

Monroe Expressway ICE and Regional Model Assessment

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HNTB

Agenda

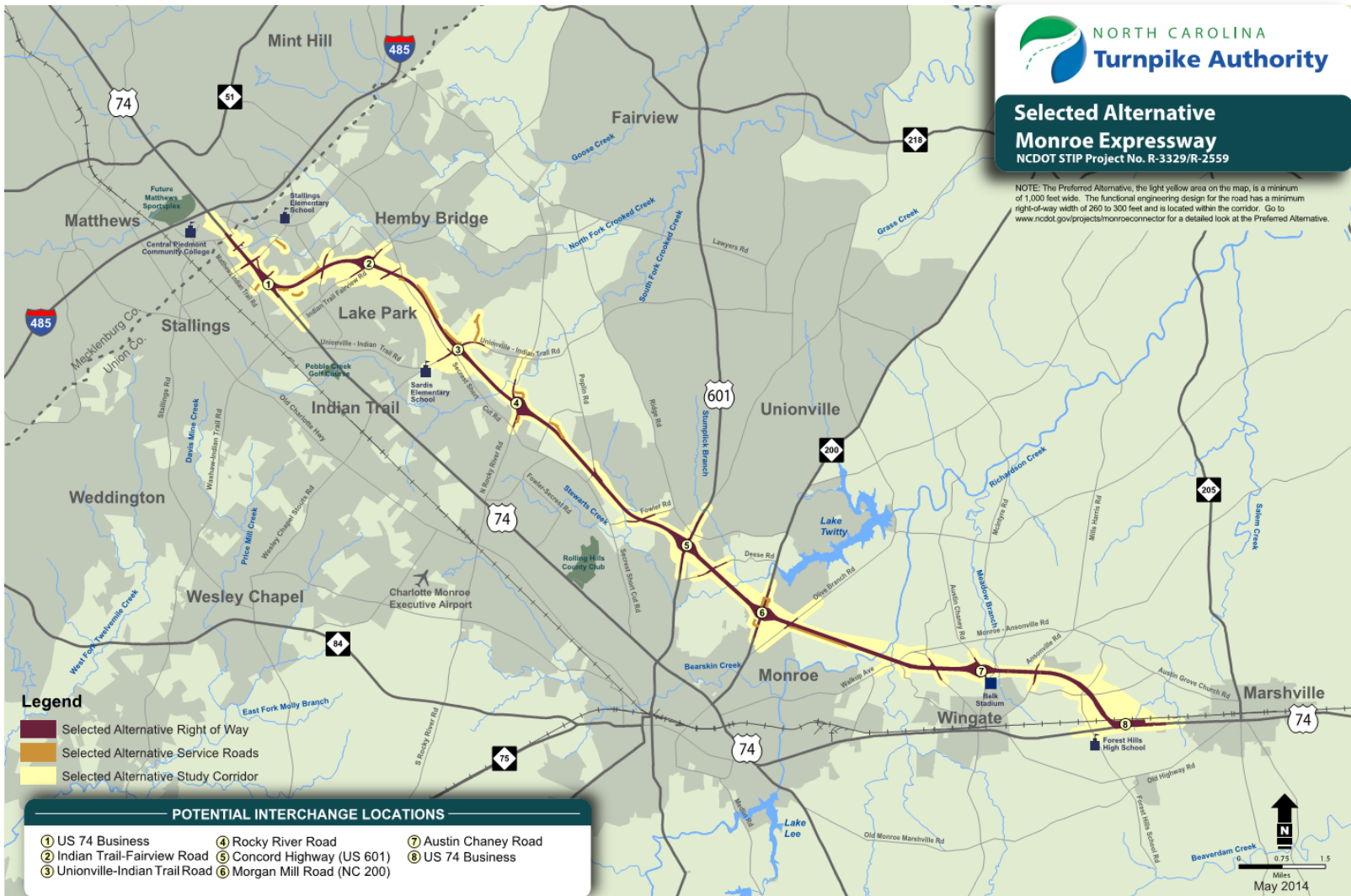
1. Overview of Monroe Expressway, ICE and EIS
2. ICE and Model Reassessment – What, Why, How
3. Traffic Forecast Summary Memo
4. US 74 Corridor Travel Times
5. Origin-Destination and Screenline Analysis
6. Summary

Monroe Expressway



Selected Alternative
Monroe Expressway
 NCDOT STIP Project No. R-3329/R-2559

NOTE: The Preferred Alternative, the light yellow area on the map, is a minimum of 1,000 feet wide. The functional engineering design for the road has a minimum right-of-way width of 260 to 300 feet and is located within the corridor. Go to www.ncdot.gov/projects/monroecorridor for a detailed look at the Preferred Alternative.



Environmental Impact Statement (EIS)

What is an EIS?

The **National Environmental Policy Act (NEPA)** requires federal agencies to prepare an Environmental Impact Statement (EIS) for major federal actions that are expected to significantly impact the environment.

(For more information go to <http://environment.fhwa.dot.gov/index.asp>.)

