To: Shannon Sweitzer, P.E.  
NCTA, Director of Construction  
From: Bradley Reynolds, P.E.  
Date: August 4, 2010  
Project Number:  
STIP R-3329 & R-2559  
Monroe Connector / Bypass  
Subject: Monroe Connector / Bypass  
Year 2025 Build Toll Alternative 3A  
Traffic Volume Projections

HNTB North Carolina, PC (HNTB) has been contracted by North Carolina Turnpike Authority (NCTA) to prepare year 2025 Build Scenario Toll Alternative 3A traffic volume projections for Y-lines along the Monroe Connector/Bypass from Indian Trail-Fairview Road to the US 74 tie-in to the east.

To determine 2025 Toll Alternative 3A traffic volumes, HNTB utilized data from the *Traffic Forecast for TIP Projects R-3329 & R-2559 Monroe Connector/Bypass* prepared by Wilbur Smith Associates (WSA) in July 2008 to straight-line interpolate between the 2008 and 2035 forecast scenarios to an intermediate year 2025 scenario. Interpolated year 2025 daily volumes were minimally adjusted, where necessary, to provide balanced interchange volumes. All forecast design characteristics (D, DHV, truck percentages) remained unchanged from the 2008 and 2035 Build Toll Alternative 3A traffic forecast data. These 2025 daily volumes were then converted to AM and PM peak hour volumes using NCDOT’s peak hour breakout sheet.

**Figures 1-8** illustrate 2025 AM and PM peak hour traffic projections and the previously forecasted 2035 Build Alternative Toll 3A peak hour volumes. **Appendix A** provides the 2008 and 2035 Build Toll Alternative 3A forecasts from the *Traffic Forecast for TIP Projects R-3329 & R-2559 Monroe Connector/Bypass*. **Appendix B** provides 2035 Build Alternative Toll 3A peak hour volumes from the *Year 2035 Build Traffic Operations Technical Memorandum* prepared by PBS&J in April 2009. **Appendix C** shows the interpolated 2025 daily forecast breakout sheets.

If additional information or clarification is required regarding any of the above comments or methodology used to produce the 2025 data, please contact Spencer Franklin, P.E. or myself at 919-546-8997.
FIGURE 1

<table>
<thead>
<tr>
<th></th>
<th>2025 Toll Traffic Volumes</th>
<th>2035 Toll Traffic Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monroe Bypass</td>
<td>XX (XX) - AM (PM) Volumes</td>
<td>XX (XX) - AM (PM) Volumes</td>
</tr>
<tr>
<td>Monroe Bypass</td>
<td>1431 (2272)</td>
<td>1872 (2983)</td>
</tr>
<tr>
<td>Monroe Bypass</td>
<td>301 (157)</td>
<td>30 (28)</td>
</tr>
<tr>
<td>Monroe Bypass</td>
<td>258 (317)</td>
<td>794 (392)</td>
</tr>
<tr>
<td>Monroe Bypass</td>
<td>339 (365)</td>
<td>372 (143)</td>
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<tr>
<td>Monroe Bypass</td>
<td>157 (301)</td>
<td>481 (191)</td>
</tr>
<tr>
<td>Monroe Bypass</td>
<td>81 (48)</td>
<td>1030 (602)</td>
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<tr>
<td>Monroe Bypass</td>
<td>329 (197)</td>
<td>301 (157)</td>
</tr>
<tr>
<td>Monroe Bypass</td>
<td>2272 (1431)</td>
<td>2282 (1609)</td>
</tr>
</tbody>
</table>

NOTE TO SCALE

DATE: August 2010
**2025 Toll Traffic Volumes**


**2035 Toll Traffic Volumes**

* From *Year 2035 Build Traffic Operations Technical Memorandum*, February 2009.
**2025 Toll Traffic Volumes**


**2035 Toll Traffic Volumes**

* From Year 2035 Build Traffic Operations Technical Memorandum, February 2009.

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**Monroe Bypass & Rocky River Interchange**

**2025 / 2035 BUILD TOLL ALT. 3A PEAK HOUR TRAFFIC VOLUMES**

**DATE:** August 2010

**FIGURE 3**
2025 Toll Traffic Volumes


2035 Toll Traffic Volumes

* From Year 2035 Build Traffic Operations Technical Memorandum, February 2009.
**2025 Toll Traffic Volumes**


* From *Year 2035 Build Traffic Operations Technical Memorandum*, February 2009.

