Concept Report Form

The Concept Report Form develops an initial project vision, basis of design and report (e.g., the Concept Report) to transition into the subsequent design stages (Stages 1 through 4 in the Project Delivery Network [PDN]). This form summarizes all project components using information to complete the Concept Report.

General Project Information

Project Name	Loudon Interstate 75 Widening								
PIN	124480.05								
Route Information	**Route**	**NHS (Y/N)**	**Functional Class**			**City**		**County**	
	I-75	Yes	Urban Interstate			Lenior City		Loudon	
Project Information	**Begin Log Mile**	**End Log Mile**	**AADT[1]**	**Design Hour Vol. (DHV)[1]**	**Truck %[1]**	**Design Speed (MPH)**	**Posted Speed (MPH)**	**Base Year**	**Design Year**
	14.39	17.87	55,940	4,436	19.00	75	70	2029	2049
Project Description & Standard Drawings Used	This project involves adding an inside travel lane in both directions on I-75 between the Exit 81 interchange and the I-40 junction to improve capacity and traffic flow. The Merge and Diverge NB ramps at Exit 81 will be widened, and the Diverge SB ramp will also be widened with the addition of an option lane—all aimed at improving operational efficiency. There are 7 bridges within the project limits, which are further discussed on pages 8-10. ITS will be installed within the project limits. RD11-TS-5B, RD11-TS-5A, RD11-TS-4								Project Details
Important Project History or Related Projects	The Loudon I-75 widening project is included in TDOT's 10-year plan as a rural interstate expansion and will receive TMA funding. Bridge details are available on page 8-10. This project is expected to utilize federal funding.								
Project Purpose/Need	The purpose and need of the project is to increase capacity along the I-75 corridor due to regional growth and improve traffic operations at the Exit 81 interchange. Bridge conditions and structural considerations within the project limits are discussed in detail on pages 8–10.								
Major Environmental Considerations	Hazardous Materials: Asbestos survey is likely. Air Quality and Noise: Tennessee CMAQ Eligible PM2.5 Maintenance County Ecology: There are streams, welands, and springs along the route. If trees are cut, bat surveys may be required.								

Multi-Modal Considerations	I-75 is an access-controlled highway, and state law prohibits pedestrians from traveling on it. Multimodal considerations at the interchanges are not included in the scope of this project.			
Major Project Risks	Power, telecom, gas, water, sewer, cable and fiber are located within the span of the project and could potentially be relocated. There are four proposed design options for this project. See the detailed cost estimates and descriptions on page 10. This document is covered by 23 USC § 407 and its production pursuant to fulfilling public planning requirements does not waive the provisions of § 407.			
Concept Estimate and Timeline	**Total Current Project Cost**		**Construction Year Estimate**	Preliminary Estimates
	Proposed Construction Year		**Estimated Construction Duration**	

[1] Traffic numbers reflect identified design year

Approvals

Executed for approval of this Concept Report

David Duncan (Jun 25, 2025 13:41 CDT)

Engineering Concepts and Statewide Programs Director — Date: 06/25/2025

Regional Preconstruction Director — Date: 06/20/2025

Clayton Markham (Jun 24, 2025 14:07 CDT)

Alternative Delivery Director — Date: 06/24/2025

Action Checklist			
0SD1 Initiate Concept Report and Request Funding			
Complete	**NA**		**Date Completed**
✓		Request and Finalize Safety Data	04/22/2025
	✓	Request Project Number, PIN, and Task Profile Numbers	
	✓	Coordinate with Long Range Planning	
✓		Request and Finalize Traffic Data	07/08/2024
	✓	Request Preliminary Survey Data	
		Initiate Division Reviews	
	✓	Schedule Site Review (with appropriate Divisions)	
0EN1 Conduct Environmental Desktop Review			
Complete	**NA**		**Date Completed**
✓		Confirm Environmental Desktop Review is Complete	07/08/2024
0MM1 Conduct Multimodal Review			
Complete	**NA**		**Date Completed**
	✓	Confirm Multimodal Review is Complete	
	✓	Review Multimodal Considerations & Recommendations	
0TO1 Conduct Initial Traffic Ops/TSMO Review *(include HQ Traffic Ops and Regional Traffic Office)*			
Complete	**NA**		**Date Completed**
		Confirm Transportation Systems Management & Operations (TSMO) Alignment & Operations Review is Complete	03/07/2025
		Request Concept Report Review	06/02/2025
0ST1 Develop Structures Recommendations			
Complete	**NA**		**Date Completed**
✓		Confirm Recommended Structure Type for Concept Report is Complete	05/28/2025
✓		Confirm Hydraulic Recommendations for Concept Report is Complete	05/28/2025
0SY1 Provide Preliminary Survey Data			
Complete	**NA**		**Date Completed**
	✓	Confirm Control Ground Survey Set	
	✓	Review Preliminary Survey Data	
	✓	Determine Time to Complete the Aerial Survey	
0GT1 Conduct Preliminary Geotechnical Assessment			
Complete	**NA**		**Date Completed**
		Confirm Geotechnical Division Review is Complete	
0RD1 Provide Roadway Desktop Review			
Complete	**NA**		**Date Completed**
		Confirm Roadway Division Review is Complete	

Action Checklist			
0SD2 Develop Draft Concept Report			
Complete	**NA**		**Date Completed**
	✓	Conduct Intersection and Interchange Evaluation (IIE)	
	✓	Complete Conceptual Signal Warrants	
	✓	Develop Draft Conceptual Layouts/Crash Figures for Site Visit	
	✓	Compile Initial Divisional Reviews for Site Visit	
	✓	Prepare & Send Site Visit Packet	
	✓	Lead Site Visit	
	✓	Initiate Interstate Access Requests (IAR) Concept Coordination with FHWA (if applicable)	
✓		Develop, Compile, and Distribute the Draft Concept Report	03/05/2025
0TO2 Develop TSMO Scope Items *(include HQ Traffic Ops and Regional Traffic Office)*			
Complete	**NA**		**Date Completed**
	✓	Confirm Signal Warrants Analysis is Complete	
	✓	Confirm Lighting Warrants Analysis is Complete	
	✓	Review and Confirm TSMO & ITS Scope and Budget	
0RW1 Complete Preliminary Right-of-Way Estimates			
Complete	**NA**		**Date Completed**
	✓	Review and Confirm Preliminary Right-of-Way Cost Estimates	
0UT1 Complete Utility Preliminary Estimates			
Complete	**NA**		**Date Completed**
		Review and Confirm Preliminary Utility Estimate	03/06/2025
		Review and Confirm Preliminary Railroad Cost Estimate	
0SD3 Finalize Concept Report			
Complete	**NA**		**Date Completed**
	✓	Compile and Review Initial Risk Assessment	
✓		Finalize Conceptual Layouts	03/05/2025
✓		Develop Environmental Technical Study Area (ETSA)	04/30/2025
✓		Address Comments and Finalize Concept Report	04/30/2025
	✓	Address Comments and Finalize Interstate Access Requests (IAR) Document and Memo (if applicable)	
	✓	Develop Roadway Safety Audit (RSA) No Plans Document	
✓		Submit the final Concept Report for Review and Signatures (as needed; see 0SD3 for additional information)	
✓		Finalize Document and Upload All Needed Electronic Files	
✓		Notify the Project Management Director or Assigned Project Manager to Set Up Project (1PM1)	

NA Justification

Coordinate with Long Range Planning-Long Range Planning coordination not needed for Concepts BCR document
Request Preliminary Survey Data- survey data not needed for Concepts BCR document
Schedule a site visit-site visit not required
0MM1 Conduct Multimodal Review- multimodal coordination not required
0SY1 Provide Preliminary Survey Data- survey data not needed for Concepts BCR document
0GT1 Conduct Preliminary Geotechnical Assessment- geotechnical data not received for Concepts BCR document
0SD2 Develop Draft Concept Report-no site visit was held for this bridge and no interchange or signal warrants were required
0TO2 Develop TSMO Scope Items-no signals or lighting needed within project limits
0RW1 Complete Preliminary Right-of-Way Estimates-ROW estimate calculated in cost estimate
0UT1 Complete Utility Preliminary Estimates-utility cost calculated in cost estimate
Compile and Review Initial Risk Assessment-Risk Assessment not needed for Concepts BCR document
Address Comments and Finalize Interstate Access Requests (IAR) Document and Memo (if applicable)-no interstate within project limits
Develop Roadway Safety Audit (RSA) No Plans Document- no plans document not needed for Concepts BCR document

Concept Report Table of Contents/Attachments		
	Included	**NA**
One-Page Summary (with project location map)	✓	
Conceptual Layout(s) and Cross Section	✓	
Environmental Technical Study Area (ETSA) Layout	✓	
Concept Cost Estimate (Construction Year Estimate)	✓	
TSMO & ITS Scope and Budget[1]		✓
ROW Form 44-A[1]		✓
Crash Packet[1]	✓	
Crash Prediction Analysis[1]		✓
Site Visit Attendee List		✓
Environmental Desktop Review Form[1]		
Multimodal Considerations & Recommendations[1]		✓
Existing Structure Summary[1]	✓	
Email or memo containing Structure Type Recommendations[1]	✓	
Email or memo containing Hydraulic Recommendations[1]	✓	
Hydraulic Data	✓	
Intersection and Interchange Evaluation (IIE) Analysis and Summary Form		✓
Traffic Analysis Summary/Tables	✓	
Forecasted Traffic Sheets[1]	✓	
Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)[1]		✓
Signal Warrant[1]		✓
Lighting Warrant[1]		✓
Initial Risk Assessment using the Risk Assessment Form		✓
Final Interstate Access Request (IAR) Document and Memo with Letter from Concepts Director		✓
Road Safety Audit (RSA) No Plans[1]		✓

NA Justification

TSMO & ITS Scope and Budget-no ITS within project limits; ROW Form 44-A-form not needed for Concepts BCR document;
Crash Prediction Analysis- 1 crash occurred within the project limits, crash prediction analysis not needed; Site Visit Attendee List-no site visit was held; Multimodal Considerations & Recommendation-no multimodal coordination;
Intersection and Interchange Evaluation (IIE) Analysis and Summary Form- AADT is too low for IIE Analysis
Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)- AADT too low to model
Signal Warrant-no signals warranted within project limits; Lighting Warrant-no lighting warranted within project limits
Initial Risk Assessment using the Risk Assessment Form-Risk Assessment not needed for Concepts BCR document
Final IAR Document and Memo with Letter from Concepts Director-no interstate access within project limits
Road Safety Audit (RSA) No Plans-RSA no plans document not needed for Concepts BTIR document

[1] External document to Concepts

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Location Summary

Widening I-75 from State Route 73 (Hwy 321, Exit 81) to the I-40 interchange (2.51 miles) has been identified by TDOT to improve safety and traffic flow in Loudon County, which is part of the Knoxville TPO and East Tennessee South RPO. This section of I-75 connects Chattanooga, Knoxville, and communities throughout East Tennessee, providing a major interstate route between Georgia and Kentucky. Adjacent land use includes forest, farmland, industrial, commercial, and residential development, with nearby facilities such as Fort Loudon Medical Center and Roane State Community College. State Route 73 (Exit 81) provides regional access to I-75, supporting industrial, commercial, and recreational destinations including Watts Bar Lake and Little Tennessee River.

Existing Conditions

I-75 within the project limits is classified as an Urban Interstate. The existing typical section consists of 2-12' lanes in each direction with 10' to 11' paved outside shoulders and 4' paved inside shoulders. The right-of-way width ranges from 300' to 600'. From Log Mile 14.39 to 17.70, the median is a 50' depressed grass section, widening to over 200' between Log Mile 17.70 and 17.87. The posted speed limit along this segment is 70 miles per hour (MPH). The project limits include the existing State Route 73 (Hwy 321, Exit 81) diamond interchange, which is currently signalized.

There are seven existing bridges within the limits of this project:

- I-75 Bridges over Old Hwy 95 (L.M. 14.24)
    - Bridge #53I00750033
        - The existing structure is a 3 span haunch T-beam bridge, 156.2' long with an out-to-out width of 44'.
    - Bridge #53I00750034
        - The existing structure is a 3 span haunch T-beam bridge, 155.8' long with an out-to-out width of 44'.
- S.R. 73 Bridge over I-75 at Exit 81 (L.M. 14.97)
    - Bridge #53I00750035
        - The existing structure is a 4 span haunch T-beam, 257.5' long with an out-to-out width of 104'. The bridge has previously been widened, and the original section has a reinforced concrete overlay.
- I-75 Bridge over Kingston Pike (SR 1) (L.M. 16.12)
    - Bridge #53I00750039
        - The existing structure is a 3 span concrete continuous T-beam, 154.9' long with an out-to-out width of 44'. The bridge has previously been widened, and the original section has a reinforced concrete overlay. The structure exhibits beam collision damage as well as beam end deterioration at the abutments.

    - Bridge #53I00750040
        - The existing structure is a 3 span concrete continuous T-beam, 154.9’ long with an out-to-out width of 44’. The bridge has previously been widened, and the original section has a reinforced concrete overlay.
- Hickory Creek Rd Bridge over I-75 (L.M. 17.61)
    - Bridge #53I007500371
        - The existing structure is a 4 span concrete continuous T-beam, 234.9’ long with an out-to-out width of 34.4’.
- I-75 Box Culvert over Hope Creek (L.M. 17.78)
    - Bridge #53I00750041
        - The existing structure is a two-barrel box culvert.

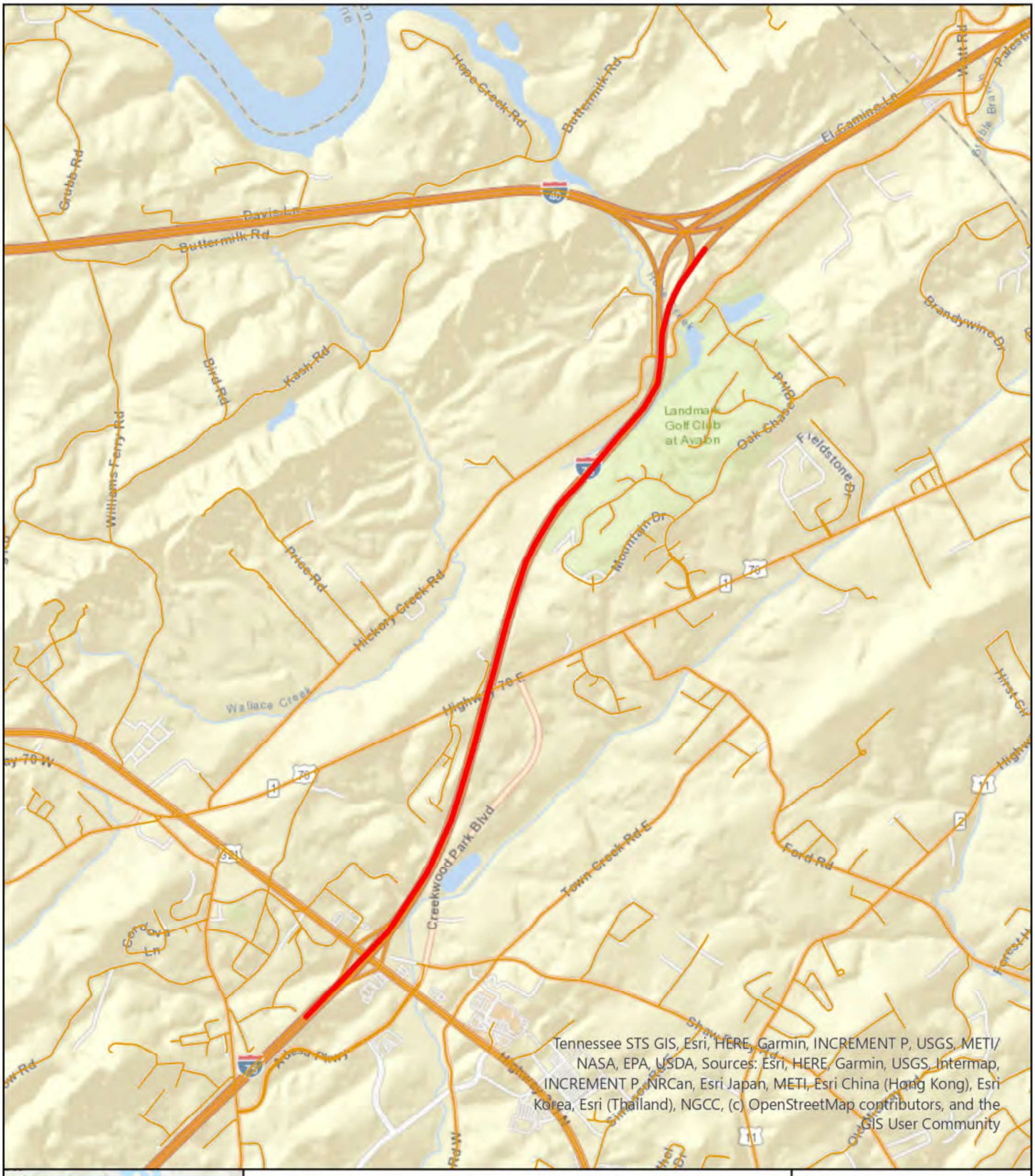
Design Summary

The cost estimate for this project has been broken into four options to estimate variable scope items. The 10-Year Plan identifies this project as a "rural interstate widening." Bridge work is limited to what’s necessary for the widening; full replacements will be considered only as needed or if funding allows. None of the proposed options include replacement of the S.R. 73 bridge over I-75 at Exit 81 (L.M. 14.97). Replacement of this structure may be considered if funding allows.

- Option 1: Base Widening (Exit 81 to I75 / I40 Interchange)
    - During project development, hydraulic and structural analyses will be performed to determine the need for improvements to existing structures and culverts.
    - An additional inside travel lane will be added in each direction between State Route 73 (Hwy 321, Exit 81) interchange and the I-40 interchange.
        - A minimum of two (2) travel lanes in each direction will be maintained throughout construction. Lane shifts will accommodate construction activities while maintaining traffic flow. Minimum lane widths during construction will be eleven (11) feet with two (2) foot inside and outside shoulders in accordance with TDOT Standard Drawing T-WZ-16.
    - Intelligent Transportation System (ITS) infrastructure will be installed along the entire project corridor.
    - The existing pair of bridges spanning Kingston Pike (S.R. 1), which have already been widened once and include a reinforced concrete overlay on the original section, will be replaced.
        - Bridge #53I00750039
        - Bridge #53I00750040
    - The two-barrel box culvert beneath I-75 (Bridge #53I00750041) may require repairs and should be assessed during design.
- Exit 81 (State Route 73, Hwy 321 Interchange)

- Signal improvements will be made to the existing signals at the Loudon Highway (Exit 72) interchange to accommodate the proposed enhancements described below.
- Improving ramps at Hwy 321 (Exit 81), S.R. 73 interchange:
  - Northbound Ramps
    - Diverge: The deceleration lane will be lengthened, and an additional lane will be added at the ramp intersection to provide a dedicated left-turn lane, a shared left/right-turn lane, and a dedicated right-turn lane.
    - Merge: Adding an additional lane to the ramp and extending the acceleration lane.
  - Southbound
    - Diverge: Lengthening the deceleration lane and adding an option lane.

- Option 2: Base Widening + Southern Extension + Old Hwy 95 Bridge
  - End the auxiliary lane downstream of the Exit 81 merge point, beyond the bridge over Old Hwy 95.
    - The existing pair of bridges spanning Old Highway 95 will be replaced due to substandard vertical clearance.
      - Bridge #53I00750033
      - Bridge #53I00750034
- Option 3 Base Widening + Hickory Creek Rd Bridge
      - Constructed in 1972, this bridge has a minimum under clearance of 17.09 feet. While it is currently rated in fair condition, replacement is recommended based on its age and substandard vertical clearance, replace if funding allows.
      - Bridge #53I007500371
- Option 4: Base Widening + Southern Extension + Old Hwy 95 Bridge + Hickory Creek Rd Bridge
  - This option includes all improvements described in Options 1 through 3.





Area Map

AREA MAP
LOUDIN CO.
I-75, L.M. 14.39 to 17.87
From Pond Creek Road to I-40 Junction

2025

Coordinate System: NAD 1983 StatePlane Tennessee FIPS 4100 Feet

N

0 0.28 0.55 Mi

0 0.5 1 Km





Location Map

LOCATION MAP
LOUDIN CO.
I-75, L.M. 14.39 to 17.87
From Pond Creek Road to I-40 Junction

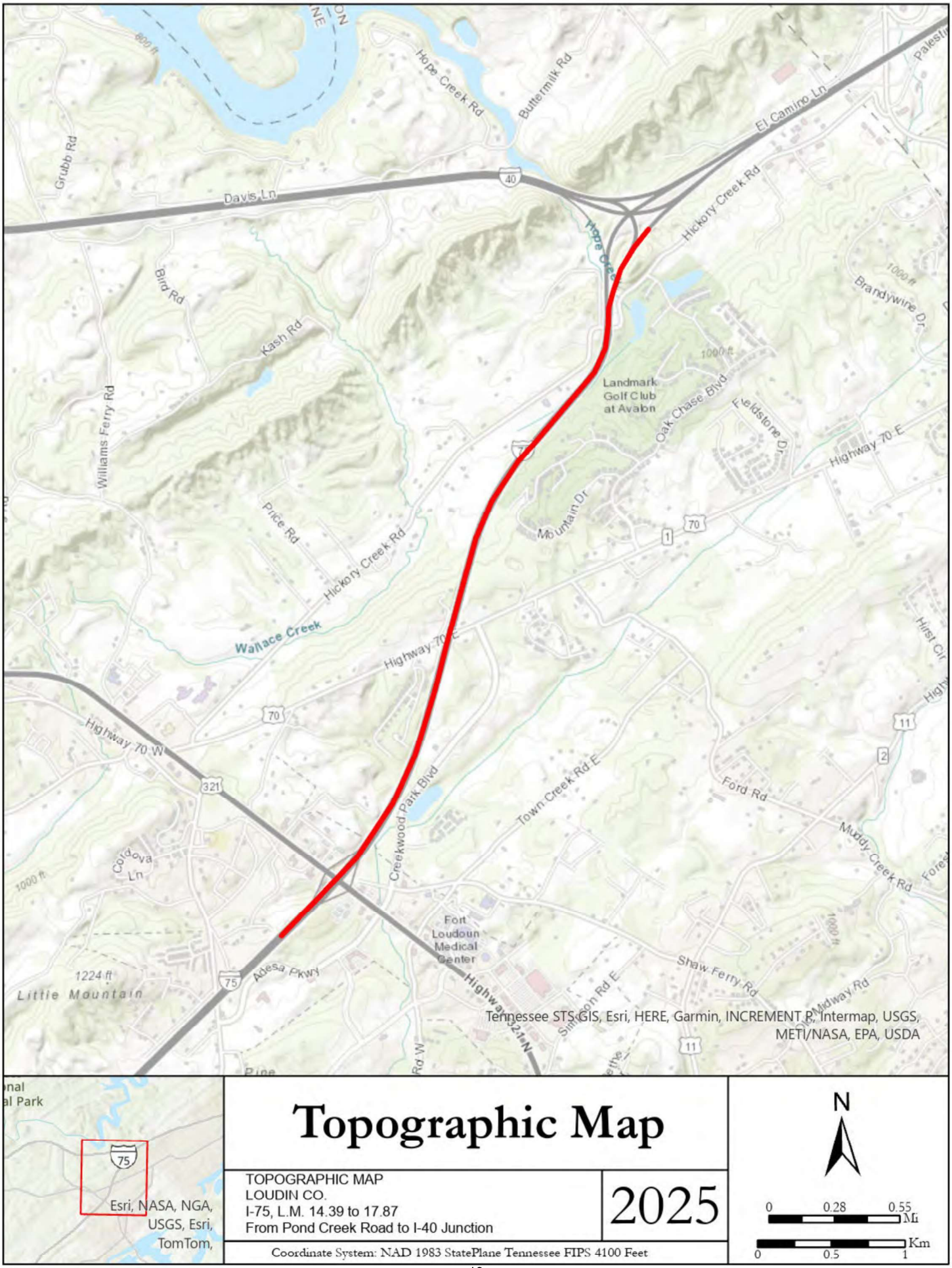
2025

Coordinate System: NAD 1983 StatePlane Tennessee FIPS 4100 Feet

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0 0.28 0.55 Mi

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Topographic Map

TOPOGRAPHIC MAP
LOUDIN CO.
I-75, L.M. 14.39 to 17.87
From Pond Creek Road to I-40 Junction

2025

Coordinate System: NAD 1983 StatePlane Tennessee FIPS 4100 Feet

N

0 0.28 0.55 Mi

0 0.5 1 Km

TENNESSEE D.O.T.
ENGINEERING CONCEPTS

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2025	LOUDON	1A



FIGURE 1A & 2A	OPTION 1: BASE WIDENING (EXIT 81 TO I75 / I40 INTERCHANGE)
FIGURE 1B & 2B	OPTION 2: BASE WIDENING + SOUTHERN EXTENSION + OLD HWY 95 BRIDGE

0' 300' 600' 900'

CONCEPT REPORT

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 1A
I-75
L.M. 14.39 to
L.M. 14.68

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TENNESSEE D.O.T.
ENGINEERING CONCEPTS

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2025	LOUDON	1B



FIGURE 1A & 2A	OPTION 1: BASE WIDENING (EXIT 81 TO I75 / I40 INTERCHANGE)
FIGURE 1B & 2B	OPTION 2: BASE WIDENING + SOUTHERN EXTENSION + OLD HWY 95 BRIDGE

0' 300' 600' 900'

N

CONCEPT REPORT

INTERSTATE 75
L.M. 13.87 TO L.M. 17.87
LOUDON COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 1B
I-75
L.M. 13.87 to
L.M. 14.68

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ENGINEERING CONCEPTS

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2025	LOUDON	2A

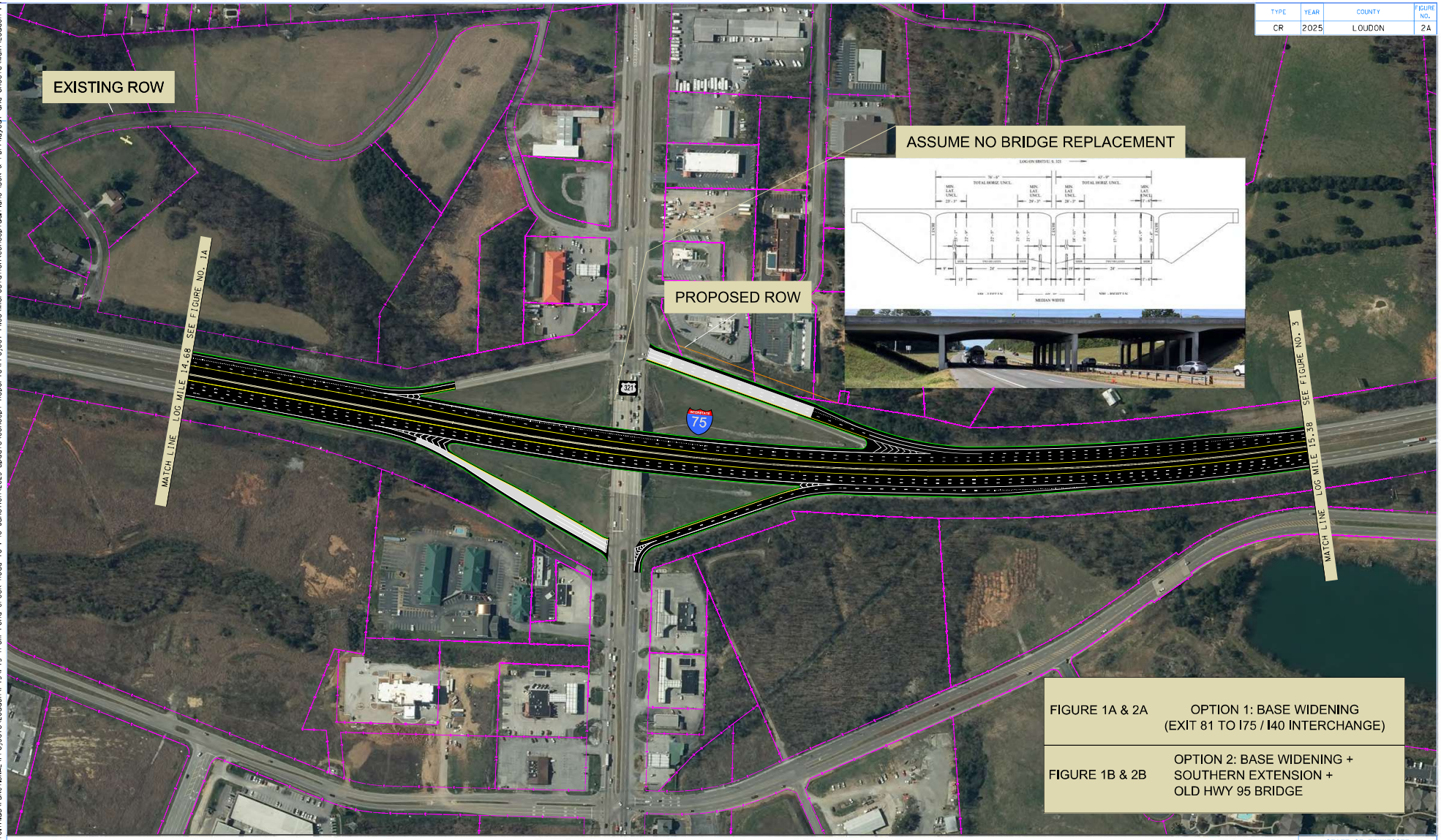


FIGURE 1A & 2A	OPTION 1: BASE WIDENING (EXIT 81 TO I75 / I40 INTERCHANGE)
FIGURE 1B & 2B	OPTION 2: BASE WIDENING + SOUTHERN EXTENSION + OLD HWY 95 BRIDGE

0' 300' 600' 900'

CONCEPT REPORT

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 2A
I-75
L.M. 14.68 to
L.M. 15.38

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ENGINEERING CONCEPTS

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2025	LOUDON	2B

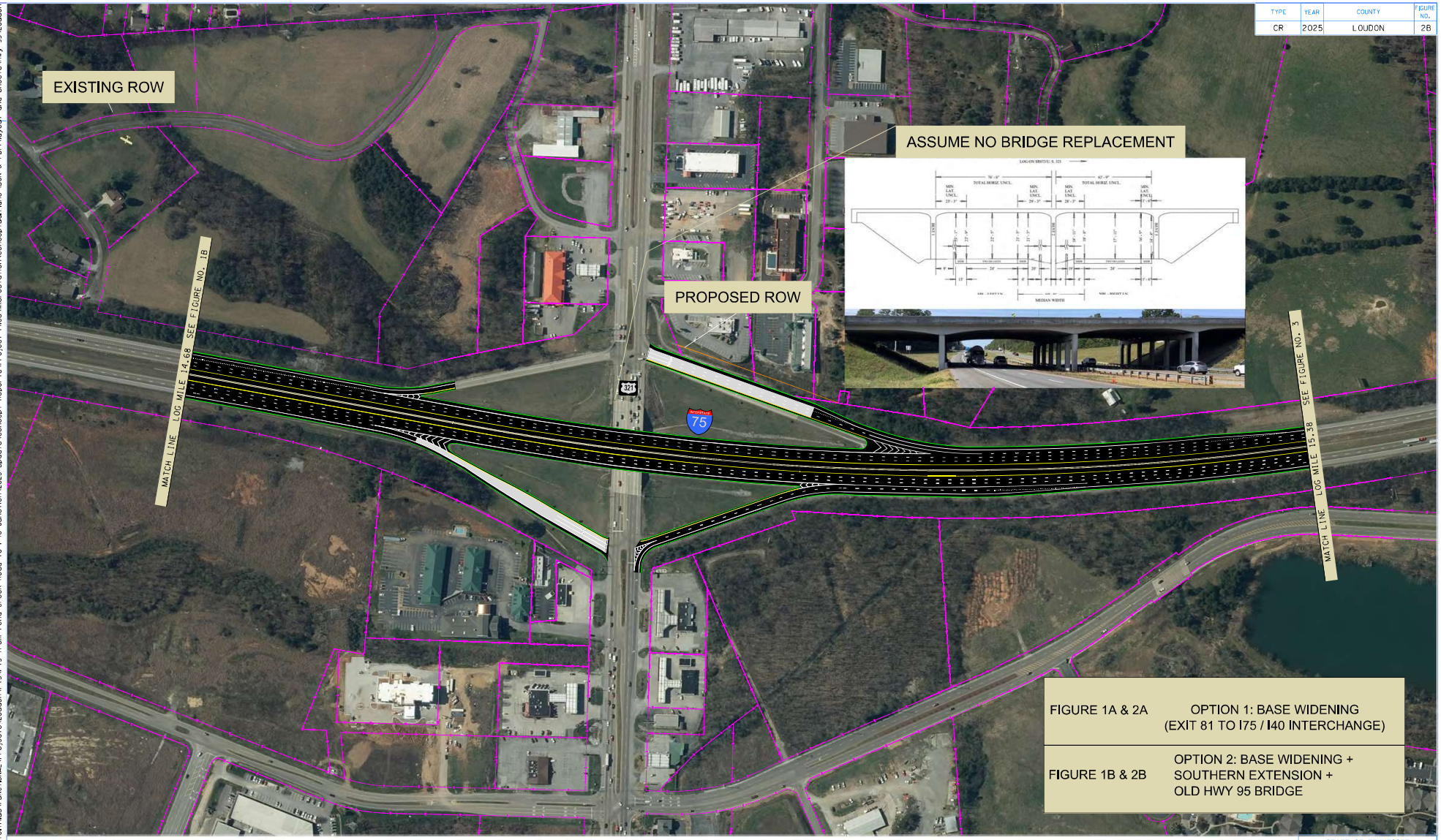


FIGURE 1A & 2A	OPTION 1: BASE WIDENING (EXIT 81 TO I75 / I40 INTERCHANGE)
FIGURE 1B & 2B	OPTION 2: BASE WIDENING + SOUTHERN EXTENSION + OLD HWY 95 BRIDGE

0' 300' 600' 900'

CONCEPT REPORT

INTERSTATE 75
L.M. 13.87 TO L.M. 17.87
LOUDON COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 2B
I-75
L.M. 14.68 to
L.M. 15.38

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ENGINEERING CONCEPTS

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2025	LOUDON	3



0' 200' 400' 600'

CONCEPT REPORT

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

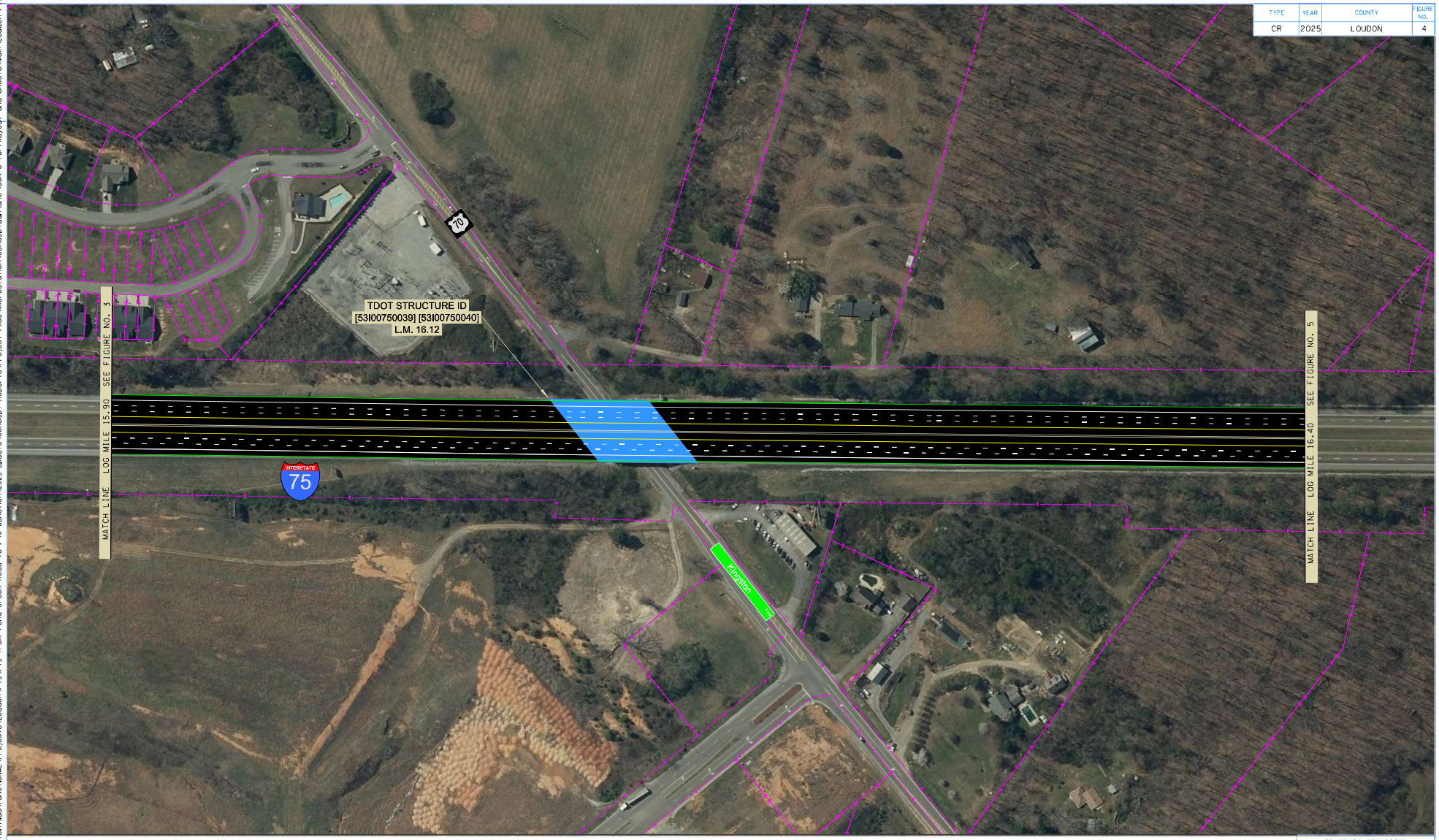
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DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 3
I-75
L.M. 15.38 to
L.M. 15.90

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ENGINEERING CONCEPTS

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2025	LOUDON	4



0' 200' 400' 600'

N

CONCEPT REPORT

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

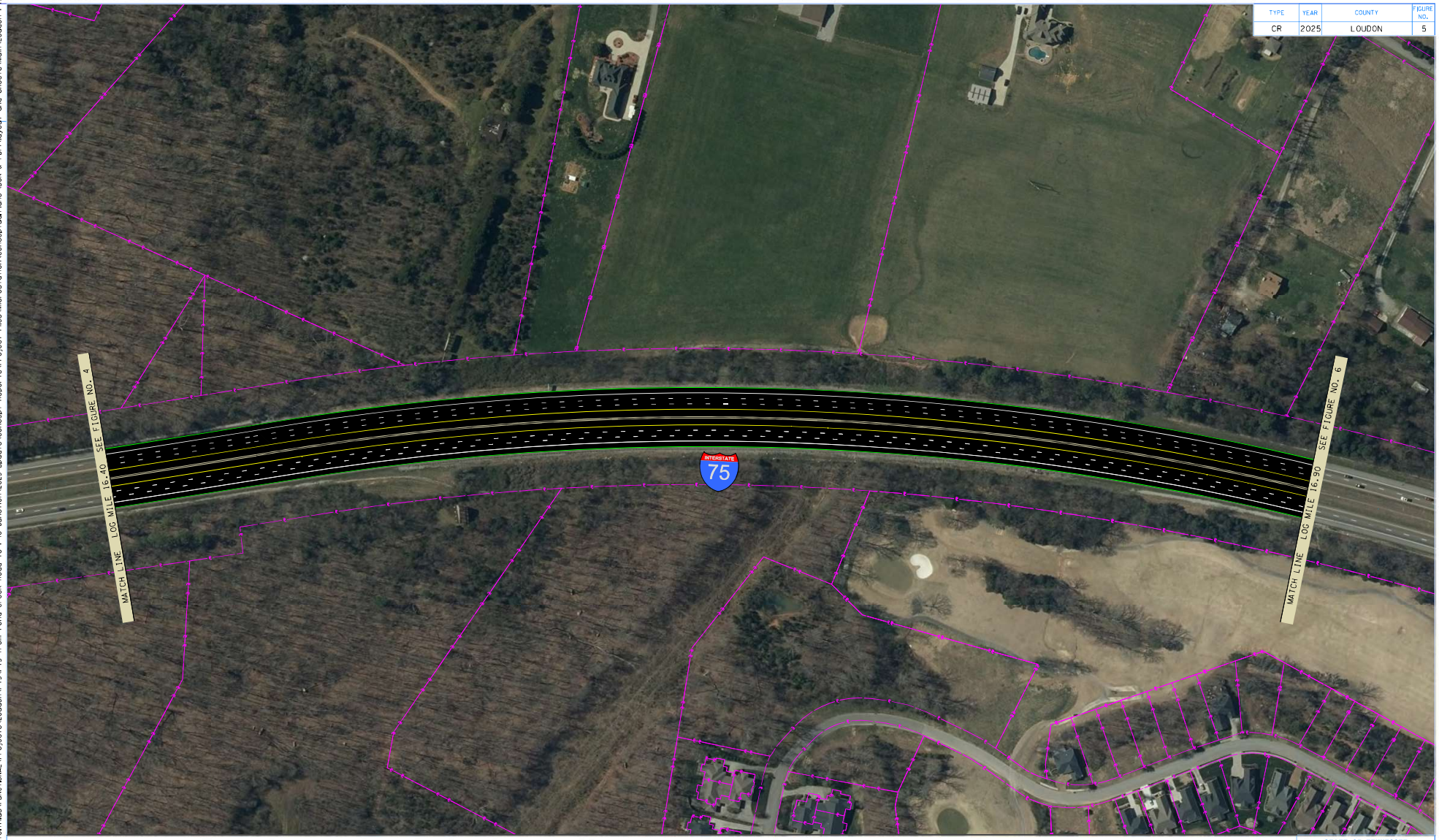
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 4
I-75
L.M. 15.90 to
L.M. 16.40

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TENNESSEE D.O.T.
ENGINEERING CONCEPTS

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2025	LOUDON	5



0' 200' 400' 600'

N

CONCEPT REPORT

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 5
I-75
L.M. 16.40 to
L.M. 16.90

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TENNESSEE D.O.T.
ENGINEERING CONCEPTS

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2025	LOUDON	6



0' 200' 400' 600'

N

CONCEPT REPORT

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

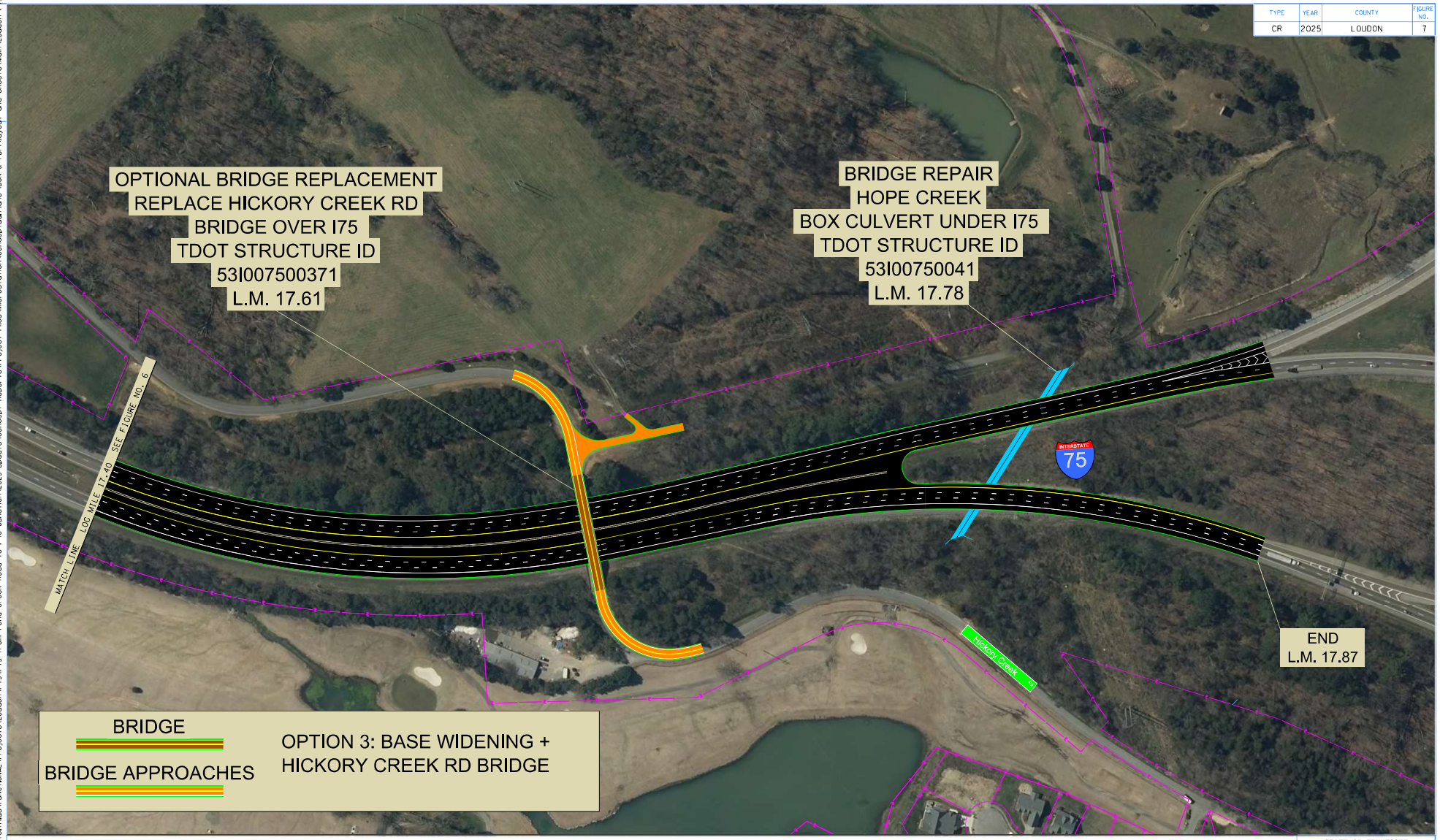
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 6
I-75
L.M. 16.90 to
L.M. 17.40

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TENNESSEE D.O.T.
ENGINEERING CONCEPTS

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2025	LOUDON	7



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CONCEPT REPORT

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

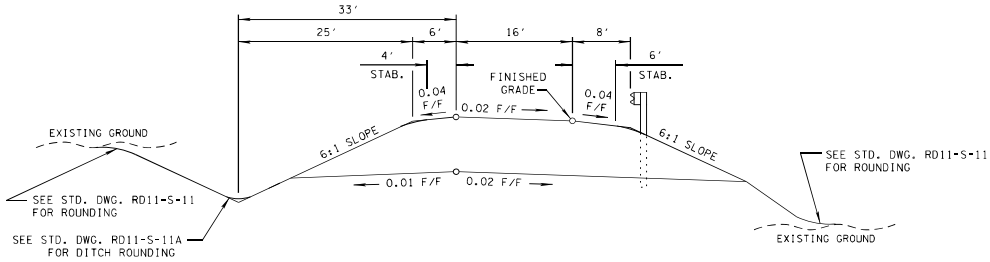
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 7
I-75
L.M. 17.40 to
L.M. 17.87

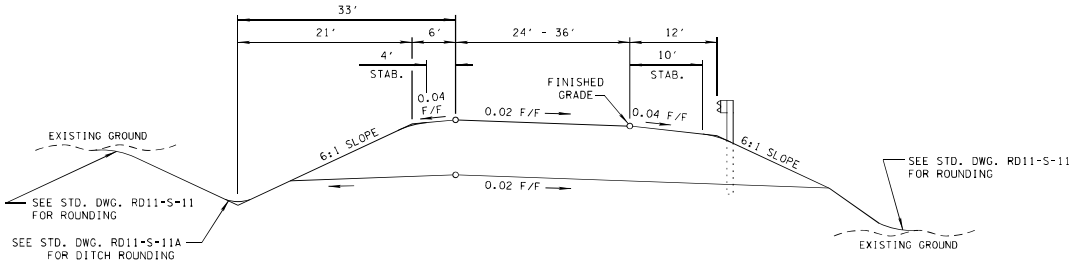
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TENNESSEE D.O.T.
ENGINEERING CONCEPTS
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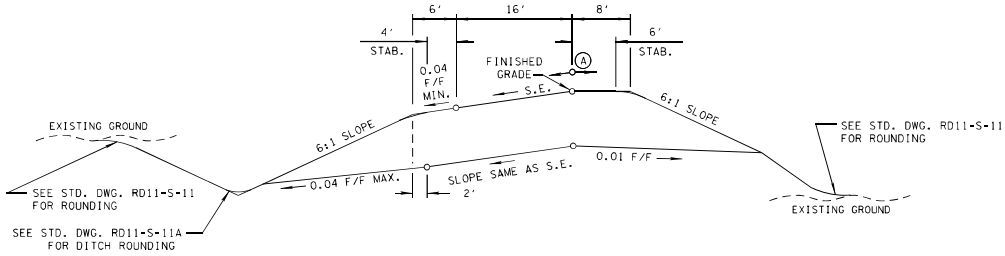
TYPE	YEAR	COUNTY	FIGURE NO.
CR	2025	LOUDON	8



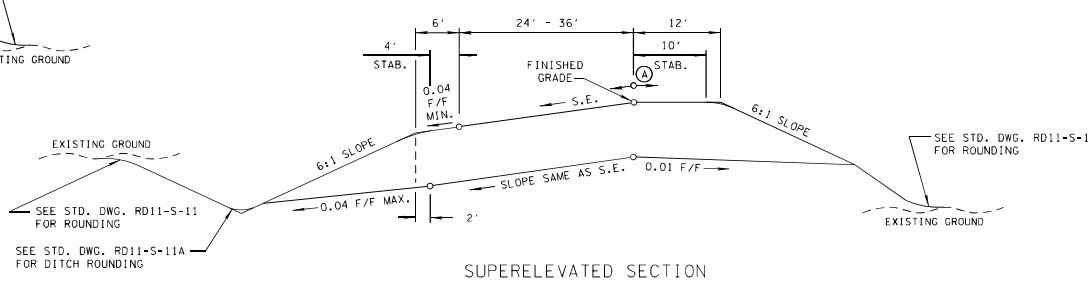
TANGENT SECTION
(BASED ON STD. DWG. RD11-TS-4)



TANGENT SECTION
(BASED ON STD. DWG. RD11-TS-4)



SUPERELEVATED SECTION
(BASED ON STD. DWG. RD11-TS-4)



SUPERELEVATED SECTION
(BASED ON STD. DWG. RD11-TS-4)

CONCEPT REPORT

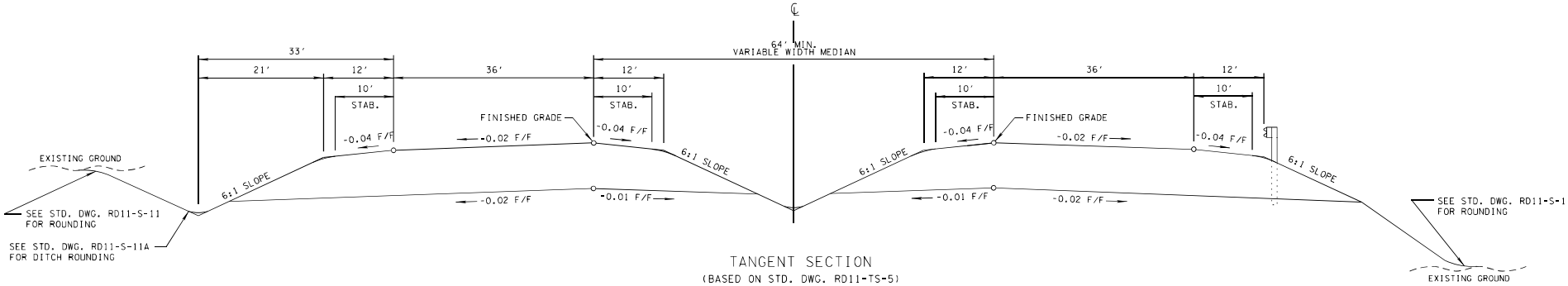
INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

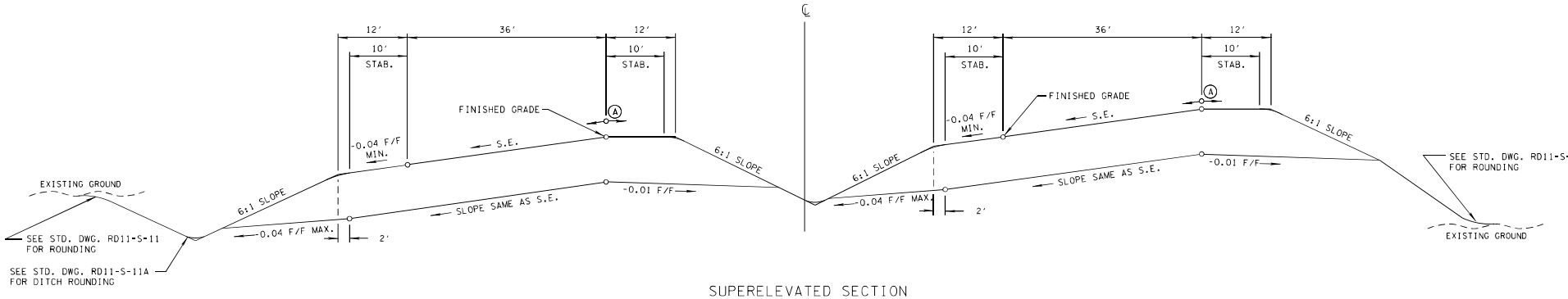
FIGURE 8
I-75
L.M. 14.39 to
L.M. 17.87

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TYPE	YEAR	COUNTY	FIGURE NO.
CR	2025	LOUDON	9



TANGENT SECTION
(BASED ON STD. DWG. RD11-TS-5)



SUPERELEVATED SECTION
(BASED ON STD. DWG. RD11-TS-5)

CONCEPT REPORT

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

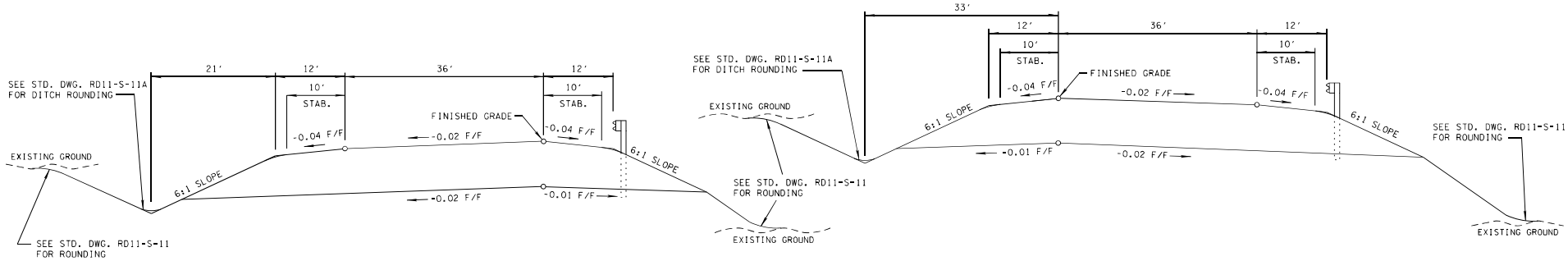
FIGURE 9
I-75
L.M. 14.39 to
L.M. 17.87

TENNESSEE D.O.T.
ENGINEERING CONCEPTS
FILE NO.