An EIS is a detailed report that defines the transportation problem, discusses the range of possible solutions considered, discloses the impacts possible solutions would have on the human and natural environments, summarizes involvement with the public and other stakeholders, and aids in making decisions about the project.

The EIS process includes the following four major milestones:

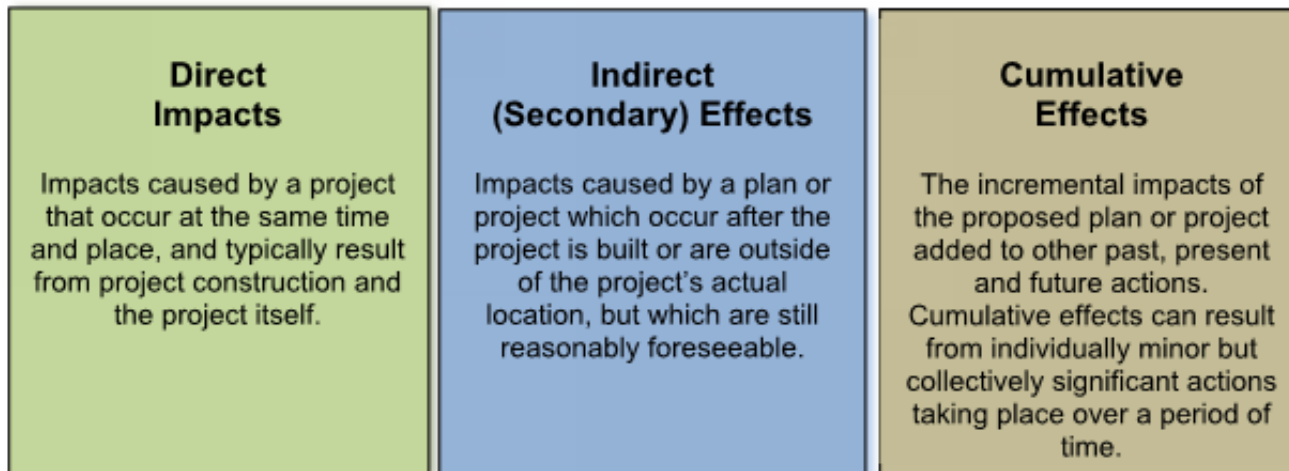
- 1 Notice of Intent (NOI):** The NOI is published in the Federal Register, signaling the initiation of the EIS process (Nov. 2009 for this project).
- 2 Draft EIS:** After publication of the Draft EIS, there are public hearings and a formal comment period.
- 3 Final EIS:** The Final EIS addresses comments received on the Draft EIS and identifies the preferred route for the project.
- 4 Record of Decision (ROD):** The ROD identifies the selected route for the project, explains why it was chosen, and provides information on ways to minimize and compensate for project impacts.

Indirect and Cumulative Effects (ICE)

- Indirect and Cumulative Effects (ICE) assessment in long range planning enables planners to identify potential challenges early, informs decision-making, provides information to project-level ICE analysis, and provides best management practices.

What are Indirect and Cumulative Effects (ICE)?

- Indirect and cumulative effects are defined as shown below in relation to direct impacts:



ICE and Model Reassessment

What was done?

- ICE data, the Metrolina Regional Model (MRM), and traffic forecasts/analyses were reviewed and reassessed to answer project-specific questions.

Why was this done?

- Response to public comments
- Legal challenges

How was this done?

- By evaluating ICE SE data, adopted SE data, versions of the MRM, and existing travel times.

Traffic Forecast Summary

1. What traffic forecasts were developed during the Monroe Connector/Bypass project development process and what were they used for?
2. Are the current No-Build traffic forecasts still valid for the purpose they were used?
3. Are the current Build traffic forecasts still valid for the purpose they were used?
4. How would the Monroe Connector/Bypass affect traffic volumes on the US 74 corridor?
5. How could changes in socioeconomic data affect the traffic forecast for the Monroe Connector/Bypass project?
6. How could changes in socioeconomic data related to indirect and cumulative effects affect the traffic forecast for the Monroe Connector/Bypass project?

Traffic Forecast Summary

1. What traffic forecasts were developed during the Monroe Connector/Bypass project development process and what were they used for?
 - Three project-level traffic forecasts
 - Four traffic forecast interpolations, extrapolations, and redistributions
 - Two traffic and revenue studies
 - MRM05 or MRM06 were used as a tool

Traffic Forecast Summary

2. Are the current No-Build traffic forecasts still valid for the purpose they were used?
- Yes. Supported by:
 - 2012 NCDOT AADT volumes
 - MRM11v1.1 (2009 and 2030 SE data)
 - MRM14v1.0 (2013 and 2040 SE data)
 - Existing US 74 corridor travel time runs
 - Current 2008 and 2035 No-Build forecast information

Traffic Forecast Summary

3. Are the current Build traffic forecasts still valid for the purpose they were used?
- Yes. Supported by:
 - MRM06v1.1 raw model daily volume assignment
 - MRM11v1.1 raw model daily volume assignment
 - MRM14v1.0 raw model daily volume assignment
 - Build traffic forecasts

Traffic Forecast Summary

4. How would the Monroe Connector/Bypass affect traffic volumes on the US 74 corridor?
 - MRM06v1.1, MRM11v1.1, and MRM14v1.0 all show less traffic along the US 74 Corridor with the Monroe Connector/Bypass in place.

