

S.R. 105 (Heckscher Drive)

Corridor Study

Duval County, FL

October 2025



S.R. 105 (Heckscher Drive) Corridor Study

Prepared For:



980 North Jefferson Street
Jacksonville, FL 32209

Prepared By:



225 Water Street, Suite 1510
Jacksonville, FL 32202

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TABLE OF CONTENTS

1	INTRODUCTION.....	1
2	STUDY AREA DESCRIPTION	2
2.1	Land Use and Zoning	2
2.2	Blount Island.....	5
2.3	Current and Planned Projects	5
3	FACILITY CHARACTERISTICS	7
3.1	Functional Classification	7
3.2	Typical Section	7
3.3	Context Classification.....	7
3.4	Structures.....	12
3.5	Rail Grade Crossing	13
3.6	Utilities	13
3.7	Multimodal Facilities	14
3.8	Traffic Signals	14
3.9	Existing Traffic Volumes.....	14
3.9.1	Blount Island	19
3.10	Field Review.....	21
3.11	Operational Analysis	24
4	SAFETY ASSESSMENT.....	26
4.1	Fatal and Incapacitating Injury Crashes.....	30
4.2	Pedestrian and Bicyclist Crashes.....	30
5	PUBLIC ENGAGEMENT	32
5.1	Interagency Coordination.....	32

6	PLANNING CONCEPT DEVELOPMENT	33
6.1	2050 Future Traffic Volumes	33
6.2	No Build	35
6.3	Planning Concepts.....	40
6.3.1	Design Standards	41
6.3.2	Typical Section	41
6.3.3	Single Grade Separation.....	43
6.3.4	Two Grade Separations.....	43
6.4	Adjacent Property Access Impacts	46
6.5	Improvement Costs	46
7	SUMMARY	48

LIST OF FIGURES

Figure 1 – Study Area	1
Figure 2 – Existing Land Use	3
Figure 3 –Zoning.....	4
Figure 4 – S.R. 105 Existing Typical Section (4-Lane Divided)	9
Figure 5 – S.R. 105 Existing Typical Section (2-Lane Divided)	10
Figure 6 – S.R. 105 Existing Typical Section (2-lane Undivided).....	11
Figure 7 – 2025 Weekday A.M. Peak Hour Traffic Volumes	16
Figure 8 – 2025 Weekday Midday Peak Hour Traffic Volumes	17
Figure 9 – 2025 Weekday P.M. Peak Hour Traffic Volumes.....	18
Figure 10 – Crash Location and Frequency	27
Figure 11 – Crash Statistics.....	29
Figure 12 – Crashes by Time of Day.....	30
Figure 13 – 2050 Weekday A.M. Peak Hour Traffic Volumes	36
Figure 14 – 2050 Weekday Midday Peak Hour Traffic Volumes.....	37
Figure 15 – 2050 Weekday P.M. Peak Hour Traffic Volumes.....	38
Figure 16 – Typical Section.....	42
Figure 17 – Single Grade Separation	44
Figure 18 – Two Grade Separations	45

LIST OF TABLES

Table 1 – Roadway Characteristics Summary	8
Table 2 – Bridge Inventory Summary.....	12
Table 3 – Utilities	13
Table 4 – Signalized Intersections	14
Table 5 – Traffic Volumes	15
Table 6 – Blount Island Trip Volume	20
Table 7 – Intersection Operational Analysis (2025).....	25
Table 8 – Crash Summary by Year.....	28
Table 9 – Fatal and Incapacitating Crash Summary	31
Table 10 – Recommended Growth Rate.....	34
Table 11 – 2050 Traffic Volumes	34
Table 12 – Intersection Operational Analysis (2050)	39
Table 13 – Estimated Improvement Costs.....	47

APPENDIX

Appendix A	S.R. 105 Straight Line Diagram
Appendix B	Generalized Service Volume Tables and LOS Reports
Appendix C	Traffic Count Data
Appendix D	Signal Timing Plans
Appendix E	Existing Operational Analysis
Appendix F	Growth Rates
Appendix G	2050 Operational Analysis
Appendix H	Concept Profile Views
Appendix I	Summary of Impacted Parcels
Appendix J	Cost Estimates

ACRONYMS

AADT	Annual Average Daily Traffic
BIMT	Blount Island Marine Terminal
EB	Eastbound
FDOT	Florida Department of Transportation
FRA	Federal Railroad Administration
FYA	Flashing Yellow Arrow
I	Interstate
JAXPORT	Jacksonville Port Authority
JEA	Jacksonville Electric Authority
LF	Linear Feet
LOS	Level of Service
LRTP	Long Range Transportation Plan
MCSF-BI	Marine Corps Support Facility Blount Island
MPH	Miles per Hour
NB	Northbound
NERPM	Northeast Florida Regional Planning Model
RI/RO	Right In/Right Out
ROW	Right-of-Way
SB	Southbound
SIS	Strategic Intermodal System
TEU	Twenty-Foot Equivalent Unit
TIP	Transportation Improvement Program
TPO	Transportation Planning Organization
UAO	Utility Agent/Owners
VPD	Vehicles per Day
WB	Westbound

1 INTRODUCTION

The North Florida Transportation Planning Organization (TPO) partnered with Jacksonville Port Authority (JAXPORT) to conduct the State Road (S.R.) 105 (Heckscher Drive) corridor study. It considers the long-term transportation needs of JAXPORT's Blount Island Marine Terminal (BIMT) and evaluates infrastructure improvements on S.R. 105 to support growth and improve freight connections. These include grade separations on S.R. 105 which could improve roadway and railroad safety by eliminating at grade crossings.

JAXPORT desires to sustain and enhance the port's strategic seaport military value and readiness to continue to support force deployment during contingencies and other national defense emergencies at BIMT and Marine Corps Support Facility Blount Island (MCSF-BI).

The 1.22-mile study corridor is depicted in Figure 1 and extends from New Berlin Road East/Legend Lane to east of Blount Island Boulevard. S.R. 105 is part of the State Highway System (SHS) and, west of Dave Rawls Boulevard, an existing Strategic Intermodal System (SIS) connector.

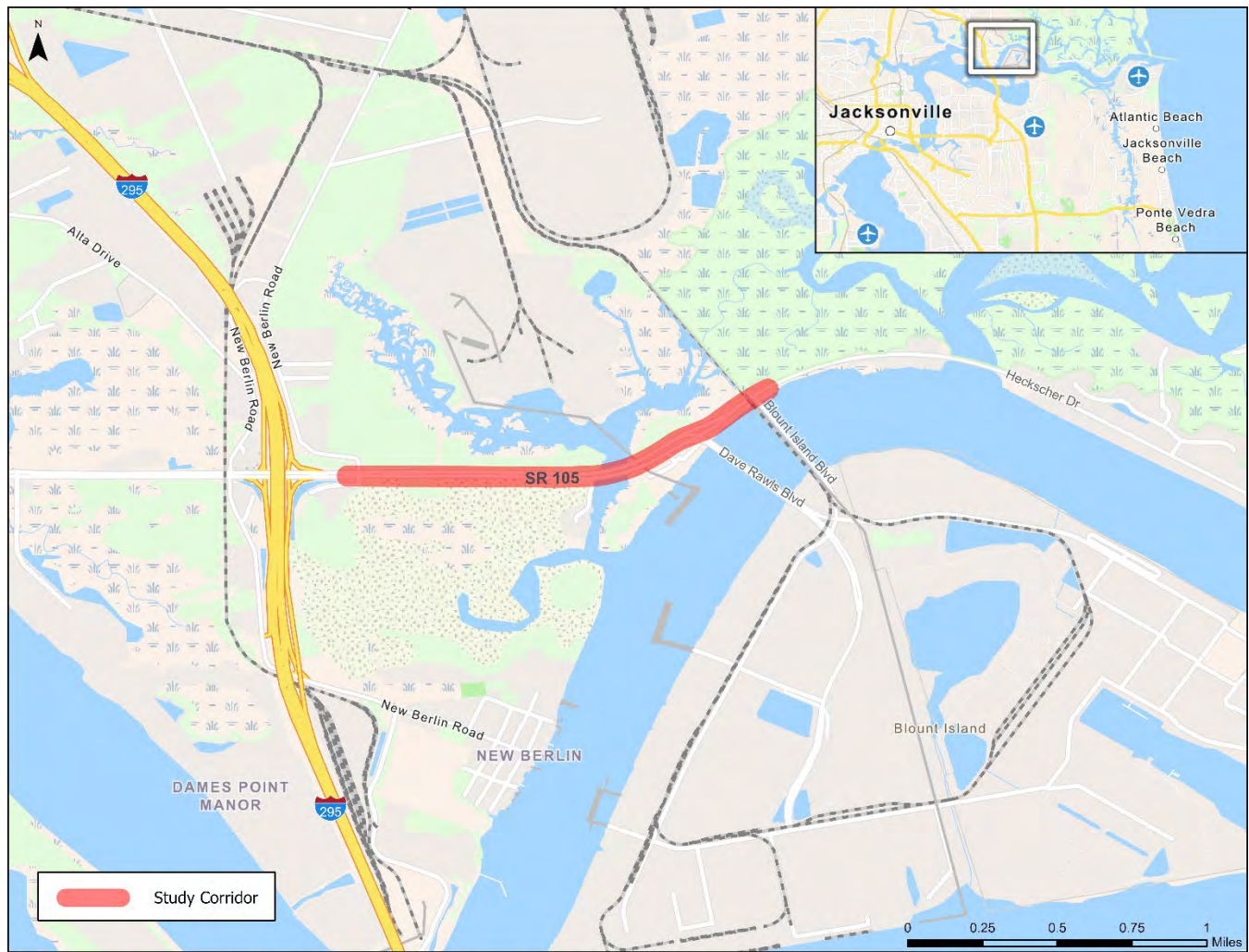


Figure 1 – Study Area

2 STUDY AREA DESCRIPTION

2.1 LAND USE AND ZONING

Figure 2 and Figure 3 illustrate existing land use and zoning in the S.R. 105 area. JAXPORT and other industrial maritime uses dominate the lands adjacent to and east of the I-295/S.R. 105 interchange. As part of City of Jacksonville's Industrial Sanctuary Overlay, designated land uses for this area, as depicted on the City's 2045 Future Land Use Map, are Heavy Industrial, Water Dependent/Water Related, Community/General Commercial, Public Buildings/Facilities (Jacksonville Electric Authority's (JEA) Northside Generating Station and the decommissioned St. Johns River Power Park), various environmentally sensitive lands designated for Conservation, and small enclaves of "grandfathered" residential use. The dominant land cover in this area is a contiguous and meandering wetland/tidal salt marsh.

Consistent with the City's Future Land Use Map, regulatory zoning in the project area is a mix of the following:

- Heavy Industrial, including manufacturing, assembly, warehousing, upland boat and vehicle storage, port support facilities, outside construction equipment storage, and similar uses.
- Community/General Commercial, including retail and certain wholesale facilities, fueling stations and fueling facilities, indoor and outdoor food and beverage service, personal service stores and outlets, and shopping centers.
- Industrial-Water Related, including port facilities, ship building and repair, manufacturing and assembly, on-ground storage facilities, and similar uses, fishery and other marine dockage.
- Public Facilities, including utility plants, recycling facilities, fuel storage and fuel handling, and similar uses of a public nature, including recreation.
- Residential at various densities per acre and/or minimum lot sizes, including 60', 90' and 100' lot-width minimums.
- Planned Unit Developments that allow mixtures of compatible uses based upon a specific site plan that has been adopted as a local zoning ordinance.
- Conservation zoning, which allows very limited urban development and natural open space.
- Water, which allows public and private use of the public waterways of Duval County, including permitted dockage, anchorage, pipelines, and transient boating activities.

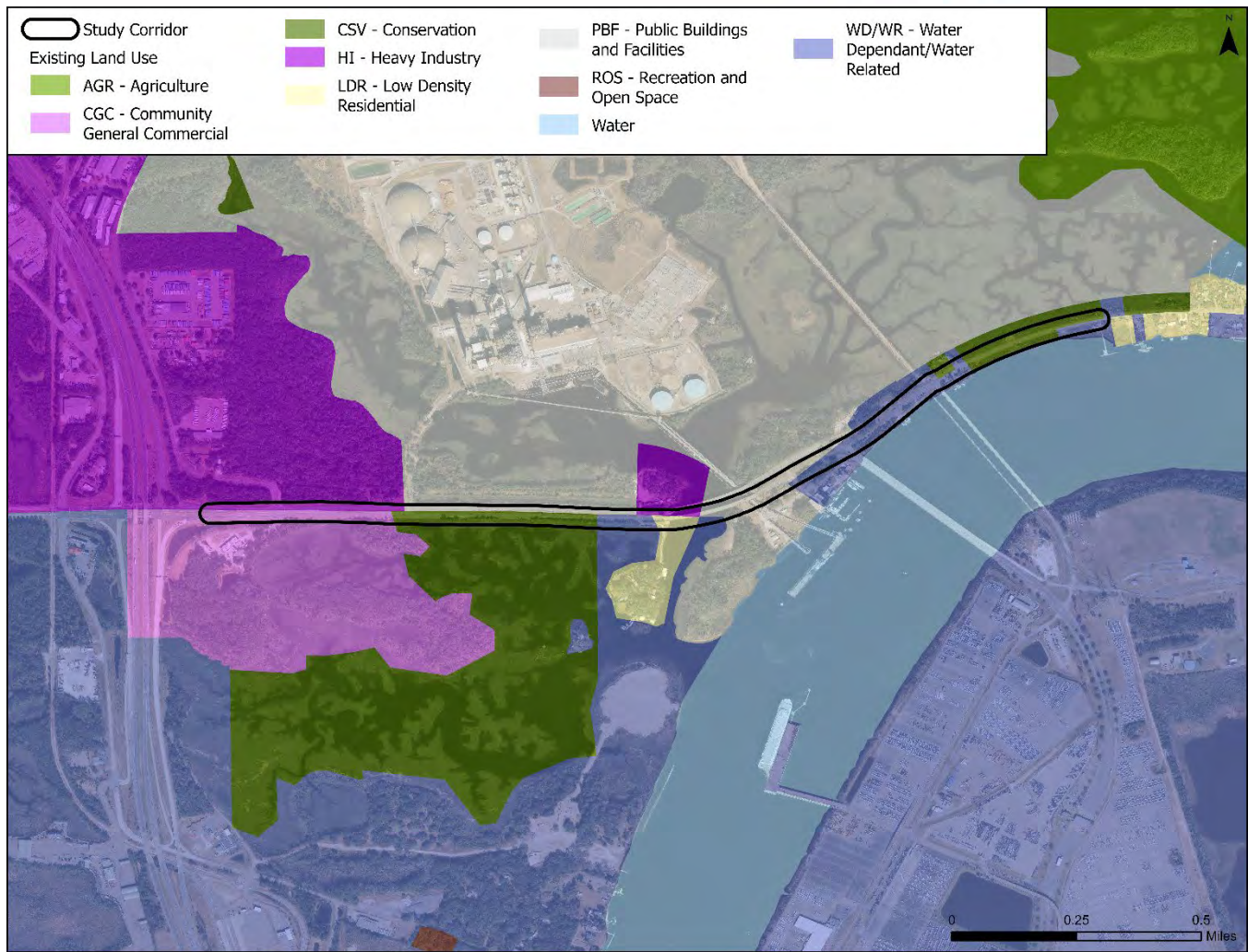


Figure 2 – Existing Land Use

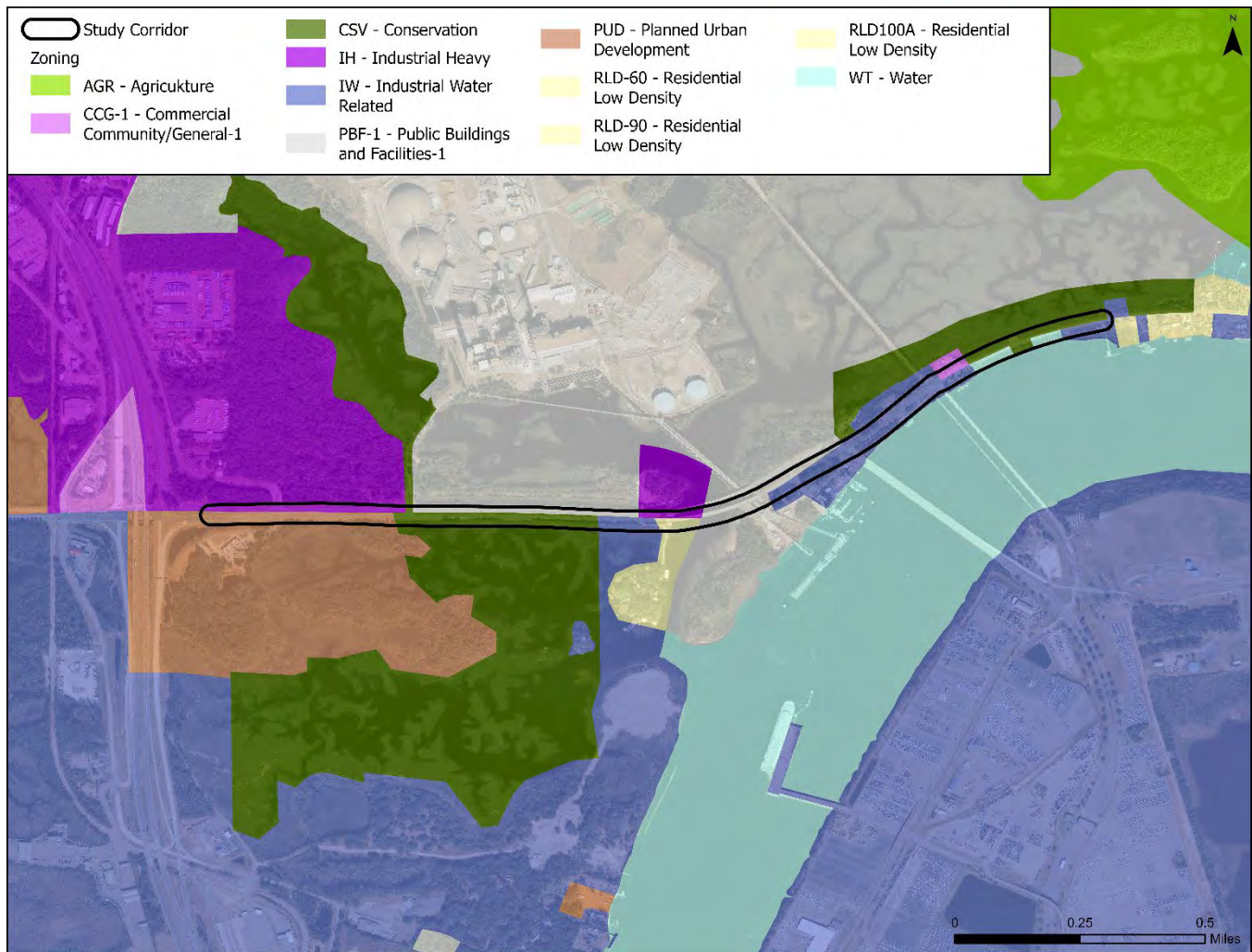


Figure 3 –Zoning

2.2 BLOUNT ISLAND

Blount Island is a nearly 2,000 acre, largely manmade dredge spoil island that sits between the St. Johns River and Dames Point Cut, approximately nine nautical miles from the Atlantic Ocean. Blount Island is connected to S.R. 105 via Dave Rawls Boulevard and Blount Island Boulevard. CSX provides an intermodal connection, with JAXPORT owning 14 miles of track on the island. The two major users of the island are JAXPORT's BIMT on the west and MCSF-BI, which houses Blount Island Command, on the east.

At 754 acres, BIMT is the largest of three cargo terminals operated by JAXPORT and the primary container facility, processing approximately 80% of all container cargo at the port (a standard measurement for ports to measure throughput and handling capacity is Twenty-foot equivalent units (TEUs)). It's also one of the largest vehicle import/export centers in the United States. Recent and ongoing investments include expanding vehicle berths, yard improvements and implementing new technologies to enhance operational efficiency. Southeast Toyota Distributors, a major customer, is relocating and expanding its vehicle processing operations at Blount Island. Beyond the commercial port operations, MCSF-BI is a critical strategic asset for the U.S. military. It's the hub for the Marine Corps' global prepositioning programs which maintain stocks of combat-ready equipment and supplies which can be rapid-deployed during global crises, military exercises or humanitarian missions.¹

2.3 CURRENT AND PLANNED PROJECTS

In 2024, FDOT completed improvements to S.R. 105, from JD Thompson Drive (JEA Northside Generating Station) to I-295. The project added a westbound through lane between JD Thompson Road and New Berlin Road/Legend Lane which transitions to a dedicated right turn lane onto I-295 North.

Benesch reviewed the current Transportation Improvement Program (TIP) FY 2024/25 – 2028/29 and the TPO's 2050 Path Forward Long Range Transportation Plan (LRTP) Update for capacity and safety improvements to S.R. 105. A resurfacing (RRR) project on S.R. 105 is funded for FY 2027 (#4432551), from the fuel farm to Browns Creek. Although it does not add capacity, a resurfacing project provides an opportunity to address safety concerns. A trail project is included in the LRTP Cost Feasible project list, with no identified funding year:

- #801 - S.R. 105 Multimodal Trail Project from Main Street (US 17) to Heckscher Drive Ferry Entrance

Three freight improvement projects within the study area are included in the LRTP list of unfunded projects, which are those identified as needed for the region's transportation system but lack sufficient funding to be implemented within the planning period.

- #706 – Blount Island entrance gate security and access improvements.
- #710 – Construct a new roadway and bridge to connect to vacant site, allowing port related operations and development, Dave Rawls Boulevard/Channel View Drive to JEA power site.
- #721 – Construct grade separation over CSX Railroad crossing, Dave Rawls Boulevard at S.R. 105.

¹ JAXPORT

Project #710 is related to redeveloping St. Johns River Power Park (SJRP) on New Berlin Road, which was decommissioned in 2018. The proposed roadway would connect the SJRP to both S.R. 105 and Blount Island, in addition to its existing New Berlin Road East access point. Given the site's strategic location, its future purpose would likely be industrial and complementary to the operations of JAXPORT and Blount Island.



Blount Island is connected to St. Johns River Power Park (SJRP) via a CSX Rail line. Although unfunded, a roadway connecting the two uses would enhance expansion of port related uses.

3 FACILITY CHARACTERISTICS

The following sections and Table 1 provide information on roadway characteristics of S.R. 105 within the study corridor.

3.1 FUNCTIONAL CLASSIFICATION

S.R. 105 serves as a four-lane divided urban minor arterial between New Berlin Road East and Dave Rawls Boulevard, transitioning to a two-lane divided minor arterial. Beyond this segment, extending east of Blount Island Boulevard, it transitions to a two-lane undivided minor arterial.

3.2 TYPICAL SECTION

Within the study corridor, S.R. 105 has three typical sections, which are illustrated in Figure 4 through Figure 6. The depictions are based on roadway plans for Financial Project ID (FPID) 209336-5-52-01 and the Straight Line Diagram (SLD) (Roadway ID 72250000). Appendix A includes the SLD.

Figure 4 depicts the existing typical section for the four-lane section of S.R. 105 between New Berlin Road East/Legend Lane (M.P. 6.267) to east of Dave Rawls Boulevard (M.P. 7.231). The roadway is a four-lane rural section with 12 linear foot (LF) lane widths and a vegetative median. There are four (4) LF paved inside shoulders and 10 LF paved outside shoulders for each side of the roadway. The minimum right-of-way (ROW) is 200 LF.

S.R. 105 transitions to a 2-lane divided facility between the eastbound ramp to Dave Rawls Boulevard (M.P. 7.231) and approximately 300 LF west of Blount Island Boulevard (M.P. 7.429). As depicted in Figure 5, this short roadway section features 15 LF divided lanes with a vegetative median. There are 2 LF paved inside shoulders and 4 LF paved outside shoulders on each side of the roadway.

From M.P. 7.429 to east of the project limits, the roadway is a two-lane rural section with 12 LF lane widths with 4 LF paved shoulders. The minimum right-of-way (ROW) is 100 LF.

The posted speed limit (PSL) is 45 miles per hour (mph) throughout the entirety of the study corridor.

3.3 CONTEXT CLASSIFICATION

FDOT designates S.R. 105 through the study corridor as Context Class Special District (SD) C2. While C2 represents a rural context, with low population density and high speed design, the Special District identifier denotes an area that does not adhere to standard measures identified in the Context Classification Matrix due to unique characteristics and function.

Table 1 – Roadway Characteristics Summary

Characteristic	Description
Roadway	S.R. 105 (Heckscher Drive)
Roadway ID	72250000
Limits	M.P. 6.267 to east of M.P. 7.488
SIS Status	Existing SIS
SIS Type	Connector
Cross Section	M.P. 6.267 – M.P. 7.231: Four-lane divided rural, 8 LF paved shoulder M.P. 7.231 - M.P. 7.429: Two-lane divided rural M.P. 7.429 to M.P. 15.061: Two-lane undivided rural
Functional Classification	Urban Minor Arterial
Access Class	03
Context Classification	SDC2 – Rural Special District
Right of Way (Min.)	200 LF min., 4-lane section 100 LF min., 2-lane section
Posted Speed Limit	45 mph
Traffic Signals	New Berlin Road/Legend Lane (M.P. 6.267) Dave Rawls Boulevard (M.P. 7.279)
Lighting	Cobra style luminaries at New Berlin Road/Legend Lane, Dave Rawls Boulevard and Blount Island Boulevard intersections
Rail Grade Crossing	620872B (CSX)
Pedestrian Facilities	110 LF sidewalk on SW corner of S.R. 105 and Legend Lane intersection
Bicycle Facilities	Bike lane, WB New Berlin Road from JD Thompson Drive to I-295 NB ramp
Mid-Block Crossings	None
General Land Use	Water-related industrial, heavy industrial, spot commercial
School Zone	None

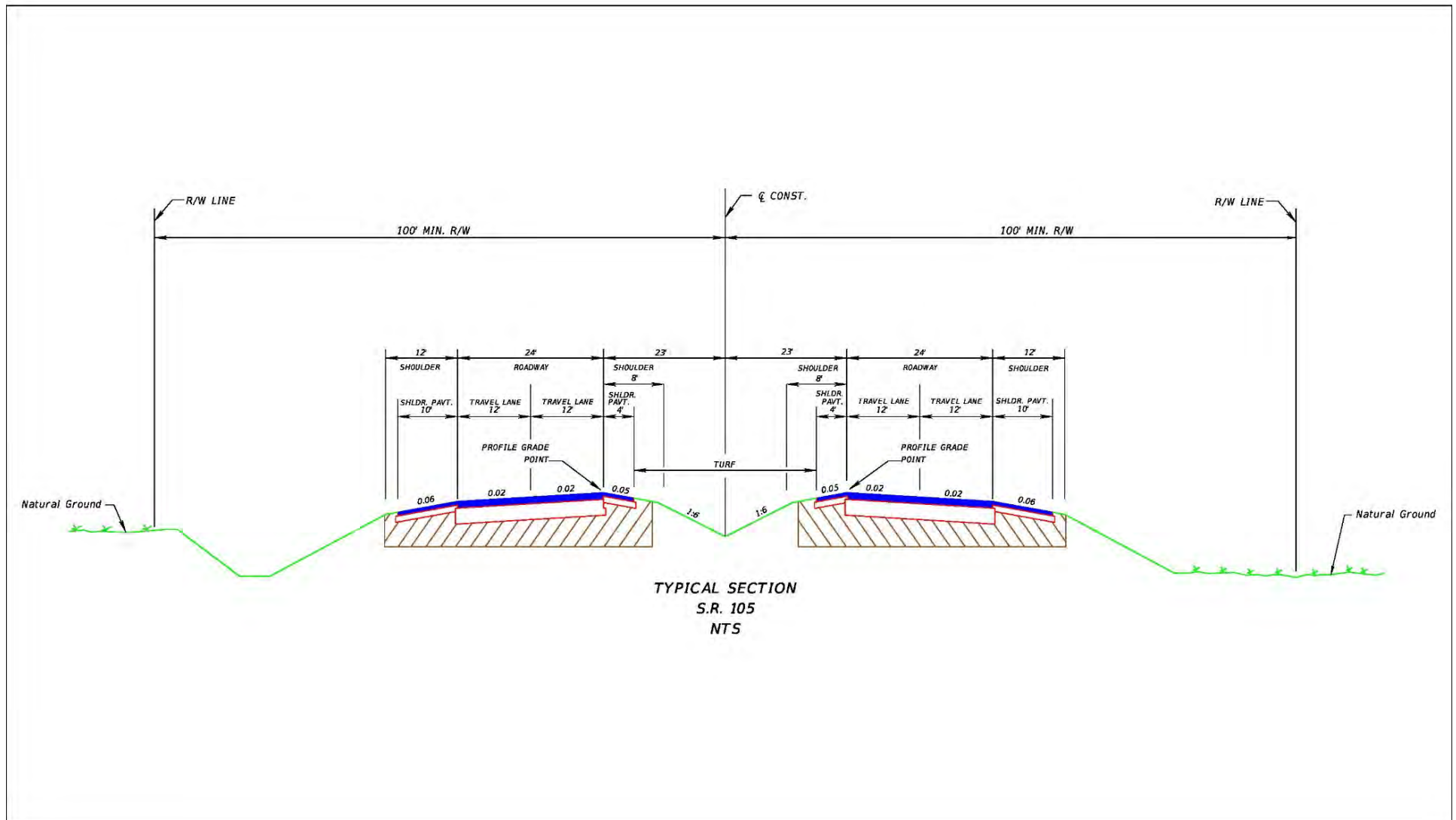


Figure 4 – S.R. 105 Existing Typical Section (4-Lane Divided)

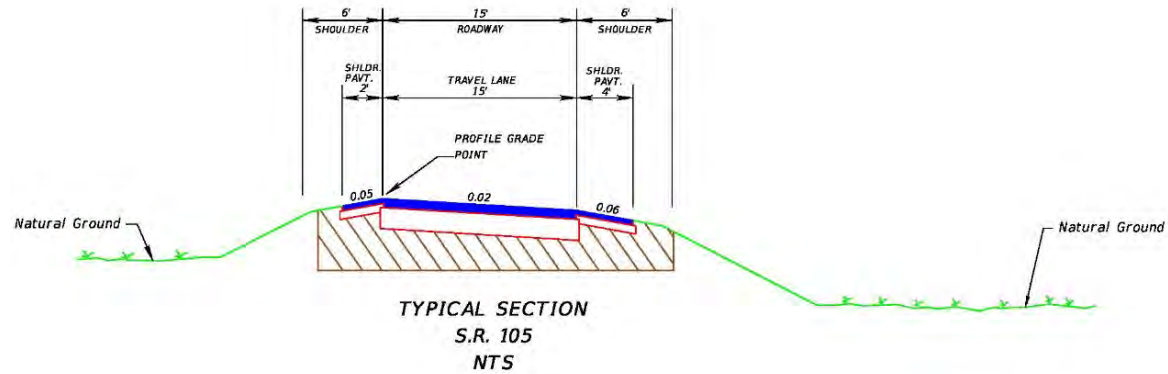


Figure 5 – S.R. 105 Existing Typical Section (2-Lane Divided)



3.4 STRUCTURES

Benesch obtained bridge condition information from FDOT’s Florida Bridge Information inventory for the third quarter of 2024. The Department reports bridge conditions by their health index, sufficiency rating and whether it deems them structurally deficient or functionally obsolete. The "health index" measures the overall condition of a bridge. A score below 85 generally indicates that some repairs are needed, although it doesn't mean the bridge is unsafe. A low health index may also indicate that it would be more economical to replace the bridge than to repair it.

Table 2 provides a summary of bridge conditions along the S.R. 105 corridor. There are two bridges over Nichols Creek (northbound and southbound), both of which have a high health index. The bridges that connect Blount Island and S.R. 105 are also listed in the table. The Blount Island Boulevard structure has a health index of 74.04, indicating that repairs are needed.

Table 2 – Bridge Inventory Summary

Bridge	Year Built	Last Inspection	Health Index	Sufficiency Rating	Structurally Deficient?	Functionally Obsolete?
S.R. 105 Mainline						
S.R. 105 NB over Nichols Creek (720568)	1994	09/13/2022	98.07	97.5	N	N
S.R. 105 SB over Nichols Creek (720569)	1994	09/13/2022	97.29	92.5	N	N
Connecting Structures						
Dave Rawls Boulevard (720550)	1991	03/08/2023	95.21	97	N	N
Blount Island Boulevard (720146)	1974	03//07/2023	74.04	61.50	N	N

Source: Florida Bridge Information Report, 3rd Quarter 2024, FDOT

 Indicates Bridge Health Index <85

3.5 RAIL GRADE CROSSING

CSX rail grade crossing 620872B is a single track crossing located on S.R. 105 west of Blount Island Boulevard (M.P. 7.467). TRAINFO, under contract to the TPO, placed sensors which record crossing activity, duration and blockages. CSX controls the rail schedule (push/pull) to BIMT.

Between 02/14/2025 and 06/18/2025, the rail crossing is activated an average of 9 minutes and 36 seconds per day. Average activation duration is 2.99 minutes with three activations per day. Nearly all (89.8%) activations are 4 minutes or less in duration, with outliers of 6 to 10 minutes accounting for the remaining 10.2%. Friday is the busiest day of the week at 23.84% of activations, four activations per day and 4.21% lasting eight minutes. The longest activations occur Tuesdays, with three activations per day at an average of 3.41 minutes and 10.87% lasting ten minutes. The lowest activity occurs Mondays (3.64%).

On an hourly basis, about 45% of all crossings occur between midnight and 4 a.m., with 44% from 7 a.m. to 7 p.m. No crossings were recorded between 8-10 p.m.

3.6 UTILITIES

On the study corridor, multiple utility companies and infrastructure are located under and above the road. Based on information provided through Sunshine 811, there are six (6) Utility Agent/Owners (UAOs), which are summarized in Table 3. UAOs include cable, fiberoptic and telephone lines; electric, water, sewer and gas; and traffic signals/ITS.

Three high power transmission lines are between Blount Island and the JEA Northside Generating Station, with a triple row of towers approximately 30 feet north of S.R. 105 westbound at Dave Rawls Boulevard. Also present throughout the corridor and at most study intersections are above ground pedestals, poles, junction boxes and other utility markers within the existing ROW.

Table 3 – Utilities

Service Area Name ¹	Utility Type
AT&T	Telephone/Cable/Telecommunications
Comcast Cable Communications	Telephone/Cable/Telecommunications
Jacksonville Electric Authority	Water/Wastewater/Power/Fiber
MCI	Telephone/Cable/Telecommunications
TECO Peoples Gas - Jacksonville	Gas
Traffic Control Devices Inc.	Signals/ITS

¹ Source: Sunshine 811

3.7 MULTIMODAL FACILITIES

The pedestrian infrastructure is limited to 110 linear feet of sidewalk located in the southwest quadrant of the S.R. 105-New Berlin Rd East/Legend Lane intersection. In 2024, FDOT added a bike lane on westbound New Berlin Road, from JD Thompson Drive to the I-295 northbound ramp, as part of an operational improvement project. Elsewhere throughout the four-lane section, 10 LF unmarked paved shoulders are along both sides of the roadway.

3.8 TRAFFIC SIGNALS

Two (2) signalized intersections are located on the 1.22-mile corridor. Table 4 describes of the intersection geometry and signal equipment.

Table 4 – Signalized Intersections

Cross St	Turn Lanes	Crosswalks	Signal Backplates	FYA	Pedestrian Equipment
New Berlin Road East/Legend Lane	NB Left SB Right EB Left/EB Right WB Left	No	EB LT; WB; NB	EB/WB	No
Dave Rawls Boulevard	S.R. 105 EB Right (free flow)	No	No	No	No

3.9 EXISTING TRAFFIC VOLUMES

FDOT’s Florida Traffic Online provides data for the 2024 existing Annual Average Daily Traffic (AADT) volumes. The AADT is 20,000 vehicles per day (VPD), west of Dave Rawls Boulevard (count station #72-0146, Carlos Creek Bridge). East of Dave Rawls Boulevard in the two-lane section, the AADT reduces to 8,800 VPD (#72-0174, Clapboard Creek bridge). Table 5 provides a planning level analysis of the existing daily and peak hour traffic volumes, using the generalized service volume tables in the FDOT 2023 *Multimodal Quality/Level of Service Handbook*. Appendix B provides the Generalized Service Volume Tables and District 2 LOS Reports. At current peak hour traffic volumes, the four-lane segment of S.R. 105 is operating at 36% of the maximum service volume (MSV) for level of service (LOS) D and has ample capacity for current traffic volumes. The two-lane segment is operating at LOS D and 63% MSV. This is consistent with the LOS Reports for both segments.

In February 2025, Benesch conducted peak hour turning movement counts on S.R. 105 at three intersections during a.m., midday and p.m. peak conditions. The count data is in Appendix C with the peak hour count volumes depicted in Figure 7 through Figure 9. Traffic volumes for the S.R. 105 corridor and intersections fluctuate based on ship arrivals and may cause traffic issues not observed in the AADT or time-limited traffic counts.