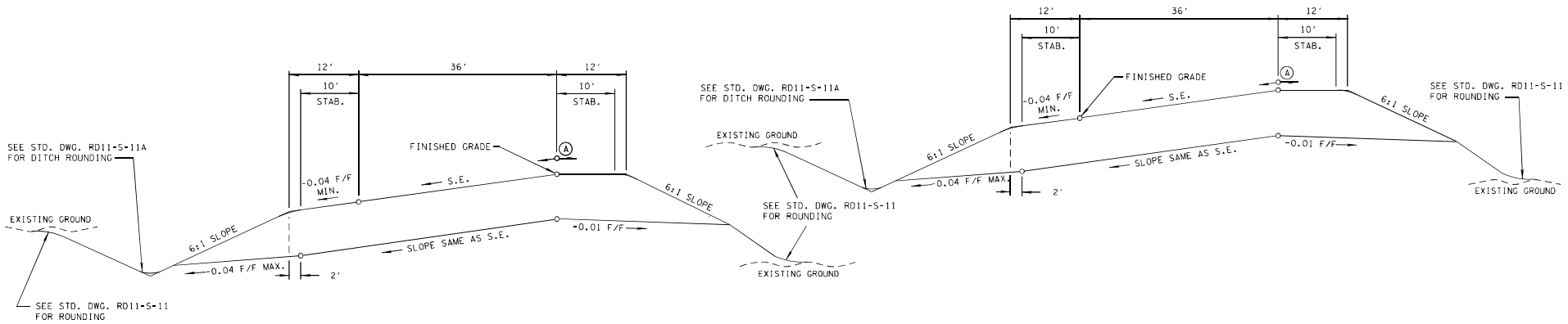
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TENNESSEE D.O.T.
ENGINEERING CONCEPTS
FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2025	LOUDON	10



TANGENT SECTIONS
(BASED ON STD. DWG. RD11-TS-5A)



SUPERELEVATED SECTIONS
(BASED ON STD. DWG. RD11-TS-5A)

CONCEPT REPORT

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

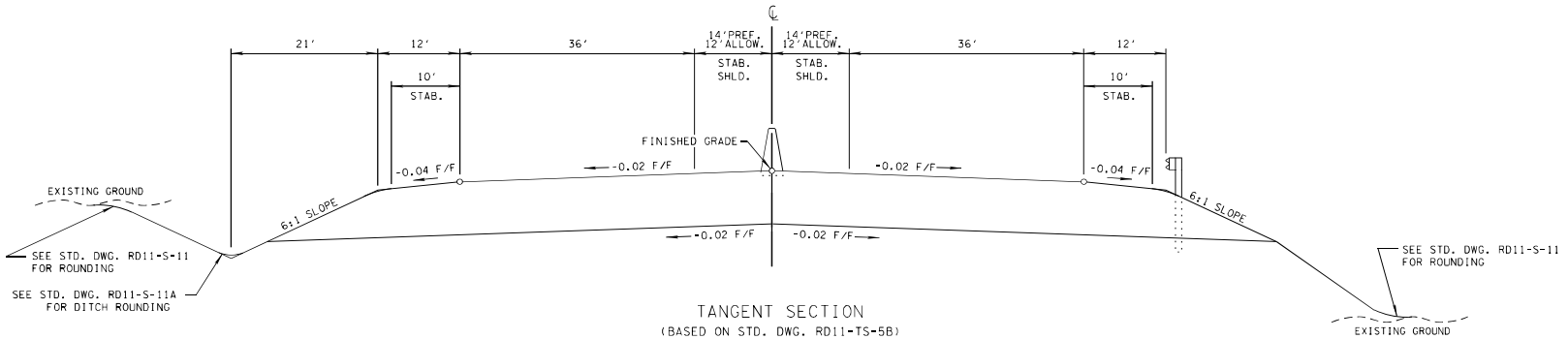
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 10
I-75
L.M. 14.39 to
L.M. 17.87

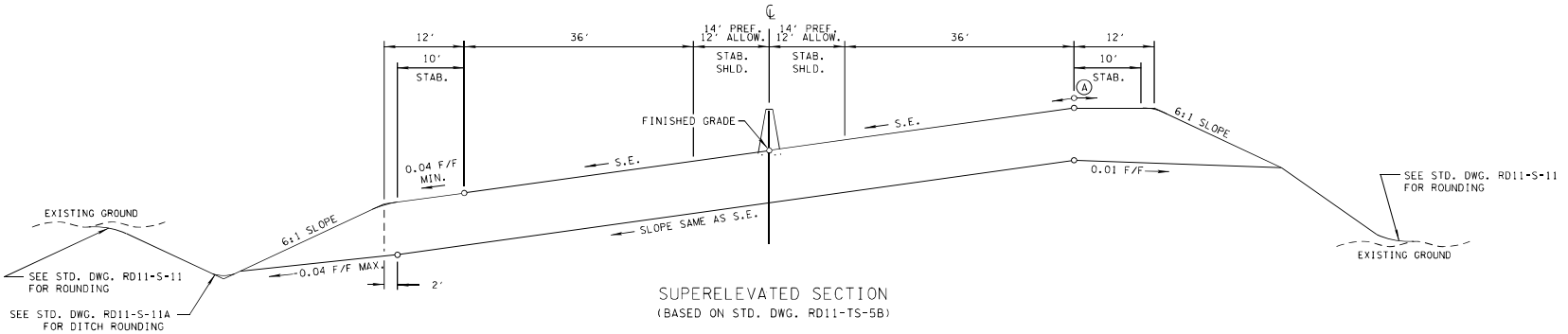
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TENNESSEE D.O.T.
ENGINEERING CONCEPTS

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2025	LOUDON	11



TANGENT SECTION
(BASED ON STD. DWG. RD11-TS-5B)



SUPERELEVATED SECTION
(BASED ON STD. DWG. RD11-TS-5B)

CONCEPT REPORT

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

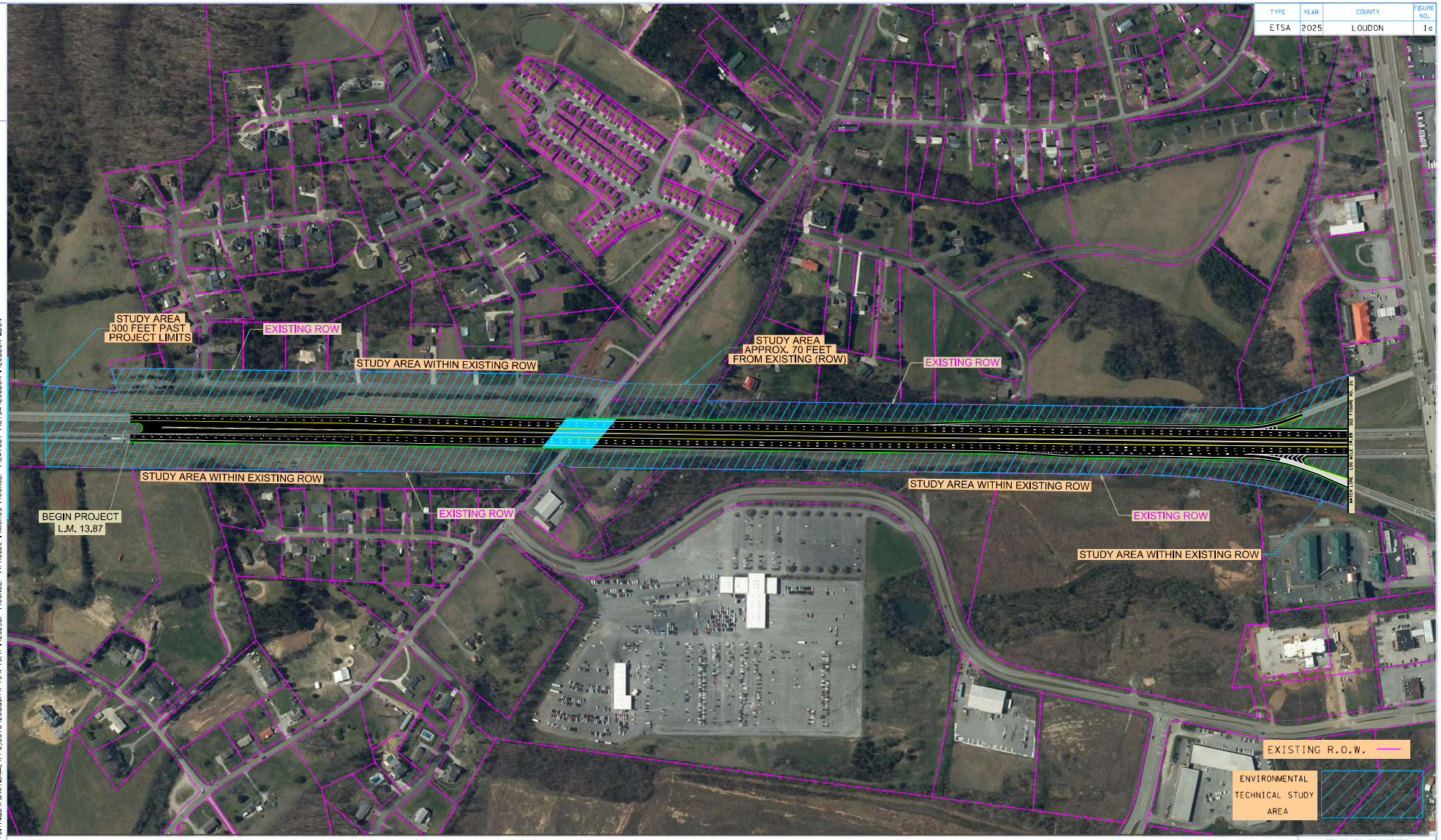
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 11
I-75
L.M. 14.39 to
L.M. 17.87

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TENNESSEE D.O.T.
ENGINEERING CONCEPTS
FILE NO. ____

TYPE	YEAR	COUNTY	FIGURE NO.
ETSA	2025	LOUDON	1c



0' 400' 800' 1200'

ENVIRONMENTAL TECHNICAL STUDY AREA

INTERSTATE 75
L.M. 13.87 TO L.M. 17.87
LOUDON COUNTY

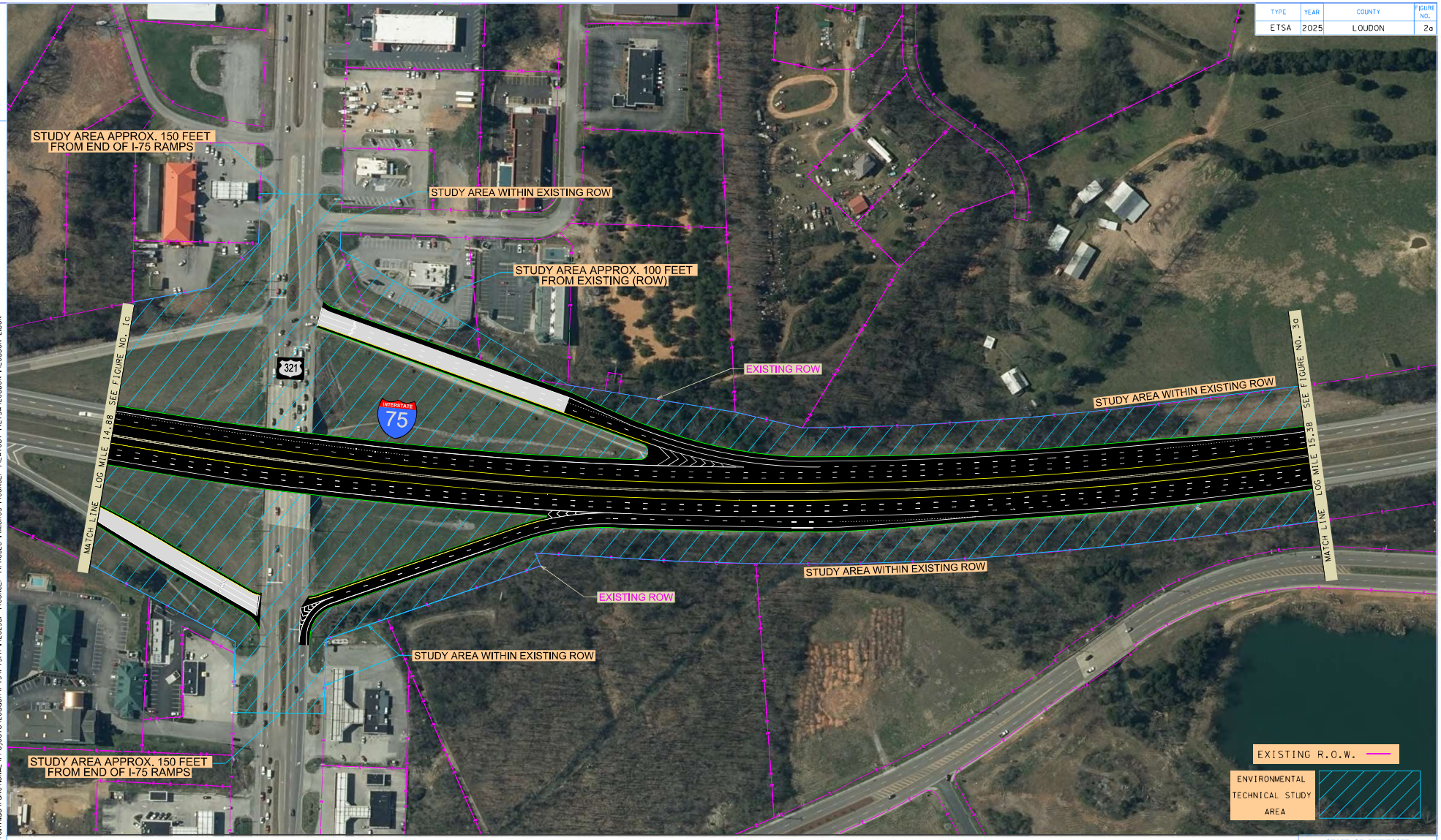
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 1c
I-75
L.M. 13.87 to
L.M. 14.88

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TENNESSEE D.O.T.
ENGINEERING CONCEPTS
FILE NO. ——

TYPE	YEAR	COUNTY	FIGURE NO.
ETSA	2025	LOUDON	2a



0' 200' 400' 600'

ENVIRONMENTAL TECHNICAL STUDY AREA

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

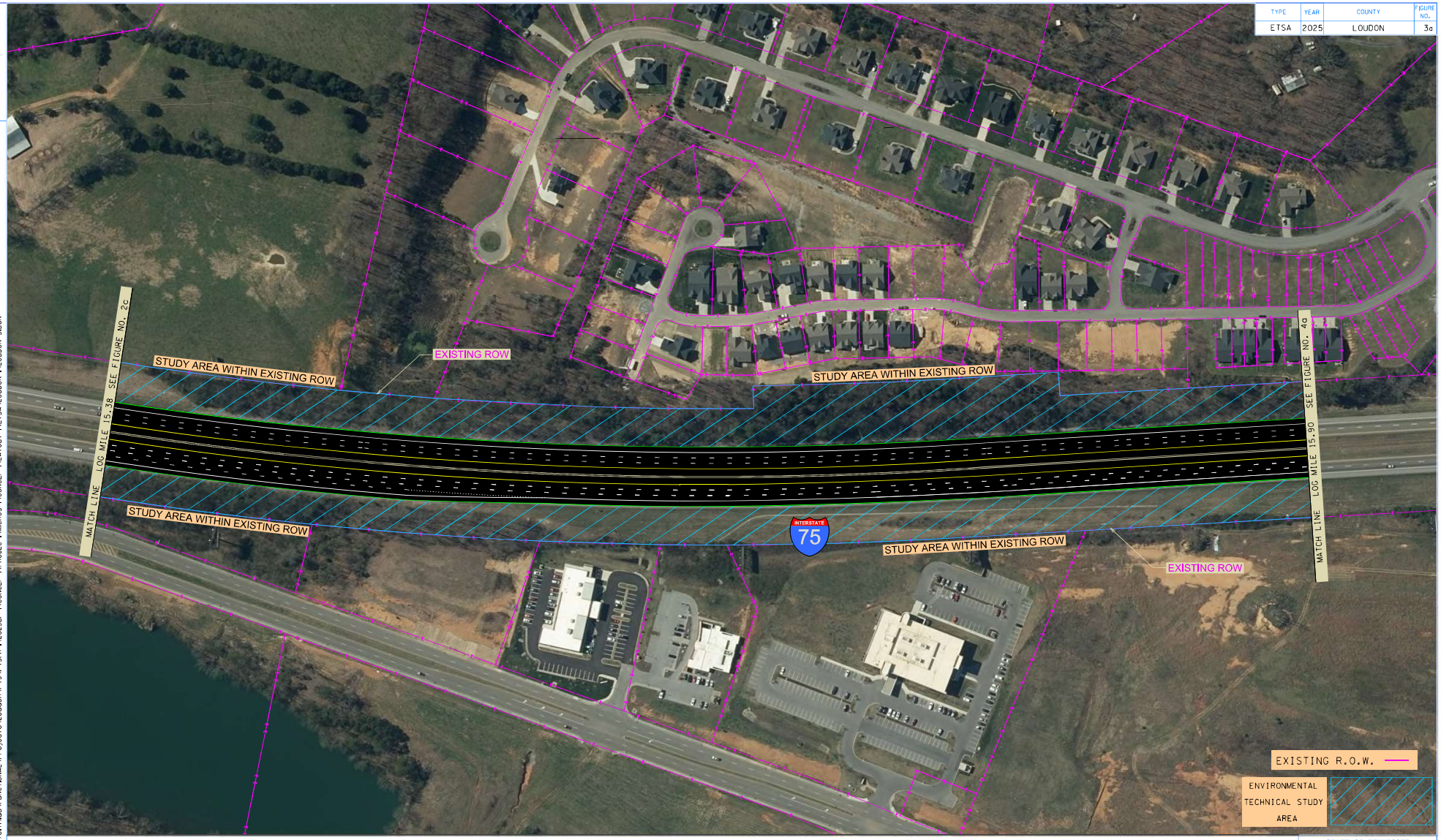
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 2c
I-75
L.M. 14.88 to
L.M. 15.38

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TENNESSEE D.O.T.
ENGINEERING CONCEPTS
FILE NO. ——

TYPE	YEAR	COUNTY	FIGURE NO.
ETSA	2025	LOUDON	3a



0' 200' 400' 600'

ENVIRONMENTAL TECHNICAL STUDY AREA

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

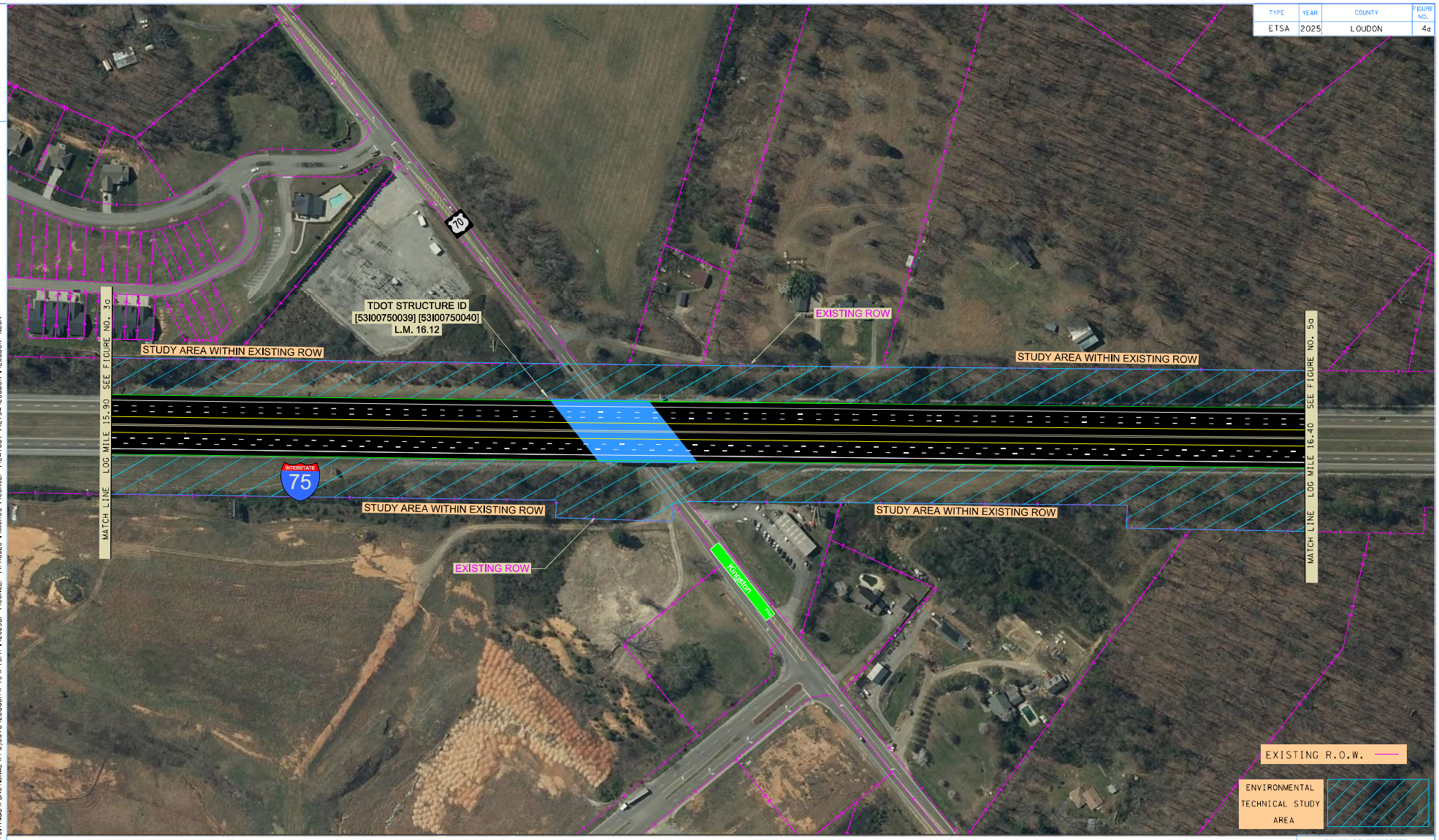
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 3a
I-75
L.M. 15.38 to
L.M. 15.90

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TENNESSEE D.O.T.
ENGINEERING CONCEPTS
FILE NO. ____

TYPE	YEAR	COUNTY	FIGURE NO.
ETSA	2025	LOUDON	4a



0' 200' 400' 600'

ENVIRONMENTAL TECHNICAL STUDY AREA

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

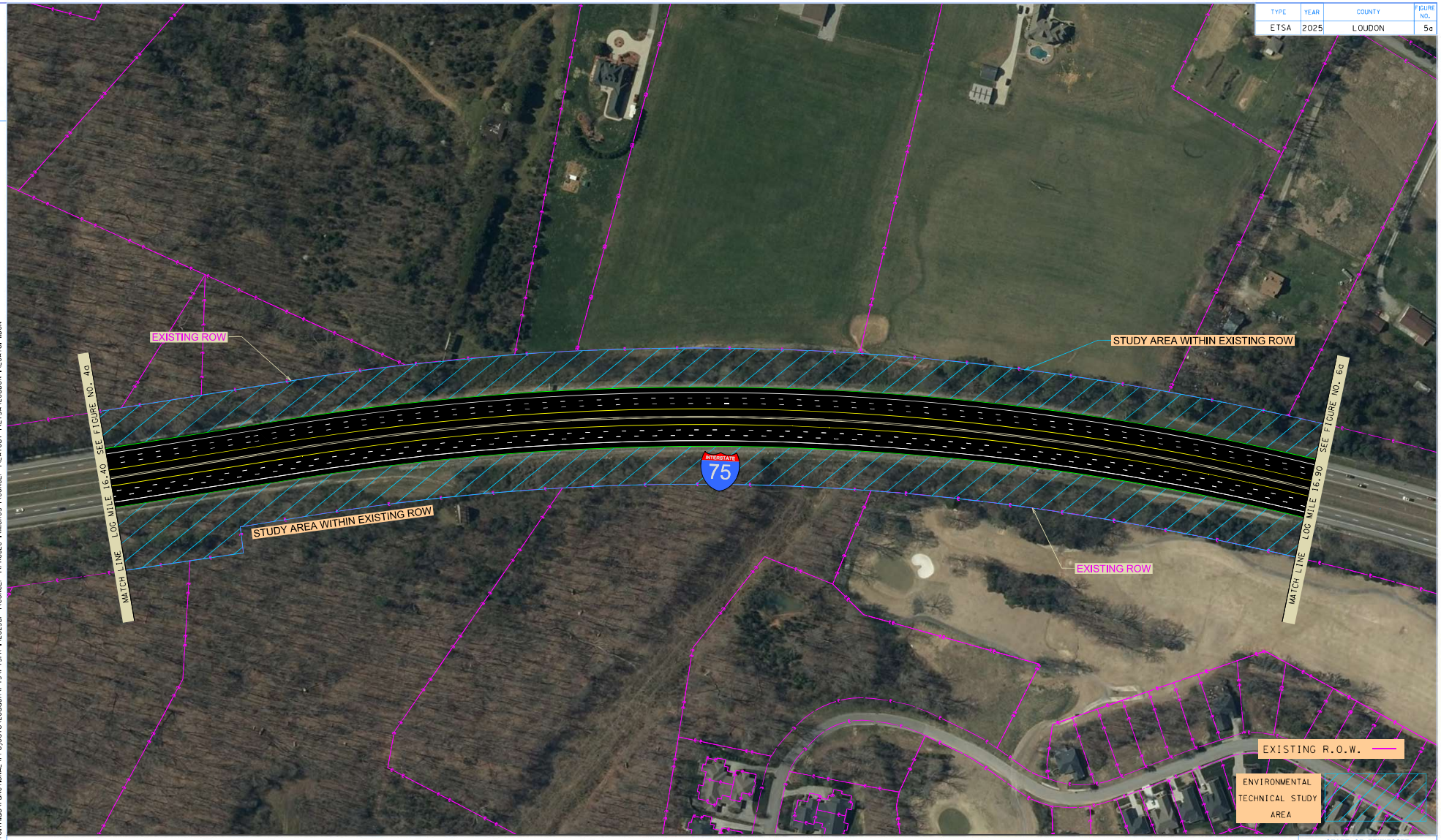
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 4a
I-75
L.M. 15.90 to
L.M. 16.40

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TENNESSEE D.O.T.
ENGINEERING CONCEPTS
FILE NO. ——

TYPE	YEAR	COUNTY	FIGURE NO.
ETSA	2025	LOUDON	5a



0' 200' 400' 600'

N

ENVIRONMENTAL TECHNICAL STUDY AREA

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 5a
I-75
L.M. 16.40 to
L.M. 16.90

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TENNESSEE D.O.T.
ENGINEERING CONCEPTS
FILE NO. ——

TYPE	YEAR	COUNTY	FIGURE NO.
ETSA	2025	LOUDON	6a



0' 200' 400' 600'

N

ENVIRONMENTAL TECHNICAL STUDY AREA

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

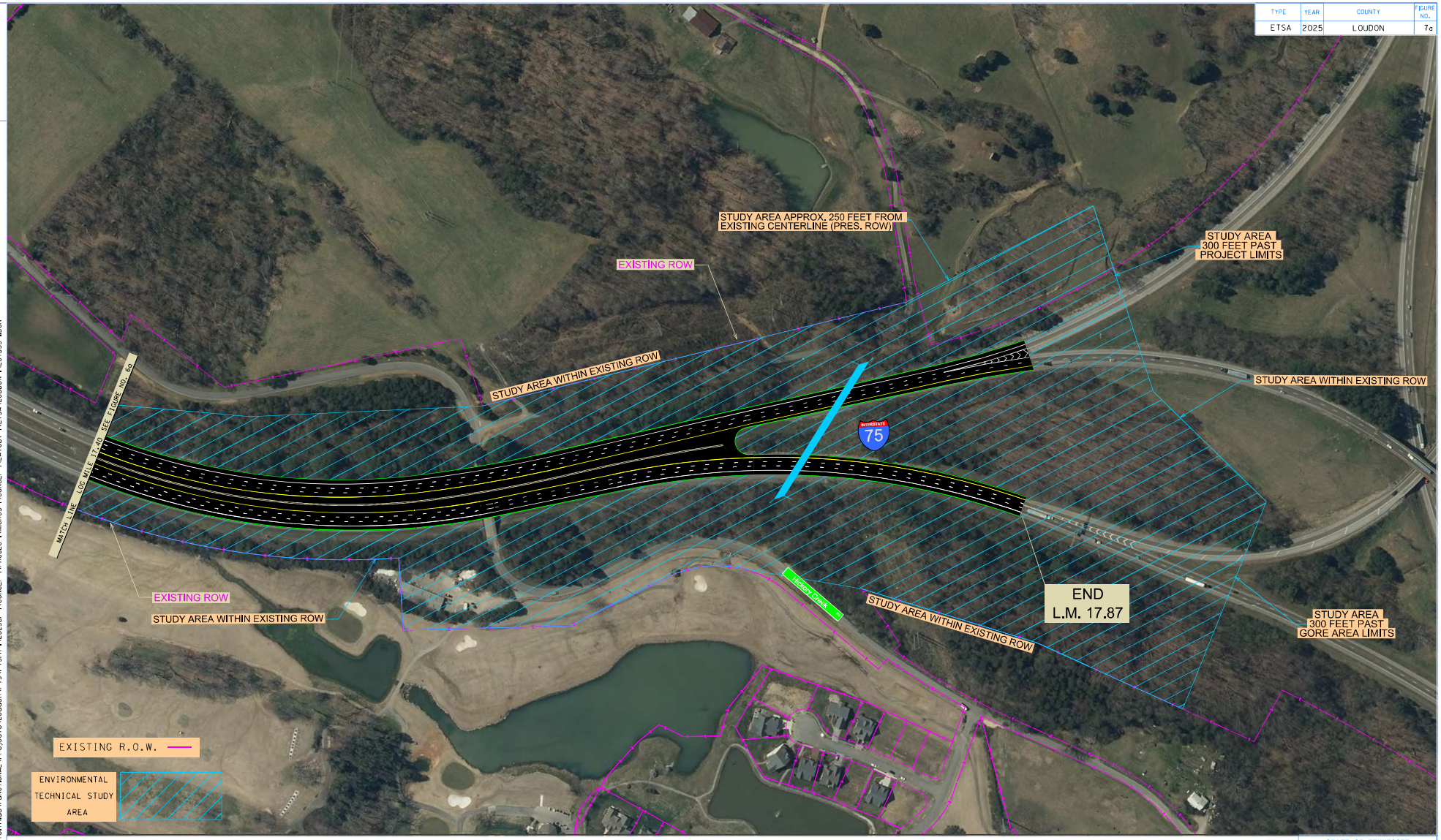
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 6a
I-75
L.M. 16.90 to
L.M. 17.40

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TENNESSEE D.O.T.
ENGINEERING CONCEPTS
FILE NO. ____

TYPE	YEAR	COUNTY	FIGURE NO.
ETSA	2025	LOUDON	7a



0' 250' 500' 750'

N

ENVIRONMENTAL TECHNICAL STUDY AREA

INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 7a
I-75
L.M. 17.40 to
L.M. 17.87

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Traffic Analysis

1.1 Evaluation Scenarios

Base year information is used as the basis for considering traffic conditions and generally represents an estimated date for construction. Typically, roadway projects are designed for traffic conditions 20 years in the future, known as the design year. The design year is used in planning, environmental studies, and engineering evaluations to represent the project's service life or full build-out of all project components.

The following scenarios were analyzed during AM and PM peak hours:

- Base Year 2029
  - No Build Alternative
  - Build Alternative 1
  - Build Alternative 2
- Design Year 2049
  - No Build Alternative
  - Build Alternative 1
  - Build Alternative 2

The No Build Alternative serves as the baseline existing transportation network. This includes only routine maintenance on the existing corridor or improvements under an existing adjacent project.

Build Alternative 1 includes the following proposed design elements:

- I-75 from SR-73 Interchange (Exit 81) to I-40 Interchange
  - I-75N
    - Widen I-75N to the inside median by adding one (1) through lane 1,975 feet prior to the SR-73 Exit Ramp (Exit 81) that continues to the I-40W Exit Ramp (Exit 84B); maintain the two (2) existing continuous through lanes on I-75N to the I-40E Merge
    - Extend the existing 530-foot parallel-type deceleration lane at the SR-73 Exit Ramp (Exit 81) to a total parallel-type deceleration lane length of 1,050 feet
    - Widen I-75N at the SR-73 Entrance Ramp (Exit 81) from one (1) entrance ramp lane to two (2) entrance ramp lanes, which includes the addition of an 800-foot first parallel-type acceleration lane and an extension of the existing 740-foot parallel-type acceleration lane to include a 1,710-foot second parallel-type acceleration lane
  - I-75S
    - Modify the existing 900-foot parallel-type acceleration lane at the I-75S Entrance Ramp (Exit 368) by widening I-75S to the inside median which will provide one (1) through lane that continues 1,690 feet beyond the SR-73 Exit Ramp (Exit 81); maintain the two (2) existing continuous through lanes on I-75S beyond the SR-73 Entrance Ramp (Exit 81)

        - Widen I-75S at the SR-73 Exit Ramp (Exit 81) from one (1) exit ramp lane to two (2) exit ramp lanes, which includes the addition of one (1) decision lane, allowing drivers to make a decision to continue traveling through on the freeway or exit the freeway onto the exit ramp lane, and an extension of the existing 640-foot parallel-type deceleration lane to a total parallel-type deceleration lane length of 1,175 feet
        - Extend the existing 1,340-foot parallel-type acceleration lane at the SR-73 Entrance Ramp (Exit 81) to a total parallel-type acceleration lane length of 1,475 feet
- I-75 at SR-73 Interchange (Exit 81)
    - SR-73 at I-75N Ramps
        - At the I-75N Exit Ramp, modify the existing exit ramp lanes to include one (1) exclusive left-turn lane, one (1) shared left-turn and right-turn lane, and one (1) exclusive right-turn lane; the existing exclusive left-turn lane is to have a storage length of 190 feet, and the existing exclusive right-turn lane storage length is to remain 190 feet
        - At the SR-73 westbound (WB) approach, modify the existing signal-controlled right-turn lane to a free-flow, channelized right-turn lane, and widen the I-75N Entrance Ramp from one (1) entrance ramp lane to two (2) entrance ramp lanes
    - SR-73 at I-75S Ramps
        - At the I-75S Exit Ramp, the existing exit ramp lanes are to remain as two (2) exclusive left-turn lanes and one (1) exclusive right-turn lane; the existing inside exclusive left-turn lane storage length is to be extended from 335 feet to the total ramp length of 990 feet, and the existing exclusive right-turn lane storage length is to be extended from 335 feet to 575 feet

The listed proposed intersection modifications have impacts to system operations resulting in the optimization of cycle lengths, phasing, splits, and offsets at the signalized intersections.

Build Alternative 2 includes the following modifications in addition to the proposed design elements listed for Build Alternative 1:

- I-75 from SR-73 Interchange (Exit 81) to I-40 Interchange
    - I-75N
        - Widen I-75N to the inside median by adding one (1) through lane 3,875 feet prior to the SR-73 Exit Ramp (Exit 81) that continues to the I-40W Exit Ramp (Exit 84B); widen the existing I-75 Bridge over Old Highway 95
    - I-75S
        - Widen I-75S to the inside median by adding one (1) through lane that continues 3,460 feet beyond the SR-73 Entrance Ramp (Exit 81); widen the existing I-75 Bridge over Old Highway 95

1.2 Methodology

1.2.1 Forecasted Traffic Volumes

The No Build and Build Alternative forecasted traffic volumes, specifically design hourly volumes (DHVs), were approved by TDOT on July 8, 2024 for Base Year 2029 and Design Year 2049 and are provided within Appendix A.

Traffic was provided for the following locations:

- Freeway segments
  - I-75 from SR-73 Interchange (Exit 81) to I-40 Interchange
    - I-75N
    - I-75S
- Arterial intersections
  - I-75 at SR-73 Interchange (Exit 81)
    - SR-73 at I-75N Ramps
    - SR-73 at I-75S Ramps

1.2.2 Freeway Segments

A freeway capacity analysis was performed along I-75 from the SR-73 Interchange (Exit 81) to the I-40 Interchange in Loudon County. This analysis utilized Highway Capacity Software (HCS 2024) which implements the methodology prescribed in the Highway Capacity Manual (HCM) 7th Edition (HCM 7) for analyzing uninterrupted flow on freeways. This software was used to calculate level of service (LOS), demand-to-capacity (d/c) ratio, and density, the service measure for basic freeway segments and freeway weaving, merge, and diverge segments. The definitions for determining LOS for freeway segments are shown in Table 1.

Table 1. LOS Definitions for Freeway Segments

LOS	Description
A	Motorists are able to travel at free-flow speeds and are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed.
B	Free-flow speeds are maintained and the ability to maneuver within the traffic stream is only slightly restricted. The general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.
C	Traffic flows at speeds near the free-flow speed. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes still require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service quality will be significant.
D	Speeds begin to decline with increasing flows, with density increasing more quickly. Freedom to maneuver within the traffic stream is seriously limited and drivers experience reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing because the stream has little space to absorb disruptions.
E	Freeway is operating at capacity. Operations are highly volatile because there are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption to the traffic stream, such as vehicles entering from a ramp or a vehicle changing lanes, can establish a disrution wave that propagates throughout the upstream traffic flow.
F	Breakdown, or unstable flow.

Source: Highway Capacity Manual 6th Edition (HCM 6)

The LOS criteria for basic freeway segments from HCM 7 Exhibit 12-15 is shown in Table 2.

Table 2. LOS Criteria for Basic Freeway Segments

LOS	Density (pc/mi/ln)
A	≤11
B	>11–18
C	>18–26
D	>26–35
E	>35–45
F	Demand exceeds capacity OR density > 45

Source: Highway Capacity Manual 7th Edition (HCM 7)

The LOS criteria for freeway weaving segments from HCM 7 Exhibit 13-6 is shown in Table 3.

Table 3. LOS Criteria for Freeway Weaving Segments

LOS	Density (pc/mi/ln)
A	0–10
B	>10–20
C	>20–28
D	>28–35
E	>35–43
F	>43, or demand exceeds capacity

Source: Highway Capacity Manual 7th Edition (HCM 7)

The LOS criteria for freeway merge and diverge segments from HCM 7 Exhibit 14-3 is shown in Table 4.

Table 4. LOS Criteria for Freeway Merge and Diverge Segments

LOS	Density (pc/mi/ln)
A	≤10
B	>10–20
C	>20–28
D	>28–35
E	>35
F	Demand exceeds capacity

Source: Highway Capacity Manual 7th Edition (HCM 7)

1.2.3 Arterial Intersections

The study area includes two (2) intersections at the I-75 at SR-73 Interchange (Exit 81). Synchro 11 traffic analysis software was used to analyze the intersection operations for the subject project.

Synchro is a deterministic analysis and signal optimization software that enables evaluation of intersection delay and performance based on traffic volumes, roadway and intersection characteristics, and signal phasing and timing plans.

The HCM 6th Edition (HCM 6) methodology was used to calculate delay and LOS for signalized intersections. LOS is a categorization of intersection delay based upon driver tolerance for stopped delay and signal efficiency. The definitions for determining LOS for signalized intersections are shown in Table 5.

Table 5. LOS Definitions for Signalized Intersections

LOS	Description
A	Operates with very low control delay occurring with favorable progression and short cycle lengths.
B	Operates with low control delay, short queues, good signal progression, and short cycle lengths.
C	Operates with average control delays resulting from fair progression and short cycle lengths.
D	Operates with longer control delays due to unfavorable progression, occasional cycle failures, long cycle lengths, and/or high v/c ratios.
E	Operates with high control delays, poor progression, long cycle lengths, frequent cycle failures, and v/c ≥ 1.0.
F	Operates with control delays unacceptable to most drivers occurring due to oversaturation, poor progression, and/or very long cycle lengths.

Source: Highway Capacity Manual 6th Edition (HCM 6)

The LOS criteria established for the motorized vehicle mode at signalized intersections from HCM 6 Exhibit 19-8 is shown in Table 6.

Table 6. LOS Criteria for Motorized Vehicle Mode at Signalized Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio[a]	
	≤1.0	>1.0
≤10	A	F
>10–20	B	F
>20–35	C	F
>35–55	D	F
>55–80	E	F
>80	F	F

Note: [a] For approach-based and intersectionwide assessments, LOS is defined solely by control delay.

Source: Highway Capacity Manual 6th Edition (HCM 6)

Since Synchro methodology uses a more simplistic, equation-based approach to calculate queue length and can often produce underestimated results, it is recommended that SimTraffic be utilized for obtaining 95th percentile queue length, or the length of queue that should not be exceeded for 95% of the analysis period duration. Therefore, SimTraffic was utilized for queue analysis since the software analyzes microscopic models and collects data for each vehicle in the system.

1.3 Capacity and Operational Analysis Results

1.3.1 Freeway Segments – No Build Alternative Results

The No Build Alternative was analyzed to establish a baseline for comparison and reflects the existing lane configurations with no improvements to freeway segments. The applicable d/c ratio, density, and LOS for all basic freeway segments and freeway merge and diverge segments along I-75 within the project limits for both the northbound (NB) and southbound (SB) direction are shown in Table 7 and Table 8, respectively. The HCS reports are provided within Appendix B.

