Memorandum

HNTB, North Carolina, PC
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

To: Shannon Sweitzer, P.E.
NCTA, Director of Construction

Date: August 4, 2010

From: Bradley Reynolds, P.E.

Project Number:

STIP R-3329 & R-2559
Monroe Connector / Bypass

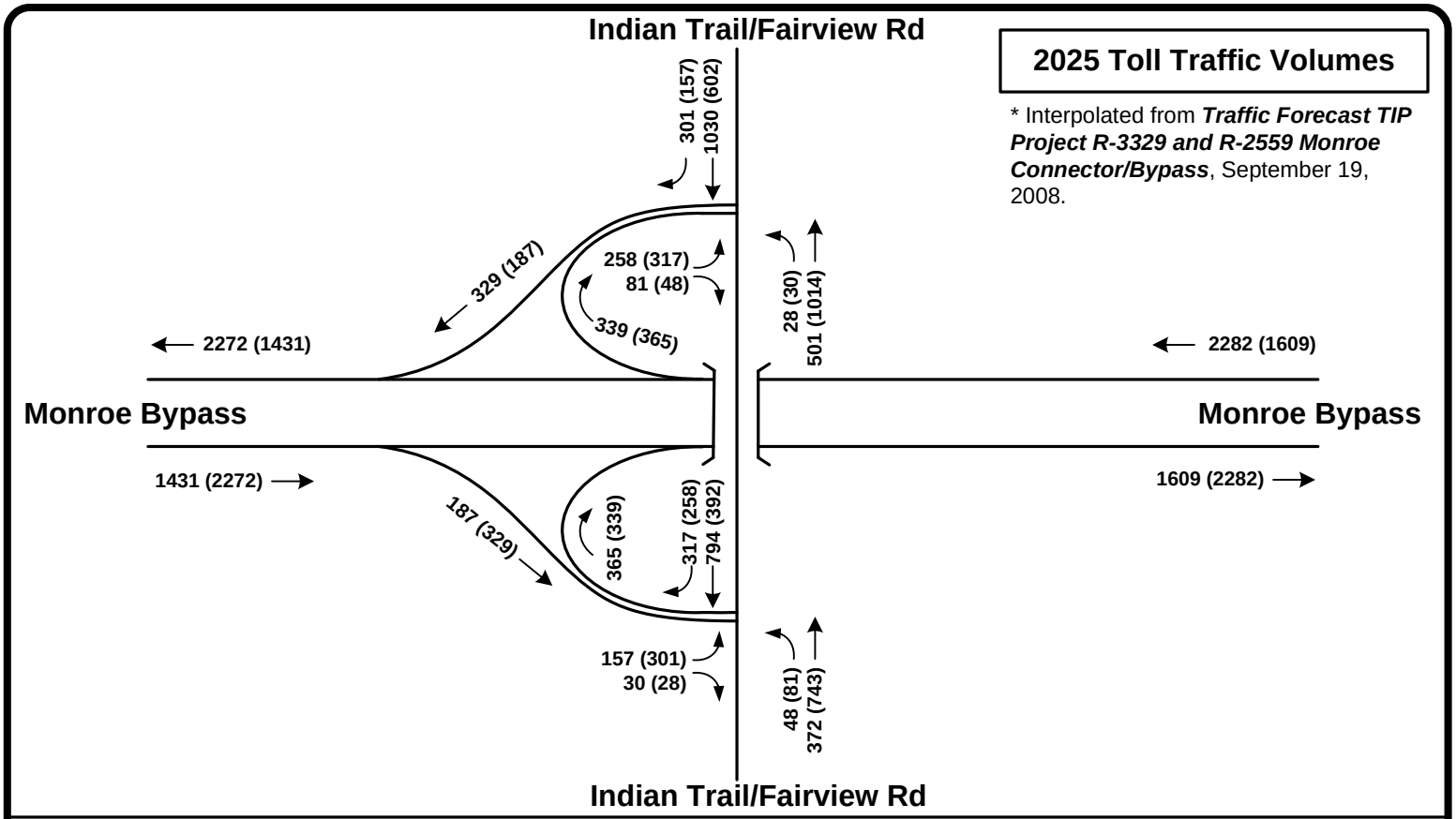
Subject: Monroe Connector / Bypass
Year 2025 Build Toll Alternative 3A
Traffic Volume Projections

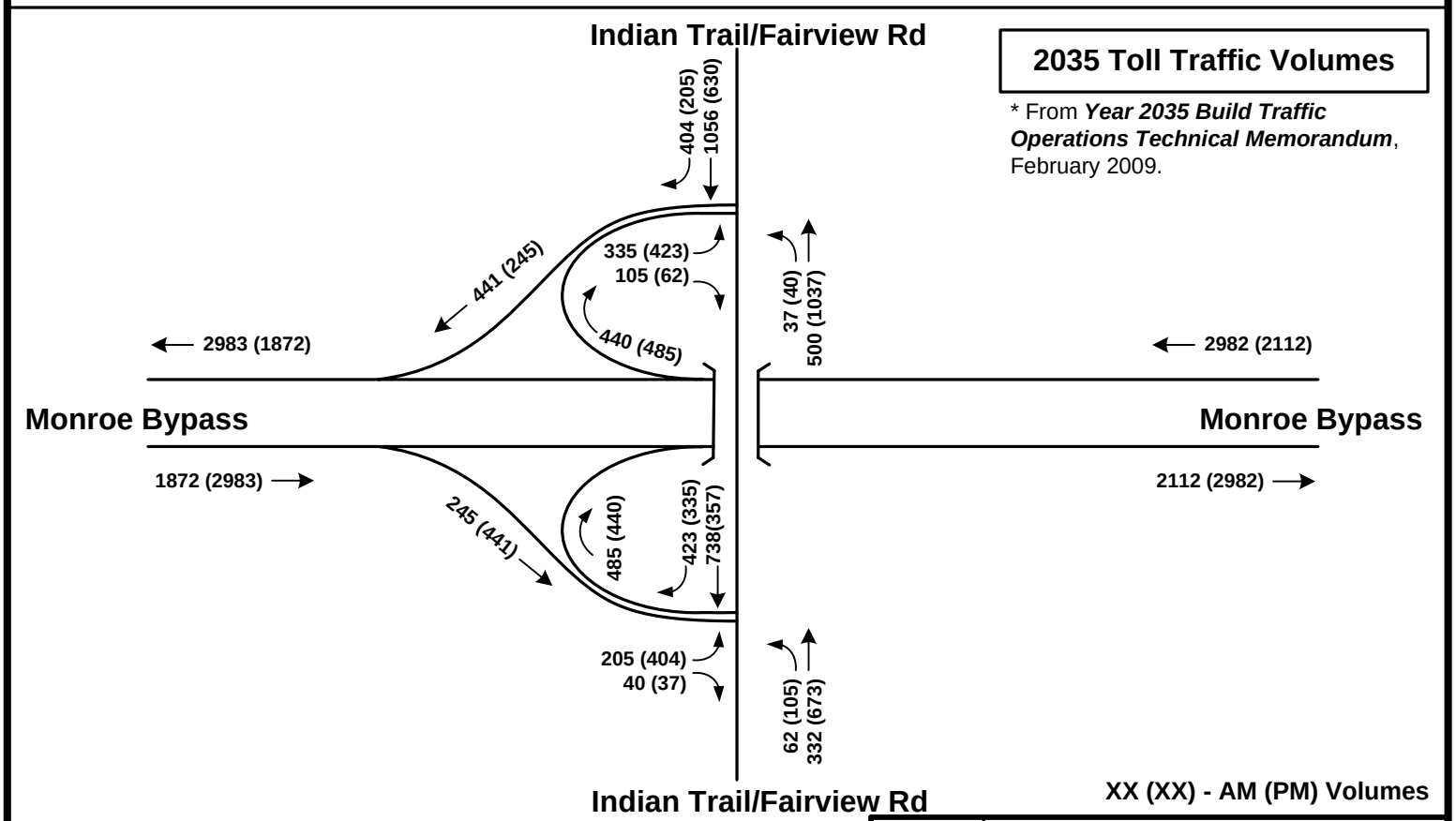
HNTB North Carolina, PC (HNTB) has been contracted by North Carolina Turnpike Authority (NCTA) to prepare year 2025 Build Scenario Toll Alternative 3A traffic volume projections for Y-lines along the Monroe Connector/Bypass from Indian Trail-Fairview Road to the US 74 tie-in to the east.

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.





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N

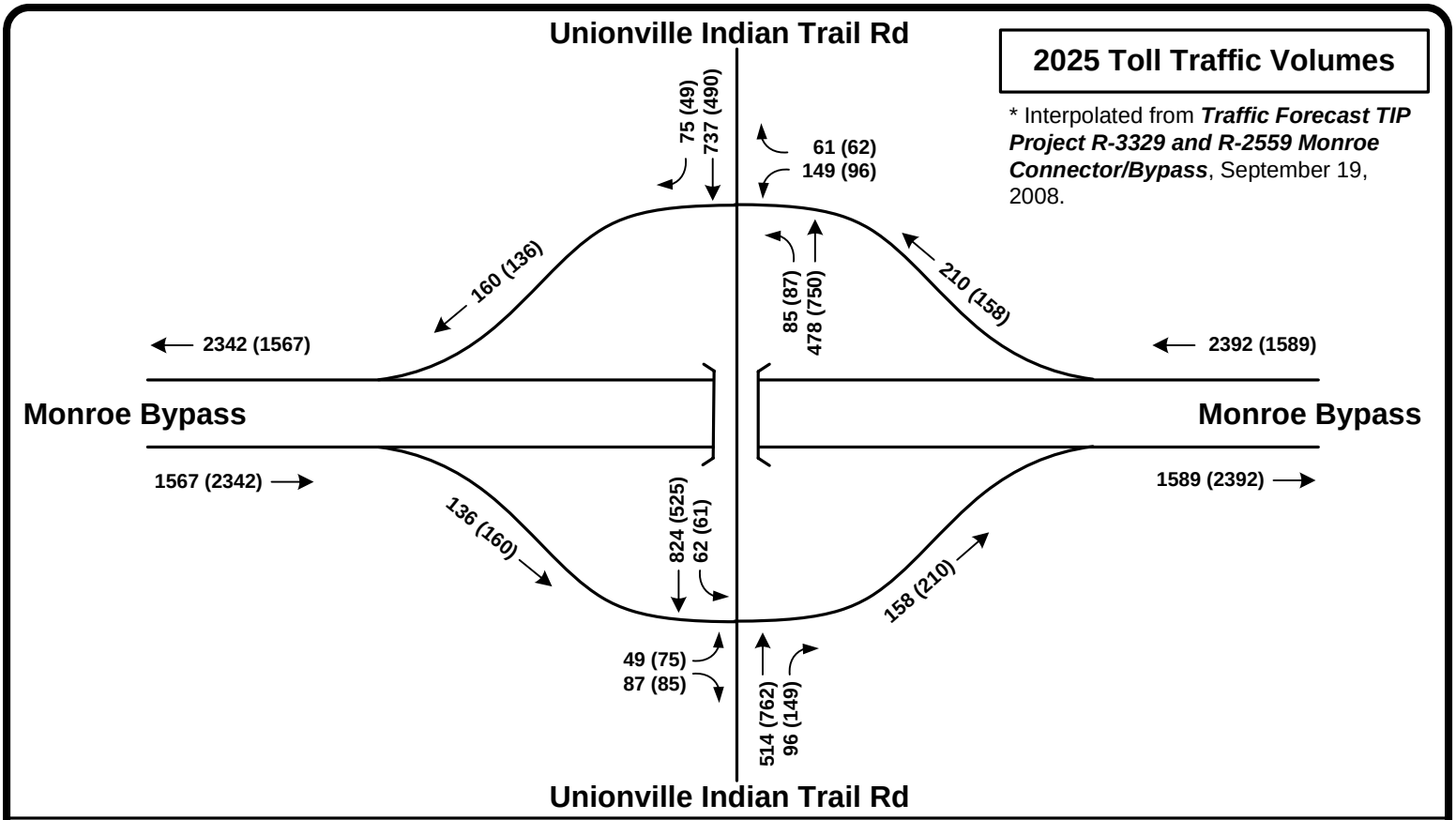
NOT TO SCALE

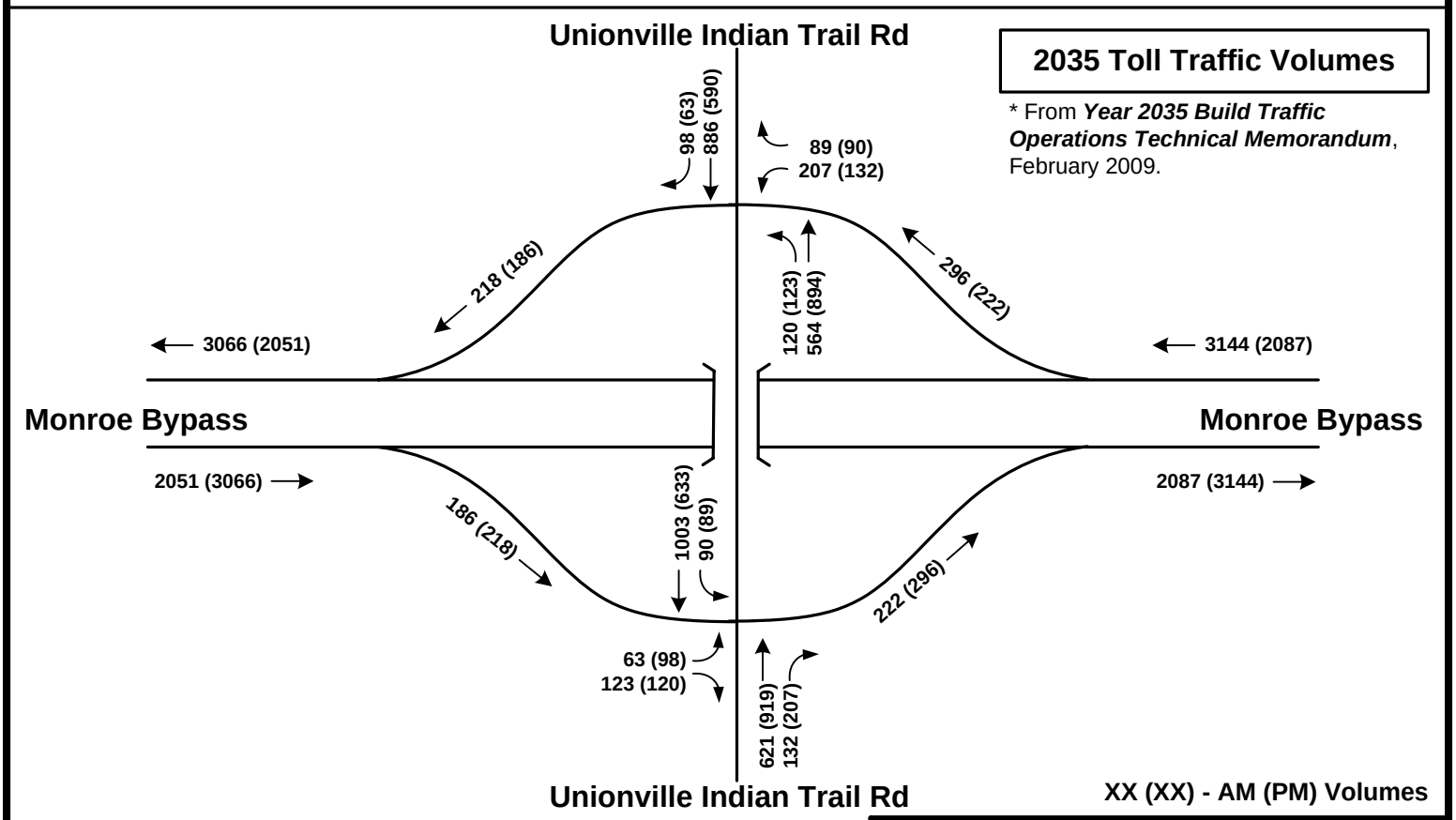
Monroe Bypass & Indian Trail/ Fairview Interchange

