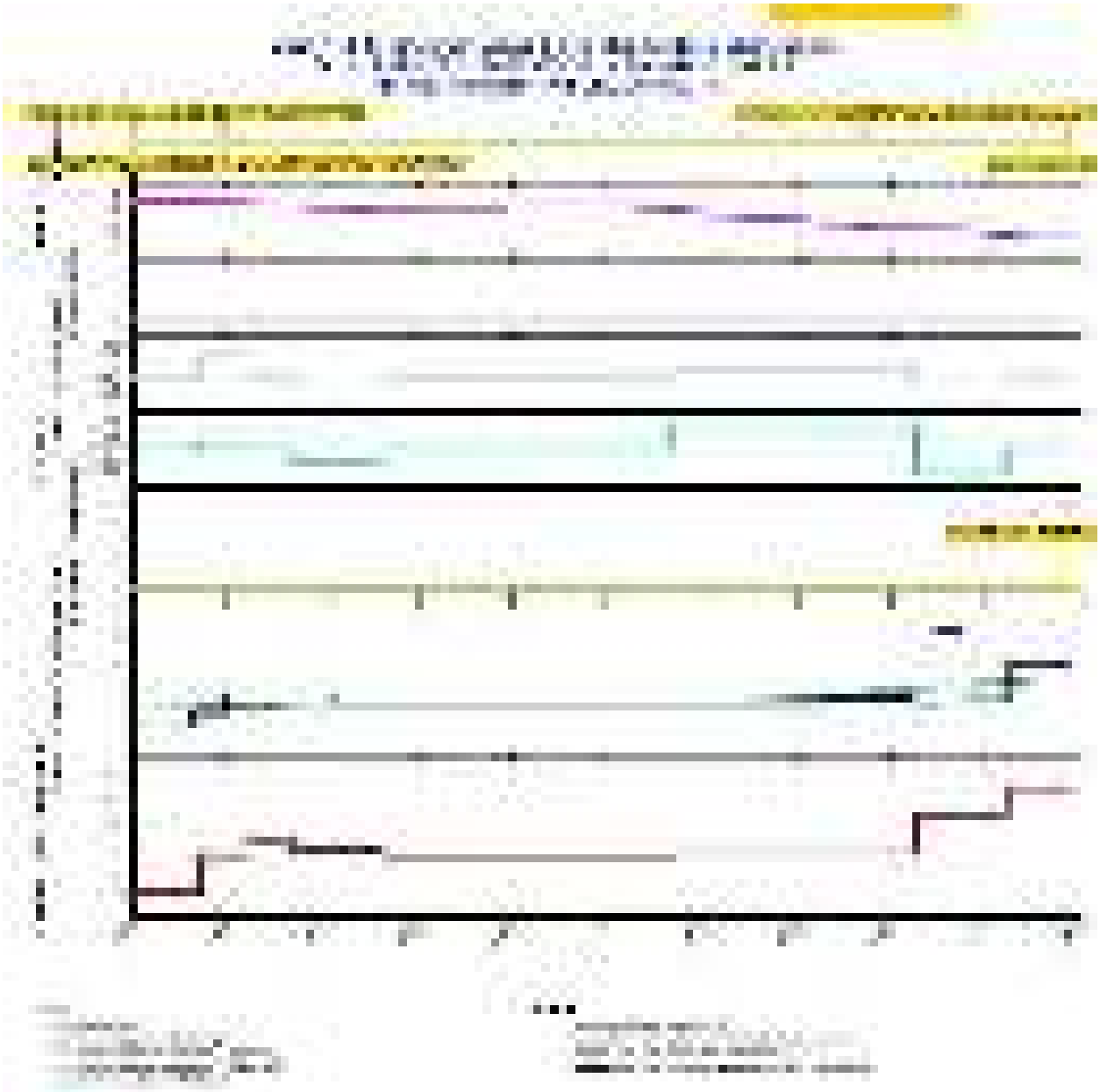

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	13+09.107	309.11	0.0585	2035-2037: 10,150	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
2	2U	13+09.107	13+60.737	51.63	0.0098	2035-2037: 15,700	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
3	2U	13+60.737	14+94.235	133.50	0.0253	2035-2037: 15,700	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
4	2U	14+94.235	16+12.607	118.37	0.0224	2035-2037: 21,362	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
5	2U	16+12.607	18+41.623	229.02	0.0434	2035-2037: 21,362	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
6	2U	18+41.623	20+59.107	217.48	0.0412	2035-2037: 21,362	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
7	2U	20+59.107	23+19.482	260.38	0.0493	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
8	2U	23+19.482	38+54.118	1,534.64	0.2907	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	8.00	12.00
9	2U	38+54.118	45+39.000	684.88	0.1297	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.74	12.00
10	2U	45+39.000	45+47.814	8.81	0.0017	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	7.34	12.00
11	2U	45+47.814	45+71.000	23.19	0.0044	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	6.85	12.00
12	2U	45+71.000	46+04.000	33.00	0.0063	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.98	12.00
13	2U	46+04.000	46+36.000	32.00	0.0061	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.98	12.00
14	2U	46+36.000	48+64.069	228.07	0.0432	2035-2037: 18,412	0	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.24	12.00
15	2U	48+64.069	51+17.564	253.49	0.0480	2035-2037: 18,412	0	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00
16	2U	51+17.564	51+31.484	13.92	0.0026	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00
17	2U	51+31.484	52+37.818	106.33	0.0201	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	12.00
18	2U	52+37.818	53+77.000	139.18	0.0264	2035-2037: 18,412	1	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.00	12.00
19	4U	53+77.000	54+15.677	38.68	0.0073	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.00	12.00
20	4U	54+15.677	55+17.257	101.58	0.0192	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.00	12.00
21	4U	55+17.257	55+66.765	49.51	0.0094	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.00	12.00
22	4U	55+66.765	56+11.785	45.02	0.0085	2035-2037: 18,412	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.00	12.00
23	4U	56+11.785	59+33.096	321.31	0.0609	2035-2037: 18,412	1	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	CONNECTOR/SB ON OFF RAMPS	10+10.142	2035-2037: 10,550	2035-2037: 10,150	3	Stop-Controlled	Three-Legged w/STOP control	1	0			false	false	false				false
2	CONNECTOR/NB OFF RAMP BYPASS	14+94.235	2035-2037: 5,662	2035-2037: 21,362	3	Uncontrolled	Unknown	0	0			false	false	false				false
3	CONNECTOR/NB SERVICE PLAZA RAMP	20+59.107	2035-2037: 2,950	2035-2037: 21,362	3	Uncontrolled	Unknown	0	0			false	false	false				false
4	ROUTE 1/CONNECTOR/ROUTE 146	59+33.093	2035-2037: 37,440	2035-2037: 18,412	4	Signalized	Four-Legged Signalized	4	4	0	20	false	false	false	0	0	9	false
5	CONNECTOR/NB ON OFF RAMPS	12+89.336	2035-2037: 8,362	2035-2037: 15,700	4	Signalized	Four-Legged Signalized	0	1	0	20	false	false	false	0	0	4	false
6	CONNNECTOR/COMM PKWY	48+64.069	2035-2037: 18,412	2035-2037: 3,120	3	Signalized	Three-Legged Signalized	3	3	0	15	false	false	false	0	0	6	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.9343
Average Future Road AADT (vpd)	18,130
Expected Crashes	
Total Crashes	37.41
Fatal and Injury Crashes	12.20
Property-Damage-Only Crashes	25.21
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	33
Percent Property-Damage-Only Crashes (%)	67
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	13.3452
Fatal and Injury Crash Rate (crashes/mi/yr)	4.3514
Property-Damage-Only Crash Rate (crashes/mi/yr)	8.9938
Expected Travel Crash Rate	
Total Travel (million veh-mi)	18.55
Travel Crash Rate (crashes/million veh-mi)	2.02
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.66
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	1.36

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	13+09.107	0.0585	0.365	2.0775	0.56		
2	13+09.107	13+60.737	0.0098	0.109	3.7242	0.65		
3	13+60.737	14+94.235	0.0253	0.282	3.7242	0.65		
4	14+94.235	16+12.607	0.0224	0.389	5.7825	0.74		
5	16+12.607	18+41.623	0.0434	0.752	5.7825	0.74		
6	18+41.623	20+59.107	0.0412	0.715	5.7825	0.74		
7	20+59.107	23+19.482	0.0493	0.690	4.6643	0.69		
8	23+19.482	38+54.118	0.2907	4.067	4.6643	0.69		
9	38+54.118	45+39.000	0.1297	1.815	4.6643	0.69		
10	45+39.000	45+47.814	0.0017	0.023	4.6643	0.69		
11	45+47.814	45+71.000	0.0044	0.061	4.6643	0.69		
12	45+71.000	46+04.000	0.0063	0.087	4.6643	0.69		
13	46+04.000	46+36.000	0.0061	0.085	4.6643	0.69		
14	46+36.000	48+64.069	0.0432	0.690	5.3237	0.79		
CONNNECTOR/COMM PKWY	48+64.069							
15	48+64.069	51+17.564	0.0480	0.757	5.2576	0.78		
16	51+17.564	51+31.484	0.0026	0.037	4.6643	0.69		
17	51+31.484	52+37.818	0.0201	0.282	4.6643	0.69		
18	52+37.818	53+77.000	0.0264	1.041	13.1684	1.96		
19	53+77.000	54+15.677	0.0073	0.114	5.2075	0.78		
20	54+15.677	55+17.257	0.0192	0.301	5.2075	0.78		
21	55+17.257	55+66.765	0.0094	0.146	5.2075	0.78		
22	55+66.765	56+11.785	0.0085	0.133	5.2075	0.78		
23	56+11.785	59+33.096	0.0609	1.653	9.0521	1.35		
ROUTE 1/CONNECTOR/ROUTE 146	59+33.093			22.809			0.46	7.6031

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	13+60.737	0.0683	0.474	2.3132	0.57
Simple Curve 1	13+60.737	16+12.607	0.0477	0.671	4.6915	0.69
Tangent	16+12.607	18+41.623	0.0434	0.752	5.7825	0.74
Simple Curve 2	18+41.623	23+19.482	0.0905	1.405	5.1732	0.72
Tangent	23+19.482	38+54.118	0.2907	4.067	4.6643	0.69
Simple Curve 3	38+54.118	51+31.484	0.2419	3.556	4.8998	0.73
Simple Curve 4	51+31.484	56+11.785	0.0910	2.018	7.3942	1.10
Tangent	56+11.785	59+33.096	0.0609	1.653	9.0521	1.35

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.01	0.0	0.14	0.4	0.15	0.4
Highway Segment	Collision with Bicycle	0.05	0.1	0.00	0.0	0.05	0.1
Highway Segment	Collision with Fixed Object	0.39	1.0	1.75	4.7	2.13	5.7
Highway Segment	Collision with Other Object	0.01	0.0	0.03	0.1	0.04	0.1
Highway Segment	Other Single-vehicle Collision	0.14	0.4	0.37	1.0	0.51	1.4
Highway Segment	Collision with Pedestrian	0.08	0.2	0.00	0.0	0.08	0.2
Highway Segment	Total Segment Single Vehicle Crashes	0.68	1.8	2.29	6.1	2.97	7.9
Highway Segment	Angle Collision	0.29	0.8	0.61	1.6	0.90	2.4
Highway Segment	Driveway-related Collision	0.51	1.4	1.02	2.7	1.53	4.1
Highway Segment	Head-on Collision	0.20	0.5	0.03	0.1	0.23	0.6
Highway Segment	Other Multi-vehicle Collision	0.10	0.3	0.40	1.1	0.50	1.3
Highway Segment	Rear-end Collision	2.06	5.5	5.31	14.2	7.38	19.7
Highway Segment	Sideswipe, Opposite Direction Collision	0.22	0.6	0.37	1.0	0.59	1.6
Highway Segment	Sideswipe, Same Direction Collision	0.08	0.2	0.42	1.1	0.50	1.3
Highway Segment	Total Segment Multiple Vehicle Crashes	3.46	9.2	8.17	21.8	11.63	31.1
Highway Segment	Total Highway Segment Crashes	4.14	11.1	10.46	27.9	14.60	39.0
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.34	0.9	0.00	0.0	0.34	0.9
Intersection	Collision with Fixed Object	0.19	0.5	0.76	2.0	0.95	2.5
Intersection	Non-Collision	0.04	0.1	0.03	0.1	0.07	0.2
Intersection	Collision with Other Object	0.02	0.1	0.06	0.2	0.08	0.2
Intersection	Other Single-vehicle Collision	0.01	0.0	0.02	0.1	0.03	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.10	0.3	0.00	0.0	0.10	0.3
Intersection	Total Intersection Single Vehicle Crashes	0.70	1.9	0.87	2.3	1.57	4.2
Intersection	Angle Collision	2.56	6.8	3.39	9.1	5.95	15.9
Intersection	Head-on Collision	0.36	1.0	0.42	1.1	0.78	2.1
Intersection	Other Multi-vehicle Collision	0.41	1.1	2.93	7.8	3.33	8.9
Intersection	Rear-end Collision	3.32	8.9	6.71	17.9	10.03	26.8
Intersection	Sideswipe	0.73	2.0	0.44	1.2	1.18	3.1
Intersection	Total Intersection Multiple Vehicle Crashes	7.38	19.7	13.88	37.1	21.26	56.8
Intersection	Total Intersection Crashes	8.08	21.6	14.75	39.4	22.83	61.0
	Total Crashes	12.22	32.6	25.21	67.4	37.43	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 7. Evaluation Message

Start Location	End Location	Message
10+10.142	10+10.142	for intersection #1 (10+10.142 to 10+10.142), Ramp Terminal: CONNECTOR/SB ON OFF RAMPS can't be evaluated as part of this roadway.
14+94.235	14+94.235	for intersection #2 (14+94.235 to 14+94.235), Ramp Terminal: CONNECTOR/NB OFF RAMP BYPASS can't be evaluated as part of this roadway.
20+59.107	20+59.107	for intersection #3 (20+59.107 to 20+59.107), Ramp Terminal: CONNECTOR/NB SERVICE PLAZA RAMP can't be evaluated as part of this roadway.
12+89.336	12+89.336	for intersection #5 (12+89.336 to 12+89.336), Ramp Terminal: CONNECTOR/NB ON OFF RAMPS can't be evaluated as part of this roadway.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 5, 2018

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Report Overview

Report Generated: Jan 5, 2018 8:19 AM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Fri Jan 05 08:19:25 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 3
Project Comment: Created Thu Jul 20 11:27:13 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment COMMERCIAL PARKWAY
Highway Comment: Imported from MDL-03 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 3
Evaluation Comment: Created Fri Jan 05 08:19:00 EST 2018

Minimum Station: 10+00.000
Maximum Station: 25+28.381
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 25+28.381
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

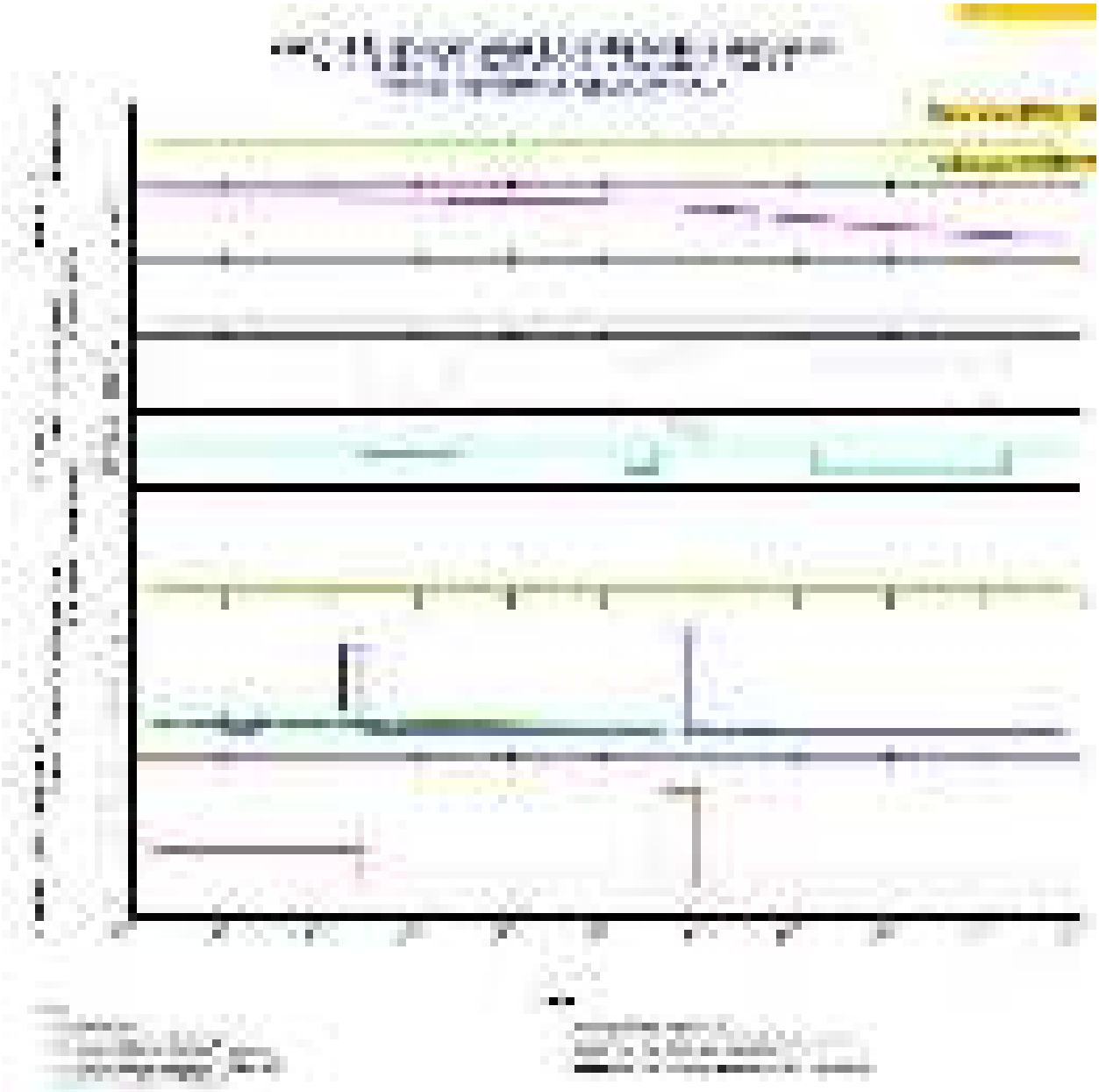

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length (mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	11+22.101	122.10	0.0231	2035-2037: 3,120	1	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.00	12.00
2	2U	11+22.101	11+70.640	48.54	0.0092	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.00	12.00
3	2U	11+70.640	13+13.249	142.61	0.0270	2035-2037: 3,120	1	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.00	12.00
4	2U	13+13.249	13+51.875	38.63	0.0073	2035-2037: 3,120	1	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.00	12.00
5	2U	13+51.875	15+06.198	154.32	0.0292	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.00	12.00
6	2U	15+06.198	16+97.437	191.24	0.0362	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.00	12.00
7	2U	16+97.437	17+92.968	95.53	0.0181	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.00	12.00
8	2U	17+92.968	18+44.883	51.91	0.0098	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.00	12.00
9	2U	18+44.883	18+64.402	19.52	0.0037	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.00	12.00
10	2U	18+64.402	18+97.000	32.60	0.0062	2035-2037: 3,120	1	0	0	1	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	2.50	12.00
11	2U	18+97.000	19+16.375	19.38	0.0037	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.00	12.00
12	2U	19+16.375	19+76.000	59.62	0.0113	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.00	12.00
13	2U	19+76.000	21+15.175	139.18	0.0264	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.00	12.00
14	2U	21+15.175	21+34.000	18.82	0.0036	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.00	12.00
15	2U	21+34.000	21+39.024	5.02	0.0009	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.00	12.00
16	2U	21+39.024	21+44.000	4.98	0.0009	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.25	12.00
17	2U	21+44.000	22+92.000	148.00	0.0280	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	3.75	12.00
18	2U	22+92.000	24+37.338	145.34	0.0275	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	4.00	12.00
19	2U	24+37.338	24+50.000	12.66	0.0024	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	4.00	12.00
20	2U	24+50.000	25+28.381	78.38	0.0148	2035-2037: 3,120	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Low	0	4.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	CONNNECTOR/COMM PKWY	25+28.378	2035-2037: 20,042	2035-2037: 3,120	3	Signalized	Three-Legged Signalized	3	3	0	15	false	false	false	0	0	6	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.2895
Average Future Road AADT (vpd)	3,120
Expected Crashes	
Total Crashes	0.98
Fatal and Injury Crashes	0.34
Property-Damage-Only Crashes	0.63
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	35
Percent Property-Damage-Only Crashes (%)	65
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	1.1246
Fatal and Injury Crash Rate (crashes/mi/yr)	0.3976
Property-Damage-Only Crash Rate (crashes/mi/yr)	0.7269
Expected Travel Crash Rate	
Total Travel (million veh-mi)	0.99
Travel Crash Rate (crashes/million veh-mi)	0.99
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.35
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.64

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	11+22.101	0.0231	0.145	2.0915	1.84
2	11+22.101	11+70.640	0.0092	0.016	0.5937	0.52
3	11+70.640	13+13.249	0.0270	0.167	2.0628	1.81
4	13+13.249	13+51.875	0.0073	0.132	6.0179	5.28
5	13+51.875	15+06.198	0.0292	0.052	0.5937	0.52
6	15+06.198	16+97.437	0.0362	0.065	0.5937	0.52
7	16+97.437	17+92.968	0.0181	0.032	0.5937	0.52
8	17+92.968	18+44.883	0.0098	0.018	0.5937	0.52
9	18+44.883	18+64.402	0.0037	0.007	0.5937	0.52
10	18+64.402	18+97.000	0.0062	0.130	7.0209	6.17
11	18+97.000	19+16.375	0.0037	0.006	0.5937	0.52
12	19+16.375	19+76.000	0.0113	0.020	0.5937	0.52
13	19+76.000	21+15.175	0.0264	0.047	0.5937	0.52
14	21+15.175	21+34.000	0.0036	0.006	0.5937	0.52
15	21+34.000	21+39.024	0.0010	0.002	0.5937	0.52
16	21+39.024	21+44.000	0.0009	0.002	0.5937	0.52
17	21+44.000	22+92.000	0.0280	0.050	0.5937	0.52
18	22+92.000	24+37.338	0.0275	0.049	0.5937	0.52
19	24+37.338	24+50.000	0.0024	0.004	0.5937	0.52
20	24+50.000	25+28.381	0.0148	0.026	0.5937	0.52
CONNNECTOR/COMM PKWY	25+28.378					

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	13+51.875	0.0666	0.461	2.3043	2.02
Simple Curve 1	13+51.875	15+06.198	0.0292	0.052	0.5937	0.52
Tangent	15+06.198	17+92.968	0.0543	0.097	0.5937	0.52
Simple Curve 2	17+92.968	18+44.883	0.0098	0.018	0.5937	0.52
Tangent	18+44.883	18+64.402	0.0037	0.007	0.5937	0.52
Simple Curve 3	18+64.402	19+16.375	0.0098	0.137	4.6249	4.06
Tangent	19+16.375	21+15.175	0.0377	0.067	0.5937	0.52
Simple Curve 4	21+15.175	24+37.338	0.0610	0.109	0.5937	0.52
Tangent	24+37.338	25+28.381	0.0172	0.031	0.5937	0.52

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.3	0.01	1.5	0.02	1.8
Highway Segment	Collision with Bicycle	0.02	1.7	0.00	0.0	0.02	1.7
Highway Segment	Collision with Fixed Object	0.08	7.7	0.17	17.1	0.25	24.8
Highway Segment	Collision with Other Object	0.00	0.1	0.00	0.3	0.00	0.4
Highway Segment	Other Single-vehicle Collision	0.03	2.6	0.04	3.6	0.06	6.2
Highway Segment	Collision with Pedestrian	0.03	3.3	0.00	0.0	0.03	3.3
Highway Segment	Total Segment Single Vehicle Crashes	0.16	15.7	0.23	22.5	0.38	38.1
Highway Segment	Angle Collision	0.00	0.4	0.01	0.9	0.01	1.3
Highway Segment	Driveway-related Collision	0.14	14.1	0.30	29.6	0.44	43.8
Highway Segment	Head-on Collision	0.00	0.3	0.00	0.0	0.00	0.4
Highway Segment	Other Multi-vehicle Collision	0.00	0.1	0.01	0.6	0.01	0.7
Highway Segment	Rear-end Collision	0.04	3.5	0.09	8.6	0.12	12.1
Highway Segment	Sideswipe, Opposite Direction Collision	0.00	0.3	0.01	0.6	0.01	1.0
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.1	0.00	0.3	0.00	0.4
Highway Segment	Total Segment Multiple Vehicle Crashes	0.19	18.9	0.41	40.7	0.60	59.6
Highway Segment	Total Highway Segment Crashes	0.34	34.6	0.63	63.2	0.98	97.8
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Fixed Object	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Non-Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Other Object	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Other Single-vehicle Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.02	2.2	0.00	0.0	0.02	2.2
Intersection	Total Intersection Single Vehicle Crashes	0.02	2.2	0.00	0.0	0.02	2.2
Intersection	Angle Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Other Multi-vehicle Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Rear-end Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Sideswipe	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Total Intersection Multiple Vehicle Crashes	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Total Intersection Crashes	0.02	2.2	0.00	0.0	0.02	2.2
	Total Crashes	0.37	36.8	0.63	63.2	1.00	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

April 11, 2018

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Report Overview

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Apr 11 10:03:01 EDT 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 3
Project Comment: Created Thu Jul 20 11:27:13 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 NB OFF-RAMP
Highway Comment: Imported from MDL-03 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 3
Evaluation Comment: Created Wed Apr 11 10:02:47 EDT 2018

Minimum Station: 10+00.000
Maximum Station: 25+32.501
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 25+32.501
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: EX_RAMP_MV_FI=1.0; EX_RAMP_MV_PDO=1.0; EX_RAMP_SV_FI=1.0; EX_RAMP_SV_PDO=1.0;

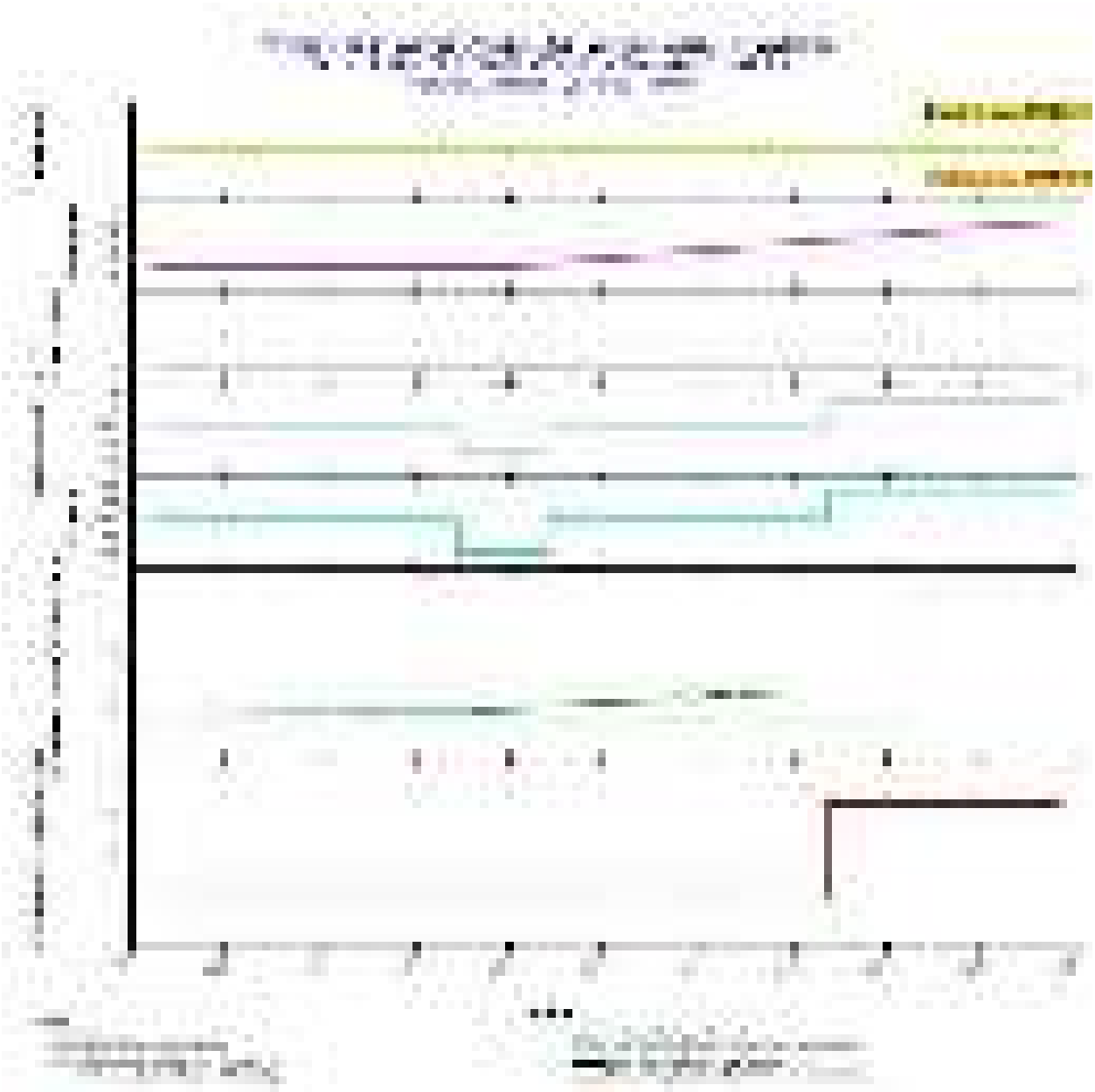

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EX	Urban	10+00.000	22+87.601	1,287.60	0.2439	2035-2037: 8,362
2	1EX	Urban	22+87.601	25+32.501	244.90	0.0464	2035-2037: 8,362

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.2902
Average Future Road AADT (vpd)	8,362
Expected Crashes	
Total Crashes	1.87
Fatal and Injury Crashes	0.88
Property-Damage-Only Crashes	0.99
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	47
Percent Property-Damage-Only Crashes (%)	53
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	2.1457
Fatal and Injury Crash Rate (crashes/mi/yr)	1.0048
Property-Damage-Only Crash Rate (crashes/mi/yr)	1.1408
Expected Travel Crash Rate	
Total Travel (million veh-mi)	2.66
Travel Crash Rate (crashes/million veh-mi)	0.70
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.33
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.37

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	22+87.601	0.2439	1.525	2.0843	0.68
2	22+87.601	25+32.501	0.0464	0.343	2.4680	0.81

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	15+13.671	0.0973	0.608	2.0843	0.68
Simple Curve 1	15+13.671	16+68.079	0.0292	0.183	2.0843	0.68
Tangent	16+68.079	21+38.210	0.0890	0.557	2.0843	0.68
Simple Curve 2	21+38.210	25+32.501	0.0747	0.520	2.3226	0.76

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0223	0.0678	0.2818	0.3438	0.8092
2	0.0050	0.0151	0.0627	0.0765	0.1841
Total	0.0273	0.0828	0.3445	0.4203	0.9934

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.2	0.02	1.1	0.02	1.2
Highway Segment	Collision with Fixed Object	0.61	32.4	0.64	34.4	1.25	66.8
Highway Segment	Collision with Other Object	0.04	2.3	0.12	6.7	0.17	9.0
Highway Segment	Other Single-vehicle Collision	0.17	9.3	0.10	5.1	0.27	14.5
Highway Segment	Collision with Parked Vehicle	0.01	0.7	0.01	0.8	0.03	1.4
Highway Segment	Total Single Vehicle Crashes	0.84	44.9	0.90	48.1	1.74	93.0
Highway Segment	Right-Angle Collision	0.00	0.1	0.00	0.1	0.00	0.2
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Multi-vehicle Collision	0.00	0.1	0.00	0.1	0.00	0.2
Highway Segment	Rear-end Collision	0.03	1.4	0.07	3.5	0.09	5.0
Highway Segment	Sideswipe, Same Direction Collision	0.01	0.3	0.03	1.4	0.03	1.7
Highway Segment	Total Multiple Vehicle Crashes	0.04	1.9	0.10	5.1	0.13	7.0
Highway Segment	Total Highway Segment Crashes	0.88	46.8	0.99	53.2	1.87	100.0
	Total Crashes	0.88	46.8	0.99	53.2	1.87	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

April 11, 2018

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Report Overview

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Evaluation Date: Wed Apr 11 10:03:31 EDT 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 3
Project Comment: Created Thu Jul 20 11:27:13 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 NB OFF RAMP BYPASS
Highway Comment: Created Wed Apr 11 08:56:06 EDT 2018
Highway Version: 1

Evaluation Title: CPM-ALT 3
Evaluation Comment: Created Wed Apr 11 10:03:21 EDT 2018

Minimum Station: 10+00.000
Maximum Station: 13+00.000
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 13+00.000
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: EX_RAMP_MV_FI=1.0; EX_RAMP_MV_PDO=1.0; EX_RAMP_SV_FI=1.0; EX_RAMP_SV_PDO=1.0;

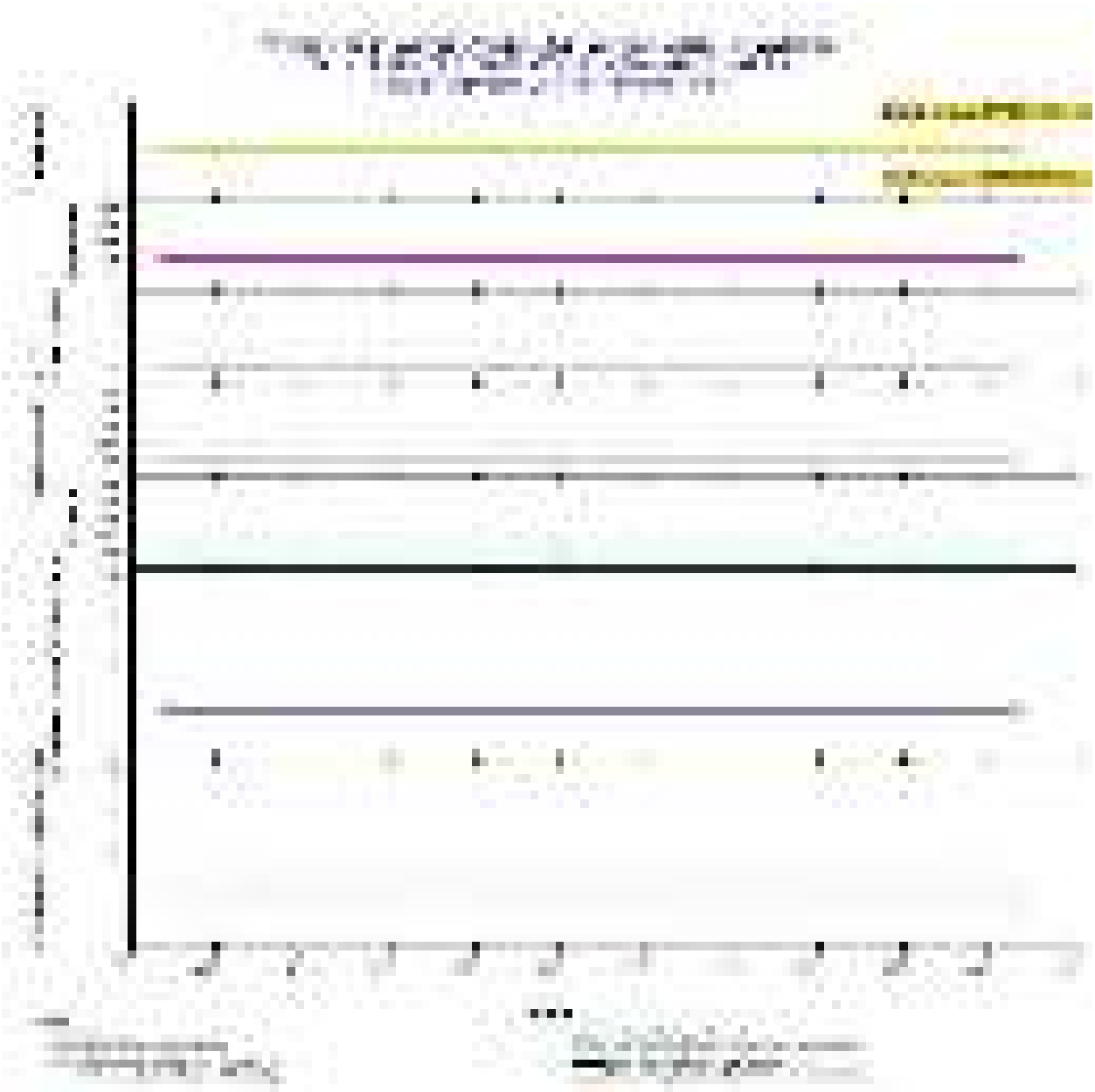

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EX	Urban	10+00.000	13+00.000	300.00	0.0568	2035-2037: 5,662

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.0568
Average Future Road AADT (vpd)	5,662
Expected Crashes	
Total Crashes	0.72
Fatal and Injury Crashes	0.33
Property-Damage-Only Crashes	0.39
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	45
Percent Property-Damage-Only Crashes (%)	55
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	4.2203
Fatal and Injury Crash Rate (crashes/mi/yr)	1.9169
Property-Damage-Only Crash Rate (crashes/mi/yr)	2.3033
Expected Travel Crash Rate	
Total Travel (million veh-mi)	0.35
Travel Crash Rate (crashes/million veh-mi)	2.04
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.93
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	1.11

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	13+00.000	0.0568	0.719	4.2203	2.04

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Simple Curve 1	10+00.000	13+00.000	0.0568	0.719	4.2203	2.04

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0102	0.0309	0.1286	0.1570	0.3926

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.2	0.01	1.2	0.01	1.3
Highway Segment	Collision with Fixed Object	0.23	32.1	0.27	37.5	0.50	69.6
Highway Segment	Collision with Other Object	0.02	2.3	0.05	7.3	0.07	9.5
Highway Segment	Other Single-vehicle Collision	0.07	9.2	0.04	5.6	0.11	14.8
Highway Segment	Collision with Parked Vehicle	0.01	0.7	0.01	0.8	0.01	1.5
Highway Segment	Total Single Vehicle Crashes	0.32	44.4	0.38	52.4	0.70	96.8
Highway Segment	Right-Angle Collision	0.00	0.0	0.00	0.0	0.00	0.1
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Multi-vehicle Collision	0.00	0.0	0.00	0.1	0.00	0.1
Highway Segment	Rear-end Collision	0.01	0.7	0.01	1.5	0.02	2.3
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.2	0.00	0.6	0.01	0.8
Highway Segment	Total Multiple Vehicle Crashes	0.01	1.0	0.02	2.2	0.02	3.2
Highway Segment	Total Highway Segment Crashes	0.33	45.4	0.39	54.6	0.72	100.0
	Total Crashes	0.33	45.4	0.39	54.6	0.72	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

April 11, 2018

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Evaluation Date: Wed Apr 11 09:59:43 EDT 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 3
Project Comment: Created Thu Jul 20 11:27:13 EDT 2017
Project Unit System: U.S. Customary

Highway Title: I-95 NB ON-RAMP
Highway Comment: Imported from MDL-02 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 3
Evaluation Comment: Created Wed Apr 11 09:59:23 EDT 2018

Minimum Station: 10+00.000
Maximum Station: 22+51.289
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 22+51.289
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: ENT_RAMP_MV_FI=1.0; ENT_RAMP_MV_PDO=1.0; ENT_RAMP_SV_FI=1.0; ENT_RAMP_SV_PDO=1.0;

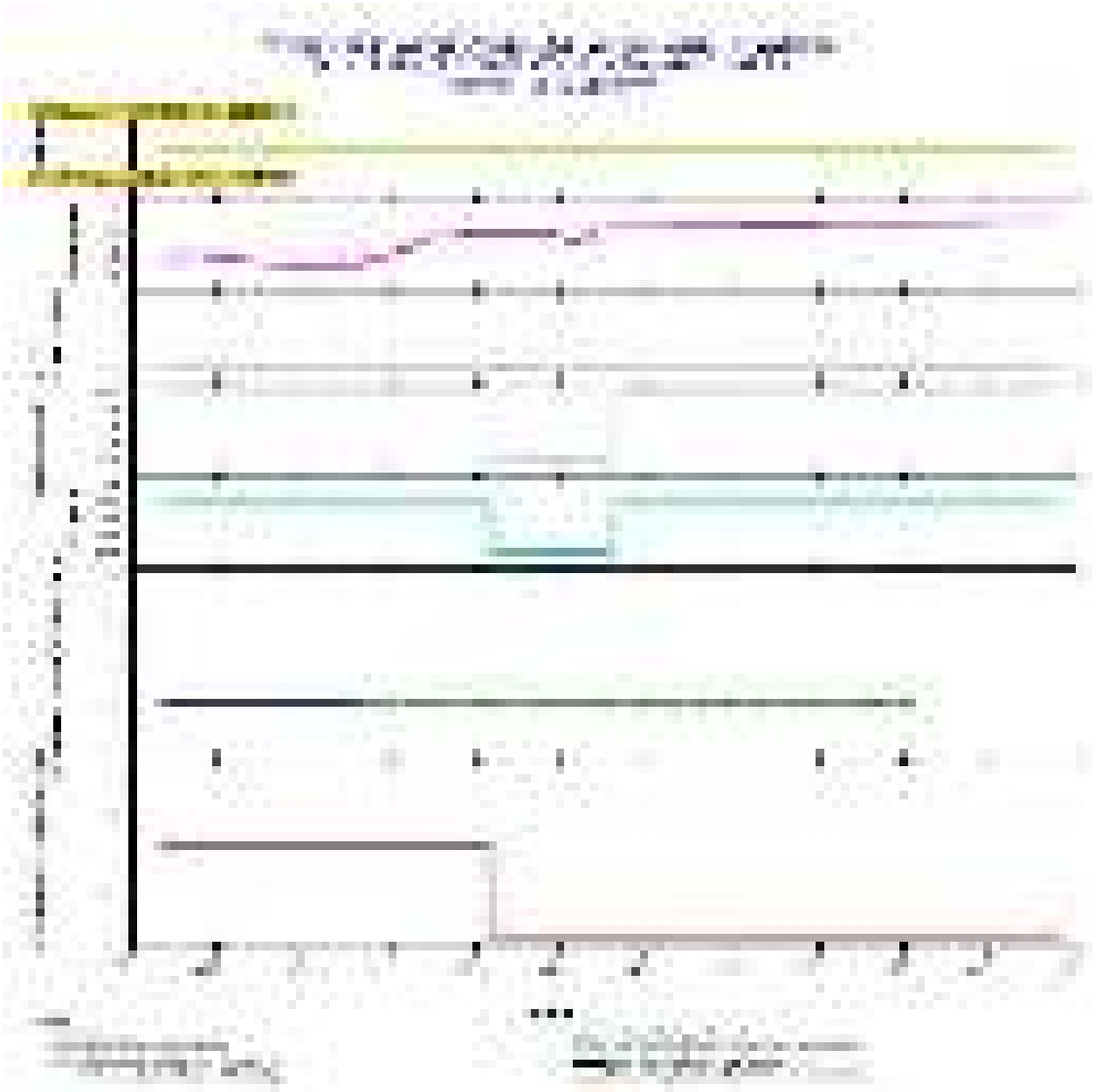

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EN	Urban	10+00.000	12+80.907	280.91	0.0532	2035-2037: 8,230
2	1EN	Urban	12+80.907	22+51.289	970.38	0.1838	2035-2037: 5,550

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.0532
Average Future Road AADT (vpd)	8,230
Expected Crashes	
Total Crashes	0.29
Fatal and Injury Crashes	0.12
Property-Damage-Only Crashes	0.16
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	43
Percent Property-Damage-Only Crashes (%)	57
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	1.8087
Fatal and Injury Crash Rate (crashes/mi/yr)	0.7843
Property-Damage-Only Crash Rate (crashes/mi/yr)	1.0243
Expected Travel Crash Rate	
Total Travel (million veh-mi)	0.48
Travel Crash Rate (crashes/million veh-mi)	0.60
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.26
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.34

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	12+80.907	0.0532	0.289	1.8087	0.60

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	14+61.510	0.0874	0.289	1.1009	0.37
Simple Curve 1	14+61.510	16+32.903	0.0325	0.000	0.0000	0.00
Tangent	16+32.903	22+51.289	0.1171	0.000	0.0000	0.00

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0027	0.0081	0.0515	0.0629	0.1635

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.1	0.00	0.9	0.00	1.0
Highway Segment	Collision with Fixed Object	0.07	25.0	0.08	28.9	0.16	53.9
Highway Segment	Collision with Other Object	0.01	1.8	0.02	5.6	0.02	7.4
Highway Segment	Other Single-vehicle Collision	0.02	7.2	0.01	4.3	0.03	11.5
Highway Segment	Collision with Parked Vehicle	0.00	0.5	0.00	0.6	0.00	1.2
Highway Segment	Total Single Vehicle Crashes	0.10	34.6	0.12	40.4	0.22	75.0
Highway Segment	Right-Angle Collision	0.00	0.3	0.00	0.3	0.00	0.6
Highway Segment	Head-on Collision	0.00	0.1	0.00	0.0	0.00	0.1
Highway Segment	Other Multi-vehicle Collision	0.00	0.3	0.00	0.4	0.00	0.7
Highway Segment	Rear-end Collision	0.02	6.6	0.03	11.2	0.05	17.8
Highway Segment	Sideswipe, Same Direction Collision	0.01	1.6	0.01	4.3	0.02	5.9
Highway Segment	Total Multiple Vehicle Crashes	0.03	8.8	0.05	16.3	0.07	25.0
Highway Segment	Total Highway Segment Crashes	0.12	43.4	0.16	56.6	0.29	100.0
	Total Crashes	0.12	43.4	0.16	56.6	0.29	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 7. Evaluation Message

Start Location	End Location	Message
12+80.907	22+51.289	for segment #2 (12+80.907 to 22+51.289), missing approach speed

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

April 11, 2018

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Apr 11 10:24:34 EDT 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 3
Project Comment: Created Thu Jul 20 11:27:13 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment NB SERVICE PLAZA RAMP
Highway Comment: Created Wed Apr 11 09:33:26 EDT 2018
Highway Version: 1

Evaluation Title: CPM-ALT 3
Evaluation Comment: Created Wed Apr 11 10:24:22 EDT 2018

Minimum Station: 10+00.000
Maximum Station: 14+00.000
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 14+00.000
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: ENT_RAMP_MV_FI=1.0; ENT_RAMP_MV_PDO=1.0; ENT_RAMP_SV_FI=1.0; ENT_RAMP_SV_PDO=1.0;

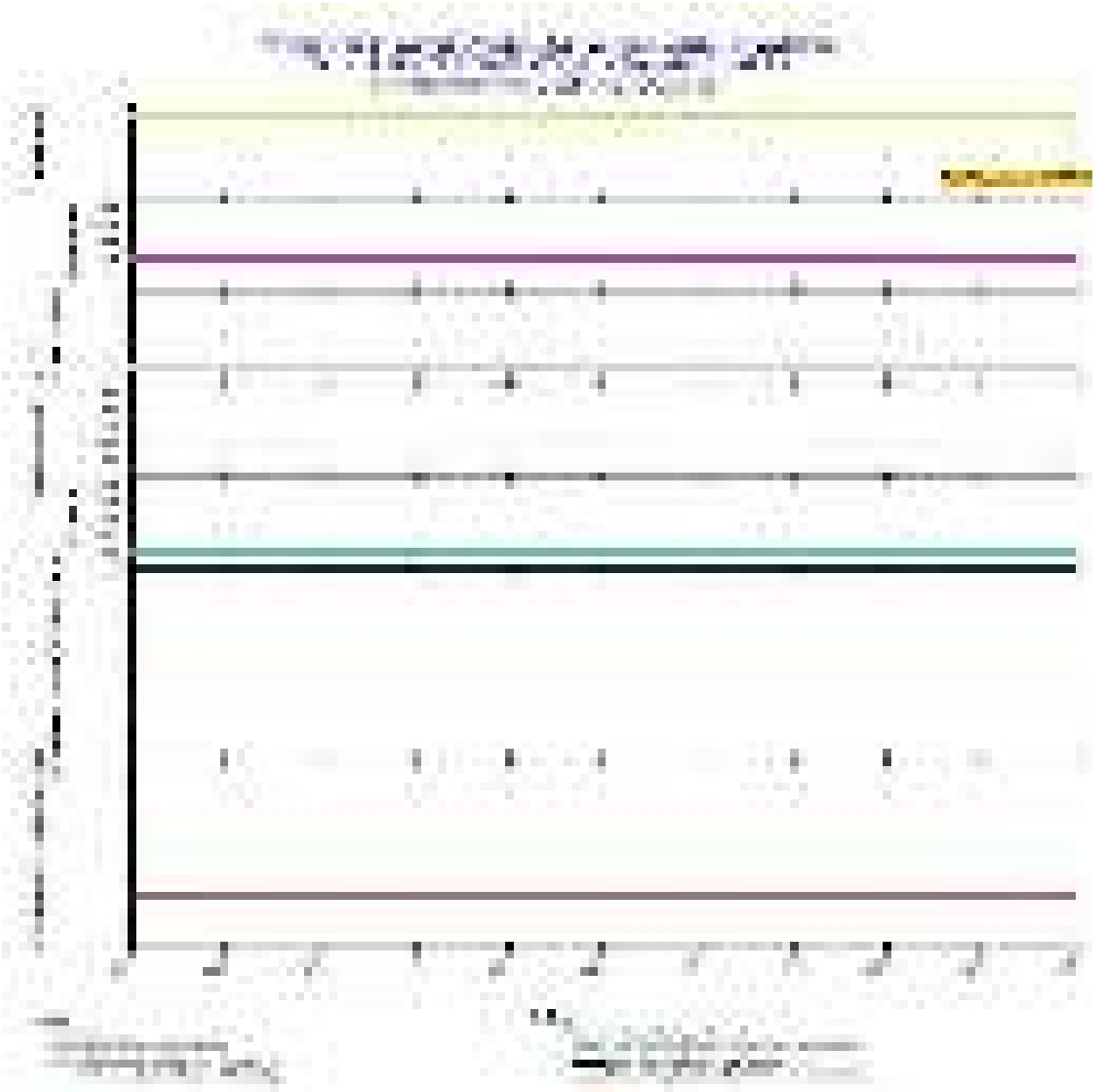

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EN	Urban	10+00.000	14+00.000	400.00	0.0758	2035-2037: 2,950

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.0758
Average Future Road AADT (vpd)	2,950
Expected Crashes	
Total Crashes	0.61
Fatal and Injury Crashes	0.24
Property-Damage-Only Crashes	0.37
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	40
Percent Property-Damage-Only Crashes (%)	60
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	2.6997
Fatal and Injury Crash Rate (crashes/mi/yr)	1.0751
Property-Damage-Only Crash Rate (crashes/mi/yr)	1.6246
Expected Travel Crash Rate	
Total Travel (million veh-mi)	0.24
Travel Crash Rate (crashes/million veh-mi)	2.51
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	1.00
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	1.51

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	14+00.000	0.0758	0.614	2.6997	2.51

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Simple Curve 1	10+00.000	14+00.000	0.0758	0.614	2.6997	2.51

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0052	0.0158	0.1006	0.1227	0.3692

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.1	0.01	1.2	0.01	1.4
Highway Segment	Collision with Fixed Object	0.16	25.9	0.24	39.8	0.40	65.8
Highway Segment	Collision with Other Object	0.01	1.8	0.05	7.7	0.06	9.6
Highway Segment	Other Single-vehicle Collision	0.05	7.5	0.04	6.0	0.08	13.4
Highway Segment	Collision with Parked Vehicle	0.00	0.5	0.01	0.9	0.01	1.4
Highway Segment	Total Single Vehicle Crashes	0.22	35.9	0.34	55.6	0.56	91.5
Highway Segment	Right-Angle Collision	0.00	0.1	0.00	0.1	0.00	0.2
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Multi-vehicle Collision	0.00	0.1	0.00	0.1	0.00	0.2
Highway Segment	Rear-end Collision	0.02	2.9	0.02	3.1	0.04	6.1
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.7	0.01	1.2	0.01	1.9
Highway Segment	Total Multiple Vehicle Crashes	0.02	3.9	0.03	4.5	0.05	8.5
Highway Segment	Total Highway Segment Crashes	0.24	39.8	0.37	60.2	0.61	100.0
	Total Crashes	0.24	39.8	0.37	60.2	0.61	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

April 11, 2018

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Wed Apr 11 09:58:27 EDT 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 3
Project Comment: Created Thu Jul 20 11:27:13 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 SB OFF RAMP
Highway Comment: Imported from MDL-03 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 3
Evaluation Comment: Created Wed Apr 11 09:58:15 EDT 2018

Minimum Station: 10+00.000
Maximum Station: 21+88.442
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 21+88.442
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: EX_RAMP_MV_FI=1.0; EX_RAMP_MV_PDO=1.0; EX_RAMP_SV_FI=1.0; EX_RAMP_SV_PDO=1.0;

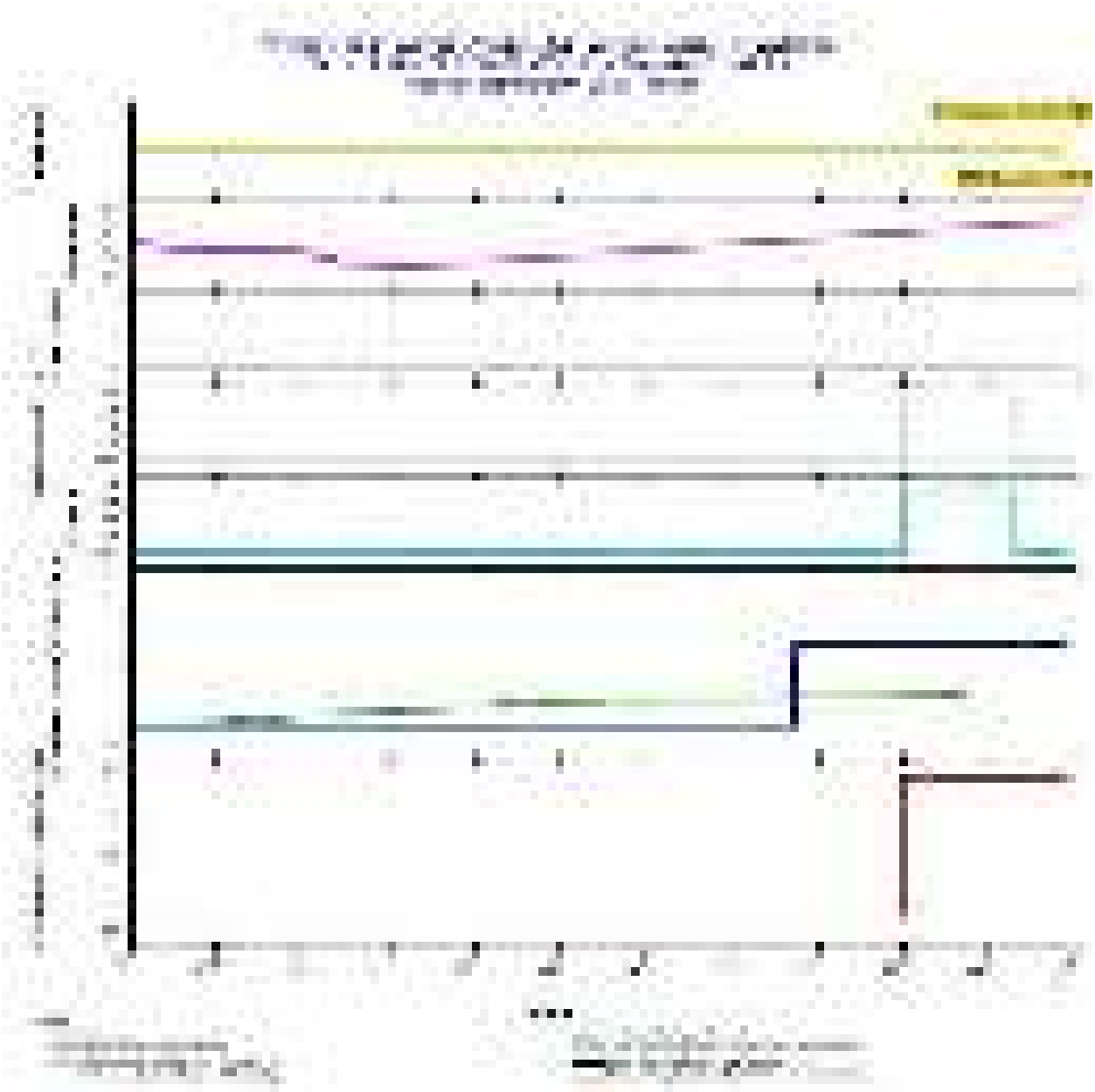

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EX	Urban	10+00.000	18+40.542	840.54	0.1592	2035-2037: 2,150
2	1EX	Urban	18+40.542	21+88.442	347.90	0.0659	2035-2037: 4,700

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.2251
Average Future Road AADT (vpd)	2,896
Expected Crashes	
Total Crashes	0.68
Fatal and Injury Crashes	0.32
Property-Damage-Only Crashes	0.36
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	47
Percent Property-Damage-Only Crashes (%)	53
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	1.0092
Fatal and Injury Crash Rate (crashes/mi/yr)	0.4722
Property-Damage-Only Crash Rate (crashes/mi/yr)	0.5370
Expected Travel Crash Rate	
Total Travel (million veh-mi)	0.71
Travel Crash Rate (crashes/million veh-mi)	0.95
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.45
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.51

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	18+40.542	0.1592	0.342	0.7165	0.91
2	18+40.542	21+88.442	0.0659	0.339	1.7165	1.00

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	19+77.809	0.1852	0.476	0.8568	0.93
Simple Curve 1	19+77.809	21+22.569	0.0274	0.141	1.7165	1.00
Tangent	21+22.569	21+88.442	0.0125	0.064	1.7165	1.00

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0051	0.0154	0.0641	0.0782	0.1794
2	0.0049	0.0148	0.0614	0.0750	0.1832
Total	0.0100	0.0302	0.1255	0.1532	0.3626

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.2	0.01	1.1	0.01	1.3
Highway Segment	Collision with Fixed Object	0.22	32.7	0.24	36.0	0.47	68.7
Highway Segment	Collision with Other Object	0.02	2.3	0.05	7.0	0.06	9.3
Highway Segment	Other Single-vehicle Collision	0.06	9.4	0.04	5.4	0.10	14.8
Highway Segment	Collision with Parked Vehicle	0.01	0.7	0.01	0.8	0.01	1.5
Highway Segment	Total Single Vehicle Crashes	0.31	45.3	0.34	50.2	0.65	95.5
Highway Segment	Right-Angle Collision	0.00	0.0	0.00	0.1	0.00	0.1
Highway Segment	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Multi-vehicle Collision	0.00	0.0	0.00	0.1	0.00	0.1
Highway Segment	Rear-end Collision	0.01	1.1	0.01	2.1	0.02	3.2
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.3	0.01	0.8	0.01	1.1
Highway Segment	Total Multiple Vehicle Crashes	0.01	1.5	0.02	3.0	0.03	4.5
Highway Segment	Total Highway Segment Crashes	0.32	46.8	0.36	53.2	0.68	100.0
	Total Crashes	0.32	46.8	0.36	53.2	0.68	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

April 11, 2018

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Evaluation Date: Wed Apr 11 09:59:00 EDT 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 3
Project Comment: Created Thu Jul 20 11:27:13 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment I-95 SB ON-RAMP
Highway Comment: Imported from MDL-03 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 3
Evaluation Comment: Created Wed Apr 11 09:58:49 EDT 2018

Minimum Station: 10+00.000
Maximum Station: 24+58.543
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Freeway Ramp Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 24+58.543
Functional Class: Freeway Ramp
Type of Alignment: One Direction
Model Category: Freeway Ramp
Calibration Factor: ENT_RAMP_MV_FI=1.0; ENT_RAMP_MV_PDO=1.0; ENT_RAMP_SV_FI=1.0; ENT_RAMP_SV_PDO=1.0;

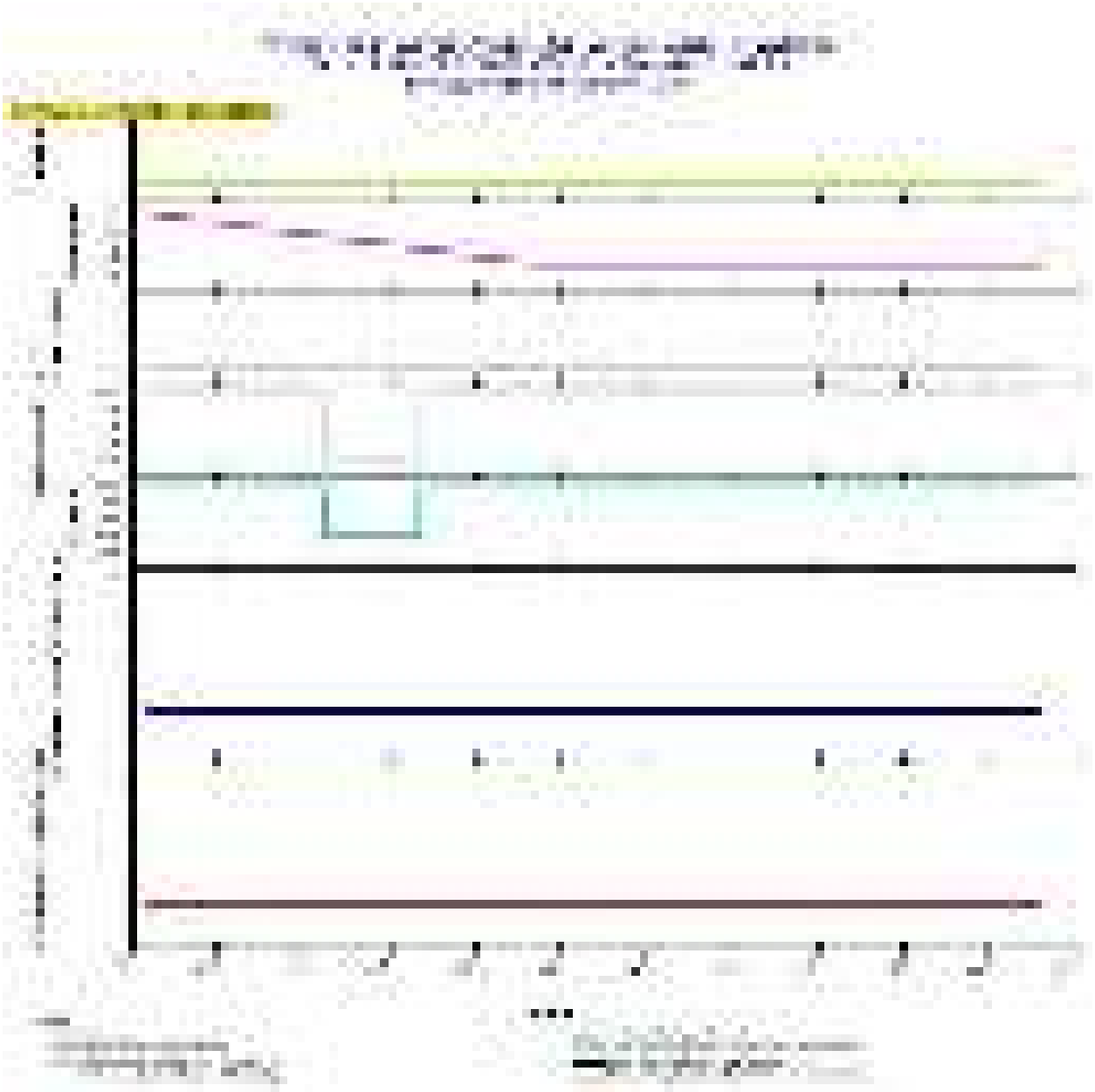

Figure 1. Crash Prediction Summary (Freeway Ramp Sections)

Table 1. Evaluation Freeway - Homogeneous Segments (Freeway Ramp Sections)

Seg. No.	Type	Area Type	Start Location	End Location	Length (ft)	Length(mi)	AADT
1	1EN	Urban	10+00.000	24+58.543	1,458.54	0.2762	2035-2037: 10,550

Table 2. Expected Ramp Crash Rates and Frequencies (Freeway Ramp Sections)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.2762
Average Future Road AADT (vpd)	10,550
Expected Crashes	
Total Crashes	1.91
Fatal and Injury Crashes	0.82
Property-Damage-Only Crashes	1.09
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	43
Percent Property-Damage-Only Crashes (%)	57
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	2.3102
Fatal and Injury Crash Rate (crashes/mi/yr)	0.9930
Property-Damage-Only Crash Rate (crashes/mi/yr)	1.3171
Expected Travel Crash Rate	
Total Travel (million veh-mi)	3.19
Travel Crash Rate (crashes/million veh-mi)	0.60
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	0.26
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	0.34

Table 3. Expected Crash Frequencies and Rates by Ramp Segment (Freeway Ramp Sections)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
1	10+00.000	24+58.543	0.2762	1.915	2.3102	0.60

Table 4. Expected Crash Frequencies and Rates by Horizontal Design Element (Freeway Ramp Sections)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	12+96.779	0.0562	0.390	2.3102	0.60
Simple Curve 1	12+96.779	14+49.269	0.0289	0.200	2.3102	0.60
Tangent	14+49.269	24+58.543	0.1912	1.325	2.3102	0.60

Table 5. Expected Crash Severity by Ramp Segment (Freeway Ramp Sections)

Seg. No.	Fatal (K) Crashes (crashes/yr)	Incapacitating Injury (A) Crashes (crashes/yr)	Non-Incapacitating Injury (B) Crashes (crashes/yr)	Possible Injury (C) Crashes (crashes/yr)	No Injury (O) Crashes (crashes/yr)
1	0.0175	0.0532	0.3388	0.4134	1.0915

Table 6. Expected Segment Crash Type Distribution (Freeway Ramp Sections)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.1	0.02	0.9	0.02	1.0
Highway Segment	Collision with Fixed Object	0.47	24.3	0.54	28.3	1.01	52.6
Highway Segment	Collision with Other Object	0.03	1.7	0.10	5.5	0.14	7.2
Highway Segment	Other Single-vehicle Collision	0.13	7.0	0.08	4.2	0.21	11.2
Highway Segment	Collision with Parked Vehicle	0.01	0.5	0.01	0.6	0.02	1.1
Highway Segment	Total Single Vehicle Crashes	0.65	33.7	0.76	39.5	1.40	73.1
Highway Segment	Right-Angle Collision	0.01	0.3	0.01	0.3	0.01	0.6
Highway Segment	Head-on Collision	0.00	0.1	0.00	0.0	0.00	0.1
Highway Segment	Other Multi-vehicle Collision	0.01	0.3	0.01	0.4	0.01	0.7
Highway Segment	Rear-end Collision	0.13	7.0	0.23	12.1	0.37	19.1
Highway Segment	Sideswipe, Same Direction Collision	0.03	1.7	0.09	4.7	0.12	6.3
Highway Segment	Total Multiple Vehicle Crashes	0.18	9.3	0.34	17.6	0.51	26.9
Highway Segment	Total Highway Segment Crashes	0.82	43.0	1.09	57.0	1.91	100.0
	Total Crashes	0.82	43.0	1.09	57.0	1.91	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 5, 2018

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Report Overview

Report Generated: Jan 5, 2018 8:25 AM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Fri Jan 05 08:25:26 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 3
Project Comment: Created Thu Jul 20 11:27:13 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment ROUTE 1
Highway Comment: Imported from MDL-03 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 3
Evaluation Comment: Created Fri Jan 05 08:24:57 EST 2018

Minimum Station: 10+00.000
Maximum Station: 35+25.118
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 35+25.118
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Multilane
Model Category: Urban/Suburban Arterial
Calibration Factor: 3SG=1.0; 4SG=1.0; 4U=1.0;

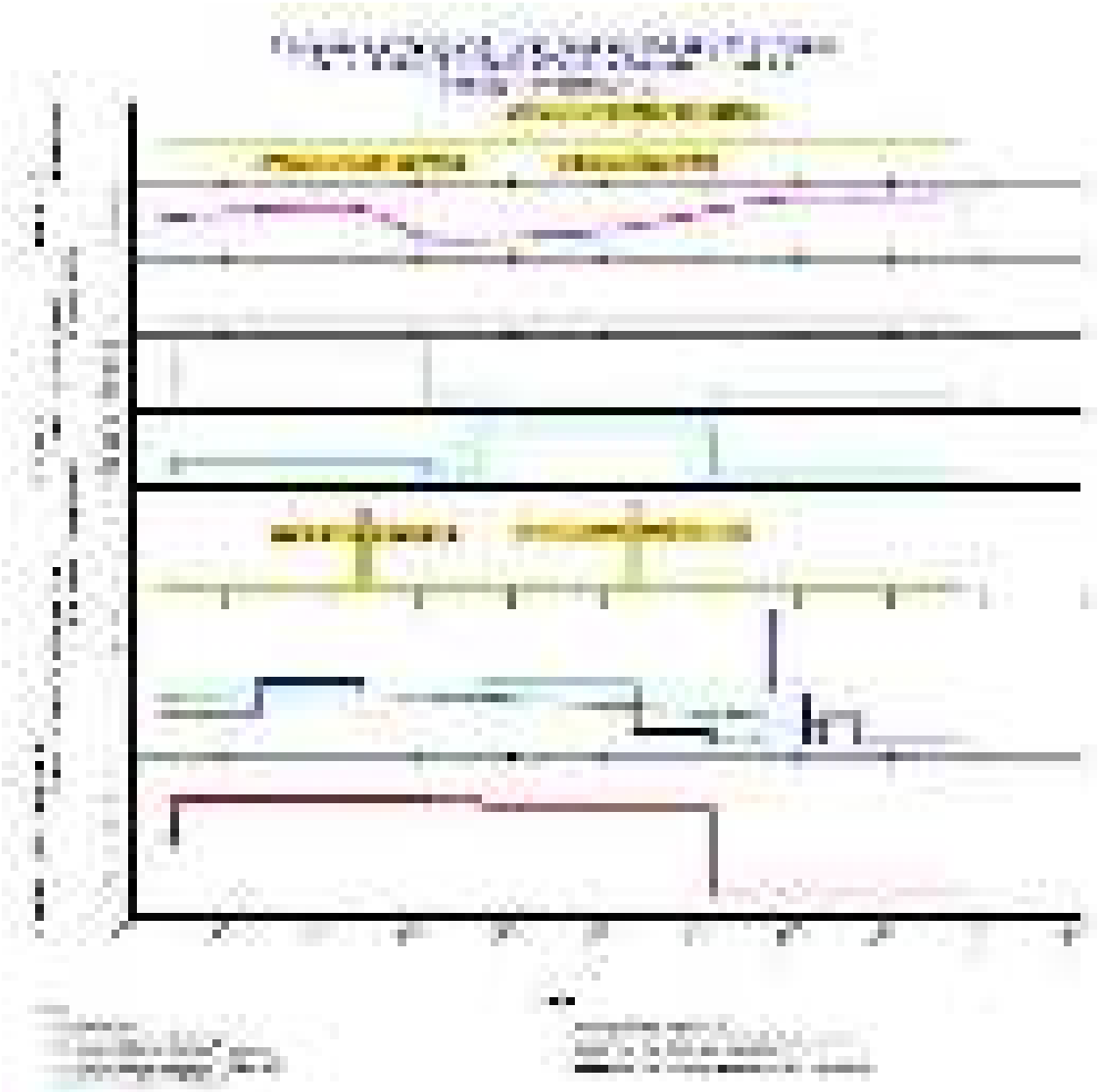

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	4U	10+00.000	10+34.381	34.38	0.0065	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
2	4U	10+34.381	11+42.064	107.68	0.0204	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
3	4U	11+42.064	13+07.524	165.46	0.0313	2035-2037: 31,200	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
4	4U	13+07.524	16+33.802	326.28	0.0618	2035-2037: 31,200	0	2	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
5	4U	16+33.802	18+31.076	197.27	0.0374	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
6	4U	18+31.076	19+18.300	87.22	0.0165	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
7	4U	19+18.300	19+95.151	76.85	0.0146	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
8	4U	19+95.151	20+05.449	10.30	0.0019	2035-2037: 37,440	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
9	4U	20+05.449	24+95.402	489.95	0.0928	2035-2037: 37,440	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
10	4U	24+95.402	27+36.197	240.79	0.0456	2035-2037: 18,820	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
11	4U	27+36.197	27+84.736	48.54	0.0092	2035-2037: 18,820	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
12	4U	27+84.736	28+71.301	86.56	0.0164	2035-2037: 18,820	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
13	4U	28+71.301	29+11.441	40.14	0.0076	2035-2037: 18,820	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
14	4U	29+11.441	29+32.088	20.65	0.0039	2035-2037: 18,820	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
15	4U	29+32.088	30+36.337	104.25	0.0197	2035-2037: 18,820	0	1	0	2	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
16	4U	30+36.337	30+92.484	56.15	0.0106	2035-2037: 18,820	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
17	4U	30+92.484	32+01.084	108.60	0.0206	2035-2037: 18,820	0	1	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00
18	4U	32+01.084	35+25.118	324.03	0.0614	2035-2037: 18,820	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	12.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/SHORT BEACH RD	16+33.802	2035-2037: 37,440	2035-2037: 16,099	3	Signalized	Three-Legged Signalized	1	2	0	15	false	false	false	0	0	6	false
2	ROUTE 1/CONNECTOR/ROUTE 146	24+95.402	2035-2037: 37,440	2035-2037: 20,042	4	Signalized	Four-Legged Signalized	4	4	0	20	false	false	false	0	0	9	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.4782
Average Future Road AADT (vpd)	28,281
Expected Crashes	
Total Crashes	60.65
Fatal and Injury Crashes	19.53
Property-Damage-Only Crashes	41.12
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	32
Percent Property-Damage-Only Crashes (%)	68
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	42.2750
Fatal and Injury Crash Rate (crashes/mi/yr)	13.6139
Property-Damage-Only Crash Rate (crashes/mi/yr)	28.6611
Expected Travel Crash Rate	
Total Travel (million veh-mi)	14.81
Travel Crash Rate (crashes/million veh-mi)	4.09
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	1.32
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	2.78

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	10+34.381	0.0065	0.196	10.0298	0.88		
2	10+34.381	11+42.064	0.0204	0.614	10.0298	0.88		
3	11+42.064	13+07.524	0.0313	0.943	10.0298	0.88		
4	13+07.524	16+33.802	0.0618	2.689	14.5072	1.27		
ROUTE 1/SHORT BEACH RD	16+33.802			22.006			0.47	7.3355
5	16+33.802	18+31.076	0.0374	1.413	12.6097	0.92		
6	18+31.076	19+18.300	0.0165	0.625	12.6097	0.92		
7	19+18.300	19+95.151	0.0146	0.551	12.6097	0.92		
8	19+95.151	20+05.449	0.0020	0.074	12.6097	0.92		
9	20+05.449	24+95.402	0.0928	4.024	14.4557	1.06		
ROUTE 1/CONNECTOR/ROUTE 146	24+95.402			23.264			0.46	7.7546
10	24+95.402	27+36.197	0.0456	0.962	7.0276	1.02		
11	27+36.197	27+84.736	0.0092	0.148	5.3502	0.78		
12	27+84.736	28+71.301	0.0164	0.263	5.3502	0.78		
13	28+71.301	29+11.441	0.0076	0.122	5.3502	0.78		
14	29+11.441	29+32.088	0.0039	0.292	24.9130	3.63		
15	29+32.088	30+36.337	0.0197	0.752	12.6984	1.85		
16	30+36.337	30+92.484	0.0106	0.171	5.3502	0.78		
17	30+92.484	32+01.084	0.0206	0.560	9.0694	1.32		
18	32+01.084	35+25.118	0.0614	0.985	5.3502	0.78		

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	10+34.381	0.0065	0.196	10.0298	0.88
Simple Curve 1	10+34.381	18+31.076	0.1509	5.659	12.5023	1.05
Tangent	18+31.076	20+05.449	0.0330	1.249	12.6097	0.92
Simple Curve 2	20+05.449	27+36.197	0.1384	4.986	12.0080	1.05
Tangent	27+36.197	35+25.118	0.1494	3.292	7.3451	1.07

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Collision with Bicycle	0.03	0.1	0.00	0.0	0.03	0.1
Highway Segment	Collision with Fixed Object	0.27	0.4	1.22	2.0	1.49	2.5
Highway Segment	Collision with Other Object	0.01	0.0	0.04	0.1	0.05	0.1
Highway Segment	Other Single-vehicle Collision	0.16	0.3	0.24	0.4	0.40	0.7
Highway Segment	Collision with Pedestrian	0.14	0.2	0.00	0.0	0.14	0.2
Highway Segment	Total Segment Single Vehicle Crashes	0.61	1.0	1.51	2.5	2.12	3.5
Highway Segment	Angle Collision	0.57	0.9	1.00	1.6	1.57	2.6
Highway Segment	Driveway-related Collision	0.83	1.4	1.61	2.6	2.44	4.0
Highway Segment	Head-on Collision	0.24	0.4	0.03	0.1	0.27	0.5
Highway Segment	Other Multi-vehicle Collision	0.18	0.3	0.61	1.0	0.79	1.3
Highway Segment	Rear-end Collision	1.61	2.7	3.88	6.4	5.49	9.1
Highway Segment	Sideswipe, Opposite Direction Collision	0.26	0.4	0.24	0.4	0.50	0.8
Highway Segment	Sideswipe, Same Direction Collision	0.29	0.5	1.91	3.2	2.21	3.6
Highway Segment	Total Segment Multiple Vehicle Crashes	3.98	6.6	9.28	15.3	13.27	21.9
Highway Segment	Total Highway Segment Crashes	4.59	7.6	10.79	17.8	15.38	25.4
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.01	0.0
Intersection	Collision with Bicycle	0.58	1.0	0.00	0.0	0.58	1.0
Intersection	Collision with Fixed Object	0.45	0.7	1.55	2.6	2.00	3.3
Intersection	Non-Collision	0.12	0.2	0.04	0.1	0.16	0.3
Intersection	Collision with Other Object	0.05	0.1	0.12	0.2	0.18	0.3
Intersection	Other Single-vehicle Collision	0.03	0.0	0.04	0.1	0.06	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.11	0.2	0.00	0.0	0.11	0.2
Intersection	Total Intersection Single Vehicle Crashes	1.34	2.2	1.75	2.9	3.10	5.1
Intersection	Angle Collision	4.31	7.1	6.40	10.5	10.71	17.7
Intersection	Head-on Collision	0.60	1.0	0.71	1.2	1.31	2.2
Intersection	Other Multi-vehicle Collision	0.76	1.3	5.84	9.6	6.60	10.9
Intersection	Rear-end Collision	6.72	11.1	14.71	24.3	21.43	35.3
Intersection	Sideswipe	1.21	2.0	0.91	1.5	2.12	3.5
Intersection	Total Intersection Multiple Vehicle Crashes	13.60	22.4	28.57	47.1	42.17	69.5
Intersection	Total Intersection Crashes	14.94	24.6	30.33	50.0	45.27	74.6
	Total Crashes	19.53	32.2	41.12	67.8	60.65	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 5, 2018

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Report Overview

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Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Fri Jan 05 08:26:24 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 3
Project Comment: Created Thu Jul 20 11:27:13 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment ROUTE 146
Highway Comment: Imported from MDL-03 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 3
Evaluation Comment: Created Fri Jan 05 08:26:11 EST 2018

Minimum Station: 10+00.000
Maximum Station: 23+29.060
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 23+29.060
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 4SG=1.0; 4U=1.0;

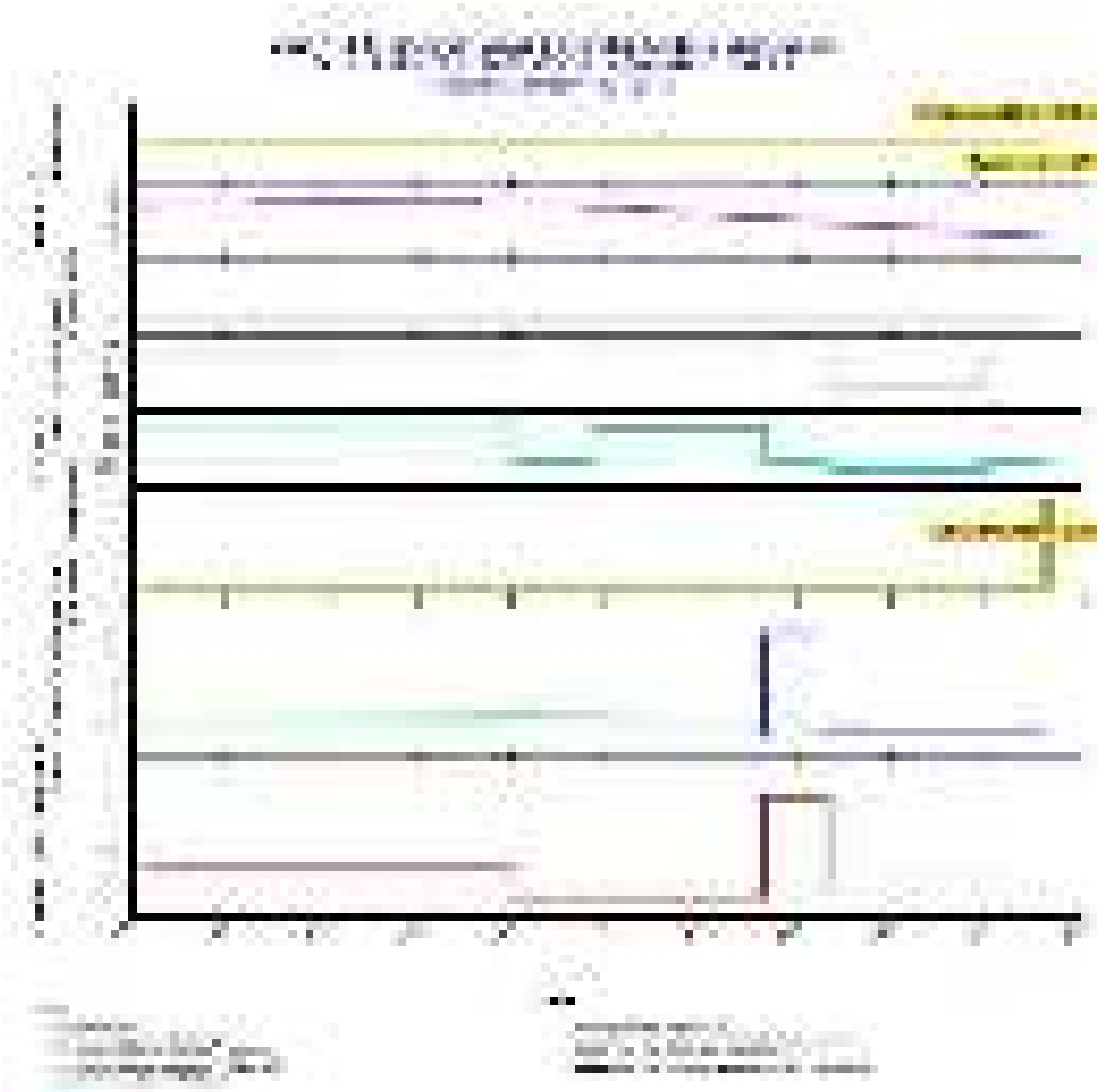

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	15+46.816	546.82	0.1036	2035-2037: 15,101	0	0	0	0	1	6	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.00	11.00
2	2U	15+46.816	16+61.311	114.50	0.0217	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.00	11.00
3	2U	16+61.311	17+07.874	46.56	0.0088	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	5.00	11.00
4	2U	17+07.874	17+37.000	29.13	0.0055	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.75	11.00
5	2U	17+37.000	17+95.000	58.00	0.0110	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	4.00	11.00
6	2U	17+95.000	19+16.426	121.43	0.0230	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	3.25	11.00
7	4U	19+16.426	19+95.000	78.57	0.0149	2035-2037: 15,101	0	0	0	0	1	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.50	11.00
8	4U	19+95.000	20+09.225	14.22	0.0027	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.00	11.00
9	4U	20+09.225	22+39.377	230.15	0.0436	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.00	11.00
10	4U	22+39.377	23+29.060	89.68	0.0170	2035-2037: 15,101	0	0	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	2.00	11.00

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/CONNECTOR/ROUTE 146	23+29.057	2035-2037: 37,440	2035-2037: 20,042	4	Signalized	Four-Legged Signalized	4	4	0	20	false	false	false	0	0	9	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.2517
Average Future Road AADT (vpd)	15,101
Expected Crashes	
Total Crashes	26.90
Fatal and Injury Crashes	9.29
Property-Damage-Only Crashes	17.61
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	35
Percent Property-Damage-Only Crashes (%)	65
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	35.6180
Fatal and Injury Crash Rate (crashes/mi/yr)	12.3002
Property-Damage-Only Crash Rate (crashes/mi/yr)	23.3178
Expected Travel Crash Rate	
Total Travel (million veh-mi)	4.16
Travel Crash Rate (crashes/million veh-mi)	6.46
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	2.23
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	4.23

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	15+46.816	0.1036	1.642	5.2840	0.96		
2	15+46.816	16+61.311	0.0217	0.230	3.5282	0.64		
3	16+61.311	17+07.874	0.0088	0.093	3.5282	0.64		
4	17+07.874	17+37.000	0.0055	0.058	3.5282	0.64		
5	17+37.000	17+95.000	0.0110	0.116	3.5282	0.64		
6	17+95.000	19+16.426	0.0230	0.243	3.5282	0.64		
7	19+16.426	19+95.000	0.0149	0.476	10.6555	1.93		
8	19+95.000	20+09.225	0.0027	0.033	4.0820	0.74		
9	20+09.225	22+39.377	0.0436	0.534	4.0820	0.74		
10	22+39.377	23+29.060	0.0170	0.208	4.0820	0.74		
ROUTE 1/CONNECTOR/ROUTE 146	23+29.057			23.264			0.46	7.7546

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/ yr)	Travel Crash Rate (crashes/million veh-mi)
Simple Curve 1	10+00.000	15+46.816	0.1036	1.642	5.2840	0.96
Tangent	15+46.816	16+61.311	0.0217	0.230	3.5282	0.64
Simple Curve 2	16+61.311	19+16.426	0.0483	0.511	3.5282	0.64
Tangent	19+16.426	20+09.225	0.0176	0.509	9.6478	1.75
Simple Curve 3	20+09.225	22+39.377	0.0436	0.534	4.0820	0.74
Tangent	22+39.377	23+29.060	0.0170	0.208	4.0820	0.74