Table 5 – Traffic Volumes

Station Location	Year	LOS Std	MSV ^{1, 2}		AADT	Daily LOS	Peak Volume ³	Peak LOS
			Daily	Peak Hour				
S.R. 105, W. end of Carlos Creek Bridge (#72-0146)	2024	D	55,700	5,290	20,000	B	1,900	B
S.R. 105, W. end of Clapboard Creek Bridge (#72-0174)	2024	D	14,000	1,330	8,800	D	836	D

¹ FDOT 2023 Multimodal Quality/Level of Service Handbook, Generalized Service Volume Tables

² Maximum Service Volume

³ Planning analysis factor (K) = 0.095

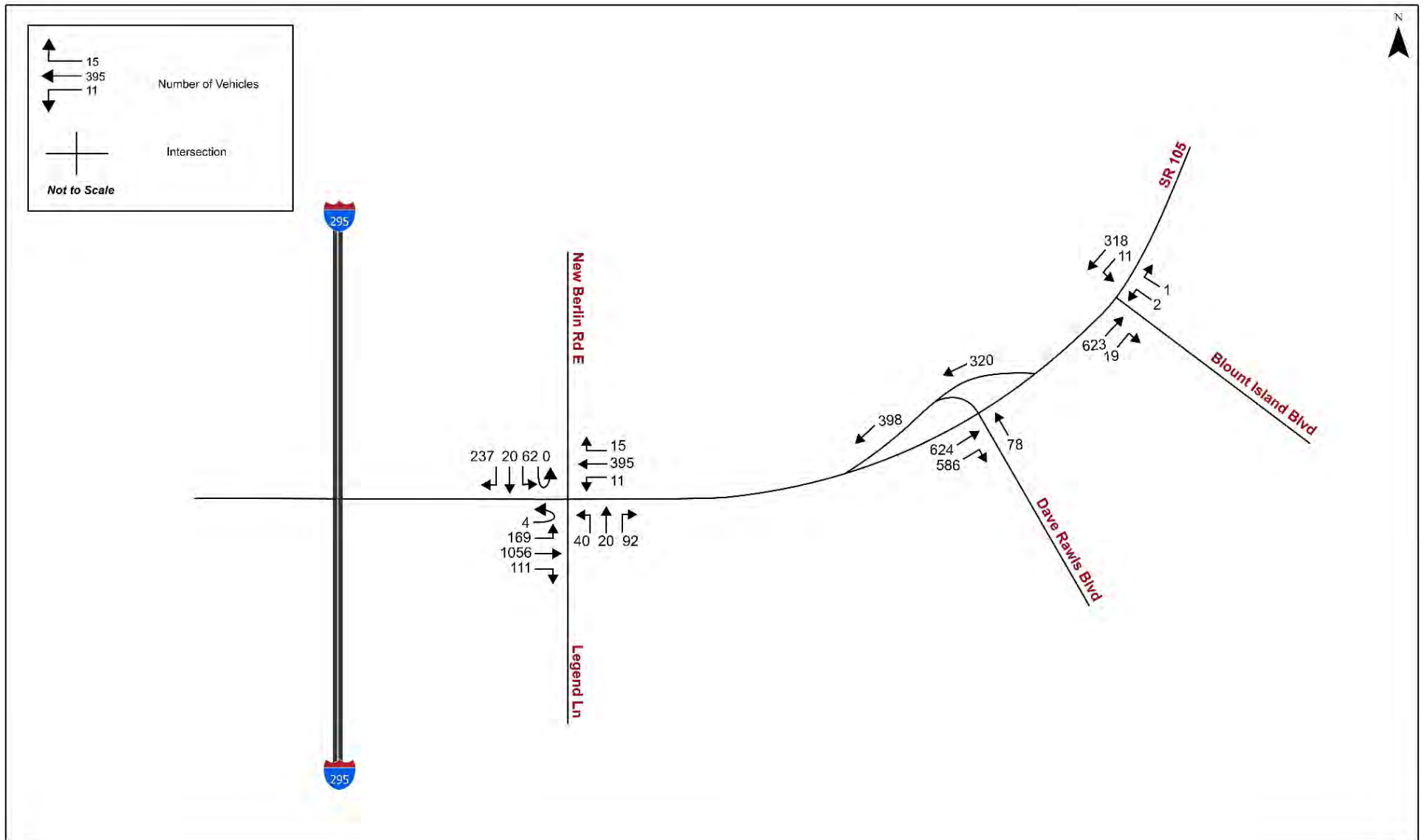


Figure 7 – 2025 Weekday A.M. Peak Hour Traffic Volumes

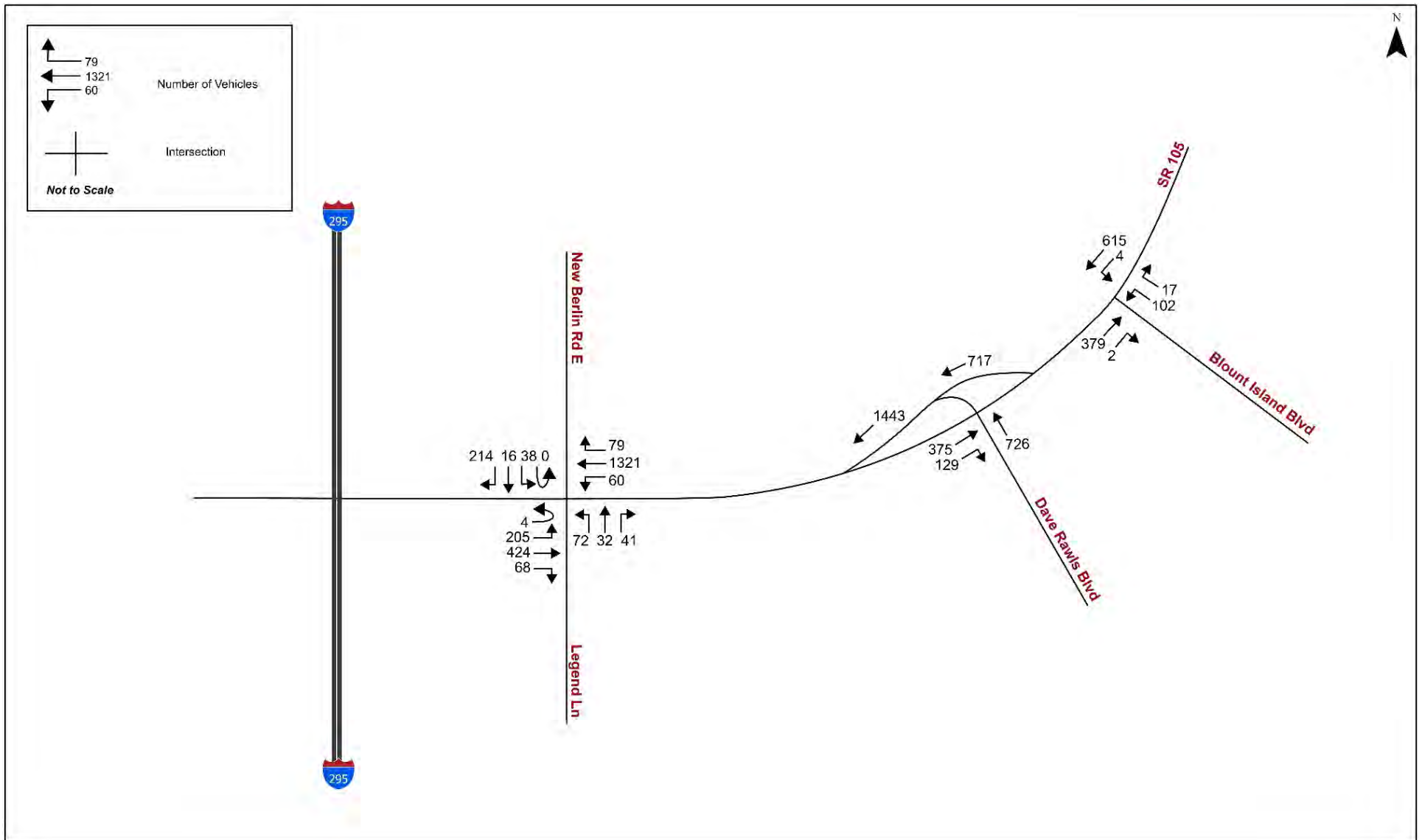


Figure 8 – 2025 Weekday Midday Peak Hour Traffic Volumes

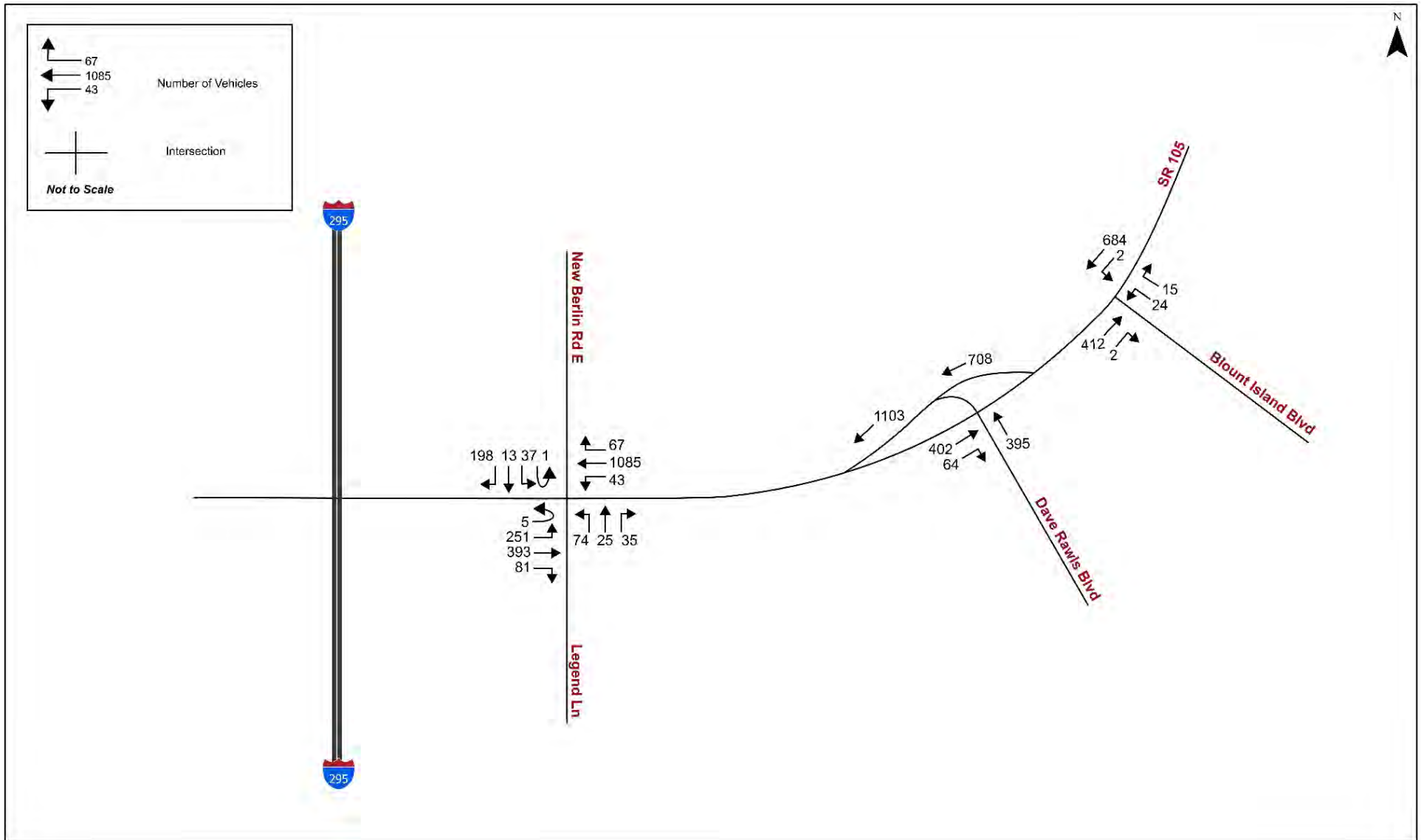


Figure 9 – 2025 Weekday P.M. Peak Hour Traffic Volumes

3.9.1 Blount Island

Trip volume for the island is highly dependent on port activity, which fluctuates day to day and hour to hour. The number and size of ships docked, type of freight being off- or on-loaded and inclement weather all influence the number of vehicles accessing Blount Island on any given day.

Benesch conducted 24-hour volume counts on Dave Rawls Boulevard and Blount Island Boulevard February 4, 2025. During that period, four different vessels were at berth including two container vessels (one of which is a post-Panamax ship with a 12,000 TEU capacity), one pulp vessel and one container barge.

Table 6 provides a summary of the counts. During the period reviewed, 9,330 vehicles accessed Blount Island with 93% using Dave Rawls Boulevard. Peak periods at the port include 6 a.m., noon and 3 p.m. The peak hours for vehicles entering Blount Island are 6 a.m. (721) and 3 p.m. for exiting vehicles (888).

While the directional split on Dave Rawls Boulevard is approximately equal, 64% of vehicles using Blount Island Boulevard are exiting. Most vehicles make a northbound to westbound left turn so drivers may be using this route to avoid queues and signalized delays at the Dave Rawls Boulevard and S.R. 105 intersection.

Vehicles arriving/departing from the east (e.g. via the Mayport Ferry or S.R. A1A to Nassau County) must use Blount Island Boulevard due to the configuration of Dave Rawls Boulevard at S.R. 105. Based on the peak hour turning movement counts, two to three percent of vehicles trips originate from this direction.

Table 6 – Blount Island Trip Volume

Hour	Dave Rawls Boulevard			Blount Island Boulevard			Grand Total
	NB Exit	SB Enter	Total	NB Exit	SB Enter	Total	
12	15	35	35	0	3	3	53
1	3	3	6	0	2	2	8
2	25	8	33	0	2	2	35
3	15	11	26	0	2	2	28
4	17	92	109	0	2	2	111
5	28	519	547	2	18	20	567
6	39	673	712	5	48	53	765
7	101	485	586	4	22	26	612
8	206	442	648	8	25	33	681
9	263	366	629	13	8	21	650
10	320	277	597	12	9	21	618
11	395	352	747	63	24	87	834
12	293	461	754	39	41	80	834
13	332	258	590	16	13	29	619
14	493	220	713	72	5	77	790
15	763	112	875	125	5	130	1,005
16	391	63	454	38	4	42	496
17	266	29	295	26	2	28	323
18	91	20	111	4	1	5	116
19	54	20	74	4	4	8	82
20	17	10	27	4	1	5	32
21	9	17	26	0	0	0	26
22	24	11	35	0	0	0	35
23	17	7	24	0	1	1	25
	4,177	4,491	8,668	435	242	677	9,330
	48%	52%	100%	64%	36%	100%	
	% Using Dave Rawls Boulevard		93%	% Using Blount Island Boulevard		7%	

3.10 FIELD REVIEW

Benesch and our subconsultant Peters & Yaffee conducted field review and observation Monday, March 31, 2025. The weather was clear and dry. As per JAXPORT, there were six inbound and outbound ships scheduled that day. No construction or atypical events were occurring nearby, nor were any crashes or other roadway condition changes observed. Observations are listed below.

AM Peak (6:45 – 7:45 a.m.)

- The majority of queuing at S.R. 105 and New Berlin Road East/Legend Lane originates from the I-295 interchange and occurs on the eastbound leg. Queues at this time are not enough to induce signal failure, but with slightly more vehicles it is likely that intersection queues would stretch back to the I-295 northbound off-ramp and block vehicles on this ramp.

The predominant direction for traffic at this intersection is eastbound. A large number of trucks headed eastbound through the intersection, likely towards JAXPORT. Most vehicles on New Berlin Road East made a southbound to westbound turn toward the I-295 interchange with some vehicles continuing across S.R. 105 into the GATE station.

- Vehicle volume at the S.R. 105 and Dave Rawls Boulevard intersection is very low just before 7 a.m. and picks up slightly around mid-hour. Very few vehicles left JAXPORT by way of Dave Rawls Boulevard at this time. Queues of six at most were observed at the eastbound leg of this intersection. Eastbound traffic entering JAXPORT uses a channelized free flow right turn lane.
- While outside of the study area, the I-295 interchange was briefly observed to confirm that it did not have any operational impacts on the study area. The signal cabinet for this interchange was checked and appears to be in working order. S.R. 105 turn lanes at the interchange presented some storage length issues.

Midday Peak (2:45 – 3:45 p.m.)

- Both signalized intersections along the corridor were operating smoothly upon arrival at the site at 2:30 p.m. Around this time, longer queues were building on Dave Rawls Boulevard, but queues on S.R. 105 eastbound remained similar to their a.m. peak of six or less.
- At New Berlin Road East/Legend Lane, queues were sporadic throughout the period observed. At one point, New Berlin Road East had a large queue that extended through the curve and out of sight, but the signal effectively dissipated this queue and queues remained modest here throughout the rest of the day.
- The New Berlin Road East intersection is coordinated with the I-295 interchange. Throughout the midday and p.m. peaks, there were short bursts (one or two New Berlin Road East cycles) where the intersection approached near failure and then would return to somewhat favorable conditions. These bursts of congestion could be attributed to a large number of vehicles exiting JAXPORT and passing

through the New Berlin Road East/Legend Lane intersection to I-295. The Dave Rawls Boulevard intersection is not in a coordinated system.

- Around 3:35 p.m., volume from JAXPORT began to sharply impact the New Berlin Road East/Legend Lane intersection. Long westbound queues were observed at the mid-3 p.m. hour. As mentioned, these queues would clear fairly quickly, but it was clear that slight breakdowns in operation (such as a wreck downstream by the interchange) could easily bring this intersection to failure conditions.
- Throughout the duration of this peak volume from roughly 3:30 to 4 p.m., eastbound S.R. 105 was fairly unimpacted at this intersection. There were large numbers of vehicles queued at the I-295 northbound off-ramp but, due to signal coordination, these vehicles were typically able to clear the downstream intersection.
- Very few vehicles exited JAXPORT via Blount Island Boulevard throughout the midday peak. The largest observed queue was two vehicles, and this condition held for the remainder of the site visit. Despite this, there was some delay for drivers to exit here. Driver hesitancy observed was likely due to less than optimal sight distance and the high speed of through vehicles on S.R. 105.

PM Peak (4 – 5 p.m.)

- As mentioned, the peak JAXPORT volume was observed between 3:30 and 4 p.m. Lengthy queues experienced at the New Berlin Road East/Legend Lane intersection during the midday peak were largely diminished around 4 p.m. Beyond the 4 p.m. hour, conditions returned to sporadic eastbound queueing at the intersection but with no failure observed.
- The New Berlin Road East/Legend Lane intersection allocates substantial green time to mainline through traffic when vehicles are not detected on the side streets. The intersection appears to operate very efficiently, even under heavy traffic conditions. After 4 p.m., a predominant movement was eastbound to northbound left turns onto New Berlin Road East. Left turn queue spillback was observed into the eastbound S.R. 105 through lanes back towards the interchange. This queuing pattern was fairly present throughout the mid to late 4 p.m. hour. Since JAXPORT traffic is fairly low at this time, it may be advisable to give more green time to this eastbound left movement or possibly extend queue storage length.
- Other than the storage issues relating to the eastbound left turn movement, no unusual conditions were observed during the p.m. peak hour. At this point, JAXPORT outbound traffic had reduced significantly, creating more opportunities for permissive turns across all legs of the New Berlin Road East/Legend Lane intersection.



Through traffic at the New Berlin Road East intersection is modest at the beginning of the midday peak (2:30 p.m.) in both the eastbound and westbound directions.



Around 3:30 p.m., queues at Dave Rawls Boulevard reach their highest volume, which heavily impact the downstream New Berlin Road East intersection.



Midday port traffic forms long queues on the westbound leg of the New Berlin Road East intersection. Although not observed, there is a risk of signal failure.



After 4:00 p.m., traffic exiting from Dave Rawls Boulevard has decreased, lessening the impact at downstream intersections.



Queues on the westbound through lane of the New Berlin Road East intersection decrease significantly by 4 p.m.



The eastbound left turn volume at New Berlin Road East exhibits queue spillback in the p.m. peak.

3.11 OPERATIONAL ANALYSIS

Benesch conducted capacity analysis for the existing S.R. 105 corridor using Synchro 11 traffic software. The team used field review observations, turning movement counts and existing traffic signal timing schedules to refine the analysis models for the a.m., midday and p.m. peak hours. Timing plans are included in Appendix D. Table 7 includes a summary of the results while the output worksheets are provided in Appendix E.

Level of Service (LOS) and control delay are outputs provided by Synchro that reflect capacity of an intersection. LOS has a direct relationship to control delay as outlined in the Highway Capacity Manual by the Transportation Research Board and acts as a letter grade for capacity (A-F). At each intersection, LOS and control delay is calculated for the overall intersection, each approach and each lane group. LOS A (up to 10 seconds/vehicle of delay) represents a low level and favorable conditions while LOS F represents significant delays where vehicles wait through multiple signal cycles and long queues may spill upstream. An intersection overall may still operate acceptably if individual approaches or lane groups have an unacceptable LOS.

The LOS target for S.R. 105 is LOS D. Both signalized intersections (mainline S.R. 105 at New Berlin Road East/Legend Lane and Dave Rawls Boulevard) operate at an acceptable LOS during the a.m., midday and p.m. peak hours under existing conditions. This result aligns with field review observations.

In prior years, the intersection of S.R. 105 and New Berlin Road East/Legend Lane experienced severe congestion westbound, particularly in the afternoon peak due to outbound tractor trailers and employees from JAXPORT. At times, these vehicles and trucks were observed queued from New Berlin Road/Legend Lane to Dave Rawls Boulevard. A 2024 FDOT project addressed this by adding a third westbound lane from JD Thompson Drive to the I-295 northbound ramp. Synchro analysis supports field review observations that the project has improved operations at the intersection. The existing capacity analysis indicates an overall minimum LOS C. All legs during the midday peak operate at LOS D or better. As witnessed in the field, the westbound leg of this intersection during the midday peak is the most congested leg in the study area across the peak periods reviewed. During the midday peak, the overall delay for this intersection is 31 seconds.

The intersection of S.R. 105 and Dave Rawls Boulevard operates independently in “free” mode for much of the day, changing to two-phase signal operation in the afternoon peak (3 to 5:30 p.m.). The intersection operates at a minimum overall LOS B in all three time periods.

The unsignalized intersection of S.R. 105 and Blount Island Boulevard operates at an acceptable LOS overall. Northbound delays operate at LOS D during midday peak hours, but the intersection receives such low volume (less than two vehicles per minute during the peak hour) that vehicles rarely queue. Delays on the northbound leg can be attributed to drivers searching for an adequate gap along S.R. 105, rather than the volume exiting Blount Island Boulevard.

Overall, the results of the existing condition operational analysis are similar to the observations made during the field review.

Table 7 – Intersection Operational Analysis (2025)

Intersection	Control Type	Approach/ Movement	A.M. Peak Hour		Midday Peak Hour		P.M. Peak Hour	
			LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
S.R. 105 at New Berlin Road East/Legend Lane	Signalized	Eastbound	B	18	C	26	B	14
		Westbound	C	23	C	29	C	20
		Northbound	B	13	D	46	D	44
		Southbound	C	23	D	40	D	36
		Intersection	B	19	C	31	C	21
S.R. 105 at Dave Rawls Boulevard	Signalized	Eastbound	A	4	C	16	B	14
		Northbound	C	25	B	16	B	15
		Intersection	A	5	B	16	B	14
S.R. 105 at Blount Island Boulevard	Unsignalized	Eastbound	A	0	A	0	A	0
		Westbound	A	0	A	0	A	0
		Northbound	C	19	D	32	C	21
		Southbound						
		Intersection	A	0	A	3	A	1

4 SAFETY ASSESSMENT

Benesch obtained five years of crash records (01/01/2020 to 12/31/2024) from the University of Florida's Signal Four Analytics for the study segment. As part of the analysis, we thoroughly reviewed all crashes involving pedestrians, bicyclists, fatal and incapacitating crashes to confirm crash type, location, road surface and lighting conditions. We also reviewed the description of the crash events to determine if a crash pattern could be identified at the study intersection. Figure 10 depicts the location and frequency of crashes at the intersection.

Per Table 8 and Figure 11, the corridor had a total of 115 crashes during the study period, with a predominance of rear-end crashes (42; 36.5%). In addition, we identified the following crash trends within the study limits:

- No reported pedestrian or bicycle crashes
- One reported fatality and three reported incapacitating injury crashes
- An average of 23 crashes per year along the study limits
- 15 (13%) crashes occurred under wet pavement conditions
- 23 crashes (20%) occurred under night/dusk/dawn conditions
- 65% of the total crashes did not report any injuries

The crashes are also categorized into several Florida Strategic Highway Safety Plan (SHSP) emphasis areas:

- Roadways – Intersection Related (46), Lane Departure (37)
- Road Users – Aging Road User (13), Commercial vehicle (29), Teen Driver (18)
- User Behavior – Distracted (16), Aggressive Driving (4); Occupant Protection (no restraint) (3)



Figure 10 – Crash Location and Frequency

Table 8 – Crash Summary by Year

S.R. 105 (Heckscher Dr) New Berlin Rd E to Blount Island Blvd		Years					5-Yr Total	Severe Crashes	Yearly Mean Crashes	%
		2020	2021	2022	2023	2024				
Crash Type	Animal	0	1	0	1	0	2	0	0.4	1.7%
	Angle	1	1	0	1	3	6	0	1.2	5.2%
	Head On	0	0	0	1	0	1	0	0.2	0.9%
	Left Turn	4	3	8	4	3	22	0	4.4	19.1%
	Off Road	1	2	1	0	1	5	0	1	4.3%
	Other	3	5	2	4	1	15	0	3	13.0%
	Rear End	5	4	10	13	10	42	0	8.4	36.5%
	Right Turn	0	0	0	1	0	1	0	0.2	0.9%
	Rollover	0	0	1	1	0	2	0	0.4	1.7%
	Sideswipe	2	2	6	3	6	19	0	3.8	16.5%
	Total	16	18	28	29	24	115	0	23.0	100%
Injury Severity	Fatal (Within 30 Days)	1	0	0	0	0	1	-	0.2	0.9%
	Incapacitating Injury	1	1	0	1	0	3	-	0.6	2.6%
	Non-Incapacitating Injury	2	2	4	2	2	12	-	2.4	10.4%
	Possible Injury	2	4	6	9	3	24	-	4.8	20.9%
	No Injury	10	11	18	17	19	75	-	15	65.2%
	Total	16	18	28	29	24	115	-	23.0	100%
Lighting Condition	Daylight	15	11	22	22	21	91	0	18.2	79.1%
	Dawn	0	1	1	1	1	4	0	0.8	3.5%
	Dusk	1	1	0	2	0	4	0	0.8	3.5%
	Dark - Lighted	0	4	2	1	2	9	0	1.8	7.8%
	Dark - Not Lighted	0	1	3	2	0	6	0	1.2	5.2%
	Dark - Unknown Lighting	0	0	0	1	0	1	0	0.2	0.9%
	Total	16	18	28	29	24	115	0	23.0	100%
Surface Condition	Dry	14	15	26	24	20	99	0	19.8	86.1%
	Wet	2	2	2	5	4	15	0	3	13.0%
	Sand	0	0	0	0	0	0	0	0	0.0%
	Unknown	0	1	0	0	0	1	0	0.2	0.9%
	Total	16	18	28	29	24	115	0	23.0	100%

Crash Data Source: Signal Four Analytics



Figure 11 – Crash Statistics

Examining crashes by time of day, as depicted in Figure 12 crashes are broadly spread throughout the day from 6 a.m. to 7 p.m., with notable peaks in crash frequency observed at 11 a.m., 3 p.m. and 5 p.m.

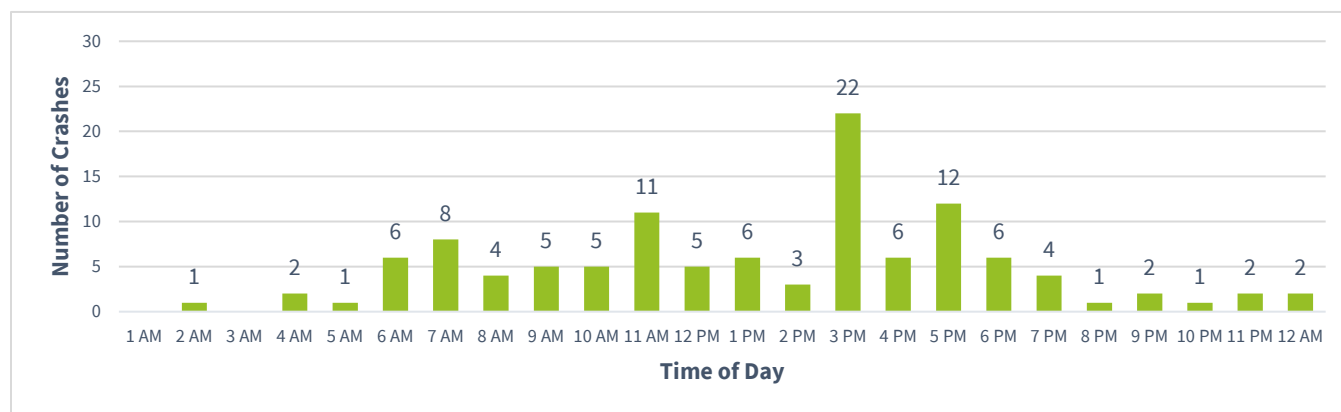


Figure 12 – Crashes by Time of Day

4.1 FATAL AND INCAPACITATING INJURY CRASHES

Benesch separately reviewed the circumstances of the crashes that resulted in serious injury or death (KSI crashes). There was one fatal and three incapacitating injury crashes, as depicted in Figure 10. A detailed summary is presented in Table 9, which also includes potential countermeasure recommendations to address the KSI crashes.

The fatal injury crash occurred on the S.R. 105 bridge over Nichols Creek. The crash occurred during daylight hours and under dry road conditions. An eastbound motorcyclist was riding at a high rate of speed and failed to negotiate a curve. The motorcycle traveled over the paved shoulder, struck the bridge barrier wall and became airborne. The motorcyclist and bike impacted the river embankment.

The following trends were identified with the incapacitating injury crashes.

- One rear-end, one off-road and one angle incapacitating injury crashes.
- All incapacitating injury crashes occurred in dry conditions.
- All incapacitating injury crashes involved eastbound at-fault drivers.
- Two of three incapacitating crashes occurred during daylight while the remaining one crash occurred at nighttime.
- Two of the three incapacitating crashes were caused by at-fault eastbound drivers running a red light at the New Berlin Road/Legend Lane intersection. The third resulted from a driver falling asleep and veering off the roadway.

4.2 PEDESTRIAN AND BICYCLIST CRASHES

The study identified no pedestrian or bicycle crashes in the area for the years examined.

Table 9 – Fatal and Incapacitating Crash Summary

Date	Crash Type	Injury Severity	Day, Time, Lighting, Road Conditions	Brief Summary	Potential Countermeasure ¹
2/22/2020	Off Road	Fatal	Saturday, 1:53 p.m., Daylight, Dry	V1 was EB on S.R. 105 at Nichols Creek, traveling at a high rate of speed, and failed to negotiate the left curve. The vehicle drifted into the outside travel lane, struck the outside concrete wall and vaulted off the bridge to the embankment below.	Consider profiled thermoplastic audible and vibratory treatment (AVT) on the edge lines.
2/24/2020	Rear End	Incapacitating Injury	Monday, 5:15 p.m., Daylight, Dry	V1 was EB on S.R. 105 at New Berlin Road/Legend Lane, ran a red light and rear-ended V2, which had just made a NB to EB right turn from Legend Lane.	Consider adding retroreflective backplates to the through signal heads. Consider an advance signal warning system if proper setback can be achieved or an auxiliary flashing beacon head on the mast arm.
3/19/2021	Off Road	Incapacitating Injury	Friday, 2:21 a.m., Dark – Lighted, Dry	V1 was WB on S.R. 105 at Blount Island Boulevard and fell asleep at the wheel. The vehicle left the roadway and struck a guardrail on the north side of the road.	Consider profiled thermoplastic audible and vibratory treatment (AVT) on the edge lines.
4/27/2023	Angle	Incapacitating Injury	Thursday, 7:49 a.m., Daylight, Dry	V2 was making a NB to WB left turn from Legend Lane. V1 was EB on S.R. 105, ran a red light at New Berlin Road/Legend Lane and struck V2 on the driver's side of the vehicle.	Consider adding retroreflective backplates to the through signal heads. Consider an advance signal warning system if proper setback can be achieved or an auxiliary flashing beacon head on the mast arm.

5 PUBLIC ENGAGEMENT

5.1 INTERAGENCY COORDINATION

In conjunction with the North Florida TPO, Benesch coordinated throughout the study with representatives from FDOT District 2 and JAXPORT. Benesch held a kick-off meeting February 12, 2025. Topics discussed include an introduction to the Benesch and Peters & Yaffee team, the scope of services and preliminary corridor improvement concepts.

In addition, JAXPORT provided input on ships in port to better coordinate field review with peak roadway demand. On the date selected, March 31st, 2025, the port's schedule indicated six inbound and outbound ships.

6 PLANNING CONCEPT DEVELOPMENT

Through the study request to examine grade separations at Blount Island, JAXPORT continues to plan for the long-term viability and enhancement of BIMT. Recent improvements include a \$72 million project to expand and modernize the SSA Jacksonville Container Terminal at BIMT, which enables the facility to accommodate more than 650,000 TEUs annually, a 150% increase over its current throughput. These improvements include:

- Upgraded terminal lighting
- Redesigned terminal gate system, with six inbound and six outbound truck lanes
- 97 acres of newly paved heavy duty asphalt to accommodate taller stacks of loaded containers, with the capability to further expand the terminal to 120 acres as needed

Current rail freight includes autos, military equipment and commodities such as wood pulp and high fructose corn syrup. JAXPORT is adding six additional rail spurs and expects one additional train per day for long term tenant Southeast Toyota.

The expected growth places increased demands on the two access points and the CSX rail crossing. As mentioned in Section 2.3, Current and Planned Projects, conceptual long term plans include a connection between the vacant SJRPP site and S.R. 105 at Blount Island Boulevard, forming the fourth leg of the intersection. A grade separation over the CSX rail crossing would enable the connection to BIMT and the ability to move containers freely between the sites by land or rail.

At Blount Island Boulevard, incoming eastbound vehicles have free flow movement from S.R. 105 to the BIMT terminal gates. Grade separation of the outbound movement would provide a similar operational benefit by eliminating the traffic signal at S.R. 105 eastbound/Dave Rawls Boulevard and the resulting start up delay and queues from slow moving freight vehicles.

6.1 2050 FUTURE TRAFFIC VOLUMES

To determine an annual growth rate, Benesch reviewed historic traffic count data, Northeast Florida Regional Planning Model (NERPM) volumes and the FDOT District 2 LOS Report for S.R. 105. Table 10 summarizes the various rates, with the calculations provided in Appendix F. Growth rates developed using historic traffic volumes and FDOT Trends software were discarded because of low R^2 values. NERPM data has a Base Year (2020) and Future Year (2050) and returns a compound annual growth rate (CAGR) of approximately 1.4%. The LOS Report CAGR ranges from 3% to 3.4%. The study recommended rate is 2.0% per year which is a blend of the calculated rates and engineering judgment.

A Design year of 2050 reflects a 25-year horizon. Future traffic volumes are calculated using the following equation:

$$F = E(1+gr)^n \text{ which is defined as } F \text{ (future traffic volume), } E \text{ (existing volume), } gr \text{ (growth rate), and } n \text{ (number of years)}$$

In the four-lane section of S.R. 105, an increase of approximately 13,500 VPD is projected in the next 25 years. As provided in Table 11, the 2050 daily volume is estimated at 33,468 VPD, which is equivalent to LOS C. Peak

hour traffic volumes will also operate at LOS C and 60% of MSV. In the two-lane section of S.R. 105, an increase of 5,926 VPD is projected in the next 25 years. The 2050 daily volume is estimated at 14,726 VPD, which is equivalent to LOS E. Peak hour traffic volumes will also operate at LOS E and 1.05% of MSV. The LOS is consistent with that projected in the District 2 LOS Reports.

Projected peak hour turning movement volumes on S.R. 105 at the study intersections are depicted Figure 13 through Figure 15.

Table 10 – Recommended Growth Rate

Method	Growth Rate				Recommended Rate
	S.R. 105, New Berlin Road to Dave Rawls Boulevard (Sta. 72-0146)		S.R. 105, Dave Rawls Boulevard to Clapboard Creek (Sta. 72-0174)		
	Rate	R ²	Rate	R ²	
NERPM	1.373%		1.436%		2.0%
FDOT Trends ¹					
Linear	0.97%	19.09%	0.82%	2.90%	
Exponential	0.94%	19.17%	0.80%	3.24%	
Decaying Exponential	1.11%	23.04%	1.51%	9.11%	
LOS Report (CAGR) ¹	3.06%		3.38%		

¹ All methods return an unacceptable R² value

² Compound annual growth rate

Table 11 – 2050 Traffic Volumes

Station Location	Year	LOS Std	MSV ^{1, 2}		AADT	Daily LOS	Peak Volume ³	Peak LOS
			Daily	Peak Hour				
S.R. 105, W. end of Carlos Creek Bridge (#72-0146)	2050	D	55,700	5,290	33,468	C	3,179	C
S.R. 105, W. end of Clapboard Creek Bridge (#72-0174)	2050	D	14,000	1,330	14,726	E	1,399	E

¹ FDOT 2023 Multimodal Quality/Level of Service Handbook, Generalized Service Volume Tables

² Maximum Service Volume

³ Planning analysis factor (K) = 0.095

6.2 NO BUILD

The "no-build" condition, or "no-action" alternative, serves as the baseline scenario. It provides a benchmark to compare the impacts and benefits of the "build" alternatives. Parameters associated with the No Build scenario include:

- Design year 2050
- Existing corridor typical section
- 2% annual growth in background traffic volumes

Table 12 summarizes the projected corridor intersection operations. Although no geometric improvements are contemplated in the No Build scenario, operational improvements at the intersection of S.R. 105 and Blount Island Boulevard include installing a traffic signal. At the west end of the corridor, the New Berlin Road/Legend Lane intersection produces an overall failing level of service in all three peak hours, with LOS E in the a.m. and p.m. peak hours and LOS F in the midday peak. The other intersections are projected to operate acceptably. The Synchro reports and intersection summary are included in Appendix G.

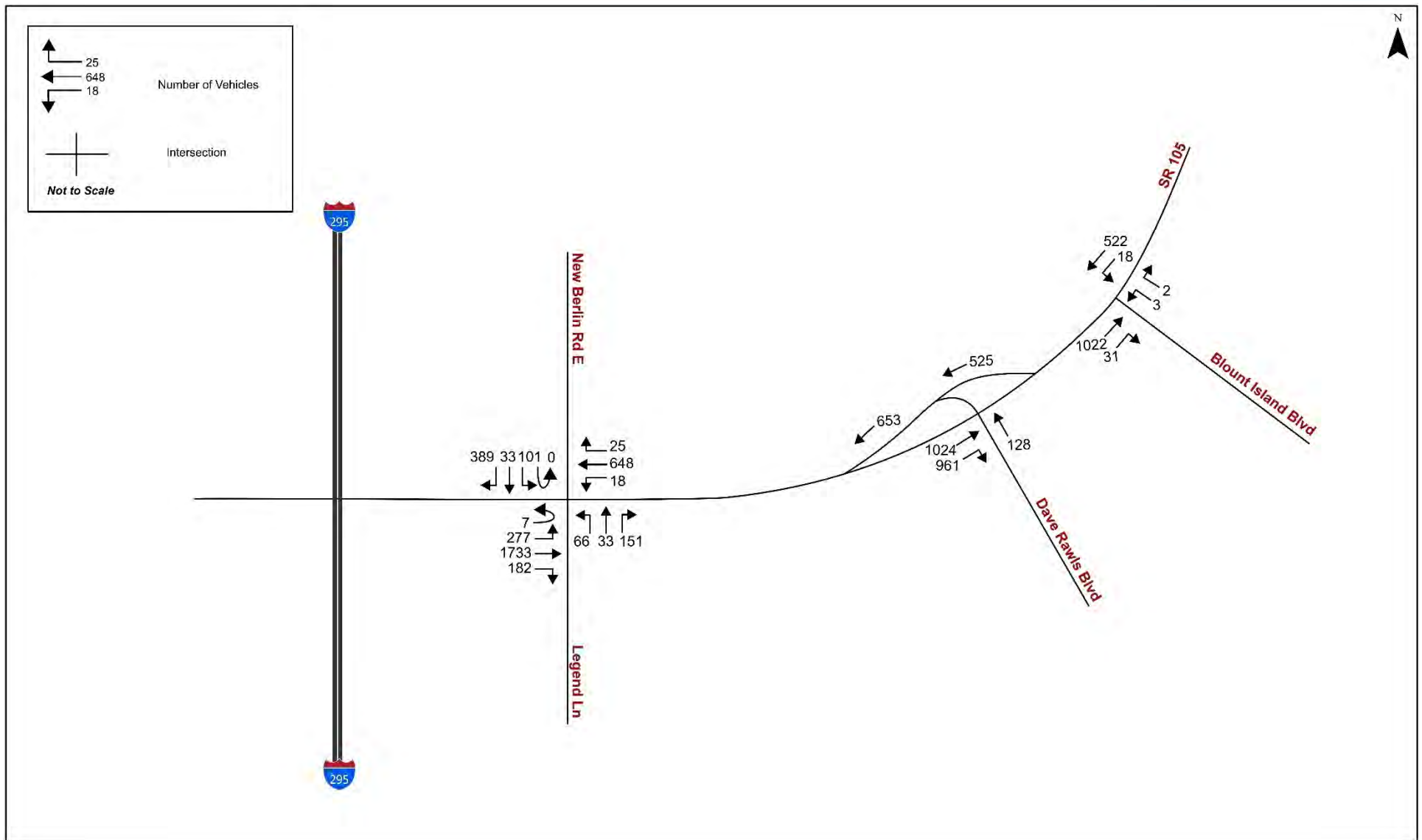


Figure 13 – 2050 Weekday A.M. Peak Hour Traffic Volumes

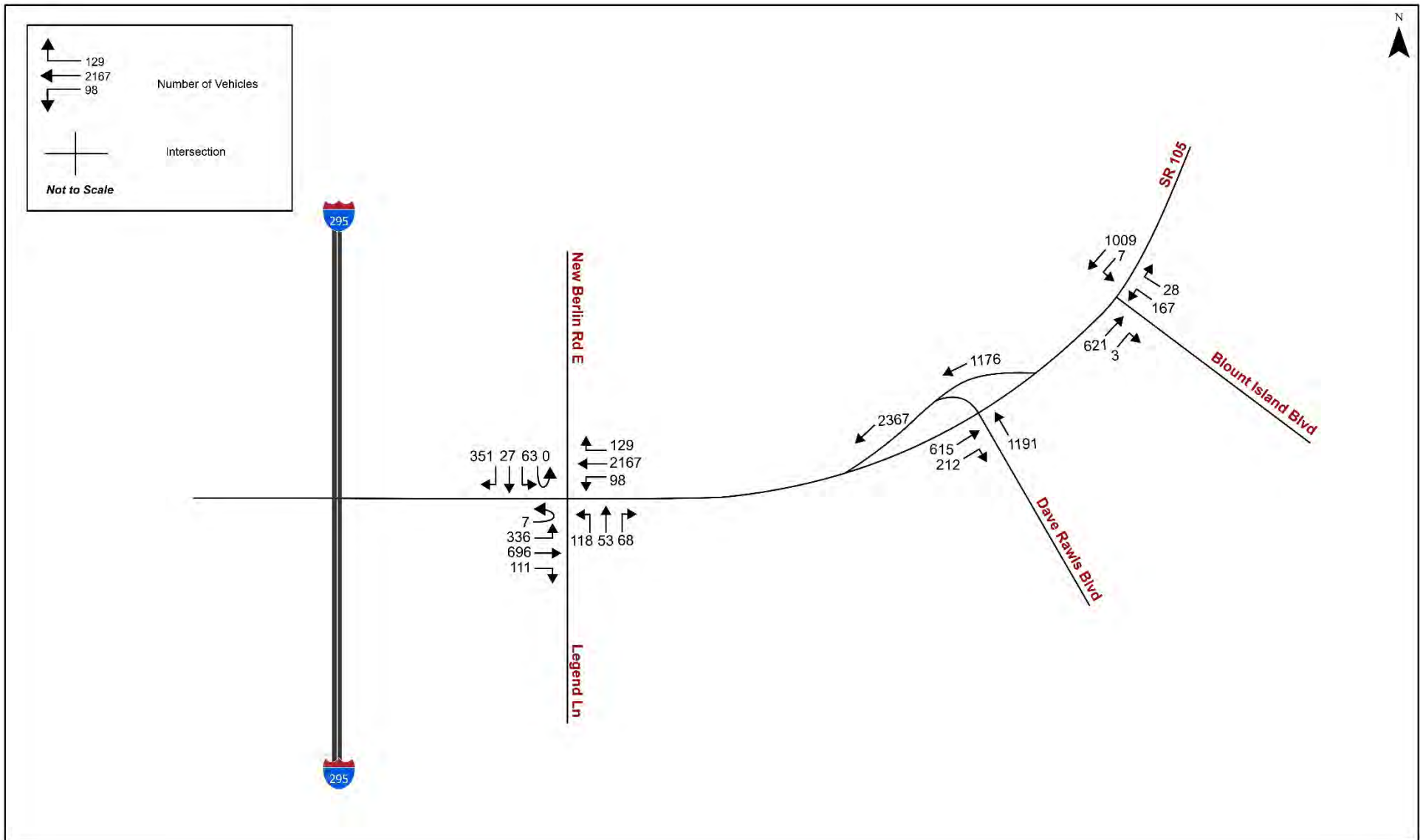


Figure 14 – 2050 Weekday Midday Peak Hour Traffic Volumes

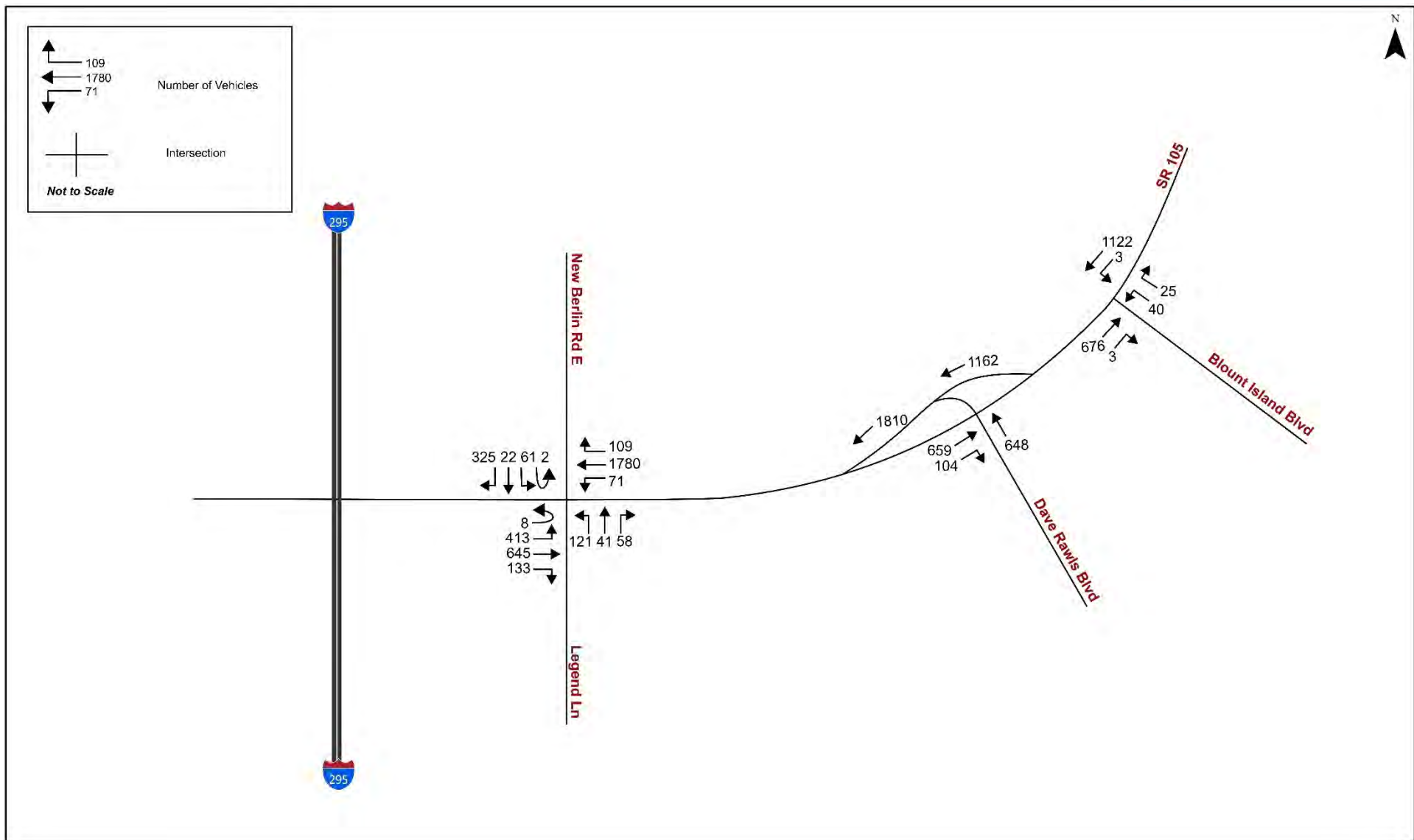


Figure 15 – 2050 Weekday P.M. Peak Hour Traffic Volumes

Table 12 – Intersection Operational Analysis (2050)

Intersection	Control Type	Approach/ Movement	A.M. Peak Hour		Midday Peak Hour		P.M. Peak Hour	
			LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
S.R. 105 at New Berlin Road East and Legend Lane	Signalized	Eastbound	F	85	E	73	F	88
		Westbound	C	31	F	134	D	36
		Northbound	B	12	E	57	D	51
		Southbound	C	25	F	205	F	87
		Intersection	E	61	F	120	E	59
S.R. 105 at Dave Rawls Boulevard	Signalized	Eastbound	B	11	E	58	C	23
		Northbound	C	26	C	23	C	23
		Intersection	B	12	D	38	C	23
S.R. 105 at Blount Island Boulevard	Signalized	Eastbound	B	12	A	8	A	5
		Westbound	A	4	C	23	B	15
		Northbound	C	29	C	34	C	28
		Southbound						
		Intersection	A	9	B	19	B	12

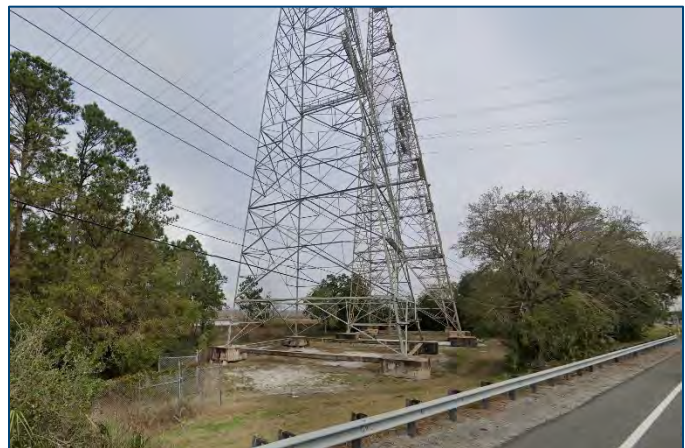
6.3 PLANNING CONCEPTS

Based on future growth at JAXPORT and their desire for improved freight connections and enhanced roadway and railroad safety, Benesch developed two planning concepts for S.R. 105.