Traffic Forecast Summary

5. How could changes in socioeconomic data affect the traffic forecast for the Monroe Connector/Bypass project?

Year	2035	2035	2035	Percent Change from SE 2005 to SE 2008 Interim	Percent Change from SE 2005 to SE 2009
Scenario	Build	Build	Build		
Model Version	MRM11	MRM11	MRM11		
Socioeconomic Data	2005	2008 Interim	2009		
Classification	Raw Model	Raw Model	Raw Model		
Source	Model	Model	Model		
Corridor VMT and % Change in VMT	743,793	778,388	782,051	5%	5%

Traffic Forecast Summary

6. How could changes in socioeconomic data related to indirect and cumulative effects affect the traffic forecast for the Monroe Connector/Bypass project?

Year	2030	2030		2030		
Scenario	No-Build	Build		Build		
Model Version	MRM11	MRM11	Percent Change from 2030 NB 2009 SE to 2030 B 2009 SE	MRM11	Percent Change from 2030 NB 2009 SE to 2030 B 2009 ICE	Percent Change from 2030 B 2009 SE to 2030 B 2009 ICE
Socioeconomic Data	2009	2009		2009 ICE		
Classification	Raw Model	Raw Model		Raw Model		
Source	Model	Model		Model		
Corridor VMT and % Change in VMT	918,517	729,912		-21%		

US 74 Corridor Travel Times

- Focused on travel time and average speed
- Used travel time runs and INRIX data
- Field runs to validate INRIX speeds on US 74

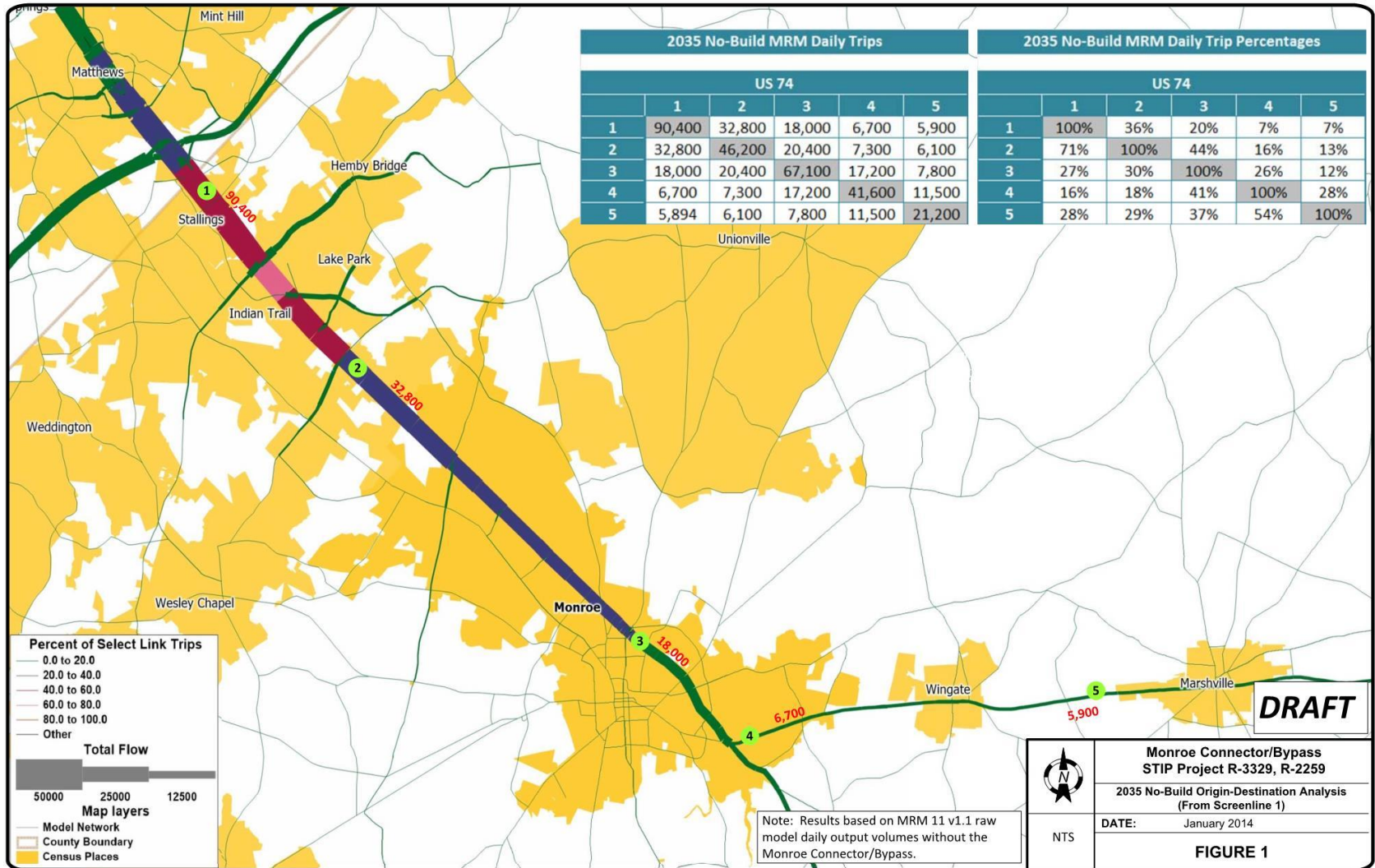
Table 1 – US 74 Corridor Travel Time and INRIX Data Summary