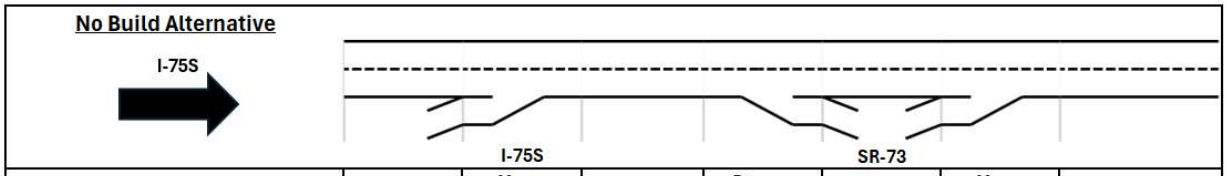
Table 7. No Build Alternative Results for I-75N – Freeway Segment LOS



Segment Type			Basic	Diverge		Basic	Merge		Basic	Diverge		Basic
				F[a]	R[b]		F[a]	R[b]		F[a]	R[b]	
2029	AM	d/c Ratio	0.65	0.69	0.42	0.46	0.81	0.84	0.85	0.85	0.21	0.76
		Density (pc/mi/ln)	21.9	28.4	28.2	14.8	32.4	30.2	32.0	33.9	29.1	26.9
		LOS	C	D		B	D		D	D		D
	PM	d/c Ratio	0.64	0.68	0.43	0.44	0.58	0.34	0.58	0.58	0.17	0.51
		Density (pc/mi/ln)	21.2	27.8	27.5	14.1	21.8	22.2	18.8	23.0	18.0	16.2
		LOS	C	C		B	C		C	B		B
2049	AM	d/c Ratio	0.76	0.81	0.49	0.54	0.94	0.97	0.98	0.98	0.24	0.88
		Density (pc/mi/ln)	26.9	33.2	32.8	17.4	41.5	35.0	43.0	39.4	34.7	34.4
		LOS	D	D		B	D		E	D		D
	PM	d/c Ratio	0.74	0.79	0.50	0.51	0.68	0.40	0.67	0.67	0.20	0.59
		Density (pc/mi/ln)	25.8	32.4	31.9	16.4	25.8	25.6	22.6	26.8	21.8	19.2
		LOS	C	D		B	C		C	C		C

Note: [a] F = Freeway
[b] R = Ramp Influence

Table 8. No Build Alternative Results for I-75S – Freeway Segment LOS



Segment Type			Basic	Merge		Basic	Diverge		Basic	Merge		Basic
				F[a]	R[b]		F[a]	R[b]		F[a]	R[b]	
2029	AM	d/c Ratio	0.56	0.65	0.22	0.66	0.72	0.49	0.45	0.59	0.34	0.60
		Density (pc/mi/ln)	18.2	24.6	24.4	22.0	29.5	28.5	14.3	21.7	19.0	19.7
		LOS	C	C		C	D		B	B		C
	PM	d/c Ratio	0.84	0.92	0.18	0.92	1.00	0.81	0.56	0.77	0.52	0.79
		Density (pc/mi/ln)	31.8	39.3	34.3	37.4	42.9	40.5	18.1	29.7	25.6	28.8
		LOS	D	D		E	E		C	C		D
2049	AM	d/c Ratio	0.65	0.76	0.26	0.76	0.83	0.56	0.52	0.69	0.40	0.70
		Density (pc/mi/ln)	21.8	29.5	28.3	26.9	34.5	33.3	16.7	25.6	22.5	23.8
		LOS	C	D		D	D		B	C		C
	PM	d/c Ratio	0.98	1.06	0.21	1.07	1.17	0.93	0.65	0.90	0.60	0.92
		Density (pc/mi/ln)	67.7	40.4	34.8	38.4	40.3	37.4	17.5	30.8	26.3	28.8
		LOS	F	F		F	F		B	C		D

Note: [a] F = Freeway
[b] R = Ramp Influence

The No Build Alternative is summarized as follows for I-75 from the SR-73 Interchange (Exit 81) to the I-40 Interchange:

- I-75N
  - Projected to operate at LOS D or better in 2029 and 2049 except for LOS E for I-75N from the SR-73 Entrance Ramp (Exit 81) to the I-40W Exit Ramp (Exit 84B) in 2049 AM
- I-75S
  - Projected to operate at LOS D or better in 2029 AM and 2049 AM but is projected to operate at LOS E and LOS F along some segments in 2029 PM and 2049 PM, respectively

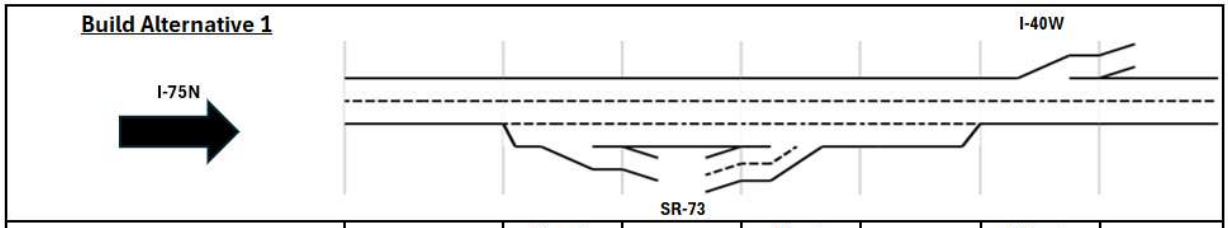
1.3.2 Freeway Segments – Build Alternative 1 Results

Widening I-75 in both directions provides an improvement in delay as compared to the No Build Alternative. In addition, extending the parallel-type acceleration and deceleration lanes at entrance and exit ramps, respectively, in Build Alternative 1 reduces the density on the ramps, allowing the freeway weaving, merge, and diverge segments to operate at a significantly improved LOS as compared to the No Build Alternative.

The spatial boundaries of the HCS Freeway Facility analysis were extended to include one (1) additional basic freeway segment at the beginning and end of the project limits where no proposed design improvements were recommended to capture any upstream or downstream operational characteristics. Therefore, as a result, there was no change in the operations of I-75 for the first and last segment analyzed in Build Alternative 1 as compared to the No Build Alternative.

The applicable d/c ratio, density, and LOS for all basic freeway segments and freeway weaving, merge, and diverge segments along I-75 within the project limits for both the NB and SB direction are shown in Table 9 and Table 10, respectively. The HCS reports are provided within Appendix B.

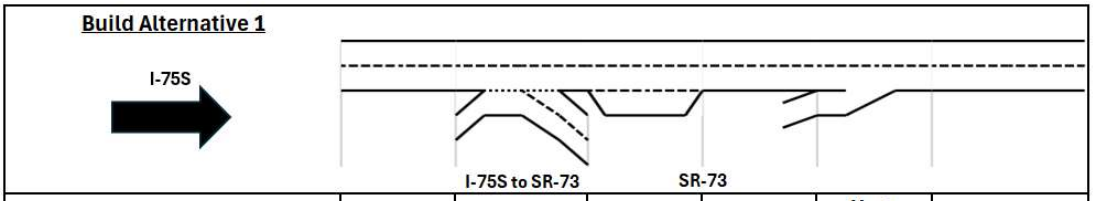
Table 9. Build Alternative 1 Results for I-75N – Freeway Segment LOS



Segment Type			Basic	Diverge		Basic	Merge		Basic	Diverge		Basic
				F[a]	R[b]		F[a]	R[b]		F[a]	R[b]	
2029	AM	d/c Ratio	0.65	0.46	0.42	0.31	0.54	0.42	0.56	0.85	0.21	0.76
		Density (pc/mi/ln)	21.9	17.5	15.7	9.8	17.5	17.5	18.3	33.9	25.7	26.9
		LOS	C	B		A	B		C	C		D
	PM	d/c Ratio	0.64	0.45	0.43	0.29	0.39	0.17	0.38	0.58	0.17	0.51
		Density (pc/mi/ln)	21.2	17.1	15.3	9.4	12.4	12.4	12.2	23.0	14.6	16.2
		LOS	C	B		A	B		B	B		B
2049	AM	d/c Ratio	0.76	0.54	0.49	0.36	0.63	0.48	0.65	0.98	0.24	0.88
		Density (pc/mi/ln)	26.9	20.3	18.6	11.4	20.8	20.8	21.9	39.4	31.2	34.4
		LOS	D	B		B	C		C	D		D
	PM	d/c Ratio	0.74	0.52	0.50	0.34	0.45	0.20	0.45	0.67	0.20	0.59
		Density (pc/mi/ln)	25.8	19.9	18.2	10.9	14.4	14.4	14.2	26.8	18.4	19.2
		LOS	C	B		A	B		B	B		C

Note: [a] F = Freeway
[b] R = Ramp Influence

Table 10. Build Alternative 1 Results for I-75S – Freeway Segment LOS



Segment Type			Basic	Weaving	Basic	Basic	Merge		Basic
							F[a]	R[b]	
2029	AM	d/c Ratio	0.56	0.41	0.30	0.45	0.59	0.34	0.60
		Density (pc/mi/ln)	18.2	13.0	9.5	14.3	21.6	18.2	19.7
		LOS	C	B	A	B	B		C
	PM	d/c Ratio	0.84	0.56	0.37	0.56	0.77	0.52	0.79
		Density (pc/mi/ln)	31.8	18.3	11.8	18.1	29.6	24.8	28.8
		LOS	D	C	B	C	C		D
2049	AM	d/c Ratio	0.65	0.47	0.35	0.52	0.69	0.40	0.70
		Density (pc/mi/ln)	21.8	15.1	11.0	16.7	25.5	21.6	23.8
		LOS	C	B	A	B	C		C
	PM	d/c Ratio	0.98	0.66	0.43	0.65	0.90	0.60	0.92
		Density (pc/mi/ln)	42.5	22.0	13.8	21.8	37.2	29.5	37.8
		LOS	E	C	B	C	D		E

Note: [a] F = Freeway
[b] R = Ramp Influence

Build Alternative 1 is summarized as follows for I-75 from the SR-73 Interchange (Exit 81) to the I-40 Interchange:

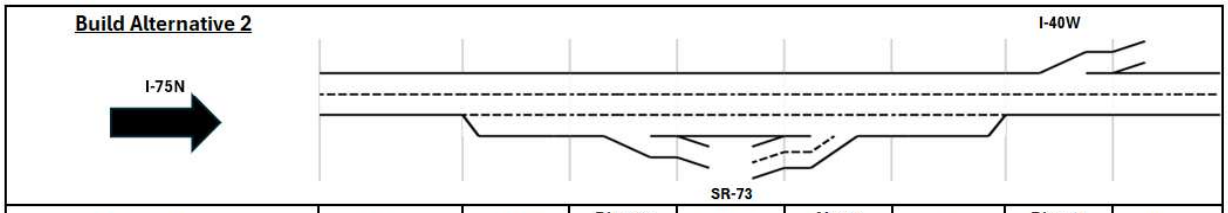
- I-75N
  - Projected to operate at LOS D or better in 2029 and 2049; d/c ratio and LOS significantly improved as compared to the No Build Alternative in 2029 and 2049
- I-75S
  - Projected to operate at LOS C or better in 2029 AM and 2049 AM but is projected to operate at LOS D and LOS E along some segments in 2029 PM and 2049 PM, respectively; d/c ratio and LOS significantly improved as compared to the No Build Alternative in 2029 and 2049 except the SR-73 Entrance Ramp (Exit 81) worsened from LOS C to LOS D and I-75S from the SR-73 Entrance Ramp (Exit 81) to the SR-324 Exit Ramp (Exit 76) worsened from LOS D to LOS E in 2049 PM

1.3.3 Freeway Segments – Build Alternative 2 Results

In addition to the improvements discussed for Build Alternative 1, widening I-75S beyond the SR-73 Entrance Ramp (Exit 81) provides an improvement in delay as compared to the No Build Alternative and Build Alternative 1.

The applicable d/c ratio, density, and LOS for all basic freeway segments and freeway weaving, merge, and diverge segments along I-75 within the project limits for both the NB and SB direction are shown in Table 11 and Table 12, respectively. The HCS reports are provided within Appendix B.

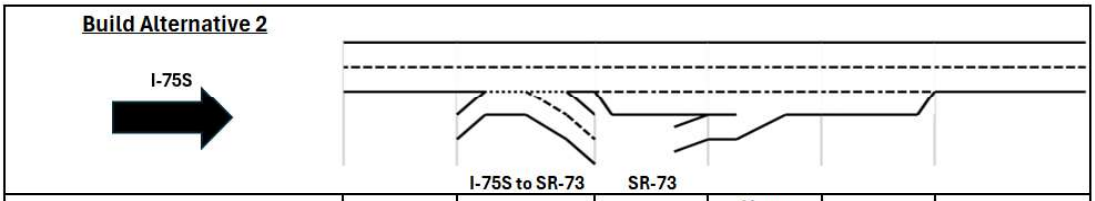
Table 11. Build Alternative 2 Results for I-75N – Freeway Segment LOS



Segment Type			Basic	Basic	Diverge		Basic	Merge		Basic	Diverge		Basic
					F[a]	R[b]		F[a]	R[b]		F[a]	R[b]	
2029	AM	d/c Ratio	0.65	0.44	0.46	0.42	0.31	0.54	0.42	0.56	0.85	0.21	0.76
		Density (pc/mi/ln)	21.9	13.9	17.5	15.7	9.8	17.5	17.5	18.3	33.9	25.7	26.9
		LOS	C	B	B		A	B		C	C		D
	PM	d/c Ratio	0.64	0.42	0.45	0.43	0.29	0.39	0.17	0.38	0.58	0.17	0.51
		Density (pc/mi/ln)	21.2	13.5	17.1	15.3	9.4	12.4	12.4	12.2	23.0	14.6	16.2
		LOS	C	B	B		A	B		B	B		B
2049	AM	d/c Ratio	0.76	0.51	0.54	0.49	0.36	0.63	0.48	0.65	0.98	0.24	0.88
		Density (pc/mi/ln)	26.9	16.2	20.3	18.6	11.4	20.8	20.8	21.9	39.4	31.2	34.4
		LOS	D	B	B		B	C		C	D		D
	PM	d/c Ratio	0.74	0.49	0.52	0.50	0.34	0.45	0.20	0.45	0.67	0.20	0.59
		Density (pc/mi/ln)	25.8	15.7	19.9	18.2	10.9	14.4	14.4	14.2	26.8	18.4	19.2
		LOS	C	B	B		A	B		B	B		C

Note: [a] F = Freeway
[b] R = Ramp Influence

Table 12. Build Alternative 2 Results for I-75S – Freeway Segment LOS



Segment Type			Basic	Weaving	Basic	Merge		Basic	Basic
						F[a]	R[b]		
2029	AM	d/c Ratio	0.56	0.41	0.30	0.39	0.34	0.40	0.60
		Density (pc/mi/ln)	18.2	13.0	9.5	13.7	11.8	12.7	19.7
		LOS	C	B	A	B		B	C
	PM	d/c Ratio	0.84	0.56	0.37	0.52	0.52	0.53	0.79
		Density (pc/mi/ln)	31.8	18.3	11.8	18.2	16.8	17.0	28.8
		LOS	D	C	B	B		B	D
2049	AM	d/c Ratio	0.65	0.47	0.35	0.46	0.40	0.46	0.70
		Density (pc/mi/ln)	21.8	15.1	11.0	16.0	14.2	14.8	23.8
		LOS	C	B	A	B		B	C
	PM	d/c Ratio	0.98	0.66	0.43	0.60	0.60	0.62	0.92
		Density (pc/mi/ln)	42.5	22.0	13.8	21.5	20.3	20.3	37.8
		LOS	E	C	B	C		C	E

Note: [a] F = Freeway
[b] R = Ramp Influence

Build Alternative 2 is summarized as follows for I-75 from the SR-73 Interchange (Exit 81) to the I-40 Interchange:

- I-75N
  - Projected to operate at LOS D or better in 2029 and 2049; d/c ratio and LOS significantly improved as compared to the No Build Alternative in 2029 and 2049
- I-75S
  - Projected to operate at LOS C or better in 2029 AM and 2049 AM but is projected to operate at LOS D and LOS E along some segments in 2029 PM and 2049 PM,

respectively; d/c ratio and LOS significantly improved as compared to the No Build Alternative and Build Alternative 1 in 2029 and 2049 except the SR-73 Entrance Ramp (Exit 81) to the SR-324 Exit Ramp (Exit 76) worsened from LOS D to LOS E in 2049 PM as compared to the No Build Alternative

1.3.4 Freeway Segments – Results Summary

The applicable d/c ratio and LOS for all basic freeway segments and freeway weaving, merge, and diverge segments along I-75 within the project limits for both the NB and SB direction are shown in Table 13 and Table 14, respectively, comparing the No Build Alternative with Build Alternative 1 and Build Alternative 2.

Table 13. Results Summary for I-75N – Freeway Segment LOS

Results Summary I-75N			SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81)		SR-73 Exit Ramp (Exit 81)		SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	SR-73 Entrance Ramp (Exit 81)		SR-73 Entrance Ramp (Exit 81) to I-40W Exit Ramp (Exit 84B)	I-40W Exit Ramp (Exit 84B)		I-40W Exit Ramp (Exit 84B) to I-40E Merge
Segment Type		No Build Alternative	Basic - 2 Lanes		Diverge		Basic - 2 Lanes	Merge		Basic - 2 Lanes	Diverge		Basic - 2 Lanes
					F[a]	R[b]		F[a]	R[b]		F[a]	R[b]	
		Build Alternative 1	Basic - 2 Lanes		Diverge		Basic - 3 Lanes	Merge		Basic - 3 Lanes	Diverge		Basic - 2 Lanes
					F[a]	R[b]		F[a]	R[b]		F[a]	R[b]	
		Build Alternative 2	Basic - 2 Lanes	Basic - 3 Lanes	Diverge		Basic - 3 Lanes	Merge		Basic - 3 Lanes	Diverge		Basic - 2 Lanes
					F[a]	R[b]		F[a]	R[b]		F[a]	R[b]	
d/c Ratio / LOS													
2029	AM	No Build Alternative	0.65 / C		0.69 / D	0.42 / D	0.46 / B	0.81 / D	0.84 / D	0.85 / D	0.85 / D	0.21 / D	0.76 / D
		Build Alternative 1	0.65 / C		0.46 / B	0.42 / B	0.31 / A	0.54 / B	0.42 / B	0.56 / C	0.85 / C	0.21 / C	0.76 / D
		Build Alternative 2	0.65 / C	0.44 / B	0.46 / B	0.42 / B	0.31 / A	0.54 / B	0.42 / B	0.56 / C	0.85 / C	0.21 / C	0.76 / D
	PM	No Build Alternative	0.64 / C		0.68 / C	0.43 / C	0.44 / B	0.58 / C	0.34 / C	0.58 / C	0.58 / B	0.17 / B	0.51 / B
		Build Alternative 1	0.64 / C		0.45 / B	0.43 / B	0.29 / A	0.39 / B	0.17 / B	0.38 / B	0.58 / B	0.17 / B	0.51 / B
		Build Alternative 2	0.64 / C	0.42 / B	0.45 / B	0.43 / B	0.29 / A	0.39 / B	0.17 / B	0.38 / B	0.58 / B	0.17 / B	0.51 / B
2049	AM	No Build Alternative	0.76 / D		0.81 / D	0.49 / D	0.54 / B	0.94 / D	0.97 / D	0.98 / E	0.98 / D	0.24 / D	0.88 / D
		Build Alternative 1	0.76 / D		0.54 / B	0.49 / B	0.36 / B	0.63 / C	0.48 / C	0.65 / C	0.98 / D	0.24 / D	0.88 / D
		Build Alternative 2	0.76 / D	0.51 / B	0.54 / B	0.49 / B	0.36 / B	0.63 / C	0.48 / C	0.65 / C	0.98 / D	0.24 / D	0.88 / D
	PM	No Build Alternative	0.74 / C		0.79 / D	0.50 / D	0.51 / B	0.68 / C	0.40 / C	0.67 / C	0.67 / C	0.20 / C	0.59 / C
		Build Alternative 1	0.74 / C		0.52 / B	0.50 / B	0.34 / A	0.45 / B	0.20 / B	0.45 / B	0.67 / B	0.20 / B	0.59 / C
		Build Alternative 2	0.74 / C	0.49 / B	0.52 /B	0.50 / B	0.34 / A	0.45 / B	0.20 / B	0.45 / B	0.67 / B	0.20 / B	0.59 / C

Note: [a] F = Freeway
[b] R = Ramp Influence

Table 14. Results Summary for I-75S – Freeway Segment LOS

Results Summary (I-75S →)			I-40W Diverge (Exit 368) to I-75S Entrance Ramp/Merge (Exit 368)	I-75S Entrance Ramp/Merge (Exit 368) to SR-73 Exit Ramp (Exit 81)				SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)		SR-73 Entrance Ramp (Exit 81)		SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76)	
Segment Type		No Build Alternative	Basic - 2 Lanes	Merge		Basic - 2 Lanes	Diverge		Basic - 2 Lanes		Merge		Basic - 2 Lanes	
				F[a]	R[b]		F[a]	R[b]			F[a]	R[b]		
		Build Alternative 1	Basic - 2 Lanes	Weaving					Basic - 3 Lanes	Basic - 2 Lanes	Merge		Basic - 2 Lanes	
											F[a]	R[b]		
		Build Alternative 2	Basic - 2 Lanes	Weaving					Basic - 3 Lanes		Merge		Basic - 3 Lanes	Basic - 2 Lanes
											F[a]	R[b]		
d/c Ratio / LOS														
2029	AM	No Build Alternative	0.56 / C	0.65 / C	0.22 / C	0.66 / C	0.72 / D	0.49 / D	0.45 / B		0.59 / B	0.34 / B	0.60 / C	
		Build Alternative 1	0.56 / C	0.41 / B					0.30 / A	0.45 / B	0.59 / B	0.34 / B	0.60 / C	
		Build Alternative 2	0.56 / C	0.41 / B					0.30 / A		0.39 / B	0.34 / B	0.40 / B	0.60 / C
	PM	No Build Alternative	0.84 / D	0.92 / D	0.18 / D	0.92 / E	1.00 / E	0.81 / E	0.56 / C		0.77 / C	0.52 / C	0.79 / D	
		Build Alternative 1	0.84 / D	0.56 / C					0.37 / B	0.56 / C	0.77 / C	0.52 / C	0.79 / D	
		Build Alternative 2	0.84 / D	0.56 / C					0.37 / B		0.52 / B	0.52 / B	0.53 / B	0.79 / D
2049	AM	No Build Alternative	0.65 / C	0.76 / D	0.26 / D	0.76 / D	0.83 / D	0.56 / D	0.52 / B		0.69 / C	0.40 / C	0.70 / C	
		Build Alternative 1	0.65 / C	0.47 / B					0.35 / A	0.52 / B	0.69 / C	0.40 / C	0.70 / C	
		Build Alternative 2	0.65 / C	0.47 / B					0.35 / A		0.46 / B	0.40 / B	0.46 / B	0.70 / C
	PM	No Build Alternative	0.98 / F	1.06 / F	0.21 / F	1.07 / F	1.17 / F	0.93 / F	0.65 / B		0.90 / C	0.60 / C	0.92 / D	
		Build Alternative 1	0.98 / F	0.66 / C					0.43 / B	0.65 / C	0.90 / D	0.60 / D	0.92 / D	
		Build Alternative 2	0.98 / F	0.66 / C					0.43 / B		0.60 / C	0.60 / C	0.62 / C	0.92 / D

Note: [a] F = Freeway
[b] R = Ramp Influence

1.3.5 Arterial Intersections – No Build Alternative Results

The No Build Alternative was analyzed to establish a baseline for comparison and reflects the existing lane configurations with no improvements to intersections. For all intersections along SR-73 within the project limits, the applicable total delay and LOS is shown in Table 15 and the 95th percentile queue length is shown in Table 16. The Synchro and SimTraffic reports are provided within Appendix C and Appendix D, respectively.

Table 15. No Build Alternative Results for SR-73 – Intersection LOS

No Build Alternative										
Intersection	Control Type	Street Name	Lane Group	2029				2049			
				AM		PM		AM		PM	
				Total Delay (s/veh)	LOS	Total Delay (s/veh)	LOS	Total Delay (s/veh)	LOS	Total Delay (s/veh)	LOS
SR-73 at I-75N Ramps	Signalized (Actd-Coord[a])	I-75N Exit Ramp (NB)	L	30.9	C	23.2	C	40.1	D	29.4	C
			R	124.3	F	140.7	F	205.0	F	225.7	F
		SR-73 (EB)	L	51.8	F	13.6	B	122.3	F	20.2	C
			T	10.3	B	22.1	C	12.6	B	72.7	F
		SR-73 (WB)	T	22.0	C	19.0	B	27.7	C	22.4	C
			R	259.3	F	19.4	B	346.8	F	22.4	C
		Intersection		**84.5**	**F**	**34.9**	**C**	**120.7**	**F**	**69.0**	**E**
SR-73 at I-75S Ramps	Signalized (Actd-Coord[a])	I-75S Exit Ramp (SB)	L	32.5	C	49.0	D	44.8	D	101.1	F
			R	21.6	C	40.9	D	25.7	C	73.7	E
		SR-73 (EB)	T	19.6	B	48.8	D	35.0	D	74.9	F
			R	14.4	B	42.6	D	19.6	B	54.5	D
		SR-73 (WB)	L	20.5	C	60.4	F	44.8	D	136.3	F
			T	6.4	A	10.2	B	7.9	A	12.5	B
		Intersection		**18.5**	**B**	**40.0**	**D**	**29.1**	**C**	**70.8**	**E**

Note: [a] Actd-Coord = Actuated-Coordinated

Table 16. No Build Alternative Results for SR-73 – Queue Analysis

No Build Alternative								
Intersection	Control Type	Street Name	Lane	Available Storage[b] (ft)	95th Queue (ft)			
					2029		2049	
					AM	PM	AM	PM
SR-73 at I-75N Ramps	Signalized (Actd-Coord[a])	I-75N Exit Ramp (NB)	LT	770	192	136	325	834
			R	190	205	359	387	494
		SR-73 (EB)	L	500	197	182	569	53
			T	515	239	414	586	461
			T	515	267	461	381	493
		SR-73 (WB)	T	730	579	332	558	722
			T	730	700	184	653	704
			R	290	390	124	390	350
SR-73 at I-75S Ramps	Signalized (Actd-Coord[a])	I-75S Exit Ramp (SB)	L	335	184	547	517	510
			LT	905	254	596	507	1062
			R	335	72	597	57	642
		SR-73 (EB)	T	>4000	394	543	631	767
			T	>4000	336	558	521	824
			R	175	229	208	258	200
		SR-73 (WB)	L	500	219	288	201	525
			T	515	108	256	159	626
			T	515	140	279	129	706

Note: [a] Actd-Coord = Actuated-Coordinated
[b] Exit ramp storage is measured from intersection stop bar to exit gore point.
X Queue length exceeds available storage.

The No Build Alternative is summarized as follows for the I-75 at SR-73 Interchange (Exit 81):

- SR-73 at I-75N Ramps
  - The I-75N Exit Ramp (NB approach) is projected to operate at LOS C or better except for LOS D for the left-turn lane group in 2049 AM and LOS F for the right-turn lane group in 2029 and 2049. The queue length is projected to exceed the available storage length for the exclusive right-turn lane in 2029 and 2049, and most notably, the I-75N Exit Ramp in 2049 PM.
  - The SR-73 eastbound (EB) approach is projected to operate at mostly LOS C or better except for some occurrences of LOS F. The queue length is projected to exceed the available storage length for the exclusive left-turn lane and the inside exclusive through lane in 2049 AM.
  - The SR-73 WB approach is projected to operate at mostly LOS C or better except for some occurrences of LOS F. The queue length is projected to exceed the available storage length for the exclusive right-turn lane in 2029 AM and 2049.
  - The intersection is projected to operate at LOS F in 2029 AM, LOS C in 2029 PM, LOS F in 2049 AM, and LOS E in 2049 PM.
- SR-73 at I-75S Ramps
  - The I-75S Exit Ramp (SB approach) is projected to operate at LOS D or better except for LOS E for the right-turn lane group and LOS F for the left-turn lane group in 2049 PM. The queue length is projected to exceed the available storage length for the

exclusive left-turn lane in 2029 PM and 2049, the exclusive right-turn lane in 2029 PM and 2049 PM, and most notably, the I-75S Exit Ramp in 2049 PM.

- The SR-73 EB approach is projected to operate at LOS D or better except for LOS F for the through lane group in 2049 PM. The queue length is projected to exceed the available storage length for the exclusive right-turn lane in 2029 and 2049.
- The SR-73 WB approach is projected to operate at mostly LOS C or better except for LOS D for the left-turn lane group in 2049 AM and LOS F for the left-turn lane group in 2029 PM and 2049 PM. The queue length is projected to exceed the available storage length for the exclusive left-turn lane and the two (2) exclusive through lanes in 2049 PM.
- The intersection is projected to operate at LOS B in 2029 AM, LOS D in 2029 PM, LOS C in 2049 AM, and LOS E in 2049 PM.

1.3.6 Arterial Intersections – Build Alternative Results

Introducing a shared left-turn and right-turn lane on the I-75N Exit Ramp at the I-75 at SR-73 Interchange (Exit 81) influences how the left-turn movement flow rate is calculated as compared to the existing exclusive left-turn lane. Therefore, using HCM 6 methodology, this change can expectedly introduce delay for the left-turn lane group. In addition, the cycle lengths, phasing, splits, and offsets at the signalized intersections were optimized to allow for optimal system operations, which may have positive or negative impacts to delay and LOS along SR-73 and on the I-75N Exit Ramp and the I-75S Exit Ramp at the I-75 at SR-73 Interchange (Exit 81).

As a result, modifying the exit ramp lane configuration for both the I-75N Exit Ramp and I-75S Exit Ramp at the I-75 at SR-73 Interchange (Exit 81) provides a significant improvement in the delay at both intersections and a significant reduction in the queue lengths as compared to the No Build Alternative. Most notably, the queue length on the exit ramps in the Build Alternative does not exceed the available exit ramp storage, and therefore, does not extend onto mainline I-75.

For all intersections along SR-73 within the project limits, the applicable total delay and LOS is shown in Table 17 and the 95th percentile queue length is shown in Table 18. The Synchro and SimTraffic reports are provided within Appendix C and Appendix D, respectively.

Table 17. Build Alternative Results for SR-73 – Intersection LOS

Build Alternative														
Intersection	Control Type	Street Name	Lane Group	2029						2049					
				AM			PM			AM			PM		
				Total Delay (s/veh)	LOS	Percent Change	Total Delay (s/veh)	LOS	Percent Change	Total Delay (s/veh)	LOS	Percent Change	Total Delay (s/veh)	LOS	Percent Change
SR-73 at I-75N Ramps	Signalized (Actd-Coord[a])	I-75N Exit Ramp (NB)	L	39.0	D	26.2%	30.9	C	33.2%	58.8	E	46.6%	39.8	D	35.4%
			R	91.6	F	26.3%	52.1	D	63.0%	162.5	F	20.7%	126.5	F	44.0%
		SR-73 (EB)	L	11.1	B	78.6%	8.6	A	36.8%	24.7	C	79.8%	10.7	B	47.0%
			T	0.5	A	95.1%	0.6	A	97.3%	0.4	A	96.8%	1.7	A	97.7%
		SR-73 (WB)	T	13.9	B	36.8%	13.2	B	30.5%	18.4	B	33.6%	13.9	B	37.9%
			R	0.0	A	100.0%	0.0	A	100.0%	0.0	A	100.0%	0.0	A	100.0%
		Intersection		**21.3**	C	74.8%	**13.2**	B	62.2%	**35.9**	D	70.3%	**25.3**	C	63.3%
SR-73 at I-75S Ramps	Signalized (Actd-Coord[a])	I-75S Exit Ramp (SB)	L	41.7	D	28.3%	49.0	D	0.0%	61.2	E	36.6%	99.3	F	1.8%
			R	29.9	C	38.4%	40.9	D	0.0%	41.2	D	60.3%	71.2	E	3.4%
		SR-73 (EB)	T	18.8	B	4.1%	48.8	D	0.0%	32.9	C	6.0%	83.2	F	11.1%
			R	14.7	B	2.1%	42.6	D	0.0%	23.5	C	19.9%	56.7	E	4.0%
		SR-73 (WB)	L	20.7	C	1.0%	55.0	F	8.9%	50.2	D	12.1%	113.6	F	16.7%
			T	0.4	A	93.8%	0.7	A	93.1%	0.5	A	93.7%	0.7	A	94.4%
		Intersection		**18.8**	B	1.6%	**37.3**	D	6.8%	**31.1**	C	6.9%	**67.6**	E	4.5%

Note: [a] Actd-Coord = Actuated-Coordinated

X.X% Delay improved compared to No Build

0.0% Delay remained unchanged compared to No Build

X.X% Delay worsened compared to No Build

Table 18. Build Alternative Results for SR-73 – Queue Analysis

Build Alternative								
Intersection	Control Type	Street Name	Lane	Available Storage[b] (ft)	95th Queue (ft)			
					2029		2049	
					AM	PM	AM	PM
SR-73 at I-75N Ramps	Signalized (Actd-Coord[a])	I-75N Exit Ramp (NB)	L	190	230	184	280	221
			LTR	865	291	360	435	384
			R	190	254	265	399	361
		SR-73 (EB)	L	500	478	80	524	127
			T	515	131	342	289	410
			T	515	179	365	304	412
		SR-73 (WB)	T	730	306	325	394	469
			T	730	153	153	335	431
SR-73 at I-75S Ramps	Signalized (Actd-Coord[a])	I-75S Exit Ramp (SB)	L	990	315	606	405	663
			LT	990	307	539	360	631
			R	575	83	102	103	193
		SR-73 (EB)	T	>4000	317	428	743	771
			T	>4000	258	406	704	691
			R	175	95	241	266	261
		SR-73 (WB)	L	500	170	320	275	505
			T	515	101	216	154	255
			T	515	89	200	148	199

Note: [a] Actd-Coord = Actuated-Coordinated
[b] Exit ramp storage is measured from intersection stop bar to exit gore point.
X Queue length exceeds available storage.

The Build Alternative is summarized as follows for the I-75 at SR-73 Interchange (Exit 81):

- SR-73 at I-75N Ramps
  - The I-75N Exit Ramp (NB approach) is projected to operate at LOS D or better except for LOS E for the left-turn lane group in 2049 AM and LOS F for the right-turn lane group in 2029 AM and 2049. The delay for the right-turn lane group improved as compared to the No Build Alternative, while the delay for the left-turn lane group worsened in 2029 and 2049. The queue length is projected to exceed the available storage length for the exclusive left-turn lane in 2029 AM and 2049 and the exclusive right-turn lane in 2029 and 2049 but not for the I-75N Exit Ramp.
  - The SR-73 EB approach is projected to operate at LOS B or better except for LOS C for the left-turn lane group in 2049 AM. The delay for the left-turn lane group and the through lane group improved as compared to the No Build Alternative. The queue length is projected to exceed the available storage length for the exclusive left-turn lane in 2049 AM.
  - The SR-73 WB approach is projected to operate at LOS B or better. The delay for the through lane group and the right-turn lane group improved as compared to the No Build Alternative. The queue lengths are not projected to exceed the available storage lengths for the SR-73 WB approach.
  - The intersection is projected to operate at LOS C in 2029 AM, LOS B in 2029 PM, LOS D in 2049 AM, and LOS C in 2049 PM. The delay at the intersection improved as compared to the No Build Alternative.

- SR-73 at I-75S Ramps
  - The I-75S Exit Ramp (SB approach) is projected to operate at LOS D or better except for LOS E for the left-turn lane group in 2049 AM, LOS E for the right-turn lane group in 2049 PM, and LOS F for the left-turn lane group in 2049 PM. The delay for the left-turn lane group and the right-turn lane group improved in 2049 PM as compared to the No Build Alternative, while the delay for both lane groups worsened in 2029 AM and 2049 AM and remained unchanged in 2029 PM. The queue length is not projected to exceed the available storage length for the I-75S Exit Ramp.
  - The SR-73 EB approach is projected to operate at LOS D or better except for LOS E for the right-turn lane group and LOS F for the through lane group in 2049 PM. The delay for the through lane group improved in 2029 AM and 2049 AM, worsened in 2049 PM, and remained unchanged in 2029 PM as compared to the No Build Alternative, while the delay for the right-turn lane group worsened in 2029 AM and 2049 and remained unchanged in 2029 PM. The queue length is projected to exceed the available storage length for the exclusive right-turn lane in 2029 PM and 2049.
  - The SR-73 WB approach is projected to operate at mostly LOS C or better except for LOS D for the left-turn lane group in 2049 AM and LOS F for the left-turn lane group in 2029 PM and 2049 PM. The delay for the through lane group improved as compared to the No Build Alternative, while the delay for the left-turn lane group improved in 2029 PM and 2049 PM but worsened in 2029 AM and 2049 AM. The queue length is projected to exceed the available storage length for the exclusive left-turn lane in 2049 PM.
  - The intersection is projected to operate at LOS B in 2029 AM, LOS D in 2029 PM, LOS C in 2049 AM, and LOS E in 2049 PM. The delay at the intersection improved in 2029 PM and 2049 PM as compared to the No Build Alternative but slightly worsened in 2029 AM and 2049 AM.

1.3.7 Arterial Intersections – Results Summary

For all intersections along SR-73 within the project limits, the applicable total delay and LOS is shown in Table 19, comparing the No Build Alternative with the Build Alternative.

Table 19. Results Summary for SR-73 – Intersection LOS

Results Summary													
Intersection	Control Type	Street Name	Lane Group	2029				2049			
				AM		PM		AM		PM	
				No Build Alternative	Build Alternative	No Build Alternative	Build Alternative	No Build Alternative	Build Alternative	No Build Alternative	Build Alternative
				Total Delay (s/veh) / LOS							
SR-73 at I-75N Ramps	Signalized (Actd-Coord[a])	I-75N Exit Ramp (NB)	L	30.9 / C	39.0 / D	23.2 / C	30.9 / C	40.1 / D	58.8 / E	29.4 / C	39.8 / D
			R	124.3 / F	91.6 / F	140.7 / F	52.1 / D	205 / F	162.5 / F	225.7 / F	126.5 / F
		SR-73 (EB)	L	51.8 / F	11.1 / B	13.6 / B	8.6 / A	122.3 / F	24.7 / C	20.2 / C	10.7 / B
			T	10.3 / B	0.5 / A	22.1 / C	0.6 / A	12.6 / B	0.4 / A	72.7 / F	1.7 / A
		SR-73 (WB)	T	22.0 / C	13.9 / B	19.0 / B	13.2 / B	27.7 / C	18.4 / B	22.4 / C	13.9 / B
			R	259.3 / F	0.0 / A	19.4 / B	0.0 / A	346.8 / F	0.0 / A	22.4 / C	0.0 / A
		Intersection		**84.5 / F**	**21.3 / C**	**34.9 / C**	**13.2 / B**	**120.7 / F**	**35.9 / D**	**69.0 / E**	**25.3 / C**
SR-73 at I-75S Ramps	Signalized (Actd-Coord[a])	I-75S Exit Ramp (SB)	L	32.5 / C	41.7 / D	49.0 / D	49.0 / D	44.8 / D	61.2 / E	101.1 / F	99.3 / F
			R	21.6 / C	29.9 / C	40.9 / D	40.9 / D	25.7 / C	41.2 / D	73.7 / E	71.2 / E
		SR-73 (EB)	T	19.6 / B	18.8 / B	48.8 / D	48.8 / D	35.0 / D	32.9 / C	74.9 / F	83.2 / F
			R	14.4 / B	14.7 / B	42.6 / D	42.6 / D	19.6 / B	23.5 / C	54.5 / D	56.7 / E
		SR-73 (WB)	L	20.5 / C	20.7 / C	60.4 / F	55.0 / F	44.8 / D	50.2 / D	136.3 / F	113.6 / F
			T	6.4 / A	0.4 / A	10.2 / B	0.7 / A	7.9 / A	0.5 / A	12.5 / B	0.7 / A
		Intersection		**18.5 / B**	**18.8 / B**	**40.0 / D**	**37.3 / D**	**29.1 / C**	**31.1 / C**	**70.8 / E**	**67.6 / E**

Note: [a] Actd-Coord = Actuated-Coordinated

TENNESSEE D.O.T.
ENGINEERING CONCEPTS

File No.

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2029 AM

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2029	LOUDON	12

No Build

Intersection	Control Type	Street Name	Lane Group	2029 AM Total Delay (s/veh)	2029 AM LOS	2029 PM Total Delay (s/veh)	2029 PM LOS	2049 AM Total Delay (s/veh)	2049 AM LOS	2049 PM Total Delay (s/veh)	2049 PM LOS
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	L	30.9	C	23.2	C	40.1	D	29.4	C
			R	124.3	F	140.7	F	205.0	F	225.7	F
		SR-73 (EB)	L	51.8	F	13.6	B	122.3	F	20.2	C
			T	10.3	B	22.1	C	12.6	B	72.7	F
		SR-73 (WB)	T	22.0	C	19.0	B	27.7	C	22.4	C
			R	299.3	F	19.4	B	546.8	F	22.4	C
		Intersection		84.5	F	34.9	C	120.7	F	69.0	E
SR 73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	32.9	C	49.0	D	44.8	D	101.1	F
			R	21.6	C	40.9	D	25.7	C	73.7	E
		SR-73 (EB)	T	19.6	B	48.8	D	35.0	D	74.9	F
			R	14.4	B	42.6	D	19.6	B	54.5	D
		SR-73 (WB)	L	26.5	C	68.4	F	44.8	D	136.3	F
			T	6.4	A	19.2	B	7.5	A	12.5	B
		Intersection		18.5	B	49.3	D	29.1	C	78.8	E

Note: * Actd-Coord = Actuated-Coordinated

Build

Intersection	Control Type	Street Name	Lane Group	2029 AM Total Delay (s/veh)	2029 AM LOS	2029 AM Percent Change	2029 PM Total Delay (s/veh)	2029 PM LOS	2029 PM Percent Change	2049 AM Total Delay (s/veh)	2049 AM LOS	2049 AM Percent Change	2049 PM Total Delay (s/veh)	2049 PM LOS	2049 PM Percent Change
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	L	39.6	D	28.3%	30.9	C	33.2%	50.8	E	44.9%	39.8	D	35.4%
			R	91.6	F	26.3%	92.1	D	63.0%	152.5	F	25.7%	126.5	F	44.0%
		SR-73 (EB)	L	11.1	B	78.6%	8.6	A	36.8%	24.7	C	79.8%	10.7	B	47.6%
			T	0.5	A	95.1%	8.6	A	97.3%	0.4	A	96.9%	1.7	A	97.7%
		SR-73 (WB)	T	13.9	B	36.9%	13.2	B	30.5%	18.4	B	33.6%	13.9	B	37.9%
			R	0.0	A	100.0%	4.9	A	100.0%	0.0	A	100.0%	0.0	A	100.0%
		Intersection		21.5	C	74.6%	15.2	B	62.7%	35.9	D	71.3%	25.3	C	63.9%
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	41.7	D	25.3%	48.0	D	0.0%	61.2	E	34.9%	99.3	F	1.8%
			R	29.5	C	30.4%	40.9	D	0.0%	41.2	D	58.3%	71.2	E	3.4%
		SR-73 (EB)	T	16.8	B	4.3%	48.8	D	0.0%	32.9	C	6.0%	88.2	F	11.1%
			R	14.7	B	2.1%	40.6	D	0.0%	23.5	C	15.9%	56.7	E	4.0%
		SR-73 (WB)	L	20.7	C	1.0%	56.0	F	6.9%	50.2	D	12.1%	113.6	F	16.7%
			T	0.4	A	95.6%	9.7	A	90.1%	0.5	A	93.7%	0.7	A	94.4%
		Intersection		18.8	B	2.6%	37.3	D	6.8%	31.1	C	6.3%	67.6	E	4.2%

Note: * Actd-Coord = Actuated-Coordinated
8.3% Delay improved compared to No Build
0.0% Delay remained unchanged compared to No Build

No Build

Intersection	Control Type	Street Name	Lane	Available Storage* (ft)	95th Queue (ft) 2029 AM	2029 PM	2049 AM	2049 PM
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	LT	770	192	136	325	854
			R	190	265	359	382	454
		SR-73 (EB)	L	500	197	182	369	53
			T	515	228	414	586	461
			T	515	267	461	381	493
		SR-73 (WB)	T	730	579	332	530	722
			T	730	760	184	655	704
			R	290	356	174	298	338
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	330	184	147	317	518
			LT	905	254	196	507	1062
			R	335	72	197	57	642
		SR-73 (EB)	T	>4000	284	143	621	767
			T	>4000	226	159	523	624
			R	175	225	198	208	208
		SR-73 (WB)	L	500	219	288	201	525
			T	515	168	236	150	626
			T	515	140	279	129	706

Note: * Actd-Coord = Actuated-Coordinated
† Exit ramp storage is measured from intersection stop bar to exit gore point.
X Queue length exceeds available storage.

Build

Intersection	Control Type	Street Name	Lane	Available Storage* (ft)	95th Queue (ft) 2029 AM	2029 PM	2049 AM	2049 PM
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	L	190	220	184	298	223
			LTR	865	291	360	435	384
			R	190	254	265	298	361
		SR-73 (EB)	L	500	478	80	524	127
			T	515	131	342	289	419
			T	515	179	365	304	413
		SR-73 (WB)	T	730	366	325	354	409
			T	730	153	153	335	431
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	330	313	606	405	663
			LT	900	367	530	368	631
			R	375	80	182	320	193
		SR-73 (EB)	T	>4000	317	428	743	771
			T	>4000	250	406	704	691
			R	175	95	241	295	261
		SR-73 (WB)	L	500	170	320	275	505
			T	515	161	216	154	255
			T	515	89	200	148	199

Note: * Actd-Coord = Actuated-Coordinated
† Exit ramp storage is measured from intersection stop bar to exit gore point.
X Queue length exceeds available storage.

0' 200' 400' 600'

N

CONCEPT REPORT
2029 AM QUEUE LENGTHS
INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

NO BUILD
BUILD (QUEUE IMPROVES)
BUILD (QUEUE GETS WORSE)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 12
I-75
L.M. 14.39 to
L.M. 17.87

TENNESSEE D.O.T.
ENGINEERING CONCEPTS

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2029 PM

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2029	LOUDON	13

No Build

Intersection	Control Type	Street Name	Lane Group	2029 AM Total Delay (s/veh)	2029 AM LOS	2029 PM Total Delay (s/veh)	2029 PM LOS	2049 AM Total Delay (s/veh)	2049 AM LOS	2049 PM Total Delay (s/veh)	2049 PM LOS
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	L	30.9	C	23.2	C	40.1	D	29.4	C
			R	124.3	F	140.7	F	205.0	F	225.7	F
		SR-73 (EB)	L	51.8	F	13.6	B	122.3	F	20.2	C
			T	10.3	B	22.1	C	12.6	B	72.7	F
		SR-73 (WB)	T	22.0	C	19.0	B	27.7	C	22.4	C
			R	299.3	F	19.4	B	346.8	F	22.4	C
		Intersection		84.5	F	34.9	C	120.7	F	69.0	E
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	32.9	C	49.0	D	44.8	D	101.1	F
			R	21.6	C	40.9	D	25.7	C	73.7	E
		SR-73 (EB)	T	19.6	B	48.8	D	35.0	D	74.9	F
			R	14.4	B	42.6	D	19.6	B	54.5	D
		SR-73 (WB)	L	26.5	C	68.4	F	44.8	D	136.3	F
			T	6.4	A	19.2	B	7.5	A	12.5	B
		Intersection		18.5	B	49.3	D	29.1	C	78.8	E

Note: * Actd-Coord = Actuated-Coordinated

Build

Intersection	Control Type	Street Name	Lane Group	2029 AM Total Delay (s/veh)	2029 AM LOS	2029 AM Percent Change	2029 PM Total Delay (s/veh)	2029 PM LOS	2029 PM Percent Change	2049 AM Total Delay (s/veh)	2049 AM LOS	2049 AM Percent Change	2049 PM Total Delay (s/veh)	2049 PM LOS	2049 PM Percent Change
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	L	39.6	D	28.3%	30.9	C	33.2%	50.8	E	44.9%	39.8	D	35.4%
			R	91.6	F	26.3%	92.1	D	63.0%	152.5	F	25.7%	126.5	F	44.0%
		SR-73 (EB)	L	11.1	B	78.6%	8.6	A	36.8%	24.7	C	79.8%	10.7	B	47.6%
			T	0.5	A	95.1%	8.6	A	97.3%	0.4	A	96.9%	1.7	A	97.7%
		SR-73 (WB)	T	13.9	B	36.9%	13.2	B	30.5%	18.4	B	33.6%	13.9	B	37.9%
			R	0.0	A	100.0%	4.9	A	100.0%	0.0	A	100.0%	0.0	A	100.0%
		Intersection		21.5	C	74.6%	15.2	B	62.7%	35.9	D	71.3%	25.3	C	63.9%
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	41.7	D	25.3%	48.0	D	0.0%	61.2	E	36.9%	99.3	F	1.8%
			R	29.5	C	36.4%	40.9	D	0.0%	41.2	D	58.3%	71.2	E	3.4%
		SR-73 (EB)	T	16.8	B	4.3%	48.8	D	0.0%	32.9	C	8.0%	80.2	F	11.1%
			R	14.7	B	2.1%	40.6	D	0.0%	23.5	C	13.9%	56.7	E	4.0%
		SR-73 (WB)	L	26.7	C	1.0%	56.0	F	6.9%	50.2	D	12.1%	113.6	F	16.7%
			T	0.4	A	95.0%	9.7	A	90.1%	0.5	A	93.7%	0.7	A	94.4%
		Intersection		18.8	B	2.6%	37.3	D	6.8%	31.1	C	6.3%	67.6	E	4.2%

Note: * Actd-Coord = Actuated-Coordinated
8.3% Delay improved compared to No Build
0.0% Delay remained unchanged compared to No Build

No Build

Intersection	Control Type	Street Name	Lane	Available Storage* (ft)	95th Queue (ft) 2029 AM	2029 PM	2049 AM	2049 PM
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	LT	770	192	136	325	454
			R	190	265	359	382	454
		SR-73 (EB)	L	500	197	182	369	53
			T	515	228	414	586	461
			T	515	267	461	381	493
		SR-73 (WB)	T	730	579	332	530	722
			T	730	766	184	655	704
			R	290	356	174	356	356
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	330	184	147	147	518
			LT	905	254	196	507	1062
			R	335	72	147	57	642
		SR-73 (EB)	T	>4000	284	143	621	767
			T	>4000	226	159	523	624
			R	175	225	198	208	208
		SR-73 (WB)	L	500	219	288	201	525
			T	515	168	236	150	626
			T	515	140	279	129	706

Note: * Actd-Coord = Actuated-Coordinated
† Exit ramp storage is measured from intersection stop bar to exit gore point.
X Queue length exceeds available storage.

Build

Intersection	Control Type	Street Name	Lane	Available Storage* (ft)	95th Queue (ft) 2029 AM	2029 PM	2049 AM	2049 PM
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	L	190	220	184	298	223
			LTR	865	291	360	435	384
			R	190	264	265	398	361
		SR-73 (EB)	L	500	478	80	524	127
			T	515	131	342	289	419
			T	515	179	365	304	413
		SR-73 (WB)	T	730	366	325	354	409
			T	730	153	153	335	431
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	990	313	606	405	663
			LT	990	367	530	368	631
			R	375	80	102	100	193
		SR-73 (EB)	T	>4000	317	428	243	771
			T	>4000	250	406	704	691
			R	175	95	241	206	261
		SR-73 (WB)	L	500	170	320	275	503
			T	515	161	216	154	255
			T	515	89	200	148	199

Note: * Actd-Coord = Actuated-Coordinated
† Exit ramp storage is measured from intersection stop bar to exit gore point.
X Queue length exceeds available storage.