- Single grade separation over the rail grade crossing
- Two grade separations that span both the rail and the S.R. 105 eastbound/Dave Rawls Boulevard intersection

Concept profile alignment and elevations are based on the contract plans for S.R. 105 Financial Project ID (FPID) 209336-5-52-01. Appendix H provides profile views of each grade separation concept. Physical, environmental and access management constraints considered during concept development include those listed below.

- High voltage transmission lines between Blount Island and the JEA Northside Generating Station. A triple row of pylons is supported by concrete footers offset about 30 feet north of S.R. 105 westbound at Dave Rawls Boulevard (~M.P. 7.279).
- JEA distribution lines along the north side of S.R. 105.
- Vehicle access onto Blount Island from the east, which is currently via Blount Island Boulevard.
- Access impacts to adjacent residential, commercial and educational properties.



High voltage transmission pylons on S.R. 105 westbound at Dave Rawls Boulevard.

Should a project move forward in the future, an FDOT PD&E study will review conceptual designs and potential impacts, including social, economic and environmental effects. Environmental impacts include proximity to the St. Johns River and waterways of Clapboard Creek, Browns Creek and the Timucuan Ecological and Historic Preserve.

In the short term, upgrades to the traffic signal and controller at S.R. 105 eastbound and Dave Rawls Boulevard could provide congestion relief and improve operations for vehicles and trucks exiting Blount Island via Dave Rawls Boulevard. When multiple ships are off-loading, typically early to midafternoon, trucks stack up on Dave Rawls Boulevard at the S.R. 105 signal. Update the timing so that trucks flush through the signal, minimizing start up delay and slow acceleration of trucks and potential queue spillback from the signal to the gate.

6.3.1 Design Standards

The typical section and concepts developed for this study generally follow the guidelines and standards listed below.

- FDOT Design Manual (FDM) and Standard Plans
- Manual on Uniform Traffic Control Devices (MUTCD)
- FDOT Traffic Engineering Manual (TEM)
- Minimum Standards for Design, Construction, and Maintenance Streets and Highways (AASHTO Greenbook)

6.3.2 Typical Section

The proposed bridge alignment for a grade separation is positioned north of the existing S.R. 105 roadbed. Figure 16 depicts the typical section for both concepts. The bridge consists of two 12 LF travel lanes, two 10 LF outside shoulders and concrete barrier wall, supported by a retaining wall. An at grade two-lane access road extends east from Dave Rawls Boulevard along the south side of the new bridge. The typical section requires an additional 50 LF ROW on the north side and is positioned to avoid impacting the three high voltage transmission towers.



Looking west at S.R. 105. In the image, the Blount Island Boulevard intersection is on the left (south) and the Marathon Stop N Go convenience store is on the right (north).

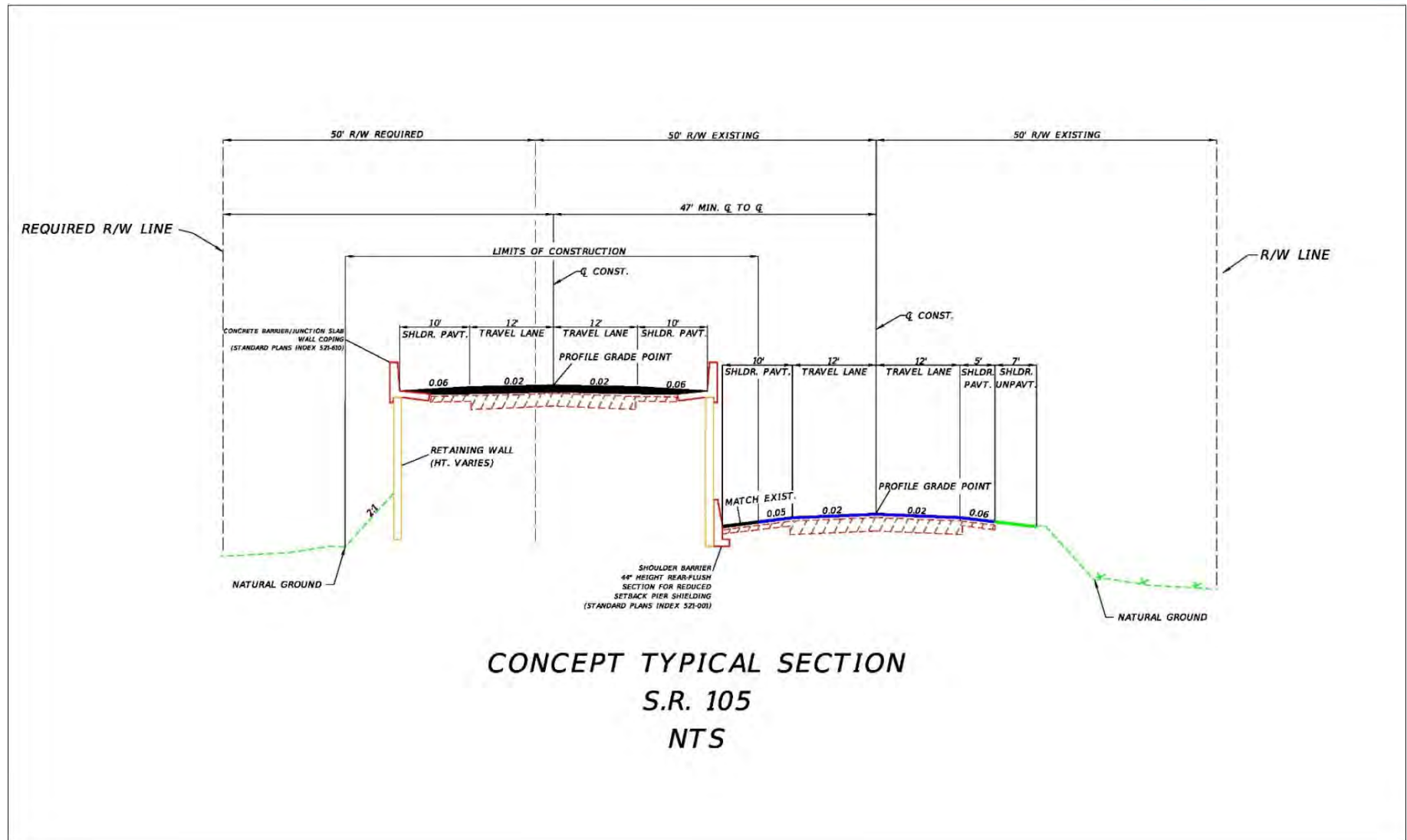


Figure 16 – Typical Section

6.3.3 Single Grade Separation

Elevating mainline S.R. 105 over the rail crossing offers multiple operational, safety and economic benefits. At a minimum, traffic delays and queuing during blockages are eliminated. Safety is improved both at the rail crossing and at the Blount Island Boulevard intersection by eliminating conflicts. A future connection to SJRPP, as the north leg of the Blount Island Boulevard, may one day expand the operational footprint of JAXPORT.

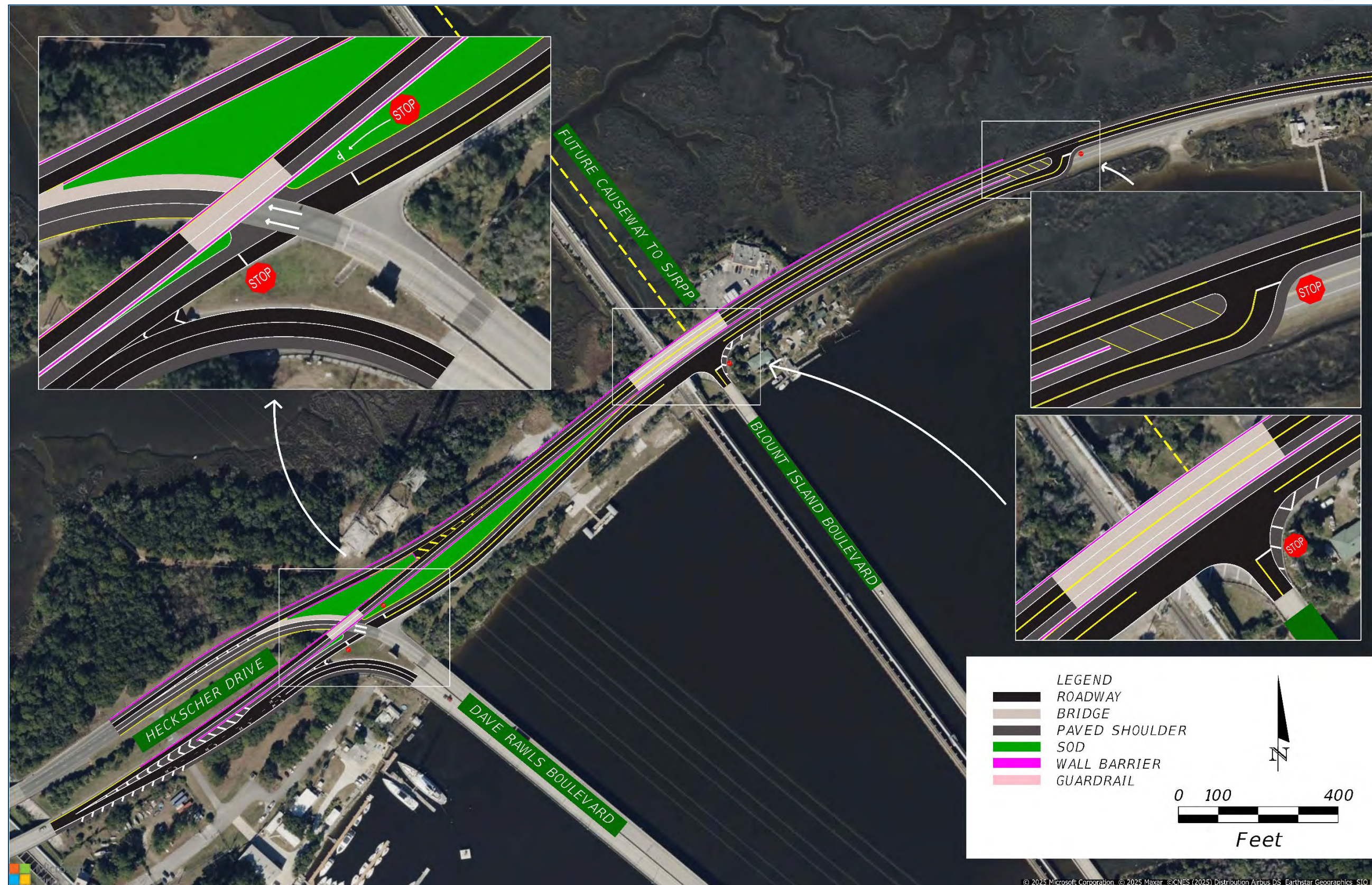
The concept depicted in Figure 17 lays out a structure that beginning at Dave Rawls Boulevard elevates S.R. 105 as an undivided two-lane road across the rail line and Blount Island Boulevard. The bridge touches back down to grade about 1,600 LF east of the rail line. The existing S.R. 105 eastbound alignment is repurposed as an access road to Blount Island Boulevard and surrounding properties which formerly had a direct connection to S.R. 105. The access road ties into Dave Rawls Boulevard on the west, south of the existing signal, and ends in a cul de sac 330 feet east of Blount Island Boulevard.

6.3.4 Two Grade Separations

Benesch developed a second design alternative for JAXPORT/Blount Island access which adds a grade separation of S.R. 105 eastbound over Dave Rawls Boulevard. The concept is depicted in Figure 18. In addition to the benefits associated with the rail grade separation in Concept 1, Concept 2 provides improved operations at the S.R. 105 eastbound/Dave Rawls Boulevard intersection by allowing free flow movements out of the port. Property access impacts are mitigated by an access road which extends from Dave Rawls Boulevard to east of Blount Island Boulevard, terminating in a new T-intersection with S.R. 105.



Figure 17 – Single Grade Separation



6.4 ADJACENT PROPERTY ACCESS IMPACTS

Within the range of the targeted improvement area, the existing S.R. 105 corridor serves properties owned by JEA, JAXPORT and multiple other independent agencies, residents and businesses. These properties as well as Blount Island Boulevard currently have direct access to S.R. 105. By introducing a grade separation, access to some properties will be modified or lost. To mitigate, Benesch considered two access road options to retain a high level of directional access for impacted properties while also introducing grade separation to the corridor.

Both concepts include an access road extending from Dave Rawls Boulevard to east of Blount Island Boulevard. Concept 1 terminates the access road into a cul de sac. Concept 2 introduces a new T-intersection with S.R. 105. The eastern termination point is interchangeable between the grade separation concepts.

Appendix I includes a summary of impacted parcels. Concept 1 (Single Grade Separation) potentially impacts access to 22 parcels, most of which are owned by JAXPORT, JEA and the National Park Service. Four parcels are in private ownership. Impacted properties on the south side of S.R. 105, including JAXPORT Gate 1 and dock (4916 Heckscher Drive) are reached via the new access road to Dave Rawls Boulevard and S.R. 105. Most significantly on the north side, the Marathon Gas Station at S.R. 105 and Blount Island Boulevard is a total acquisition to construct the concepts.

Concept 2 (Two Grade Separations) potentially impacts access to 31 parcels, including the Safe Harbor Boys Home and Maritime Academy enclave. As with Concept 1, most impacted parcels are owned by JAXPORT, JEA and the National Park Service. Five parcels are in private ownership and two additional parcels are owned by the non-profit group The Nature Conservancy. Property access along Safe Harbor Way will be limited to only from the east, potentially necessitating U-turns at Dave Rawls Boulevard and Orahod Lane. East of Dave Rawls Boulevard, the access road provides two options for impacted properties on the south side of S.R. 105, an improvement over the cul de sac option shown in Concept 1. The Marathon Gas Station remains a total acquisition.

6.5 IMPROVEMENT COSTS

Benesch developed a high level summary of construction costs for the two improvement options, which are summarized in Table 13 with the worksheets provided in Appendix J. Costs estimates are based on the concept plans and will be refined in the PD&E process to consider further engineering feasibility and design, access impacts and ROW acquisition, environmental mitigation and permitting, and utility relocation.

Concept 1, which provides for a single grade separation over the rail line and Blount Island Boulevard, is estimated to cost approximately \$16.5 million to construct with an overall cost of \$23.6 million. Concept 2, which also includes grade separation over the Dave Rawls Boulevard intersection, is estimated to cost approximately \$22.1 million to construct with an overall cost of \$31.6 million. For both options, the cost of environmental mitigation and ROW impacts and acquisition will be determined during the PD&E process.

In the short term, operational improvements to adaptive traffic signal control at S.R. 105 and Dave Rawls Boulevard will address peak congestion from Blount Island at a significantly lower cost.

Table 13 – Estimated Improvement Costs^{1, 2, 3}

Description	Percentage	Concept 1	Concept 2
Roadway		\$10,406,776	\$14,348,294
Bridge		\$2,561,000	\$3,058,668
Subtotal		\$12,967,776	\$17,406,962
Signing and Pavement Marking	2%	\$259,356	\$348,140
Maintenance of Traffic	15%	\$1,945,167	\$2,611,045
Mobilization	10%	\$1,296,778	\$1,740,697
Construction Subtotal		\$16,469,075	\$22,106,841
CEI (15% Construction Subtotal)	15%	\$2,470,362	\$3,316,027
PE (15% Construction Subtotal)	15%	\$2,470,362	\$3,316,027
Right of Way/Environmental Mitigation		TBD	TBD
Contingency (10% Entire Subtotal)	10%	\$2,140,980	\$2,873,890
PROJECT TOTAL		\$23,550,000	\$31,610,000

¹ Slight variations in totals due to rounding

² FDOT Market Area 5 (Duval County) and Statewide Moving Averages

³ ROW acquisition, environmental mitigation and permitting, and utility relocation costs will be addressed at the PD&E stage

7 SUMMARY

Based on a study request from JAXPORT, the North Florida TPO and its consultant, Benesch, examined the segment of S.R. 105 from west of New Berlin Road East to east of Blount Island Boulevard. The study reviews existing congestion and access management issues and identifies strategies to improve the safety and performance of the corridor. Recommended improvement options include 1) a single grade separation over the rail line and Blount Island Boulevard and 2) two grade separations which span over the railroad as well as the S.R. 105 eastbound and Dave Rawls Boulevard intersection. Benefits of the rail grade separation include:

- Nearly unimpeded rail operations on and off Blount Island
- Eliminated operational constraints and FRA crossing blockages for the rail line
- Improved timing of deliveries to BIMT
- Expansion potential via causeway between Blount Island Boulevard and SJRPP

In addition to the benefits of Concept 1, the second span in Concept 2 improves operations at the S.R. 105 eastbound/Dave Rawls Boulevard intersection. Eliminating the existing traffic signal allows free flow movements out of the port and minimizes start up delay and slow acceleration of trucks and potential queue spillback from the signal to the gate.

Concept 1 is estimated to cost \$23.6 million, not inclusive of environmental mitigation and ROW acquisition and impacts. Concept 2, while a greater cost to construct at \$31.6 million, also provides unimpeded egress from Blount Island and will improve traffic operations more than Concept 1.

Further evaluation of recommendations requires survey, utility and environmental data to more definitively assess impacts and costs. Should a project move forward in the future, an FDOT PD&E study will review conceptual designs and potential impacts, including social, economic and environmental effects. Environmental impacts include proximity to the St. Johns River and waterways of Clapboard Creek, Browns Creek and the Timucuan Ecological and Historic Preserve.

In the short term, upgrades to the traffic signal and controller at the S.R. 105 eastbound and Dave Rawls Boulevard intersection could provide congestion relief and improve operations for a significantly lower cost.

APPENDICES

APPENDIX A

S.R. 105 Straight Line Diagram

APPENDIX B

Generalized Service Volume Tables

LOS Reports

C1 & C2

Motor Vehicle Highway Generalized Service Volume Tables



Peak Hour Directional

	B	C	D	E
1 Lane	240	430	730	1,490
2 Lane	1,670	2,390	2,910	3,340
3 Lane	2,510	3,570	4,370	5,010

Peak Hour Two-Way

	B	C	D	E
2 Lane	440	780	1,330	2,710
4 Lane	3,040	4,350	5,290	6,070
6 Lane	4,560	6,490	7,950	9,110

AADT

	B	C	D	E
2 Lane	4,600	8,200	14,000	28,500
4 Lane	32,000	45,800	55,700	63,900
6 Lane	48,000	68,300	83,700	95,900

Adjustment Factors

2 Lane Divided Roadway with Exclusive Left Turn Adjustment: Multiply by 1.05
 Multilane Undivided Highway with Exclusive Left Turn Adjustment: Multiply by 0.95
 Multilane Undivided Highway without Exclusive Left Turn Adjustment:: Multiply by 0.75

C1 & C2

Motor Vehicle Highway Generalized Service Volume Tables

Input Parameters

Roadway Characteristics

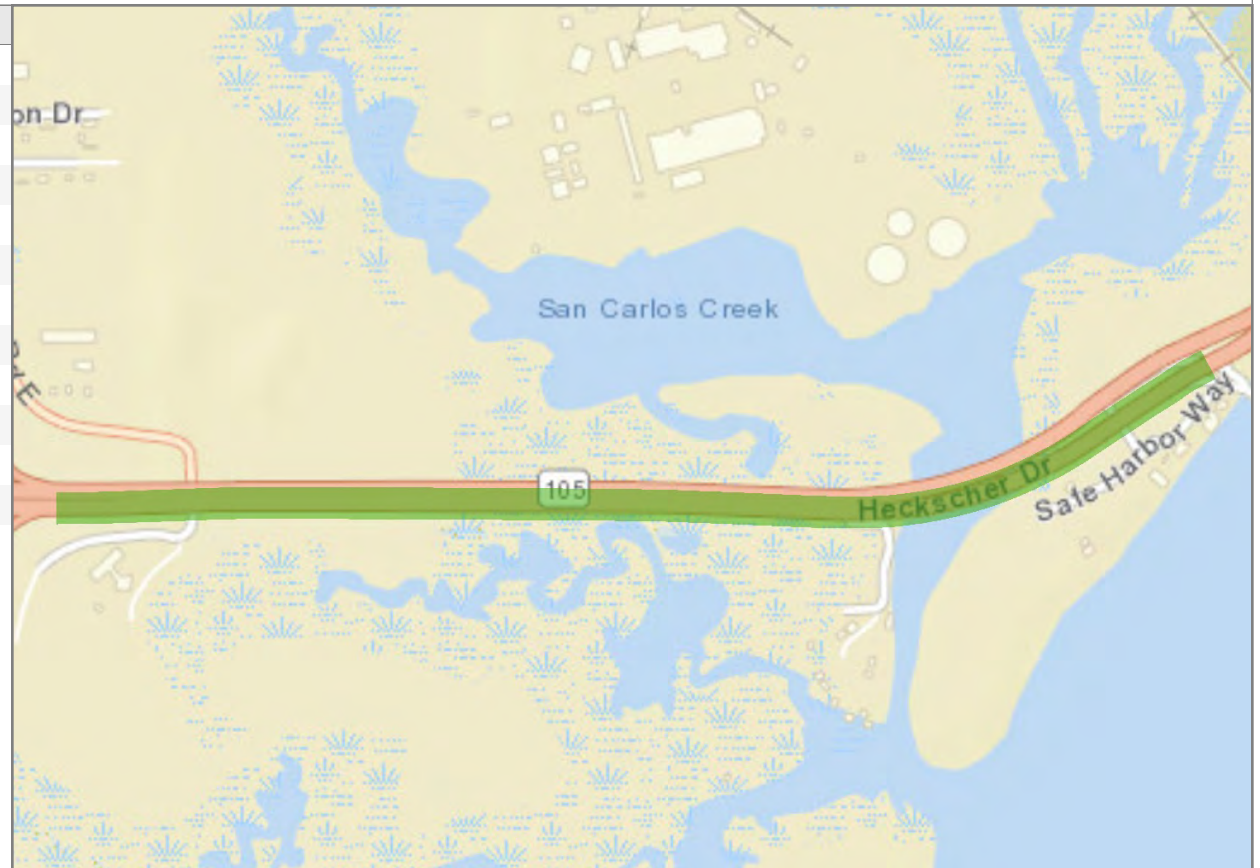
	C1	C2
Number of Lanes (one direction)	1	2-3
Posted Speed (mph)	55	55
Base Free Flow Speed (mph)	60	60
Median Type	Undivided	Divided
Shoulder Width (feet)	3	6
Lane Width (feet)	12	12
% No Passing Zone	20%	
Access-Point Density (access/mile)	2	2
Terrain	Level	Level

Traffic Characteristics

	C1	C2
Planning Analysis Hour Factor (K)	0.095	0.095
Directional Distribution Factor (D)	0.55	0.55
Peak Hour Factor (PHF)	0.88	0.88
Heavy Vehicle Percent (%)	5%	10%
Speed Adjustment Factor (SAF)	0.975	0.975
Capacity Adjustment Factor (CAF)	0.968	0.968

SR-105 / Heckscher Dr, RCI MP 6.136-7.278, Duval County

Attribute	Value
Segment ID:	21226
Segment Length (miles):	1.141 mi
County:	Duval
Roadway ID:	72250000
Begin MP:	6.136
End MP:	7.278
SHS System:	On-System
SIS Status:	Existing SIS
SIS Type:	SIS Connector
Standard K-Factor:	9.0
LOS Target:	D
Growth Rate:	4.3%



Data Sources: RCI; TCI; NERPM AB; GUATS; FLSWM

Google Street View:

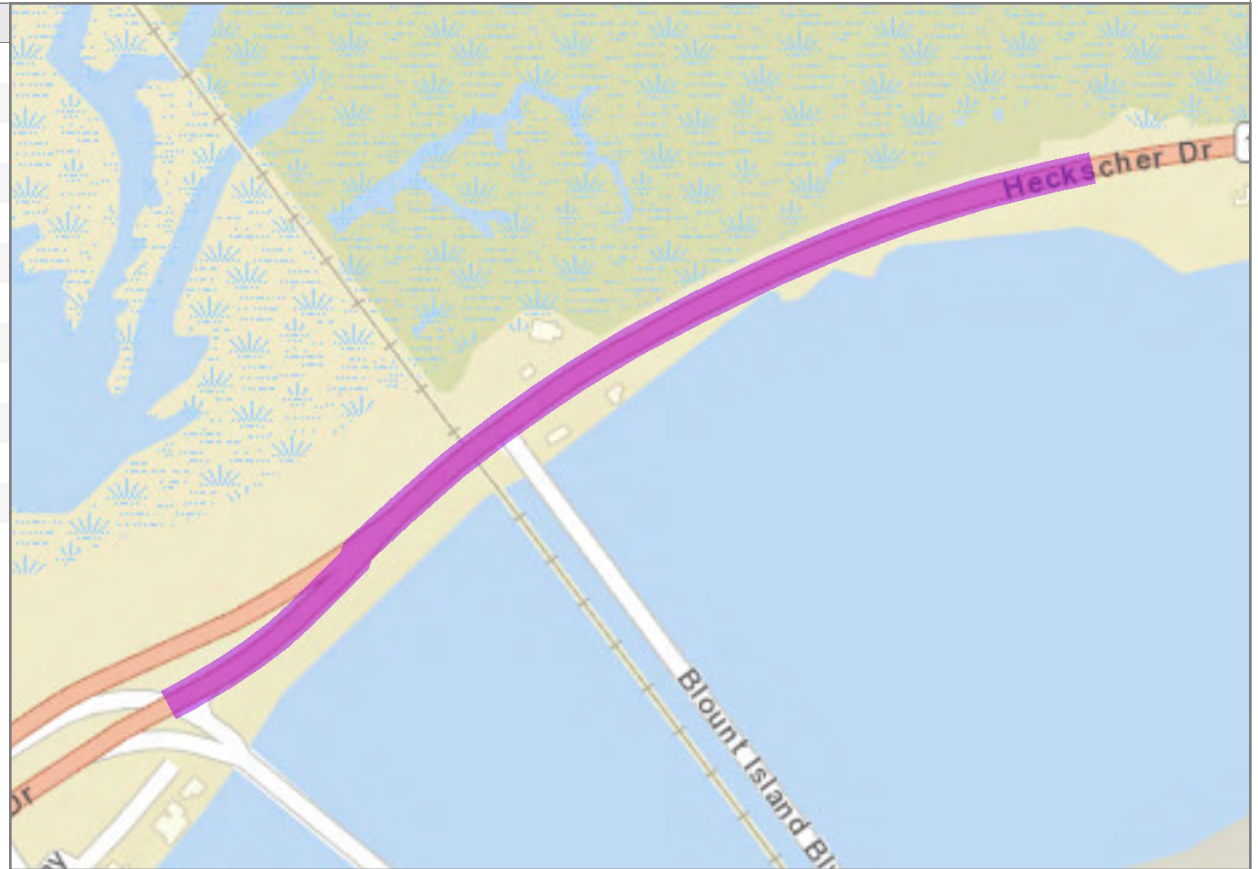
<http://maps.google.com/maps?q=30.4120341490002,-81.5534041806819>

Projected Values	2023	2029	2035	2040	2045
Number of Lanes	4	4	4	4	4
Context Classification	SDC2	SDC2	SDC2	SDC2	SDC2
AADT	19,100	24,009	28,918	33,009	37,100
Peak Hour Traffic Volume	1,719	2,161	2,603	2,971	3,339
Peak Hour Maximum Service Volume	5,290	5,290	5,290	5,290	5,290
Peak Hour LOS	B	B	B	B	C

Notes:

SR-105 / Heckscher Dr, RCI MP 7.278-7.8, Duval County

Attribute	Value
Segment ID:	21227
Segment Length (miles):	0.522 mi
County:	Duval
Roadway ID:	72250000
Begin MP:	7.278
End MP:	7.800
SHS System:	On-System
SIS Status:	Not SIS
SIS Type:	Not SIS
Standard K-Factor:	9.0
LOS Target:	D
Growth Rate:	4.9%



Data Sources: RCI; TCI; NERPM AB; GUATS; FLSWM

Google Street View:

<http://maps.google.com/maps?q=30.4163315453052,-81.5410463345337>

Projected Values	2023	2029	2035	2040	2045
Number of Lanes	2	2	2	2	2
Context Classification	SDC2	SDC2	SDC2	SDC2	SDC2
AADT	8,800	11,391	13,982	16,141	18,300
Peak Hour Traffic Volume	792	1,025	1,258	1,453	1,647
Peak Hour Maximum Service Volume	1,330	1,330	1,330	1,330	1,330
Peak Hour LOS	D	D	D	E	E

Notes:

APPENDIX C

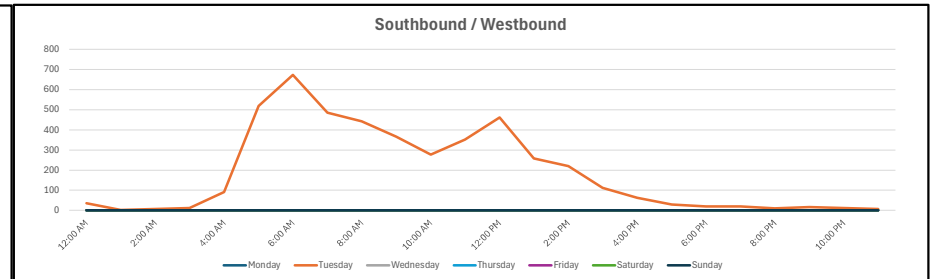
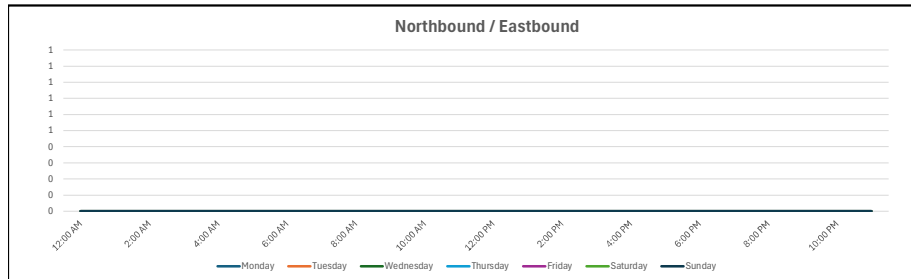
Traffic Count Data

Vehicle Volume Report - Hourly



Site Description: HECKSCHER DRIVE to SB DAVE RAWLS BLVD
 Site Number: 1
 Start Date: 2/4/2025
 End Date: 2/4/2025

Time	Monday			Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			3 Day Avg		5 Day Avg		7 Day Avg	
	2/3/25			2/4/25			2/5/25			2/6/25			2/7/25			2/8/25			2/9/25			Tue-Thu		Mon-Fri		Mon-Sun	
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	NB	SB	NB	SB
12:00 AM	-	-	-	-	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1:00 AM	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2:00 AM	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3:00 AM	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4:00 AM	-	-	-	-	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5:00 AM	-	-	-	-	519	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6:00 AM	-	-	-	-	673	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7:00 AM	-	-	-	-	485	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8:00 AM	-	-	-	-	442	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9:00 AM	-	-	-	-	366	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10:00 AM	-	-	-	-	277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11:00 AM	-	-	-	-	352	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12:00 PM	-	-	-	-	461	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1:00 PM	-	-	-	-	258	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2:00 PM	-	-	-	-	220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3:00 PM	-	-	-	-	112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4:00 PM	-	-	-	-	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5:00 PM	-	-	-	-	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6:00 PM	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7:00 PM	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8:00 PM	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9:00 PM	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10:00 PM	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11:00 PM	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6:00 AM - 9:00 AM	-	-	-	-	1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3:00 PM - 6:00 PM	-	-	-	-	204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6:00 AM - 7:00 PM	-	-	-	-	3758	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12:00 AM - 12:00 AM	-	-	-	-	4491	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
AM Peak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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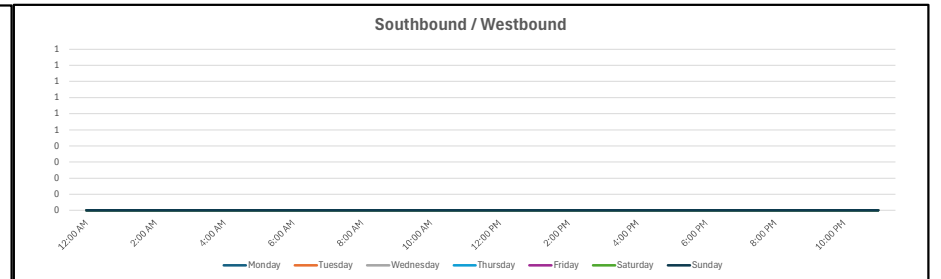
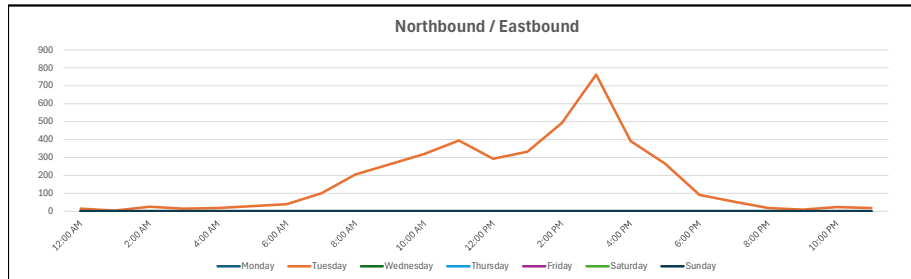


Vehicle Volume Report - Hourly



Site Description: DAVE RAWLS BLVD NB to WB HECKSCHER DRIVE
 Site Number: 2
 Start Date: 2/4/2025
 End Date: 2/4/2025

Time	Monday			Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			3 Day Avg		5 Day Avg		7 Day Avg	
	2/3/25			2/4/25			2/5/25			2/6/25			2/7/25			2/8/25			2/9/25			Tue-Thu		Mon-Fri		Mon-Sun	
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	NB	SB	NB	SB
12:00 AM	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 AM	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 AM	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 AM	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 AM	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5:00 AM	-	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM	-	-	-	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	-	-	-	101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:00 AM	-	-	-	206	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:00 AM	-	-	-	263	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00 AM	-	-	-	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	-	-	-	395	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	-	-	-	293	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 PM	-	-	-	332	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	-	-	-	493	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	-	-	-	763	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	-	-	-	391	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5:00 PM	-	-	-	266	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 PM	-	-	-	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 PM	-	-	-	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:00 PM	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:00 PM	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00 PM	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 PM	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM - 9:00 AM	-	-	-	346	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM - 6:00 PM	-	-	-	1420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM - 7:00 PM	-	-	-	3953	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 AM - 12:00 AM	-	-	-	4177	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AM Peak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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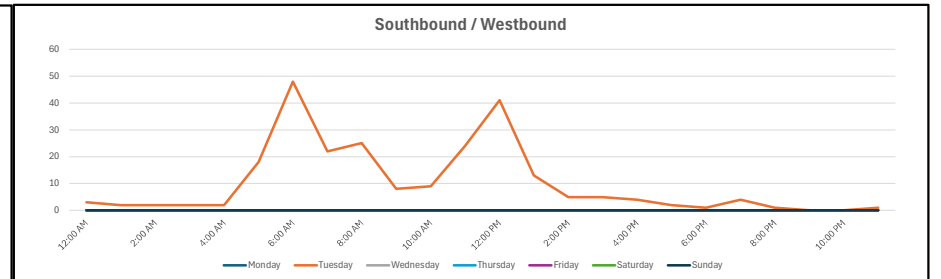
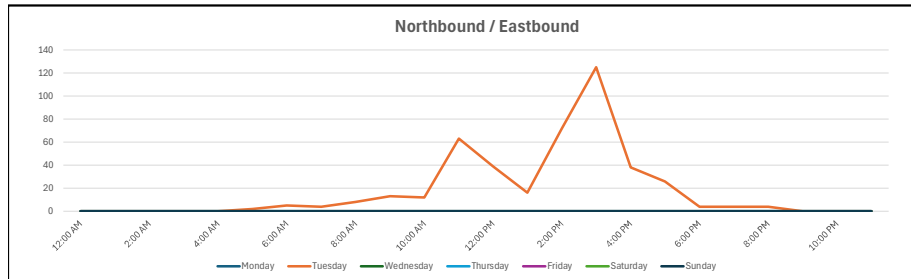