		Field Runs		INRIX Data	
		Travel Time (minutes)	Average Speed (mph)	Travel Time (minutes)	Average Speed (mph)
AM	Eastbound	32.0	41.7	30.2	44.9
	Westbound	33.1	40.5	31.2	43.6
	Cumulative	32.5	41.1	30.7	44.2
Noon	Eastbound	30.4	43.9	30.7	44.2
	Westbound	34.9	39.1	31.0	43.7
	Cumulative	32.9	41.3	30.8	43.9
PM	Eastbound	34.0	39.3	30.2	44.9
	Westbound	33.7	39.7	30.7	44.2
	Cumulative	33.8	39.5	30.4	44.5

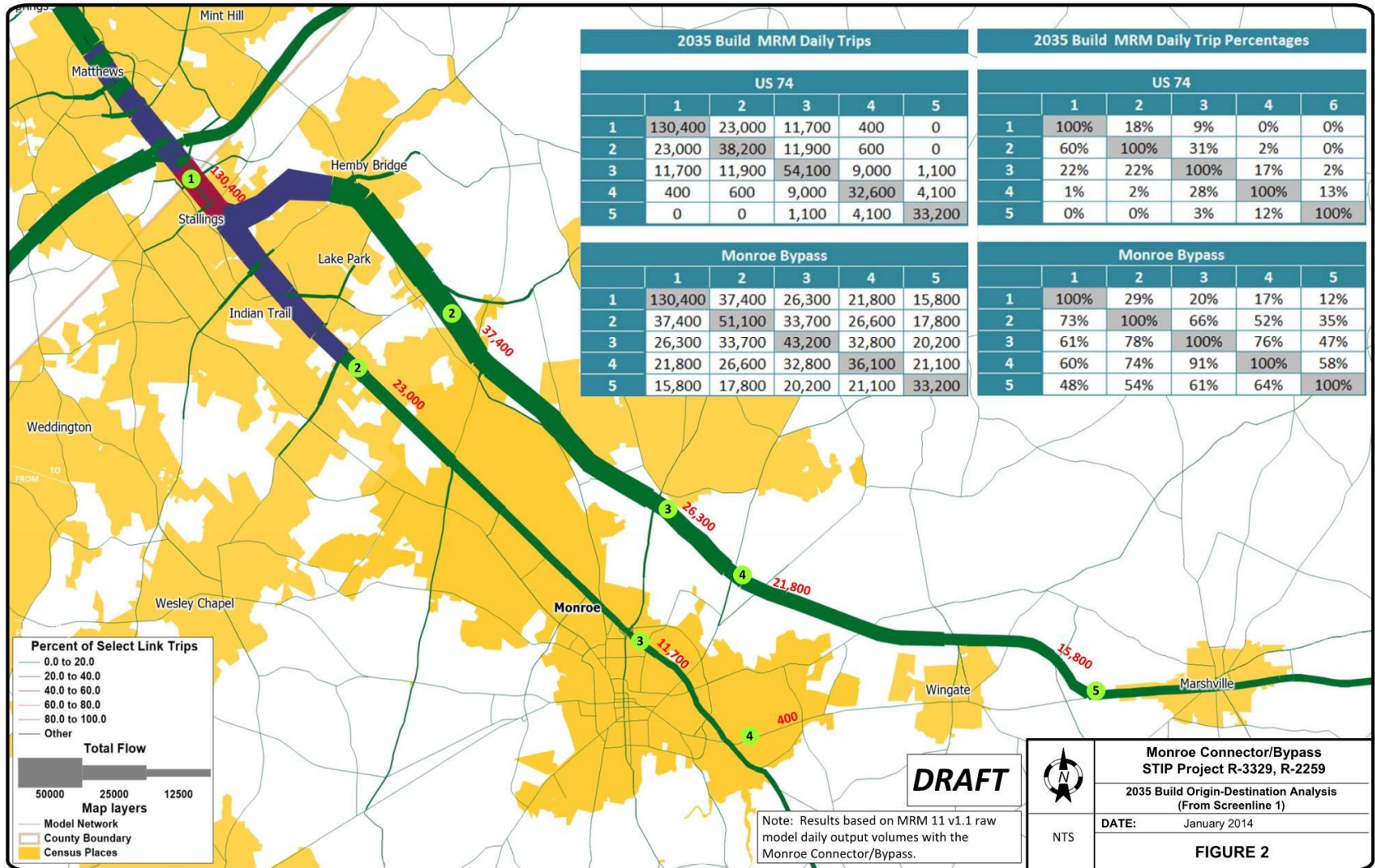
* US 74 corridor approximately 22.5 miles from I-485 (west of Stallings) to Elm Street (in Marshville)

* Travel time runs and INRIX data were collected and compared between 3/19/2013 to 3/21/2013 (Tuesday thru Thursday) for the AM (6:30-9:00 AM), noon (11:30-1:30 PM) and PM (4:00-6:00 PM).