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

DATE: August 2010

FIGURE 1





Monroe Bypass & Unionville Indian Trail Interchange

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

NOT TO SCALE

DATE: August 2010

FIGURE 2

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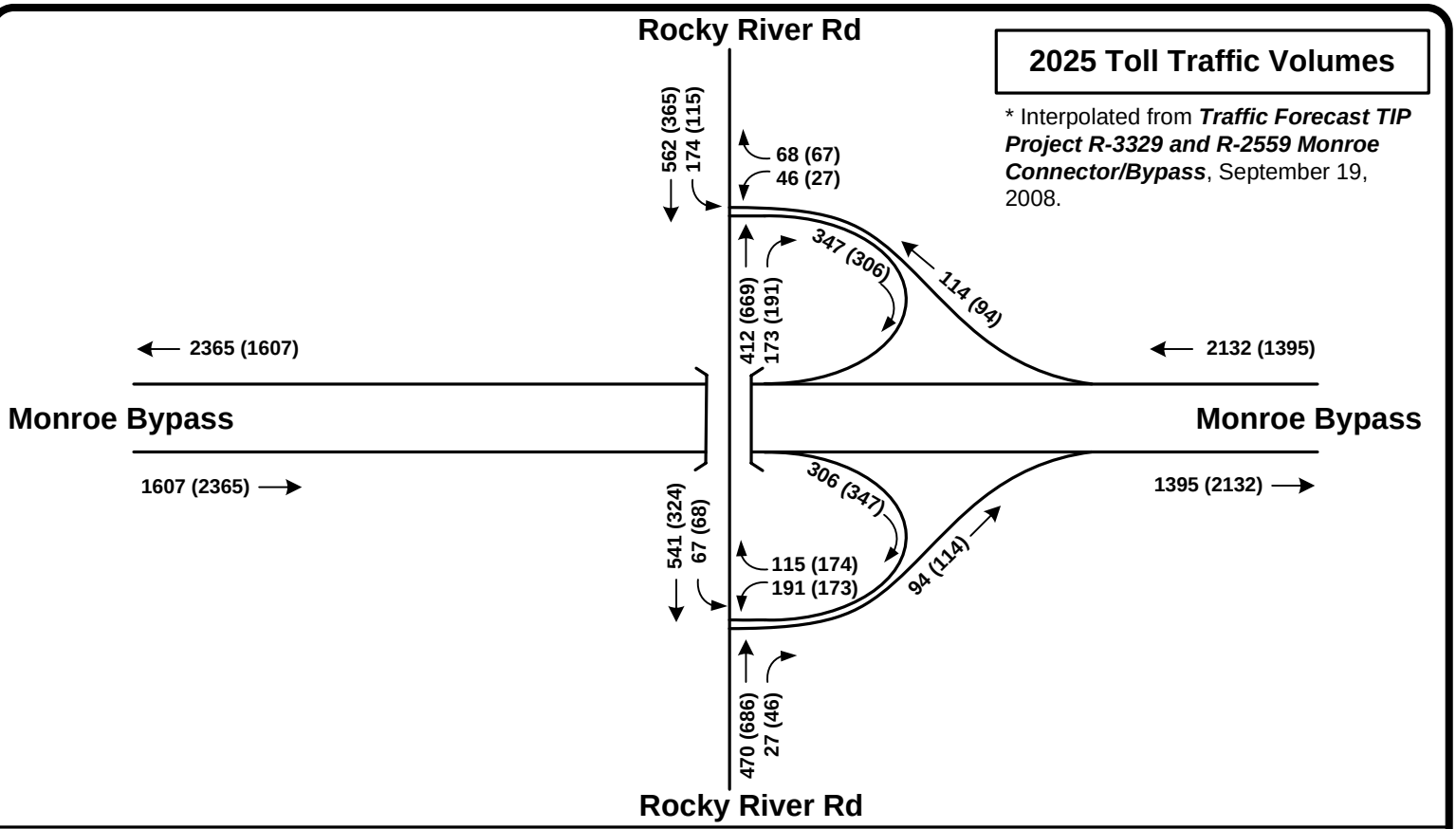

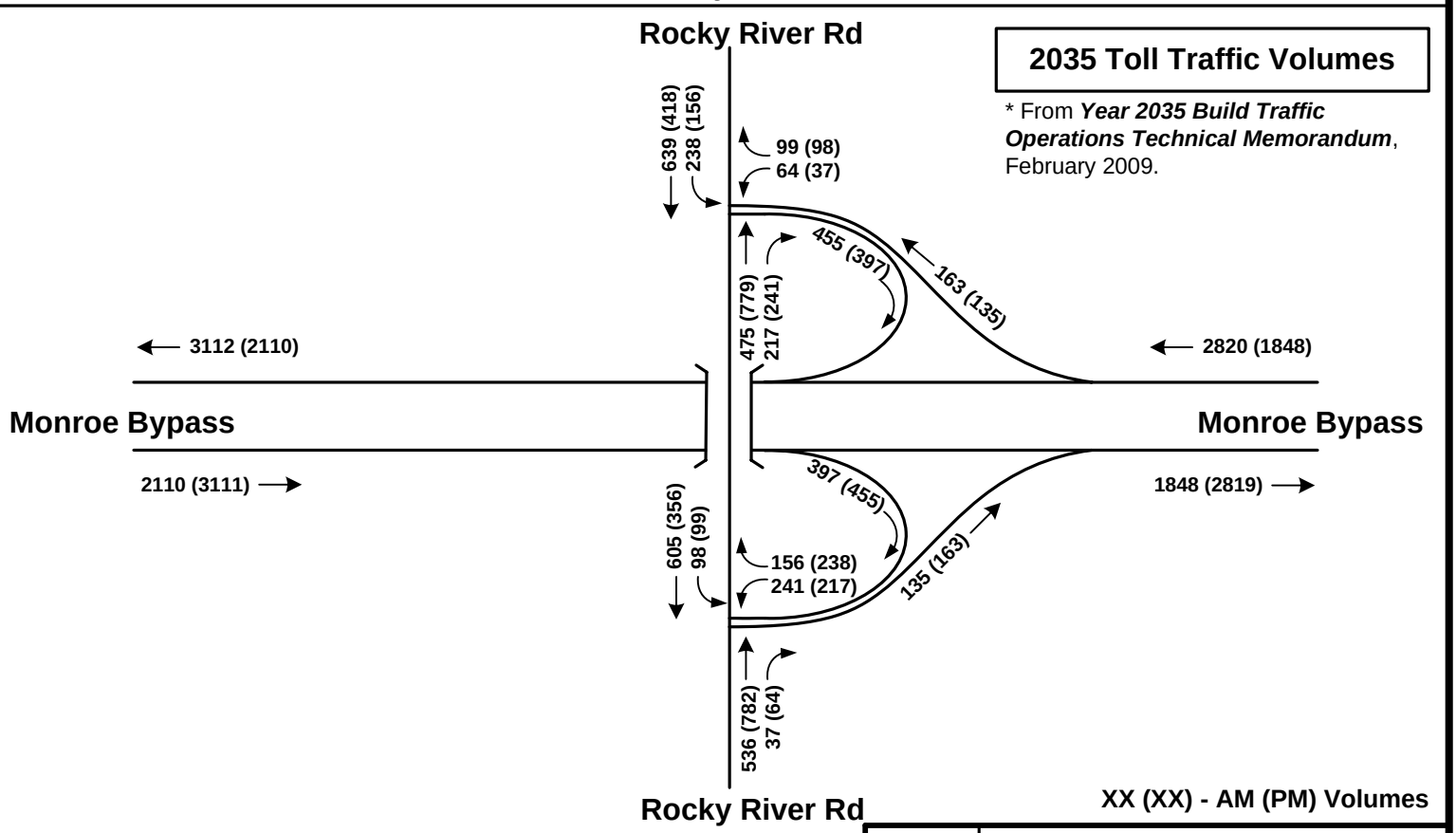

N

Monroe Bypass & Rocky River Interchange

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

NOT TO SCALE

DATE: August 2010

FIGURE 3

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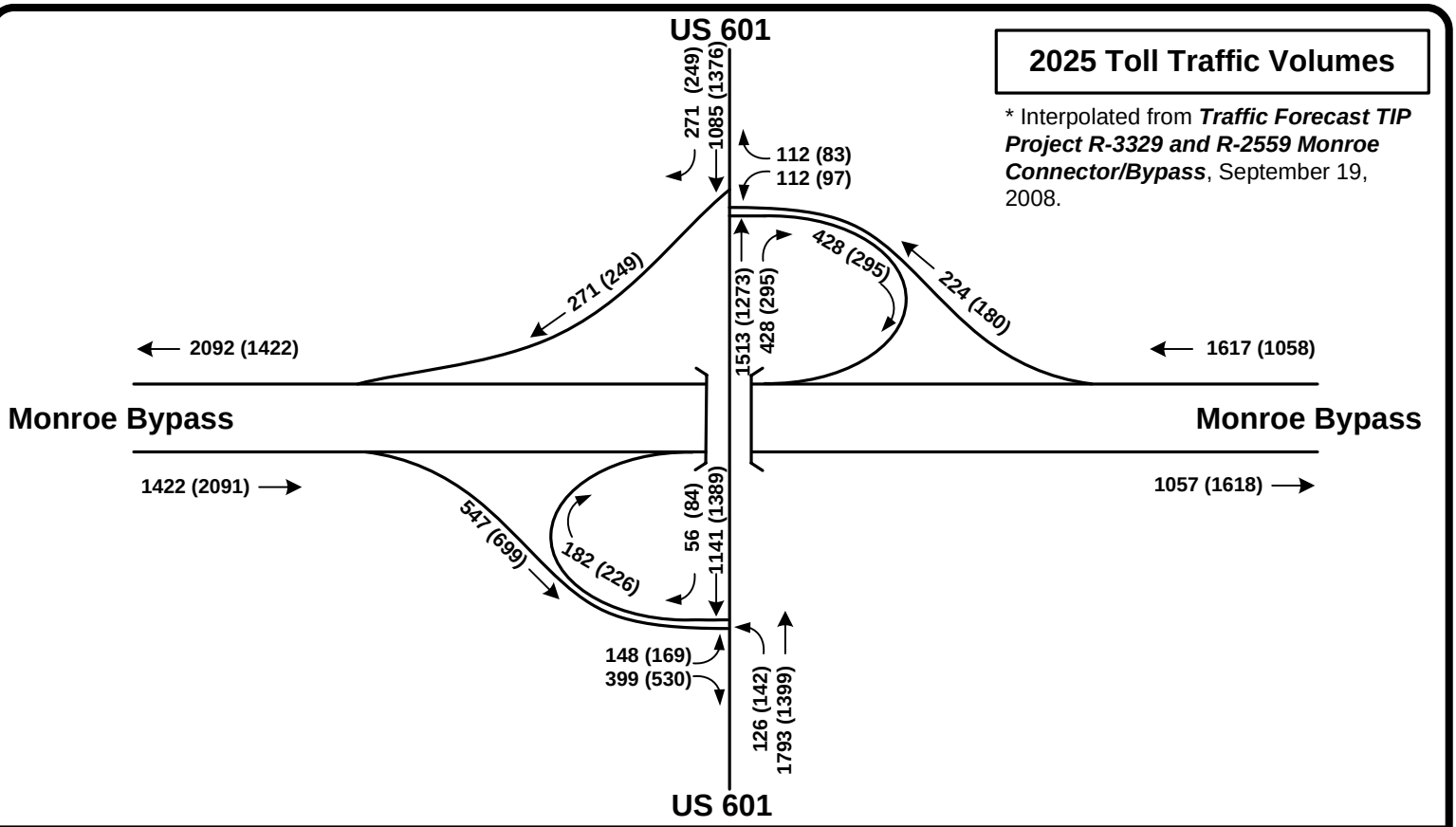

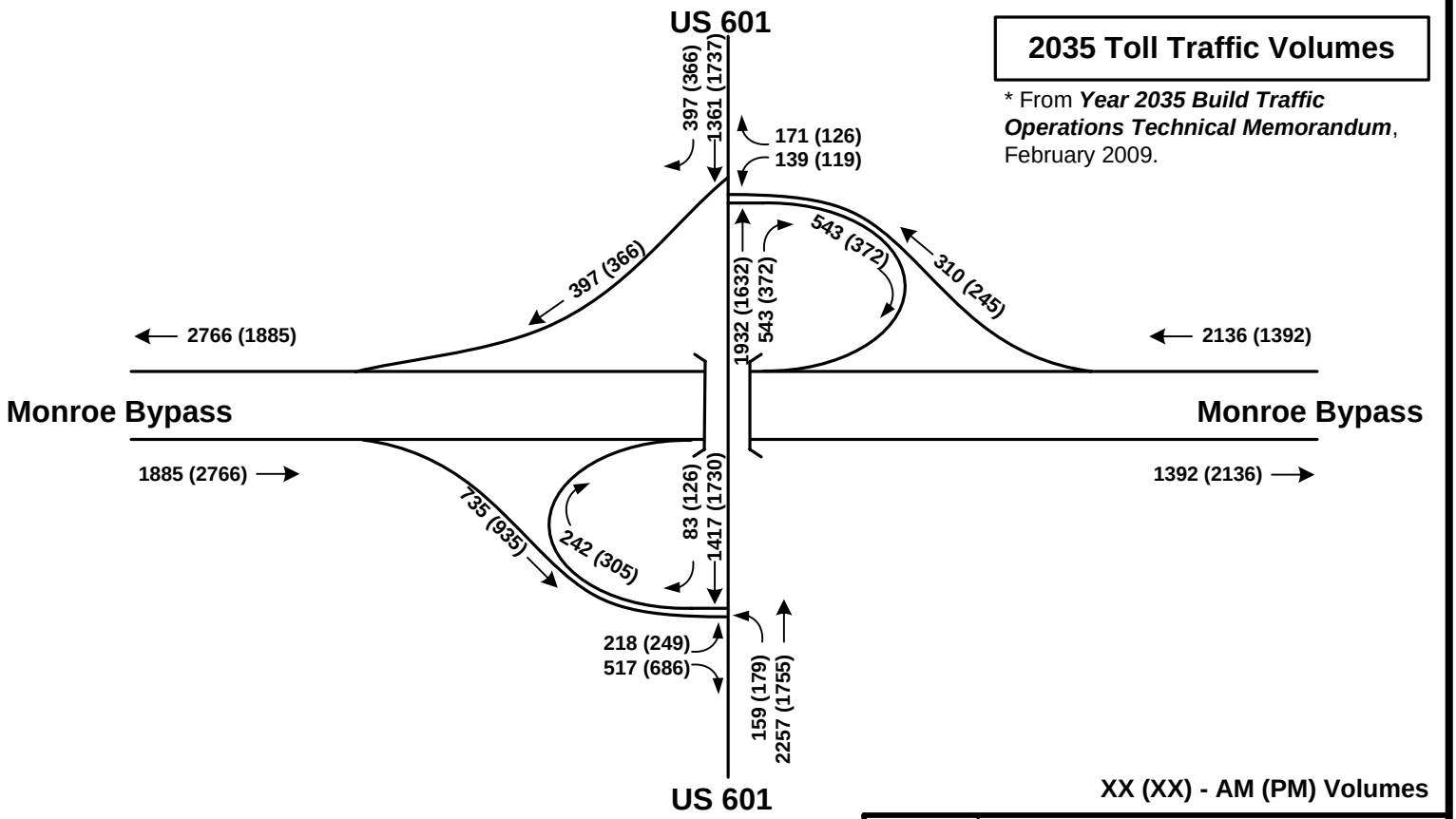

XX (XX) - AM (PM) Volumes

N	**Monroe Bypass & US 601 Interchange**
	2025 / 2035 BUILD TOLL ALT. 3A PEAK HOUR TRAFFIC VOLUMES
NOT TO SCALE	**DATE:** August 2010
	FIGURE 4