0' 200' 400' 600'

N

CONCEPT REPORT
2029 PM QUEUE LENGTHS
INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

NO BUILD
BUILD (QUEUE IMPROVES)
BUILD (QUEUE GETS WORSE)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 13
I-75
L.M. 14.39 to
L.M. 17.87

TENNESSEE D.O.T.
ENGINEERING CONCEPTS

6/9/2025 10:43:50 AM
\\AG035DCWF00008.net.ads.state.tn.us\FUNCTIONAL\Projects\Loudon\I-75\I-75 from Pond Creek Road to I-40 Junction\2025 Update\Concept Reports\Project Files\Microstation\Conceptual Plans (DGN & PDF)\LOS\I75_SR73_2049.dgn

2049 AM

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2049	LOUDON	14

No Build

Intersection	Control Type	Street Name	Lane Group	2029 AM Total Delay (s/veh)	2029 AM LOS	2029 PM Total Delay (s/veh)	2029 PM LOS	2049 AM Total Delay (s/veh)	2049 AM LOS	2049 PM Total Delay (s/veh)	2049 PM LOS
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	L	30.9	C	23.2	C	40.1	D	29.4	C
			R	124.3	F	140.7	F	205.0	F	225.7	F
		SR-73 (EB)	L	51.8	F	13.6	B	122.3	F	20.2	C
			T	10.3	B	22.1	C	12.6	B	72.7	F
		SR-73 (WB)	T	22.0	C	19.0	B	27.7	C	22.4	C
			R	299.3	F	19.4	B	546.8	F	22.4	C
		Intersection		84.5	F	34.9	C	120.7	F	69.0	E
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	32.9	C	49.0	D	44.8	D	101.1	F
			R	21.6	C	40.9	D	25.7	C	73.7	E
		SR-73 (EB)	T	19.6	B	48.8	D	35.0	D	74.9	F
			R	14.4	B	42.6	D	19.6	B	54.5	D
		SR-73 (WB)	L	26.5	C	68.4	F	44.8	D	136.3	F
			T	6.4	A	19.2	B	7.5	A	12.5	B
		Intersection		18.5	B	49.3	D	29.1	C	78.8	E

Note: * Actd-Coord = Actuated-Coordinated

Build

Intersection	Control Type	Street Name	Lane Group	2029 AM Total Delay (s/veh)	2029 AM LOS	2029 AM Percent Change	2029 PM Total Delay (s/veh)	2029 PM LOS	2029 PM Percent Change	2049 AM Total Delay (s/veh)	2049 AM LOS	2049 AM Percent Change	2049 PM Total Delay (s/veh)	2049 PM LOS	2049 PM Percent Change
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	L	39.6	D	-26.3%	30.9	C	-33.2%	50.8	E	-44.9%	39.8	D	-55.4%
			R	91.6	F	-26.3%	92.1	D	-63.0%	152.5	F	-25.7%	126.5	F	-44.0%
		SR-73 (EB)	L	11.1	B	-78.6%	8.6	A	-36.8%	24.7	C	-79.8%	10.7	B	-47.0%
			T	0.5	A	-95.1%	8.6	A	-97.3%	0.4	A	-96.9%	1.7	A	-97.7%
		SR-73 (WB)	T	13.9	B	-36.9%	13.2	B	-30.5%	10.4	B	-33.6%	13.9	B	-37.9%
			R	0.0	A	-100.0%	4.9	A	-100.0%	0.0	A	-100.0%	0.0	A	-100.0%
		Intersection		21.5	C	-74.6%	15.2	B	-62.7%	35.9	D	-71.3%	25.3	C	-63.9%
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	41.7	D	-25.3%	48.0	D	-2.0%	61.2	E	-34.9%	99.3	F	-1.8%
			R	29.5	C	-30.4%	40.9	D	-0.0%	41.2	D	-68.3%	71.2	E	-3.4%
		SR-73 (EB)	T	16.8	B	-4.3%	46.8	D	-0.0%	32.9	C	-8.0%	88.2	F	-11.1%
			R	14.7	B	-2.1%	40.6	D	-0.0%	23.5	C	-13.9%	56.7	E	-4.0%
		SR-73 (WB)	L	20.7	C	-1.0%	56.0	F	-0.9%	50.2	D	-12.1%	113.6	F	-16.7%
			T	0.4	A	-95.0%	9.7	A	-90.1%	0.5	A	-93.7%	0.7	A	-94.4%
		Intersection		18.8	B	-2.6%	37.3	D	-6.8%	31.1	C	-6.0%	67.6	E	-4.2%

Note: * Actd-Coord = Actuated-Coordinated
-8.3% Delay improved compared to No Build
-0.0% Delay remained unchanged compared to No Build

No Build

Intersection	Control Type	Street Name	Lane	Available Storage* (ft)	95th Queue (ft) 2029 AM	2029 PM	2049 AM	2049 PM
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	LT	770	192	136	325	654
			R	190	265	359	382	454
		SR-73 (EB)	L	500	197	182	369	53
			T	515	228	414	586	461
			T	515	267	461	381	493
		SR-73 (WB)	T	730	579	332	530	722
			T	730	766	184	655	704
			R	290	356	174	356	356
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	330	184	147	317	518
			LT	905	254	196	507	1062
			R	335	72	197	57	642
		SR-73 (EB)	T	>4000	284	143	621	767
			T	>4000	226	159	523	624
			R	175	225	198	208	208
		SR-73 (WB)	L	500	219	288	201	525
			T	515	168	236	150	626
			T	515	140	279	129	706

Note: * Actd-Coord = Actuated-Coordinated
† Exit ramp storage is measured from intersection stop bar to exit gore point.
X Queue length exceeds available storage.

Build

Intersection	Control Type	Street Name	Lane	Available Storage* (ft)	95th Queue (ft) 2029 AM	2029 PM	2049 AM	2049 PM
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	L	190	220	184	298	223
			LTR	865	291	360	435	384
			R	190	254	265	298	361
		SR-73 (EB)	L	900	478	80	524	127
			T	515	131	342	289	419
			T	515	179	365	304	413
		SR-73 (WB)	T	730	366	335	354	409
			T	730	153	153	335	431
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	990	313	606	405	663
			LT	990	367	530	368	631
			R	375	80	102	100	103
		SR-73 (EB)	T	>4000	317	428	243	771
			T	>4000	250	406	704	691
			R	175	95	241	205	261
		SR-73 (WB)	L	500	170	320	275	505
			T	515	161	216	154	255
			T	515	89	200	148	199

Note: * Actd-Coord = Actuated-Coordinated
† Exit ramp storage is measured from intersection stop bar to exit gore point.
X Queue length exceeds available storage.

0' 200' 400' 600'

N

CONCEPT REPORT
2049 AM QUEUE LENGTHS
INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

NO BUILD
BUILD (QUEUE IMPROVES)
BUILD (QUEUE GETS WORSE)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 14
I-75
L.M. 14.39 to
L.M. 17.87

TENNESSEE D.O.T.
ENGINEERING CONCEPTS

6/9/2025 10:47:33 AM
\\AG03SDCWF00008.net.ads.state.tn.us\FUNCTIONAL\Projects\Loudon\I-75\I-75 from Pond Creek Road to I-40 Junction\2025 Update\Concept Reports\Project Files\Microstation\Conceptual Plans (DGN & PDF)\LOS\I3 52PM 2045.dgn

2049 PM

TYPE	YEAR	COUNTY	FIGURE NO.
CR	2049	LOUDON	15

No Build

Intersection	Control Type	Street Name	Lane Group	2029 AM Total Delay (s/veh)	2029 AM LOS	2029 PM Total Delay (s/veh)	2029 PM LOS	2049 AM Total Delay (s/veh)	2049 AM LOS	2049 PM Total Delay (s/veh)	2049 PM LOS
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	L	30.9	C	23.2	C	40.1	D	29.4	C
			R	124.3	F	140.7	F	205.0	F	225.7	F
		SR-73 (EB)	L	51.8	F	13.6	B	122.3	F	20.2	C
			T	10.3	B	22.1	C	12.6	B	72.7	F
		SR-73 (WB)	T	22.0	C	19.0	B	27.7	C	22.4	C
			R	299.3	F	19.4	B	546.8	F	22.4	C
		Intersection		84.5	F	34.9	C	120.7	F	69.0	E
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	32.9	C	49.0	D	44.8	D	101.1	F
			R	21.6	C	40.9	D	25.7	C	73.7	E
		SR-73 (EB)	T	19.6	B	48.8	D	35.0	D	74.9	F
			R	14.4	B	42.6	D	19.6	B	54.5	D
		SR-73 (WB)	L	26.5	C	68.4	F	44.8	D	136.3	F
			T	6.4	A	19.2	B	7.5	A	12.5	B
		Intersection		18.5	B	49.3	D	29.1	C	78.8	E

Note: * Actd-Coord = Actuated-Coordinated

Build

Intersection	Control Type	Street Name	Lane Group	2029 AM Total Delay (s/veh)	2029 AM LOS	2029 AM Percent Change	2029 PM Total Delay (s/veh)	2029 PM LOS	2029 PM Percent Change	2049 AM Total Delay (s/veh)	2049 AM LOS	2049 AM Percent Change	2049 PM Total Delay (s/veh)	2049 PM LOS	2049 PM Percent Change
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	L	39.6	D	28.3%	30.9	C	33.2%	50.8	E	44.9%	39.8	D	35.4%
			R	91.6	F	26.3%	92.1	D	63.0%	152.5	F	25.7%	126.5	F	44.0%
		SR-73 (EB)	L	11.1	B	78.6%	8.6	A	36.8%	24.7	C	79.8%	10.7	B	47.6%
			T	0.5	A	95.1%	8.6	A	97.3%	0.4	A	96.9%	1.7	A	97.7%
		SR-73 (WB)	T	13.9	B	36.9%	13.2	B	30.5%	18.4	B	33.6%	13.9	B	37.9%
			R	0.0	A	100.0%	4.9	A	100.0%	0.9	A	100.0%	0.0	A	100.0%
		Intersection		21.5	C	74.6%	15.2	B	62.7%	35.9	D	71.3%	25.3	C	63.9%
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	41.7	D	25.3%	48.0	D	0.0%	61.2	E	34.9%	99.3	F	1.8%
			R	29.5	C	30.4%	40.9	D	0.0%	41.2	D	58.3%	71.2	E	3.4%
		SR-73 (EB)	T	16.8	B	4.3%	48.8	D	0.0%	32.9	C	6.0%	88.2	F	11.1%
			R	14.7	B	2.1%	40.6	D	0.0%	23.5	C	13.9%	56.7	E	4.0%
		SR-73 (WB)	L	26.7	C	1.0%	56.0	F	6.9%	50.2	D	12.1%	113.6	F	16.7%
			T	0.4	A	95.6%	9.7	A	90.1%	0.5	A	93.7%	0.7	A	94.4%
		Intersection		18.8	B	2.6%	37.3	D	6.8%	31.1	C	6.3%	67.6	E	4.2%

Note: * Actd-Coord = Actuated-Coordinated
8.3% Delay improved compared to No Build
0.0% Delay remained unchanged compared to No Build

No Build

Intersection	Control Type	Street Name	Lane	Available Storage* (ft)	95th Queue (ft) 2029 AM	2029 PM	2049 AM	2049 PM
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	LT	770	192	136	325	654
			R	190	265	359	382	454
		SR-73 (EB)	L	500	197	182	369	53
			T	515	228	414	586	461
			T	515	267	461	381	493
		SR-73 (WB)	T	730	579	332	530	722
			T	730	766	184	655	704
			R	290	356	174	356	356
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	330	184	147	317	518
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			R	335	72	197	57	642
		SR-73 (EB)	T	>4000	284	143	621	767
			T	>4000	226	159	523	624
			R	175	225	198	208	208
		SR-73 (WB)	L	500	219	288	201	525
			T	515	168	236	150	626
			T	515	140	279	129	706

Note: * Actd-Coord = Actuated-Coordinated
† Exit ramp storage is measured from intersection stop bar to exit gore point.
X Queue length exceeds available storage.

Build

Intersection	Control Type	Street Name	Lane	Available Storage* (ft)	95th Queue (ft) 2029 AM	2029 PM	2049 AM	2049 PM
SR-73 at I-75N Ramps	Signalized (Actd-Coord*)	I-75N Exit Ramp (NB)	L	190	220	184	298	223
			LTR	865	291	360	435	384
			R	190	254	265	298	361
		SR-73 (EB)	L	900	478	80	524	127
			T	515	131	342	289	419
			T	515	179	365	304	413
		SR-73 (WB)	T	730	366	325	354	409
			T	730	153	153	335	431
SR-73 at I-75S Ramps	Signalized (Actd-Coord*)	I-75S Exit Ramp (SB)	L	990	313	606	405	663
			LT	990	367	530	368	631
			R	375	80	182	100	193
		SR-73 (EB)	T	>4000	317	428	243	771
			T	>4000	250	406	704	691
			R	175	95	241	205	261
		SR-73 (WB)	L	500	170	320	275	505
			T	515	161	216	154	255
			T	515	89	200	148	199

Note: * Actd-Coord = Actuated-Coordinated
† Exit ramp storage is measured from intersection stop bar to exit gore point.
X Queue length exceeds available storage.

0' 200' 400' 600'

N

CONCEPT REPORT
2049 PM QUEUE LENGTHS
INTERSTATE 75
L.M. 14.39 TO L.M. 17.87
LOUDON COUNTY

NO BUILD
BUILD (QUEUE IMPROVES)
BUILD (QUEUE GETS WORSE)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENGINEERING CONCEPTS

FIGURE 15
I-75
L.M. 14.39 to
L.M. 17.87

Crash Analysis

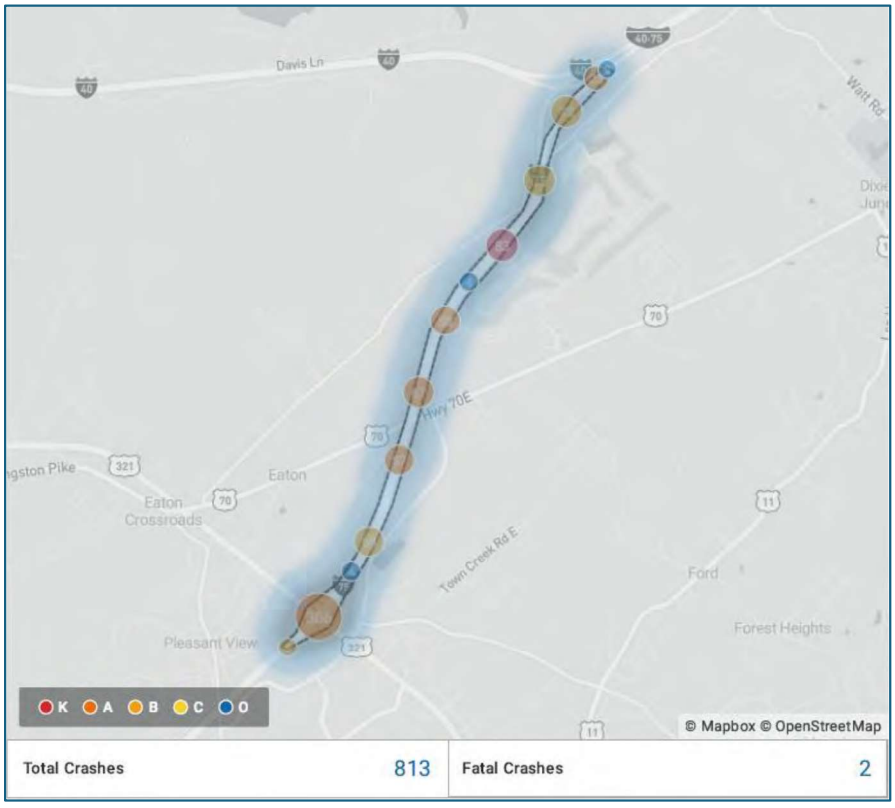
2.1 Data Summary

Crash data were reviewed for I-75 and Lamar Alexander Pkwy within the project limits. The crash data was reviewed on 10-year and 3-year timeframes. The 10-year data set indicates longer term crash trends and the 3-year data set is used to compare crash rates on the project segment against facilities with similar characteristics statewide. Narratives from crash reports in TITAN were reviewed for fatal crashes.

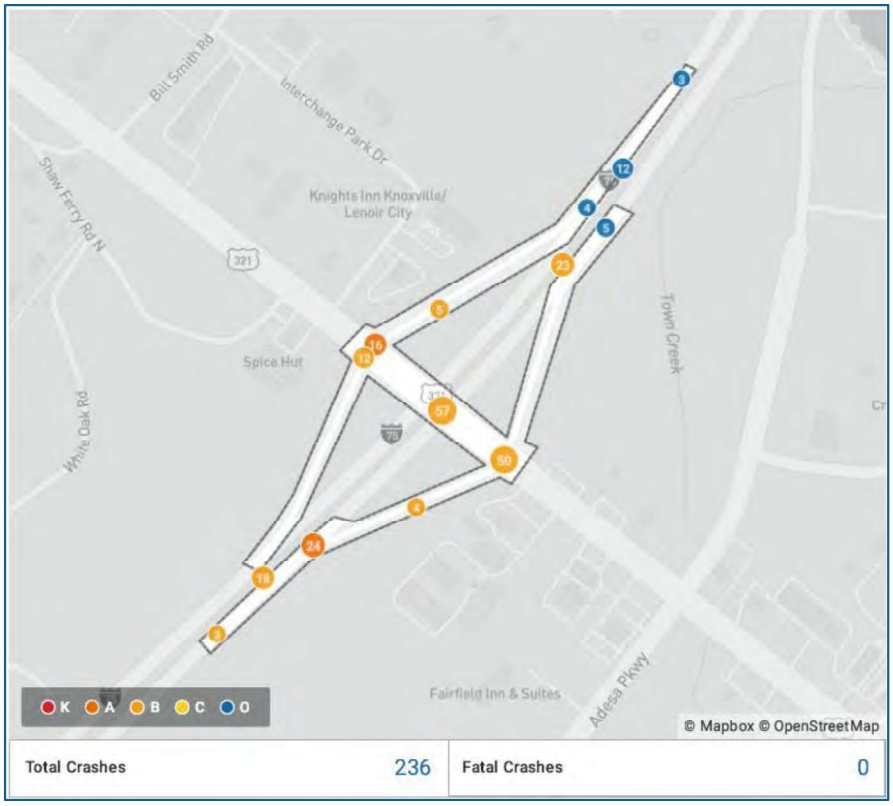
2.2 10-Year Analysis

The full crash report can be found in Appendix E. Select items are summarized below.

- A total 813 crashes were observed within the project limits from January 1, 2015 to April 17, 2025.
- Of the two fatal crashes, one was influenced by drugs and alcohol and the other attributed to reckless driving on a motorcycle with the driver weaving between cars at a high rate of speed and failing to stop at the red light on Lamar Alexander Pkwy.
- The suspected serious and minor injury crashes are evenly distributed throughout the corridor.



- 35% of total crashes occurred on ramps and 18% occurred at an intersection with Lamar Alexander Pkwy.
- 11% of crashes occurred in rainy conditions and 7% of crashes occurred in dark, unlit conditions.
    - 236 of the 813 total crashes were within the influence area of the ramps and intersections with Lamar Alexander Pkwy.



- The Northbound ramps have a high density of rear-end, property damage crashes in the weaving areas immediately before of the off-ramp gore and after the on-ramp gore.

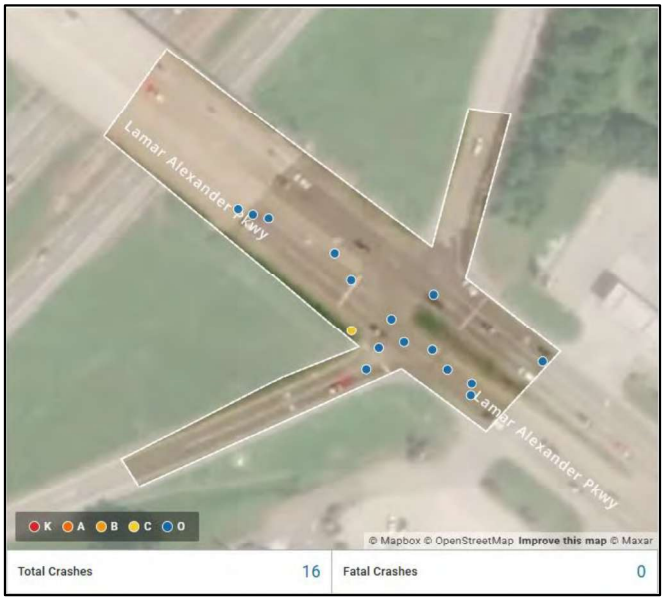
2.3 3-Year Analysis

The full 3-year crash report is available in appendix F. Selected items are summarized below.

- The crash rate for I-75 during the last 3 years within the project limits is 5% higher than the statewide average for similar facilities.

	Total	Fatal	Incap. Injury	*Severe Crashes	Other Injury
# of Crashes	243	1	5	6	19
# of Years	3				
SW avg. rate	1.126	0.007	0.02	0.027	0.123
Exposure (E)	205.589				
Crash Rate (A)	1.182	0.005	0.024	0.029	0.092
Critical Rate (C)	1.301				
Severity Index (SI)	0.136				
Actual Rate/SW Average	1.050	0.695	1.216	1.081	0.751
Ratio of A/C	0.91				

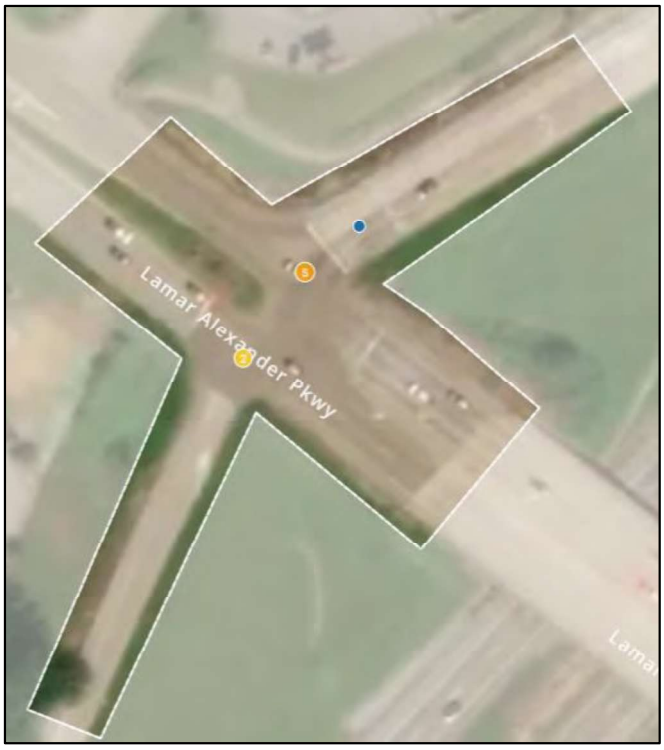
- The Eastern Lamar Alexandar intersection has a crash rate 6% below the statewide average.



	Eastern Intersection (Northbound Ramps)				
	Total	Fatal	Incap. Injury	*Severe Crashes	Other Injury
# of Crashes	16	0	0	0	1
# of Years	3				
SW avg. rate	0.671	0.002	0.013	0.015	0.506
Exposure (E)	25.389				
Crash Rate (A)	0.630	0.000	0.000	0.000	0.033
Critical Rate (C)	1.069				
Severity Index (SI)	0.063				
Actual Rate/SW Average	0.940	0.000	0.000	0.000	0.080
Ratio of A/C	0.590				

Leg	Traffic AADT
North	0
East	16277
South	5538
West	24559
Entering AADT	23,187

- The Western Lamar Alexandar intersection has a crash rate 47% below the statewide average.



Western Intersection (Southbound Ramps)					
	Total	Fatal	Incap. Injury	*Severe Crashes	Other Injury
# of Crashes	8	0	0	0	2
# of Years	3				
SW avg. rate	0.671	0.002	0.013	0.015	0.506
Exposure (E)	25.389				
Crash Rate (A)	0.355	0.000	0.000	0.000	0.089
Critical Rate (C)	1.095				
Severity Index (SI)	0.250				
Actual Rate/SW Average	0.530	0.000	0.000	0.000	0.080
Ratio of A/C	0.320				

Leg	Traffic AADT
North	8,585
East	16,277
South	0
West	16,277
Entering AADT	20,570

Appendix A

Forecasted Traffic Volumes:

Base Year 2029 DHVs

Design Year 2049 DHVs

TENNESSEE DEPARTMENT OF TRANSPORTATION
PLANNING DIVISION

PROJECT NO.: 53002-0163-04 ROUTE: I-75
COUNTY: LOUDON CITY: LENIOR CITY
PROJECT PIN NUMBER: 124480.00
PROJECT DESCRIPTION: FROM I-40 @ I-75 INTERCHANGE TO SOUTH OF S.R. 73 INTERCHANGE

1] I-75 AVERAGE TRAFFIC DATA

DIVISION REQUESTING:

		PAVEMENT DESIGN	☐
MAINTENANCE	☐	STRUCTURES	☐
S.T.I.D.	☐	SURVEY & ROADWAY DESIGN	☐
PROG. DEVELOPMENT & ADM.	☐	TRAFFIC SIGNAL DESIGN	☐
PUBLIC TRANS. & AERO.	☐	OTHER PROJ. MANAGEMENT	☒

YEAR PROJECT PROGRAMMED FOR CONSTRUCTION: 2029
PROJECTED LETTING DATE: 2029

TRAFFIC ASSIGNMENT:

	BASE YEAR		DESIGN YEAR					DESIGN ROADWAY % TRUCKS		DESIGN AVERAGE DAILY LOADS	
	AADT	YEAR	AADT	DHV	%	YEAR	DIR.DIST.	DHV	AADT	FLEX	RIGID
[1]	48,210	2029	55,940	4,436	8	2049	55-45	19	28		

REQUESTED BY: NAME JOHN DAVEY DATE 6/28/24
DIVISION PROJECT MANAGEMENT
ADDRESS 1000 J. K. POLK BUILDING
NASHVILLE TN 37243

REVIEWED BY: RANDY BOGUSKIE Randy Boguskie DATE 7/8/2024
TRANSPORTATION MANAGER 1
SUITE 1000, JAMES K. POLK BUILDING

APPROVED BY: TONY ARMSTRONG Tony Armstrong DATE 7/8/2024
TRANSPORTATION MANAGER 2
SUITE 1000, JAMES K. POLK BUILDING

COMMENTS:

UPDATETRAFFIC DATA TO 2029-2049.

THIS TRAFFIC IS BASED ON 2023 CYCLE AND RAMP COUNTS AND THE PREVIOUS PROJECT PREPARED FOR YOU DATED 11/18/2019. THE DESIGN YEAR TRAFFIC IS BASED ON THE UPDATED KNOXVILLE TPO COMPUTER ASSIGNMENT MODEL. AADT's AND BOTH YEAR DHV's ARE INCLUDED.

DHV'S ARE NOT REQUIRED FOR SIDE ROADS LESS THAN 1000 AADT.

NOTE: FOR BRIDGE REPLACEMENT PROJECTS, ADLs ARE NOT REQUIRED FOR ADTs OF 1000 OR LESS AND PERCENTAGE OF TRUCKS OF 7% OR LESS.
SEE ATTACHMENTS FOR TURNING MOVEMENTS AND/OR OTHER DETAILS. (REV. 6/9/21)

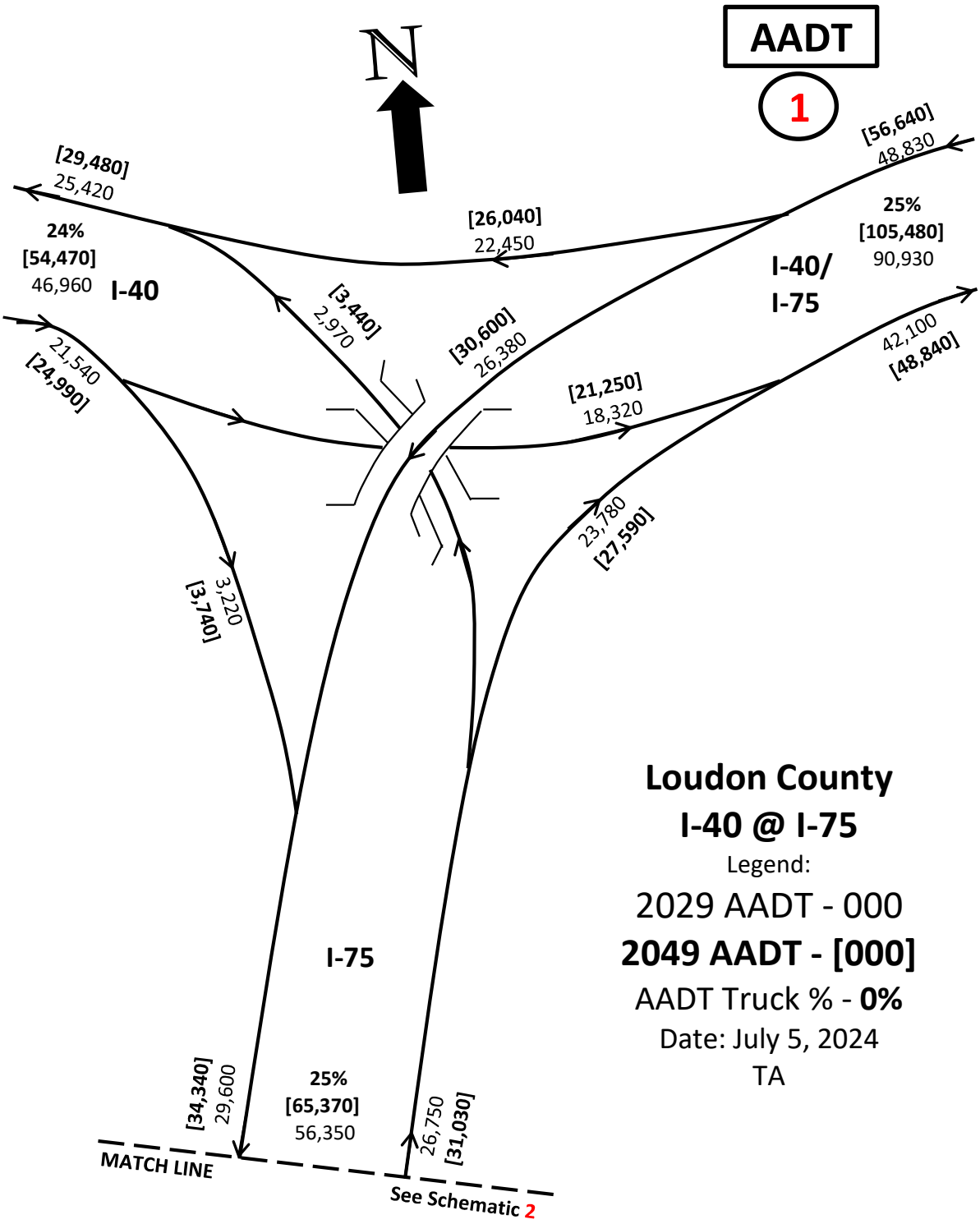


Loudon County

I-75

From I-40 Interchange to

South of S.R. 73



Loudon County

I-40 @ I-75

Legend:

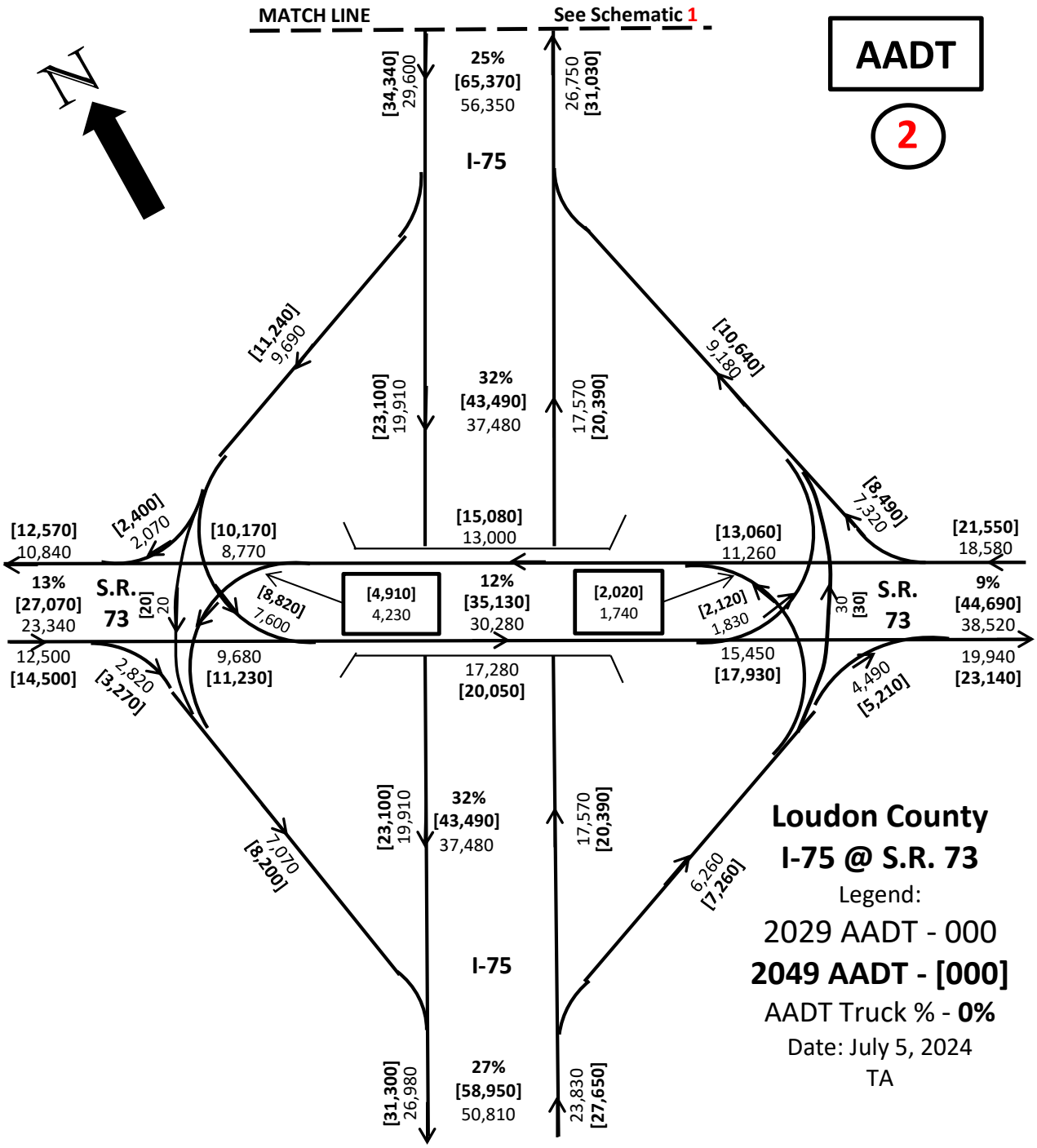
2029 AADT - 000

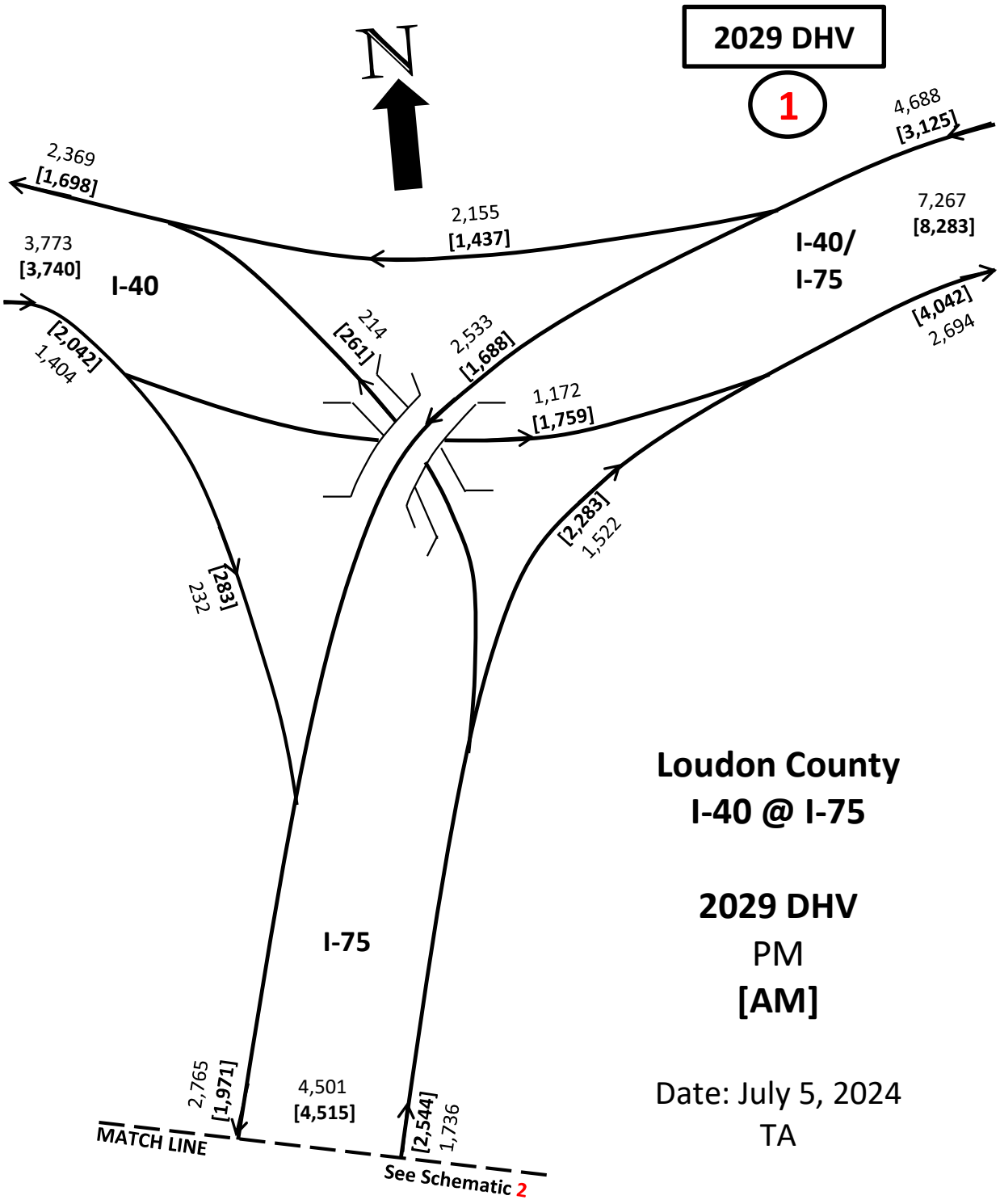
2049 AADT - [000]

AADT Truck % - **0%**

Date: July 5, 2024

TA

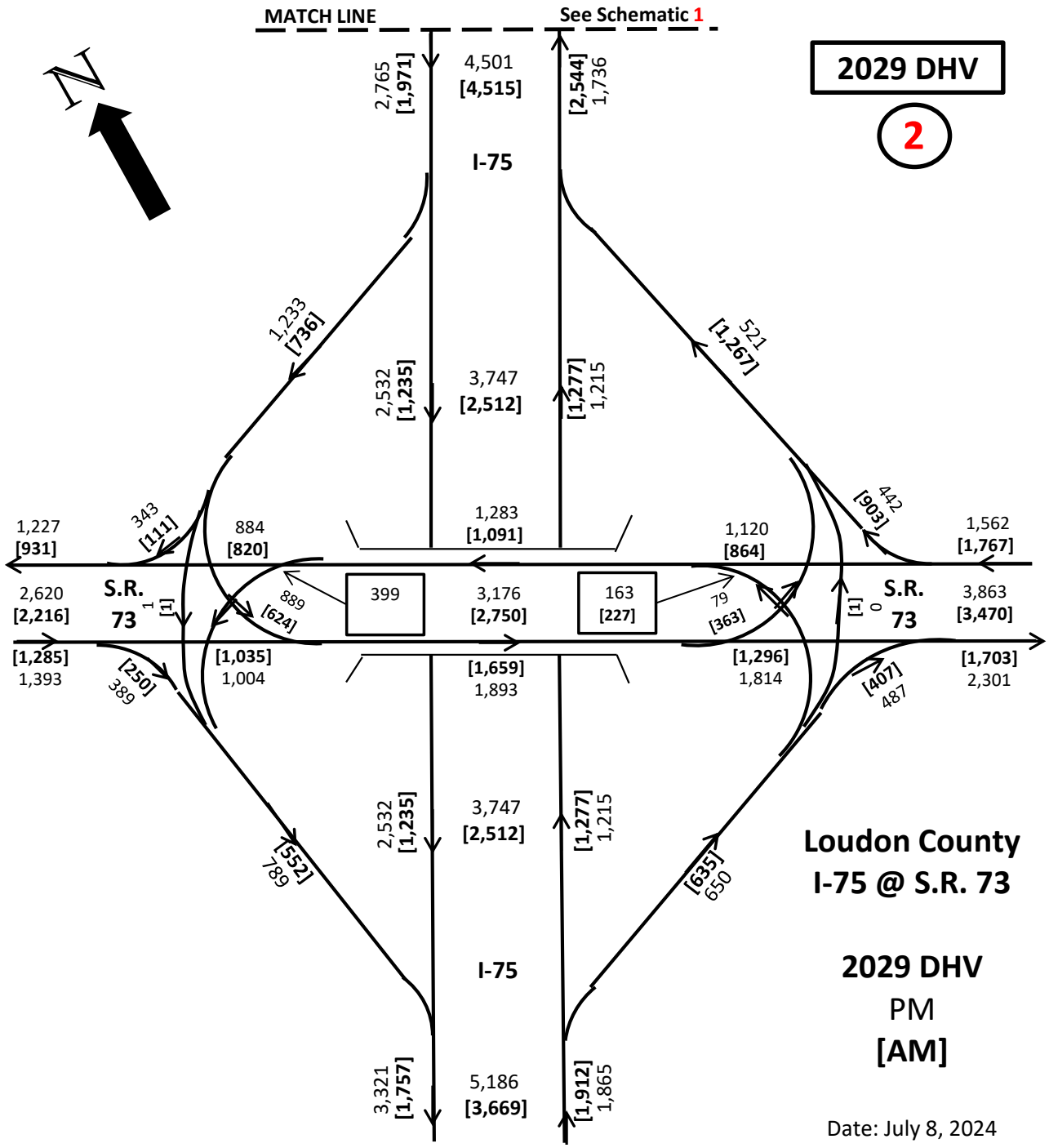

MATCH LINE
See Schematic 1
AADT
2
N
[34,340]
29,600
25%
[65,370]
56,350
26,750
[31,030]
I-75
[11,240]
9,690
[10,640]
9,180
[23,100]
19,910
32%
[43,490]
37,480
17,570
[20,390]
[8,490]
7,320
[2,400]
2,070
[12,570]
10,840
[10,170]
8,770
[15,080]
13,000
[13,060]
11,260
[21,550]
18,580
13%
[27,070]
23,340
S.R.
73
[20]
20
[8,820]
7,600
[4,910]
4,230
12%
[35,130]
30,280
[2,020]
1,740
[2,120]
1,830
30
[30]
S.R.
73
9%
[44,690]
38,520
12,500
[14,500]
2,820
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9,680
[11,230]
17,280
[20,050]
15,450
[17,930]
4,490
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19,940
[23,140]
[23,100]
19,910
32%
[43,490]
37,480
17,570
[20,390]
7,070
[8,200]
6,260
[7,260]
I-75
[31,300]
26,980
27%
[58,950]
50,810
23,830
[27,650]
Loudon County
I-75 @ S.R. 73
Legend:
2029 AADT - 000
2049 AADT - [000]
AADT Truck % - 0%
Date: July 5, 2024
TA

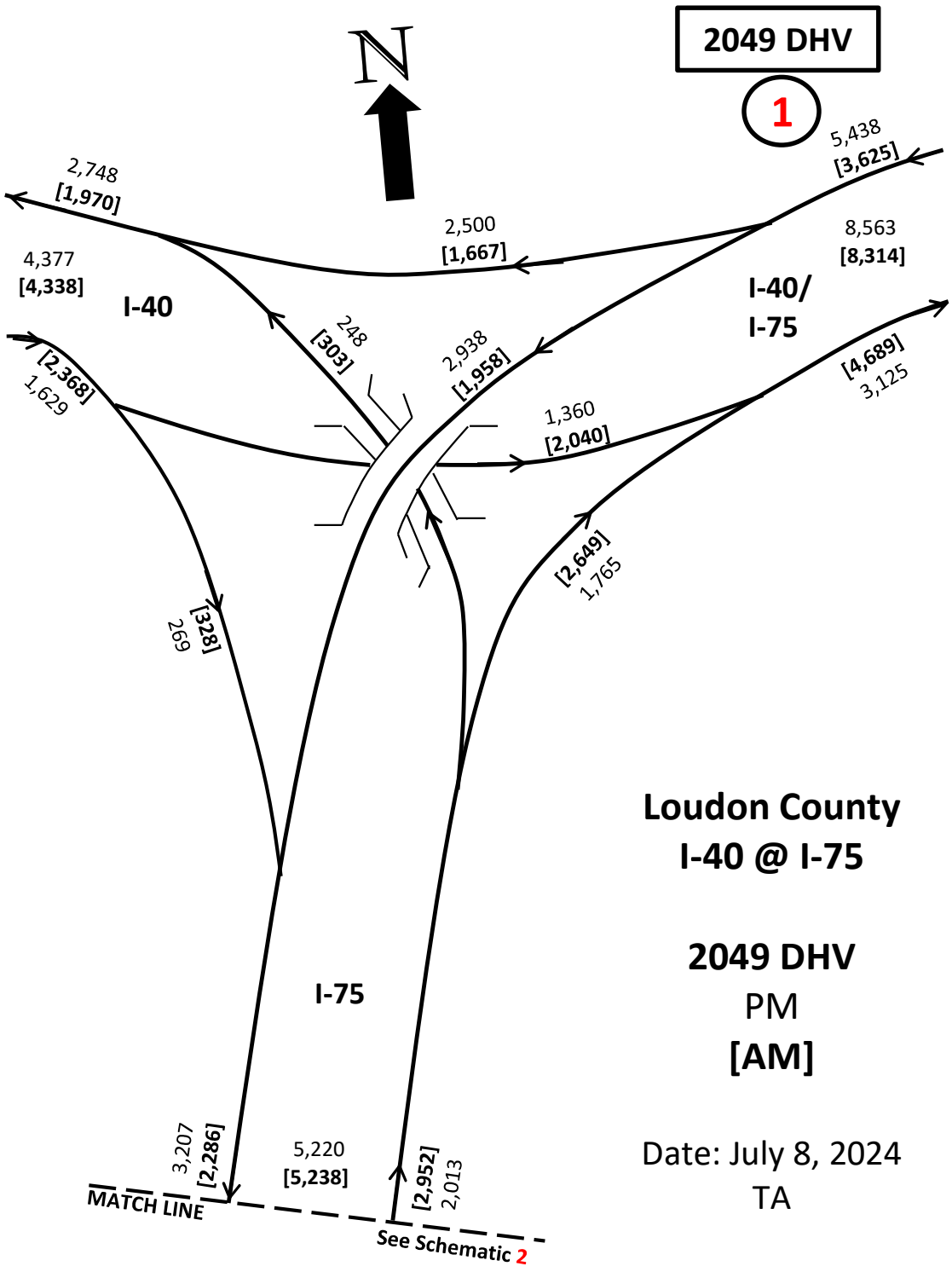


Loudon County
I-40 @ I-75

2029 DHV
PM
[AM]

Date: July 5, 2024
TA

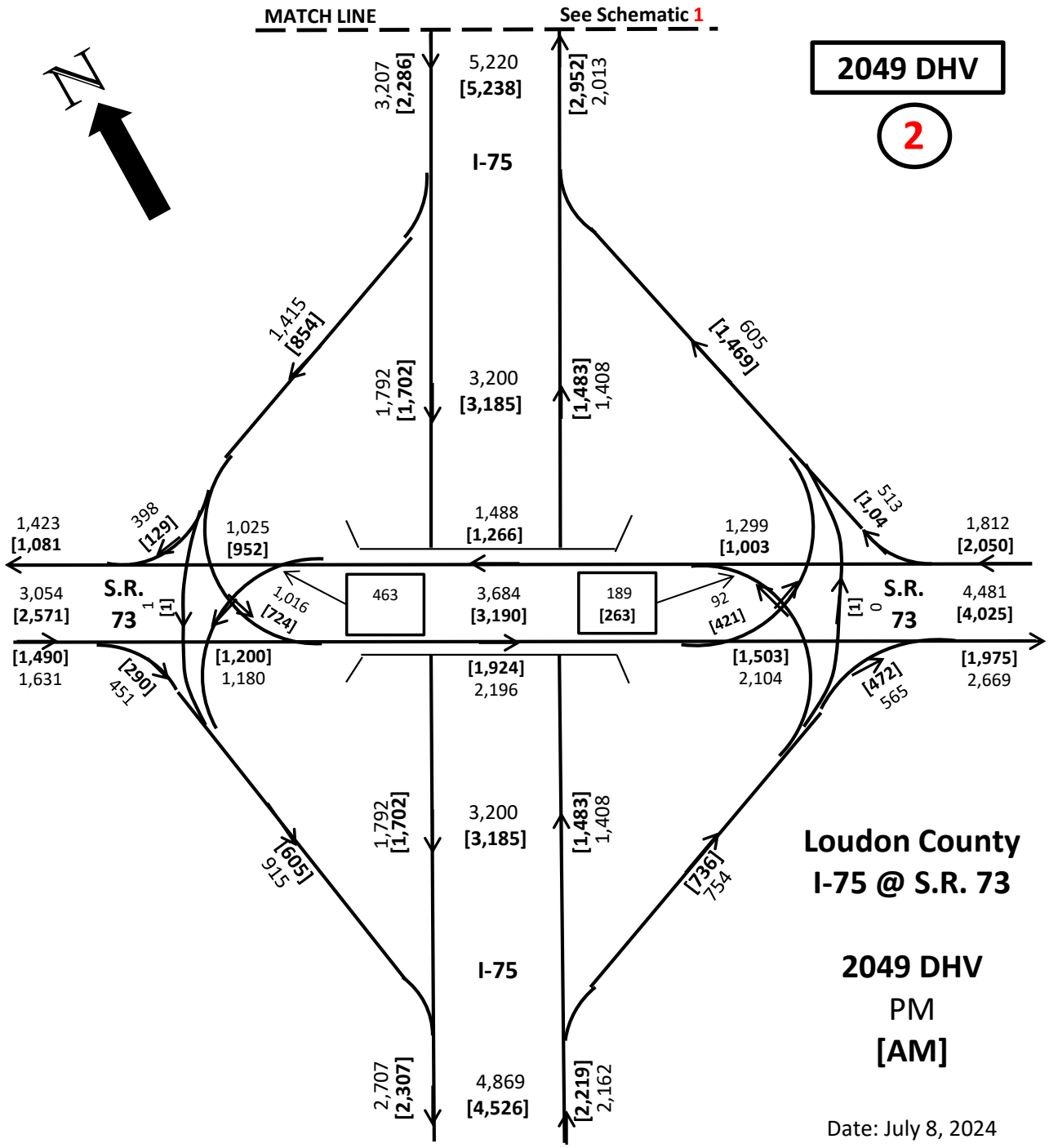

MATCH LINE
See Schematic 1
2029 DHV
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I-75
S.R. 73
I-75
S.R. 73
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4,501 [4,515]
[2,544] 1,736
1,233 [736]
521 [1,267]
2,532 [1,235]
3,747 [2,512]
[1,277] 1,215
442 [903]
1,227 [931]
343 [111]
884 [820]
1,283 [1,091]
1,120 [864]
1,562 [1,767]
2,620 [2,216]
[1,285] 1,393
[1] 1
889 [624]
399
3,176 [2,750]
163 [227]
79 [363]
[1] 0
3,863 [3,470]
[1,035] 1,004
[1,659] 1,893
[1,296] 1,814
[1,703] 2,301
[250] 389
[407] 487
[552] 789
[635] 650
2,532 [1,235]
3,747 [2,512]
[1,277] 1,215
3,321 [1,757]
5,186 [3,669]
[1,912] 1,865
Loudon County
I-75 @ S.R. 73
2029 DHV
PM
[AM]
Date: July 8, 2024
TA