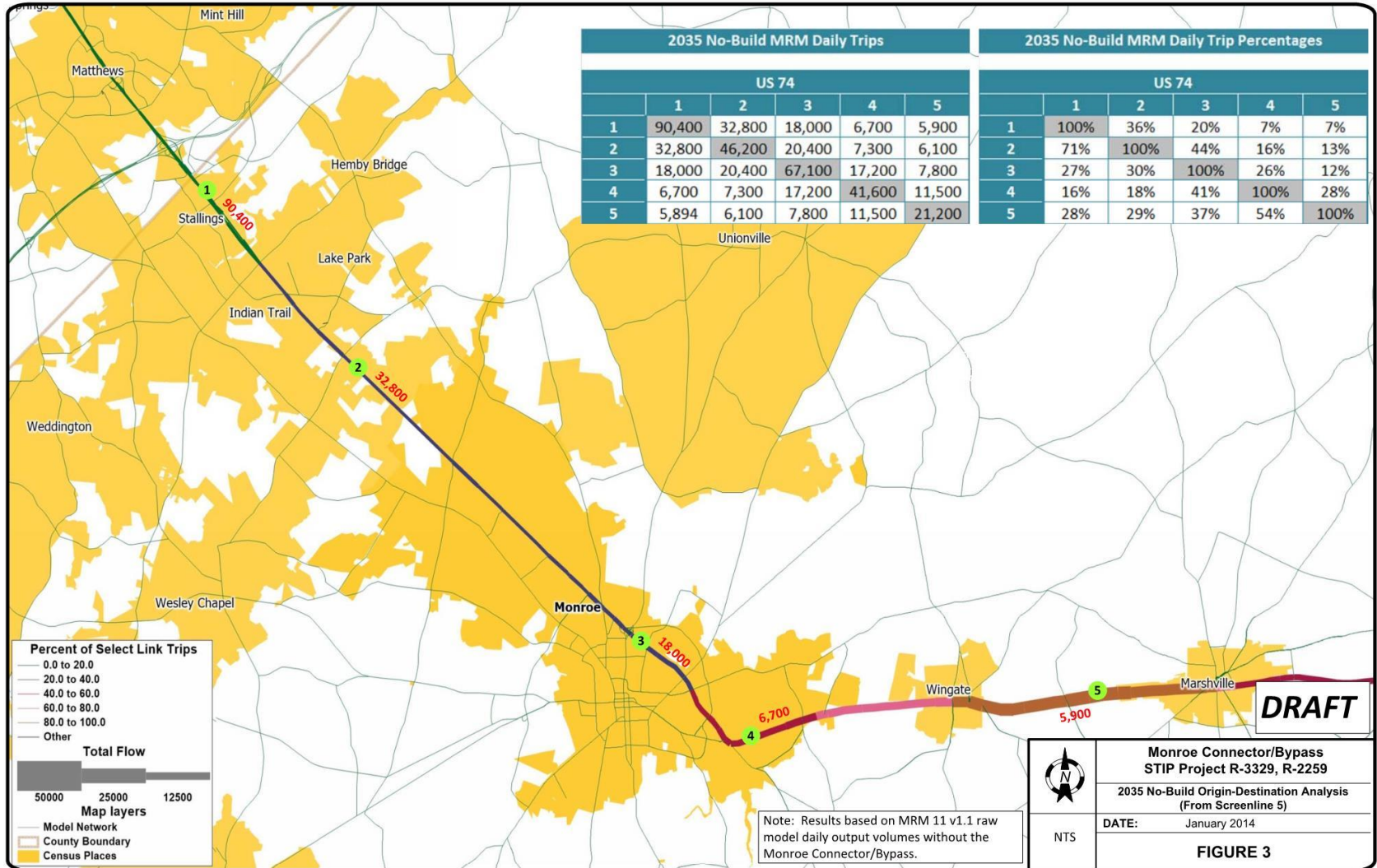
Origin-Destination Analysis (2035 No-Build)