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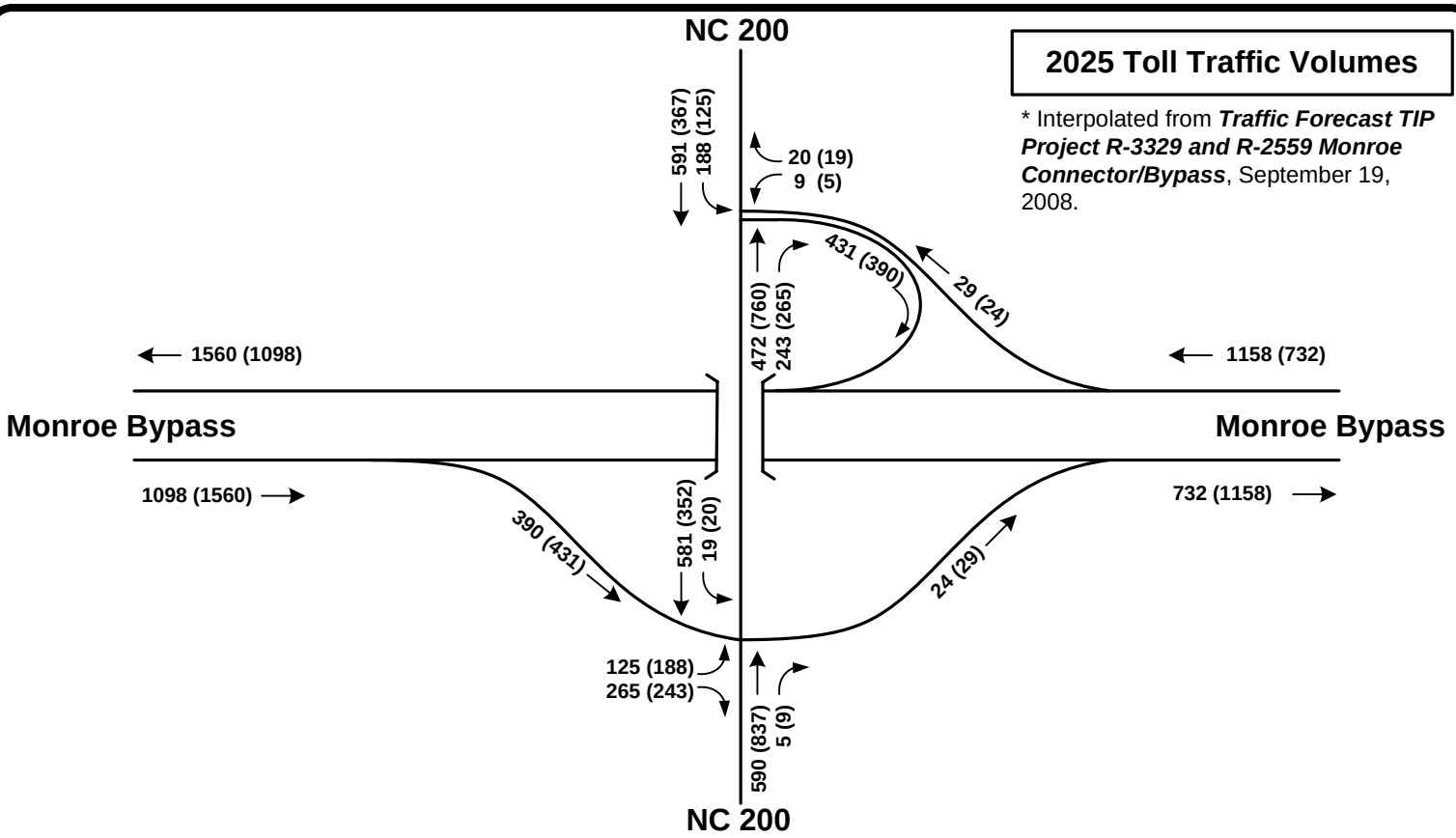
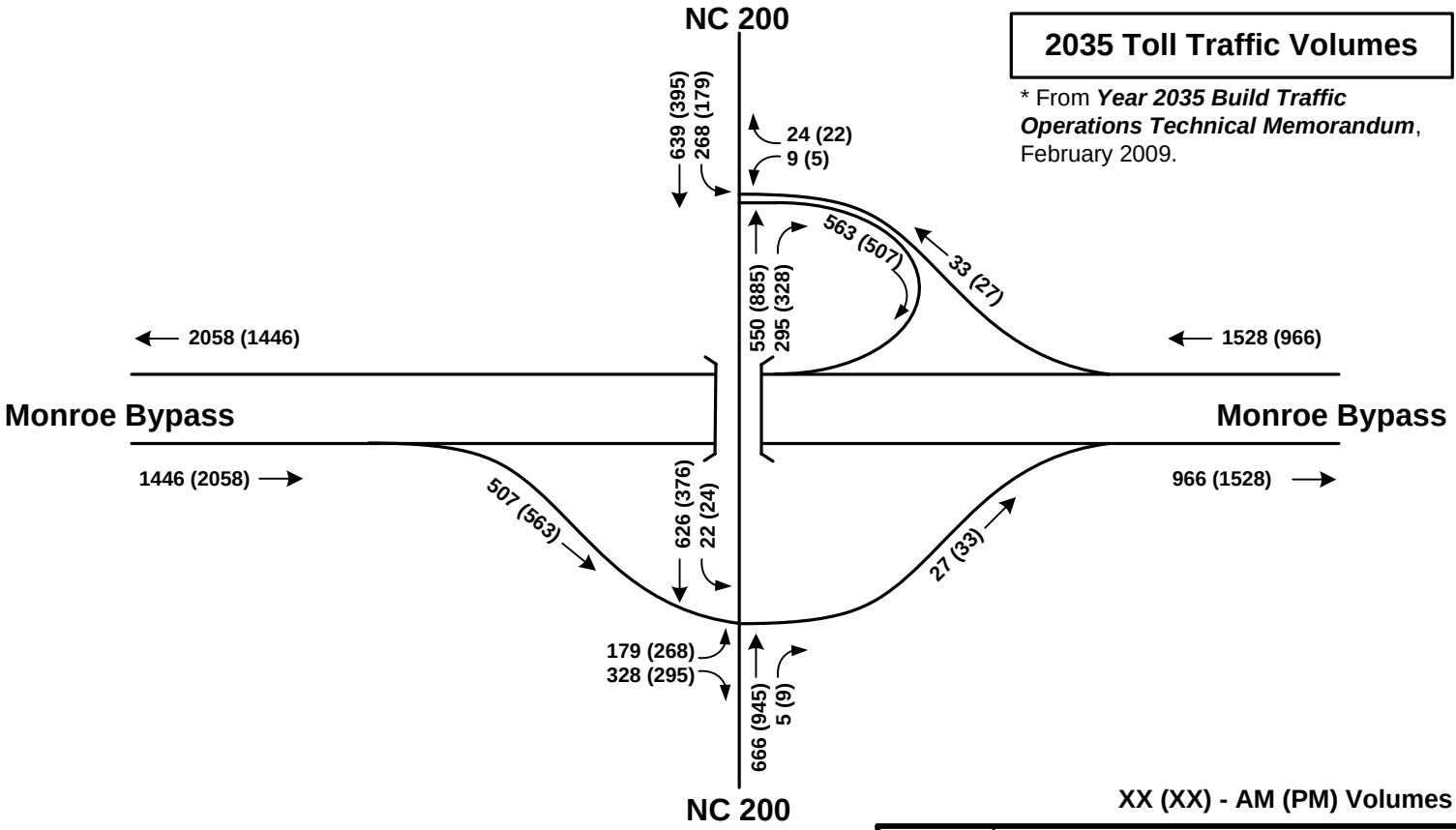
2025 Toll Traffic Volumes

* 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.

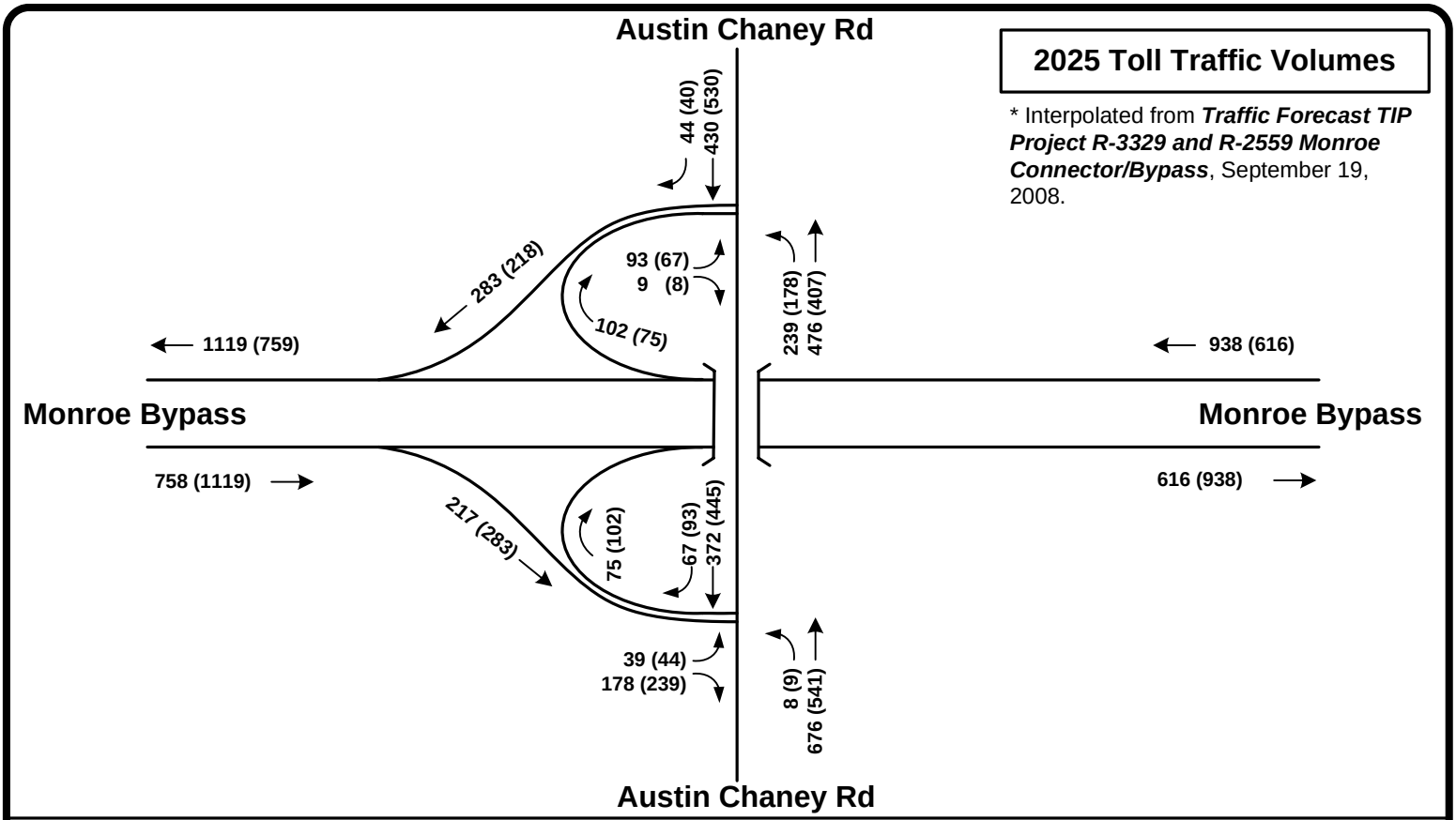


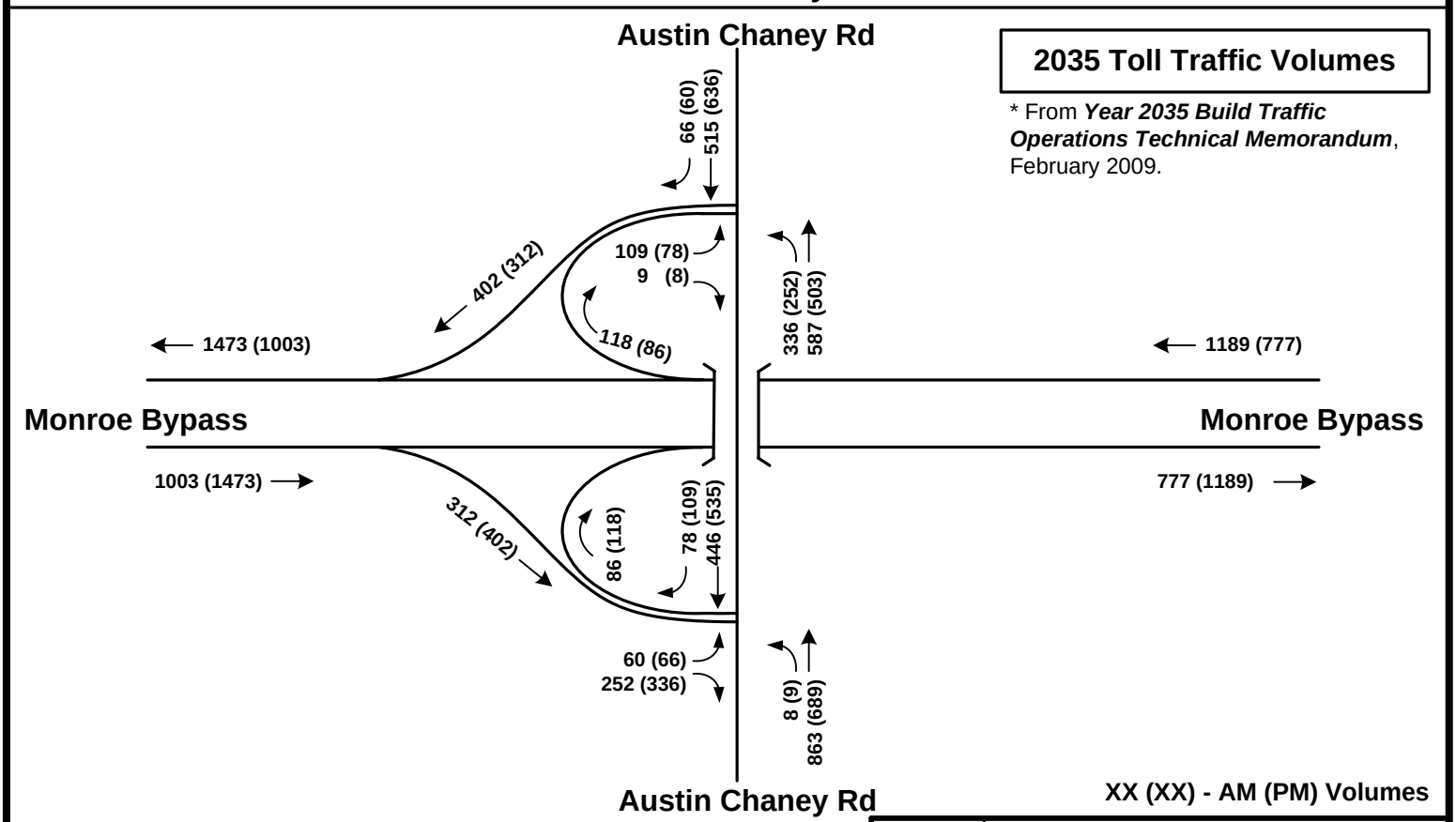
XX (XX) - AM (PM) Volumes

N	**Monroe Bypass & NC 200 Interchange**
	2025 / 2035 BUILD TOLL ALT. 3A PEAK HOUR TRAFFIC VOLUMES
NOT TO SCALE	**DATE:** August 2010
	FIGURE 5