Loudon County
I-40 @ I-75

2049 DHV
PM
[AM]

Date: July 8, 2024
TA


MATCH LINE
See Schematic 1
N
2049 DHV
2
I-75
5,220
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3,207
[2,286]
[2,952]
2,013
1,415
[854]
605
[1,469]
1,792
[1,702]
3,200
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[1,483]
1,408
513
[1,04
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[1,081
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[952]
1,488
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3,054
[2,571]
S.R.
73
1
[1]
1,016
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463
3,684
[3,190]
189
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92
[421]
[1]
0
S.R.
73
4,481
[4,025]
[1,490]
1,631
[290]
451
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1,180
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[1,503]
2,104
[472]
565
[1,975]
2,669
[605]
915
[736]
754
I-75
2,707
[2,307]
4,869
[4,526]
[2,219]
2,162
Loudon County
I-75 @ S.R. 73
2049 DHV
PM
[AM]
Date: July 8, 2024
TA

Appendix B

HCS Reports:

I-75N – No Build Alternative

I-75S – No Build Alternative

I-75N – Build Alternative 1

I-75S – Build Alternative 1

I-75N – Build Alternative 2

I-75S – Build Alternative 2

HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2029
Jurisdiction	Loudon	Time Analyzed	AM
Facility Name	I-75N	Units	U.S. Customary
Project Description	I-75N_NoBuild_2029AM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81)	20501	2
2	Diverge	Diverge	I-75N at SR-73 Exit Ramp (Exit 81)	1500	2
3	Basic	Basic	I-75N from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1499	2
4	Merge	Merge	I-75N at SR-73 Entrance Ramp (Exit 81)	1500	2
5	Basic	Basic	I-75N from SR-73 Entrance Ramp (Exit 81) to I-40W Exit Ramp (Exit 84B)	11682	2
6	Diverge	Diverge	I-75N at I-40W Exit Ramp (Exit 84B)	1500	2
7	Basic	Basic	I-75N from I-40W Exit Ramp (Exit 84B) to I-40E Merge	2690	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3134	4800	0.65	71.7	21.9	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3334	838	4800	2000	0.69	0.42	58.6	58.6	28.4	28.2	D

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2227	4800	0.46	73.9	14.8	B

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3899	1672	4800	2000	0.81	0.84	60.1	60.1	32.4	30.2	D

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4058	4800	0.85	63.4	32.0	D

Segment 6: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	4058	411	4800	2000	0.85	0.21	59.9	59.9	33.9	29.1	D

Segment 7: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	3641	4800	0.76	67.7	26.9	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4383	4142	7.38	184.54	66.9	25.9	16.9	6.90	C

Facility Overall Results

Space Mean Speed, mi/h	66.9	Average Density, veh/mi/ln	16.9
Average Travel Time, min	6.90	Average Density, pc/mi/ln	25.9
Total VMT, veh-mi/AP	4383	Total VHD, veh-h	7.38
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	184.54

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2029
Jurisdiction	Loudon	Time Analyzed	PM
Facility Name	I-75N	Units	U.S. Customary
Project Description	I-75N_NoBuild_2029PM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81)	20501	2
2	Diverge	Diverge	I-75N at SR-73 Exit Ramp (Exit 81)	1500	2
3	Basic	Basic	I-75N from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1499	2
4	Merge	Merge	I-75N at SR-73 Entrance Ramp (Exit 81)	1500	2
5	Basic	Basic	I-75N from SR-73 Entrance Ramp (Exit 81) to I-40W Exit Ramp (Exit 84B)	11682	2
6	Diverge	Diverge	I-75N at I-40W Exit Ramp (Exit 84B)	1500	2
7	Basic	Basic	I-75N from I-40W Exit Ramp (Exit 84B) to I-40E Merge	2690	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3057	4800	0.64	72.1	21.2	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3253	858	4800	2000	0.68	0.43	58.5	58.5	27.8	27.5	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2119	4800	0.44	73.9	14.1	B

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	2807	688	4800	2000	0.58	0.34	64.4	64.4	21.8	22.2	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2769	4800	0.58	73.6	18.8	C

Segment 6: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	2769	337	4800	2000	0.58	0.17	60.1	60.1	23.0	18.0	B

Segment 7: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2428	4800	0.51	74.8	16.2	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3639	3430	2.81	70.13	71.3	20.3	13.2	6.50	C

Facility Overall Results

Space Mean Speed, mi/h	71.3	Average Density, veh/mi/ln	13.2
Average Travel Time, min	6.50	Average Density, pc/mi/ln	20.3
Total VMT, veh-mi/AP	3639	Total VHD, veh-h	2.81
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	70.13

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2049
Jurisdiction	Loudon	Time Analyzed	AM
Facility Name	I-75N	Units	U.S. Customary
Project Description	I-75N_NoBuild_2049AM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81)	20501	2
2	Diverge	Diverge	I-75N at SR-73 Exit Ramp (Exit 81)	1500	2
3	Basic	Basic	I-75N from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1499	2
4	Merge	Merge	I-75N at SR-73 Entrance Ramp (Exit 81)	1500	2
5	Basic	Basic	I-75N from SR-73 Entrance Ramp (Exit 81) to I-40W Exit Ramp (Exit 84B)	11682	2
6	Diverge	Diverge	I-75N at I-40W Exit Ramp (Exit 84B)	1500	2
7	Basic	Basic	I-75N from I-40W Exit Ramp (Exit 84B) to I-40E Merge	2690	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3637	4800	0.76	67.7	26.9	D

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3870	971	4800	2000	0.81	0.49	58.2	58.2	33.2	32.8	D

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2586	4800	0.54	73.9	17.4	B

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	4525	1939	4800	2000	0.94	0.97	54.5	54.5	41.5	35.0	D

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4708	4800	0.98	54.7	43.0	E

Segment 6: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	4708	477	4800	2000	0.98	0.24	59.7	59.7	39.4	34.7	D

Segment 7: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4225	4800	0.88	61.4	34.4	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5085	4806	15.72	393.01	61.2	32.9	21.5	7.60	D

Facility Overall Results

Space Mean Speed, mi/h	61.2	Average Density, veh/mi/ln	21.5
Average Travel Time, min	7.60	Average Density, pc/mi/ln	32.9
Total VMT, veh-mi/AP	5085	Total VHD, veh-h	15.72
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	393.01

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2049
Jurisdiction	Loudon	Time Analyzed	PM
Facility Name	I-75N	Units	U.S. Customary
Project Description	I-75N_NoBuild_2049PM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81)	20501	2
2	Diverge	Diverge	I-75N at SR-73 Exit Ramp (Exit 81)	1500	2
3	Basic	Basic	I-75N from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1499	2
4	Merge	Merge	I-75N at SR-73 Entrance Ramp (Exit 81)	1500	2
5	Basic	Basic	I-75N from SR-73 Entrance Ramp (Exit 81) to I-40W Exit Ramp (Exit 84B)	11682	2
6	Diverge	Diverge	I-75N at I-40W Exit Ramp (Exit 84B)	1500	2
7	Basic	Basic	I-75N from I-40W Exit Ramp (Exit 84B) to I-40E Merge	2690	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3544	4800	0.74	68.6	25.8	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3770	995	4800	2000	0.79	0.50	58.1	58.1	32.4	31.9	D

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2456	4800	0.51	73.9	16.4	B

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3255	799	4800	2000	0.68	0.40	63.1	63.1	25.8	25.6	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	3211	4800	0.67	71.1	22.6	C

Segment 6: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	3211	390	4800	2000	0.67	0.20	59.9	59.9	26.8	21.8	C

Segment 7: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2815	4800	0.59	73.4	19.2	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4219	3976	5.53	138.32	68.6	24.4	15.9	6.80	C

Facility Overall Results

Space Mean Speed, mi/h	68.6	Average Density, veh/mi/ln	15.9
Average Travel Time, min	6.80	Average Density, pc/mi/ln	24.4
Total VMT, veh-mi/AP	4219	Total VHD, veh-h	5.53
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	138.32

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2029
Jurisdiction	Loudon	Time Analyzed	AM
Facility Name	I-75S	Units	U.S. Customary
Project Description	I-75S_NoBuild_2029AM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75S from I-40W Diverge (Exit 368) to I-75S Entrance Ramp (Exit 368)	3409	2
2	Merge	Merge	I-75S at I-75S Entrance Ramp (Exit 368)	1500	2
3	Basic	Basic	I-75S from I-75S Entrance Ramp (Exit 368) to SR-73 Exit Ramp (Exit 81)	11203	2
4	Diverge	Diverge	I-75S at SR-73 Exit Ramp (Exit 81)	1500	2
5	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1824	2
6	Merge	Merge	I-75S at SR-73 Entrance Ramp (Exit 81)	1500	2
7	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76)	20816	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2692	4800	0.56	74.0	18.2	C

Segment 2: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	3137	445	4800	2000	0.65	0.22	63.7	63.7	24.6	24.4	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	3144	4800	0.66	71.6	22.0	C

Segment 4: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3437	971	4800	2000	0.72	0.49	58.2	58.2	29.5	28.5	D

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2154	4800	0.45	74.2	14.3	B

Segment 6: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	2843	689	4800	2000	0.59	0.34	65.6	65.6	21.7	19.0	B

Segment 7: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	2880	4800	0.60	73.1	19.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3778	3561	2.84	70.94	71.4	20.6	13.4	6.60	C

Facility Overall Results

Space Mean Speed, mi/h	71.4	Average Density, veh/mi/ln	13.4
Average Travel Time, min	6.60	Average Density, pc/mi/ln	20.6
Total VMT, veh-mi/AP	3778	Total VHD, veh-h	2.84
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	70.94

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2029
Jurisdiction	Loudon	Time Analyzed	PM
Facility Name	I-75S	Units	U.S. Customary
Project Description	I-75S_NoBuild_2029PM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75S from I-40W Diverge (Exit 368) to I-75S Entrance Ramp (Exit 368)	3409	2
2	Merge	Merge	I-75S at I-75S Entrance Ramp (Exit 368)	1500	2
3	Basic	Basic	I-75S from I-75S Entrance Ramp (Exit 368) to SR-73 Exit Ramp (Exit 81)	11203	2
4	Diverge	Diverge	I-75S at SR-73 Exit Ramp (Exit 81)	1500	2
5	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1824	2
6	Merge	Merge	I-75S at SR-73 Entrance Ramp (Exit 81)	1500	2
7	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76)	20816	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4040	4800	0.84	63.6	31.8	D

Segment 2: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	4405	365	4800	2000	0.92	0.18	56.0	56.0	39.3	34.3	D

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4410	4800	0.92	59.0	37.4	E

Segment 4: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	4822	1627	4800	2000	1.00	0.81	56.2	56.2	42.9	40.5	E

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2672	4800	0.56	74.0	18.1	C

Segment 6: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3713	1041	4800	2000	0.77	0.52	62.5	62.5	29.7	25.6	C

Segment 7: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3805	4800	0.79	66.1	28.8	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5148	4853	13.74	343.58	62.8	31.8	20.8	7.60	D

Facility Overall Results

Space Mean Speed, mi/h	62.8	Average Density, veh/mi/ln	20.8
Average Travel Time, min	7.60	Average Density, pc/mi/ln	31.8
Total VMT, veh-mi/AP	5148	Total VHD, veh-h	13.74
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	343.58

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2049
Jurisdiction	Loudon	Time Analyzed	AM
Facility Name	I-75S	Units	U.S. Customary
Project Description	I-75S_NoBuild_2049AM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75S from I-40W Diverge (Exit 368) to I-75S Entrance Ramp (Exit 368)	3409	2
2	Merge	Merge	I-75S at I-75S Entrance Ramp (Exit 368)	1500	2
3	Basic	Basic	I-75S from I-75S Entrance Ramp (Exit 368) to SR-73 Exit Ramp (Exit 81)	11203	2
4	Diverge	Diverge	I-75S at SR-73 Exit Ramp (Exit 81)	1500	2
5	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1824	2
6	Merge	Merge	I-75S at SR-73 Entrance Ramp (Exit 81)	1500	2
7	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76)	20816	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	3123	4800	0.65	71.7	21.8	C

Segment 2: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	3639	516	4800	2000	0.76	0.26	61.7	61.7	29.5	28.3	D

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	3646	4800	0.76	67.7	26.9	D

Segment 4: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3987	1127	4800	2000	0.83	0.56	57.7	57.7	34.5	33.3	D

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2497	4800	0.52	74.2	16.7	B

Segment 6: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3296	799	4800	2000	0.69	0.40	64.3	64.3	25.6	22.5	C

Segment 7: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3339	4800	0.70	70.2	23.8	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4382	4129	5.84	146.00	68.5	24.8	16.1	6.90	C

Facility Overall Results

Space Mean Speed, mi/h	68.5	Average Density, veh/mi/ln	16.1
Average Travel Time, min	6.90	Average Density, pc/mi/ln	24.8
Total VMT, veh-mi/AP	4382	Total VHD, veh-h	5.84
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	146.00

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2049
Jurisdiction	Loudon	Time Analyzed	PM
Facility Name	I-75S	Units	U.S. Customary
Project Description	I-75S_NoBuild_2049PM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75S from I-40W Diverge (Exit 368) to I-75S Entrance Ramp (Exit 368)	3409	2
2	Merge	Merge	I-75S at I-75S Entrance Ramp (Exit 368)	1500	2
3	Basic	Basic	I-75S from I-75S Entrance Ramp (Exit 368) to SR-73 Exit Ramp (Exit 81)	11203	2
4	Diverge	Diverge	I-75S at SR-73 Exit Ramp (Exit 81)	1500	2
5	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1824	2
6	Merge	Merge	I-75S at SR-73 Entrance Ramp (Exit 81)	1500	2
7	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76)	20816	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4047	4800	0.98	29.9	67.7	F

Segment 2: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	4470	423	4800	2000	1.06	0.21	55.3	55.3	40.4	34.8	F

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4470	4800	1.07	58.2	38.4	F

Segment 4: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	4470	1868	4800	2000	1.17	0.93	55.5	55.5	40.3	37.4	F

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2602	4800	0.65	74.1	17.5	B

Segment 6: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3810	1208	4800	2000	0.90	0.60	61.9	61.9	30.8	26.3	C

Segment 7: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3810	4800	0.92	66.1	28.8	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5162	5646	22.01	550.21	57.1	35.0	22.9	8.30	F

Facility Overall Results

Space Mean Speed, mi/h	57.1	Average Density, veh/mi/ln	22.9
Average Travel Time, min	8.30	Average Density, pc/mi/ln	35.0
Total VMT, veh-mi/AP	5162	Total VHD, veh-h	22.01
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	550.21

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2029
Jurisdiction	Loudon	Time Analyzed	AM
Facility Name	I-75N	Units	U.S. Customary
Project Description	I-75N_BuildAlternative1_2029AM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81)	20406	2
2	Diverge	Diverge	I-75N at SR-73 Exit Ramp (Exit 81)	1500	3
3	Basic	Basic	I-75N from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1554	3
4	Merge	Basic	I-75N at SR-73 Entrance Ramp (Exit 81)	2510	3
5	Basic	Basic	I-75N from SR-73 Entrance Ramp (Exit 81) to I-40W Exit Ramp (Exit 84B)	10712	3
6	Diverge	Diverge	I-75N at I-40W Exit Ramp (Exit 84B)	1500	2
7	Basic	Basic	I-75N from I-40W Exit Ramp (Exit 84B) to I-40E Merge	2690	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3134	4800	0.65	71.7	21.9	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3334	838	7200	2000	0.46	0.42	63.6	58.6	17.5	15.7	B

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2227	7200	0.31	74.4	9.8	A

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3899	1672	7200	4000	0.54	0.42	74.3	74.3	17.5	17.5	B

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4058	7200	0.56	73.9	18.3	C

Segment 6: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	4058	411	4800	2000	0.85	0.21	59.9	59.9	33.9	25.7	C

Segment 7: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	3641	4800	0.76	67.7	26.9	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4367	4141	3.27	81.75	71.4	20.3	13.2	6.50	C

Facility Overall Results

Space Mean Speed, mi/h	71.4	Average Density, veh/mi/ln	13.2
Average Travel Time, min	6.50	Average Density, pc/mi/ln	20.3
Total VMT, veh-mi/AP	4367	Total VHD, veh-h	3.27
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	81.75

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2029
Jurisdiction	Loudon	Time Analyzed	PM
Facility Name	I-75N	Units	U.S. Customary
Project Description	I-75N_BuildAlternative1_2029PM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81)	20406	2
2	Diverge	Diverge	I-75N at SR-73 Exit Ramp (Exit 81)	1500	3
3	Basic	Basic	I-75N from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1554	3
4	Merge	Basic	I-75N at SR-73 Entrance Ramp (Exit 81)	2510	3
5	Basic	Basic	I-75N from SR-73 Entrance Ramp (Exit 81) to I-40W Exit Ramp (Exit 84B)	10712	3
6	Diverge	Diverge	I-75N at I-40W Exit Ramp (Exit 84B)	1500	2
7	Basic	Basic	I-75N from I-40W Exit Ramp (Exit 84B) to I-40E Merge	2690	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3057	4800	0.64	72.1	21.2	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3253	858	7200	2000	0.45	0.43	63.4	58.5	17.1	15.3	B

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2119	7200	0.29	74.4	9.4	A

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	2807	688	7200	4000	0.39	0.17	75.4	75.4	12.4	12.4	B

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2769	7200	0.38	75.4	12.2	B

Segment 6: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	2769	337	4800	2000	0.58	0.17	60.1	60.1	23.0	14.6	B

Segment 7: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2428	4800	0.51	74.8	16.2	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3631	3428	2.00	50.02	72.4	16.6	10.8	6.40	B

Facility Overall Results

Space Mean Speed, mi/h	72.4	Average Density, veh/mi/ln	10.8
Average Travel Time, min	6.40	Average Density, pc/mi/ln	16.6
Total VMT, veh-mi/AP	3631	Total VHD, veh-h	2.00
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	50.02

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2049
Jurisdiction	Loudon	Time Analyzed	AM
Facility Name	I-75N	Units	U.S. Customary
Project Description	I-75N_BuildAlternative1_2049AM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81)	20406	2
2	Diverge	Diverge	I-75N at SR-73 Exit Ramp (Exit 81)	1500	3
3	Basic	Basic	I-75N from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1554	3
4	Merge	Basic	I-75N at SR-73 Entrance Ramp (Exit 81)	2510	3
5	Basic	Basic	I-75N from SR-73 Entrance Ramp (Exit 81) to I-40W Exit Ramp (Exit 84B)	10712	3
6	Diverge	Diverge	I-75N at I-40W Exit Ramp (Exit 84B)	1500	2
7	Basic	Basic	I-75N from I-40W Exit Ramp (Exit 84B) to I-40E Merge	2690	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3637	4800	0.76	67.7	26.9	D

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3870	971	7200	2000	0.54	0.49	63.5	58.2	20.3	18.6	B

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2586	7200	0.36	74.4	11.4	B

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	4525	1939	7200	4000	0.63	0.48	72.4	72.4	20.8	20.8	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4708	7200	0.65	71.6	21.9	C

Segment 6: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	4708	477	4800	2000	0.98	0.24	59.7	59.7	39.4	31.2	D

Segment 7: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4225	4800	0.88	61.4	34.4	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5067	4806	7.04	176.04	68.3	24.6	16.0	6.80	C

Facility Overall Results

Space Mean Speed, mi/h	68.3	Average Density, veh/mi/ln	16.0
Average Travel Time, min	6.80	Average Density, pc/mi/ln	24.6
Total VMT, veh-mi/AP	5067	Total VHD, veh-h	7.04
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	176.04

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2049
Jurisdiction	Loudon	Time Analyzed	PM
Facility Name	I-75N	Units	U.S. Customary
Project Description	I-75N_BuildAlternative1_2049PM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81)	20406	2
2	Diverge	Diverge	I-75N at SR-73 Exit Ramp (Exit 81)	1500	3
3	Basic	Basic	I-75N from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1554	3
4	Merge	Basic	I-75N at SR-73 Entrance Ramp (Exit 81)	2510	3
5	Basic	Basic	I-75N from SR-73 Entrance Ramp (Exit 81) to I-40W Exit Ramp (Exit 84B)	10712	3
6	Diverge	Diverge	I-75N at I-40W Exit Ramp (Exit 84B)	1500	2
7	Basic	Basic	I-75N from I-40W Exit Ramp (Exit 84B) to I-40E Merge	2690	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3544	4800	0.74	68.6	25.8	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3770	995	7200	2000	0.52	0.50	63.3	58.1	19.9	18.2	B

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2456	7200	0.34	74.4	10.9	A

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3255	799	7200	4000	0.45	0.20	75.3	75.3	14.4	14.4	B

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	3211	7200	0.45	75.3	14.2	B

Segment 6: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	3211	390	4800	2000	0.67	0.20	59.9	59.9	26.8	18.4	B

Segment 7: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2815	4800	0.59	73.4	19.2	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4210	3974	3.99	99.69	70.4	19.8	12.9	6.60	C

Facility Overall Results

Space Mean Speed, mi/h	70.4	Average Density, veh/mi/ln	12.9
Average Travel Time, min	6.60	Average Density, pc/mi/ln	19.8
Total VMT, veh-mi/AP	4210	Total VHD, veh-h	3.99
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	99.69

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2029
Jurisdiction	Loudon	Time Analyzed	AM
Facility Name	I-75S	Units	U.S. Customary
Project Description	I-75S_BuildAlternative1_2029AM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75S from I-40W Diverge (Exit 368) to I-75S Merge (Exit 368)	2849	2
2	Weaving	Basic	I-75S from I-75S Merge (Exit 368) to SR-73 Exit Ramp (Exit 81)	15203	3
3	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81) - 3 Lanes	240	3
4	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81) - 2 Lanes	1099	2
5	Merge	Merge	I-75S at SR-73 Entrance Ramp (Exit 81)	1500	2
6	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76)	20861	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2692	4800	0.56	74.0	18.2	C

Segment 2: Weaving

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2934	7200	0.41	75.4	13.0	B

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2154	7200	0.30	75.4	9.5	A

Segment 4: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2154	4800	0.45	75.3	14.3	B

Segment 5: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	2843	689	4800	2000	0.59	0.34	65.9	65.9	21.6	18.2	B

Segment 6: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	2880	4800	0.60	73.1	19.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3804	3585	1.07	26.70	73.8	16.4	10.7	6.40	B

Facility Overall Results

Space Mean Speed, mi/h	73.8	Average Density, veh/mi/ln	10.7
Average Travel Time, min	6.40	Average Density, pc/mi/ln	16.4
Total VMT, veh-mi/AP	3804	Total VHD, veh-h	1.07
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	26.70

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2029
Jurisdiction	Loudon	Time Analyzed	PM
Facility Name	I-75S	Units	U.S. Customary
Project Description	I-75S_BuildAlternative1_2029PM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75S from I-40W Diverge (Exit 368) to I-75S Merge (Exit 368)	2849	2
2	Weaving	Basic	I-75S from I-75S Merge (Exit 368) to SR-73 Exit Ramp (Exit 81)	15203	3
3	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81) - 3 Lanes	240	3
4	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81) - 2 Lanes	1099	2
5	Merge	Merge	I-75S at SR-73 Entrance Ramp (Exit 81)	1500	2
6	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76)	20861	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4040	4800	0.84	63.6	31.8	D

Segment 2: Weaving

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4065	7200	0.56	73.9	18.3	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2672	7200	0.37	75.4	11.8	B

Segment 4: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2672	4800	0.56	74.0	18.1	C

Segment 5: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3713	1041	4800	2000	0.77	0.52	62.8	62.8	29.6	24.8	C

Segment 6: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3805	4800	0.79	66.1	28.8	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5184	4887	6.46	161.61	68.9	23.8	15.6	6.90	C

Facility Overall Results

Space Mean Speed, mi/h	68.9	Average Density, veh/mi/ln	15.6
Average Travel Time, min	6.90	Average Density, pc/mi/ln	23.8
Total VMT, veh-mi/AP	5184	Total VHD, veh-h	6.46
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	161.61

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2049
Jurisdiction	Loudon	Time Analyzed	AM
Facility Name	I-75S	Units	U.S. Customary
Project Description	I-75S_BuildAlternative1_2049AM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75S from I-40W Diverge (Exit 368) to I-75S Merge (Exit 368)	2849	2
2	Weaving	Basic	I-75S from I-75S Merge (Exit 368) to SR-73 Exit Ramp (Exit 81)	15203	3
3	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81) - 3 Lanes	240	3
4	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81) - 2 Lanes	1099	2
5	Merge	Merge	I-75S at SR-73 Entrance Ramp (Exit 81)	1500	2
6	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76)	20861	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	3123	4800	0.65	71.7	21.8	C

Segment 2: Weaving

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	3404	7200	0.47	75.2	15.1	B

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2497	7200	0.35	75.4	11.0	A

Segment 4: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2497	4800	0.52	74.6	16.7	B

Segment 5: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3296	799	4800	2000	0.69	0.40	64.6	64.6	25.5	21.6	C

Segment 6: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3339	4800	0.70	70.2	23.8	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4411	4157	2.68	67.12	72.1	19.5	12.7	6.60	C

Facility Overall Results

Space Mean Speed, mi/h	72.1	Average Density, veh/mi/ln	12.7
Average Travel Time, min	6.60	Average Density, pc/mi/ln	19.5
Total VMT, veh-mi/AP	4411	Total VHD, veh-h	2.68
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	67.12

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2049
Jurisdiction	Loudon	Time Analyzed	PM
Facility Name	I-75S	Units	U.S. Customary
Project Description	I-75S_BuildAlternative1_2049PM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75S from I-40W Diverge (Exit 368) to I-75S Merge (Exit 368)	2849	2
2	Weaving	Basic	I-75S from I-75S Merge (Exit 368) to SR-73 Exit Ramp (Exit 81)	15203	3
3	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81) - 3 Lanes	240	3
4	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81) - 2 Lanes	1099	2
5	Merge	Merge	I-75S at SR-73 Entrance Ramp (Exit 81)	1500	2
6	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76)	20861	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4686	4800	0.98	55.1	42.5	E

Segment 2: Weaving

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4720	7200	0.66	71.6	22.0	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	3125	7200	0.43	75.4	13.8	B

Segment 4: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	3125	4800	0.65	71.7	21.8	C

Segment 5: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	4333	1208	4800	2000	0.90	0.60	58.2	58.2	37.2	29.5	D

Segment 6: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	4437	4800	0.92	58.6	37.8	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	6031	5685	15.41	385.22	63.2	30.2	19.8	7.50	D

Facility Overall Results

Space Mean Speed, mi/h	63.2	Average Density, veh/mi/ln	19.8
Average Travel Time, min	7.50	Average Density, pc/mi/ln	30.2
Total VMT, veh-mi/AP	6031	Total VHD, veh-h	15.41
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	385.22

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2029
Jurisdiction	Loudon	Time Analyzed	AM
Facility Name	I-75N	Units	U.S. Customary
Project Description	I-75N_BuildAlternative2_2029AM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	8
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81) - 2 Lanes	17931	2
2	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81) - 3 Lanes	2475	3
3	Diverge	Diverge	I-75N at SR-73 Exit Ramp (Exit 81)	1500	3
4	Basic	Basic	I-75N from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1554	3
5	Merge	Basic	I-75N at SR-73 Entrance Ramp (Exit 81)	2510	3
6	Basic	Basic	I-75N from SR-73 Entrance Ramp (Exit 81) to I-40W Exit Ramp (Exit 84B)	10712	3
7	Diverge	Diverge	I-75N at I-40W Exit Ramp (Exit 84B)	1500	2
8	Basic	Basic	I-75N from I-40W Exit Ramp (Exit 84B) to I-40E Merge	2690	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3134	4800	0.65	71.7	21.9	C

Segment 2: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3134	7200	0.44	75.4	13.9	B

Segment 3: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3334	838	7200	2000	0.46	0.42	63.6	58.6	17.5	15.7	B

Segment 4: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2227	7200	0.31	74.4	9.8	A

Segment 5: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3899	1672	7200	4000	0.54	0.42	74.3	74.3	17.5	17.5	B

Segment 6: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4058	7200	0.56	73.9	18.3	C

Segment 7: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	4058	411	4800	2000	0.85	0.21	59.9	59.9	33.9	25.7	C

Segment 8: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	3641	4800	0.76	67.7	26.9	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4367	4141	3.11	77.67	71.6	19.7	12.8	6.50	C

Facility Overall Results

Space Mean Speed, mi/h	71.6	Average Density, veh/mi/ln	12.8
Average Travel Time, min	6.50	Average Density, pc/mi/ln	19.7
Total VMT, veh-mi/AP	4367	Total VHD, veh-h	3.11
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	77.67

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2029
Jurisdiction	Loudon	Time Analyzed	PM
Facility Name	I-75N	Units	U.S. Customary
Project Description	I-75N_BuildAlternative2_2029PM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	8
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81) - 2 Lanes	17931	2
2	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81) - 3 Lanes	2475	3
3	Diverge	Diverge	I-75N at SR-73 Exit Ramp (Exit 81)	1500	3
4	Basic	Basic	I-75N from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1554	3
5	Merge	Basic	I-75N at SR-73 Entrance Ramp (Exit 81)	2510	3
6	Basic	Basic	I-75N from SR-73 Entrance Ramp (Exit 81) to I-40W Exit Ramp (Exit 84B)	10712	3
7	Diverge	Diverge	I-75N at I-40W Exit Ramp (Exit 84B)	1500	2
8	Basic	Basic	I-75N from I-40W Exit Ramp (Exit 84B) to I-40E Merge	2690	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3057	4800	0.64	72.1	21.2	C

Segment 2: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3057	7200	0.42	75.4	13.5	B

Segment 3: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3253	858	7200	2000	0.45	0.43	63.4	58.5	17.1	15.3	B

Segment 4: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2119	7200	0.29	74.4	9.4	A

Segment 5: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	2807	688	7200	4000	0.39	0.17	75.4	75.4	12.4	12.4	B

Segment 6: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2769	7200	0.38	75.4	12.2	B

Segment 7: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	2769	337	4800	2000	0.58	0.17	60.1	60.1	23.0	14.6	B

Segment 8: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2428	4800	0.51	74.8	16.2	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3631	3428	1.86	46.49	72.6	16.2	10.5	6.40	B

Facility Overall Results

Space Mean Speed, mi/h	72.6	Average Density, veh/mi/ln	10.5
Average Travel Time, min	6.40	Average Density, pc/mi/ln	16.2
Total VMT, veh-mi/AP	3631	Total VHD, veh-h	1.86
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	46.49

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2049
Jurisdiction	Loudon	Time Analyzed	AM
Facility Name	I-75N	Units	U.S. Customary
Project Description	I-75N_BuildAlternative2_2049AM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	8
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81) - 2 Lanes	17931	2
2	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81) - 3 Lanes	2475	3
3	Diverge	Diverge	I-75N at SR-73 Exit Ramp (Exit 81)	1500	3
4	Basic	Basic	I-75N from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1554	3
5	Merge	Basic	I-75N at SR-73 Entrance Ramp (Exit 81)	2510	3
6	Basic	Basic	I-75N from SR-73 Entrance Ramp (Exit 81) to I-40W Exit Ramp (Exit 84B)	10712	3
7	Diverge	Diverge	I-75N at I-40W Exit Ramp (Exit 84B)	1500	2
8	Basic	Basic	I-75N from I-40W Exit Ramp (Exit 84B) to I-40E Merge	2690	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3637	4800	0.76	67.7	26.9	D

Segment 2: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3637	7200	0.51	74.8	16.2	B

Segment 3: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3870	971	7200	2000	0.54	0.49	63.5	58.2	20.3	18.6	B

Segment 4: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2586	7200	0.36	74.4	11.4	B

Segment 5: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	4525	1939	7200	4000	0.63	0.48	72.4	72.4	20.8	20.8	C

Segment 6: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4708	7200	0.65	71.6	21.9	C

Segment 7: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	4708	477	4800	2000	0.98	0.24	59.7	59.7	39.4	31.2	D

Segment 8: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4225	4800	0.88	61.4	34.4	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5067	4806	6.65	166.35	68.6	23.8	15.5	6.80	C

Facility Overall Results

Space Mean Speed, mi/h	68.6	Average Density, veh/mi/ln	15.5
Average Travel Time, min	6.80	Average Density, pc/mi/ln	23.8
Total VMT, veh-mi/AP	5067	Total VHD, veh-h	6.65
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	166.35

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2049
Jurisdiction	Loudon	Time Analyzed	PM
Facility Name	I-75N	Units	U.S. Customary
Project Description	I-75N_BuildAlternative2_2049PM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	8
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81) - 2 Lanes	17931	2
2	Basic	Basic	I-75N from SR-324 Entrance Ramp (Exit 76) to SR-73 Exit Ramp (Exit 81) - 3 Lanes	2475	3
3	Diverge	Diverge	I-75N at SR-73 Exit Ramp (Exit 81)	1500	3
4	Basic	Basic	I-75N from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1554	3
5	Merge	Basic	I-75N at SR-73 Entrance Ramp (Exit 81)	2510	3
6	Basic	Basic	I-75N from SR-73 Entrance Ramp (Exit 81) to I-40W Exit Ramp (Exit 84B)	10712	3
7	Diverge	Diverge	I-75N at I-40W Exit Ramp (Exit 84B)	1500	2
8	Basic	Basic	I-75N from I-40W Exit Ramp (Exit 84B) to I-40E Merge	2690	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3544	4800	0.74	68.6	25.8	C

Segment 2: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3544	7200	0.49	75.0	15.7	B

Segment 3: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3770	995	7200	2000	0.52	0.50	63.3	58.1	19.9	18.2	B

Segment 4: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2456	7200	0.34	74.4	10.9	A

Segment 5: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3255	799	7200	4000	0.45	0.20	75.3	75.3	14.4	14.4	B

Segment 6: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	3211	7200	0.45	75.3	14.2	B

Segment 7: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.667	0.676	3211	390	4800	2000	0.67	0.20	59.9	59.9	26.8	18.4	B

Segment 8: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2815	4800	0.59	73.4	19.2	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4210	3974	3.65	91.31	70.8	19.2	12.5	6.60	C

Facility Overall Results

Space Mean Speed, mi/h	70.8	Average Density, veh/mi/ln	12.5
Average Travel Time, min	6.60	Average Density, pc/mi/ln	19.2
Total VMT, veh-mi/AP	4210	Total VHD, veh-h	3.65
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	91.31

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2029
Jurisdiction	Loudon	Time Analyzed	AM
Facility Name	I-75S	Units	U.S. Customary
Project Description	I-75S_BuildAlternative2_2029AM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75S from I-40W Diverge (Exit 368) to I-75S Merge (Exit 368)	2849	2
2	Weaving	Basic	I-75S from I-75S Merge (Exit 368) to SR-73 Exit Ramp (Exit 81)	15203	3
3	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1339	3
4	Merge	Merge	I-75S at SR-73 Entrance Ramp (Exit 81)	1500	3
5	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76) - 3 Lanes	2475	3
6	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76) - 2 Lanes	18386	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2692	4800	0.56	74.0	18.2	C

Segment 2: Weaving

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	2934	7200	0.41	75.4	13.0	B

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2154	7200	0.30	75.4	9.5	A

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	2843	689	7200	2000	0.39	0.34	69.1	67.2	13.7	11.8	B

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	2880	7200	0.40	75.1	12.7	B

Segment 6: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	2880	4800	0.60	73.1	19.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3804	3585	0.90	22.46	74.1	15.5	10.2	6.40	B

Facility Overall Results

Space Mean Speed, mi/h	74.1	Average Density, veh/mi/ln	10.2
Average Travel Time, min	6.40	Average Density, pc/mi/ln	15.5
Total VMT, veh-mi/AP	3804	Total VHD, veh-h	0.90
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	22.46

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2029
Jurisdiction	Loudon	Time Analyzed	PM
Facility Name	I-75S	Units	U.S. Customary
Project Description	I-75S_BuildAlternative2_2029PM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75S from I-40W Diverge (Exit 368) to I-75S Merge (Exit 368)	2849	2
2	Weaving	Basic	I-75S from I-75S Merge (Exit 368) to SR-73 Exit Ramp (Exit 81)	15203	3
3	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1339	3
4	Merge	Merge	I-75S at SR-73 Entrance Ramp (Exit 81)	1500	3
5	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76) - 3 Lanes	2475	3
6	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76) - 2 Lanes	18386	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4040	4800	0.84	63.6	31.8	D

Segment 2: Weaving

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4065	7200	0.56	73.9	18.3	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2672	7200	0.37	75.4	11.8	B

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3713	1041	7200	2000	0.52	0.52	68.1	66.2	18.2	16.8	B

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3805	7200	0.53	74.5	17.0	B

Segment 6: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3805	4800	0.79	66.1	28.8	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5184	4887	5.75	143.76	69.6	22.4	14.7	6.80	C

Facility Overall Results

Space Mean Speed, mi/h	69.6	Average Density, veh/mi/ln	14.7
Average Travel Time, min	6.80	Average Density, pc/mi/ln	22.4
Total VMT, veh-mi/AP	5184	Total VHD, veh-h	5.75
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	143.76

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2049
Jurisdiction	Loudon	Time Analyzed	AM
Facility Name	I-75S	Units	U.S. Customary
Project Description	I-75S_BuildAlternative2_2049AM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75S from I-40W Diverge (Exit 368) to I-75S Merge (Exit 368)	2849	2
2	Weaving	Basic	I-75S from I-75S Merge (Exit 368) to SR-73 Exit Ramp (Exit 81)	15203	3
3	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1339	3
4	Merge	Merge	I-75S at SR-73 Entrance Ramp (Exit 81)	1500	3
5	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76) - 3 Lanes	2475	3
6	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76) - 2 Lanes	18386	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	3123	4800	0.65	71.7	21.8	C

Segment 2: Weaving

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	3404	7200	0.47	75.2	15.1	B

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	2497	7200	0.35	75.4	11.0	A

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	3296	799	7200	2000	0.46	0.40	68.7	66.8	16.0	14.2	B

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3339	7200	0.46	75.1	14.8	B

Segment 6: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	3339	4800	0.70	70.2	23.8	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4411	4157	2.30	57.60	72.5	18.4	12.0	6.50	C

Facility Overall Results

Space Mean Speed, mi/h	72.5	Average Density, veh/mi/ln	12.0
Average Travel Time, min	6.50	Average Density, pc/mi/ln	18.4
Total VMT, veh-mi/AP	4411	Total VHD, veh-h	2.30
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	57.60

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HCS Freeway Facilities Report

Project Information

Analyst	MH	Date	3/14/2025
Agency	TDOT	Analysis Year	2049
Jurisdiction	Loudon	Time Analyzed	PM
Facility Name	I-75S	Units	U.S. Customary
Project Description	I-75S_BuildAlternative2_2049PM		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75S from I-40W Diverge (Exit 368) to I-75S Merge (Exit 368)	2849	2
2	Weaving	Basic	I-75S from I-75S Merge (Exit 368) to SR-73 Exit Ramp (Exit 81)	15203	3
3	Basic	Basic	I-75S from SR-73 Exit Ramp (Exit 81) to SR-73 Entrance Ramp (Exit 81)	1339	3
4	Merge	Merge	I-75S at SR-73 Entrance Ramp (Exit 81)	1500	3
5	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76) - 3 Lanes	2475	3
6	Basic	Basic	I-75S from SR-73 Entrance Ramp (Exit 81) to SR-324 Exit Ramp (Exit 76) - 2 Lanes	18386	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4686	4800	0.98	55.1	42.5	E

Segment 2: Weaving

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.667	4720	7200	0.66	71.6	22.0	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.610	3125	7200	0.43	75.4	13.8	B

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.610	0.806	4333	1208	7200	2000	0.60	0.60	67.1	65.1	21.5	20.3	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	4437	7200	0.62	72.7	20.3	C

Segment 6: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.649	4437	4800	0.92	58.6	37.8	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	6031	5685	13.80	344.90	64.3	28.3	18.5	7.40	D

Facility Overall Results

Space Mean Speed, mi/h	64.3	Average Density, veh/mi/ln	18.5
Average Travel Time, min	7.40	Average Density, pc/mi/ln	28.3
Total VMT, veh-mi/AP	6031	Total VHD, veh-h	13.80
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	344.90

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Appendix C

Synchro Reports:

SR-73 – No Build Alternative

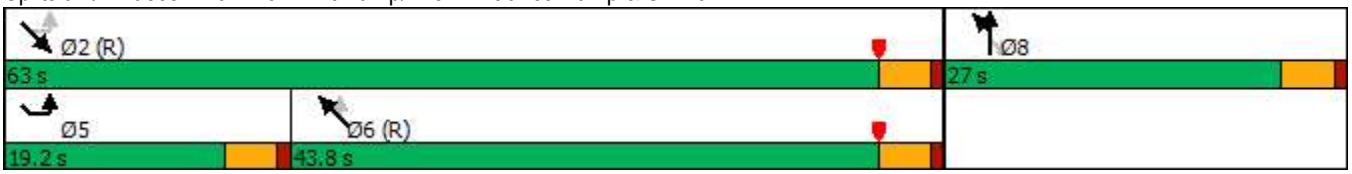
SR-73 – Build Alternative

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	227	1	407	0	0	0	363	1296	0	0	864	903
Future Volume (vph)	227	1	407	0	0	0	363	1296	0	0	864	903
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		190	0		0	500		0	0		290
Storage Lanes	0		1	0		0	1		0	0		1
Taper Length (ft)	0			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850									0.850
Flt Protected		0.953					0.950					
Satd. Flow (prot)	0	1632	1538	0	0	0	1612	3223	0	0	3312	1482
Flt Permitted		0.953					0.158					
Satd. Flow (perm)	0	1632	1538	0	0	0	268	3223	0	0	3312	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73									707
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		808			618			613			652	
Travel Time (s)		18.4			14.0			10.4			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	5%	2%	2%	2%	12%	12%	12%	9%	9%	9%
Adj. Flow (vph)	247	1	442	0	0	0	395	1409	0	0	939	982
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	248	442	0	0	0	395	1409	0	0	939	982
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			30			30	
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	1	1				1	1			1	1
Detector Template												
Leading Detector (ft)	50	50	50				50	50			50	50
Trailing Detector (ft)	0	0	0				0	0			0	0
Detector 1 Position(ft)	0	0	0				0	0			0	0
Detector 1 Size(ft)	50	50	50				50	50			50	50
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	Split	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases	8	8					5	2			6	
Permitted Phases			8				2					6
Detector Phase	8	8	8				5	2			6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0				5.0	5.0			5.0	5.0
Minimum Split (s)	9.5	9.5	9.5				9.5	22.5			22.5	22.5

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)	27.0	27.0	27.0				19.2	63.0			43.8	43.8
Total Split (%)	30.0%	30.0%	30.0%				21.3%	70.0%			48.7%	48.7%
Maximum Green (s)	22.5	22.5	22.5				14.7	58.5			39.3	39.3
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5			3.5	3.5
All-Red Time (s)	1.0	1.0	1.0				1.0	1.0			1.0	1.0
Lost Time Adjust (s)		0.0	0.0				0.0	0.0			0.0	0.0
Total Lost Time (s)		4.5	4.5				4.5	4.5			4.5	4.5
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0			3.0	3.0
Recall Mode	None	None	None				None	C-Min			C-Min	C-Min
Walk Time (s)								7.0			7.0	7.0
Flash Dont Walk (s)								11.0			11.0	11.0
Pedestrian Calls (#/hr)								0			0	0
Act Effct Green (s)		23.7	23.7				57.3	57.3			37.1	37.1
Actuated g/C Ratio		0.26	0.26				0.64	0.64			0.41	0.41
v/c Ratio		0.58	0.97				0.98	0.69			0.69	0.96
Control Delay		35.8	64.3				59.5	12.5			24.4	27.8
Queue Delay		0.0	0.0				0.0	0.3			0.0	0.0
Total Delay		35.8	64.3				59.5	12.9			24.4	27.8
LOS		D	E				E	B			C	C
Approach Delay		54.0						23.1			26.1	
Approach LOS		D						C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:SETL and 6:NWT, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 99.9%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	227	1	407	0	0	0	363	1296	0	0	864	903
Future Volume (veh/h)	227	1	407	0	0	0	363	1296	0	0	864	903
Number	3	8	18				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1737	1870	1826				1722	1722	0	0	1767	1767
Adj Flow Rate, veh/h	247	1	442				395	1409	0	0	939	982
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	2	5				12	12	0	0	9	9
Opposing Right Turn Influence	Yes						Yes			No		
Cap, veh/h	444	2	387				395	2127	0	0	1466	654
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.25	0.25	0.25				0.16	0.65	0.00	0.00	0.44	0.44
Unsig. Movement Delay												
Ln Grp Delay, s/veh	30.9	0.0	124.3				51.8	10.3	0.0	0.0	22.0	259.3
Ln Grp LOS	C	A	F				F	B	A	A	C	F
Approach Vol, veh/h		690						1804			1921	
Approach Delay, s/veh		90.8						19.4			143.3	
Approach LOS		F						B			F	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8		5	6		
Case No		4.0	11.0		1.2	7.0		
Phs Duration (G+Y+Rc), s		63.0	27.0		19.2	43.8		
Change Period (Y+Rc), s		4.5	4.5		4.5	4.5		
Max Green (Gmax), s		58.5	22.5		14.7	39.3		
Max Allow Headway (MAH), s		4.2	4.5		4.3	4.4		
Max Q Clear (g_c+I1), s		25.8	24.5		16.7	41.3		
Green Ext Time (g_e), s		8.9	0.0		0.0	0.0		
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00		
Prob of Max Out (p_x)		0.04	1.00		1.00	1.00		

Left-Turn Movement Data								
Assigned Mvmt			3		5	1		
Mvmt Sat Flow, veh/h			1774		1640	0		

Through Movement Data								
Assigned Mvmt		2	8			6		
Mvmt Sat Flow, veh/h		3358	7			3445		

Right-Turn Movement Data								
Assigned Mvmt		12	18			16		
Mvmt Sat Flow, veh/h		0	1547			1497		

Left Lane Group Data								
Assigned Mvmt	0	0	3	0	5	1	0	0
Lane Assignment			L+T		L (Pr/Pm)			

Lanes in Grp	0	0	1	0	1	0	0	0
Grp Vol (v), veh/h	0	0	248	0	395	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1782	0	1640	0	0	0
Q Serve Time (g_s), s	0.0	0.0	10.9	0.0	14.7	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	10.9	0.0	14.7	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	214	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	41.3	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	19.6	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	19.6	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	39.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	445	0	395	0	0	0
V/C Ratio (X)	0.00	0.00	0.56	0.00	1.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	445	0	395	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.39	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	29.4	0.0	23.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.5	0.0	28.6	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	30.9	0.0	51.8	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	4.6	0.0	8.1	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	3.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	4.8	0.0	11.3	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.16	0.00	0.62	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1409	0	0	0	939	0	0
Grp Sat Flow (s), veh/h/ln	0	1636	0	0	0	1678	0	0
Q Serve Time (g_s), s	0.0	23.8	0.0	0.0	0.0	19.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	23.8	0.0	0.0	0.0	19.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	2127	0	0	0	1466	0	0
V/C Ratio (X)	0.00	0.66	0.00	0.00	0.00	0.64	0.00	0.00
Avail Cap (c_a), veh/h	0	2127	0	0	0	1466	0	0
Upstream Filter (I)	0.00	0.39	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.7	0.0	0.0	0.0	19.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	2.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.3	0.0	0.0	0.0	22.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.7	0.0	0.0	0.0	7.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	6.9	0.0	0.0	0.0	7.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.33	0.00	0.00	0.00	0.33	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	442	0	0	982	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1547	0	0	1497	0	0
Q Serve Time (g_s), s	0.0	0.0	22.5	0.0	0.0	39.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	22.5	0.0	0.0	39.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	387	0	0	654	0	0
V/C Ratio (X)	0.00	0.00	1.14	0.00	0.00	1.50	0.00	0.00
Avail Cap (c_a), veh/h	0	0	387	0	0	654	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	33.8	0.0	0.0	25.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	90.6	0.0	0.0	233.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	124.3	0.0	0.0	259.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	8.2	0.0	0.0	12.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	9.7	0.0	0.0	42.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	17.9	0.0	0.0	54.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	2.45	0.00	0.00	5.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	13.8	0.0	0.0	82.1	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.0