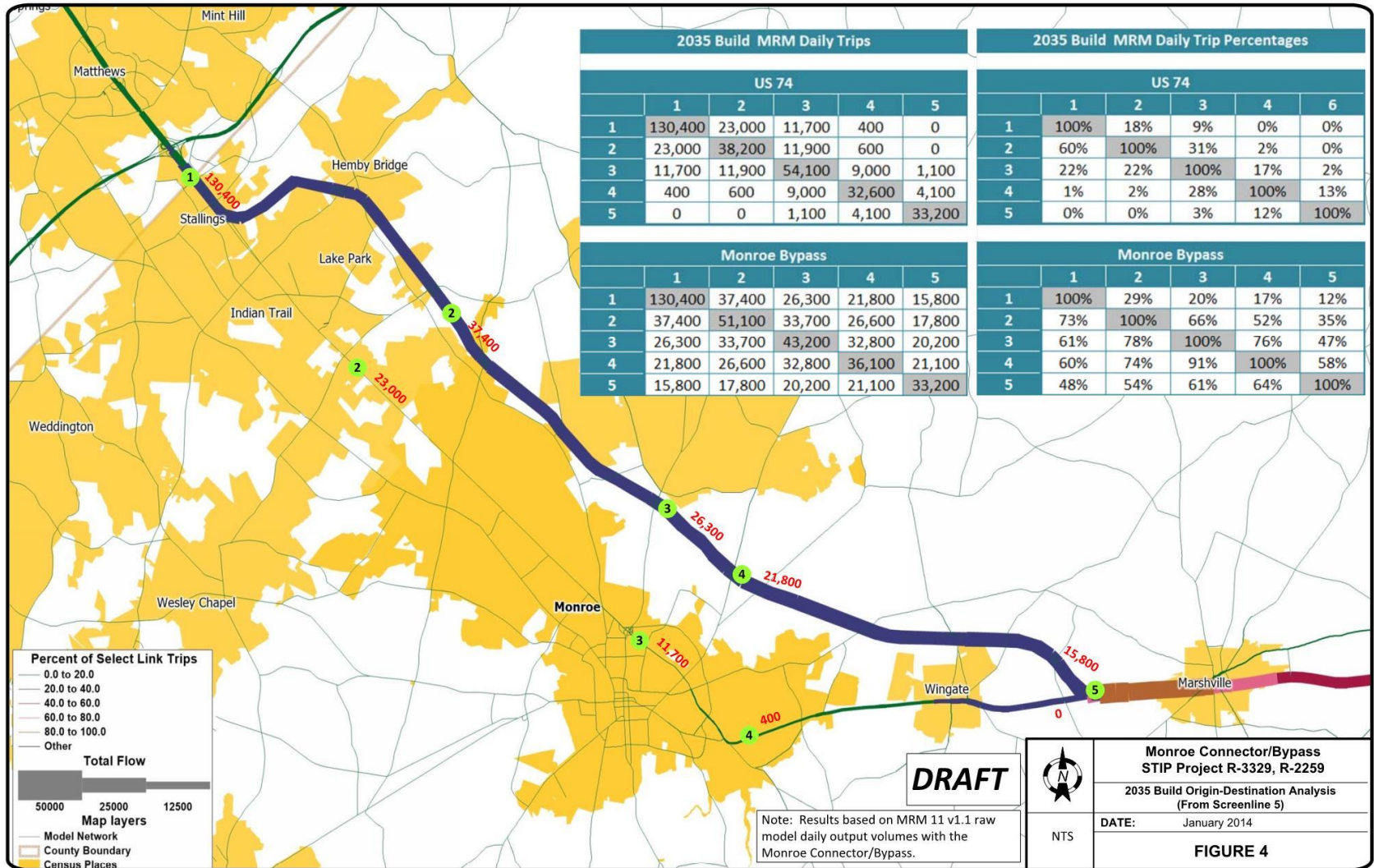
Origin-Destination Analysis (2035 Build)