HNTB

NORTH CAROLINA Turnpike Authority





XX (XX) - AM (PM) Volumes

N

Monroe Bypass & Austin Chaney Interchange

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

NOT TO SCALE

DATE: August 2010

FIGURE 6

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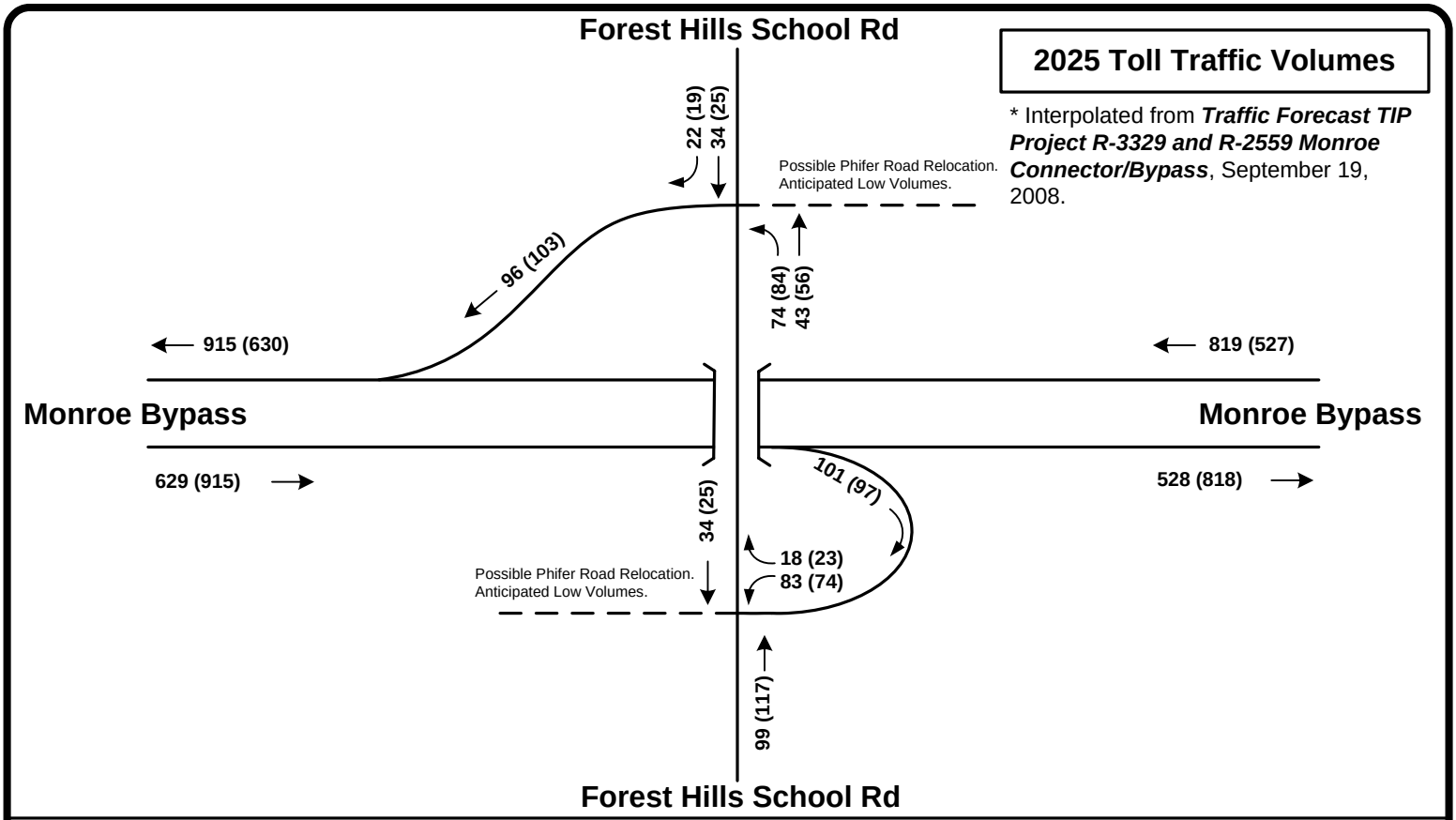

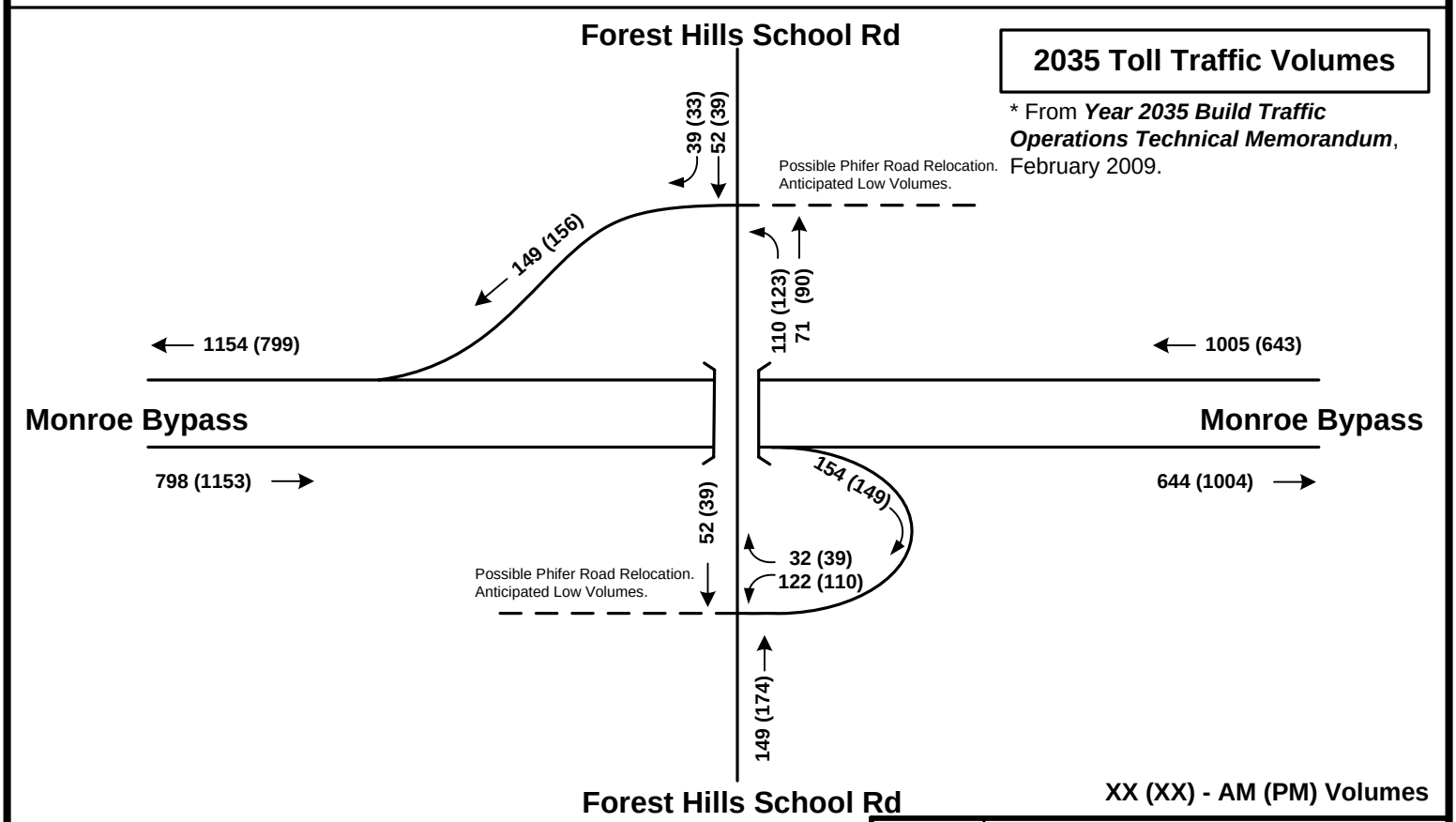

Monroe Bypass & Forest Hills School Interchange

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

NOT TO SCALE

DATE: August 2010

FIGURE 7

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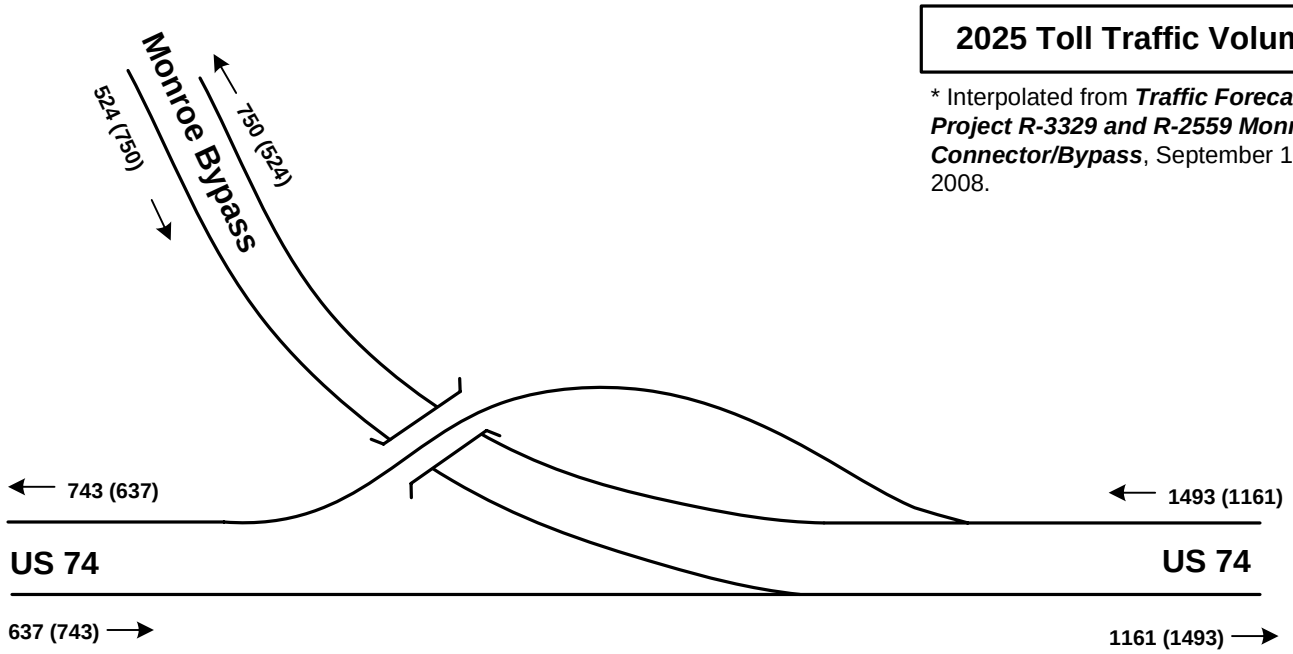
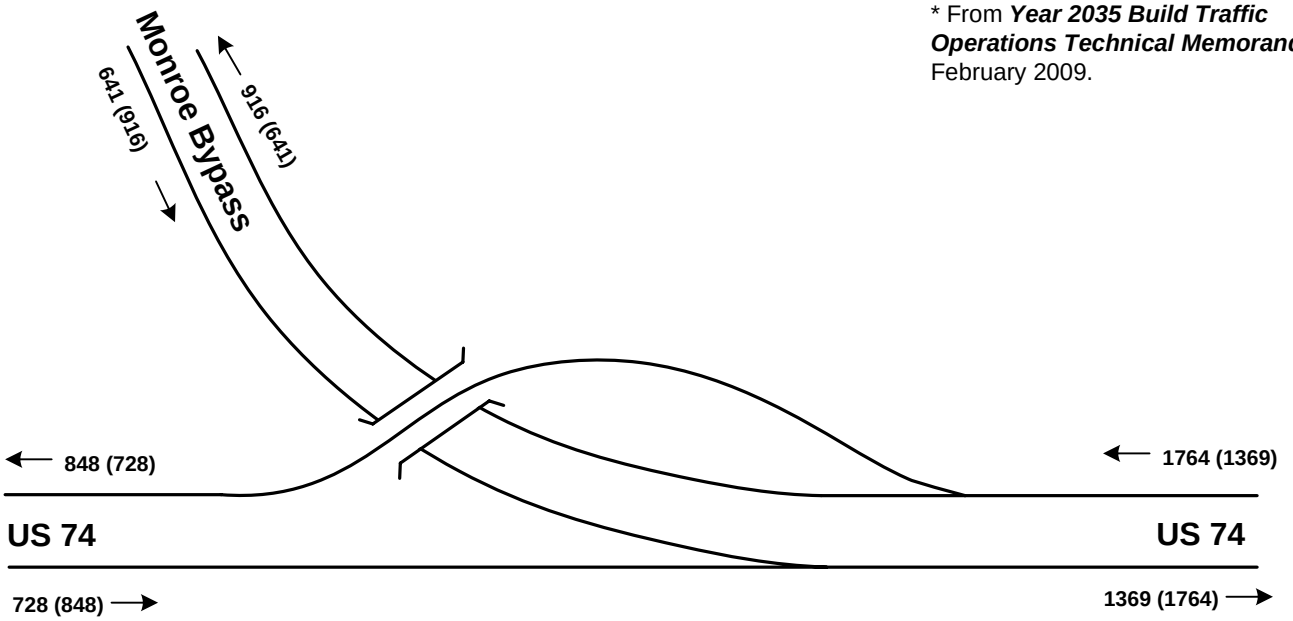
2025 Toll Traffic Volumes

* 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

N	**Monroe Bypass & US 74 Interchange**
	2025 / 2035 BUILD TOLL ALT. 3A PEAK HOUR TRAFFIC VOLUMES
NOT TO SCALE	**DATE:** August 2010
	FIGURE 8

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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