Vehicle Volume Report - Hourly



Site Description: BLOUNT ISLAND BLVD South of BRIDGE
 Site Number: 3
 Start Date: 2/4/2025
 End Date: 2/4/2025

Time	Monday			Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			3 Day Avg		5 Day Avg		7 Day Avg	
	2/3/25			2/4/25			2/5/25			2/6/25			2/7/25			2/8/25			2/9/25			Tue-Thu		Mon-Fri		Mon-Sun	
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	NB	SB	NB	SB
12:00 AM	-	-	-	0	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 AM	-	-	-	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 AM	-	-	-	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 AM	-	-	-	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 AM	-	-	-	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5:00 AM	-	-	-	2	18	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM	-	-	-	5	48	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	-	-	-	4	22	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:00 AM	-	-	-	8	25	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:00 AM	-	-	-	13	8	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00 AM	-	-	-	12	9	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	-	-	-	63	24	87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	-	-	-	39	41	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 PM	-	-	-	16	13	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	-	-	-	72	5	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	-	-	-	125	5	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	-	-	-	38	4	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5:00 PM	-	-	-	26	2	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 PM	-	-	-	4	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 PM	-	-	-	4	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:00 PM	-	-	-	4	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:00 PM	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00 PM	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 PM	-	-	-	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM - 9:00 AM	-	-	-	17	95	112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM - 6:00 PM	-	-	-	189	11	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM - 7:00 PM	-	-	-	425	207	632	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 AM - 12:00 AM	-	-	-	435	242	677	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent	-	-	-	64.3%	35.7%	100.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AM Peak	-	-	-	11:00 AM	12:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PM Peak	-	-	-	3:00 PM	4:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

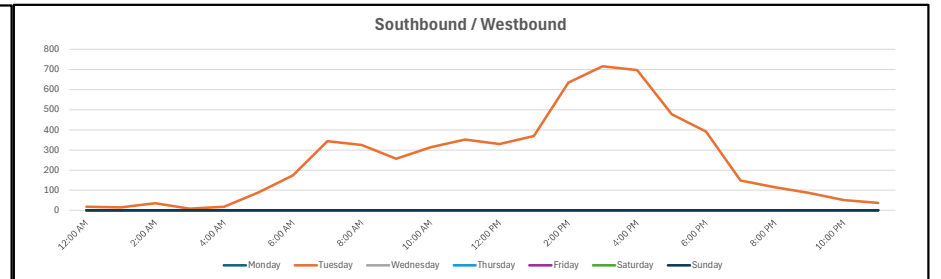
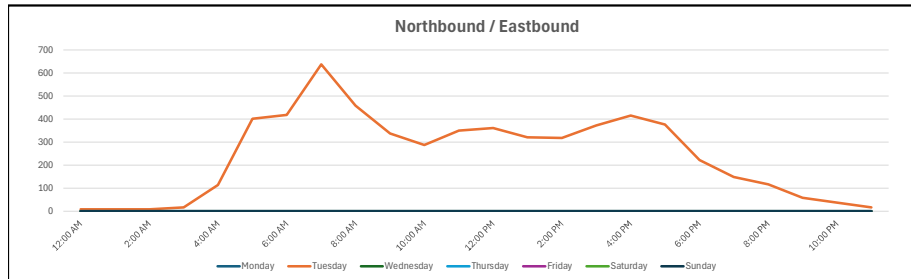


Vehicle Volume Report - Hourly



Site Description: HECKSCHER DRIVE (SR 105) West of BLOUNT ISLAND BLVD
 Site Number: 4
 Start Date: 2/4/2025
 End Date: 2/4/2025

Time	Monday			Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			3 Day Avg		5 Day Avg		7 Day Avg	
	2/3/25			2/4/25			2/5/25			2/6/25			2/7/25			2/8/25			2/9/25			Tue-Thu		Mon-Fri		Mon-Sun	
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	EB	WB	EB	WB
12:00 AM	-	-	-	8	18	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 AM	-	-	-	8	15	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 AM	-	-	-	8	36	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 AM	-	-	-	17	9	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 AM	-	-	-	114	19	133	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5:00 AM	-	-	-	401	90	491	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM	-	-	-	418	174	592	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	-	-	-	637	343	980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:00 AM	-	-	-	459	325	784	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:00 AM	-	-	-	337	257	594	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00 AM	-	-	-	288	313	601	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	-	-	-	350	352	702	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	-	-	-	361	329	690	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 PM	-	-	-	321	369	690	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	-	-	-	318	635	953	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	-	-	-	372	715	1087	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	-	-	-	416	696	1112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5:00 PM	-	-	-	377	477	854	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 PM	-	-	-	222	391	613	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 PM	-	-	-	148	149	297	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:00 PM	-	-	-	117	114	231	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:00 PM	-	-	-	58	87	145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00 PM	-	-	-	37	51	88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 PM	-	-	-	17	37	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM - 9:00 AM	-	-	-	1514	842	2356	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM - 6:00 PM	-	-	-	1165	1888	3053	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM - 7:00 PM	-	-	-	4876	5376	10252	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 AM - 12:00 AM	-	-	-	5809	6001	11810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent	-	-	-	49.2%	50.8%	100.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AM Peak	-	-		7:00 AM	8:00 AM		-	-		-	-		-	-		-	-		-	-		-	-				
PM Peak	-	-		4:00 PM	5:00 PM		-	-		-	-		-	-		-	-		-	-		-	-				





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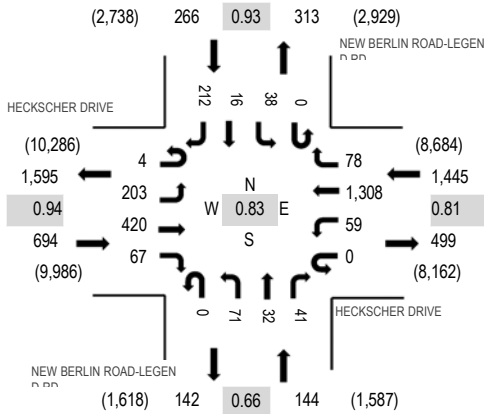
Location: 1 NEW BERLIN ROAD-LEGEND RD & HECKSCHER DRIVE AM

Date: Tuesday, February 4, 2025

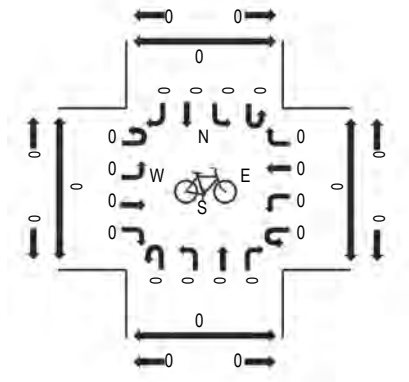
Peak Hour: 02:45 PM - 03:45 PM

Peak 15-Minutes: 03:30 PM - 03:45 PM

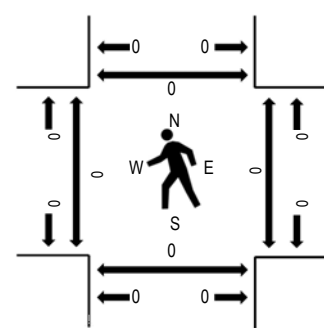
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	HECKSCHER DRIVE Eastbound				HECKSCHER DRIVE Westbound				NEW BERLIN ROAD- LEGEND RD Eastbound				NEW BERLIN ROAD- LEGEND RD Westbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
6:00 AM	1	20	151	24	0	10	47	0	0	10	3	11	0	7	3	37	324	1,899	0	0	0	0
6:15 AM	0	45	222	29	0	4	62	1	0	12	2	13	0	14	4	59	467	2,094	0	0	0	0
6:30 AM	0	38	278	54	0	3	52	2	0	10	7	35	0	17	4	43	543	2,207	0	0	0	0
6:45 AM	1	43	267	33	0	1	69	1	0	15	8	42	0	22	9	54	565	2,211	0	0	0	0
7:00 AM	0	33	264	25	0	2	94	2	0	7	3	15	0	13	2	59	519	2,177	0	0	0	0
7:15 AM	1	40	292	18	0	2	108	7	0	6	6	18	0	12	4	66	580	2,176	0	0	0	0
7:30 AM	2	51	223	34	0	6	120	5	0	12	3	16	0	14	5	56	547	2,051	0	0	0	0
7:45 AM	2	66	216	29	0	3	98	9	0	13	5	18	0	10	2	60	531	2,021	0	0	0	0
8:00 AM	0	48	206	19	0	5	114	12	0	21	6	17	0	13	11	46	518	1,937	0	0	0	0
8:15 AM	2	51	171	18	0	3	126	4	0	11	4	5	0	11	3	46	455	1,830	0	0	0	0
8:30 AM	1	58	176	33	0	6	119	7	0	12	4	19	0	27	6	49	517	1,772	0	0	0	0
8:45 AM	0	30	176	23	0	3	102	12	0	16	8	27	0	15	4	31	447	1,642	0	0	0	0
9:00 AM	0	32	155	30	0	4	107	13	0	12	6	12	0	12	1	27	411	1,576	0	0	0	0
9:15 AM	1	54	146	16	0	6	90	12	0	13	2	10	0	16	2	29	397	1,545	0	0	0	0
9:30 AM	2	37	133	12	0	7	120	5	0	9	4	7	0	14	5	32	387	1,519	0	0	0	0
9:45 AM	0	36	146	18	0	7	97	9	0	11	6	11	0	10	5	25	381	1,518	0	0	0	0
10:00 AM	1	31	104	18	0	1	134	16	0	15	3	11	0	8	5	33	380	1,532	0	0	0	0
10:15 AM	0	25	112	13	0	5	133	10	0	10	1	7	0	18	5	32	371	1,615	0	0	0	0
10:30 AM	0	30	113	17	0	3	135	10	0	10	3	14	0	10	5	36	386	1,704	0	0	0	0
10:45 AM	2	25	116	15	0	10	151	13	0	14	4	6	0	12	7	20	395	1,763	0	0	0	0
11:00 AM	1	29	133	18	0	13	158	18	0	13	8	18	0	8	8	38	463	1,825	0	0	0	0
11:15 AM	2	29	137	23	0	7	153	13	0	15	3	17	0	17	6	38	460	1,825	0	0	0	0
11:30 AM	0	21	144	13	0	21	145	12	0	18	4	17	0	11	9	30	445	1,809	0	0	0	0
11:45 AM	1	27	131	17	0	22	165	27	0	9	4	16	0	10	3	25	457	1,849	0	0	0	0
12:00 PM	6	35	126	13	0	22	152	17	0	15	4	28	0	18	8	19	463	1,802	0	0	0	0
12:15 PM	0	32	163	22	0	12	121	7	0	10	7	20	0	20	6	24	444	1,738	0	0	0	0
12:30 PM	2	37	200	24	0	12	106	8	0	12	3	30	0	19	3	29	485	1,759	0	0	0	0
12:45 PM	0	36	147	13	0	11	118	15	0	12	5	16	0	9	5	23	410	1,700	0	0	0	0
1:00 PM	1	29	107	18	0	8	137	23	0	12	3	11	0	15	6	29	399	1,702	0	0	0	0
1:15 PM	0	47	117	24	0	6	162	13	0	19	6	17	0	14	8	32	465	1,736	0	0	0	0
1:30 PM	2	25	111	16	0	11	151	24	0	13	4	19	0	14	5	31	426	1,726	0	0	0	0
1:45 PM	2	50	119	10	0	4	131	12	0	13	4	6	0	10	4	47	412	1,745	0	0	0	0
2:00 PM	2	34	108	14	0	13	171	15	0	11	5	12	0	14	5	29	433	1,912	0	0	0	0
2:15 PM	2	36	127	11	0	5	189	18	0	11	3	10	0	13	2	28	455	2,104	0	0	0	0

2:30 PM	0	24	108	16	0	12	170	23	0	8	6	10	0	12	3	53	445	2,226	0	0	0	0
2:45 PM	2	51	114	12	0	12	283	13	0	19	1	12	0	8	2	50	579	2,549	0	0	0	0
3:00 PM	0	37	91	18	0	15	330	25	0	22	4	5	0	13	5	60	625	2,537	0	0	0	0
3:15 PM	1	54	111	17	0	10	292	17	0	15	5	9	0	9	4	33	577	2,491	0	0	0	0
3:30 PM	1	61	104	20	0	22	403	23	0	15	22	15	0	8	5	69	768	2,453	0	0	0	0
3:45 PM	3	47	95	19	0	14	273	22	0	30	9	5	0	8	6	36	567	2,261	0	0	0	0
4:00 PM	2	63	97	32	0	11	270	29	0	18	5	9	0	4	2	37	579	2,286	0	0	0	0
4:15 PM	1	61	93	18	0	6	247	13	0	22	8	8	0	14	5	43	539	2,169	0	0	0	0
4:30 PM	0	59	91	14	0	11	279	14	0	20	5	9	0	10	4	60	576	2,143	0	0	0	0
4:45 PM	2	66	108	16	0	15	278	10	0	13	7	9	1	9	2	56	592	1,976	0	0	0	0
5:00 PM	0	70	65	18	0	11	184	9	0	17	5	4	0	11	5	63	462	1,810	0	0	0	0
5:15 PM	0	68	106	16	0	15	201	16	0	23	6	8	0	8	5	41	513		0	0	0	0
5:30 PM	0	80	87	15	0	4	141	11	0	14	5	10	0	9	2	31	409		0	0	0	0
5:45 PM	8	73	84	19	0	17	151	15	0	13	3	10	0	7	1	25	426		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	4	53	1	0	1	156	17	0	1	1	0	0	11	1	10	256
Lights	4	183	356	62	0	56	1,138	54	0	67	30	40	0	25	15	195	2,225
Mediums	0	16	11	4	0	2	14	7	0	3	1	1	0	2	0	7	68
Total	4	203	420	67	0	59	1,308	78	0	71	32	41	0	38	16	212	2,549

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	12.8%				13.6%				4.9%				11.7%				12.7%
Heavy Vehicle %	0.0%	9.9%	15.2%	7.5%	0.0%	5.1%	13.0%	30.8%	0.0%	5.6%	6.3%	2.4%	0.0%	34.2%	6.3%	8.0%	12.7%
Peak Hour Factor	0.94				0.81				0.66				0.93				0.83
Peak Hour Factor	0.38	0.91	0.94	0.65	0.00	0.88	0.81	0.78	0.00	0.75	0.50	0.65	0.25	0.65	0.83	0.91	0.83



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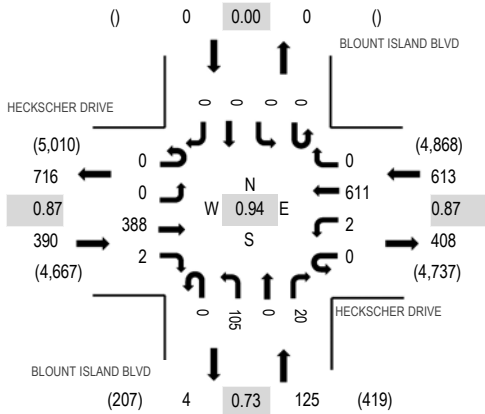
Location: 2 BLOUNT ISLAND BLVD & HECKSCHER DRIVE AM

Date: Tuesday, February 4, 2025

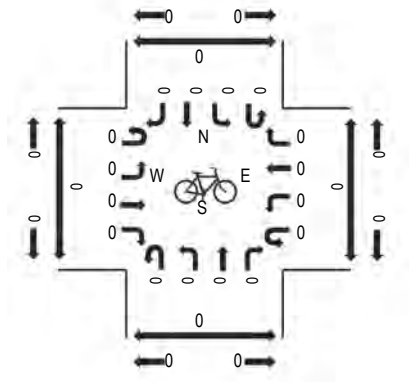
Peak Hour: 03:00 PM - 04:00 PM

Peak 15-Minutes: 03:15 PM - 03:30 PM

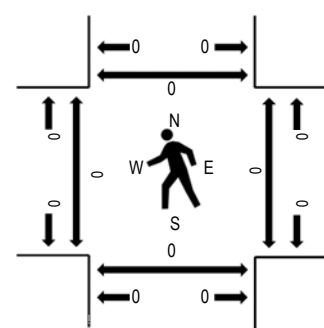
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	HECKSCHER DRIVE				HECKSCHER DRIVE				BLOUNT ISLAND BLVD				BLOUNT ISLAND BLVD				Total	Rolling Hour	Pedestrian Crossings				
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right							
6:00 AM	0	0	54	4	0	1	34	0	0	0	0	0	0	0	0	0	93	612	0	0	0	0	
6:15 AM	0	0	87	5	0	2	50	0	0	0	0	0	0	0	0	0	144	760	0	0	0	0	
6:30 AM	0	0	113	12	0	10	46	0	0	0	0	3	0	0	0	0	184	904	0	0	0	0	
6:45 AM	0	0	125	11	0	5	50	0	0	0	0	0	0	0	0	0	191	965	0	0	0	0	
7:00 AM	0	0	149	5	0	2	85	0	0	0	0	0	0	0	0	0	241	997	0	0	0	0	
7:15 AM	0	0	186	1	0	3	96	0	0	2	0	0	0	0	0	0	288	991	0	0	0	0	
7:30 AM	0	0	157	2	0	1	84	0	0	0	0	1	0	0	0	0	245	893	0	0	0	0	
7:45 AM	0	0	144	4	0	1	73	0	0	0	0	1	0	0	0	0	223	850	0	0	0	1	
8:00 AM	0	0	125	2	0	6	100	0	0	1	0	1	0	0	0	0	235	814	0	0	0	0	
8:15 AM	1	0	103	1	0	2	83	0	0	0	0	0	0	0	0	0	190	748	0	0	0	0	
8:30 AM	0	0	119	4	0	3	72	0	0	0	0	4	0	0	0	0	202	702	0	0	0	0	
8:45 AM	0	0	104	3	0	4	74	0	0	0	0	2	0	0	0	0	187	655	0	0	0	0	
9:00 AM	0	0	100	2	0	2	64	0	0	0	0	1	0	0	0	0	169	614	0	0	0	0	
9:15 AM	0	0	82	2	0	1	56	0	0	0	0	3	0	0	0	0	144	596	0	0	0	0	
9:30 AM	0	0	81	1	0	0	67	0	0	2	0	4	0	0	0	0	155	603	0	0	0	0	
9:45 AM	0	0	73	0	0	0	70	0	0	1	0	2	0	0	0	0	146	603	0	0	0	0	
10:00 AM	0	0	71	0	0	4	74	0	0	1	0	1	0	0	0	0	151	607	0	0	0	0	
10:15 AM	0	0	65	0	0	1	84	0	0	1	0	0	0	0	0	0	151	653	0	0	0	0	
10:30 AM	0	0	81	0	0	1	71	0	0	0	0	2	0	0	0	0	155	687	0	0	0	0	
10:45 AM	0	0	67	2	0	2	75	0	0	1	0	3	0	0	0	0	150	729	0	0	0	0	
11:00 AM	0	0	92	2	0	4	72	0	0	10	0	17	0	0	0	0	197	774	0	0	0	0	
11:15 AM	0	0	82	0	0	8	88	0	0	1	0	6	0	0	0	0	185	780	0	0	0	2	
11:30 AM	0	0	89	0	0	8	88	0	0	7	0	5	0	0	0	0	197	782	0	0	0	0	
11:45 AM	0	0	74	1	0	3	97	0	0	7	0	13	0	0	0	0	195	770	0	0	0	0	
12:00 PM	0	0	90	2	0	12	80	0	0	9	0	10	0	0	0	0	203	738	0	0	0	0	
12:15 PM	0	0	84	4	0	11	77	0	0	3	0	8	0	0	0	0	187	704	0	0	0	0	
12:30 PM	0	0	100	0	0	7	74	0	0	4	0	0	0	0	0	0	185	686	0	0	0	0	
12:45 PM	0	0	80	3	0	2	74	0	0	3	0	1	0	0	0	0	163	715	0	0	0	0	
1:00 PM	0	0	76	0	0	5	80	0	0	3	0	5	0	0	0	0	169	720	0	0	0	0	
1:15 PM	0	0	67	0	0	5	95	0	0	1	0	1	0	0	0	0	169	735	0	0	0	0	
1:30 PM	0	0	115	0	0	1	94	0	0	3	0	1	0	0	0	0	214	786	0	0	0	0	
1:45 PM	0	0	71	0	0	2	92	0	0	2	0	1	0	0	0	0	168	874	0	0	0	0	
2:00 PM	0	0	57	0	0	0	120	0	0	7	0	0	0	0	0	0	184	956	0	0	0	0	
2:15 PM	0	0	94	0	0	3	114	0	0	5	0	4	0	0	0	0	220	1,042	0	0	0	0	

2:30 PM	0	0	84	0	0	0	174	0	0	40	0	4	0	0	0	0	302	1,123	0	0	0	0
2:45 PM	0	0	79	0	0	2	158	0	0	9	0	2	0	0	0	0	250	1,108	0	0	0	0
3:00 PM	0	0	101	1	0	1	127	0	0	36	0	4	0	0	0	0	270	1,128	0	0	0	0
3:15 PM	0	0	97	1	0	1	169	0	0	28	0	5	0	0	0	0	301	1,118	0	0	0	0
3:30 PM	0	0	98	0	0	0	155	0	0	28	0	6	0	0	0	0	287	1,080	0	0	0	0
3:45 PM	0	0	92	0	0	0	160	0	0	13	0	5	0	0	0	0	270	1,083	0	0	0	0
4:00 PM	0	0	101	0	0	1	153	0	0	1	0	4	0	0	0	0	260	1,128	0	0	0	0
4:15 PM	0	0	95	1	0	1	160	0	0	1	0	5	0	0	0	0	263	1,065	0	0	0	0
4:30 PM	0	0	101	1	0	0	169	0	0	18	0	1	0	0	0	0	290	1,048	0	0	0	0
4:45 PM	0	0	111	0	0	0	195	0	0	4	0	5	0	0	0	0	315	971	0	0	0	0
5:00 PM	0	0	83	0	0	0	113	0	0	0	0	1	0	0	0	0	197	866	0	0	0	0
5:15 PM	0	0	105	0	0	1	135	0	0	3	0	2	0	0	0	0	246		0	0	0	0
5:30 PM	0	0	93	0	0	1	108	0	0	8	0	3	0	0	0	0	213		0	0	0	0
5:45 PM	0	0	92	0	0	0	109	0	0	8	0	1	0	0	0	0	210		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	5
Lights	0	0	378	2	0	2	595	0	0	105	0	19	0	0	0	0	1,101
Mediums	0	0	6	0	0	0	15	0	0	0	0	1	0	0	0	0	22
Total	0	0	388	2	0	2	611	0	0	105	0	20	0	0	0	0	1,128

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	2.6%				2.6%				0.8%				0.0%				2.4%
Heavy Vehicle %	0.0%	0.0%	2.6%	0.0%	0.0%	0.0%	2.6%	0.0%	0.0%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	2.4%
Peak Hour Factor	0.87				0.87				0.73				0.00				0.94
Peak Hour Factor	0.25	0.00	0.85	0.69	0.00	0.71	0.87	0.00	0.00	0.71	0.00	0.60	0.00	0.00	0.00	0.00	0.94

APPENDIX D

Signal Timing Plans

Traffic Signal Controller Parameters
Duval County, City of Jacksonville, Florida

Rev 02/07/2022

Int: Heckscher & I-295/9A East/NB Ramp
Time of Day Events

Day	Time	Cycle	Offset	Split	Lag LT
M-F	12:00 AM	FREE			
M-F	5:00 AM	1	1	1	
M-F	5:30 AM	3	1	3	
M-F	8:00 AM	2	1	2	
M-F	2:30 PM	5	1	5	
M-F	5:00 PM	4	1	4	
M-F	6:00 PM	2	1	2	
M-F	8:00 PM	1	1	1	
M-F	10:00 PM	FREE			
SAT	12:00 AM	FREE			
SAT	5:30 AM	1	1	1	
SAT	9:30 AM	2	1	2	
SAT	7:00 PM	1	1	1	
SAT	8:00 PM	FREE			
SUN	12:00 AM	FREE			
SUN	6:00 AM	1	1	1	
SUN	11:00 AM	2	1	2	
SUN	7:00 PM	1	1	1	
SUN	8:00 PM	FREE			

Con: Commander (P)
Phase Allocations

Int # 3216

Plan	AM	OP	PM	WKN	N/U	N/U
Pattern	1	2	3	4	5	6
Length	80	100	110	130	160	
Offset	0	16	17	81	117	
Seq	1	2	1	2	2	
Cord Ph	6	6	6	6	6	
Seconds of Cycle						
1	20	17	21	22	27	22
2	34	53	49	69	97	69
3						
4	26	30	40	39	36	39
5		20		40	40	
6	54	50	70	51	84	91
7	26	30	40	39	36	39
8						
Max Rcl	OMT5	ENB 5	OMT5	ENB 5	ENB 5	OMT5

Overlaps

	A	B	C	D
IncPh	5,7			

Phase Times

		INT	EXT	AMB	RED	MX1	WLK	DW
WLT	PHASE 1	6	4	3.6	2	20		
EA	PHASE 2	15	4	4.3	2	45		
	PHASE 3							
RpRT	PHASE 4	6	3	3.6	2	20		
	PHASE 5	4	4	4.8	2	20		
WA	PHASE 6	15	4	4.3	2	45	7	17
Ramp	PHASE 7	6	4	3.6	2	20		
	PHASE 8							

Note:

Sequence 1

1	2	4
	6	7

Sequence 2

1	2	4
6	5	7

Traffic Signal Controller Parameters
Duval County, City of Jacksonville, Florida

Rev 02/07/2022

Int: Heckscher & I-295/9A West/SB Ramp
Time of Day Events

Day	Time	Cycle	Offset	Split	Lag LT
M-F	12:00 AM	FREE			
M-F	5:00 AM	1	1	1	
M-F	5:30 AM	3	1	3	
M-F	8:00 AM	2	1	2	
M-F	2:30 PM	5	1	5	
M-F	5:00 PM	4	1	4	
M-F	6:00 PM	2	1	2	
M-F	8:00 PM	1	1	1	
M-F	10:00 PM	FREE			
SAT	12:00 AM	FREE			
SAT	5:30 AM	1	1	1	
SAT	9:30 AM	2	1	2	
SAT	7:00 PM	1	1	1	
SAT	8:00 PM	FREE			
SUN	12:00 AM	FREE			
SUN	6:00 AM	1	1	1	
SUN	11:00 AM	2	1	2	
SUN	7:00 PM	1	1	1	
SUN	8:00 PM	FREE			

Cont: Commander (P) Int # 3218
Phase Allocations

Plan	OP	MD	AM	PM	OP	N/U
Pattern	1	2	3	4	5	6
Length	80	100	110	130	160	
Offset	71	10	7	67	103	
Seq	2	2	2	2	2	
Cord Ph	6	6	6	6		
Seconds of Cycle						
1	0	0	0	0	0	
2	58	71	73	100	130	
3	22	29	37	30	30	
4	0	0	0	0	0	
5	26	37	36	66	86	
6	32	34	37	34	44	
7	0	0	0	0	0	
8	22	29	37	30	30	
Max Rcl		5	5	5	5	

Phase Times

		INT	EXT	AMB	RED	MX1	WLK	DW
	PHASE 1							
EA	PHASE 2	15	4	4.8	2	35		
Ramp	PHASE 3	6	4	4.8	2	20		
	PHASE 4							
ELT	PHASE 5	4	4	4.8	2	35		
WA	PHASE 6	15	4	4.8	2	35	7	12
	PHASE 7							
NRT	PHASE 8	6	4	4.8	2	20		

Note:

Sequence

	2		3
6	5		8

Traffic Signal Controller Parameters
Duval County, City of Jacksonville, Florida

Rev 02/07/2022

Int:Heckscher & New Berlin Rd East
Time of Day Events

Day	Time	Cycle	Offset	Split	Lag LT
M-F	12:00 AM	FREE			
M-F	5:00 AM	1	1	1	
M-F	5:30 AM	3	1	3	
M-F	8:00 AM	2	1	2	
M-F	2:30 PM	5	1	5	
M-F	5:00 PM	4	1	4	
M-F	6:00 PM	2	1	2	
M-F	8:00 PM	1	1	1	
M-F	10:00 PM	FREE			
SAT	12:00 AM	FREE			
SAT	5:30 AM	1	1	1	
SAT	9:30 AM	2	1	2	
SAT	7:00 PM	1	1	1	
SAT	8:00 PM	FREE			
SUN	12:00 AM	FREE			
SUN	6:00 AM	1	1	1	
SUN	11:00 AM	2	1	2	
SUN	7:00 PM	1	1	1	
SUN	8:00 PM	FREE			

Cont: Commander (P) Int # 3222
Phase Allocations

Plan	AM	OP	PM	WKN	N/U	N/U
Pattern	1	2	3	4	5	6
Length	80	100	110	130	160	
Offset	56	25	11	95	129	
Seq	1	1	1	1		
CordPh	2	2	2	2		
Splits in Seconds						
1	16	16	24	30	33	
2	32	49	38	50	87	
3	0	0	0	0	0	
4	32	35	48	50	40	
5	16	17	18	20	17	
6	32	48	44	60	103	
7	16	16	18	20	20	
8	16	19	30	30	20	
Max Rcl						

Phase Times

	INT	EXT	AMB	RED	MX1	WLK	DW
WLT	PHASE 1	4	4	4.8	2	20	
EA	PHASE 2	18	2.5	4.8	2	45	
	PHASE 3						
SA	PHASE 4	6	4	4.8	2	30	
ELT	PHASE 5	4	4	4.8	2	20	
WA	PHASE 6	18	2.5	4.8	2	45	7 22
SLT	PHASE 7	4	4	4.8	2	15	
NA	PHASE 8	6	4	4.8	2	30	

Note: Phase 4 & 7 on Dual Entry

Sequence

1	2		4
6	5	7	8

Traffic Signal Controller Parameters
Duval County, City of Jacksonville, Florida

Rev 04/01/2022

Intersection: Zoo Pkwy & New Berlin Rd West
Time of Day Events

Day	Time	Cycle	Offset	Split	Lag LT
M-F	12:00 AM	FREE			
M-F	5:00 AM	1	1	1	
M-F	5:30 AM	3	1	3	
M-F	8:00 AM	2	1	2	
M-F	2:30 PM	5	1	5	
M-F	5:00 PM	4	1	4	
M-F	6:00 PM	2	1	2	
M-F	8:00 PM	1	1	1	
M-F	10:00 PM	FREE			
SAT	12:00 AM	FREE			
SAT	5:30 AM	1	1	1	
SAT	9:30 AM	2	1	2	
SAT	7:00 PM	1	1	1	
SAT	8:00 PM	FREE			
SUN	12:00 AM	FREE			
SUN	6:00 AM	1	1	1	
SUN	11:00 AM	2	1	2	
SUN	7:00 PM	1	1	1	
SUN	8:00 PM	FREE			

Controller: Commander V 76 Int # 3220
Phase Allocations

Plan	AM	OP	AM	WKN	N/U	N/U
Pattern	1	2	3	4	5	6
Length	80	100	110	130	160	
Offset	64	16	7	90	131	
Seq	2	2	2	2	2	
Cord Ph	6	6	6	6	6	
Seconds of Cycle						
1	16	20	24	21	26	
2	32	38	40	67	74	
3	16	20	28	20	32	
4	16	22	18	22	28	
5	16	18	18	21	26	
6	32	40	46	67	74	
7	16	18	19	16	31	
8	16	24	27	26	29	
Max Rcl						

Preemption

Trk CLr	Grn	Amb	Red	Cycle	Exit
1&6	5	3.4	3.6	3,5,4,8	1,6

Preemption Sequence

		3	4
5			8

Phase Times

	INT	EXT	AMB	RED	MX1	WLK	DW
WLT	PHASE 1	4	4	4.9	2	20	
EA	PHASE 2	18	2.5	4.9	2	30	
NLT	PHASE 3	4	4	3.4	3.3	15	
SA	PHASE 4	6	4	3.4	3.6	15	
ELT	PHASE 5	4	4	4.9	2	20	
WA	PHASE 6	18	2.5	4.9	2	30	7 29
SLT	PHASE 7	4	4	3.4	3.5	10	
NA	PHASE 8	6	4	3.4	3.6	15	

Note: Phases 1 & 5 restricted

Sequence

1	2	3	4
6	5	7	8

Traffic Signal Controller Parameters
Duval County, City of Jacksonville, Florida

Int: Dave Rawls/Blount Island & Heckscher Dr.

Controller: 1880EL

Int # 1926

Time of Day Events

Day	Time	Cycle	Offset	Split	Lag LT
M-F	12:00 AM	FREE			
M-F	3:00 PM	MX2			
M-F	5:30 PM	FREE			
SAT	12:00 AM	FREE			
SUN	12:00 AM	FREE			

Phase Allocations

Plan	N/U	N/U	N/U	N/U	N/U	N/U
Cycle	2	1	3	4	5	6
Length						
Offset 1						
Offset 2						
Offset 3						
Hold						
Percent of Cycle						
1						
2						
3						
4						
5						
6						
7						
8						
Max Rcl						

Phase Times

		INT	EXT	AMB	RED	MX1	MX2	
SA	PHASE 1	6	4	4.6	2	40	60	
WA	PHASE 2	12	4	4.9	2	40	30	
	PHASE 3							
	PHASE 4							
	PHASE 5							
	PHASE 6							
	PHASE 7							
	PHASE 8							

Note:

APPENDIX E

Existing Operational Analysis

Synchro Output

A.M. Peak Hour

Lanes, Volumes, Timings

4: Legend Lane/New Berlin Road East & SR 105

Existing AM Peak

07/24/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	173	1056	111	11	395	15	40	20	92	62	20	237
Future Volume (vph)	173	1056	111	11	395	15	40	20	92	62	20	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		350	450		1000	125		0	0		250
Storage Lanes	1		1	1		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.994			0.877				0.850
Flt Protected	0.950			0.950			0.950				0.964	
Satd. Flow (prot)	1719	3282	1442	1770	4620	0	1530	1526	0	0	1411	1568
Flt Permitted	0.428			0.210			0.488				0.703	
Satd. Flow (perm)	774	3282	1442	391	4620	0	786	1526	0	0	1029	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			117		5			97				249
Link Speed (mph)		45			45			30			45	
Link Distance (ft)		2850			3099			916			921	
Travel Time (s)		43.2			47.0			20.8			14.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	10%	12%	2%	11%	27%	18%	10%	9%	33%	20%	3%
Adj. Flow (vph)	182	1112	117	12	416	16	42	21	97	65	21	249
Shared Lane Traffic (%)												
Lane Group Flow (vph)	182	1112	117	12	432	0	42	118	0	0	86	249
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)		48			48			26			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
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	1	6	7	5	2		7	4			8	

Existing AM Peak
Benesch

Synchro 12 Report
Page 1

Lanes, Volumes, Timings
4: Legend Lane/New Berlin Road East & SR 105

Existing AM Peak
07/24/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6		6	2			4			8		8
Detector Phase	1	6	7	5	2		7	4		8	8	8
Switch Phase												
Minimum Initial (s)	4.0	18.0	4.0	4.0	18.0		4.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.8	24.8	10.8	10.8	24.8		10.8	24.8		12.8	12.8	12.8
Total Split (s)	24.0	44.0	18.0	18.0	38.0		18.0	48.0		30.0	30.0	30.0
Total Split (%)	21.8%	40.0%	16.4%	16.4%	34.5%		16.4%	43.6%		27.3%	27.3%	27.3%
Maximum Green (s)	17.2	37.2	11.2	11.2	31.2		11.2	41.2		23.2	23.2	23.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		4.8	4.8		4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8			6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	4.0	2.5	4.0	4.0	2.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max	None	None	C-Max		None	None		None	None	None
Act Effect Green (s)	64.9	62.1	78.0	52.8	45.9		31.5	31.5			15.5	15.5
Actuated g/C Ratio	0.59	0.56	0.71	0.48	0.42		0.29	0.29			0.14	0.14
v/c Ratio	0.32	0.60	0.11	0.04	0.22		0.15	0.23			0.59	0.57
Control Delay (s/veh)	13.6	20.3	2.2	13.5	22.9		26.9	8.4			59.5	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay (s/veh)	13.6	20.3	2.2	13.5	22.9		26.9	8.4			59.5	10.4
LOS	B	C	A	B	C		C	A			E	B
Approach Delay (s/veh)		18.0			22.6			13.3			23.0	
Approach LOS		B			C			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 11 (10%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay (s/veh): 19.2

Intersection LOS: B

Intersection Capacity Utilization 60.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Legend Lane/New Berlin Road East & SR 105



Lanes, Volumes, Timings
6: Dave Rawls Blvd & SR 105

Existing AM Peak
07/24/2025

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	624	586	0	0	78	0
Future Volume (vph)	624	586	0	0	78	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		325	0		0	0
Storage Lanes		1	0		2	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	0.88	1.00	1.00	0.97	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	2787	0	0	3433	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	2787	0	0	3433	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		637				
Link Speed (mph)	45			45	40	
Link Distance (ft)	2237			471	1123	
Travel Time (s)	33.9			7.1	19.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	678	637	0	0	85	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	678	637	0	0	85	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	48			30	48	
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
Number of Detectors	2	1			1	
Detector Template	Thru	Right			Left	
Leading Detector (ft)	100	20			20	
Trailing Detector (ft)	0	0			0	
Detector 1 Position(ft)	0	0			0	
Detector 1 Size(ft)	6	20			20	
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0			0.0	
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA	Perm			Prot	
Protected Phases	2				1	
Permitted Phases		2				

Lanes, Volumes, Timings
6: Dave Rawls Blvd & SR 105

Existing AM Peak
07/24/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Detector Phase	2	2			1	
Switch Phase						
Minimum Initial (s)	12.0	12.0			6.0	
Minimum Split (s)	24.9	24.9			24.6	
Total Split (s)	46.9	46.9			46.6	
Total Split (%)	50.2%	50.2%			49.8%	
Maximum Green (s)	40.0	40.0			40.0	
Yellow Time (s)	4.9	4.9			4.6	
All-Red Time (s)	2.0	2.0			2.0	
Lost Time Adjust (s)	0.0	0.0			0.0	
Total Lost Time (s)	6.9	6.9			6.6	
Lead/Lag	Lag	Lag			Lead	
Lead-Lag Optimize?	Yes	Yes			Yes	
Vehicle Extension (s)	4.0	4.0			4.0	
Recall Mode	Min	Min			None	
Walk Time (s)	7.0	7.0			7.0	
Flash Don't Walk (s)	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0	
Act Effct Green (s)	41.5	41.5			8.2	
Actuated g/C Ratio	0.72	0.72			0.14	
v/c Ratio	0.50	0.29			0.17	
Control Delay (s/veh)	7.3	0.8			25.0	
Queue Delay	0.0	0.0			0.0	
Total Delay (s/veh)	7.3	0.8			25.0	
LOS	A	A			C	
Approach Delay (s/veh)	4.2				25.0	
Approach LOS	A				C	
Intersection Summary						
Area Type:	Other					
Cycle Length:	93.5					
Actuated Cycle Length:	57.6					
Natural Cycle:	60					
Control Type:	Actuated-Uncoordinated					
Maximum v/c Ratio:	0.50					
Intersection Signal Delay (s/veh):	5.4			Intersection LOS: A		
Intersection Capacity Utilization	49.1%			ICU Level of Service A		
Analysis Period (min)	15					

Splits and Phases: 6: Dave Rawls Blvd & SR 105



HCM Unsignalized Intersection Capacity Analysis 10: Blount Island Blvd & SR 105

Existing AM Peak
07/24/2025

						
Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	623	19	11	318	2	1
Future Volume (Veh/h)	623	19	11	318	2	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	742	23	13	379	2	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1085					
pX, platoon unblocked						
vC, conflicting volume			765		1147	742
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			765		1147	742
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		99	100
cM capacity (veh/h)			848		217	416
Direction, Lane #	EB 1	EB 2	WB 1	NW 1		
Volume Total	742	23	392	3		
Volume Left	0	0	13	2		
Volume Right	0	23	0	1		
cSH	1700	1700	848	258		
Volume to Capacity	0.44	0.01	0.02	0.01		
Queue Length 95th (ft)	0	0	1	1		
Control Delay (s/veh)	0.0	0.0	0.5	19.1		
Lane LOS			A	C		
Approach Delay (s/veh)	0.0		0.5	19.1		
Approach LOS				C		
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			42.8%	ICU Level of Service		A
Analysis Period (min)			15			