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.03	0.1	0.03	0.1
Highway Segment	Collision with Bicycle	0.01	0.0	0.00	0.0	0.01	0.0
Highway Segment	Collision with Fixed Object	0.10	0.4	0.41	1.5	0.51	1.9
Highway Segment	Collision with Other Object	0.00	0.0	0.01	0.0	0.01	0.0
Highway Segment	Other Single-vehicle Collision	0.04	0.2	0.09	0.3	0.13	0.5
Highway Segment	Collision with Pedestrian	0.02	0.1	0.00	0.0	0.02	0.1
Highway Segment	Total Segment Single Vehicle Crashes	0.18	0.7	0.53	2.0	0.71	2.6
Highway Segment	Angle Collision	0.07	0.3	0.14	0.5	0.22	0.8
Highway Segment	Driveway-related Collision	0.27	1.0	0.56	2.1	0.83	3.1
Highway Segment	Head-on Collision	0.04	0.2	0.01	0.0	0.05	0.2
Highway Segment	Other Multi-vehicle Collision	0.02	0.1	0.09	0.3	0.12	0.4
Highway Segment	Rear-end Collision	0.41	1.5	1.00	3.7	1.41	5.2
Highway Segment	Sideswipe, Opposite Direction Collision	0.05	0.2	0.07	0.3	0.12	0.4
Highway Segment	Sideswipe, Same Direction Collision	0.03	0.1	0.16	0.6	0.19	0.7
Highway Segment	Total Segment Multiple Vehicle Crashes	0.90	3.3	2.03	7.5	2.93	10.9
Highway Segment	Total Highway Segment Crashes	1.08	4.0	2.56	9.5	3.63	13.5
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.34	1.3	0.00	0.0	0.34	1.3
Intersection	Collision with Fixed Object	0.20	0.7	0.77	2.9	0.97	3.6
Intersection	Non-Collision	0.04	0.1	0.03	0.1	0.07	0.3
Intersection	Collision with Other Object	0.02	0.1	0.06	0.2	0.08	0.3
Intersection	Other Single-vehicle Collision	0.01	0.0	0.02	0.1	0.03	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.08	0.3	0.00	0.0	0.08	0.3
Intersection	Total Intersection Single Vehicle Crashes	0.69	2.6	0.89	3.3	1.58	5.9
Intersection	Angle Collision	2.61	9.7	3.46	12.8	6.07	22.5
Intersection	Head-on Collision	0.37	1.4	0.42	1.6	0.79	3.0
Intersection	Other Multi-vehicle Collision	0.41	1.5	2.99	11.1	3.40	12.6
Intersection	Rear-end Collision	3.38	12.6	6.84	25.4	10.22	38.0
Intersection	Sideswipe	0.74	2.8	0.45	1.7	1.20	4.5
Intersection	Total Intersection Multiple Vehicle Crashes	7.52	28.0	14.16	52.7	21.68	80.6
Intersection	Total Intersection Crashes	8.21	30.5	15.05	56.0	23.26	86.5
	Total Crashes	9.29	34.5	17.61	65.5	26.90	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

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Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

January 5, 2018

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Report Overview

Report Generated: Jan 5, 2018 8:27 AM
Report Template: System: Multi-Page [System] (mlcpm2, Jul 5, 2017 10:43 AM)

Evaluation Date: Fri Jan 05 08:27:19 EST 2018
IHSDM Version: v12.1.0 (Mar 24, 2017)
Crash Prediction Module: v7.1.0 (Mar 24, 2017)

User Name: dgehring
Organization Name: BL Companies
Phone:
E-Mail: dgehring@blcompanies.com

Project Title: BRANFORD PROPOSED MDL 3
Project Comment: Created Thu Jul 20 11:27:13 EDT 2017
Project Unit System: U.S. Customary

Highway Title: Alignment SHORT BEACH RD
Highway Comment: Imported from MDL-03 BASELINE.xml
Highway Version: 1

Evaluation Title: CPM-ALT 3
Evaluation Comment: Created Fri Jan 05 08:27:07 EST 2018

Minimum Station: 10+00.000
Maximum Station: 15+13.297
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
Empirical-Bayes Analysis: None
First Year of Analysis: 2035
Last Year of Analysis: 2037

Section 1 Evaluation

Section: Section 1
Evaluation Start Location: 10+00.000
Evaluation End Location: 15+13.297
Area Type: Urban
Functional Class: Arterial
Type of Alignment: Undivided, Two Lane
Model Category: Urban/Suburban Arterial
Calibration Factor: 2U=1.0; 3SG=1.0;

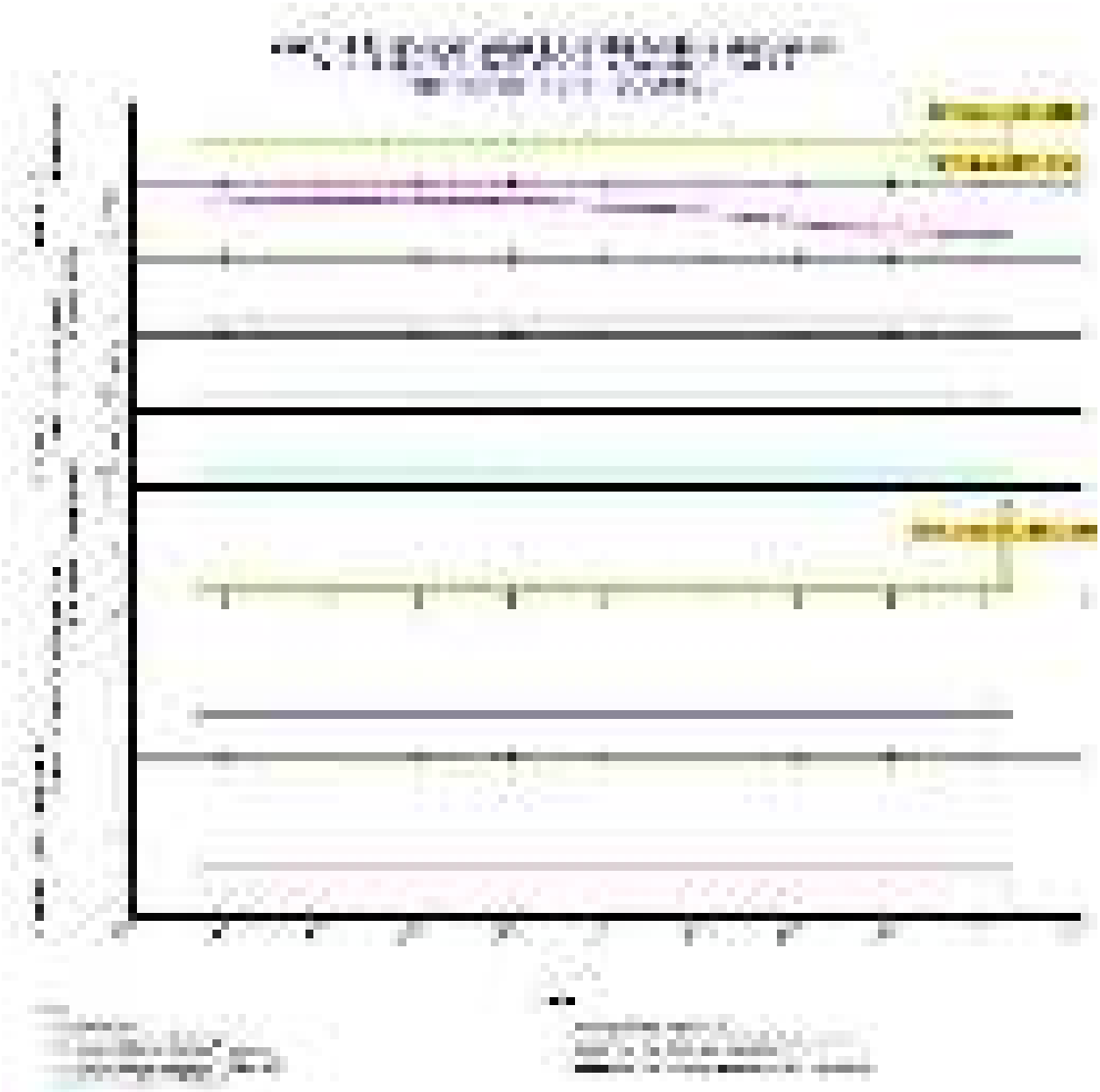

Figure 1. Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location	End Location	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	2U	10+00.000	15+13.297	513.30	0.0972	2035-2037: 16,099	0	2	0	0	0	0	0	false	false	0.0	0.00	None	0.00	Intermediate/High	0	0.00	11.50

Table 2. Evaluation Intersection (Section 1)

Inter. No.	Title	Location	Major AADT	Minor AADT	Legs	Traffic Control	Intersection Type	Approaches w/Left Turn Lanes	Approaches w/Right Turn Lanes	Approaches w/o Right Turn on Red	Pedestrian Volume (crossings/day)	Lighted at Night	Red Light Camera	School Nearby	Number of Bus Stops	Number of Alcohol Sales Establishments	Max Lanes Crossed	Replaced with Roundabout
1	ROUTE 1/SHORT BEACH RD	15+13.294	2035-2037: 37,440	2035-2037: 16,099	3	Signalized	Three-Legged Signalized	1	2	0	15	false	false	false	0	0	6	false

Table 3. Expected Highway Crash Rates and Frequencies (Section 1)

First Year of Analysis	2035
Last Year of Analysis	2037
Evaluated Length (mi)	0.0972
Average Future Road AADT (vpd)	16,099
Expected Crashes	
Total Crashes	23.46
Fatal and Injury Crashes	7.14
Property-Damage-Only Crashes	16.31
Percent of Total Expected Crashes	
Percent Fatal and Injury Crashes (%)	30
Percent Property-Damage-Only Crashes (%)	70
Expected Crash Rate	
Crash Rate (crashes/mi/yr)	80.4274
Fatal and Injury Crash Rate (crashes/mi/yr)	24.4971
Property-Damage-Only Crash Rate (crashes/mi/yr)	55.9303
Expected Travel Crash Rate	
Total Travel (million veh-mi)	1.71
Travel Crash Rate (crashes/million veh-mi)	13.69
Travel Fatal and Injury Crash Rate (crashes/million veh-mi)	4.17
Travel Property-Damage-Only Crash Rate (crashes/million veh-mi)	9.52

Table 4. Expected Crash Frequencies and Rates by Highway Segment (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/ mi/yr)	Travel Crash Rate (crashes/ million veh-mi)	Expected No. Crashes/Year (crashes/million veh)	Expected Crash Rate (crashes/yr)
1	10+00.000	15+13.297	0.0972	1.450	4.9710	0.85		
ROUTE 1/SHORT BEACH RD	15+13.294			22.006			0.47	7.3355

Table 5. Expected Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location	End Location	Length (mi)	Expected No. Crashes for Evaluation Period	Crash Rate (crashes/mi/yr)	Travel Crash Rate (crashes/million veh-mi)
Tangent	10+00.000	15+13.297	0.0972	1.450	4.9710	0.85

Table 6. Expected Five Lane or Fewer Segment Crash Type Distribution (Section 1)

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.01	0.1	0.02	0.1
Highway Segment	Collision with Bicycle	0.01	0.0	0.00	0.0	0.01	0.0
Highway Segment	Collision with Fixed Object	0.04	0.2	0.17	0.7	0.21	0.9
Highway Segment	Collision with Other Object	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Other Single-vehicle Collision	0.01	0.1	0.04	0.2	0.05	0.2
Highway Segment	Collision with Pedestrian	0.01	0.0	0.00	0.0	0.01	0.0
Highway Segment	Total Segment Single Vehicle Crashes	0.07	0.3	0.22	1.0	0.29	1.2
Highway Segment	Angle Collision	0.02	0.1	0.05	0.2	0.07	0.3
Highway Segment	Driveway-related Collision	0.10	0.4	0.22	0.9	0.32	1.4
Highway Segment	Head-on Collision	0.02	0.1	0.00	0.0	0.02	0.1
Highway Segment	Other Multi-vehicle Collision	0.01	0.0	0.03	0.1	0.04	0.2
Highway Segment	Rear-end Collision	0.18	0.8	0.46	2.0	0.64	2.7
Highway Segment	Sideswipe, Opposite Direction Collision	0.02	0.1	0.03	0.1	0.05	0.2
Highway Segment	Sideswipe, Same Direction Collision	0.00	0.0	0.02	0.1	0.02	0.1
Highway Segment	Total Segment Multiple Vehicle Crashes	0.35	1.5	0.81	3.5	1.16	4.9
Highway Segment	Total Highway Segment Crashes	0.41	1.8	1.03	4.4	1.45	6.2
Intersection	Collision with Animal	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Bicycle	0.24	1.0	0.00	0.0	0.24	1.0
Intersection	Collision with Fixed Object	0.25	1.1	0.78	3.3	1.02	4.4
Intersection	Non-Collision	0.08	0.3	0.01	0.1	0.09	0.4
Intersection	Collision with Other Object	0.04	0.1	0.06	0.3	0.09	0.4
Intersection	Other Single-vehicle Collision	0.02	0.1	0.02	0.1	0.03	0.1
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.03	0.1	0.00	0.0	0.03	0.1
Intersection	Total Intersection Single Vehicle Crashes	0.65	2.8	0.87	3.7	1.51	6.5
Intersection	Angle Collision	1.70	7.3	2.94	12.5	4.64	19.8
Intersection	Head-on Collision	0.23	1.0	0.29	1.2	0.52	2.2
Intersection	Other Multi-vehicle Collision	0.35	1.5	2.85	12.2	3.20	13.6
Intersection	Rear-end Collision	3.34	14.2	7.87	33.5	11.21	47.8
Intersection	Sideswipe	0.46	2.0	0.46	2.0	0.92	3.9
Intersection	Total Intersection Multiple Vehicle Crashes	6.08	25.9	14.41	61.4	20.49	87.4
Intersection	Total Intersection Crashes	6.73	28.7	15.28	65.1	22.01	93.8
	Total Crashes	7.14	30.5	16.31	69.5	23.46	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

APPENDIX D
EXPRESSWAY CAPACITY ANALYSIS

Equations for Expressway analysis are compiled below and used on the following spreadsheets:

Basic freeway segments were analyzed using Equation 11-4:

$$D = \frac{v_p}{S}$$

Where:

D = density (pc/mi/ln)

v_p = demand flow rate (pc/hr/lane)

S = mean speed of traffic stream under base conditions (mi/hr)

Weave segments were analyzed using Equation 12-22:

$$D = \frac{\frac{v}{N}}{S}$$

Where:

D =average density of all vehicles within the weaving segment (pc/mi/ln)

v = total demand flow rate in the weave segment (pc/hr)

N = number of lanes within the weaving segment

S =average speed of all vehicles within the weaving segment (mi/h)

Merge and diverge segments were analyzed using Equation 13-21 and 13-22:

Equation 13-21:

$$D_R = 5.475 + 0.00734v_R + 0.0078v_{12} - 0.00627L_A$$

Where:

D_R =density in the on-ramp (merge) area (pc/mi/ln)

v_R = flow rate on the on ramp (pc/hr)

v_{12} = sum of the flow rates in Lanes 1 and 2 and the ramp flow rate (on-ramps only)

L_A = Length of Acceleration Lane (ft)

Equation 13-21:

$$D_R = 4.252 + 0.0086v_{12} - 0.009L_D$$

Where:

D_R =density in the off-ramp (diverge) area (pc/mi/ln)

v_R = flow rate on the off ramp (pc/hr)

v_{12} = sum of the flow rates in Lanes 1 and 2 immediately upstream of the ramp free influence area

L_D = Length of Deceleration Lane (ft)

Existing Vissim Summary

AM Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp - Exit 53 Off Ramp	1273	1045	962	1093	65	66	65	65	16.7	B
I-95 NB	Service Plaza Off Ramp - Service Plaza On Ramp	814	1041	802	886	65	65	65	65	13.6	B
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1224	1081		1153	64	65		65	17.9	B
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	1344	1259		1302	63	64		64	20.5	C
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1437	1516	1365	1439	64	64	63	64	22.6	C
I-95 SB	Service Plaza On Ramp - Service Plaza Off Ramp	961	1242	1307	1170	66	64	63	64	18.2	C
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1500	1562		1531	63	63		63	24.3	C
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	1889	1703		1796	63	64		64	28.3	D

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	1266	1024	2290	386		480	19.6	B
I-95 NB	Service Plaza Off Ramp	898	1011	1909	174		200	18.9	B
I-95 NB	Exit 54 On Ramp	1387	1223	2610	471	635		25.3	C
I-95 SB	Exit 53 On Ramp	1510	1483	2993	653	625		29.7	D
I-95 SB	Service Plaza On Ramp	1210	1341	2551	217	600		23.2	C
I-95 SB	Exit 54 Off Ramp	1868	1641	3509	432		230	32.4	D

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Service Plaza On Ramp - Exit 54 Off Ramp	594	1236		1830	2	64	14.3	B
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	1034	1276		2310	2	65	17.8	B

v_1 = Right Lane Volume

v_2 = Center Lane Volume

v_3 = Left Lane Volume

$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)

S_2 = Speed Right Lane (mph)

S_3 = Left Lane Speed (mph)

$S_{average}$ = Segment Average Speed (mph)

Existing Vissim Summary

PM Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp - Exit 53 Off Ramp	2100	1571	1428	1700	62	64	65	64	26.7	D
I-95 NB	Service Plaza Off Ramp - Service Plaza On Ramp	1093	1440	1155	1229	64	64	64	64	19.2	C
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1540	1508		1524	62	63		63	24.4	C
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	1741	1735		1738	62	63		63	27.8	D
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1259	1351	1224	1278	64	64	64	64	20.0	C
I-95 SB	Service Plaza On Ramp - Service Plaza Off Ramp	843	1149	1223	1072	67	64	63	65	16.6	B
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1377	1491		1434	63	63		63	22.8	C
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	1855	1677		1766	63	64		64	27.8	D

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	2028	1511	3539	1139		480	30.4	D
I-95 NB	Service Plaza Off Ramp	1073	1417	2490	173		200	23.9	C
I-95 NB	Exit 54 On Ramp	1735	1689	3424	466	635		31.6	D
I-95 SB	Exit 53 On Ramp	1324	1316	2640	538	625		26.1	C
I-95 SB	Service Plaza On Ramp	1039	1195	2234	143	600		20.2	C
I-95 SB	Exit 54 Off Ramp	1882	1608	3490	610		230	32.2	D

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Service Plaza On Ramp - Exit 54 Off Ramp	905	1565		2470	2	61	20.2	C
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	848	1180		2028	2	65	15.6	B

v_1 = Right Lane Volume

v_2 = Center Lane Volume

v_3 = Left Lane Volume

$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)

S_2 = Speed Right Lane (mph)

S_3 = Left Lane Speed (mph)

$S_{average}$ = Segment Average Speed (mph)

Existing Vissim Summary

SAT Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp - Exit 53 Off Ramp	1610	1259	1147	1339	64	65	65	65	20.7	C
I-95 NB	Service Plaza Off Ramp - Service Plaza On Ramp	899	1204	958	1020	65	65	65	65	15.7	B
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1428	1307		1368	63	64		64	21.5	C
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	1630	1586		1608	63	64		64	25.3	C
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1235	1308	1179	1241	64	64	64	64	19.4	C
I-95 SB	Service Plaza On Ramp - Service Plaza Off Ramp	835	1087	1145	1022	66	64	64	65	15.8	B
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1290	1358		1324	63	64		64	20.9	C
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	1645	1499		1572	64	64		64	24.6	C

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	1592	1224	2816	649		480	24.1	C
I-95 NB	Service Plaza Off Ramp	1004	1191	2195	225		200	21.3	C
I-95 NB	Exit 54 On Ramp	1639	1519	3158	521	635		30.0	D
I-95 SB	Exit 53 On Ramp	1307	1273	2580	551	625		25.7	C
I-95 SB	Service Plaza On Ramp	1022	1144	2166	163	600		19.8	B
I-95 SB	Exit 54 Off Ramp	1674	1431	3105	444		230	28.9	D

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Service Plaza On Ramp - Exit 54 Off Ramp	646	1432		2078	2	63	16.5	B
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	885	1109		1994	2	65	15.3	B

v_1 = Right Lane Volume

v_2 = Center Lane Volume

v_3 = Left Lane Volume

$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)

S_2 = Speed Right Lane (mph)

S_3 = Left Lane Speed (mph)

$S_{average}$ = Segment Average Speed (mph)

No-Build Vissim Summary

AM Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp - Exit 53 Off Ramp	1514	1268	1157	1313	64	65	65	65	20.3	C
I-95 NB	Service Plaza Off Ramp - Service Plaza On Ramp	981	1249	959	1063	65	65	65	65	16.4	B
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1428	1321		1375	63	64		64	21.6	C
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	1669	1640		1655	62	63		63	26.5	D
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1680	1769	1609	1686	63	63	63	63	26.8	D
I-95 SB	Service Plaza On Ramp - Service Plaza Off Ramp	1145	1437	1506	1363	66	64	63	64	21.2	C
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1754	1843		1799	62	62		62	29.0	D
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	2140	2039		2090	56	56		56	37.3	E

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	1499	1234	2733	467		480	23.4	C
I-95 NB	Service Plaza Off Ramp	1067	1213	2280	206		200	22.1	C
I-95 NB	Exit 54 On Ramp	1672	1568	3240	568	635		30.9	D
I-95 SB	Exit 53 On Ramp	1750	1752	3502	789	625		34.7	D
I-95 SB	Service Plaza On Ramp	1403	1542	2945	261	600		26.6	C
I-95 SB	Exit 54 Off Ramp	2176	1948	4124	506		230	37.6	E

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Service Plaza On Ramp - Exit 54 Off Ramp	736	1440		2176	2	63	17.3	B
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	1265	1474		2739	2	64	21.4	C

v_1 = Right Lane Volume
v_2 = Center Lane Volume
v_3 = Left Lane Volume
$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)
S_2 = Speed Center Lane (mph)
S_3 = Left Lane Speed (mph)
$S_{average}$ = Segment Average Speed (mph)

No-Build Vissim Summary

PM Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp - Exit 53 Off Ramp	2260	1882	1851	1998	49	51	53	51	39.2	E
I-95 NB	Service Plaza Off Ramp - Service Plaza On Ramp	1265	1614	1414	1431	53	53	53	53	27.0	D
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1738	1788		1763	46	46		46	38.3	E
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	2003	2061		2032	57	58		58	35.3	E
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1481	1589	1430	1500	64	64	63	64	23.6	C
I-95 SB	Service Plaza On Ramp - Service Plaza Off Ramp	995	1344	1418	1252	66	64	63	64	19.5	C
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1607	1756		1682	63	62		63	26.9	D
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	2156	2000		2078	54	55		55	38.1	E

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	2165	1809	3974	1328		480	34.1	D
I-95 NB	Service Plaza Off Ramp	1174	1634	2808	207		200	26.6	C
I-95 NB	Exit 54 On Ramp	1932	2034	3966	562	635		36.6	E
I-95 SB	Exit 53 On Ramp	1522	1552	3074	643	625		30.3	D
I-95 SB	Service Plaza On Ramp	1224	1400	2624	173	600		23.5	C
I-95 SB	Exit 54 Off Ramp	2178	1919	4097	719		230	37.4	E

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Service Plaza On Ramp - Exit 54 Off Ramp	1091	1704		2795	2	42	33.3	D
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	1025	1373		2398	2	65	18.4	B

v_1 = Right Lane Volume
v_2 = Center Lane Volume
v_3 = Left Lane Volume
$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)
S_2 = Speed Center Lane (mph)
S_3 = Left Lane Speed (mph)
$S_{average}$ = Segment Average Speed (mph)

No-Build Vissim Summary

SAT Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp - Exit 53 Off Ramp	1915	1522	1384	1607	63	64	65	64	25.1	C
I-95 NB	Service Plaza Off Ramp - Service Plaza On Ramp	1096	1415	1161	1224	63	63	63	63	19.4	C
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1646	1625		1636	57	58		58	28.4	D
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	1928	1954		1941	60	61		61	32.1	D
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1472	1558	1406	1479	64	64	63	64	23.2	C
I-95 SB	Service Plaza On Ramp - Service Plaza Off Ramp	1007	1285	1347	1213	66	64	63	64	18.9	C
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1531	1628		1580	63	63		63	25.1	C
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	1955	1804		1880	62	63		63	30.1	D

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	1880	1474	3354	778		480	28.8	D
I-95 NB	Service Plaza Off Ramp	1198	1417	2615	270		200	24.9	C
I-95 NB	Exit 54 On Ramp	1900	1895	3795	625	635		35.7	E
I-95 SB	Exit 53 On Ramp	1551	1525	3076	663	625		30.4	D
I-95 SB	Service Plaza On Ramp	1229	1364	2593	201	600		23.4	C
I-95 SB	Exit 54 Off Ramp	1976	1734	3710	535		230	34.1	D

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Service Plaza On Ramp - Exit 54 Off Ramp	802	1646		2448	2	57	21.5	C
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	1088	1314		2402	2	65	18.5	B

v_1 = Right Lane Volume
v_2 = Center Lane Volume
v_3 = Left Lane Volume
$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)
S_2 = Speed Center Lane (mph)
S_3 = Left Lane Speed (mph)
$S_{average}$ = Segment Average Speed (mph)

Vissim Summary

AM Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp- Exit 53 Off Ramp	1508	1260	1170	1313	64	65	65	65	20.3	C
I-95 NB	Service Plaza Off Ramp - Service Plaza On Ramp	926	1174	1092	1064	65	65	64	65	16.5	B
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1499	1415		1457	61	61		61	23.9	C
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	1668	1638		1653	62	63		63	26.4	D
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1646	1785	1669	1700	63	63	63	63	27.0	D
I-95 SB	Exit 53 On Ramp - Exit 53 Off Ramp	1185	1464	1491	1380	65	64	63	64	21.6	C
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1939	1880		1910	62	62		62	30.8	D
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	2131	2073		2102	57	57		57	36.9	E

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	1506	1238	2744	466		480	23.5	C
I-95 NB	Service Plaza Off Ramp	1068	1211	2279	207		200	22.1	C
I-95 NB	Exit 53 On Ramp - Service Plaza On Ramp	348		348	205	532		6.4	A
I-95 NB	Exit 54 On Ramp	1668	1589	3257	398	635		29.8	D
I-95 SB	Exit 53 On Ramp	1775	1743	3518	1035	625		36.6	E
I-95 SB	Exit 53 On Ramp - Service Plaza On Ramp	999		999	253	396		12.6	B
I-95 SB	Exit 53 Off Ramp	1314	1510	2824	201		185	26.9	C
I-95 SB	Exit 54 Off Ramp	2152	1997	4149	317		230	37.9	E

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Service Plaza On Ramp - Exit 54 Off Ramp	702	1539		2241	2	60	18.7	B
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	1399	1528		2927	2	64	22.9	C

v_1 = Right Lane Volume

v_2 = Center Lane Volume

v_3 = Left Lane Volume

$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)

S_2 = Speed Right Lane (mph)

S_3 = Left Lane Speed (mph)

$S_{average}$ = Segment Average Speed (mph)

Vissim Summary

PM Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp- Exit 53 Off Ramp	2239	1883	1866	1996	47	50	52	50	40.2	E
I-95 NB	Service Plaza Off Ramp - Service Plaza On Ramp	1194	1526	1594	1438	49	50	50	50	29.0	D
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1833	1905		1869	52	52		52	35.9	E
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	2010	2034		2022	60	60		60	33.7	D
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1463	1584	1484	1510	64	64	63	64	23.7	C
I-95 SB	Exit 53 On Ramp - Exit 53 Off Ramp	1042	1340	1402	1261	66	64	63	64	19.6	C
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1789	1801		1795	62	62		62	29.0	D
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	2138	2038		2088	57	57		57	36.6	E

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	2160	1820	3980	1332		480	34.2	D
I-95 NB	Service Plaza Off Ramp	1184	1630	2814	207		200	26.7	C
I-95 NB	Exit 53 On Ramp - Service Plaza On Ramp	430		430	221	532		7.1	A
I-95 NB	Exit 54 On Ramp	1986	2015	4001	323	635		35.1	E
I-95 SB	Exit 53 On Ramp	1556	1542	3098	810	625		31.7	D
I-95 SB	Exit 53 On Ramp - Service Plaza On Ramp	793		793	169	396		10.4	B
I-95 SB	Exit 53 Off Ramp	1169	1378	2547	201		185	24.5	C
I-95 SB	Exit 54 Off Ramp	2160	1964	4124	512		230	37.6	E

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Service Plaza On Ramp - Exit 54 Off Ramp	1154	1730		2884	2	32	45.1	E
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	1198	1394		2592	2	64	20.3	C

v_1 = Right Lane Volume

v_2 = Center Lane Volume

v_3 = Left Lane Volume

$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)

S_2 = Speed Right Lane (mph)

S_3 = Left Lane Speed (mph)

$S_{average}$ = Segment Average Speed (mph)

Vissim Summary

SAT Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp- Exit 53 Off Ramp	1898	1517	1406	1607	63	65	65	64	25.0	C
I-95 NB	Service Plaza Off Ramp - Service Plaza On Ramp	1045	1352	1282	1226	63	63	63	63	19.5	C
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1754	1787		1771	54	55		55	32.5	D
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	1911	1964		1938	61	61		61	31.8	D
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1435	1579	1437	1484	64	64	63	64	23.3	C
I-95 SB	Exit 53 On Ramp - Exit 53 Off Ramp	1030	1315	1309	1218	66	64	63	64	18.9	C
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1703	1644		1674	62	63		63	26.8	D
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	1929	1834		1882	63	63		63	29.9	D

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	1885	1471	3356	777		480	28.8	D
I-95 NB	Service Plaza Off Ramp	1198	1411	2609	270		200	24.9	C
I-95 NB	Exit 53 On Ramp - Service Plaza On Ramp	520		520	264	532		8.1	A
I-95 NB	Exit 54 On Ramp	1902	1927	3829	344	635		33.9	D
I-95 SB	Exit 53 On Ramp	1550	1534	3084	854	625		31.9	D
I-95 SB	Exit 53 On Ramp - Service Plaza On Ramp	836		836	195	396		10.9	B
I-95 SB	Exit 53 Off Ramp	1157	1341	2498	178		185	24.1	C
I-95 SB	Exit 54 Off Ramp	1951	1765	3716	348		230	34.1	D

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Service Plaza On Ramp - Exit 54 Off Ramp	837	1730		2567	2	49	26.2	C
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	1223	1354		2577	2	64	20.1	C

v_1 = Right Lane Volume
v_2 = Center Lane Volume
v_3 = Left Lane Volume
$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)
S_2 = Speed Right Lane (mph)
S_3 = Left Lane Speed (mph)
$S_{average}$ = Segment Average Speed (mph)

Vissim Summary

AM Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp - Exit 53 Off Ramp	1536	1246	1156	1313	64	65	65	65	20.3	C
I-95 NB	Exit 53 Off Ramp - Exit 53 On Ramp	874	1206	1122	1067	64	65	64	64	16.6	B
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1496	1426		1461	63	64		64	23.0	C
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	1652	1651		1652	62	63		63	26.4	D
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1716	1779	1618	1704	63	63	63	63	27.1	D
I-95 SB	Exit 53 On Ramp - Exit 53 Off Ramp	1165	1475	1494	1378	65	64	63	64	21.5	C
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1939	1876		1908	62	62		62	30.8	D
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	2123	2073		2098	56	57		57	37.1	E

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	1443	1239	2682	674		480	23.0	C
I-95 NB	Exit 54 On Ramp	1660	1596	3256	398	600		30.0	D
I-95 SB	Exit 53 On Ramp	1804	1744	3548	1045	625		36.9	E
I-95 SB	Exit 53 Off Ramp	1304	1520	2824	201		185	26.9	C
I-95 SB	Exit 54 Off Ramp	2151	1992	4143	305		230	37.8	E

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Exit 53 On Ramp - Exit 54 Off Ramp	639	1554		2193	2	64	17.1	B
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	1394	1535		2929	2	64	22.9	C

v_1 = Right Lane Volume
v_2 = Center Lane Volume
v_3 = Left Lane Volume
$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)
S_2 = Speed Right Lane (mph)
S_3 = Left Lane Speed (mph)
$S_{average}$ = Segment Average Speed (mph)

Vissim Summary

PM Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp - Exit 53 Off Ramp	2217	1851	1865	1978	46	49	51	49	40.6	E
I-95 NB	Exit 53 Off Ramp - Exit 53 On Ramp	1027	1579	1703	1436	63	62	61	62	23.2	C
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1892	1891		1892	59	59		59	32.1	D
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	2013	2053		2033	61	61		61	33.3	D
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1507	1589	1440	1512	64	64	63	64	23.7	C
I-95 SB	Exit 53 On Ramp - Exit 53 Off Ramp	1038	1344	1400	1261	66	64	63	64	19.6	C
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1783	1802		1793	62	62		62	28.9	D
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	2140	2032		2086	56	56		56	37.3	E

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	2029	1803	3832	1529		480	32.9	D
I-95 NB	Exit 54 On Ramp	1999	2025	4024	323	600		35.5	E
I-95 SB	Exit 53 On Ramp	1579	1537	3116	813	625		31.8	D
I-95 SB	Exit 53 Off Ramp	1169	1377	2546	201		185	24.5	C
I-95 SB	Exit 54 Off Ramp	2154	1961	4115	511		230	37.6	E

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Exit 53 On Ramp - Exit 54 Off Ramp	988	1899		2887	2	57	25.3	C
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	1190	1395		2585	2	65	19.9	B

v_1 = Right Lane Volume
v_2 = Center Lane Volume
v_3 = Left Lane Volume
$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)
S_2 = Speed Right Lane (mph)
S_3 = Left Lane Speed (mph)
$S_{average}$ = Segment Average Speed (mph)

Vissim Summary

SAT Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp - Exit 53 Off Ramp	1935	1498	1388	1607	63	65	65	64	25.0	C
I-95 NB	Exit 53 Off Ramp - Exit 53 On Ramp	973	1390	1334	1232	64	64	64	64	19.3	C
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1792	1774		1783	61	62		62	29.0	D
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	1912	1965		1939	61	62		62	31.5	D
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1505	1565	1393	1488	64	64	63	64	23.4	C
I-95 SB	Exit 53 On Ramp - Exit 53 Off Ramp	1034	1315	1308	1219	66	64	63	64	18.9	C
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1704	1645		1675	62	62		62	27.0	D
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	1929	1834		1882	63	63		63	29.9	D

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	1802	1468	3270	1051		480	28.1	D
I-95 NB	Exit 54 On Ramp	1904	1927	3831	344	600		34.1	D
I-95 SB	Exit 53 On Ramp	1596	1516	3112	857	625		32.1	D
I-95 SB	Exit 53 Off Ramp	1165	1339	2504	179		185	24.1	C
I-95 SB	Exit 54 Off Ramp	1951	1765	3716	348		230	34.1	D

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Exit 53 On Ramp - Exit 54 Off Ramp	703	1818		2521	2	62	20.3	C
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	1222	1353		2575	2	64	20.1	C

v_1 = Right Lane Volume
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v_3 = Left Lane Volume
$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)
S_2 = Speed Right Lane (mph)
S_3 = Left Lane Speed (mph)
$S_{average}$ = Segment Average Speed (mph)

Vissim Summary

AM Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp - Exit 53 Off Ramp	1536	1246	1156	1313	64	65	65	65	20.3	C
I-95 NB	Exit 53 Off Ramp - Exit 53 On Ramp	874	1206	1122	1067	64	65	64	64	16.6	B
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1496	1426		1461	63	64		64	23.0	C
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	1652	1651		1652	62	63		63	26.4	D
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1716	1779	1618	1704	63	63	63	63	27.1	D
I-95 SB	Exit 53 On Ramp - Exit 53 Off Ramp	1165	1475	1494	1378	65	64	63	64	21.5	C
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1939	1876		1908	62	62		62	30.8	D
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	2123	2073		2098	56	57		57	37.1	E

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	1443	1239	2682	674		480	23.0	C
I-95 NB	Exit 54 On Ramp	1660	1596	3256	398	600		30.0	D
I-95 SB	Exit 53 On Ramp	1804	1744	3548	1045	625		36.9	E
I-95 SB	Exit 53 Off Ramp	1304	1520	2824	201		185	26.9	C
I-95 SB	Exit 54 Off Ramp	2151	1992	4143	305		230	37.8	E

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Exit 53 On Ramp - Exit 54 Off Ramp	639	1554		2193	2	64	17.1	B
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	1394	1535		2929	2	64	22.9	C

v_1 = Right Lane Volume
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v_3 = Left Lane Volume
$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)
S_2 = Speed Right Lane (mph)
S_3 = Left Lane Speed (mph)
$S_{average}$ = Segment Average Speed (mph)

Vissim Summary

PM Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp - Exit 53 Off Ramp	2217	1851	1865	1978	46	49	51	49	40.6	E
I-95 NB	Exit 53 Off Ramp - Exit 53 On Ramp	1027	1579	1703	1436	63	62	61	62	23.2	C
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1892	1891		1892	59	59		59	32.1	D
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	2013	2053		2033	61	61		61	33.3	D
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1507	1589	1440	1512	64	64	63	64	23.7	C
I-95 SB	Exit 53 On Ramp - Exit 53 Off Ramp	1038	1344	1400	1261	66	64	63	64	19.6	C
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1783	1802		1793	62	62		62	28.9	D
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	2140	2032		2086	56	56		56	37.3	E

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	2029	1803	3832	1529		480	32.9	D
I-95 NB	Exit 54 On Ramp	1999	2025	4024	323	600		35.5	E
I-95 SB	Exit 53 On Ramp	1579	1537	3116	813	625		31.8	D
I-95 SB	Exit 53 Off Ramp	1169	1377	2546	201		185	24.5	C
I-95 SB	Exit 54 Off Ramp	2154	1961	4115	511		230	37.6	E

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Exit 53 On Ramp - Exit 54 Off Ramp	988	1899		2887	2	57	25.3	C
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	1190	1395		2585	2	65	19.9	B

v_1 = Right Lane Volume
v_2 = Center Lane Volume
v_3 = Left Lane Volume
$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)
S_2 = Speed Right Lane (mph)
S_3 = Left Lane Speed (mph)
$S_{average}$ = Segment Average Speed (mph)

Vissim Summary

SAT Peak

Basic Freeway Segments		v_1	v_2	v_3	$v_{average}$	S_1	S_2	S_3	$S_{average}$	D_f	LOS
I-95 NB	Exit 52 On Ramp - Exit 53 Off Ramp	1935	1498	1388	1607	63	65	65	64	25.0	C
I-95 NB	Exit 53 Off Ramp - Exit 53 On Ramp	973	1390	1334	1232	64	64	64	64	19.3	C
I-95 NB	Exit 54 Off Ramp - Exit 54 On Ramp	1792	1774		1783	61	62		62	29.0	D
I-95 NB	Exit 54 On Ramp - Exit 55 Off Ramp	1912	1965		1939	61	62		62	31.5	D
I-95 SB	Exit 52 Off Ramp - Exit 53 On Ramp	1505	1565	1393	1488	64	64	63	64	23.4	C
I-95 SB	Exit 53 On Ramp - Exit 53 Off Ramp	1034	1315	1308	1219	66	64	63	64	18.9	C
I-95 SB	Exit 54 On Ramp - Exit 54 Off Ramp	1704	1645		1675	62	62		62	27.0	D
I-95 SB	Exit 54 Off Ramp - Exit 55 On Ramp	1929	1834		1882	63	63		63	29.9	D

Merge/Diverge Scenarios		v_1	v_2	v_{12}	v_R	L_a	L_d	D_R	LOS
I-95 NB	Exit 53 Off Ramp	1802	1468	3270	1051		480	28.1	D
I-95 NB	Exit 54 On Ramp	1904	1927	3831	344	600		34.1	D
I-95 SB	Exit 53 On Ramp	1596	1516	3112	857	625		32.1	D
I-95 SB	Exit 53 Off Ramp	1165	1339	2504	179		185	24.1	C
I-95 SB	Exit 54 Off Ramp	1951	1765	3716	348		230	34.1	D

Weave Scenarios		v_1	v_2	v_3	v_{total}	N	S	D_w	LOS
I-95 NB	Exit 53 On Ramp - Exit 54 Off Ramp	703	1818		2521	2	62	20.3	C
I-95 SB	Service Plaza Off Ramp - Exit 54 On Ramp	1222	1353		2575	2	64	20.1	C

v_1 = Right Lane Volume
v_2 = Center Lane Volume
v_3 = Left Lane Volume
$v_{average}$ = Average Volume

S_1 = Speed Right Lane (mph)
S_2 = Speed Right Lane (mph)
S_3 = Left Lane Speed (mph)
$S_{average}$ = Segment Average Speed (mph)

APPENDIX E

SURFACE STREETS CAPACITY ANALYSIS

AM Peak Hour Signalized Traffic Operations Summary

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Route 1 (West Main Street) @ Route 142 (Short Beach Road)	B/15.6	B/18.6	B/18.7	B/16.4	B/18.7
Route 1 EB Thru	A/0.29/135	B/0.41/205	B/0.42/185	B/0.47/165	B/0.42/185
Route 1 EB Right	A/0.06/25	A/0.07/25	A/0.07/25	A/0.08/25	A/0.07/25
Route 1 WB Left	A/0.37/25	A/0.48/50	A/0.25/40	A/0.26/45	A/0.25/40
Route 1 WB Thru	B/0.34/245	B/0.47/310	C/0.49/270	B/0.53/200	C/0.49/270
Route 142 NB Left	D/0.62/130	D/0.67/145	D/0.68/140	D/0.67/135	D/0.68/140
Route 142 NB Right	C/0.71/180	C/0.74/220	C/0.73/185	B/0.71/175	C/0.73/185
Route 1 (North Main Street) @ Branford Connector & Route 146	-	-	C/24.0	-	C/24.0
Branford Con. EB Left	-	-	D/0.77/180	-	D/0.77/180
Branford Con. EB Thru	-	-	B/0.25/110	-	B/0.25/110
Branford Con. EB Right	-	-	A/0.26/50	-	A/0.26/50
Route 146 WB Left	-	-	C/0.16/25	-	C/0.16/25
Route 146 WB Thru	-	-	C/0.37/105	-	C/0.37/105
Route 146 WB Right	-	-	C/0.60/140	-	C/0.60/140
Route 1 NB Left	-	-	D/0.71/115	-	D/0.71/115
Route 1 NB Thru/Right	-	-	C/0.58/90	-	C/0.58/90
Route 1 SB Left	-	-	D/0.63/80	-	D/0.63/80
Route 1 SB Thru	-	-	C/0.34/50	-	C/0.34/50
Route 1 SB Right	-	-	A/0.68/45	-	A/0.68/45
Route 1 (North Main Street) @ Branford Connector	B/12.3	B/13.7	-	B/15.0	-
Route 1 NB Left	C/0.65/200	C/0.67/270	-	C/0.77/165	-
Route 1 NB Thru	A/0.29/135	A/0.35/70	-	A/0.31/115	-
Route 1 SB Thru	B/0.49/85	B/0.69/115	-	B/0.47/115	-
Route 1 SB Right	A/0.46/25	A/0.59/30	-	B/0.67/155	-
Branford Con. EB Left	D/0.54/90	D/0.57/105	-	C/0.49/80	-
Branford Con. EB Right	B/0.50/55	A/0.52/55	-	A/0.63/40	-
Route 1 (West Main Street) @ Commercial Parkway & Goodwill Driveway	B/12.8	B/14.9	-	-	-
Goodwill Driveway EB Left	C/0.09/20	C/0.40/65	-	-	-
Goodwill Driveway EB Thru	A/0.04/25	B/0.51/345	-	-	-
Commercial Pkwy WB Left	D/0.34/55	E/0.67/70	-	-	-
Commercial Pkwy WB Thru	A/0.19/25	A/0.45/125	-	-	-
Route 1 NB Left	C/0.34/50	C/0.12/25	-	-	-
Route 1 NB Thru	B/0.41/275	A/0.06/25	-	-	-
Route 1 SB Left	D/0.52/65	D/0.41/60	-	-	-

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Route 1 SB Thru	A/0.35/105	A/0.25/25	-	-	-
Route 1 (North Main Street) @ Route 146	B/16.1	B/18.2	-	B/10.8	-
Route 146 WB Left	-	-	-	C/0.64/120	-
Route 146 WB Thru/Right	-	-		B/0.12/25	
Route 146 WB Left	D/0.74/175	E/0.55/85	-	-	-
Route 146 WB Thru/Left	D/0.74/175	A/0.35/90	-	-	-
Route 146 WB Right	A/0.03/25	A/0.25/25	-	-	-
Route 1 NB Left	E/0.45/70	D/0.17/30	-	-	-
Route 1 NB Thru	A/0.28/45	B/0.58/305	-	A/0.28/110	-
Route 1 NB Right	A/0.21/25	D/0.78/210	-	A/0.35/90	-
Route 1 SB Left	D/0.12/25	D/0.78/210	-	A/0.03/25	-
Route 1 SB Thru	B/0.46/240	A/0.03/25	-	A/0.39/155	-
Route 1 (North Main Street) @ Cherry Hill Road	A/9.0	B/12.2	A/9.6	A/8.5	A/9.6
Route 1 EB Left	A/0.06/25	A/0.09/25	A/0.05/25	A/0.05/25	A/0.05/25
Route 1 EB Thru	A/0.47/190	A/0.59/280	A/0.48/280	A/0.43/150	A/0.48/280
Route 1 WB Left	A/0.05/25	A/0.08/25	A/0.06/25	A/0.06/25	A/0.06/25
Route 1 WB Thru	A/0.62/300	B/0.77/485	A/0.54/245	A/0.54/240	A/0.54/245
Cherry Hill Road NB Thru	B/0.28/55	C/0.38/65	B/0.39/60	B/0.35/50	B/0.39/60
Cherry Hill Road SB Thru	C/0.30/75	D/0.46/90	D/0.46/75	C/0.38/60	D/0.46/75
Cherry Hill Road SB Right	B/0.28/40	B/0.36/45	A/0.36/40	A/0.33/35	A/0.36/40
Route 1 (North Main Street) @ Cedar Street (SR 740)	C/26.8	C/34.6	C/34.2	C/34.2	C/34.2
Route 1 EB Left	D/0.61/140	D/0.72/195	D/0.67/120	D/0.67/120	D/0.67/120
Route 1 EB Thru	C/0.52/230	C/0.62/290	C/0.56/300	C/0.56/300	C/0.56/300
Route 1 WB Left	D/0.34/75	D/0.42/90	E/0.57/110	E/0.57/110	E/0.57/110
Route 1 WB Thru	D/0.74/240	D/0.83/295	D/0.63/310	D/0.63/310	D/0.63/310
Route 1 WB Right	B/0.47/190	C/0.56/235	B/0.45/205	B/0.45/205	B/0.45/205
Cedar Street NB Left	B/0.20/50	C/0.31/65	C/0.29/60	C/0.29/60	C/0.29/60
Cedar Street NB Thru	C/0.64/170	D/0.76/225	D/0.81/260	D/0.81/260	D/0.81/260
Cedar Street SB Left	C/0.65/155	E/0.91/290	D/0.75/180	D/0.75/180	D/0.75/180
Cedar Street SB Thru	D/0.69/325	D/0.82/450	D/0.70/310	D/0.70/310	D/0.70/310
Cedar Street SB Right	A/0.50/100	B/0.64/270	A/0.41/40	A/0.41/40	A/0.41/40
Cedar Street (SR 740) @ I-95 NB On Ramp/ Off Ramp	D/36.8	F/91.0	B/13.4	B/13.4	B/13.4
I-95 NB Off Ramp Left	C/0.15/70	C/0.18/85	D/0.44/100	D/0.44/100	D/0.44/100
I-95 NB Off Ramp Thru	C/0.15/75	C/0.18/85	D/0.44/100	D/0.44/100	D/0.44/100
I-95 NB Off Ramp Right	B/0.69/190	D/0.91/400	C/0.92/240	C/0.92/240	C/0.92/240
Cedar Street NB Thru/Right	E/1.00/490	F/1.21/655	A/0.49/85	A/0.49/85	A/0.49/85
Cedar Street SB Left	E/0.95/240	F/1.62/320	B/0.65/120	B/0.65/120	B/0.65/120
Cedar Street SB Thru	A/0.29/25	A/0.34/55	A/0.20/25	A/0.20/25	A/0.20/25

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Cedar Street (SR 740) @ I-95 SB On Ramp/ Off Ramp	E/74.1	F/160.5	E/64.9	E/64.9	E/64.9
I-95 SB Off Ramp Left	C/0.44/195	D/0.53/235	F/1.07/230	F/1.07/230	F/1.07/230
I-95 SB Off Ramp Thru	C/0.44/195	D/0.53/235	F/1.08/235	F/1.08/235	F/1.08/235
I-95 SB Off Ramp Right	A/0.12/25	A/0.16/30	B/0.39/40	B/0.39/40	B/0.39/40
Cedar Street NB Left	F/1.43/505	F/2.18/580	F/1.27/730	F/1.27/730	F/1.27/730
Cedar Street NB Thru	A/0.15/25	A/0.18/25	A/0.14/25	A/0.14/25	A/0.14/25
Cedar Street SB Thru/Right	C/0.61/215	C/0.73/275	A/0.36/100	A/0.36/100	A/0.36/100
Branford Connector @ Commercial Parkway	-	-	B/13.5	A/7.5	B/13.5
Branford Con. EB Left	-	-	A/0.10/25	A/0.06/25	A/0.10/25
Branford Con. EB Thru	-	-	A/0.29/100	A/0.26/55	A/0.29/95
Branford Con. WB Thru	-	-	C/0.83/790	B/0.73/525	C/0.83/790
Branford Con. WB Right	-	-	A/0.16/25	A/0.17/25	A/0.16/25
Commercial Pkwy SB Left	-	-	C/0.13/35	C/0.18/35	C/0.13/35
Branford Connector @ I-95 NB On-Ramp/I-95 NB Off Ramp	-	-	-	B/10.7	A/10.5
I-95 NB Off-Ramp EB Thru	-	-	-	D/0.70/190	D/0.70/190
I-95 NB Off-Ramp EB Right	-	-	-	A/0.33/0	A/0.33/0
Branford Con. SB Thru/Left	-	-	-	B/0.17/225	B/0.17/225
Branford Con. NB Thru	-	-	-	A/0.64/390	A/0.64/385
Branford Con. NB Right	-	-	-	A/0.33/50	A/0.33/50
Branford Connector @ I-95 SB On-Ramp/I-95 SB Off Ramp/Service Plaza	-	-	-	B/19.6	B/19.5
I-95 SB Off-Ramp WB Left	-	-	-	D/0.66/195	D/0.66/195
I-95 SB Off-Ramp WB Thru	-	-	-	D/0.74/225	D/0.74/225
Branford Con. NB Left	-	-	-	A/0.70/50	A/0.70/55

Overall Intersection – X/00.0 - Level of Service/Intersection Signal Delay in sec
Approaches - X/.00/000 – Level of Service/Volume to Capacity Ratio/95% Queue Length in ft

PM Peak Hour Signalized Traffic Operations Summary

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Route 1 (West Main Street) @ Route 142 (Short Beach Road)	C/21.7	C/29.7	B/19.1	C/20.4	B/19.1
Route 1 EB Thru	C/0.64/430	D/.89/610	B/0.65/370	B/0.67/340	B/0.65/370
Route 1 EB Right	A/0.19/30	A/0.25/65	A/0.22/60	A/0.22/55	A/0.22/60
Route 1 WB Left	B/0.77/25	B/0.90/40	B/0.67/115	B/0.69/100	B/0.67/115
Route 1 WB Thru	C/0.68/465	C/0.94/530	B/0.69/395	C/0.71/380	B/0.69/395
Route 142 NB Left	D/0.62/125	D/0.66/145	E/0.72/155	D/0.71/155	E/0.72/155
Route 142 NB Right	B/0.54/165	B/0.57/190	C/0.80/300	C/0.79/275	C/0.80/300
Route 1 (North Main Street) @ Branford Connector & Route 146	-	-	C/33.5	-	C/33.5
Branford Con. EB Left	-	-	D/0.88/285	-	D/0.88/285
Branford Con. EB Thru	-	-	C/0.33/180	-	C/0.33/180
Branford Con. EB Right	-	-	B/0.52/190	-	B/0.52/190
Route 146 WB Left	-	-	E/0.28/25	-	E/0.28/25
Route 146 WB Thru	-	-	D/0.73/205	-	D/0.73/205
Route 146 WB Right	-	-	D/0.73/185	-	D/0.73/185
Route 1 NB Left	-	-	D/0.80/175	-	D/0.80/175
Route 1 NB Thru	-	-	C/0.45/95	-	C/0.45/95
Route 1 SB Left	-	-	D/0.83/220	-	D/0.83/220
Route 1 SB Thru	-	-	D/0.70/185	-	D/0.70/185
Route 1 SB Right	-	-	C/0.77/330	-	C/0.77/330
Route 1 (North Main Street) @ Branford Connector	C/22.1	D/49.6	-	C/30.2	-
Route 1 NB Left	D/0.80/265	E/1.04/255	-	E/0.95/250	-
Route 1 NB Thru	B/0.54/365	B/0.67/455	-	B/0.58/210	-
Route 1 SB Thru	B/0.88/465	E/1.09/590	-	C/0.88/350	-
Route 1 SB Right	A/0.30/25	A/0.36/25	-	C/0.68/210	-
Branford Con. EB Left	D/0.86/295	F/0.96/415	-	D/0.95/375	-
Branford Con. EB Right	A/0.60/110	B/0.70/190	-	B/0.61/220	-
Route 1 (West Main Street) @ Commercial Parkway & Goodwill Driveway	C/21.3	D/42.4	-	-	-
Goodwill Driveway EB Left	C/0.10/20	D/0.65/190	-	-	-
Goodwill Driveway EB Thru	A/0.03/25	E/1.01/650	-	-	-
Commercial Pkwy WB Left	E/0.71/130	D/0.29/35	-	-	-
Commercial Pkwy WB Thru	A/0.48/35	C/0.72/295	-	-	-
Route 1 NB Left	D/0.64/160	C/0.15/25	-	-	-
Route 1 NB Thru	B/0.77/795	A/0.04/25	-	-	-
Route 1 SB Left	D/0.18/35	E/0.75/145	-	-	-
Route 1 SB Thru	C/0.55/265	A/0.55/60	-	-	-

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Route 1 (North Main Street) @ Route 146	B/14.8	B/18.7	-	B/11.0	-
Route 146 WB Left	D/0.73/205	-	-	D/0.77/195	-
Route 146 WB Thru/Right	-	D/0.49/45	-	B/0.13/35	-
Route 146 WB Thru/Left	D/0.71/200	B/0.60/180	-	-	-
Route 146 WB Right	A/0.05/25	A/0.62/140	-	-	-
Route 1 NB Left	E/0.44/50	D/0.18/30	-	-	-
Route 1 NB Thru	A/0.47/170	C/0.64/405	-	A/0.46/145	-
Route 1 NB Right	A/0.52/125	D/0.76/245	-	A/0.74/70	-
Route 1 SB Left	D/0.13/25	D/0.75/240	-	A/0.06/25	-
Route 1 SB Thru	B/0.49/300	A/0.05/25	-	A/0.44/155	-
Route 1 (North Main Street) @ Cherry Hill Road	B/10.5	C/20.7	B/13.2	B/12.7	B/13.2
Route 1 EB Left	A/0.26/35	C/.61/125	A/0.31/25	A/0.37/35	A/0.31/25
Route 1 EB Thru	A/0.70/465	C/.89/920	B/0.71/370	B/0.71/265	B/0.71/370
Route 1 WB Left	A/0.22/25	D/0.70/60	A/0.26/35	A/0.26/35	A/0.26/35
Route 1 WB Thru	A/0.66/405	B/0.85/835	A/0.68/380	A/0.70/445	A/0.68/380
Cherry Hill Road NB Thru/Left/Right	C/0.40/75	C/0.54/95	D/0.60/110	C/0.56/95	D/0.60/110
Cherry Hill Road SB Thru/Left	D/0.35/70	D/0.55/85	E/0.62/95	D/0.49/80	E/0.62/95
Cherry Hill Road SB Right	A/0.17/25	B/0.23/35	B/0.24/35	B/0.25/35	B/0.24/35
Route 1 (North Main Street) @ Cedar Street (SR 740)	D/47.2	F/97.2	E/55.9	E/55.9	E/55.9
Route 1 EB Left	D/0.88/280	F/1.15/360	E/0.93/235	E/0.93/235	E/0.93/235
Route 1 EB Thru	C/0.76/430	D/0.88/590	E/0.97/650	E/0.97/650	E/0.97/650
Route 1 WB Left	D/0.36/80	D/0.44/90	F/0.82/150	F/0.82/150	F/0.82/150
Route 1 WB Thru	D/0.89/325	E/0.94/450	E/0.98/565	E/0.98/565	E/.98/565
Route 1 WB Right	B/0.30/120	B/0.35/145	B/0.29/140	B/0.29/140	B/0.29/140
Cedar Street NB Left	C/0.43/85	C/0.54//105	D/0.62/105	D/0.62/105	D/0.62/105
Cedar Street NB Thru	C/0.61/175	D/0.75/220	E/0.86/290	E/0.86/290	E/0.86/290
Cedar Street SB Left	F/1.16/405	F/1.65/580	E/1.04/390	E/1.04/390	E/1.04/390
Cedar Street SB Thru	E/0.90/485	F/1.24/610	D/0.77/345	D/0.77/345	D/0.77/345
Cedar Street SB Right	B/0.65/305	C/.89/565	B/0.54/190	B/0.54/190	B/0.54/190
Cedar Street (SR 740) @ I-95 NB On Ramp/ Off Ramp	D/41.9	F/105.6	C/33.5	C/33.5	C/33.5
I-95 NB Off Ramp Left	C/0.34/145	D/0.43/175	C/0.37/175	C/0.37/175	C/0.37/175
I-95 NB Off Ramp Thru	C/0.34/150	D/0.42/175	C/0.37/175	C/0.37/175	C/0.37/175
I-95 NB Off Ramp Right	E/1.03/515	F/1.38/750	F/1.14/685	F/1.14/685	F/1.14/685
Cedar Street NB Thru	E/1.01/525	F/1.26/695	A/0.70/265	A/0.70/265	A/0.70/265
Cedar Street SB Left	C/0.60/85	E/.92/140	B/0.61/75	B/0.61/75	B/0.61/75
Cedar Street SB Thru	A/0.39/30	A/0.45/65	A/0.37/25	A/0.37/25	A/0.37/25

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Cedar Street (SR 740) @ I-95 SB On Ramp/ Off Ramp	C/26.1	E/70.2	D/40.4	D/40.4	D/40.4
I-95 SB Off Ramp Left	D/0.58/230	D/0.63/280	F/1.04/305	F/1.04/305	F/1.04/305
I-95 SB Off Ramp Thru	D/0.59/230	D/0.63/285	F/1.05/305	F/1.05/305	F/1.05/305
I-95 SB Off Ramp Right	A/0.33/50	A/0.36/55	B/0.60/75	B/0.60/75	B/0.60/75
Cedar Street NB Left	D/1.00/345	F/1.59/410	E/1.05/600	E/1.05/600	E/1.05/600
Cedar Street NB Thru	A/0.24/25	A/0.30/25	A/0.23/25	A/0.23/25	A/0.23/25
Cedar Street SB Thru	C/0.57/225	C/0.72/285	C/0.48/230	C/0.48/230	C/0.48/230
Branford Connector @ Commercial Parkway	-	-	B/17.5	B/13.7	B/17.5
Branford Con. EB Left	-	-	B/0.48/45	A/0.41/35	B/0.48/45
Branford Con. EB Thru	-	-	B/0.72/305	A/0.67/275	B/0.72/305
Branford Con. WB Thru	-	-	C/0.91/650	C/.85/625	C/0.91/650
Branford Con. WB Right	-	-	A/0.34/35	A/0.25/30	A/0.34/35
Commercial Pkwy SB Left/Right	-	-	C/0.48/130	C/0.54/110	C/0.48/130
Branford Connector @ I-95 NB On Ramp/I-95 NB Off Ramp/Service Plaza	-	-	-	B/13.3	B/13.2
I-95 NB Off-Ramp EB Thru	-	-	-	C/0.64/150	C/0.64/150
I-95 NB Off-Ramp EB Right	-	-	-	B/0.94/160	B/0.94/160
Branford Con. SB Thru/Left	-	-	-	B/0.19/185	B/0.19/185
Branford Con. NB Thru	-	-	-	A/0.57/280	A/0.57/280
Branford Con. NB Right	-	-	-	A/0.42/70	A/0.42/70
Branford Connector @ I-95 SB On Ramp/I-95 SB Off Ramp/Service Plaza	-	-	-	B/14.3	B/14.4
I-95 SB Off-Ramp WB Left	-	-	-	C/0.65/150	C/0.65/150
I-95 SB Off-Ramp WB Thru	-	-	-	C/0.49/120	C/0.49/120
Branford Con. NB Left	-	-	-	A/0.61/45	A/0.61/50

Overall Intersection – X/00.0 - Level of Service/Intersection Signal Delay in sec
Approaches - X/.00/000 – Level of Service/Volume to Capacity Ratio/95% Queue Length in ft

Saturday Mid-Day Peak Hour Signalized Traffic Operations Summary

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Route 1 (West Main Street) @ Route 142 (Short Beach Road)	C/25.3	E/75.3	C/33.2	C/30.9	C/33.2
Route 1 EB Thru	C/0.72/295	F/1.08/550	C/0.83/450	C/0.83/450	C/0.83/450
Route 1 EB Right	A/0.17/30	A/0.21/50	A/0.19/50	A/0.19/50	A/0.19/50
Route 1 WB Left	C/0.86/80	E/1.07/80	B/0.77/120	C/0.77/170	B/0.77/120
Route 1 WB Thru	C/0.94/365	F/1.19/360	D/0.90/485	C/0.90/560	D/0.90/485
Route 142 NB Left	D/0.75/185	D/0.82/245	E/0.94/330	E/0.94/330	E/0.94/330
Route 142 NB Right	B/0.64/255	C/0.75/360	D/0.93/530	D/0.93/530	D/0.93/530
Route 1 (North Main Street) @ Branford Connector & Route 146	-	-	D/40.7	-	D/40.7
Branford Con. EB Left	-	-	E/1.01/310	-	E/1.01/310
Branford Con. EB Thru	-	-	B/0.49/195	-	B/0.49/195
Branford Con. EB Right	-	-	A/0.47/45	-	A/0.47/45
Route 146 WB Left	-	-	D/0.24/30	-	D/0.24/30
Route 146 WB Thru	-	-	D/0.91/360	-	D/0.91/360
Route 146 WB Right	-	-	D/0.68/205	-	D/0.68/205
Route 1 NB Left	-	-	E/0.96/230	-	E/0.96/230
Route 1 NB Thru	-	-	C/0.49/115	-	C/0.49/115
Route 1 SB Left	-	-	D/0.71/130	-	D/0.71/130
Route 1 SB Thru	-	-	D/0.39/90	-	D/0.39/90
Route 1 SB Right	-	-	D/0.98/250	-	D/0.98/250
Route 1 (North Main Street) @ Branford Connector	C/25.4	E/73.4	-	C/24.7	-
Route 1 NB Left	C/0.55/170	C/0.65/145	-	D/0.94/285	-
Route 1 NB Thru	A/0.57/340	B/0.71/410	-	A/0.52/200	-
Route 1 SB Thru	D/1.05/570	F/1.37/610	-	C/0.85/400	-
Route 1 SB Right	A/0.37/25	A/0.45/25	-	C/0.61/235	-
Branford Con. EB Left	D/0.64/125	C/0.67/145	-	D/0.87/230	-
Branford Con. EB Right	A/0.61/65	A/0.65/85	-	B/0.85/155	-
Route 1 (West Main Street) @ Commercial Parkway & Goodwill Driveway	D/47.5	E/72.5	-	-	-
Goodwill Driveway EB Left	C/0.12/20	E/0.84/350	-	-	-
Goodwill Driveway EB Thru	B/0.09/25	F/1.11/760	-	-	-
Commercial Pkwy WB Left	D/0.71/130	F/0.87/75	-	-	-
Commercial Pkwy WB Thru	C/0.71/120	E/1.02/540	-	-	-
Route 1 NB Left	D/0.62/260	C/0.17/25	-	-	-
Route 1 NB Thru	C/0.81/540	B/.11/30	-	-	-
Route 1 SB Left	E/0.60/55	D/0.75/145	-	-	-
Route 1 SB Thru	E/0.85/355	C/0.80/160	-	-	-

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Route 1 (North Main Street) @ Route 146	C/33.3	D/41.6	-	B/13.5	-
Route 146 WB Left	-	-	-	D/0.76/230	-
Route 146 WB Thru/Right	-	-	-	B/0.12/40	-
Route 146 WB Left	D/0.79/225	D/0.60/45	-	-	-
Route 146 WB Thru/Left	D/0.79/225	B/0.68/200	-	-	-
Route 146 WB Right	A/0.04/25	A/0.41/25	-	-	-
Route 1 NB Left	D/0.49/50	D/0.16/30	-	-	-
Route 1 NB Thru	B/0.54/210	E/0.89/585	-	A/0.53/240	-
Route 1 NB Right	A/0.34/25	D/0.85/305	-	A/0.52/40	-
Route 1 SB Left	D/0.12/25	D/0.84/285	-	B/0.07/25	-
Route 1 SB Thru	E/0.69/430	A/0.05/25	-	B/0.60/280	-
Route 1 (North Main Street) @ Cherry Hill Road	B/16.1	D/45.6	B/18.2	B/16.9	B/18.2
Route 1 EB Left	B/0.35/40	D/.69/55	B/0.47/60	B/0.41/35	B/0.47/60
Route 1 EB Thru	B/0.81/640	C/.99/1065	B/0.82/545	B/0.79/565	B/0.82/545
Route 1 WB Left	A/0.33/40	F/0.94/95	B/0.40/45	A/0.37/50	B/0.40/45
Route 1 WB Thru	B/0.87/860	E/1.06/1180	B/0.90/915	B/0.87/950	B/0.90/915
Cherry Hill Road NB Thru	C/0.44/65	C/0.49/80	C/0.58/90	C/0.50/80	C/0.58/90
Cherry Hill Road SB Thru	D/0.44/70	D/0.55/85	E/0.72/120	D/0.59/90	E/0.72/120
Cherry Hill Road SB Right	B/0.37/45	C/0.49/80	B/0.45/50	B/0.42/50	B/0.45/50
Route 1 (North Main Street) @ Cedar Street (SR 740)	D/48.3	F/82.1	E/56.5	E/56.5	E/56.5
Route 1 EB Left	E/0.95/270	F/1.18/345	F/0.91/220	F/0.91/220	F/0.91/220
Route 1 EB Thru	C/0.66/375	D/0.79/550	D/0.81/540	D/0.81/540	D/0.81/540
Route 1 WB Left	D/0.42/85	D/0.48/100	F/0.69/145	F/0.69/145	F/0.69/145
Route 1 WB Thru	E/0.96/510	F/1.09/660	E/0.99/740	E/0.99/740	E/0.99/740
Route 1 WB Right	B/0.34/150	B/0.41/185	B/0.37/195	B/0.37/195	B/0.37/195
Cedar Street NB Left	C/0.53/100	C/0.64//120	F/1.01/225	F/1.01/225	F/1.01/225
Cedar Street NB Thru	D/0.74/215	D/0.90/300	D/0.81/320	D/0.81/320	D/0.81/320
Cedar Street SB Left	D/0.80/200	F/1.08/305	E/0.92/260	E/0.92/260	E/0.92/260
Cedar Street SB Thru	F/1.06/485	F/1.31/610	E/0.89/495	E/0.89/495	E/0.89/495
Cedar Street SB Right	B/0.64/270	C/.82/460	C/0.51/230	C/0.51/230	C/0.51/230
Cedar Street (SR 740) @ I-95 NB On Ramp/ Off Ramp	D/54.2	F/151.4	B/19.5	B/19.5	B/19.5
I-95 NB Off Ramp Left	C/0.17/80	C/0.22/95	D/0.39/125	D/0.39/125	D/0.39/125
I-95 NB Off Ramp Thru	C/0.17/85	C/0.21/95	D/0.38/125	D/0.38/125	D/0.38/125
I-95 NB Off Ramp Right	C/0.72/225	E/0.97/445	E/0.99/375	E/0.99/375	E/0.99/375
Cedar Street NB Thru	F/1.12/610	F/1.51/915	B/0.54/460	B/0.54/460	B/0.54/460
Cedar Street SB Left	D/0.78/145	F/1.45/195	A/0.45/70	A/0.45/70	A/0.45/70
Cedar Street SB Thru	A/0.33/30	A/0.39/60	A/0.25/25	A/0.25/25	A/0.25/25

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Cedar Street (SR 740) @ I-95 SB On Ramp/ Off Ramp	D/52.5	F/130.9	D/50.9	D/50.9	D/50.9
I-95 SB Off Ramp Left	C/0.44/185	C/0.50/220	F/1.02/260	F/1.02/260	F/1.02/260
I-95 SB Off Ramp Thru	C/0.44/185	C/0.50/220	F/1.03/260	F/1.03/260	F/1.03/260
I-95 SB Off Ramp Right	A/0.20/40	A/0.22/45	B/0.50/60	B/0.50/60	B/0.50/60
Cedar Street NB Left	F/1.27/405	F/1.95/430	F/1.16/780	F/1.16/780	F/1.16/780
Cedar Street NB Thru	A/0.18/25	A/0.22/25	A/0.16/25	A/0.16/25	A/0.16/25
Cedar Street SB Thru	C/0.58/225	C/0.72/280	A/0.34/150	A/0.34/150	A/0.34/150
Branford Connector @ Commercial Parkway	-	-	B/11.5	B/15.3	B/11.5
Branford Con. EB Left	-	-	A/0.24/30	A/0.31/25	A/0.24/30
Branford Con. EB Thru	-	-	A/0.51/150	A/0.40/105	A/0.51/150
Branford Con. WB Thru	-	-	B/0.60/210	C/0.86/705	B/0.60/210
Branford Con. WB Right	-	-	A/0.48/50	A/0.41/40	A/0.48/50
Commercial Pkwy SB Left/Right	-	-	B/0.42/95	C/0.67/135	B/0.42/95
Branford Connector @ I-95 NB On Ramp/I-95 NB Off Ramp/Service Plaza	-	-	-	A/7.4	A/9.9
I-95 NB Off-Ramp EB Thru	-	-	-	D/0.72/205	D/0.72/205
I-95 NB Off-Ramp EB Right	-	-	-	A/0.54/0	A/0.54/0
Branford Con. SB Thru/Left	-	-	-	B/0.17/185	B/0.17/185
Branford Con. NB Thru	-	-	-	A/0.59/85	B/0.59/335
Branford Con. NB Right				A/0.52/25	A/0.52/155
Branford Connector @ I-95 SB On Ramp/I-95 SB Off Ramp/Service Plaza	-	-	-	B/15.5	B/16.0
I-95 SB Off-Ramp WB Left	-	-	-	D/0.64/155	D/0.64/155
I-95 SB Off-Ramp WB Thru	-	-	-	D/0.63/155	D/0.63/155
Branford Con. NB Left	-	-	-	A/0.59/25	A/0.59/30

Overall Intersection – X/00.0 - Level of Service/Intersection Signal Delay in sec
Approaches - X/.00/000 – Level of Service/Volume to Capacity Ratio/95% Queue Length in ft

AM Peak Hour Arterial Traffic Operations Summary

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Route 1 EB (Arterial Class III)	C/18.1	D/16.9	C/19.0	-	C/19.0
Route 142 (Short Beach Road)	E/10.3/9.2	F/8.0/13.9	E/10.6/13.5	-	E/10.6/13.5
Branford Connector	C/18.5/5.4	C/19.0/4.9	-	-	-
Commercial Parkway/Goodwill	F/8.9/16.0	F/8.1/18.4	-	-	-
Route 146 Main Street	D/16.5/3.5	E/13.7/6.0	C/18.4/10.1	-	C/18.4/10.1
Cherry Hill Road	C/23.7/6.4	C/22.7/8.2	C/23.7/7.8	-	C/23.7/7.8
Cedar Street (SR 740)	C/19.8/26.9	C/19.2/29.7	C/19.0/31.0	-	C/19.0/31.0
Route 1 EB (Arterial Class IV)	-	-	-	C/15.2	-
Route 142 (Short Beach Road)	-	-	-	E/8.9/13.0	-
Branford Connector	-	-	-	B/19.2/6.2	-
Route 146	-	-	-	C/17.5/7.2	-
Route 1 WB (Arterial Class III)	D/17.0	D/15.5	D/17.8	D/15.0	D/17.8
Cedar Street (SR 740)	E/11.2/39.9	E/10.3/46.1	E/12.0/35.7	-	E/12.0/35.7
Cherry Hill Road	B/25.0/8.5	C/23.6/12.6	B/25.5/7.1	-	B/25.5/7.1
Route 146 Main Street/Starbucks	C/20.0/13.5	C/18.8/16.6	-	-	-
Commercial Parkway/Goodwill	E/12.6/7.2	E/11.7/8.4	-	-	-
Branford Connector	E/11.4/10.4	F/9.0/15.8	C/18.1/22.3	D/15.6/12.6	C/18.1/22.3
Route 142 (Short Beach Road)	E/12.3/15.2	E/10.7/19.6	E/13.3/22.4	D/14.6/18.4	E/13.3/22.4
Branford Connector EB (Arterial Class III)	-	-	C/18.8	C/21.1	C/19.8
I-95 NB Off-Ramp	-	-	-	F/8.9/14.1	F/9.4/13.7
Commercial Parkway	-	-	B/25.5/5.5	B/29.1/2.5	B/27.9/5.5
Route 1 (North Main Street)	-	-	E/12.2/31.7	E/13.8/25.5	E/12.1/31.7
Branford Connector WB (Arterial Class III)	-	-	D/15.2	C/23.6	C/21.9
Commercial Parkway	-	-	D/15.2/20.9	C/19.2/11.4	D/15.2/20.9
I-95 NB On-Ramp/Service Plaza	-	-	-	B/26.7/9.7	B/26.6/9.7
I-95 SB Off-Ramp/Service Plaza	-	-	-	D/14.7/5.1	D/15.0/5.1
Cedar Street (SR 740) NB (Arterial Class IV)	E/7.5	F/5.0	D/10.1	D/10.1	D/10.1
Route 1 (North Main Street)	F/4.9/31.8	F/4.4/37.8	F/3.7/47.5	F/3.7/47.5	F/3.7/47.5
I-95 NB On/Off Ramp	F/6.8/61.6	F/3.7/133.1	B/19.6/5.4	B/19.6/5.4	B/19.6/5.4
I-95 SB On/Off Ramp	C/18.6/1.2	C/18.8/1.0	C/18.0/1.8	C/18.0/1.8	C/18.0/1.8
Cedar Street (SR 740) SB (Arterial Class IV)	D/10.4	D/9.2	D/11.9	D/11.9	D/11.9
I-95 SB On/Off Ramp	E/8.6/26.4	E/7.8/30.8	C/15.7/5.5	C/15.7/5.5	C/15.7/5.5
I-95 NB On/Off Ramp	C/17.4/2.4	C/16.6/3.2	C/18.3/1.5	C/18.3/1.5	C/18.3/1.5
Route 1 (Route 1)	D/9.6/36.6	E/8.2/47.0	E/8.8/41.8	E/8.8/41.8	E/11.9/48.8

X/00.0 – Arterial Level of Service/Mean Travel Speed (mph)

X/00.0/00.0 – Arterial Segment Level of Service/Mean Travel Speed (mph)/Signal Delay (sec)

PM Peak Hour Arterial Traffic Operations Summary

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Route 1 EB (Arterial Class III)	D/15.7	E/12.5	D/14.9	-	D/14.9
Route 142 (Short Beach Road)	F/5.9/23.7	F/4.0/37.5	F/9.2/17.3	-	F/9.2/17.3
Branford Connector	E/13.2/15.8	E/12.7/16.8	-	-	-
Commercial Parkway/Goodwill	F/9.2/17.6	F/5.0/38.4	-	-	-
Route 146	D/14.5/7.4	E/12.1/10.1	E/13.1/22.9	-	E/13.1/22.9
Cherry Hill Road	C/22.8/9.6	C/18.1/20.1	C/22.0/11.3	-	C/22.0/11.3
Cedar Street (SR 740)	C/18.3/34.3	D/16.6/44.3	E/13.9/65.3	-	E/13.9/65.3
Route 1 EB (Arterial Class IV)	-	-	-	C/13.7	-
Route 142 (Short Beach Road)	-	-	-	E/7.8/17.0	-
Branford Connector	-	-	-	C/16.5/11.1	-
Route 146	-	-	-	C/17.1/7.8	-
Route 1 WB (Arterial Class II)	E/14.8	F/11.4	-	-	-
Cedar Street (SR 740)	F/5.0/51.9	F/4.5/58.6	-	-	-
Cherry Hill Road	B/32.6/8.6	B/28.5/16.3	-	-	-
Route 146 Main Street/Starbucks	D/19.4/15.0	D/17.7/19.6	-	-	-
Commercial Parkway/Goodwill	F/.7.4/20.4	F/6.6/23.7	-	-	-
SR 794 (Branford Connector)	F/.8.6/19.5	F/3.2/64.7	-	-	-
Route 142 (Short Beach Road)	F/9.3/24.8	F/7.5/33.9	-	-	-
Route 1 WB (Arterial Class III)	-	-	D/14.7	E/10.9	D/14.7
Cedar Street (SR 740)	-	-	F/7.2/76.6	-	F/7.2/76.6
Cherry Hill Road	-	-	B/24.7/9.3	-	B/24.7/9.3
Branford Connector	-	-	D/15.0/35.2	F/9.0/34.6	D/15.0/35.2
Route 142 (Short Beach Road)	-	-	D/15.3/16.6	E/13.2/22.8	D/15.3/16.6
Branford Connector EB (Arterial Class III)	-	-	D/16.7	C/18.1	C/18.4
I-95 NB Off-Ramp	-	-	-	F/9.4/12.8	E/10.4/12.0
Service Plaza Exit			-	-	-
Commercial Parkway	-	-	C/23.1/11.2	B/27.3/7.9	B/26.1/11.2
Route 1 (North Main Street)	-	-	E/10.6/40.2	F/9.6/46.9	E/10.6/40.2
Branford Connector WB (Arterial Class III)	-	-	E/12.4	C/22.0	C/20.6
Commercial Parkway	-	-	E/12.4/30.8	D/14.6/22.5	E/12.4/30.8
I-95 NB On-Ramp/Service Plaza	-	-	-	B/26.9/9.2	B/26.7/9.2
I-95 SB Off-Ramp/Service Plaza	-	-	-	D/15.4/4.4	D/15.8/4.6
Cedar Street (SR 740) NB (Arterial Class IV)	E/7.4	F/4.5	D/9.1	D/9.1	D/9.1
Route 1 (Route 1)	F/4.7/33.7	F/4.2/39.5	F/3.3/56.6	F/3.3/56.6	F/3.3/56.6
I-95 NB On/Off Ramp	F/6.8/60.9	F/3.3/153.0	C/17.2/9.6	C/17.2/9.6	C/17.2/9.6
I-95 SB On/Off Ramp	C/18.3/1.5	C/18.2/1.6	B/19.3/0.6	B/19.3/0.6	B/19.3/0.6

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Cedar Street (SR 740) SB (Arterial Class IV)	E/8.7	F/5.0	D/10.7	D/10.7	D/10.7
I-95 SB On/Off Ramp	E/8.1/28.9	F/7.3/34.2	D/9.8/20.6	D/9.8/20.6	D/9.8/20.6
I-95 NB On/Off Ramp	C/17.4/2.4	C/16.6/3.2	C/16.9/2.9	C/16.9/2.9	C/16.9/2.9
Route 1 (Route 1)	E/7.1/58.0	F/3.2/159.7	D/9.4/37.6	D/9.4/37.6	D/9.4/37.6

X/00.0 – Arterial Level of Service/Mean Travel Speed (mph)
X/00.0/00.0 – Arterial Segment Level of Service/Mean Travel Speed (mph)/Signal Delay (sec)

Saturday MID-DAY Peak Hour Arterial Traffic Operations Summary

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Route 1 EB (Arterial Class III)	D/15.6	F/9.6	D/16.1	-	D/16.1
Route 142 (Short Beach Road)	F/5.6/25.2	F/2.1/77.2	F/7.2/25.5	-	F/7.2/25.5
Branford Connector	D/17.8/8.8	D/15.8/11.3	-	-	-
Commercial Parkway/Goodwill	F/7.8/22.0	F/2.6/79.9	-	-	-
Route 146	E/11.4/11.1	F/9.3/15.0	D/15.7/15.6	-	D/15.7/15.6
Cherry Hill Road	C/20.8/13.6	D/14.1/34.7	C/21.4/12.9	-	C/21.4/12.9
Cedar Street (SR 740)	C/19.2/29.9	D/17.9/36.7	D/16.8/42.8	-	D/16.8/42.8
Route 1 EB (Arterial Class IV)	-	-	-	C/13.1	-
Route 142 (Short Beach Road)	-	-	-	F/6.3/25.5	-
Branford Connector	-	-	-	C/18.9/6.6	-
Route 146	-	-	-	C/16.9/8.2	-
Route 1 WB (Arterial Class II)	F/11.9	F/6.0	-	-	-
Cedar Street (SR 740)	F/4.3/62.1	F/2.9/96.9	-	-	-
Cherry Hill Road	B/28.1/17.3	D/17.5/55.4	-	-	-
Route 146 Main Street/Starbucks	D/17.7/19.6	E/14.8/29.6	-	-	-
Commercial Parkway/Goodwill	F/5.9/27.4	F/3.9/45.2	-	-	-
SR 794 (Branford Connector)	F/4.1/48.8	F/1.2/185.0	-	-	-
Route 142 (Short Beach Road)	F/8.3/29.1	F/2.9/109.4	-	-	-
Route 1 WB (Arterial Class III)	-	-	E/13.0	E/11.5	E/13.0
Cedar Street (SR 740)	-	-	F/7.7/70.7	-	F/7.7/70.7
Cherry Hill Road	-	-	C/21.8/18.9	-	B/21.8/18.9
Branford Connector	-	-	E/12.7/48.4	E/10.7/26.3	D/12.7/48.4
Route 142 (Short Beach Road)	-	-	E/10.1/36.4	E/12.2/26.5	E/10.1/36.4
Branford Connector EB (Arterial Class III)	-	-	D/17.5	D/17.9	C/18.9
I-95 NB Off-Ramp	-	-	-	F/9.4/13.3	E/9.4/13.3
Service Plaza Exit			-	-	-
Commercial Parkway	-	-	C/23.8/59.3	B/28.5/4.3	B/26.6/9.6
Route 1 (North Main Street)	-	-	E/11.3/60.4	F/8.9/52.6	E/11.3/36.3
Branford Connector WB (Arterial Class III)	-	-	-	C/22.5	B/23.0
Commercial Parkway	-	-	-	E/13.8/25.5	C/17.3/15.3
Service Plaza Exit	-	-	-	-	B/26.3/10.6
I-95 NB On-Ramp/Service Plaza	-	-	-	B/28.2/5.0	D/23.0/29.1
I-95 SB Off-Ramp/Service Plaza	-	-	-	C/18.1/2.5	B/23.0
Cedar Street (SR 740) NB (Arterial Class IV)	F/5.7	F/3.0	D/9.4	D/9.4	E/9.4
Route 1 (Route 1)	F/4.2/40.2	F/3.4/53.4	F/3.5/52.2	F/3.5/52.2	F/3.5/52.2
I-95 NB On/Off Ramp	F/4.7/98.9	F/2.0/261.3	C/16.8/10.3	C/16.8/10.3	C/16.8/10.3
I-95 SB On/Off Ramp	C/18.5/1.3	C/18.0/1.8	B/19.3/0.6	B/19.3/0.6	B/19.3/0.6

	Existing	2037 No-Build	Alternate 1	Alternate 2	Alternate 3
Cedar Street (SR 740) SB (Arterial Class IV)	F/6.8	F/4.5	D/9.8	D/9.8	D/9.4
I-95 SB On/Off Ramp	E/8.1/29.4	E/7.4/34.0	C/13.6/9.3	C/13.6/9.3	B/19.3/0.6
I-95 NB On/Off Ramp	C/17.3/2.5	C/16.5/3.4	C/18.1/1.7	C/18.1/1.7	C/16.8/10.3
Route 1 (Route 1)	F/4.8/98.2	F/2.7/188.3	F/6.8/61.2	F/6.8/61.2	F/3.5/52.2

X/00.0 – Arterial Level of Service/Mean Travel Speed (mph)
X/00.0/00.0 – Arterial Segment Level of Service/Mean Travel Speed (mph)/Signal Delay (sec)


Route 1 (North Main Street) #1
Route 146 (West Main Street)
Commercial Parkway
Branford Connector
Route 1 (North Main Street) #1
Route 142 (Short Beach Road)
B
B
B
B
50
768
10
10
25
410
75
1080
10
540
55
890
280
40
0
60
5
10
10
55
845
10
420
700
225
170
245
685
665
205
570
65
340
145


Cherry Hill Road
Route 1 (North Main Stre
Route 1 (North Main Street)
Cherry Hill Road
25
730
25
40
25
80
40
15
15
20
565
15

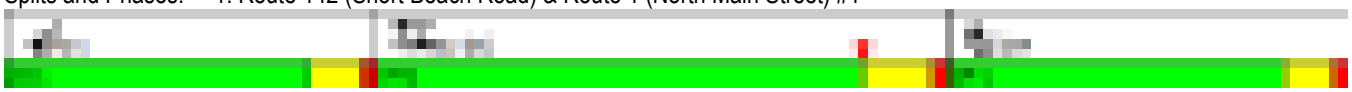

Cedar Street
240
370
60
0
390
E
475
295
I-95 SB Off Ramp
I-95 SB On Ramp
I-95 NB On Ramp
155
605
D
I-95 NB Off Ramp
115
0
385
315
655
Cedar Street (SR 740)
280
285
60
215
320
455
C
55
370
60
320
255
30
Route 1 (North Main Street)
Route 1 (North Main Street)
Cedar Street (SR 740)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	570	65	205	665	145	340
Future Volume (vph)	570	65	205	665	145	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	290		250	0
Storage Lanes		1	1		1	1
Taper Length (ft)			25		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1568	1752	3505	1728	1546
Flt Permitted			0.400		0.950	
Satd. Flow (perm)	3505	1568	738	3505	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		71				113
Link Speed (mph)	30			30	30	
Link Distance (ft)	250			529	434	
Travel Time (s)	5.7			12.0	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Adj. Flow (vph)	620	71	223	723	158	370
Shared Lane Traffic (%)						
Lane Group Flow (vph)	620	71	223	723	158	370
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	34.0	24.0	22.0	34.0	24.0	22.0
Total Split (%)	42.5%	30.0%	27.5%	42.5%	30.0%	27.5%
Maximum Green (s)	28.9	20.0	18.0	28.9	20.0	18.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	48.1	64.9	56.3	48.1	11.7	22.8
Actuated g/C Ratio	0.60	0.81	0.70	0.60	0.15	0.28
v/c Ratio	0.29	0.06	0.37	0.34	0.62	0.71
Control Delay	9.2	0.7	5.2	15.2	42.5	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	0.7	5.2	15.2	42.5	24.6
LOS	A	A	A	B	D	C
Approach Delay	8.3			12.9	29.9	
Approach LOS	A			B	C	
Queue Length 50th (ft)	69	0	22	179	75	115
Queue Length 95th (ft)	131	7	16	242	126	178
Internal Link Dist (ft)	170			449	354	
Turn Bay Length (ft)			290		250	
Base Capacity (vph)	2106	1440	784	2106	432	717
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.05	0.28	0.34	0.37	0.52