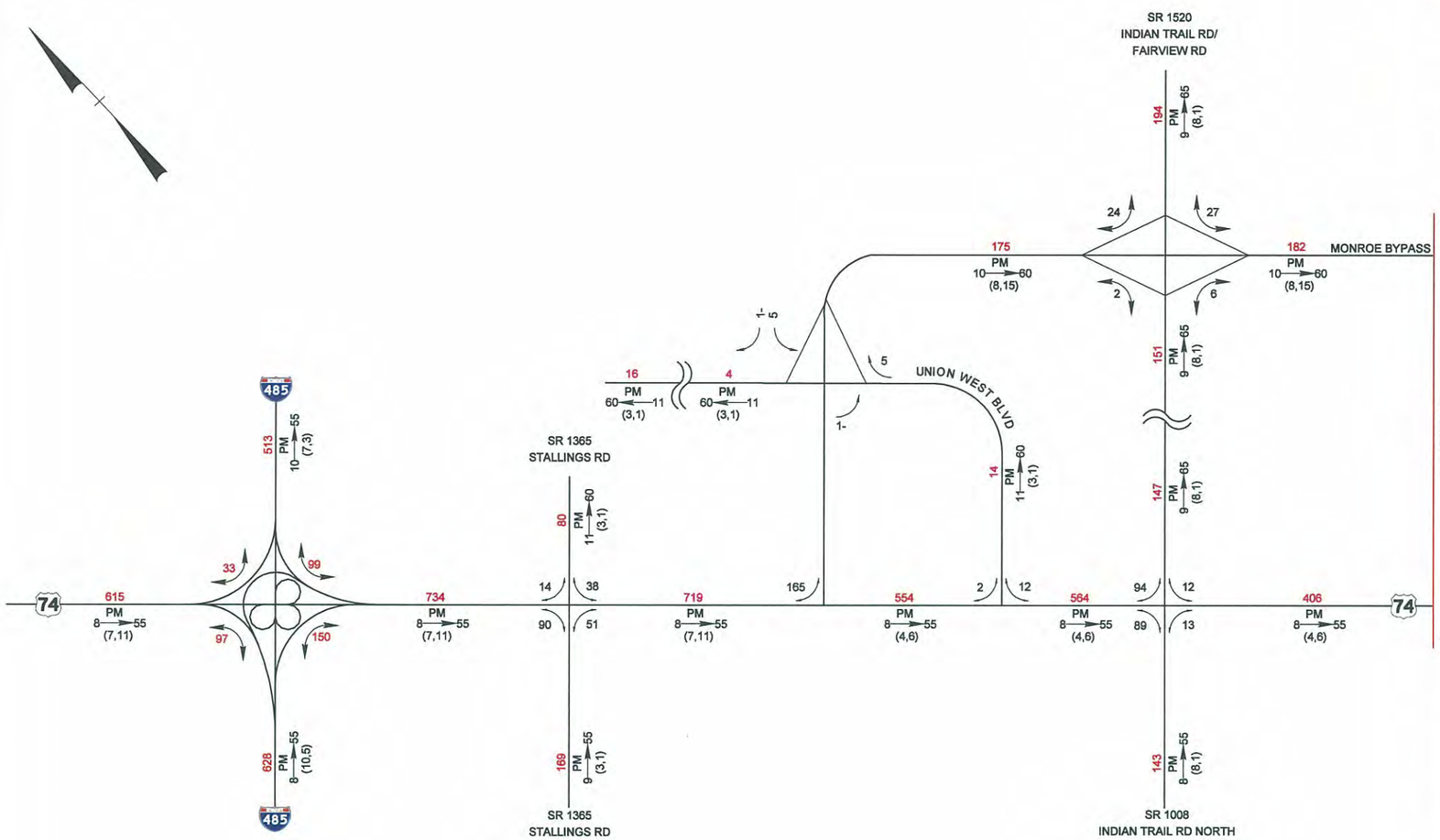
Prepared by

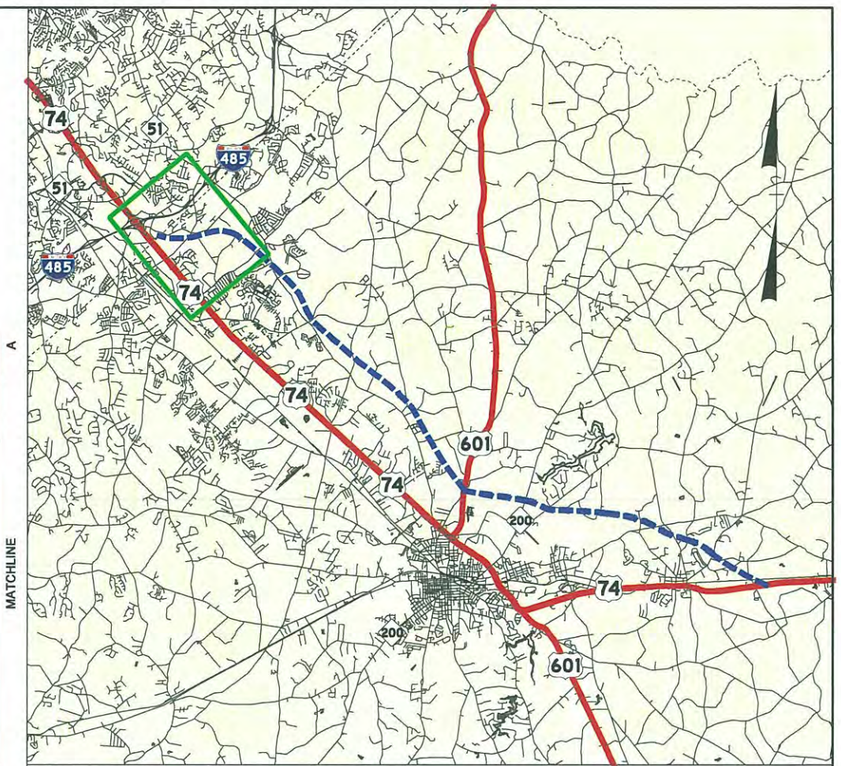
NORTH CAROLINA PROFESSIONAL SEAL 19300 ENGINEER DAVID WORTH PRIVETTE
9/15/08

ENGINEERS PLANNERS ECONOMISTS
WilburSmith ASSOCIATES

September 19 2008

421 Fayetteville Street, Suite 1303, Raleigh, North Carolina 27601





2008 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

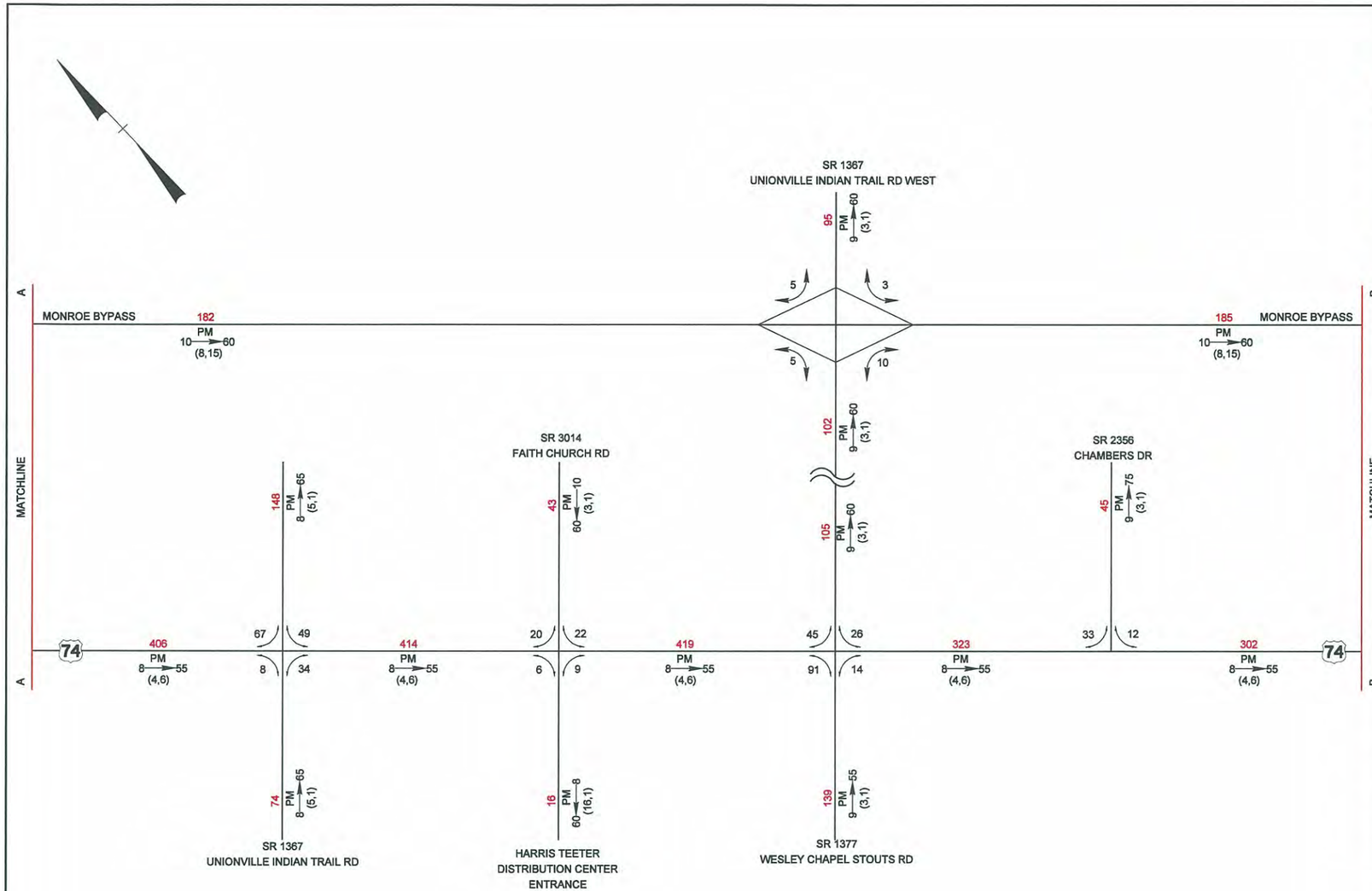
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 1
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

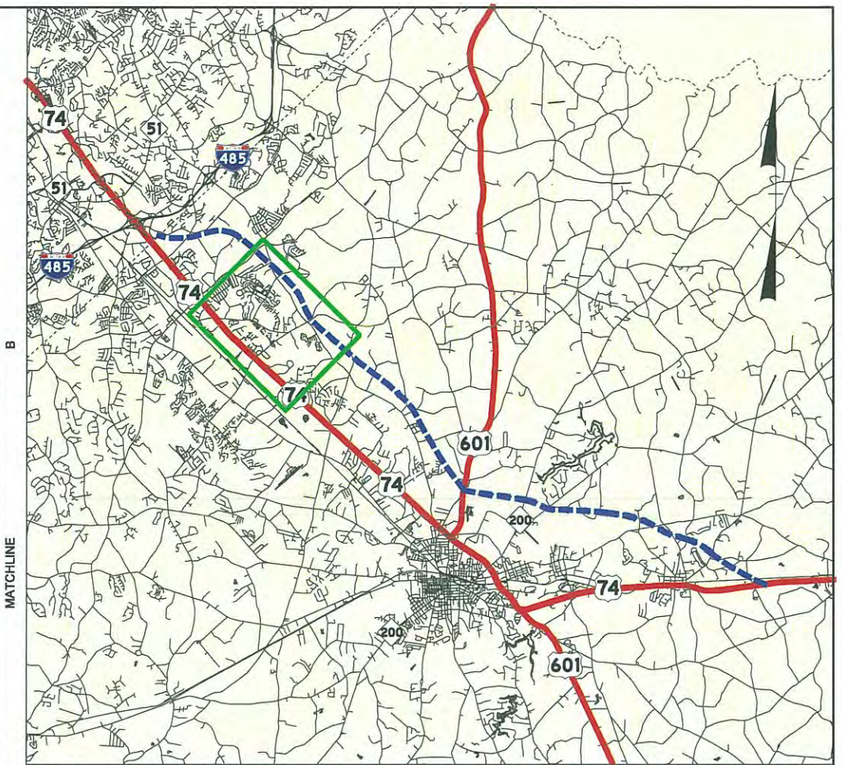
LEGEND

DHV $\xrightarrow[(d,\ t)]{PM}$ D

- DHV Design Hourly Volume (%) = K_{30}
- PM Peak Period
- D Peak Hour Directional Split (%)
- → Indicates Direction of D
- (d, t) Duals, TTST (%)

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- ### Turning volume (VPD)





2008 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

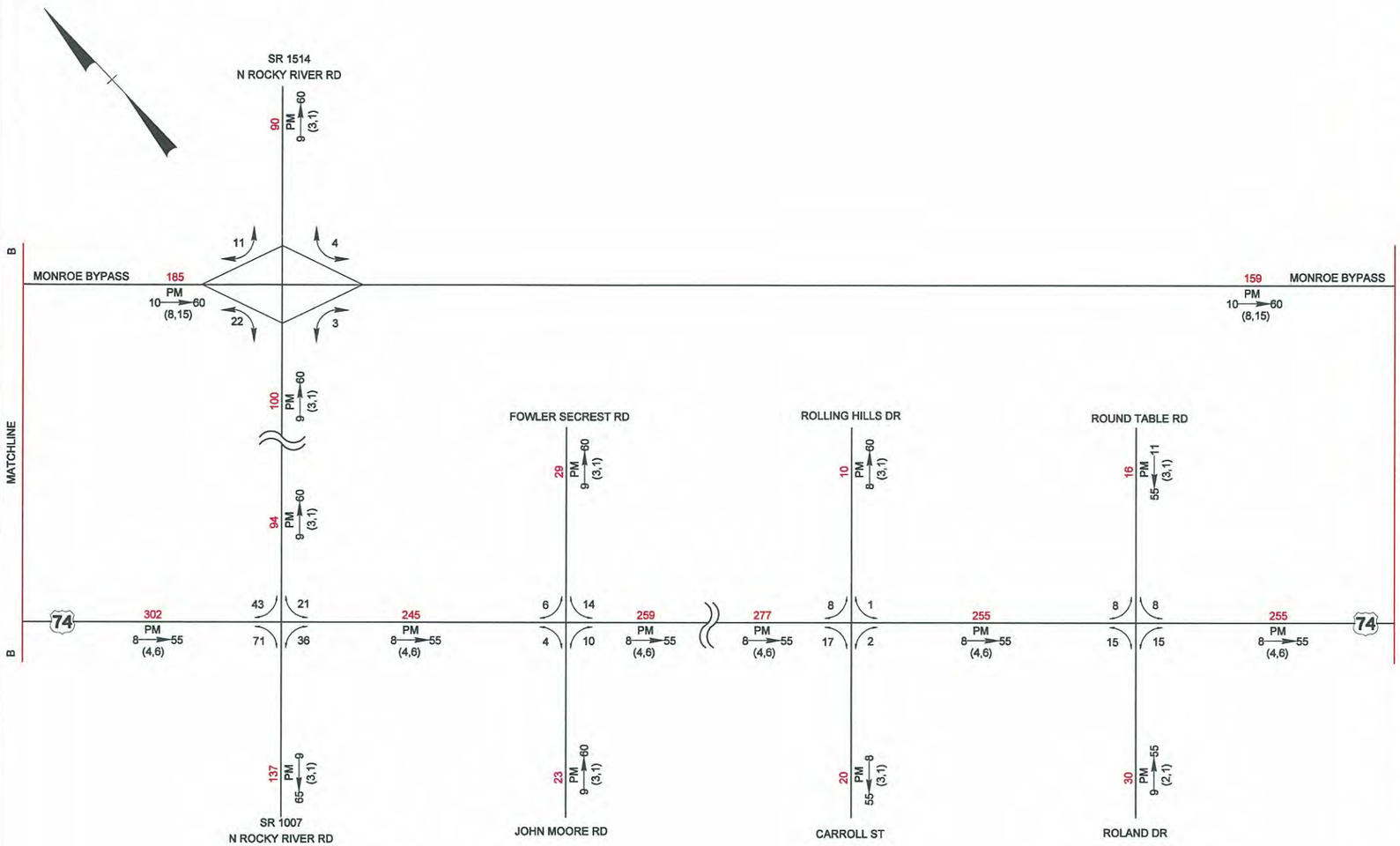
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 2
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