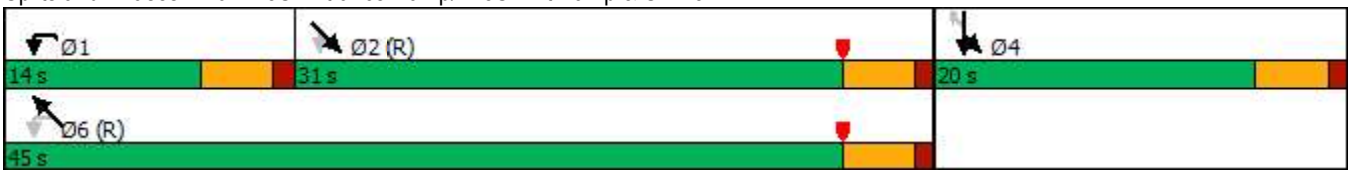
Intersection Summary	
HCM 6th Ctrl Delay	84.5
HCM 6th LOS	F

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	624	1	111	0	1035	250	271	820	0
Future Volume (vph)	0	0	0	624	1	111	0	1035	250	271	820	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	335		335	0		175	500		0
Storage Lanes	0		0	1		1	0		1	1		0
Taper Length (ft)	25			175			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850			0.850			
Flt Protected				0.950	0.953					0.950		
Satd. Flow (prot)	0	0	0	1649	1654	1568	0	3195	1429	1612	3223	0
Flt Permitted				0.950	0.953					0.127		
Satd. Flow (perm)	0	0	0	1649	1654	1568	0	3195	1429	215	3223	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						121			272			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		754			936			713			613	
Travel Time (s)		17.1			21.3			12.2			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	4%	2%	3%	13%	13%	13%	12%	12%	12%
Adj. Flow (vph)	0	0	0	678	1	121	0	1125	272	295	891	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	339	340	121	0	1125	272	295	891	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			30			30	
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	1	1		1	1	1	1	
Detector Template												
Leading Detector (ft)				50	50	50		50	50	50	50	
Trailing Detector (ft)				0	0	0		0	0	0	0	
Detector 1 Position(ft)				0	0	0		0	0	0	0	
Detector 1 Size(ft)				50	50	50		50	50	50	50	
Detector 1 Type				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	
Detector 1 Queue (s)				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	
Turn Type				Split	NA	Perm		NA	Perm	pm+pt	NA	
Protected Phases				4	4			2		1	6	
Permitted Phases						4			2	6		
Detector Phase				4	4	4		2	2	1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0		5.0	5.0	5.0	5.0	
Minimum Split (s)				9.5	9.5	9.5		22.5	22.5	9.5	22.5	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)				20.0	20.0	20.0		31.0	31.0	14.0	45.0	
Total Split (%)				30.8%	30.8%	30.8%		47.7%	47.7%	21.5%	69.2%	
Maximum Green (s)				15.5	15.5	15.5		26.5	26.5	9.5	40.5	
Yellow Time (s)				3.5	3.5	3.5		3.5	3.5	3.5	3.5	
All-Red Time (s)				1.0	1.0	1.0		1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)				4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)				3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Recall Mode				None	None	None		C-Min	C-Min	None	C-Min	
Walk Time (s)								7.0	7.0		7.0	
Flash Dont Walk (s)								11.0	11.0		11.0	
Pedestrian Calls (#/hr)								0	0		0	
Act Effct Green (s)				15.1	15.1	15.1		26.9	26.9	40.9	40.9	
Actuated g/C Ratio				0.23	0.23	0.23		0.41	0.41	0.63	0.63	
v/c Ratio				0.89	0.89	0.26		0.85	0.36	0.87	0.44	
Control Delay				51.5	51.5	6.3		25.6	3.4	41.0	7.1	
Queue Delay				0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay				51.5	51.5	6.3		25.6	3.4	41.0	7.1	
LOS				D	D	A		C	A	D	A	
Approach Delay					44.7			21.3			15.5	
Approach LOS					D			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:SET and 6:NWTL, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 24.8		Intersection LOS: C	
Intersection Capacity Utilization 99.9%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	624	1	111	0	1035	250	271	820	0
Future Volume (veh/h)	0	0	0	624	1	111	0	1035	250	271	820	0
Number				7	4	14	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1841	1870	1856	0	1707	1707	1722	1722	0
Adj Flow Rate, veh/h				679	0	121	0	1125	272	295	891	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	2	3	0	13	13	12	12	0
Opposing Right Turn Influence				Yes			No			Yes		
Cap, veh/h				793	0	356	0	1441	643	364	2079	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.23	0.00	0.23	0.00	0.44	0.44	0.12	0.64	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh				32.5	0.0	21.6	0.0	19.6	14.4	20.5	6.4	0.0
Ln Grp LOS				C	A	C	A	B	B	C	A	A
Approach Vol, veh/h					800			1397			1186	
Approach Delay, s/veh					30.9			18.6			9.9	
Approach LOS					C			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Case No	1.2	7.0		9.0		4.0		
Phs Duration (G+Y+Rc), s	12.4	33.4		19.2		45.8		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green (Gmax), s	9.5	26.5		15.5		40.5		
Max Allow Headway (MAH), s	4.3	4.3		4.4		4.2		
Max Q Clear (g_c+I1), s	7.7	21.2		14.1		10.9		
Green Ext Time (g_e), s	0.2	3.1		0.6		4.6		
Prob of Phs Call (p_c)	1.00	1.00		1.00		1.00		
Prob of Max Out (p_x)	1.00	0.88		1.00		0.00		

Left-Turn Movement Data								
Assigned Mvmt	1	5		7				
Mvmt Sat Flow, veh/h	1640	0		3506				

Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		3329		0		3358		

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		1447		1572		0		

Left Lane Group Data								
Assigned Mvmt	1	5	0	7	0	0	0	0
Lane Assignment	L (Pr/Pm)			L				

Lanes in Grp	1	0	0	2	0	0	0	0
Grp Vol (v), veh/h	295	0	0	679	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1640	0	0	1753	0	0	0	0
Q Serve Time (g_s), s	5.7	0.0	0.0	12.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	5.7	0.0	0.0	12.1	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	356	0	0	1753	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	30.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	28.9	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	364	0	0	793	0	0	0	0
V/C Ratio (X)	0.81	0.00	0.00	0.86	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	404	0	0	836	0	0	0	0
Upstream Filter (I)	0.67	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	12.9	0.0	0.0	24.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	7.6	0.0	0.0	8.4	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	20.5	0.0	0.0	32.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	0.0	4.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.8	0.0	0.0	0.9	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	2.3	0.0	0.0	5.6	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.13	0.00	0.00	0.43	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1125	0	0	0	891	0	0
Grp Sat Flow (s), veh/h/ln	0	1622	0	0	0	1636	0	0
Q Serve Time (g_s), s	0.0	19.2	0.0	0.0	0.0	8.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	19.2	0.0	0.0	0.0	8.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	1441	0	0	0	2079	0	0
V/C Ratio (X)	0.00	0.78	0.00	0.00	0.00	0.43	0.00	0.00
Avail Cap (c_a), veh/h	0	1441	0	0	0	2079	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.67	0.00	0.00
Uniform Delay (d1), s/veh	0.0	15.4	0.0	0.0	0.0	5.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.3	0.0	0.0	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.6	0.0	0.0	0.0	6.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.8	0.0	0.0	0.0	2.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	0.0	0.0	0.1	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	6.6	0.0	0.0	0.0	2.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.28	0.00	0.00	0.00	0.10	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	272	0	121	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1447	0	1572	0	0	0	0
Q Serve Time (g_s), s	0.0	8.4	0.0	4.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.4	0.0	4.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	643	0	356	0	0	0	0
V/C Ratio (X)	0.00	0.42	0.00	0.34	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	643	0	375	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.4	0.0	21.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.4	0.0	21.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	1.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	1.5	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.41	0.00	0.12	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

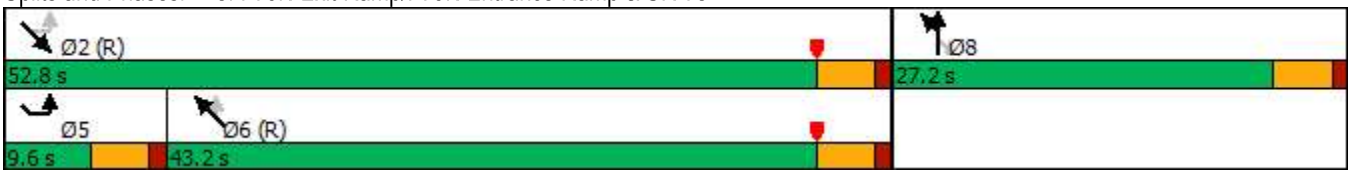
User approved volume balancing among the lanes for turning movement.

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	163	0	487	0	0	0	79	1814	0	0	1120	442
Future Volume (vph)	163	0	487	0	0	0	79	1814	0	0	1120	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		190	0		0	500		0	0		290
Storage Lanes	0		1	0		0	1		0	0		1
Taper Length (ft)	0			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850									0.850
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1626	1538	0	0	0	1612	3223	0	0	3312	1482
Flt Permitted		0.950					0.115					
Satd. Flow (perm)	0	1626	1538	0	0	0	195	3223	0	0	3312	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82									480
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		808			618			613			652	
Travel Time (s)		18.4			14.0			10.4			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	5%	2%	2%	2%	12%	12%	12%	9%	9%	9%
Adj. Flow (vph)	177	0	529	0	0	0	86	1972	0	0	1217	480
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	177	529	0	0	0	86	1972	0	0	1217	480
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			30			30	
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	1	1				1	1			1	1
Detector Template												
Leading Detector (ft)	50	50	50				50	50			50	50
Trailing Detector (ft)	0	0	0				0	0			0	0
Detector 1 Position(ft)	0	0	0				0	0			0	0
Detector 1 Size(ft)	50	50	50				50	50			50	50
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	Split	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases	8	8					5	2			6	
Permitted Phases			8				2					6
Detector Phase	8	8	8				5	2			6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0				5.0	5.0			5.0	5.0
Minimum Split (s)	9.5	9.5	9.5				9.5	22.5			22.5	22.5

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)	27.2	27.2	27.2				9.6	52.8			43.2	43.2
Total Split (%)	34.0%	34.0%	34.0%				12.0%	66.0%			54.0%	54.0%
Maximum Green (s)	22.7	22.7	22.7				5.1	48.3			38.7	38.7
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5			3.5	3.5
All-Red Time (s)	1.0	1.0	1.0				1.0	1.0			1.0	1.0
Lost Time Adjust (s)		0.0	0.0				0.0	0.0			0.0	0.0
Total Lost Time (s)		4.5	4.5				4.5	4.5			4.5	4.5
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0			3.0	3.0
Recall Mode	None	None	None				None	C-Min			C-Min	C-Min
Walk Time (s)								7.0			7.0	7.0
Flash Dont Walk (s)								11.0			11.0	11.0
Pedestrian Calls (#/hr)								0			0	0
Act Effct Green (s)		22.7	22.7				48.3	48.3			40.6	40.6
Actuated g/C Ratio		0.28	0.28				0.60	0.60			0.51	0.51
v/c Ratio		0.38	1.07				0.41	1.01			0.72	0.49
Control Delay		26.0	86.4				12.7	41.4			19.1	3.1
Queue Delay		0.0	0.0				0.0	3.1			0.0	0.0
Total Delay		26.0	86.4				12.7	44.6			19.1	3.1
LOS		C	F				B	D			B	A
Approach Delay		71.3						43.3			14.6	
Approach LOS		E						D			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 33.4 (42%), Referenced to phase 2:SETL and 6:NWT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 36.8		Intersection LOS: D	
Intersection Capacity Utilization 87.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	163	0	487	0	0	0	79	1814	0	0	1120	442
Future Volume (veh/h)	163	0	487	0	0	0	79	1814	0	0	1120	442
Number	3	8	18				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1737	1870	1826				1722	1722	0	0	1767	1767
Adj Flow Rate, veh/h	177	0	529				86	1972	0	0	1217	480
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	2	5				12	12	0	0	9	9
Opposing Right Turn Influence	Yes						Yes			No		
Cap, veh/h	505	0	439				232	1976	0	0	1659	740
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.28	0.00	0.28				0.05	0.60	0.00	0.00	0.49	0.49
Unsig. Movement Delay												
Ln Grp Delay, s/veh	23.2	0.0	140.7				13.6	22.1	0.0	0.0	19.0	19.4
Ln Grp LOS	C	A	F				B	C	A	A	B	B
Approach Vol, veh/h		706						2058			1697	
Approach Delay, s/veh		111.2						21.8			19.1	
Approach LOS		F						C			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8		5	6		
Case No		4.0	11.0		1.2	7.0		
Phs Duration (G+Y+Rc), s		52.8	27.2		8.8	44.0		
Change Period (Y+Rc), s		4.5	4.5		4.5	4.5		
Max Green (Gmax), s		48.3	22.7		5.1	38.7		
Max Allow Headway (MAH), s		4.2	4.6		4.3	4.3		
Max Q Clear (g_c+I1), s		50.1	24.7		3.9	25.0		
Green Ext Time (g_e), s		0.0	0.0		0.0	7.2		
Prob of Phs Call (p_c)		1.00	1.00		0.85	1.00		
Prob of Max Out (p_x)		1.00	1.00		1.00	0.47		

Left-Turn Movement Data								
Assigned Mvmt			3		5	1		
Mvmt Sat Flow, veh/h			1781		1640	0		

Through Movement Data								
Assigned Mvmt		2	8			6		
Mvmt Sat Flow, veh/h		3358	0			3445		

Right-Turn Movement Data								
Assigned Mvmt		12	18			16		
Mvmt Sat Flow, veh/h		0	1547			1497		

Left Lane Group Data								
Assigned Mvmt	0	0	3	0	5	1	0	0
Lane Assignment			L+T		L (Pr/Pm)			

Lanes in Grp	0	0	1	0	1	0	0	0
Grp Vol (v), veh/h	0	0	177	0	86	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1640	0	0	0
Q Serve Time (g_s), s	0.0	0.0	6.3	0.0	1.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	6.3	0.0	1.9	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	266	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	41.5	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	16.5	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	11.9	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	39.5	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	505	0	232	0	0	0
V/C Ratio (X)	0.00	0.00	0.35	0.00	0.37	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	505	0	250	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.11	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	22.8	0.0	13.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.0	0.1	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	23.2	0.0	13.6	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	2.6	0.0	0.6	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	2.6	0.0	0.6	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.09	0.00	0.03	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1972	0	0	0	1217	0	0
Grp Sat Flow (s), veh/h/ln	0	1636	0	0	0	1678	0	0
Q Serve Time (g_s), s	0.0	48.1	0.0	0.0	0.0	23.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	48.1	0.0	0.0	0.0	23.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1976	0	0	0	1659	0	0
V/C Ratio (X)	0.00	1.00	0.00	0.00	0.00	0.73	0.00	0.00
Avail Cap (c_a), veh/h	0	1976	0	0	0	1659	0	0
Upstream Filter (I)	0.00	0.11	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	15.8	0.0	0.0	0.0	16.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	6.3	0.0	0.0	0.0	2.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.1	0.0	0.0	0.0	19.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	13.6	0.0	0.0	0.0	7.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.7	0.0	0.0	0.0	0.7	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	15.3	0.0	0.0	0.0	8.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.74	0.00	0.00	0.00	0.36	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	529	0	0	480	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1547	0	0	1497	0	0
Q Serve Time (g_s), s	0.0	0.0	22.7	0.0	0.0	19.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	22.7	0.0	0.0	19.1	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	439	0	0	740	0	0
V/C Ratio (X)	0.00	0.00	1.20	0.00	0.00	0.65	0.00	0.00
Avail Cap (c_a), veh/h	0	0	439	0	0	740	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	28.7	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	112.0	0.0	0.0	4.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	140.7	0.0	0.0	19.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	8.0	0.0	0.0	5.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	13.7	0.0	0.0	0.9	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	21.6	0.0	0.0	6.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	2.96	0.00	0.00	0.60	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	22.5	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0

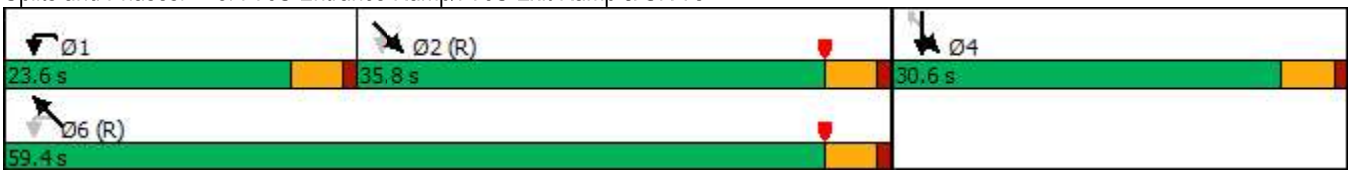
Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	889	1	343	0	1004	389	399	884	0
Future Volume (vph)	0	0	0	889	1	343	0	1004	389	399	884	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	335		335	0		175	500		0
Storage Lanes	0		0	1		1	0		1	1		0
Taper Length (ft)	25			175			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850			0.850			
Flt Protected				0.950	0.952					0.950		
Satd. Flow (prot)	0	0	0	1649	1652	1568	0	3195	1429	1612	3223	0
Flt Permitted				0.950	0.952					0.112		
Satd. Flow (perm)	0	0	0	1649	1652	1568	0	3195	1429	190	3223	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						137			362			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		754			936			713			613	
Travel Time (s)		17.1			21.3			12.2			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	4%	2%	3%	13%	13%	13%	12%	12%	12%
Adj. Flow (vph)	0	0	0	966	1	373	0	1091	423	434	961	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	483	484	373	0	1091	423	434	961	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			30			30	
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	1	1		1	1	1	1	
Detector Template												
Leading Detector (ft)				50	50	50		50	50	50	50	
Trailing Detector (ft)				0	0	0		0	0	0	0	
Detector 1 Position(ft)				0	0	0		0	0	0	0	
Detector 1 Size(ft)				50	50	50		50	50	50	50	
Detector 1 Type				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	
Detector 1 Queue (s)				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	
Turn Type				Split	NA	Perm		NA	Perm	pm+pt	NA	
Protected Phases				4	4			2		1	6	
Permitted Phases						4			2	6		
Detector Phase				4	4	4		2	2	1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0		5.0	5.0	5.0	5.0	
Minimum Split (s)				9.5	9.5	9.5		22.5	22.5	9.5	22.5	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)				30.6	30.6	30.6		35.8	35.8	23.6	59.4	
Total Split (%)				34.0%	34.0%	34.0%		39.8%	39.8%	26.2%	66.0%	
Maximum Green (s)				26.1	26.1	26.1		31.3	31.3	19.1	54.9	
Yellow Time (s)				3.5	3.5	3.5		3.5	3.5	3.5	3.5	
All-Red Time (s)				1.0	1.0	1.0		1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)				4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)				3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Recall Mode				None	None	None		C-Min	C-Min	None	C-Min	
Walk Time (s)								7.0	7.0		7.0	
Flash Dont Walk (s)								11.0	11.0		11.0	
Pedestrian Calls (#/hr)								0	0		0	
Act Effct Green (s)				26.1	26.1	26.1		31.3	31.3	54.9	54.9	
Actuated g/C Ratio				0.29	0.29	0.29		0.35	0.35	0.61	0.61	
v/c Ratio				1.01	1.01	0.68		0.98	0.58	1.04	0.49	
Control Delay				77.6	77.6	24.6		53.3	7.8	81.3	10.8	
Queue Delay				0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay				77.6	77.6	24.6		53.3	7.8	81.3	10.8	
LOS				E	E	C		D	A	F	B	
Approach Delay					62.9			40.6			32.7	
Approach LOS					E			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:SET and 6:NWTL, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 45.0		Intersection LOS: D	
Intersection Capacity Utilization 87.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	889	1	343	0	1004	389	399	884	0
Future Volume (veh/h)	0	0	0	889	1	343	0	1004	389	399	884	0
Number				7	4	14	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1841	1870	1856	0	1707	1707	1722	1722	0
Adj Flow Rate, veh/h				967	0	373	0	1091	423	434	961	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	2	3	0	13	13	12	12	0
Opposing Right Turn Influence				Yes			No			Yes		
Cap, veh/h				1017	0	456	0	1128	503	434	1996	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.29	0.00	0.29	0.00	0.35	0.35	0.21	0.61	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh				49.0	0.0	40.9	0.0	48.8	42.6	60.4	10.2	0.0
Ln Grp LOS				D	A	D	A	D	D	F	B	A
Approach Vol, veh/h					1340			1514			1395	
Approach Delay, s/veh					46.7			47.1			25.8	
Approach LOS					D			D			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Case No	1.2	7.0		9.0		4.0		
Phs Duration (G+Y+Rc), s	23.6	35.8		30.6		59.4		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green (Gmax), s	19.1	31.3		26.1		54.9		
Max Allow Headway (MAH), s	4.3	4.3		4.5		4.2		
Max Q Clear (g_c+I1), s	21.1	31.7		26.3		16.6		
Green Ext Time (g_e), s	0.0	0.0		0.0		5.2		
Prob of Phs Call (p_c)	1.00	1.00		1.00		1.00		
Prob of Max Out (p_x)	1.00	1.00		1.00		0.00		

Left-Turn Movement Data								
Assigned Mvmt	1	5		7				
Mvmt Sat Flow, veh/h	1640	0		3506				

Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		3329		0		3358		

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		1447		1572		0		

Left Lane Group Data								
Assigned Mvmt	1	5	0	7	0	0	0	0
Lane Assignment	L (Pr/Pm)			L				

Lanes in Grp	1	0	0	2	0	0	0	0
Grp Vol (v), veh/h	434	0	0	967	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1640	0	0	1753	0	0	0	0
Q Serve Time (g_s), s	19.1	0.0	0.0	24.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	19.1	0.0	0.0	24.3	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	318	0	0	1753	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	31.3	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	434	0	0	1017	0	0	0	0
V/C Ratio (X)	1.00	0.00	0.00	0.95	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	434	0	0	1017	0	0	0	0
Upstream Filter (I)	0.62	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	26.1	0.0	0.0	31.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	34.3	0.0	0.0	17.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.4	0.0	0.0	49.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	8.9	0.0	0.0	9.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	4.1	0.0	0.0	2.5	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	13.0	0.0	0.0	12.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.71	0.00	0.00	0.96	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1091	0	0	0	961	0	0
Grp Sat Flow (s), veh/h/ln	0	1622	0	0	0	1636	0	0
Q Serve Time (g_s), s	0.0	29.7	0.0	0.0	0.0	14.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	29.7	0.0	0.0	0.0	14.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	1128	0	0	0	1996	0	0
V/C Ratio (X)	0.00	0.97	0.00	0.00	0.00	0.48	0.00	0.00
Avail Cap (c_a), veh/h	0	1128	0	0	0	1996	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.62	0.00	0.00
Uniform Delay (d1), s/veh	0.0	28.8	0.0	0.0	0.0	9.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	20.0	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	48.8	0.0	0.0	0.0	10.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	10.7	0.0	0.0	0.0	4.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	3.1	0.0	0.0	0.0	0.1	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	13.8	0.0	0.0	0.0	4.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.58	0.00	0.00	0.00	0.22	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	423	0	373	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1447	0	1572	0	0	0	0
Q Serve Time (g_s), s	0.0	24.3	0.0	19.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	24.3	0.0	19.9	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	503	0	456	0	0	0	0
V/C Ratio (X)	0.00	0.84	0.00	0.82	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	503	0	456	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	27.1	0.0	29.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	15.5	0.0	11.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	42.6	0.0	40.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.7	0.0	7.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	2.2	0.0	1.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	9.9	0.0	8.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.56	0.00	0.66	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

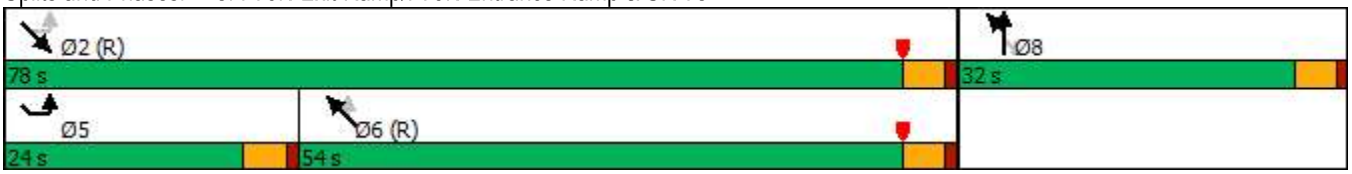


Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	263	1	472	0	0	0	421	1503	0	0	1003	1047
Future Volume (vph)	263	1	472	0	0	0	421	1503	0	0	1003	1047
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		190	0		0	500		0	0		290
Storage Lanes	0		1	0		0	1		0	0		1
Taper Length (ft)	0			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850									0.850
Flt Protected		0.953					0.950					
Satd. Flow (prot)	0	1632	1538	0	0	0	1612	3223	0	0	3312	1482
Flt Permitted		0.953					0.125					
Satd. Flow (perm)	0	1632	1538	0	0	0	212	3223	0	0	3312	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			60									671
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		808			618			613			652	
Travel Time (s)		18.4			14.0			10.4			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	5%	2%	2%	2%	12%	12%	12%	9%	9%	9%
Adj. Flow (vph)	286	1	513	0	0	0	458	1634	0	0	1090	1138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	287	513	0	0	0	458	1634	0	0	1090	1138
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			30			30	
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	1	1				1	1			1	1
Detector Template												
Leading Detector (ft)	50	50	50				50	50			50	50
Trailing Detector (ft)	0	0	0				0	0			0	0
Detector 1 Position(ft)	0	0	0				0	0			0	0
Detector 1 Size(ft)	50	50	50				50	50			50	50
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	Split	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases	8	8					5	2			6	
Permitted Phases			8				2					6
Detector Phase	8	8	8				5	2			6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0				5.0	5.0			5.0	5.0
Minimum Split (s)	9.5	9.5	9.5				9.5	22.5			22.5	22.5

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)	32.0	32.0	32.0				24.0	78.0			54.0	54.0
Total Split (%)	29.1%	29.1%	29.1%				21.8%	70.9%			49.1%	49.1%
Maximum Green (s)	27.5	27.5	27.5				19.5	73.5			49.5	49.5
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5			3.5	3.5
All-Red Time (s)	1.0	1.0	1.0				1.0	1.0			1.0	1.0
Lost Time Adjust (s)		0.0	0.0				0.0	0.0			0.0	0.0
Total Lost Time (s)		4.5	4.5				4.5	4.5			4.5	4.5
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0			3.0	3.0
Recall Mode	None	None	None				None	C-Min			C-Min	C-Min
Walk Time (s)								7.0			7.0	7.0
Flash Dont Walk (s)								11.0			11.0	11.0
Pedestrian Calls (#/hr)								0			0	0
Act Effct Green (s)		27.5	27.5				73.5	73.5			49.5	49.5
Actuated g/C Ratio		0.25	0.25				0.67	0.67			0.45	0.45
v/c Ratio		0.70	1.20				1.18	0.76			0.73	1.10
Control Delay		48.1	142.1				130.0	15.3			28.4	73.4
Queue Delay		0.0	0.0				0.0	2.1			0.0	0.0
Total Delay		48.1	142.1				130.0	17.4			28.4	73.4
LOS		D	F				F	B			C	E
Approach Delay		108.4						42.0			51.4	
Approach LOS		F						D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:SETL and 6:NWT, Start of Yellow			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 56.5		Intersection LOS: E	
Intersection Capacity Utilization 114.0%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	263	1	472	0	0	0	421	1503	0	0	1003	1047
Future Volume (veh/h)	263	1	472	0	0	0	421	1503	0	0	1003	1047
Number	3	8	18				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1737	1870	1826				1722	1722	0	0	1767	1767
Adj Flow Rate, veh/h	286	1	513				458	1634	0	0	1090	1138
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	2	5				12	12	0	0	9	9
Opposing Right Turn Influence	Yes						Yes			No		
Cap, veh/h	444	2	387				386	2186	0	0	1510	674
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.25	0.25	0.25				0.18	0.67	0.00	0.00	0.45	0.45
Unsig. Movement Delay												
Ln Grp Delay, s/veh	40.1	0.0	205.0				122.3	12.6	0.0	0.0	27.7	346.8
Ln Grp LOS	D	A	F				F	B	A	A	C	F
Approach Vol, veh/h		800						2092			2228	
Approach Delay, s/veh		145.8						36.6			190.7	
Approach LOS		F						D			F	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8		5	6		
Case No		4.0	11.0		1.2	7.0		
Phs Duration (G+Y+Rc), s		78.0	32.0		24.0	54.0		
Change Period (Y+Rc), s		4.5	4.5		4.5	4.5		
Max Green (Gmax), s		73.5	27.5		19.5	49.5		
Max Allow Headway (MAH), s		4.2	4.5		4.3	4.4		
Max Q Clear (g_c+I1), s		38.4	29.5		21.5	51.5		
Green Ext Time (g_e), s		11.5	0.0		0.0	0.0		
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00		
Prob of Max Out (p_x)		0.07	1.00		1.00	1.00		

Left-Turn Movement Data								
Assigned Mvmt			3		5	1		
Mvmt Sat Flow, veh/h			1775		1640	0		

Through Movement Data								
Assigned Mvmt		2	8			6		
Mvmt Sat Flow, veh/h		3358	6			3445		

Right-Turn Movement Data								
Assigned Mvmt		12	18			16		
Mvmt Sat Flow, veh/h		0	1547			1497		

Left Lane Group Data								
Assigned Mvmt	0	0	3	0	5	1	0	0
Lane Assignment			L+T		L (Pr/Pm)			

Lanes in Grp	0	0	1	0	1	0	0	0
Grp Vol (v), veh/h	0	0	287	0	458	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1782	0	1640	0	0	0
Q Serve Time (g_s), s	0.0	0.0	15.8	0.0	19.5	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	15.8	0.0	19.5	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	158	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	51.5	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	20.4	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	20.4	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	49.5	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	445	0	386	0	0	0
V/C Ratio (X)	0.00	0.00	0.64	0.00	1.19	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	445	0	386	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.19	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	36.9	0.0	32.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	3.2	0.0	89.8	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	40.1	0.0	122.3	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	6.8	0.0	4.6	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.4	0.0	9.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	7.2	0.0	14.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.25	0.00	0.78	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	18.1	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1634	0	0	0	1090	0	0
Grp Sat Flow (s), veh/h/ln	0	1636	0	0	0	1678	0	0
Q Serve Time (g_s), s	0.0	36.4	0.0	0.0	0.0	29.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	36.4	0.0	0.0	0.0	29.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	2186	0	0	0	1510	0	0
V/C Ratio (X)	0.00	0.75	0.00	0.00	0.00	0.72	0.00	0.00
Avail Cap (c_a), veh/h	0	2186	0	0	0	1510	0	0
Upstream Filter (I)	0.00	0.19	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.1	0.0	0.0	0.0	24.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	3.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.6	0.0	0.0	0.0	27.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	11.1	0.0	0.0	0.0	10.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.6	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	11.2	0.0	0.0	0.0	11.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.54	0.00	0.00	0.00	0.51	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	513	0	0	1138	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1547	0	0	1497	0	0
Q Serve Time (g_s), s	0.0	0.0	27.5	0.0	0.0	49.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	27.5	0.0	0.0	49.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	387	0	0	674	0	0
V/C Ratio (X)	0.00	0.00	1.33	0.00	0.00	1.69	0.00	0.00
Avail Cap (c_a), veh/h	0	0	387	0	0	674	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	41.3	0.0	0.0	30.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	163.7	0.0	0.0	316.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	205.0	0.0	0.0	346.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	10.3	0.0	0.0	16.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	17.6	0.0	0.0	59.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	27.9	0.0	0.0	75.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	3.82	0.00	0.00	7.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	31.5	0.0	0.0	116.1	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.0

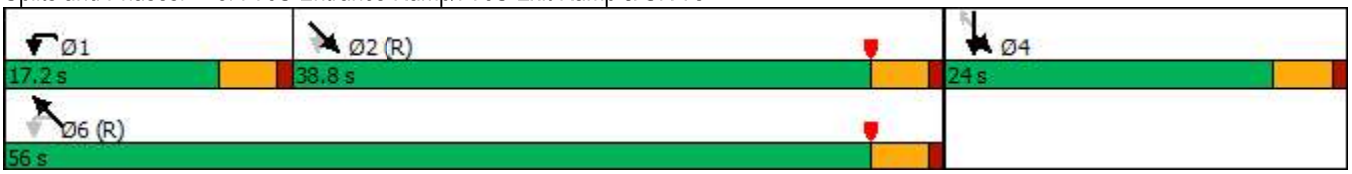
Intersection Summary	
HCM 6th Ctrl Delay	120.7
HCM 6th LOS	F

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	724	1	129	0	1200	290	314	952	0
Future Volume (vph)	0	0	0	724	1	129	0	1200	290	314	952	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	335		335	0		175	500		0
Storage Lanes	0		0	1		1	0		1	1		0
Taper Length (ft)	25			175			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850			0.850			
Flt Protected				0.950	0.952					0.950		
Satd. Flow (prot)	0	0	0	1649	1652	1568	0	3195	1429	1612	3223	0
Flt Permitted				0.950	0.952					0.103		
Satd. Flow (perm)	0	0	0	1649	1652	1568	0	3195	1429	175	3223	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						131			289			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		754			936			713			613	
Travel Time (s)		17.1			21.3			12.2			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	4%	2%	3%	13%	13%	13%	12%	12%	12%
Adj. Flow (vph)	0	0	0	787	1	140	0	1304	315	341	1035	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	393	395	140	0	1304	315	341	1035	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			30			30	
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	1	1		1	1	1	1	
Detector Template												
Leading Detector (ft)				50	50	50		50	50	50	50	
Trailing Detector (ft)				0	0	0		0	0	0	0	
Detector 1 Position(ft)				0	0	0		0	0	0	0	
Detector 1 Size(ft)				50	50	50		50	50	50	50	
Detector 1 Type				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	
Detector 1 Queue (s)				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	
Turn Type				Split	NA	Perm		NA	Perm	pm+pt	NA	
Protected Phases				4	4			2		1	6	
Permitted Phases						4			2	6		
Detector Phase				4	4	4		2	2	1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0		5.0	5.0	5.0	5.0	
Minimum Split (s)				9.5	9.5	9.5		22.5	22.5	9.5	22.5	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)				24.0	24.0	24.0		38.8	38.8	17.2	56.0	
Total Split (%)				30.0%	30.0%	30.0%		48.5%	48.5%	21.5%	70.0%	
Maximum Green (s)				19.5	19.5	19.5		34.3	34.3	12.7	51.5	
Yellow Time (s)				3.5	3.5	3.5		3.5	3.5	3.5	3.5	
All-Red Time (s)				1.0	1.0	1.0		1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)				4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)				3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Recall Mode				None	None	None		C-Min	C-Min	None	C-Min	
Walk Time (s)								7.0	7.0		7.0	
Flash Dont Walk (s)								11.0	11.0		11.0	
Pedestrian Calls (#/hr)								0	0		0	
Act Effct Green (s)				19.5	19.5	19.5		34.3	34.3	51.5	51.5	
Actuated g/C Ratio				0.24	0.24	0.24		0.43	0.43	0.64	0.64	
v/c Ratio				0.98	0.98	0.29		0.95	0.41	1.00	0.50	
Control Delay				73.1	73.6	7.5		38.8	4.3	72.8	8.5	
Queue Delay				0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay				73.1	73.6	7.5		38.8	4.3	72.8	8.5	
LOS				E	E	A		D	A	E	A	
Approach Delay					63.4			32.1			24.4	
Approach LOS					E			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:SET and 6:NWTL, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 36.8		Intersection LOS: D	
Intersection Capacity Utilization 114.0%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73





Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	724	1	129	0	1200	290	314	952	0
Future Volume (veh/h)	0	0	0	724	1	129	0	1200	290	314	952	0
Number				7	4	14	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1841	1870	1856	0	1707	1707	1722	1722	0
Adj Flow Rate, veh/h				788	0	140	0	1304	315	341	1035	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	2	3	0	13	13	12	12	0
Opposing Right Turn Influence				Yes			No			Yes		
Cap, veh/h				855	0	383	0	1391	620	363	2106	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.24	0.00	0.24	0.00	0.43	0.43	0.16	0.64	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh				44.8	0.0	25.7	0.0	35.0	19.6	44.8	7.9	0.0
Ln Grp LOS				D	A	C	A	D	B	D	A	A
Approach Vol, veh/h					928			1619			1376	
Approach Delay, s/veh					41.9			32.0			17.1	
Approach LOS					D			C			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Case No	1.2	7.0		9.0		4.0		
Phs Duration (G+Y+Rc), s	17.2	38.8		24.0		56.0		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green (Gmax), s	12.7	34.3		19.5		51.5		
Max Allow Headway (MAH), s	4.3	4.3		4.4		4.2		
Max Q Clear (g_c+I1), s	13.3	32.7		19.5		15.2		
Green Ext Time (g_e), s	0.0	1.2		0.0		5.7		
Prob of Phs Call (p_c)	1.00	1.00		1.00		1.00		
Prob of Max Out (p_x)	1.00	1.00		1.00		0.00		

Left-Turn Movement Data								
Assigned Mvmt	1	5		7				
Mvmt Sat Flow, veh/h	1640	0		3506				

Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		3329		0		3358		

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		1447		1572		0		

Left Lane Group Data								
Assigned Mvmt	1	5	0	7	0	0	0	0
Lane Assignment	L (Pr/Pm)			L				

Lanes in Grp	1	0	0	2	0	0	0	0
Grp Vol (v), veh/h	341	0	0	788	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1640	0	0	1753	0	0	0	0
Q Serve Time (g_s), s	11.3	0.0	0.0	17.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	11.3	0.0	0.0	17.5	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	287	0	0	1753	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	36.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	34.3	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	363	0	0	855	0	0	0	0
V/C Ratio (X)	0.94	0.00	0.00	0.92	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	363	0	0	855	0	0	0	0
Upstream Filter (I)	0.61	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	21.9	0.0	0.0	29.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	22.9	0.0	0.0	15.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	44.8	0.0	0.0	44.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	6.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	2.3	0.0	0.0	1.8	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	8.3	0.0	0.0	8.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.46	0.00	0.00	0.68	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1304	0	0	0	1035	0	0
Grp Sat Flow (s), veh/h/ln	0	1622	0	0	0	1636	0	0
Q Serve Time (g_s), s	0.0	30.7	0.0	0.0	0.0	13.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	30.7	0.0	0.0	0.0	13.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	1391	0	0	0	2106	0	0
V/C Ratio (X)	0.00	0.94	0.00	0.00	0.00	0.49	0.00	0.00
Avail Cap (c_a), veh/h	0	1391	0	0	0	2106	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.61	0.00	0.00
Uniform Delay (d1), s/veh	0.0	21.8	0.0	0.0	0.0	7.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	13.2	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	35.0	0.0	0.0	0.0	7.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	10.2	0.0	0.0	0.0	3.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	2.6	0.0	0.0	0.0	0.1	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	12.7	0.0	0.0	0.0	3.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.53	0.00	0.00	0.00	0.17	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	315	0	140	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1447	0	1572	0	0	0	0
Q Serve Time (g_s), s	0.0	12.7	0.0	5.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.7	0.0	5.9	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	620	0	383	0	0	0	0
V/C Ratio (X)	0.00	0.51	0.00	0.37	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	620	0	383	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.7	0.0	25.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.0	0.0	0.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.6	0.0	25.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	2.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.3	0.0	2.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.67	0.00	0.17	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

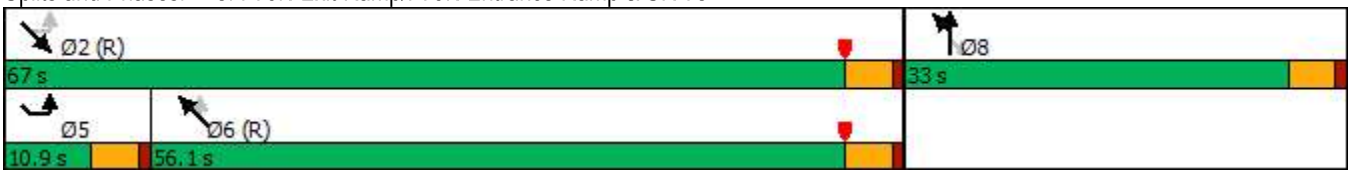


Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	189	0	565	0	0	0	92	2104	0	0	1299	513
Future Volume (vph)	189	0	565	0	0	0	92	2104	0	0	1299	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		190	0		0	500		0	0		290
Storage Lanes	0		1	0		0	1		0	0		1
Taper Length (ft)	0			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850									0.850
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1626	1538	0	0	0	1612	3223	0	0	3312	1482
Flt Permitted		0.950					0.080					
Satd. Flow (perm)	0	1626	1538	0	0	0	136	3223	0	0	3312	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			65									558
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		808			618			613			652	
Travel Time (s)		18.4			14.0			10.4			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	5%	2%	2%	2%	12%	12%	12%	9%	9%	9%
Adj. Flow (vph)	205	0	614	0	0	0	100	2287	0	0	1412	558
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	205	614	0	0	0	100	2287	0	0	1412	558
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			30			30	
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	1	1				1	1			1	1
Detector Template												
Leading Detector (ft)	50	50	50				50	50			50	50
Trailing Detector (ft)	0	0	0				0	0			0	0
Detector 1 Position(ft)	0	0	0				0	0			0	0
Detector 1 Size(ft)	50	50	50				50	50			50	50
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	Split	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases	8	8					5	2			6	
Permitted Phases			8				2					6
Detector Phase	8	8	8				5	2			6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0				5.0	5.0			5.0	5.0
Minimum Split (s)	9.5	9.5	9.5				9.5	22.5			22.5	22.5

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)	33.0	33.0	33.0				10.9	67.0			56.1	56.1
Total Split (%)	33.0%	33.0%	33.0%				10.9%	67.0%			56.1%	56.1%
Maximum Green (s)	28.5	28.5	28.5				6.4	62.5			51.6	51.6
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5			3.5	3.5
All-Red Time (s)	1.0	1.0	1.0				1.0	1.0			1.0	1.0
Lost Time Adjust (s)		0.0	0.0				0.0	0.0			0.0	0.0
Total Lost Time (s)		4.5	4.5				4.5	4.5			4.5	4.5
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0			3.0	3.0
Recall Mode	None	None	None				None	C-Min			C-Min	C-Min
Walk Time (s)								7.0			7.0	7.0
Flash Dont Walk (s)								11.0			11.0	11.0
Pedestrian Calls (#/hr)								0			0	0
Act Effct Green (s)		28.5	28.5				62.5	62.5			53.8	53.8
Actuated g/C Ratio		0.28	0.28				0.62	0.62			0.54	0.54
v/c Ratio		0.44	1.27				0.56	1.14			0.79	0.53
Control Delay		32.9	165.9				23.2	88.7			23.5	3.2
Queue Delay		0.0	0.0				0.0	0.2			0.0	0.0
Total Delay		32.9	165.9				23.2	88.8			23.5	3.2
LOS		C	F				C	F			C	A
Approach Delay		132.6						86.1			17.8	
Approach LOS		F						F			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:SETL and 6:NWT, Start of Yellow			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.27			
Intersection Signal Delay: 67.4		Intersection LOS: E	
Intersection Capacity Utilization 100.6%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	189	0	565	0	0	0	92	2104	0	0	1299	513
Future Volume (veh/h)	189	0	565	0	0	0	92	2104	0	0	1299	513
Number	3	8	18				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1737	1870	1826				1722	1722	0	0	1767	1767
Adj Flow Rate, veh/h	205	0	614				100	2287	0	0	1412	558
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	2	5				12	12	0	0	9	9
Opposing Right Turn Influence	Yes						Yes			No		
Cap, veh/h	508	0	441				189	2045	0	0	1789	798
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.28	0.00	0.28				0.05	0.63	0.00	0.00	0.53	0.53
Unsig. Movement Delay												
Ln Grp Delay, s/veh	29.4	0.0	225.7				20.2	72.7	0.0	0.0	22.4	22.4
Ln Grp LOS	C	A	F				C	F	A	A	C	C
Approach Vol, veh/h		819						2387			1970	
Approach Delay, s/veh		176.6						70.5			22.4	
Approach LOS		F						E			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8		5	6		
Case No		4.0	11.0		1.2	7.0		
Phs Duration (G+Y+Rc), s		67.0	33.0		9.2	57.8		
Change Period (Y+Rc), s		4.5	4.5		4.5	4.5		
Max Green (Gmax), s		62.5	28.5		6.4	51.6		
Max Allow Headway (MAH), s		4.2	4.6		4.3	4.3		
Max Q Clear (g_c+I1), s		64.5	30.5		4.6	35.9		
Green Ext Time (g_e), s		0.0	0.0		0.0	9.3		
Prob of Phs Call (p_c)		1.00	1.00		0.94	1.00		
Prob of Max Out (p_x)		1.00	1.00		1.00	0.52		

Left-Turn Movement Data								
Assigned Mvmt			3		5	1		
Mvmt Sat Flow, veh/h			1781		1640	0		

Through Movement Data								
Assigned Mvmt		2	8			6		
Mvmt Sat Flow, veh/h		3358	0			3445		

Right-Turn Movement Data								
Assigned Mvmt		12	18			16		
Mvmt Sat Flow, veh/h		0	1547			1497		

Left Lane Group Data								
Assigned Mvmt	0	0	3	0	5	1	0	0
Lane Assignment			L+T		L (Pr/Pm)			

Lanes in Grp	0	0	1	0	1	0	0	0
Grp Vol (v), veh/h	0	0	205	0	100	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1640	0	0	0
Q Serve Time (g_s), s	0.0	0.0	9.3	0.0	2.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	9.3	0.0	2.6	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	204	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	55.3	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	19.4	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	19.4	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	53.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	508	0	189	0	0	0
V/C Ratio (X)	0.00	0.00	0.40	0.00	0.53	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	508	0	217	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.09	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	28.9	0.0	20.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.0	0.2	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	29.4	0.0	20.2	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	3.9	0.0	1.2	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	4.0	0.0	1.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.14	0.00	0.07	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	2287	0	0	0	1412	0	0
Grp Sat Flow (s), veh/h/ln	0	1636	0	0	0	1678	0	0
Q Serve Time (g_s), s	0.0	62.5	0.0	0.0	0.0	33.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	62.5	0.0	0.0	0.0	33.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	2045	0	0	0	1789	0	0
V/C Ratio (X)	0.00	1.12	0.00	0.00	0.00	0.79	0.00	0.00
Avail Cap (c_a), veh/h	0	2045	0	0	0	1789	0	0
Upstream Filter (I)	0.00	0.09	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	18.8	0.0	0.0	0.0	18.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	54.0	0.0	0.0	0.0	3.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	72.7	0.0	0.0	0.0	22.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	19.3	0.0	0.0	0.0	11.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	15.3	0.0	0.0	0.0	0.9	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	34.6	0.0	0.0	0.0	12.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.68	0.00	0.00	0.00	0.56	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	60.5	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	614	0	0	558	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1547	0	0	1497	0	0
Q Serve Time (g_s), s	0.0	0.0	28.5	0.0	0.0	27.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	28.5	0.0	0.0	27.7	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	441	0	0	798	0	0
V/C Ratio (X)	0.00	0.00	1.39	0.00	0.00	0.70	0.00	0.00
Avail Cap (c_a), veh/h	0	0	441	0	0	798	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	35.8	0.0	0.0	17.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	190.0	0.0	0.0	5.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	225.7	0.0	0.0	22.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	10.5	0.0	0.0	8.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	23.3	0.0	0.0	1.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	33.7	0.0	0.0	9.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	4.62	0.00	0.00	0.90	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	43.2	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0

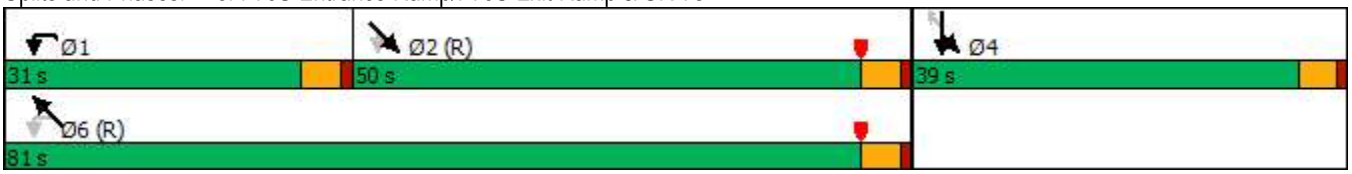
Intersection Summary	
HCM 6th Ctrl Delay	69.0
HCM 6th LOS	E

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1016	1	398	0	1180	451	463	1025	0
Future Volume (vph)	0	0	0	1016	1	398	0	1180	451	463	1025	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	335		335	0		175	500		0
Storage Lanes	0		0	1		1	0		1	1		0
Taper Length (ft)	25			175			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850			0.850			
Flt Protected				0.950	0.952					0.950		
Satd. Flow (prot)	0	0	0	1649	1652	1568	0	3195	1429	1612	3223	0
Flt Permitted				0.950	0.952					0.080		
Satd. Flow (perm)	0	0	0	1649	1652	1568	0	3195	1429	136	3223	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						108			281			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		754			936			713			613	
Travel Time (s)		17.1			21.3			12.2			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	4%	2%	3%	13%	13%	13%	12%	12%	12%
Adj. Flow (vph)	0	0	0	1104	1	433	0	1283	490	503	1114	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	552	553	433	0	1283	490	503	1114	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			30			30	
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	1	1		1	1	1	1	
Detector Template												
Leading Detector (ft)				50	50	50		50	50	50	50	
Trailing Detector (ft)				0	0	0		0	0	0	0	
Detector 1 Position(ft)				0	0	0		0	0	0	0	
Detector 1 Size(ft)				50	50	50		50	50	50	50	
Detector 1 Type				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	
Detector 1 Queue (s)				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	
Turn Type				Split	NA	Perm		NA	Perm	pm+pt	NA	
Protected Phases				4	4			2		1	6	
Permitted Phases						4			2	6		
Detector Phase				4	4	4		2	2	1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0		5.0	5.0	5.0	5.0	
Minimum Split (s)				9.5	9.5	9.5		22.5	22.5	9.5	22.5	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)				39.0	39.0	39.0		50.0	50.0	31.0	81.0	
Total Split (%)				32.5%	32.5%	32.5%		41.7%	41.7%	25.8%	67.5%	
Maximum Green (s)				34.5	34.5	34.5		45.5	45.5	26.5	76.5	
Yellow Time (s)				3.5	3.5	3.5		3.5	3.5	3.5	3.5	
All-Red Time (s)				1.0	1.0	1.0		1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)				4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)				3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Recall Mode				None	None	None		C-Min	C-Min	None	C-Min	
Walk Time (s)								7.0	7.0		7.0	
Flash Dont Walk (s)								11.0	11.0		11.0	
Pedestrian Calls (#/hr)								0	0		0	
Act Effct Green (s)				34.5	34.5	34.5		45.5	45.5	76.5	76.5	
Actuated g/C Ratio				0.29	0.29	0.29		0.38	0.38	0.64	0.64	
v/c Ratio				1.16	1.17	0.82		1.06	0.68	1.22	0.54	
Control Delay				133.9	134.6	43.8		79.6	18.2	152.2	13.3	
Queue Delay				0.0	0.0	0.0		0.0	0.0	0.0	0.6	
Total Delay				133.9	134.6	43.8		79.6	18.2	152.2	13.8	
LOS				F	F	D		E	B	F	B	
Approach Delay					108.8			62.7			56.9	
Approach LOS					F			E			E	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:SET and 6:NWTL, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.22	
Intersection Signal Delay: 75.2	Intersection LOS: E
Intersection Capacity Utilization 100.6%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1016	1	398	0	1180	451	463	1025	0
Future Volume (veh/h)	0	0	0	1016	1	398	0	1180	451	463	1025	0
Number				7	4	14	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1841	1870	1856	0	1707	1707	1722	1722	0
Adj Flow Rate, veh/h				1105	0	433	0	1283	490	503	1114	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	2	3	0	13	13	12	12	0
Opposing Right Turn Influence				Yes			No			Yes		
Cap, veh/h				1008	0	452	0	1230	549	422	2086	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.29	0.00	0.29	0.00	0.38	0.38	0.22	0.64	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh				101.1	0.0	73.7	0.0	74.9	54.5	136.3	12.5	0.0
Ln Grp LOS				F	A	E	A	F	D	F	B	A
Approach Vol, veh/h					1538			1773			1617	
Approach Delay, s/veh					93.4			69.2			51.0	
Approach LOS					F			E			D	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Case No	1.2	7.0		9.0		4.0		
Phs Duration (G+Y+Rc), s	31.0	50.0		39.0		81.0		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green (Gmax), s	26.5	45.5		34.5		76.5		
Max Allow Headway (MAH), s	4.3	4.3		4.5		4.2		
Max Q Clear (g_c+I1), s	28.5	47.5		36.5		24.5		
Green Ext Time (g_e), s	0.0	0.0		0.0		6.5		
Prob of Phs Call (p_c)	1.00	1.00		1.00		1.00		
Prob of Max Out (p_x)	1.00	1.00		1.00		0.00		

Left-Turn Movement Data								
Assigned Mvmt	1	5		7				
Mvmt Sat Flow, veh/h	1640	0		3506				

Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		3329		0		3358		

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		1447		1572		0		

Left Lane Group Data								
Assigned Mvmt	1	5	0	7	0	0	0	0
Lane Assignment	L (Pr/Pm)			L				

Lanes in Grp	1	0	0	2	0	0	0	0
Grp Vol (v), veh/h	503	0	0	1105	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1640	0	0	1753	0	0	0	0
Q Serve Time (g_s), s	26.5	0.0	0.0	34.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	26.5	0.0	0.0	34.5	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	247	0	0	1753	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	47.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	45.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	422	0	0	1008	0	0	0	0
V/C Ratio (X)	1.19	0.00	0.00	1.10	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	422	0	0	1008	0	0	0	0
Upstream Filter (I)	0.51	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	38.3	0.0	0.0	42.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	98.0	0.0	0.0	58.4	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	136.3	0.0	0.0	101.1	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	11.5	0.0	0.0	14.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	11.5	0.0	0.0	8.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	23.0	0.0	0.0	22.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	1.26	0.00	0.00	1.77	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	20.2	0.0	0.0	24.2	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1283	0	0	0	1114	0	0
Grp Sat Flow (s), veh/h/ln	0	1622	0	0	0	1636	0	0
Q Serve Time (g_s), s	0.0	45.5	0.0	0.0	0.0	22.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	45.5	0.0	0.0	0.0	22.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	1230	0	0	0	2086	0	0
V/C Ratio (X)	0.00	1.04	0.00	0.00	0.00	0.53	0.00	0.00
Avail Cap (c_a), veh/h	0	1230	0	0	0	2086	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.51	0.00	0.00
Uniform Delay (d1), s/veh	0.0	37.3	0.0	0.0	0.0	12.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	37.6	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	74.9	0.0	0.0	0.0	12.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	17.2	0.0	0.0	0.0	7.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	6.4	0.0	0.0	0.0	0.1	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	23.6	0.0	0.0	0.0	7.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.99	0.00	0.00	0.00	0.36	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	13.3	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	490	0	433	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1447	0	1572	0	0	0	0
Q Serve Time (g_s), s	0.0	38.1	0.0	32.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	38.1	0.0	32.5	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	549	0	452	0	0	0	0
V/C Ratio (X)	0.00	0.89	0.00	0.96	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	549	0	452	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	35.0	0.0	42.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	19.5	0.0	31.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	54.5	0.0	73.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	12.8	0.0	12.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	3.0	0.0	4.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	15.8	0.0	16.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	2.50	0.00	1.26	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	70.8
HCM 6th LOS	E

Notes

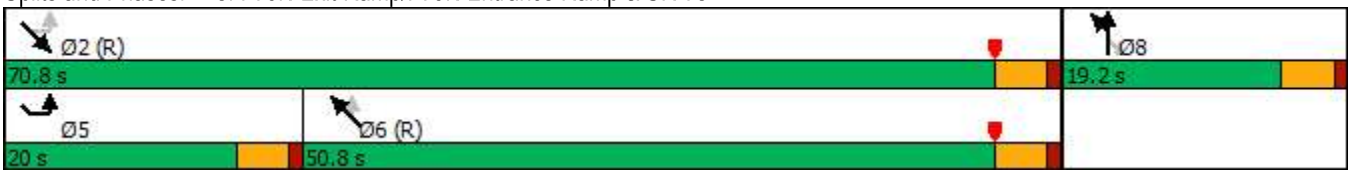
User approved volume balancing among the lanes for turning movement.