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 42 (53%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 15.6		Intersection LOS: B	
Intersection Capacity Utilization 46.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (North Main Street) #1

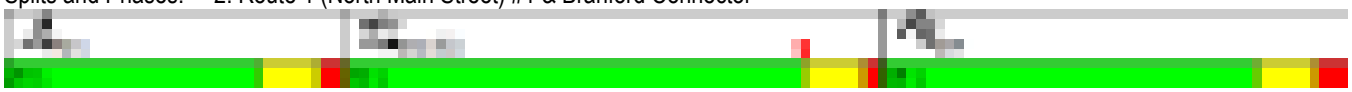


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	245	685	700	420	225	170
Future Volume (vph)	245	685	700	420	225	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	320			0	212	124
Storage Lanes	1			1	2	0
Taper Length (ft)	25				235	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	3335	1538
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	3505	3505	1568	3335	1538
Right Turn on Red				No		Yes
Satd. Flow (RTOR)						185
Link Speed (mph)		30	30		45	
Link Distance (ft)		529	338		838	
Travel Time (s)		12.0	7.7		12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	5%	5%
Adj. Flow (vph)	266	745	761	457	245	185
Shared Lane Traffic (%)						
Lane Group Flow (vph)	266	745	761	457	245	185
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	1 2	2	4	4	4
Permitted Phases				2		
Detector Phase	1	1 2	2	4	4	4
Switch Phase						
Minimum Initial (s)	5.0		15.0	9.0	9.0	9.0
Minimum Split (s)	10.0		22.6	14.6	14.6	14.6
Total Split (s)	20.0		32.0	28.0	28.0	28.0
Total Split (%)	25.0%		40.0%	35.0%	35.0%	35.0%
Maximum Green (s)	15.0		27.4	22.4	22.4	22.4
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6
All-Red Time (s)	1.4		1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		4.6	5.6	5.6	5.6
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		0.2	2.0	2.0	2.0
Recall Mode	None		C-Max	None	None	None

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Act Effct Green (s)	18.6	58.4	35.2	50.8	11.0	11.0
Actuated g/C Ratio	0.23	0.73	0.44	0.64	0.14	0.14
v/c Ratio	0.65	0.29	0.49	0.46	0.54	0.50
Control Delay	32.0	5.4	10.4	3.4	36.2	10.0
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	32.0	5.4	10.5	3.4	36.2	10.0
LOS	C	A	B	A	D	B
Approach Delay		12.4	7.8		25.0	
Approach LOS		B	A		C	
Queue Length 50th (ft)	127	84	36	10	60	0
Queue Length 95th (ft)	197	134	81	10	90	53
Internal Link Dist (ft)		449	258		758	
Turn Bay Length (ft)	320				212	124
Base Capacity (vph)	420	2542	1543	1219	933	563
Starvation Cap Reductn	0	0	147	31	0	0
Spillback Cap Reductn	0	147	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.31	0.55	0.38	0.26	0.33

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 77 (96%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 12.3		Intersection LOS: B	
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Route 1 (North Main Street) #1 & Branford Connector



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	55	845	10	40	10	1050	75	10	0	10	40	0
Future Volume (vph)	55	845	10	40	10	1050	75	10	0	10	40	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0		50		0	0		0	126	
Storage Lanes	1		0		1		0	1		0	0	
Taper Length (ft)	25				50			25			25	
Lane Util. Factor	1.00	0.95	0.95	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.990			0.850			0.850
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1752	3498	0	0	1752	4986	0	1770	1583	0	1687	1509
Flt Permitted	0.950				0.460			0.715			0.750	
Satd. Flow (perm)	1752	3498	0	0	849	4986	0	1332	1583	0	1332	1509
Right Turn on Red			Yes				No			Yes		
Satd. Flow (RTOR)		2							147			212
Link Speed (mph)		30				30			30			30
Link Distance (ft)		338				291			108			409
Travel Time (s)		7.7				6.6			2.5			9.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%	7%	7%
Adj. Flow (vph)	60	918	11	43	11	1141	82	11	0	11	43	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	929	0	0	54	1223	0	11	11	0	43	65
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Turn Type	Prot	NA		custom	Prot	NA		Perm	NA		Perm	NA
Protected Phases	1	6			5	2			4			4
Permitted Phases				5				4	4		4	
Detector Phase	1	6		5	5	2		4	4		4	4
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	3.0	15.0		7.0	7.0		7.0	7.0
Minimum Split (s)	8.0	20.1		8.0	8.0	22.5		13.7	13.7		13.7	13.7
Total Split (s)	12.0	38.0		12.0	12.0	38.0		30.0	30.0		30.0	30.0
Total Split (%)	15.0%	47.5%		15.0%	15.0%	47.5%		37.5%	37.5%		37.5%	37.5%
Maximum Green (s)	7.0	32.9		7.0	7.0	32.9		23.3	23.3		23.3	23.3
Yellow Time (s)	3.0	4.1		3.0	3.0	4.1		3.3	3.3		3.3	3.3
All-Red Time (s)	2.0	1.0		2.0	2.0	1.0		3.4	3.4		3.4	3.4
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.1			5.0	5.1		6.7	6.7		6.7	6.7
Lead/Lag	Lead	Lag		Lead	Lead	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		1.0	1.0		1.0	1.0
Recall Mode	None	C-Max		None	None	C-Max		None	None		None	None

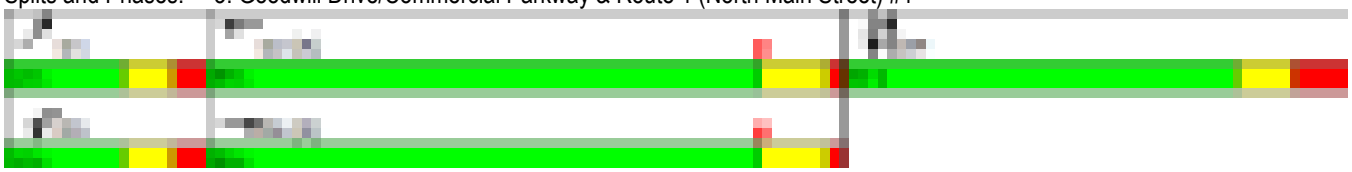
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	60
Future Volume (vph)	60
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.92
Heavy Vehicles (%)	7%
Adj. Flow (vph)	65
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Act Effct Green (s)	8.2	51.7			9.9	55.7		7.6	7.6		7.6	7.6
Actuated g/C Ratio	0.10	0.65			0.12	0.70		0.10	0.10		0.10	0.10
v/c Ratio	0.34	0.41			0.52	0.35		0.09	0.04		0.34	0.19
Control Delay	29.1	16.0			51.2	7.2		34.1	0.3		41.4	1.3
Queue Delay	0.0	0.2			0.0	0.1		0.0	0.0		0.0	0.0
Total Delay	29.1	16.2			51.2	7.3		34.1	0.3		41.4	1.3
LOS	C	B			D	A		C	A		D	A
Approach Delay		17.0				9.2			17.2			17.3
Approach LOS		B				A			B			B
Queue Length 50th (ft)	22	192			30	87		5	0		21	0
Queue Length 95th (ft)	48	272			m65	104		20	0		51	0
Internal Link Dist (ft)		258				211			28			329
Turn Bay Length (ft)					50						126	
Base Capacity (vph)	185	2261			107	3472		387	565		387	589
Starvation Cap Reductn	0	531			0	749		0	0		0	0
Spillback Cap Reductn	0	0			0	0		0	0		0	0
Storage Cap Reductn	0	0			0	0		0	0		0	0
Reduced v/c Ratio	0.32	0.54			0.50	0.45		0.03	0.02		0.11	0.11

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 7 (9%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 12.8 Intersection LOS: B
Intersection Capacity Utilization 49.9% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Goodwill Drive/Commercial Parkway & Route 1 (North Main Street) #1



Lane Group	SBR
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

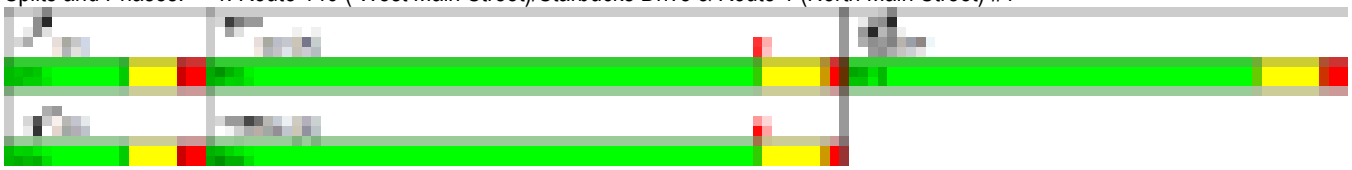
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	590	290	10	765	50	410	25	10	0	0	0
Future Volume (vph)	55	590	290	10	765	50	410	25	10	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	16	12	12	12
Storage Length (ft)	0		90	50		210	305		124	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.991				0.850			
Flt Protected	0.950			0.950			0.950	0.958				
Satd. Flow (prot)	1752	3505	1568	1752	3473	0	1641	1655	1812	0	0	0
Flt Permitted	0.950			0.950			0.950	0.958				
Satd. Flow (perm)	1752	3505	1568	1752	3473	0	1641	1655	1812	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			315		10				95			
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		291			289			565			121	
Travel Time (s)		6.6			6.6			11.0			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	2%	2%	2%
Adj. Flow (vph)	60	641	315	11	832	54	446	27	11	0	0	0
Shared Lane Traffic (%)							47%					
Lane Group Flow (vph)	60	641	315	11	886	0	236	237	11	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	Perm			
Protected Phases	1	6	4	5	2		4	4				
Permitted Phases			6		2				4			
Detector Phase	1	6	4	5	2		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	15.0	9.0	3.0	15.0		9.0	9.0	9.0			
Minimum Split (s)	7.8	23.2	14.5	7.8	23.2		14.5	14.5	14.5			
Total Split (s)	12.0	38.0	30.0	12.0	38.0		30.0	30.0	30.0			
Total Split (%)	15.0%	47.5%	37.5%	15.0%	47.5%		37.5%	37.5%	37.5%			
Maximum Green (s)	7.2	32.8	24.5	7.2	32.8		24.5	24.5	24.5			
Yellow Time (s)	3.0	4.1	3.8	3.0	4.1		3.8	3.8	3.8			
All-Red Time (s)	1.8	1.1	1.7	1.8	1.1		1.7	1.7	1.7			
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.8	5.2	5.5	4.8	5.2		5.5	5.5	5.5			
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	3.0	1.0	1.0	3.0		1.0	1.0	1.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	C-Max	None	None	C-Max		None	None	None			
Act Effct Green (s)	6.2	51.7	76.9	4.1	44.4		15.6	15.6	15.6			
Actuated g/C Ratio	0.08	0.65	0.96	0.05	0.56		0.20	0.20	0.20			
v/c Ratio	0.45	0.28	0.21	0.12	0.46		0.74	0.74	0.03			
Control Delay	55.5	3.5	0.3	38.7	13.5		43.6	43.3	0.1			
Queue Delay	0.0	0.1	0.0	0.0	0.0		0.0	0.0	0.0			
Total Delay	55.5	3.6	0.3	38.7	13.5		43.6	43.3	0.1			
LOS	E	A	A	D	B		D	D	A			
Approach Delay		5.7			13.8			42.5				
Approach LOS		A			B			D				
Queue Length 50th (ft)	0	26	0	5	132		118	118	0			
Queue Length 95th (ft)	m70	42	0	21	237		175	175	0			
Internal Link Dist (ft)		211			209			485			41	
Turn Bay Length (ft)			90	50			305		124			
Base Capacity (vph)	165	2264	1524	157	1932		502	506	620			
Starvation Cap Reductn	0	657	147	0	0		0	0	0			
Spillback Cap Reductn	0	0	0	0	0		0	0	0			
Storage Cap Reductn	0	0	0	0	0		0	0	0			
Reduced v/c Ratio	0.36	0.40	0.23	0.07	0.46		0.47	0.47	0.02			

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow, Master Intersection			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Route 146 (West Main Street)/Starbucks Drive & Route 1 (North Main Street) #1

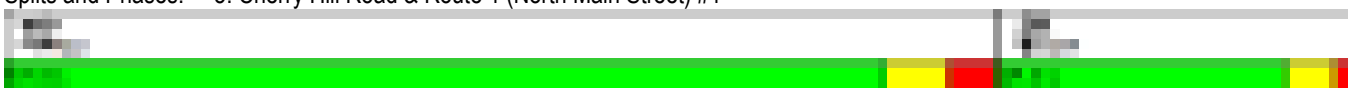


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	565	15	25	730	25	15	15	40	40	25	80
Future Volume (vph)	20	565	15	25	730	25	15	15	40	40	25	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	315		0	27		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	15			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.995			0.923				0.850
Flt Protected	0.950			0.950				0.989			0.970	
Satd. Flow (prot)	1694	1837	0	1694	1835	0	0	1652	0	0	1755	1538
Flt Permitted	0.284			0.398				0.915			0.855	
Satd. Flow (perm)	506	1837	0	710	1835	0	0	1528	0	0	1547	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			4			43				87
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1060			2243			428			195	
Travel Time (s)		24.1			51.0			11.7			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	22	614	16	27	793	27	16	16	43	43	27	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	630	0	27	820	0	0	75	0	0	70	87
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Detector Phase	2	2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	27.5	27.5		27.5	27.5		11.3	11.3		11.3	11.3	11.3
Total Split (s)	67.5	67.5		67.5	67.5		24.3	24.3		24.3	24.3	24.3
Total Split (%)	73.5%	73.5%		73.5%	73.5%		26.5%	26.5%		26.5%	26.5%	26.5%
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	20.0
Yellow Time (s)	4.1	4.1		4.1	4.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.5	7.5		7.5	7.5			4.3			4.3	4.3
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Act Effct Green (s)	43.6	43.6		43.6	43.6			9.2			9.2	9.2
Actuated g/C Ratio	0.73	0.73		0.73	0.73			0.15			0.15	0.15
v/c Ratio	0.06	0.47		0.05	0.62			0.28			0.30	0.28
Control Delay	4.3	6.4		4.1	8.5			18.3			30.6	10.4
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	4.3	6.4		4.1	8.5			18.3			30.6	10.4
LOS	A	A		A	A			B			C	B
Approach Delay		6.4			8.3			18.3			19.4	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	2	94		3	146			10			21	0
Queue Length 95th (ft)	10	189		11	297			53			73	39
Internal Link Dist (ft)		980			2163			348			115	
Turn Bay Length (ft)	315			27								
Base Capacity (vph)	464	1684		650	1682			569			548	601
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.05	0.37		0.04	0.49			0.13			0.13	0.14

Intersection Summary			
Area Type:	Other		
Cycle Length: 91.8			
Actuated Cycle Length: 60			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.0		Intersection LOS: A	
Intersection Capacity Utilization 65.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Cherry Hill Road & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	255	30	60	285	280	60	370	55	215	320	455
Future Volume (vph)	320	255	30	60	285	280	60	370	55	215	320	455
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.984				0.850		0.981				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3286	1815	0	1694	1845	1516	1728	3389	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.387			0.293		
Satd. Flow (perm)	3286	1815	0	1694	1845	1516	704	3389	0	533	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		7						16				408
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		361			1088			356			855	
Travel Time (s)		8.2			24.7			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	348	277	33	65	310	304	65	402	60	234	348	495
Shared Lane Traffic (%)												
Lane Group Flow (vph)	348	310	0	65	310	304	65	462	0	234	348	495
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	15.0	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.3	11.3
Total Split (s)	20.3	35.4		20.3	35.4	14.0	14.0	25.1		14.0	25.1	20.3
Total Split (%)	21.4%	37.3%		21.4%	37.3%	14.8%	14.8%	26.5%		14.8%	26.5%	21.4%
Maximum Green (s)	15.0	30.0		15.0	30.0	10.0	10.0	20.0		10.0	20.0	15.0
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	Min		None	Min	None	None	Min		None	None	None
Act Effct Green (s)	13.3	24.9		8.7	17.6	32.9	24.8	16.1		29.6	20.8	39.2
Actuated g/C Ratio	0.17	0.32		0.11	0.23	0.43	0.32	0.21		0.38	0.27	0.51
v/c Ratio	0.61	0.52		0.34	0.74	0.47	0.20	0.64		0.65	0.69	0.50
Control Delay	35.6	26.9		38.5	39.9	19.5	17.1	31.8		27.6	36.3	4.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	35.6	26.9		38.5	39.9	19.5	17.1	31.8		27.6	36.3	4.9
LOS	D	C		D	D	B	B	C		C	D	A
Approach Delay		31.5			30.6			30.0			20.0	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	78	126		29	144	106	18	101		72	151	20
Queue Length 95th (ft)	139	226		71	239	186	48	168		#151	#325	97
Internal Link Dist (ft)		281			1008			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	649	721		334	729	653	385	904		362	517	1016
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.54	0.43		0.19	0.43	0.47	0.17	0.51		0.65	0.67	0.49

Intersection Summary			
Area Type:	Other		
Cycle Length: 94.8			
Actuated Cycle Length: 76.9			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 26.8		Intersection LOS: C	
Intersection Capacity Utilization 64.5%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1

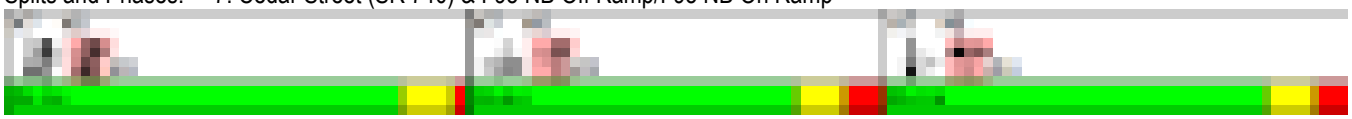
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	0	385	0	0	0	0	655	315	155	605	0
Future Volume (vph)	115	0	385	0	0	0	0	655	315	155	605	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.951				
Flt Protected	0.950	0.950								0.950		
Satd. Flow (prot)	1681	1681	1583	0	0	0	0	3399	0	1787	3574	0
Flt Permitted	0.950	0.950								0.147		
Satd. Flow (perm)	1681	1681	1583	0	0	0	0	3399	0	277	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			287					80				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			727			855			456	
Travel Time (s)		21.2			16.5			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	125	0	418	0	0	0	0	712	342	168	658	0
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	62	63	418	0	0	0	0	1054	0	168	658	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					23.1				
Total Split (s)	31.6	31.6	31.6					35.1				
Total Split (%)	31.0%	31.0%	31.0%					34.4%				
Maximum Green (s)	25.0	25.0	25.0					30.0				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					Min				

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	35.4
Total Split (%)	35%
Maximum Green (s)	29.0
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	25.0	25.0	25.0					30.0		65.4	65.4	
Actuated g/C Ratio	0.24	0.24	0.24					0.29		0.64	0.64	
v/c Ratio	0.15	0.15	0.69					1.00		0.95	0.29	
Control Delay	31.5	31.5	17.7					61.6		67.2	2.4	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	31.5	31.5	17.7					61.6		67.2	2.4	
LOS	C	C	B					E		E	A	
Approach Delay		20.9						61.6			15.6	
Approach LOS		C						E			B	
Queue Length 50th (ft)	33	33	72					338		43	17	
Queue Length 95th (ft)	70	71	186					#488		#236	24	
Internal Link Dist (ft)		853			647			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	411	411	604					1055		177	2289	
Starvation Cap Reductn	0	0	0					0		0	0	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.15	0.15	0.69					1.00		0.95	0.29	

Intersection Summary			
Area Type:	Other		
Cycle Length: 102.1			
Actuated Cycle Length: 102.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.43			
Intersection Signal Delay: 36.8		Intersection LOS: D	
Intersection Capacity Utilization 68.9%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp



Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	390	0	60	475	295	0	0	370	240
Future Volume (vph)	0	0	0	390	0	60	475	295	0	0	370	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.941	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3363	0
Flt Permitted				0.950	0.950		0.318					
Satd. Flow (perm)	0	0	0	1698	1698	1599	598	3574	0	0	3363	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						93					148	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	424	0	65	516	321	0	0	402	261
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	212	212	65	516	321	0	0	663	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					23.1	
Total Split (s)				35.4	35.4	35.4					35.1	
Total Split (%)				34.7%	34.7%	34.7%					34.4%	
Maximum Green (s)				29.0	29.0	29.0					30.0	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					Min	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	31.6
Total Split (%)	31%
Maximum Green (s)	25.0
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				29.0	29.0	29.0	61.6	61.6			30.0	
Actuated g/C Ratio				0.28	0.28	0.28	0.60	0.60			0.29	
v/c Ratio				0.44	0.44	0.12	1.43	0.15			0.61	
Control Delay				33.4	33.4	3.2	223.2	1.2			26.4	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				33.4	33.4	3.2	223.2	1.2			26.4	
LOS				C	C	A	F	A			C	
Approach Delay					29.4			138.1			26.4	
Approach LOS					C			F			C	
Queue Length 50th (ft)				118	118	0	~474	4			151	
Queue Length 95th (ft)				192	192	18	m#505	m4			212	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				482	482	520	360	2156			1092	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.44	0.44	0.13	1.43	0.15			0.61	

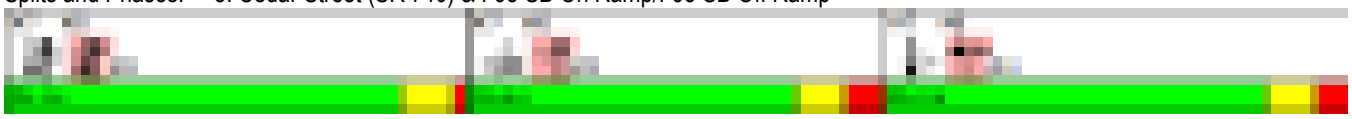
Intersection Summary	
Area Type:	Other
Cycle Length: 102.1	
Actuated Cycle Length: 102.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.43	
Intersection Signal Delay: 74.1	Intersection LOS: E
Intersection Capacity Utilization 68.9%	ICU Level of Service C
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp



Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Arterial Level of Service: EB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	III	30	7.3	9.2	16.5	0.05	10.3	E
Branford Connector	III	30	14.1	5.4	19.5	0.10	18.5	C
Goodwill Drive	III	30	9.9	16.0	25.9	0.06	8.9	F
Route 146 (West Mai	III	30	8.5	3.5	12.0	0.06	16.5	D
Cherry Hill Road	III	30	32.4	6.4	38.8	0.26	23.7	C
Cedar Street (SR 740	III	30	62.6	26.9	89.5	0.49	19.8	C
Total	III		134.8	67.4	202.2	1.02	18.1	C

Arterial Level of Service: WB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cedar Street (SR 740	III	30	26.2	39.9	66.1	0.21	11.2	E
Cherry Hill Road	III	30	62.6	8.5	71.1	0.49	25.0	B
Starbucks Drive	III	30	32.4	13.5	45.9	0.26	20.0	C
Commercial Parkway	III	30	8.5	7.2	15.7	0.06	12.6	E
Branford Connector	III	30	9.9	10.4	20.3	0.06	11.4	E
Route 142 (Short Bea	III	30	14.1	15.2	29.3	0.10	12.3	E
Total	III		153.7	94.7	248.4	1.17	17.0	D

Arterial Level of Service: NB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	31.8	49.7	0.07	4.9	F
I-95 NB On Ramp	IV	30	24.3	61.6	85.9	0.16	6.8	F
I-95 SB Off Ramp	IV	30	15.5	1.2	16.7	0.09	18.6	C
Total	IV		57.7	94.6	152.3	0.32	7.5	E

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	26.4	46.2	0.11	8.6	E
I-95 NB Off Ramp	IV	30	15.5	2.4	17.9	0.09	17.4	C
Route 1 (North Main	IV	30	24.3	36.3	60.6	0.16	9.6	D
Total	IV		59.6	65.1	124.7	0.36	10.4	D


Route
Route 1 (North Main Street) #1
Route 146 (West Main Street)
Commercial Parkway
Branford Connector
Route 1 (West Main Street) #1
Route 142 (Short Beach Road)
B
C
C
C
30
685
10
20
15
445
125
180
25
50
1005
75
125
0
195
10
0
10
170
1645
10
310
1075
760
385
235
1065
1015
445
960
195
340
125


Cherry Hill Road
Route 1 (North Main Street) #1
Cherry Hill Road
B
30
865
55
35
25
40
35
30
20
75
940
10

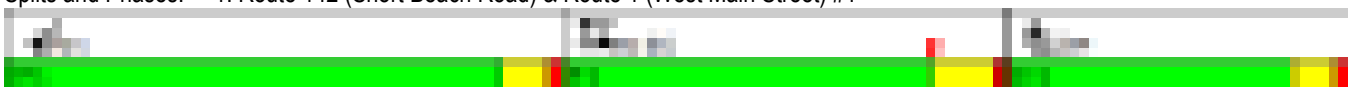

Cedar Stre
I-95 SB Off Ramp
I-95 SB On Ramp
I-95 NB On Ramp
I-95 NB Off Ramp
Cedar Street (SR 740)
Route 1 (North Main Street) #1
Route 1 (North Main Street) #1
Cedar Street (SR 740)
C
D
D
165
410
165
0
465
375
500
796
80
225
50
515
385
550
185
380
60
370
400
540
355
105
495
400
65

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	960	195	445	1015	125	340
Future Volume (vph)	960	195	445	1015	125	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	290		250	0
Storage Lanes		1	1		1	1
Taper Length (ft)			25		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3574	1599	1787	3574	1728	1546
Flt Permitted			0.165		0.950	
Satd. Flow (perm)	3574	1599	310	3574	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		212				6
Link Speed (mph)	40			30	30	
Link Distance (ft)	250			529	434	
Travel Time (s)	4.3			12.0	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	1043	212	484	1103	136	370
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1043	212	484	1103	136	370
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	30.0	23.0	37.0	30.0	23.0	37.0
Total Split (%)	33.3%	25.6%	41.1%	33.3%	25.6%	41.1%
Maximum Green (s)	24.9	19.0	33.0	24.9	19.0	33.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	41.1	57.7	66.5	41.1	11.5	39.8
Actuated g/C Ratio	0.46	0.64	0.74	0.46	0.13	0.44
v/c Ratio	0.64	0.19	0.77	0.68	0.62	0.54
Control Delay	23.7	1.8	12.8	24.8	48.7	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	1.8	12.8	24.8	48.7	19.8
LOS	C	A	B	C	D	B
Approach Delay	20.0			21.1	27.6	
Approach LOS	C			C	C	
Queue Length 50th (ft)	232	0	65	341	75	146
Queue Length 95th (ft)	#428	30	m12	m#463	125	165
Internal Link Dist (ft)	170			449	354	
Turn Bay Length (ft)			290		250	
Base Capacity (vph)	1632	1217	781	1632	364	835
Starvation Cap Reductn	0	0	2	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.17	0.62	0.68	0.37	0.44

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 53 (59%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 21.7		Intersection LOS: C	
Intersection Capacity Utilization 69.0%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (West Main Street) #1

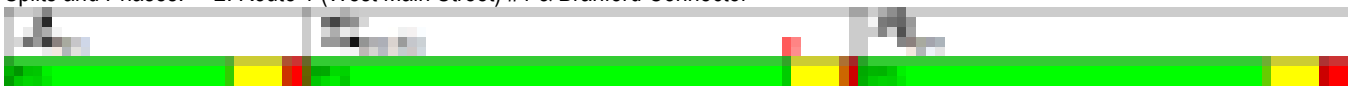


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	235	1065	1075	310	760	385
Future Volume (vph)	235	1065	1075	310	760	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	320			0	212	124
Storage Lanes	1			1	2	0
Taper Length (ft)	25				235	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	3574	3574	1599	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1787	3574	3574	1599	3433	1583
Right Turn on Red				No		Yes
Satd. Flow (RTOR)						354
Link Speed (mph)		40	40		45	
Link Distance (ft)		529	338		838	
Travel Time (s)		9.0	5.8		12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Adj. Flow (vph)	255	1158	1168	337	826	418
Shared Lane Traffic (%)						
Lane Group Flow (vph)	255	1158	1168	337	826	418
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	1 2	2	4	4	4
Permitted Phases				2		
Detector Phase	1	1 2	2	4	4	4
Switch Phase						
Minimum Initial (s)	5.0		15.0	9.0	9.0	9.0
Minimum Split (s)	10.0		22.6	14.6	14.6	14.6
Total Split (s)	20.0		37.0	33.0	33.0	33.0
Total Split (%)	22.2%		41.1%	36.7%	36.7%	36.7%
Maximum Green (s)	15.0		32.4	27.4	27.4	27.4
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6
All-Red Time (s)	1.4		1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		4.6	5.6	5.6	5.6
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		0.2	2.0	2.0	2.0
Recall Mode	None		C-Max	None	None	None

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Act Effct Green (s)	16.0	54.2	33.6	63.4	25.2	25.2
Actuated g/C Ratio	0.18	0.60	0.37	0.70	0.28	0.28
v/c Ratio	0.80	0.54	0.88	0.30	0.86	0.60
Control Delay	45.1	15.8	19.5	3.5	40.5	9.0
Queue Delay	0.0	0.4	0.0	0.6	0.3	0.0
Total Delay	45.1	16.3	19.5	4.1	40.8	9.0
LOS	D	B	B	A	D	A
Approach Delay		21.5	16.1		30.1	
Approach LOS		C	B		C	
Queue Length 50th (ft)	147	291	348	41	221	26
Queue Length 95th (ft)	#263	364	#463	8	291	108
Internal Link Dist (ft)		449	258		758	
Turn Bay Length (ft)	320				212	124
Base Capacity (vph)	317	2150	1333	1165	1045	728
Starvation Cap Reductn	0	483	0	485	0	0
Spillback Cap Reductn	0	130	0	0	28	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.69	0.88	0.50	0.81	0.57

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 9 (10%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 22.1		Intersection LOS: C	
Intersection Capacity Utilization 77.1%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 2: Route 1 (West Main Street) #1 & Branford Connector



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	170	1645	10	25	0	1180	125	10	0	10	125	0
Future Volume (vph)	170	1645	10	25	0	1180	125	10	0	10	125	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0		50		0	0		0	126	
Storage Lanes	1		0		1		0	1		0	0	
Taper Length (ft)	25				50			25			25	
Lane Util. Factor	1.00	0.95	0.95	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.986			0.850			0.850
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1787	3571	0	0	1770	5064	0	1787	1599	0	1770	1583
Flt Permitted	0.950				0.800			0.441			0.750	
Satd. Flow (perm)	1787	3571	0	0	1490	5064	0	830	1599	0	1397	1583
Right Turn on Red			Yes				No			Yes		
Satd. Flow (RTOR)		1							184			255
Link Speed (mph)		40				40			30			30
Link Distance (ft)		338				291			108			409
Travel Time (s)		5.8				5.0			2.5			9.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	1%	1%	1%	1%	1%	1%	2%	2%
Adj. Flow (vph)	185	1788	11	27	0	1283	136	11	0	11	136	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	1799	0	0	27	1419	0	11	11	0	136	212
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Turn Type	Prot	NA		custom	Prot	NA		Perm	NA		Perm	NA
Protected Phases	1	6			5	2			4			4
Permitted Phases				5				4	4		4	
Detector Phase	1	6		5	5	2		4	4		4	4
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	3.0	15.0		7.0	7.0		7.0	7.0
Minimum Split (s)	8.0	20.1		8.0	8.0	22.5		13.7	13.7		13.7	13.7
Total Split (s)	16.0	44.0		16.0	16.0	44.0		30.0	30.0		30.0	30.0
Total Split (%)	17.8%	48.9%		17.8%	17.8%	48.9%		33.3%	33.3%		33.3%	33.3%
Maximum Green (s)	11.0	38.9		11.0	11.0	38.9		23.3	23.3		23.3	23.3
Yellow Time (s)	3.0	4.1		3.0	3.0	4.1		3.3	3.3		3.3	3.3
All-Red Time (s)	2.0	1.0		2.0	2.0	1.0		3.4	3.4		3.4	3.4
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.1			5.0	5.1		6.7	6.7		6.7	6.7
Lead/Lag	Lead	Lag		Lead	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		1.0	1.0		1.0	1.0
Recall Mode	None	C-Max		None	None	C-Max		None	None		None	None

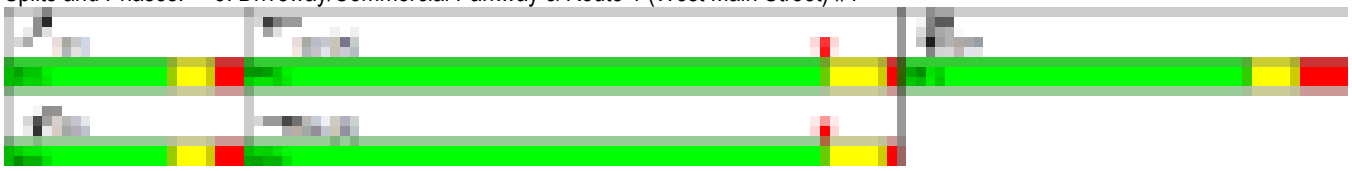
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	195
Future Volume (vph)	195
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.92
Heavy Vehicles (%)	2%
Adj. Flow (vph)	212
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Act Effct Green (s)	14.7	58.7			9.2	46.1		12.4	12.4		12.4	12.4
Actuated g/C Ratio	0.16	0.65			0.10	0.51		0.14	0.14		0.14	0.14
v/c Ratio	0.64	0.77			0.18	0.55		0.10	0.03		0.71	0.48
Control Delay	46.4	17.6			48.8	20.4		32.9	0.1		55.7	6.1
Queue Delay	0.0	0.4			0.0	0.5		0.0	0.0		0.0	0.0
Total Delay	46.4	17.9			48.8	20.9		32.9	0.1		55.7	6.1
LOS	D	B			D	C		C	A		E	A
Approach Delay		20.6				21.4			16.5			25.5
Approach LOS		C				C			B			C
Queue Length 50th (ft)	103	251			17	260		6	0		75	0
Queue Length 95th (ft)	m159	#792			m34	265		20	0		126	34
Internal Link Dist (ft)		258				211			28			329
Turn Bay Length (ft)					50						126	
Base Capacity (vph)	293	2330			193	2593		214	550		361	598
Starvation Cap Reductn	0	146			0	644		0	0		0	0
Spillback Cap Reductn	0	0			0	332		0	0		0	16
Storage Cap Reductn	0	0			0	0		0	0		0	0
Reduced v/c Ratio	0.63	0.82			0.14	0.73		0.05	0.02		0.38	0.36

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 9 (10%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 21.3 Intersection LOS: C
Intersection Capacity Utilization 76.7% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Driveway/Commercial Parkway & Route 1 (West Main Street) #1



Lane Group	SBR
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

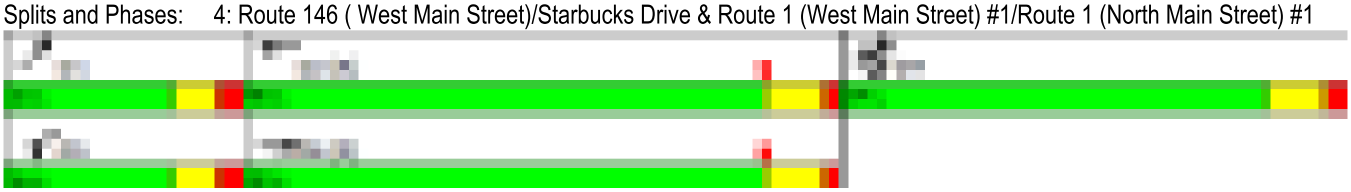
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	1005	750	10	885	30	445	15	20	0	0	0
Future Volume (vph)	50	1005	750	10	885	30	445	15	20	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	16	12	12	12
Storage Length (ft)	0		90	50		210	305		124	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.995				0.850			
Flt Protected	0.950			0.950			0.950	0.955				
Satd. Flow (prot)	1787	3574	1599	1787	3556	0	1641	1650	1812	0	0	0
Flt Permitted	0.950			0.950			0.950	0.955				
Satd. Flow (perm)	1787	3574	1599	1787	3556	0	1641	1650	1812	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			815		4				85			
Link Speed (mph)		40			40			35			30	
Link Distance (ft)		291			289			565			121	
Travel Time (s)		5.0			4.9			11.0			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	54	1092	815	11	962	33	484	16	22	0	0	0
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	54	1092	815	11	995	0	252	248	22	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	Perm			
Protected Phases	1	6	4	5	2		4	4				
Permitted Phases			6		2				4			
Detector Phase	1	6	4	5	2		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	15.0	9.0	3.0	15.0		9.0	9.0	9.0			
Minimum Split (s)	7.8	20.2	14.5	7.8	20.2		14.5	14.5	14.5			
Total Split (s)	16.0	40.0	34.0	16.0	40.0		34.0	34.0	34.0			
Total Split (%)	17.8%	44.4%	37.8%	17.8%	44.4%		37.8%	37.8%	37.8%			
Maximum Green (s)	11.2	34.8	28.5	11.2	34.8		28.5	28.5	28.5			
Yellow Time (s)	3.0	4.1	3.8	3.0	4.1		3.8	3.8	3.8			
All-Red Time (s)	1.8	1.1	1.7	1.8	1.1		1.7	1.7	1.7			
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.8	5.2	5.5	4.8	5.2		5.5	5.5	5.5			
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	3.0	1.0	1.0	3.0		1.0	1.0	1.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	C-Max	None	None	C-Max		None	None	None			
Act Effct Green (s)	6.2	58.3	86.9	4.2	51.0		19.0	19.0	19.0			
Actuated g/C Ratio	0.07	0.65	0.97	0.05	0.57		0.21	0.21	0.21			
v/c Ratio	0.44	0.47	0.52	0.13	0.49		0.73	0.71	0.05			
Control Delay	55.2	7.4	2.4	44.3	15.0		44.7	43.6	0.2			
Queue Delay	0.0	0.4	0.1	0.0	0.3		0.0	0.0	0.0			
Total Delay	55.2	7.9	2.5	44.3	15.3		44.7	43.6	0.2			
LOS	E	A	A	D	B		D	D	A			
Approach Delay		7.0			15.7			42.3				
Approach LOS		A			B			D				
Queue Length 50th (ft)	33	35	0	6	174		141	138	0			
Queue Length 95th (ft)	m46	170	121	23	299		201	198	0			
Internal Link Dist (ft)		211			209			485			41	
Turn Bay Length (ft)			90	50			305		124			
Base Capacity (vph)	222	2315	1574	222	2017		519	522	631			
Starvation Cap Reductn	0	664	127	0	0		0	0	0			
Spillback Cap Reductn	0	0	0	0	452		0	0	0			
Storage Cap Reductn	0	0	0	0	0		0	0	0			
Reduced v/c Ratio	0.24	0.66	0.56	0.05	0.64		0.49	0.48	0.03			

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 14.8	Intersection LOS: B
Intersection Capacity Utilization 58.4%	ICU Level of Service B
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 4: Route 146 (West Main Street)/Starbucks Drive & Route 1 (West Main Street) #1/Route 1 (North Main Street) #1

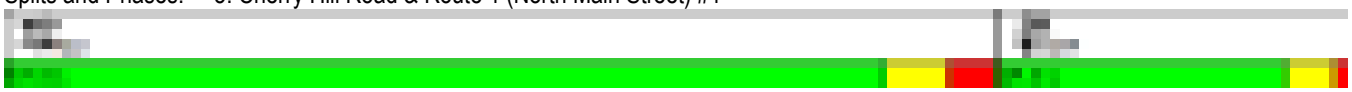


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	940	10	55	865	30	20	30	35	35	25	40
Future Volume (vph)	75	940	10	55	865	30	20	30	35	35	25	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	315		0	27		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	15			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.995			0.945				0.850
Flt Protected	0.950			0.950				0.988			0.972	
Satd. Flow (prot)	1728	1877	0	1728	1872	0	0	1756	0	0	1829	1599
Flt Permitted	0.226			0.196				0.899			0.788	
Satd. Flow (perm)	411	1877	0	356	1872	0	0	1598	0	0	1482	1599
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		1						35				53
Link Speed (mph)		40			45			25			25	
Link Distance (ft)		1060			2193			428			195	
Travel Time (s)		18.1			33.2			11.7			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	82	1022	11	60	940	33	22	33	38	38	27	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	1033	0	60	973	0	0	93	0	0	65	43
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Detector Phase	2	2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	27.5	27.5		27.5	27.5		11.3	11.3		11.3	11.3	11.3
Total Split (s)	67.5	67.5		67.5	67.5		24.3	24.3		24.3	24.3	24.3
Total Split (%)	73.5%	73.5%		73.5%	73.5%		26.5%	26.5%		26.5%	26.5%	26.5%
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	20.0
Yellow Time (s)	4.1	4.1		4.1	4.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.5	7.5		7.5	7.5			4.3			4.3	4.3
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Act Effct Green (s)	56.9	56.9		56.9	56.9			9.2			9.2	9.2
Actuated g/C Ratio	0.78	0.78		0.78	0.78			0.13			0.13	0.13
v/c Ratio	0.26	0.70		0.22	0.66			0.40			0.35	0.17
Control Delay	6.3	9.6		6.0	8.6			27.9			38.1	9.7
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	6.3	9.6		6.0	8.6			27.9			38.1	9.7
LOS	A	A		A	A			C			D	A
Approach Delay		9.3			8.4			27.9			26.8	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	10	232		7	204			28			31	0
Queue Length 95th (ft)	33	461		25	401			71			69	24
Internal Link Dist (ft)		980			2113			348			115	
Turn Bay Length (ft)	315			27								
Base Capacity (vph)	334	1528		289	1523			482			424	495
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.25	0.68		0.21	0.64			0.19			0.15	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 91.8			
Actuated Cycle Length: 72.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 83.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 5: Cherry Hill Road & Route 1 (North Main Street) #1

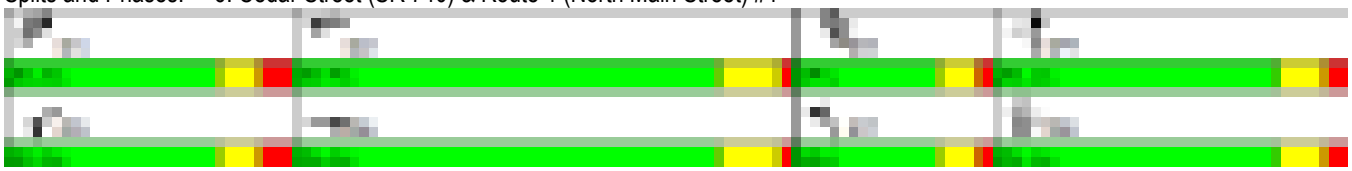


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	495	400	65	60	380	185	105	355	50	370	400	540
Future Volume (vph)	495	400	65	60	380	185	105	355	50	370	400	540
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.979				0.850		0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3351	1842	0	1728	1881	1546	1728	3393	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.217			0.316		
Satd. Flow (perm)	3351	1842	0	1728	1881	1546	395	3393	0	575	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		9						15				254
Link Speed (mph)		45			45			25			30	
Link Distance (ft)		406			451			356			855	
Travel Time (s)		6.2			6.8			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	538	435	71	65	413	201	114	386	54	402	435	587
Shared Lane Traffic (%)												
Lane Group Flow (vph)	538	506	0	65	413	201	114	440	0	402	435	587
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	6.7	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.1	11.3
Total Split (s)	20.3	35.4		20.3	35.4	14.0	14.0	25.1		14.0	25.1	20.3
Total Split (%)	21.4%	37.3%		21.4%	37.3%	14.8%	14.8%	26.5%		14.8%	26.5%	21.4%
Maximum Green (s)	15.0	30.0		15.0	30.0	10.0	10.0	20.0		10.0	20.0	15.0
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	Min		None	Min	None	None	Min		None	None	None
Act Effct Green (s)	15.2	29.9		8.8	20.7	36.3	27.2	17.4		30.2	21.4	41.8
Actuated g/C Ratio	0.18	0.36		0.11	0.25	0.43	0.33	0.21		0.36	0.26	0.50
v/c Ratio	0.88	0.76		0.36	0.89	0.30	0.43	0.61		1.16	0.90	0.65
Control Delay	53.3	34.3		42.6	51.9	16.9	23.3	33.7		124.1	58.0	14.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	53.3	34.3		42.6	51.9	16.9	23.3	33.7		124.1	58.0	14.4
LOS	D	C		D	D	B	C	C		F	E	B
Approach Delay		44.1			40.7			31.5			58.7	
Approach LOS		D			D			C			E	
Queue Length 50th (ft)	147	247		33	214	69	38	106		~176	233	129
Queue Length 95th (ft)	#280	#427		76	323	117	84	174		#405	#483	305
Internal Link Dist (ft)		326			371			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	610	700		314	685	672	297	834		347	481	900
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.88	0.72		0.21	0.60	0.30	0.38	0.53		1.16	0.90	0.65

Intersection Summary			
Area Type:	Other		
Cycle Length: 94.8			
Actuated Cycle Length: 83.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 47.2		Intersection LOS: D	
Intersection Capacity Utilization 82.5%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	50	515	0	0	0	0	650	385	80	795	0
Future Volume (vph)	225	50	515	0	0	0	0	650	385	80	795	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.944				
Flt Protected	0.950	0.969								0.950		
Satd. Flow (prot)	1698	1732	1599	0	0	0	0	3374	0	1787	3574	0
Flt Permitted	0.950	0.969								0.123		
Satd. Flow (perm)	1698	1732	1599	0	0	0	0	3374	0	231	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			186					120				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			714			855			456	
Travel Time (s)		21.2			16.2			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	245	54	560	0	0	0	0	707	418	87	864	0
Shared Lane Traffic (%)	40%											
Lane Group Flow (vph)	147	152	560	0	0	0	0	1125	0	87	864	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					20.1				
Total Split (s)	31.6	31.6	31.6					35.1				
Total Split (%)	31.0%	31.0%	31.0%					34.4%				
Maximum Green (s)	25.0	25.0	25.0					30.0				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					Min				

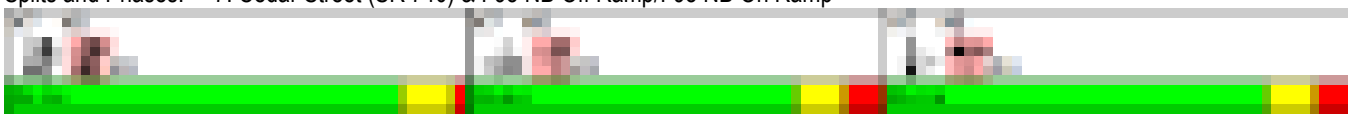
Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	35.4
Total Split (%)	35%
Maximum Green (s)	29.0
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	25.1	25.1	25.1					30.1		61.5	61.5	
Actuated g/C Ratio	0.26	0.26	0.26					0.31		0.63	0.63	
v/c Ratio	0.34	0.34	1.03					1.01		0.60	0.39	
Control Delay	33.8	33.8	71.7					60.9		22.3	2.4	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.2	
Total Delay	33.8	33.8	71.7					60.9		22.3	2.6	
LOS	C	C	E					E		C	A	
Approach Delay		58.5						60.9			4.4	
Approach LOS		E						E			A	
Queue Length 50th (ft)	83	86	~302					~390		6	18	
Queue Length 95th (ft)	144	148	#513					#524		m#82	28	
Internal Link Dist (ft)		853			634			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	432	442	546					1116		144	2235	
Starvation Cap Reductn	0	0	0					0		0	541	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.34	0.34	1.03					1.01		0.60	0.51	

Intersection Summary

Area Type: Other
Cycle Length: 102.1
Actuated Cycle Length: 98.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 41.9 Intersection LOS: D
Intersection Capacity Utilization 64.3% ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp



Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

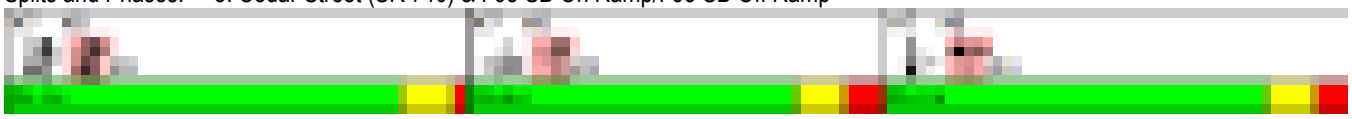
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	465	0	165	375	500	0	0	410	165
Future Volume (vph)	0	0	0	465	0	165	375	500	0	0	410	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.957	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3421	0
Flt Permitted				0.950	0.950		0.345					
Satd. Flow (perm)	0	0	0	1698	1698	1599	649	3574	0	0	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						179					60	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	505	0	179	408	543	0	0	446	179
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	252	253	179	408	543	0	0	625	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					20.1	
Total Split (s)				35.4	35.4	35.4					35.1	
Total Split (%)				34.7%	34.7%	34.7%					34.4%	
Maximum Green (s)				29.0	29.0	29.0					30.0	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					Min	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	31.6
Total Split (%)	31%
Maximum Green (s)	25.0
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				25.0	25.0	25.0	61.8	61.8			30.1	
Actuated g/C Ratio				0.25	0.25	0.25	0.63	0.63			0.31	
v/c Ratio				0.58	0.59	0.33	1.00	0.24			0.57	
Control Delay				37.8	37.9	6.2	48.7	1.5			28.9	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				37.8	37.9	6.2	48.7	1.5			28.9	
LOS				D	D	A	D	A			C	
Approach Delay					29.5			21.8			28.9	
Approach LOS					C			C			C	
Queue Length 50th (ft)				145	146	0	~156	10			165	
Queue Length 95th (ft)				228	229	50	m#341	m11			224	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				502	502	599	407	2246			1088	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.50	0.50	0.30	1.00	0.24			0.57	

Intersection Summary	
Area Type:	Other
Cycle Length: 102.1	
Actuated Cycle Length: 98.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.03	
Intersection Signal Delay: 26.1	Intersection LOS: C
Intersection Capacity Utilization 64.3%	ICU Level of Service C
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp



Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Arterial Level of Service: EB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	III	40	5.4	23.7	29.1	0.05	5.9	F
Branford Connector	III	40	11.5	15.8	27.3	0.10	13.2	E
Driveway	III	40	7.4	17.6	25.0	0.06	9.2	F
Route 146 (West Mai	III	40	6.3	7.4	13.7	0.06	14.5	D
Cherry Hill Road	III	37	30.7	9.6	40.3	0.26	22.8	C
Cedar Street (SR 740	III	32	62.5	34.3	96.8	0.49	18.3	C
Total	III		123.8	108.4	232.2	1.01	15.7	D

Arterial Level of Service: WB #1

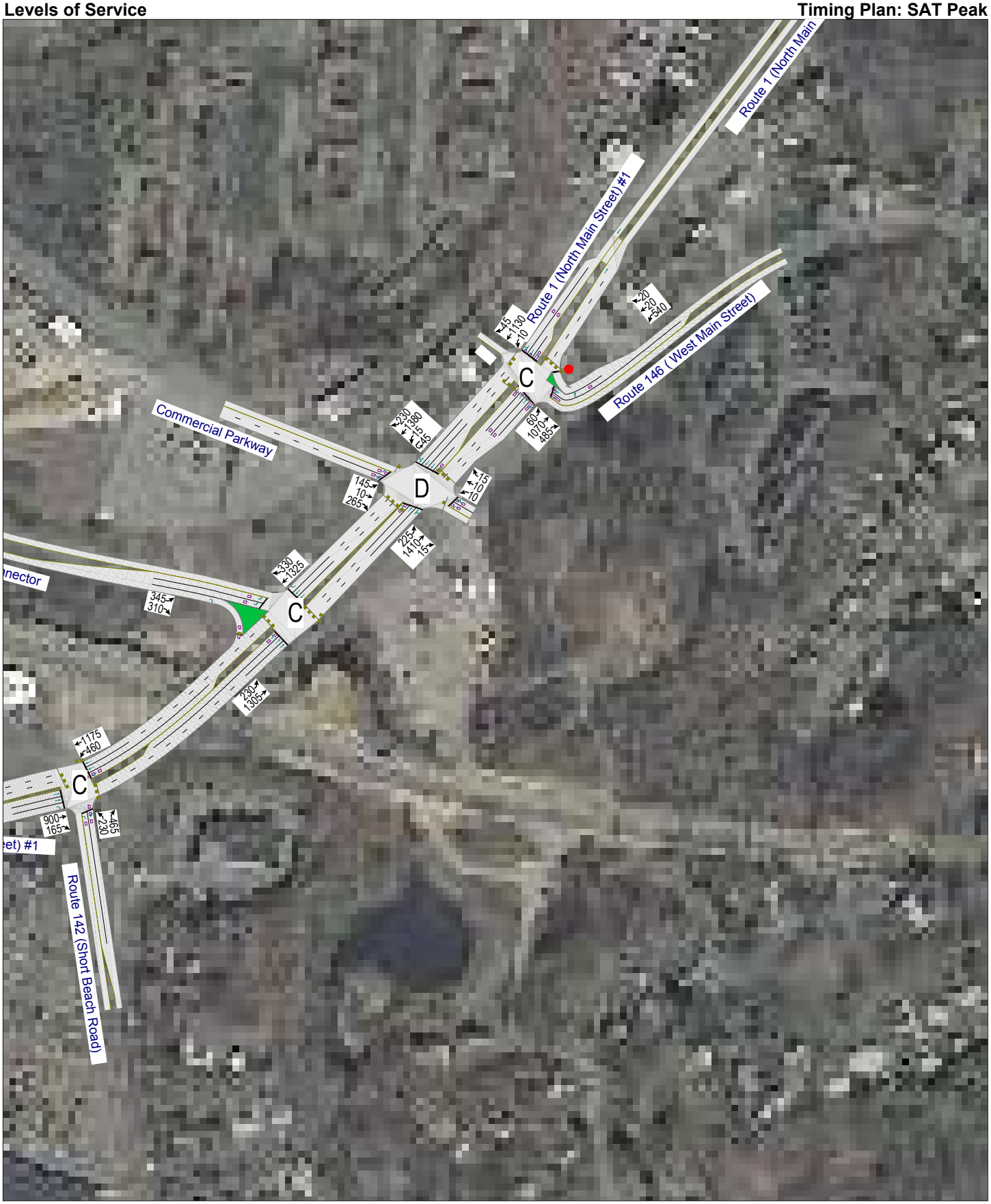
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cedar Street (SR 740	II	45	9.3	51.9	61.2	0.09	5.0	F
Cherry Hill Road	II	42	45.8	8.6	54.4	0.49	32.6	B
Starbucks Drive	II	32	32.4	15.0	47.4	0.26	19.4	D
Commercial Parkway	II	40	6.3	20.4	26.7	0.06	7.4	F
Branford Connector	II	40	7.4	19.5	26.9	0.06	8.6	F
Route 142 (Short Bea	II	30	14.1	24.8	38.9	0.10	9.3	F
Total	II		115.3	140.2	255.5	1.05	14.8	E

Arterial Level of Service: NB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	33.7	51.6	0.07	4.7	F
I-95 NB On Ramp	IV	30	24.3	60.9	85.2	0.16	6.8	F
I-95 SB Off Ramp	IV	30	15.5	1.5	17.0	0.09	18.3	C
Total	IV		57.7	96.1	153.8	0.32	7.4	E

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	28.9	48.7	0.11	8.1	E
I-95 NB Off Ramp	IV	30	15.5	2.4	17.9	0.09	17.4	C
Route 1 (North Main	IV	30	24.3	58.0	82.3	0.16	7.1	E
Total	IV		59.6	89.3	148.9	0.36	8.7	E


Route 1 (North Main
Route 1 (North Main Street) #1
Route 146 (West Main Street)
Commercial Parkway
Route 142 (Short Beach Road)
C
D
C
C
45
1130
10
20
20
540
230
1380
15
645
60
1070
465
145
10
265
15
10
10
225
1410
15
330
1825
345
310
230
1305
1175
460
900
165
235
465


Cherry Hill Road
Route 1 (North Main Street) #1
Cherry Hill Road
B
45
1075
60
40
20
90
50
20
20
45
1030
15

Branford Connector
Levels of Service

Timing Plan: SAT Peak

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M. Shepley

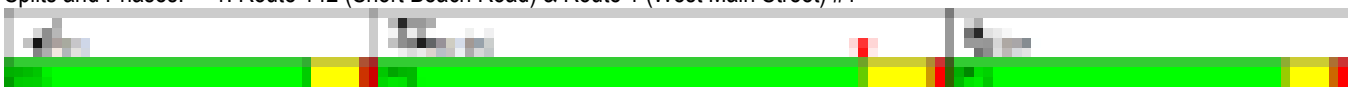
BL Companies
03/24/2017

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	900	165	460	1175	230	465
Future Volume (vph)	900	165	460	1175	230	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	290		250	0
Storage Lanes		1	1		1	1
Taper Length (ft)			25		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3574	1599	1787	3574	1728	1546
Flt Permitted			0.152		0.950	
Satd. Flow (perm)	3574	1599	286	3574	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		107				28
Link Speed (mph)	40			30	30	
Link Distance (ft)	250			529	434	
Travel Time (s)	4.3			12.0	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	978	179	500	1277	250	505
Shared Lane Traffic (%)						
Lane Group Flow (vph)	978	179	500	1277	250	505
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	34.0	24.0	22.0	34.0	24.0	22.0
Total Split (%)	42.5%	30.0%	27.5%	42.5%	30.0%	27.5%
Maximum Green (s)	28.9	20.0	18.0	28.9	20.0	18.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	30.5	51.1	52.6	30.5	15.4	40.4
Actuated g/C Ratio	0.38	0.64	0.66	0.38	0.19	0.50
v/c Ratio	0.72	0.17	0.86	0.94	0.75	0.64
Control Delay	25.2	2.7	22.3	29.1	44.3	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	2.7	22.3	29.1	44.3	17.6
LOS	C	A	C	C	D	B
Approach Delay	21.7			27.2	26.4	
Approach LOS	C			C	C	
Queue Length 50th (ft)	222	13	76	367	118	156
Queue Length 95th (ft)	294	29	m#78	m365	184	255
Internal Link Dist (ft)	170			449	354	
Turn Bay Length (ft)			290		250	
Base Capacity (vph)	1363	1144	580	1363	432	794
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.16	0.86	0.94	0.58	0.64

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 45 (56%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 25.3		Intersection LOS: C	
Intersection Capacity Utilization 74.0%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (West Main Street) #1



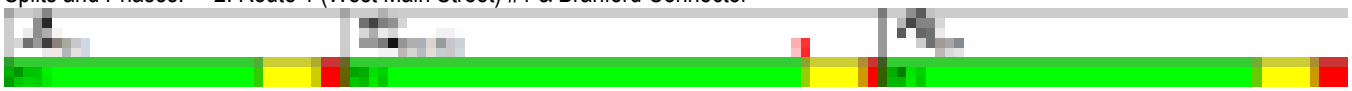
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	230	1305	1325	330	345	310
Future Volume (vph)	230	1305	1325	330	345	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	320			0	212	124
Storage Lanes	1			1	2	0
Taper Length (ft)	25				235	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	3574	3574	1599	3467	1599
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1787	3574	3574	1599	3467	1599
Right Turn on Red				No		Yes
Satd. Flow (RTOR)						337
Link Speed (mph)		40	40		45	
Link Distance (ft)		529	338		839	
Travel Time (s)		9.0	5.8		12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	250	1418	1440	359	375	337
Shared Lane Traffic (%)						
Lane Group Flow (vph)	250	1418	1440	359	375	337
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	1 2	2	4	4	4
Permitted Phases				2		
Detector Phase	1	1 2	2	4	4	4
Switch Phase						
Minimum Initial (s)	5.0		15.0	9.0	9.0	9.0
Minimum Split (s)	10.0		22.6	14.6	14.6	14.6
Total Split (s)	20.0		32.0	28.0	28.0	28.0
Total Split (%)	25.0%		40.0%	35.0%	35.0%	35.0%
Maximum Green (s)	15.0		27.4	22.4	22.4	22.4
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6
All-Red Time (s)	1.4		1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		4.6	5.6	5.6	5.6
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		0.2	2.0	2.0	2.0
Recall Mode	None		C-Max	None	None	None

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Act Effct Green (s)	20.5	55.8	30.7	48.9	13.6	13.6
Actuated g/C Ratio	0.26	0.70	0.38	0.61	0.17	0.17
v/c Ratio	0.55	0.57	1.05	0.37	0.64	0.61
Control Delay	24.0	8.8	48.8	1.5	35.5	8.6
Queue Delay	0.0	0.4	0.0	0.3	0.0	0.0
Total Delay	24.0	9.2	48.8	1.8	35.5	8.6
LOS	C	A	D	A	D	A
Approach Delay		11.4	39.4		22.8	
Approach LOS		B	D		C	
Queue Length 50th (ft)	91	270	~432	9	90	0
Queue Length 95th (ft)	m169	340	#570	m9	124	63
Internal Link Dist (ft)		449	258		759	
Turn Bay Length (ft)	320				212	124
Base Capacity (vph)	457	2492	1371	1153	970	690
Starvation Cap Reductn	0	530	0	330	0	0
Spillback Cap Reductn	0	45	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.72	1.05	0.44	0.39	0.49

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 10 (13%), Referenced to phase 2:EBWB, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 25.4 Intersection LOS: C
Intersection Capacity Utilization 71.9% ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Route 1 (West Main Street) #1 & Branford Connector



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	225	1410	15	45	15	1380	230	10	10	15	145	10
Future Volume (vph)	225	1410	15	45	15	1380	230	10	10	15	145	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0		50		0	0		0	126	
Storage Lanes	1		0		1		0	1		0	0	
Taper Length (ft)	25				50			25			25	
Lane Util. Factor	1.00	0.95	0.95	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.979			0.911			0.856
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1787	3567	0	0	1787	5028	0	1787	1714	0	1787	1610
Flt Permitted	0.950				0.455			0.315			0.740	
Satd. Flow (perm)	1787	3567	0	0	856	5028	0	593	1714	0	1392	1610
Right Turn on Red			Yes				No			Yes		
Satd. Flow (RTOR)		2							16			197
Link Speed (mph)		40				40			30			30
Link Distance (ft)		338				291			108			409
Travel Time (s)		5.8				5.0			2.5			9.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	245	1533	16	49	16	1500	250	11	11	16	158	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	245	1549	0	0	65	1750	0	11	27	0	158	299
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Turn Type	Prot	NA		custom	Prot	NA		Perm	NA		Perm	NA
Protected Phases	1	6			5	2			4			4
Permitted Phases				5				4	4		4	
Detector Phase	1	6		5	5	2		4	4		4	4
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	3.0	15.0		7.0	7.0		7.0	7.0
Minimum Split (s)	8.0	20.1		8.0	8.0	20.1		13.7	13.7		13.7	13.7
Total Split (s)	12.0	38.0		12.0	12.0	38.0		30.0	30.0		30.0	30.0
Total Split (%)	15.0%	47.5%		15.0%	15.0%	47.5%		37.5%	37.5%		37.5%	37.5%
Maximum Green (s)	7.0	32.9		7.0	7.0	32.9		23.3	23.3		23.3	23.3
Yellow Time (s)	3.0	4.1		3.0	3.0	4.1		3.3	3.3		3.3	3.3
All-Red Time (s)	2.0	1.0		2.0	2.0	1.0		3.4	3.4		3.4	3.4
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.1			5.0	5.1		6.7	6.7		6.7	6.7
Lead/Lag	Lead	Lag		Lead	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		1.0	1.0		1.0	1.0
Recall Mode	None	C-Max		None	None	C-Max		None	None		None	None

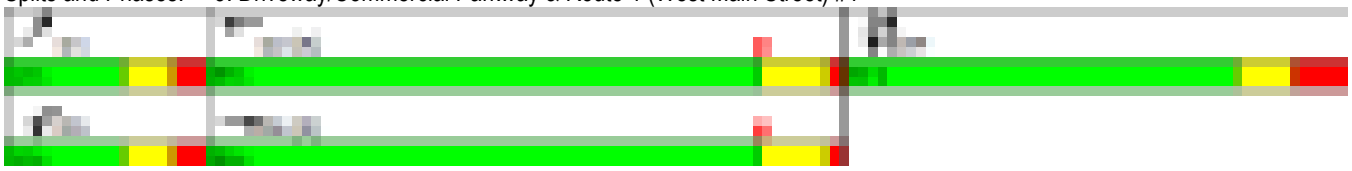
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	265
Future Volume (vph)	265
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.92
Heavy Vehicles (%)	1%
Adj. Flow (vph)	288
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Act Effct Green (s)	17.6	42.6			10.1	32.9		12.7	12.7		12.7	12.7
Actuated g/C Ratio	0.22	0.53			0.13	0.41		0.16	0.16		0.16	0.16
v/c Ratio	0.62	0.81			0.60	0.85		0.12	0.09		0.71	0.71
Control Delay	39.0	22.0			63.3	27.4		28.9	16.6		48.9	20.7
Queue Delay	0.0	0.6			12.5	47.2		0.0	0.0		0.0	0.0
Total Delay	39.0	22.6			75.8	74.6		28.9	16.6		48.9	20.7
LOS	D	C			E	E		C	B		D	C
Approach Delay		24.9				74.6			20.2			30.5
Approach LOS		C				E			C			C
Queue Length 50th (ft)	94	104			36	332		5	5		76	46
Queue Length 95th (ft)	#258	#536			m55	353		18	24		127	118
Internal Link Dist (ft)		258				211			28			329
Turn Bay Length (ft)					50						126	
Base Capacity (vph)	392	1902			109	2067		172	510		405	608
Starvation Cap Reductn	0	105			0	550		0	0		0	0
Spillback Cap Reductn	0	0			26	289		0	0		0	10
Storage Cap Reductn	0	0			0	0		0	0		0	0
Reduced v/c Ratio	0.63	0.86			0.78	1.15		0.06	0.05		0.39	0.50

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 10 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 47.5		Intersection LOS: D	
Intersection Capacity Utilization 75.2%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Driveway/Commercial Parkway & Route 1 (West Main Street) #1



Lane Group	SBR
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

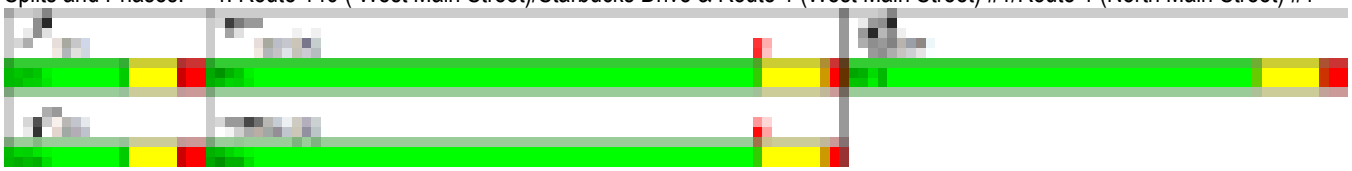
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1070	485	10	1130	45	540	20	20	0	0	0
Future Volume (vph)	60	1070	485	10	1130	45	540	20	20	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	16	12	12	12
Storage Length (ft)	0		90	50		210	305		124	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.994				0.850			
Flt Protected	0.950			0.950			0.950	0.956				
Satd. Flow (prot)	1787	3574	1599	1787	3553	0	1641	1652	1812	0	0	0
Flt Permitted	0.950			0.950			0.950	0.956				
Satd. Flow (perm)	1787	3574	1599	1787	3553	0	1641	1652	1812	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			527		6				95			
Link Speed (mph)		40			40			35			30	
Link Distance (ft)		291			289			565			121	
Travel Time (s)		5.0			4.9			11.0			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	65	1163	527	11	1228	49	587	22	22	0	0	0
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	65	1163	527	11	1277	0	305	304	22	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	Perm			
Protected Phases	1	6	4	5	2		4	4				
Permitted Phases			6		2				4			
Detector Phase	1	6	4	5	2		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	15.0	9.0	3.0	15.0		9.0	9.0	9.0			
Minimum Split (s)	7.8	20.2	14.5	7.8	20.2		14.5	14.5	14.5			
Total Split (s)	12.0	38.0	30.0	12.0	38.0		30.0	30.0	30.0			
Total Split (%)	15.0%	47.5%	37.5%	15.0%	47.5%		37.5%	37.5%	37.5%			
Maximum Green (s)	7.2	32.8	24.5	7.2	32.8		24.5	24.5	24.5			
Yellow Time (s)	3.0	4.1	3.8	3.0	4.1		3.8	3.8	3.8			
All-Red Time (s)	1.8	1.1	1.7	1.8	1.1		1.7	1.7	1.7			
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.8	5.2	5.5	4.8	5.2		5.5	5.5	5.5			
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	3.0	1.0	1.0	3.0		1.0	1.0	1.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	C-Max	None	None	C-Max		None	None	None			
Act Effct Green (s)	5.9	48.5	76.9	4.1	41.4		18.8	18.8	18.8			
Actuated g/C Ratio	0.07	0.61	0.96	0.05	0.52		0.24	0.24	0.24			
v/c Ratio	0.49	0.54	0.34	0.12	0.69		0.79	0.79	0.04			
Control Delay	45.4	11.1	0.4	38.6	19.6		43.4	42.7	0.1			
Queue Delay	0.0	0.7	0.1	0.0	42.0		0.0	0.0	0.0			
Total Delay	45.4	11.8	0.4	38.6	61.6		43.4	42.7	0.1			
LOS	D	B	A	D	E		D	D	A			
Approach Delay		9.7			61.4			41.5				
Approach LOS		A			E			D				
Queue Length 50th (ft)	35	118	0	5	253		150	149	0			
Queue Length 95th (ft)	m48	210	m0	21	#430		223	221	0			
Internal Link Dist (ft)		211			209			485			41	
Turn Bay Length (ft)			90	50			305		124			
Base Capacity (vph)	162	2167	1547	160	1843		502	505	620			
Starvation Cap Reductn	0	612	157	0	0		0	0	0			
Spillback Cap Reductn	0	0	0	0	664		0	0	0			
Storage Cap Reductn	0	0	0	0	0		0	0	0			
Reduced v/c Ratio	0.40	0.75	0.38	0.07	1.08		0.61	0.60	0.04			

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow, Master Intersection			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 33.3		Intersection LOS: C	
Intersection Capacity Utilization 64.4%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Route 146 (West Main Street)/Starbucks Drive & Route 1 (West Main Street) #1/Route 1 (North Main Street) #1

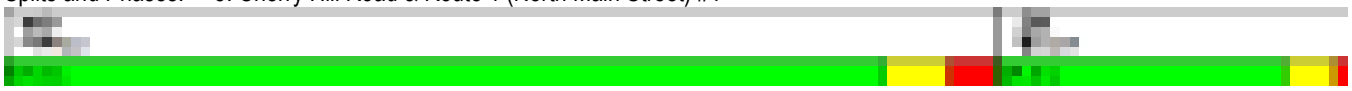


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1030	15	60	1075	45	20	20	50	40	20	90
Future Volume (vph)	45	1030	15	60	1075	45	20	20	50	40	20	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	315		0	27		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	15			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.994			0.926				0.850
Flt Protected	0.950			0.950				0.989			0.968	
Satd. Flow (prot)	1728	1877	0	1728	1870	0	0	1723	0	0	1821	1599
Flt Permitted	0.103			0.144				0.914			0.712	
Satd. Flow (perm)	187	1877	0	262	1870	0	0	1592	0	0	1339	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5			54				98
Link Speed (mph)		40			45			25			25	
Link Distance (ft)		1060			2227			428			195	
Travel Time (s)		18.1			33.7			11.7			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	49	1120	16	65	1168	49	22	22	54	43	22	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	1136	0	65	1217	0	0	98	0	0	65	98
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Detector Phase	2	2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	27.5	27.5		27.5	27.5		11.3	11.3		11.3	11.3	11.3
Total Split (s)	67.5	67.5		67.5	67.5		24.3	24.3		24.3	24.3	24.3
Total Split (%)	73.5%	73.5%		73.5%	73.5%		26.5%	26.5%		26.5%	26.5%	26.5%
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	20.0
Yellow Time (s)	4.1	4.1		4.1	4.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.5	7.5		7.5	7.5			4.3			4.3	4.3
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Act Effct Green (s)	62.9	62.9		62.9	62.9			9.3			9.3	9.3
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.11			0.11	0.11
v/c Ratio	0.35	0.81		0.33	0.87			0.44			0.44	0.37
Control Delay	12.7	13.6		9.7	17.3			23.5			43.0	11.6
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	12.7	13.6		9.7	17.3			23.5			43.0	11.6
LOS	B	B		A	B			C			D	B
Approach Delay		13.6			16.9			23.5			24.1	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	7	291		9	353			21			31	0
Queue Length 95th (ft)	36	#639		37	#860			65			70	42
Internal Link Dist (ft)		980			2147			348			115	
Turn Bay Length (ft)	315			27								
Base Capacity (vph)	139	1405		196	1400			421			319	456
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.35	0.81		0.33	0.87			0.23			0.20	0.21

Intersection Summary			
Area Type:	Other		
Cycle Length: 91.8			
Actuated Cycle Length: 84			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 84.4%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Cherry Hill Road & Route 1 (North Main Street) #1

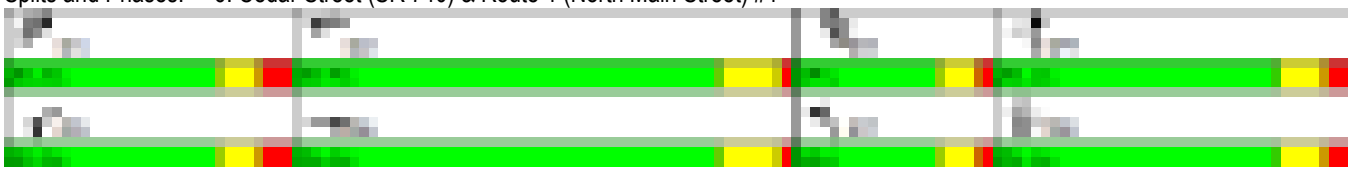


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	480	375	60	70	500	230	125	430	60	215	400	455
Future Volume (vph)	480	375	60	70	500	230	125	430	60	215	400	455
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.979				0.850		0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3351	1842	0	1728	1881	1546	1728	3393	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.207			0.245		
Satd. Flow (perm)	3351	1842	0	1728	1881	1546	376	3393	0	446	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		9						15				171
Link Speed (mph)		45			45			25			30	
Link Distance (ft)		375			451			356			855	
Travel Time (s)		5.7			6.8			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	522	408	65	76	543	250	136	467	65	234	435	495
Shared Lane Traffic (%)												
Lane Group Flow (vph)	522	473	0	76	543	250	136	532	0	234	435	495
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	15.0	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.1	11.3
Total Split (s)	20.3	35.4		20.3	35.4	14.0	14.0	25.1		14.0	25.1	20.3
Total Split (%)	21.4%	37.3%		21.4%	37.3%	14.8%	14.8%	26.5%		14.8%	26.5%	21.4%
Maximum Green (s)	15.0	30.0		15.0	30.0	10.0	10.0	20.0		10.0	20.0	15.0
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	Min		None	Min	None	None	Min		None	None	None
Act Effct Green (s)	15.0	35.6		9.5	27.6	43.0	29.5	19.2		31.2	20.0	40.2
Actuated g/C Ratio	0.16	0.39		0.10	0.30	0.47	0.32	0.21		0.34	0.22	0.44
v/c Ratio	0.95	0.66		0.42	0.96	0.34	0.53	0.74		0.80	1.06	0.64
Control Delay	68.0	29.9		46.3	62.1	17.1	28.4	40.2		45.2	98.2	17.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	68.0	29.9		46.3	62.1	17.1	28.4	40.2		45.2	98.2	17.8
LOS	E	C		D	E	B	C	D		D	F	B
Approach Delay		49.8			47.8			37.8			53.4	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	163	231		44	312	90	55	153		101	~299	151
Queue Length 95th (ft)	#269	#371		85	#509	146	99	212		#198	#483	267
Internal Link Dist (ft)		295			371			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	549	720		283	617	725	271	753		291	411	773
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.95	0.66		0.27	0.88	0.34	0.50	0.71		0.80	1.06	0.64

Intersection Summary			
Area Type:	Other		
Cycle Length: 94.8			
Actuated Cycle Length: 91.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 48.3		Intersection LOS: D	
Intersection Capacity Utilization 84.5%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1



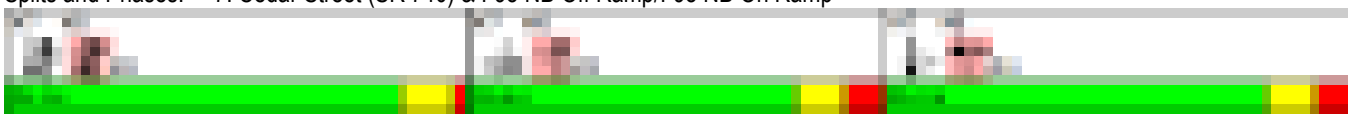
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	10	385	0	0	0	0	710	430	90	685	0
Future Volume (vph)	125	10	385	0	0	0	0	710	430	90	685	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.943				
Flt Protected	0.950	0.959								0.950		
Satd. Flow (prot)	1698	1714	1599	0	0	0	0	3371	0	1787	3574	0
Flt Permitted	0.950	0.959								0.106		
Satd. Flow (perm)	1698	1714	1599	0	0	0	0	3371	0	199	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			239					126				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			727			855			456	
Travel Time (s)		21.2			16.5			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	136	11	418	0	0	0	0	772	467	98	745	0
Shared Lane Traffic (%)	46%											
Lane Group Flow (vph)	73	74	418	0	0	0	0	1239	0	98	745	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					20.1				
Total Split (s)	31.6	31.6	31.6					35.1				
Total Split (%)	31.0%	31.0%	31.0%					34.4%				
Maximum Green (s)	25.0	25.0	25.0					30.0				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					Min				

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	35.4
Total Split (%)	35%
Maximum Green (s)	29.0
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	25.1	25.1	25.1					30.1		63.1	63.1	
Actuated g/C Ratio	0.25	0.25	0.25					0.30		0.63	0.63	
v/c Ratio	0.17	0.17	0.72					1.12		0.78	0.33	
Control Delay	31.8	31.8	22.7					98.9		49.4	2.5	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	31.8	31.8	22.7					98.9		49.4	2.5	
LOS	C	C	C					F		D	A	
Approach Delay		25.1						98.9			8.0	
Approach LOS		C						F			A	
Queue Length 50th (ft)	40	40	106					~471		16	18	
Queue Length 95th (ft)	78	81	225					#606		m#143	27	
Internal Link Dist (ft)		853			647			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	425	429	580					1102		125	2258	
Starvation Cap Reductn	0	0	0					0		0	0	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.17	0.17	0.72					1.12		0.78	0.33	

Intersection Summary			
Area Type:	Other		
Cycle Length: 102.1			
Actuated Cycle Length: 99.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.27			
Intersection Signal Delay: 54.2		Intersection LOS: D	
Intersection Capacity Utilization 66.5%		ICU Level of Service C	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp



Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	370	0	90	465	370	0	0	405	170
Future Volume (vph)	0	0	0	370	0	90	465	370	0	0	405	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.956	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3417	0
Flt Permitted				0.950	0.950		0.343					
Satd. Flow (perm)	0	0	0	1698	1698	1599	645	3574	0	0	3417	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						98					64	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	402	0	98	505	402	0	0	440	185
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	201	201	98	505	402	0	0	625	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					20.1	
Total Split (s)				35.4	35.4	35.4					35.1	
Total Split (%)				34.7%	34.7%	34.7%					34.4%	
Maximum Green (s)				29.0	29.0	29.0					30.0	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					Min	

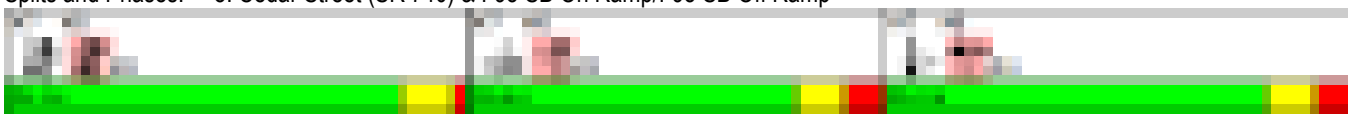
Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	31.6
Total Split (%)	31%
Maximum Green (s)	25.0
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				26.6	26.6	26.6	61.7	61.7			30.1	
Actuated g/C Ratio				0.27	0.27	0.27	0.62	0.62			0.30	
v/c Ratio				0.44	0.44	0.20	1.27	0.18			0.58	
Control Delay				33.7	33.7	6.8	145.7	1.3			29.4	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				33.7	33.7	6.8	145.7	1.3			29.4	
LOS				C	C	A	F	A			C	
Approach Delay					28.5			81.7			29.4	
Approach LOS					C			F			C	
Queue Length 50th (ft)				111	111	0	~438	7			164	
Queue Length 95th (ft)				182	182	38	m#402	m6			223	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				494	494	534	398	2209			1073	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.41	0.41	0.18	1.27	0.18			0.58	

Intersection Summary

Area Type: Other
Cycle Length: 102.1
Actuated Cycle Length: 99.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 52.5 Intersection LOS: D
Intersection Capacity Utilization 66.5% ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp



Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Arterial Level of Service: EB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	III	40	5.4	25.2	30.6	0.05	5.6	F
Branford Connector	III	40	11.5	8.8	20.3	0.10	17.8	D
Driveway	III	40	7.4	22.0	29.4	0.06	7.8	F
Route 146 (West Mai	III	40	6.3	11.1	17.4	0.06	11.4	E
Cherry Hill Road	III	37	30.7	13.6	44.3	0.26	20.8	C
Cedar Street (SR 740	III	32	62.6	29.9	92.5	0.49	19.2	C
Total	III		123.9	110.6	234.5	1.01	15.6	D

Arterial Level of Service: WB #1

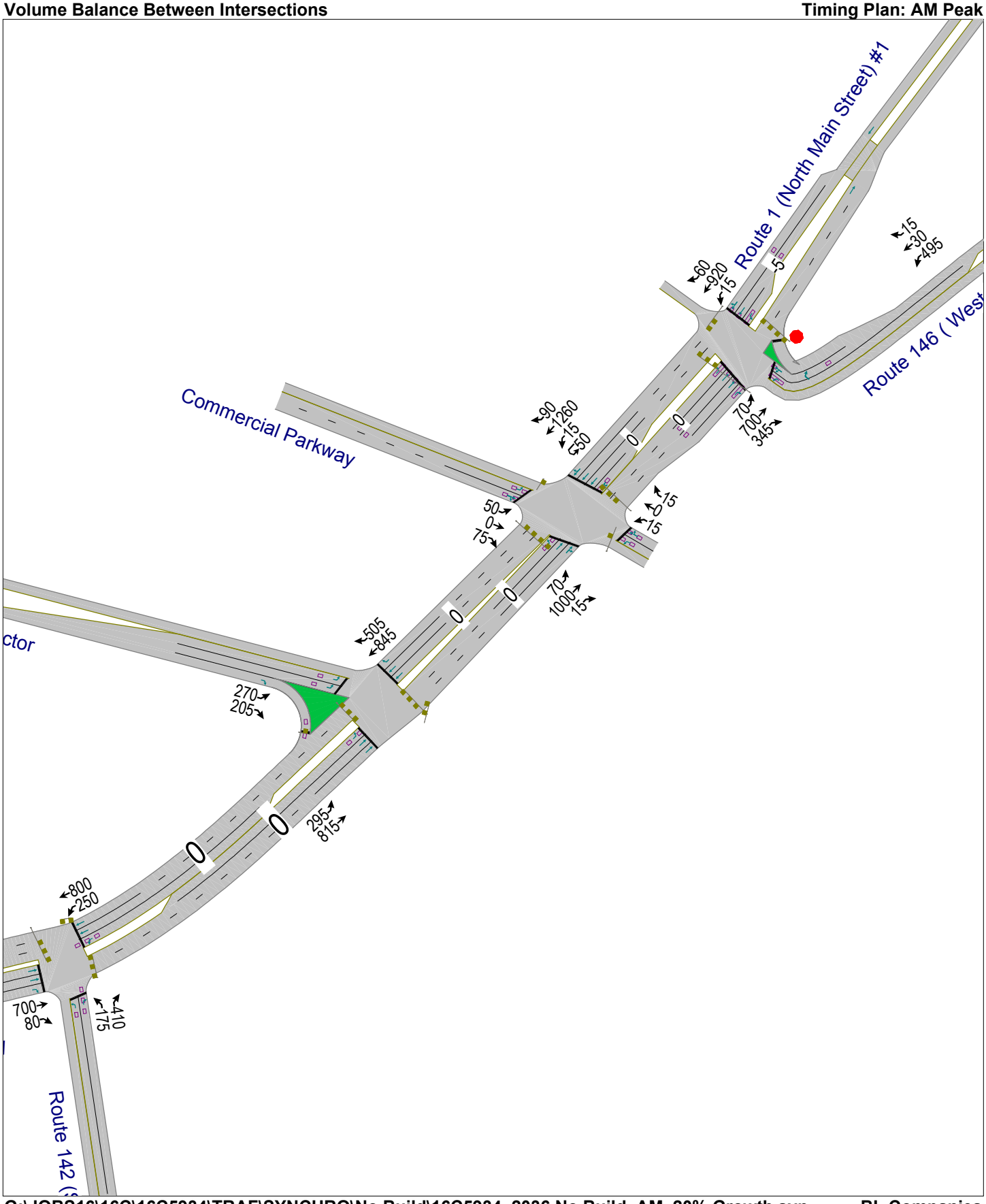
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cedar Street (SR 740	II	45	9.3	62.1	71.4	0.09	4.3	F
Cherry Hill Road	II	42	45.8	17.3	63.1	0.49	28.1	B
Starbucks Drive	II	32	32.4	19.6	52.0	0.26	17.7	D
Commercial Parkway	II	40	6.3	27.4	33.7	0.06	5.9	F
Branford Connector	II	40	7.4	48.8	56.2	0.06	4.1	F
Route 142 (Short Bea	II	30	14.1	29.1	43.2	0.10	8.3	F
Total	II		115.3	204.3	319.6	1.05	11.9	F

Arterial Level of Service: NB Cedar Street (SR 740)