Midday Peak Hour

4: Legend Lane/New Berlin Road East & SR 105

07/24/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	209	424	68	60	1321	79	72	32	41	38	16	214
Future Volume (vph)	209	424	68	60	1321	79	72	32	41	38	16	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		350	450		1000	125		0	0		250
Storage Lanes	1		1	1		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.916				0.850
Flt Protected	0.950			0.950			0.950				0.966	
Satd. Flow (prot)	1641	3139	1495	1719	4513	0	1703	1677	0	0	1459	1495
Flt Permitted	0.077			0.464			0.464				0.735	
Satd. Flow (perm)	133	3139	1495	840	4513	0	832	1677	0	0	1110	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82		8			36				256
Link Speed (mph)		45			45			30			45	
Link Distance (ft)		2850			3099			916			921	
Travel Time (s)		43.2			47.0			20.8			14.0	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	10%	15%	8%	5%	13%	31%	6%	6%	2%	34%	6%	8%
Adj. Flow (vph)	252	511	82	72	1592	95	87	39	49	46	19	258
Shared Lane Traffic (%)												
Lane Group Flow (vph)	252	511	82	72	1687	0	87	88	0	0	65	258
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)		48			48			26			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
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	1	6	7	5	2		7	4			8	

Lanes, Volumes, Timings

4: Legend Lane/New Berlin Road East & SR 105

Existing Midday Peak

07/24/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6		6	2			4			8		8
Detector Phase	1	6	7	5	2		7	4		8	8	8
Switch Phase												
Minimum Initial (s)	4.0	18.0	4.0	4.0	18.0		4.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.8	24.8	10.8	10.8	24.8		10.8	24.8		12.8	12.8	12.8
Total Split (s)	33.0	103.0	20.0	17.0	87.0		20.0	40.0		20.0	20.0	20.0
Total Split (%)	20.6%	64.4%	12.5%	10.6%	54.4%		12.5%	25.0%		12.5%	12.5%	12.5%
Maximum Green (s)	26.2	96.2	13.2	10.2	80.2		13.2	33.2		13.2	13.2	13.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		4.8	4.8		4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8			6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	4.0	2.5	4.0	4.0	2.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max	None	None	C-Max		None	None		None	None	None
Act Effect Green (s)	114.8	99.5	118.6	94.2	85.7		31.6	31.6			12.5	12.5
Actuated g/C Ratio	0.72	0.62	0.74	0.59	0.54		0.20	0.20			0.08	0.08
v/c Ratio	0.83	0.26	0.07	0.13	0.70		0.38	0.25			0.76	0.73
Control Delay (s/veh)	57.4	14.5	1.3	9.3	30.3		58.7	33.4			116.4	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay (s/veh)	57.4	14.5	1.3	9.3	30.3		58.7	33.4			116.4	20.6
LOS	E	B	A	A	C		E	C			F	C
Approach Delay (s/veh)		26.0			29.4			46.0			39.9	
Approach LOS		C			C			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 53.7 (34%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay (s/veh): 30.5

Intersection LOS: C

Intersection Capacity Utilization 66.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Legend Lane/New Berlin Road East & SR 105



Lanes, Volumes, Timings
6: Dave Rawls Blvd & SR 105

Existing Midday Peak
07/24/2025

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	375	129	0	0	726	0
Future Volume (vph)	375	129	0	0	726	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		325	0		0	0
Storage Lanes		1	0		2	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	0.88	1.00	1.00	0.97	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	2787	0	0	3183	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	2787	0	0	3183	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		140				
Link Speed (mph)	45			45	40	
Link Distance (ft)	2237			471	1123	
Travel Time (s)	33.9			7.1	19.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	10%	2%
Adj. Flow (vph)	408	140	0	0	789	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	408	140	0	0	789	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	48			30	48	
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
Number of Detectors	2	1			1	
Detector Template	Thru	Right			Left	
Leading Detector (ft)	100	20			20	
Trailing Detector (ft)	0	0			0	
Detector 1 Position(ft)	0	0			0	
Detector 1 Size(ft)	6	20			20	
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0			0.0	
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA	Perm			Prot	
Protected Phases	2				1	

Lanes, Volumes, Timings
6: Dave Rawls Blvd & SR 105

Existing Midday Peak
07/24/2025

	→	↗	↖	←	↘	↙
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Permitted Phases	2					
Detector Phase	2	2			1	
Switch Phase						
Minimum Initial (s)	12.0	12.0			6.0	
Minimum Split (s)	24.9	24.9			24.6	
Total Split (s)	36.9	36.9			66.6	
Total Split (%)	35.7%	35.7%			64.3%	
Maximum Green (s)	30.0	30.0			60.0	
Yellow Time (s)	4.9	4.9			4.6	
All-Red Time (s)	2.0	2.0			2.0	
Lost Time Adjust (s)	0.0	0.0			0.0	
Total Lost Time (s)	6.9	6.9			6.6	
Lead/Lag	Lag	Lag			Lead	
Lead-Lag Optimize?	Yes	Yes			Yes	
Vehicle Extension (s)	4.0	4.0			4.0	
Recall Mode	Min	Min			None	
Walk Time (s)	7.0	7.0			7.0	
Flash Don't Walk (s)	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0	
Act Effct Green (s)	19.2	19.2			22.1	
Actuated g/C Ratio	0.35	0.35			0.40	
v/c Ratio	0.63	0.13			0.62	
Control Delay (s/veh)	20.8	3.4			16.4	
Queue Delay	0.0	0.0			0.0	
Total Delay (s/veh)	20.8	3.4			16.4	
LOS	C	A			B	
Approach Delay (s/veh)	16.3				16.4	
Approach LOS	B				B	

Intersection Summary

Area Type: Other
 Cycle Length: 103.5
 Actuated Cycle Length: 55.5
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay (s/veh): 16.4 Intersection LOS: B
 Intersection Capacity Utilization 51.7% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 6: Dave Rawls Blvd & SR 105



HCM Unsignalized Intersection Capacity Analysis 10: Blount Island Blvd & SR 105

Existing Midday Peak
07/24/2025

						
Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	379	2	4	615	102	17
Future Volume (Veh/h)	379	2	4	615	102	17
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	412	2	4	668	111	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	1085					
pX, platoon unblocked						
vC, conflicting volume			414		1088	412
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			414		1088	412
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			100		53	97
cM capacity (veh/h)			1145		238	631
Direction, Lane #	EB 1	EB 2	WB 1	NW 1		
Volume Total	412	2	672	129		
Volume Left	0	0	4	111		
Volume Right	0	2	0	18		
cSH	1700	1700	1145	261		
Volume to Capacity	0.24	0.00	0.00	0.50		
Queue Length 95th (ft)	0	0	0	64		
Control Delay (s/veh)	0.0	0.0	0.1	31.6		
Lane LOS			A	D		
Approach Delay (s/veh)	0.0		0.1	31.6		
Approach LOS				D		
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			48.9%	ICU Level of Service		A
Analysis Period (min)			15			

P.M. Peak Hour

Lanes, Volumes, Timings
4: Legend Lane/New Berlin Road East & SR 105

Existing PM Peak
07/24/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	256	393	81	43	1085	67	74	25	35	38	13	198
Future Volume (vph)	256	393	81	43	1085	67	74	25	35	38	13	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		350	450		1000	125		0	0		250
Storage Lanes	1		1	1		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.991			0.913				0.850
Flt Protected	0.950			0.950			0.950				0.964	
Satd. Flow (prot)	1671	3343	1429	1719	4820	0	1641	1691	0	0	1576	1553
Flt Permitted	0.177			0.514			0.456				0.740	
Satd. Flow (perm)	311	3343	1429	930	4820	0	788	1691	0	0	1209	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			84		9			36				204
Link Speed (mph)		45			45			30			45	
Link Distance (ft)		2850			3099			916			921	
Travel Time (s)		43.2			47.0			20.8			14.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	8%	13%	5%	6%	17%	10%	2%	3%	21%	2%	4%
Adj. Flow (vph)	264	405	84	44	1119	69	76	26	36	39	13	204
Shared Lane Traffic (%)												
Lane Group Flow (vph)	264	405	84	44	1188	0	76	62	0	0	52	204
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)		48			48			26			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
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	1	6	7	5	2		7	4			8	

Existing PM Peak
Benesch

Synchro 12 Report
Page 1

Lanes, Volumes, Timings
4: Legend Lane/New Berlin Road East & SR 105

Existing PM Peak
07/24/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6		6	2			4			8		8
Detector Phase	1	6	7	5	2		7	4		8	8	8
Switch Phase												
Minimum Initial (s)	4.0	18.0	4.0	4.0	18.0		4.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.8	24.8	10.8	10.8	24.8		10.8	24.8		12.8	12.8	12.8
Total Split (s)	33.0	103.0	20.0	17.0	87.0		20.0	40.0		20.0	20.0	20.0
Total Split (%)	20.6%	64.4%	12.5%	10.6%	54.4%		12.5%	25.0%		12.5%	12.5%	12.5%
Maximum Green (s)	26.2	96.2	13.2	10.2	80.2		13.2	33.2		13.2	13.2	13.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		4.8	4.8		4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8			6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	4.0	2.5	4.0	4.0	2.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max	None	None	C-Max		None	None		None	None	None
Act Effect Green (s)	115.9	104.2	123.0	100.4	92.7		30.3	30.3			11.6	11.6
Actuated g/C Ratio	0.72	0.65	0.77	0.63	0.58		0.19	0.19			0.07	0.07
v/c Ratio	0.72	0.19	0.08	0.07	0.42		0.36	0.18			0.60	0.68
Control Delay (s/veh)	21.7	12.3	1.2	8.3	20.2		58.9	26.7			98.9	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay (s/veh)	21.7	12.3	1.2	8.3	20.2		58.9	26.7			98.9	20.2
LOS	C	B	A	A	C		E	C			F	C
Approach Delay (s/veh)		14.4			19.8			44.4			36.2	
Approach LOS		B			B			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 53.7 (34%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay (s/veh): 21.3

Intersection LOS: C

Intersection Capacity Utilization 64.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Legend Lane/New Berlin Road East & SR 105



Lanes, Volumes, Timings
6: Dave Rawls Blvd & SR 105

Existing PM Peak
07/24/2025

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	402	64	0	0	395	0
Future Volume (vph)	402	64	0	0	395	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		325	0		0	0
Storage Lanes		1	0		2	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	0.88	1.00	1.00	0.97	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	2787	0	0	3155	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	2787	0	0	3155	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		70				
Link Speed (mph)	45			45	40	
Link Distance (ft)	2237			471	1123	
Travel Time (s)	33.9			7.1	19.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	11%	2%
Adj. Flow (vph)	437	70	0	0	429	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	437	70	0	0	429	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	48			30	48	
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
Number of Detectors	2	1			1	
Detector Template	Thru	Right			Left	
Leading Detector (ft)	100	20			20	
Trailing Detector (ft)	0	0			0	
Detector 1 Position(ft)	0	0			0	
Detector 1 Size(ft)	6	20			20	
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0			0.0	
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA	Perm			Prot	
Protected Phases	2				1	

Existing PM Peak
Benesch

Synchro 12 Report
Page 1

Lanes, Volumes, Timings
6: Dave Rawls Blvd & SR 105

Existing PM Peak
07/24/2025

	→	↗	↖	←	↙	↘
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Permitted Phases	2					
Detector Phase	2	2			1	
Switch Phase						
Minimum Initial (s)	12.0	12.0			6.0	
Minimum Split (s)	24.9	24.9			24.6	
Total Split (s)	36.9	36.9			66.6	
Total Split (%)	35.7%	35.7%			64.3%	
Maximum Green (s)	30.0	30.0			60.0	
Yellow Time (s)	4.9	4.9			4.6	
All-Red Time (s)	2.0	2.0			2.0	
Lost Time Adjust (s)	0.0	0.0			0.0	
Total Lost Time (s)	6.9	6.9			6.6	
Lead/Lag	Lag	Lag			Lead	
Lead-Lag Optimize?	Yes	Yes			Yes	
Vehicle Extension (s)	4.0	4.0			4.0	
Recall Mode	Min	Min			None	
Walk Time (s)	7.0	7.0			7.0	
Flash Don't Walk (s)	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0	
Act Effct Green (s)	17.5	17.5			13.6	
Actuated g/C Ratio	0.39	0.39			0.30	
v/c Ratio	0.60	0.06			0.45	
Control Delay (s/veh)	15.3	3.2			15.0	
Queue Delay	0.0	0.0			0.0	
Total Delay (s/veh)	15.3	3.2			15.0	
LOS	B	A			B	
Approach Delay (s/veh)	13.6				15.0	
Approach LOS	B				B	

Intersection Summary

Area Type: Other

Cycle Length: 103.5

Actuated Cycle Length: 44.9

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay (s/veh): 14.2

Intersection LOS: B

Intersection Capacity Utilization 43.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 6: Dave Rawls Blvd & SR 105



HCM Unsignalized Intersection Capacity Analysis 10: Blount Island Blvd & SR 105

Existing PM Peak
07/24/2025

						
Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	412	2	2	684	24	15
Future Volume (Veh/h)	412	2	2	684	24	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	458	2	2	760	27	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1085					
pX, platoon unblocked						
vC, conflicting volume			460		1222	458
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			460		1222	458
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			100		86	97
cM capacity (veh/h)			1101		198	595
Direction, Lane #	EB 1	EB 2	WB 1	NW 1		
Volume Total	458	2	762	44		
Volume Left	0	0	2	27		
Volume Right	0	2	0	17		
cSH	1700	1700	1101	267		
Volume to Capacity	0.27	0.00	0.00	0.16		
Queue Length 95th (ft)	0	0	0	15		
Control Delay (s/veh)	0.0	0.0	0.0	21.1		
Lane LOS			A	C		
Approach Delay (s/veh)	0.0		0.0	21.1		
Approach LOS				C		
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			47.6%	ICU Level of Service		A
Analysis Period (min)			15			

APPENDIX F

Growth Rates

Historical Trends Analysis

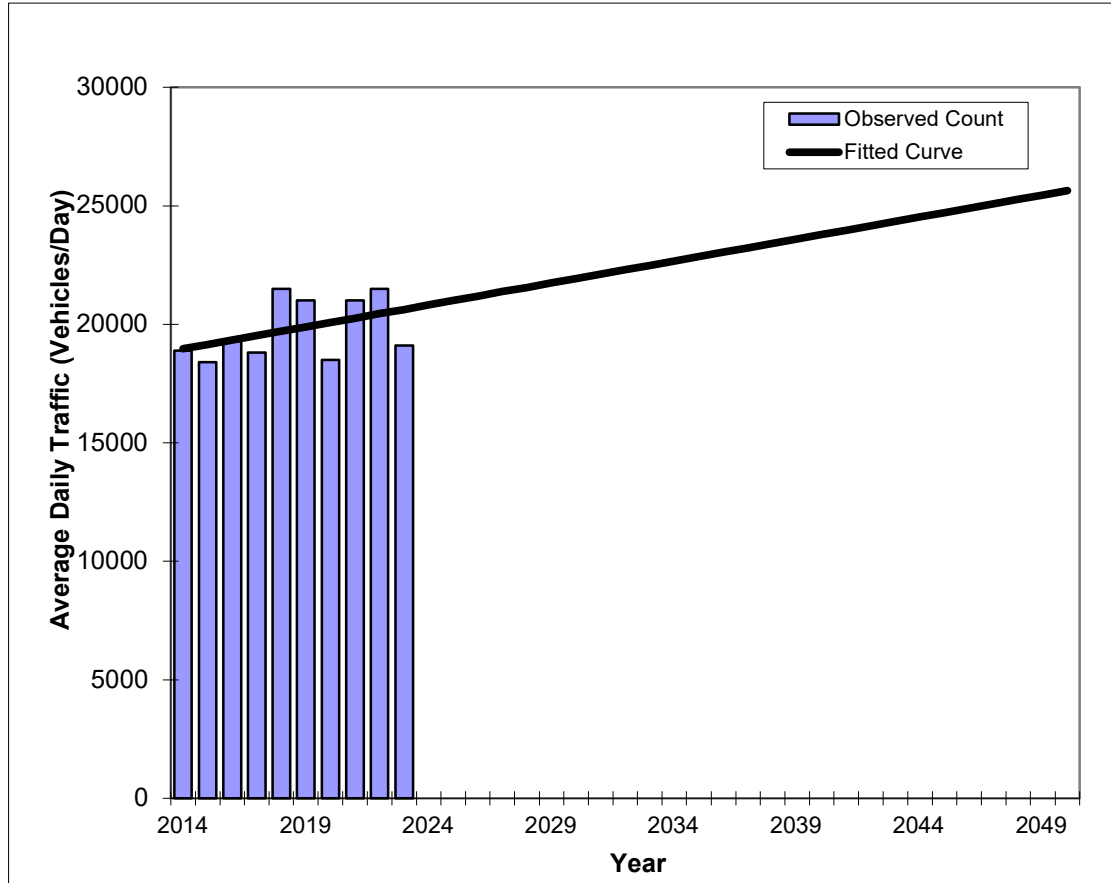
FDOT Site	Location	Years of Historical AADT	Historic Trend Analysis		
			Type	R Square	Annual Growth Rate
#720146	SR 105 AT W. END CARLOS CREEK BRIDGE	2014 to 2023	Linear	19.09%	0.97%
			Exponential	19.17%	0.94%
			Decaying Exponential	23.04%	1.11%
#720174	SR 105 W. END OF CLAPBOARD CRK. BRIDGE	2014 to 2023	Linear	2.90%	0.82%
			Exponential	3.24%	0.80%
			Decaying Exponential	9.11%	1.51%
#727003	DAVID RAWLS RD. N. OF TERMINAL ENT. (NHS) (	2014 to 2023	Linear	45.35%	1.84%
			Exponential	45.40%	1.77%
			Decaying Exponential	53.90%	2.06%

Traffic Trends - V2023

-- SR 105 AT W. END CARLOS CREEK BRIDGE

FM #	1234
Location	1

County:	Duval (72)
Station #:	720146
Roadway:	



Annual Trend Increase:	185
Trend R-squared:	19.09%
Trend Annual Historic Growth Rate:	0.97%
Trend Growth Rate (2023 to Design Year)	0.90%
Printed:	7/24/2025
Linear Growth Option	

Year	Traffic (ADT/AADT)	
	Count*	Trend
2014	18,900	18,970
2015	18,400	19,150
2016	19,300	19,340
2017	18,800	19,520
2018	21,500	19,710
2019	21,000	19,890
2020	18,500	20,080
2021	21,000	20,260
2022	21,500	20,450
2023	19,100	20,630
2030 Opening Year Trend		
2030	N/A	21,930
2040 Interim Year Trend		
2040	N/A	23,790
2050 Design Year Trend		
2050	N/A	25,640
FSUTMS Forecasts/Trends		

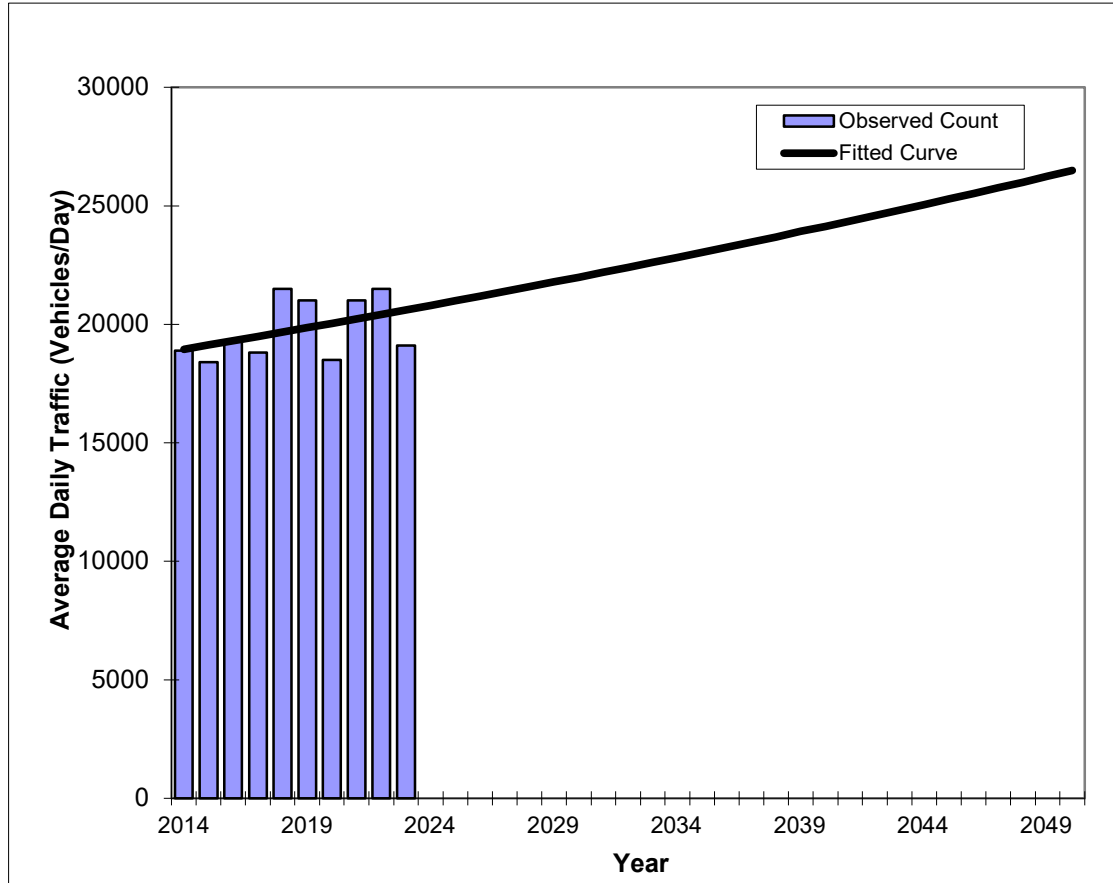
*Axle-Adjusted

Traffic Trends - V2023

-- SR 105 AT W. END CARLOS CREEK BRIDGE

FM #	1234
Location	1

County:	Duval (72)
Station #:	720146
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2014	18,900	18,950
2015	18,400	19,130
2016	19,300	19,310
2017	18,800	19,490
2018	21,500	19,670
2019	21,000	19,860
2020	18,500	20,040
2021	21,000	20,230
2022	21,500	20,420
2023	19,100	20,610
2030 Opening Year Trend		
2030	N/A	21,990
2040 Interim Year Trend		
2040	N/A	24,140
2050 Design Year Trend		
2050	N/A	26,490
FSUTMS Forecasts/Trends		

Trend R-squared:	19.17%
Compounded Annual Historic Growth Rate:	0.94%
Compounded Growth Rate (2023 to Design Year)	0.93%
Printed:	7/24/2025
Exponential Growth Option	

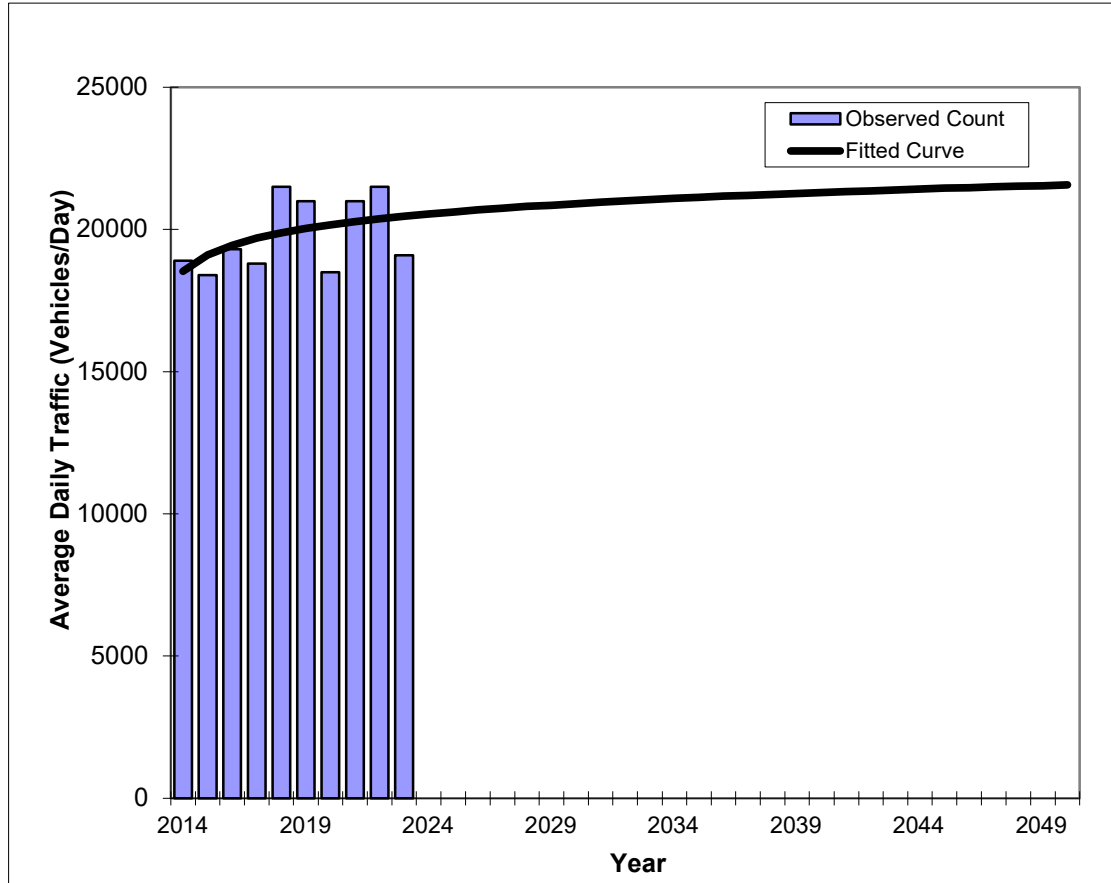
*Axle-Adjusted

Traffic Trends - V2023

-- SR 105 AT W. END CARLOS CREEK BRIDGE

FM #	1234
Location	1

County:	Duval (72)
Station #:	720146
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2014	18,900	18,530
2015	18,400	19,110
2016	19,300	19,450
2017	18,800	19,700
2018	21,500	19,880
2019	21,000	20,040
2020	18,500	20,170
2021	21,000	20,280
2022	21,500	20,380
2023	19,100	20,470
2030 Opening Year Trend		
2030	N/A	20,910
2040 Interim Year Trend		
2040	N/A	21,300
2050 Design Year Trend		
2050	N/A	21,570
FSUTMS Forecasts/Trends		

Trend R-squared:	23.04%
Compounded Annual Historic Growth Rate:	1.11%
Compounded Growth Rate (2023 to Design Year)	0.19%
Printed:	7/24/2025
Decaying Exponential Growth Option	

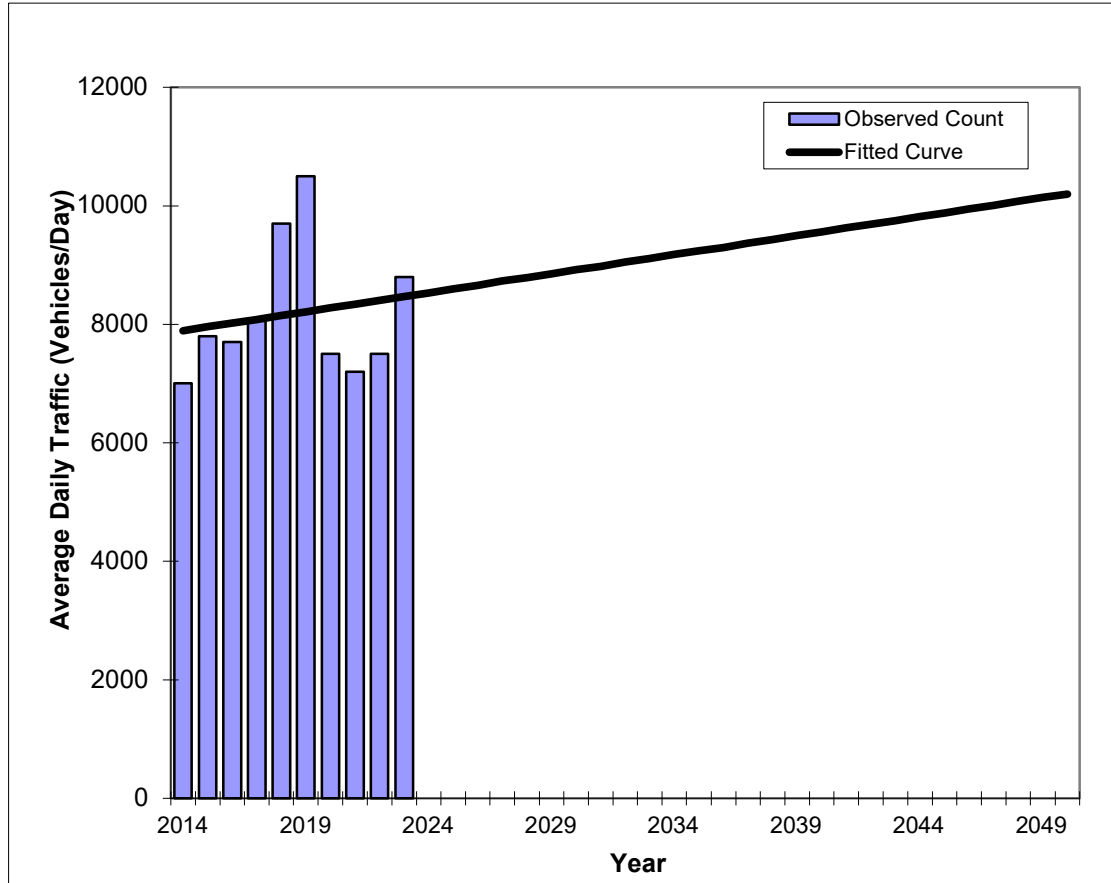
*Axle-Adjusted

Traffic Trends - V2023

-- SR 105 W. END OF CLAPBOARD CRK. BRIDGE

FM #	1234
Location	1

County:	Duval (72)
Station #:	720174
Roadway:	



Annual Trend Increase:	64
Trend R-squared:	2.90%
Trend Annual Historic Growth Rate:	0.82%
Trend Growth Rate (2023 to Design Year)	0.76%
Printed:	7/24/2025
Linear Growth Option	

Year	Traffic (ADT/AADT)	
	Count*	Trend
2014	7,000	7,890
2015	7,800	7,960
2016	7,700	8,020
2017	8,100	8,080
2018	9,700	8,150
2019	10,500	8,210
2020	7,500	8,280
2021	7,200	8,340
2022	7,500	8,400
2023	8,800	8,470
2030 Opening Year Trend		
2030	N/A	8,920
2040 Interim Year Trend		
2040	N/A	9,560
2050 Design Year Trend		
2050	N/A	10,200
FSUTMS Forecasts/Trends		

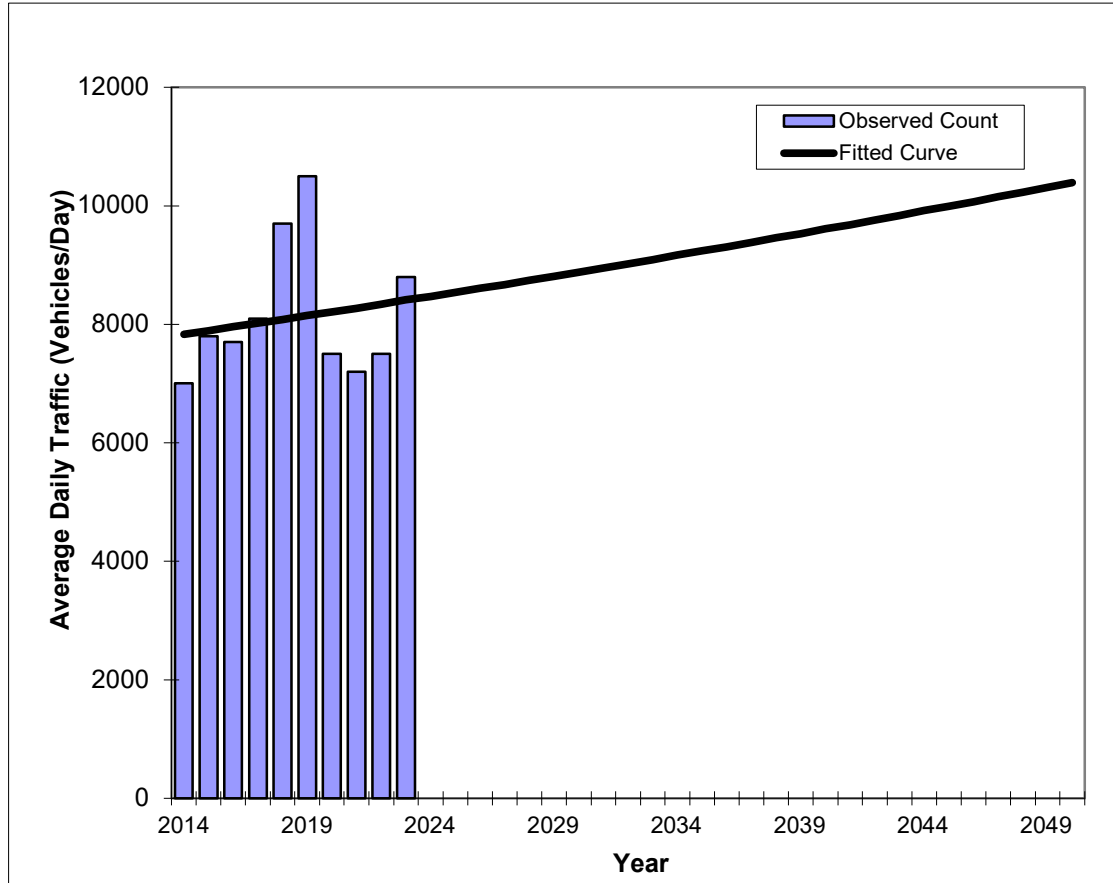
*Axle-Adjusted

Traffic Trends - V2023

-- SR 105 W. END OF CLAPBOARD CRK. BRIDGE

FM #	1234
Location	1

County:	Duval (72)
Station #:	720174
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2014	7,000	7,830
2015	7,800	7,890
2016	7,700	7,960
2017	8,100	8,020
2018	9,700	8,080
2019	10,500	8,150
2020	7,500	8,210
2021	7,200	8,270
2022	7,500	8,340
2023	8,800	8,410
2030 Opening Year Trend		
2030	N/A	8,880
2040 Interim Year Trend		
2040	N/A	9,610
2050 Design Year Trend		
2050	N/A	10,390
FSUTMS Forecasts/Trends		

Trend R-squared:	3.24%
Compounded Annual Historic Growth Rate:	0.80%
Compounded Growth Rate (2023 to Design Year)	0.79%
Printed:	7/24/2025
Exponential Growth Option	

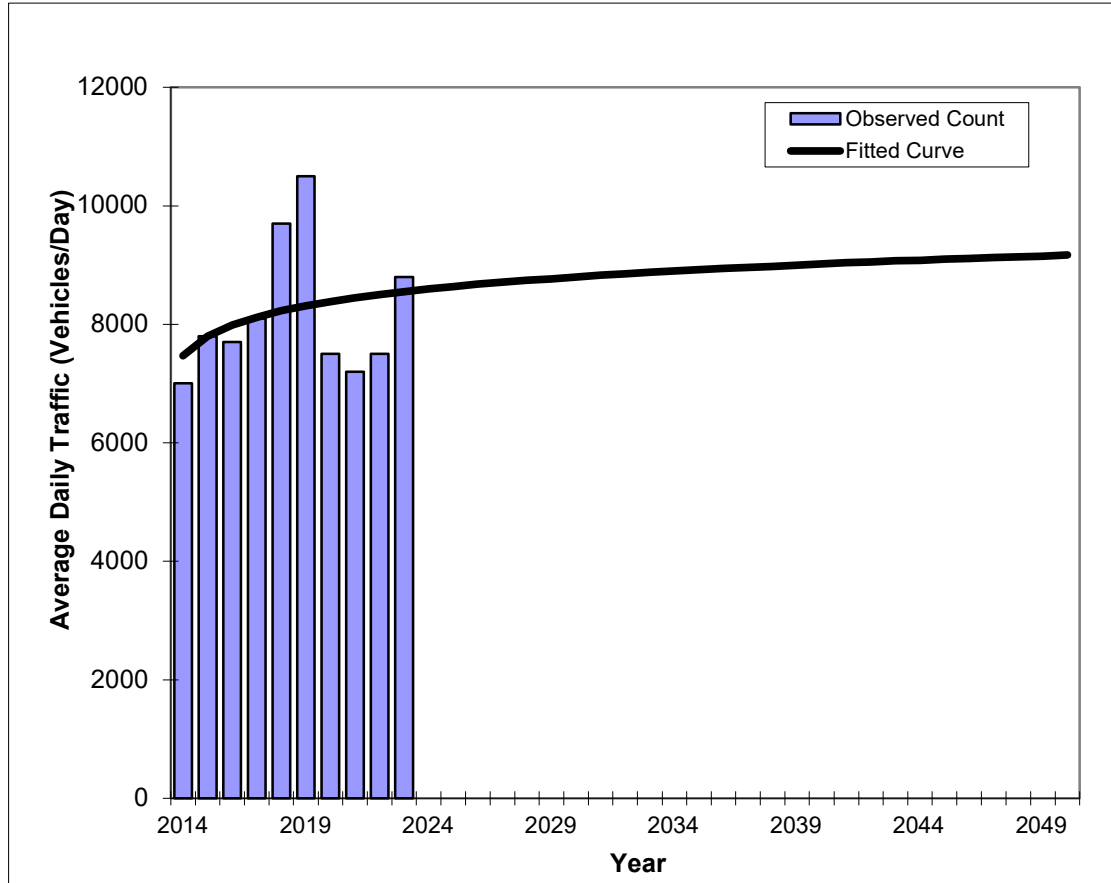
*Axle-Adjusted

Traffic Trends - V2023

-- SR 105 W. END OF CLAPBOARD CRK. BRIDGE

FM #	1234
Location	1

County:	Duval (72)
Station #:	720174
Roadway:	



Trend R-squared:	9.11%
Compounded Annual Historic Growth Rate:	1.51%
Compounded Growth Rate (2023 to Design Year)	0.26%
Printed:	7/24/2025
Decaying Exponential Growth Option	

Year	Traffic (ADT/AADT)	
	Count*	Trend
2014	7,000	7,470
2015	7,800	7,800
2016	7,700	7,990
2017	8,100	8,120
2018	9,700	8,230
2019	10,500	8,310
2020	7,500	8,380
2021	7,200	8,450
2022	7,500	8,500
2023	8,800	8,550
2030 Opening Year Trend		
2030	N/A	8,800
2040 Interim Year Trend		
2040	N/A	9,020
2050 Design Year Trend		
2050	N/A	9,170
FSUTMS Forecasts/Trends		

*Axle-Adjusted

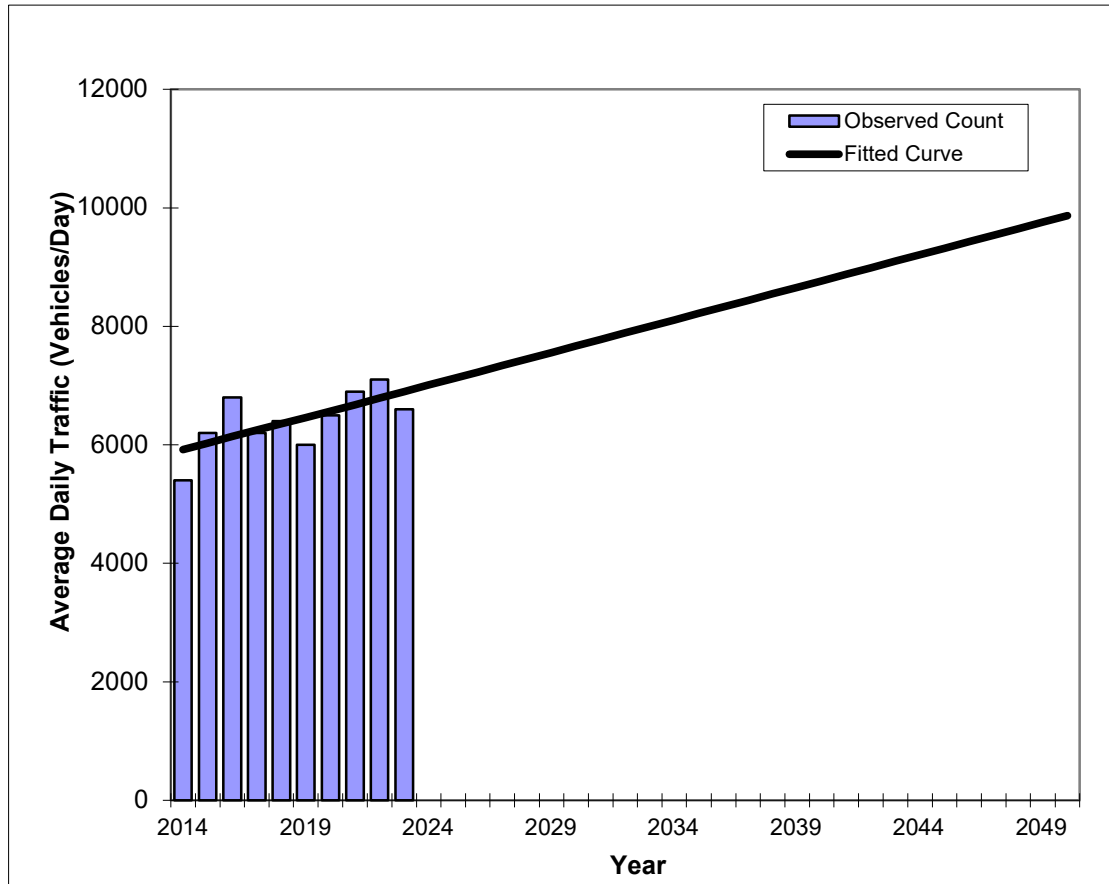
Traffic Trends - V2023

-- DAVID RAWLS RD. N. OF TERMINAL ENT. (NHS) (SIS)