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	227	1	407	0	0	0	363	1296	0	0	864	903
Future Volume (vph)	227	1	407	0	0	0	363	1296	0	0	864	903
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		190	0		0	500		0	0		290
Storage Lanes	1		1	0		0	1		0	0		1
Taper Length (ft)	300			25			25			25		
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.867	0.850									0.850
Flt Protected	0.950	0.995					0.950					
Satd. Flow (prot)	1545	1412	1461	0	0	0	1612	3223	0	0	3312	1482
Flt Permitted	0.950	0.995					0.209					
Satd. Flow (perm)	1545	1412	1461	0	0	0	355	3223	0	0	3312	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		86	86									625
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		808			618			613			652	
Travel Time (s)		18.4			14.0			10.4			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	5%	2%	2%	2%	12%	12%	12%	9%	9%	9%
Adj. Flow (vph)	247	1	442	0	0	0	395	1409	0	0	939	982
Shared Lane Traffic (%)	10%		47%									
Lane Group Flow (vph)	222	234	234	0	0	0	395	1409	0	0	939	982
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	L NA	Right	Left	Left	Right	L NA	Left	Right	Left	Left	Right
Median Width(ft)		12			12			30			30	
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	1	1				1	1			1	1
Detector Template												
Leading Detector (ft)	50	50	50				50	50			50	50
Trailing Detector (ft)	0	0	0				0	0			0	0
Detector 1 Position(ft)	0	0	0				0	0			0	0
Detector 1 Size(ft)	50	50	50				50	50			50	50
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	Split	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases	8	8					5	2			6	
Permitted Phases			8				2					6
Detector Phase	8	8	8				5	2			6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0				5.0	5.0			5.0	5.0
Minimum Split (s)	9.5	9.5	9.5				9.5	22.5			22.5	22.5

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)	19.2	19.2	19.2				20.0	70.8			50.8	50.8
Total Split (%)	21.3%	21.3%	21.3%				22.2%	78.7%			56.4%	56.4%
Maximum Green (s)	14.7	14.7	14.7				15.5	66.3			46.3	46.3
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5			3.5	3.5
All-Red Time (s)	1.0	1.0	1.0				1.0	1.0			1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5			4.5	4.5
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0			3.0	3.0
Recall Mode	None	None	None				None	C-Min			C-Min	C-Min
Walk Time (s)								7.0			7.0	7.0
Flash Dont Walk (s)								11.0			11.0	11.0
Pedestrian Calls (#/hr)								0			0	0
Act Effct Green (s)	15.0	15.0	15.0				66.0	66.0			47.2	47.2
Actuated g/C Ratio	0.17	0.17	0.17				0.73	0.73			0.52	0.52
v/c Ratio	0.86	0.76	0.74				0.86	0.60			0.54	0.91
Control Delay	68.3	40.3	38.3				33.5	8.4			15.9	21.9
Queue Delay	0.0	0.0	0.0				0.0	0.2			0.0	0.0
Total Delay	68.3	40.3	38.3				33.5	8.5			15.9	21.9
LOS	E	D	D				C	A			B	C
Approach Delay		48.6						14.0			19.0	
Approach LOS		D						B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 54 (60%), Referenced to phase 2:SETL and 6:NWT, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 21.6		Intersection LOS: C	
Intersection Capacity Utilization 97.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	227	1	407	0	0	0	363	1296	0	0	864	903
Future Volume (veh/h)	227	1	407	0	0	0	363	1296	0	0	864	903
Number	3	8	18				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1737	1870	1826				1722	1722	0	0	1767	1767
Adj Flow Rate, veh/h	165	0	531				395	1409	0	0	939	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	2	5				12	12	0	0	9	9
Opposing Right Turn Influence	Yes						Yes			No		
Cap, veh/h	270	0	505				514	2410	0	0	1831	
HCM Platoon Ratio	1.00	1.00	1.00				2.00	2.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.16	0.00	0.16				0.28	1.00	0.00	0.00	0.55	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	39.0	0.0	91.6				11.1	0.5	0.0	0.0	13.9	0.0
Ln Grp LOS	D	A	F				B	A	A	A	B	
Approach Vol, veh/h		696						1804			939	
Approach Delay, s/veh		79.1						2.8			13.9	
Approach LOS		E						A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8		5	6		
Case No		4.0	9.0		1.2	7.0		
Phs Duration (G+Y+Rc), s		70.8	19.2		17.2	53.6		
Change Period (Y+Rc), s		4.5	4.5		4.5	4.5		
Max Green (Gmax), s		66.3	14.7		15.5	46.3		
Max Allow Headway (MAH), s		4.2	4.6		4.3	4.2		
Max Q Clear (g_c+I1), s		2.0	16.7		12.2	17.9		
Green Ext Time (g_e), s		9.6	0.0		0.5	4.8		
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00		
Prob of Max Out (p_x)		0.00	1.00		1.00	0.01		

Left-Turn Movement Data								
Assigned Mvmt			3		5	1		
Mvmt Sat Flow, veh/h			1654		1640	0		

Through Movement Data								
Assigned Mvmt		2	8			6		
Mvmt Sat Flow, veh/h		3358	0			3445		

Right-Turn Movement Data								
Assigned Mvmt		12	18			16		
Mvmt Sat Flow, veh/h		0	3095			1497		

Left Lane Group Data								
Assigned Mvmt	0	0	3	0	5	1	0	0
Lane Assignment			L		L (Pr/Pm)			

Lanes in Grp	0	0	1	0	1	0	0	0
Grp Vol (v), veh/h	0	0	165	0	395	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1654	0	1640	0	0	0
Q Serve Time (g_s), s	0.0	0.0	8.3	0.0	10.2	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	8.3	0.0	10.2	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1654	0	549	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	51.1	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	33.2	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	26.9	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	49.1	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	270	0	514	0	0	0
V/C Ratio (X)	0.00	0.00	0.61	0.00	0.77	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	270	0	565	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.49	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	35.0	0.0	8.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	4.0	0.0	2.9	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	39.0	0.0	11.1	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	3.3	0.0	1.6	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	3.6	0.0	2.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.52	0.00	0.11	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1409	0	0	0	939	0	0
Grp Sat Flow (s), veh/h/ln	0	1636	0	0	0	1678	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	15.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	15.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	2410	0	0	0	1831	0	0
V/C Ratio (X)	0.00	0.58	0.00	0.00	0.00	0.51	0.00	0.00
Avail Cap (c_a), veh/h	0	2410	0	0	0	1831	0	0
Upstream Filter (I)	0.00	0.49	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	12.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.5	0.0	0.0	0.0	13.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	5.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.24	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	2	0	0	1	0	0
Grp Vol (v), veh/h	0	0	531	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1547	0	0	1497	0	0
Q Serve Time (g_s), s	0.0	0.0	14.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	14.7	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	505	0	0	817	0	0
V/C Ratio (X)	0.00	0.00	1.05	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	505	0	0	817	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	37.7	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	53.9	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	91.6	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	9.2	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	1.26	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

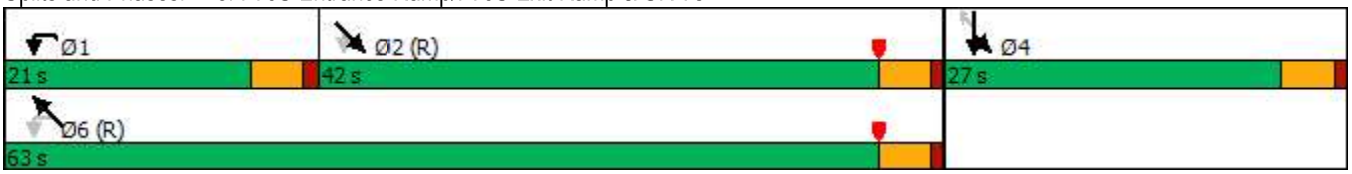
Unsignalized Delay for [NWR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	624	1	111	0	1035	250	271	820	0
Future Volume (vph)	0	0	0	624	1	111	0	1035	250	271	820	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		575	0		175	500		0
Storage Lanes	0		0	1		1	0		1	1		0
Taper Length (ft)	25			175			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850			0.850			
Flt Protected				0.950	0.953					0.950		
Satd. Flow (prot)	0	0	0	1649	1654	1568	0	3195	1429	1612	3223	0
Flt Permitted				0.950	0.953					0.115		
Satd. Flow (perm)	0	0	0	1649	1654	1568	0	3195	1429	195	3223	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						121			252			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		754			936			713			613	
Travel Time (s)		17.1			21.3			12.2			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	4%	2%	3%	13%	13%	13%	12%	12%	12%
Adj. Flow (vph)	0	0	0	678	1	121	0	1125	272	295	891	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	339	340	121	0	1125	272	295	891	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			30			30	
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	1	1		1	1	1	1	
Detector Template												
Leading Detector (ft)				50	50	50		50	50	50	50	
Trailing Detector (ft)				0	0	0		0	0	0	0	
Detector 1 Position(ft)				0	0	0		0	0	0	0	
Detector 1 Size(ft)				50	50	50		50	50	50	50	
Detector 1 Type				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	
Detector 1 Queue (s)				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	
Turn Type				Split	NA	Perm		NA	Perm	pm+pt	NA	
Protected Phases				4	4			2		1	6	
Permitted Phases						4			2	6		
Detector Phase				4	4	4		2	2	1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0		5.0	5.0	5.0	5.0	
Minimum Split (s)				9.5	9.5	9.5		22.5	22.5	9.5	22.5	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)				27.0	27.0	27.0		42.0	42.0	21.0	63.0	
Total Split (%)				30.0%	30.0%	30.0%		46.7%	46.7%	23.3%	70.0%	
Maximum Green (s)				22.5	22.5	22.5		37.5	37.5	16.5	58.5	
Yellow Time (s)				3.5	3.5	3.5		3.5	3.5	3.5	3.5	
All-Red Time (s)				1.0	1.0	1.0		1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)				4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)				3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Recall Mode				None	None	None		C-Min	C-Min	None	C-Min	
Walk Time (s)								7.0	7.0		7.0	
Flash Dont Walk (s)								11.0	11.0		11.0	
Pedestrian Calls (#/hr)								0	0		0	
Act Effct Green (s)				21.3	21.3	21.3		40.4	40.4	59.7	59.7	
Actuated g/C Ratio				0.24	0.24	0.24		0.45	0.45	0.66	0.66	
v/c Ratio				0.87	0.87	0.26		0.79	0.35	0.81	0.42	
Control Delay				56.4	56.4	6.9		27.1	4.4	43.3	6.4	
Queue Delay				0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay				56.4	56.4	6.9		27.1	4.4	43.3	6.4	
LOS				E	E	A		C	A	D	A	
Approach Delay					48.9			22.7			15.6	
Approach LOS					D			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 40 (44%), Referenced to phase 2:SET and 6:NWTL, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 26.4		Intersection LOS: C	
Intersection Capacity Utilization 97.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	624	1	111	0	1035	250	271	820	0
Future Volume (veh/h)	0	0	0	624	1	111	0	1035	250	271	820	0
Number				7	4	14	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1841	1870	1856	0	1707	1707	1722	1722	0
Adj Flow Rate, veh/h				679	0	121	0	1125	272	295	891	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	2	3	0	13	13	12	12	0
Opposing Right Turn Influence				Yes			No			Yes		
Cap, veh/h				788	0	353	0	1654	738	358	2209	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	1.00
Prop Arrive On Green				0.22	0.00	0.22	0.00	0.51	0.51	0.23	1.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh				41.7	0.0	29.9	0.0	18.8	14.7	20.7	0.4	0.0
Ln Grp LOS				D	A	C	A	B	B	C	A	A
Approach Vol, veh/h					800			1397			1186	
Approach Delay, s/veh					39.9			18.0			5.5	
Approach LOS					D			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Case No	1.2	7.0		9.0		4.0		
Phs Duration (G+Y+Rc), s	14.9	50.4		24.7		65.3		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green (Gmax), s	16.5	37.5		22.5		58.5		
Max Allow Headway (MAH), s	4.3	4.3		4.4		4.2		
Max Q Clear (g_c+I1), s	9.8	25.4		18.8		2.0		
Green Ext Time (g_e), s	0.6	5.5		1.5		4.8		
Prob of Phs Call (p_c)	1.00	1.00		1.00		1.00		
Prob of Max Out (p_x)	0.27	0.40		1.00		0.00		

Left-Turn Movement Data								
Assigned Mvmt	1	5		7				
Mvmt Sat Flow, veh/h	1640	0		3506				

Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		3329		0		3358		

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		1447		1572		0		

Left Lane Group Data								
Assigned Mvmt	1	5	0	7	0	0	0	0
Lane Assignment	L (Pr/Pm)			L				

Lanes in Grp	1	0	0	2	0	0	0	0
Grp Vol (v), veh/h	295	0	0	679	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1640	0	0	1753	0	0	0	0
Q Serve Time (g_s), s	7.8	0.0	0.0	16.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	7.8	0.0	0.0	16.8	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	356	0	0	1753	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	47.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	45.9	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	358	0	0	788	0	0	0	0
V/C Ratio (X)	0.82	0.00	0.00	0.86	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	470	0	0	877	0	0	0	0
Upstream Filter (I)	0.77	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	13.8	0.0	0.0	33.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	7.0	0.0	0.0	8.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	20.7	0.0	0.0	41.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	2.6	0.0	0.0	6.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.7	0.0	0.0	0.9	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	3.2	0.0	0.0	7.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.00	0.23	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1125	0	0	0	891	0	0
Grp Sat Flow (s), veh/h/ln	0	1622	0	0	0	1636	0	0
Q Serve Time (g_s), s	0.0	23.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	23.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1654	0	0	0	2209	0	0
V/C Ratio (X)	0.00	0.68	0.00	0.00	0.00	0.40	0.00	0.00
Avail Cap (c_a), veh/h	0	1654	0	0	0	2209	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.77	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.5	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.3	0.0	0.0	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.8	0.0	0.0	0.0	0.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.1	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	8.2	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.34	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	272	0	121	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1447	0	1572	0	0	0	0
Q Serve Time (g_s), s	0.0	10.2	0.0	5.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.2	0.0	5.8	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	738	0	353	0	0	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.34	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	738	0	393	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	29.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.7	0.0	29.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.0	0.0	2.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.3	0.0	2.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.52	0.00	0.10	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

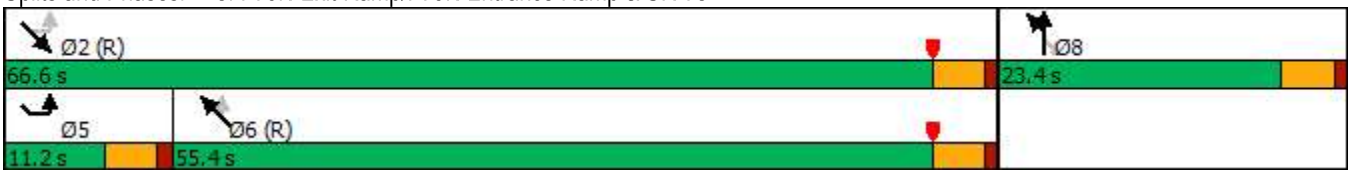
User approved volume balancing among the lanes for turning movement.

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	163	0	487	0	0	0	79	1814	0	0	1120	442
Future Volume (vph)	163	0	487	0	0	0	79	1814	0	0	1120	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		190	0		0	500		0	0		290
Storage Lanes	1		1	0		0	1		0	0		1
Taper Length (ft)	300			25			25			25		
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.860	0.850									0.850
Flt Protected	0.950	0.997					0.950					
Satd. Flow (prot)	1545	1407	1461	0	0	0	1612	3223	0	0	3312	1482
Flt Permitted	0.950	0.997					0.154					
Satd. Flow (perm)	1545	1407	1461	0	0	0	261	3223	0	0	3312	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		73	73									480
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		808			618			613			652	
Travel Time (s)		18.4			14.0			10.4			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	5%	2%	2%	2%	12%	12%	12%	9%	9%	9%
Adj. Flow (vph)	177	0	529	0	0	0	86	1972	0	0	1217	480
Shared Lane Traffic (%)	10%		48%									
Lane Group Flow (vph)	159	272	275	0	0	0	86	1972	0	0	1217	480
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	L NA	Right	Left	Left	Right	L NA	Left	Right	Left	Left	Right
Median Width(ft)		12			12			30			30	
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	1	1				1	1			1	1
Detector Template												
Leading Detector (ft)	50	50	50				50	50			50	50
Trailing Detector (ft)	0	0	0				0	0			0	0
Detector 1 Position(ft)	0	0	0				0	0			0	0
Detector 1 Size(ft)	50	50	50				50	50			50	50
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	Split	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases	8	8					5	2			6	
Permitted Phases			8				2					6
Detector Phase	8	8	8				5	2			6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0				5.0	5.0			5.0	5.0
Minimum Split (s)	9.5	9.5	9.5				9.5	22.5			22.5	22.5

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)	23.4	23.4	23.4				11.2	66.6			55.4	55.4
Total Split (%)	26.0%	26.0%	26.0%				12.4%	74.0%			61.6%	61.6%
Maximum Green (s)	18.9	18.9	18.9				6.7	62.1			50.9	50.9
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5			3.5	3.5
All-Red Time (s)	1.0	1.0	1.0				1.0	1.0			1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5			4.5	4.5
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0			3.0	3.0
Recall Mode	None	None	None				None	C-Min			C-Min	C-Min
Walk Time (s)								7.0			7.0	7.0
Flash Dont Walk (s)								11.0			11.0	11.0
Pedestrian Calls (#/hr)								0			0	0
Act Effct Green (s)	16.6	16.6	16.6				64.4	64.4			55.5	55.5
Actuated g/C Ratio	0.18	0.18	0.18				0.72	0.72			0.62	0.62
v/c Ratio	0.56	0.85	0.84				0.30	0.86			0.60	0.44
Control Delay	40.7	50.2	47.8				7.4	13.0			13.3	2.3
Queue Delay	0.0	0.0	0.0				0.0	1.8			0.0	0.0
Total Delay	40.7	50.2	47.8				7.4	14.8			13.3	2.3
LOS	D	D	D				A	B			B	A
Approach Delay		47.2						14.4			10.2	
Approach LOS		D						B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 31 (34%), Referenced to phase 2:SETL and 6:NWT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	163	0	487	0	0	0	79	1814	0	0	1120	442
Future Volume (veh/h)	163	0	487	0	0	0	79	1814	0	0	1120	442
Number	3	8	18				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1737	1870	1826				1722	1722	0	0	1767	1767
Adj Flow Rate, veh/h	118	0	592				86	1972	0	0	1217	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	2	5				12	12	0	0	9	9
Opposing Right Turn Influence	Yes						Yes			No		
Cap, veh/h	347	0	649				312	2259	0	0	1985	
HCM Platoon Ratio	1.00	1.00	1.00				2.00	2.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.21	0.00	0.21				0.10	1.00	0.00	0.00	0.59	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	30.9	0.0	52.1				8.6	0.6	0.0	0.0	13.2	0.0
Ln Grp LOS	C	A	D				A	A	A	A	B	
Approach Vol, veh/h		710						2058			1217	
Approach Delay, s/veh		48.6						0.9			13.2	
Approach LOS		D						A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8		5	6		
Case No		4.0	9.0		1.2	7.0		
Phs Duration (G+Y+Rc), s		66.6	23.4		8.9	57.7		
Change Period (Y+Rc), s		4.5	4.5		4.5	4.5		
Max Green (Gmax), s		62.1	18.9		6.7	50.9		
Max Allow Headway (MAH), s		4.2	4.6		4.3	4.2		
Max Q Clear (g_c+I1), s		2.0	18.8		3.7	22.9		
Green Ext Time (g_e), s		18.7	0.0		0.1	6.9		
Prob of Phs Call (p_c)		1.00	1.00		0.88	1.00		
Prob of Max Out (p_x)		0.05	1.00		1.00	0.03		

Left-Turn Movement Data								
Assigned Mvmt			3		5	1		
Mvmt Sat Flow, veh/h			1654		1640	0		

Through Movement Data								
Assigned Mvmt		2	8			6		
Mvmt Sat Flow, veh/h		3358	0			3445		

Right-Turn Movement Data								
Assigned Mvmt		12	18			16		
Mvmt Sat Flow, veh/h		0	3095			1497		

Left Lane Group Data								
Assigned Mvmt	0	0	3	0	5	1	0	0
Lane Assignment			L		L (Pr/Pm)			

Lanes in Grp	0	0	1	0	1	0	0	0
Grp Vol (v), veh/h	0	0	118	0	86	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1654	0	1640	0	0	0
Q Serve Time (g_s), s	0.0	0.0	5.5	0.0	1.7	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	5.5	0.0	1.7	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1654	0	422	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	55.2	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	32.3	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	53.2	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	347	0	312	0	0	0
V/C Ratio (X)	0.00	0.00	0.34	0.00	0.28	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	347	0	354	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.11	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	30.3	0.0	8.6	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.0	0.1	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	30.9	0.0	8.6	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	2.1	0.0	0.4	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	2.2	0.0	0.4	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.31	0.00	0.02	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1972	0	0	0	1217	0	0
Grp Sat Flow (s), veh/h/ln	0	1636	0	0	0	1678	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	2259	0	0	0	1985	0	0
V/C Ratio (X)	0.00	0.87	0.00	0.00	0.00	0.61	0.00	0.00
Avail Cap (c_a), veh/h	0	2259	0	0	0	1985	0	0
Upstream Filter (I)	0.00	0.11	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	1.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.6	0.0	0.0	0.0	13.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	7.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.31	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	2	0	0	1	0	0
Grp Vol (v), veh/h	0	0	592	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1547	0	0	1497	0	0
Q Serve Time (g_s), s	0.0	0.0	16.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	16.8	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	649	0	0	885	0	0
V/C Ratio (X)	0.00	0.00	0.91	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	650	0	0	885	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	17.3	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	52.1	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	1.06	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

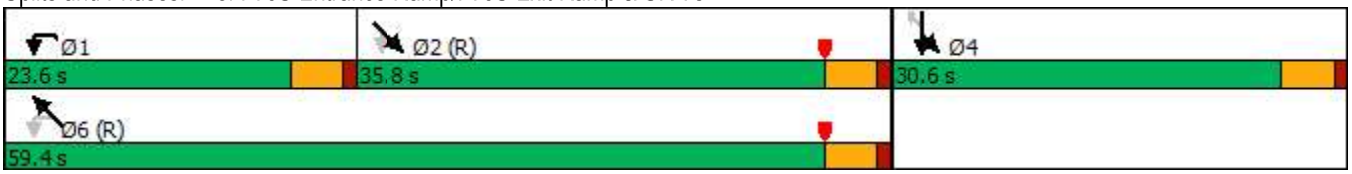
Notes
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NWR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	889	1	343	0	1004	389	399	884	0
Future Volume (vph)	0	0	0	889	1	343	0	1004	389	399	884	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		575	0		175	500		0
Storage Lanes	0		0	1		1	0		1	1		0
Taper Length (ft)	25			175			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850			0.850			
Flt Protected				0.950	0.952					0.950		
Satd. Flow (prot)	0	0	0	1649	1652	1568	0	3195	1429	1612	3223	0
Flt Permitted				0.950	0.952					0.112		
Satd. Flow (perm)	0	0	0	1649	1652	1568	0	3195	1429	190	3223	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						137			362			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		754			936			713			613	
Travel Time (s)		17.1			21.3			12.2			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	4%	2%	3%	13%	13%	13%	12%	12%	12%
Adj. Flow (vph)	0	0	0	966	1	373	0	1091	423	434	961	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	483	484	373	0	1091	423	434	961	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			30			30	
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	1	1		1	1	1	1	
Detector Template												
Leading Detector (ft)				50	50	50		50	50	50	50	
Trailing Detector (ft)				0	0	0		0	0	0	0	
Detector 1 Position(ft)				0	0	0		0	0	0	0	
Detector 1 Size(ft)				50	50	50		50	50	50	50	
Detector 1 Type				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	
Detector 1 Queue (s)				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	
Turn Type				Split	NA	Perm		NA	Perm	pm+pt	NA	
Protected Phases				4	4			2		1	6	
Permitted Phases						4			2	6		
Detector Phase				4	4	4		2	2	1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0		5.0	5.0	5.0	5.0	
Minimum Split (s)				9.5	9.5	9.5		22.5	22.5	9.5	22.5	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)				30.6	30.6	30.6		35.8	35.8	23.6	59.4	
Total Split (%)				34.0%	34.0%	34.0%		39.8%	39.8%	26.2%	66.0%	
Maximum Green (s)				26.1	26.1	26.1		31.3	31.3	19.1	54.9	
Yellow Time (s)				3.5	3.5	3.5		3.5	3.5	3.5	3.5	
All-Red Time (s)				1.0	1.0	1.0		1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)				4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)				3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Recall Mode				None	None	None		C-Min	C-Min	None	C-Min	
Walk Time (s)								7.0	7.0		7.0	
Flash Dont Walk (s)								11.0	11.0		11.0	
Pedestrian Calls (#/hr)								0	0		0	
Act Effct Green (s)				26.1	26.1	26.1		31.3	31.3	54.9	54.9	
Actuated g/C Ratio				0.29	0.29	0.29		0.35	0.35	0.61	0.61	
v/c Ratio				1.01	1.01	0.68		0.98	0.58	1.04	0.49	
Control Delay				77.6	77.6	24.6		53.3	7.8	86.1	10.8	
Queue Delay				0.0	0.0	0.0		17.2	0.0	0.0	0.0	
Total Delay				77.6	77.6	24.6		70.5	7.8	86.1	10.8	
LOS				E	E	C		E	A	F	B	
Approach Delay					62.9			53.0			34.3	
Approach LOS					E			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 12 (13%), Referenced to phase 2:SET and 6:NWTL, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 50.0		Intersection LOS: D	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	889	1	343	0	1004	389	399	884	0
Future Volume (veh/h)	0	0	0	889	1	343	0	1004	389	399	884	0
Number				7	4	14	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1841	1870	1856	0	1707	1707	1722	1722	0
Adj Flow Rate, veh/h				967	0	373	0	1091	423	434	961	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	2	3	0	13	13	12	12	0
Opposing Right Turn Influence				Yes			No			Yes		
Cap, veh/h				1017	0	456	0	1128	503	434	1996	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	1.00
Prop Arrive On Green				0.29	0.00	0.29	0.00	0.35	0.35	0.42	1.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh				49.0	0.0	40.9	0.0	48.8	42.6	55.0	0.7	0.0
Ln Grp LOS				D	A	D	A	D	D	F	A	A
Approach Vol, veh/h					1340			1514			1395	
Approach Delay, s/veh					46.7			47.1			17.6	
Approach LOS					D			D			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Case No	1.2	7.0		9.0		4.0		
Phs Duration (G+Y+Rc), s	23.6	35.8		30.6		59.4		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green (Gmax), s	19.1	31.3		26.1		54.9		
Max Allow Headway (MAH), s	4.3	4.3		4.5		4.2		
Max Q Clear (g_c+I1), s	21.1	31.7		26.3		2.0		
Green Ext Time (g_e), s	0.0	0.0		0.0		5.3		
Prob of Phs Call (p_c)	1.00	1.00		1.00		1.00		
Prob of Max Out (p_x)	1.00	1.00		1.00		0.00		

Left-Turn Movement Data								
Assigned Mvmt	1	5		7				
Mvmt Sat Flow, veh/h	1640	0		3506				

Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		3329		0		3358		

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		1447		1572		0		

Left Lane Group Data								
Assigned Mvmt	1	5	0	7	0	0	0	0
Lane Assignment	L (Pr/Pm)			L				

Lanes in Grp	1	0	0	2	0	0	0	0
Grp Vol (v), veh/h	434	0	0	967	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1640	0	0	1753	0	0	0	0
Q Serve Time (g_s), s	19.1	0.0	0.0	24.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	19.1	0.0	0.0	24.3	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	318	0	0	1753	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	31.3	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	434	0	0	1017	0	0	0	0
V/C Ratio (X)	1.00	0.00	0.00	0.95	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	434	0	0	1017	0	0	0	0
Upstream Filter (I)	0.78	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	16.6	0.0	0.0	31.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	38.4	0.0	0.0	17.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	55.0	0.0	0.0	49.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	3.8	0.0	0.0	9.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	4.6	0.0	0.0	2.5	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	8.4	0.0	0.0	12.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.46	0.00	0.00	0.37	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1091	0	0	0	961	0	0
Grp Sat Flow (s), veh/h/ln	0	1622	0	0	0	1636	0	0
Q Serve Time (g_s), s	0.0	29.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	29.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1128	0	0	0	1996	0	0
V/C Ratio (X)	0.00	0.97	0.00	0.00	0.00	0.48	0.00	0.00
Avail Cap (c_a), veh/h	0	1128	0	0	0	1996	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.78	0.00	0.00
Uniform Delay (d1), s/veh	0.0	28.8	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	20.0	0.0	0.0	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	48.8	0.0	0.0	0.0	0.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	10.7	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	3.1	0.0	0.0	0.0	0.2	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	13.8	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.58	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	423	0	373	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1447	0	1572	0	0	0	0
Q Serve Time (g_s), s	0.0	24.3	0.0	19.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	24.3	0.0	19.9	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	503	0	456	0	0	0	0
V/C Ratio (X)	0.00	0.84	0.00	0.82	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	503	0	456	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	27.1	0.0	29.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	15.5	0.0	11.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	42.6	0.0	40.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.7	0.0	7.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	2.2	0.0	1.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	9.9	0.0	8.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.56	0.00	0.39	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D

Notes

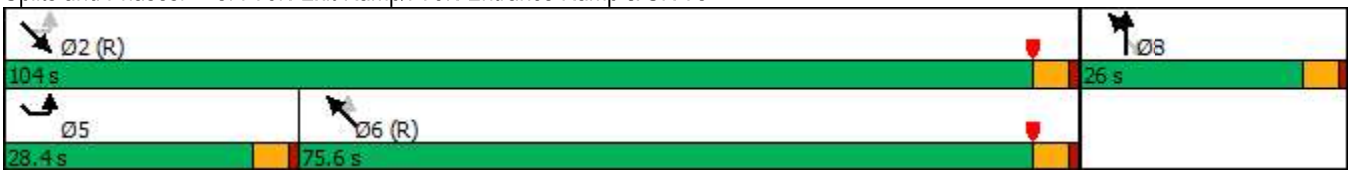
User approved volume balancing among the lanes for turning movement.

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	263	1	472	0	0	0	421	1503	0	0	1003	1047
Future Volume (vph)	263	1	472	0	0	0	421	1503	0	0	1003	1047
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		190	0		0	500		0	0		290
Storage Lanes	1		1	0		0	1		0	0		1
Taper Length (ft)	300			25			25			25		
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.867	0.850									0.850
Flt Protected	0.950	0.995					0.950					
Satd. Flow (prot)	1545	1412	1461	0	0	0	1612	3223	0	0	3312	1482
Flt Permitted	0.950	0.995					0.167					
Satd. Flow (perm)	1545	1412	1461	0	0	0	283	3223	0	0	3312	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		63	63									582
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		808			618			613			652	
Travel Time (s)		18.4			14.0			10.4			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	5%	2%	2%	2%	12%	12%	12%	9%	9%	9%
Adj. Flow (vph)	286	1	513	0	0	0	458	1634	0	0	1090	1138
Shared Lane Traffic (%)	10%		47%									
Lane Group Flow (vph)	257	271	272	0	0	0	458	1634	0	0	1090	1138
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	L NA	Right	Left	Left	Right	L NA	Left	Right	Left	Left	Right
Median Width(ft)		12			12			30			30	
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	1	1				1	1			1	1
Detector Template												
Leading Detector (ft)	50	50	50				50	50			50	50
Trailing Detector (ft)	0	0	0				0	0			0	0
Detector 1 Position(ft)	0	0	0				0	0			0	0
Detector 1 Size(ft)	50	50	50				50	50			50	50
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	Split	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases	8	8					5	2			6	
Permitted Phases			8				2					6
Detector Phase	8	8	8				5	2			6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0				5.0	5.0			5.0	5.0
Minimum Split (s)	9.5	9.5	9.5				9.5	22.5			22.5	22.5

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)	26.0	26.0	26.0				28.4	104.0			75.6	75.6
Total Split (%)	20.0%	20.0%	20.0%				21.8%	80.0%			58.2%	58.2%
Maximum Green (s)	21.5	21.5	21.5				23.9	99.5			71.1	71.1
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5			3.5	3.5
All-Red Time (s)	1.0	1.0	1.0				1.0	1.0			1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5			4.5	4.5
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0			3.0	3.0
Recall Mode	None	None	None				None	C-Min			C-Min	C-Min
Walk Time (s)								7.0			7.0	7.0
Flash Dont Walk (s)								11.0			11.0	11.0
Pedestrian Calls (#/hr)								0			0	0
Act Effct Green (s)	21.5	21.5	21.5				99.5	99.5			71.1	71.1
Actuated g/C Ratio	0.17	0.17	0.17				0.77	0.77			0.55	0.55
v/c Ratio	1.01	0.95	0.93				1.00	0.66			0.60	1.06
Control Delay	112.1	82.7	77.6				64.6	6.4			21.6	60.3
Queue Delay	0.0	0.0	0.0				0.0	0.5			0.0	0.0
Total Delay	112.1	82.7	77.6				64.6	6.9			21.6	60.3
LOS	F	F	E				E	A			C	E
Approach Delay		90.4						19.5			41.4	
Approach LOS		F						B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 2:SETL and 6:NWT, Start of Yellow			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 40.1		Intersection LOS: D	
Intersection Capacity Utilization 111.5%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	263	1	472	0	0	0	421	1503	0	0	1003	1047
Future Volume (veh/h)	263	1	472	0	0	0	421	1503	0	0	1003	1047
Number	3	8	18				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1737	1870	1826				1722	1722	0	0	1767	1767
Adj Flow Rate, veh/h	191	0	615				458	1634	0	0	1090	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	2	5				12	12	0	0	9	9
Opposing Right Turn Influence	Yes						Yes			No		
Cap, veh/h	274	0	512				485	2504	0	0	1937	
HCM Platoon Ratio	1.00	1.00	1.00				2.00	2.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.17	0.00	0.17				0.31	1.00	0.00	0.00	0.58	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.8	0.0	162.5				24.7	0.4	0.0	0.0	18.4	0.0
Ln Grp LOS	E	A	F				C	A	A	A	B	
Approach Vol, veh/h		806						2092			1090	
Approach Delay, s/veh		137.9						5.7			18.4	
Approach LOS		F						A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8		5	6		
Case No		4.0	9.0		1.2	7.0		
Phs Duration (G+Y+Rc), s		104.0	26.0		24.5	79.5		
Change Period (Y+Rc), s		4.5	4.5		4.5	4.5		
Max Green (Gmax), s		99.5	21.5		23.9	71.1		
Max Allow Headway (MAH), s		4.2	4.6		4.3	4.2		
Max Q Clear (g_c+I1), s		2.0	23.5		19.1	28.4		
Green Ext Time (g_e), s		12.9	0.0		0.9	6.2		
Prob of Phs Call (p_c)		1.00	1.00		1.00	1.00		
Prob of Max Out (p_x)		0.00	1.00		0.82	0.00		

Left-Turn Movement Data								
Assigned Mvmt			3		5	1		
Mvmt Sat Flow, veh/h			1654		1640	0		

Through Movement Data								
Assigned Mvmt		2	8			6		
Mvmt Sat Flow, veh/h		3358	0			3445		

Right-Turn Movement Data								
Assigned Mvmt		12	18			16		
Mvmt Sat Flow, veh/h		0	3095			1497		

Left Lane Group Data								
Assigned Mvmt	0	0	3	0	5	1	0	0
Lane Assignment			L		L (Pr/Pm)			

Lanes in Grp	0	0	1	0	1	0	0	0
Grp Vol (v), veh/h	0	0	191	0	458	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1654	0	1640	0	0	0
Q Serve Time (g_s), s	0.0	0.0	14.2	0.0	17.1	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	14.2	0.0	17.1	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1654	0	476	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	77.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	48.6	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	48.6	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	274	0	485	0	0	0
V/C Ratio (X)	0.00	0.00	0.70	0.00	0.94	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	274	0	535	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.30	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	51.2	0.0	14.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	7.6	0.0	10.3	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	58.8	0.0	24.7	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	5.9	0.0	6.8	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.6	0.0	1.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	6.5	0.0	8.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.92	0.00	0.45	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1634	0	0	0	1090	0	0
Grp Sat Flow (s), veh/h/ln	0	1636	0	0	0	1678	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	26.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	26.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	2504	0	0	0	1937	0	0
V/C Ratio (X)	0.00	0.65	0.00	0.00	0.00	0.56	0.00	0.00
Avail Cap (c_a), veh/h	0	2504	0	0	0	1937	0	0
Upstream Filter (I)	0.00	0.30	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	17.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	1.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.4	0.0	0.0	0.0	18.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	9.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	9.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.44	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	2	0	0	1	0	0
Grp Vol (v), veh/h	0	0	615	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1547	0	0	1497	0	0
Q Serve Time (g_s), s	0.0	0.0	21.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	21.5	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	512	0	0	864	0	0
V/C Ratio (X)	0.00	0.00	1.20	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	512	0	0	864	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	54.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	108.3	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	162.5	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	2.20	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	25.8	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

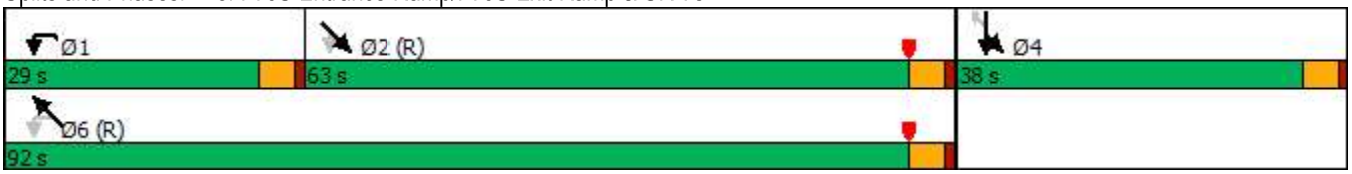
Unsignalized Delay for [NWR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	724	1	129	0	1200	290	314	952	0
Future Volume (vph)	0	0	0	724	1	129	0	1200	290	314	952	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		575	0		175	500		0
Storage Lanes	0		0	1		1	0		1	1		0
Taper Length (ft)	25			175			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850			0.850			
Flt Protected				0.950	0.952					0.950		
Satd. Flow (prot)	0	0	0	1649	1652	1568	0	3195	1429	1612	3223	0
Flt Permitted				0.950	0.952					0.068		
Satd. Flow (perm)	0	0	0	1649	1652	1568	0	3195	1429	115	3223	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						140			185			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		754			936			713			613	
Travel Time (s)		17.1			21.3			12.2			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	4%	2%	3%	13%	13%	13%	12%	12%	12%
Adj. Flow (vph)	0	0	0	787	1	140	0	1304	315	341	1035	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	393	395	140	0	1304	315	341	1035	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			30			30	
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	1	1		1	1	1	1	
Detector Template												
Leading Detector (ft)				50	50	50		50	50	50	50	
Trailing Detector (ft)				0	0	0		0	0	0	0	
Detector 1 Position(ft)				0	0	0		0	0	0	0	
Detector 1 Size(ft)				50	50	50		50	50	50	50	
Detector 1 Type				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	
Detector 1 Queue (s)				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	
Turn Type				Split	NA	Perm		NA	Perm	pm+pt	NA	
Protected Phases				4	4			2		1	6	
Permitted Phases						4			2	6		
Detector Phase				4	4	4		2	2	1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0		5.0	5.0	5.0	5.0	
Minimum Split (s)				9.5	9.5	9.5		22.5	22.5	9.5	22.5	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)				38.0	38.0	38.0		63.0	63.0	29.0	92.0	
Total Split (%)				29.2%	29.2%	29.2%		48.5%	48.5%	22.3%	70.8%	
Maximum Green (s)				33.5	33.5	33.5		58.5	58.5	24.5	87.5	
Yellow Time (s)				3.5	3.5	3.5		3.5	3.5	3.5	3.5	
All-Red Time (s)				1.0	1.0	1.0		1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)				4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)				3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Recall Mode				None	None	None		C-Min	C-Min	None	C-Min	
Walk Time (s)								7.0	7.0		7.0	
Flash Dont Walk (s)								11.0	11.0		11.0	
Pedestrian Calls (#/hr)								0	0		0	
Act Effct Green (s)				32.8	32.8	32.8		59.5	59.5	88.2	88.2	
Actuated g/C Ratio				0.25	0.25	0.25		0.46	0.46	0.68	0.68	
v/c Ratio				0.94	0.95	0.28		0.89	0.42	0.96	0.47	
Control Delay				80.1	80.6	7.5		41.8	11.2	75.2	8.6	
Queue Delay				0.0	0.0	0.0		0.0	0.0	0.0	0.1	
Total Delay				80.1	80.6	7.5		41.8	11.2	75.2	8.7	
LOS				F	F	A		D	B	E	A	
Approach Delay					69.3			35.8			25.2	
Approach LOS					E			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 104 (80%), Referenced to phase 2:SET and 6:NWTL, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 40.0		Intersection LOS: D	
Intersection Capacity Utilization 111.5%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	724	1	129	0	1200	290	314	952	0
Future Volume (veh/h)	0	0	0	724	1	129	0	1200	290	314	952	0
Number				7	4	14	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1841	1870	1856	0	1707	1707	1722	1722	0
Adj Flow Rate, veh/h				788	0	140	0	1304	315	341	1035	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	2	3	0	13	13	12	12	0
Opposing Right Turn Influence				Yes			No			Yes		
Cap, veh/h				860	0	386	0	1594	711	360	2243	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	1.00
Prop Arrive On Green				0.25	0.00	0.25	0.00	0.49	0.49	0.32	1.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh				61.2	0.0	41.2	0.0	32.9	23.5	50.2	0.5	0.0
Ln Grp LOS				E	A	D	A	C	C	D	A	A
Approach Vol, veh/h					928			1619			1376	
Approach Delay, s/veh					58.2			31.1			12.8	
Approach LOS					E			C			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Case No	1.2	7.0		9.0		4.0		
Phs Duration (G+Y+Rc), s	25.2	68.4		36.4		93.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green (Gmax), s	24.5	58.5		33.5		87.5		
Max Allow Headway (MAH), s	4.3	4.3		4.4		4.2		
Max Q Clear (g_c+I1), s	20.2	46.4		30.4		2.0		
Green Ext Time (g_e), s	0.6	6.5		1.4		5.9		
Prob of Phs Call (p_c)	1.00	1.00		1.00		1.00		
Prob of Max Out (p_x)	0.98	0.50		1.00		0.00		

Left-Turn Movement Data								
Assigned Mvmt	1	5		7				
Mvmt Sat Flow, veh/h	1640	0		3506				

Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		3329		0		3358		

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		1447		1572		0		

Left Lane Group Data								
Assigned Mvmt	1	5	0	7	0	0	0	0
Lane Assignment	L (Pr/Pm)			L				

Lanes in Grp	1	0	0	2	0	0	0	0
Grp Vol (v), veh/h	341	0	0	788	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1640	0	0	1753	0	0	0	0
Q Serve Time (g_s), s	18.2	0.0	0.0	28.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	18.2	0.0	0.0	28.4	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	287	0	0	1753	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	65.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	19.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	19.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	63.9	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	360	0	0	860	0	0	0	0
V/C Ratio (X)	0.95	0.00	0.00	0.92	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	407	0	0	904	0	0	0	0
Upstream Filter (I)	0.68	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	27.0	0.0	0.0	47.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	23.1	0.0	0.0	13.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	50.2	0.0	0.0	61.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	8.3	0.0	0.0	12.4	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	2.3	0.0	0.0	1.6	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	10.6	0.0	0.0	14.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.58	0.00	0.00	0.41	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1304	0	0	0	1035	0	0
Grp Sat Flow (s), veh/h/ln	0	1622	0	0	0	1636	0	0
Q Serve Time (g_s), s	0.0	44.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	44.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1594	0	0	0	2243	0	0
V/C Ratio (X)	0.00	0.82	0.00	0.00	0.00	0.46	0.00	0.00
Avail Cap (c_a), veh/h	0	1594	0	0	0	2243	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.68	0.00	0.00
Uniform Delay (d1), s/veh	0.0	28.1	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.8	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.9	0.0	0.0	0.0	0.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	16.4	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.1	0.0	0.0	0.0	0.1	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	17.5	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.73	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	315	0	140	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1447	0	1572	0	0	0	0
Q Serve Time (g_s), s	0.0	18.4	0.0	9.6	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	18.4	0.0	9.6	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	711	0	386	0	0	0	0
V/C Ratio (X)	0.00	0.44	0.00	0.36	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	711	0	405	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	21.5	0.0	40.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.5	0.0	41.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.0	0.0	3.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	6.4	0.0	3.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.02	0.00	0.17	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

Notes

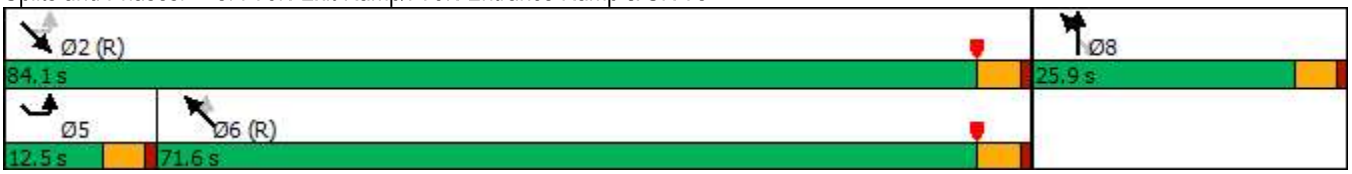
User approved volume balancing among the lanes for turning movement.