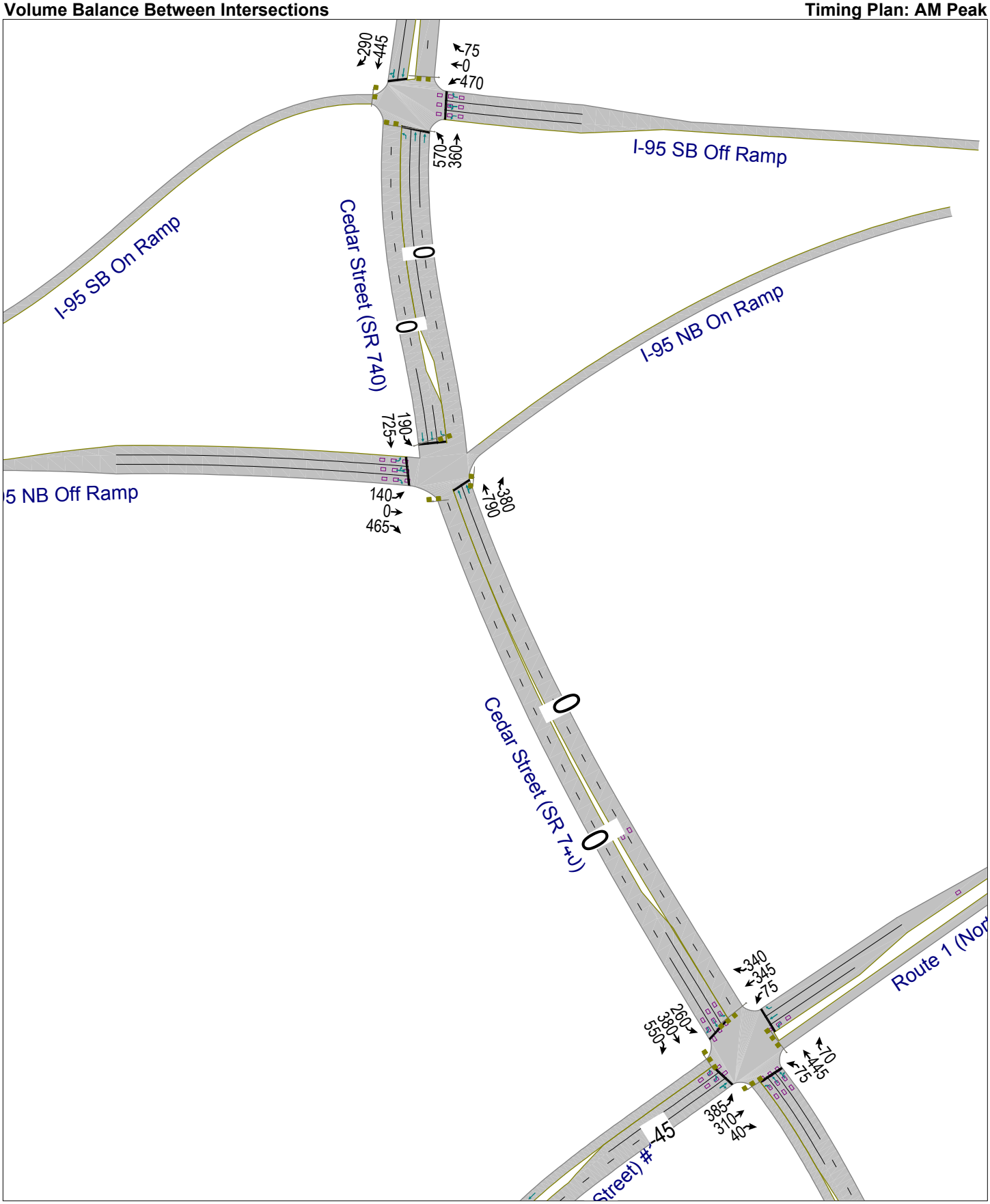
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	40.2	58.1	0.07	4.2	F
I-95 NB On Ramp	IV	30	24.3	98.9	123.2	0.16	4.7	F
I-95 SB Off Ramp	IV	30	15.5	1.3	16.8	0.09	18.5	C
Total	IV		57.7	140.4	198.1	0.32	5.7	F

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	29.4	49.2	0.11	8.1	E
I-95 NB Off Ramp	IV	30	15.5	2.5	18.0	0.09	17.3	C
Route 1 (North Main	IV	30	24.3	98.2	122.5	0.16	4.8	F
Total	IV		59.6	130.1	189.7	0.36	6.8	F


Route 1 (North Main Street) #1
Route 146 (West
Commercial Parkway
ctor
Route 142 (
60
920
15
5
15
30
495
90
1260
15
550
0
0
70
700
345
50
0
75
0
15
0
15
70
1000
15
505
845
0
0
270
205
0
0
295
815
800
250
700
80
175
410


Cherry Hill Road
Route 1 (North Main Street) #1
Cherry Hill Road
B
30
880
30
50
30
100
50
20
20
20
680
20

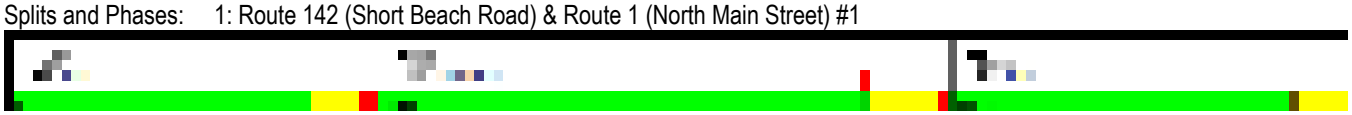

260
445
75
0
470
570
360
I-95 SB Off Ramp
I-95 SB On Ramp
Cedar Street (SR 740)
0
0
I-95 NB On Ramp
190
725
5 NB Off Ramp
140
0
465
380
790
0
Cedar Street (SR 74
0
340
345
75
260
680
550
Route 1 (Nor
70
445
75
385
310
40
45
Street) #

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	700	80	250	800	175	410
Future Volume (vph)	700	80	250	800	175	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	290		250	0
Storage Lanes		1	1		1	1
Taper Length (ft)			25		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1568	1752	3505	1728	1546
Flt Permitted			0.313		0.950	
Satd. Flow (perm)	3505	1568	577	3505	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		87				65
Link Speed (mph)	30			30	30	
Link Distance (ft)	250			529	434	
Travel Time (s)	5.7			12.0	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Adj. Flow (vph)	761	87	272	870	190	446
Shared Lane Traffic (%)						
Lane Group Flow (vph)	761	87	272	870	190	446
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	34.0	24.0	22.0	34.0	24.0	22.0
Total Split (%)	42.5%	30.0%	27.5%	42.5%	30.0%	27.5%
Maximum Green (s)	28.9	20.0	18.0	28.9	20.0	18.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	42.0	60.3	54.9	42.0	13.1	28.9
Actuated g/C Ratio	0.52	0.75	0.69	0.52	0.16	0.36
v/c Ratio	0.41	0.07	0.48	0.47	0.67	0.74
Control Delay	13.9	1.1	5.0	19.6	42.7	26.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	1.1	5.0	19.6	42.7	26.0
LOS	B	A	A	B	D	C
Approach Delay	12.6			16.1	31.0	
Approach LOS	B			B	C	
Queue Length 50th (ft)	114	0	6	236	90	163
Queue Length 95th (ft)	201	11	m49	306	144	217
Internal Link Dist (ft)	170			449	354	
Turn Bay Length (ft)			290		250	
Base Capacity (vph)	1841	1329	686	1841	432	715
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.07	0.40	0.47	0.44	0.62

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 42 (53%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 18.6		Intersection LOS: B	
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (North Main Street) #1

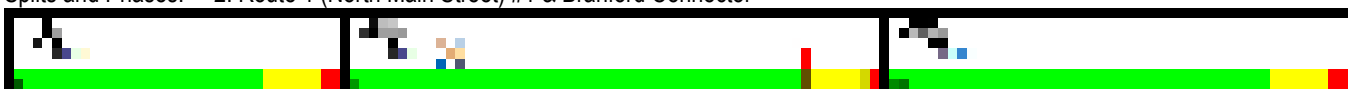


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	295	815	845	505	270	205
Future Volume (vph)	295	815	845	505	270	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	320			0	212	124
Storage Lanes	1			1	2	0
Taper Length (ft)	25				235	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	3335	1538
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	3505	3505	1568	3335	1538
Right Turn on Red				No		Yes
Satd. Flow (RTOR)						223
Link Speed (mph)		30	30		45	
Link Distance (ft)		529	338		838	
Travel Time (s)		12.0	7.7		12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	5%	5%
Adj. Flow (vph)	321	886	918	549	293	223
Shared Lane Traffic (%)						
Lane Group Flow (vph)	321	886	918	549	293	223
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	1 2	2	4	4	4
Permitted Phases				2		
Detector Phase	1	1 2	2	4	4	4
Switch Phase						
Minimum Initial (s)	5.0		15.0	9.0	9.0	9.0
Minimum Split (s)	10.0		22.6	14.6	14.6	14.6
Total Split (s)	20.0		32.0	28.0	28.0	28.0
Total Split (%)	25.0%		40.0%	35.0%	35.0%	35.0%
Maximum Green (s)	15.0		27.4	22.4	22.4	22.4
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6
All-Red Time (s)	1.4		1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		4.6	5.6	5.6	5.6
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		0.2	2.0	2.0	2.0
Recall Mode	None		C-Max	None	None	None

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Act Effct Green (s)	21.9	57.0	30.5	47.5	12.4	12.4
Actuated g/C Ratio	0.27	0.71	0.38	0.59	0.16	0.16
v/c Ratio	0.67	0.35	0.69	0.59	0.57	0.52
Control Delay	28.4	4.9	15.8	5.7	35.2	9.0
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	28.4	4.9	16.0	5.7	35.2	9.0
LOS	C	A	B	A	D	A
Approach Delay		11.2	12.1		23.9	
Approach LOS		B	B		C	
Queue Length 50th (ft)	152	106	47	11	71	0
Queue Length 95th (ft)	#266	67	115	26	101	54
Internal Link Dist (ft)		449	258		758	
Turn Bay Length (ft)	320				212	124
Base Capacity (vph)	479	2497	1336	1127	933	591
Starvation Cap Reductn	0	0	50	27	0	0
Spillback Cap Reductn	0	11	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.36	0.71	0.50	0.31	0.38

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 77 (96%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 13.7		Intersection LOS: B	
Intersection Capacity Utilization 60.1%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 2: Route 1 (North Main Street) #1 & Branford Connector



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	70	1000	15	50	15	1260	90	15	0	15	50	0
Future Volume (vph)	70	1000	15	50	15	1260	90	15	0	15	50	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0		50		0	0		0	126	
Storage Lanes	1		0		1		0	1		0	0	
Taper Length (ft)	25				50			25			25	
Lane Util. Factor	1.00	0.95	0.95	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.990			0.850			0.850
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1752	3498	0	0	1752	4986	0	1770	1583	0	1687	1509
Flt Permitted	0.950				0.392			0.704			0.747	
Satd. Flow (perm)	1752	3498	0	0	723	4986	0	1311	1583	0	1326	1509
Right Turn on Red			Yes				No			Yes		
Satd. Flow (RTOR)		2							111			201
Link Speed (mph)		30				30			30			30
Link Distance (ft)		338				291			108			409
Travel Time (s)		7.7				6.6			2.5			9.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%	7%	7%
Adj. Flow (vph)	76	1087	16	54	16	1370	98	16	0	16	54	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	1103	0	0	70	1468	0	16	16	0	54	82
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Turn Type	Prot	NA		custom	Prot	NA		Perm	NA		Perm	NA
Protected Phases	1	6			5	2			4			4
Permitted Phases				5				4	4		4	
Detector Phase	1	6		5	5	2		4	4		4	4
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	3.0	15.0		7.0	7.0		7.0	7.0
Minimum Split (s)	8.0	20.1		8.0	8.0	22.5		13.7	13.7		13.7	13.7
Total Split (s)	12.0	38.0		12.0	12.0	38.0		30.0	30.0		30.0	30.0
Total Split (%)	15.0%	47.5%		15.0%	15.0%	47.5%		37.5%	37.5%		37.5%	37.5%
Maximum Green (s)	7.0	32.9		7.0	7.0	32.9		23.3	23.3		23.3	23.3
Yellow Time (s)	3.0	4.1		3.0	3.0	4.1		3.3	3.3		3.3	3.3
All-Red Time (s)	2.0	1.0		2.0	2.0	1.0		3.4	3.4		3.4	3.4
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.1			5.0	5.1		6.7	6.7		6.7	6.7
Lead/Lag	Lead	Lag		Lead	Lead	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		1.0	1.0		1.0	1.0
Recall Mode	None	C-Max		None	None	C-Max		None	None		None	None

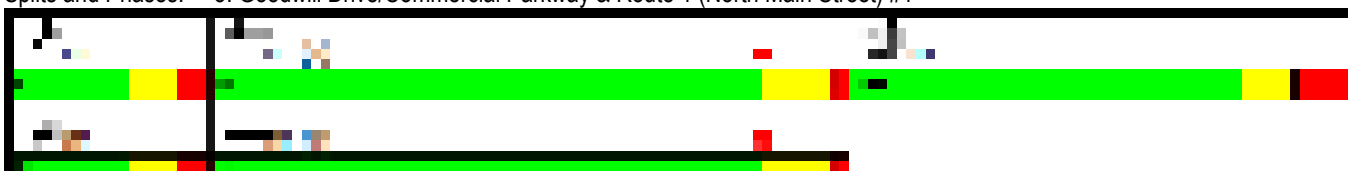
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	75
Future Volume (vph)	75
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.92
Heavy Vehicles (%)	7%
Adj. Flow (vph)	82
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Act Effct Green (s)	8.8	49.8			11.6	52.3		8.0	8.0		8.0	8.0
Actuated g/C Ratio	0.11	0.62			0.14	0.65		0.10	0.10		0.10	0.10
v/c Ratio	0.40	0.51			0.67	0.45		0.12	0.06		0.41	0.25
Control Delay	34.2	18.4			60.7	8.4		34.2	0.5		43.0	1.8
Queue Delay	0.0	0.2			0.0	0.1		0.0	0.0		0.0	0.0
Total Delay	34.2	18.6			60.7	8.5		34.2	0.5		43.0	1.8
LOS	C	B			E	A		C	A		D	A
Approach Delay		19.6				10.9			17.3			18.1
Approach LOS		B				B			B			B
Queue Length 50th (ft)	30	241			38	105		8	0		26	0
Queue Length 95th (ft)	64	341			m67	122		25	0		59	0
Internal Link Dist (ft)		258				211			28			329
Turn Bay Length (ft)					50						126	
Base Capacity (vph)	198	2177			104	3262		381	539		386	581
Starvation Cap Reductn	0	381			0	677		0	0		0	0
Spillback Cap Reductn	0	0			0	49		0	0		0	2
Storage Cap Reductn	0	0			0	0		0	0		0	0
Reduced v/c Ratio	0.38	0.61			0.67	0.57		0.04	0.03		0.14	0.14

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 7 (9%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 14.9 Intersection LOS: B
Intersection Capacity Utilization 55.2% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Goodwill Drive/Commercial Parkway & Route 1 (North Main Street) #1



Lane Group	SBR
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

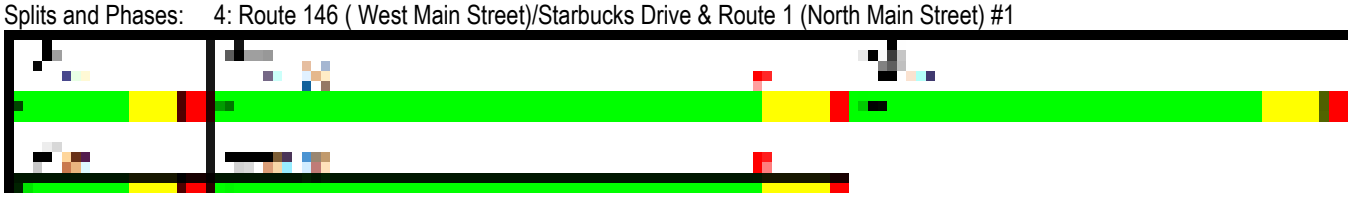
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	700	345	15	920	60	495	30	15	0	0	0
Future Volume (vph)	70	700	345	15	920	60	495	30	15	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	16	12	12	12
Storage Length (ft)	0		90	50		210	305		124	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.991				0.850			
Flt Protected	0.950			0.950			0.950	0.958				
Satd. Flow (prot)	1752	3505	1568	1752	3473	0	1641	1655	1812	0	0	0
Flt Permitted	0.950			0.950			0.950	0.958				
Satd. Flow (perm)	1752	3505	1568	1752	3473	0	1641	1655	1812	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			375		10				95			
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		291			289			565			121	
Travel Time (s)		6.6			6.6			11.0			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	2%	2%	2%
Adj. Flow (vph)	76	761	375	16	1000	65	538	33	16	0	0	0
Shared Lane Traffic (%)							47%					
Lane Group Flow (vph)	76	761	375	16	1065	0	285	286	16	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	Perm			
Protected Phases	1	6	4	5	2		4	4				
Permitted Phases			6		2				4			
Detector Phase	1	6	4	5	2		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	15.0	9.0	3.0	15.0		9.0	9.0	9.0			
Minimum Split (s)	7.8	23.2	14.5	7.8	23.2		14.5	14.5	14.5			
Total Split (s)	12.0	38.0	30.0	12.0	38.0		30.0	30.0	30.0			
Total Split (%)	15.0%	47.5%	37.5%	15.0%	47.5%		37.5%	37.5%	37.5%			
Maximum Green (s)	7.2	32.8	24.5	7.2	32.8		24.5	24.5	24.5			
Yellow Time (s)	3.0	4.1	3.8	3.0	4.1		3.8	3.8	3.8			
All-Red Time (s)	1.8	1.1	1.7	1.8	1.1		1.7	1.7	1.7			
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.8	5.2	5.5	4.8	5.2		5.5	5.5	5.5			
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	3.0	1.0	1.0	3.0		1.0	1.0	1.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	C-Max	None	None	C-Max		None	None	None			
Act Effct Green (s)	6.3	49.4	76.8	4.3	42.1		17.8	17.8	17.8			
Actuated g/C Ratio	0.08	0.62	0.96	0.05	0.53		0.22	0.22	0.22			
v/c Ratio	0.55	0.35	0.25	0.17	0.58		0.78	0.78	0.03			
Control Delay	58.3	6.0	0.3	39.6	16.6		43.9	43.4	0.1			
Queue Delay	0.0	0.2	0.0	0.0	0.0		0.0	0.0	0.0			
Total Delay	58.3	6.1	0.4	39.6	16.6		43.9	43.4	0.1			
LOS	E	A	A	D	B		D	D	A			
Approach Delay		7.6			16.9			42.5				
Approach LOS		A			B			D				
Queue Length 50th (ft)	41	37	0	8	193		141	141	0			
Queue Length 95th (ft)	m81	88	0	26	303		207	207	0			
Internal Link Dist (ft)		211			209			485			41	
Turn Bay Length (ft)			90	50			305		124			
Base Capacity (vph)	162	2165	1514	157	1833		502	506	620			
Starvation Cap Reductn	0	548	158	0	0		0	0	0			
Spillback Cap Reductn	0	0	0	0	0		0	0	0			
Storage Cap Reductn	0	0	0	0	0		0	0	0			
Reduced v/c Ratio	0.47	0.47	0.28	0.10	0.58		0.57	0.57	0.03			

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow, Master Intersection			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 58.6%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Route 146 (West Main Street)/Starbucks Drive & Route 1 (North Main Street) #1

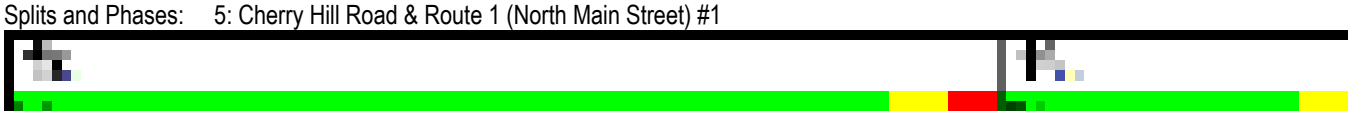


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	680	20	30	880	30	20	20	50	50	30	100
Future Volume (vph)	20	680	20	30	880	30	20	20	50	50	30	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	315		0	27		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	15			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.995			0.926				0.850
Flt Protected	0.950			0.950				0.989			0.970	
Satd. Flow (prot)	1694	1837	0	1694	1835	0	0	1657	0	0	1755	1538
Flt Permitted	0.191			0.314				0.915			0.770	
Satd. Flow (perm)	341	1837	0	560	1835	0	0	1533	0	0	1393	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			4			54				109
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1060			2243			428			195	
Travel Time (s)		24.1			51.0			11.7			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	22	739	22	33	957	33	22	22	54	54	33	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	761	0	33	990	0	0	98	0	0	87	109
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Detector Phase	2	2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	27.5	27.5		27.5	27.5		11.3	11.3		11.3	11.3	11.3
Total Split (s)	67.5	67.5		67.5	67.5		24.3	24.3		24.3	24.3	24.3
Total Split (%)	73.5%	73.5%		73.5%	73.5%		26.5%	26.5%		26.5%	26.5%	26.5%
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	20.0
Yellow Time (s)	4.1	4.1		4.1	4.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.5	7.5		7.5	7.5			4.3			4.3	4.3
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Act Effct Green (s)	52.0	52.0		52.0	52.0			10.2			10.2	10.2
Actuated g/C Ratio	0.70	0.70		0.70	0.70			0.14			0.14	0.14
v/c Ratio	0.09	0.59		0.08	0.77			0.38			0.46	0.36
Control Delay	5.0	8.2		4.5	12.6			21.4			39.6	10.6
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	5.0	8.2		4.5	12.6			21.4			39.6	10.6
LOS	A	A		A	B			C			D	B
Approach Delay		8.1			12.4			21.4			23.5	
Approach LOS		A			B			C			C	
Queue Length 50th (ft)	3	143		4	236			19			39	0
Queue Length 95th (ft)	11	278		14	481			64			87	43
Internal Link Dist (ft)		980			2163			348			115	
Turn Bay Length (ft)	315			27								
Base Capacity (vph)	281	1515		461	1513			460			382	501
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.08	0.50		0.07	0.65			0.21			0.23	0.22

Intersection Summary			
Area Type:	Other		
Cycle Length: 91.8			
Actuated Cycle Length: 74.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 73.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 5: Cherry Hill Road & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	385	310	40	75	345	340	75	445	70	260	380	550
Future Volume (vph)	385	310	40	75	345	340	75	445	70	260	380	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.983				0.850		0.980				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3286	1813	0	1694	1845	1516	1728	3386	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.240			0.216		
Satd. Flow (perm)	3286	1813	0	1694	1845	1516	436	3386	0	393	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		7						17				316
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		361			1088			356			855	
Travel Time (s)		8.2			24.7			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	418	337	43	82	375	370	82	484	76	283	413	598
Shared Lane Traffic (%)												
Lane Group Flow (vph)	418	380	0	82	375	370	82	560	0	283	413	598
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	15.0	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.3	11.3
Total Split (s)	20.3	35.4		20.3	35.4	14.0	14.0	25.1		14.0	25.1	20.3
Total Split (%)	21.4%	37.3%		21.4%	37.3%	14.8%	14.8%	26.5%		14.8%	26.5%	21.4%
Maximum Green (s)	15.0	30.0		15.0	30.0	10.0	10.0	20.0		10.0	20.0	15.0
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	Min		None	Min	None	None	Min		None	None	None
Act Effct Green (s)	14.5	27.9		9.6	20.3	35.8	26.8	17.7		31.0	22.1	41.8
Actuated g/C Ratio	0.18	0.34		0.12	0.25	0.43	0.32	0.21		0.38	0.27	0.51
v/c Ratio	0.72	0.62		0.42	0.83	0.56	0.31	0.76		0.91	0.82	0.64
Control Delay	41.8	29.7		42.1	46.1	21.7	20.7	37.8		57.4	47.0	11.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	41.8	29.7		42.1	46.1	21.7	20.7	37.8		57.4	47.0	11.7
LOS	D	C		D	D	C	C	D		E	D	B
Approach Delay		36.0			34.8			35.6			33.0	
Approach LOS		D			C			D			C	
Queue Length 50th (ft)	106	170		40	188	143	26	138		102	207	95
Queue Length 95th (ft)	#194	288		89	292	231	64	222		#288	#448	268
Internal Link Dist (ft)		281			1008			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	603	685		310	677	657	310	841		310	503	947
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.69	0.55		0.26	0.55	0.56	0.26	0.67		0.91	0.82	0.63

Intersection Summary			
Area Type:	Other		
Cycle Length: 94.8			
Actuated Cycle Length: 82.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 34.6		Intersection LOS: C	
Intersection Capacity Utilization 74.6%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	0	465	0	0	0	0	790	380	190	725	0
Future Volume (vph)	140	0	465	0	0	0	0	790	380	190	725	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.951				
Flt Protected	0.950	0.950								0.950		
Satd. Flow (prot)	1681	1681	1583	0	0	0	0	3399	0	1787	3574	0
Flt Permitted	0.950	0.950								0.107		
Satd. Flow (perm)	1681	1681	1583	0	0	0	0	3399	0	201	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			219					81				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			727			855			456	
Travel Time (s)		21.2			16.5			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	152	0	505	0	0	0	0	859	413	207	788	0
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	76	76	505	0	0	0	0	1272	0	207	788	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					23.1				
Total Split (s)	31.6	31.6	31.6					35.1				
Total Split (%)	31.0%	31.0%	31.0%					34.4%				
Maximum Green (s)	25.0	25.0	25.0					30.0				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					Min				

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	35.4
Total Split (%)	35%
Maximum Green (s)	29.0
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	25.0	25.0	25.0					30.0		65.4	65.4	
Actuated g/C Ratio	0.24	0.24	0.24					0.29		0.64	0.64	
v/c Ratio	0.18	0.18	0.91					1.21		1.62	0.34	
Control Delay	32.0	32.0	44.4					133.1		322.7	3.2	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.2	
Total Delay	32.0	32.0	44.4					133.1		322.7	3.4	
LOS	C	C	D					F		F	A	
Approach Delay		41.5						133.1			69.8	
Approach LOS		D						F			E	
Queue Length 50th (ft)	41	41	194					~515		~195	20	
Queue Length 95th (ft)	82	82	#399					#651		m#320	51	
Internal Link Dist (ft)		853			647			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	411	411	552					1055		128	2289	
Starvation Cap Reductn	0	0	0					0		0	681	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.18	0.18	0.91					1.21		1.62	0.49	

Intersection Summary			
Area Type:	Other		
Cycle Length: 102.1			
Actuated Cycle Length: 102.1			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 2.18			
Intersection Signal Delay: 91.0		Intersection LOS: F	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp

Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	470	0	75	570	360	0	0	445	290
Future Volume (vph)	0	0	0	470	0	75	570	360	0	0	445	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.941	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3363	0
Flt Permitted				0.950	0.950		0.251					
Satd. Flow (perm)	0	0	0	1698	1698	1599	472	3574	0	0	3363	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						93					148	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	511	0	82	620	391	0	0	484	315
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	255	256	82	620	391	0	0	799	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					23.1	
Total Split (s)				35.4	35.4	35.4					35.1	
Total Split (%)				34.7%	34.7%	34.7%					34.4%	
Maximum Green (s)				29.0	29.0	29.0					30.0	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					Min	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	31.6
Total Split (%)	31%
Maximum Green (s)	25.0
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				29.0	29.0	29.0	61.6	61.6			30.0	
Actuated g/C Ratio				0.28	0.28	0.28	0.60	0.60			0.29	
v/c Ratio				0.53	0.53	0.16	2.18	0.18			0.73	
Control Delay				35.6	35.6	5.6	551.8	1.0			30.8	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				35.6	35.6	5.6	551.8	1.0			30.8	
LOS				D	D	A	F	A			C	
Approach Delay					31.5			338.8			30.8	
Approach LOS					C			F			C	
Queue Length 50th (ft)				147	147	0	~674	5			202	
Queue Length 95th (ft)				232	232	29	m#580	m4			273	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				482	482	520	284	2156			1092	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.53	0.53	0.16	2.18	0.18			0.73	

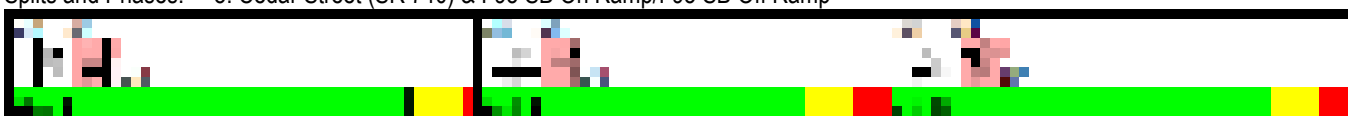
Intersection Summary			
Area Type:	Other		
Cycle Length: 102.1			
Actuated Cycle Length: 102.1			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 2.18			
Intersection Signal Delay: 160.5		Intersection LOS: F	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp



Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Arterial Level of Service: EB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	III	30	7.3	13.9	21.2	0.05	8.0	F
Branford Connector	III	30	14.1	4.9	19.0	0.10	19.0	C
Goodwill Drive	III	30	9.9	18.4	28.3	0.06	8.1	F
Route 146 (West Mai	III	30	8.5	6.0	14.5	0.06	13.7	E
Cherry Hill Road	III	30	32.4	8.2	40.6	0.26	22.7	C
Cedar Street (SR 740	III	30	62.6	29.7	92.3	0.49	19.2	C
Total	III		134.8	81.1	215.9	1.02	16.9	D

Arterial Level of Service: WB #1

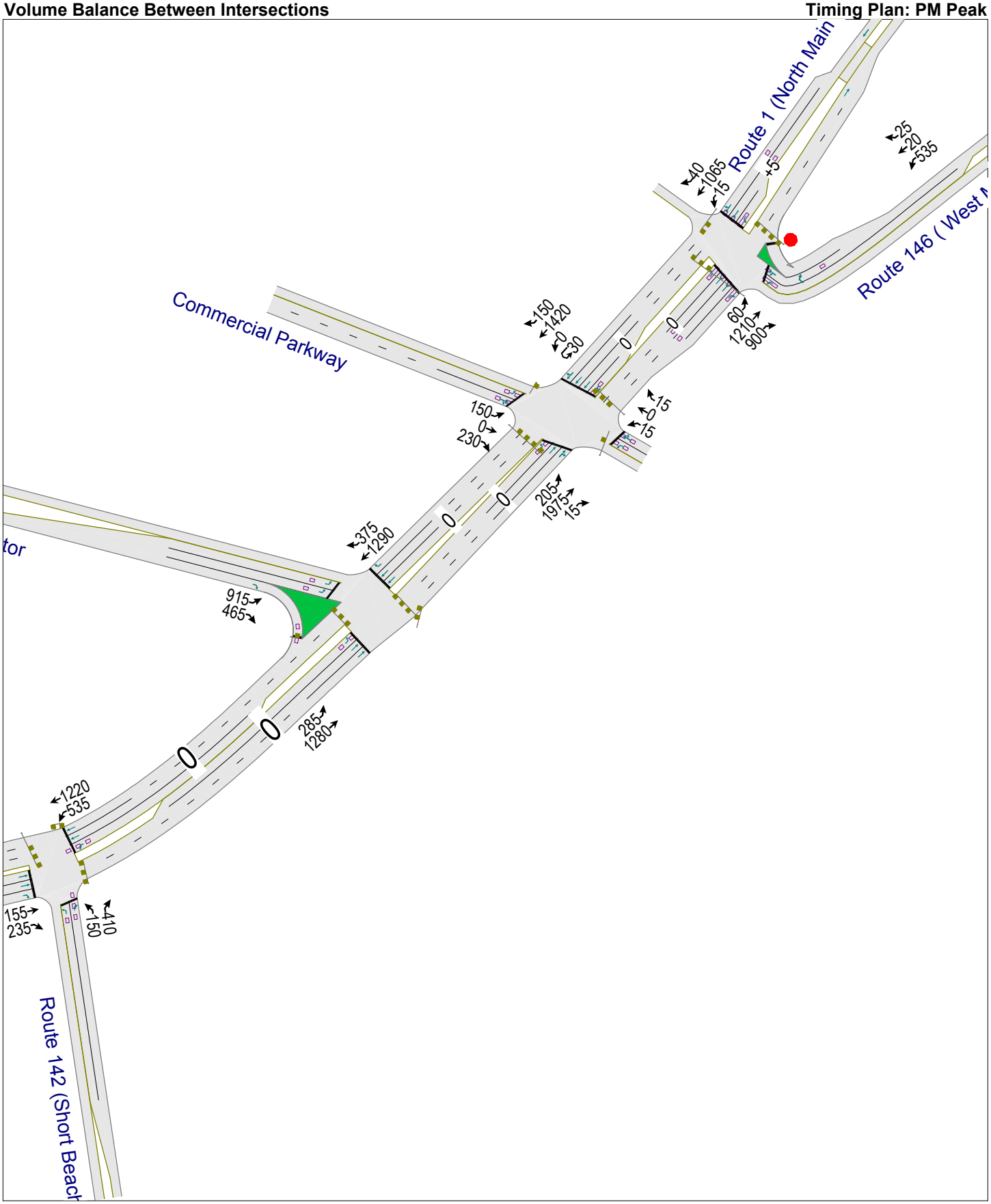
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cedar Street (SR 740	III	30	26.2	46.1	72.3	0.21	10.3	E
Cherry Hill Road	III	30	62.6	12.6	75.2	0.49	23.6	C
Starbucks Drive	III	30	32.4	16.6	49.0	0.26	18.8	C
Commercial Parkway	III	30	8.5	8.4	16.9	0.06	11.7	E
Branford Connector	III	30	9.9	15.8	25.7	0.06	9.0	F
Route 142 (Short Bea	III	30	14.1	19.6	33.7	0.10	10.7	E
Total	III		153.7	119.1	272.8	1.17	15.5	D

Arterial Level of Service: NB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	37.8	55.7	0.07	4.4	F
I-95 NB On Ramp	IV	30	24.3	133.1	157.4	0.16	3.7	F
I-95 SB Off Ramp	IV	30	15.5	1.0	16.5	0.09	18.8	C
Total	IV		57.7	171.9	229.6	0.32	5.0	F

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	30.8	50.6	0.11	7.8	E
I-95 NB Off Ramp	IV	30	15.5	3.2	18.7	0.09	16.6	C
Route 1 (North Main	IV	30	24.3	47.0	71.3	0.16	8.2	E
Total	IV		59.6	81.0	140.6	0.36	9.2	D


Route 1 (North Main
Route 146 (West
Commercial Parkway
Route 142 (Short Beach
tor
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15
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535
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15
205
1975
15
375
1290
915
465
285
1280
1220
535
155
235
410
150


Cherry Hill Road
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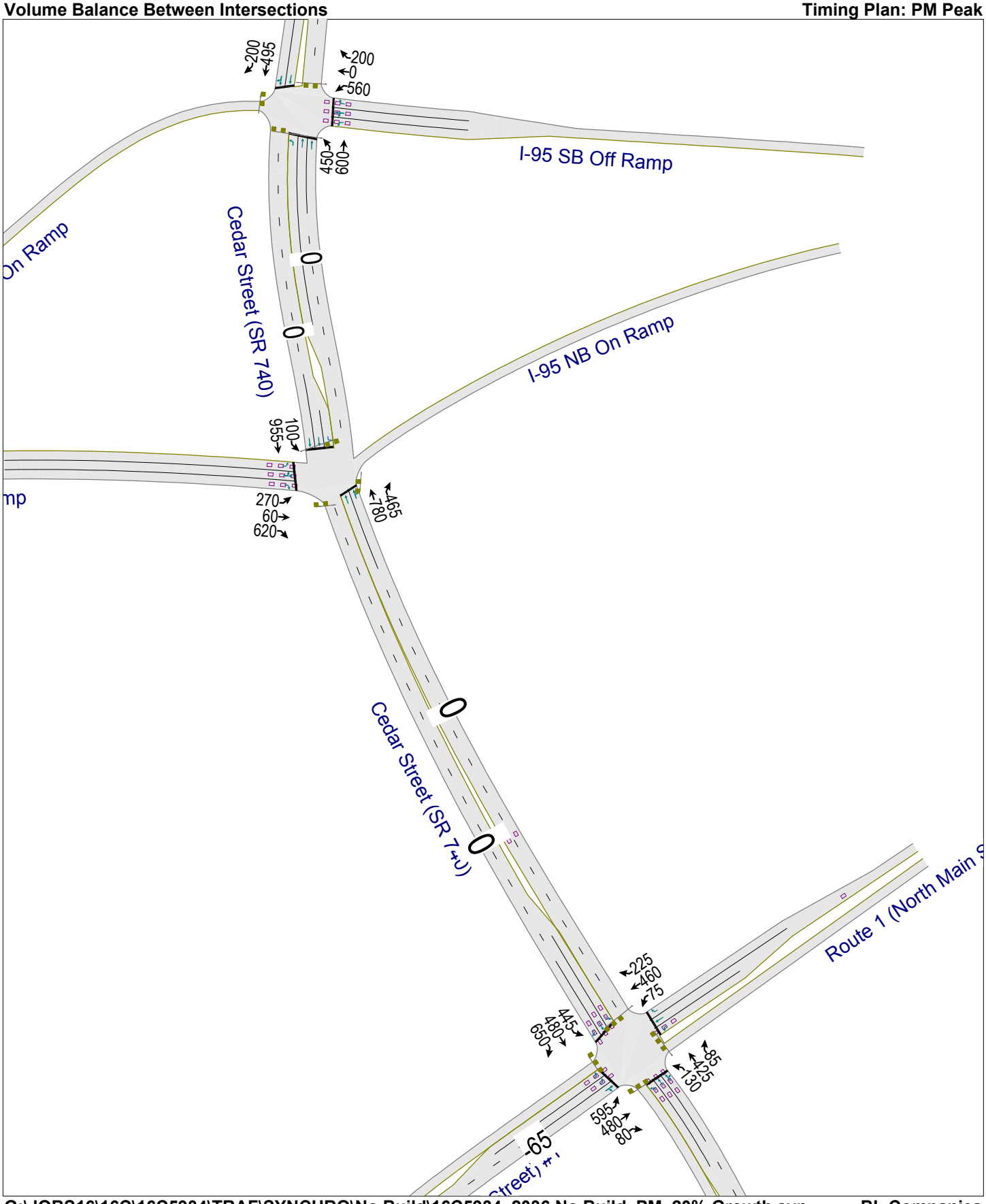
Cherry Hill Road
Main Street) #1


200
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I-95 SB Off Ramp
On Ramp
Cedar Street (SR 740)
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I-95 NB On Ramp
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620
465
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Cedar Street (SR 740)
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Route 1 (North Main S
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460
75
445
480
650
85
435
150
595
480
80
65
Street)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1155	235	535	1220	150	410
Future Volume (vph)	1155	235	535	1220	150	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	290		250	0
Storage Lanes		1	1		1	1
Taper Length (ft)			25		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3574	1599	1787	3574	1728	1546
Flt Permitted			0.112		0.950	
Satd. Flow (perm)	3574	1599	211	3574	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		162				2
Link Speed (mph)	40			30	30	
Link Distance (ft)	250			529	434	
Travel Time (s)	4.3			12.0	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	1255	255	582	1326	163	446
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1255	255	582	1326	163	446
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	30.0	23.0	37.0	30.0	23.0	37.0
Total Split (%)	33.3%	25.6%	41.1%	33.3%	25.6%	41.1%
Maximum Green (s)	24.9	19.0	33.0	24.9	19.0	33.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	35.6	53.6	65.2	35.6	12.8	45.3
Actuated g/C Ratio	0.40	0.60	0.72	0.40	0.14	0.50
v/c Ratio	0.89	0.25	0.90	0.94	0.66	0.57
Control Delay	37.5	4.6	17.8	33.9	49.0	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	37.5	4.6	17.8	33.9	49.0	17.8
LOS	D	A	B	C	D	B
Approach Delay	32.0			29.0	26.2	
Approach LOS	C			C	C	
Queue Length 50th (ft)	350	22	64	426	89	162
Queue Length 95th (ft)	#608	63	m38	m#526	144	190
Internal Link Dist (ft)	170			449	354	
Turn Bay Length (ft)			290		250	
Base Capacity (vph)	1415	1116	739	1415	364	859
Starvation Cap Reductn	0	0	1	0	0	0
Spillback Cap Reductn	2	0	0	0	0	78
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.23	0.79	0.94	0.45	0.57

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 53 (59%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 29.7		Intersection LOS: C	
Intersection Capacity Utilization 80.8%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (West Main Street) #1

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	285	1280	1290	375	915	465
Future Volume (vph)	285	1280	1290	375	915	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	320			0	212	124
Storage Lanes	1			1	2	0
Taper Length (ft)	25				235	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	3574	3574	1599	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1787	3574	3574	1599	3433	1583
Right Turn on Red				No		Yes
Satd. Flow (RTOR)						349
Link Speed (mph)		40	40		45	
Link Distance (ft)		529	338		838	
Travel Time (s)		9.0	5.8		12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Adj. Flow (vph)	310	1391	1402	408	995	505
Shared Lane Traffic (%)						
Lane Group Flow (vph)	310	1391	1402	408	995	505
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	1 2	2	4	4	4
Permitted Phases				2		
Detector Phase	1	1 2	2	4	4	4
Switch Phase						
Minimum Initial (s)	5.0		15.0	9.0	9.0	9.0
Minimum Split (s)	10.0		22.6	14.6	14.6	14.6
Total Split (s)	20.0		37.0	33.0	33.0	33.0
Total Split (%)	22.2%		41.1%	36.7%	36.7%	36.7%
Maximum Green (s)	15.0		32.4	27.4	27.4	27.4
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6
All-Red Time (s)	1.4		1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		4.6	5.6	5.6	5.6
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		0.2	2.0	2.0	2.0
Recall Mode	None		C-Max	None	None	None

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Act Effct Green (s)	15.1	52.1	32.4	64.3	27.3	27.3
Actuated g/C Ratio	0.17	0.58	0.36	0.71	0.30	0.30
v/c Ratio	1.04	0.67	1.09	0.36	0.96	0.70
Control Delay	78.3	16.8	64.7	2.0	50.9	14.3
Queue Delay	0.0	1.7	3.9	1.0	43.2	0.1
Total Delay	78.3	18.5	68.6	3.0	94.1	14.4
LOS	E	B	E	A	F	B
Approach Delay		29.4	53.8		67.3	
Approach LOS		C	D		E	
Queue Length 50th (ft)	~195	365	~485	9	284	69
Queue Length 95th (ft)	m#254	m451	#586	8	#411	189
Internal Link Dist (ft)		449	258		758	
Turn Bay Length (ft)	320				212	124
Base Capacity (vph)	299	2068	1286	1144	1045	724
Starvation Cap Reductn	0	472	0	476	0	0
Spillback Cap Reductn	0	386	11	0	141	5
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.87	1.10	0.61	1.10	0.70

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 9 (10%), Referenced to phase 2:EBWB, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 49.6 Intersection LOS: D
Intersection Capacity Utilization 90.2% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Route 1 (West Main Street) #1 & Branford Connector

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	205	1975	15	30	0	1420	150	15	0	15	150	0
Future Volume (vph)	205	1975	15	30	0	1420	150	15	0	15	150	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0		50		0	0		0	126	
Storage Lanes	1		0		1		0	1		0	0	
Taper Length (ft)	25				50			25			25	
Lane Util. Factor	1.00	0.95	0.95	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.986			0.850			0.850
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1787	3571	0	0	1770	5064	0	1787	1599	0	1770	1583
Flt Permitted	0.950				0.571			0.364			0.747	
Satd. Flow (perm)	1787	3571	0	0	1064	5064	0	685	1599	0	1391	1583
Right Turn on Red			Yes				No			Yes		
Satd. Flow (RTOR)		1							171			247
Link Speed (mph)		40				40			30			30
Link Distance (ft)		338				291			108			409
Travel Time (s)		5.8				5.0			2.5			9.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	1%	1%	1%	1%	1%	1%	2%	2%
Adj. Flow (vph)	223	2147	16	33	0	1543	163	16	0	16	163	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	2163	0	0	33	1706	0	16	16	0	163	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Turn Type	Prot	NA		custom	Prot	NA		Perm	NA		Perm	NA
Protected Phases	1	6			5	2			4			4
Permitted Phases				5				4	4		4	
Detector Phase	1	6		5	5	2		4	4		4	4
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	3.0	15.0		7.0	7.0		7.0	7.0
Minimum Split (s)	8.0	20.1		8.0	8.0	22.5		13.7	13.7		13.7	13.7
Total Split (s)	16.0	44.0		16.0	16.0	44.0		30.0	30.0		30.0	30.0
Total Split (%)	17.8%	48.9%		17.8%	17.8%	48.9%		33.3%	33.3%		33.3%	33.3%
Maximum Green (s)	11.0	38.9		11.0	11.0	38.9		23.3	23.3		23.3	23.3
Yellow Time (s)	3.0	4.1		3.0	3.0	4.1		3.3	3.3		3.3	3.3
All-Red Time (s)	2.0	1.0		2.0	2.0	1.0		3.4	3.4		3.4	3.4
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.1			5.0	5.1		6.7	6.7		6.7	6.7
Lead/Lag	Lead	Lag		Lead	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		1.0	1.0		1.0	1.0
Recall Mode	None	C-Max		None	None	C-Max		None	None		None	None

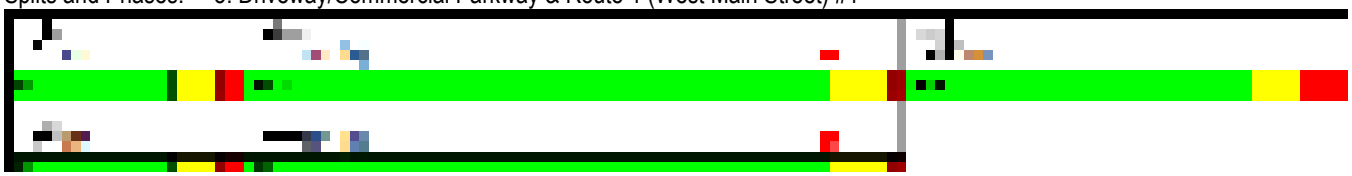
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	230
Future Volume (vph)	230
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.92
Heavy Vehicles (%)	2%
Adj. Flow (vph)	250
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Act Effct Green (s)	17.2	54.1			9.6	42.0		14.0	14.0		14.0	14.0
Actuated g/C Ratio	0.19	0.60			0.11	0.47		0.16	0.16		0.16	0.16
v/c Ratio	0.65	1.01			0.29	0.72		0.15	0.04		0.75	0.55
Control Delay	44.5	38.4			51.3	23.7		33.3	0.2		56.8	9.3
Queue Delay	0.0	17.8			1.2	4.9		0.0	0.0		0.2	0.0
Total Delay	44.5	56.2			52.5	28.5		33.3	0.2		57.0	9.3
LOS	D	E			D	C		C	A		E	A
Approach Delay		55.1				29.0			16.7			28.1
Approach LOS		E				C			B			C
Queue Length 50th (ft)	120	~772			20	347		8	0		90	1
Queue Length 95th (ft)	m#189	m#650			m33	295		25	0		145	60
Internal Link Dist (ft)		258				211			28			329
Turn Bay Length (ft)					50						126	
Base Capacity (vph)	341	2148			138	2361		177	540		360	592
Starvation Cap Reductn	0	103			0	582		0	0		0	0
Spillback Cap Reductn	0	18			35	269		0	0		21	12
Storage Cap Reductn	0	0			0	0		0	0		0	0
Reduced v/c Ratio	0.65	1.06			0.32	0.96		0.09	0.03		0.48	0.43

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 9 (10%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 42.4 Intersection LOS: D
Intersection Capacity Utilization 87.4% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Driveway/Commercial Parkway & Route 1 (West Main Street) #1



Lane Group	SBR
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

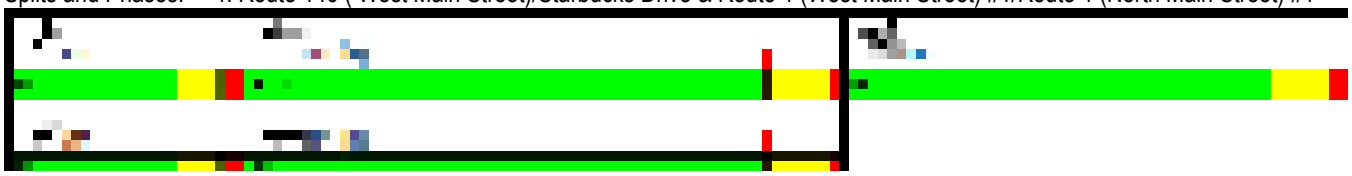
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1210	900	15	1065	40	535	20	25	0	0	0
Future Volume (vph)	60	1210	900	15	1065	40	535	20	25	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	16	12	12	12
Storage Length (ft)	0		90	50		210	305		124	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.995				0.850			
Flt Protected	0.950			0.950			0.950	0.956				
Satd. Flow (prot)	1787	3574	1599	1787	3556	0	1641	1652	1812	0	0	0
Flt Permitted	0.950			0.950			0.950	0.956				
Satd. Flow (perm)	1787	3574	1599	1787	3556	0	1641	1652	1812	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			926		5				85			
Link Speed (mph)		40			40			35			30	
Link Distance (ft)		291			289			565			121	
Travel Time (s)		5.0			4.9			11.0			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	65	1315	978	16	1158	43	582	22	27	0	0	0
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	65	1315	978	16	1201	0	303	301	27	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	Perm			
Protected Phases	1	6	4	5	2		4	4				
Permitted Phases			6		2				4			
Detector Phase	1	6	4	5	2		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	15.0	9.0	3.0	15.0		9.0	9.0	9.0			
Minimum Split (s)	7.8	20.2	14.5	7.8	20.2		14.5	14.5	14.5			
Total Split (s)	16.0	40.0	34.0	16.0	40.0		34.0	34.0	34.0			
Total Split (%)	17.8%	44.4%	37.8%	17.8%	44.4%		37.8%	37.8%	37.8%			
Maximum Green (s)	11.2	34.8	28.5	11.2	34.8		28.5	28.5	28.5			
Yellow Time (s)	3.0	4.1	3.8	3.0	4.1		3.8	3.8	3.8			
All-Red Time (s)	1.8	1.1	1.7	1.8	1.1		1.7	1.7	1.7			
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.8	5.2	5.5	4.8	5.2		5.5	5.5	5.5			
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	3.0	1.0	1.0	3.0		1.0	1.0	1.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	C-Max	None	None	C-Max		None	None	None			
Act Effct Green (s)	6.7	55.3	86.8	4.4	47.6		21.9	21.9	21.9			
Actuated g/C Ratio	0.07	0.61	0.96	0.05	0.53		0.24	0.24	0.24			
v/c Ratio	0.49	0.60	0.62	0.18	0.64		0.76	0.75	0.05			
Control Delay	50.5	10.1	5.0	45.3	19.6		43.5	42.7	0.2			
Queue Delay	0.0	2.0	0.2	0.0	3.3		0.0	0.0	0.0			
Total Delay	50.5	12.0	5.3	45.3	22.9		43.5	42.7	0.2			
LOS	D	B	A	D	C		D	D	A			
Approach Delay		10.3			23.2			41.2				
Approach LOS		B			C			D				
Queue Length 50th (ft)	40	142	7	9	256		166	165	0			
Queue Length 95th (ft)	m44	m180	m137	29	405		241	238	0			
Internal Link Dist (ft)		211			209			485			41	
Turn Bay Length (ft)			90	50			305		124			
Base Capacity (vph)	222	2194	1570	222	1881		519	523	631			
Starvation Cap Reductn	0	684	137	0	0		0	0	0			
Spillback Cap Reductn	0	0	0	0	562		0	0	0			
Storage Cap Reductn	0	0	0	0	0		0	0	0			
Reduced v/c Ratio	0.29	0.87	0.68	0.07	0.91		0.58	0.58	0.04			

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow, Master Intersection			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 18.7		Intersection LOS: B	
Intersection Capacity Utilization 67.6%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Route 146 (West Main Street)/Starbucks Drive & Route 1 (West Main Street) #1/Route 1 (North Main Street) #1

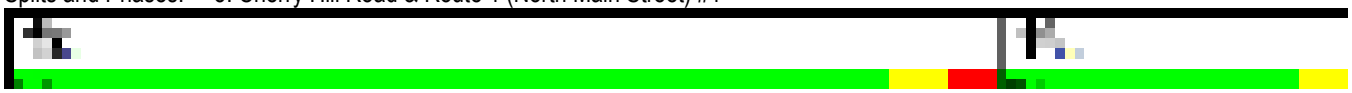


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	1130	15	70	1040	40	25	40	45	45	30	50
Future Volume (vph)	90	1130	15	70	1040	40	25	40	45	45	30	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	315		0	27		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	15			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.995			0.944				0.850
Flt Protected	0.950			0.950				0.989			0.971	
Satd. Flow (prot)	1728	1877	0	1728	1872	0	0	1756	0	0	1827	1599
Flt Permitted	0.120			0.081				0.908			0.670	
Satd. Flow (perm)	218	1877	0	147	1872	0	0	1612	0	0	1260	1599
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		1						35				54
Link Speed (mph)		40			45			25			25	
Link Distance (ft)		1060			2193			428			195	
Travel Time (s)		18.1			33.2			11.7			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	98	1228	16	76	1130	43	27	43	49	49	33	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	1244	0	76	1173	0	0	119	0	0	82	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Detector Phase	2	2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	27.5	27.5		27.5	27.5		11.3	11.3		11.3	11.3	11.3
Total Split (s)	67.5	67.5		67.5	67.5		24.3	24.3		24.3	24.3	24.3
Total Split (%)	73.5%	73.5%		73.5%	73.5%		26.5%	26.5%		26.5%	26.5%	26.5%
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	20.0
Yellow Time (s)	4.1	4.1		4.1	4.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.5	7.5		7.5	7.5			4.3			4.3	4.3
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Act Effct Green (s)	62.9	62.9		62.9	62.9			10.1			10.1	10.1
Actuated g/C Ratio	0.74	0.74		0.74	0.74			0.12			0.12	0.12
v/c Ratio	0.61	0.89		0.70	0.85			0.54			0.55	0.23
Control Delay	27.2	20.1		46.9	16.3			32.8			47.8	11.9
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	27.2	20.1		46.9	16.3			32.8			47.8	11.9
LOS	C	C		D	B			C			D	B
Approach Delay		20.6			18.2			32.8			33.5	
Approach LOS		C			B			C			C	
Queue Length 50th (ft)	19	396		17	338			41			40	0
Queue Length 95th (ft)	#122	#920		#59	#834			91			84	31
Internal Link Dist (ft)		980			2113			348			115	
Turn Bay Length (ft)	315			27								
Base Capacity (vph)	161	1391		109	1387			408			297	419
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.61	0.89		0.70	0.85			0.29			0.28	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 91.8			
Actuated Cycle Length: 84.9			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 20.7		Intersection LOS: C	
Intersection Capacity Utilization 97.5%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Cherry Hill Road & Route 1 (North Main Street) #1



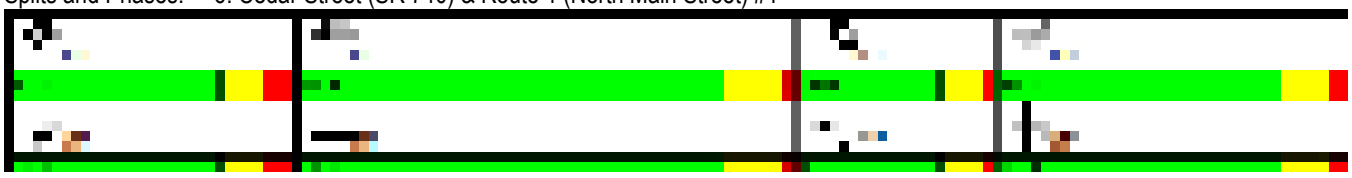
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	595	480	80	75	460	225	130	425	85	445	480	650
Future Volume (vph)	595	480	80	75	460	225	130	425	85	445	480	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.979				0.850		0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3351	1842	0	1728	1881	1546	1728	3369	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.208			0.231		
Satd. Flow (perm)	3351	1842	0	1728	1881	1546	378	3369	0	420	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		9						22				185
Link Speed (mph)		45			45			25			30	
Link Distance (ft)		406			451			356			855	
Travel Time (s)		6.2			6.8			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	647	522	87	82	500	245	141	462	92	484	522	707
Shared Lane Traffic (%)												
Lane Group Flow (vph)	647	609	0	82	500	245	141	554	0	484	522	707
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	6.7	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.1	11.3
Total Split (s)	20.3	35.4		20.3	35.4	14.0	14.0	25.1		14.0	25.1	20.3
Total Split (%)	21.4%	37.3%		21.4%	37.3%	14.8%	14.8%	26.5%		14.8%	26.5%	21.4%
Maximum Green (s)	15.0	30.0		15.0	30.0	10.0	10.0	20.0		10.0	20.0	15.0
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	Min		None	Min	None	None	Min		None	None	None
Act Effct Green (s)	15.1	33.4		9.7	25.4	40.9	29.5	19.2		31.3	20.1	40.3
Actuated g/C Ratio	0.17	0.37		0.11	0.28	0.46	0.33	0.21		0.35	0.22	0.45
v/c Ratio	1.15	0.88		0.44	0.94	0.35	0.54	0.75		1.65	1.24	0.89
Control Delay	122.3	44.3		45.8	58.6	17.3	27.9	39.5		331.6	159.7	33.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	122.3	44.3		45.8	58.6	17.3	27.9	39.5		331.6	159.7	33.1
LOS	F	D		D	E	B	C	D		F	F	C
Approach Delay		84.5			45.1			37.2			156.0	
Approach LOS		F			D			D			F	
Queue Length 50th (ft)	~239	334		46	278	88	55	155		~368	~395	299
Queue Length 95th (ft)	#357	#588		90	#450	144	101	220		#577	#606	#562
Internal Link Dist (ft)		326			371			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	563	691		290	632	704	279	772		293	421	796
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.15	0.88		0.28	0.79	0.35	0.51	0.72		1.65	1.24	0.89

Intersection Summary

Area Type: Other
Cycle Length: 94.8
Actuated Cycle Length: 89.7
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.65
Intersection Signal Delay: 97.2 Intersection LOS: F
Intersection Capacity Utilization 96.8% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	60	620	0	0	0	0	780	465	100	955	0
Future Volume (vph)	270	60	620	0	0	0	0	780	465	100	955	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.944				
Flt Protected	0.950	0.969								0.950		
Satd. Flow (prot)	1698	1732	1599	0	0	0	0	3374	0	1787	3574	0
Flt Permitted	0.950	0.969								0.099		
Satd. Flow (perm)	1698	1732	1599	0	0	0	0	3374	0	186	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128					122				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			714			855			456	
Travel Time (s)		21.2			16.2			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	293	65	674	0	0	0	0	848	505	109	1038	0
Shared Lane Traffic (%)	39%											
Lane Group Flow (vph)	179	179	674	0	0	0	0	1353	0	109	1038	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					20.1				
Total Split (s)	31.6	31.6	31.6					35.1				
Total Split (%)	31.0%	31.0%	31.0%					34.4%				
Maximum Green (s)	25.0	25.0	25.0					30.0				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					Min				

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	35.4
Total Split (%)	35%
Maximum Green (s)	29.0
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	25.0	25.0	25.0					30.0		65.4	65.4	
Actuated g/C Ratio	0.24	0.24	0.24					0.29		0.64	0.64	
v/c Ratio	0.43	0.42	1.38					1.26		0.92	0.45	
Control Delay	36.4	36.1	210.9					153.0		67.7	3.2	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.3	
Total Delay	36.4	36.1	210.9					153.0		67.7	3.5	
LOS	D	D	F					F		E	A	
Approach Delay		150.3						153.0			9.6	
Approach LOS		F						F			A	
Queue Length 50th (ft)	104	104	~523					~555		20	21	
Queue Length 95th (ft)	173	172	#747					#693		m#140	61	
Internal Link Dist (ft)		853			634			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	415	424	488					1077		119	2289	
Starvation Cap Reductn	0	0	0					0		0	543	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.43	0.42	1.38					1.26		0.92	0.59	

Intersection Summary			
Area Type:	Other		
Cycle Length: 102.1			
Actuated Cycle Length: 102.1			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.59			
Intersection Signal Delay: 105.6		Intersection LOS: F	
Intersection Capacity Utilization 74.5%		ICU Level of Service D	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp

Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	560	0	200	450	600	0	0	495	200
Future Volume (vph)	0	0	0	560	0	200	450	600	0	0	495	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.957	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3421	0
Flt Permitted				0.950	0.950		0.272					
Satd. Flow (perm)	0	0	0	1698	1698	1599	512	3574	0	0	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						217					60	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	609	0	217	489	652	0	0	538	217
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	304	305	217	489	652	0	0	755	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					20.1	
Total Split (s)				35.4	35.4	35.4					35.1	
Total Split (%)				34.7%	34.7%	34.7%					34.4%	
Maximum Green (s)				29.0	29.0	29.0					30.0	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					Min	

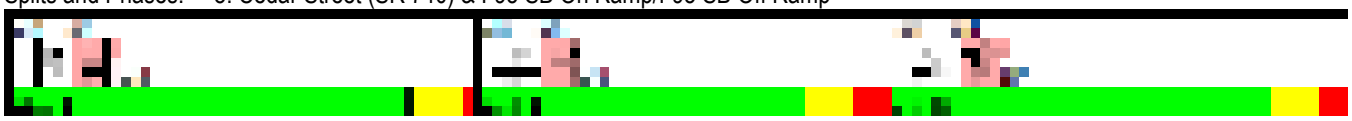
Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	31.6
Total Split (%)	31%
Maximum Green (s)	25.0
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				29.0	29.0	29.0	61.6	61.6			30.0	
Actuated g/C Ratio				0.28	0.28	0.28	0.60	0.60			0.29	
v/c Ratio				0.63	0.63	0.36	1.59	0.30			0.72	
Control Delay				38.8	38.8	5.7	284.9	1.6			34.2	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				38.8	38.8	5.7	284.9	1.6			34.2	
LOS				D	D	A	F	A			C	
Approach Delay					30.1			123.0			34.2	
Approach LOS					C			F			C	
Queue Length 50th (ft)				182	182	0	~471	12			213	
Queue Length 95th (ft)				280	281	54	m#408	m11			283	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				482	482	609	308	2156			1047	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.63	0.63	0.36	1.59	0.30			0.72	

Intersection Summary

Area Type: Other
Cycle Length: 102.1
Actuated Cycle Length: 102.1
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.59
Intersection Signal Delay: 70.2 Intersection LOS: E
Intersection Capacity Utilization 74.5% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp



Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Arterial Level of Service: EB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	III	40	5.4	37.5	42.9	0.05	4.0	F
Branford Connector	III	40	11.5	16.8	28.3	0.10	12.7	E
Driveway	III	40	7.4	38.4	45.8	0.06	5.0	F
Route 146 (West Mai	III	40	6.3	10.1	16.4	0.06	12.1	E
Cherry Hill Road	III	37	30.7	20.1	50.8	0.26	18.1	C
Cedar Street (SR 740	III	32	62.5	44.3	106.8	0.49	16.6	D
Total	III		123.8	167.2	291.0	1.01	12.5	E

Arterial Level of Service: WB #1

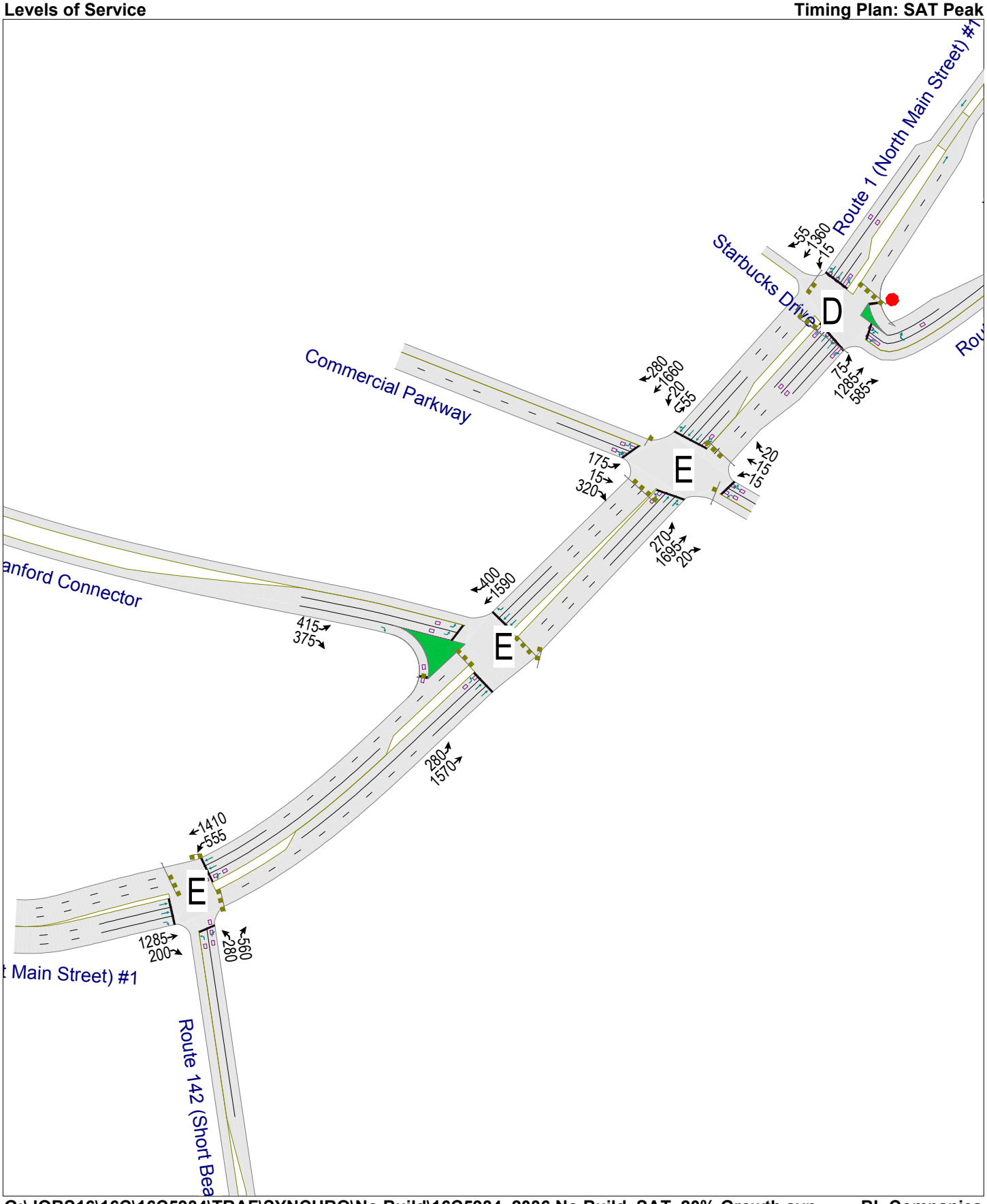
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cedar Street (SR 740	II	45	9.3	58.6	67.9	0.09	4.5	F
Cherry Hill Road	II	42	45.8	16.3	62.1	0.49	28.5	B
Starbucks Drive	II	32	32.4	19.6	52.0	0.26	17.7	D
Commercial Parkway	II	40	6.3	23.7	30.0	0.06	6.6	F
Branford Connector	II	40	7.4	64.7	72.1	0.06	3.2	F
Route 142 (Short Bea	II	30	14.1	33.9	48.0	0.10	7.5	F
Total	II		115.3	216.8	332.1	1.05	11.4	F

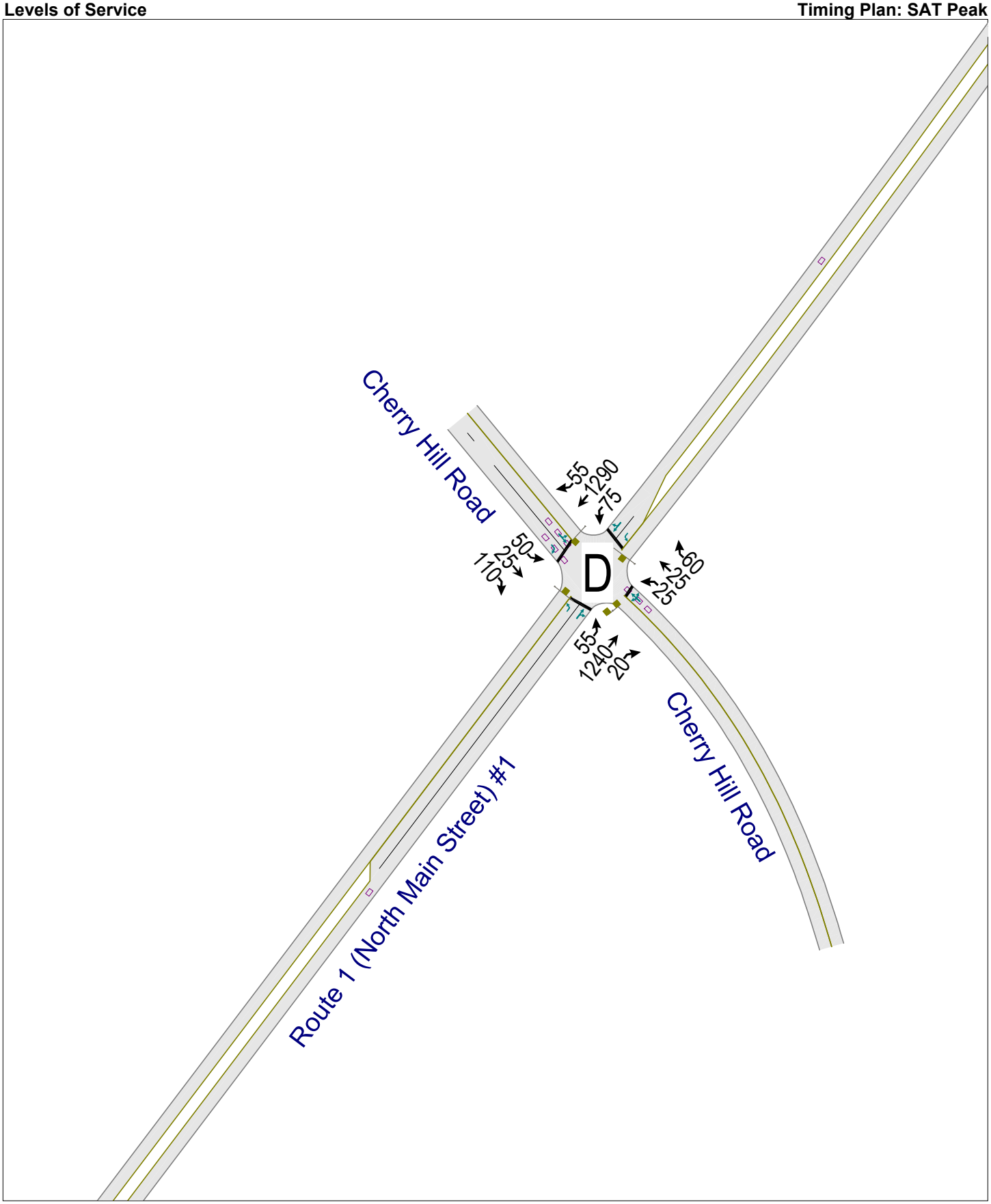
Arterial Level of Service: NB Cedar Street (SR 740)

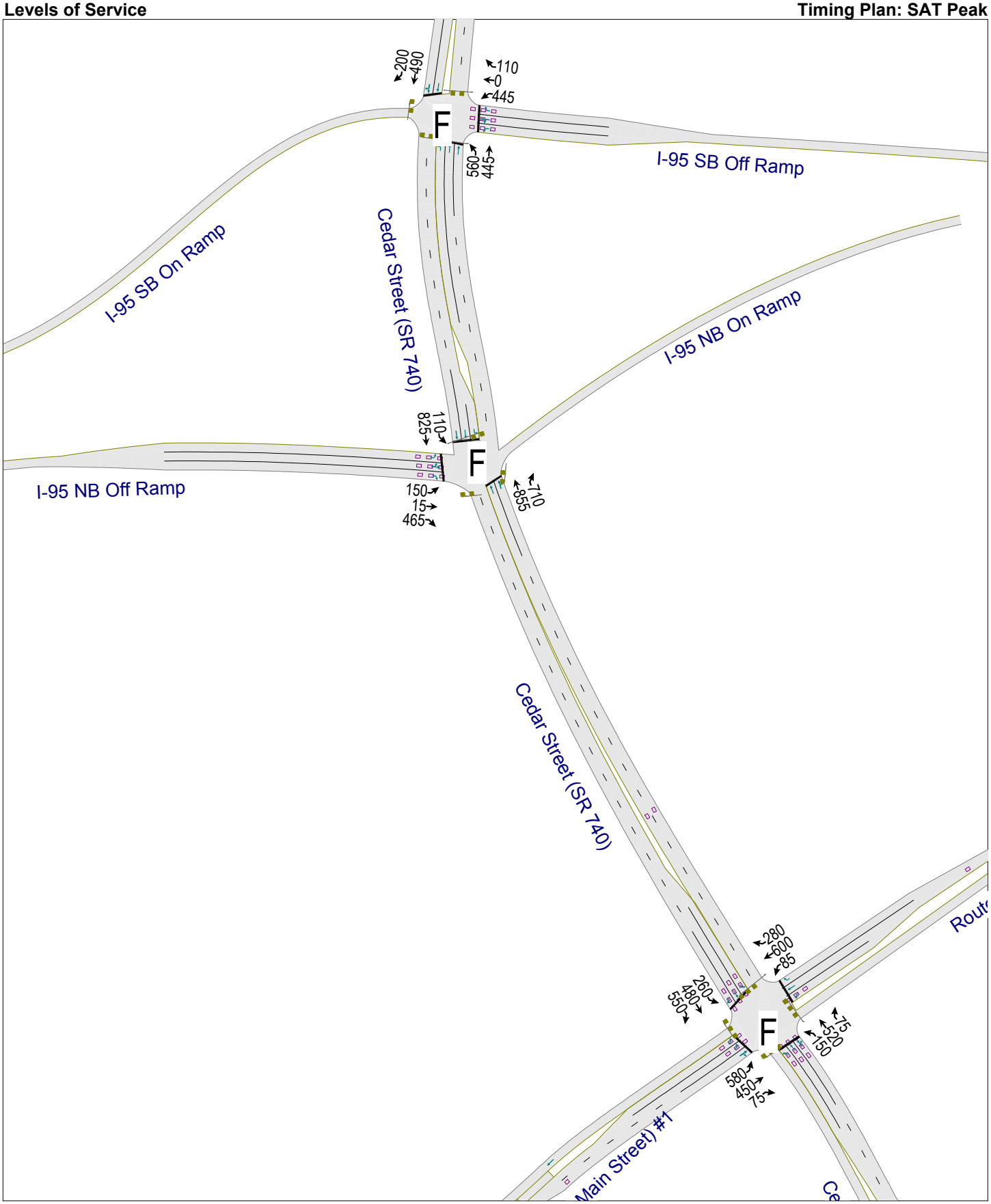
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	39.5	57.4	0.07	4.2	F
I-95 NB On Ramp	IV	30	24.3	153.0	177.3	0.16	3.3	F
I-95 SB Off Ramp	IV	30	15.5	1.6	17.1	0.09	18.2	C
Total	IV		57.7	194.1	251.8	0.32	4.5	F

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	34.2	54.0	0.11	7.3	E
I-95 NB Off Ramp	IV	30	15.5	3.2	18.7	0.09	16.6	C
Route 1 (North Main	IV	30	24.3	159.7	184.0	0.16	3.2	F
Total	IV		59.6	197.1	256.7	0.36	5.0	F


Route 1 (North Main Street) #1
Starbucks Drive
Commercial Parkway
anford Connector
t Main Street) #1
Route 142 (Short Bea
D
E
E
E
55
1360
15
280
1660
20
55
75
1285
585
175
15
320
20
15
15
270
1695
20
400
1590
415
375
280
1570
1410
555
1285
200
280
560


Cherry Hill Road
Route 1 (North Main Street) #1
Cherry Hill Road
D
55
1290
75
50
25
110
60
225
25
55
1240
20


I-95 SB On Ramp
Cedar Street (SR 740)
I-95 SB Off Ramp
I-95 NB On Ramp
I-95 NB Off Ramp
Cedar Street (SR 740)
Main Street) #1
F
F
F
200
490
110
0
445
560
445
110
825
150
15
465
710
855
280
600
85
260
480
550
75
525
150
580
450
75

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1285	200	555	1410	280	560
Future Volume (vph)	1285	200	555	1410	280	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	290		250	0
Storage Lanes		1	1		1	1
Taper Length (ft)			25		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3574	1599	1787	3574	1728	1546
Flt Permitted			0.138		0.950	
Satd. Flow (perm)	3574	1599	260	3574	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		61				5
Link Speed (mph)	40			30	30	
Link Distance (ft)	250			529	434	
Travel Time (s)	4.3			12.0	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	1397	217	603	1533	304	609
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1397	217	603	1533	304	609
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	34.0	24.0	22.0	34.0	24.0	22.0
Total Split (%)	42.5%	30.0%	27.5%	42.5%	30.0%	27.5%
Maximum Green (s)	28.9	20.0	18.0	28.9	20.0	18.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	28.9	51.2	50.8	28.9	17.2	42.0
Actuated g/C Ratio	0.36	0.64	0.64	0.36	0.22	0.52
v/c Ratio	1.08	0.21	1.07	1.19	0.82	0.75
Control Delay	77.2	4.3	58.0	109.4	48.0	21.9
Queue Delay	7.5	0.0	0.0	0.0	0.0	2.2
Total Delay	84.6	4.3	58.0	109.4	48.0	24.1
LOS	F	A	E	F	D	C
Approach Delay	73.8			94.9	32.1	
Approach LOS	E			F	C	
Queue Length 50th (ft)	~417	26	~278	~515	142	221
Queue Length 95th (ft)	#546	48	m#80	m356	#243	360
Internal Link Dist (ft)	170			449	354	
Turn Bay Length (ft)			290		250	
Base Capacity (vph)	1291	1099	562	1291	432	814
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	23	0	0	0	0	101
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.10	0.20	1.07	1.19	0.70	0.85

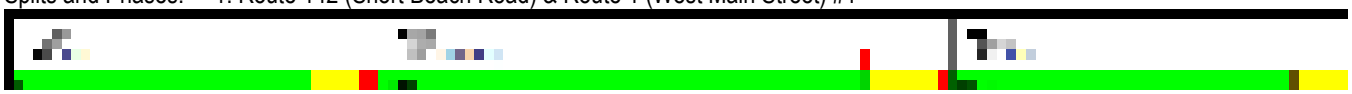
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 45 (56%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.19			
Intersection Signal Delay: 75.3		Intersection LOS: E	
Intersection Capacity Utilization 92.7%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (West Main Street) #1



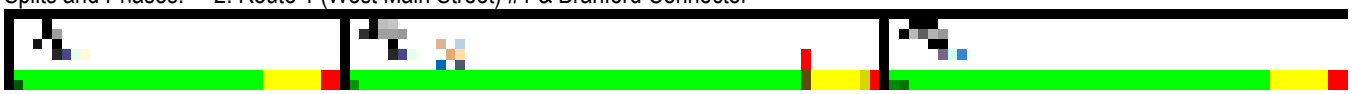
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	280	1570	1590	400	415	375
Future Volume (vph)	280	1570	1590	400	415	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	320			0	212	124
Storage Lanes	1			1	2	0
Taper Length (ft)	25				235	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	3574	3574	1599	3467	1599
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1787	3574	3574	1599	3467	1599
Right Turn on Red				No		Yes
Satd. Flow (RTOR)						386
Link Speed (mph)		40	40		45	
Link Distance (ft)		529	338		839	
Travel Time (s)		9.0	5.8		12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	304	1707	1728	435	451	408
Shared Lane Traffic (%)						
Lane Group Flow (vph)	304	1707	1728	435	451	408
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	1 2	2	4	4	4
Permitted Phases				2		
Detector Phase	1	1 2	2	4	4	4
Switch Phase						
Minimum Initial (s)	5.0		15.0	9.0	9.0	9.0
Minimum Split (s)	10.0		22.6	14.6	14.6	14.6
Total Split (s)	20.0		32.0	28.0	28.0	28.0
Total Split (%)	25.0%		40.0%	35.0%	35.0%	35.0%
Maximum Green (s)	15.0		27.4	22.4	22.4	22.4
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6
All-Red Time (s)	1.4		1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		4.6	5.6	5.6	5.6
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		0.2	2.0	2.0	2.0
Recall Mode	None		C-Max	None	None	None

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Act Effct Green (s)	20.8	53.8	28.3	48.6	15.6	15.6
Actuated g/C Ratio	0.26	0.67	0.35	0.61	0.20	0.20
v/c Ratio	0.65	0.71	1.37	0.45	0.67	0.65
Control Delay	22.0	11.3	185.0	1.4	34.3	9.3
Queue Delay	0.0	2.1	0.0	0.7	0.0	0.0
Total Delay	22.0	13.4	185.0	2.1	34.3	9.3
LOS	C	B	F	A	C	A
Approach Delay		14.7	148.2		22.4	
Approach LOS		B	F		C	
Queue Length 50th (ft)	105	370	~600	9	108	9
Queue Length 95th (ft)	m145	m410	m#607	m11	144	81
Internal Link Dist (ft)		449	258		759	
Turn Bay Length (ft)	320				212	124
Base Capacity (vph)	465	2401	1265	1105	970	725
Starvation Cap Reductn	0	518	0	359	0	0
Spillback Cap Reductn	0	100	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.91	1.37	0.58	0.46	0.56

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 10 (13%), Referenced to phase 2:EBWB, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.37
Intersection Signal Delay: 73.4 Intersection LOS: E
Intersection Capacity Utilization 84.0% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Route 1 (West Main Street) #1 & Branford Connector



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	270	1695	20	55	20	1660	280	15	15	20	175	15
Future Volume (vph)	270	1695	20	55	20	1660	280	15	15	20	175	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0		50		0	0		0	126	
Storage Lanes	1		0		1		0	1		0	0	
Taper Length (ft)	25				50			25			25	
Lane Util. Factor	1.00	0.95	0.95	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.978			0.913			0.857
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1787	3567	0	0	1787	5023	0	1787	1718	0	1787	1612
Flt Permitted	0.950				0.367			0.272			0.732	
Satd. Flow (perm)	1787	3567	0	0	690	5023	0	512	1718	0	1377	1612
Right Turn on Red			Yes				No			Yes		
Satd. Flow (RTOR)		2							22			193
Link Speed (mph)		40				40			30			30
Link Distance (ft)		338				291			108			409
Travel Time (s)		5.8				5.0			2.5			9.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	293	1842	22	60	22	1804	304	16	16	22	190	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	293	1864	0	0	82	2108	0	16	38	0	190	364
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Turn Type	Prot	NA		custom	Prot	NA		Perm	NA		Perm	NA
Protected Phases	1	6			5	2			4			4
Permitted Phases				5				4	4		4	
Detector Phase	1	6		5	5	2		4	4		4	4
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	3.0	15.0		7.0	7.0		7.0	7.0
Minimum Split (s)	8.0	20.1		8.0	8.0	20.1		13.7	13.7		13.7	13.7
Total Split (s)	12.0	38.0		12.0	12.0	38.0		30.0	30.0		30.0	30.0
Total Split (%)	15.0%	47.5%		15.0%	15.0%	47.5%		37.5%	37.5%		37.5%	37.5%
Maximum Green (s)	7.0	32.9		7.0	7.0	32.9		23.3	23.3		23.3	23.3
Yellow Time (s)	3.0	4.1		3.0	3.0	4.1		3.3	3.3		3.3	3.3
All-Red Time (s)	2.0	1.0		2.0	2.0	1.0		3.4	3.4		3.4	3.4
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.1			5.0	5.1		6.7	6.7		6.7	6.7
Lead/Lag	Lead	Lag		Lead	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		1.0	1.0		1.0	1.0
Recall Mode	None	C-Max		None	None	C-Max		None	None		None	None

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	320
Future Volume (vph)	320
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.92
Heavy Vehicles (%)	1%
Adj. Flow (vph)	348
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	

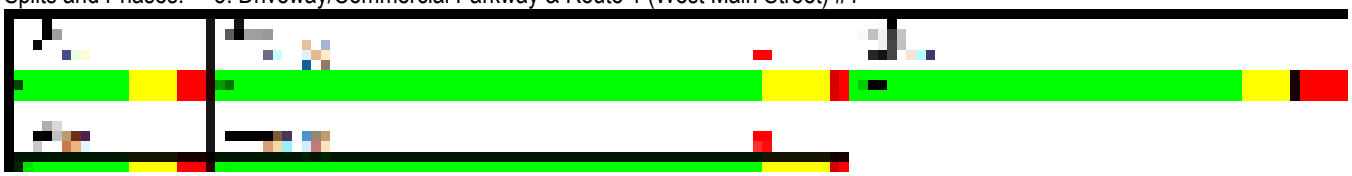
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Act Effct Green (s)	15.6	37.6			10.9	32.9		14.7	14.7		14.7	14.7
Actuated g/C Ratio	0.20	0.47			0.14	0.41		0.18	0.18		0.18	0.18
v/c Ratio	0.84	1.11			0.87	1.02		0.17	0.11		0.75	0.80
Control Delay	56.3	79.9			89.5	45.2		28.7	14.8		48.3	27.7
Queue Delay	0.0	0.2			38.9	32.0		0.0	0.1		1.1	0.2
Total Delay	56.3	80.0			128.4	77.2		28.7	14.8		49.4	27.8
LOS	E	F			F	E		C	B		D	C
Approach Delay		76.8				79.1			18.9			35.2
Approach LOS		E				E			B			D
Queue Length 50th (ft)	127	~562			45	~438		7	7		91	81
Queue Length 95th (ft)	m#347	#760			m#71	#538		22	27		143	160
Internal Link Dist (ft)		258				211			28			329
Turn Bay Length (ft)					50						126	
Base Capacity (vph)	348	1675			94	2065		149	515		401	606
Starvation Cap Reductn	0	86			0	548		0	0		0	0
Spillback Cap Reductn	0	0			15	503		0	97		76	19
Storage Cap Reductn	0	0			0	0		0	0		0	0
Reduced v/c Ratio	0.84	1.17			1.04	1.39		0.11	0.09		0.58	0.62

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 10 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 72.5 Intersection LOS: E
Intersection Capacity Utilization 87.9% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Driveway/Commercial Parkway & Route 1 (West Main Street) #1