FM #	1234
Location	1

County:
Station #:
Roadway:

Duval (72)
727003



Year	Traffic (ADT/AADT)	
	Count*	Trend
2014	5,400	5,920
2015	6,200	6,030
2016	6,800	6,140
2017	6,200	6,250
2018	6,400	6,360
2019	6,000	6,460
2020	6,500	6,570
2021	6,900	6,680
2022	7,100	6,790
2023	6,600	6,900
2030 Opening Year Trend		
2030	N/A	7,670
2040 Interim Year Trend		
2040	N/A	8,770
2050 Design Year Trend		
2050	N/A	9,870
FSUTMS Forecasts/Trends		

Annual Trend Increase:	110
Trend R-squared:	45.35%
Trend Annual Historic Growth Rate:	1.84%
Trend Growth Rate (2023 to Design Year)	1.59%
Printed:	7/24/2025
Linear Growth Option	

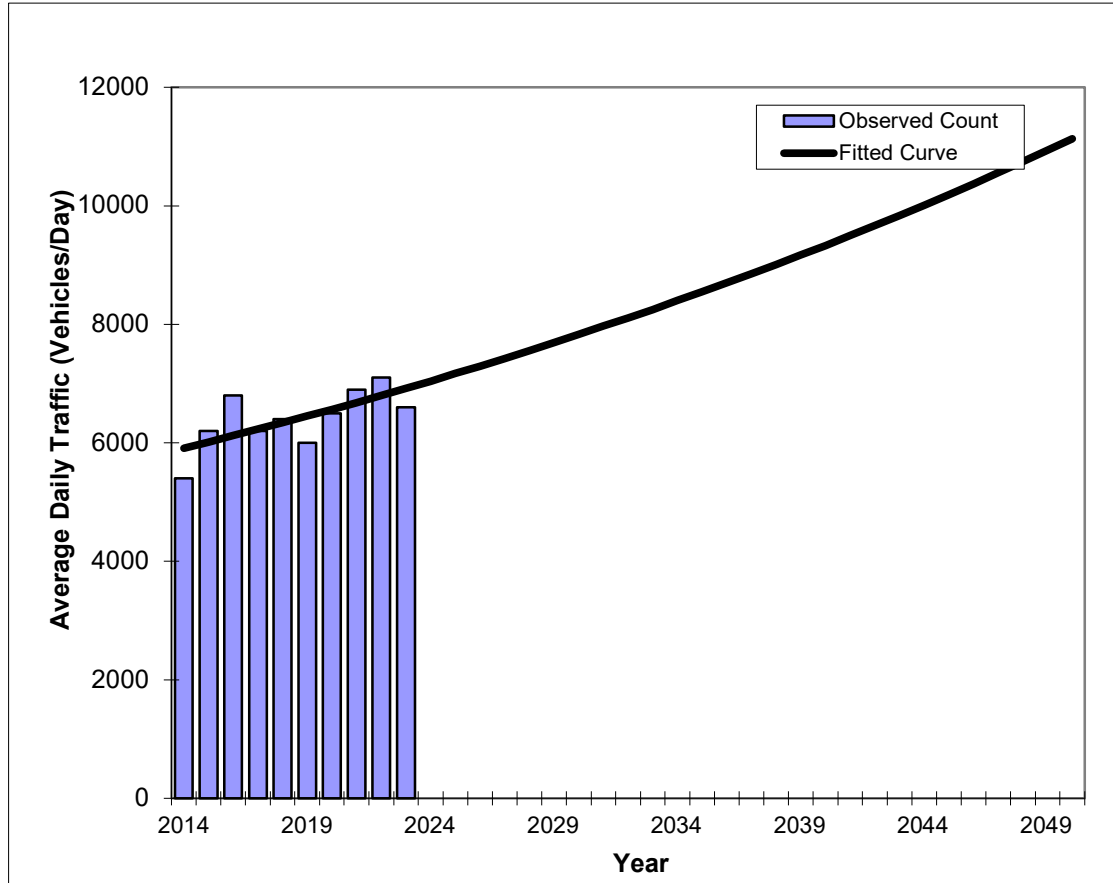
*Axle-Adjusted

Traffic Trends - V2023

-- DAVID RAWLS RD. N. OF TERMINAL ENT. (NHS) (SIS)

FM #	1234
Location	1

County:	Duval (72)
Station #:	727003
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2014	5,400	5,910
2015	6,200	6,010
2016	6,800	6,120
2017	6,200	6,230
2018	6,400	6,340
2019	6,000	6,450
2020	6,500	6,560
2021	6,900	6,680
2022	7,100	6,800
2023	6,600	6,920
2030 Opening Year Trend		
2030	N/A	7,830
2040 Interim Year Trend		
2040	N/A	9,330
2050 Design Year Trend		
2050	N/A	11,130
FSUTMS Forecasts/Trends		

Trend R-squared:	45.40%
Compounded Annual Historic Growth Rate:	1.77%
Compounded Growth Rate (2023 to Design Year)	1.78%
Printed:	7/24/2025
Exponential Growth Option	

*Axle-Adjusted

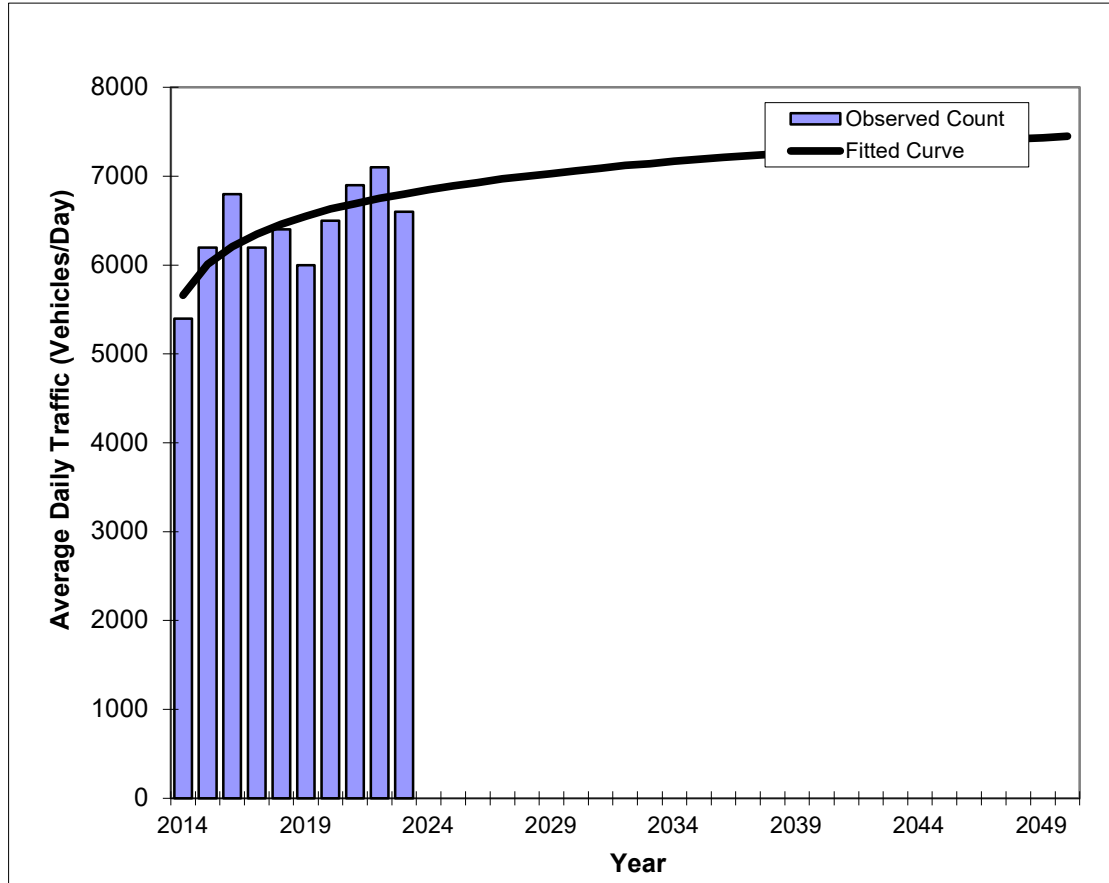
Traffic Trends - V2023

-- DAVID RAWLS RD. N. OF TERMINAL ENT. (NHS) (SIS)

FM #	1234
Location	1

County:
Station #:
Roadway:

Duval (72)
727003

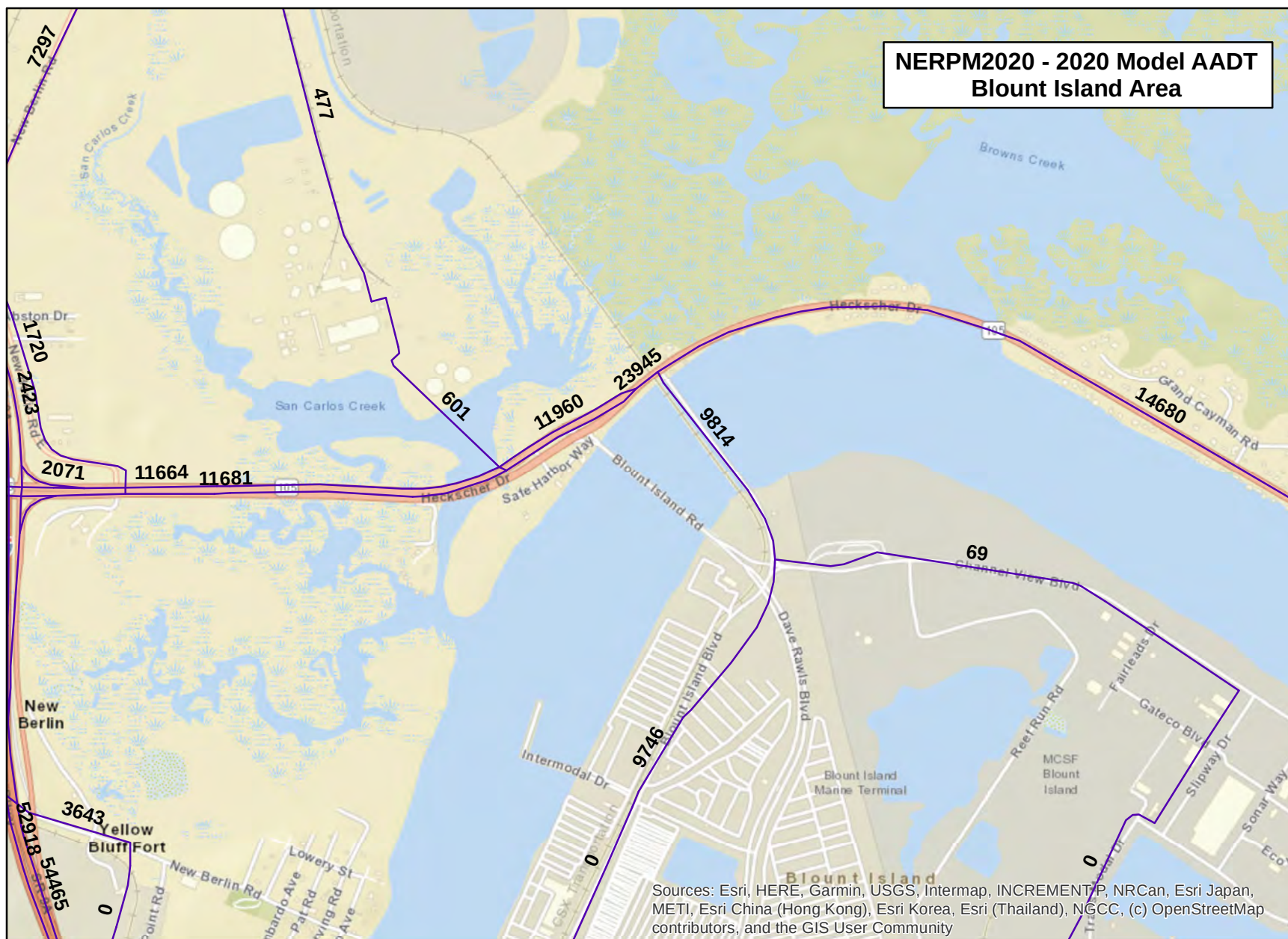


Year	Traffic (ADT/AADT)	
	Count*	Trend
2014	5,400	5,660
2015	6,200	6,010
2016	6,800	6,210
2017	6,200	6,350
2018	6,400	6,460
2019	6,000	6,550
2020	6,500	6,630
2021	6,900	6,690
2022	7,100	6,750
2023	6,600	6,800
2030 Opening Year Trend		
2030	N/A	7,060
2040 Interim Year Trend		
2040	N/A	7,290
2050 Design Year Trend		
2050	N/A	7,450
FSUTMS Forecasts/Trends		

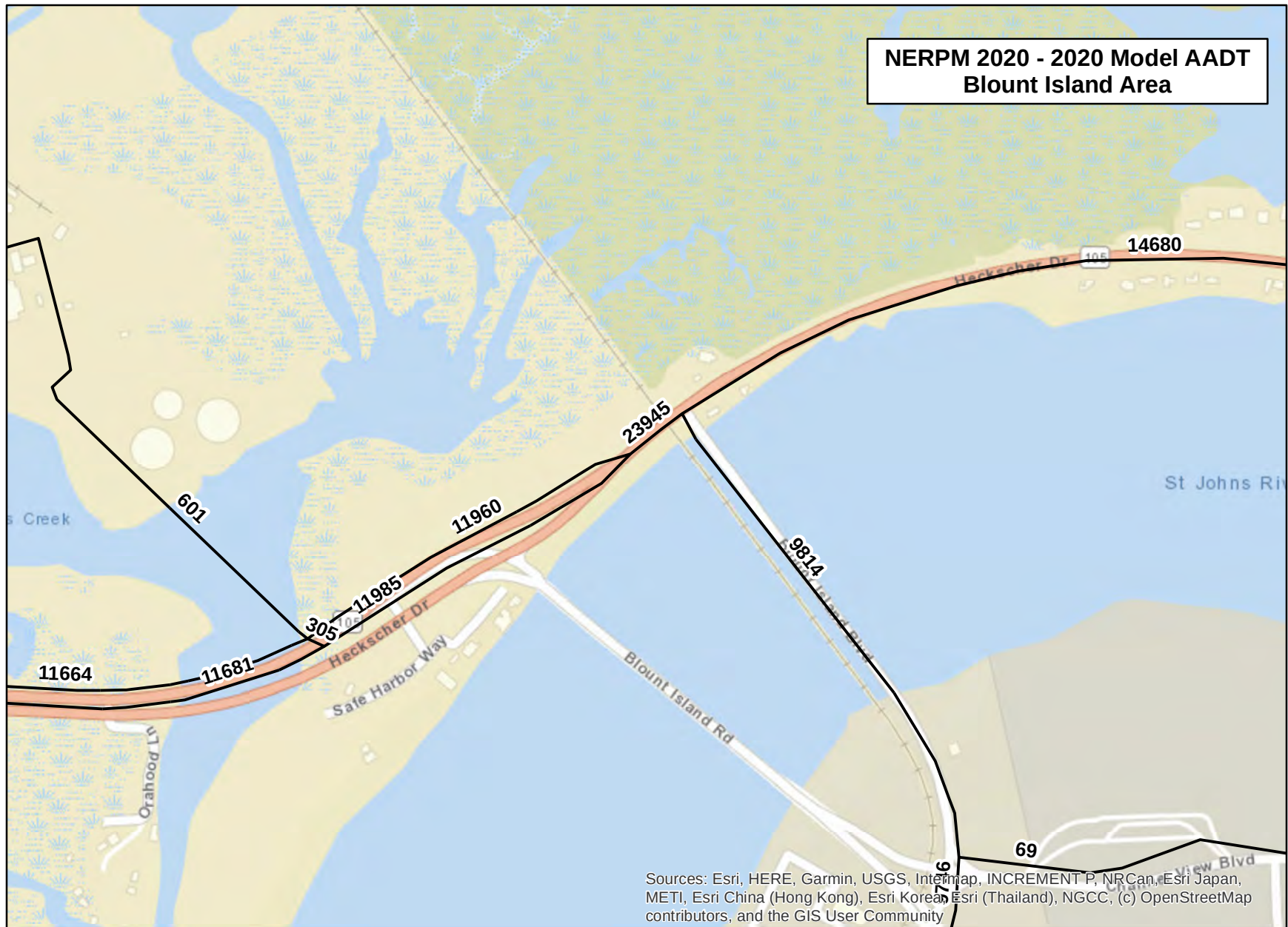
Trend R-squared:	53.90%
Compounded Annual Historic Growth Rate:	2.06%
Compounded Growth Rate (2023 to Design Year)	0.34%
Printed:	7/24/2025
Decaying Exponential Growth Option	

*Axle-Adjusted

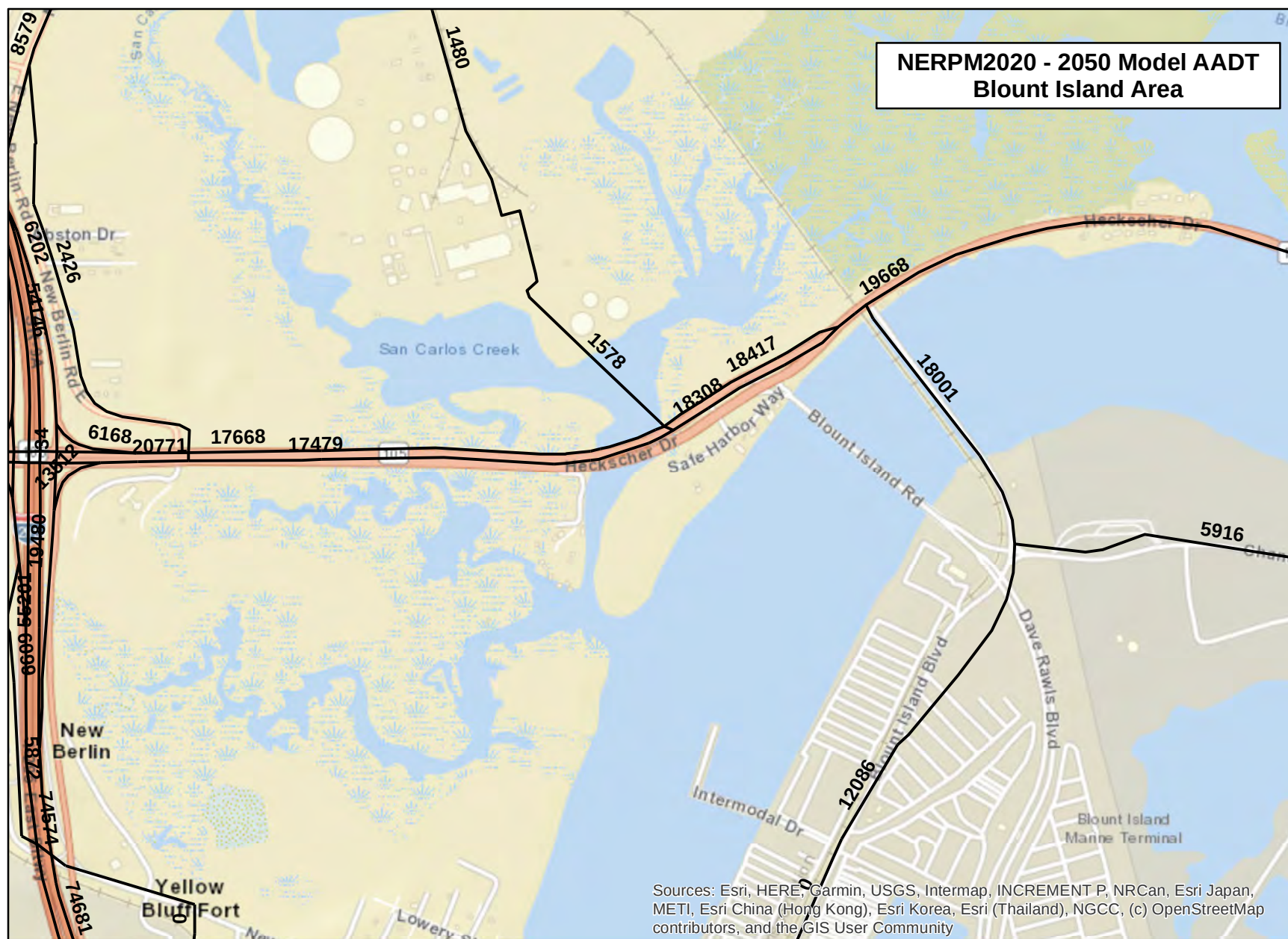
NERPM				
County	Location	2020	2050	
		Volumes	Volumes	Growth Rate
Duval	SR 105, e/o New Berlin Rd	23,345	35,147	1.373%
	SR 105, w/o Blount Island Blvd	23,945	36,725	1.436%



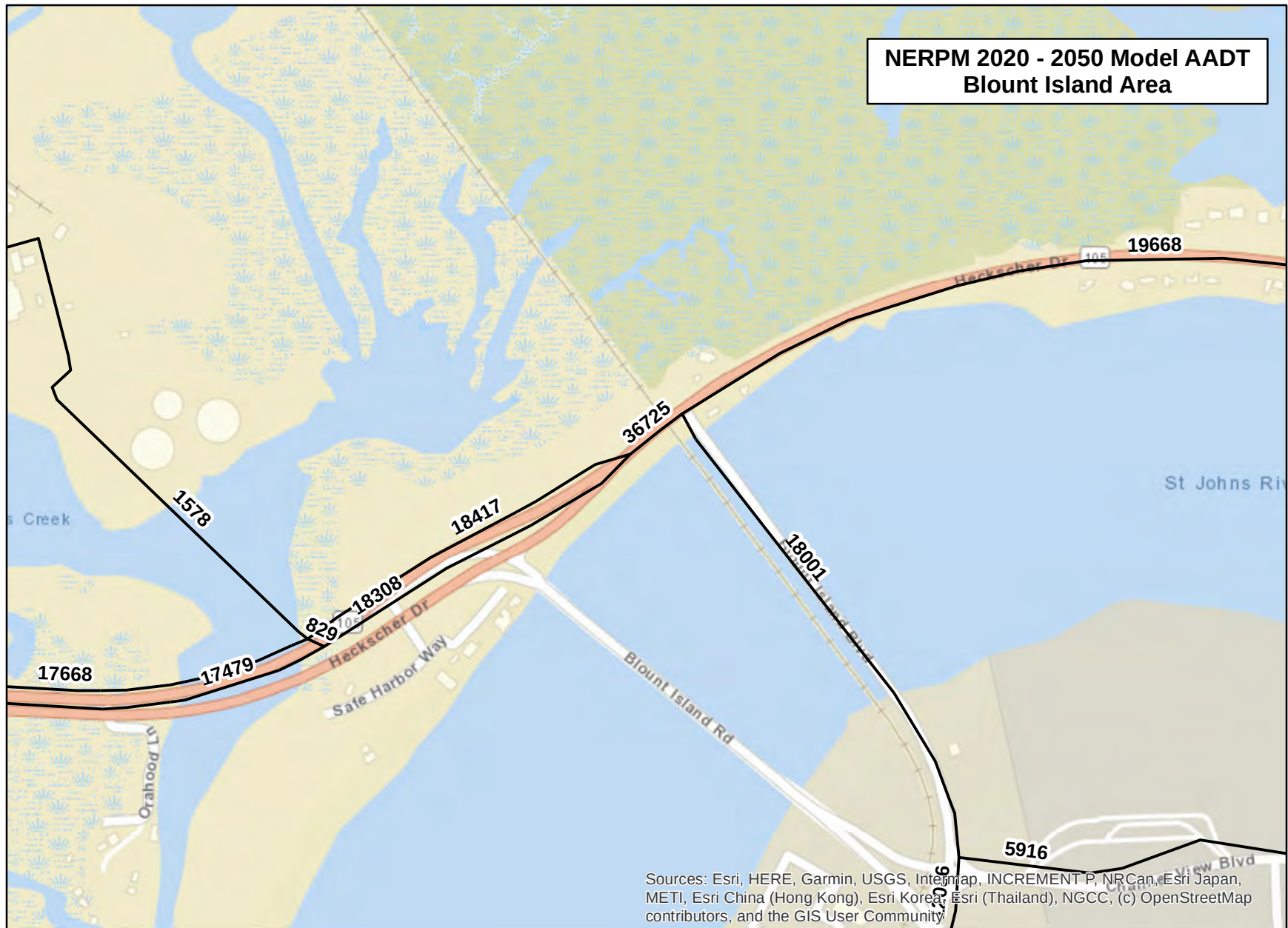
**NERPM 2020 - 2020 Model AADT
Blount Island Area**



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



**NERPM 2020 - 2050 Model AADT
Blount Island Area**



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

APPENDIX G

2050 Operational Analysis

A.M. Peak Hour

Lanes, Volumes, Timings
4: Legend Lane/New Berlin Road East & SR 105

2050 AM Peak
07/24/2025

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	277	1733	182	18	648	25	66	33	151	101	33
Future Volume (vph)	7	277	1733	182	18	648	25	66	33	151	101	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		350		350	450		1000	125		0	0	
Storage Lanes		1		1	1		1	1		0	0	
Taper Length (ft)		25			25			25			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.994			0.877			
Flt Protected		0.950			0.950			0.950				0.964
Satd. Flow (prot)	0	1720	3282	1442	1770	4620	0	1530	1526	0	0	1411
Flt Permitted		0.266			0.109			0.481				0.659
Satd. Flow (perm)	0	482	3282	1442	203	4620	0	774	1526	0	0	965
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				192		5			159			
Link Speed (mph)			45			45			30			45
Link Distance (ft)			2850			3099			916			921
Travel Time (s)			43.2			47.0			20.8			14.0
Peak Hour Factor	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	5%	10%	12%	2%	11%	27%	18%	10%	9%	33%	20%
Adj. Flow (vph)	8	292	1824	192	19	682	26	69	35	159	106	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	300	1824	192	19	708	0	69	194	0	0	141
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			48			48			26			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)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	2	1	1	2		1	2		1	2
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru
Leading Detector (ft)	20	20	100	20	20	100		20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0		0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0		0	0
Detector 1 Size(ft)	20	20	6	20	20	6		20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94			94			94
Detector 2 Size(ft)			6			6			6			6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	custom	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		Perm	NA
Protected Phases		1	6	7	5	2		7	4			8

Lanes, Volumes, Timings
4: Legend Lane/New Berlin Road East & SR 105

2050 AM Peak
07/24/2025

Lane Group	SBR
Lane Configurations	↗
Traffic Volume (vph)	389
Future Volume (vph)	389
Ideal Flow (vphpl)	1900
Storage Length (ft)	250
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1568
Flt Permitted	
Satd. Flow (perm)	1568
Right Turn on Red	Yes
Satd. Flow (RTOR)	402
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	3%
Adj. Flow (vph)	409
Shared Lane Traffic (%)	
Lane Group Flow (vph)	409
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
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	

Lanes, Volumes, Timings
4: Legend Lane/New Berlin Road East & SR 105

2050 AM Peak
07/24/2025

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Permitted Phases	1	6		6	2			4			8	
Detector Phase	1	1	6	7	5	2		7	4		8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	18.0	4.0	4.0	18.0		4.0	6.0		6.0	6.0
Minimum Split (s)	10.8	10.8	24.8	10.8	10.8	24.8		10.8	24.8		12.8	12.8
Total Split (s)	24.0	24.0	44.0	18.0	18.0	38.0		18.0	48.0		30.0	30.0
Total Split (%)	21.8%	21.8%	40.0%	16.4%	16.4%	34.5%		16.4%	43.6%		27.3%	27.3%
Maximum Green (s)	17.2	17.2	37.2	11.2	11.2	31.2		11.2	41.2		23.2	23.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8		4.8	4.8		4.8	4.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0
Total Lost Time (s)		6.8	6.8	6.8	6.8	6.8		6.8	6.8			6.8
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes
Vehicle Extension (s)	4.0	4.0	2.5	4.0	4.0	2.5		4.0	4.0		4.0	4.0
Recall Mode	None	None	C-Max	None	None	C-Max		None	None		None	None
Act Effect Green (s)		59.1	53.3	70.1	43.9	36.8		37.3	37.3			20.5
Actuated g/C Ratio		0.54	0.48	0.64	0.40	0.33		0.34	0.34			0.19
v/c Ratio		0.69	1.15	0.19	0.10	0.46		0.21	0.31			0.79
Control Delay (s/veh)		24.5	103.0	2.4	16.4	31.2		25.0	7.3			71.6
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0
Total Delay (s/veh)		24.5	103.0	2.4	16.4	31.2		25.0	7.3			71.6
LOS		C	F	A	B	C		C	A			E
Approach Delay (s/veh)			84.5			30.8			11.9			25.7
Approach LOS			F			C			B			C

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 11 (10%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay (s/veh): 61.0

Intersection LOS: E

Intersection Capacity Utilization 92.3%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 4: Legend Lane/New Berlin Road East & SR 105





Lane Group	SBR
Permitted Phases	8
Detector Phase	8
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.8
Total Split (s)	30.0
Total Split (%)	27.3%
Maximum Green (s)	23.2
Yellow Time (s)	4.8
All-Red Time (s)	2.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.8
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	4.0
Recall Mode	None
Act Effct Green (s)	20.5
Actuated g/C Ratio	0.19
v/c Ratio	0.66
Control Delay (s/veh)	9.8
Queue Delay	0.0
Total Delay (s/veh)	9.8
LOS	A
Approach Delay (s/veh)	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
6: Dave Rawls Blvd & SR 105

2050 AM Peak
07/24/2025

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1024	961	0	0	128	0
Future Volume (vph)	1024	961	0	0	128	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		325	0		0	0
Storage Lanes		1	0		2	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	0.88	1.00	1.00	0.97	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	2787	0	0	3433	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	2787	0	0	3433	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		695				
Link Speed (mph)	45			45	40	
Link Distance (ft)	2237			471	1123	
Travel Time (s)	33.9			7.1	19.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1113	1045	0	0	139	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1113	1045	0	0	139	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	48			30	48	
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
Number of Detectors	2	1			1	
Detector Template	Thru	Right			Left	
Leading Detector (ft)	100	20			20	
Trailing Detector (ft)	0	0			0	
Detector 1 Position(ft)	0	0			0	
Detector 1 Size(ft)	6	20			20	
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0			0.0	
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA	Perm			Prot	
Protected Phases	2				1	
Permitted Phases		2				

Lanes, Volumes, Timings
6: Dave Rawls Blvd & SR 105

2050 AM Peak
07/24/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Detector Phase	2	2			1	
Switch Phase						
Minimum Initial (s)	12.0	12.0			6.0	
Minimum Split (s)	24.9	24.9			24.6	
Total Split (s)	46.9	46.9			46.6	
Total Split (%)	50.2%	50.2%			49.8%	
Maximum Green (s)	40.0	40.0			40.0	
Yellow Time (s)	4.9	4.9			4.6	
All-Red Time (s)	2.0	2.0			2.0	
Lost Time Adjust (s)	0.0	0.0			0.0	
Total Lost Time (s)	6.9	6.9			6.6	
Lead/Lag	Lag	Lag			Lead	
Lead-Lag Optimize?	Yes	Yes			Yes	
Vehicle Extension (s)	4.0	4.0			4.0	
Recall Mode	Min	Min			None	
Walk Time (s)	7.0	7.0			7.0	
Flash Don't Walk (s)	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0	
Act Effct Green (s)	45.6	45.6			8.9	
Actuated g/C Ratio	0.72	0.72			0.14	
v/c Ratio	0.83	0.48			0.29	
Control Delay (s/veh)	18.1	2.6			25.9	
Queue Delay	0.0	0.0			0.0	
Total Delay (s/veh)	18.1	2.6			25.9	
LOS	B	A			C	
Approach Delay (s/veh)	10.6				25.9	
Approach LOS	B				C	
Intersection Summary						
Area Type:	Other					
Cycle Length: 93.5						
Actuated Cycle Length: 63.7						
Natural Cycle: 90						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.83						
Intersection Signal Delay (s/veh): 11.5				Intersection LOS: B		
Intersection Capacity Utilization 70.1%				ICU Level of Service C		
Analysis Period (min) 15						

Splits and Phases: 6: Dave Rawls Blvd & SR 105



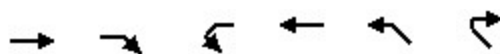
Lanes, Volumes, Timings
10: Blount Island Blvd & SR 105

2050 AM Peak
07/24/2025

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1022	31	18	522	3	2
Future Volume (vph)	1022	31	18	522	3	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.955	
Flt Protected				0.998	0.968	
Satd. Flow (prot)	1845	1583	0	1842	1722	0
Flt Permitted				0.951	0.968	
Satd. Flow (perm)	1845	1583	0	1755	1722	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		28			2	
Link Speed (mph)	45			45	30	
Link Distance (ft)	614			956	987	
Travel Time (s)	9.3			14.5	22.4	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	3%	2%	2%	3%	2%	2%
Adj. Flow (vph)	1217	37	21	621	4	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1217	37	0	642	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Number of Detectors	2	1	1	2	1	
Detector Template	Thru	Right	Left	Thru	Left	
Leading Detector (ft)	100	20	20	100	20	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	6	20	20	6	20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Perm	NA	Prot	
Protected Phases	4			8	2	

Lanes, Volumes, Timings
10: Blount Island Blvd & SR 105

2050 AM Peak
07/24/2025



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Permitted Phases		4	8			
Detector Phase	4	4	8	8	2	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	67.0	67.0	67.0	67.0	23.0	
Total Split (%)	74.4%	74.4%	74.4%	74.4%	25.6%	
Maximum Green (s)	62.5	62.5	62.5	62.5	18.5	
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	
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	3.0	
Recall Mode	None	None	None	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effect Green (s)	52.6	52.6		52.6	5.9	
Actuated g/C Ratio	0.78	0.78		0.78	0.09	
v/c Ratio	0.85	0.03		0.47	0.04	
Control Delay (s/veh)	12.2	0.8		3.8	29.4	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	12.2	0.8		3.8	29.4	
LOS	B	A		A	C	
Approach Delay (s/veh)	11.9			3.8	29.4	
Approach LOS	B			A	C	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 67.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay (s/veh): 9.2
Intersection LOS: A
Intersection Capacity Utilization 65.5%
ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 10: Blount Island Blvd & SR 105



Midday Peak Hour

Lanes, Volumes, Timings
4: Legend Lane/New Berlin Road East & SR 105

2050 Midday Peak
07/24/2025

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	336	696	111	98	2167	129	118	53	68	63	27
Future Volume (vph)	7	336	696	111	98	2167	129	118	53	68	63	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		350		350	450		1000	125		0	0	
Storage Lanes		1		1	1		1	1		0	0	
Taper Length (ft)		25			25			25			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.992			0.916			
Flt Protected		0.950			0.950			0.950				0.966
Satd. Flow (prot)	0	1643	3139	1495	1719	4513	0	1703	1677	0	0	1462
Flt Permitted		0.046			0.336			0.364				0.703
Satd. Flow (perm)	0	80	3139	1495	608	4513	0	652	1677	0	0	1064
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				134		8			36			
Link Speed (mph)			45			45			30			45
Link Distance (ft)			2850			3099			916			921
Travel Time (s)			43.2			47.0			20.8			14.0
Peak Hour Factor	0.92	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	2%	10%	15%	8%	5%	13%	31%	6%	6%	2%	34%	6%
Adj. Flow (vph)	8	405	839	134	118	2611	155	142	64	82	76	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	413	839	134	118	2766	0	142	146	0	0	109
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			48			48			26			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)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	2	1	1	2		1	2		1	2
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru
Leading Detector (ft)	20	20	100	20	20	100		20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0		0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0		0	0
Detector 1 Size(ft)	20	20	6	20	20	6		20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94			94			94
Detector 2 Size(ft)			6			6			6			6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	custom	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		Perm	NA
Protected Phases		1	6	7	5	2		7	4			8

Lanes, Volumes, Timings
4: Legend Lane/New Berlin Road East & SR 105

2050 Midday Peak
07/24/2025

Lane Group	SBR
Lane Configurations	↗
Traffic Volume (vph)	351
Future Volume (vph)	351
Ideal Flow (vphpl)	1900
Storage Length (ft)	250
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1495
Flt Permitted	
Satd. Flow (perm)	1495
Right Turn on Red	Yes
Satd. Flow (RTOR)	209
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.83
Heavy Vehicles (%)	8%
Adj. Flow (vph)	423
Shared Lane Traffic (%)	
Lane Group Flow (vph)	423
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
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	

Lanes, Volumes, Timings
4: Legend Lane/New Berlin Road East & SR 105

2050 Midday Peak
07/24/2025

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Permitted Phases	1	6		6	2			4			8	
Detector Phase	1	1	6	7	5	2		7	4		8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	18.0	4.0	4.0	18.0		4.0	6.0		6.0	6.0
Minimum Split (s)	10.8	10.8	24.8	10.8	10.8	24.8		10.8	24.8		12.8	12.8
Total Split (s)	33.0	33.0	103.0	20.0	17.0	87.0		20.0	40.0		20.0	20.0
Total Split (%)	20.6%	20.6%	64.4%	12.5%	10.6%	54.4%		12.5%	25.0%		12.5%	12.5%
Maximum Green (s)	26.2	26.2	96.2	13.2	10.2	80.2		13.2	33.2		13.2	13.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8		4.8	4.8		4.8	4.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0
Total Lost Time (s)		6.8	6.8	6.8	6.8	6.8		6.8	6.8			6.8
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes
Vehicle Extension (s)	4.0	4.0	2.5	4.0	4.0	2.5		4.0	4.0		4.0	4.0
Recall Mode	None	None	C-Max	None	None	C-Max		None	None		None	None
Act Effect Green (s)		113.2	96.9	116.9	89.7	80.2		33.2	33.2			13.3
Actuated g/C Ratio		0.71	0.61	0.73	0.56	0.50		0.21	0.21			0.08
v/c Ratio		1.32	0.44	0.12	0.29	1.22		0.64	0.39			1.25
Control Delay (s/veh)		207.2	18.0	1.1	11.4	139.1		69.4	44.2			232.1
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0
Total Delay (s/veh)		207.2	18.0	1.1	11.4	139.1		69.4	44.2			232.1
LOS		F	B	A	B	F		E	D			F
Approach Delay (s/veh)			72.7			133.8			56.6			205.3
Approach LOS			E			F			E			F

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 53.7 (34%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.34

Intersection Signal Delay (s/veh): 120.3

Intersection LOS: F

Intersection Capacity Utilization 115.1%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 4: Legend Lane/New Berlin Road East & SR 105





Lane Group	SBR
Permitted Phases	8
Detector Phase	8
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.8
Total Split (s)	20.0
Total Split (%)	12.5%
Maximum Green (s)	13.2
Yellow Time (s)	4.8
All-Red Time (s)	2.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.8
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	4.0
Recall Mode	None
Act Effct Green (s)	13.3
Actuated g/C Ratio	0.08
v/c Ratio	1.34
Control Delay (s/veh)	198.4
Queue Delay	0.0
Total Delay (s/veh)	198.4
LOS	F
Approach Delay (s/veh)	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
6: Dave Rawls Blvd & SR 105

2050 Midday Peak
07/24/2025

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations		 			 	
Traffic Volume (vph)	615	212	0	0	1191	0
Future Volume (vph)	615	212	0	0	1191	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		325	0		0	0
Storage Lanes		1	0		2	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	0.88	1.00	1.00	0.97	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	2787	0	0	3183	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	2787	0	0	3183	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		186				
Link Speed (mph)	45			45	40	
Link Distance (ft)	2237			471	1123	
Travel Time (s)	33.9			7.1	19.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	10%	2%
Adj. Flow (vph)	668	230	0	0	1295	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	668	230	0	0	1295	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	48			30	48	
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
Number of Detectors	2	1			1	
Detector Template	Thru	Right			Left	
Leading Detector (ft)	100	20			20	
Trailing Detector (ft)	0	0			0	
Detector 1 Position(ft)	0	0			0	
Detector 1 Size(ft)	6	20			20	
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0			0.0	
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA	Perm			Prot	
Protected Phases	2				1	

Lanes, Volumes, Timings
6: Dave Rawls Blvd & SR 105

2050 Midday Peak
07/24/2025

	→	↗	↖	←	↙	↘
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Permitted Phases	2					
Detector Phase	2	2			1	
Switch Phase						
Minimum Initial (s)	12.0	12.0			6.0	
Minimum Split (s)	24.9	24.9			24.6	
Total Split (s)	36.9	36.9			66.6	
Total Split (%)	35.7%	35.7%			64.3%	
Maximum Green (s)	30.0	30.0			60.0	
Yellow Time (s)	4.9	4.9			4.6	
All-Red Time (s)	2.0	2.0			2.0	
Lost Time Adjust (s)	0.0	0.0			0.0	
Total Lost Time (s)	6.9	6.9			6.6	
Lead/Lag	Lag	Lag			Lead	
Lead-Lag Optimize?	Yes	Yes			Yes	
Vehicle Extension (s)	4.0	4.0			4.0	
Recall Mode	Min	Min			None	
Walk Time (s)	7.0	7.0			7.0	
Flash Don't Walk (s)	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0	
Act Effect Green (s)	30.4	30.4			43.5	
Actuated g/C Ratio	0.35	0.35			0.50	
v/c Ratio	1.03	0.21			0.82	
Control Delay (s/veh)	75.8	6.8			23.2	
Queue Delay	0.0	0.0			0.0	
Total Delay (s/veh)	75.8	6.8			23.2	
LOS	E	A			C	
Approach Delay (s/veh)	58.2				23.2	
Approach LOS	E				C	