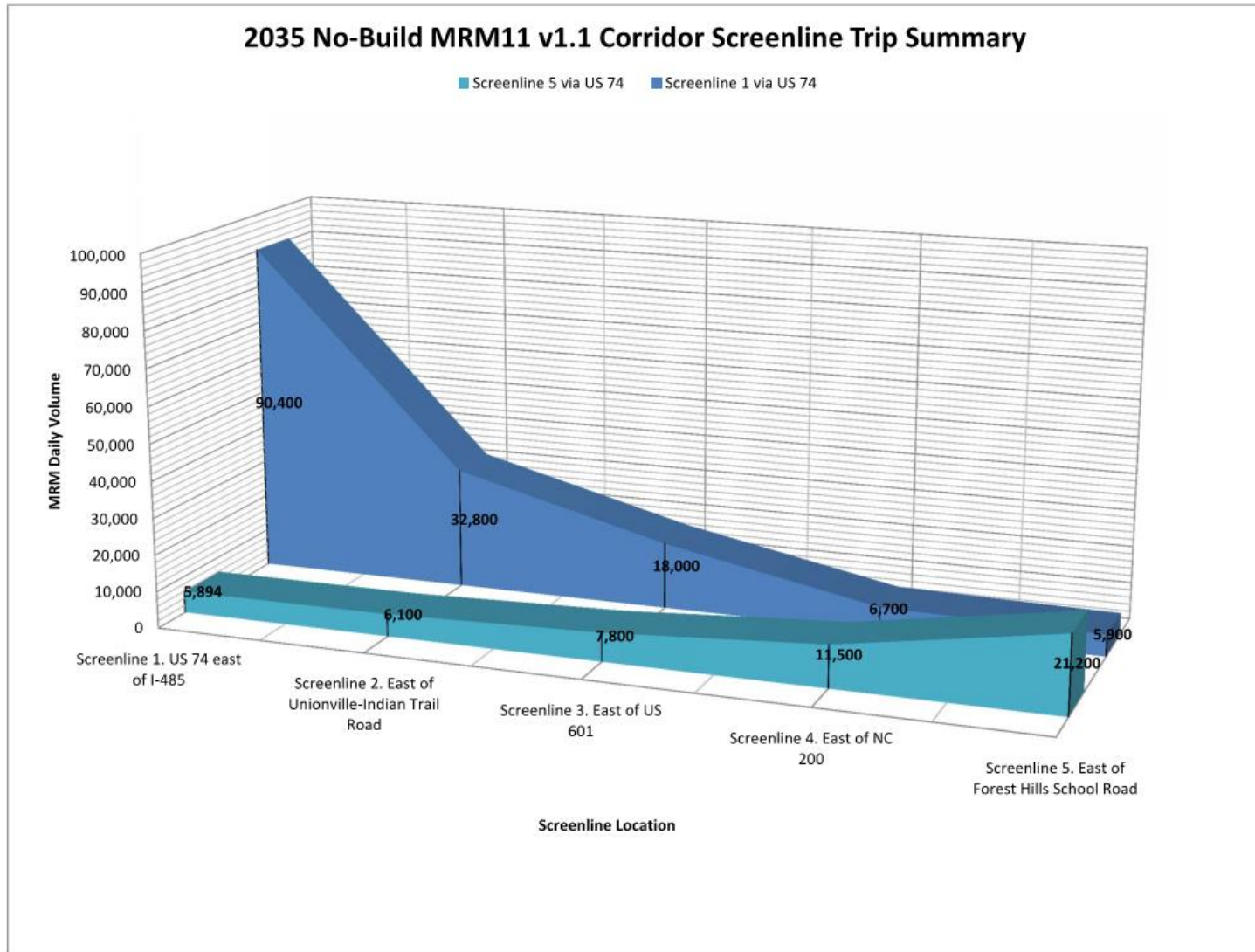
Origin-Destination Analysis (2035 No-Build)



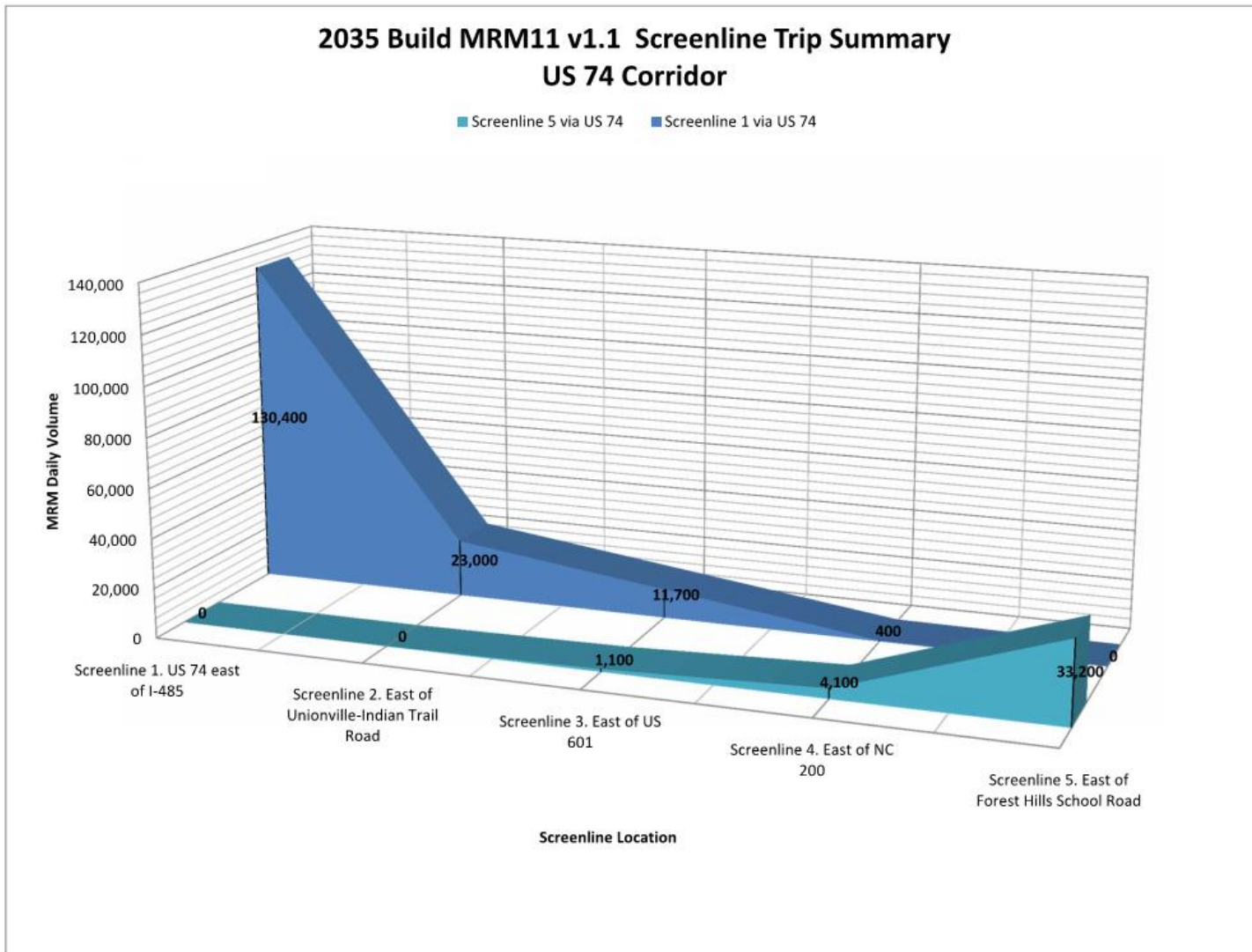
Origin-Destination Analysis (2035 Build)