Lane Group	SBR
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

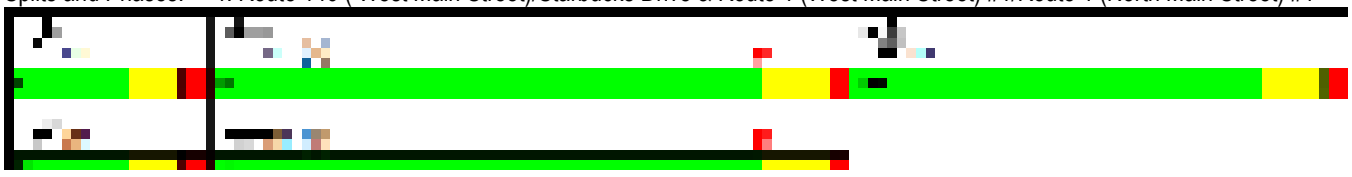
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	1285	585	15	1360	55	650	25	25	0	0	0
Future Volume (vph)	75	1285	585	15	1360	55	650	25	25	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	16	12	12	12
Storage Length (ft)	0		90	50		210	305		124	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.994				0.850			
Flt Protected	0.950			0.950			0.950	0.956				
Satd. Flow (prot)	1787	3574	1599	1787	3553	0	1641	1652	1812	0	0	0
Flt Permitted	0.950			0.950			0.950	0.956				
Satd. Flow (perm)	1787	3574	1599	1787	3553	0	1641	1652	1812	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			636		6				95			
Link Speed (mph)		40			40			35			30	
Link Distance (ft)		291			289			565			121	
Travel Time (s)		5.0			4.9			11.0			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	82	1397	636	16	1478	60	707	27	27	0	0	0
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	82	1397	636	16	1538	0	368	366	27	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	0.85	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	Perm			
Protected Phases	1	6	4	5	2		4	4				
Permitted Phases			6		2				4			
Detector Phase	1	6	4	5	2		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	15.0	9.0	3.0	15.0		9.0	9.0	9.0			
Minimum Split (s)	7.8	20.2	14.5	7.8	20.2		14.5	14.5	14.5			
Total Split (s)	12.0	38.0	30.0	12.0	38.0		30.0	30.0	30.0			
Total Split (%)	15.0%	47.5%	37.5%	15.0%	47.5%		37.5%	37.5%	37.5%			
Maximum Green (s)	7.2	32.8	24.5	7.2	32.8		24.5	24.5	24.5			
Yellow Time (s)	3.0	4.1	3.8	3.0	4.1		3.8	3.8	3.8			
All-Red Time (s)	1.8	1.1	1.7	1.8	1.1		1.7	1.7	1.7			
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.8	5.2	5.5	4.8	5.2		5.5	5.5	5.5			
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	3.0	1.0	1.0	3.0		1.0	1.0	1.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	C-Max	None	None	C-Max		None	None	None			
Act Effct Green (s)	6.2	46.1	76.8	4.3	38.9		21.1	21.1	21.1			
Actuated g/C Ratio	0.08	0.58	0.96	0.05	0.49		0.26	0.26	0.26			
v/c Ratio	0.60	0.68	0.41	0.16	0.89		0.85	0.84	0.05			
Control Delay	39.1	15.0	0.6	39.4	29.6		46.8	45.5	0.2			
Queue Delay	0.0	4.6	0.1	0.0	47.7		0.0	0.0	0.0			
Total Delay	39.1	19.5	0.7	39.4	77.3		46.8	45.5	0.2			
LOS	D	B	A	D	E		D	D	A			
Approach Delay		14.6			76.9			44.5				
Approach LOS		B			E			D				
Queue Length 50th (ft)	0	193	0	8	~401		176	174	0			
Queue Length 95th (ft)	m45	m197	m0	26	#583		#301	#284	0			
Internal Link Dist (ft)		211			209			485			41	
Turn Bay Length (ft)			90	50			305		124			
Base Capacity (vph)	160	2060	1549	160	1732		502	505	620			
Starvation Cap Reductn	0	580	160	0	0		0	0	0			
Spillback Cap Reductn	0	0	0	0	669		0	0	0			
Storage Cap Reductn	0	0	0	0	0		0	0	0			
Reduced v/c Ratio	0.51	0.94	0.46	0.10	1.45		0.73	0.72	0.04			

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 41.6		Intersection LOS: D	
Intersection Capacity Utilization 75.1%		ICU Level of Service D	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Route 146 (West Main Street)/Starbucks Drive & Route 1 (West Main Street) #1/Route 1 (North Main Street) #1

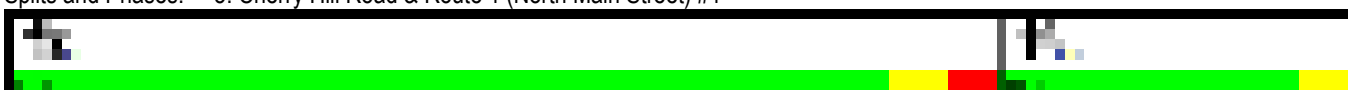


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	1240	20	75	1290	55	25	25	60	50	25	110
Future Volume (vph)	55	1240	20	75	1290	55	25	25	60	50	25	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	315		0	27		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	15			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.994			0.926				0.850
Flt Protected	0.950			0.950				0.989			0.968	
Satd. Flow (prot)	1728	1877	0	1728	1870	0	0	1723	0	0	1821	1599
Flt Permitted	0.065			0.065				0.908			0.650	
Satd. Flow (perm)	118	1877	0	118	1870	0	0	1582	0	0	1223	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5			60				62
Link Speed (mph)		40			45			25			25	
Link Distance (ft)		1060			2227			428			195	
Travel Time (s)		18.1			33.7			11.7			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	60	1348	22	82	1402	60	27	27	65	54	27	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	1370	0	82	1462	0	0	119	0	0	81	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Detector Phase	2	2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	27.5	27.5		27.5	27.5		11.3	11.3		11.3	11.3	11.3
Total Split (s)	67.5	67.5		67.5	67.5		24.3	24.3		24.3	24.3	24.3
Total Split (%)	73.5%	73.5%		73.5%	73.5%		26.5%	26.5%		26.5%	26.5%	26.5%
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	20.0
Yellow Time (s)	4.1	4.1		4.1	4.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.5	7.5		7.5	7.5			4.3			4.3	4.3
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Act Effct Green (s)	61.9	61.9		61.9	61.9			10.0			10.0	10.0
Actuated g/C Ratio	0.74	0.74		0.74	0.74			0.12			0.12	0.12
v/c Ratio	0.69	0.99		0.94	1.06			0.49			0.55	0.49
Control Delay	53.8	34.7		105.3	55.4			25.1			48.5	24.6
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	53.8	34.7		105.3	55.4			25.1			48.5	24.6
LOS	D	C		F	E			C			D	C
Approach Delay		35.5			58.1			25.1			34.2	
Approach LOS		D			E			C			C	
Queue Length 50th (ft)	13	546		29	~834			28			40	28
Queue Length 95th (ft)	#55	#1065		#92	#1176			77			84	77
Internal Link Dist (ft)		980			2147			348			115	
Turn Bay Length (ft)	315			27								
Base Capacity (vph)	87	1387		87	1383			424			292	429
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.69	0.99		0.94	1.06			0.28			0.28	0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 91.8			
Actuated Cycle Length: 83.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 45.6		Intersection LOS: D	
Intersection Capacity Utilization 97.8%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Cherry Hill Road & Route 1 (North Main Street) #1

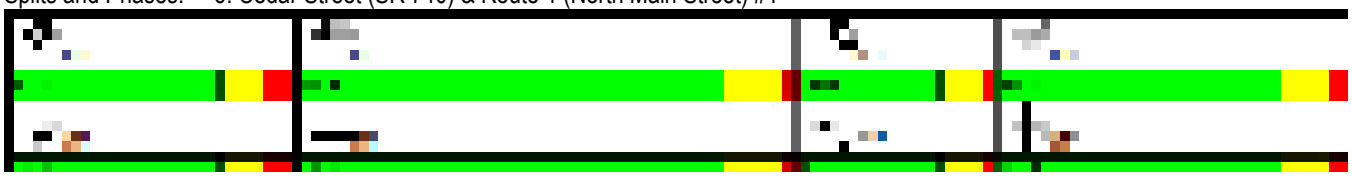


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	580	450	75	85	600	280	150	520	75	260	480	550
Future Volume (vph)	580	450	75	85	600	280	150	520	75	260	480	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.978				0.850		0.981				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3351	1840	0	1728	1881	1546	1728	3389	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.203			0.199		
Satd. Flow (perm)	3351	1840	0	1728	1881	1546	369	3389	0	362	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		9						15				120
Link Speed (mph)		45			45			25			30	
Link Distance (ft)		375			451			356			855	
Travel Time (s)		5.7			6.8			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	630	489	82	92	652	304	163	565	82	283	522	598
Shared Lane Traffic (%)												
Lane Group Flow (vph)	630	571	0	92	652	304	163	647	0	283	522	598
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	15.0	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.1	11.3
Total Split (s)	20.3	35.4		20.3	35.4	14.0	14.0	25.1		14.0	25.1	20.3
Total Split (%)	21.4%	37.3%		21.4%	37.3%	14.8%	14.8%	26.5%		14.8%	26.5%	21.4%
Maximum Green (s)	15.0	30.0		15.0	30.0	10.0	10.0	20.0		10.0	20.0	15.0
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	Min		None	Min	None	None	Min		None	None	None
Act Effct Green (s)	15.0	36.9		10.4	30.0	45.4	30.3	19.6		31.2	20.1	40.2
Actuated g/C Ratio	0.16	0.39		0.11	0.32	0.48	0.32	0.21		0.33	0.21	0.43
v/c Ratio	1.18	0.79		0.48	1.09	0.41	0.64	0.90		1.08	1.31	0.82
Control Delay	137.4	36.7		47.4	96.9	18.1	33.3	53.4		103.9	188.3	30.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	137.4	36.7		47.4	96.9	18.1	33.3	53.4		103.9	188.3	30.4
LOS	F	D		D	F	B	C	D		F	F	C
Approach Delay		89.5			69.7			49.3			104.0	
Approach LOS		F			E			D			F	
Queue Length 50th (ft)	~237	306		53	~447	114	67	196		~138	~408	256
Queue Length 95th (ft)	#345	#546		97	#659	181	116	#297		#301	#606	#459
Internal Link Dist (ft)		295			371			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	532	725		274	597	743	264	729		263	399	727
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.18	0.79		0.34	1.09	0.41	0.62	0.89		1.08	1.31	0.82

Intersection Summary			
Area Type:	Other		
Cycle Length: 94.8			
Actuated Cycle Length: 94.4			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.31			
Intersection Signal Delay: 82.1		Intersection LOS: F	
Intersection Capacity Utilization 98.2%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	15	465	0	0	0	0	855	710	110	825	0
Future Volume (vph)	150	15	465	0	0	0	0	855	710	110	825	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.932				
Flt Protected	0.950	0.961								0.950		
Satd. Flow (prot)	1698	1717	1599	0	0	0	0	3331	0	1787	3574	0
Flt Permitted	0.950	0.961								0.069		
Satd. Flow (perm)	1698	1717	1599	0	0	0	0	3331	0	130	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			174					208				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			727			855			456	
Travel Time (s)		21.2			16.5			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	163	16	505	0	0	0	0	929	772	120	897	0
Shared Lane Traffic (%)	45%											
Lane Group Flow (vph)	90	89	505	0	0	0	0	1701	0	120	897	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					20.1				
Total Split (s)	31.6	31.6	31.6					35.1				
Total Split (%)	31.0%	31.0%	31.0%					34.4%				
Maximum Green (s)	25.0	25.0	25.0					30.0				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					Min				

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	35.4
Total Split (%)	35%
Maximum Green (s)	29.0
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	25.0	25.0	25.0					30.0		65.4	65.4	
Actuated g/C Ratio	0.24	0.24	0.24					0.29		0.64	0.64	
v/c Ratio	0.22	0.21	0.97					1.51		1.45	0.39	
Control Delay	32.5	32.4	58.4					261.3		267.6	3.4	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.2	
Total Delay	32.5	32.4	58.4					261.3		267.6	3.6	
LOS	C	C	E					F		F	A	
Approach Delay		51.6						261.3			34.7	
Approach LOS		D						F			C	
Queue Length 50th (ft)	49	48	229					~770		~105	21	
Queue Length 95th (ft)	94	93	#444					#911		m#195	59	
Internal Link Dist (ft)		853			647			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	415	420	522					1125		83	2289	
Starvation Cap Reductn	0	0	0					0		0	561	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.22	0.21	0.97					1.51		1.45	0.52	

Intersection Summary

Area Type: Other
Cycle Length: 102.1
Actuated Cycle Length: 102.1
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.96
Intersection Signal Delay: 151.4 Intersection LOS: F
Intersection Capacity Utilization 78.8% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp

Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	445	0	110	560	445	0	0	490	200
Future Volume (vph)	0	0	0	445	0	110	560	445	0	0	490	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.957	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3421	0
Flt Permitted				0.950	0.950		0.274					
Satd. Flow (perm)	0	0	0	1698	1698	1599	515	3574	0	0	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						120					61	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	484	0	120	609	484	0	0	533	217
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	242	242	120	609	484	0	0	750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					20.1	
Total Split (s)				35.4	35.4	35.4					35.1	
Total Split (%)				34.7%	34.7%	34.7%					34.4%	
Maximum Green (s)				29.0	29.0	29.0					30.0	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					Min	

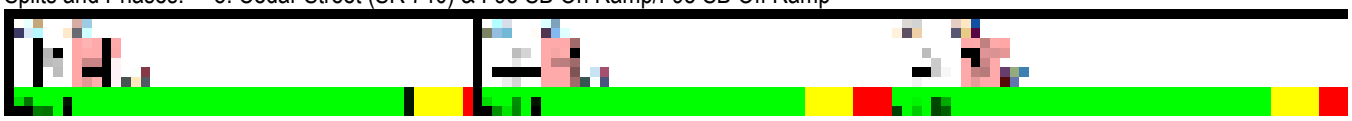
Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	31.6
Total Split (%)	31%
Maximum Green (s)	25.0
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				29.0	29.0	29.0	61.6	61.6			30.0	
Actuated g/C Ratio				0.28	0.28	0.28	0.60	0.60			0.29	
v/c Ratio				0.50	0.50	0.22	1.96	0.22			0.72	
Control Delay				34.9	34.9	6.3	453.5	1.8			34.0	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				34.9	34.9	6.3	453.5	1.8			34.0	
LOS				C	C	A	F	A			C	
Approach Delay					29.2			253.5			34.0	
Approach LOS					C			F			C	
Queue Length 50th (ft)				138	138	0	~641	12			211	
Queue Length 95th (ft)				220	220	41	m#426	m9			280	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				482	482	540	310	2156			1048	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.50	0.50	0.22	1.96	0.22			0.72	

Intersection Summary

Area Type: Other
Cycle Length: 102.1
Actuated Cycle Length: 102.1
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.96
Intersection Signal Delay: 130.9 Intersection LOS: F
Intersection Capacity Utilization 78.8% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp



Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Arterial Level of Service: EB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	III	40	5.4	77.2	82.6	0.05	2.1	F
Branford Connector	III	40	11.5	11.3	22.8	0.10	15.8	D
Driveway	III	40	7.4	79.9	87.3	0.06	2.6	F
Route 146 (West Mai	III	40	6.3	15.0	21.3	0.06	9.3	F
Cherry Hill Road	III	37	30.7	34.7	65.4	0.26	14.1	D
Cedar Street (SR 740	III	32	62.6	36.7	99.3	0.49	17.9	D
Total	III		123.9	254.8	378.7	1.01	9.6	F

Arterial Level of Service: WB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cedar Street (SR 740	II	45	9.3	96.9	106.2	0.09	2.9	F
Cherry Hill Road	II	42	45.8	55.4	101.2	0.49	17.5	D
Starbucks Drive	II	32	32.4	29.6	62.0	0.26	14.8	E
Commercial Parkway	II	40	6.3	45.2	51.5	0.06	3.9	F
Branford Connector	II	40	7.4	185.0	192.4	0.06	1.2	F
Route 142 (Short Bea	II	30	14.1	109.4	123.5	0.10	2.9	F
Total	II		115.3	521.5	636.8	1.05	6.0	F

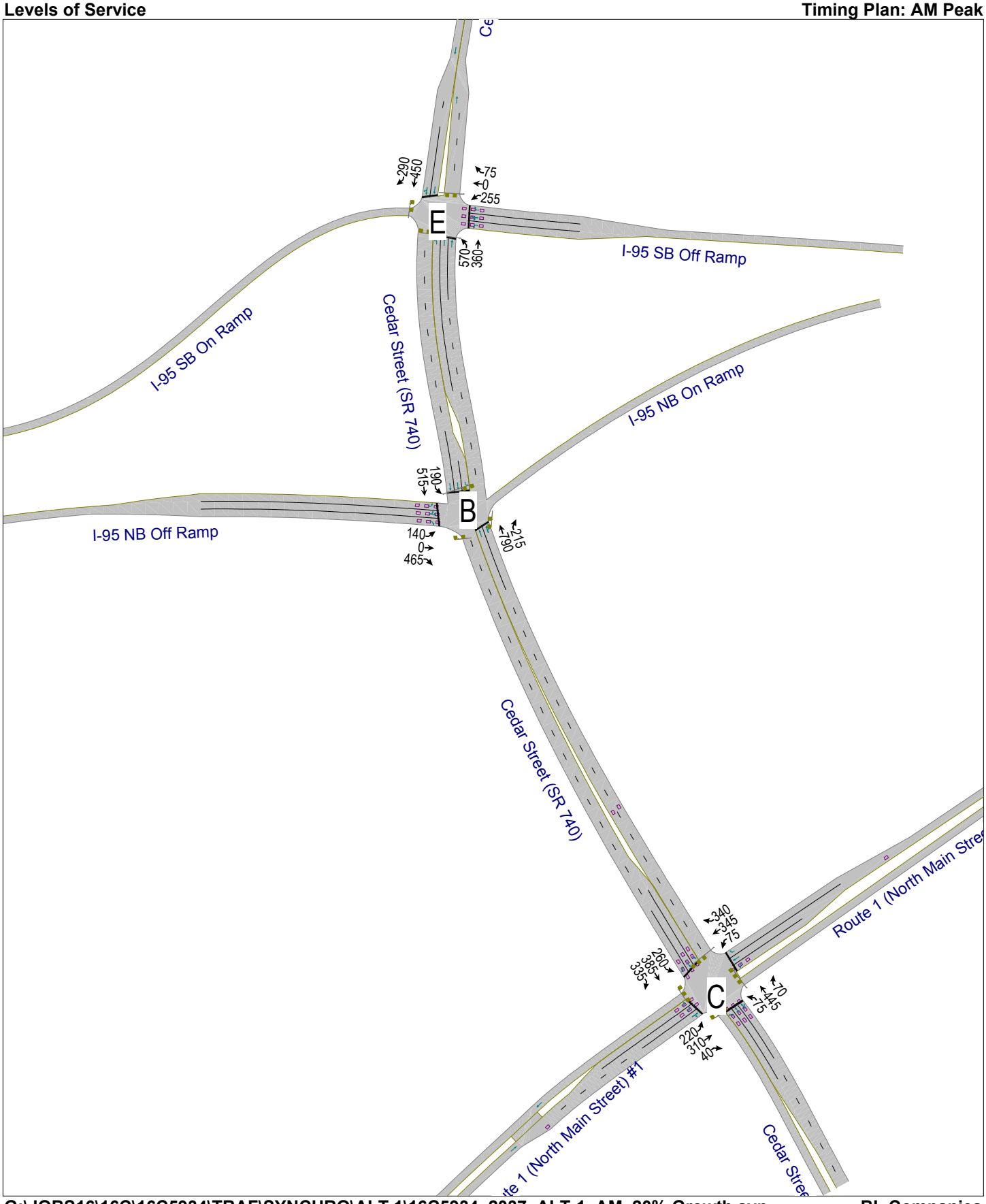
Arterial Level of Service: NB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	53.4	71.3	0.07	3.4	F
I-95 NB On Ramp	IV	30	24.3	261.3	285.6	0.16	2.0	F
I-95 SB Off Ramp	IV	30	15.5	1.8	17.3	0.09	18.0	C
Total	IV		57.7	316.5	374.2	0.32	3.0	F

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	34.0	53.8	0.11	7.4	E
I-95 NB Off Ramp	IV	30	15.5	3.4	18.9	0.09	16.5	C
Route 1 (North Main	IV	30	24.3	188.3	212.6	0.16	2.7	F
Total	IV		59.6	225.7	285.3	0.36	4.5	F


Cherry Hill Road
A
Cherry Hill Road
Route 1 (North Main Street) #1
Commercial Parkway
B
Branford Connector
Route 1 (North Main Street) #1
C
B
Route 1 (North Main Street) #1
Route 142 (Short Beach Road)

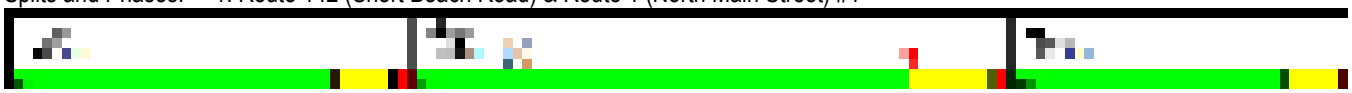

E
B
C
I-95 SB Off Ramp
I-95 SB On Ramp
I-95 NB On Ramp
I-95 NB Off Ramp
Cedar Street (SR 740)
Route 1 (North Main Street) #1
290
450
75
0
255
570
360
190
515
140
0
465
215
790
340
345
75
260
385
335
70
445
75
220
310
40

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	685	80	250	800	175	410
Future Volume (vph)	685	80	250	800	175	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	250		250	0
Storage Lanes		1	2		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1568	3400	3505	1728	1546
Flt Permitted			0.320		0.950	
Satd. Flow (perm)	3505	1568	1145	3505	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		87				74
Link Speed (mph)	30			30	30	
Link Distance (ft)	386			864	434	
Travel Time (s)	8.8			19.6	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Adj. Flow (vph)	745	87	272	870	190	446
Shared Lane Traffic (%)						
Lane Group Flow (vph)	745	87	272	870	190	446
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	31.0	18.0	21.0	31.0	18.0	21.0
Total Split (%)	44.3%	25.7%	30.0%	44.3%	25.7%	30.0%
Maximum Green (s)	25.9	14.0	17.0	25.9	14.0	17.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	35.2	51.6	46.6	35.2	11.4	25.7
Actuated g/C Ratio	0.50	0.74	0.67	0.50	0.16	0.37
v/c Ratio	0.42	0.07	0.25	0.49	0.68	0.73
Control Delay	13.5	1.2	6.7	22.4	39.6	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	1.2	6.7	22.4	39.6	22.0
LOS	B	A	A	C	D	C
Approach Delay	12.2			18.6	27.3	
Approach LOS	B			B	C	
Queue Length 50th (ft)	101	0	26	187	77	133
Queue Length 95th (ft)	182	12	m40	266	136	185
Internal Link Dist (ft)	306			784	354	
Turn Bay Length (ft)			250		250	
Base Capacity (vph)	1760	1235	1364	1760	345	754
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.07	0.20	0.49	0.55	0.59

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 18.7		Intersection LOS: B	
Intersection Capacity Utilization 51.9%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (North Main Street) #1



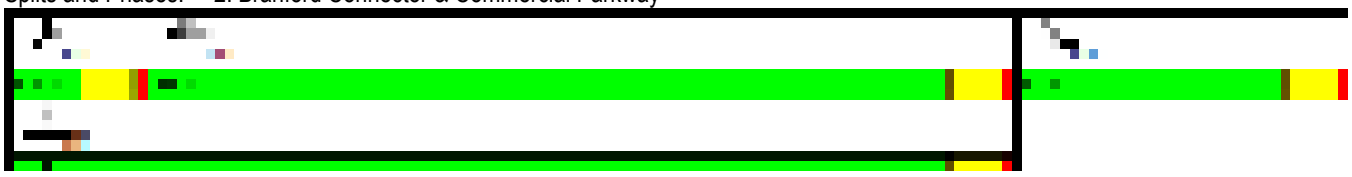
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	670	935	165	55	30
Future Volume (vph)	20	670	935	165	55	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			500	0	0
Storage Lanes	1			1	2	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	0.95
Frt				0.850	0.947	
Flt Protected	0.950				0.969	
Satd. Flow (prot)	1770	3539	1863	1583	3316	0
Flt Permitted	0.094				0.969	
Satd. Flow (perm)	175	3539	1863	1583	3316	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				179	33	
Link Speed (mph)		30	30		30	
Link Distance (ft)		2067	1001		1339	
Travel Time (s)		47.0	22.8		30.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	728	1016	179	60	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	728	1016	179	93	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	pm+pt	NA	NA	Perm	Prot	
Protected Phases	1	6	2		4	
Permitted Phases	6			2		
Detector Phase	1	6	2	2	4	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	
Total Split (s)	9.5	67.5	58.0	58.0	22.5	
Total Split (%)	10.6%	75.0%	64.4%	64.4%	25.0%	
Maximum Green (s)	5.0	63.0	53.5	53.5	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Max	None	None	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	
Act Effct Green (s)	63.0	63.0	59.2	59.2	18.0	
Actuated g/C Ratio	0.70	0.70	0.66	0.66	0.20	
v/c Ratio	0.10	0.29	0.83	0.16	0.13	
Control Delay	5.2	5.5	20.9	1.7	20.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	5.2	5.5	20.9	1.7	20.7	
LOS	A	A	C	A	C	
Approach Delay		5.5	18.0		20.7	
Approach LOS		A	B		C	
Queue Length 50th (ft)	3	70	326	0	14	
Queue Length 95th (ft)	10	94	#788	24	35	
Internal Link Dist (ft)		1987	921		1259	
Turn Bay Length (ft)				500		
Base Capacity (vph)	211	2477	1225	1102	689	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.10	0.29	0.83	0.16	0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 13.5		Intersection LOS: B	
Intersection Capacity Utilization 60.9%		ICU Level of Service B	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Branford Connector & Commercial Parkway



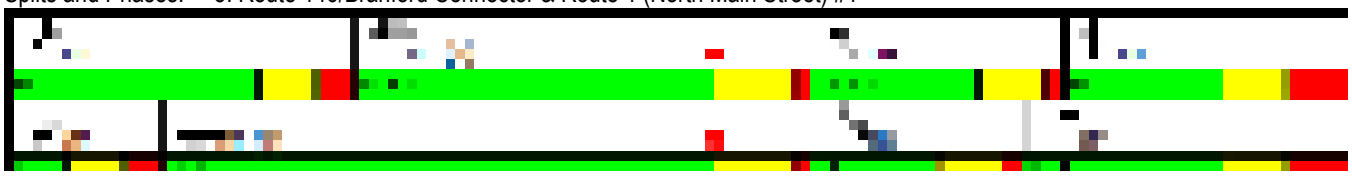
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	460	410	225	15	335	425	275	215	45	175	110	440
Future Volume (vph)	460	410	225	15	335	425	275	215	45	175	110	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		0	50		300	350		0	500		250
Storage Lanes	2		1	1		2	2		0	2		2
Taper Length (ft)	100			50			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.88	0.97	0.95	0.95	0.97	0.95	0.88
Frt			0.850			0.850		0.974				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3505	1568	1752	3505	2760	3433	3447	0	3273	3374	2656
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3505	1568	1752	3505	2760	3433	3447	0	3273	3374	2656
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)			245					30				478
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		864			578			1472			1001	
Travel Time (s)		19.6			13.1			33.5			22.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	7%	7%	7%
Adj. Flow (vph)	500	446	245	16	364	462	299	234	49	190	120	478
Shared Lane Traffic (%)												
Lane Group Flow (vph)	500	446	245	16	364	462	299	283	0	190	120	478
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2		8				4
Detector Phase	1	6	6	5	2	2	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	5.0	7.0		5.0	7.0	7.0
Minimum Split (s)	8.0	20.1	20.1	8.0	22.5	22.5	9.5	13.7		9.5	13.7	13.7
Total Split (s)	18.0	33.9	33.9	8.0	23.9	23.9	13.1	17.1		11.0	15.0	15.0
Total Split (%)	25.7%	48.4%	48.4%	11.4%	34.1%	34.1%	18.7%	24.4%		15.7%	21.4%	21.4%
Maximum Green (s)	13.0	28.8	28.8	3.0	18.8	18.8	8.6	10.4		6.5	8.3	8.3
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.5	3.3		3.5	3.3	3.3
All-Red Time (s)	2.0	1.0	1.0	2.0	1.0	1.0	1.0	3.4		1.0	3.4	3.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.1	5.1	5.0	5.1	5.1	4.5	6.7		4.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0		3.0	1.0	1.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	13.3	36.1	36.1	3.9	19.4	19.4	8.6	9.5		6.5	7.4	7.4
Actuated g/C Ratio	0.19	0.52	0.52	0.06	0.28	0.28	0.12	0.14		0.09	0.11	0.11
v/c Ratio	0.77	0.25	0.26	0.16	0.37	0.60	0.71	0.58		0.63	0.34	0.68
Control Delay	38.7	10.1	3.7	33.7	22.3	25.7	40.4	30.3		40.8	31.7	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	38.7	10.1	3.7	33.7	22.3	25.7	40.4	30.3		40.8	31.7	8.6
LOS	D	B	A	C	C	C	D	C		D	C	A
Approach Delay		20.8			24.4			35.5			19.9	
Approach LOS		C			C			D			B	
Queue Length 50th (ft)	110	30	1	8	47	80	64	54		41	25	0
Queue Length 95th (ft)	#177	107	46	m14	104	139	#114	89		#78	48	43
Internal Link Dist (ft)		784			498			1392			921	
Turn Bay Length (ft)	390			50		300	350			500		250
Base Capacity (vph)	659	1809	928	98	973	766	421	537		303	400	736
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.76	0.25	0.26	0.16	0.37	0.60	0.71	0.53		0.63	0.30	0.65

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 24.0 Intersection LOS: C
Intersection Capacity Utilization 57.1% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Route 146/Branford Connector & Route 1 (North Main Street) #1

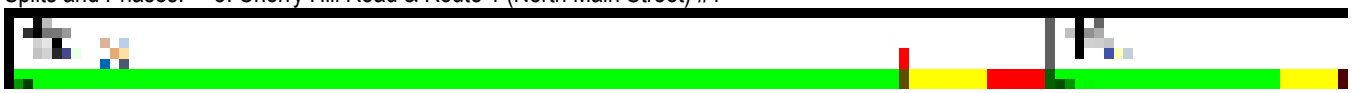


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	590	20	30	655	30	20	20	50	50	30	100
Future Volume (vph)	20	590	20	30	655	30	20	20	50	50	30	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	315		0	27		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	15			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.993			0.926				0.850
Flt Protected	0.950			0.950				0.989			0.970	
Satd. Flow (prot)	1694	1835	0	1694	1832	0	0	1657	0	0	1755	1538
Flt Permitted	0.333			0.380				0.904			0.780	
Satd. Flow (perm)	594	1835	0	678	1832	0	0	1515	0	0	1411	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			7			54				109
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1060			2243			428			195	
Travel Time (s)		24.1			51.0			11.7			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	22	641	22	33	712	33	22	22	54	54	33	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	663	0	33	745	0	0	98	0	0	87	109
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Detector Phase	2	2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	27.5	27.5		27.5	27.5		11.3	11.3		11.3	11.3	11.3
Total Split (s)	54.0	54.0		54.0	54.0		16.0	16.0		16.0	16.0	16.0
Total Split (%)	77.1%	77.1%		77.1%	77.1%		22.9%	22.9%		22.9%	22.9%	22.9%
Maximum Green (s)	46.5	46.5		46.5	46.5		11.7	11.7		11.7	11.7	11.7
Yellow Time (s)	4.1	4.1		4.1	4.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.5	7.5		7.5	7.5			4.3			4.3	4.3
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	None
Act Effct Green (s)	52.6	52.6		52.6	52.6			9.4			9.4	9.4
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.13			0.13	0.13
v/c Ratio	0.05	0.48		0.06	0.54			0.39			0.46	0.36
Control Delay	5.6	7.8		4.3	7.1			19.1			35.6	9.8
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	5.6	7.8		4.3	7.1			19.1			35.6	9.8
LOS	A	A		A	A			B			D	A
Approach Delay		7.7			7.0			19.1			21.3	
Approach LOS		A			A			B			C	
Queue Length 50th (ft)	3	109		4	131			17			35	0
Queue Length 95th (ft)	m14	276		13	243			56			74	39
Internal Link Dist (ft)		980			2163			348			115	
Turn Bay Length (ft)	315			27								
Base Capacity (vph)	446	1379		509	1378			298			235	347
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.05	0.48		0.06	0.54			0.33			0.37	0.31

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 61.7%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: Cherry Hill Road & Route 1 (North Main Street) #1



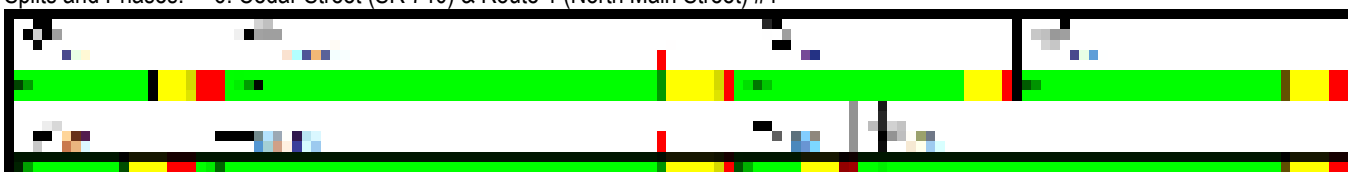
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	310	40	75	345	340	75	445	70	260	385	335
Future Volume (vph)	220	310	40	75	345	340	75	445	70	260	385	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.983				0.850		0.980				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3286	1813	0	1694	1845	1516	1728	3386	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.395			0.185		
Satd. Flow (perm)	3286	1813	0	1694	1845	1516	718	3386	0	336	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		7						16				278
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		361			1088			356			855	
Travel Time (s)		8.2			24.7			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	239	337	43	82	375	370	82	484	76	283	418	364
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	380	0	82	375	370	82	560	0	283	418	364
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	15.0	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.3	11.3
Total Split (s)	16.0	40.0		14.0	38.0	21.0	9.0	25.0		21.0	37.0	16.0
Total Split (%)	16.0%	40.0%		14.0%	38.0%	21.0%	9.0%	25.0%		21.0%	37.0%	16.0%
Maximum Green (s)	10.7	34.6		8.7	32.6	17.0	5.0	19.9		17.0	31.9	10.7
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	C-Min		None	C-Min	None	None	Min		None	None	None
Act Effct Green (s)	10.9	36.9		8.6	32.3	54.7	28.5	20.0		42.1	31.5	47.6
Actuated g/C Ratio	0.11	0.37		0.09	0.32	0.55	0.28	0.20		0.42	0.32	0.48
v/c Ratio	0.67	0.56		0.57	0.63	0.45	0.29	0.81		0.75	0.70	0.41
Control Delay	52.6	31.0		59.3	35.7	16.1	20.6	47.5		37.6	41.8	7.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	52.6	31.0		59.3	35.7	16.1	20.6	47.5		37.6	41.8	7.5
LOS	D	C		E	D	B	C	D		D	D	A
Approach Delay		39.3			29.3			44.1			29.0	
Approach LOS		D			C			D			C	
Queue Length 50th (ft)	74	207		50	215	145	30	172		139	250	16
Queue Length 95th (ft)	#118	300		#107	307	205	59	#256		m180	m309	m40
Internal Link Dist (ft)		281			1008			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	368	715		153	639	845	280	715		393	612	884
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.65	0.53		0.54	0.59	0.44	0.29	0.78		0.72	0.68	0.41

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 34.2 Intersection LOS: C
Intersection Capacity Utilization 69.9% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	0	465	0	0	0	0	790	215	190	515	0
Future Volume (vph)	140	0	465	0	0	0	0	790	215	190	515	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.968				
Flt Protected	0.950	0.950								0.950		
Satd. Flow (prot)	1681	1681	1583	0	0	0	0	3460	0	1787	3574	0
Flt Permitted	0.950	0.950								0.218		
Satd. Flow (perm)	1681	1681	1583	0	0	0	0	3460	0	410	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			432					68				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			727			855			456	
Travel Time (s)		21.2			16.5			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	152	0	505	0	0	0	0	859	234	207	560	0
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	76	76	505	0	0	0	0	1093	0	207	560	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					23.1				
Total Split (s)	17.0	17.0	17.0					69.0				
Total Split (%)	17.0%	17.0%	17.0%					69.0%				
Maximum Green (s)	10.4	10.4	10.4					63.9				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					C-Min				

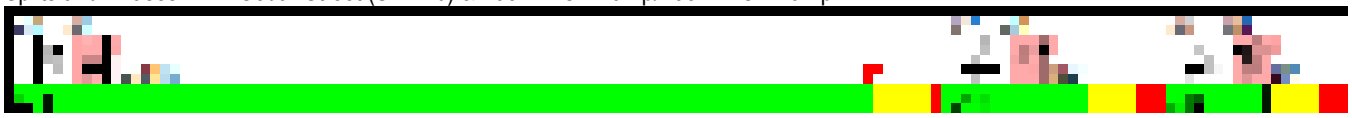
Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	14.0
Total Split (%)	14%
Maximum Green (s)	7.6
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	10.4	10.4	10.4					63.9		77.9	77.9	
Actuated g/C Ratio	0.10	0.10	0.10					0.64		0.78	0.78	
v/c Ratio	0.44	0.44	0.92					0.49		0.65	0.20	
Control Delay	50.6	50.6	31.6					5.4		16.3	1.5	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	50.6	50.6	31.6					5.4		16.3	1.5	
LOS	D	D	C					A		B	A	
Approach Delay		35.9						5.4			5.5	
Approach LOS		D						A			A	
Queue Length 50th (ft)	48	48	44					31		66	16	
Queue Length 95th (ft)	97	97	#238					81		m116	m18	
Internal Link Dist (ft)		853			647			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	174	174	551					2235		319	2784	
Starvation Cap Reductn	0	0	0					0		0	0	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.44	0.44	0.92					0.49		0.65	0.20	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 13.4 Intersection LOS: B
Intersection Capacity Utilization 74.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp



Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

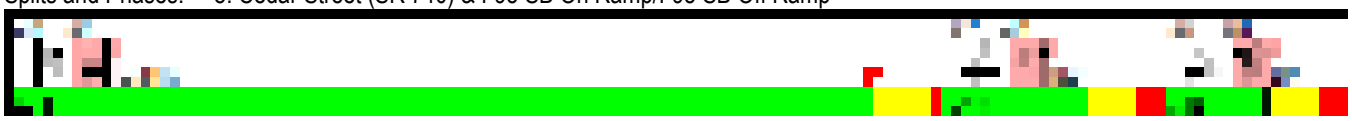
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	255	0	75	570	360	0	0	450	290
Future Volume (vph)	0	0	0	255	0	75	570	360	0	0	450	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.941	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3363	0
Flt Permitted				0.950	0.950		0.322					
Satd. Flow (perm)	0	0	0	1698	1698	1599	606	3574	0	0	3363	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						95					291	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	277	0	82	620	391	0	0	489	315
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	138	139	82	620	391	0	0	804	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					23.1	
Total Split (s)				14.0	14.0	14.0					69.0	
Total Split (%)				14.0%	14.0%	14.0%					69.0%	
Maximum Green (s)				7.6	7.6	7.6					63.9	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					C-Min	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	17.0
Total Split (%)	17%
Maximum Green (s)	10.4
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				7.6	7.6	7.6	80.9	80.9			63.9	
Actuated g/C Ratio				0.08	0.08	0.08	0.81	0.81			0.64	
v/c Ratio				1.07	1.08	0.39	1.27	0.14			0.36	
Control Delay				144.9	147.0	13.3	152.3	1.8			5.5	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				144.9	147.0	13.3	152.3	1.8			5.5	
LOS				F	F	B	F	A			A	
Approach Delay					115.7			94.1			5.5	
Approach LOS					F			F			A	
Queue Length 50th (ft)				~103	~104	0	~499	15			66	
Queue Length 95th (ft)				#230	#232	37	#728	25			97	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				129	129	209	490	2891			2254	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				1.07	1.08	0.39	1.27	0.14			0.36	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Yellow			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.27			
Intersection Signal Delay: 64.9		Intersection LOS: E	
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp



Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Arterial Level of Service: EB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	III	30	11.3	13.5	24.8	0.07	10.6	E
Route 146	III	30	21.9	10.1	32.0	0.16	18.4	C
Cherry Hill Road	III	30	39.4	7.8	47.2	0.31	23.7	C
Cedar Street (SR 740	III	30	62.6	31.0	93.6	0.49	19.0	C
Total	III		135.2	62.4	197.6	1.04	19.0	C

Arterial Level of Service: WB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cedar Street (SR 740	III	30	26.2	35.7	61.9	0.21	12.0	E
Cherry Hill Road	III	30	62.6	7.1	69.7	0.49	25.5	B
Branford Connector	III	30	39.4	22.3	61.7	0.31	18.1	C
Route 142 (Short Bea	III	30	21.9	22.4	44.3	0.16	13.3	E
Total	III		150.1	87.5	237.6	1.17	17.8	D

Arterial Level of Service: EB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Parkway	III	30	49.7	5.5	55.2	0.39	25.5	B
Route 1 (North Main	III	30	24.1	31.7	55.8	0.19	12.2	E
Total	III		73.8	37.2	111.0	0.58	18.8	C

Arterial Level of Service: WB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Parkway	III	30	24.1	20.9	45.0	0.19	15.2	D
Total	III		24.1	20.9	45.0	0.19	15.2	D

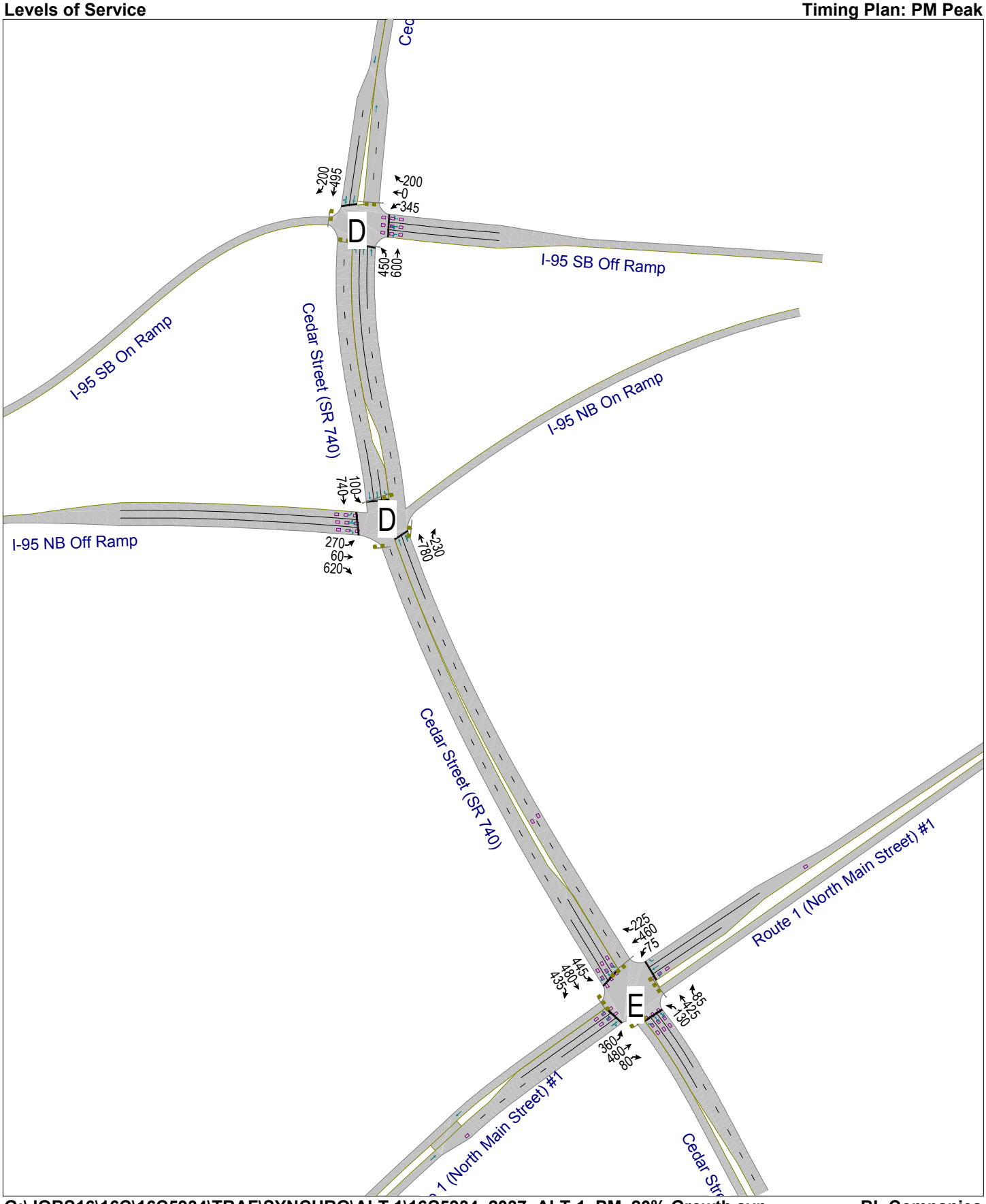
Arterial Level of Service: NB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	47.5	65.4	0.07	3.7	F
I-95 NB On Ramp	IV	30	24.3	5.4	29.7	0.16	19.6	B
I-95 SB Off Ramp	IV	30	15.5	1.8	17.3	0.09	18.0	C
Total	IV		57.7	54.7	112.4	0.32	10.1	D

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	5.5	25.3	0.11	15.7	C
I-95 NB Off Ramp	IV	30	15.5	1.5	17.0	0.09	18.3	C
Route 1 (North Main	IV	30	24.3	41.8	66.1	0.16	8.8	E
Total	IV		59.6	48.8	108.4	0.36	11.9	D


Commercial Parkway
Branford Connector
Route 1 (North Main Street) #1
Cherry Hill Road
Route 142 (Short Beach Road)
B
D

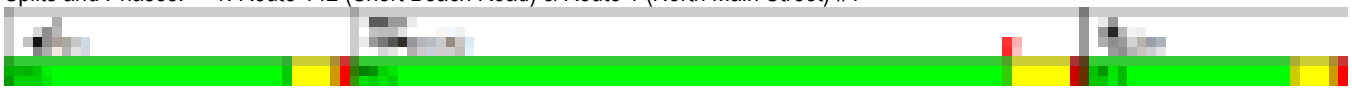

I-95 SB On Ramp
Cedar Street (SR 740)
I-95 SB Off Ramp
I-95 NB On Ramp
I-95 NB Off Ramp
Cedar Street (SR 740)
Route 1 (North Main Street) #1
Route 1 (North Main Street) #1
Cedar Str
D
D
E
200
495
200
0
345
450
600
100
740
270
60
620
230
780
225
460
75
445
480
435
85
430
360
480
80

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1155	235	535	1220	150	410
Future Volume (vph)	1155	235	535	1220	150	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	250		250	0
Storage Lanes		1	2		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1568	3400	3505	1728	1546
Flt Permitted			0.140		0.950	
Satd. Flow (perm)	3505	1568	501	3505	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		71				34
Link Speed (mph)	30			30	30	
Link Distance (ft)	386			864	434	
Travel Time (s)	8.8			19.6	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Adj. Flow (vph)	1255	255	582	1326	163	446
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1255	255	582	1326	163	446
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	49.0	18.0	23.0	49.0	18.0	23.0
Total Split (%)	54.4%	20.0%	25.6%	54.4%	20.0%	25.6%
Maximum Green (s)	43.9	14.0	19.0	43.9	14.0	19.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	49.5	66.4	66.2	49.5	11.8	31.4
Actuated g/C Ratio	0.55	0.74	0.74	0.55	0.13	0.35
v/c Ratio	0.65	0.22	0.67	0.69	0.72	0.80
Control Delay	17.3	3.4	13.2	16.6	55.4	34.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	3.4	13.2	16.6	55.4	34.8
LOS	B	A	B	B	E	C
Approach Delay	15.0			15.6	40.3	
Approach LOS	B			B	D	
Queue Length 50th (ft)	257	26	74	222	89	204
Queue Length 95th (ft)	367	56	m114	393	153	299
Internal Link Dist (ft)	306			784	354	
Turn Bay Length (ft)			250		250	
Base Capacity (vph)	1926	1211	993	1926	268	618
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.21	0.59	0.69	0.61	0.72

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 35 (39%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 19.1		Intersection LOS: B	
Intersection Capacity Utilization 66.4%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (North Main Street) #1



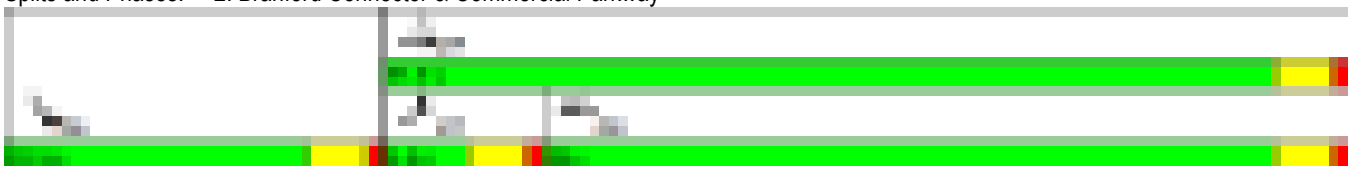
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	1495	840	320	315	55
Future Volume (vph)	95	1495	840	320	315	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			500	300	0
Storage Lanes	1			1	1	0
Taper Length (ft)	25				100	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	0.95
Frt				0.850	0.978	
Flt Protected	0.950				0.959	
Satd. Flow (prot)	1770	3539	1863	1583	3389	0
Flt Permitted	0.088				0.959	
Satd. Flow (perm)	164	3539	1863	1583	3389	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				348	24	
Link Speed (mph)		30	30		30	
Link Distance (ft)		2067	1001		1339	
Travel Time (s)		47.0	22.8		30.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	1625	913	348	342	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	1625	913	348	402	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	pm+pt	NA	NA	Perm	Prot	
Protected Phases	7	4	8		6	
Permitted Phases	4			8		
Detector Phase	7	4	8	8	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	
Total Split (s)	9.5	57.5	48.0	48.0	22.5	
Total Split (%)	11.9%	71.9%	60.0%	60.0%	28.1%	
Maximum Green (s)	5.0	53.0	43.5	43.5	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	
Act Effct Green (s)	47.9	47.9	40.7	40.7	18.3	
Actuated g/C Ratio	0.64	0.64	0.54	0.54	0.24	
v/c Ratio	0.48	0.72	0.91	0.34	0.48	
Control Delay	14.4	11.2	30.8	2.2	26.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	14.4	11.2	30.8	2.2	26.7	
LOS	B	B	C	A	C	
Approach Delay		11.4	22.9		26.7	
Approach LOS		B	C		C	
Queue Length 50th (ft)	16	231	380	0	85	
Queue Length 95th (ft)	43	302	#649	35	128	
Internal Link Dist (ft)		1987	921		1259	
Turn Bay Length (ft)				500	300	
Base Capacity (vph)	213	2532	1094	1073	842	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.48	0.64	0.83	0.32	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 75.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 17.5		Intersection LOS: B	
Intersection Capacity Utilization 71.4%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Branford Connector & Commercial Parkway



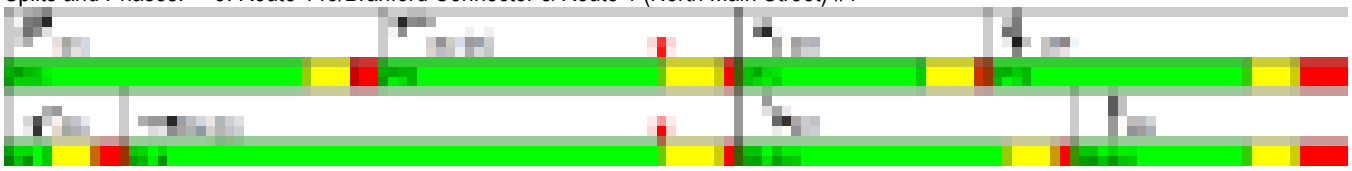
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	605	480	480	15	495	390	345	165	45	475	420	915
Future Volume (vph)	605	480	480	15	495	390	345	165	45	475	420	915
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		0	50		300	350		0	500		250
Storage Lanes	2		1	1		2	2		0	2		2
Taper Length (ft)	100			50			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.88	0.97	0.95	0.95	0.97	0.95	0.88
Frt			0.850			0.850		0.968				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3505	1568	1752	3505	2760	3433	3426	0	3273	3374	2656
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3505	1568	1752	3505	2760	3433	3426	0	3273	3374	2656
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)			522					32				80
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		864			578			1472			1001	
Travel Time (s)		19.6			13.1			33.5			22.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	7%	7%	7%
Adj. Flow (vph)	658	522	522	16	538	424	375	179	49	516	457	995
Shared Lane Traffic (%)												
Lane Group Flow (vph)	658	522	522	16	538	424	375	228	0	516	457	995
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	pt+ov
Protected Phases	1	6		5	2		3	8		7	4	4 1
Permitted Phases			6			2		8				
Detector Phase	1	6	6	5	2	2	3	8		7	4	4 1
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	5.0	7.0		5.0	7.0	
Minimum Split (s)	8.0	20.1	20.1	8.0	22.5	22.5	9.5	13.7		9.5	13.7	
Total Split (s)	25.0	41.0	41.0	8.0	24.0	24.0	17.0	18.6		22.4	24.0	
Total Split (%)	27.8%	45.6%	45.6%	8.9%	26.7%	26.7%	18.9%	20.7%		24.9%	26.7%	
Maximum Green (s)	20.0	35.9	35.9	3.0	18.9	18.9	12.5	11.9		17.9	17.3	
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.5	3.3		3.5	3.3	
All-Red Time (s)	2.0	1.0	1.0	2.0	1.0	1.0	1.0	3.4		1.0	3.4	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.1	5.1	5.0	5.1	5.1	4.5	6.7		4.5	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0		3.0	1.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	19.9	40.7	40.7	3.0	19.0	19.0	12.3	12.6		17.2	17.5	42.5
Actuated g/C Ratio	0.22	0.45	0.45	0.03	0.21	0.21	0.14	0.14		0.19	0.19	0.47
v/c Ratio	0.88	0.33	0.52	0.28	0.73	0.73	0.80	0.45		0.83	0.70	0.77
Control Delay	45.4	22.9	10.7	60.2	35.2	36.5	52.0	33.9		47.4	40.2	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	45.4	22.9	10.7	60.2	35.2	36.5	52.0	33.9		47.4	40.2	22.9
LOS	D	C	B	E	D	D	D	C		D	D	C
Approach Delay		27.9			36.2			45.2			33.4	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	197	122	101	8	152	129	107	54		144	128	237
Queue Length 95th (ft)	#284	178	187	m14	202	181	#172	91		#216	182	328
Internal Link Dist (ft)		784			498			1392			921	
Turn Bay Length (ft)	390			50		300	350			500		250
Base Capacity (vph)	755	1585	995	58	739	581	476	507		650	657	1297
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.87	0.33	0.52	0.28	0.73	0.73	0.79	0.45		0.79	0.70	0.77

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 33.5 Intersection LOS: C
Intersection Capacity Utilization 70.1% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Route 146/Branford Connector & Route 1 (North Main Street) #1

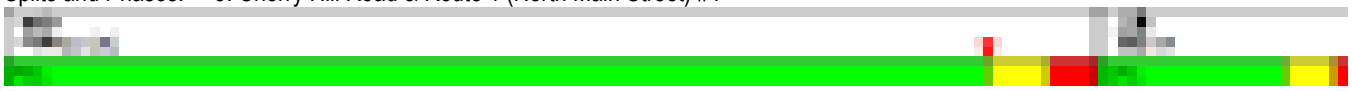


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	895	15	70	825	40	25	45	45	45	30	50
Future Volume (vph)	90	895	15	70	825	40	25	45	45	45	30	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	315		0	27		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	15			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.993			0.947				0.850
Flt Protected	0.950			0.950				0.989			0.971	
Satd. Flow (prot)	1694	1841	0	1694	1832	0	0	1695	0	0	1757	1538
Flt Permitted	0.239			0.216				0.912			0.630	
Satd. Flow (perm)	426	1841	0	385	1832	0	0	1563	0	0	1140	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			7			30				55
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1060			2243			428			195	
Travel Time (s)		24.1			51.0			11.7			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	98	973	16	76	897	43	27	49	49	49	33	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	989	0	76	940	0	0	125	0	0	82	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Detector Phase	2	2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	27.5	27.5		27.5	27.5		11.3	11.3		11.3	11.3	11.3
Total Split (s)	73.0	73.0		73.0	73.0		17.0	17.0		17.0	17.0	17.0
Total Split (%)	81.1%	81.1%		81.1%	81.1%		18.9%	18.9%		18.9%	18.9%	18.9%
Maximum Green (s)	65.5	65.5		65.5	65.5		12.7	12.7		12.7	12.7	12.7
Yellow Time (s)	4.1	4.1		4.1	4.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.5	7.5		7.5	7.5			4.3			4.3	4.3
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	None
Act Effct Green (s)	67.7	67.7		67.7	67.7			10.5			10.5	10.5
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.12			0.12	0.12
v/c Ratio	0.31	0.71		0.26	0.68			0.60			0.62	0.24
Control Delay	4.1	11.3		6.7	9.3			40.2			57.3	12.6
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	4.1	11.3		6.7	9.3			40.2			57.3	12.6
LOS	A	B		A	A			D			E	B
Approach Delay		10.7			9.1			40.2			39.6	
Approach LOS		B			A			D			D	
Queue Length 50th (ft)	16	261		11	226			51			45	0
Queue Length 95th (ft)	m2	368		32	379			106			91	32
Internal Link Dist (ft)		980			2163			348			115	
Turn Bay Length (ft)	315			27								
Base Capacity (vph)	320	1384		289	1379			246			160	264
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.31	0.71		0.26	0.68			0.51			0.51	0.20

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 69.2 (77%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 93.9%		ICU Level of Service F	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: Cherry Hill Road & Route 1 (North Main Street) #1

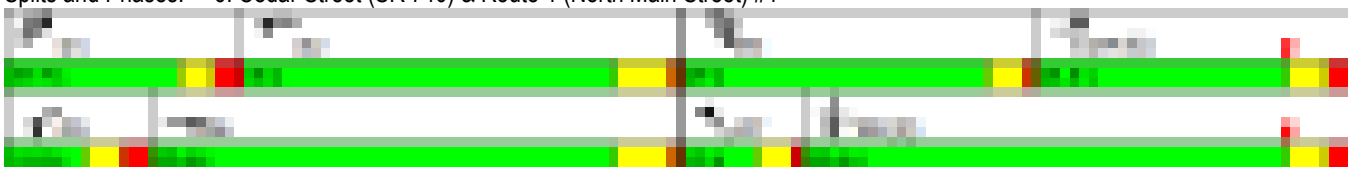


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	480	80	75	460	225	130	425	85	445	480	435
Future Volume (vph)	360	480	80	75	460	225	130	425	85	445	480	435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.979				0.850		0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3286	1806	0	1694	1845	1516	1728	3369	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.363			0.163		
Satd. Flow (perm)	3286	1806	0	1694	1845	1516	660	3369	0	296	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		8						19				127
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		361			1088			356			855	
Travel Time (s)		8.2			24.7			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	391	522	87	82	500	245	141	462	92	484	522	473
Shared Lane Traffic (%)												
Lane Group Flow (vph)	391	609	0	82	500	245	141	554	0	484	522	473
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	15.0	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.3	11.3
Total Split (s)	19.4	43.6		11.8	36.0	29.0	10.0	25.6		29.0	44.6	19.4
Total Split (%)	17.6%	39.6%		10.7%	32.7%	26.4%	9.1%	23.3%		26.4%	40.5%	17.6%
Maximum Green (s)	14.1	38.2		6.5	30.6	25.0	6.0	20.5		25.0	39.5	14.1
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	Min		None	Min	None	None	C-Min		None	C-Max	None
Act Effct Green (s)	14.1	37.9		6.5	30.3	61.0	27.9	20.5		50.9	39.5	58.7
Actuated g/C Ratio	0.13	0.34		0.06	0.28	0.55	0.25	0.19		0.46	0.36	0.53
v/c Ratio	0.93	0.97		0.82	0.98	0.29	0.62	0.86		1.04	0.77	0.54
Control Delay	77.3	65.3		103.0	76.5	14.2	35.8	56.6		79.6	37.6	18.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	77.3	65.3		103.0	76.5	14.2	35.8	56.6		79.6	37.6	18.7
LOS	E	E		F	E	B	D	E		E	D	B
Approach Delay		70.0			60.7			52.4			45.3	
Approach LOS		E			E			D			D	
Queue Length 50th (ft)	142	414		58	350	87	57	194		~318	299	149
Queue Length 95th (ft)	#234	#649		#147	#563	137	#101	#286		m#388	m341	m187
Internal Link Dist (ft)		281			1008			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	421	632		100	513	840	227	643		465	675	884
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.93	0.96		0.82	0.97	0.29	0.62	0.86		1.04	0.77	0.54

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 104.9 (95%), Referenced to phase 4:NBTL and 8:SBTL, Start of Yellow			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 55.9		Intersection LOS: E	
Intersection Capacity Utilization 90.7%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	60	620	0	0	0	0	780	230	100	740	0
Future Volume (vph)	270	60	620	0	0	0	0	780	230	100	740	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.966				
Flt Protected	0.950	0.969								0.950		
Satd. Flow (prot)	1681	1715	1583	0	0	0	0	3453	0	1787	3574	0
Flt Permitted	0.950	0.969								0.158		
Satd. Flow (perm)	1681	1715	1583	0	0	0	0	3453	0	297	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193					45				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			727			855			456	
Travel Time (s)		21.2			16.5			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	293	65	674	0	0	0	0	848	250	109	804	0
Shared Lane Traffic (%)	39%											
Lane Group Flow (vph)	179	179	674	0	0	0	0	1098	0	109	804	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					23.1				
Total Split (s)	38.0	38.0	38.0					54.0				
Total Split (%)	34.5%	34.5%	34.5%					49.1%				
Maximum Green (s)	31.4	31.4	31.4					48.9				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					C-Min				

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	18.0
Total Split (%)	16%
Maximum Green (s)	11.6
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	31.4	31.4	31.4					48.9		66.9	66.9	
Actuated g/C Ratio	0.29	0.29	0.29					0.44		0.61	0.61	
v/c Ratio	0.37	0.37	1.14					0.70		0.61	0.37	
Control Delay	34.2	34.0	110.8					9.6		19.0	2.9	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.2	
Total Delay	34.2	34.0	110.8					9.6		19.0	3.1	
LOS	C	C	F					A		B	A	
Approach Delay		84.2						9.6			5.0	
Approach LOS		F						A			A	
Queue Length 50th (ft)	106	106	~455					214		10	22	
Queue Length 95th (ft)	174	173	#683					m265		m75	m23	
Internal Link Dist (ft)		853			647			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	479	489	589					1560		180	2173	
Starvation Cap Reductn	0	0	0					0		0	500	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.37	0.37	1.14					0.70		0.61	0.48	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 48.9 (44%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 33.5 Intersection LOS: C
Intersection Capacity Utilization 68.6% ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp

Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	345	0	200	450	600	0	0	495	200
Future Volume (vph)	0	0	0	345	0	200	450	600	0	0	495	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.957	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3421	0
Flt Permitted				0.950	0.950		0.313					
Satd. Flow (perm)	0	0	0	1698	1698	1599	589	3574	0	0	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						217					71	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	375	0	217	489	652	0	0	538	217
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	187	188	217	489	652	0	0	755	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					23.1	
Total Split (s)				18.0	18.0	18.0					54.0	
Total Split (%)				16.4%	16.4%	16.4%					49.1%	
Maximum Green (s)				11.6	11.6	11.6					48.9	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					C-Min	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	38.0
Total Split (%)	35%
Maximum Green (s)	31.4
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				11.6	11.6	11.6	86.9	86.9			48.9	
Actuated g/C Ratio				0.11	0.11	0.11	0.79	0.79			0.44	
v/c Ratio				1.04	1.05	0.60	1.05	0.23			0.48	
Control Delay				128.0	129.4	13.8	68.2	0.6			20.6	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				128.0	129.4	13.8	68.2	0.6			20.6	
LOS				F	F	B	E	A			C	
Approach Delay					86.6			29.6			20.6	
Approach LOS					F			C			C	
Queue Length 50th (ft)				~151	~152	0	~319	6			174	
Queue Length 95th (ft)				#301	#303	71	#599	7			229	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				179	179	362	465	2823			1560	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				1.04	1.05	0.60	1.05	0.23			0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 48.9 (44%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.14			
Intersection Signal Delay: 40.4		Intersection LOS: D	
Intersection Capacity Utilization 68.6%		ICU Level of Service C	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp

Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Arterial Level of Service: EB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	III	30	11.3	17.3	28.6	0.07	9.2	F
Route 146	III	30	21.9	22.9	44.8	0.16	13.1	E
Cherry Hill Road	III	30	39.4	11.3	50.7	0.31	22.0	C
Cedar Street (SR 740	III	30	62.6	65.3	127.9	0.49	13.9	E
Total	III		135.2	116.8	252.0	1.04	14.9	D

Arterial Level of Service: WB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cedar Street (SR 740	III	30	26.2	76.6	102.8	0.21	7.2	F
Cherry Hill Road	III	30	62.6	9.3	71.9	0.49	24.7	B
Branford Connector	III	30	39.4	35.2	74.6	0.31	15.0	D
Route 142 (Short Bea	III	30	21.9	16.6	38.5	0.16	15.3	D
Total	III		150.1	137.7	287.8	1.17	14.7	D

Arterial Level of Service: EB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Parkway	III	30	49.7	11.2	60.9	0.39	23.1	C
Route 1 (North Main	III	30	24.1	40.2	64.3	0.19	10.6	E
Total	III		73.8	51.4	125.2	0.58	16.7	D

Arterial Level of Service: WB Branford Connector

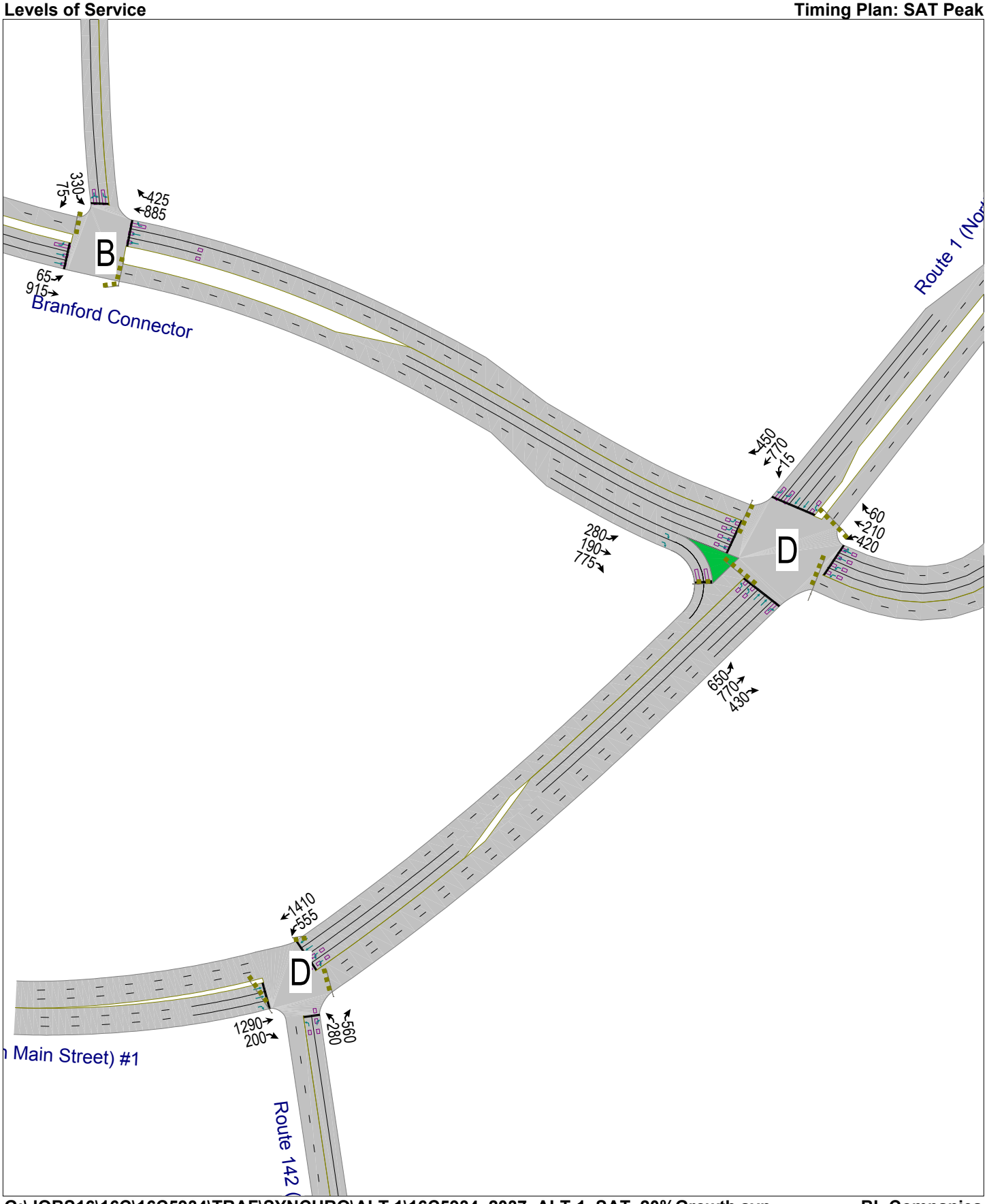
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Parkway	III	30	24.1	30.8	54.9	0.19	12.4	E
Total	III		24.1	30.8	54.9	0.19	12.4	E

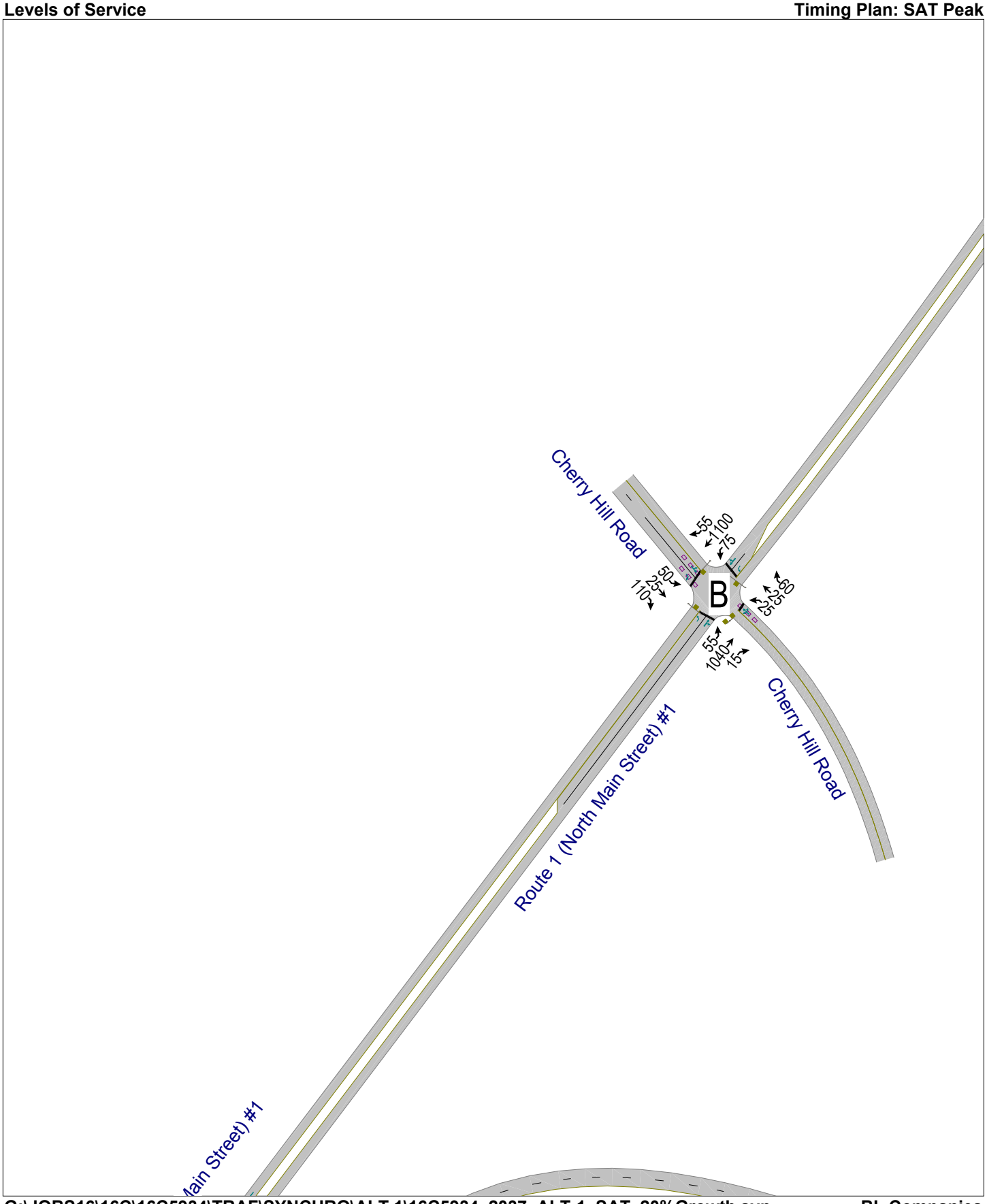
Arterial Level of Service: NB Cedar Street (SR 740)

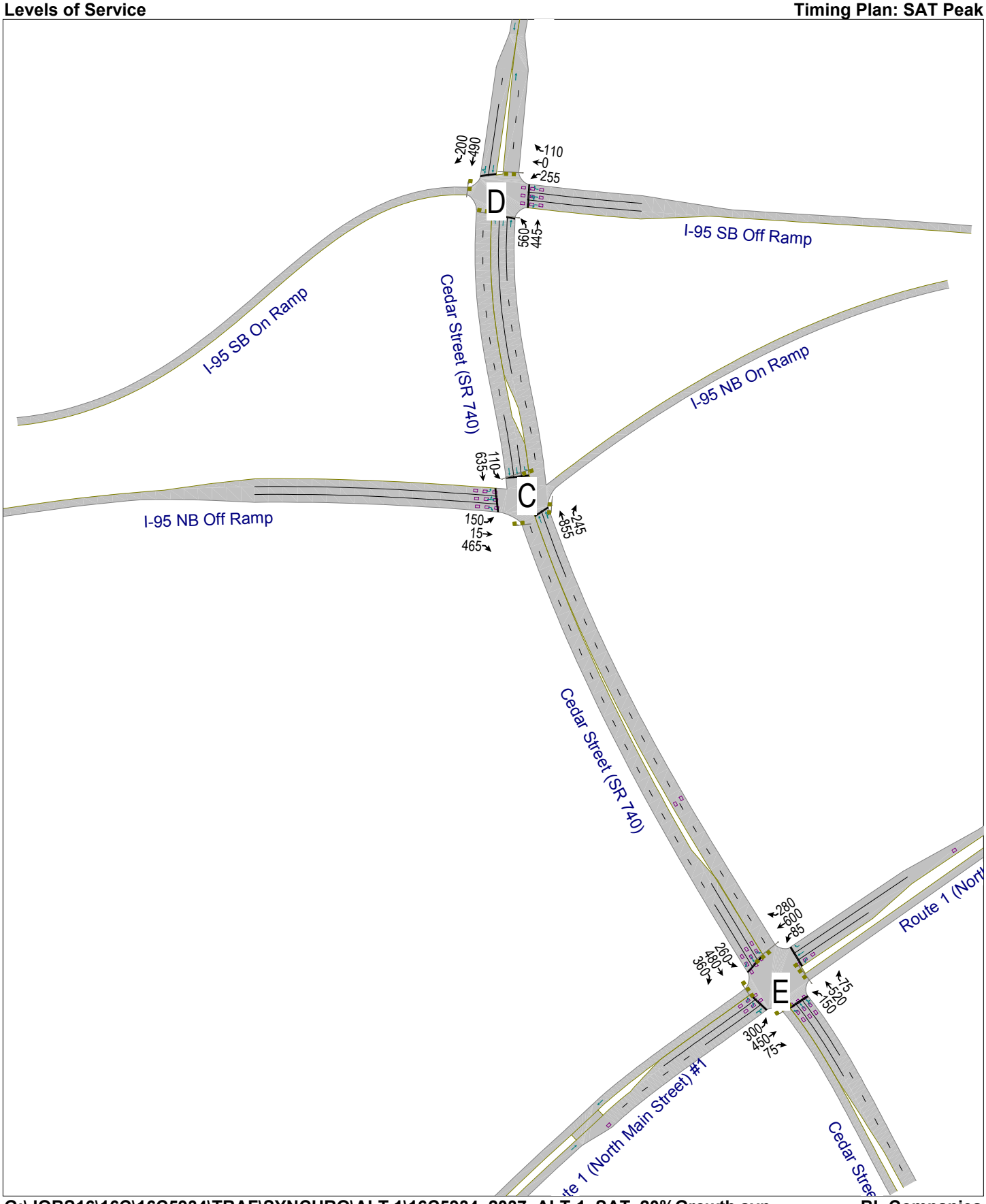
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	56.6	74.5	0.07	3.3	F
I-95 NB On Ramp	IV	30	24.3	9.6	33.9	0.16	17.2	C
I-95 SB Off Ramp	IV	30	15.5	0.6	16.1	0.09	19.3	B
Total	IV		57.7	66.8	124.5	0.32	9.1	D

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	20.6	40.4	0.11	9.8	D
I-95 NB Off Ramp	IV	30	15.5	2.9	18.4	0.09	16.9	C
Route 1 (North Main	IV	30	24.3	37.6	61.9	0.16	9.4	D
Total	IV		59.6	61.1	120.7	0.36	10.7	D


B
330
75
425
885
65
915
Branford Connector
Route 1 (Nor
450
770
15
60
210
420
280
190
775
D
650
770
430
1410
555
D
1290
200
280
560
Main Street) #1
Route 142 (


Cherry Hill Road
55
1100
75
50
25
110
B
60
25
25
55
1040
15
Cherry Hill Road
Route 1 (North Main Street) #1
Main Street) #1

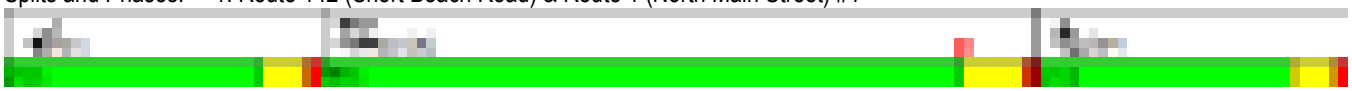

D
C
E
I-95 SB On Ramp
I-95 SB Off Ramp
I-95 NB On Ramp
I-95 NB Off Ramp
Cedar Street (SR 740)
Cedar Street (SR 740)
Route 1 (North Main Street) #1
200
490
110
0
255
560
445
110
635
150
15
465
245
855
280
600
85
260
480
360
75
150
300
450
75

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1290	200	555	1410	280	560
Future Volume (vph)	1290	200	555	1410	280	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	250		250	0
Storage Lanes		1	2		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1568	3400	3505	1728	1546
Flt Permitted			0.092		0.950	
Satd. Flow (perm)	3505	1568	329	3505	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		35				20
Link Speed (mph)	30			30	30	
Link Distance (ft)	386			864	434	
Travel Time (s)	8.8			19.6	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Adj. Flow (vph)	1402	217	603	1533	304	609
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1402	217	603	1533	304	609
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	48.0	21.0	21.0	48.0	21.0	21.0
Total Split (%)	53.3%	23.3%	23.3%	53.3%	23.3%	23.3%
Maximum Green (s)	42.9	17.0	17.0	42.9	17.0	17.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	43.6	65.5	61.2	43.6	16.8	37.3
Actuated g/C Ratio	0.48	0.73	0.68	0.48	0.19	0.41
v/c Ratio	0.83	0.19	0.77	0.90	0.94	0.93
Control Delay	25.5	3.7	17.7	36.4	75.2	48.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.5	3.7	17.7	36.4	75.2	48.1
LOS	C	A	B	D	E	D
Approach Delay	22.5			31.1	57.1	
Approach LOS	C			C	E	
Queue Length 50th (ft)	351	27	104	449	172	309
Queue Length 95th (ft)	448	49	m118	m485	#327	#530
Internal Link Dist (ft)	306			784	354	
Turn Bay Length (ft)			250		250	
Base Capacity (vph)	1697	1154	805	1697	326	661
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.19	0.75	0.90	0.93	0.92

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 33.2		Intersection LOS: C	
Intersection Capacity Utilization 77.9%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (North Main Street) #1

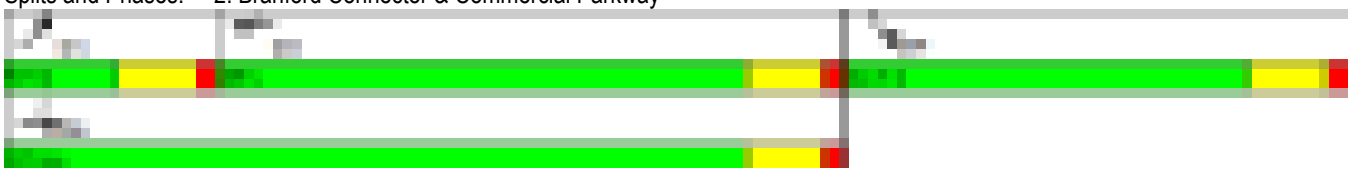


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	65	915	885	425	330	75
Future Volume (vph)	65	915	885	425	330	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			500	300	0
Storage Lanes	1			1	1	0
Taper Length (ft)	25				100	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.95
Frt				0.850	0.972	
Flt Protected	0.950				0.961	
Satd. Flow (prot)	1770	3539	3539	1583	3376	0
Flt Permitted	0.171				0.961	
Satd. Flow (perm)	319	3539	3539	1583	3376	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				462	48	
Link Speed (mph)		30	30		30	
Link Distance (ft)		2067	1001		1339	
Travel Time (s)		47.0	22.8		30.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	995	962	462	359	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	995	962	462	441	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	pm+pt	NA	NA	Perm	Prot	
Protected Phases	1	6	2		4	
Permitted Phases	6			2		
Detector Phase	1	6	2	2	4	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	
Total Split (s)	9.5	37.5	28.0	28.0	22.5	
Total Split (%)	15.8%	62.5%	46.7%	46.7%	37.5%	
Maximum Green (s)	5.0	33.0	23.5	23.5	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Max	None	None	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	
Act Effct Green (s)	33.0	33.0	27.3	27.3	18.0	
Actuated g/C Ratio	0.55	0.55	0.46	0.46	0.30	
v/c Ratio	0.24	0.51	0.60	0.48	0.42	
Control Delay	8.4	9.6	15.3	3.4	16.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	8.4	9.6	15.3	3.4	16.4	
LOS	A	A	B	A	B	
Approach Delay		9.5	11.4		16.4	
Approach LOS		A	B		B	
Queue Length 50th (ft)	11	106	147	0	57	
Queue Length 95th (ft)	26	149	208	49	92	
Internal Link Dist (ft)		1987	921		1259	
Turn Bay Length (ft)				500	300	
Base Capacity (vph)	296	1946	1610	972	1046	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.24	0.51	0.60	0.48	0.42	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Branford Connector & Commercial Parkway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	650	770	430	15	770	450	420	210	60	280	190	775
Future Volume (vph)	650	770	430	15	770	450	420	210	60	280	190	775
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		0	50		300	350		0	500		250
Storage Lanes	2		1	1		2	2		0	2		2
Taper Length (ft)	100			50			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.88	0.97	0.95	0.95	0.97	0.95	0.88
Frt			0.850			0.850		0.967				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3505	1568	1752	3505	2760	3433	3422	0	3273	3374	2656
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3505	1568	1752	3505	2760	3433	3422	0	3273	3374	2656
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)			467					35				528
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		864			578			1472			1001	
Travel Time (s)		19.6			13.1			33.5			22.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	7%	7%	7%
Adj. Flow (vph)	707	837	467	16	837	489	457	228	65	304	207	842
Shared Lane Traffic (%)												
Lane Group Flow (vph)	707	837	467	16	837	489	457	293	0	304	207	842
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2		8				4
Detector Phase	1	6	6	5	2	2	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	5.0	7.0		5.0	7.0	7.0
Minimum Split (s)	8.0	20.1	20.1	8.0	22.5	22.5	9.5	13.7		9.5	13.7	13.7
Total Split (s)	23.0	43.6	43.6	8.0	28.6	28.6	17.0	21.6		16.8	21.4	21.4
Total Split (%)	25.6%	48.4%	48.4%	8.9%	31.8%	31.8%	18.9%	24.0%		18.7%	23.8%	23.8%
Maximum Green (s)	18.0	38.5	38.5	3.0	23.5	23.5	12.5	14.9		12.3	14.7	14.7
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.5	3.3		3.5	3.3	3.3
All-Red Time (s)	2.0	1.0	1.0	2.0	1.0	1.0	1.0	3.4		1.0	3.4	3.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.1	5.1	5.0	5.1	5.1	4.5	6.7		4.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0		3.0	1.0	1.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	18.6	43.9	43.9	3.5	23.5	23.5	12.5	14.9		11.7	14.1	14.1
Actuated g/C Ratio	0.21	0.49	0.49	0.04	0.26	0.26	0.14	0.17		0.13	0.16	0.16
v/c Ratio	1.01	0.49	0.47	0.24	0.91	0.68	0.96	0.49		0.71	0.39	0.98
Control Delay	70.0	15.6	3.1	50.9	48.4	35.5	72.5	33.1		47.4	36.3	41.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	70.0	15.6	3.1	50.9	48.4	35.5	72.5	33.1		47.4	36.3	41.0
LOS	E	B	A	D	D	D	E	C		D	D	D
Approach Delay		31.8			43.7			57.1			41.7	
Approach LOS		C			D			E			D	
Queue Length 50th (ft)	~233	121	7	9	243	142	135	70		86	55	107
Queue Length 95th (ft)	m#307	m195	m41	30	#356	201	#229	111		129	90	#247
Internal Link Dist (ft)		784			498			1392			921	
Turn Bay Length (ft)	390			50		300	350			500		250
Base Capacity (vph)	703	1709	1003	68	915	720	476	597		447	551	875
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.01	0.49	0.47	0.24	0.91	0.68	0.96	0.49		0.68	0.38	0.96

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 40.7 Intersection LOS: D
Intersection Capacity Utilization 75.4% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