Intersection Summary

Area Type: Other

Cycle Length: 103.5

Actuated Cycle Length: 87.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay (s/veh): 37.5

Intersection LOS: D

Intersection Capacity Utilization 77.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: Dave Rawls Blvd & SR 105



Lanes, Volumes, Timings
10: Blount Island Blvd & SR 105

2050 Midday Peak
07/24/2025

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	621	3	7	1009	167	28
Future Volume (vph)	621	3	7	1009	167	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.981	
Flt Protected					0.959	
Satd. Flow (prot)	1863	1583	0	1845	1743	0
Flt Permitted				0.996	0.959	
Satd. Flow (perm)	1863	1583	0	1837	1743	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		3			10	
Link Speed (mph)	45			45	30	
Link Distance (ft)	614			956	987	
Travel Time (s)	9.3			14.5	22.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	3%	2%	6%
Adj. Flow (vph)	675	3	8	1097	182	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	675	3	0	1105	212	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Number of Detectors	2	1	1	2	1	
Detector Template	Thru	Right	Left	Thru	Left	
Leading Detector (ft)	100	20	20	100	20	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	6	20	20	6	20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Perm	NA	Prot	
Protected Phases	4			8	2	

Lanes, Volumes, Timings
10: Blount Island Blvd & SR 105

2050 Midday Peak
07/24/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Permitted Phases		4	8			
Detector Phase	4	4	8	8	2	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	57.0	57.0	57.0	57.0	23.0	
Total Split (%)	71.3%	71.3%	71.3%	71.3%	28.8%	
Maximum Green (s)	52.5	52.5	52.5	52.5	18.5	
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	
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	3.0	
Recall Mode	None	None	None	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effect Green (s)	45.4	45.4		45.4	13.3	
Actuated g/C Ratio	0.67	0.67		0.67	0.20	
v/c Ratio	0.54	0.00		0.90	0.61	
Control Delay (s/veh)	8.2	3.3		22.6	33.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	8.2	3.3		22.6	33.7	
LOS	A	A		C	C	
Approach Delay (s/veh)	8.2			22.6	33.7	
Approach LOS	A			C	C	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 68.2

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay (s/veh): 18.9

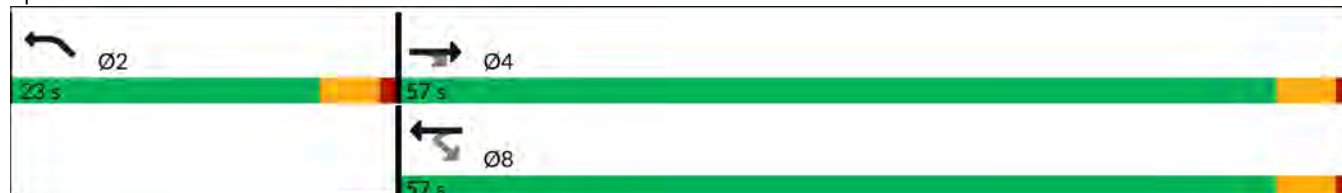
Intersection LOS: B

Intersection Capacity Utilization 77.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 10: Blount Island Blvd & SR 105



P.M. Peak Hour

Lanes, Volumes, Timings
4: Legend Lane/New Berlin Road East & SR 105

2050 PM Peak
07/24/2025

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	413	645	133	71	1780	109	121	41	58	63	22
Future Volume (vph)	8	413	645	133	71	1780	109	121	41	58	63	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		350		350	450		1000	125		0	0	
Storage Lanes		1		1	1		1	1		0	0	
Taper Length (ft)		25			25			25			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.991			0.912			
Flt Protected		0.950			0.950			0.950				0.964
Satd. Flow (prot)	0	1673	3343	1429	1719	4821	0	1641	1689	0	0	1579
Flt Permitted		0.046			0.399			0.440				0.717
Satd. Flow (perm)	0	81	3343	1429	722	4821	0	760	1689	0	0	1174
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				137		8			41			
Link Speed (mph)			45			45			30			45
Link Distance (ft)			2850			3099			916			921
Travel Time (s)			43.2			47.0			20.8			14.0
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	8%	8%	13%	5%	6%	17%	10%	2%	3%	21%	2%
Adj. Flow (vph)	9	426	665	137	73	1835	112	125	42	60	65	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	435	665	137	73	1947	0	125	102	0	0	88
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			48			48			26			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)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	2	1	1	2		1	2		1	2
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru
Leading Detector (ft)	20	20	100	20	20	100		20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0		0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0		0	0
Detector 1 Size(ft)	20	20	6	20	20	6		20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94			94			94
Detector 2 Size(ft)			6			6			6			6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	custom	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		Perm	NA
Protected Phases		1	6	7	5	2		7	4			8

Lanes, Volumes, Timings
4: Legend Lane/New Berlin Road East & SR 105

2050 PM Peak
07/24/2025

Lane Group	SBR
Lane Configurations	↗
Traffic Volume (vph)	325
Future Volume (vph)	325
Ideal Flow (vphpl)	1900
Storage Length (ft)	250
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1553
Flt Permitted	
Satd. Flow (perm)	1553
Right Turn on Red	Yes
Satd. Flow (RTOR)	222
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.97
Heavy Vehicles (%)	4%
Adj. Flow (vph)	335
Shared Lane Traffic (%)	
Lane Group Flow (vph)	335
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
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	

Lanes, Volumes, Timings
4: Legend Lane/New Berlin Road East & SR 105

2050 PM Peak
07/24/2025

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Permitted Phases	1	6		6	2			4			8	
Detector Phase	1	1	6	7	5	2		7	4		8	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	18.0	4.0	4.0	18.0		4.0	6.0		6.0	6.0
Minimum Split (s)	10.8	10.8	24.8	10.8	10.8	24.8		10.8	24.8		12.8	12.8
Total Split (s)	33.0	33.0	103.0	20.0	17.0	87.0		20.0	40.0		20.0	20.0
Total Split (%)	20.6%	20.6%	64.4%	12.5%	10.6%	54.4%		12.5%	25.0%		12.5%	12.5%
Maximum Green (s)	26.2	26.2	96.2	13.2	10.2	80.2		13.2	33.2		13.2	13.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8		4.8	4.8		4.8	4.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0
Total Lost Time (s)		6.8	6.8	6.8	6.8	6.8		6.8	6.8			6.8
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes
Vehicle Extension (s)	4.0	4.0	2.5	4.0	4.0	2.5		4.0	4.0		4.0	4.0
Recall Mode	None	None	C-Max	None	None	C-Max		None	None		None	None
Act Effect Green (s)		113.2	97.9	117.6	88.7	80.2		33.2	33.2			13.5
Actuated g/C Ratio		0.71	0.61	0.74	0.55	0.50		0.21	0.21			0.08
v/c Ratio		1.37	0.33	0.13	0.16	0.80		0.55	0.27			0.90
Control Delay (s/veh)		226.0	15.7	1.1	10.0	36.5		64.3	33.5			136.8
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0
Total Delay (s/veh)		226.0	15.7	1.1	10.0	36.5		64.3	33.5			136.8
LOS		F	B	A	B	D		E	C			F
Approach Delay (s/veh)			88.0			35.5			50.5			86.9
Approach LOS			F			D			D			F

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 53.7 (34%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.37

Intersection Signal Delay (s/veh): 58.6

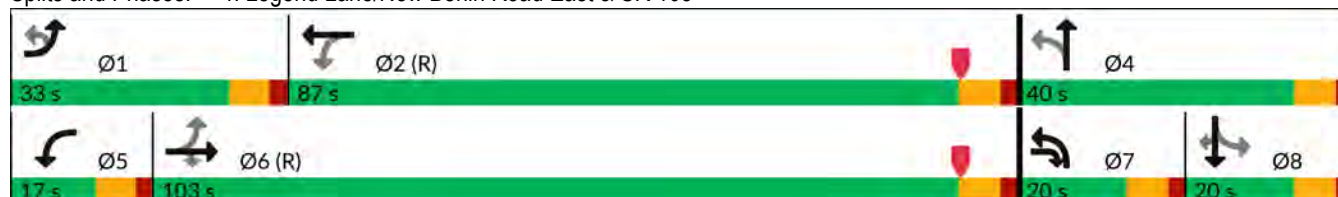
Intersection LOS: E

Intersection Capacity Utilization 109.6%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 4: Legend Lane/New Berlin Road East & SR 105



Lane Group	SBR
Permitted Phases	8
Detector Phase	8
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	12.8
Total Split (s)	20.0
Total Split (%)	12.5%
Maximum Green (s)	13.2
Yellow Time (s)	4.8
All-Red Time (s)	2.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.8
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	4.0
Recall Mode	None
Act Effct Green (s)	13.5
Actuated g/C Ratio	0.08
v/c Ratio	1.01
Control Delay (s/veh)	73.8
Queue Delay	0.0
Total Delay (s/veh)	73.8
LOS	E
Approach Delay (s/veh)	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
6: Dave Rawls Blvd & SR 105

2050 PM Peak
07/24/2025

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations		 			 	
Traffic Volume (vph)	659	104	0	0	648	0
Future Volume (vph)	659	104	0	0	648	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		325	0		0	0
Storage Lanes		1	0		2	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	0.88	1.00	1.00	0.97	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	2787	0	0	3155	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	2787	0	0	3155	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		85				
Link Speed (mph)	45			45	40	
Link Distance (ft)	2237			471	1123	
Travel Time (s)	33.9			7.1	19.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	11%	2%
Adj. Flow (vph)	716	113	0	0	704	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	716	113	0	0	704	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	48			30	48	
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
Number of Detectors	2	1			1	
Detector Template	Thru	Right			Left	
Leading Detector (ft)	100	20			20	
Trailing Detector (ft)	0	0			0	
Detector 1 Position(ft)	0	0			0	
Detector 1 Size(ft)	6	20			20	
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0			0.0	
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA	Perm			Prot	
Protected Phases	2				1	

Lanes, Volumes, Timings
6: Dave Rawls Blvd & SR 105

2050 PM Peak
07/24/2025

	→	↗	↖	←	↘	↙
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Permitted Phases	2					
Detector Phase	2	2			1	
Switch Phase						
Minimum Initial (s)	12.0	12.0			6.0	
Minimum Split (s)	24.9	24.9			24.6	
Total Split (s)	36.9	36.9			66.6	
Total Split (%)	35.7%	35.7%			64.3%	
Maximum Green (s)	30.0	30.0			60.0	
Yellow Time (s)	4.9	4.9			4.6	
All-Red Time (s)	2.0	2.0			2.0	
Lost Time Adjust (s)	0.0	0.0			0.0	
Total Lost Time (s)	6.9	6.9			6.6	
Lead/Lag	Lag	Lag			Lead	
Lead-Lag Optimize?	Yes	Yes			Yes	
Vehicle Extension (s)	4.0	4.0			4.0	
Recall Mode	Min	Min			None	
Walk Time (s)	7.0	7.0			7.0	
Flash Don't Walk (s)	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0	
Act Effct Green (s)	30.1	30.1			20.7	
Actuated g/C Ratio	0.47	0.47			0.32	
v/c Ratio	0.82	0.08			0.69	
Control Delay (s/veh)	26.3	4.6			22.9	
Queue Delay	0.0	0.0			0.0	
Total Delay (s/veh)	26.3	4.6			22.9	
LOS	C	A			C	
Approach Delay (s/veh)	23.3				22.9	
Approach LOS	C				C	

Intersection Summary

Area Type: Other

Cycle Length: 103.5

Actuated Cycle Length: 64.4

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay (s/veh): 23.1

Intersection LOS: C

Intersection Capacity Utilization 64.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: Dave Rawls Blvd & SR 105



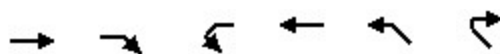
Lanes, Volumes, Timings
10: Blount Island Blvd & SR 105

2050 PM Peak
07/24/2025

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	676	3	3	1122	40	25
Future Volume (vph)	676	3	3	1122	40	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.947	
Flt Protected					0.970	
Satd. Flow (prot)	1863	1077	0	1863	1685	0
Flt Permitted				0.999	0.970	
Satd. Flow (perm)	1863	1077	0	1861	1685	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		3			28	
Link Speed (mph)	45			45	30	
Link Distance (ft)	614			956	987	
Travel Time (s)	9.3			14.5	22.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	50%	2%	2%	2%	6%
Adj. Flow (vph)	751	3	3	1247	44	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	751	3	0	1250	72	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Number of Detectors	2	1	1	2	1	
Detector Template	Thru	Right	Left	Thru	Left	
Leading Detector (ft)	100	20	20	100	20	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	6	20	20	6	20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Perm	NA	Prot	
Protected Phases	4			8	2	

Lanes, Volumes, Timings
10: Blount Island Blvd & SR 105

2050 PM Peak
07/24/2025



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Permitted Phases		4	8			
Detector Phase	4	4	8	8	2	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	67.0	67.0	67.0	67.0	23.0	
Total Split (%)	74.4%	74.4%	74.4%	74.4%	25.6%	
Maximum Green (s)	62.5	62.5	62.5	62.5	18.5	
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	
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	3.0	
Recall Mode	None	None	None	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effect Green (s)	56.3	56.3		56.3	7.7	
Actuated g/C Ratio	0.77	0.77		0.77	0.11	
v/c Ratio	0.52	0.00		0.87	0.36	
Control Delay (s/veh)	4.9	1.7		15.3	27.6	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	4.9	1.7		15.3	27.6	
LOS	A	A		B	C	
Approach Delay (s/veh)	4.9			15.3	27.6	
Approach LOS	A			B	C	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 73.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay (s/veh): 11.9 Intersection LOS: B
Intersection Capacity Utilization 73.1% ICU Level of Service D
Analysis Period (min) 15

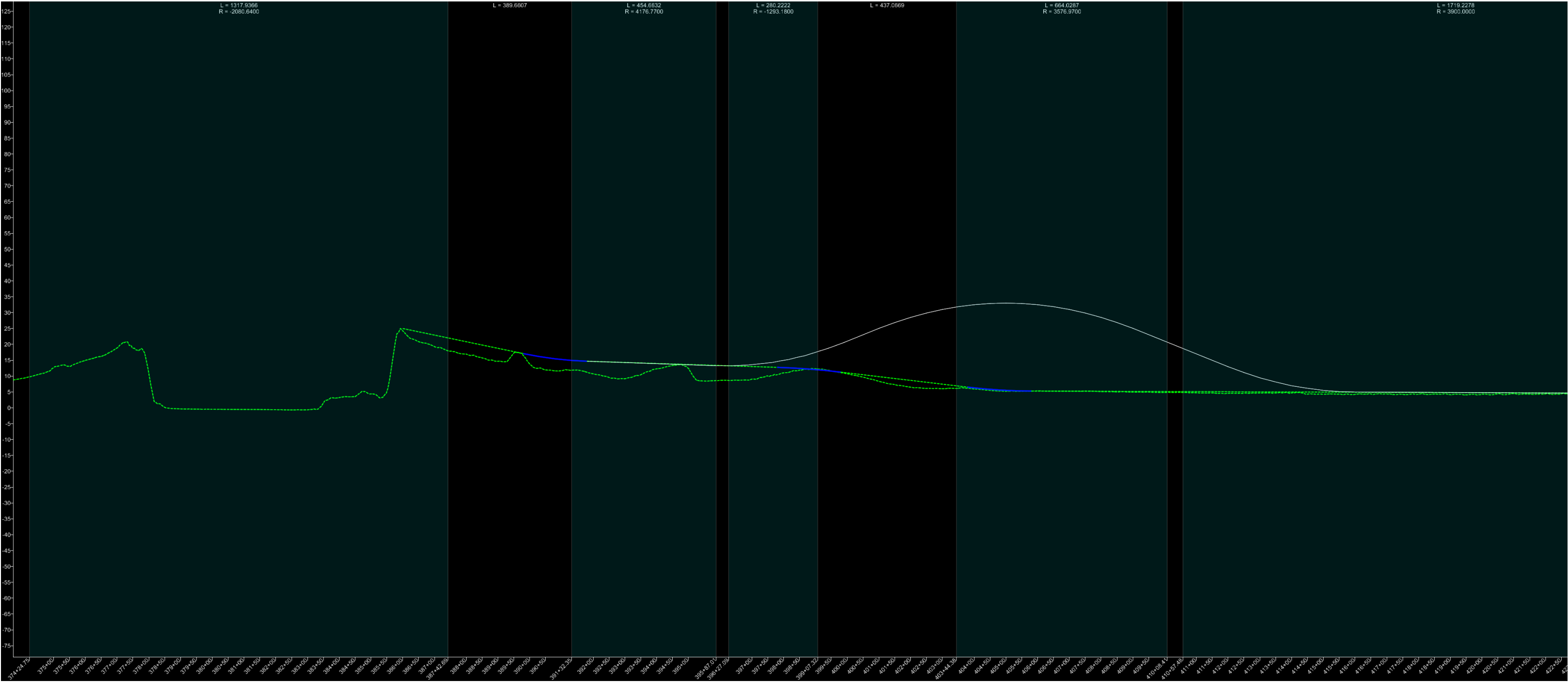
Splits and Phases: 10: Blount Island Blvd & SR 105



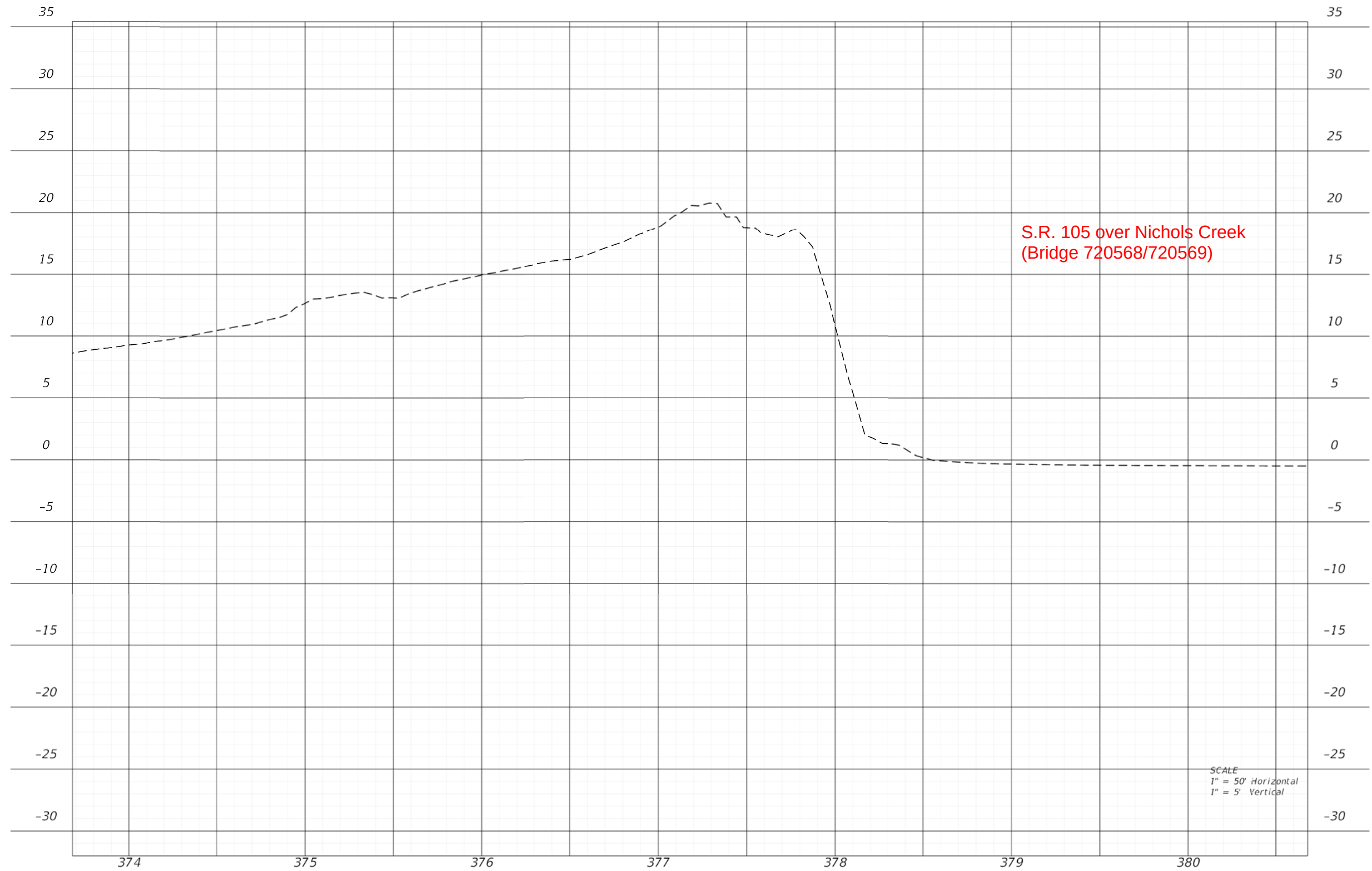
APPENDIX H

Concept Profile Views

Single Grade Separation



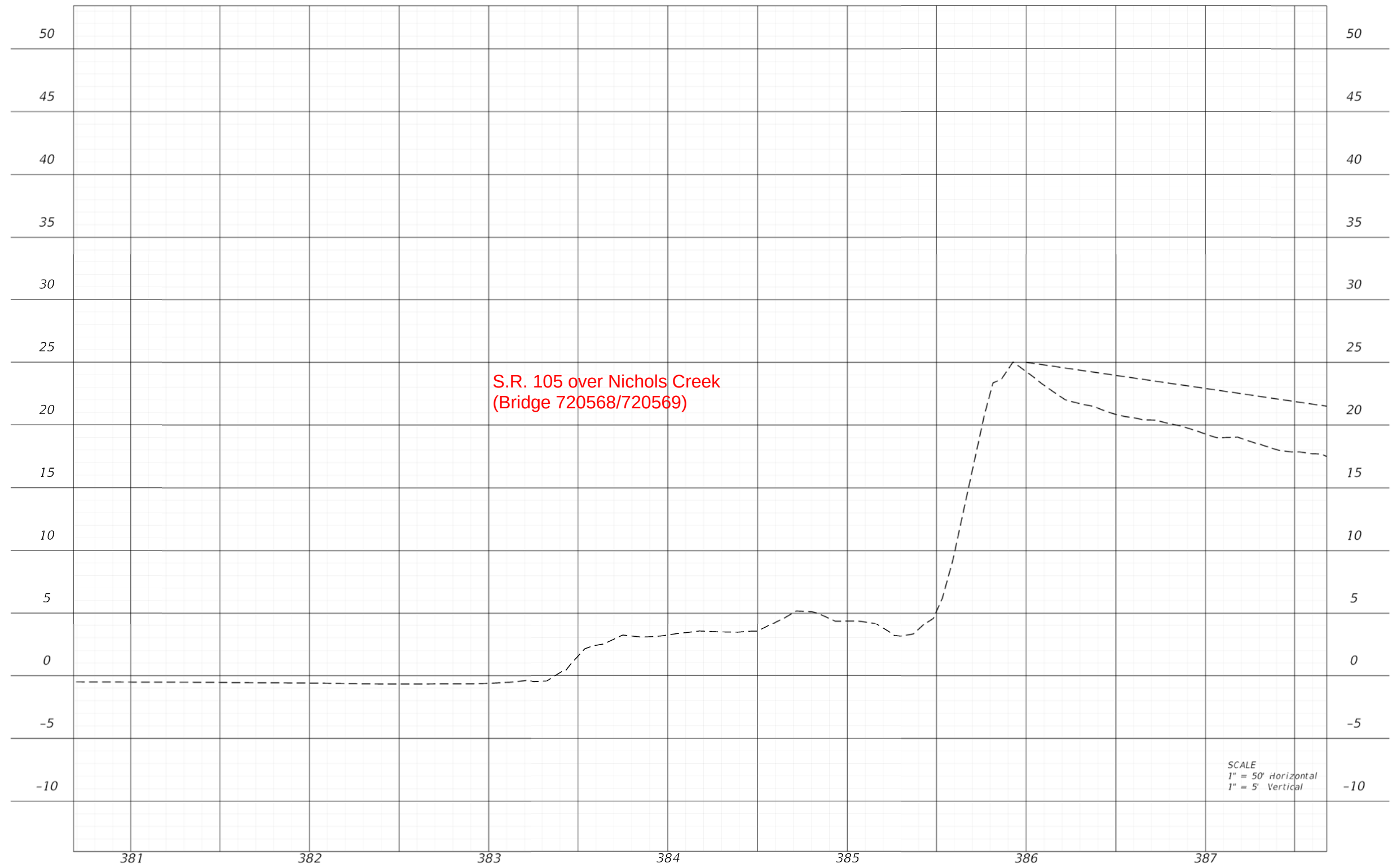
ELEVATION



- Proposed roadway elevation
- Existing roadway elevation and ground elevation

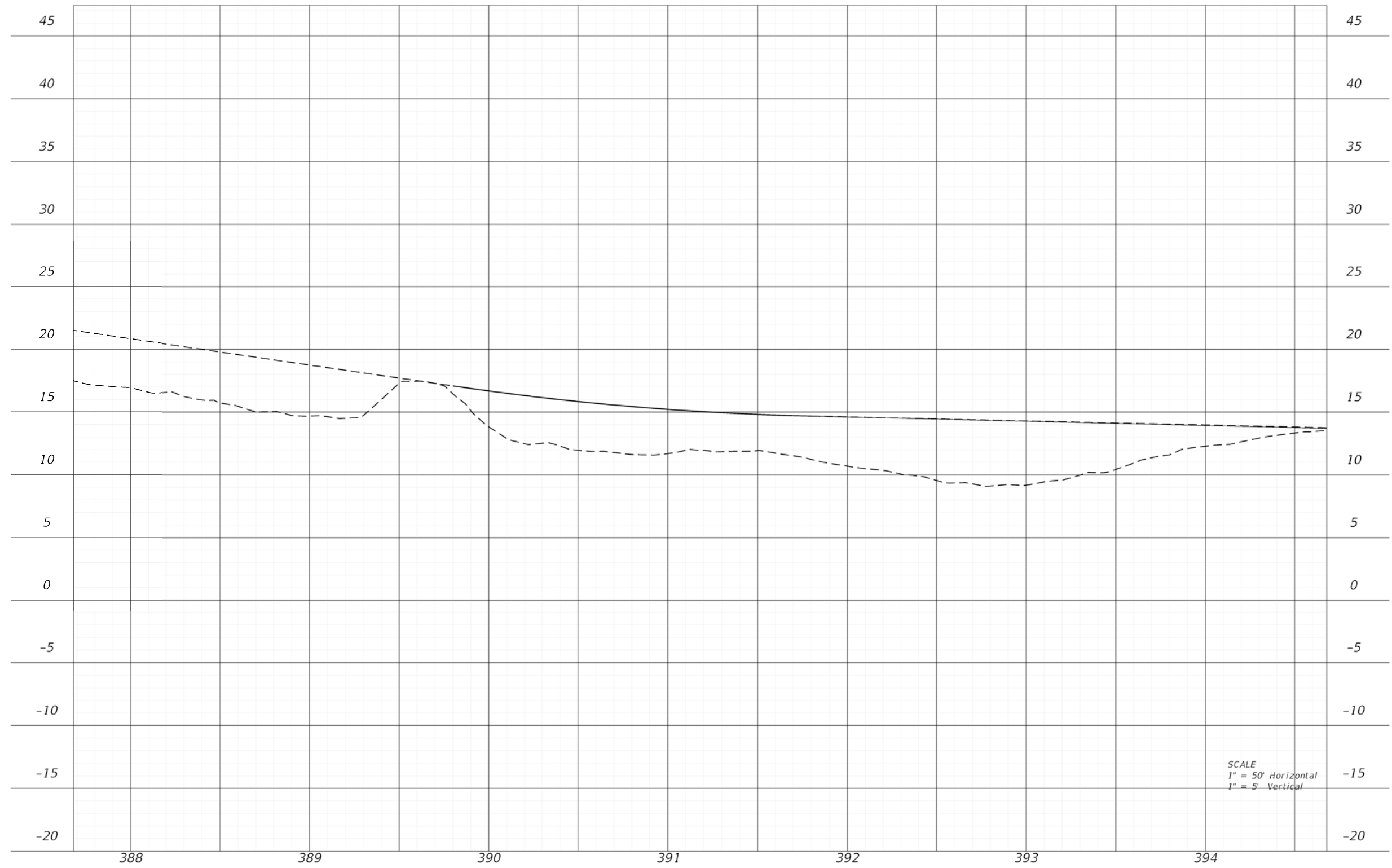
STATION

ELEVATION



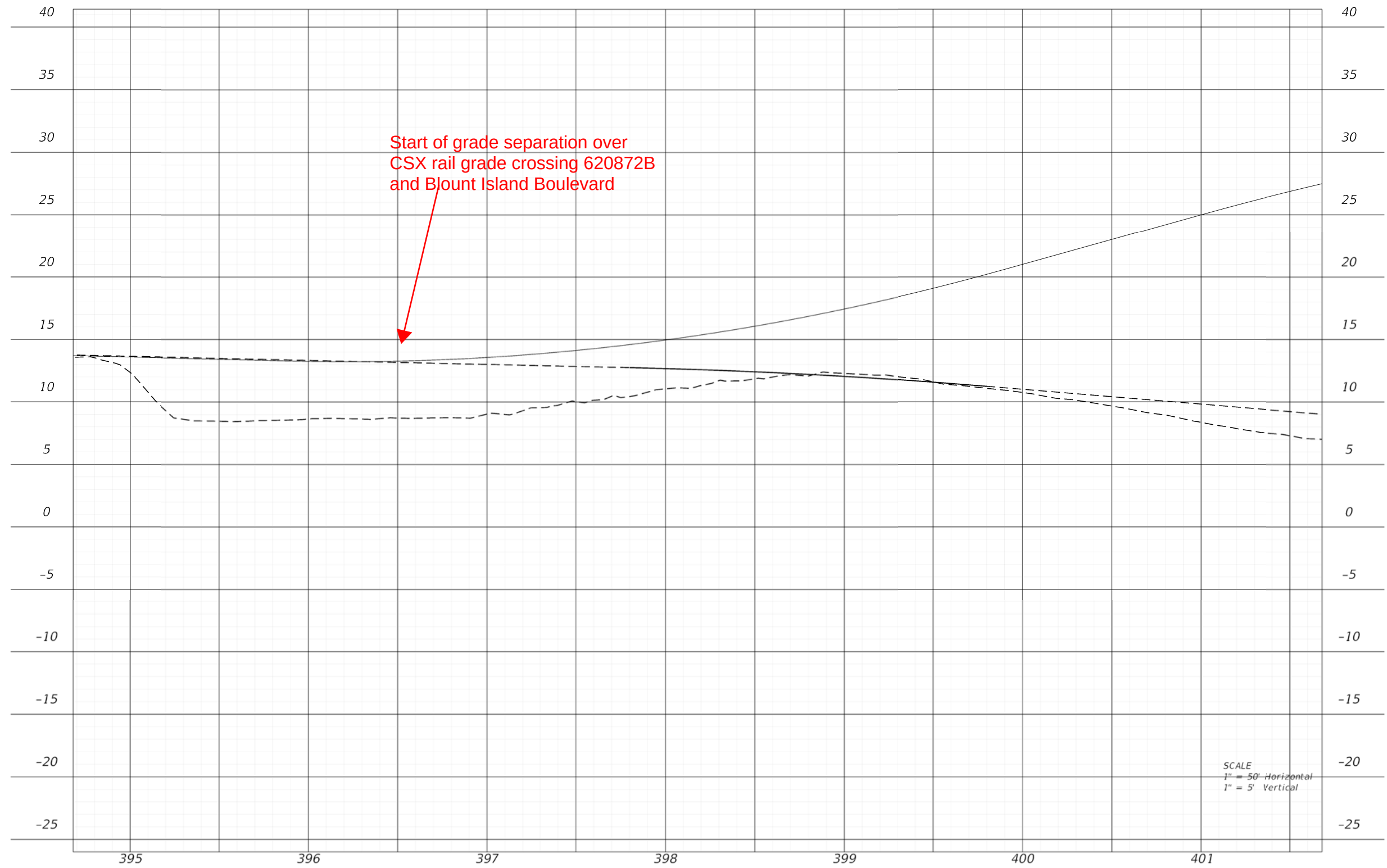
STATION

ELEVATION



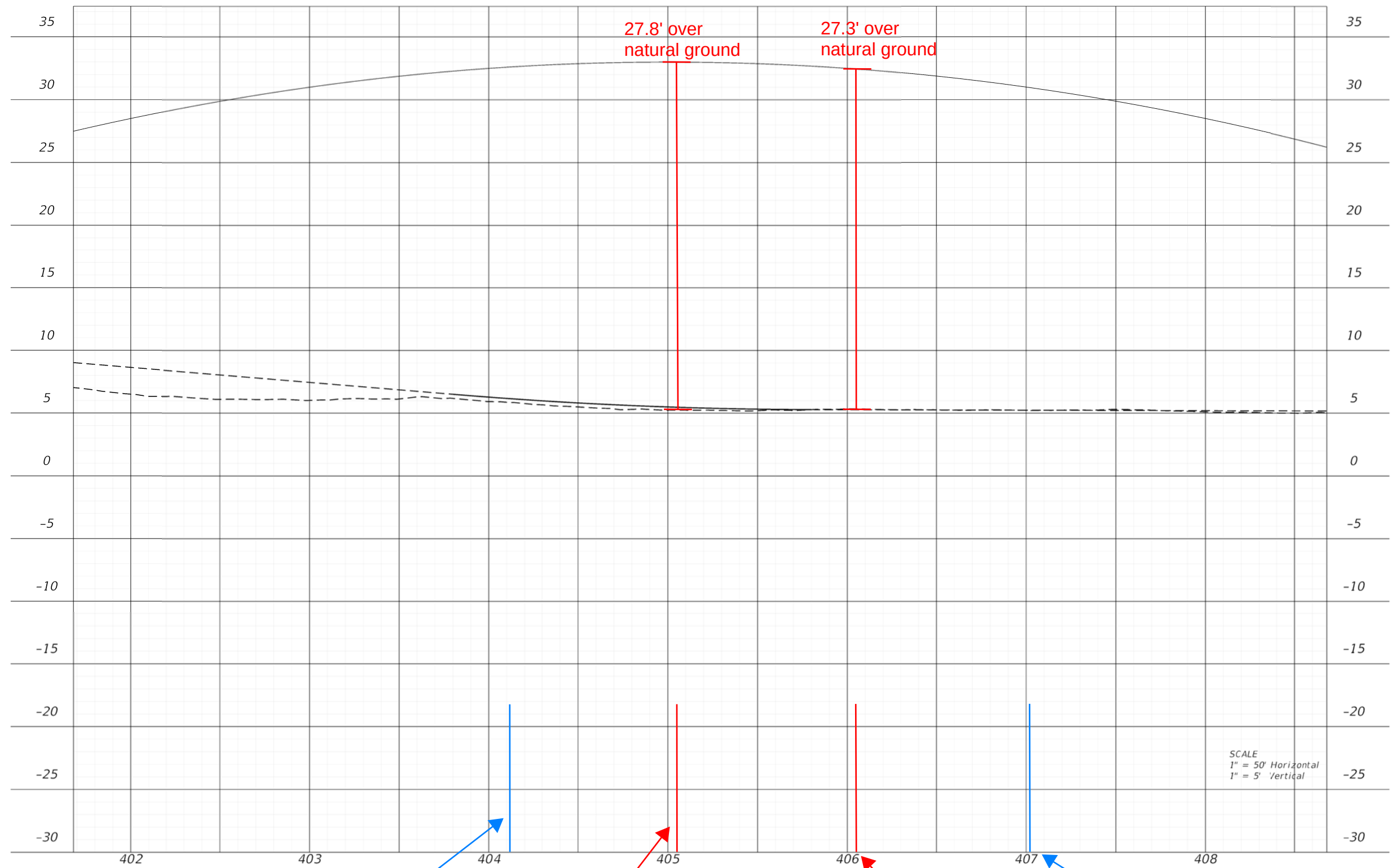
STATION

ELEVATION



STATION

ELEVATION



Start of bridge

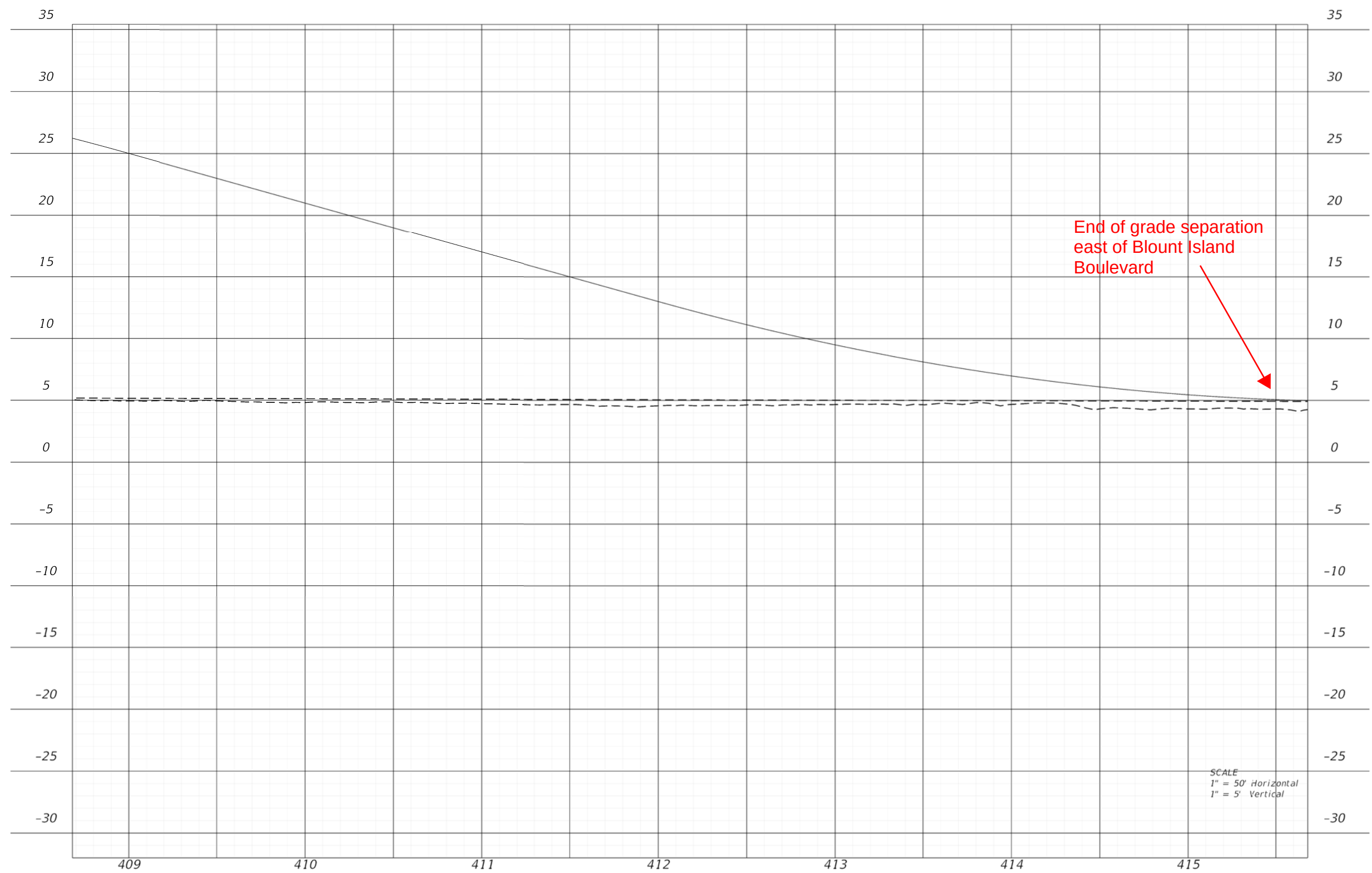
Location of CSX Rail Grade Crossing 620872B