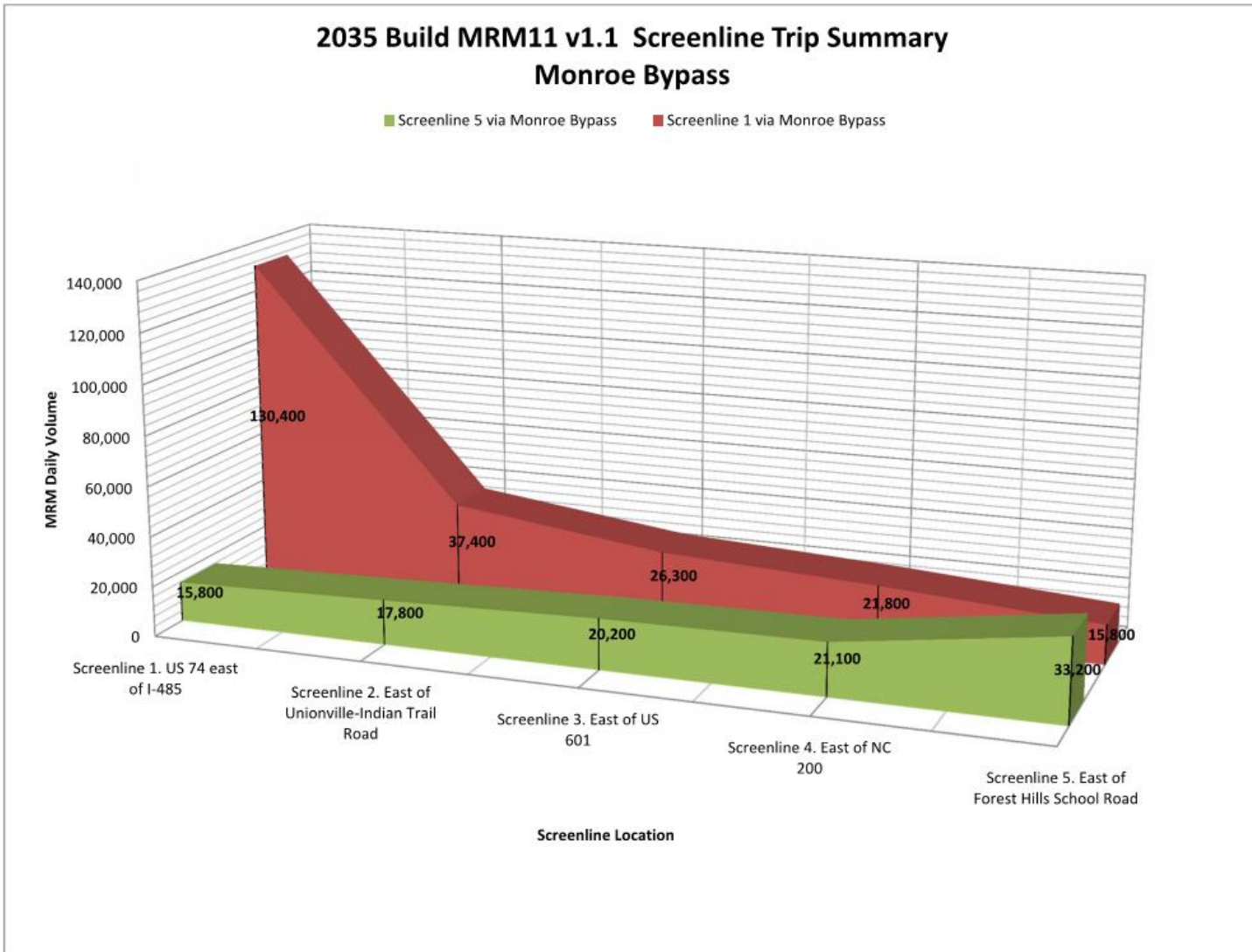
Screenline Analysis



Screenline Analysis



Screenline Analysis



Summary

- ICE, Traffic & Reassessments Provided Systematic, Reasonable and Defensible Findings for the:
 - FEIS (May 2010),
 - DSFEIS (November 2013),
 - FSFEIS / ROD (May 2014).
- Forth Circuit Court of Appeals ruled in favor of NCDOT (June 2016).



Questions?

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