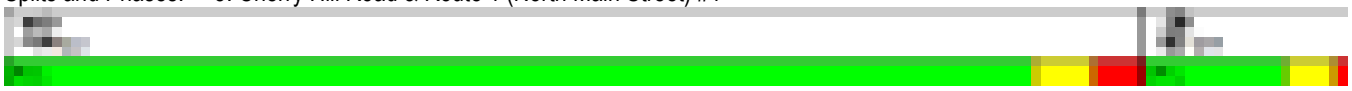
Splits and Phases: 3: Route 146/Branford Connector & Route 1 (North Main Street) #1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	1040	15	75	1100	55	25	25	60	50	25	110
Future Volume (vph)	55	1040	15	75	1100	55	25	25	60	50	25	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	315		0	27		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	15			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.993			0.926				0.850
Flt Protected	0.950			0.950				0.989			0.968	
Satd. Flow (prot)	1694	1841	0	1694	1832	0	0	1657	0	0	1752	1538
Flt Permitted	0.094			0.149				0.902			0.610	
Satd. Flow (perm)	168	1841	0	266	1832	0	0	1511	0	0	1104	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			8			54				120
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1060			2243			428			195	
Travel Time (s)		24.1			51.0			11.7			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	60	1130	16	82	1196	60	27	27	65	54	27	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	1146	0	82	1256	0	0	119	0	0	81	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Detector Phase	2	2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	27.5	27.5		27.5	27.5		11.3	11.3		11.3	11.3	11.3
Total Split (s)	76.0	76.0		76.0	76.0		14.0	14.0		14.0	14.0	14.0
Total Split (%)	84.4%	84.4%		84.4%	84.4%		15.6%	15.6%		15.6%	15.6%	15.6%
Maximum Green (s)	68.5	68.5		68.5	68.5		9.7	9.7		9.7	9.7	9.7
Yellow Time (s)	4.1	4.1		4.1	4.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.5	7.5		7.5	7.5			4.3			4.3	4.3
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Act Effct Green (s)	67.6	67.6		67.6	67.6			9.1			9.1	9.1
Actuated g/C Ratio	0.76	0.76		0.76	0.76			0.10			0.10	0.10
v/c Ratio	0.47	0.82		0.40	0.90			0.58			0.72	0.45
Control Delay	18.5	12.9		10.7	18.9			34.4			73.3	13.4
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	18.5	12.9		10.7	18.9			34.4			73.3	13.4
LOS	B	B		B	B			C			E	B
Approach Delay		13.2			18.4			34.4			37.5	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)	10	326		13	427			35			45	0
Queue Length 95th (ft)	56	542		42	#915			90			#118	50
Internal Link Dist (ft)		980			2163			348			115	
Turn Bay Length (ft)	315			27								
Base Capacity (vph)	129	1426		206	1421			214			120	275
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.47	0.80		0.40	0.88			0.56			0.68	0.44

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 88.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 87.8%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Cherry Hill Road & Route 1 (North Main Street) #1

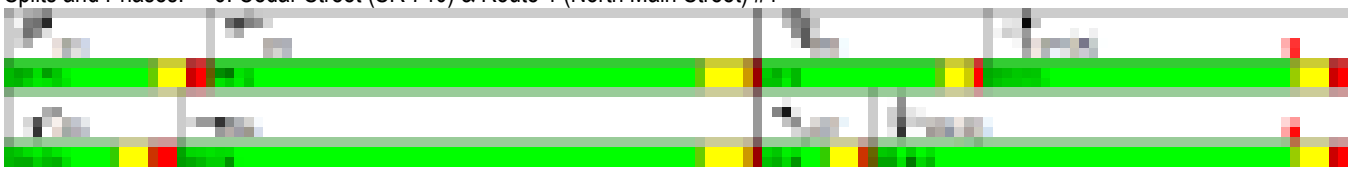


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	450	75	85	600	280	150	520	75	260	480	360
Future Volume (vph)	300	450	75	85	600	280	150	520	75	260	480	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.978				0.850		0.981				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3286	1804	0	1694	1845	1516	1728	3389	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.150			0.147		
Satd. Flow (perm)	3286	1804	0	1694	1845	1516	273	3389	0	267	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		8						12				100
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		361			1088			356			855	
Travel Time (s)		8.2			24.7			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	326	489	82	92	652	304	163	565	82	283	522	391
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	571	0	92	652	304	163	647	0	283	522	391
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	15.0	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.3	11.3
Total Split (s)	18.4	52.2		15.2	49.0	20.0	10.0	32.6		20.0	42.6	18.4
Total Split (%)	15.3%	43.5%		12.7%	40.8%	16.7%	8.3%	27.2%		16.7%	35.5%	15.3%
Maximum Green (s)	13.1	46.8		9.9	43.6	16.0	6.0	27.5		16.0	37.5	13.1
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	Min		None	Min	None	None	C-Min		None	C-Max	None
Act Effct Green (s)	13.1	46.6		9.5	43.0	64.6	35.6	27.9		49.2	37.5	55.7
Actuated g/C Ratio	0.11	0.39		0.08	0.36	0.54	0.30	0.23		0.41	0.31	0.46
v/c Ratio	0.91	0.81		0.69	0.99	0.37	1.01	0.81		0.92	0.89	0.51
Control Delay	82.7	42.8		80.0	70.7	17.5	107.2	52.2		67.0	61.2	27.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	82.7	42.8		80.0	70.7	17.5	107.2	52.2		67.0	61.2	27.8
LOS	F	D		F	E	B	F	D		E	E	C
Approach Delay		57.3			56.1			63.3			51.6	
Approach LOS		E			E			E			D	
Queue Length 50th (ft)	130	384		70	493	129	~87	247		181	373	178
Queue Length 95th (ft)	#216	536		#145	#740	195	#224	#320		m#260	m#492	m228
Internal Link Dist (ft)		281			1008			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	358	708		139	670	816	161	796		306	587	771
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.91	0.81		0.66	0.97	0.37	1.01	0.81		0.92	0.89	0.51

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 114.9 (96%), Referenced to phase 4:NBTL and 8:SBTL, Start of Yellow			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 56.5		Intersection LOS: E	
Intersection Capacity Utilization 90.2%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	15	465	0	0	0	0	855	245	110	635	0
Future Volume (vph)	150	15	465	0	0	0	0	855	245	110	635	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.967				
Flt Protected	0.950	0.961								0.950		
Satd. Flow (prot)	1681	1701	1583	0	0	0	0	3456	0	1787	3574	0
Flt Permitted	0.950	0.961								0.185		
Satd. Flow (perm)	1681	1701	1583	0	0	0	0	3456	0	348	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			340					60				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			727			855			456	
Travel Time (s)		21.2			16.5			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	163	16	505	0	0	0	0	929	266	120	690	0
Shared Lane Traffic (%)	45%											
Lane Group Flow (vph)	90	89	505	0	0	0	0	1195	0	120	690	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					23.1				
Total Split (s)	23.0	23.0	23.0					81.0				
Total Split (%)	19.2%	19.2%	19.2%					67.5%				
Maximum Green (s)	16.4	16.4	16.4					75.9				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					C-Min				

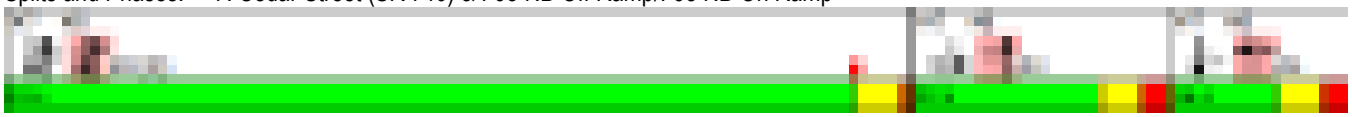
Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	16.0
Total Split (%)	13%
Maximum Green (s)	9.6
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	16.4	16.4	16.4					75.9		91.9	91.9	
Actuated g/C Ratio	0.14	0.14	0.14					0.63		0.77	0.77	
v/c Ratio	0.39	0.38	0.99					0.54		0.45	0.25	
Control Delay	53.0	52.6	55.5					10.3		9.1	1.7	
Queue Delay	0.9	0.8	0.0					0.0		0.0	0.2	
Total Delay	53.8	53.5	55.5					10.3		9.1	1.9	
LOS	D	D	E					B		A	A	
Approach Delay		55.0						10.3			3.0	
Approach LOS		D						B			A	
Queue Length 50th (ft)	67	67	143					263		9	20	
Queue Length 95th (ft)	124	123	#373					m458		m70	m22	
Internal Link Dist (ft)		853			647			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	229	232	509					2207		266	2737	
Starvation Cap Reductn	0	0	0					0		0	1109	
Spillback Cap Reductn	35	36	0					12		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.46	0.45	0.99					0.54		0.45	0.42	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 77.9 (65%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 19.5		Intersection LOS: B	
Intersection Capacity Utilization 71.9%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp



Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

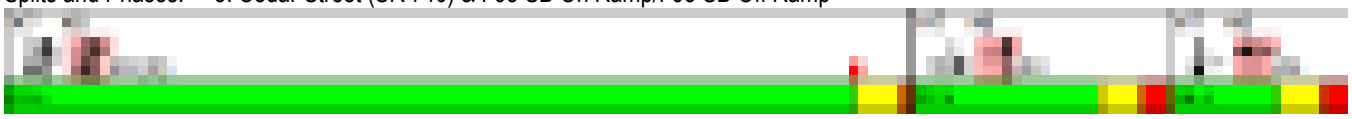
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	255	0	110	560	445	0	0	490	200
Future Volume (vph)	0	0	0	255	0	110	560	445	0	0	490	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.957	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3421	0
Flt Permitted				0.950	0.950		0.340					
Satd. Flow (perm)	0	0	0	1698	1698	1599	640	3574	0	0	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						120					100	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	277	0	120	609	484	0	0	533	217
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	138	139	120	609	484	0	0	750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					23.1	
Total Split (s)				16.0	16.0	16.0					81.0	
Total Split (%)				13.3%	13.3%	13.3%					67.5%	
Maximum Green (s)				9.6	9.6	9.6					75.9	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					C-Min	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	23.0
Total Split (%)	19%
Maximum Green (s)	16.4
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				9.6	9.6	9.6	98.9	98.9			75.9	
Actuated g/C Ratio				0.08	0.08	0.08	0.82	0.82			0.63	
v/c Ratio				1.02	1.03	0.50	1.16	0.16			0.34	
Control Delay				137.9	139.6	17.0	108.4	0.6			9.3	
Queue Delay				0.0	0.0	0.0	0.4	0.0			0.0	
Total Delay				137.9	139.6	17.0	108.8	0.6			9.3	
LOS				F	F	B	F	A			A	
Approach Delay					102.0			60.9			9.3	
Approach LOS					F			E			A	
Queue Length 50th (ft)				~116	~121	0	~549	3			113	
Queue Length 95th (ft)				#257	#260	59	#776	14			147	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				135	135	238	527	2945			2200	
Starvation Cap Reductn				0	0	0	26	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				1.02	1.03	0.50	1.22	0.16			0.34	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 77.9 (65%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 50.9		Intersection LOS: D	
Intersection Capacity Utilization 71.9%		ICU Level of Service C	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp



Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Arterial Level of Service: EB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	III	30	11.3	25.5	36.8	0.07	7.2	F
Route 146	III	30	21.9	15.6	37.5	0.16	15.7	D
Cherry Hill Road	III	30	39.4	12.9	52.3	0.31	21.4	C
Cedar Street (SR 740	III	30	62.6	42.8	105.4	0.49	16.8	D
Total	III		135.2	96.8	232.0	1.04	16.1	D

Arterial Level of Service: WB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cedar Street (SR 740	III	30	26.2	70.7	96.9	0.21	7.7	F
Cherry Hill Road	III	30	62.6	18.9	81.5	0.49	21.8	C
Branford Connector	III	30	39.4	48.4	87.8	0.31	12.7	E
Route 142 (Short Bea	III	30	21.9	36.4	58.3	0.16	10.1	E
Total	III		150.1	174.4	324.5	1.17	13.0	E

Arterial Level of Service: EB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Parkway	III	30	49.7	9.6	59.3	0.39	23.8	C
Route 1 (North Main	III	30	24.1	36.3	60.4	0.19	11.3	E
Total	III		73.8	45.9	119.7	0.58	17.5	D

Arterial Level of Service: WB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Parkway	III	30	24.1	15.3	39.4	0.19	17.3	D
Total	III		24.1	15.3	39.4	0.19	17.3	D

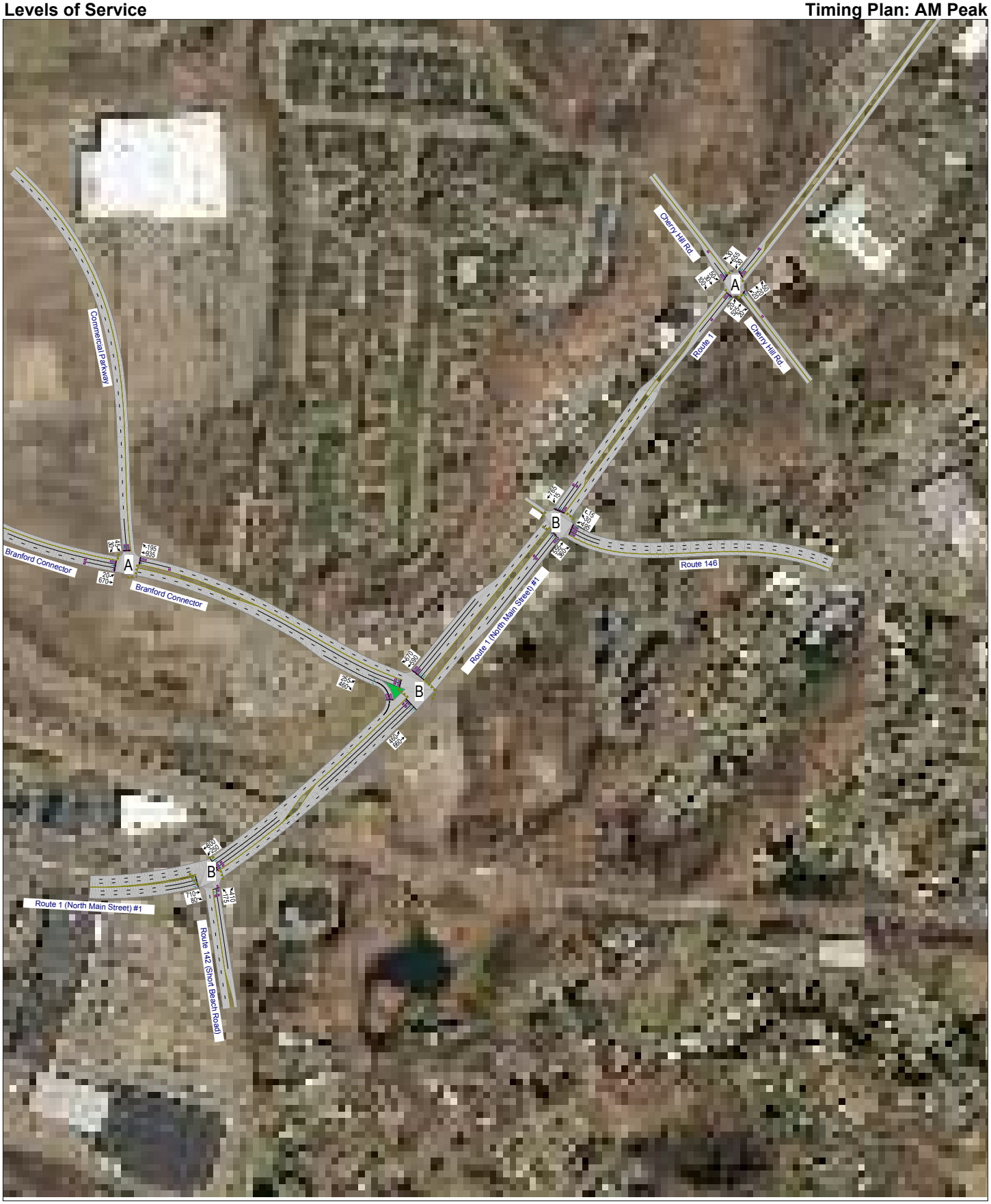
Arterial Level of Service: NB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	52.2	70.1	0.07	3.5	F
I-95 NB On Ramp	IV	30	24.3	10.3	34.6	0.16	16.8	C
I-95 SB Off Ramp	IV	30	15.5	0.6	16.1	0.09	19.3	B
Total	IV		57.7	63.1	120.8	0.32	9.4	D

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	9.3	29.1	0.11	13.6	C
I-95 NB Off Ramp	IV	30	15.5	1.7	17.2	0.09	18.1	C
Route 1 (North Main	IV	30	24.3	61.2	85.5	0.16	6.8	F
Total	IV		59.6	72.2	131.8	0.36	9.8	D


I-95 SB On-Ramp
I-95 SB Off-Ramp/Service Plaza
I-95 NB On-Ramp/Service Plaza
I-95 NB Off-Ramp
Branford Connector
Branford Connector
Branford Connector
B
B
U
255
215
800
215
370
800
205
475
690
205
365


Cherry Hill Rd
A
Commercial Parkway
Route 1
Cherry Hill Rd
B
Branford Connector
A
Branford Connector
Route 146
Route 1 (North Main Street) #1
B
B
Route 1 (North Main Street) #1
Route 142 (Short Beach Road)

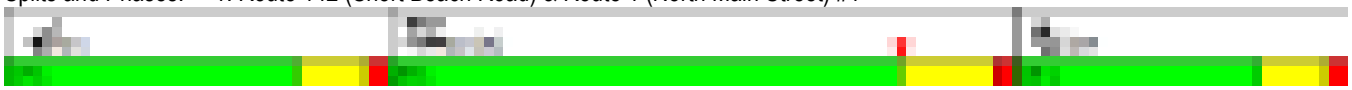

290
450
75
0
255
E
570
360
I-95 SB Off Ramp
SB On Ramp
Cedar Street (SR 740)
I-95 NB On Ramp
190
515
B
Ramp
140
0
465
215
790
Cedar Street (SR 740)
Route 1 (North Main Street) #1
340
345
75
260
385
335
C
70
445
75
220
310
40
Route 1 (North Main Street) #1
Cedar Street

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	710	80	250	800	175	410
Future Volume (vph)	710	80	250	800	175	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	250		250	0
Storage Lanes		1	2		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1568	3400	3505	1728	1546
Flt Permitted			0.307		0.950	
Satd. Flow (perm)	3505	1568	1099	3505	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		87				73
Link Speed (mph)	30			30	30	
Link Distance (ft)	386			864	434	
Travel Time (s)	8.8			19.6	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Adj. Flow (vph)	772	87	272	870	190	446
Shared Lane Traffic (%)						
Lane Group Flow (vph)	772	87	272	870	190	446
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	28.0	15.0	17.0	28.0	15.0	17.0
Total Split (%)	46.7%	25.0%	28.3%	46.7%	25.0%	28.3%
Maximum Green (s)	22.9	11.0	13.0	22.9	11.0	13.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	28.3	43.2	38.2	28.3	9.8	22.6
Actuated g/C Ratio	0.47	0.72	0.64	0.47	0.16	0.38
v/c Ratio	0.47	0.08	0.26	0.53	0.67	0.71
Control Delay	13.0	1.2	6.0	18.4	36.3	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	1.2	6.0	18.4	36.3	19.3
LOS	B	A	A	B	D	B
Approach Delay	11.8			15.4	24.3	
Approach LOS	B			B	C	
Queue Length 50th (ft)	95	0	24	124	64	108
Queue Length 95th (ft)	162	11	41	199	#133	171
Internal Link Dist (ft)	306			784	354	
Turn Bay Length (ft)			250		250	
Base Capacity (vph)	1653	1182	1248	1653	316	730
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.07	0.22	0.53	0.60	0.61

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 16.4		Intersection LOS: B	
Intersection Capacity Utilization 52.6%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (North Main Street) #1

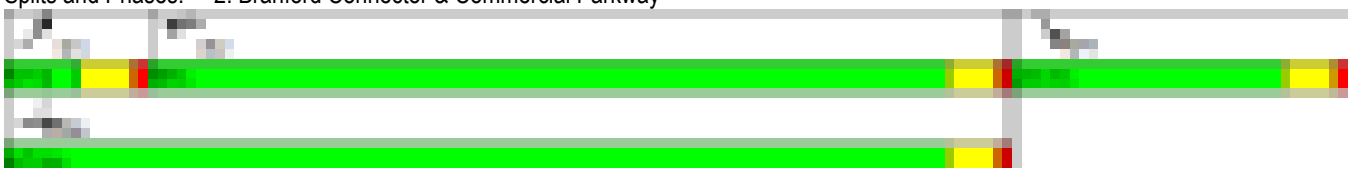


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	670	935	195	45	30
Future Volume (vph)	20	670	935	195	45	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350			0	0	0
Storage Lanes	1			1	2	0
Taper Length (ft)	100				25	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	0.95
Frt				0.850	0.940	
Flt Protected	0.950				0.971	
Satd. Flow (prot)	1770	3539	1863	1583	3298	0
Flt Permitted	0.129				0.971	
Satd. Flow (perm)	240	3539	1863	1583	3298	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				212	33	
Link Speed (mph)		30	30		30	
Link Distance (ft)		536	1001		1339	
Travel Time (s)		12.2	22.8		30.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	728	1016	212	49	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	728	1016	212	82	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	pm+pt	NA	NA	Perm	Prot	
Protected Phases	1	6	2		4	
Permitted Phases	6			2		
Detector Phase	1	6	2	2	4	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	
Total Split (s)	9.5	67.5	58.0	58.0	22.5	
Total Split (%)	10.6%	75.0%	64.4%	64.4%	25.0%	
Maximum Green (s)	5.0	63.0	53.5	53.5	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)		7.0	7.0	7.0	7.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	
Act Effct Green (s)	43.6	45.8	43.0	43.0	7.6	
Actuated g/C Ratio	0.76	0.80	0.75	0.75	0.13	
v/c Ratio	0.06	0.26	0.73	0.17	0.18	
Control Delay	2.2	2.5	11.4	1.1	21.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	2.2	2.5	11.4	1.1	21.5	
LOS	A	A	B	A	C	
Approach Delay		2.4	9.7		21.5	
Approach LOS		A	A		C	
Queue Length 50th (ft)	1	31	146	0	7	
Queue Length 95th (ft)	5	51	524	19	32	
Internal Link Dist (ft)		456	921		1259	
Turn Bay Length (ft)	350					
Base Capacity (vph)	345	3241	1600	1390	1286	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.06	0.22	0.64	0.15	0.06	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 57.3			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 7.5		Intersection LOS: A	
Intersection Capacity Utilization 60.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Branford Connector & Commercial Parkway



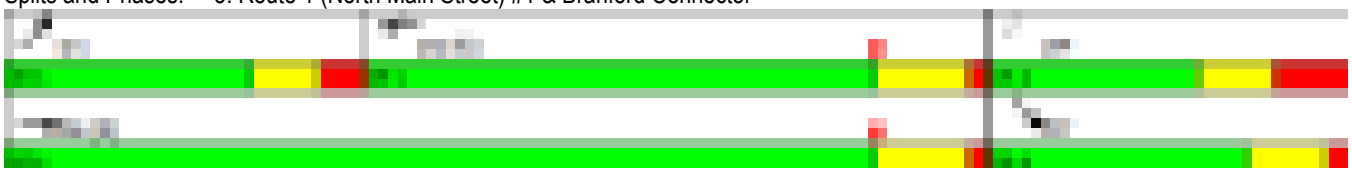
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	460	660	590	670	255	460
Future Volume (vph)	460	660	590	670	255	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390			300	500	250
Storage Lanes	2			2	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	0.95	0.88	0.97	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3400	3505	3505	2760	3273	2656
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3400	3505	3505	2760	3273	2656
Right Turn on Red				No		Yes
Satd. Flow (RTOR)						500
Link Speed (mph)		30	30		30	
Link Distance (ft)		864	683		1001	
Travel Time (s)		19.6	15.5		22.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	7%	7%
Adj. Flow (vph)	500	717	641	728	277	500
Shared Lane Traffic (%)						
Lane Group Flow (vph)	500	717	641	728	277	500
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		7	
Permitted Phases				2		4
Detector Phase	1	6	2	2	7	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	15.0	5.0	7.0
Minimum Split (s)	8.0	20.1	22.5	22.5	9.5	13.7
Total Split (s)	16.0	44.0	28.0	28.0	16.0	16.0
Total Split (%)	26.7%	73.3%	46.7%	46.7%	26.7%	26.7%
Maximum Green (s)	11.0	38.9	22.9	22.9	11.5	9.3
Yellow Time (s)	3.0	4.1	4.1	4.1	3.5	3.3
All-Red Time (s)	2.0	1.0	1.0	1.0	1.0	3.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.1	5.1	5.1	4.5	6.7
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	1.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Act Effct Green (s)	11.5	40.1	23.6	23.6	10.3	8.1
Actuated g/C Ratio	0.19	0.67	0.39	0.39	0.17	0.14
v/c Ratio	0.77	0.31	0.47	0.67	0.49	0.63
Control Delay	32.3	6.2	12.6	15.8	25.5	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	6.2	12.6	15.8	25.5	6.7
LOS	C	A	B	B	C	A
Approach Delay		16.9	14.3		13.4	
Approach LOS		B	B		B	
Queue Length 50th (ft)	90	36	73	102	47	0
Queue Length 95th (ft)	#161	111	113	151	77	39
Internal Link Dist (ft)		784	603		921	
Turn Bay Length (ft)	390			300	500	250
Base Capacity (vph)	656	2340	1376	1083	627	834
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.31	0.47	0.67	0.44	0.60

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 15.0 Intersection LOS: B
Intersection Capacity Utilization 48.9% ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 1 (North Main Street) #1 & Branford Connector

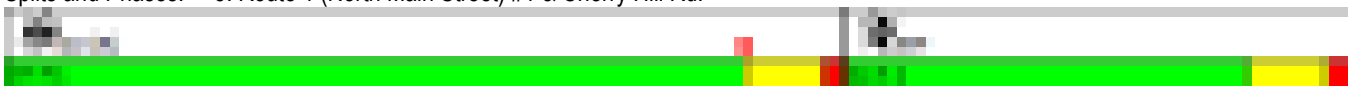


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	50	30	100	20	20	50	20	525	20	30	655	30
Future Volume (vph)	50	30	100	20	20	50	20	525	20	30	655	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			75			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.926			0.994			0.993	
Flt Protected		0.970			0.989		0.950			0.950		
Satd. Flow (prot)	0	1807	1583	0	1706	0	1770	1852	0	1770	1850	0
Flt Permitted		0.827			0.904		0.317			0.402		
Satd. Flow (perm)	0	1540	1583	0	1559	0	590	1852	0	749	1850	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109		54			5			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		431			385			418			2261	
Travel Time (s)		9.8			8.8			9.5			51.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	33	109	22	22	54	22	571	22	33	712	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	109	0	98	0	22	593	0	33	745	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4		4	4			2			2		
Detector Phase	4	4	4	4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6	22.6	22.6	22.6		37.4	37.4		37.4	37.4	
Total Split (%)	37.7%	37.7%	37.7%	37.7%	37.7%		62.3%	62.3%		62.3%	62.3%	
Maximum Green (s)	18.1	18.1	18.1	18.1	18.1		32.9	32.9		32.9	32.9	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		9.0	9.0		9.0		44.9	44.9		44.9	44.9	
Actuated g/C Ratio		0.15	0.15		0.15		0.75	0.75		0.75	0.75	
v/c Ratio		0.38	0.33		0.35		0.05	0.43		0.06	0.54	
Control Delay		26.6	8.0		15.2		4.7	7.6		4.0	6.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		26.6	8.0		15.2		4.7	7.6		4.0	6.7	
LOS		C	A		B		A	A		A	A	
Approach Delay		16.2			15.2			7.5			6.6	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		29	0		14		3	99		3	101	
Queue Length 95th (ft)		59	33		46		10	146		12	237	
Internal Link Dist (ft)		351			305			338			2181	
Turn Bay Length (ft)			50				150			100		
Base Capacity (vph)		464	553		508		441	1386		560	1384	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.19	0.20		0.19		0.05	0.43		0.06	0.54	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 32.9 (55%), Referenced to phase 2:NESW and 6:, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 8.5		Intersection LOS: A	
Intersection Capacity Utilization 59.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 5: Route 1 (North Main Street) #1 & Cherry Hill Rd.

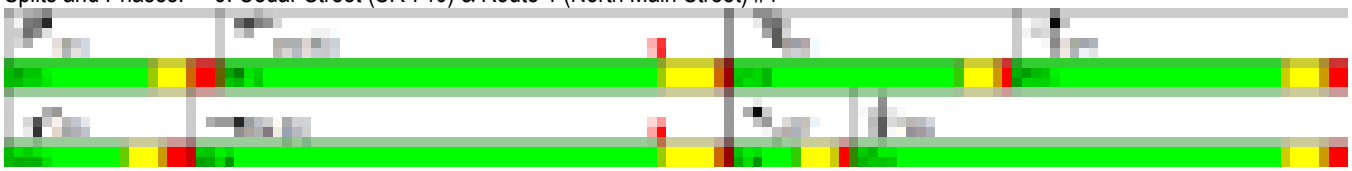


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	310	40	75	345	340	75	445	70	260	385	335
Future Volume (vph)	220	310	40	75	345	340	75	445	70	260	385	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.983				0.850		0.980				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3286	1813	0	1694	1845	1516	1728	3386	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.395			0.185		
Satd. Flow (perm)	3286	1813	0	1694	1845	1516	718	3386	0	336	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		7						16				278
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		361			1088			356			855	
Travel Time (s)		8.2			24.7			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	239	337	43	82	375	370	82	484	76	283	418	364
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	380	0	82	375	370	82	560	0	283	418	364
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	15.0	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.3	11.3
Total Split (s)	16.0	40.0		14.0	38.0	21.0	9.0	25.0		21.0	37.0	16.0
Total Split (%)	16.0%	40.0%		14.0%	38.0%	21.0%	9.0%	25.0%		21.0%	37.0%	16.0%
Maximum Green (s)	10.7	34.6		8.7	32.6	17.0	5.0	19.9		17.0	31.9	10.7
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	C-Min		None	C-Min	None	None	Min		None	None	None
Act Effct Green (s)	10.9	36.9		8.6	32.3	54.7	28.5	20.0		42.1	31.5	47.6
Actuated g/C Ratio	0.11	0.37		0.09	0.32	0.55	0.28	0.20		0.42	0.32	0.48
v/c Ratio	0.67	0.56		0.57	0.63	0.45	0.29	0.81		0.75	0.70	0.41
Control Delay	52.6	31.0		59.3	35.7	16.1	20.6	47.5		37.6	41.8	7.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	52.6	31.0		59.3	35.7	16.1	20.6	47.5		37.6	41.8	7.5
LOS	D	C		E	D	B	C	D		D	D	A
Approach Delay		39.3			29.3			44.1			29.0	
Approach LOS		D			C			D			C	
Queue Length 50th (ft)	74	207		50	215	145	30	172		139	250	16
Queue Length 95th (ft)	#118	300		#107	307	205	59	#256		m180	m309	m40
Internal Link Dist (ft)		281			1008			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	368	715		153	639	845	280	715		393	612	884
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.65	0.53		0.54	0.59	0.44	0.29	0.78		0.72	0.68	0.41

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 34.2		Intersection LOS: C	
Intersection Capacity Utilization 69.9%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	0	465	0	0	0	0	790	215	190	515	0
Future Volume (vph)	140	0	465	0	0	0	0	790	215	190	515	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.968				
Flt Protected	0.950	0.950								0.950		
Satd. Flow (prot)	1681	1681	1583	0	0	0	0	3460	0	1787	3574	0
Flt Permitted	0.950	0.950								0.218		
Satd. Flow (perm)	1681	1681	1583	0	0	0	0	3460	0	410	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			432					68				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			727			855			456	
Travel Time (s)		21.2			16.5			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	152	0	505	0	0	0	0	859	234	207	560	0
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	76	76	505	0	0	0	0	1093	0	207	560	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					23.1				
Total Split (s)	17.0	17.0	17.0					69.0				
Total Split (%)	17.0%	17.0%	17.0%					69.0%				
Maximum Green (s)	10.4	10.4	10.4					63.9				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					C-Min				

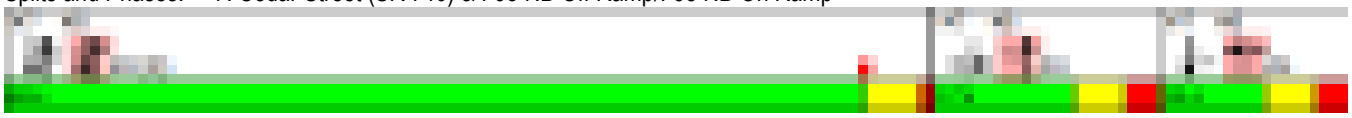
Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	14.0
Total Split (%)	14%
Maximum Green (s)	7.6
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	10.4	10.4	10.4					63.9		77.9	77.9	
Actuated g/C Ratio	0.10	0.10	0.10					0.64		0.78	0.78	
v/c Ratio	0.44	0.44	0.92					0.49		0.65	0.20	
Control Delay	50.6	50.6	31.6					5.4		16.3	1.5	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	50.6	50.6	31.6					5.4		16.3	1.5	
LOS	D	D	C					A		B	A	
Approach Delay		35.9						5.4			5.5	
Approach LOS		D						A			A	
Queue Length 50th (ft)	48	48	44					31		66	16	
Queue Length 95th (ft)	97	97	#238					81		m116	m18	
Internal Link Dist (ft)		853			647			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	174	174	551					2235		319	2784	
Starvation Cap Reductn	0	0	0					0		0	0	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.44	0.44	0.92					0.49		0.65	0.20	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 13.4 Intersection LOS: B
Intersection Capacity Utilization 74.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp



Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	255	0	75	570	360	0	0	450	290
Future Volume (vph)	0	0	0	255	0	75	570	360	0	0	450	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.941	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3363	0
Flt Permitted				0.950	0.950		0.322					
Satd. Flow (perm)	0	0	0	1698	1698	1599	606	3574	0	0	3363	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						95					291	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	277	0	82	620	391	0	0	489	315
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	138	139	82	620	391	0	0	804	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					23.1	
Total Split (s)				14.0	14.0	14.0					69.0	
Total Split (%)				14.0%	14.0%	14.0%					69.0%	
Maximum Green (s)				7.6	7.6	7.6					63.9	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					C-Min	

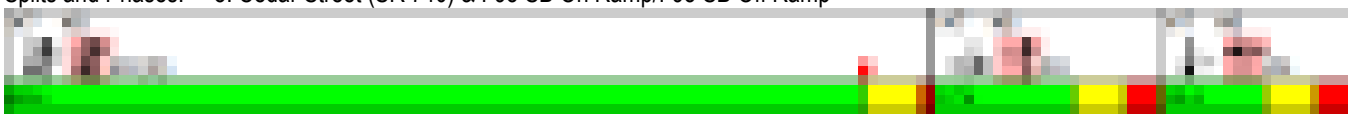
Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	17.0
Total Split (%)	17%
Maximum Green (s)	10.4
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				7.6	7.6	7.6	80.9	80.9			63.9	
Actuated g/C Ratio				0.08	0.08	0.08	0.81	0.81			0.64	
v/c Ratio				1.07	1.08	0.39	1.27	0.14			0.36	
Control Delay				144.9	147.0	13.3	152.3	1.8			5.5	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				144.9	147.0	13.3	152.3	1.8			5.5	
LOS				F	F	B	F	A			A	
Approach Delay					115.7			94.1			5.5	
Approach LOS					F			F			A	
Queue Length 50th (ft)				~103	~104	0	~499	15			66	
Queue Length 95th (ft)				#230	#232	37	#728	25			97	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				129	129	209	490	2891			2254	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				1.07	1.08	0.39	1.27	0.14			0.36	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 64.9 Intersection LOS: E
Intersection Capacity Utilization 74.2% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp



Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	WBL	WBR	WBR2	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations											
Traffic Volume (vph)	495	30	15	0	0	0	555	360	15	765	0
Future Volume (vph)	495	30	15	0	0	0	555	360	15	765	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	0	0		350	100		0
Storage Lanes	2	1		0	0	0		1	1		0
Taper Length (ft)	25			25		25			25		
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.850						0.850			
Flt Protected	0.950								0.950		
Satd. Flow (prot)	3433	1583	0	0	0	0	3539	1583	1770	3539	0
Flt Permitted	0.950								0.417		
Satd. Flow (perm)	3433	1583	0	0	0	0	3539	1583	777	3539	0
Right Turn on Red			Yes		Yes			Yes			Yes
Satd. Flow (RTOR)		27						391			
Link Speed (mph)	30			30			30			30	
Link Distance (ft)	883			121			683			518	
Travel Time (s)	20.1			2.8			15.5			11.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	538	33	16	0	0	0	603	391	16	832	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	538	49	0	0	0	0	603	391	16	832	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	24			0			12			12	
Link Offset(ft)	0			0			0			0	
Crosswalk Width(ft)	16			16			16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	9	15	9	15		9	15		9
Turn Type	Prot	Perm					NA	Perm	Perm	NA	
Protected Phases	4						2			6	
Permitted Phases		4						2	6		
Detector Phase	4	4					2	2	6	6	
Switch Phase											
Minimum Initial (s)	5.0	5.0					5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5					22.5	22.5	22.5	22.5	
Total Split (s)	27.0	27.0					33.0	33.0	33.0	33.0	
Total Split (%)	45.0%	45.0%					55.0%	55.0%	55.0%	55.0%	
Maximum Green (s)	22.5	22.5					28.5	28.5	28.5	28.5	
Yellow Time (s)	3.5	3.5					3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0					1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5					4.5	4.5	4.5	4.5	
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0	3.0					3.0	3.0	3.0	3.0	
Recall Mode	None	None					C-Max	C-Max	C-Max	C-Max	
Walk Time (s)	7.0	7.0					7.0	7.0	7.0	7.0	

Lane Group	WBL	WBR	WBR2	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Flash Dont Walk (s)	11.0	11.0					11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0					0	0	0	0	
Act Effct Green (s)	14.8	14.8					36.2	36.2	36.2	36.2	
Actuated g/C Ratio	0.25	0.25					0.60	0.60	0.60	0.60	
v/c Ratio	0.64	0.12					0.28	0.35	0.03	0.39	
Control Delay	23.4	10.2					7.2	4.4	8.4	8.3	
Queue Delay	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	23.4	10.2					7.2	4.4	8.4	8.3	
LOS	C	B					A	A	A	A	
Approach Delay	22.3						6.1			8.3	
Approach LOS	C						A			A	
Queue Length 50th (ft)	89	6					46	0	2	69	
Queue Length 95th (ft)	119	25					108	87	m8	152	
Internal Link Dist (ft)	803			41			603			438	
Turn Bay Length (ft)								350	100		
Base Capacity (vph)	1287	610					2135	1110	468	2135	
Starvation Cap Reductn	0	0					0	0	0	0	
Spillback Cap Reductn	0	0					0	0	0	0	
Storage Cap Reductn	0	0					0	0	0	0	
Reduced v/c Ratio	0.42	0.08					0.28	0.35	0.03	0.39	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 28.5 (48%), Referenced to phase 2:NET and 6:SWTL, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 10.8		Intersection LOS: B	
Intersection Capacity Utilization 42.8%		ICU Level of Service A	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Route 1 (North Main Street) #1 & Route 146

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	205	965	0	0	690
Future Volume (vph)	0	205	965	0	0	690
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1611	1863	0	0	1863
Flt Permitted						
Satd. Flow (perm)	0	1611	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	817		2179			356
Travel Time (s)	18.6		49.5			8.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	223	1049	0	0	750
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	223	1049	0	0	750
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	L NA	R NA	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	215	255	800	0
Future Volume (vph)	0	0	215	255	800	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected			0.950		0.950	
Satd. Flow (prot)	0	0	1770	1863	1770	0
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	0	0	1770	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	30			30	30	
Link Distance (ft)	834			723	299	
Travel Time (s)	19.0			16.4	6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	234	277	870	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	234	277	870	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type			Perm	NA	Prot	
Protected Phases				8	2	
Permitted Phases			8			
Detector Phase			8	8	2	
Switch Phase						
Minimum Initial (s)			5.0	5.0	5.0	
Minimum Split (s)			22.5	22.5	22.5	
Total Split (s)			26.0	26.0	64.0	
Total Split (%)			28.9%	28.9%	71.1%	
Maximum Green (s)			21.5	21.5	59.5	
Yellow Time (s)			3.5	3.5	3.5	
All-Red Time (s)			1.0	1.0	1.0	
Lost Time Adjust (s)			0.0	0.0	0.0	
Total Lost Time (s)			4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)			3.0	3.0	3.0	
Recall Mode			None	None	C-Max	
Walk Time (s)			7.0	7.0	7.0	
Flash Dont Walk (s)			11.0	11.0	11.0	
Pedestrian Calls (#/hr)			0	0	0	
Act Effct Green (s)			18.1	18.1	62.9	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Actuated g/C Ratio			0.20	0.20	0.70	
v/c Ratio			0.66	0.74	0.70	
Control Delay			41.9	45.8	5.1	
Queue Delay			0.5	0.0	0.0	
Total Delay			42.5	45.8	5.1	
LOS			D	D	A	
Approach Delay				44.3	5.1	
Approach LOS				D	A	
Queue Length 50th (ft)			121	146	41	
Queue Length 95th (ft)			192	225	50	
Internal Link Dist (ft)	754			643	219	
Turn Bay Length (ft)						
Base Capacity (vph)			422	445	1238	
Starvation Cap Reductn			0	0	0	
Spillback Cap Reductn			34	0	0	
Storage Cap Reductn			0	0	0	
Reduced v/c Ratio			0.60	0.62	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 19.6		Intersection LOS: B	
Intersection Capacity Utilization 77.6%		ICU Level of Service D	
Analysis Period (min) 15			

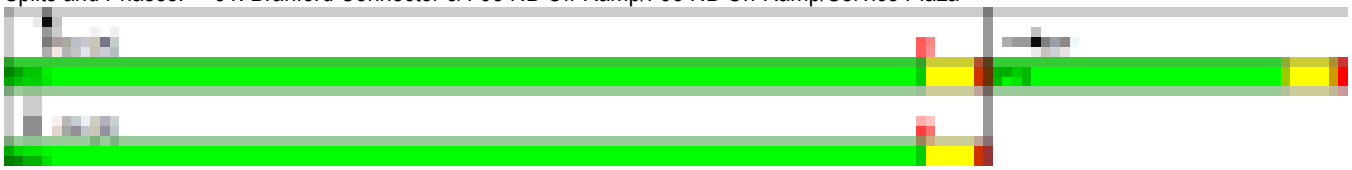
Splits and Phases: 24: Branford Connector & I-95 SB On-Ramp/I-95 SB Off-Ramp/Service Plaza

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	205	475	0	0	0	0	800	370	0	215	0
Future Volume (vph)	0	205	475	0	0	0	0	800	370	0	215	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		600	0		0	0		200	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850			
Flt Protected												
Satd. Flow (prot)	0	1863	1583	0	0	0	0	1863	1583	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	1863	1583	0	0	0	0	1863	1583	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			516						286			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1037			692			390			299	
Travel Time (s)		23.6			15.7			8.9			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	223	516	0	0	0	0	870	402	0	234	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	223	516	0	0	0	0	870	402	0	234	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Free					NA	custom		NA	
Protected Phases		4						2	2		6	
Permitted Phases			Free					2	2		6	
Detector Phase		4						2	2		6	
Switch Phase												
Minimum Initial (s)		5.0						5.0	5.0		5.0	
Minimum Split (s)		22.5						22.5	22.5		22.5	
Total Split (s)		24.0						66.0	66.0		66.0	
Total Split (%)		26.7%						73.3%	73.3%		73.3%	
Maximum Green (s)		19.5						61.5	61.5		61.5	
Yellow Time (s)		3.5						3.5	3.5		3.5	
All-Red Time (s)		1.0						1.0	1.0		1.0	
Lost Time Adjust (s)		0.0						0.0	0.0		0.0	
Total Lost Time (s)		4.5						4.5	4.5		4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0						3.0	3.0		3.0	
Recall Mode		None						C-Max	C-Max		C-Max	
Walk Time (s)		7.0						7.0	7.0		7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0						0	0		0	
Act Effct Green (s)		15.5	90.0					65.5	65.5		65.5	
Actuated g/C Ratio		0.17	1.00					0.73	0.73		0.73	
v/c Ratio		0.70	0.33					0.64	0.33		0.17	
Control Delay		46.4	0.5					9.7	2.2		14.1	
Queue Delay		0.0	0.0					0.0	0.0		2.8	
Total Delay		46.4	0.5					9.7	2.2		16.9	
LOS		D	A					A	A		B	
Approach Delay		14.4						7.3			16.9	
Approach LOS		B						A			B	
Queue Length 50th (ft)		120	0					215	16		146	
Queue Length 95th (ft)		186	0					384	50		222	
Internal Link Dist (ft)		957			612			310			219	
Turn Bay Length (ft)			600						200			
Base Capacity (vph)		403	1583					1356	1230		1356	
Starvation Cap Reductn		0	0					0	0		1001	
Spillback Cap Reductn		0	0					0	0		0	
Storage Cap Reductn		0	0					0	0		0	
Reduced v/c Ratio		0.55	0.33					0.64	0.33		0.66	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 66.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 31: Branford Connector & I-95 NB Off-Ramp/I-95 NB On-Ramp/Service Plaza



Arterial Level of Service: NB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Parkway	III	30	24.1	11.4	35.5	0.19	19.2	C
I-95 NB On-Ramp/Serv	III	30	78.7	9.7	88.4	0.66	26.7	B
I-95 SB Off-Ramp/Ser	III	30	8.8	5.1	13.9	0.06	14.7	D
Total	III		111.6	26.2	137.8	0.90	23.6	C

Arterial Level of Service: EB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 NB Off-Ramp	III	30	8.8	14.1	22.9	0.06	8.9	F
Commercial Parkway	III	30	78.7	2.5	81.2	0.66	29.1	B
Route 1 (North Main	III	30	24.1	25.5	49.6	0.19	13.8	E
Total	III		111.6	42.1	153.7	0.90	21.1	C

Arterial Level of Service: NB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	47.5	65.4	0.07	3.7	F
I-95 NB On Ramp	IV	30	24.3	5.4	29.7	0.16	19.6	B
I-95 SB Off Ramp	IV	30	15.5	1.8	17.3	0.09	18.0	C
Total	IV		57.7	54.7	112.4	0.32	10.1	D

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	5.5	25.3	0.11	15.7	C
I-95 NB Off Ramp	IV	30	15.5	1.5	17.0	0.09	18.3	C
Route 1 (North Main	IV	30	24.3	41.8	66.1	0.16	8.8	E
Total	IV		59.6	48.8	108.4	0.36	11.9	D

Arterial Level of Service: EB Route 1 (North Main Street) #1

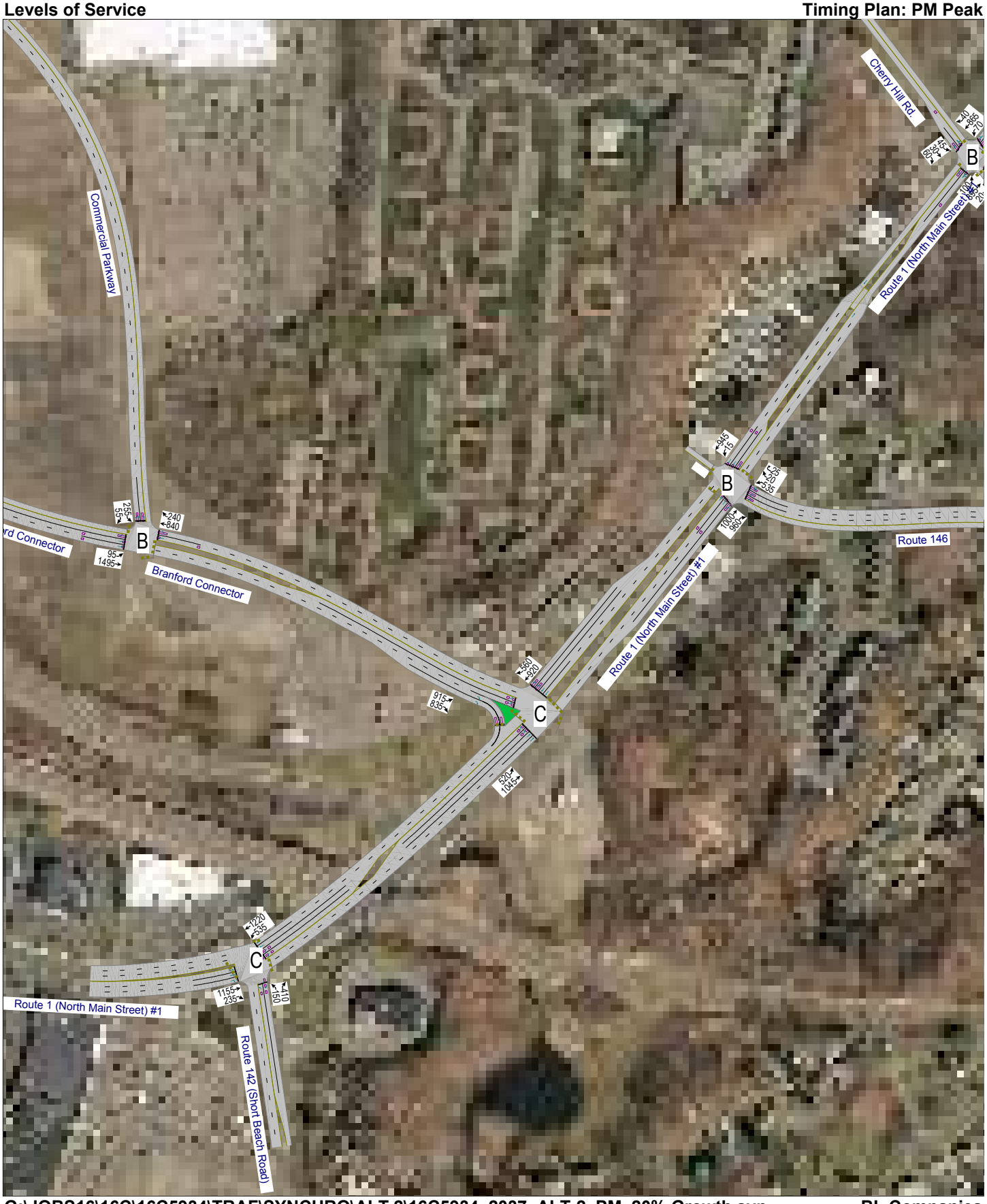
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	IV	30	16.6	13.0	29.6	0.07	8.9	E
Branford Connector	IV	30	24.5	6.2	30.7	0.16	19.2	B
Route 146	IV	30	19.4	7.2	26.6	0.13	17.5	C
Total	IV		60.5	26.4	86.9	0.37	15.2	C

Arterial Level of Service: WB Route 1 (North Main Street) #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Branford Connector	III	30	17.3	12.6	29.9	0.13	15.6	D
Route 142 (Short Bea	III	30	21.9	18.4	40.3	0.16	14.6	D
Total	III		39.2	31.0	70.2	0.29	15.0	D

Branford Connector Corridor Study
Levels of Service **Timing Plan: PM Peak**

Branford Connector Corridor Study
Levels of Service **Timing Plan: PM Peak**



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D. Haptas **04/10/2018**

Branford Connector Corridor Study
Volumes **Timing Plan: PM Peak**

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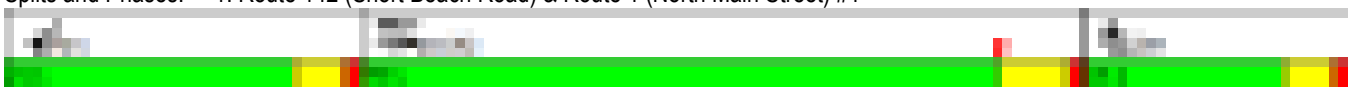
D. Haptas **04/20/2018**

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1155	235	535	1220	150	410
Future Volume (vph)	1155	235	535	1220	150	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	250		250	0
Storage Lanes		1	2		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1568	3400	3505	1728	1546
Flt Permitted			0.135		0.950	
Satd. Flow (perm)	3505	1568	483	3505	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		69				30
Link Speed (mph)	30			30	30	
Link Distance (ft)	386			864	434	
Travel Time (s)	8.8			19.6	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Adj. Flow (vph)	1255	255	582	1326	163	446
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1255	255	582	1326	163	446
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	43.0	16.0	21.0	43.0	16.0	21.0
Total Split (%)	53.8%	20.0%	26.3%	53.8%	20.0%	26.3%
Maximum Green (s)	37.9	12.0	17.0	37.9	12.0	17.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	42.5	58.2	57.4	42.5	10.6	28.4
Actuated g/C Ratio	0.53	0.73	0.72	0.53	0.13	0.36
v/c Ratio	0.67	0.22	0.69	0.71	0.71	0.79
Control Delay	17.0	3.4	12.9	22.8	50.8	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	3.4	12.9	22.8	50.8	31.5
LOS	B	A	B	C	D	C
Approach Delay	14.7			19.8	36.7	
Approach LOS	B			B	D	
Queue Length 50th (ft)	235	23	75	301	78	178
Queue Length 95th (ft)	338	53	m98	m380	#153	272
Internal Link Dist (ft)	306			784	354	
Turn Bay Length (ft)			250		250	
Base Capacity (vph)	1862	1185	979	1862	259	628
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.22	0.59	0.71	0.63	0.71

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 20.4		Intersection LOS: C	
Intersection Capacity Utilization 66.4%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (North Main Street) #1



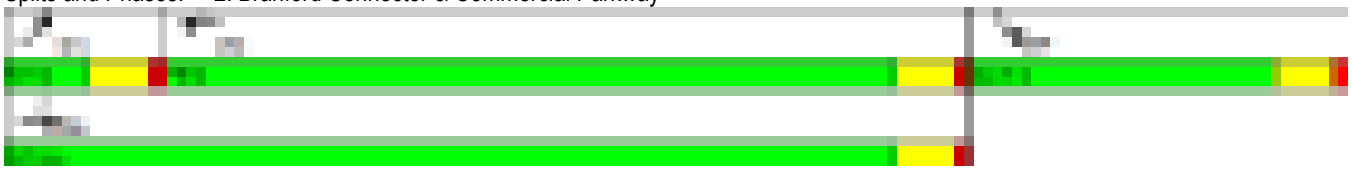
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	1495	840	240	255	55
Future Volume (vph)	95	1495	840	240	255	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350			0	0	0
Storage Lanes	1			1	2	0
Taper Length (ft)	100				25	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	0.95
Frt				0.850	0.973	
Flt Protected	0.950				0.961	
Satd. Flow (prot)	1770	3539	1863	1583	3379	0
Flt Permitted	0.102				0.961	
Satd. Flow (perm)	190	3539	1863	1583	3379	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				261	31	
Link Speed (mph)		30	30		30	
Link Distance (ft)		536	1001		1339	
Travel Time (s)		12.2	22.8		30.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	1625	913	261	277	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	1625	913	261	337	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	pm+pt	NA	NA	Perm	Prot	
Protected Phases	1	6	2		4	
Permitted Phases	6			2		
Detector Phase	1	6	2	2	4	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	
Total Split (s)	9.5	57.5	48.0	48.0	22.5	
Total Split (%)	11.9%	71.9%	60.0%	60.0%	28.1%	
Maximum Green (s)	5.0	53.0	43.5	43.5	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)		7.0	7.0	7.0	7.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	
Act Effct Green (s)	45.9	45.9	38.9	38.9	11.8	
Actuated g/C Ratio	0.68	0.68	0.58	0.58	0.18	
v/c Ratio	0.41	0.67	0.85	0.25	0.54	
Control Delay	8.6	7.9	22.5	1.9	28.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	8.6	7.9	22.5	1.9	28.2	
LOS	A	A	C	A	C	
Approach Delay		8.0	18.0		28.2	
Approach LOS		A	B		C	
Queue Length 50th (ft)	11	164	304	0	67	
Queue Length 95th (ft)	31	272	#621	30	106	
Internal Link Dist (ft)		456	921		1259	
Turn Bay Length (ft)	350					
Base Capacity (vph)	253	2748	1254	1151	979	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.41	0.59	0.73	0.23	0.34	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 67.2			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 13.7		Intersection LOS: B	
Intersection Capacity Utilization 69.7%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Branford Connector & Commercial Parkway



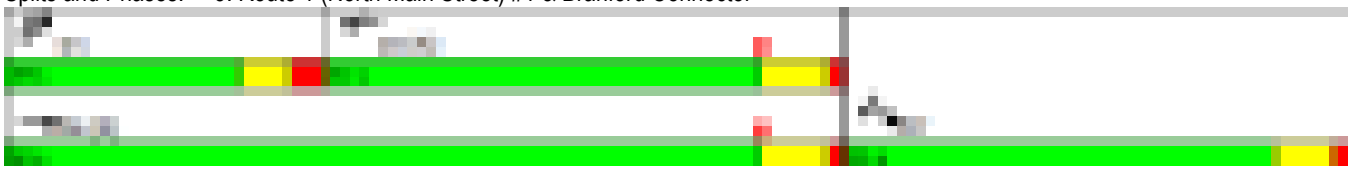
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	520	1045	920	560	915	835
Future Volume (vph)	520	1045	920	560	915	835
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390			300	500	250
Storage Lanes	2			2	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	0.95	0.88	0.97	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3400	3505	3505	2760	3273	2656
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3400	3505	3505	2760	3273	2656
Right Turn on Red				No		Yes
Satd. Flow (RTOR)						28
Link Speed (mph)		30	30		30	
Link Distance (ft)		864	683		1001	
Travel Time (s)		19.6	15.5		22.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	7%	7%
Adj. Flow (vph)	565	1136	1000	609	995	908
Shared Lane Traffic (%)						
Lane Group Flow (vph)	565	1136	1000	609	995	908
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	1	6	2		7	7 1
Permitted Phases				2		
Detector Phase	1	6	2	2	7	7 1
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	15.0	5.0	
Minimum Split (s)	8.0	20.1	22.5	22.5	9.5	
Total Split (s)	19.0	50.0	31.0	31.0	30.0	
Total Split (%)	23.8%	62.5%	38.8%	38.8%	37.5%	
Maximum Green (s)	14.0	44.9	25.9	25.9	25.5	
Yellow Time (s)	3.0	4.1	4.1	4.1	3.5	
All-Red Time (s)	2.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.1	5.1	5.1	4.5	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	C-Max	None	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Act Effct Green (s)	14.0	44.9	25.9	25.9	25.5	44.5
Actuated g/C Ratio	0.18	0.56	0.32	0.32	0.32	0.56
v/c Ratio	0.95	0.58	0.88	0.68	0.95	0.61
Control Delay	61.0	11.1	34.6	27.4	46.9	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	11.1	34.6	27.4	46.9	13.7
LOS	E	B	C	C	D	B
Approach Delay		27.7	31.9		31.1	
Approach LOS		C	C		C	
Queue Length 50th (ft)	155	112	223	139	248	154
Queue Length 95th (ft)	#248	210	#350	208	#374	218
Internal Link Dist (ft)		784	603		921	
Turn Bay Length (ft)	390			300	500	250
Base Capacity (vph)	595	1967	1134	893	1043	1489
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.58	0.88	0.68	0.95	0.61

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 30.2 Intersection LOS: C
Intersection Capacity Utilization 78.5% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 1 (North Main Street) #1 & Branford Connector

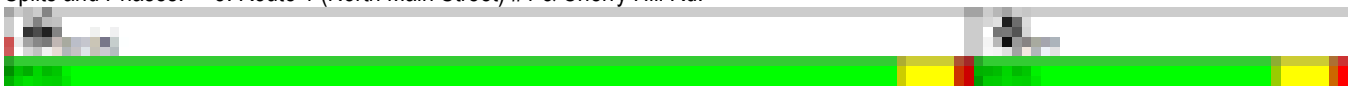


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	45	30	60	35	40	45	100	895	20	70	865	40
Future Volume (vph)	45	30	60	35	40	45	100	895	20	70	865	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			75			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.949			0.997			0.993	
Flt Protected		0.971			0.986		0.950			0.950		
Satd. Flow (prot)	0	1809	1583	0	1743	0	1770	1857	0	1770	1850	0
Flt Permitted		0.686			0.876		0.211			0.205		
Satd. Flow (perm)	0	1278	1583	0	1549	0	393	1857	0	382	1850	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			65		35			3			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		431			385			418			2261	
Travel Time (s)		9.8			8.8			9.5			51.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	33	65	38	43	49	109	973	22	76	940	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	65	0	130	0	109	995	0	76	983	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4		4	4			2			2		
Detector Phase	4	4	4	4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5		57.5	57.5		57.5	57.5	
Total Split (%)	28.1%	28.1%	28.1%	28.1%	28.1%		71.9%	71.9%		71.9%	71.9%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		10.4	10.4		10.4		60.6	60.6		60.6	60.6	
Actuated g/C Ratio		0.13	0.13		0.13		0.76	0.76		0.76	0.76	
v/c Ratio		0.50	0.25		0.56		0.37	0.71		0.26	0.70	
Control Delay		41.5	10.4		32.5		8.5	12.0		6.6	9.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		41.5	10.4		32.5		8.5	12.0		6.6	9.3	
LOS		D	B		C		A	B		A	A	
Approach Delay		27.8			32.5			11.7			9.1	
Approach LOS		C			C			B			A	
Queue Length 50th (ft)		39	0		45		15	154		9	190	
Queue Length 95th (ft)		76	31		91		32	261		34	440	
Internal Link Dist (ft)		351			305			338			2181	
Turn Bay Length (ft)			50				150			100		
Base Capacity (vph)		287	406		375		297	1408		289	1403	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.29	0.16		0.35		0.37	0.71		0.26	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NESW and 6:, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 78.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 5: Route 1 (North Main Street) #1 & Cherry Hill Rd.

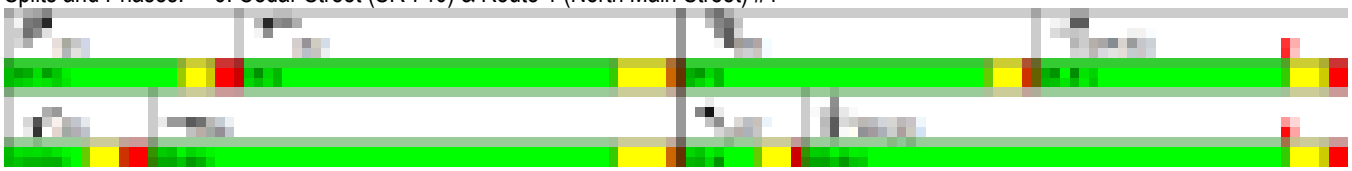


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	480	80	75	460	225	130	425	85	445	480	435
Future Volume (vph)	360	480	80	75	460	225	130	425	85	445	480	435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.979				0.850		0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3286	1806	0	1694	1845	1516	1728	3369	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.363			0.163		
Satd. Flow (perm)	3286	1806	0	1694	1845	1516	660	3369	0	296	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		8						19				127
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		361			1088			356			855	
Travel Time (s)		8.2			24.7			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	391	522	87	82	500	245	141	462	92	484	522	473
Shared Lane Traffic (%)												
Lane Group Flow (vph)	391	609	0	82	500	245	141	554	0	484	522	473
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	15.0	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.3	11.3
Total Split (s)	19.4	43.6		11.8	36.0	29.0	10.0	25.6		29.0	44.6	19.4
Total Split (%)	17.6%	39.6%		10.7%	32.7%	26.4%	9.1%	23.3%		26.4%	40.5%	17.6%
Maximum Green (s)	14.1	38.2		6.5	30.6	25.0	6.0	20.5		25.0	39.5	14.1
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	Min		None	Min	None	None	C-Min		None	C-Max	None
Act Effct Green (s)	14.1	37.9		6.5	30.3	61.0	27.9	20.5		50.9	39.5	58.7
Actuated g/C Ratio	0.13	0.34		0.06	0.28	0.55	0.25	0.19		0.46	0.36	0.53
v/c Ratio	0.93	0.97		0.82	0.98	0.29	0.62	0.86		1.04	0.77	0.54
Control Delay	77.3	65.3		103.0	76.5	14.2	35.8	56.6		79.6	37.6	18.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	77.3	65.3		103.0	76.5	14.2	35.8	56.6		79.6	37.6	18.7
LOS	E	E		F	E	B	D	E		E	D	B
Approach Delay		70.0			60.7			52.4			45.3	
Approach LOS		E			E			D			D	
Queue Length 50th (ft)	142	414		58	350	87	57	194		~318	299	149
Queue Length 95th (ft)	#234	#649		#147	#563	137	#101	#286		m#388	m341	m187
Internal Link Dist (ft)		281			1008			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	421	632		100	513	840	227	643		465	675	884
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.93	0.96		0.82	0.97	0.29	0.62	0.86		1.04	0.77	0.54

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 104.9 (95%), Referenced to phase 4:NBTL and 8:SBTL, Start of Yellow			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 55.9		Intersection LOS: E	
Intersection Capacity Utilization 90.7%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	60	620	0	0	0	0	780	230	100	740	0
Future Volume (vph)	270	60	620	0	0	0	0	780	230	100	740	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.966				
Flt Protected	0.950	0.969								0.950		
Satd. Flow (prot)	1681	1715	1583	0	0	0	0	3453	0	1787	3574	0
Flt Permitted	0.950	0.969								0.158		
Satd. Flow (perm)	1681	1715	1583	0	0	0	0	3453	0	297	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193					45				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			727			855			456	
Travel Time (s)		21.2			16.5			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	293	65	674	0	0	0	0	848	250	109	804	0
Shared Lane Traffic (%)	39%											
Lane Group Flow (vph)	179	179	674	0	0	0	0	1098	0	109	804	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					23.1				
Total Split (s)	38.0	38.0	38.0					54.0				
Total Split (%)	34.5%	34.5%	34.5%					49.1%				
Maximum Green (s)	31.4	31.4	31.4					48.9				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					C-Min				

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	18.0
Total Split (%)	16%
Maximum Green (s)	11.6
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	31.4	31.4	31.4					48.9		66.9	66.9	
Actuated g/C Ratio	0.29	0.29	0.29					0.44		0.61	0.61	
v/c Ratio	0.37	0.37	1.14					0.70		0.61	0.37	
Control Delay	34.2	34.0	110.8					9.6		19.0	2.9	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.2	
Total Delay	34.2	34.0	110.8					9.6		19.0	3.1	
LOS	C	C	F					A		B	A	
Approach Delay		84.2						9.6			5.0	
Approach LOS		F						A			A	
Queue Length 50th (ft)	106	106	~455					214		10	22	
Queue Length 95th (ft)	174	173	#683					m265		m75	m23	
Internal Link Dist (ft)		853			647			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	479	489	589					1560		180	2173	
Starvation Cap Reductn	0	0	0					0		0	500	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.37	0.37	1.14					0.70		0.61	0.48	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 48.9 (44%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 33.5 Intersection LOS: C
Intersection Capacity Utilization 68.6% ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp

Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	345	0	200	450	600	0	0	495	200
Future Volume (vph)	0	0	0	345	0	200	450	600	0	0	495	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.957	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3421	0
Flt Permitted				0.950	0.950		0.313					
Satd. Flow (perm)	0	0	0	1698	1698	1599	589	3574	0	0	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						217					71	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	375	0	217	489	652	0	0	538	217
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	187	188	217	489	652	0	0	755	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					23.1	
Total Split (s)				18.0	18.0	18.0					54.0	
Total Split (%)				16.4%	16.4%	16.4%					49.1%	
Maximum Green (s)				11.6	11.6	11.6					48.9	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					C-Min	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	38.0
Total Split (%)	35%
Maximum Green (s)	31.4
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				11.6	11.6	11.6	86.9	86.9			48.9	
Actuated g/C Ratio				0.11	0.11	0.11	0.79	0.79			0.44	
v/c Ratio				1.04	1.05	0.60	1.05	0.23			0.48	
Control Delay				128.0	129.4	13.8	68.2	0.6			20.6	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				128.0	129.4	13.8	68.2	0.6			20.6	
LOS				F	F	B	E	A			C	
Approach Delay					86.6			29.6			20.6	
Approach LOS					F			C			C	
Queue Length 50th (ft)				~151	~152	0	~319	6			174	
Queue Length 95th (ft)				#301	#303	71	#599	7			229	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				179	179	362	465	2823			1560	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				1.04	1.05	0.60	1.05	0.23			0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 48.9 (44%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.14			
Intersection Signal Delay: 40.4		Intersection LOS: D	
Intersection Capacity Utilization 68.6%		ICU Level of Service C	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp

Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

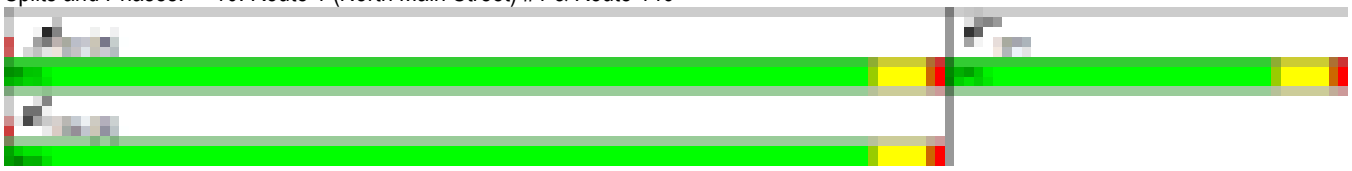
Lane Group	WBL	WBR	WBR2	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations											
Traffic Volume (vph)	535	20	25	0	0	0	1000	960	15	945	0
Future Volume (vph)	535	20	25	0	0	0	1000	960	15	945	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	0	0		350	100		0
Storage Lanes	2	1		0	0	0		1	1		0
Taper Length (ft)	25			25		25			25		
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.850						0.850			
Flt Protected	0.950								0.950		
Satd. Flow (prot)	3433	1583	0	0	0	0	3539	1583	1770	3539	0
Flt Permitted	0.950								0.224		
Satd. Flow (perm)	3433	1583	0	0	0	0	3539	1583	417	3539	0
Right Turn on Red			Yes		Yes			Yes			Yes
Satd. Flow (RTOR)		27						1043			
Link Speed (mph)	30			30			30			30	
Link Distance (ft)	883			122			683			518	
Travel Time (s)	20.1			2.8			15.5			11.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	582	22	27	0	0	0	1087	1043	16	1027	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	582	49	0	0	0	0	1087	1043	16	1027	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	24			0			12			12	
Link Offset(ft)	0			0			0			0	
Crosswalk Width(ft)	16			16			16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	9	15	9	15		9	15		9
Turn Type	Prot	Perm					NA	Perm	Perm	NA	
Protected Phases	4						2			6	
Permitted Phases		4						2	6		
Detector Phase	4	4					2	2	6	6	
Switch Phase											
Minimum Initial (s)	5.0	5.0					5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5					22.5	22.5	22.5	22.5	
Total Split (s)	24.0	24.0					56.0	56.0	56.0	56.0	
Total Split (%)	30.0%	30.0%					70.0%	70.0%	70.0%	70.0%	
Maximum Green (s)	19.5	19.5					51.5	51.5	51.5	51.5	
Yellow Time (s)	3.5	3.5					3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0					1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5					4.5	4.5	4.5	4.5	
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0	3.0					3.0	3.0	3.0	3.0	
Recall Mode	None	None					C-Max	C-Max	C-Max	C-Max	
Walk Time (s)	7.0	7.0					7.0	7.0	7.0	7.0	

Lane Group	WBL	WBR	WBR2	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Flash Dont Walk (s)	11.0	11.0					11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0					0	0	0	0	
Act Effct Green (s)	17.6	17.6					53.4	53.4	53.4	53.4	
Actuated g/C Ratio	0.22	0.22					0.67	0.67	0.67	0.67	
v/c Ratio	0.77	0.13					0.46	0.74	0.06	0.44	
Control Delay	36.6	14.8					7.8	4.3	6.5	6.7	
Queue Delay	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	36.6	14.8					7.8	4.3	6.5	6.7	
LOS	D	B					A	A	A	A	
Approach Delay	34.9						6.1			6.7	
Approach LOS	C						A			A	
Queue Length 50th (ft)	139	9					98	3	2	86	
Queue Length 95th (ft)	191	34					m145	m66	m5	155	
Internal Link Dist (ft)	803			42			603			438	
Turn Bay Length (ft)								350	100		
Base Capacity (vph)	836	406					2360	1403	278	2360	
Starvation Cap Reductn	0	0					0	0	0	0	
Spillback Cap Reductn	0	0					0	0	0	0	
Storage Cap Reductn	0	0					0	0	0	0	
Reduced v/c Ratio	0.70	0.12					0.46	0.74	0.06	0.44	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 11.0		Intersection LOS: B	
Intersection Capacity Utilization 71.1%		ICU Level of Service C	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Route 1 (North Main Street) #1 & Route 146



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	220	895	0	0	1590
Future Volume (vph)	0	220	895	0	0	1590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1611	1863	0	0	1863
Flt Permitted						
Satd. Flow (perm)	0	1611	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	817		2179			322
Travel Time (s)	18.6		49.5			7.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	239	973	0	0	1728
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	239	973	0	0	1728
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	215	170	660	0
Future Volume (vph)	0	0	215	170	660	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected			0.950		0.950	
Satd. Flow (prot)	0	0	1770	1863	1770	0
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	0	0	1770	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	30			30	30	
Link Distance (ft)	834			723	299	
Travel Time (s)	19.0			16.4	6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	234	185	717	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	234	185	717	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type			Perm	NA	Prot	
Protected Phases				8	2	
Permitted Phases			8			
Detector Phase			8	8	2	
Switch Phase						
Minimum Initial (s)			5.0	5.0	5.0	
Minimum Split (s)			22.5	22.5	22.5	
Total Split (s)			23.0	23.0	47.0	
Total Split (%)			32.9%	32.9%	67.1%	
Maximum Green (s)			18.5	18.5	42.5	
Yellow Time (s)			3.5	3.5	3.5	
All-Red Time (s)			1.0	1.0	1.0	
Lost Time Adjust (s)			0.0	0.0	0.0	
Total Lost Time (s)			4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)			3.0	3.0	3.0	
Recall Mode			None	None	C-Max	
Walk Time (s)			7.0	7.0	7.0	
Flash Dont Walk (s)			11.0	11.0	11.0	
Pedestrian Calls (#/hr)			0	0	0	
Act Effct Green (s)			14.3	14.3	46.7	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Actuated g/C Ratio			0.20	0.20	0.67	
v/c Ratio			0.65	0.49	0.61	
Control Delay			33.6	28.2	4.4	
Queue Delay			0.0	0.0	0.0	
Total Delay			33.6	28.2	4.4	
LOS			C	C	A	
Approach Delay				31.2	4.4	
Approach LOS				C	A	
Queue Length 50th (ft)			93	71	34	
Queue Length 95th (ft)			149	118	44	
Internal Link Dist (ft)	754			643	219	
Turn Bay Length (ft)						
Base Capacity (vph)			467	492	1180	
Starvation Cap Reductn			0	0	0	
Spillback Cap Reductn			0	0	0	
Storage Cap Reductn			0	0	0	
Reduced v/c Ratio			0.50	0.38	0.61	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 14.3		Intersection LOS: B	
Intersection Capacity Utilization 69.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 24: Branford Connector & I-95 SB On-Ramp/I-95 SB Off-Ramp/Service Plaza

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	220	1375	0	0	0	0	660	455	0	215	0
Future Volume (vph)	0	220	1375	0	0	0	0	660	455	0	215	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		600	0		0	0		200	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850			
Flt Protected												
Satd. Flow (prot)	0	1863	1583	0	0	0	0	1863	1583	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	1863	1583	0	0	0	0	1863	1583	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			796						338			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1037			692			424			299	
Travel Time (s)		23.6			15.7			9.6			6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	239	1495	0	0	0	0	717	495	0	234	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	239	1495	0	0	0	0	717	495	0	234	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Free					NA	custom		NA	
Protected Phases		4						2	2		6	
Permitted Phases			Free					2	2		6	
Detector Phase		4						2	2		6	
Switch Phase												
Minimum Initial (s)		5.0						5.0	5.0		5.0	
Minimum Split (s)		22.5						22.5	22.5		22.5	
Total Split (s)		23.0						47.0	47.0		47.0	
Total Split (%)		32.9%						67.1%	67.1%		67.1%	
Maximum Green (s)		18.5						42.5	42.5		42.5	
Yellow Time (s)		3.5						3.5	3.5		3.5	
All-Red Time (s)		1.0						1.0	1.0		1.0	
Lost Time Adjust (s)		0.0						0.0	0.0		0.0	
Total Lost Time (s)		4.5						4.5	4.5		4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0						3.0	3.0		3.0	
Recall Mode		None						C-Max	C-Max		C-Max	
Walk Time (s)		7.0						7.0	7.0		7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0						0	0		0	
Act Effct Green (s)		14.0	70.0					47.0	47.0		47.0	
Actuated g/C Ratio		0.20	1.00					0.67	0.67		0.67	
v/c Ratio		0.64	0.94					0.57	0.42		0.19	
Control Delay		33.5	15.4					9.2	3.1		12.8	
Queue Delay		0.0	0.0					0.0	0.0		1.1	
Total Delay		33.5	15.4					9.2	3.1		14.0	
LOS		C	B					A	A		B	
Approach Delay		17.9						6.7			14.0	
Approach LOS		B						A			B	
Queue Length 50th (ft)		95	0					139	21		114	
Queue Length 95th (ft)		150	#159					278	66		181	
Internal Link Dist (ft)		957			612			344			219	
Turn Bay Length (ft)			600						200			
Base Capacity (vph)		492	1583					1252	1174		1252	
Starvation Cap Reductn		0	0					0	0		796	
Spillback Cap Reductn		0	0					0	0		0	
Storage Cap Reductn		0	0					0	0		0	
Reduced v/c Ratio		0.49	0.94					0.57	0.42		0.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 58.1%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 31: Branford Connector & I-95 NB Off-Ramp/I-95 NB On-Ramp/Service Plaza

Arterial Level of Service: NB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Parkway	III	30	24.1	22.5	46.6	0.19	14.6	D
I-95 NB On-Ramp/Serv	III	30	78.6	9.2	87.8	0.66	26.9	B
I-95 SB Off-Ramp/Ser	III	30	8.8	4.4	13.2	0.06	15.4	D
Total	III		111.5	36.1	147.6	0.90	22.0	C

Arterial Level of Service: EB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 NB Off-Ramp	III	30	8.8	12.8	21.6	0.06	9.4	F
Commercial Parkway	III	30	78.6	7.9	86.5	0.66	27.3	B
Route 1 (North Main	III	30	24.1	46.9	71.0	0.19	9.6	F
Total	III		111.5	67.6	179.1	0.90	18.1	C

Arterial Level of Service: NB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	56.6	74.5	0.07	3.3	F
I-95 NB On Ramp	IV	30	24.3	9.6	33.9	0.16	17.2	C
I-95 SB Off Ramp	IV	30	15.5	0.6	16.1	0.09	19.3	B
Total	IV		57.7	66.8	124.5	0.32	9.1	D

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	20.6	40.4	0.11	9.8	D
I-95 NB Off Ramp	IV	30	15.5	2.9	18.4	0.09	16.9	C
Route 1 (North Main	IV	30	24.3	37.6	61.9	0.16	9.4	D
Total	IV		59.6	61.1	120.7	0.36	10.7	D

Arterial Level of Service: EB Route 1 (North Main Street) #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	IV	30	16.6	17.0	33.6	0.07	7.8	E
Branford Connector	IV	30	24.5	11.1	35.6	0.16	16.5	C
Route 146	IV	30	19.4	7.8	27.2	0.13	17.1	C
Total	IV		60.5	35.9	96.4	0.37	13.7	C

Arterial Level of Service: WB Route 1 (North Main Street) #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Branford Connector	III	30	17.3	34.6	51.9	0.13	9.0	F
Route 142 (Short Bea	III	30	21.9	22.8	44.7	0.16	13.2	E
Total	III		39.2	57.4	96.6	0.29	10.9	E


I-95 SB Off-Ramp/Service Plaza
I-95 SB On-Ramp
Branford Connector
I-95 NB On-Ramp/Service Plaza
I-95 NB Off-Ramp
Branford Connector
B
A
U
195
190
680
190
550
680
270
790
270
980
960


Cherry Hill Rd.
Commercial Parkway
320
75
435
885
Branford Connector
B
65
915
Branford Connector
1220
15
B
650
1085
585
Route 1 (North Main Street) #1
670
1200
470
765
C
650
1200
1410
555
C
1290
200
560
280
Route 1 (North Main Street) #1
Route 142 (Short Beach Road)

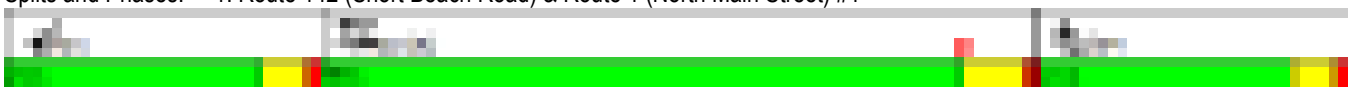

D
B
E
I-95 SB Off Ramp
I-95 SB On Ramp
I-95 NB On Ramp
Cedar Street (SR 740)
Route 1 (North Main Street) #1
200
490
110
0
255
560
445
110
635
150
15
465
245
855
280
600
85
260
480
350
75
150
300
450
75

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1290	200	555	1410	280	560
Future Volume (vph)	1290	200	555	1410	280	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	250		250	0
Storage Lanes		1	2		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1568	3400	3505	1728	1546
Flt Permitted			0.092		0.950	
Satd. Flow (perm)	3505	1568	329	3505	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		35				20
Link Speed (mph)	30			30	30	
Link Distance (ft)	386			864	434	
Travel Time (s)	8.8			19.6	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Adj. Flow (vph)	1402	217	603	1533	304	609
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1402	217	603	1533	304	609
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	48.0	21.0	21.0	48.0	21.0	21.0
Total Split (%)	53.3%	23.3%	23.3%	53.3%	23.3%	23.3%
Maximum Green (s)	42.9	17.0	17.0	42.9	17.0	17.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	43.6	65.5	61.2	43.6	16.8	37.3
Actuated g/C Ratio	0.48	0.73	0.68	0.48	0.19	0.41
v/c Ratio	0.83	0.19	0.77	0.90	0.94	0.93
Control Delay	25.5	3.7	24.6	26.5	75.2	48.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.5	3.7	24.6	26.5	75.2	48.1
LOS	C	A	C	C	E	D
Approach Delay	22.5			25.9	57.1	
Approach LOS	C			C	E	
Queue Length 50th (ft)	351	27	142	278	172	309
Queue Length 95th (ft)	448	49	m170	#556	#327	#530
Internal Link Dist (ft)	306			784	354	
Turn Bay Length (ft)			250		250	
Base Capacity (vph)	1697	1154	805	1697	326	661
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.19	0.75	0.90	0.93	0.92

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 30.9		Intersection LOS: C	
Intersection Capacity Utilization 77.9%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (North Main Street) #1



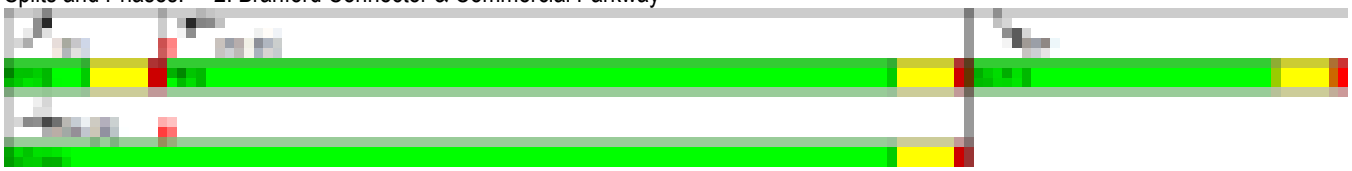
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	65	915	885	435	320	75
Future Volume (vph)	65	915	885	435	320	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350			0	0	0
Storage Lanes	1			1	2	0
Taper Length (ft)	100				25	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	0.95
Frt				0.850	0.971	
Flt Protected	0.950				0.961	
Satd. Flow (prot)	1770	3539	1863	1583	3372	0
Flt Permitted	0.085				0.961	
Satd. Flow (perm)	158	3539	1863	1583	3372	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				473	34	
Link Speed (mph)		30	30		30	
Link Distance (ft)		536	1001		1339	
Travel Time (s)		12.2	22.8		30.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	995	962	473	348	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	995	962	473	430	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	pm+pt	NA	NA	Perm	Prot	
Protected Phases	1	6	2		4	
Permitted Phases	6			2		
Detector Phase	1	6	2	2	4	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	
Total Split (s)	9.5	57.5	48.0	48.0	22.5	
Total Split (%)	11.9%	71.9%	60.0%	60.0%	28.1%	
Maximum Green (s)	5.0	53.0	43.5	43.5	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	C-Max	None	
Walk Time (s)		7.0	7.0	7.0	7.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	
Act Effct Green (s)	56.5	56.5	48.1	48.1	14.5	
Actuated g/C Ratio	0.71	0.71	0.60	0.60	0.18	
v/c Ratio	0.31	0.40	0.86	0.41	0.67	
Control Delay	8.6	4.3	25.5	2.2	33.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	8.6	4.3	25.5	2.2	33.3	
LOS	A	A	C	A	C	
Approach Delay		4.6	17.8		33.3	
Approach LOS		A	B		C	
Queue Length 50th (ft)	7	67	396	0	95	
Queue Length 95th (ft)	m17	103	#705	40	135	
Internal Link Dist (ft)		456	921		1259	
Turn Bay Length (ft)	350					
Base Capacity (vph)	231	2499	1119	1140	785	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.31	0.40	0.86	0.41	0.55	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 15.3		Intersection LOS: B	
Intersection Capacity Utilization 73.0%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Branford Connector & Commercial Parkway



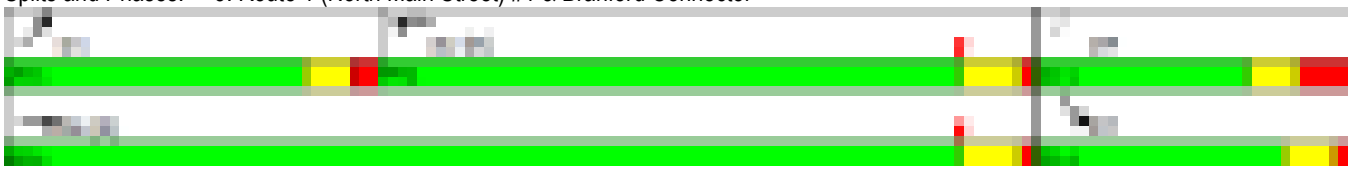
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	650	1200	1200	670	470	765
Future Volume (vph)	650	1200	1200	670	470	765
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390			300	500	250
Storage Lanes	2			2	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	0.95	0.88	0.97	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3400	3505	3505	2760	3273	2656
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3400	3505	3505	2760	3273	2656
Right Turn on Red				No		Yes
Satd. Flow (RTOR)						673
Link Speed (mph)		30	30		30	
Link Distance (ft)		864	683		1001	
Travel Time (s)		19.6	15.5		22.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	7%	7%
Adj. Flow (vph)	707	1304	1304	728	511	832
Shared Lane Traffic (%)						
Lane Group Flow (vph)	707	1304	1304	728	511	832
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		7	
Permitted Phases				2		4
Detector Phase	1	6	2	2	7	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	15.0	5.0	7.0
Minimum Split (s)	8.0	20.1	22.5	22.5	9.5	13.7
Total Split (s)	25.0	69.0	44.0	44.0	21.0	21.0
Total Split (%)	27.8%	76.7%	48.9%	48.9%	23.3%	23.3%
Maximum Green (s)	20.0	63.9	38.9	38.9	16.5	14.3
Yellow Time (s)	3.0	4.1	4.1	4.1	3.5	3.3
All-Red Time (s)	2.0	1.0	1.0	1.0	1.0	3.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.1	5.1	5.1	4.5	6.7
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	1.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Act Effct Green (s)	20.0	64.2	39.2	39.2	16.2	14.0
Actuated g/C Ratio	0.22	0.71	0.44	0.44	0.18	0.16
v/c Ratio	0.94	0.52	0.85	0.61	0.87	0.85
Control Delay	48.9	6.6	26.3	20.0	52.6	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	6.6	26.3	20.0	52.6	17.1
LOS	D	A	C	C	D	B
Approach Delay		21.5	24.1		30.6	
Approach LOS		C	C		C	
Queue Length 50th (ft)	210	125	288	156	146	46
Queue Length 95th (ft)	m#283	m198	400	232	#228	#155
Internal Link Dist (ft)		784	603		921	
Turn Bay Length (ft)	390			300	500	250
Base Capacity (vph)	756	2500	1526	1201	600	988
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.52	0.85	0.61	0.85	0.84

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 24.7 Intersection LOS: C
Intersection Capacity Utilization 77.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Route 1 (North Main Street) #1 & Branford Connector



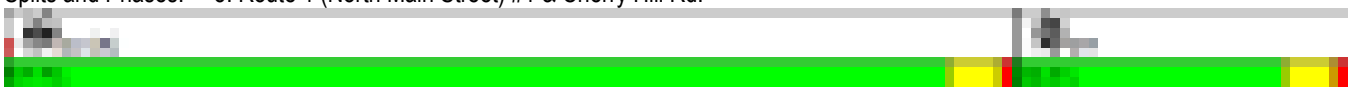
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	50	25	110	25	25	60	55	1040	15	75	1100	55
Future Volume (vph)	50	25	110	25	25	60	55	1040	15	75	1100	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			75			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.926			0.998			0.993	
Flt Protected		0.968			0.989		0.950			0.950		
Satd. Flow (prot)	0	1803	1583	0	1706	0	1770	1859	0	1770	1850	0
Flt Permitted		0.636			0.907		0.100			0.152		
Satd. Flow (perm)	0	1185	1583	0	1564	0	186	1859	0	283	1850	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			113		60			2			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		431			385			418			2261	
Travel Time (s)		9.8			8.8			9.5			51.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	27	120	27	27	65	60	1130	16	82	1196	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	81	120	0	119	0	60	1146	0	82	1256	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4		4	4			2			2		
Detector Phase	4	4	4	4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6	22.6	22.6	22.6		67.4	67.4		67.4	67.4	
Total Split (%)	25.1%	25.1%	25.1%	25.1%	25.1%		74.9%	74.9%		74.9%	74.9%	
Maximum Green (s)	18.1	18.1	18.1	18.1	18.1		62.9	62.9		62.9	62.9	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		10.5	10.5		10.5		70.5	70.5		70.5	70.5	
Actuated g/C Ratio		0.12	0.12		0.12		0.78	0.78		0.78	0.78	
v/c Ratio		0.59	0.42		0.50		0.41	0.79		0.37	0.87	
Control Delay		53.7	12.7		26.7		16.0	15.0		9.6	16.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		53.7	12.7		26.7		16.0	15.0		9.6	16.3	
LOS		D	B		C		B	B		A	B	
Approach Delay		29.2			26.7			15.0			15.9	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		44	4		31		7	220		11	362	
Queue Length 95th (ft)		87	50		79		m32	564		47	#947	
Internal Link Dist (ft)		351			305			338			2181	
Turn Bay Length (ft)			50				150			100		
Base Capacity (vph)		238	408		362		145	1455		221	1449	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.34	0.29		0.33		0.41	0.79		0.37	0.87	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NESW and 6:, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 16.9 Intersection LOS: B
Intersection Capacity Utilization 85.7% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Route 1 (North Main Street) #1 & Cherry Hill Rd.