**Monroe Bypass & NC 200 Interchange**

**2025 / 2035 BUILD TOLL ALT. 3A PEAK HOUR TRAFFIC VOLUMES**

DATE: August 2010

FIGURE 5
Monroe Bypass & Austin Chaney Interchange

**2025 Toll Traffic Volumes**

*Interpolated from Traffic Forecast TIP Project R-3329 and R-2559 Monroe Connector/Bypass, September 19, 2008.*

**2035 Toll Traffic Volumes**

*From Year 2035 Build Traffic Operations Technical Memorandum, February 2009.*

XX (XX) - AM (PM) Volumes

**DATE:**
August 2010

**FIGURE 6**
Figure 7

2025 Toll Traffic Volumes


** Interpolated from Year 2035 Build Traffic Operations Technical Memorandum, February 2009.

Possible Phifer Road Relocation.
Anticipated Low Volumes.

Monroe Bypass & Forest Hills School Interchange

2025 / 2035 BUILD TOLL ALT. 3A
PEAK HOUR TRAFFIC VOLUMES

DATE: August 2010

FIGURE 7
**2025 Toll Traffic Volumes**


**2035 Toll Traffic Volumes**

* From *Year 2035 Build Traffic Operations Technical Memorandum*, February 2009.

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**Monroe Bypass & US 74 Interchange**

2025 / 2035 BUILD TOLL ALT. 3A PEAK HOUR TRAFFIC VOLUMES

**NOT TO SCALE**

**DATE:** August 2010

**FIGURE 8**
Appendix A – 2008 and 2035 Build Toll 3A Forecast Figures
TRAFFIC FORECAST FOR

TIP PROJECTS
R-3229 & R-2559
MONROE
CONNECTOR/BYPASS
UNION AND MECKLENBURG COUNTIES
NORTH CAROLINA

Prepared for

NORTH CAROLINA
Turnpike Authority

Prepared by

WilburSmith
ASSOCIATES

September 19 2008
2035 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

TIP: R-3329/R-2550
REVISED ALTERNATE: 3A
LOCATION: US 74 in Mecklenburg and Union Counties

PROJECT: Monroe Connector/Bypass
SHEET NUMBER: 1

DIVISION: 10
DATE: June 2008
PREPARED BY: Wilbur Smith Associates

LEGEND

DHV: Design Hourly Volume (VH) = K
PM: Peak Period
PM: Peak Hour Directional Split (%) Indicates Direction of
(a, t) Duals, TSSD (%)

No. of Vehicles Per Day (VPD) in 100s
Less than 50 VPD
Turning volume (VPD)
Appendix B – 2035 Build Toll 3A Peak Hour Volume Figures
FINAL
YEAR 2035 BUILD TRAFFIC OPERATIONS
TECHNICAL MEMORANDUM

MONROE CONNECTOR / BYPASS
STIP NUMBER R-3329 / R-2559
UNION AND MECKLENBURG COUNTIES

Prepared For:

North Carolina Turnpike Authority
5400 Glenwood Avenue, Suite 400
Raleigh, NC 27612

Prepared By:

PBS&J
5200 77 Center Dr, Suite 500
Charlotte, NC 28217

April 2009
APPENDIX B

Monroe Connector / Bypass Corridor

Lane Geometry, 2035 Build Peak Hour Volumes and Levels of Service
Year 2035 Build Alternative 3A
Monroe Connector / Bypass Corridor
Figure 3

DRAFT
PRELIMINARY
SUBJECT TO CHANGE
Figure 4

Year 2035 Build Alternative 3A
Monroe Connector / Bypass Corridor
Rocky River Road
February 3, 2009

Legend
- Signalized Intersection
- Stop Controlled Movement
- XX (XX) AM (PM) Peak Hour Volumes
- Lane Geometry
- XX 95th Percentile Queue Length
- LOS X (X) AM (PM) Peak Hour Level of Service
- Level of Service A-C
- Level of Service D
- Level of Service E
- Level of Service F
- Freeway LOS is Shown for Highest Peak Hour Volume
- LOS E/F Stop-Controlled Intersection with a Critical Movement Volume of 100 VPH or Less or Critical Movement Queue Length is less than 250'