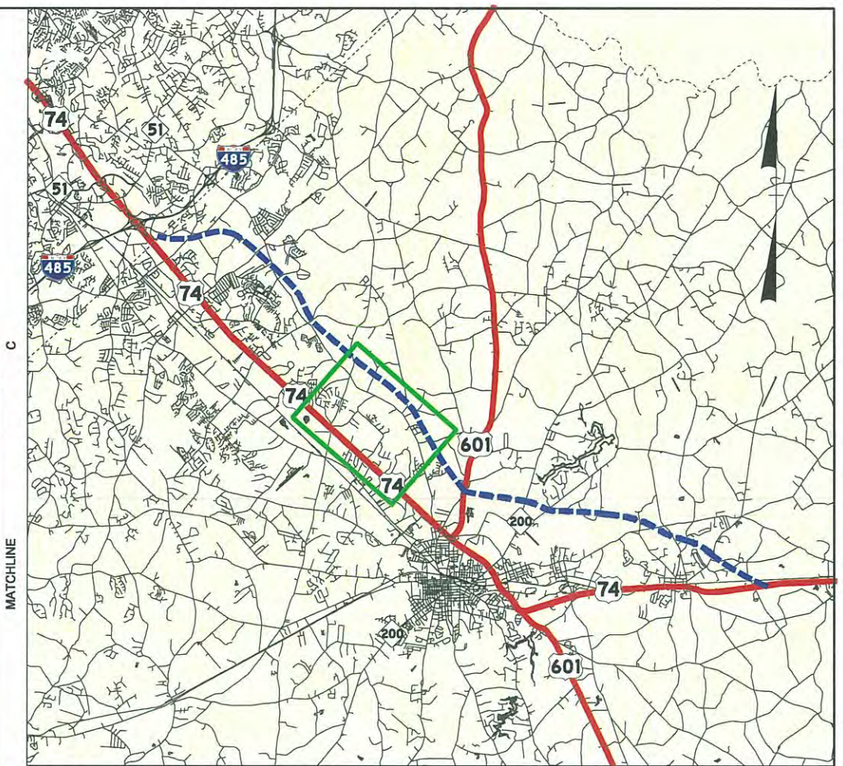
LEGEND

DHV $\xrightarrow[(d,\ t)]{PM}$ D

- DHV Design Hourly Volume (%) = K_{30}
- PM Peak Period
- D Peak Hour Directional Split (%)
- → Indicates Direction of D
- (d, t) Duals, TTST (%)

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- ### Turning volume (VPD)





2008 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

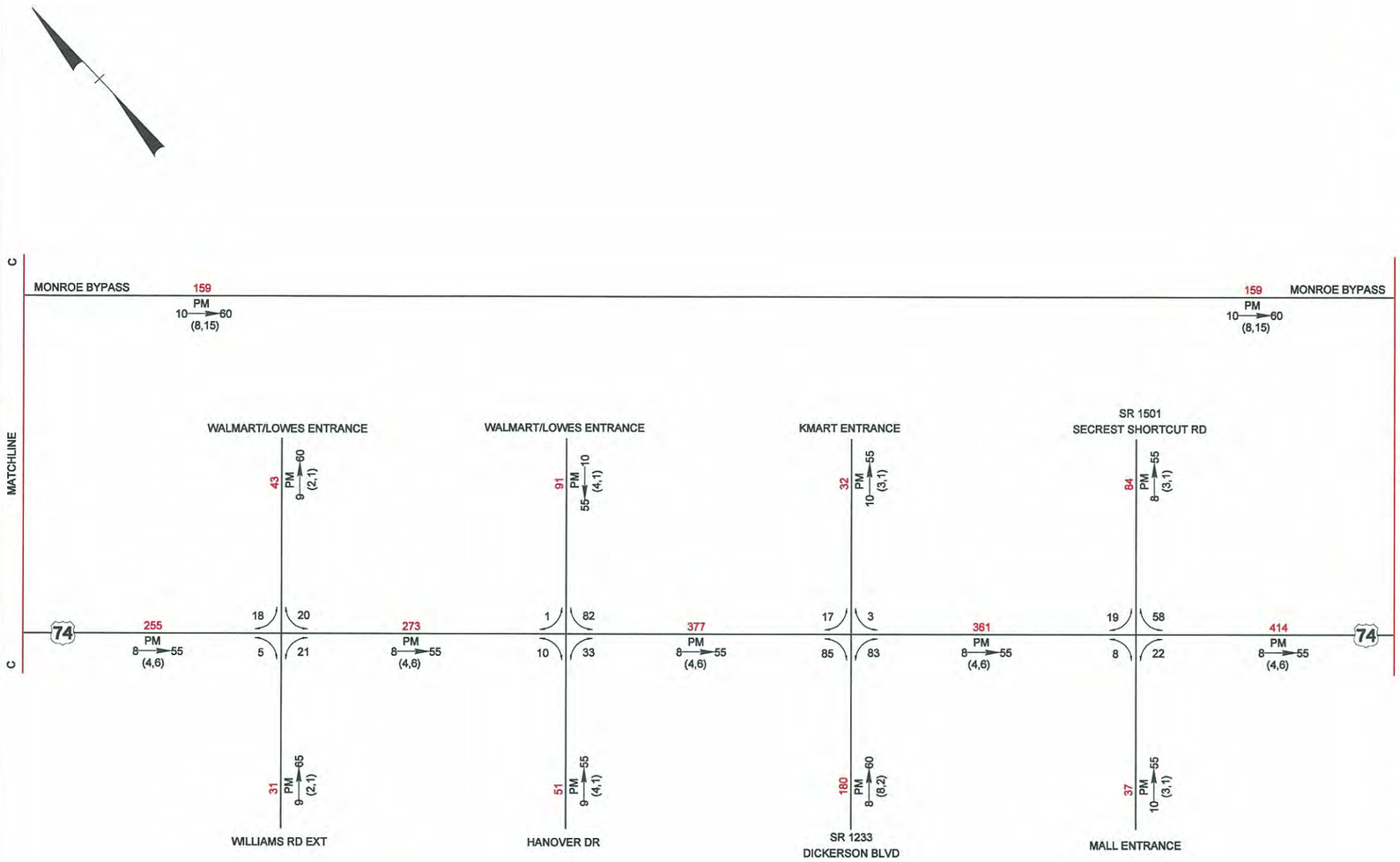
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 3
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

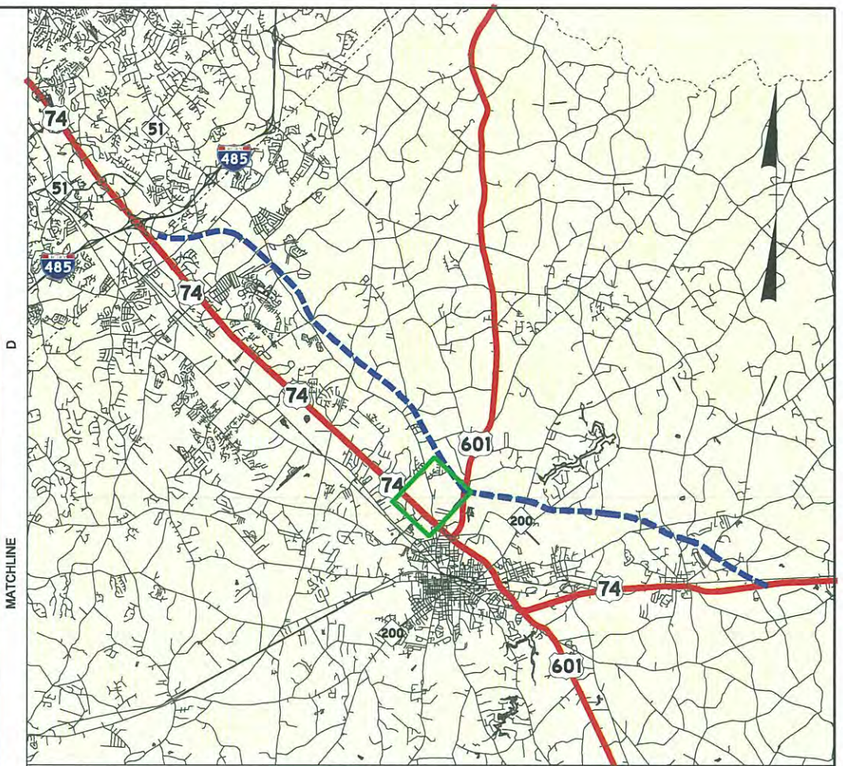
LEGEND

DHV PM → D (d, t)

- DHV Design Hourly Volume (%) = K_{30}
- PM Peak Period
- D Peak Hour Directional Split (%)
- → Indicates Direction of D
- (d, t) Duals, TTST (%)

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- ### Turning volume (VPD)





2008 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

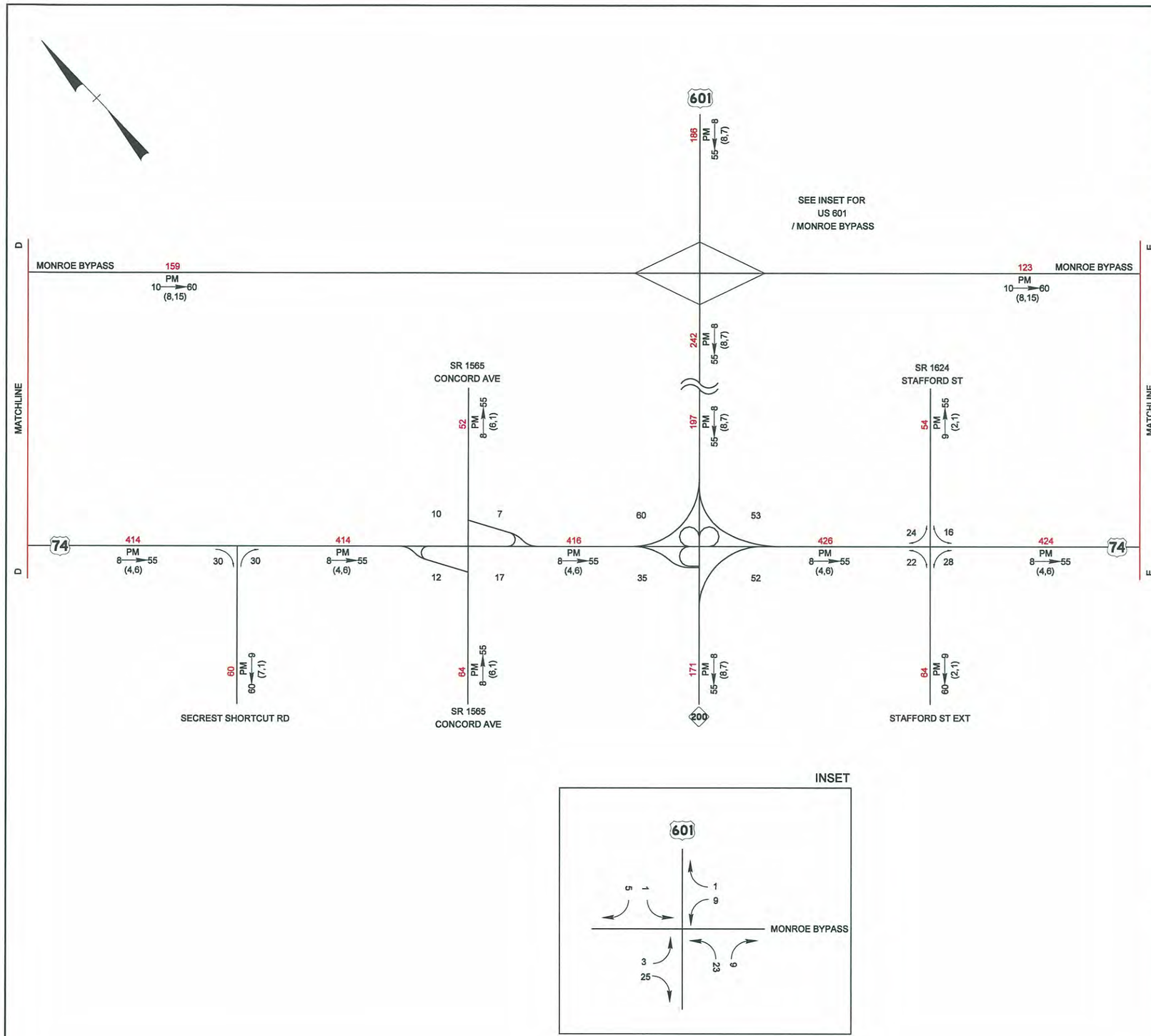
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 4
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

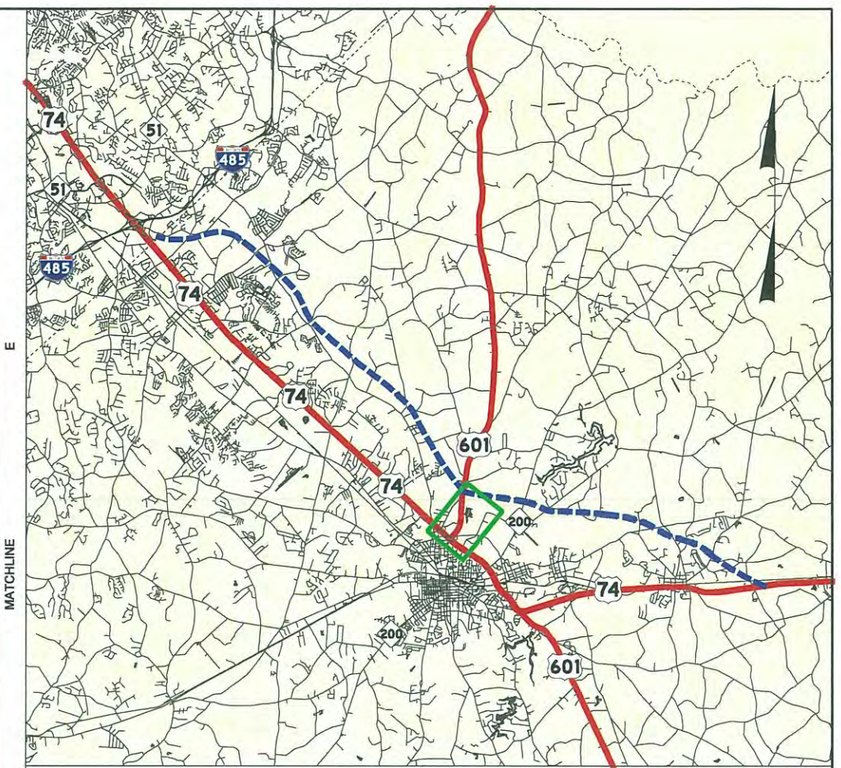
LEGEND

DHV $\xrightarrow[(d,\ t)]{PM}$ D

- DHV Design Hourly Volume (%) = K_{30}
- PM Peak Period
- D Peak Hour Directional Split (%)
- → Indicates Direction of D
- (d, t) Duals, TTST (%)

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- ### Turning volume (VPD)