CL of Blount Island Boulevard

End of bridge

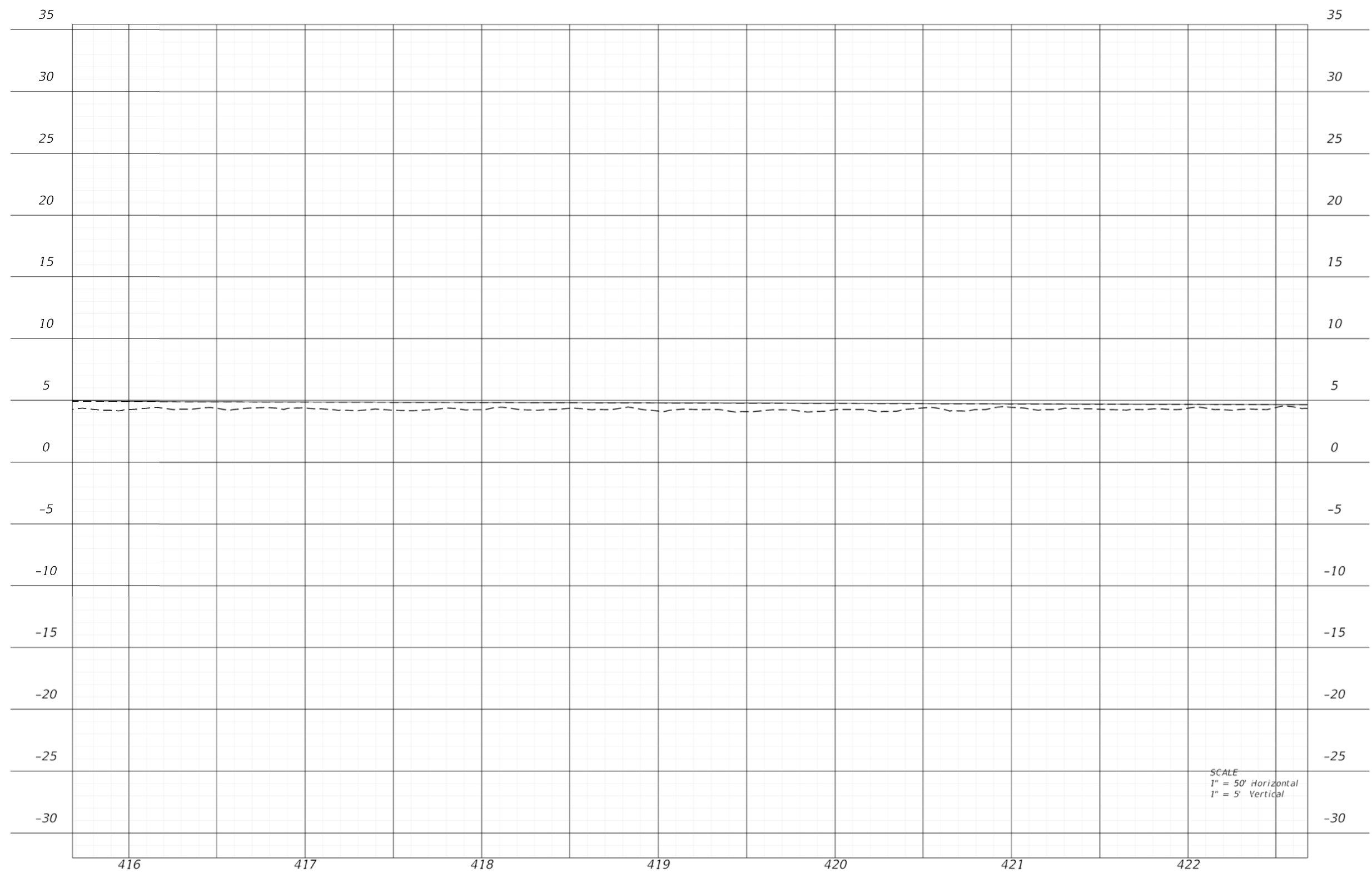
STATION

ELEVATION



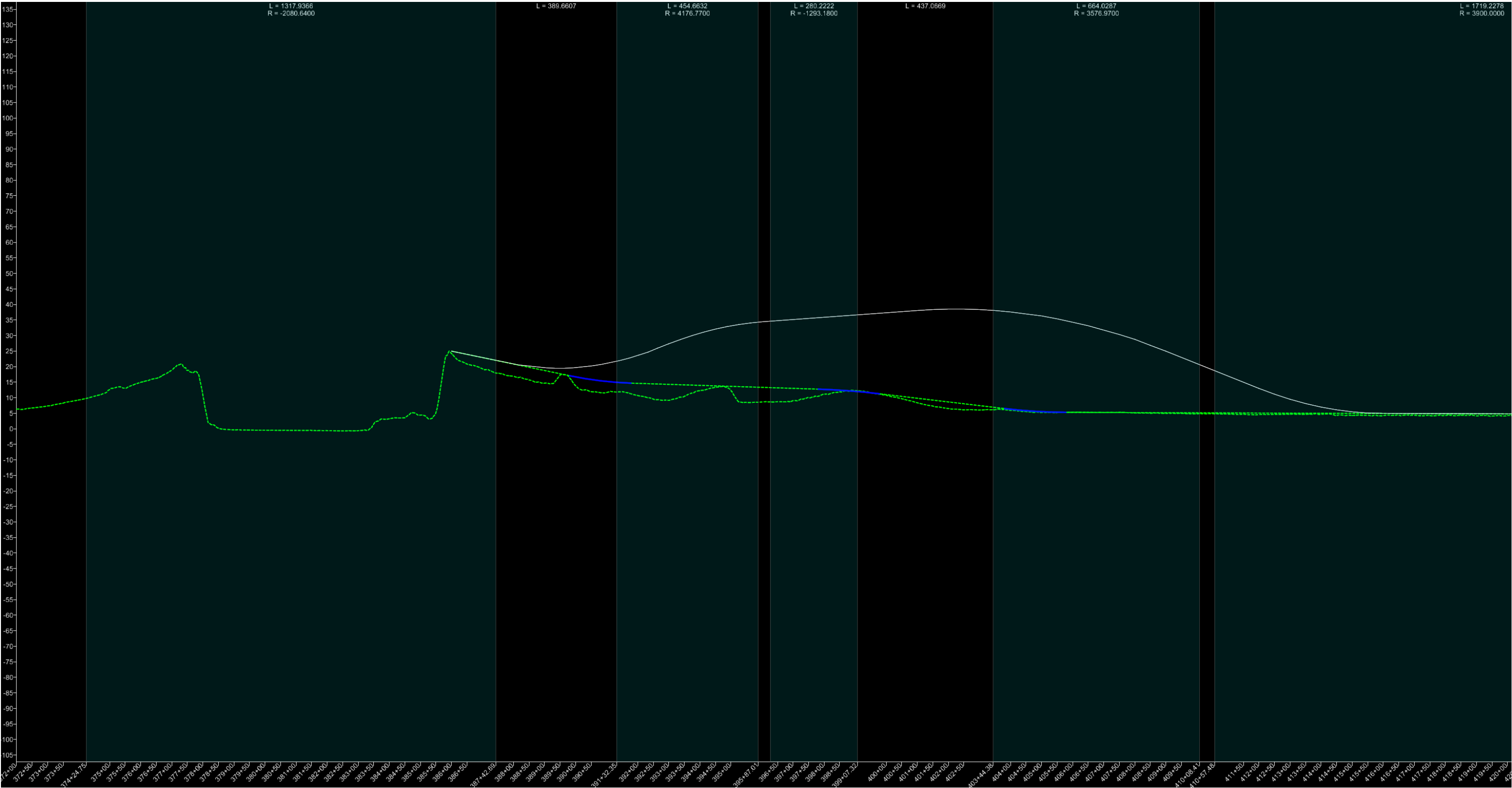
STATION

ELEVATION

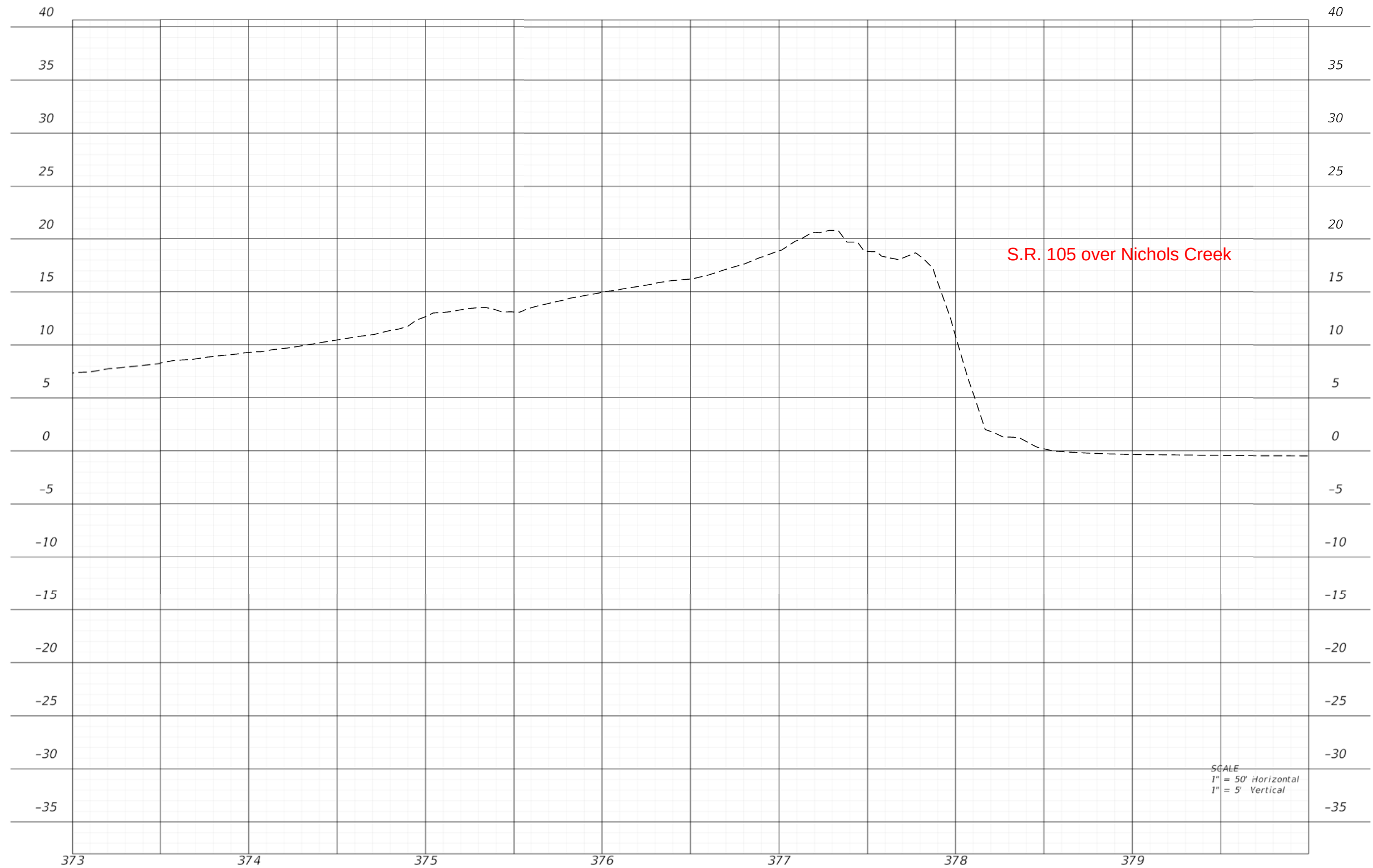


STATION

Two Grade Separations



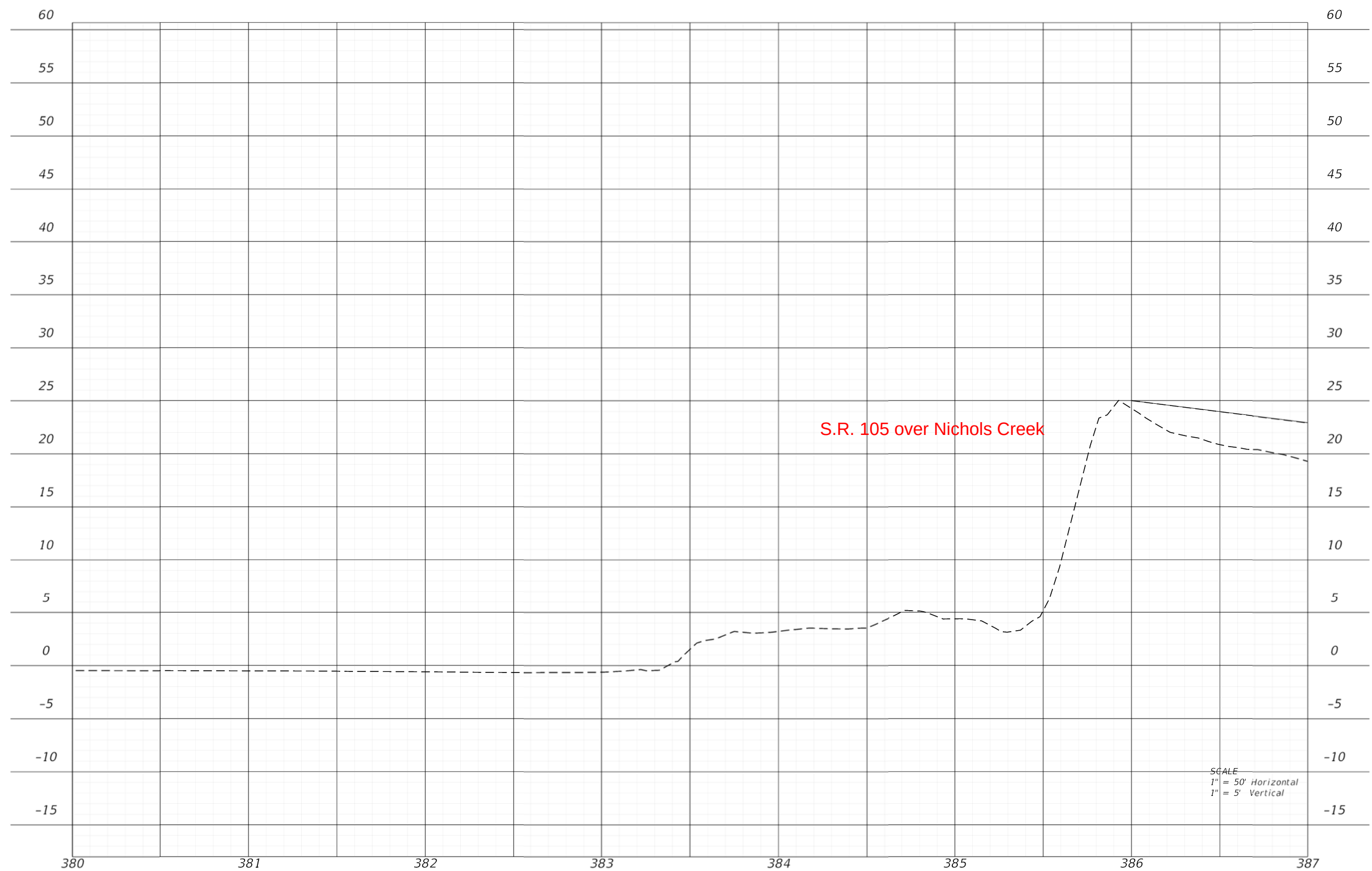
ELEVATION



- Proposed roadway elevation
- Existing roadway elevation and ground elevation

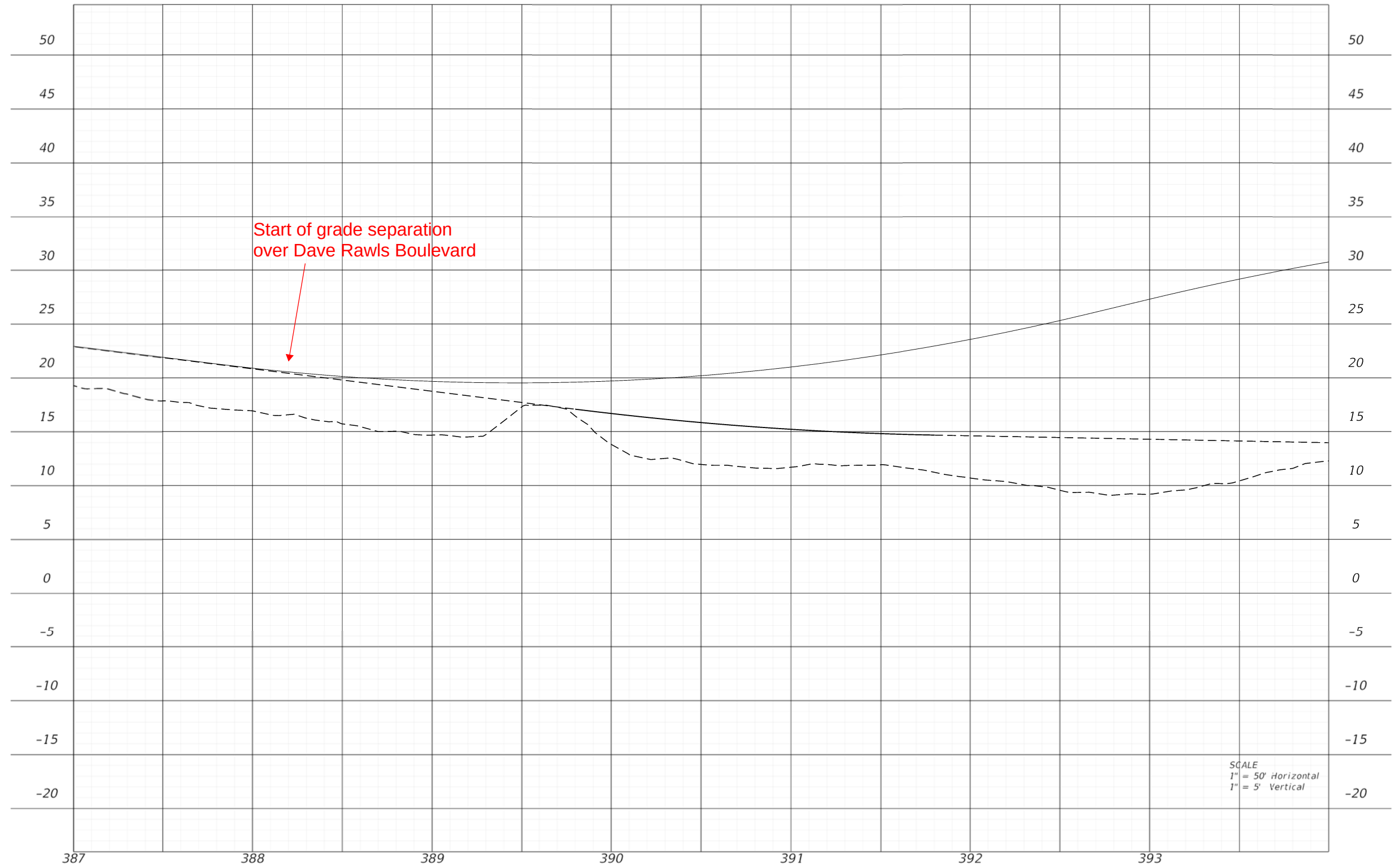
STATION

ELEVATION



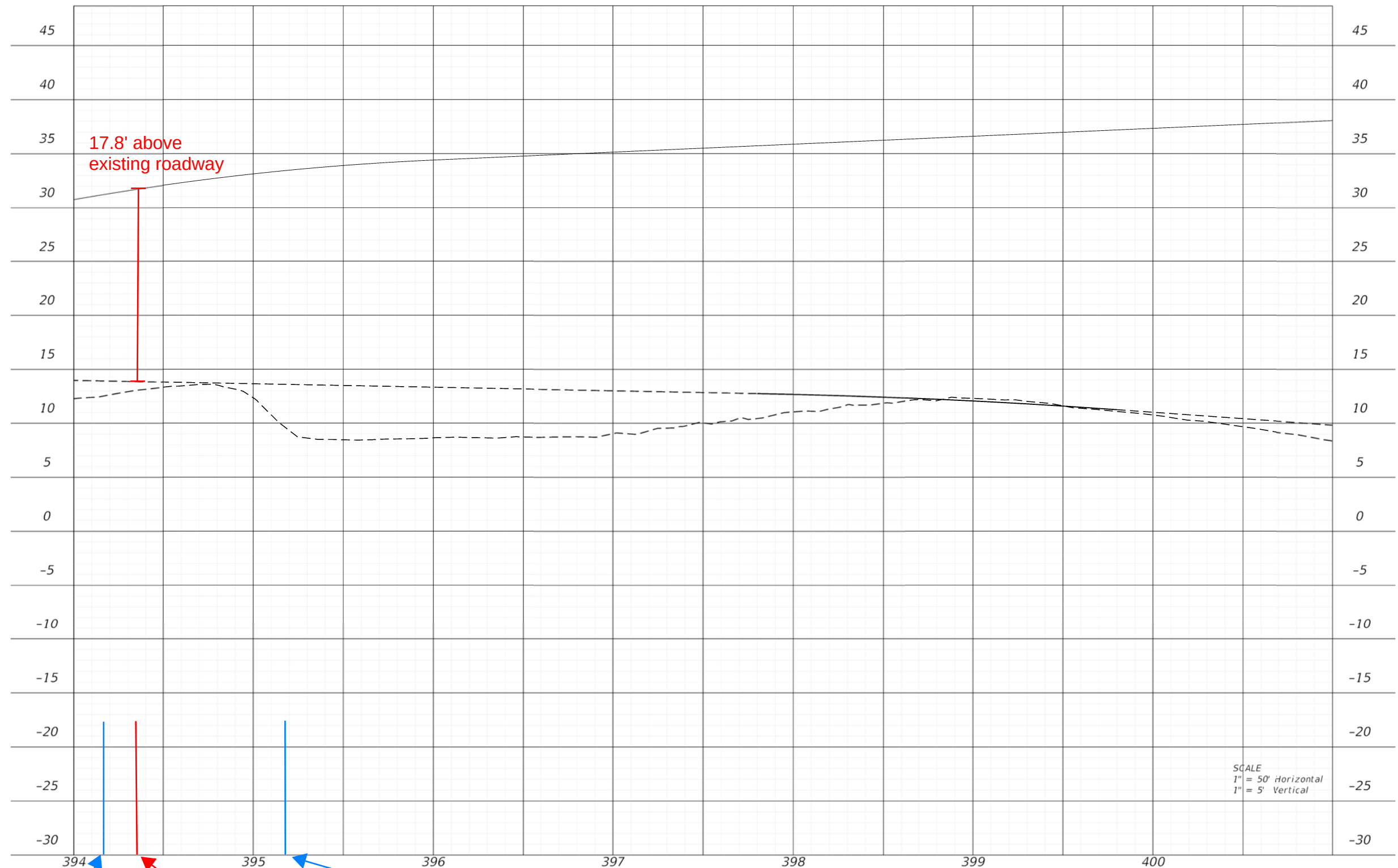
STATION

ELEVATION



STATION

ELEVATION



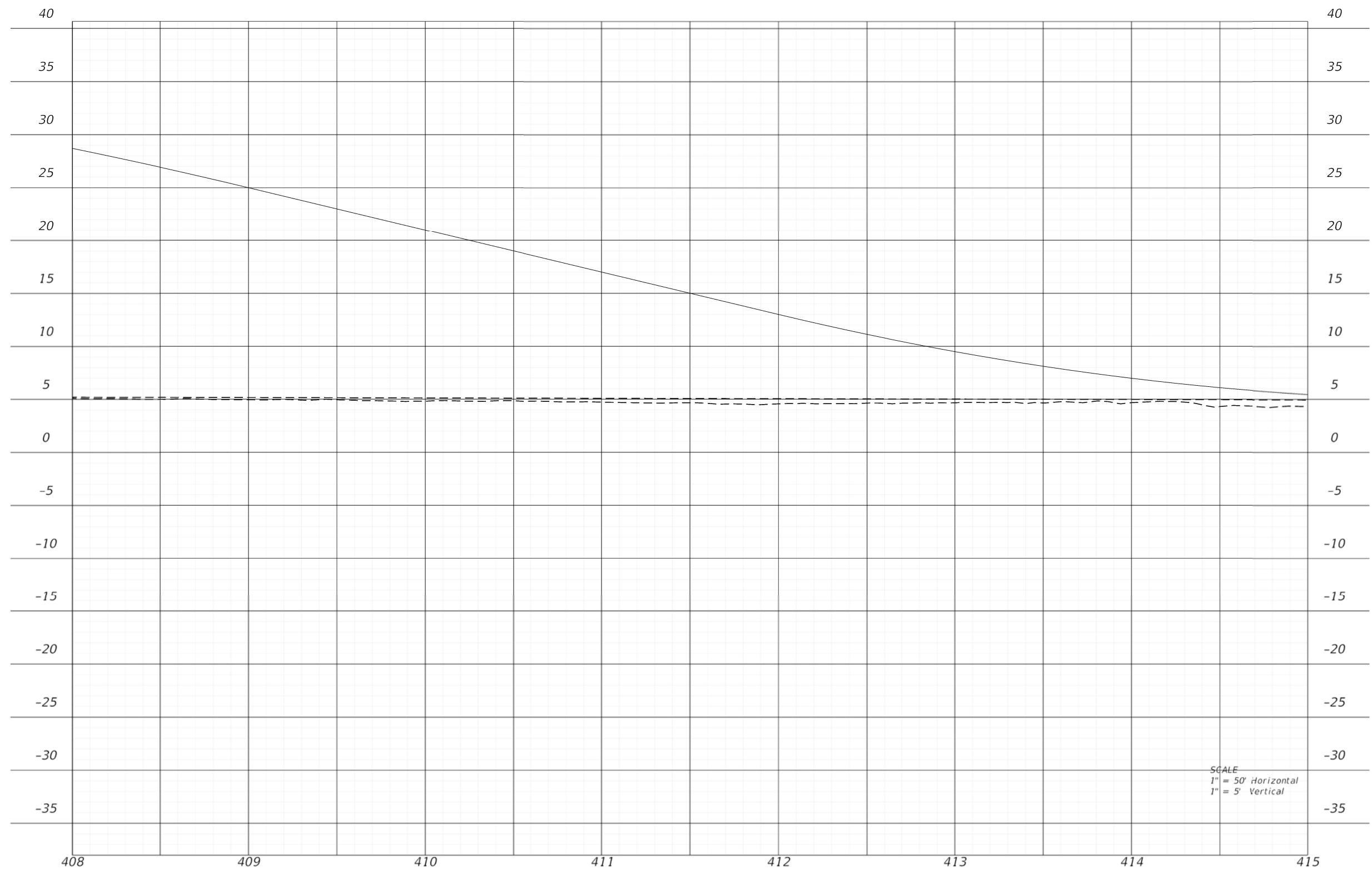
Start of bridge

CL of Dave Rawls Boulevard

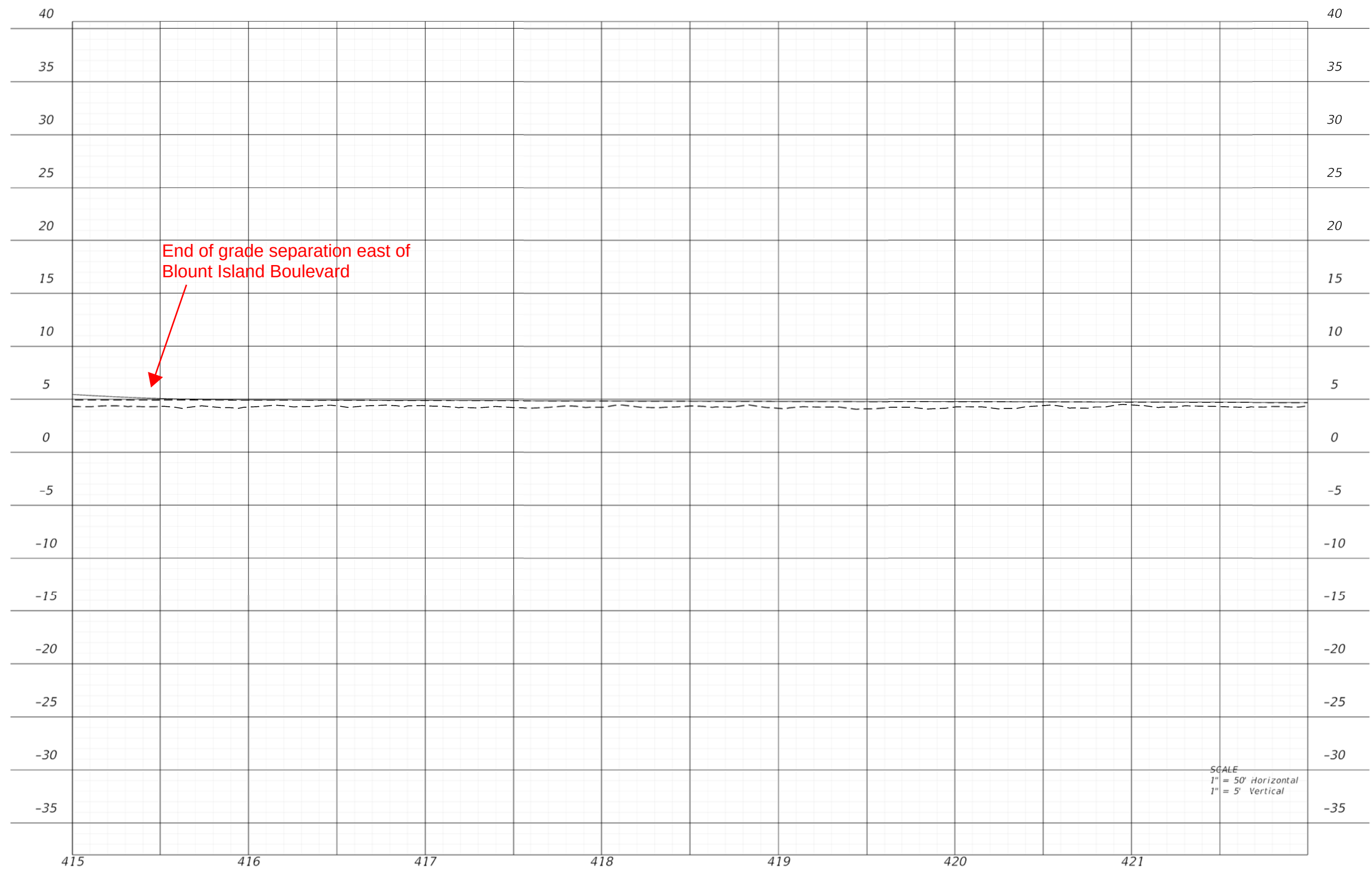
End of bridge

STATION

ELEVATION



ELEVATION



STATION

APPENDIX I

Summary of Impacted Parcels

SUMMARY OF IMPACTED PARCELS					
Single Grade Separation					
Parcel No.	Address	Owner	Size (Acres)	Use	Side of SR 105
159950 0000	0 Hecksher Drive	JAXPORT	1.16	Vacant, distribution power lines	South
159949 0000	0 Dave Rawls Boulevard	JAXPORT	0.36	Vacant, signage	South
159954 0000	0 Hecksher Drive	JAXPORT	0.32	Vacant, distribution power lines	South
159956 0000	0 Hecksher Drive	JAXPORT	0.25	Vacant, distribution power lines	South
159955 0000	4916 Hecksher Drive	JAXPORT	0.29	Jacksonville Port Authority Dock	South
159957 0000	0 Hecksher Drive	JAXPORT	0.21	Vacant, distribution power lines	South
159958 0000	0 Hecksher Drive	JAXPORT	0.21	Vacant, distribution power lines	South
159959 0000	0 Hecksher Drive	JAXPORT	0.2	Vacant, distribution power lines	South
159960 0000	0 Hecksher Drive	FDOT	0.21	Blount Island Boulevard Bridge	South
159961 0000	4986 Hecksher Drive	Sonny Joel Wiles Sr Life Estate	0.22	Single Family Residential, Commercial	South
159963 0000	5006 Hecksher Drive	Patsy W Chew Life Estate	0.42	Single Family Residential	South
160790 0000	0 Hecksher Drive	National Park Service	4.78	Vacant	North
159990 0000	5001 Hecksher Drive	Lake Worth Property Enterprises	1.08	Marathon Gas Station	North
160790 0020	0 Hecksher Drive	JEA	0.3	Vacant	North
160790 0010	0 Hecksher Drive	JAXPORT	11.25	Rail line	North
160790 0030	0 Hecksher Drive	Mona Omar	0.49	Vacant	North
159993 0000	0 Hecksher Drive	JAXPORT	0.26	Vacant	North
159994 0000	0 Hecksher Drive	JAXPORT	0.3	Vacant	North
159995 0000	0 Hecksher Drive	JAXPORT	0.53	Vacant	North
159997 0000	0 Hecksher Drive	JAXPORT	0.33	Vacant	North
160791 0000	0 Hecksher Drive	JEA	1.62	High Voltage Transmission Towers	North
108717 0000	4377 Hecksher Drive	JEA	304.61	High Voltage Transmission Lines	North
Total			329.4		

SUMMARY OF IMPACTED PARCELS					
Two Grade Separations					
	Property		Size (Acres)	Use	Side of SR 105
108896 0000	0 Hecksher Drive	JEA	7.25	Utilities	South
108899 0000	4377 Hecksher Drive	JEA	12.02	Utilities	South
108717 0000 (partial)	4377 Hecksher Drive	JEA	304.61	Institutional	South
108718 0000	0 Safe Harbor Way	Southern Bell Telephone & Telegraph, Inc.	0.22	Utilities	South
160799 0000	4772 Safe Harbor Way	JAXPORT	1.45	Institutional	South
159947 0000	4822 Safe Harbor Way	Safe Harbor Haven, Inc.	0.35	Institutional	South
159948 0000	4836 Safe Harbor Way	Cove Points Marine Construction	0.37	Commercial	South
159950 0000	0 Hecksher Drive	JAXPORT	1.16	Vacant, distribution power lines	South
159949 0000	0 Dave Rawls Boulevard	JAXPORT	0.36	Vacant, signage	South
159954 0000	0 Hecksher Drive	JAXPORT	0.32	Vacant, distribution power lines	South
159956 0000	0 Hecksher Drive	JAXPORT	0.25	Vacant, distribution power lines	South
159955 0000	4916 Hecksher Drive	JAXPORT	0.29	Jacksonville Port Authority Dock	South
159957 0000	0 Hecksher Drive	JAXPORT	0.21	Vacant, distribution power lines	South
159958 0000	0 Hecksher Drive	JAXPORT	0.21	Vacant, distribution power lines	South
159959 0000	0 Hecksher Drive	JAXPORT	0.2	Vacant, distribution power lines	South
159960 0000	0 Hecksher Drive	FDOT	0.21	Blount Island Boulevard Bridge	South
159961 0000	4986 Hecksher Drive	Sonny Joel Wiles Sr Life Estate	0.22	Single Family Residential, Commercial	South
159963 0000	5006 Hecksher Drive	Patsy W Chew Life Estate	0.42	Single Family Residential	South
159964 0000	0 Hecksher Drive	Nature Conservancy Inc.	0.14	Vacant	South
159965 0000	0 Hecksher Drive	Nature Conservancy Inc.	0.16	Vacant	South
160790 0000	0 Hecksher Drive	National Park Service	4.78	Vacant	North
159990 0000	5001 Hecksher Drive	Lake Worth Property Enterprises	1.08	Marathon Gas Station	North
160790 0020	0 Hecksher Drive	JEA	0.3	Vacant	North
160790 0010	0 Hecksher Drive	JAXPORT	11.25	Rail line	North
160790 0030	0 Hecksher Drive	Mona Omar	0.49	Vacant	North
159993 0000	0 Hecksher Drive	JAXPORT	0.26	Vacant	North

SUMMARY OF IMPACTED PARCELS					
Two Grade Separations					
	Property		Size (Acres)	Use	Side of SR 105
159994 0000	0 Hecksher Drive	JAXPORT	0.3	Vacant	North
159995 0000	0 Hecksher Drive	JAXPORT	0.53	Vacant	North
159997 0000	0 Hecksher Drive	JAXPORT	0.33	Vacant	North
160791 0000	0 Hecksher Drive	JEA	1.62	High Voltage Transmission Towers	North
108717 0000 (partial)	4377 Hecksher Drive	JEA	304.61	High Voltage Transmission Lines	North
Total			655.97		

APPENDIX J

Cost Estimates

Roadway:	SR 105 Single Grade Separation				
Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	Clearing & Grubbing	4.95	AC	\$49,784.45	\$246,369.99
120-6	Embankment	56107	CY	\$23.81	\$1,335,896.49
160-4	Type B Stabilization	13539	SY	\$3.51	\$47,522.04
285-709	Optional Base, Base Group 09	13539	SY	\$42.10	\$569,993.65
327-70-7	MILLING EXISTING ASPHALT PAVEMENT, 4" AVG DEPTH	1177	SY	\$6.05	\$7,119.77
334-1-53	Superpave Asphaltic Conc. Traffic C, PG 76-22	2023	TN	\$178.73	\$361,647.85
337-7-83	Asph Conc FC, Traffic C, FC-12.5, PG 76-22	1312	TN	\$192.21	\$252,235.90
425-1521	INLETS, DT BOT, TYPE C, <10'	1	EA	\$9,000.00	\$9,000.00
425-1701	INLETS, GUTTER, TYPE S, <10'	4	EA	\$6,792.52	\$27,170.08
430-174-124	Pipe Culvert, Opt Matl, Round, 24"SD	5200	LF	\$181.31	\$942,812.00
430-984-129	MITERED END SECTION, OPTIONAL ROUND, 24" SD	1	EA	\$3,500.00	\$3,500.00
520-6	Shoulder Gutter - Concrete	1000	LF	\$29.00	\$29,000.00
521-72-44	SHOULDER CONCRETE BARRIER, 44" PIER PROTECTION BARRIER/CRASH WALL	367	LF	\$544.04	\$199,792.98
521-8-4*	CONCRETE TRAFFIC RAILING BARRIER, WITH JUNCTION SLAB, 42" VERTICAL FACE	3801	LF	\$611.00	\$2,322,376.97
536-1-1	GUARDRAIL -ROADWAY, GENERAL TL-3	651	LF	\$23.60	\$15,361.53
548 12	RETAINING WALL SYSTEM, PERMANENT, EXCLUDING BARRIER	56044	SF	\$69.41	\$3,890,014.04
570-1-2	Performance Turf, Sod	7623	SY	\$3.95	\$30,110.57
0632 7 1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	1	PI	\$13,704.12	\$13,704.12
0632 7 6	SIGNAL CABLE, REMOVE- INTERSECTION	1	PI	\$2,718.80	\$2,718.80
639 -1113	ELECTRICAL POWER SERVICE, F&I, OVERHEAD METER NOT REQUIRED	9	AS	\$6,500.00	\$58,500.00
639-1610	ELECTRICAL POWER SERVICE, REMOVE OVERHEAD	9	AS	\$1,700.00	\$15,300.00
0641 2 12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-II SERVICE POLE	1	EA	\$2,628.49	\$2,628.49
0641 2 80	PRESTRESSED CONCRETE POLE, COMPLETE POLE REMOVAL - POLE 30' AND GREATER	1	EA	\$24,000.00	\$24,000.00
Roadway Improvements Sub Total					\$10,406,775.25
SDG chp. 9	Medium Span Bridge, FIB36-FIB84, high	12805	SF	\$200.00	\$2,561,000.00
Bridge Sub Total					\$2,561,000.00
Maintainance of Traffic Allowance				15%	\$1,945,166.29
Pavement Marking and Signing Allowance				2%	\$259,355.51
Mobilization				10%	\$1,296,777.53
PE/CEI Allowance				30%	\$4,940,722.37
Contingency (10%)				10%	\$2,140,979.69
Construction Subtotal					\$16,469,074.57
Corridor Improvements Total					\$23,550,000.00

Roadway:	SR 105 Two Grade Separations				
Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	Clearing & Grubbing	5.59	AC	\$49,784.45	\$278,122.47
120-6	Embankment	104292	CY	\$23.81	\$2,483,182.82
160-4	Type B Stabilization	19860	SY	\$3.51	\$69,708.00
285-709	Optional Base, Base Group 09	19860	SY	\$42.10	\$836,098.79
334-1-53	Superpave Asphaltic Conc. Traffic C, PG 76-22	4863	TN	\$178.73	\$869,125.40
337-7-83	Asph Conc FC, Traffic C, FC-12.5, PG 76-22	2918	TN	\$192.21	\$560,805.44
425-1521	INLETS, DT BOT, TYPE C,<10'	1	EA	\$9,000.00	\$9,000.00
425-1701	INLETS, GUTTER, TYPE S, <10'	8	EA	\$6,792.52	\$54,340.16
430-174-124	Pipe Culvert, Opt Matl, Round, 24"SD	5200	LF	\$181.31	\$942,812.00
430-984-129	MITERED END SECTION, OPTIONAL ROUND, 24" SD	1	EA	\$3,500.00	\$3,500.00
520-6	Shoulder Gutter - Concrete	600	LF	\$29.00	\$17,400.00
520-7	CONCRETE TRAFFIC SEPARATOR, SPECIAL- VARIABLE WIDTH	86	SY	\$159.93	\$13,789.52
521-72-44	SHOULDER CONCRETE BARRIER, 44" PIER PROTECTION BARRIER/CRASH WALL	1087	LF	\$544.04	\$591,371.48
521-8-4*	CONCRETE TRAFFIC RAILING BARRIER, WITH JUNCTION SLAB, 42" VERTICAL FACE	4840	LF	\$611.00	\$2,957,240.00
548 12	RETAINING WALL SYSTEM, PERMANENT, EXCLUDING BARRIER	65548	SF	\$69.41	\$4,549,686.68
570-1-2	Performance Turf, Sod	7623	SY	\$3.95	\$30,110.57
639 -1113	ELECTRICAL POWER SERVICE, F&I, OVERHEAD METER NOT REQUIRED	10	AS	\$6,500.00	\$65,000.00
639-1610	ELECTRICAL POWER SERVICE, REMOVE OVERHEAD	10	AS	\$1,700.00	\$17,000.00
Roadway Improvements Sub Total					\$14,348,293.32
SDG chp. 9	Medium Span Bridge, FIB36-FIB84, high	15293.34	SF	\$200.00	\$3,058,668.00
Bridge Sub Total					\$3,058,668.00
Pavement Marking and Signing Allowance				2%	\$348,139.23
Maintainance of Traffic Allowance				15%	\$2,611,044.20
Mobilization				10%	\$1,740,696.13
PE/CEI Allowance				30%	\$6,632,052.26
Contingency (10%)				10%	\$2,873,889.31
Construction Subtotal					\$22,106,840.88
Corridor Improvements Total					\$31,610,000.00