DRAFT
PRELIMINARY
SUBJECT TO CHANGE
**MONROE CONNECTOR / Bypass**

**Year 2035 Build Alternative 3A**

Modifications shown for Monroe Connector / Bypass Corridor

February 3, 2009

Figure 8

**Legend**

- Signalized Intersection
- Stop Controlled Movement
- XX (XX) AM (PM) Peak Hour Volumes
- Lane Geometry
- XX 95th Percentile Queue Length
- LOS X (X) AM (PM) Peak Hour Level of Service
- Level of Service A-C
- Level of Service D
- Level of Service E
- Level of Service F
- Freeway LOS is Shown for Highest Peak Hour Volume
- LOS E/F Stop-Controlled Intersection with a Critical Movement Volume of 100 VPH or Less or Critical Movement Queue Length is less than 250'
MONROE CONNECTOR / BYPASS

TIP Project Numbers R-3329 & R-2559
Mecklenburg and Union Counties

Legend

- Signalized Intersection
- Stop Controlled Movement
- XX (XX) AM (PM) Peak Hour Volumes
- XX 95th Percentile Queue Length
- LOS X (X) AM (PM) Peak Hour Level of Service
- Level of Service A-C
- Level of Service D
- Level of Service E
- Level of Service F
- Freeway LOS is Shown for Highest Peak Hour Volume
- LOS E/F Stop-Controlled Intersection with a Critical Movement Volume of 100 VPH or Less or Critical Movement Queue Length is less than 250'
Appendix C – 2025 Daily Forecast Breakout Sheets
AM peak hour inflow is 5465 vehicles. AM peak hour outflow is 5464 vehicles.

PM peak hour inflow is 5464 vehicles. PM peak hour outflow is 5465 vehicles.
24 HOUR

AM PEAK

PM PEAK

Peak Hour Volume Breakouts Report:
Alt 3A:
Monroe Bypass at Unionville Indian Tr Rd
West

Traffic Forecast Release Date:
July-10

Traffic Data Year:
2025

Project:
R-3329/R-2559 Toll Scenario

AM peak hour inflow is 5382 vehicles. AM peak hour outflow is 5381 vehicles.

PM peak hour inflow is 5381 vehicles. PM peak hour outflow is 5381 vehicles.
Peak Hour Volume Breakouts Report:
Alt 3A: Monroe Bypass at North Rocky River Rd

Traffic Forecast Release Date:
July-10

Traffic Data Year:
2025

Project:
R-3329/R-2559 Toll Scenario

**AMPEAK**

PM peak hour inflow is 4974 vehicles. PM peak hour outflow is 4974 vehicles.
AM peak hour inflow is 6315 vehicles. AM peak hour outflow is 6315 vehicles.

PM peak hour inflow is 6315 vehicles. PM peak hour outflow is 6315 vehicles.
AM peak hour inflow is 3630 vehicles. AM peak hour outflow is 3630 vehicles.

PM peak hour inflow is 3630 vehicles. PM peak hour outflow is 3630 vehicles.
Peak Hour Volume Breakouts Report:
Alt 3A: Monroe Bypass at Austin Chaney St

Traffic Forecast Release Date:
July-10

Traffic Data Year:
2025

Project:
R-3329/R-2559 Toll Scenario

AM peak hour inflow is 2854 vehicles. AM peak hour outflow is 2853 vehicles.

PM peak hour inflow is 2854 vehicles. PM peak hour outflow is 2854 vehicles.
AM peak hour inflow is 1602 vehicles. AM peak hour outflow is 1603 vehicles.

PM peak hour inflow is 1603 vehicles. PM peak hour outflow is 1603 vehicles.

Peak Hour Volume Breakouts Report:
Alt 3A: Monroe Bypass at Forest Hills Road

Traffic Forecast Release Date:
July-10

Traffic Data Year:
2025

Project:
R-3329/R-2559 Toll Scenario
Peak Hour Volume Breakouts Report:  
Alt 3A: Monroe Bypass at US 74

Traffic Forecast Release Date:  
July-10

Traffic Data Year:  
2025

Project:  
R-3329/R-2559 Toll Scenario

**AM peak hour inflow is 2654 vehicles. AM peak hour outflow is 2654 vehicles.**

**PM peak hour inflow is 2654 vehicles. PM peak hour outflow is 2654 vehicles.**