2008 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

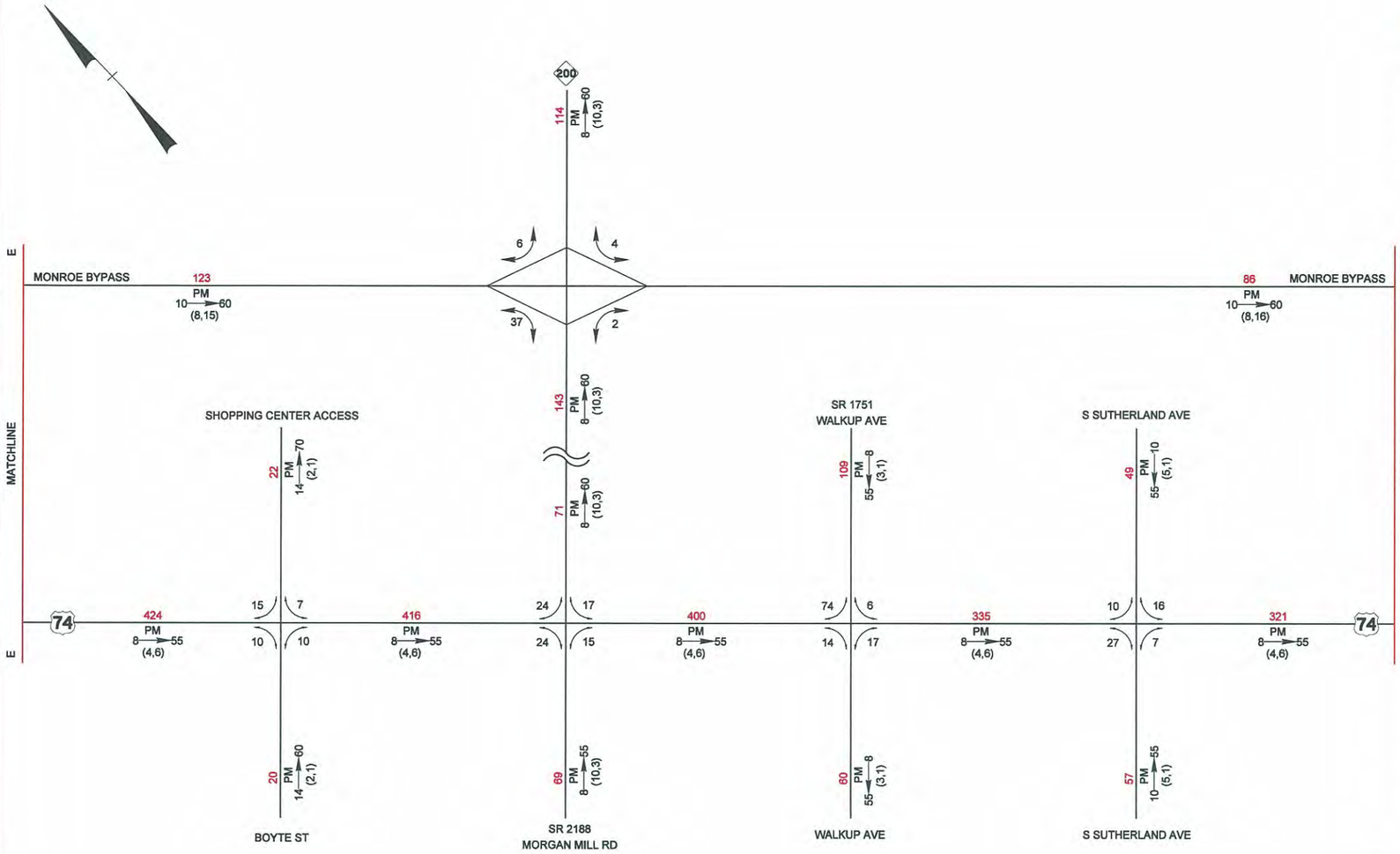
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 5
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

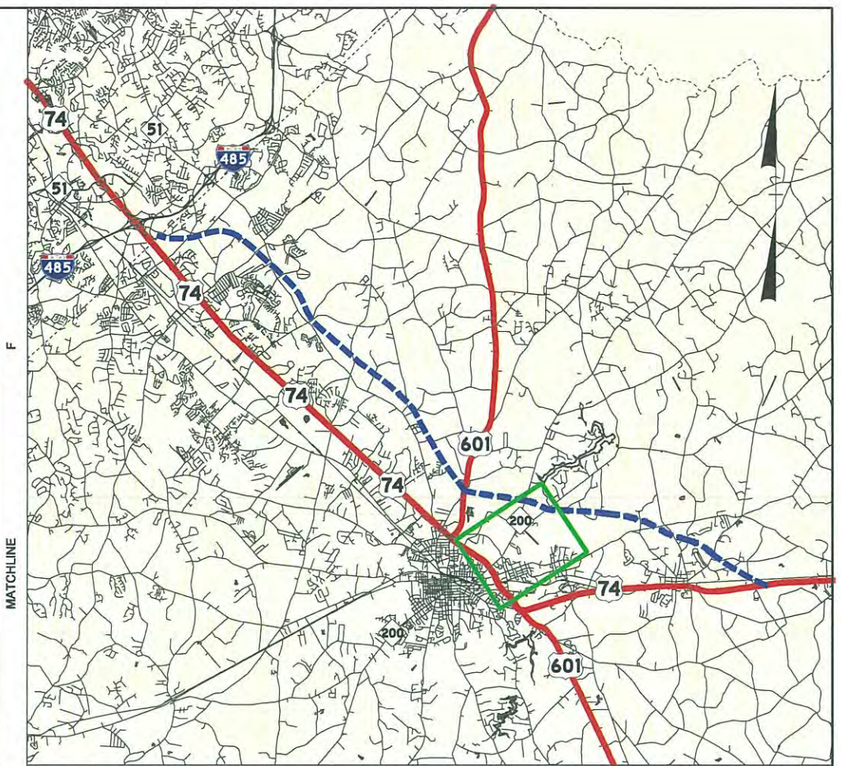
LEGEND

DHV PM→D (d, t)

- DHV Design Hourly Volume (%) = K_{30}
- PM Peak Period
- D Peak Hour Directional Split (%)
- → Indicates Direction of D
- (d, t) Duals, TTST (%)

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- ### Turning volume (VPD)





2008 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

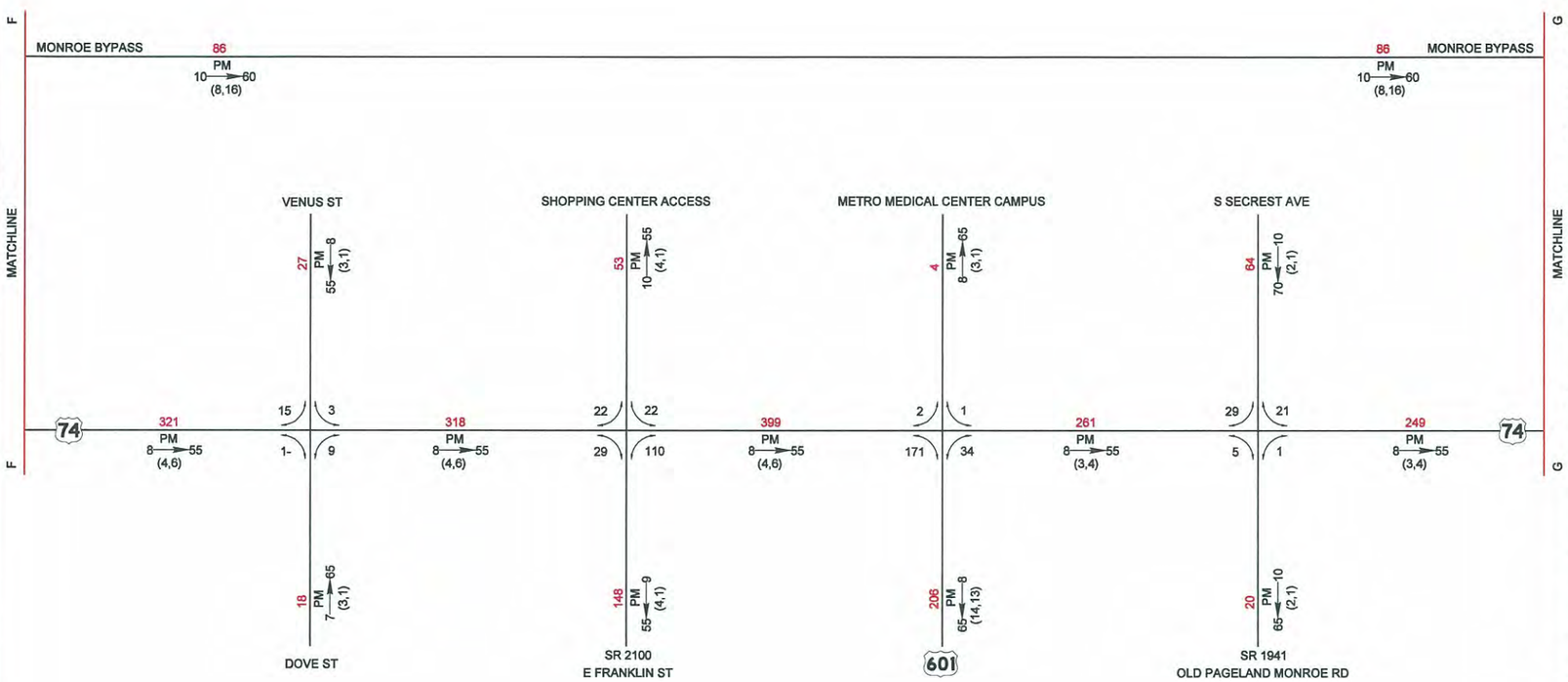
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 6
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

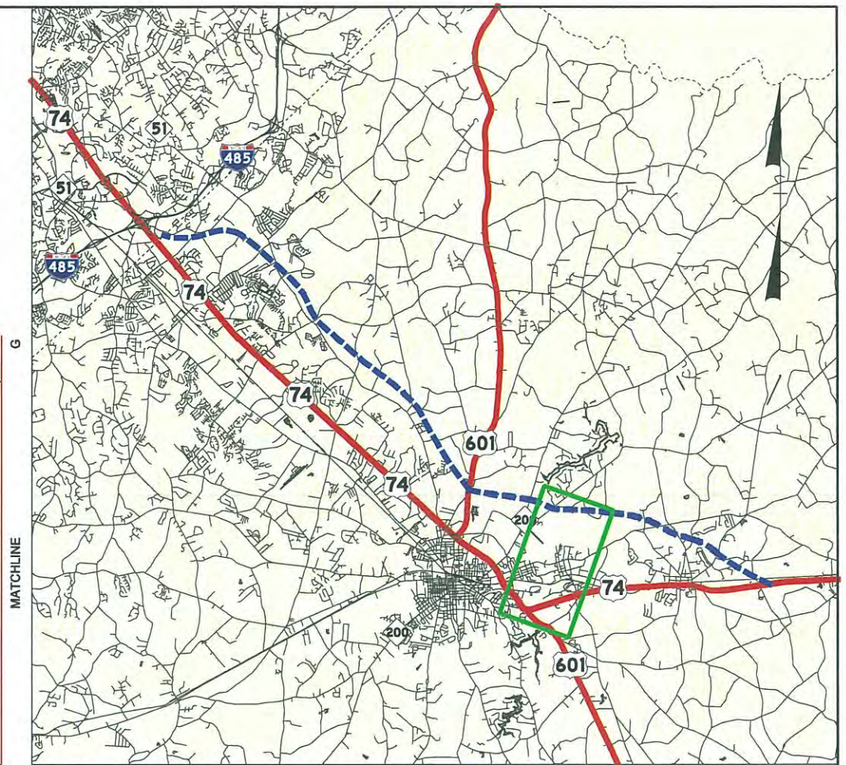
LEGEND

DHV $\xrightarrow[(d,\ t)]{PM}$ D

- DHV Design Hourly Volume (%) = K_{30}
- PM Peak Period
- D Peak Hour Directional Split (%)
- → Indicates Direction of D
- (d, t) Duals, TTST (%)

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- ### Turning volume (VPD)





2008 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

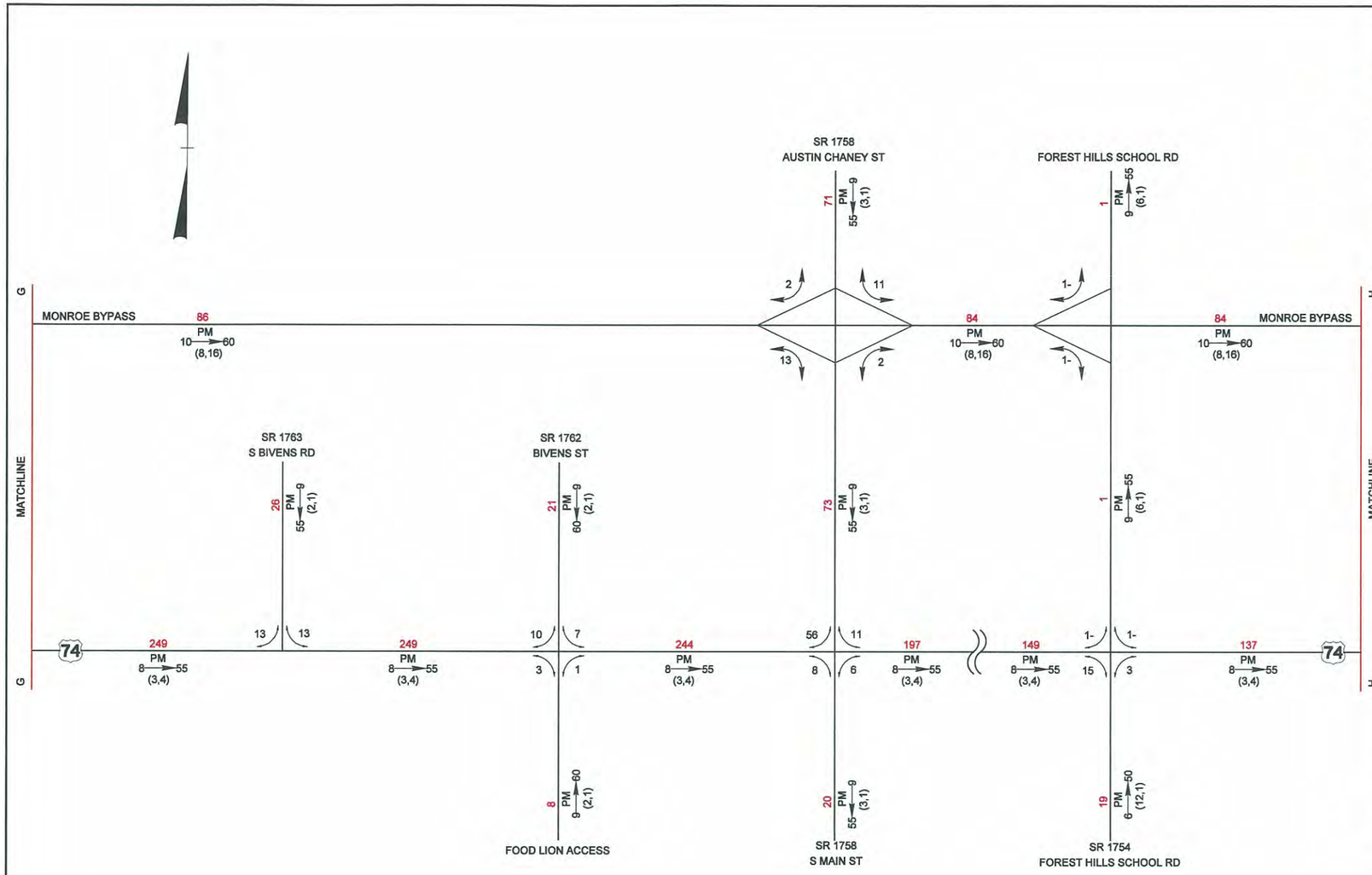
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 7
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