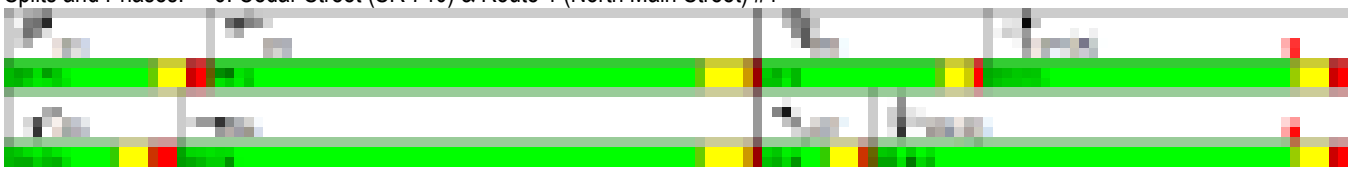


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	450	75	85	600	280	150	520	75	260	480	360
Future Volume (vph)	300	450	75	85	600	280	150	520	75	260	480	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.978				0.850		0.981				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3286	1804	0	1694	1845	1516	1728	3389	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.150			0.147		
Satd. Flow (perm)	3286	1804	0	1694	1845	1516	273	3389	0	267	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		8						12				100
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		361			1088			356			855	
Travel Time (s)		8.2			24.7			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	326	489	82	92	652	304	163	565	82	283	522	391
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	571	0	92	652	304	163	647	0	283	522	391
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	15.0	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.3	11.3
Total Split (s)	18.4	52.2		15.2	49.0	20.0	10.0	32.6		20.0	42.6	18.4
Total Split (%)	15.3%	43.5%		12.7%	40.8%	16.7%	8.3%	27.2%		16.7%	35.5%	15.3%
Maximum Green (s)	13.1	46.8		9.9	43.6	16.0	6.0	27.5		16.0	37.5	13.1
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	Min		None	Min	None	None	C-Min		None	C-Max	None
Act Effct Green (s)	13.1	46.6		9.5	43.0	64.6	35.6	27.9		49.2	37.5	55.7
Actuated g/C Ratio	0.11	0.39		0.08	0.36	0.54	0.30	0.23		0.41	0.31	0.46
v/c Ratio	0.91	0.81		0.69	0.99	0.37	1.01	0.81		0.92	0.89	0.51
Control Delay	82.7	42.8		80.0	70.7	17.5	107.2	52.2		67.0	61.2	27.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	82.7	42.8		80.0	70.7	17.5	107.2	52.2		67.0	61.2	27.8
LOS	F	D		F	E	B	F	D		E	E	C
Approach Delay		57.3			56.1			63.3			51.6	
Approach LOS		E			E			E			D	
Queue Length 50th (ft)	130	384		70	493	129	~87	247		181	373	178
Queue Length 95th (ft)	#216	536		#145	#740	195	#224	#320		m#260	m#492	m228
Internal Link Dist (ft)		281			1008			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	358	708		139	670	816	161	796		306	587	771
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.91	0.81		0.66	0.97	0.37	1.01	0.81		0.92	0.89	0.51

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 114.9 (96%), Referenced to phase 4:NBTL and 8:SBTL, Start of Yellow			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 56.5		Intersection LOS: E	
Intersection Capacity Utilization 90.2%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	15	465	0	0	0	0	855	245	110	635	0
Future Volume (vph)	150	15	465	0	0	0	0	855	245	110	635	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.967				
Flt Protected	0.950	0.961								0.950		
Satd. Flow (prot)	1681	1701	1583	0	0	0	0	3456	0	1787	3574	0
Flt Permitted	0.950	0.961								0.185		
Satd. Flow (perm)	1681	1701	1583	0	0	0	0	3456	0	348	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			340					60				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			727			855			456	
Travel Time (s)		21.2			16.5			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	163	16	505	0	0	0	0	929	266	120	690	0
Shared Lane Traffic (%)	45%											
Lane Group Flow (vph)	90	89	505	0	0	0	0	1195	0	120	690	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					23.1				
Total Split (s)	23.0	23.0	23.0					81.0				
Total Split (%)	19.2%	19.2%	19.2%					67.5%				
Maximum Green (s)	16.4	16.4	16.4					75.9				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					C-Min				

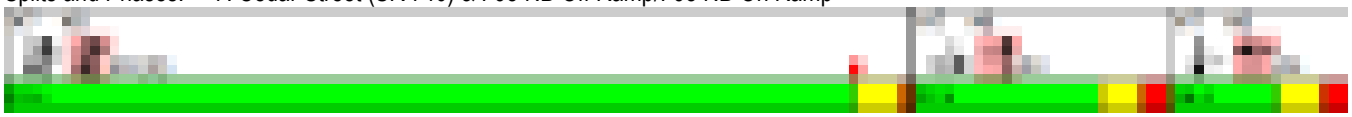
Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	16.0
Total Split (%)	13%
Maximum Green (s)	9.6
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	16.4	16.4	16.4					75.9		91.9	91.9	
Actuated g/C Ratio	0.14	0.14	0.14					0.63		0.77	0.77	
v/c Ratio	0.39	0.38	0.99					0.54		0.45	0.25	
Control Delay	53.0	52.6	55.5					10.3		9.1	1.7	
Queue Delay	0.9	0.8	0.0					0.0		0.0	0.2	
Total Delay	53.8	53.5	55.5					10.3		9.1	1.9	
LOS	D	D	E					B		A	A	
Approach Delay		55.0						10.3			3.0	
Approach LOS		D						B			A	
Queue Length 50th (ft)	67	67	143					263		9	20	
Queue Length 95th (ft)	124	123	#373					m458		m70	m22	
Internal Link Dist (ft)		853			647			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	229	232	509					2207		266	2737	
Starvation Cap Reductn	0	0	0					0		0	1109	
Spillback Cap Reductn	35	36	0					12		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.46	0.45	0.99					0.54		0.45	0.42	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 77.9 (65%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.16
Intersection Signal Delay: 19.5 Intersection LOS: B
Intersection Capacity Utilization 71.9% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp



Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

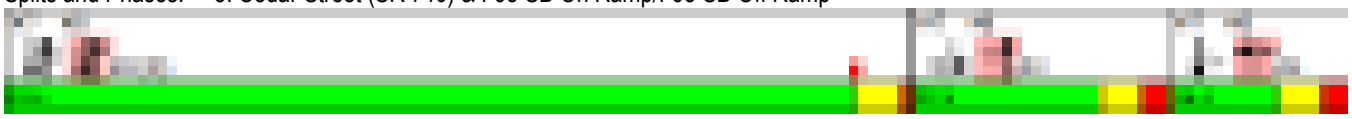
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	255	0	110	560	445	0	0	490	200
Future Volume (vph)	0	0	0	255	0	110	560	445	0	0	490	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.957	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3421	0
Flt Permitted				0.950	0.950		0.340					
Satd. Flow (perm)	0	0	0	1698	1698	1599	640	3574	0	0	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						120					100	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	277	0	120	609	484	0	0	533	217
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	138	139	120	609	484	0	0	750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					23.1	
Total Split (s)				16.0	16.0	16.0					81.0	
Total Split (%)				13.3%	13.3%	13.3%					67.5%	
Maximum Green (s)				9.6	9.6	9.6					75.9	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					C-Min	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	23.0
Total Split (%)	19%
Maximum Green (s)	16.4
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				9.6	9.6	9.6	98.9	98.9			75.9	
Actuated g/C Ratio				0.08	0.08	0.08	0.82	0.82			0.63	
v/c Ratio				1.02	1.03	0.50	1.16	0.16			0.34	
Control Delay				137.9	139.6	17.0	108.4	0.6			9.3	
Queue Delay				0.0	0.0	0.0	0.4	0.0			0.0	
Total Delay				137.9	139.6	17.0	108.8	0.6			9.3	
LOS				F	F	B	F	A			A	
Approach Delay					102.0			60.9			9.3	
Approach LOS					F			E			A	
Queue Length 50th (ft)				~116	~121	0	~549	3			113	
Queue Length 95th (ft)				#257	#260	59	#776	14			147	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				135	135	238	527	2945			2200	
Starvation Cap Reductn				0	0	0	26	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				1.02	1.03	0.50	1.22	0.16			0.34	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 77.9 (65%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 50.9		Intersection LOS: D	
Intersection Capacity Utilization 71.9%		ICU Level of Service C	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp



Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	WBL	WBR	WBR2	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations											
Traffic Volume (vph)	650	25	25	0	0	0	1085	585	15	1220	0
Future Volume (vph)	650	25	25	0	0	0	1085	585	15	1220	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	0	0		350	100		0
Storage Lanes	2	1		0	0	0		1	1		0
Taper Length (ft)	25			25		25			25		
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.850						0.850			
Flt Protected	0.950								0.950		
Satd. Flow (prot)	3433	1583	0	0	0	0	3539	1583	1770	3539	0
Flt Permitted	0.950								0.185		
Satd. Flow (perm)	3433	1583	0	0	0	0	3539	1583	345	3539	0
Right Turn on Red			Yes		Yes			Yes			Yes
Satd. Flow (RTOR)		27						636			
Link Speed (mph)	30			30			30			30	
Link Distance (ft)	883			98			683			518	
Travel Time (s)	20.1			2.2			15.5			11.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	707	27	27	0	0	0	1179	636	16	1326	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	707	54	0	0	0	0	1179	636	16	1326	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	24			0			12			12	
Link Offset(ft)	0			0			0			0	
Crosswalk Width(ft)	16			16			16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	9	15	9	15		9	15		9
Turn Type	Prot	Perm					NA	Perm	Perm	NA	
Protected Phases	4						2			6	
Permitted Phases		4						2	6		
Detector Phase	4	4					2	2	6	6	
Switch Phase											
Minimum Initial (s)	5.0	5.0					5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5					22.5	22.5	22.5	22.5	
Total Split (s)	35.0	35.0					55.0	55.0	55.0	55.0	
Total Split (%)	38.9%	38.9%					61.1%	61.1%	61.1%	61.1%	
Maximum Green (s)	30.5	30.5					50.5	50.5	50.5	50.5	
Yellow Time (s)	3.5	3.5					3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0					1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5					4.5	4.5	4.5	4.5	
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0	3.0					3.0	3.0	3.0	3.0	
Recall Mode	None	None					C-Max	C-Max	C-Max	C-Max	
Walk Time (s)	7.0	7.0					7.0	7.0	7.0	7.0	

Lane Group	WBL	WBR	WBR2	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Flash Dont Walk (s)	11.0	11.0					11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0					0	0	0	0	
Act Effct Green (s)	24.3	24.3					56.7	56.7	56.7	56.7	
Actuated g/C Ratio	0.27	0.27					0.63	0.63	0.63	0.63	
v/c Ratio	0.76	0.12					0.53	0.52	0.07	0.60	
Control Delay	35.6	14.0					8.2	2.0	11.1	11.8	
Queue Delay	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	35.6	14.0					8.2	2.0	11.1	11.8	
LOS	D	B					A	A	B	B	
Approach Delay	34.0						6.0			11.8	
Approach LOS	C						A			B	
Queue Length 50th (ft)	189	11					96	0	3	178	
Queue Length 95th (ft)	229	36					238	m36	m7	m276	
Internal Link Dist (ft)	803			18			603			438	
Turn Bay Length (ft)								350	100		
Base Capacity (vph)	1163	554					2227	1232	217	2227	
Starvation Cap Reductn	0	0					0	0	0	0	
Spillback Cap Reductn	0	0					0	0	0	0	
Storage Cap Reductn	0	0					0	0	0	0	
Reduced v/c Ratio	0.61	0.10					0.53	0.52	0.07	0.60	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 50.5 (56%), Referenced to phase 2:NET and 6:SWTL, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 13.5		Intersection LOS: B	
Intersection Capacity Utilization 59.8%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Route 1 (North Main Street) #1 & Route 146

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	270	960	0	0	980
Future Volume (vph)	0	270	960	0	0	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1611	1863	0	0	1863
Flt Permitted						
Satd. Flow (perm)	0	1611	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	817		2179			331
Travel Time (s)	18.6		49.5			7.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	293	1043	0	0	1065
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	293	1043	0	0	1065
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	190	195	680	0
Future Volume (vph)	0	0	190	195	680	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected			0.950		0.950	
Satd. Flow (prot)	0	0	1770	1863	1770	0
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	0	0	1770	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	30			30	30	
Link Distance (ft)	834			723	306	
Travel Time (s)	19.0			16.4	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	207	212	739	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	207	212	739	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type			Perm	NA	Prot	
Protected Phases				8	2	
Permitted Phases			8			
Detector Phase			8	8	2	
Switch Phase						
Minimum Initial (s)			5.0	5.0	5.0	
Minimum Split (s)			22.5	22.5	22.5	
Total Split (s)			24.0	24.0	56.0	
Total Split (%)			30.0%	30.0%	70.0%	
Maximum Green (s)			19.5	19.5	51.5	
Yellow Time (s)			3.5	3.5	3.5	
All-Red Time (s)			1.0	1.0	1.0	
Lost Time Adjust (s)			0.0	0.0	0.0	
Total Lost Time (s)			4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)			3.0	3.0	3.0	
Recall Mode			None	None	C-Max	
Walk Time (s)			7.0	7.0	7.0	
Flash Dont Walk (s)			11.0	11.0	11.0	
Pedestrian Calls (#/hr)			0	0	0	
Act Effct Green (s)			14.6	14.6	56.4	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Actuated g/C Ratio			0.18	0.18	0.70	
v/c Ratio			0.64	0.63	0.59	
Control Delay			39.0	37.8	2.5	
Queue Delay			0.0	0.0	0.0	
Total Delay			39.0	37.8	2.5	
LOS			D	D	A	
Approach Delay				38.4	2.5	
Approach LOS				D	A	
Queue Length 50th (ft)			97	99	9	
Queue Length 95th (ft)			153	155	10	
Internal Link Dist (ft)	754			643	226	
Turn Bay Length (ft)						
Base Capacity (vph)			431	454	1247	
Starvation Cap Reductn			0	0	0	
Spillback Cap Reductn			0	0	0	
Storage Cap Reductn			0	0	0	
Reduced v/c Ratio			0.48	0.47	0.59	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 51.5 (64%), Referenced to phase 2:NBL and 6:, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 15.5		Intersection LOS: B	
Intersection Capacity Utilization 71.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 24: Branford Connector & I-95 SB On-Ramp/I-95 SB Off-Ramp/Service Plaza

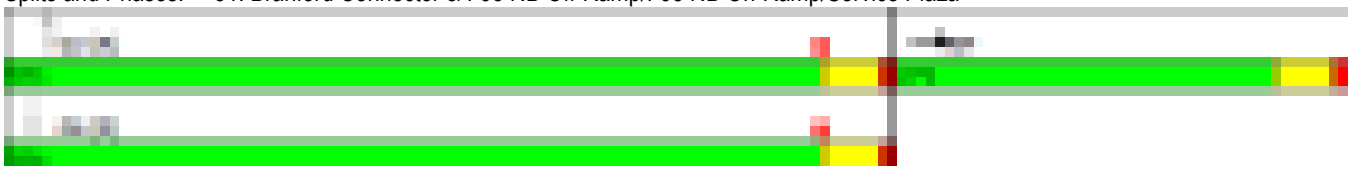
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	270	790	0	0	0	0	680	550	0	190	0
Future Volume (vph)	0	270	790	0	0	0	0	680	550	0	190	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		600	0		0	0		200	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850			
Flt Protected												
Satd. Flow (prot)	0	1863	1583	0	0	0	0	1863	1583	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	1863	1583	0	0	0	0	1863	1583	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			827						281			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1037			692			414			306	
Travel Time (s)		23.6			15.7			9.4			7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	293	859	0	0	0	0	739	598	0	207	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	293	859	0	0	0	0	739	598	0	207	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Free					NA	custom		NA	
Protected Phases		4										
Permitted Phases			Free					2	2		6	
Detector Phase		4						2	2		6	
Switch Phase												
Minimum Initial (s)		5.0						5.0	5.0		5.0	
Minimum Split (s)		22.5						22.5	22.5		22.5	
Total Split (s)		27.0						53.0	53.0		53.0	
Total Split (%)		33.8%						66.3%	66.3%		66.3%	
Maximum Green (s)		22.5						48.5	48.5		48.5	
Yellow Time (s)		3.5						3.5	3.5		3.5	
All-Red Time (s)		1.0						1.0	1.0		1.0	
Lost Time Adjust (s)		0.0						0.0	0.0		0.0	
Total Lost Time (s)		4.5						4.5	4.5		4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0						3.0	3.0		3.0	
Recall Mode		None						C-Max	C-Max		C-Max	
Walk Time (s)		7.0						7.0	7.0		7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0						0	0		0	
Act Effct Green (s)		17.4	80.0					53.6	53.6		53.6	
Actuated g/C Ratio		0.22	1.00					0.67	0.67		0.67	
v/c Ratio		0.72	0.54					0.59	0.52		0.17	
Control Delay		39.1	1.3					5.0	1.6		13.3	
Queue Delay		0.0	0.0					0.0	0.0		0.0	
Total Delay		39.1	1.3					5.0	1.6		13.3	
LOS		D	A					A	A		B	
Approach Delay		10.9						3.5			13.3	
Approach LOS		B						A			B	
Queue Length 50th (ft)		136	0					47	1		115	
Queue Length 95th (ft)		202	0					m84	m5		183	
Internal Link Dist (ft)		957			612			334			226	
Turn Bay Length (ft)			600						200			
Base Capacity (vph)		523	1583					1247	1152		1247	
Starvation Cap Reductn		0	0					0	0		0	
Spillback Cap Reductn		0	0					0	0		0	
Storage Cap Reductn		0	0					0	0		0	
Reduced v/c Ratio		0.56	0.54					0.59	0.52		0.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 48.5 (61%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 7.4		Intersection LOS: A	
Intersection Capacity Utilization 60.1%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 31: Branford Connector & I-95 NB Off-Ramp/I-95 NB On-Ramp/Service Plaza



Arterial Level of Service: NB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Parkway	III	30	24.1	25.5	49.6	0.19	13.8	E
I-95 NB On-Ramp/Serv	III	30	78.6	5.0	83.6	0.66	28.2	B
I-95 SB Off-Ramp/Ser	III	30	9.0	2.5	11.5	0.06	18.1	C
Total	III		111.7	33.0	144.7	0.90	22.5	C

Arterial Level of Service: EB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 NB Off-Ramp	III	30	9.0	13.3	22.3	0.06	9.4	F
Commercial Parkway	III	30	78.6	4.3	82.9	0.66	28.5	B
Route 1 (North Main	III	30	24.1	52.6	76.7	0.19	8.9	F
Total	III		111.7	70.2	181.9	0.90	17.9	D

Arterial Level of Service: NB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	52.2	70.1	0.07	3.5	F
I-95 NB On Ramp	IV	30	24.3	10.3	34.6	0.16	16.8	C
I-95 SB Off Ramp	IV	30	15.5	0.6	16.1	0.09	19.3	B
Total	IV		57.7	63.1	120.8	0.32	9.4	D

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	9.3	29.1	0.11	13.6	C
I-95 NB Off Ramp	IV	30	15.5	1.7	17.2	0.09	18.1	C
Route 1 (North Main	IV	30	24.3	61.2	85.5	0.16	6.8	F
Total	IV		59.6	72.2	131.8	0.36	9.8	D

Arterial Level of Service: EB Route 1 (North Main Street) #1

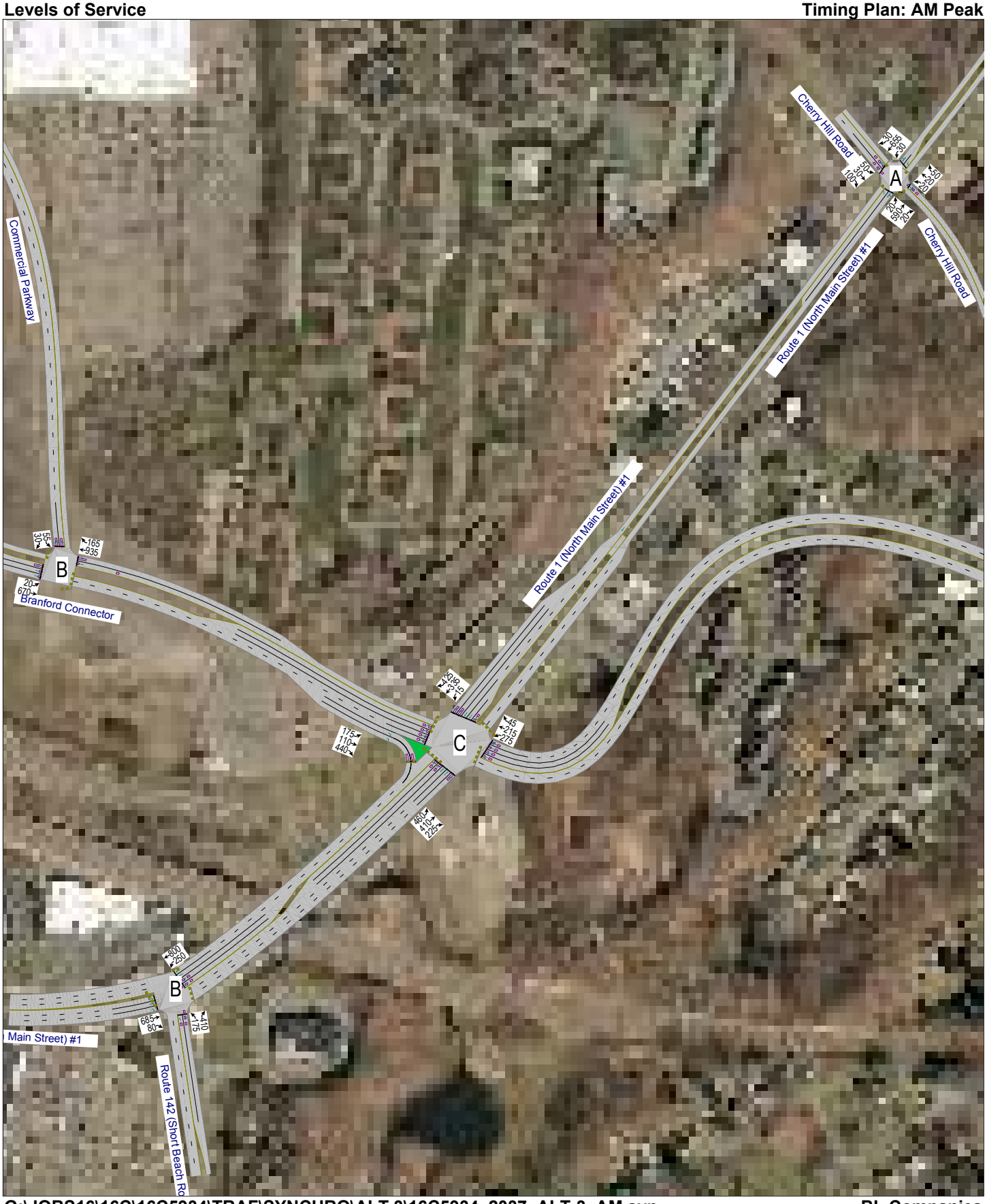
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	IV	30	16.6	25.5	42.1	0.07	6.3	F
Branford Connector	IV	30	24.5	6.6	31.1	0.16	18.9	C
Route 146	IV	30	19.4	8.2	27.6	0.13	16.9	C
Total	IV		60.5	40.3	100.8	0.37	13.1	C

Arterial Level of Service: WB Route 1 (North Main Street) #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Branford Connector	III	30	17.3	26.3	43.6	0.13	10.7	E
Route 142 (Short Bea	III	30	21.9	26.5	48.4	0.16	12.2	E
Total	III		39.2	52.8	92.0	0.29	11.5	E

Branford Connector Corridor Study
Levels of Service **Timing Plan: AM Peak**

G:\JOBS16\16C\16C5934\TRAF\SYNCHRO\ALT 3\16C5934_2037_ALT-3_AM.syn **BL Companies**
D. Haptas **04/18/2018**


Cherry Hill Road
Commercial Parkway
Route 1 (North Main Street) #1
Branford Connector
Route 142 (Short Beach Rd
A
B
C
B

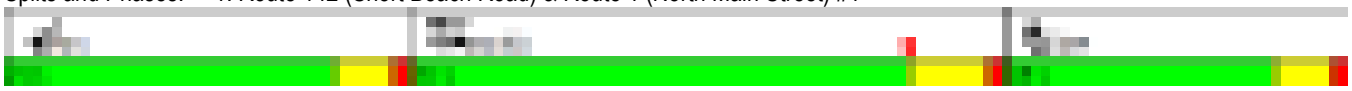

Cedar Street (SR 740)
I-95 SB Off Ramp
I-95 SB On Ramp
Cedar Street (SR 740)
I-95 NB On Ramp
I-95 NB Off Ramp
Cedar Street (SR 740)
Route 1 (North Main Street) #1
Route 1 (North Main Street) #1
Cedar Street (SR 740)
E
B
C
230
480
75
0
255
570
360
515
190
140
0
465
275
190
340
345
75
280
335
70
445
5
220
510
40

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	685	80	250	800	175	410
Future Volume (vph)	685	80	250	800	175	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	250		250	0
Storage Lanes		1	2		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1568	3400	3505	1728	1546
Flt Permitted			0.320		0.950	
Satd. Flow (perm)	3505	1568	1145	3505	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		87				74
Link Speed (mph)	30			30	30	
Link Distance (ft)	386			864	434	
Travel Time (s)	8.8			19.6	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Adj. Flow (vph)	745	87	272	870	190	446
Shared Lane Traffic (%)						
Lane Group Flow (vph)	745	87	272	870	190	446
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	31.0	18.0	21.0	31.0	18.0	21.0
Total Split (%)	44.3%	25.7%	30.0%	44.3%	25.7%	30.0%
Maximum Green (s)	25.9	14.0	17.0	25.9	14.0	17.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	35.2	51.6	46.6	35.2	11.4	25.7
Actuated g/C Ratio	0.50	0.74	0.67	0.50	0.16	0.37
v/c Ratio	0.42	0.07	0.25	0.49	0.68	0.73
Control Delay	13.5	1.2	6.7	22.4	39.6	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	1.2	6.7	22.4	39.6	22.0
LOS	B	A	A	C	D	C
Approach Delay	12.2			18.6	27.3	
Approach LOS	B			B	C	
Queue Length 50th (ft)	101	0	26	187	77	133
Queue Length 95th (ft)	182	12	m40	266	136	185
Internal Link Dist (ft)	306			784	354	
Turn Bay Length (ft)			250		250	
Base Capacity (vph)	1760	1235	1364	1760	345	754
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.07	0.20	0.49	0.55	0.59

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 18.7		Intersection LOS: B	
Intersection Capacity Utilization 51.9%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (North Main Street) #1



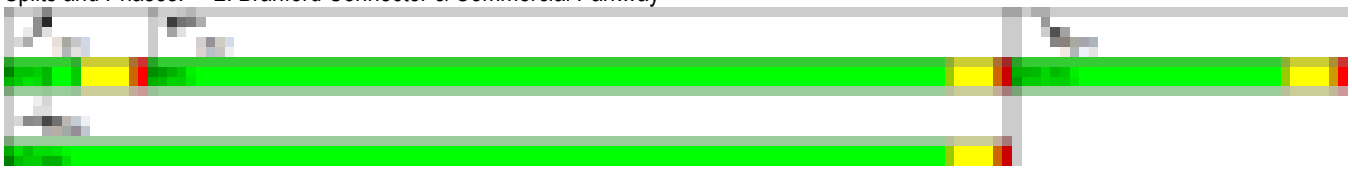
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	670	935	165	55	30
Future Volume (vph)	20	670	935	165	55	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			500	0	0
Storage Lanes	1			1	2	0
Taper Length (ft)	100				25	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	0.95
Frt				0.850	0.947	
Flt Protected	0.950				0.969	
Satd. Flow (prot)	1770	3539	1863	1583	3316	0
Flt Permitted	0.094				0.969	
Satd. Flow (perm)	175	3539	1863	1583	3316	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				179	33	
Link Speed (mph)		30	30		30	
Link Distance (ft)		2733	1001		1339	
Travel Time (s)		62.1	22.8		30.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	728	1016	179	60	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	728	1016	179	93	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	pm+pt	NA	NA	Perm	Prot	
Protected Phases	1	6	2		4	
Permitted Phases	6			2		
Detector Phase	1	6	2	2	4	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	
Total Split (s)	9.5	67.5	58.0	58.0	22.5	
Total Split (%)	10.6%	75.0%	64.4%	64.4%	25.0%	
Maximum Green (s)	5.0	63.0	53.5	53.5	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Max	None	None	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	
Act Effct Green (s)	63.0	63.0	59.2	59.2	18.0	
Actuated g/C Ratio	0.70	0.70	0.66	0.66	0.20	
v/c Ratio	0.10	0.29	0.83	0.16	0.13	
Control Delay	5.2	5.5	20.9	1.7	20.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	5.2	5.5	20.9	1.7	20.7	
LOS	A	A	C	A	C	
Approach Delay		5.5	18.0		20.7	
Approach LOS		A	B		C	
Queue Length 50th (ft)	3	70	326	0	14	
Queue Length 95th (ft)	10	94	#788	24	35	
Internal Link Dist (ft)		2653	921		1259	
Turn Bay Length (ft)				500		
Base Capacity (vph)	211	2477	1225	1102	689	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.10	0.29	0.83	0.16	0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 13.5		Intersection LOS: B	
Intersection Capacity Utilization 60.9%		ICU Level of Service B	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Branford Connector & Commercial Parkway



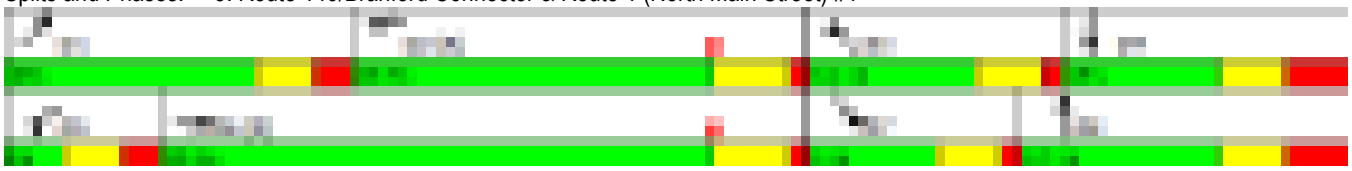
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	460	410	225	15	335	425	275	215	45	175	110	440
Future Volume (vph)	460	410	225	15	335	425	275	215	45	175	110	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		0	50		300	350		0	500		250
Storage Lanes	2		1	1		2	2		0	2		2
Taper Length (ft)	100			50			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.88	0.97	0.95	0.95	0.97	0.95	0.88
Frt			0.850			0.850		0.974				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3505	1568	1752	3505	2760	3433	3447	0	3273	3374	2656
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3505	1568	1752	3505	2760	3433	3447	0	3273	3374	2656
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)			245					30				478
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		864			578			1472			1001	
Travel Time (s)		19.6			13.1			33.5			22.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	7%	7%	7%
Adj. Flow (vph)	500	446	245	16	364	462	299	234	49	190	120	478
Shared Lane Traffic (%)												
Lane Group Flow (vph)	500	446	245	16	364	462	299	283	0	190	120	478
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2		8				4
Detector Phase	1	6	6	5	2	2	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	5.0	7.0		5.0	7.0	7.0
Minimum Split (s)	8.0	20.1	20.1	8.0	22.5	22.5	9.5	13.7		9.5	13.7	13.7
Total Split (s)	18.0	33.9	33.9	8.0	23.9	23.9	13.1	17.1		11.0	15.0	15.0
Total Split (%)	25.7%	48.4%	48.4%	11.4%	34.1%	34.1%	18.7%	24.4%		15.7%	21.4%	21.4%
Maximum Green (s)	13.0	28.8	28.8	3.0	18.8	18.8	8.6	10.4		6.5	8.3	8.3
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.5	3.3		3.5	3.3	3.3
All-Red Time (s)	2.0	1.0	1.0	2.0	1.0	1.0	1.0	3.4		1.0	3.4	3.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.1	5.1	5.0	5.1	5.1	4.5	6.7		4.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0		3.0	1.0	1.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	13.3	36.1	36.1	3.9	19.4	19.4	8.6	9.5		6.5	7.4	7.4
Actuated g/C Ratio	0.19	0.52	0.52	0.06	0.28	0.28	0.12	0.14		0.09	0.11	0.11
v/c Ratio	0.77	0.25	0.26	0.16	0.37	0.60	0.71	0.58		0.63	0.34	0.68
Control Delay	38.7	10.1	3.7	33.7	22.3	25.7	40.4	30.3		40.8	31.7	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	38.7	10.1	3.7	33.7	22.3	25.7	40.4	30.3		40.8	31.7	8.6
LOS	D	B	A	C	C	C	D	C		D	C	A
Approach Delay		20.8			24.4			35.5			19.9	
Approach LOS		C			C			D			B	
Queue Length 50th (ft)	110	30	1	8	47	80	64	54		41	25	0
Queue Length 95th (ft)	#177	107	46	m14	104	139	#114	89		#78	48	43
Internal Link Dist (ft)		784			498			1392			921	
Turn Bay Length (ft)	390			50		300	350			500		250
Base Capacity (vph)	659	1809	928	98	973	766	421	537		303	400	736
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.76	0.25	0.26	0.16	0.37	0.60	0.71	0.53		0.63	0.30	0.65

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 24.0 Intersection LOS: C
Intersection Capacity Utilization 57.1% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Route 146/Branford Connector & Route 1 (North Main Street) #1

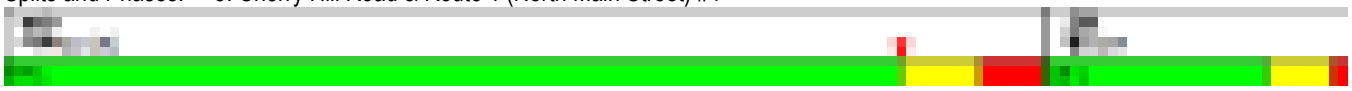


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	590	20	30	655	30	20	20	50	50	30	100
Future Volume (vph)	20	590	20	30	655	30	20	20	50	50	30	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	315		0	27		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	15			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.993			0.926				0.850
Flt Protected	0.950			0.950				0.989			0.970	
Satd. Flow (prot)	1694	1835	0	1694	1832	0	0	1657	0	0	1755	1538
Flt Permitted	0.333			0.380				0.904			0.780	
Satd. Flow (perm)	594	1835	0	678	1832	0	0	1515	0	0	1411	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			7			54				109
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1060			2243			428			195	
Travel Time (s)		24.1			51.0			11.7			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	22	641	22	33	712	33	22	22	54	54	33	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	663	0	33	745	0	0	98	0	0	87	109
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Detector Phase	2	2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	27.5	27.5		27.5	27.5		11.3	11.3		11.3	11.3	11.3
Total Split (s)	54.0	54.0		54.0	54.0		16.0	16.0		16.0	16.0	16.0
Total Split (%)	77.1%	77.1%		77.1%	77.1%		22.9%	22.9%		22.9%	22.9%	22.9%
Maximum Green (s)	46.5	46.5		46.5	46.5		11.7	11.7		11.7	11.7	11.7
Yellow Time (s)	4.1	4.1		4.1	4.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.5	7.5		7.5	7.5			4.3			4.3	4.3
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	None
Act Effct Green (s)	52.6	52.6		52.6	52.6			9.4			9.4	9.4
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.13			0.13	0.13
v/c Ratio	0.05	0.48		0.06	0.54			0.39			0.46	0.36
Control Delay	5.6	7.8		4.3	7.1			19.1			35.6	9.8
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	5.6	7.8		4.3	7.1			19.1			35.6	9.8
LOS	A	A		A	A			B			D	A
Approach Delay		7.7			7.0			19.1			21.3	
Approach LOS		A			A			B			C	
Queue Length 50th (ft)	3	109		4	131			17			35	0
Queue Length 95th (ft)	m14	276		13	243			56			74	39
Internal Link Dist (ft)		980			2163			348			115	
Turn Bay Length (ft)	315			27								
Base Capacity (vph)	446	1379		509	1378			298			235	347
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.05	0.48		0.06	0.54			0.33			0.37	0.31

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 61.7%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: Cherry Hill Road & Route 1 (North Main Street) #1

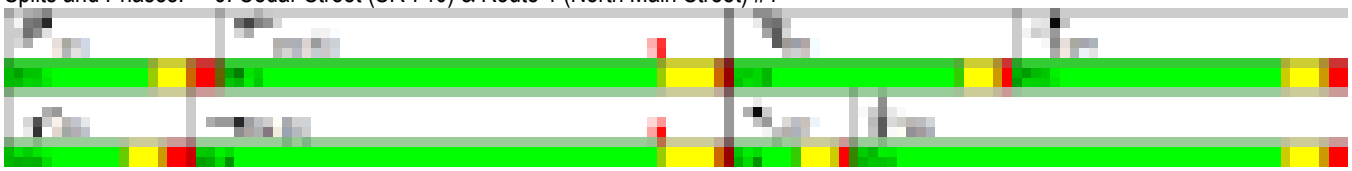


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	310	40	75	345	340	75	445	70	260	385	335
Future Volume (vph)	220	310	40	75	345	340	75	445	70	260	385	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.983				0.850		0.980				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3286	1813	0	1694	1845	1516	1728	3386	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.395			0.185		
Satd. Flow (perm)	3286	1813	0	1694	1845	1516	718	3386	0	336	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		7						16				278
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		361			1088			356			855	
Travel Time (s)		8.2			24.7			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	239	337	43	82	375	370	82	484	76	283	418	364
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	380	0	82	375	370	82	560	0	283	418	364
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	15.0	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.3	11.3
Total Split (s)	16.0	40.0		14.0	38.0	21.0	9.0	25.0		21.0	37.0	16.0
Total Split (%)	16.0%	40.0%		14.0%	38.0%	21.0%	9.0%	25.0%		21.0%	37.0%	16.0%
Maximum Green (s)	10.7	34.6		8.7	32.6	17.0	5.0	19.9		17.0	31.9	10.7
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	C-Min		None	C-Min	None	None	Min		None	None	None
Act Effct Green (s)	10.9	36.9		8.6	32.3	54.7	28.5	20.0		42.1	31.5	47.6
Actuated g/C Ratio	0.11	0.37		0.09	0.32	0.55	0.28	0.20		0.42	0.32	0.48
v/c Ratio	0.67	0.56		0.57	0.63	0.45	0.29	0.81		0.75	0.70	0.41
Control Delay	52.6	31.0		59.3	35.7	16.1	20.6	47.5		37.6	41.8	7.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	52.6	31.0		59.3	35.7	16.1	20.6	47.5		37.6	41.8	7.5
LOS	D	C		E	D	B	C	D		D	D	A
Approach Delay		39.3			29.3			44.1			29.0	
Approach LOS		D			C			D			C	
Queue Length 50th (ft)	74	207		50	215	145	30	172		139	250	16
Queue Length 95th (ft)	#118	300		#107	307	205	59	#256		m180	m309	m40
Internal Link Dist (ft)		281			1008			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	368	715		153	639	845	280	715		393	612	884
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.65	0.53		0.54	0.59	0.44	0.29	0.78		0.72	0.68	0.41

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 34.2		Intersection LOS: C	
Intersection Capacity Utilization 69.9%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	0	465	0	0	0	0	790	215	190	515	0
Future Volume (vph)	140	0	465	0	0	0	0	790	215	190	515	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.968				
Flt Protected	0.950	0.950								0.950		
Satd. Flow (prot)	1681	1681	1583	0	0	0	0	3460	0	1787	3574	0
Flt Permitted	0.950	0.950								0.218		
Satd. Flow (perm)	1681	1681	1583	0	0	0	0	3460	0	410	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			432					68				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			727			855			456	
Travel Time (s)		21.2			16.5			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	152	0	505	0	0	0	0	859	234	207	560	0
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	76	76	505	0	0	0	0	1093	0	207	560	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					23.1				
Total Split (s)	17.0	17.0	17.0					69.0				
Total Split (%)	17.0%	17.0%	17.0%					69.0%				
Maximum Green (s)	10.4	10.4	10.4					63.9				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					C-Min				

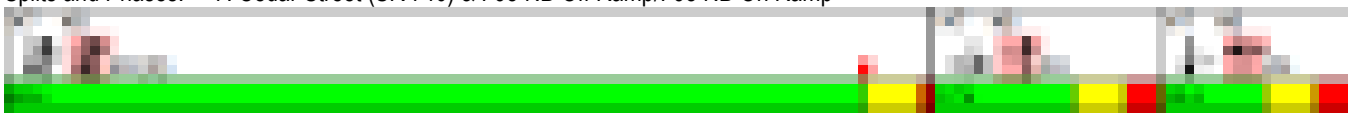
Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	14.0
Total Split (%)	14%
Maximum Green (s)	7.6
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	10.4	10.4	10.4					63.9		77.9	77.9	
Actuated g/C Ratio	0.10	0.10	0.10					0.64		0.78	0.78	
v/c Ratio	0.44	0.44	0.92					0.49		0.65	0.20	
Control Delay	50.6	50.6	31.6					5.4		16.3	1.5	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	50.6	50.6	31.6					5.4		16.3	1.5	
LOS	D	D	C					A		B	A	
Approach Delay		35.9						5.4			5.5	
Approach LOS		D						A			A	
Queue Length 50th (ft)	48	48	44					31		66	16	
Queue Length 95th (ft)	97	97	#238					81		m116	m18	
Internal Link Dist (ft)		853			647			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	174	174	551					2235		319	2784	
Starvation Cap Reductn	0	0	0					0		0	0	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.44	0.44	0.92					0.49		0.65	0.20	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 13.4 Intersection LOS: B
Intersection Capacity Utilization 74.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp



Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	255	0	75	570	360	0	0	450	290
Future Volume (vph)	0	0	0	255	0	75	570	360	0	0	450	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.941	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3363	0
Flt Permitted				0.950	0.950		0.322					
Satd. Flow (perm)	0	0	0	1698	1698	1599	606	3574	0	0	3363	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						95					291	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	277	0	82	620	391	0	0	489	315
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	138	139	82	620	391	0	0	804	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					23.1	
Total Split (s)				14.0	14.0	14.0					69.0	
Total Split (%)				14.0%	14.0%	14.0%					69.0%	
Maximum Green (s)				7.6	7.6	7.6					63.9	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					C-Min	

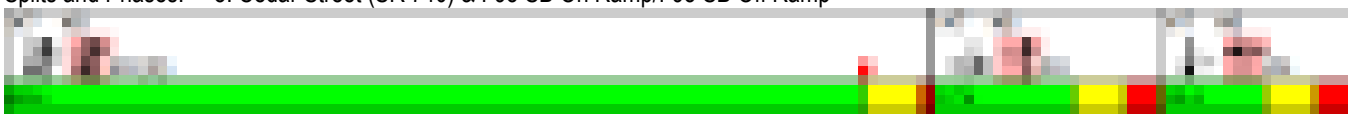
Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	17.0
Total Split (%)	17%
Maximum Green (s)	10.4
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				7.6	7.6	7.6	80.9	80.9			63.9	
Actuated g/C Ratio				0.08	0.08	0.08	0.81	0.81			0.64	
v/c Ratio				1.07	1.08	0.39	1.27	0.14			0.36	
Control Delay				144.9	147.0	13.3	152.3	1.8			5.5	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				144.9	147.0	13.3	152.3	1.8			5.5	
LOS				F	F	B	F	A			A	
Approach Delay					115.7			94.1			5.5	
Approach LOS					F			F			A	
Queue Length 50th (ft)				~103	~104	0	~499	15			66	
Queue Length 95th (ft)				#230	#232	37	#728	25			97	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				129	129	209	490	2891			2254	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				1.07	1.08	0.39	1.27	0.14			0.36	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 64.9 Intersection LOS: E
Intersection Capacity Utilization 74.2% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp



Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	205	965	0	0	690
Future Volume (vph)	0	205	965	0	0	690
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1611	1863	0	0	1863
Flt Permitted						
Satd. Flow (perm)	0	1611	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	692		2733			250
Travel Time (s)	15.7		62.1			5.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	223	1049	0	0	750
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	223	1049	0	0	750
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	215	255	800	0
Future Volume (vph)	0	0	215	255	800	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected			0.950		0.950	
Satd. Flow (prot)	0	0	1770	1863	1770	0
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	0	0	1770	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	30			30	30	
Link Distance (ft)	689			627	317	
Travel Time (s)	15.7			14.3	7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	234	277	870	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	234	277	870	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type			Perm	NA	Prot	
Protected Phases				8	2	
Permitted Phases			8			
Detector Phase			8	8	2	
Switch Phase						
Minimum Initial (s)			5.0	5.0	5.0	
Minimum Split (s)			22.5	22.5	22.5	
Total Split (s)			26.0	26.0	64.0	
Total Split (%)			28.9%	28.9%	71.1%	
Maximum Green (s)			21.5	21.5	59.5	
Yellow Time (s)			3.5	3.5	3.5	
All-Red Time (s)			1.0	1.0	1.0	
Lost Time Adjust (s)			0.0	0.0	0.0	
Total Lost Time (s)			4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)			3.0	3.0	3.0	
Recall Mode			None	None	C-Max	
Walk Time (s)			7.0	7.0	7.0	
Flash Dont Walk (s)			11.0	11.0	11.0	
Pedestrian Calls (#/hr)			0	0	0	
Act Effct Green (s)			18.1	18.1	62.9	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Actuated g/C Ratio			0.20	0.20	0.70	
v/c Ratio			0.66	0.74	0.70	
Control Delay			41.9	45.8	5.1	
Queue Delay			0.0	0.0	0.0	
Total Delay			41.9	45.8	5.1	
LOS			D	D	A	
Approach Delay				44.1	5.1	
Approach LOS				D	A	
Queue Length 50th (ft)			121	146	44	
Queue Length 95th (ft)			192	225	53	
Internal Link Dist (ft)	609			547	237	
Turn Bay Length (ft)						
Base Capacity (vph)			422	445	1238	
Starvation Cap Reductn			0	0	0	
Spillback Cap Reductn			0	0	0	
Storage Cap Reductn			0	0	0	
Reduced v/c Ratio			0.55	0.62	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 19.5		Intersection LOS: B	
Intersection Capacity Utilization 77.6%		ICU Level of Service D	
Analysis Period (min) 15			

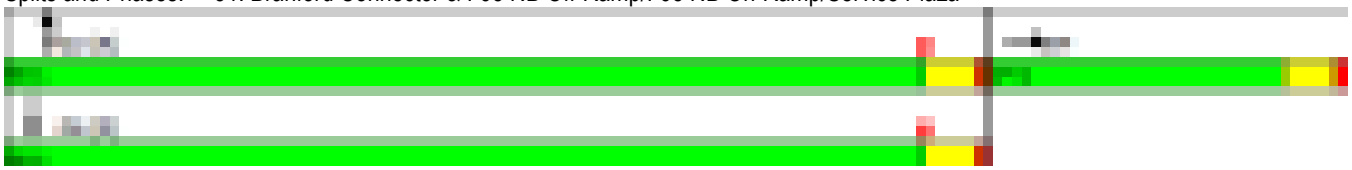
Splits and Phases: 24: Branford Connector & I-95 SB On-Ramp/I-95 SB Off-Ramp/Service Plaza

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	205	475	0	0	0	0	800	370	0	215	0
Future Volume (vph)	0	205	475	0	0	0	0	800	370	0	215	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		600	0		0	0		200	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850			
Flt Protected												
Satd. Flow (prot)	0	1863	1583	0	0	0	0	1863	1583	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	1863	1583	0	0	0	0	1863	1583	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			516						286			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		833			630			325			317	
Travel Time (s)		18.9			14.3			7.4			7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	223	516	0	0	0	0	870	402	0	234	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	223	516	0	0	0	0	870	402	0	234	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Free					NA	custom		NA	
Protected Phases		4						2	2		6	
Permitted Phases			Free					2	2		6	
Detector Phase		4						2	2		6	
Switch Phase												
Minimum Initial (s)		5.0						5.0	5.0		5.0	
Minimum Split (s)		22.5						22.5	22.5		22.5	
Total Split (s)		24.0						66.0	66.0		66.0	
Total Split (%)		26.7%						73.3%	73.3%		73.3%	
Maximum Green (s)		19.5						61.5	61.5		61.5	
Yellow Time (s)		3.5						3.5	3.5		3.5	
All-Red Time (s)		1.0						1.0	1.0		1.0	
Lost Time Adjust (s)		0.0						0.0	0.0		0.0	
Total Lost Time (s)		4.5						4.5	4.5		4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0						3.0	3.0		3.0	
Recall Mode		None						C-Max	C-Max		C-Max	
Walk Time (s)		7.0						7.0	7.0		7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0						0	0		0	
Act Effct Green (s)		15.5	90.0					65.5	65.5		65.5	
Actuated g/C Ratio		0.17	1.00					0.73	0.73		0.73	
v/c Ratio		0.70	0.33					0.64	0.33		0.17	
Control Delay		46.4	0.5					9.7	2.2		13.7	
Queue Delay		0.0	0.0					0.0	0.0		1.9	
Total Delay		46.4	0.5					9.7	2.2		15.6	
LOS		D	A					A	A		B	
Approach Delay		14.4						7.3			15.6	
Approach LOS		B						A			B	
Queue Length 50th (ft)		120	0					215	16		145	
Queue Length 95th (ft)		186	0					384	50		222	
Internal Link Dist (ft)		753			550			245			237	
Turn Bay Length (ft)			600						200			
Base Capacity (vph)		403	1583					1356	1230		1356	
Starvation Cap Reductn		0	0					0	0		962	
Spillback Cap Reductn		0	0					0	0		0	
Storage Cap Reductn		0	0					0	0		0	
Reduced v/c Ratio		0.55	0.33					0.64	0.33		0.59	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 65.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 31: Branford Connector & I-95 NB Off-Ramp/I-95 NB On-Ramp/Service Plaza



Arterial Level of Service: EB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	III	30	11.3	13.5	24.8	0.07	10.6	E
Route 146	III	30	21.9	10.1	32.0	0.16	18.4	C
Cherry Hill Road	III	30	39.4	7.8	47.2	0.31	23.7	C
Cedar Street (SR 740	III	30	62.6	31.0	93.6	0.49	19.0	C
Total	III		135.2	62.4	197.6	1.04	19.0	C

Arterial Level of Service: WB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cedar Street (SR 740	III	30	26.2	35.7	61.9	0.21	12.0	E
Cherry Hill Road	III	30	62.6	7.1	69.7	0.49	25.5	B
Branford Connector	III	30	39.4	22.3	61.7	0.31	18.1	C
Route 142 (Short Bea	III	30	21.9	22.4	44.3	0.16	13.3	E
Total	III		150.1	87.5	237.6	1.17	17.8	D

Arterial Level of Service: NB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Parkway	III	30	24.1	20.9	45.0	0.19	15.2	D
I-95 NB On-Ramp/Serv	III	30	75.2	9.7	84.9	0.63	26.6	B
I-95 SB Off-Ramp/Ser	III	30	9.3	5.1	14.4	0.06	15.0	D
Total	III		108.6	35.7	144.3	0.88	21.9	C

Arterial Level of Service: EB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 NB Off-Ramp	III	30	9.3	13.7	23.0	0.06	9.4	F
Commercial Parkway	III	30	75.2	5.5	80.7	0.63	27.9	B
Route 1 (North Main	III	30	24.1	31.7	55.8	0.19	12.2	E
Total	III		108.6	50.9	159.5	0.88	19.8	C

Arterial Level of Service: NB Cedar Street (SR 740)

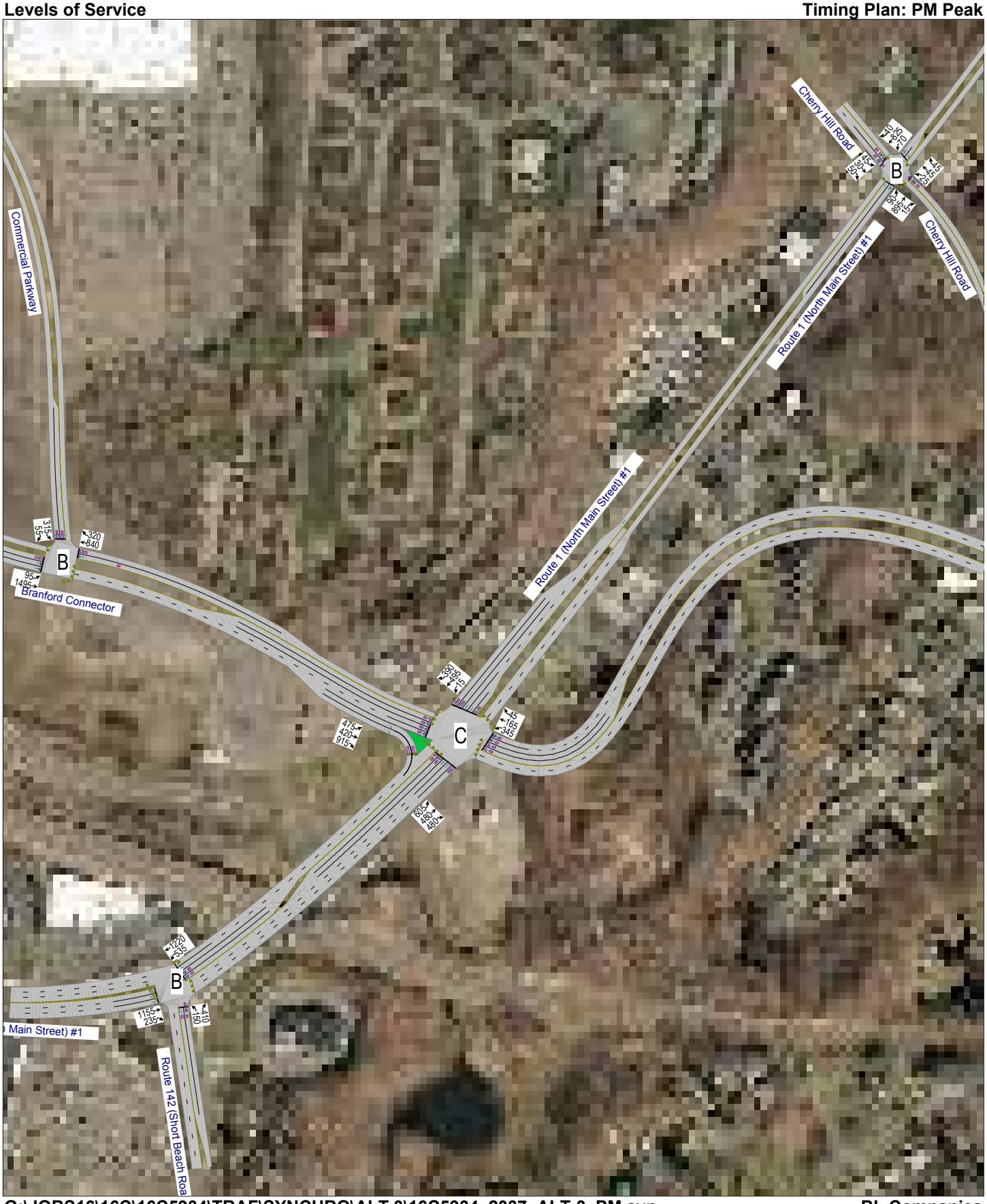
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	47.5	65.4	0.07	3.7	F
I-95 NB On Ramp	IV	30	24.3	5.4	29.7	0.16	19.6	B
I-95 SB Off Ramp	IV	30	15.5	1.8	17.3	0.09	18.0	C
Total	IV		57.7	54.7	112.4	0.32	10.1	D

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	5.5	25.3	0.11	15.7	C
I-95 NB Off Ramp	IV	30	15.5	1.5	17.0	0.09	18.3	C
Route 1 (North Main	IV	30	24.3	41.8	66.1	0.16	8.8	E
Total	IV		59.6	48.8	108.4	0.36	11.9	D


I-95 SB Off-Ramp/Service Plaza
I-95 NB On-Ramp/Service Plaza
Branford Connector
Branford Connector
Branford Connector
NB Off-Ramp
B
B
U
170
215
660
215
455
660
220
1375
1590
220
895

Branford Connector Corridor Study
Levels of Service **Timing Plan: PM Peak**



G:\JOBS16\16C\16C5934\TRAF\SYNCHRO\ALT 3\16C5934_2037_ALT-3_PM.syn **BL Companies**
D. Haptas **04/18/2018**

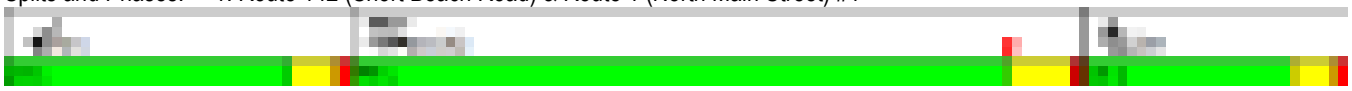

Cedar Street (SR 740)
I-95 SB Off Ramp
I-95 SB On Ramp
Cedar Street (SR 740)
I-95 NB On Ramp
I-95 NB Off Ramp
Cedar Street (SR 740)
Route 1 (North Main Street) #1
Route 1 (North Main Street) #1
Cedar Street (SR 740)
D
C
E
200
495
200
0
345
450
600
100
740
270
60
620
230
780
225
460
75
445
480
435
85
425
130
360
480
80

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1155	235	535	1220	150	410
Future Volume (vph)	1155	235	535	1220	150	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	250		250	0
Storage Lanes		1	2		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1568	3400	3505	1728	1546
Flt Permitted			0.140		0.950	
Satd. Flow (perm)	3505	1568	501	3505	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		71				34
Link Speed (mph)	30			30	30	
Link Distance (ft)	386			864	434	
Travel Time (s)	8.8			19.6	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Adj. Flow (vph)	1255	255	582	1326	163	446
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1255	255	582	1326	163	446
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	49.0	18.0	23.0	49.0	18.0	23.0
Total Split (%)	54.4%	20.0%	25.6%	54.4%	20.0%	25.6%
Maximum Green (s)	43.9	14.0	19.0	43.9	14.0	19.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	49.5	66.4	66.2	49.5	11.8	31.4
Actuated g/C Ratio	0.55	0.74	0.74	0.55	0.13	0.35
v/c Ratio	0.65	0.22	0.67	0.69	0.72	0.80
Control Delay	17.3	3.4	13.2	16.6	55.4	34.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	3.4	13.2	16.6	55.4	34.8
LOS	B	A	B	B	E	C
Approach Delay	15.0			15.6	40.3	
Approach LOS	B			B	D	
Queue Length 50th (ft)	257	26	74	222	89	204
Queue Length 95th (ft)	367	56	m114	393	153	299
Internal Link Dist (ft)	306			784	354	
Turn Bay Length (ft)			250		250	
Base Capacity (vph)	1926	1211	993	1926	268	618
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.21	0.59	0.69	0.61	0.72

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 35 (39%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 19.1		Intersection LOS: B	
Intersection Capacity Utilization 66.4%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (North Main Street) #1



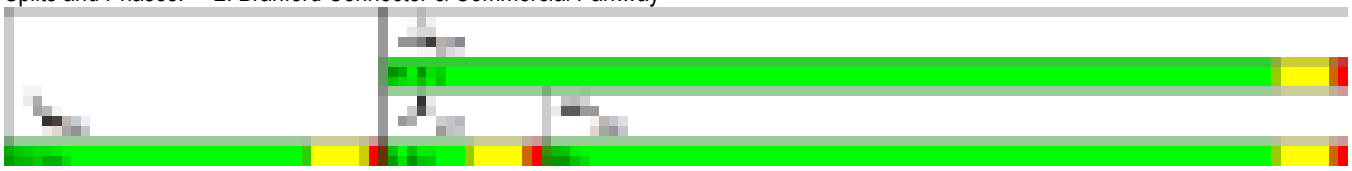
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	1495	840	320	315	55
Future Volume (vph)	95	1495	840	320	315	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			500	300	0
Storage Lanes	1			1	1	0
Taper Length (ft)	100				25	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	0.95
Frt				0.850	0.978	
Flt Protected	0.950				0.959	
Satd. Flow (prot)	1770	3539	1863	1583	3389	0
Flt Permitted	0.088				0.959	
Satd. Flow (perm)	164	3539	1863	1583	3389	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				348	24	
Link Speed (mph)		30	30		30	
Link Distance (ft)		2704	1001		1339	
Travel Time (s)		61.5	22.8		30.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	1625	913	348	342	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	1625	913	348	402	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	pm+pt	NA	NA	Perm	Prot	
Protected Phases	7	4	8		6	
Permitted Phases	4			8		
Detector Phase	7	4	8	8	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	
Total Split (s)	9.5	57.5	48.0	48.0	22.5	
Total Split (%)	11.9%	71.9%	60.0%	60.0%	28.1%	
Maximum Green (s)	5.0	53.0	43.5	43.5	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	
Act Effct Green (s)	47.9	47.9	40.7	40.7	18.3	
Actuated g/C Ratio	0.64	0.64	0.54	0.54	0.24	
v/c Ratio	0.48	0.72	0.91	0.34	0.48	
Control Delay	14.4	11.2	30.8	2.2	26.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	14.4	11.2	30.8	2.2	26.7	
LOS	B	B	C	A	C	
Approach Delay		11.4	22.9		26.7	
Approach LOS		B	C		C	
Queue Length 50th (ft)	16	231	380	0	85	
Queue Length 95th (ft)	43	302	#649	35	128	
Internal Link Dist (ft)		2624	921		1259	
Turn Bay Length (ft)				500	300	
Base Capacity (vph)	213	2532	1094	1073	842	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.48	0.64	0.83	0.32	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 75.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 17.5		Intersection LOS: B	
Intersection Capacity Utilization 71.4%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Branford Connector & Commercial Parkway



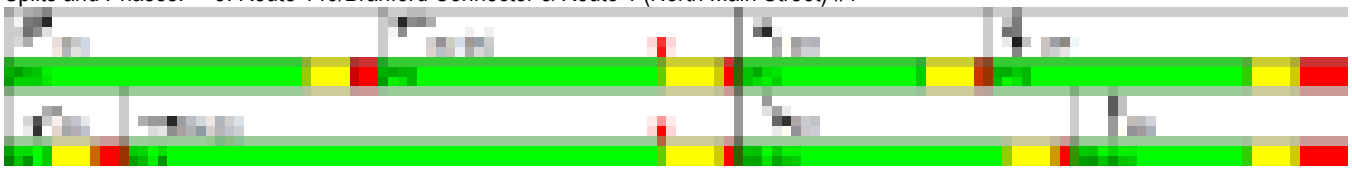
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	605	480	480	15	495	390	345	165	45	475	420	915
Future Volume (vph)	605	480	480	15	495	390	345	165	45	475	420	915
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		0	50		300	350		0	500		250
Storage Lanes	2		1	1		2	2		0	2		2
Taper Length (ft)	100			50			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.88	0.97	0.95	0.95	0.97	0.95	0.88
Frt			0.850			0.850		0.968				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3505	1568	1752	3505	2760	3433	3426	0	3273	3374	2656
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3505	1568	1752	3505	2760	3433	3426	0	3273	3374	2656
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)			522					32				80
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		864			578			1472			1001	
Travel Time (s)		19.6			13.1			33.5			22.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	7%	7%	7%
Adj. Flow (vph)	658	522	522	16	538	424	375	179	49	516	457	995
Shared Lane Traffic (%)												
Lane Group Flow (vph)	658	522	522	16	538	424	375	228	0	516	457	995
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	pt+ov
Protected Phases	1	6		5	2		3	8		7	4	4 1
Permitted Phases			6			2		8				
Detector Phase	1	6	6	5	2	2	3	8		7	4	4 1
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	5.0	7.0		5.0	7.0	
Minimum Split (s)	8.0	20.1	20.1	8.0	22.5	22.5	9.5	13.7		9.5	13.7	
Total Split (s)	25.0	41.0	41.0	8.0	24.0	24.0	17.0	18.6		22.4	24.0	
Total Split (%)	27.8%	45.6%	45.6%	8.9%	26.7%	26.7%	18.9%	20.7%		24.9%	26.7%	
Maximum Green (s)	20.0	35.9	35.9	3.0	18.9	18.9	12.5	11.9		17.9	17.3	
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.5	3.3		3.5	3.3	
All-Red Time (s)	2.0	1.0	1.0	2.0	1.0	1.0	1.0	3.4		1.0	3.4	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.1	5.1	5.0	5.1	5.1	4.5	6.7		4.5	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0		3.0	1.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	19.9	40.7	40.7	3.0	19.0	19.0	12.3	12.6		17.2	17.5	42.5
Actuated g/C Ratio	0.22	0.45	0.45	0.03	0.21	0.21	0.14	0.14		0.19	0.19	0.47
v/c Ratio	0.88	0.33	0.52	0.28	0.73	0.73	0.80	0.45		0.83	0.70	0.77
Control Delay	45.4	22.9	10.7	60.2	35.2	36.5	52.0	33.9		47.4	40.2	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	45.4	22.9	10.7	60.2	35.2	36.5	52.0	33.9		47.4	40.2	22.9
LOS	D	C	B	E	D	D	D	C		D	D	C
Approach Delay		27.9			36.2			45.2			33.4	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	197	122	101	8	152	129	107	54		144	128	237
Queue Length 95th (ft)	#284	178	187	m14	202	181	#172	91		#216	182	328
Internal Link Dist (ft)		784			498			1392			921	
Turn Bay Length (ft)	390			50		300	350			500		250
Base Capacity (vph)	755	1585	995	58	739	581	476	507		650	657	1297
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.87	0.33	0.52	0.28	0.73	0.73	0.79	0.45		0.79	0.70	0.77

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 33.5 Intersection LOS: C
Intersection Capacity Utilization 70.1% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Route 146/Branford Connector & Route 1 (North Main Street) #1

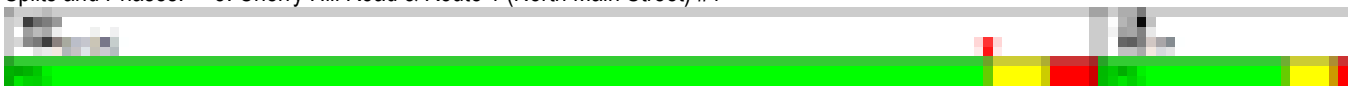


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	895	15	70	825	40	25	45	45	45	30	50
Future Volume (vph)	90	895	15	70	825	40	25	45	45	45	30	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	315		0	27		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	15			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.993			0.947				0.850
Flt Protected	0.950			0.950				0.989			0.971	
Satd. Flow (prot)	1694	1841	0	1694	1832	0	0	1695	0	0	1757	1538
Flt Permitted	0.239			0.216				0.912			0.630	
Satd. Flow (perm)	426	1841	0	385	1832	0	0	1563	0	0	1140	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			7			30				55
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1060			2243			428			195	
Travel Time (s)		24.1			51.0			11.7			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	98	973	16	76	897	43	27	49	49	49	33	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	989	0	76	940	0	0	125	0	0	82	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Detector Phase	2	2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	27.5	27.5		27.5	27.5		11.3	11.3		11.3	11.3	11.3
Total Split (s)	73.0	73.0		73.0	73.0		17.0	17.0		17.0	17.0	17.0
Total Split (%)	81.1%	81.1%		81.1%	81.1%		18.9%	18.9%		18.9%	18.9%	18.9%
Maximum Green (s)	65.5	65.5		65.5	65.5		12.7	12.7		12.7	12.7	12.7
Yellow Time (s)	4.1	4.1		4.1	4.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.5	7.5		7.5	7.5			4.3			4.3	4.3
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	None
Act Effct Green (s)	67.7	67.7		67.7	67.7			10.5			10.5	10.5
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.12			0.12	0.12
v/c Ratio	0.31	0.71		0.26	0.68			0.60			0.62	0.24
Control Delay	4.1	11.3		6.7	9.3			40.2			57.3	12.6
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	4.1	11.3		6.7	9.3			40.2			57.3	12.6
LOS	A	B		A	A			D			E	B
Approach Delay		10.7			9.1			40.2			39.6	
Approach LOS		B			A			D			D	
Queue Length 50th (ft)	16	261		11	226			51			45	0
Queue Length 95th (ft)	m2	368		32	379			106			91	32
Internal Link Dist (ft)		980			2163			348			115	
Turn Bay Length (ft)	315			27								
Base Capacity (vph)	320	1384		289	1379			246			160	264
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.31	0.71		0.26	0.68			0.51			0.51	0.20

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 69.2 (77%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 93.9%		ICU Level of Service F	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: Cherry Hill Road & Route 1 (North Main Street) #1

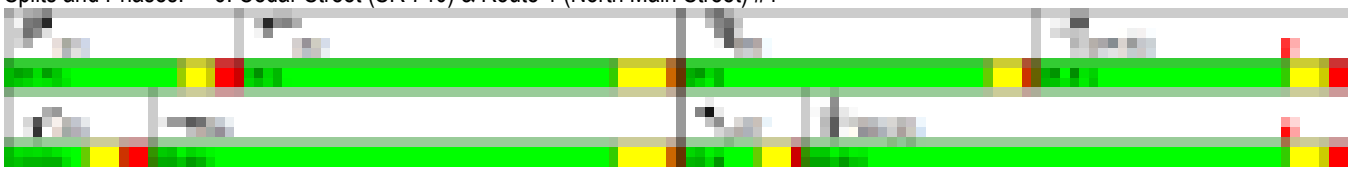


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	480	80	75	460	225	130	425	85	445	480	435
Future Volume (vph)	360	480	80	75	460	225	130	425	85	445	480	435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.979				0.850		0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3286	1806	0	1694	1845	1516	1728	3369	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.363			0.163		
Satd. Flow (perm)	3286	1806	0	1694	1845	1516	660	3369	0	296	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		8						19				127
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		361			1088			356			855	
Travel Time (s)		8.2			24.7			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	391	522	87	82	500	245	141	462	92	484	522	473
Shared Lane Traffic (%)												
Lane Group Flow (vph)	391	609	0	82	500	245	141	554	0	484	522	473
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	15.0	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.3	11.3
Total Split (s)	19.4	43.6		11.8	36.0	29.0	10.0	25.6		29.0	44.6	19.4
Total Split (%)	17.6%	39.6%		10.7%	32.7%	26.4%	9.1%	23.3%		26.4%	40.5%	17.6%
Maximum Green (s)	14.1	38.2		6.5	30.6	25.0	6.0	20.5		25.0	39.5	14.1
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	Min		None	Min	None	None	C-Min		None	C-Max	None
Act Effct Green (s)	14.1	37.9		6.5	30.3	61.0	27.9	20.5		50.9	39.5	58.7
Actuated g/C Ratio	0.13	0.34		0.06	0.28	0.55	0.25	0.19		0.46	0.36	0.53
v/c Ratio	0.93	0.97		0.82	0.98	0.29	0.62	0.86		1.04	0.77	0.54
Control Delay	77.3	65.3		103.0	76.5	14.2	35.8	56.6		79.6	37.6	18.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	77.3	65.3		103.0	76.5	14.2	35.8	56.6		79.6	37.6	18.7
LOS	E	E		F	E	B	D	E		E	D	B
Approach Delay		70.0			60.7			52.4			45.3	
Approach LOS		E			E			D			D	
Queue Length 50th (ft)	142	414		58	350	87	57	194		~318	299	149
Queue Length 95th (ft)	#234	#649		#147	#563	137	#101	#286		m#388	m341	m187
Internal Link Dist (ft)		281			1008			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	421	632		100	513	840	227	643		465	675	884
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.93	0.96		0.82	0.97	0.29	0.62	0.86		1.04	0.77	0.54

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 104.9 (95%), Referenced to phase 4:NBTL and 8:SBTL, Start of Yellow			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 55.9		Intersection LOS: E	
Intersection Capacity Utilization 90.7%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	60	620	0	0	0	0	780	230	100	740	0
Future Volume (vph)	270	60	620	0	0	0	0	780	230	100	740	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.966				
Flt Protected	0.950	0.969								0.950		
Satd. Flow (prot)	1681	1715	1583	0	0	0	0	3453	0	1787	3574	0
Flt Permitted	0.950	0.969								0.158		
Satd. Flow (perm)	1681	1715	1583	0	0	0	0	3453	0	297	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193					45				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			727			855			456	
Travel Time (s)		21.2			16.5			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	293	65	674	0	0	0	0	848	250	109	804	0
Shared Lane Traffic (%)	39%											
Lane Group Flow (vph)	179	179	674	0	0	0	0	1098	0	109	804	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					23.1				
Total Split (s)	38.0	38.0	38.0					54.0				
Total Split (%)	34.5%	34.5%	34.5%					49.1%				
Maximum Green (s)	31.4	31.4	31.4					48.9				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					C-Min				

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	18.0
Total Split (%)	16%
Maximum Green (s)	11.6
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	31.4	31.4	31.4					48.9		66.9	66.9	
Actuated g/C Ratio	0.29	0.29	0.29					0.44		0.61	0.61	
v/c Ratio	0.37	0.37	1.14					0.70		0.61	0.37	
Control Delay	34.2	34.0	110.8					9.6		19.0	2.9	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.2	
Total Delay	34.2	34.0	110.8					9.6		19.0	3.1	
LOS	C	C	F					A		B	A	
Approach Delay		84.2						9.6			5.0	
Approach LOS		F						A			A	
Queue Length 50th (ft)	106	106	~455					214		10	22	
Queue Length 95th (ft)	174	173	#683					m265		m75	m23	
Internal Link Dist (ft)		853			647			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	479	489	589					1560		180	2173	
Starvation Cap Reductn	0	0	0					0		0	500	
Spillback Cap Reductn	0	0	0					0		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.37	0.37	1.14					0.70		0.61	0.48	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 48.9 (44%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 33.5 Intersection LOS: C
Intersection Capacity Utilization 68.6% ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp

Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	345	0	200	450	600	0	0	495	200
Future Volume (vph)	0	0	0	345	0	200	450	600	0	0	495	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.957	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3421	0
Flt Permitted				0.950	0.950		0.313					
Satd. Flow (perm)	0	0	0	1698	1698	1599	589	3574	0	0	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						217					71	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	375	0	217	489	652	0	0	538	217
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	187	188	217	489	652	0	0	755	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					23.1	
Total Split (s)				18.0	18.0	18.0					54.0	
Total Split (%)				16.4%	16.4%	16.4%					49.1%	
Maximum Green (s)				11.6	11.6	11.6					48.9	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					C-Min	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	38.0
Total Split (%)	35%
Maximum Green (s)	31.4
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				11.6	11.6	11.6	86.9	86.9			48.9	
Actuated g/C Ratio				0.11	0.11	0.11	0.79	0.79			0.44	
v/c Ratio				1.04	1.05	0.60	1.05	0.23			0.48	
Control Delay				128.0	129.4	13.8	68.2	0.6			20.6	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				128.0	129.4	13.8	68.2	0.6			20.6	
LOS				F	F	B	E	A			C	
Approach Delay					86.6			29.6			20.6	
Approach LOS					F			C			C	
Queue Length 50th (ft)				~151	~152	0	~319	6			174	
Queue Length 95th (ft)				#301	#303	71	#599	7			229	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				179	179	362	465	2823			1560	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				1.04	1.05	0.60	1.05	0.23			0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 48.9 (44%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.14			
Intersection Signal Delay: 40.4		Intersection LOS: D	
Intersection Capacity Utilization 68.6%		ICU Level of Service C	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp

Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	220	895	0	0	1590
Future Volume (vph)	0	220	895	0	0	1590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1611	1863	0	0	1863
Flt Permitted						
Satd. Flow (perm)	0	1611	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	658		2704			280
Travel Time (s)	15.0		61.5			6.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	239	973	0	0	1728
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	239	973	0	0	1728
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	215	170	660	0
Future Volume (vph)	0	0	215	170	660	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected			0.950		0.950	
Satd. Flow (prot)	0	0	1770	1863	1770	0
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	0	0	1770	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	30			30	30	
Link Distance (ft)	689			627	333	
Travel Time (s)	15.7			14.3	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	234	185	717	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	234	185	717	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type			Perm	NA	Prot	
Protected Phases				8	2	
Permitted Phases			8			
Detector Phase			8	8	2	
Switch Phase						
Minimum Initial (s)			5.0	5.0	5.0	
Minimum Split (s)			22.5	22.5	22.5	
Total Split (s)			23.0	23.0	47.0	
Total Split (%)			32.9%	32.9%	67.1%	
Maximum Green (s)			18.5	18.5	42.5	
Yellow Time (s)			3.5	3.5	3.5	
All-Red Time (s)			1.0	1.0	1.0	
Lost Time Adjust (s)			0.0	0.0	0.0	
Total Lost Time (s)			4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)			3.0	3.0	3.0	
Recall Mode			None	None	C-Max	
Walk Time (s)			7.0	7.0	7.0	
Flash Dont Walk (s)			11.0	11.0	11.0	
Pedestrian Calls (#/hr)			0	0	0	
Act Effct Green (s)			14.3	14.3	46.7	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Actuated g/C Ratio			0.20	0.20	0.67	
v/c Ratio			0.65	0.49	0.61	
Control Delay			33.6	28.2	4.6	
Queue Delay			0.0	0.0	0.0	
Total Delay			33.6	28.2	4.6	
LOS			C	C	A	
Approach Delay				31.2	4.6	
Approach LOS				C	A	
Queue Length 50th (ft)			93	71	38	
Queue Length 95th (ft)			149	118	49	
Internal Link Dist (ft)	609			547	253	
Turn Bay Length (ft)						
Base Capacity (vph)			467	492	1180	
Starvation Cap Reductn			0	0	0	
Spillback Cap Reductn			0	0	0	
Storage Cap Reductn			0	0	0	
Reduced v/c Ratio			0.50	0.38	0.61	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 14.4		Intersection LOS: B	
Intersection Capacity Utilization 69.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 24: Branford Connector & I-95 SB On-Ramp/I-95 SB Off-Ramp/Service Plaza

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	220	1375	0	0	0	0	660	455	0	215	0
Future Volume (vph)	0	220	1375	0	0	0	0	660	455	0	215	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		600	0		0	0		200	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850			
Flt Protected												
Satd. Flow (prot)	0	1863	1583	0	0	0	0	1863	1583	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	1863	1583	0	0	0	0	1863	1583	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			796						338			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		833			609			332			333	
Travel Time (s)		18.9			13.8			7.5			7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	239	1495	0	0	0	0	717	495	0	234	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	239	1495	0	0	0	0	717	495	0	234	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Free					NA	custom		NA	
Protected Phases		4						2	2		6	
Permitted Phases			Free					2	2		6	
Detector Phase		4						2	2		6	
Switch Phase												
Minimum Initial (s)		5.0						5.0	5.0		5.0	
Minimum Split (s)		22.5						22.5	22.5		22.5	
Total Split (s)		23.0						47.0	47.0		47.0	
Total Split (%)		32.9%						67.1%	67.1%		67.1%	
Maximum Green (s)		18.5						42.5	42.5		42.5	
Yellow Time (s)		3.5						3.5	3.5		3.5	
All-Red Time (s)		1.0						1.0	1.0		1.0	
Lost Time Adjust (s)		0.0						0.0	0.0		0.0	
Total Lost Time (s)		4.5						4.5	4.5		4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0						3.0	3.0		3.0	
Recall Mode		None						C-Max	C-Max		C-Max	
Walk Time (s)		7.0						7.0	7.0		7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0						0	0		0	
Act Effct Green (s)		14.0	70.0					47.0	47.0		47.0	
Actuated g/C Ratio		0.20	1.00					0.67	0.67		0.67	
v/c Ratio		0.64	0.94					0.57	0.42		0.19	
Control Delay		33.5	15.4					9.2	3.1		12.0	
Queue Delay		0.0	0.0					0.0	0.0		0.0	
Total Delay		33.5	15.4					9.2	3.1		12.0	
LOS		C	B					A	A		B	
Approach Delay		17.9						6.7			12.0	
Approach LOS		B						A			B	
Queue Length 50th (ft)		95	0					139	21		113	
Queue Length 95th (ft)		150	#159					278	66		181	
Internal Link Dist (ft)		753			529			252			253	
Turn Bay Length (ft)			600						200			
Base Capacity (vph)		492	1583					1252	1174		1252	
Starvation Cap Reductn		0	0					0	0		0	
Spillback Cap Reductn		0	0					0	0		0	
Storage Cap Reductn		0	0					0	0		0	
Reduced v/c Ratio		0.49	0.94					0.57	0.42		0.19	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 56.8%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 31: Branford Connector & I-95 NB Off-Ramp/I-95 NB On-Ramp/Service Plaza

Arterial Level of Service: EB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	III	30	11.3	17.3	28.6	0.07	9.2	F
Route 146	III	30	21.9	22.9	44.8	0.16	13.1	E
Cherry Hill Road	III	30	39.4	11.3	50.7	0.31	22.0	C
Cedar Street (SR 740	III	30	62.6	65.3	127.9	0.49	13.9	E
Total	III		135.2	116.8	252.0	1.04	14.9	D

Arterial Level of Service: WB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cedar Street (SR 740	III	30	26.2	76.6	102.8	0.21	7.2	F
Cherry Hill Road	III	30	62.6	9.3	71.9	0.49	24.7	B
Branford Connector	III	30	39.4	35.2	74.6	0.31	15.0	D
Route 142 (Short Bea	III	30	21.9	16.6	38.5	0.16	15.3	D
Total	III		150.1	137.7	287.8	1.17	14.7	D

Arterial Level of Service: NB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Parkway	III	30	24.1	30.8	54.9	0.19	12.4	E
I-95 NB On-Ramp/Serv	III	30	75.4	9.2	84.6	0.63	26.7	B
I-95 SB Off-Ramp/Ser	III	30	9.8	4.6	14.4	0.06	15.8	D
Total	III		109.3	44.6	153.9	0.88	20.6	C

Arterial Level of Service: EB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 NB Off-Ramp	III	30	9.8	12.0	21.8	0.06	10.4	E
Commercial Parkway	III	30	75.4	11.2	86.6	0.63	26.1	B
Route 1 (North Main	III	30	24.1	40.2	64.3	0.19	10.6	E
Total	III		109.3	63.4	172.7	0.88	18.4	C