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	189	0	565	0	0	0	92	2104	0	0	1299	513
Future Volume (vph)	189	0	565	0	0	0	92	2104	0	0	1299	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		190	0		0	500		0	0		290
Storage Lanes	1		1	0		0	1		0	0		1
Taper Length (ft)	300			25			25			25		
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.860	0.850									0.850
Flt Protected	0.950	0.997					0.950					
Satd. Flow (prot)	1545	1407	1461	0	0	0	1612	3223	0	0	3312	1482
Flt Permitted	0.950	0.997					0.112					
Satd. Flow (perm)	1545	1407	1461	0	0	0	190	3223	0	0	3312	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60	60									558
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		808			618			613			652	
Travel Time (s)		18.4			14.0			10.4			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	5%	2%	2%	2%	12%	12%	12%	9%	9%	9%
Adj. Flow (vph)	205	0	614	0	0	0	100	2287	0	0	1412	558
Shared Lane Traffic (%)	10%		48%									
Lane Group Flow (vph)	184	316	319	0	0	0	100	2287	0	0	1412	558
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	L NA	Right	Left	Left	Right	L NA	Left	Right	Left	Left	Right
Median Width(ft)		12			12			30			30	
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	1	1				1	1			1	1
Detector Template												
Leading Detector (ft)	50	50	50				50	50			50	50
Trailing Detector (ft)	0	0	0				0	0			0	0
Detector 1 Position(ft)	0	0	0				0	0			0	0
Detector 1 Size(ft)	50	50	50				50	50			50	50
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	Split	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases	8	8					5	2			6	
Permitted Phases			8				2					6
Detector Phase	8	8	8				5	2			6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0				5.0	5.0			5.0	5.0
Minimum Split (s)	9.5	9.5	9.5				9.5	22.5			22.5	22.5

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)	25.9	25.9	25.9				12.5	84.1			71.6	71.6
Total Split (%)	23.5%	23.5%	23.5%				11.4%	76.5%			65.1%	65.1%
Maximum Green (s)	21.4	21.4	21.4				8.0	79.6			67.1	67.1
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5			3.5	3.5
All-Red Time (s)	1.0	1.0	1.0				1.0	1.0			1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5			4.5	4.5
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0			3.0	3.0
Recall Mode	None	None	None				None	C-Min			C-Min	C-Min
Walk Time (s)								7.0			7.0	7.0
Flash Dont Walk (s)								11.0			11.0	11.0
Pedestrian Calls (#/hr)								0			0	0
Act Effct Green (s)	21.4	21.4	21.4				79.6	79.6			67.8	67.8
Actuated g/C Ratio	0.19	0.19	0.19				0.72	0.72			0.62	0.62
v/c Ratio	0.61	0.98	0.96				0.43	0.98			0.69	0.50
Control Delay	50.4	82.5	77.1				10.6	17.3			16.5	2.4
Queue Delay	0.0	0.0	0.0				0.0	25.9			0.0	0.0
Total Delay	50.4	82.5	77.1				10.6	43.2			16.5	2.4
LOS	D	F	E				B	D			B	A
Approach Delay		73.2						41.8			12.5	
Approach LOS		E						D			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 23 (21%), Referenced to phase 2:SETL and 6:NWT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 35.6		Intersection LOS: D	
Intersection Capacity Utilization 97.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	189	0	565	0	0	0	92	2104	0	0	1299	513
Future Volume (veh/h)	189	0	565	0	0	0	92	2104	0	0	1299	513
Number	3	8	18				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1737	1870	1826				1722	1722	0	0	1767	1767
Adj Flow Rate, veh/h	137	0	687				100	2287	0	0	1412	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	2	5				12	12	0	0	9	9
Opposing Right Turn Influence	Yes						Yes			No		
Cap, veh/h	322	0	602				269	2368	0	0	2146	
HCM Platoon Ratio	1.00	1.00	1.00				2.00	2.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.19	0.00	0.19				0.09	1.00	0.00	0.00	0.64	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	39.8	0.0	126.5				10.7	1.7	0.0	0.0	13.9	0.0
Ln Grp LOS	D	A	F				B	A	A	A	B	
Approach Vol, veh/h		824						2387			1412	
Approach Delay, s/veh		112.1						2.1			13.9	
Approach LOS		F						A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8		5	6		
Case No		4.0	9.0		1.2	7.0		
Phs Duration (G+Y+Rc), s		84.1	25.9		9.3	74.8		
Change Period (Y+Rc), s		4.5	4.5		4.5	4.5		
Max Green (Gmax), s		79.6	21.4		8.0	67.1		
Max Allow Headway (MAH), s		4.2	4.6		4.3	4.2		
Max Q Clear (g_c+I1), s		2.0	23.4		4.2	30.8		
Green Ext Time (g_e), s		28.2	0.0		0.1	9.1		
Prob of Phs Call (p_c)		1.00	1.00		0.95	1.00		
Prob of Max Out (p_x)		0.08	1.00		1.00	0.02		

Left-Turn Movement Data								
Assigned Mvmt			3		5	1		
Mvmt Sat Flow, veh/h			1654		1640	0		

Through Movement Data								
Assigned Mvmt		2	8			6		
Mvmt Sat Flow, veh/h		3358	0			3445		

Right-Turn Movement Data								
Assigned Mvmt		12	18			16		
Mvmt Sat Flow, veh/h		0	3095			1497		

Left Lane Group Data								
Assigned Mvmt	0	0	3	0	5	1	0	0
Lane Assignment			L		L (Pr/Pm)			

Lanes in Grp	0	0	1	0	1	0	0	0
Grp Vol (v), veh/h	0	0	137	0	100	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1654	0	1640	0	0	0
Q Serve Time (g_s), s	0.0	0.0	8.0	0.0	2.2	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	8.0	0.0	2.2	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1654	0	351	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	72.3	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	41.5	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	11.5	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	70.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	322	0	269	0	0	0
V/C Ratio (X)	0.00	0.00	0.43	0.00	0.37	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	322	0	317	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.09	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	38.9	0.0	10.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.9	0.0	0.1	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	39.8	0.0	10.7	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	3.2	0.0	0.7	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	3.3	0.0	0.7	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.48	0.00	0.04	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	2287	0	0	0	1412	0	0
Grp Sat Flow (s), veh/h/ln	0	1636	0	0	0	1678	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	28.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	28.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	2368	0	0	0	2146	0	0
V/C Ratio (X)	0.00	0.97	0.00	0.00	0.00	0.66	0.00	0.00
Avail Cap (c_a), veh/h	0	2368	0	0	0	2146	0	0
Upstream Filter (I)	0.00	0.09	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	1.7	0.0	0.0	0.0	13.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	9.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.0	0.0	0.5	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	0.0	0.0	9.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.00	0.00	0.44	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	2	0	0	1	0	0
Grp Vol (v), veh/h	0	0	687	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1547	0	0	1497	0	0
Q Serve Time (g_s), s	0.0	0.0	21.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	21.4	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	602	0	0	957	0	0
V/C Ratio (X)	0.00	0.00	1.14	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	602	0	0	957	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	44.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	82.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	126.5	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	2.05	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	21.2	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	25.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

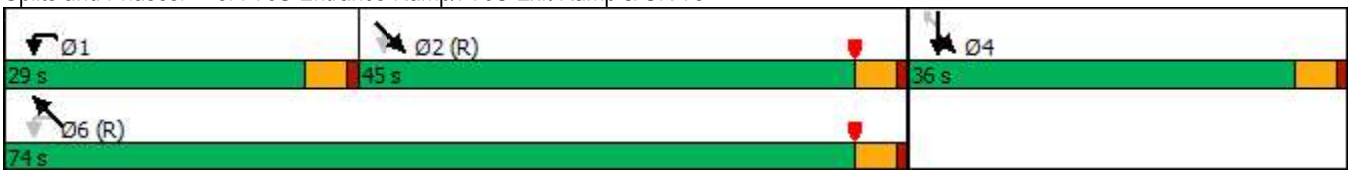
Unsignalized Delay for [NWR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1016	1	398	0	1180	451	463	1025	0
Future Volume (vph)	0	0	0	1016	1	398	0	1180	451	463	1025	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		575	0		175	500		0
Storage Lanes	0		0	1		1	0		1	1		0
Taper Length (ft)	25			175			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850			0.850			
Flt Protected				0.950	0.952					0.950		
Satd. Flow (prot)	0	0	0	1649	1652	1568	0	3195	1429	1612	3223	0
Flt Permitted				0.950	0.952					0.089		
Satd. Flow (perm)	0	0	0	1649	1652	1568	0	3195	1429	151	3223	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						106			301			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		754			936			713			613	
Travel Time (s)		17.1			21.3			12.2			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	4%	2%	3%	13%	13%	13%	12%	12%	12%
Adj. Flow (vph)	0	0	0	1104	1	433	0	1283	490	503	1114	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	552	553	433	0	1283	490	503	1114	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			30			30	
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	1	1		1	1	1	1	
Detector Template												
Leading Detector (ft)				50	50	50		50	50	50	50	
Trailing Detector (ft)				0	0	0		0	0	0	0	
Detector 1 Position(ft)				0	0	0		0	0	0	0	
Detector 1 Size(ft)				50	50	50		50	50	50	50	
Detector 1 Type				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	
Detector 1 Queue (s)				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	
Turn Type				Split	NA	Perm		NA	Perm	pm+pt	NA	
Protected Phases				4	4			2		1	6	
Permitted Phases						4			2	6		
Detector Phase				4	4	4		2	2	1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0		5.0	5.0	5.0	5.0	
Minimum Split (s)				9.5	9.5	9.5		22.5	22.5	9.5	22.5	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)				36.0	36.0	36.0		45.0	45.0	29.0	74.0	
Total Split (%)				32.7%	32.7%	32.7%		40.9%	40.9%	26.4%	67.3%	
Maximum Green (s)				31.5	31.5	31.5		40.5	40.5	24.5	69.5	
Yellow Time (s)				3.5	3.5	3.5		3.5	3.5	3.5	3.5	
All-Red Time (s)				1.0	1.0	1.0		1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)				4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)				3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Recall Mode				None	None	None		C-Min	C-Min	None	C-Min	
Walk Time (s)								7.0	7.0		7.0	
Flash Dont Walk (s)								11.0	11.0		11.0	
Pedestrian Calls (#/hr)								0	0		0	
Act Effct Green (s)				31.5	31.5	31.5		40.5	40.5	69.5	69.5	
Actuated g/C Ratio				0.29	0.29	0.29		0.37	0.37	0.63	0.63	
v/c Ratio				1.17	1.17	0.83		1.09	0.68	1.20	0.55	
Control Delay				133.3	133.2	42.2		88.6	16.3	145.0	10.9	
Queue Delay				0.0	0.0	0.0		4.2	0.0	0.0	0.1	
Total Delay				133.3	133.2	42.2		92.8	16.3	145.0	11.0	
LOS				F	F	D		F	B	F	B	
Approach Delay					107.6			71.7			52.7	
Approach LOS					F			E			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 0 (0%), Referenced to phase 2:SET and 6:NWTL, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 76.7	Intersection LOS: E
Intersection Capacity Utilization 97.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1016	1	398	0	1180	451	463	1025	0
Future Volume (veh/h)	0	0	0	1016	1	398	0	1180	451	463	1025	0
Number				7	4	14	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1841	1870	1856	0	1707	1707	1722	1722	0
Adj Flow Rate, veh/h				1105	0	433	0	1283	490	503	1114	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	2	3	0	13	13	12	12	0
Opposing Right Turn Influence				Yes			No			Yes		
Cap, veh/h				1004	0	450	0	1194	533	431	2067	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	1.00
Prop Arrive On Green				0.29	0.00	0.29	0.00	0.37	0.37	0.45	1.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh				99.3	0.0	71.2	0.0	83.2	56.7	113.6	0.7	0.0
Ln Grp LOS				F	A	E	A	F	E	F	A	A
Approach Vol, veh/h					1538			1773			1617	
Approach Delay, s/veh					91.4			75.9			35.8	
Approach LOS					F			E			D	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Case No	1.2	7.0		9.0		4.0		
Phs Duration (G+Y+Rc), s	29.0	45.0		36.0		74.0		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green (Gmax), s	24.5	40.5		31.5		69.5		
Max Allow Headway (MAH), s	4.3	4.3		4.5		4.2		
Max Q Clear (g_c+I1), s	26.5	42.5		33.5		2.0		
Green Ext Time (g_e), s	0.0	0.0		0.0		6.6		
Prob of Phs Call (p_c)	1.00	1.00		1.00		1.00		
Prob of Max Out (p_x)	1.00	1.00		1.00		0.00		

Left-Turn Movement Data								
Assigned Mvmt	1	5		7				
Mvmt Sat Flow, veh/h	1640	0		3506				

Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		3329		0		3358		

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		1447		1572		0		

Left Lane Group Data								
Assigned Mvmt	1	5	0	7	0	0	0	0
Lane Assignment	L (Pr/Pm)			L				

Lanes in Grp	1	0	0	2	0	0	0	0
Grp Vol (v), veh/h	503	0	0	1105	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1640	0	0	1753	0	0	0	0
Q Serve Time (g_s), s	24.5	0.0	0.0	31.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	24.5	0.0	0.0	31.5	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	247	0	0	1753	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	42.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	40.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	431	0	0	1004	0	0	0	0
V/C Ratio (X)	1.17	0.00	0.00	1.10	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	431	0	0	1004	0	0	0	0
Upstream Filter (I)	0.67	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	22.1	0.0	0.0	39.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	91.5	0.0	0.0	60.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	113.6	0.0	0.0	99.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	3.2	0.0	0.0	13.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	11.0	0.0	0.0	8.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	14.2	0.0	0.0	21.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.78	0.00	0.00	0.64	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	18.1	0.0	0.0	25.2	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1283	0	0	0	1114	0	0
Grp Sat Flow (s), veh/h/ln	0	1622	0	0	0	1636	0	0
Q Serve Time (g_s), s	0.0	40.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	40.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1194	0	0	0	2067	0	0
V/C Ratio (X)	0.00	1.07	0.00	0.00	0.00	0.54	0.00	0.00
Avail Cap (c_a), veh/h	0	1194	0	0	0	2067	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.67	0.00	0.00
Uniform Delay (d1), s/veh	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	48.4	0.0	0.0	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	83.2	0.0	0.0	0.0	0.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	15.1	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	8.0	0.0	0.0	0.0	0.2	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	23.1	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.97	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	22.2	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	490	0	433	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1447	0	1572	0	0	0	0
Q Serve Time (g_s), s	0.0	35.6	0.0	29.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	35.6	0.0	29.8	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	533	0	450	0	0	0	0
V/C Ratio (X)	0.00	0.92	0.00	0.96	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	533	0	450	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	33.2	0.0	38.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	23.5	0.0	32.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	56.7	0.0	71.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	11.8	0.0	11.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	3.5	0.0	4.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	15.3	0.0	15.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	2.41	0.00	0.68	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	67.6
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Appendix D

SimTraffic Reports:

SR-73 – No Build Alternative

SR-73 – Build Alternative

Summary of All Intervals

Start Time	6:57
End Time	7:10
Total Time (min)	13
Time Recorded (min)	10
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	724
Vehs Exited	713
Starting Vehs	100
Ending Vehs	111
Travel Distance (mi)	236
Travel Time (hr)	19.1
Total Delay (hr)	11.3
Total Stops	781
Fuel Used (gal)	12.1

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10

Volumes adjusted by Growth Factors.

Vehs Entered	724
Vehs Exited	713
Starting Vehs	100
Ending Vehs	111
Travel Distance (mi)	236
Travel Time (hr)	19.1
Total Delay (hr)	11.3
Total Stops	781
Fuel Used (gal)	12.1

3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73 Performance by movement

Movement	NBL	NBR	SEL	SET	NWT	NWR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.8	0.8	1.7
Denied Del/Veh (s)	1.3	3.4	0.0	0.0	21.5	19.9	8.9
Total Delay (hr)	0.4	0.5	0.6	0.8	1.0	2.8	6.1
Total Del/Veh (s)	37.4	23.7	39.7	11.3	28.7	66.8	31.9

6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73 Performance by movement

Movement	SBL	SBR	SET	SER	NWL	NWT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	1.6	3.4	0.4	2.5	0.0	0.1	0.9
Total Delay (hr)	0.9	0.0	1.4	0.1	0.4	0.2	3.0
Total Del/Veh (s)	27.5	5.2	26.6	7.9	31.0	6.9	20.2

Total Network Performance

Denied Delay (hr)	1.8
Denied Del/Veh (s)	8.7
Total Delay (hr)	9.5
Total Del/Veh (s)	41.4

Intersection: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73

Movement	NB	NB	SE	SE	SE	NW	NW	NW
Directions Served	LT	R	L	T	T	T	T	R
Maximum Queue (ft)	188	204	195	214	244	607	642	390
Average Queue (ft)	138	170	161	168	166	346	608	390
95th Queue (ft)	192	205	197	239	267	579	700	390
Link Distance (ft)	750			566	566	608	608	
Upstream Blk Time (%)						0	44	
Queuing Penalty (veh)						0	0	
Storage Bay Dist (ft)		190	500					290
Storage Blk Time (%)	6	3					0	64
Queuing Penalty (veh)	23	7					3	275

Intersection: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73

Movement	SB	SB	SB	SE	SE	SE	NW	NW	NW
Directions Served	L	LT	R	T	T	R	L	T	T
Maximum Queue (ft)	178	229	73	391	345	200	210	113	113
Average Queue (ft)	144	186	43	285	210	115	133	65	66
95th Queue (ft)	184	254	72	394	336	229	219	108	140
Link Distance (ft)		874		659	659			566	566
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	335		335			175	500		
Storage Blk Time (%)					4	0			
Queuing Penalty (veh)					11	0			

Network Summary

Network wide Queuing Penalty: 318

Summary of All Intervals

Start Time	6:57
End Time	7:10
Total Time (min)	13
Time Recorded (min)	10
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	810
Vehs Exited	806
Starting Vehs	123
Ending Vehs	127
Travel Distance (mi)	275
Travel Time (hr)	22.0
Total Delay (hr)	13.1
Total Stops	1052
Fuel Used (gal)	14.0

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10

Volumes adjusted by Growth Factors.

Vehs Entered	810
Vehs Exited	806
Starting Vehs	123
Ending Vehs	127
Travel Distance (mi)	275
Travel Time (hr)	22.0
Total Delay (hr)	13.1
Total Stops	1052
Fuel Used (gal)	14.0

3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73 Performance by movement

Movement	NBL	NBR	SEL	SET	NWT	NWR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.1	0.2
Denied Del/Veh (s)	1.6	3.4	0.0	0.1	0.7	2.6	1.0
Total Delay (hr)	0.2	1.0	0.3	1.6	0.9	0.2	4.1
Total Del/Veh (s)	23.9	40.1	46.5	19.2	19.7	7.0	21.4

6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73 Performance by movement

Movement	SBL	SBR	SET	SER	NWL	NWT	All
Denied Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Denied Del/Veh (s)	2.5	3.0	0.6	2.7	0.0	0.0	1.3
Total Delay (hr)	3.6	0.3	2.4	0.5	0.8	0.4	8.0
Total Del/Veh (s)	74.7	16.6	43.9	23.7	37.8	11.9	40.2

Total Network Performance

Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.9
Total Delay (hr)	12.7
Total Del/Veh (s)	48.9

Intersection: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73

Movement	NB	NB	SE	SE	SE	NW	NW	NW
Directions Served	LT	R	L	T	T	T	T	R
Maximum Queue (ft)	117	330	175	396	400	341	180	112
Average Queue (ft)	99	262	97	288	304	276	152	70
95th Queue (ft)	136	359	182	414	461	332	184	124
Link Distance (ft)	750			566	566	608	608	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		190	500					290
Storage Blk Time (%)		28						
Queuing Penalty (veh)		46						

Intersection: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73

Movement	SB	SB	SB	SE	SE	SE	NW	NW	NW
Directions Served	L	LT	R	T	T	R	L	T	T
Maximum Queue (ft)	508	577	510	566	530	200	302	226	250
Average Queue (ft)	395	457	283	389	376	196	224	120	109
95th Queue (ft)	547	596	597	543	558	208	288	256	279
Link Distance (ft)		874		659	659			566	566
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	335		335			175	500		
Storage Blk Time (%)	6	37			25	2			
Queuing Penalty (veh)	50	292			96	12			

Network Summary

Network wide Queuing Penalty: 497

Summary of All Intervals

Start Time	6:57
End Time	7:10
Total Time (min)	13
Time Recorded (min)	10
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	776
Vehs Exited	727
Starting Vehs	112
Ending Vehs	161
Travel Distance (mi)	251
Travel Time (hr)	31.8
Total Delay (hr)	23.4
Total Stops	1006
Fuel Used (gal)	15.3

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10

Volumes adjusted by Growth Factors.

Vehs Entered	776
Vehs Exited	727
Starting Vehs	112
Ending Vehs	161
Travel Distance (mi)	251
Travel Time (hr)	31.8
Total Delay (hr)	23.4
Total Stops	1006
Fuel Used (gal)	15.3

3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73 Performance by movement

Movement	NBL	NBR	SEL	SET	NWT	NWR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	3.9	4.2	8.2
Denied Del/Veh (s)	1.6	3.2	0.0	0.0	95.1	91.4	39.3
Total Delay (hr)	0.6	0.6	1.9	1.0	1.1	3.0	8.2
Total Del/Veh (s)	34.0	29.8	87.2	14.8	32.3	72.3	40.1

6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73 Performance by movement

Movement	SBL	SBR	SET	SER	NWL	NWT	All
Denied Delay (hr)	0.1	0.0	0.1	0.0	0.0	0.0	0.2
Denied Del/Veh (s)	2.2	3.2	1.3	2.9	0.1	0.1	1.4
Total Delay (hr)	3.6	0.0	1.8	0.2	0.4	0.3	6.4
Total Del/Veh (s)	83.3	7.2	35.2	12.6	32.6	9.3	38.8

Total Network Performance

Denied Delay (hr)	8.4
Denied Del/Veh (s)	35.7
Total Delay (hr)	15.0
Total Del/Veh (s)	60.9

Intersection: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73

Movement	NB	NB	SE	SE	SE	NW	NW	NW
Directions Served	LT	R	L	T	T	T	T	R
Maximum Queue (ft)	314	355	525	600	338	495	647	390
Average Queue (ft)	210	210	381	293	206	336	639	390
95th Queue (ft)	325	387	569	586	381	558	653	390
Link Distance (ft)	750			566	566	608	608	
Upstream Blk Time (%)				3			66	
Queuing Penalty (veh)				25			0	
Storage Bay Dist (ft)		190	500					290
Storage Blk Time (%)	17	15	7					67
Queuing Penalty (veh)	81	40	56					337

Intersection: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73

Movement	SB	SB	SB	SE	SE	SE	NW	NW	NW
Directions Served	L	LT	R	T	T	R	L	T	T
Maximum Queue (ft)	497	484	52	553	482	200	198	159	117
Average Queue (ft)	379	420	40	390	316	149	135	116	86
95th Queue (ft)	517	507	57	631	521	258	201	159	129
Link Distance (ft)		874		659	659			566	566
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	335		335			175	500		
Storage Blk Time (%)	13	46			15	0			
Queuing Penalty (veh)	63	227			43	3			

Network Summary

Network wide Queuing Penalty: 875

Summary of All Intervals

Start Time	6:57
End Time	7:10
Total Time (min)	13
Time Recorded (min)	10
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	899
Vehs Exited	815
Starting Vehs	125
Ending Vehs	209
Travel Distance (mi)	285
Travel Time (hr)	35.0
Total Delay (hr)	25.8
Total Stops	1367
Fuel Used (gal)	17.3

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10

Volumes adjusted by Growth Factors.

Vehs Entered	899
Vehs Exited	815
Starting Vehs	125
Ending Vehs	209
Travel Distance (mi)	285
Travel Time (hr)	35.0
Total Delay (hr)	25.8
Total Stops	1367
Fuel Used (gal)	17.3

3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73 Performance by movement

Movement	NBL	NBR	SEL	SET	NWT	NWR	All
Denied Delay (hr)	0.1	0.2	0.0	0.0	0.1	0.0	0.4
Denied Del/Veh (s)	5.1	6.7	0.0	0.4	1.4	2.5	2.0
Total Delay (hr)	0.9	3.1	0.1	1.6	2.6	0.1	8.4
Total Del/Veh (s)	86.3	94.5	31.7	18.9	44.8	6.6	40.7

6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73 Performance by movement

Movement	SBL	SBR	SET	SER	NWL	NWT	All
Denied Delay (hr)	1.0	0.5	0.6	0.2	0.0	0.0	2.3
Denied Del/Veh (s)	22.0	23.7	9.7	9.6	0.4	0.0	10.7
Total Delay (hr)	5.2	0.9	3.2	1.1	3.0	0.7	14.2
Total Del/Veh (s)	100.9	44.8	63.0	47.4	116.8	14.4	64.8

Total Network Performance

Denied Delay (hr)	2.7
Denied Del/Veh (s)	10.1
Total Delay (hr)	23.1
Total Del/Veh (s)	81.3

Intersection: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73

Movement	NB	NB	SE	SE	SE	NW	NW	NW
Directions Served	LT	R	L	T	T	T	T	R
Maximum Queue (ft)	765	490	45	412	430	623	618	389
Average Queue (ft)	674	488	39	285	299	519	448	125
95th Queue (ft)	834	494	53	461	493	722	704	350
Link Distance (ft)	750			566	566	608	608	
Upstream Blk Time (%)	17					7	0	
Queuing Penalty (veh)	0					0	0	
Storage Bay Dist (ft)		190	500					290
Storage Blk Time (%)	22	76					4	
Queuing Penalty (veh)	124	144					20	

Intersection: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73

Movement	SB	SB	SB	SE	SE	SE	NW	NW	NW
Directions Served	L	LT	R	T	T	R	L	T	T
Maximum Queue (ft)	510	889	510	689	722	200	525	621	566
Average Queue (ft)	509	814	452	560	612	200	525	598	417
95th Queue (ft)	510	1062	642	767	824	200	525	626	706
Link Distance (ft)		874		659	659			566	566
Upstream Blk Time (%)		26		6	22			30	1
Queuing Penalty (veh)		0		0	0			220	4
Storage Bay Dist (ft)	335		335			175	500		
Storage Blk Time (%)	35	65			41	9	47		
Queuing Penalty (veh)	318	592			185	53	241		

Network Summary

Network wide Queuing Penalty: 1901

Summary of All Intervals

Start Time	6:57
End Time	7:10
Total Time (min)	13
Time Recorded (min)	10
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	723
Vehs Exited	724
Starting Vehs	90
Ending Vehs	89
Travel Distance (mi)	240
Travel Time (hr)	14.9
Total Delay (hr)	7.1
Total Stops	573
Fuel Used (gal)	11.1

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10

Volumes adjusted by Growth Factors.

Vehs Entered	723
Vehs Exited	724
Starting Vehs	90
Ending Vehs	89
Travel Distance (mi)	240
Travel Time (hr)	14.9
Total Delay (hr)	7.1
Total Stops	573
Fuel Used (gal)	11.1

3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73 Performance by movement

Movement	NBL	NBR	SEL	SET	NWT	NWR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.2
Denied Del/Veh (s)	1.1	0.7	0.2	0.0	1.1	3.3	1.0
Total Delay (hr)	0.4	0.5	0.9	0.6	0.7	0.3	3.4
Total Del/Veh (s)	35.5	27.6	44.3	8.8	19.6	7.5	17.6

6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73 Performance by movement

Movement	SBL	SBR	SET	SER	NWL	NWT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.3	2.9	0.4	2.7	0.0	0.0	0.5
Total Delay (hr)	1.5	0.0	1.0	0.1	0.2	0.2	3.0
Total Del/Veh (s)	39.8	6.7	20.0	4.6	22.9	6.6	20.0

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	1.3
Total Delay (hr)	6.9
Total Del/Veh (s)	30.4

Intersection: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73

Movement	NB	NB	NB	SE	SE	SE	NW	NW
Directions Served	L	LTR	R	L	T	T	T	T
Maximum Queue (ft)	213	275	204	400	136	187	328	119
Average Queue (ft)	157	194	151	268	94	130	166	78
95th Queue (ft)	230	291	254	478	131	179	306	153
Link Distance (ft)		750			572	572	602	602
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	190		190	500				
Storage Blk Time (%)	0	11	1					
Queuing Penalty (veh)	2	34	2					

Intersection: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73

Movement	SB	SB	SB	SE	SE	SE	NW	NW	NW
Directions Served	L	LT	R	T	T	R	L	T	T
Maximum Queue (ft)	327	308	76	306	232	94	162	97	92
Average Queue (ft)	250	214	41	254	191	39	115	65	54
95th Queue (ft)	315	307	83	317	258	95	170	101	89
Link Distance (ft)	874	874		659	659			572	572
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			575			175	500		
Storage Blk Time (%)					0				
Queuing Penalty (veh)					1				

Network Summary

Network wide Queuing Penalty: 39

Summary of All Intervals

Start Time	6:57
End Time	7:10
Total Time (min)	13
Time Recorded (min)	10
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	809
Vehs Exited	799
Starting Vehs	115
Ending Vehs	125
Travel Distance (mi)	271
Travel Time (hr)	19.0
Total Delay (hr)	10.3
Total Stops	865
Fuel Used (gal)	13.1

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10

Volumes adjusted by Growth Factors.

Vehs Entered	809
Vehs Exited	799
Starting Vehs	115
Ending Vehs	125
Travel Distance (mi)	271
Travel Time (hr)	19.0
Total Delay (hr)	10.3
Total Stops	865
Fuel Used (gal)	13.1

3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73 Performance by movement

Movement	NBL	NBR	SEL	SET	NWT	NWR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Denied Del/Veh (s)	1.7	0.7	0.0	0.0	0.6	2.4	0.6
Total Delay (hr)	0.3	0.6	0.1	1.2	0.7	0.1	2.9
Total Del/Veh (s)	36.6	28.3	18.1	14.1	14.2	3.4	15.4

6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73 Performance by movement

Movement	SBL	SBT	SBR	SET	SER	NWL	NWT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.5	1.2	2.4	0.5	2.1	0.0	0.0	0.7
Total Delay (hr)	3.1	0.0	0.1	1.9	0.3	0.6	0.5	6.6
Total Del/Veh (s)	63.0	10.8	8.4	39.9	14.8	33.5	13.3	34.1

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	1.0
Total Delay (hr)	10.1
Total Del/Veh (s)	39.2

Intersection: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73

Movement	NB	NB	NB	SE	SE	SE	NW	NW
Directions Served	L	LTR	R	L	T	T	T	T
Maximum Queue (ft)	167	355	265	71	333	349	313	151
Average Queue (ft)	87	235	126	48	227	267	203	110
95th Queue (ft)	184	360	265	80	342	365	325	153
Link Distance (ft)		750			572	572	602	602
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	190		190	500				
Storage Blk Time (%)		16	1					
Queuing Penalty (veh)		53	2					

Intersection: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73

Movement	SB	SB	SB	SE	SE	SE	NW	NW	NW
Directions Served	L	LT	R	T	T	R	L	T	T
Maximum Queue (ft)	557	534	93	397	416	200	296	223	210
Average Queue (ft)	425	399	73	331	265	179	193	157	114
95th Queue (ft)	606	539	102	428	406	241	320	216	200
Link Distance (ft)	874	874		659	659			572	572
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			575			175	500		
Storage Blk Time (%)					12	1			
Queuing Penalty (veh)					48	4			

Network Summary

Network wide Queuing Penalty: 108

Summary of All Intervals

Start Time	6:57
End Time	7:10
Total Time (min)	13
Time Recorded (min)	10
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	840
Vehs Exited	841
Starting Vehs	119
Ending Vehs	118
Travel Distance (mi)	275
Travel Time (hr)	22.5
Total Delay (hr)	13.4
Total Stops	843
Fuel Used (gal)	14.0

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10

Volumes adjusted by Growth Factors.

Vehs Entered	840
Vehs Exited	841
Starting Vehs	119
Ending Vehs	118
Travel Distance (mi)	275
Travel Time (hr)	22.5
Total Delay (hr)	13.4
Total Stops	843
Fuel Used (gal)	14.0

3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73 Performance by movement

Movement	NBL	NBR	SEL	SET	NWT	NWR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.2	0.3
Denied Del/Veh (s)	2.0	1.3	0.0	0.0	1.9	3.8	1.5
Total Delay (hr)	0.9	1.0	1.5	0.7	1.2	0.7	6.1
Total Del/Veh (s)	56.1	38.2	64.5	10.2	30.5	14.7	27.2

6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73 Performance by movement

Movement	SBL	SBR	SET	SER	NWL	NWT	All
Denied Delay (hr)	0.0	0.0	0.1	0.1	0.0	0.0	0.2
Denied Del/Veh (s)	0.3	3.0	1.3	3.4	0.0	0.0	1.0
Total Delay (hr)	2.0	0.1	2.9	0.4	0.5	0.4	6.3
Total Del/Veh (s)	59.0	11.3	48.5	24.5	34.0	10.5	36.8

Total Network Performance

Denied Delay (hr)	0.5
Denied Del/Veh (s)	2.0
Total Delay (hr)	12.9
Total Del/Veh (s)	48.5

Intersection: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73

Movement	NB	NB	NB	SE	SE	SE	NW	NW
Directions Served	L	LTR	R	L	T	T	T	T
Maximum Queue (ft)	263	405	386	485	236	269	376	317
Average Queue (ft)	177	319	278	425	157	176	273	230
95th Queue (ft)	280	435	399	524	289	304	394	335
Link Distance (ft)		750			572	572	602	602
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	190		190	500				
Storage Blk Time (%)	2	39	9	0				0
Queuing Penalty (veh)	14	142	44	1				3

Intersection: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73

Movement	SB	SB	SB	SE	SE	SE	NW	NW	NW
Directions Served	L	LT	R	T	T	R	L	T	T
Maximum Queue (ft)	383	365	95	693	674	200	280	153	150
Average Queue (ft)	360	301	68	601	507	135	186	109	96
95th Queue (ft)	405	360	103	743	704	266	275	154	148
Link Distance (ft)	874	874		659	659			572	572
Upstream Blk Time (%)				11	4				
Queuing Penalty (veh)				0	0				
Storage Bay Dist (ft)			575			175	500		
Storage Blk Time (%)					33	0			
Queuing Penalty (veh)					97	0			

Network Summary

Network wide Queuing Penalty: 301

Summary of All Intervals

Start Time	6:57
End Time	7:10
Total Time (min)	13
Time Recorded (min)	10
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	920
Vehs Exited	875
Starting Vehs	142
Ending Vehs	187
Travel Distance (mi)	302
Travel Time (hr)	28.4
Total Delay (hr)	18.6
Total Stops	1234
Fuel Used (gal)	16.3

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10

Volumes adjusted by Growth Factors.

Vehs Entered	920
Vehs Exited	875
Starting Vehs	142
Ending Vehs	187
Travel Distance (mi)	302
Travel Time (hr)	28.4
Total Delay (hr)	18.6
Total Stops	1234
Fuel Used (gal)	16.3

3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73 Performance by movement

Movement	NBL	NBR	SEL	SET	NWT	NWR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	1.4	0.7	0.0	0.1	1.0	2.5	0.7
Total Delay (hr)	0.6	1.5	0.2	1.6	1.2	0.1	5.2
Total Del/Veh (s)	47.5	46.2	27.6	17.9	19.5	4.1	23.3

6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73 Performance by movement

Movement	SBL	SBR	SET	SER	NWL	NWT	All
Denied Delay (hr)	0.0	0.0	0.2	0.1	0.0	0.0	0.3
Denied Del/Veh (s)	0.5	2.4	2.9	5.0	0.0	0.0	1.6
Total Delay (hr)	4.5	0.4	4.2	0.8	1.9	0.7	12.4
Total Del/Veh (s)	84.3	17.2	74.4	39.2	85.6	14.8	56.1

Total Network Performance

Denied Delay (hr)	0.5
Denied Del/Veh (s)	1.8
Total Delay (hr)	18.1
Total Del/Veh (s)	61.4

Intersection: 3: I-75N Exit Ramp/I-75N Entrance Ramp & SR-73

Movement	NB	NB	NB	SE	SE	SE	NW	NW
Directions Served	L	LTR	R	L	T	T	T	T
Maximum Queue (ft)	215	386	361	113	397	402	371	321
Average Queue (ft)	202	313	300	79	319	331	301	235
95th Queue (ft)	221	384	361	127	410	412	469	431
Link Distance (ft)		750			572	572	602	602
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	190		190	500				
Storage Blk Time (%)	5	46	12					1
Queuing Penalty (veh)	31	175	56					7

Intersection: 6: I-75S Entrance Ramp/I-75S Exit Ramp & SR-73

Movement	SB	SB	SB	SE	SE	SE	NW	NW	NW
Directions Served	L	LT	R	T	T	R	L	T	T
Maximum Queue (ft)	667	636	205	711	674	200	488	211	183
Average Queue (ft)	539	491	116	645	582	141	433	158	137
95th Queue (ft)	663	631	193	771	691	261	505	255	199
Link Distance (ft)	874	874		659	659			572	572
Upstream Blk Time (%)				25	7				
Queuing Penalty (veh)				0	0				
Storage Bay Dist (ft)			575			175	500		
Storage Blk Time (%)		1			47	0	1		
Queuing Penalty (veh)		2			214	2	5		

Network Summary

Network wide Queuing Penalty: 491

Appendix E

10-Year Crash Report

CRASH SUMMARY REPORT

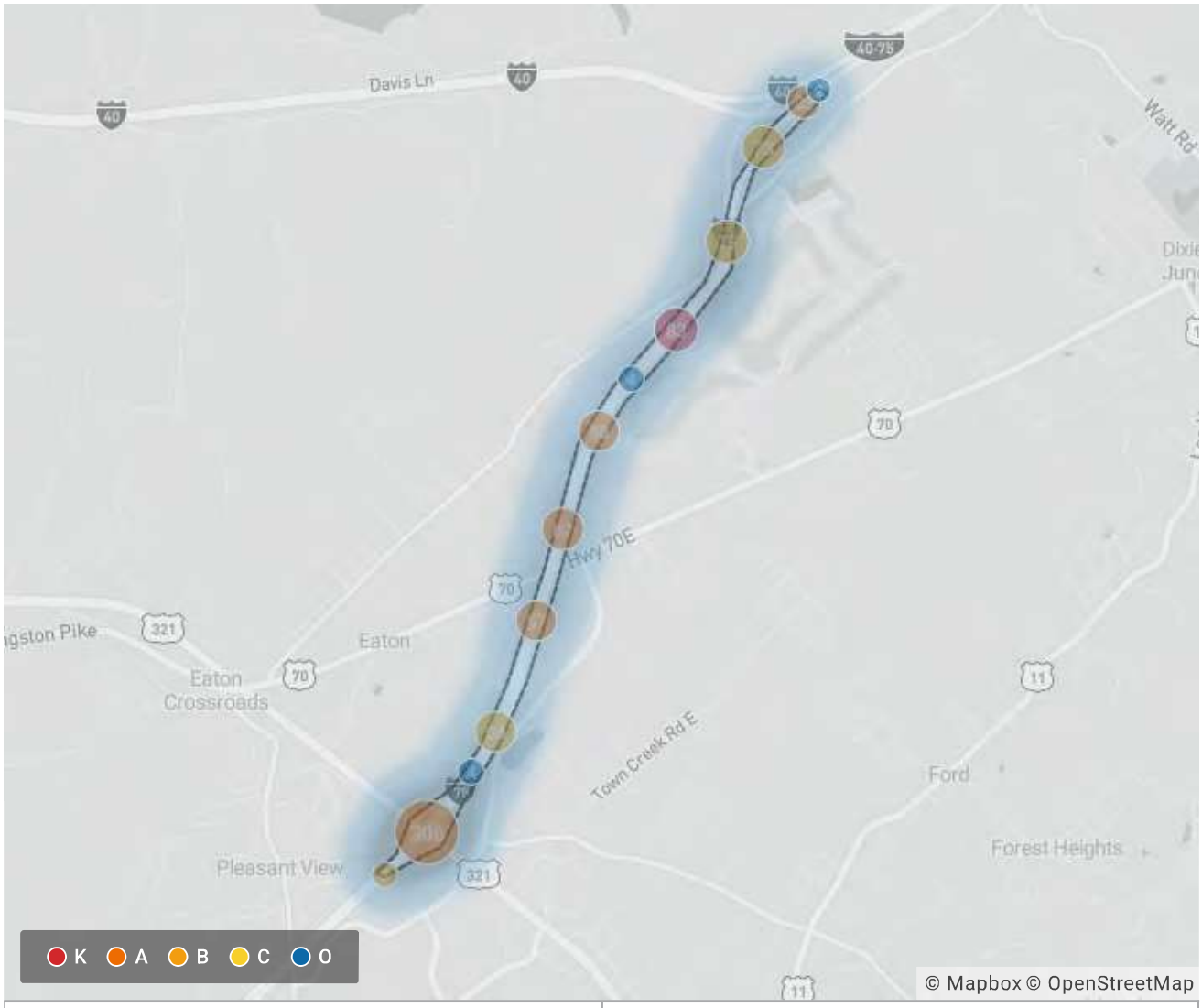
2015-2025 crashes

Created on April 21, 2025
Created by Jordan Burress
Data extents: January 1, 2015 to April 17, 2025

TN TDOT Department of Transportation

Applied Filters

County = Loudon | Shape: Polygon



Total Crashes	813	Fatal Crashes	2

Summary		Crash
Total Crashes	813	100.00%
Truck/Bus Involved	179	22.02%
Distracted Driver Involved	27	3.32%

Alcohol Involved	22	2.71%
Motorcycle Involved	8	0.98%
Pedestrian Involved	1	0.12%

Type of Crash		Crash
(O) Property-Damage Only	688	84.62%
(B) Suspected Minor Injury	90	11.07%
(C) Possible Injury	22	2.71%
(A) Suspected Serious Injury	11	1.35%
(K) Fatal Injury	2	0.25%

Date of Crash (Year)		Crash
2025	24	2.95%
2024	103	12.67%
2023	77	9.47%
2022	101	12.42%
2021	114	14.02%
2020	53	6.52%
2019	63	7.75%
2018	76	9.35%
+ 4 more	202	24.85%

Manner of First Collision		Crash
Rear-End	342	42.07%
No Collision W/ Vehicle	214	26.32%
Sideswipe, Same Dir	143	17.59%
Angle	64	7.87%
Other	10	1.23%
Unknown	4	0.49%
Head-On	2	0.25%
Sideswipe, Opp Dir	1	0.12%
+ 2 more	0	0%

First Harmful Event		Crash
Vehicle in Transport	555	68.27%
Deer (Animal)	41	5.04%
Ditch	28	3.44%
Overturn	23	2.83%
Cable Barrier	18	2.21%

Earth Embankment	17	2.09%
Other Object (not fixed)	15	1.85%
Guardrail Face	12	1.48%
+ 58 more	71	8.71%

Crash Location		Crash
Along Roadway	661	81.30%
Ramp	108	13.28%
At an Intersection	44	5.41%
+ 4 more	0	0%

Light Conditions		Crash
Daylight	569	69.99%
Dark-Not Lighted	130	15.99%
Dark-Lighted	53	6.52%
Dawn	14	1.72%
Dusk	12	1.48%
Unknown	1	0.12%
+ 2 more	0	0%

Weather Conditions		Crash
Clear	577	70.97%
Cloudy	96	11.81%
Rain	82	10.09%
Snow	10	1.23%
Fog	3	0.37%
Sleet/Hail	1	0.12%
Smog/Smoke	1	0.12%
Unknown	1	0.12%
+ 4 more	0	0%

Appendix F

3-Year Crash Report

Crash Summary Report

County: LOUDON **Route:** I0075 **Spcl Cse:** 0-NONE **Cnty Seq:** 1

Log Miles: 14.820 to 18.309 - Crash Dates: 4/11/2022 to 4/11/2025
Vehicle Filter: None - Other Factors Filter: None

Statistics

Fatal Crashes:	1
Total Killed:	1
Suspected Serious Injury Crashes:	5
Total Suspected Serious Injuries:	7
Other Injury Crashes:	32
Total Other Injuries:	39
Prop Damage Crashes:	204
Total Crashes:	**242**

Crash Location

Along Roadway:	217
At Intersection:	1
Railroad Crossing:	0
Bridge:	0
Underpass:	0
Ramp:	24
Private Property:	0
Other:	0

Crashes Involving

Pedestrians:	0
Hazardous Cargo:	0
Work / Constr Zones:	0
Fixed Objects:	26
Single Unit Trucks	7
Tractor - Trailer Trucks:	43
Bicycles:	0
Motorcycles:	1
Lane Departures:	48
Distracted Drivers:	5

Road Conditions

Ice:	1
Snow or Slush:	2
Sand, Mud, Dirt or Oil:	0
Wet:	38
Dry:	184

First Harmful Event

Pedestrian:	0
Pedalcycle:	0
Railway Train:	0
Deer (Animal):	10
Other Animal:	0
Motor Vehicle in Transport:	159
Motor Vehicle in Transport in Other Roadway:	2
Parked Motor Vehicle:	1
Other Type Non-Motorist:	0
Fixed Object:	26
Other Object (Not Fixed):	12
Non Collision:	2
Overturn:	10
Jackknife:	1
Cross Median:	0
Ran Off Road:	0

Manner of Collision

Rear End:	101
Head On:	0
Rear-to-Side / Rear:	0
Angle:	14
Sideswipe Same Dir:	44
Sideswipe Opp Dir:	0
Unknown:	5

Light Conditions

Dawn:	3
Daylight:	164
Dusk:	8
Dark / Lighted:	15
Dark / Not Lighted:	35
Not Indicated:	1

Weather Conditions

No Adverse Conditions:	195
Rain:	26
Sleet and Hail:	0
Snow:	2
Foggy:	0
Smog, Smoke:	0
Crosswind:	0

Fixed Objects

Boulder:	0	Other Barrier:	0	Ditch:	6
Building:	0	Highway Traffic Sign Post	2	Embankment:	9
Impact Attenuator:	0	Overhead Sign Support:	0	Fence:	0
Overhead Structure:	0	Luminaire/Light Support:	0	Wall:	0
Bridge Pier/Abutment/End:	0	Traffic Signal Support:	0	Mail Box:	0
Bridge Rail:	0	Utility Pole:	1	Shrubbery:	0
Guardrail:	2	Other Post, Pole Supports:	0	Tree:	1
Cable Barrier:	5	Culvert:	0	Fire Hydrant:	0
		Curb:	0	Other Fixed Object:	0

This report was generated by E-TRIMS