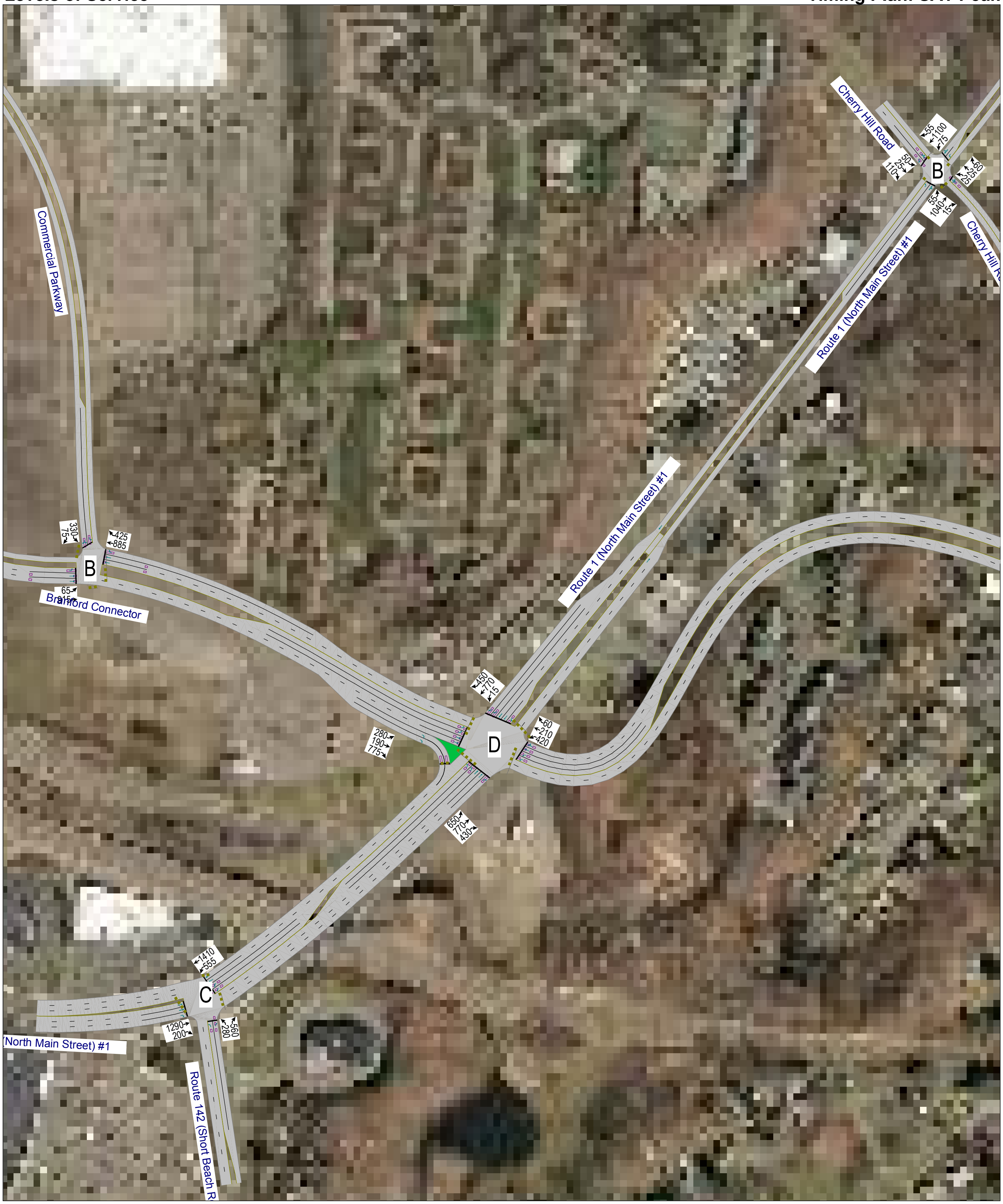
Arterial Level of Service: NB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	56.6	74.5	0.07	3.3	F
I-95 NB On Ramp	IV	30	24.3	9.6	33.9	0.16	17.2	C
I-95 SB Off Ramp	IV	30	15.5	0.6	16.1	0.09	19.3	B
Total	IV		57.7	66.8	124.5	0.32	9.1	D

Arterial Level of Service: SB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	20.6	40.4	0.11	9.8	D
I-95 NB Off Ramp	IV	30	15.5	2.9	18.4	0.09	16.9	C
Route 1 (North Main	IV	30	24.3	37.6	61.9	0.16	9.4	D
Total	IV		59.6	61.1	120.7	0.36	10.7	D


195
190
80
680
I-95 SB Off-Ramp/Service Plaza
I-95 SB On-Ramp
Branford Connector
I-95 NB On-Ramp/Service
190
80
550
680
270
790
I-95 NB Off-Ramp
Branford Connector
Branford Connector
980
U
960


Cherry Hill Road
55
1100
75
50
25
110
60
25
25
B
55
1040
15
Cherry Hill R
Route 1 (North Main Street) #1
Commercial Parkway
330
75
425
885
B
65
915
Branford Connector
Route 1 (North Main Street) #1
450
770
15
280
190
775
D
60
210
420
650
770
430
1410
555
C
1290
200
560
280
(North Main Street) #1
Route 142 (Short Beach R

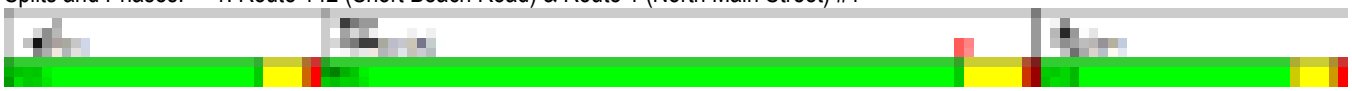

Cedar Street (SR 740)
200
490
110
0
255
D
560
445
I-95 SB Off Ramp
I-95 SB On Ramp
Cedar Street (SR 740)
I-95 NB On Ramp
110
635
B
I-95 NB Off Ramp
150
15
465
245
855
Cedar Street (SR 740)
Route 1 (North Main Street) #1
280
600
85
260
480
360
E
75
520
150
300
450
75
Route 1 (North Main Street) #1
Cedar Street (SR 740)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1290	200	555	1410	280	560
Future Volume (vph)	1290	200	555	1410	280	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Storage Length (ft)		0	250		250	0
Storage Lanes		1	2		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1568	3400	3505	1728	1546
Flt Permitted			0.092		0.950	
Satd. Flow (perm)	3505	1568	329	3505	1728	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		35				20
Link Speed (mph)	30			30	30	
Link Distance (ft)	386			864	434	
Travel Time (s)	8.8			19.6	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Adj. Flow (vph)	1402	217	603	1533	304	609
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1402	217	603	1533	304	609
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	6			24	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	4	1	2	4	1
Permitted Phases	2	2	2			4
Detector Phase	2	4	1	2	4	1
Switch Phase						
Minimum Initial (s)	15.0	7.0	5.0	15.0	7.0	5.0
Minimum Split (s)	20.1	11.0	9.0	20.1	11.0	9.0
Total Split (s)	48.0	21.0	21.0	48.0	21.0	21.0
Total Split (%)	53.3%	23.3%	23.3%	53.3%	23.3%	23.3%
Maximum Green (s)	42.9	17.0	17.0	42.9	17.0	17.0
Yellow Time (s)	4.1	3.0	3.0	4.1	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	4.0	4.0	5.1	4.0	4.0
Lead/Lag	Lag		Lead	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	2.5	1.0	0.2	2.5	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	43.6	65.5	61.2	43.6	16.8	37.3
Actuated g/C Ratio	0.48	0.73	0.68	0.48	0.19	0.41
v/c Ratio	0.83	0.19	0.77	0.90	0.94	0.93
Control Delay	25.5	3.7	17.7	36.4	75.2	48.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.5	3.7	17.7	36.4	75.2	48.1
LOS	C	A	B	D	E	D
Approach Delay	22.5			31.1	57.1	
Approach LOS	C			C	E	
Queue Length 50th (ft)	351	27	104	449	172	309
Queue Length 95th (ft)	448	49	m118	m485	#327	#530
Internal Link Dist (ft)	306			784	354	
Turn Bay Length (ft)			250		250	
Base Capacity (vph)	1697	1154	805	1697	326	661
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.19	0.75	0.90	0.93	0.92

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 33.2		Intersection LOS: C	
Intersection Capacity Utilization 77.9%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Route 142 (Short Beach Road) & Route 1 (North Main Street) #1

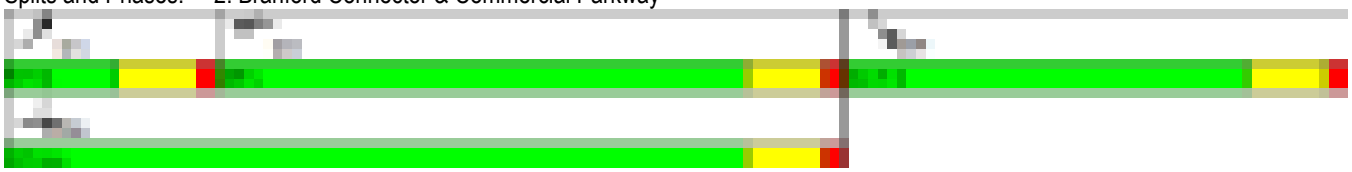


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	65	915	885	425	330	75
Future Volume (vph)	65	915	885	425	330	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			500	300	0
Storage Lanes	1			1	1	0
Taper Length (ft)	100				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.95
Frt				0.850	0.972	
Flt Protected	0.950				0.961	
Satd. Flow (prot)	1770	3539	3539	1583	3376	0
Flt Permitted	0.171				0.961	
Satd. Flow (perm)	319	3539	3539	1583	3376	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				462	48	
Link Speed (mph)		30	30		30	
Link Distance (ft)		2751	1001		1339	
Travel Time (s)		62.5	22.8		30.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	995	962	462	359	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	995	962	462	441	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	pm+pt	NA	NA	Perm	Prot	
Protected Phases	1	6	2		4	
Permitted Phases	6			2		
Detector Phase	1	6	2	2	4	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	
Total Split (s)	9.5	37.5	28.0	28.0	22.5	
Total Split (%)	15.8%	62.5%	46.7%	46.7%	37.5%	
Maximum Green (s)	5.0	33.0	23.5	23.5	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Max	None	None	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	
Act Effct Green (s)	33.0	33.0	27.3	27.3	18.0	
Actuated g/C Ratio	0.55	0.55	0.46	0.46	0.30	
v/c Ratio	0.24	0.51	0.60	0.48	0.42	
Control Delay	8.4	9.6	15.3	3.4	16.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	8.4	9.6	15.3	3.4	16.4	
LOS	A	A	B	A	B	
Approach Delay		9.5	11.4		16.4	
Approach LOS		A	B		B	
Queue Length 50th (ft)	11	106	147	0	57	
Queue Length 95th (ft)	26	149	208	49	92	
Internal Link Dist (ft)		2671	921		1259	
Turn Bay Length (ft)				500	300	
Base Capacity (vph)	296	1946	1610	972	1046	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.24	0.51	0.60	0.48	0.42	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Branford Connector & Commercial Parkway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	650	770	430	15	770	450	420	210	60	280	190	775
Future Volume (vph)	650	770	430	15	770	450	420	210	60	280	190	775
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		0	50		300	350		0	500		250
Storage Lanes	2		1	1		2	2		0	2		2
Taper Length (ft)	100			50			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.88	0.97	0.95	0.95	0.97	0.95	0.88
Frt			0.850			0.850		0.967				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3505	1568	1752	3505	2760	3433	3422	0	3273	3374	2656
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3505	1568	1752	3505	2760	3433	3422	0	3273	3374	2656
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)			467					35				528
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		864			578			1472			1001	
Travel Time (s)		19.6			13.1			33.5			22.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	7%	7%	7%
Adj. Flow (vph)	707	837	467	16	837	489	457	228	65	304	207	842
Shared Lane Traffic (%)												
Lane Group Flow (vph)	707	837	467	16	837	489	457	293	0	304	207	842
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2		8				4
Detector Phase	1	6	6	5	2	2	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	5.0	7.0		5.0	7.0	7.0
Minimum Split (s)	8.0	20.1	20.1	8.0	22.5	22.5	9.5	13.7		9.5	13.7	13.7
Total Split (s)	23.0	43.6	43.6	8.0	28.6	28.6	17.0	21.6		16.8	21.4	21.4
Total Split (%)	25.6%	48.4%	48.4%	8.9%	31.8%	31.8%	18.9%	24.0%		18.7%	23.8%	23.8%
Maximum Green (s)	18.0	38.5	38.5	3.0	23.5	23.5	12.5	14.9		12.3	14.7	14.7
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.5	3.3		3.5	3.3	3.3
All-Red Time (s)	2.0	1.0	1.0	2.0	1.0	1.0	1.0	3.4		1.0	3.4	3.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.1	5.1	5.0	5.1	5.1	4.5	6.7		4.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0		3.0	1.0	1.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	18.6	43.9	43.9	3.5	23.5	23.5	12.5	14.9		11.7	14.1	14.1
Actuated g/C Ratio	0.21	0.49	0.49	0.04	0.26	0.26	0.14	0.17		0.13	0.16	0.16
v/c Ratio	1.01	0.49	0.47	0.24	0.91	0.68	0.96	0.49		0.71	0.39	0.98
Control Delay	70.0	15.6	3.1	50.9	48.4	35.5	72.5	33.1		47.4	36.3	41.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	70.0	15.6	3.1	50.9	48.4	35.5	72.5	33.1		47.4	36.3	41.0
LOS	E	B	A	D	D	D	E	C		D	D	D
Approach Delay		31.8			43.7			57.1			41.7	
Approach LOS		C			D			E			D	
Queue Length 50th (ft)	~233	121	7	9	243	142	135	70		86	55	107
Queue Length 95th (ft)	m#307	m195	m41	30	#356	201	#229	111		129	90	#247
Internal Link Dist (ft)		784			498			1392			921	
Turn Bay Length (ft)	390			50		300	350			500		250
Base Capacity (vph)	703	1709	1003	68	915	720	476	597		447	551	875
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.01	0.49	0.47	0.24	0.91	0.68	0.96	0.49		0.68	0.38	0.96

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 40.7 Intersection LOS: D
Intersection Capacity Utilization 75.4% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

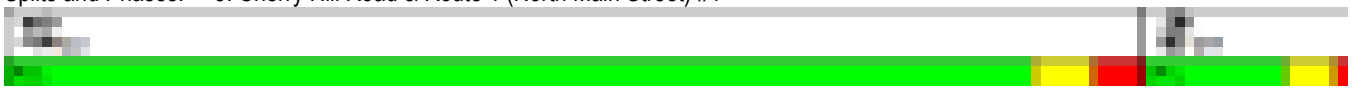
Splits and Phases: 3: Route 146/Branford Connector & Route 1 (North Main Street) #1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	1040	15	75	1100	55	25	25	60	50	25	110
Future Volume (vph)	55	1040	15	75	1100	55	25	25	60	50	25	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	315		0	27		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	15			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.993			0.926				0.850
Flt Protected	0.950			0.950				0.989			0.968	
Satd. Flow (prot)	1694	1841	0	1694	1832	0	0	1657	0	0	1752	1538
Flt Permitted	0.094			0.149				0.902			0.610	
Satd. Flow (perm)	168	1841	0	266	1832	0	0	1511	0	0	1104	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			8			54				120
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1060			2243			428			195	
Travel Time (s)		24.1			51.0			11.7			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	60	1130	16	82	1196	60	27	27	65	54	27	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	1146	0	82	1256	0	0	119	0	0	81	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Detector Phase	2	2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	27.5	27.5		27.5	27.5		11.3	11.3		11.3	11.3	11.3
Total Split (s)	76.0	76.0		76.0	76.0		14.0	14.0		14.0	14.0	14.0
Total Split (%)	84.4%	84.4%		84.4%	84.4%		15.6%	15.6%		15.6%	15.6%	15.6%
Maximum Green (s)	68.5	68.5		68.5	68.5		9.7	9.7		9.7	9.7	9.7
Yellow Time (s)	4.1	4.1		4.1	4.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.5	7.5		7.5	7.5			4.3			4.3	4.3
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Act Effct Green (s)	67.6	67.6		67.6	67.6			9.1			9.1	9.1
Actuated g/C Ratio	0.76	0.76		0.76	0.76			0.10			0.10	0.10
v/c Ratio	0.47	0.82		0.40	0.90			0.58			0.72	0.45
Control Delay	18.5	12.9		10.7	18.9			34.4			73.3	13.4
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	18.5	12.9		10.7	18.9			34.4			73.3	13.4
LOS	B	B		B	B			C			E	B
Approach Delay		13.2			18.4			34.4			37.5	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)	10	326		13	427			35			45	0
Queue Length 95th (ft)	56	542		42	#915			90			#118	50
Internal Link Dist (ft)		980			2163			348			115	
Turn Bay Length (ft)	315			27								
Base Capacity (vph)	129	1426		206	1421			214			120	275
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.47	0.80		0.40	0.88			0.56			0.68	0.44

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 88.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 87.8%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Cherry Hill Road & Route 1 (North Main Street) #1



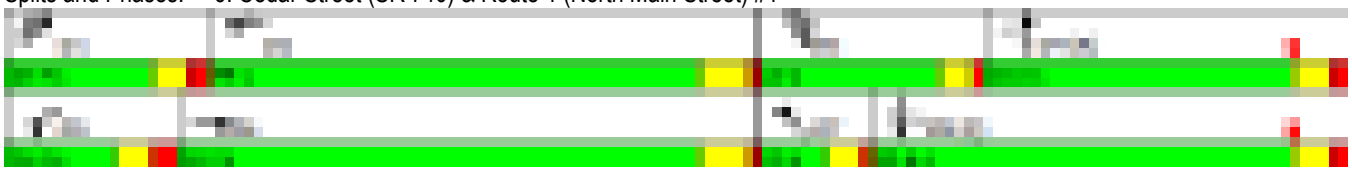
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	450	75	85	600	280	150	520	75	260	480	360
Future Volume (vph)	300	450	75	85	600	280	150	520	75	260	480	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	11	11	11	11	11	12	11
Storage Length (ft)	170		0	130		210	130		112	130		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	65			80			135			60		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.978				0.850		0.981				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3286	1804	0	1694	1845	1516	1728	3389	0	1728	1881	1546
Flt Permitted	0.950			0.950			0.150			0.147		
Satd. Flow (perm)	3286	1804	0	1694	1845	1516	273	3389	0	267	1881	1546
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		8						12				100
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		361			1088			356			855	
Travel Time (s)		8.2			24.7			9.7			19.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	326	489	82	92	652	304	163	565	82	283	522	391
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	571	0	92	652	304	163	647	0	283	522	391
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			24			11			11	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.04	1.04	1.04	1.04	1.04	1.00	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	1	6		5	2	3	7	4		3	8	1
Permitted Phases		6				2	4	4		8	8	8
Detector Phase	1	6		5	2	3	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	6.0	15.0		6.0	15.0	5.0	5.0	7.0		5.0	7.0	6.0
Minimum Split (s)	11.3	20.4		11.3	20.4	9.0	9.0	23.1		9.0	12.3	11.3
Total Split (s)	18.4	52.2		15.2	49.0	20.0	10.0	32.6		20.0	42.6	18.4
Total Split (%)	15.3%	43.5%		12.7%	40.8%	16.7%	8.3%	27.2%		16.7%	35.5%	15.3%
Maximum Green (s)	13.1	46.8		9.9	43.6	16.0	6.0	27.5		16.0	37.5	13.1
Yellow Time (s)	3.0	4.4		3.0	4.4	3.0	3.0	3.3		3.0	3.3	3.0
All-Red Time (s)	2.3	1.0		2.3	1.0	1.0	1.0	1.8		1.0	1.8	2.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.3	5.4		5.3	5.4	4.0	4.0	5.1		4.0	5.1	5.3
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	Min		None	Min	None	None	C-Min		None	C-Max	None
Act Effct Green (s)	13.1	46.6		9.5	43.0	64.6	35.6	27.9		49.2	37.5	55.7
Actuated g/C Ratio	0.11	0.39		0.08	0.36	0.54	0.30	0.23		0.41	0.31	0.46
v/c Ratio	0.91	0.81		0.69	0.99	0.37	1.01	0.81		0.92	0.89	0.51
Control Delay	82.7	42.8		80.0	70.7	17.5	107.2	52.2		67.0	61.2	27.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	82.7	42.8		80.0	70.7	17.5	107.2	52.2		67.0	61.2	27.8
LOS	F	D		F	E	B	F	D		E	E	C
Approach Delay		57.3			56.1			63.3			51.6	
Approach LOS		E			E			E			D	
Queue Length 50th (ft)	130	384		70	493	129	~87	247		181	373	178
Queue Length 95th (ft)	#216	536		#145	#740	195	#224	#320		m#260	m#492	m228
Internal Link Dist (ft)		281			1008			276			775	
Turn Bay Length (ft)	170			130		210	130			130		
Base Capacity (vph)	358	708		139	670	816	161	796		306	587	771
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.91	0.81		0.66	0.97	0.37	1.01	0.81		0.92	0.89	0.51

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 114.9 (96%), Referenced to phase 4:NBTL and 8:SBTL, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 56.5 Intersection LOS: E
Intersection Capacity Utilization 90.2% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Cedar Street (SR 740) & Route 1 (North Main Street) #1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	15	465	0	0	0	0	855	245	110	635	0
Future Volume (vph)	150	15	465	0	0	0	0	855	245	110	635	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	370		370	0		0	0		0	50		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	140			25			25			45		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.967				
Flt Protected	0.950	0.961								0.950		
Satd. Flow (prot)	1681	1701	1583	0	0	0	0	3456	0	1787	3574	0
Flt Permitted	0.950	0.961								0.185		
Satd. Flow (perm)	1681	1701	1583	0	0	0	0	3456	0	348	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			340					60				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		933			727			855			456	
Travel Time (s)		21.2			16.5			19.4			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	163	16	505	0	0	0	0	929	266	120	690	0
Shared Lane Traffic (%)	45%											
Lane Group Flow (vph)	90	89	505	0	0	0	0	1195	0	120	690	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		3						2			2 4	
Permitted Phases	3		3							2 4		
Detector Phase	3	3	3					2		2 4	2 4	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0					15.0				
Minimum Split (s)	13.6	13.6	13.6					23.1				
Total Split (s)	23.0	23.0	23.0					81.0				
Total Split (%)	19.2%	19.2%	19.2%					67.5%				
Maximum Green (s)	16.4	16.4	16.4					75.9				
Yellow Time (s)	3.7	3.7	3.7					4.1				
All-Red Time (s)	2.9	2.9	2.9					1.0				
Lost Time Adjust (s)	0.0	0.0	0.0					0.0				
Total Lost Time (s)	6.6	6.6	6.6					5.1				
Lead/Lag	Lead	Lead	Lead									
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					4.0				
Recall Mode	None	None	None					C-Min				

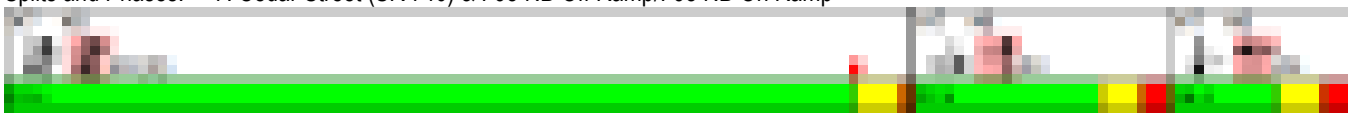
Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.4
Total Split (s)	16.0
Total Split (%)	13%
Maximum Green (s)	9.6
Yellow Time (s)	3.8
All-Red Time (s)	2.6
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	16.4	16.4	16.4					75.9		91.9	91.9	
Actuated g/C Ratio	0.14	0.14	0.14					0.63		0.77	0.77	
v/c Ratio	0.39	0.38	0.99					0.54		0.45	0.25	
Control Delay	53.0	52.6	55.5					10.3		9.1	1.7	
Queue Delay	0.9	0.8	0.0					0.0		0.0	0.2	
Total Delay	53.8	53.5	55.5					10.3		9.1	1.9	
LOS	D	D	E					B		A	A	
Approach Delay		55.0						10.3			3.0	
Approach LOS		D						B			A	
Queue Length 50th (ft)	67	67	143					263		9	20	
Queue Length 95th (ft)	124	123	#373					m458		m70	m22	
Internal Link Dist (ft)		853			647			775			376	
Turn Bay Length (ft)	370		370							50		
Base Capacity (vph)	229	232	509					2207		266	2737	
Starvation Cap Reductn	0	0	0					0		0	1109	
Spillback Cap Reductn	35	36	0					12		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.46	0.45	0.99					0.54		0.45	0.42	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 77.9 (65%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.16
Intersection Signal Delay: 19.5 Intersection LOS: B
Intersection Capacity Utilization 71.9% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Cedar Street (SR 740) & I-95 NB Off Ramp/I-95 NB On Ramp



Lane Group	Ø4
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

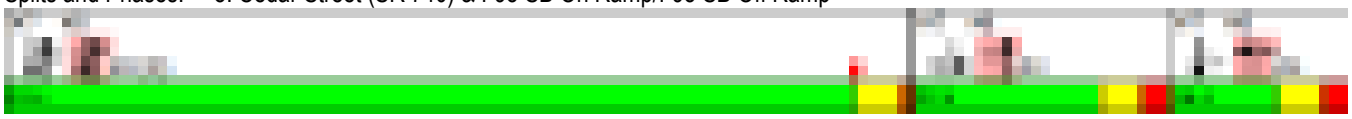
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	255	0	110	560	445	0	0	490	200
Future Volume (vph)	0	0	0	255	0	110	560	445	0	0	490	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		175	245		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			105			55			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850					0.957	
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1698	1698	1599	1787	3574	0	0	3421	0
Flt Permitted				0.950	0.950		0.340					
Satd. Flow (perm)	0	0	0	1698	1698	1599	640	3574	0	0	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						120					100	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		829			729			456			229	
Travel Time (s)		18.8			16.6			10.4			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	277	0	120	609	484	0	0	533	217
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	138	139	120	609	484	0	0	750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2 3			2	
Permitted Phases				4		4	2 3					
Detector Phase				4	4	4	2 3	2 3			2	
Switch Phase												
Minimum Initial (s)				6.0	6.0	6.0					15.0	
Minimum Split (s)				12.4	12.4	12.4					23.1	
Total Split (s)				16.0	16.0	16.0					81.0	
Total Split (%)				13.3%	13.3%	13.3%					67.5%	
Maximum Green (s)				9.6	9.6	9.6					75.9	
Yellow Time (s)				3.8	3.8	3.8					4.1	
All-Red Time (s)				2.6	2.6	2.6					1.0	
Lost Time Adjust (s)				0.0	0.0	0.0					0.0	
Total Lost Time (s)				6.4	6.4	6.4					5.1	
Lead/Lag				Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0					4.0	
Recall Mode				None	None	None					C-Min	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	13.6
Total Split (s)	23.0
Total Split (%)	19%
Maximum Green (s)	16.4
Yellow Time (s)	3.7
All-Red Time (s)	2.9
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				9.6	9.6	9.6	98.9	98.9			75.9	
Actuated g/C Ratio				0.08	0.08	0.08	0.82	0.82			0.63	
v/c Ratio				1.02	1.03	0.50	1.16	0.16			0.34	
Control Delay				137.9	139.6	17.0	108.4	0.6			9.3	
Queue Delay				0.0	0.0	0.0	0.4	0.0			0.0	
Total Delay				137.9	139.6	17.0	108.8	0.6			9.3	
LOS				F	F	B	F	A			A	
Approach Delay					102.0			60.9			9.3	
Approach LOS					F			E			A	
Queue Length 50th (ft)				~116	~121	0	~549	3			113	
Queue Length 95th (ft)				#257	#260	59	#776	14			147	
Internal Link Dist (ft)		749			649			376			149	
Turn Bay Length (ft)				175		175	245					
Base Capacity (vph)				135	135	238	527	2945			2200	
Starvation Cap Reductn				0	0	0	26	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				1.02	1.03	0.50	1.22	0.16			0.34	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 77.9 (65%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 50.9		Intersection LOS: D	
Intersection Capacity Utilization 71.9%		ICU Level of Service C	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 8: Cedar Street (SR 740) & I-95 SB On Ramp/I-95 SB Off Ramp



Lane Group	Ø3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	270	960	0	0	980
Future Volume (vph)	0	270	960	0	0	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1611	1863	0	0	1863
Flt Permitted						
Satd. Flow (perm)	0	1611	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	593		2751			312
Travel Time (s)	13.5		62.5			7.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	293	1043	0	0	1065
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	293	1043	0	0	1065
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Free			Free

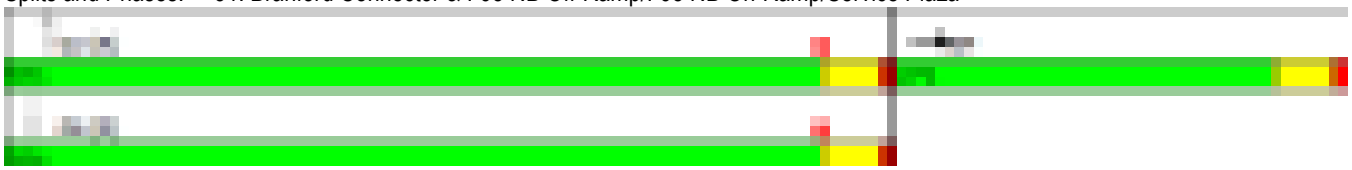
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	270	790	0	0	0	0	680	550	0	190	0
Future Volume (vph)	0	270	790	0	0	0	0	680	550	0	190	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		600	0		0	0		200	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850			
Flt Protected												
Satd. Flow (prot)	0	1863	1583	0	0	0	0	1863	1583	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	1863	1583	0	0	0	0	1863	1583	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			827						281			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		833			694			294			307	
Travel Time (s)		18.9			15.8			6.7			7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	293	859	0	0	0	0	739	598	0	207	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	293	859	0	0	0	0	739	598	0	207	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Free					NA	custom		NA	
Protected Phases		4										
Permitted Phases			Free					2	2		6	
Detector Phase		4						2	2		6	
Switch Phase												
Minimum Initial (s)		5.0						5.0	5.0		5.0	
Minimum Split (s)		22.5						22.5	22.5		22.5	
Total Split (s)		27.0						53.0	53.0		53.0	
Total Split (%)		33.8%						66.3%	66.3%		66.3%	
Maximum Green (s)		22.5						48.5	48.5		48.5	
Yellow Time (s)		3.5						3.5	3.5		3.5	
All-Red Time (s)		1.0						1.0	1.0		1.0	
Lost Time Adjust (s)		0.0						0.0	0.0		0.0	
Total Lost Time (s)		4.5						4.5	4.5		4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0						3.0	3.0		3.0	
Recall Mode		None						C-Max	C-Max		C-Max	
Walk Time (s)		7.0						7.0	7.0		7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0						0	0		0	
Act Effct Green (s)		17.4	80.0					53.6	53.6		53.6	
Actuated g/C Ratio		0.22	1.00					0.67	0.67		0.67	
v/c Ratio		0.72	0.54					0.59	0.52		0.17	
Control Delay		39.1	1.3					10.6	5.6		13.3	
Queue Delay		0.0	0.0					0.0	0.0		0.0	
Total Delay		39.1	1.3					10.6	5.6		13.3	
LOS		D	A					B	A		B	
Approach Delay		10.9						8.4			13.3	
Approach LOS		B						A			B	
Queue Length 50th (ft)		136	0					176	57		115	
Queue Length 95th (ft)		202	0					333	153		183	
Internal Link Dist (ft)		753			614			214			227	
Turn Bay Length (ft)			600						200			
Base Capacity (vph)		523	1583					1247	1152		1247	
Starvation Cap Reductn		0	0					0	0		0	
Spillback Cap Reductn		0	0					0	0		0	
Storage Cap Reductn		0	0					0	0		0	
Reduced v/c Ratio		0.56	0.54					0.59	0.52		0.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 48.5 (61%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 9.9		Intersection LOS: A	
Intersection Capacity Utilization 60.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 31: Branford Connector & I-95 NB Off-Ramp/I-95 NB On-Ramp/Service Plaza



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	190	195	680	0
Future Volume (vph)	0	0	190	195	680	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected			0.950		0.950	
Satd. Flow (prot)	0	0	1770	1863	1770	0
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	0	0	1770	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	30			30	30	
Link Distance (ft)	689			627	307	
Travel Time (s)	15.7			14.3	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	207	212	739	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	207	212	739	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type			Perm	NA	Prot	
Protected Phases				8	2	
Permitted Phases			8			
Detector Phase			8	8	2	
Switch Phase						
Minimum Initial (s)			5.0	5.0	5.0	
Minimum Split (s)			22.5	22.5	22.5	
Total Split (s)			24.0	24.0	56.0	
Total Split (%)			30.0%	30.0%	70.0%	
Maximum Green (s)			19.5	19.5	51.5	
Yellow Time (s)			3.5	3.5	3.5	
All-Red Time (s)			1.0	1.0	1.0	
Lost Time Adjust (s)			0.0	0.0	0.0	
Total Lost Time (s)			4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)			3.0	3.0	3.0	
Recall Mode			None	None	C-Max	
Walk Time (s)			7.0	7.0	7.0	
Flash Dont Walk (s)			11.0	11.0	11.0	
Pedestrian Calls (#/hr)			0	0	0	
Act Effct Green (s)			14.6	14.6	56.4	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Actuated g/C Ratio			0.18	0.18	0.70	
v/c Ratio			0.64	0.63	0.59	
Control Delay			39.0	37.8	3.2	
Queue Delay			0.0	0.0	0.0	
Total Delay			39.0	37.8	3.2	
LOS			D	D	A	
Approach Delay				38.4	3.3	
Approach LOS				D	A	
Queue Length 50th (ft)			97	99	21	
Queue Length 95th (ft)			153	155	26	
Internal Link Dist (ft)	609			547	227	
Turn Bay Length (ft)						
Base Capacity (vph)			431	454	1247	
Starvation Cap Reductn			0	0	0	
Spillback Cap Reductn			0	0	0	
Storage Cap Reductn			0	0	0	
Reduced v/c Ratio			0.48	0.47	0.59	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 51.5 (64%), Referenced to phase 2:NBL and 6:, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 16.0		Intersection LOS: B	
Intersection Capacity Utilization 71.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 32: Branford Connector & I-95 SB On-Ramp/I-95 SB Off-Ramp/Service Plaza

Arterial Level of Service: EB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 142 (Short Bea	III	30	11.3	25.5	36.8	0.07	7.2	F
Route 146	III	30	21.9	15.6	37.5	0.16	15.7	D
Cherry Hill Road	III	30	39.4	12.9	52.3	0.31	21.4	C
Cedar Street (SR 740	III	30	62.6	42.8	105.4	0.49	16.8	D
Total	III		135.2	96.8	232.0	1.04	16.1	D

Arterial Level of Service: WB #1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cedar Street (SR 740	III	30	26.2	70.7	96.9	0.21	7.7	F
Cherry Hill Road	III	30	62.6	18.9	81.5	0.49	21.8	C
Branford Connector	III	30	39.4	48.4	87.8	0.31	12.7	E
Route 142 (Short Bea	III	30	21.9	36.4	58.3	0.16	10.1	E
Total	III		150.1	174.4	324.5	1.17	13.0	E

Arterial Level of Service: NB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Parkway	III	30	24.1	15.3	39.4	0.19	17.3	D
I-95 NB On-Ramp/Serv	III	30	76.3	10.6	86.9	0.64	26.3	B
I-95 SB Off-Ramp/Ser	III	30	9.0	3.2	12.2	0.06	17.2	D
Total	III		109.4	29.1	138.5	0.88	23.0	C

Arterial Level of Service: EB Branford Connector

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 NB Off-Ramp	III	30	9.0	13.3	22.3	0.06	9.4	F
Commercial Parkway	III	30	76.3	9.6	85.9	0.64	26.6	B
Route 1 (North Main	III	30	24.1	36.3	60.4	0.19	11.3	E
Total	III		109.4	59.2	168.6	0.88	18.9	C

Arterial Level of Service: NB Cedar Street (SR 740)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Route 1 (North Main	IV	25	17.9	52.2	70.1	0.07	3.5	F
I-95 NB On Ramp	IV	30	24.3	10.3	34.6	0.16	16.8	C
I-95 SB Off Ramp	IV	30	15.5	0.6	16.1	0.09	19.3	B
Total	IV		57.7	63.1	120.8	0.32	9.4	D

Arterial Level of Service: SB Cedar Street (SR 740)

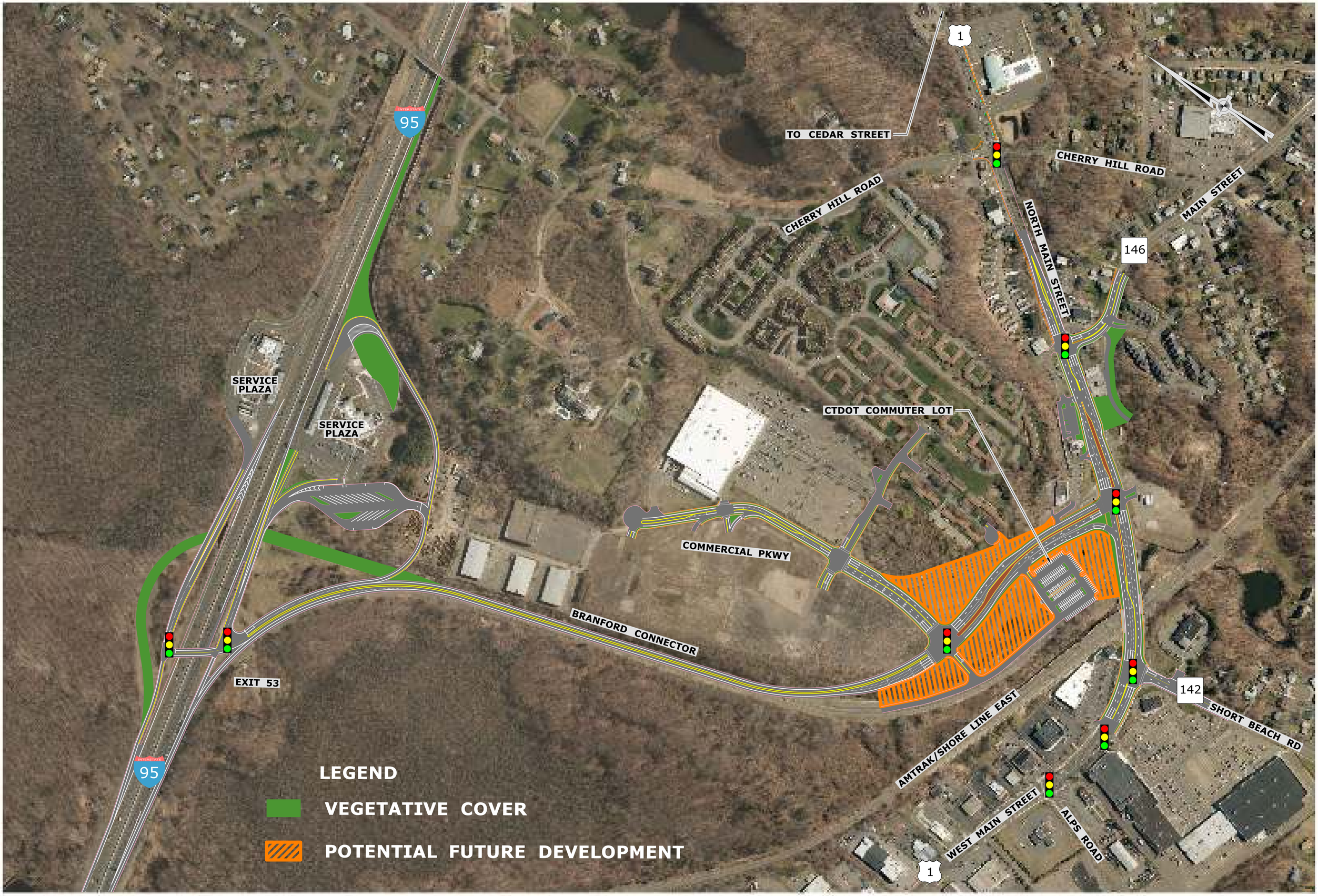
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-95 SB On Ramp	IV	30	19.8	9.3	29.1	0.11	13.6	C
I-95 NB Off Ramp	IV	30	15.5	1.7	17.2	0.09	18.1	C
Route 1 (North Main	IV	30	24.3	61.2	85.5	0.16	6.8	F
Total	IV		59.6	72.2	131.8	0.36	9.8	D

APPENDIX F
ALTERNATE PLANS

SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS

BRANFORD CONNECTOR (ALTERNATE 1)
BRANFORD, CT

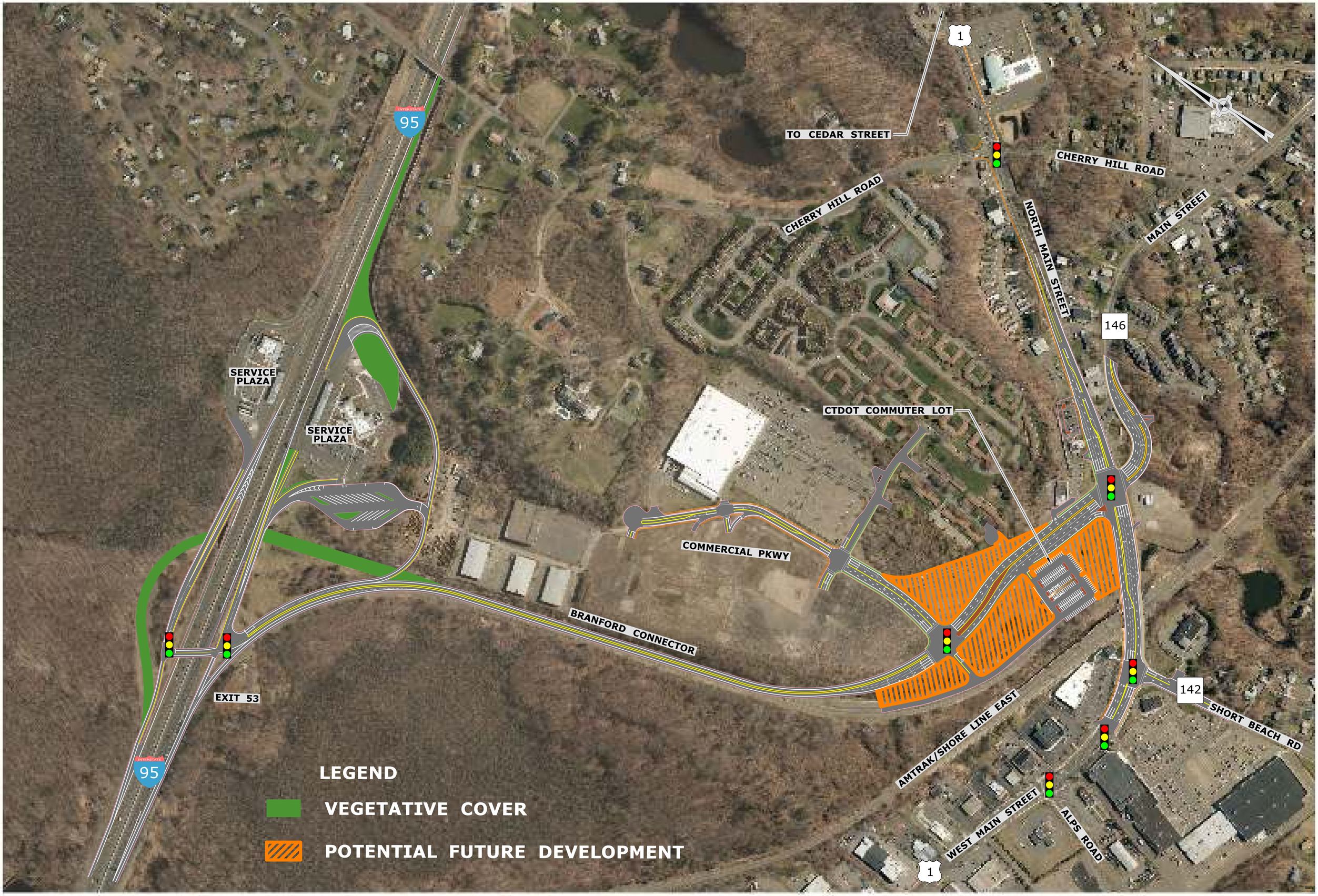
BL Companies
ARCHITECTURE
ENGINEERING
ENVIRONMENTAL
LAND SURVEYING



SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS

BRANFORD CONNECTOR (ALTERNATE 2)
BRANFORD, CT

BL Companies
ARCHITECTURE
ENGINEERING
ENVIRONMENTAL
LAND SURVEYING



SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS

BRANFORD CONNECTOR (ALTERNATE 3)
BRANFORD, CT

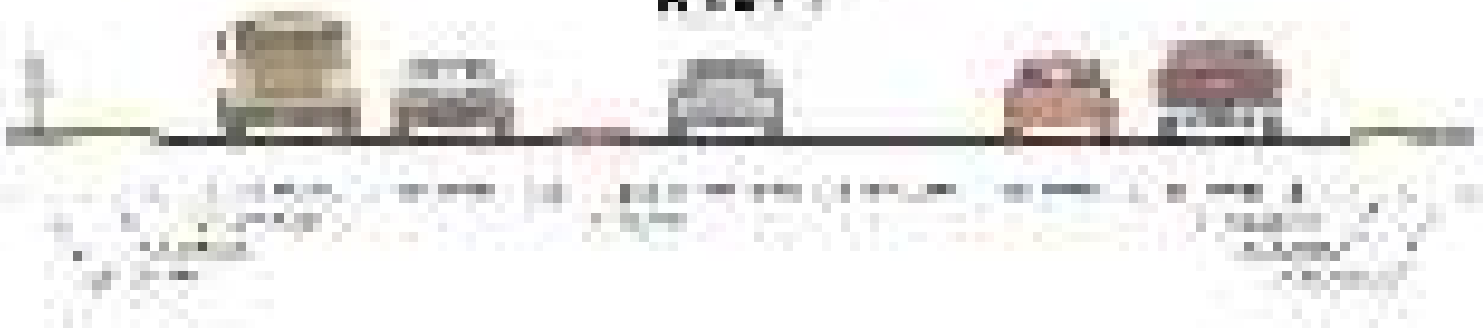
BL Companies
ARCHITECTURE
ENGINEERING
ENVIRONMENTAL
LAND SURVEYING

Alternative 2 Typical Sections

Concourse Entrance

Typical Concourse

Typical



APPENDIX G
COST ESTIMATES

CONCEPTUAL COST ESTIMATE

PROJECT: Branford Connector - Phase 1
PHASE: CONCEPT
DATE: 1/1/2018

PREPARED BY: D. Haptas
CHECKED BY: A. Chakraborty

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY			UNIT PRICE	TOTAL
			ROADWAY	TRAFFIC	TOTAL		
0202000	EARTH EXCAVATION	C.Y.	1000		1000	$20.00	$20,000.00
0202502	REMOVAL OF CONCRETE PAVEMENT	S.Y.	11500		11500	$10.00	$115,000.00
0202509	SAW CUT CONCRETE	L.F.	250		250	$10.00	$2,500.00
0209001	FORMATION OF SUBGRADE	S.Y.	32000		32000	$5.00	$160,000.00
0219001	SEDIMENTATION CONTROL SYSTEM	L.F.	4000		4000	$5.00	$20,000.00
0304002	PROCESSED AGGREGATE BASE	C.Y.	8056		8056	$50.00	$402,778.00
0406171	HMA S0.5"	TON	4632		4632	$110.00	$509,514.00
0406172	HMA S0.375"	TON	3706		3706	$110.00	$407,612.00
406236	MATERIAL FOR TACK COAT	GAL	3200		3200	$5.00	$16,000.00
0507001	TYPE "C" CATCH BASIN	EA.	20		20	$2,400.00	$48,000.00
0651012	15" R.C. PIPE	LF	4000		4000	$63.00	$252,000.00
0921001	CONCRETE SIDEWALK	S.F.	21000		21000	$10.00	$210,000.00
0921005	CONCRETE SIDEWALK RAMP	S.F.	700		700	$15.00	$10,500.00
0944001	FURNISHING AND PLACING TOPSOIL	S.Y.	11500		11500	$10.00	$115,000.00
0950005	TURF ESTABLISHMENT	S.Y.	11500		11500	$5.00	$57,500.00
0969062A	CONSTRUCTION FIELD OFFICE-MEDIUM	MO	20		20	$2,200.00	$44,000.00
0976002	BARRICADE WARNING LIGHTS-HIGH INTENSITY	DAYS		600	600	$1.00	$600.00
0979003A	CONSTRUCTION BARRICADE TYPE III	EA.		20	20	$150.00	$3,000.00
1014910A	UTILITY RELOCATION (UTILITY POLES)	L.S.	2		2	$25,000.00	$50,000.00
1210102	4" YELLOW EPOXY RESIN PAVEMENT MARKINGS	L.F.	6000		6000	$1.00	$6,000.00
1210106	12" WHITE EPOXY RESIN PAVEMENT MARKINGS	L.F.	20000		20000	$1.00	$20,000.00
1220013	CONSTRUCTION SIGNS - BRIGHT FLUORESCENT SHEETING	S.F.	500		500	$30.00	$15,000.00
	NEW TRAFFIC CONTROL SIGNAL	L.S.		1	1	$200,000.00	$200,000.00
	TRAFFIC SIGNAL MODIFICATION	L.S.		1	1	$80,000.00	$80,000.00
	ILLUMINATION	L.S.	1		1	$50,000.00	$50,000.00
	UTILITY RELOCATIONS	L.S.	1		1	$150,000.00	$150,000.00
	ROW ACQUISITIONS	L.S.	1		1	$150,000.00	$150,000.00

SUBTOTAL = $3,115,004.00

0201001	CLEARING AND GRUBBING (@ 2%)	L.S.	1		1	$62,301.00	$62,301.00
0971001A	MAINTENANCE AND PROTECTION OF TRAFFIC (@ 3%)	L.S.	1		1	$93,451.00	$93,451.00
0975004A	MOBILIZATION AND PROJECT CLOSEOUT (@ 7%)	L.S.	1		1	$218,051.00	$218,051.00
0980001A	CONSTRUCTION STAKING (@ 1%)	L.S.	1		1	$31,151.00	$31,151.00
	MINOR ITEM ALLOWANCE (@ 15%)	L.S.	1		1	$467,251.00	$467,251.00

CONTRACT ITEMS SUBTOTAL	**3,987,209.00**
INFLATION (5 YRS AT 3.5%/YR)	4,684,970.58
INCIDENTALS (25% OF SUBTOTAL):	$1,171,243.00
CONTINGENCIES (25% OF SUBTOTAL):	$1,171,243.00

TOTAL CONTRACT ITEMS: $6,329,695.00

CONTRACT TOTAL: SAY $6,400,000.00

CONCEPTUAL COST ESTIMATE

PROJECT: Branford Connector - Phase 2
PHASE: CONCEPT
DATE: 1/1/2018

PREPARED BY: D. Haptas
CHECKED BY: A. Chakraborty

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY			UNIT PRICE	TOTAL
			ROADWAY	TRAFFIC	TOTAL		
0202000	EARTH EXCAVATION	C.Y.	1000		1000	$20.00	$20,000.00
0202502	REMOVAL OF CONCRETE PAVEMENT	S.Y.	1500		1500	$10.00	$15,000.00
0202509	SAW CUT CONCRETE	L.F.	250		250	$10.00	$2,500.00
0209001	FORMATION OF SUBGRADE	S.Y.	24444		24444	$5.00	$122,223.00
0219001	SEDIMENTATION CONTROL SYSTEM	L.F.	5000		5000	$5.00	$25,000.00
0304002	PROCESSED AGGREGATE BASE	C.Y.	6111		6111	$50.00	$305,556.00
0406171	HMA S0.5"	TON	3674		3674	$110.00	$404,098.00
0406172	HMA S0.375"	TON	2811		2811	$110.00	$309,223.00
406236	MATERIAL FOR TACK COAT	GAL	2444		2444	$5.00	$12,223.00
0507001	TYPE "C" CATCH BASIN	EA.	10		10	$2,400.00	$24,000.00
0651012	15" R.C. PIPE	LF	2000		2000	$63.00	$126,000.00
0921001	CONCRETE SIDEWALK	S.F.	10500		10500	$10.00	$105,000.00
0921005	CONCRETE SIDEWALK RAMP	S.F.	350		350	$15.00	$5,250.00
0944001	FURNISHING AND PLACING TOPSOIL	S.Y.	1500		1500	$10.00	$15,000.00
0950005	TURF ESTABLISHMENT	S.Y.	1500		1500	$5.00	$7,500.00
0969062A	CONSTRUCTION FIELD OFFICE-MEDIUM	MO	10		10	$2,200.00	$22,000.00
0976002	BARRICADE WARNING LIGHTS-HIGH INTENSITY	DAYS		300	300	$1.00	$300.00
0979003A	CONSTRUCTION BARRICADE TYPE III	EA.		10	10	$150.00	$1,500.00
1210102	4" YELLOW EPOXY RESIN PAVEMENT MARKINGS	L.F.	4000		4000	$1.00	$4,000.00
1210106	12" WHITE EPOXY RESIN PAVEMENT MARKINGS	L.F.	8000		8000	$1.00	$8,000.00
1220013	CONSTRUCTION SIGNS - BRIGHT FLUORESCENT SHEETING	S.F.	500		500	$30.00	$15,000.00
	NEW TRAFFIC CONTROL SIGNAL	L.S.		2	2	$200,000.00	$400,000.00
	TRAFFIC SIGNAL MODIFICATION	L.S.		1	1	$80,000.00	$80,000.00
	ILLUMINATION	L.S.	1		1	$50,000.00	$50,000.00
	UTILITY RELOCATIONS	L.S.	1		1	$100,000.00	$100,000.00
	ROW ACQUISITIONS	L.S.	1		1	$250,000.00	$250,000.00

SUBTOTAL = $2,429,373.00

0201001	CLEARING AND GRUBBING (@ 2%)	L.S.	1		1	$48,588.00	$48,588.00
0971001A	MAINTENANCE AND PROTECTION OF TRAFFIC (@ 3%)	L.S.	1		1	$72,882.00	$72,882.00
0975004A	MOBILIZATION AND PROJECT CLOSEOUT (@ 7%)	L.S.	1		1	$170,057.00	$170,057.00
0980001A	CONSTRUCTION STAKING (@ 1%)	L.S.	1		1	$24,294.00	$24,294.00
	MINOR ITEM ALLOWANCE (@ 15%)	L.S.	1		1	$364,406.00	$364,406.00

CONTRACT ITEMS SUBTOTAL 3,109,600.00
INFLATION (10 YRS @ 3.5%/YR) 4,197,960.00
INCIDENTALS (25% OF SUBTOTAL): $1,049,490.00
CONTINGENCIES (25% OF SUBTOTAL): $1,049,490.00

TOTAL CONTRACT ITEMS: $5,208,580.00

CONTRACT TOTAL: SAY $5,300,000.00

CONCEPTUAL COST ESTIMATE

PROJECT: Branford Connector - Phase 3
PHASE: CONCEPT
DATE: 1/1/2018

PREPARED BY: D. Haptas
CHECKED BY: A. Chakraborty

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY				UNIT PRICE	TOTAL
			ROADWAY	STRUCTURE	TRAFFIC	TOTAL		
0202000	EARTH EXCAVATION	C.Y.	10000			10000	$20.00	$200,000.00
0202502	REMOVAL OF CONCRETE PAVEMENT	S.Y.	12778			12778	$10.00	$127,778.00
0202509	SAW CUT CONCRETE	L.F.	150			150	$10.00	$1,500.00
0209001	FORMATION OF SUBGRADE	S.Y.	36667			36667	$5.00	$183,334.00
0219001	SEDIMENTATION CONTROL SYSTEM	L.F.	6000			6000	$5.00	$30,000.00
0304002	PROCESSED AGGREGATE BASE	C.Y.	9167			9167	$50.00	$458,334.00
0406171	HMA S0.5"	TON	5271			5271	$110.00	$579,792.00
0406172	HMA S0.375"	TON	4217			4217	$110.00	$463,834.00
0406236	MATERIAL FOR TACK COAT	GAL	3667			3667	$5.00	$18,334.00
0507001	TYPE "C" CATCH BASIN	EA.	30			30	$2,400.00	$72,000.00
0651012	15" R.C. PIPE	LF	6000			6000	$63.00	$378,000.00
0944001	FURNISHING AND PLACING TOPSOIL	S.Y.	10000			10000	$10.00	$100,000.00
0950005	TURF ESTABLISHMENT	S.Y.	10000			10000	$5.00	$50,000.00
0969062A	CONSTRUCTION FIELD OFFICE-MEDIUM	MO	20			20	$2,200.00	$44,000.00
0976002	BARRICADE WARNING LIGHTS-HIGH INTENSITY	DAYS			600	600	$1.00	$600.00
0979003A	CONSTRUCTION BARRICADE TYPE III	EA.			20	20	$150.00	$3,000.00
1210102	4" YELLOW EPOXY RESIN PAVEMENT MARKINGS	L.F.	6000			6000	$1.00	$6,000.00
1210106	12" WHITE EPOXY RESIN PAVEMENT MARKINGS	L.F.	12000			12000	$1.00	$12,000.00
1220013	CONSTRUCTION SIGNS - BRIGHT FLUORESCENT SHEETING	S.F.	500			500	$30.00	$15,000.00
	NEW TRAFFIC CONTROL SIGNAL	L.S.			3	3	$200,000.00	$600,000.00
	ILLUMINATION	L.S.	1			1	$150,000.00	$150,000.00
	UTILITY RELOCATIONS	L.S.	1			1	$100,000.00	$100,000.00
	NEW BRIDGE	S.F.		8000		8000	$ 420.00	$3,360,000.00

SUBTOTAL = $6,953,506.00

0201001	CLEARING AND GRUBBING (@ 2%)	L.S.	1			1	$139,071.00	$139,071.00
0971001A	MAINTENANCE AND PROTECTION OF TRAFFIC (@ 10%)	L.S.	1			1	$695,351.00	$695,351.00
0975004A	MOBILIZATION AND PROJECT CLOSEOUT (@ 7%)	L.S.	1			1	$486,746.00	$486,746.00
0980001A	CONSTRUCTION STAKING (@ 1%)	L.S.	1			1	$69,536.00	$69,536.00
	MINOR ITEM ALLOWANCE (@ 15%)	L.S.	1			1	$347,676.00	$347,676.00

CONTRACT ITEMS SUBTOTAL 8,691,886.00
INFLATION (15 YRS @ 3.5%/YR) 13,255,126.15
INCIDENTALS (25% OF SUBTOTAL): $3,313,782.00
CONTINGENCIES (25% OF SUBTOTAL): $3,313,782.00

TOTAL CONTRACT ITEMS: $15,319,450.00

CONTRACT TOTAL: SAY $15,400,000.00

APPENDIX H
RESPONSE TO CTDOT COMMENTS

April 5, 2018

Re: Branford Connector Corridor Study
Town of Branford
I-95 Northbound at Interchange 53 and 54

The following is in response to comments on our draft report submitted on January 22, 2018 and presentation to DOT on February 1, 2018. provided by the Project Development Unit and Property and Facilities Services.

From William W. Britnell, Principal Engineer – Highway Design, Bureau of Engineering and Construction, Dated March 6, 2018

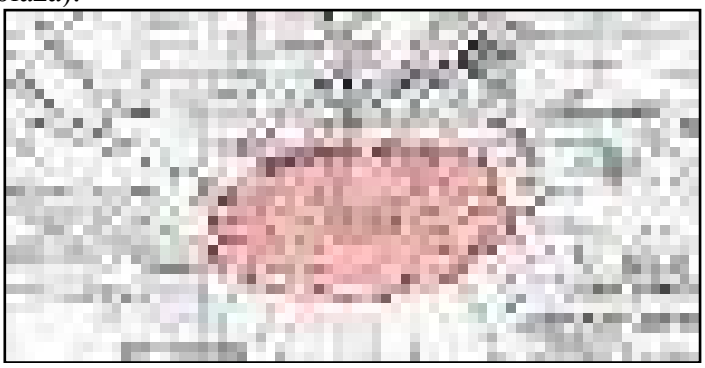
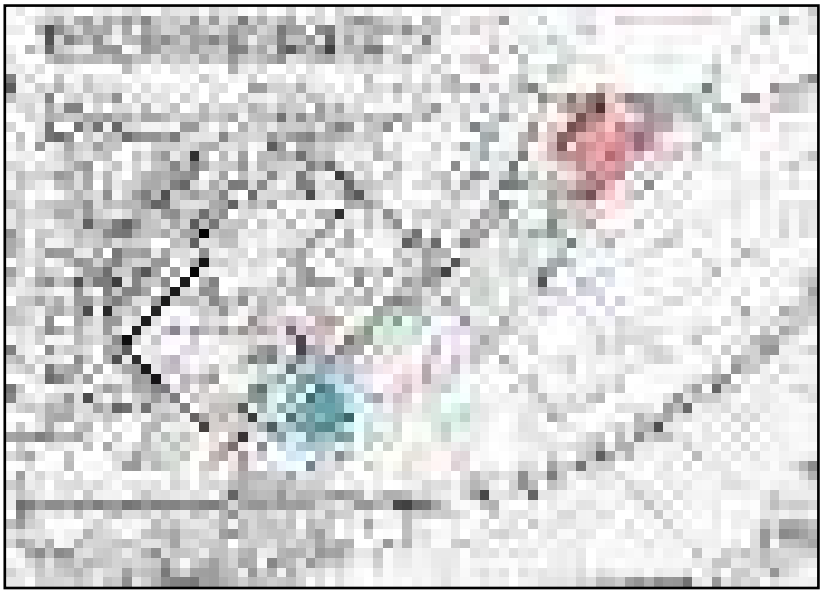
No.	Comment	Inc.	Not Inc.
	Alternate #1		
1.	The proposed configuration of the northbound on-ramp from the service plaza is not recommended. Given the proximity to the Exit 54 off-ramp, the increase in entering traffic and the proposed lane configuration do not address the existing weave condition and will likely contribute to increased congestion and a higher crash rate. ***Response:*** *Comment noted. This is not the preferred alternate. The preferred alternate is Alternate #2, which lengthens the weave length between the Service Plaza NB On-Ramp/Exit 53 NB On-Ramp and the Exit 54 NB Off-Ramp.*	X	
2.	Separating the truck stop from the bus stop parking may create some operational issues. Should trucks inadvertently enter the bus stop, or should there be no bus parking stalls available, there is no internal circulation route to allow access to the truck parking area. Additionally, internal pedestrian accommodations will be necessary to allow truck operators access to the plaza's facilities. ***Response:*** *Three 90-foot parallel stalls have been proposed in order to accommodate trucks that have wandered into the bus parking area. We are also proposing a mid-block crossing across the bus parking access ramp in order to provide for pedestrian access to the truck parking area.*	X	
3.	Revising access to the condominium complex located to the west of Commercial Drive by extending the Walmart parking lot "roadway" should not be considered without significant public involvement for the residents and support from the Town. This proposed access point may generate cut-through traffic via Cherry Hill Road and change circulation patterns within the complex. Currently, the trees provide a buffer around the perimeter that likely serves as privacy separation and to mitigate noise levels.		X

No.	Comment	Inc.	Not Inc.
	Response: *Comment noted. Comments will be received during the public workshops that are scheduled to occur in May 2018. It should be noted that there is already access provided to the condominium complex on Commercial Parkway. The access is being moved to improve safety along the new Branford Connector. There are numerous speed bumps throughout the condominium complex that will deter vehicles from using the complex as a cut through to Cherry Hill Road.*		
4.	Consider eliminating the driveway located at NW quadrant of the intersection of Route 146, the relocated Branford Connector, and Route 1 as it is within the functional area of the intersection. Its proximity to the traffic signal and the fact that any exiting traffic (not turning onto the relocated Branford Connector) must cross multiple lanes is undesirable and create safety concerns. ***Response:*** *There is median on the relocated Branford Connector that will prevent vehicles from making left turns into the sight and left turns out of the site. A splitter island has been added to facilitate the right-in, right-out movement.*		X
	<u>Alternate #2</u>		
1.	Consider eliminating the left turn movement from the NB Service Plaza to the Branford Connector as most, if not all, traffic would be turning right and headed for I-95 NB. If the left turn movement is eliminated the traffic signal at this location may not be warranted and concrete barrier may be required. Additionally, eliminating the traffic signal will remove the potential for intersection-type crashes and prevent traffic queues from extending onto the SB exit ramp. ***Response:*** *Comment incorporated. The left turn has been removed coming out of the service plaza.*	X	
2.	Consider relocating the NB truck stop closer to Service Plaza and orient the layout in the NS direction to provide easier access. Please see Alternate 1 comment regarding pedestrian circulation. ***Response:*** *Relocating the NB truck stop closer to the service plaza and in a north-south orientation is not really feasible considering the movement that trucks will make to access I-95 NB (looping around onto the Branford Connector) and there is a stormwater detention basin located directly behind (south) of the Service Plaza, which the design is trying to avoid.*		X
3.	Please see Alternate 1 comments regarding revisions to the apartment complex access and driveway concerns at the proposed intersection of Route 1, Route 146, and the relocated Branford Connector.		

No.	Comment	Inc.	Not Inc.
	Response: *Comment noted. Comments will be received during the public workshops that are scheduled to occur in May 2018. It should be noted that there is already access provided to the condominium complex on Commercial Parkway. The access is being moved to improve safety along the new Branford Connector. There are numerous speed bumps throughout the condominium complex that will deter vehicles from using the complex as a cut through to Cherry Hill Road.*		
4.	Were roundabouts considered instead if traffic signals at the Exit 53 interchange? They may process vehicles more effectively and allow for safe and continuous through movements for SB Plaza on-ramp traffic and traffic exiting to the Branford Connector at NB Exit 53. Roundabouts would also allow vehicles exiting the NB service plaza access to the Route 1 corridor without a separate control as a U-turn would be possible at the NB ramp roundabout. ***Response:*** *Roundabouts were considered at the interchange. Due to the close proximity of wetlands, amount of truck traffic, and the price of incorporating the roundabout into the design, signalized intersections were proposed instead. The price would have been greater because the I-95 overpass at Exit 53 would need to be replaced for any scenario that included a roundabout. Please see the attached plan of one possible roundabout arrangement that was considered.*		X
	Alternate #3	X	
1.	The layout depicted in the power point format and the Draft Final report is different. For the purpose of this review comments are for the layout as presented in power point at the meeting. ***Response:*** *Comment noted.*		
2.	The concept is a hybrid of alternate #1 and #2 with the exception of the NB exit ramp and the SB on ramp, so all prior comments still applies relative to portion that are the same. ***Response:*** *Comment noted.* General Comments. The proximity of the access ramp to Service Plazas and the interchanges create operational issues and it would be prudent to investigate the feasibility of grade separated ramps. ***Response:*** *Comment noted. Due to costs, grade separated ramps were not considered for this study. Grade separated ramps would have cause larger impacts to wetlands and rights-of-way.*		X

From Property and Facilities Services, Dated February 3, 2018

No.	Comment	Inc.	Not Inc.
	Alternate #1		
1.	The proposed relocated truck parking has been moved to a location that appears to have the following concerns (the following comments apply to NB unless stated otherwise): a. It is further away from the building making the spots less convenient and potentially less likely to be used by truckers. b. It may be difficult to provide H/C accessibility from this location. c. Places truck occupants walking to the building in conflict with "decelerating" traffic (including buses). d. Potentially a shorter and sharper turn for trucks that are decelerating (Traffic / Engineering can review / comment on that). e. Adds another decision point that will require more signage: i. Cars straight ii. Busses and trucks to the right iii. Busses then go straight while trucks go to the right ***Response:*** *a. The majority of spots will be located further from the service plaza, however, they will approximately the same distance as the furthest existing tractor-trailer stall (400'±).* *b. Comment noted. However, the area is relatively flat in the vicinity of the proposed truck parking lot. ADA accessible sidewalks and paths should be attainable.* *c. We propose placing signage and a mid-block pedestrian crossing to mitigate the conflict.* *d. Comment noted. This is a conceptual design and changes to this can be made during design.* *e. Comment noted. We have developed a potential signage scheme to mitigate the problem. See the attached drawing.*		X
2.	(NB & SB) This option really complicates the allocation of snow removal responsibilities between Project Service and DOT. Today – Project Service is responsible for all snow removal within the plaza while DOT does the deceleration and acceleration lanes and a pass-thru. On NB - service plaza snowplows will no longer be able to access the truck parking area as they will be forced to go against decelerating traffic (impossible) or exit the plaza, travel to the next exit, get off & back on I-95, exit again, get back on I-95 NB and take the "truck" exit. ***Response:*** *A maintenance driveway has been added to allow for snowplows to access the truck parking area. This driveway could be gated so that it is only opened when necessary.*	X	

No.	Comment	Inc.	Not Inc.
3.	The loop to get back onto the highway appears to possibly impact the large drainage retention area that is located along the back of the service plaza (see red area below – the blue rectangular box with an X in it depicts the location of the emergency generator for the plaza):  We realize that these depictions are preliminary but be aware that there are underground storage tanks (red box) and dumpsters (blue box) that will need to have delivery vehicle access maintained:  ***Response:*** *Comment noted. We are paying special attention to these areas in our concept drawings. Both the dumpsters and underground storage tanks will not be impacted to the relocation of the northbound on ramp. The stormwater detention basin is also being avoided*	X	
5.	Idle reduction technology (that is mandated under the Concession Agreement) for parked trucks to connect to (to reduce emissions) is currently in place along the perimeter of the plaza that are being impacted (see red). Another Concession Agreement mandate to		

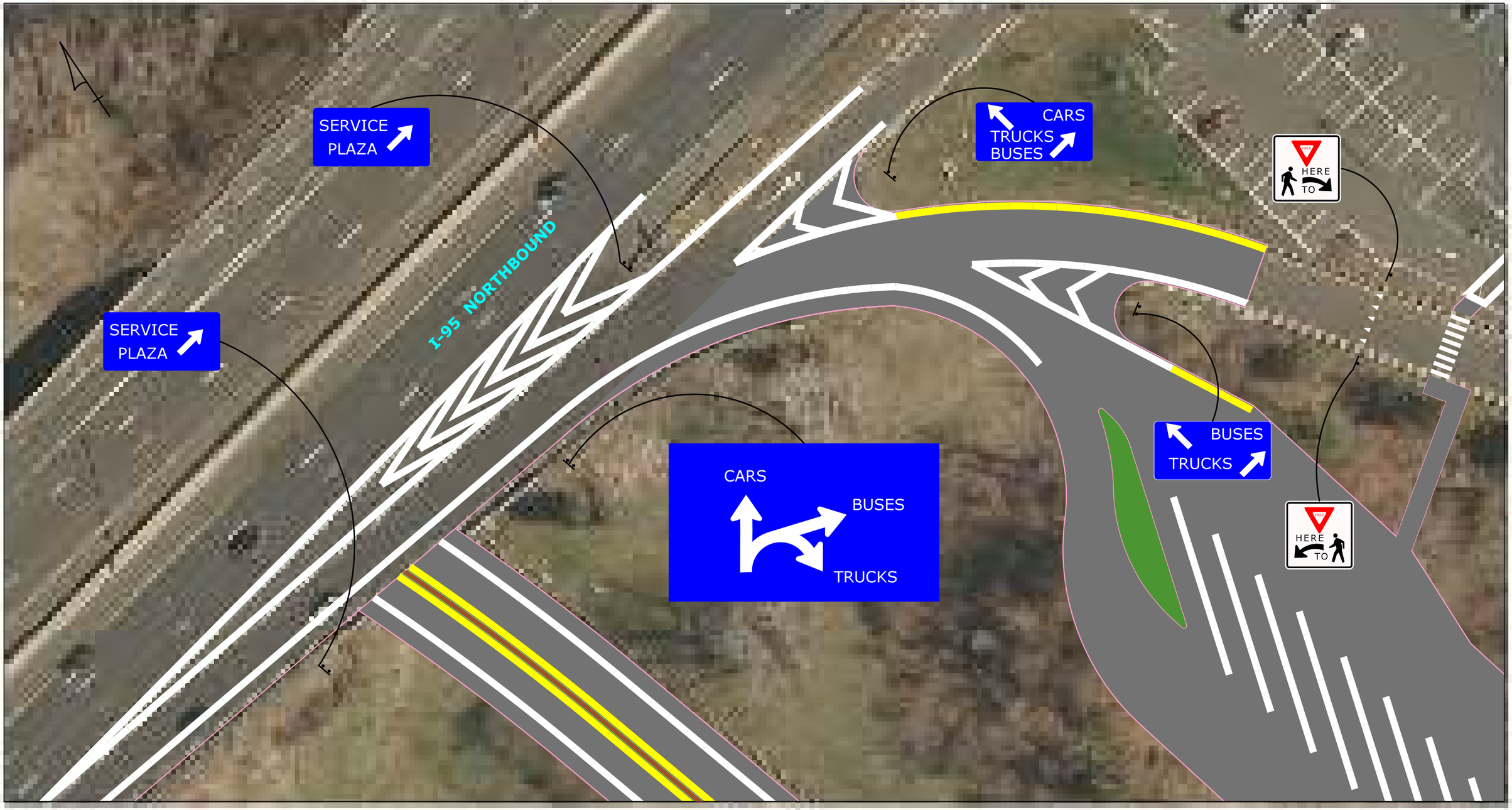
No.	Comment	Inc.	Not Inc.
	provide free air to patrons is depicted in blue (see locations below): 		
	Response: *Comment noted. The stations would need to be moved under all of the proposed Alternates.*		
6.	(NB & SB) In addition to the snow removal concern mentioned earlier – the proposal seems to add a significant amount of what appears to be grass. This will result in another contention as to who will now be responsible to mow and maintain this new grass – DOT or Project Service. (Also - the "green" islands located in the new truck parking should be painted not grass for maintenance purposes)		
	Response: *Comment noted.*		
	Alternate #2		
7.	Many of the concerns that were previously identified under Alternate 1 for NB (regarding the location / accessibility of the truck parking, number of decision points, impacts to the idle free technology, impacts to snow removal / mowing responsibilities, etc. still apply to this alternate.		
	Response: *Comment noted. See the comments for Alternate #1.*		
8.	(NB & SB) From strictly a service plaza perspective - the introduction of traffic signals into highway exit / entrance movements that were previously very simple and straight forward seem to complicate matters quite a bit for the trucker that just wants to rest at the plaza then get back onto the highway. Getting back onto the highway from the NB plaza is now a very lengthy and cumbersome process. However, there are some benefits to this proposal as trucks from the NB or SB plaza could now easily access the local roads directly from the plazas. This unit is not qualified to comment on the distances, decision points & signage that will be required, turning movements, and the queues that could result from this proposal and we defer to Traffic / Design for these issues. We are however, especially interested in the signing that will be required at NB exit 53 where traffic would now need to decide whether to go straight to go to the plaza (then straight again for cars or right / right for trucks and right / left for busses), or right for Exit 53. This is very similar to what we currently have at the Fairfield NB service plaza on I-95 where Exit 22 shares an exit from the highway with the service plaza. At that location,	X	

No.	Comment	Inc.	Not Inc.
	trucks routinely take the wrong ramp and we are constantly receiving complaints from the community that trucks trying to access the plaza are winding up in their neighborhood not knowing what to do. This "confusion" cannot be underestimated. In Fairfield, we cannot understand why or how truckers get confused but they do. This proposed alternate seems to create a very similar situation in Branford. Large overhead signage that clearly places signs over the correct lanes may be necessary if this option is selected. ***Response:*** *Comment noted. We have included a preliminary signage scheme that could be implemented for the NB Exit 53 off-ramp.*		
1.	***Alternate #3*** As far as the service plazas are concerned, this alternate appears to be the same as alternate #2 therefore our comments / concerns are the same as those presented above. ***Response:*** *Comment noted.*	X	

SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS

EXIT 53 CONNECTOR (ALTERNATE 3)
BRANFORD, CT

BL Companies
ARCHITECTURE
ENGINEERING
ENVIRONMENTAL
LAND SURVEYING



BRANFORD CONNECTOR CORRIDOR STUDY CITY/TOWN: BRANFORD	SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS	DATE: APRIL 2018

APPENDIX I
REPORT OF MEETING WITH COMMERCIAL PARKWAY PROPERTY OWNERS

REPORT OF MEETING

SUBJECT: Stakeholder Meeting – Abutting Property Owners Along Commercial Parkway

DATE OF MEETING: June 28, 2018, 10:00 am

LOCATION:

Project Nos.	Town	Routes	Location
16C5934	Branford	Branford Connector	

LOCATION OF MEETING: Branford Town Hall – Basement Conference Room

IN ATTENDANCE:

NAME	REPRESENTING	EMAIL
Stephen Dudley	South Central Regional Council of Governments	sdudley@scrcog.gov
Janice Plaziak	Town of Branford	jplaziak@branford-ct.gov
Steve Fraysier	BL Companies	sfraysier@blcompanies.com
Mike Shepley	BL Companies	mshepley@blcompanies.com
Robert Sachs	Representative of Rita Ann Sachs Property	robert@cherryhillinc.com

Several other abutting property owners were contacted multiple times to have them attend this meeting, however the representative was either unavailable or unreachable. The following property owners were contacted along Commercial Parkway to inquire on their input but were not in attendance:

- Branford Property Development
- 49 Commercial Parkway

PROJECT DESCRIPTION:

The project was presented using key project plans. A general discussion was made of the alternates and how each addressed traffic capacity and safety in the study area. After this discussion, the meeting was opened to additional questions and comments. The following is a summary of the discussion and comments.

Branford Connector Corridor Study

A discussion was made with Mr. Sachs on the development of the study and the project alternates. It was explained that the preferred alternate was Alternate #2 and it combined the diamond interchange with the offset intersections of the realigned Branford Connector and Route 146.

A brief overview of how the construction of the preferred Alternate 2 could potentially be phased or split up was provided. The phasing of the project was provided as a means to facilitate the use of multiple funding sources.

TRANSACTIONS AND DETERMINATIONS:

Mr. Sachs noted that the best alternate was Alternate #2, which brought the intersection further away from the weaving segment present between the I-95 northbound service plaza northbound on-ramp and the Exit 54 northbound off ramp.

Mr. Sachs commented that a tax abatement by the Town of Branford may help to incentivize land owners to develop the Commercial Parkway Corridor.

Mr. Sachs stated that the Town might want to consider incentivizing mixed-use development instead of large commercial retail because the current market favors this type of development.

Mr. Sachs commented that a private-public partnership between the surrounding Commercial Parkway landowners and the Town should be established so that the realignment of Commercial Parkway and the Branford Connector could occur. *A public private partnership is considered a viable option. Mr. Dudley and Ms. Plaziak both commented that ideally, funding for the project would be obtained through the Connecticut Department of Transportation.*

Mr. Sachs commented that all landowners should be included in the public-private partnership, which should include to Wal-Mart property owners. Mr. Sachs questioned how this would incentivize Wal-Mart since they have already performed the existing off-site improvements to Commercial Parkway. *Ms. Plaziak responded that the parking lot could be a potential area of further development for the parcel since the parking lot is oversized and could be reallocated for satellite sites.*

Any questions or comments regarding these projects or minutes should be directed to the South Central Regional Council of Governments, Attention: Stephen Dudley, sdudley@scrcog.org.

Submitted by: Digitally signed by Michael Shepley Date: 2018.09.18 10:22:33-04'00' Date: _____

Michael R. Shepley

Reviewed by: Steven D. Fraysier Digitally signed by Steven D. Fraysier DN: C=US, E=sfraysier@blcompanies.com, O=BL Companies, CN=Steven D. Fraysier Reason: I have reviewed this document Date: 2018.09.18 11:01:40-04'00' Date: _____

Steven D. Fraysier

Approved by: _____ Date: _____

APPENDIX J
REPORT OF MEETING – PUBLIC INFORMATION MEETING

REPORT OF MEETING

SUBJECT: Public Information Meeting – Branford Connector Corridor Study

DATE OF MEETING: May 30, 2018, 7:00 pm

LOCATION:

Project Nos.	Town	Routes	Location
16C5934	Branford	Branford Connector	

LOCATION OF MEETING: Branford Fire Headquarters – 45 North Main Street

IN ATTENDANCE:

NAME	REPRESENTING	EMAIL
Stephen Dudley	South Central Regional Council of Governments	sdudley@scrcog.gov
James Cosgrove	Town of Branford	jcosgrove@branford-ct.gov
Janice Plaziak	Town of Branford	jplaziak@branford-ct.gov
Mike Fisher	BL Companies	mfisher@blcompanies.com
Steve Fraysier	BL Companies	sfraysier@blcompanies.com
Mike Shepley	BL Companies	mshepley@blcompanies.com

Approximately 15 Branford residents were also in attendance.

PROJECT DESCRIPTION:

The project was presented using Microsoft PowerPoint and key project plans were on display. Handouts of the general project information were also available to the attendees. After the presentation, the meeting was opened to additional questions and comments. The following is a summary of the presentation and comments.

Branford Connector Corridor Study

The South Central Regional Council of Governments (SCRCOG), has prepared a transportation planning study of the Branford Connector Corridor in order to improve the vehicular accessibility between I-95 at Interchange 53, Commercial Parkway, and U.S. Route 1. This study also considered improving pedestrian circulation throughout the study area, stimulating economic growth along Commercial Parkway, as well as improved roadway safety and crash reduction. The following corridors were included in the study:

- Interstate 95 between Interchange 53 and 54
  - U.S. Route 1 between Route 142 (Short Beach Road) and Cedar Street
  - Commercial Parkway
  - Cedar Street between U.S. Route 1 and I-95

The corridors were documented for existing traffic operating conditions in terms of capacity and safety. Data was then projected out 20 years to 2037 to ascertain the needs and deficiencies of the study area. During this stage, potential economic development opportunities along Commercial Parkway were also considered and documented.

With the existing and future traffic operation conditions documented, three alternates were developed:

Alternate #1:

- I-95 Northbound Service Plaza's tractor trailer parking is proposed to be relocated to the west to accommodate northbound access to I-95 from the Branford Connector.
- The existing access from the Service Plaza to I-95 Southbound is proposed to be modified to accommodate a loop ramp for vehicles exiting I-95 Southbound to the Branford connector. This loop ramp is expected to need a new bridge structure over the Branford Connector.
- The Branford Connector is realigned with present day Commercial Parkway, forming a new signalized three-legged intersection.
- The Branford Connector and Route 146 are proposed to be realigned to form a new signalized, four-way intersection, thereby eliminating two signalized intersections on U.S. Route 1.
- An additional left-turn lane from U.S. Route 1 to Route 142 (Short Beach Road) is included in this alternate.

Alternate #2:

- A traditional full-access diamond interchange at Interchange 53.
- All traffic destined to the I-95 Northbound Service Plaza would utilize the newly constructed Interchange 53 and continue through the signalized intersection at the end of the off-ramp to enter the service plaza. All traffic exiting the Northbound Service Plaza will be rerouted to the newly constructed interchange to continue on I-95 Northbound.
- Tractor trailer parking will be relocated to the west and net parking will be increased.
- The I-95 Southbound Service Plaza's exit to I-95 is relocated to the Branford Connector to accommodate the I-95 Southbound exit to Branford Connector,
- The U.S. Route 1 at Route 146 (Main Street) intersection is relocated further north.
- An additional left-turn lane from U.S. Route 1 to Route 142 (Short Beach Road) is included in this alternate

Alternate #3 is a combination of Alternates #1 and #2. The alternate proposes to include the same operational benefits from Alternate 1 such as the realignment of Route 146 with the Branford Connector and forming a signalized four-legged intersection, which would eliminate the need for the two adjacent traffic signals. For the proposed Interchange 53, Alternate 3 proposes the overpass design from Alternate 2. The combination of the two alternates attempts to maximize the benefits while minimizing environmental impacts.

After analysis of the proposed alternates, the preferred alternate is Alternate 2. This alternate provides maximum operational benefits while minimizing right-of-way and environmental impacts. The two traffic signals on U.S. Route 1 are projected to operate at acceptable levels of service and can be coordinated to increase vehicle throughput. Also, Alternate 2 provides more potential development opportunities. The signalized intersection design at the I-95 Southbound On/Off ramp provides access to the Branford Connector with the least amount of environmental impacts when compared to Alternate 1.

A brief overview of how the construction of the preferred Alternate 2 could potentially be phased or split up was provided. The phasing of the project was provided as a means allow smaller portions of funding to be obtained rather than a single large dollar amount to fund the entire project.

TRANSACTIONS AND DETERMINATIONS:

A resident asked how many meetings have you had with the property owners, state, and federal representatives. *BL Companies responded that the project is in its early planning stages and meetings with individual property owners will occur once the layout of the preferred alternate is refined during a later stage of the preliminary engineering process. Many meetings have already been held with other stakeholders such as the Town, the regional planning agency, and the CTDOT during the study phase of this project.*

A resident asked how long the project would take to be completed. *BL Companies responded that the project would take approximately 1-2 years in preliminary engineering (environmental studies phase) and then another 2-3 years in detailed design. In construction, the project would take approximately 2 years to complete. Mr. Dudley noted that all the time frames are dependent on the project obtaining funding.*

A resident asked if the study was "locking in" on one interchange design and if there was a common consensus between Town and BL Companies. *BL Companies responded that there has been discussion with the Town about which alternate was the preferred and BL Companies is recommending Alternate 2. However, the ultimate decision of a preferred alternative will be left up to the Town.*

A resident stated that the westbound approach of CT Route 146 (Main Street) in Alternate #1 and #3 appeared to have poorer geometry than in Alternate #2. He thought Alternate #2 was the better alternate of the three.

A resident stated that not enough notice was given to the public for the meeting. He stated that the crowd was not representative of the consensus of the Town. *Mr. Dudley responded that this is the first part in a continuing process of public outreach, which is required by the federal grant that is funding the study. Mr. Dudley went on to explain that the redevelopment of this corridor has been occurring since the early 1990s and a study is necessary in order for the project to gain traction and receive funding. Mr. Dudley also stated that this is by no means a final design and more input would be necessary from both CTDOT and the FHWA, and with their input, the design could*

change. He also stated that there would be several more times that the public would be able to discuss, review and provide comments regarding the project.

A resident stated that they agreed the two signals in Alternate #2 were better than just the one that is shown in Alternate #1 and #3.

A resident stated that congratulations should be in order to the Town, SCRCOG, and BL Companies for figuring out how to develop the Commercial Parkway corridor. He believed both the Interchange 53 connections and U.S. Route 1 corridor reconstruction were necessary.

A resident asked if it was possible to do the project without reconstructing the interchange. *BL Companies stated that the overall project could be phased so that the reconstruction of both Commercial Parkway, the lower part of the Branford Connector, and U.S. Route 1 Corridor could be accomplished prior to the interchange work.*

A resident asked if construction delays were considered in the project breakout of Alternate #2. *BL Companies stated that many factors were considered in the project breakout and that any breakout of the project into smaller projects may help to alleviate disruption to the public.*

A resident asked about the timing of widening I-95 to three-lanes, a concept that is as currently being studied by CTDOT. *BL Companies and Mr. Dudley responded that the study is being finalized by CTDOT and is not completed. There is no clear consensus on if the widening will be done on I-95 and if there were, funding sources would still need to be determined in order to have the project move forward.*

Any questions or comments regarding these projects or minutes should be directed to the South Central Regional Council of Governments, Attention: Stephen Dudley, sdudley@scrcog.org.

Submitted by: Digitally signed by Michael Shepley Date: 2018.06.05 09:41:44-04'00' Date: 6/5/2018

Michael R. Shepley

Reviewed by: Steven D. Fraysier Digitally signed by Steven D. Fraysier DN: C=US, E=sfraysier@blcompanies.com, O=BL Companies, CN=Steven D. Fraysier Reason: I have reviewed this document Date: 2018.06.05 09:38:20-04'00' Date: 6/5/2018

Steven D. Fraysier

Approved by: _____ Date: _____