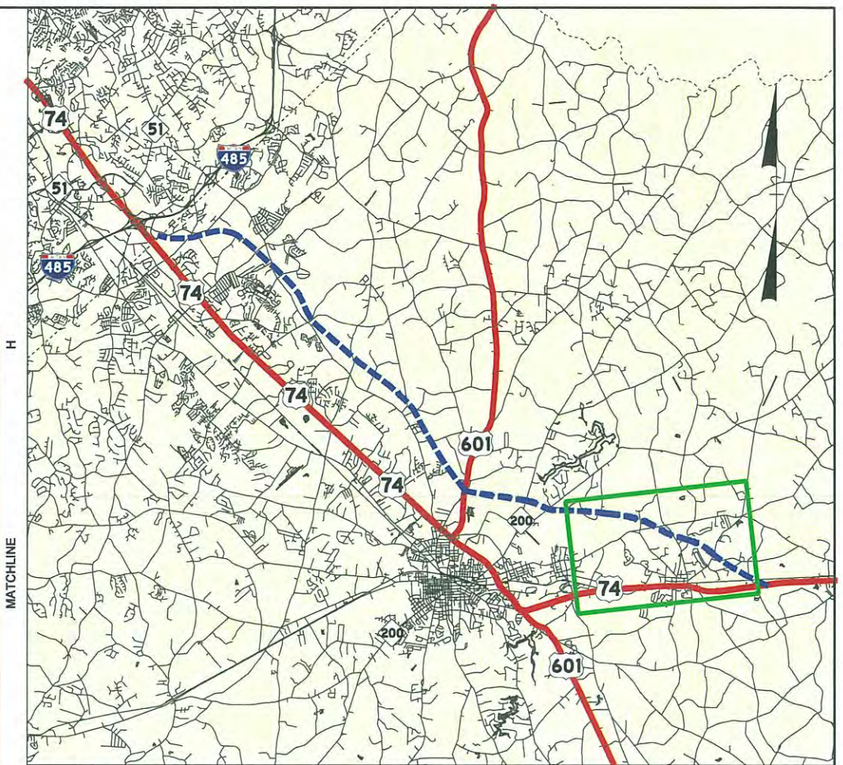
LEGEND

DHV $\xrightarrow[\text{(d, t)}]{\text{PM}}$ D

- DHV Design Hourly Volume (%) = K_{30}
- PM Peak Period
- D Peak Hour Directional Split (%)
- → Indicates Direction of D
- (d, t) Duals, TTST (%)

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- ### Turning volume (VPD)





2008 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

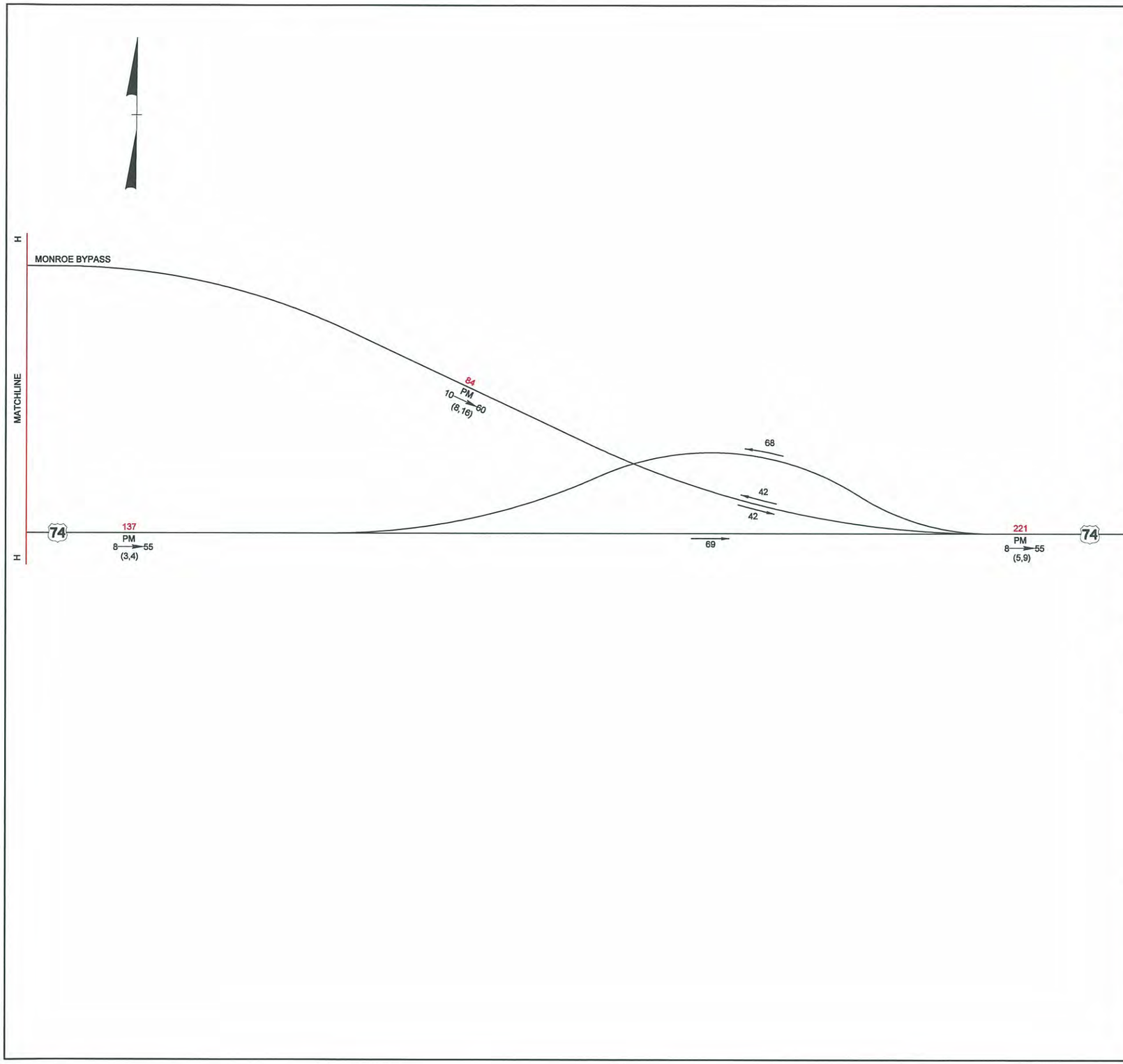
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 8
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

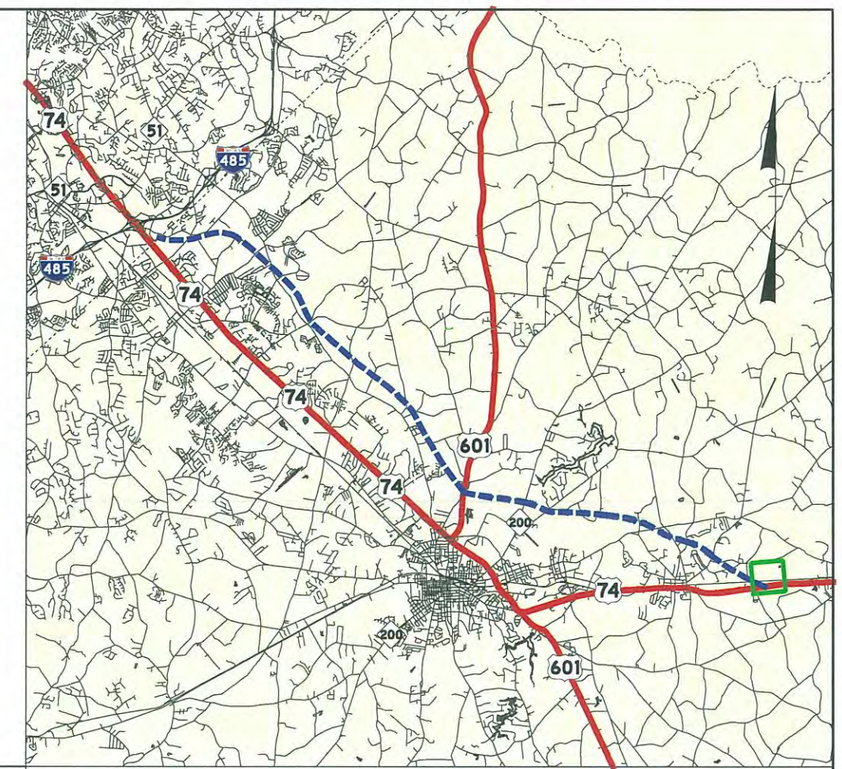
LEGEND

DHV $\xrightarrow[(d,\ t)]{PM}$ D

DHV Design Hourly Volume (%) = K_{30}
PM Peak Period
D Peak Hour Directional Split (%)
→ Indicates Direction of D
(d, t) Duals, TTST (%)

No. of Vehicles Per Day (VPD) in 100s
1- Less than 50 VPD
Turning volume (VPD)





2008 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

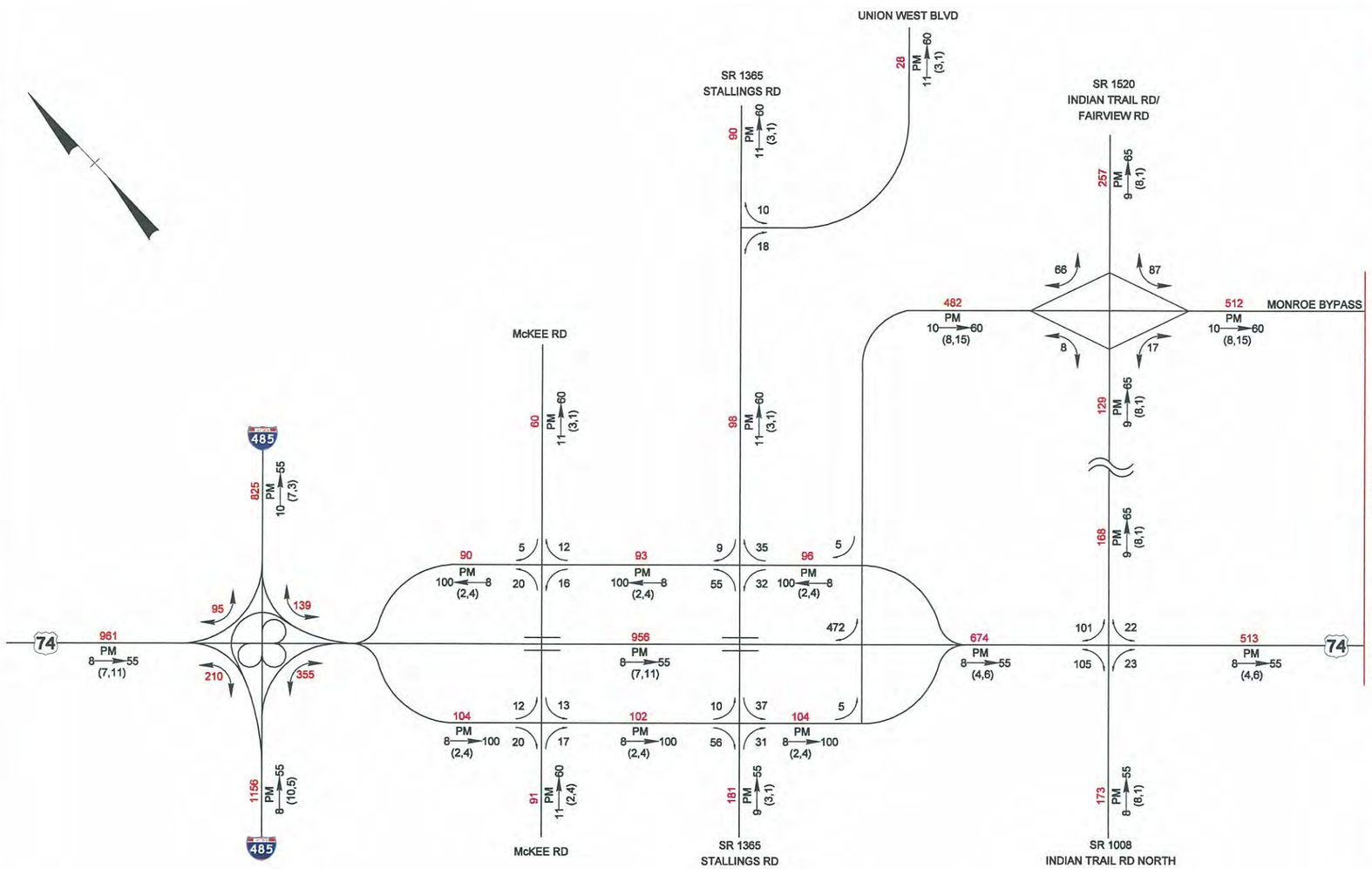
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 9
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

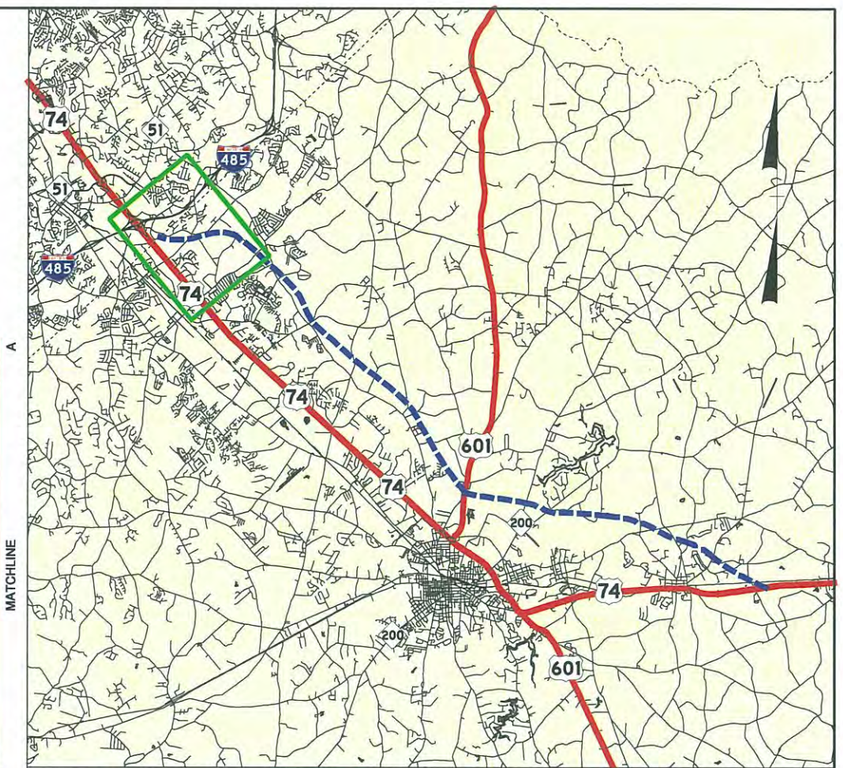
LEGEND

DHV $\xrightarrow[(d,\ t)]{PM}$ D

DHV Design Hourly Volume (%) = K_{30}
PM Peak Period
D Peak Hour Directional Split (%)
$\longrightarrow$ Indicates Direction of D
(d, t) Duals, TTST (%)

No. of Vehicles Per Day (VPD) in 100s
1- Less than 50 VPD
Turning volume (VPD)





2035 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

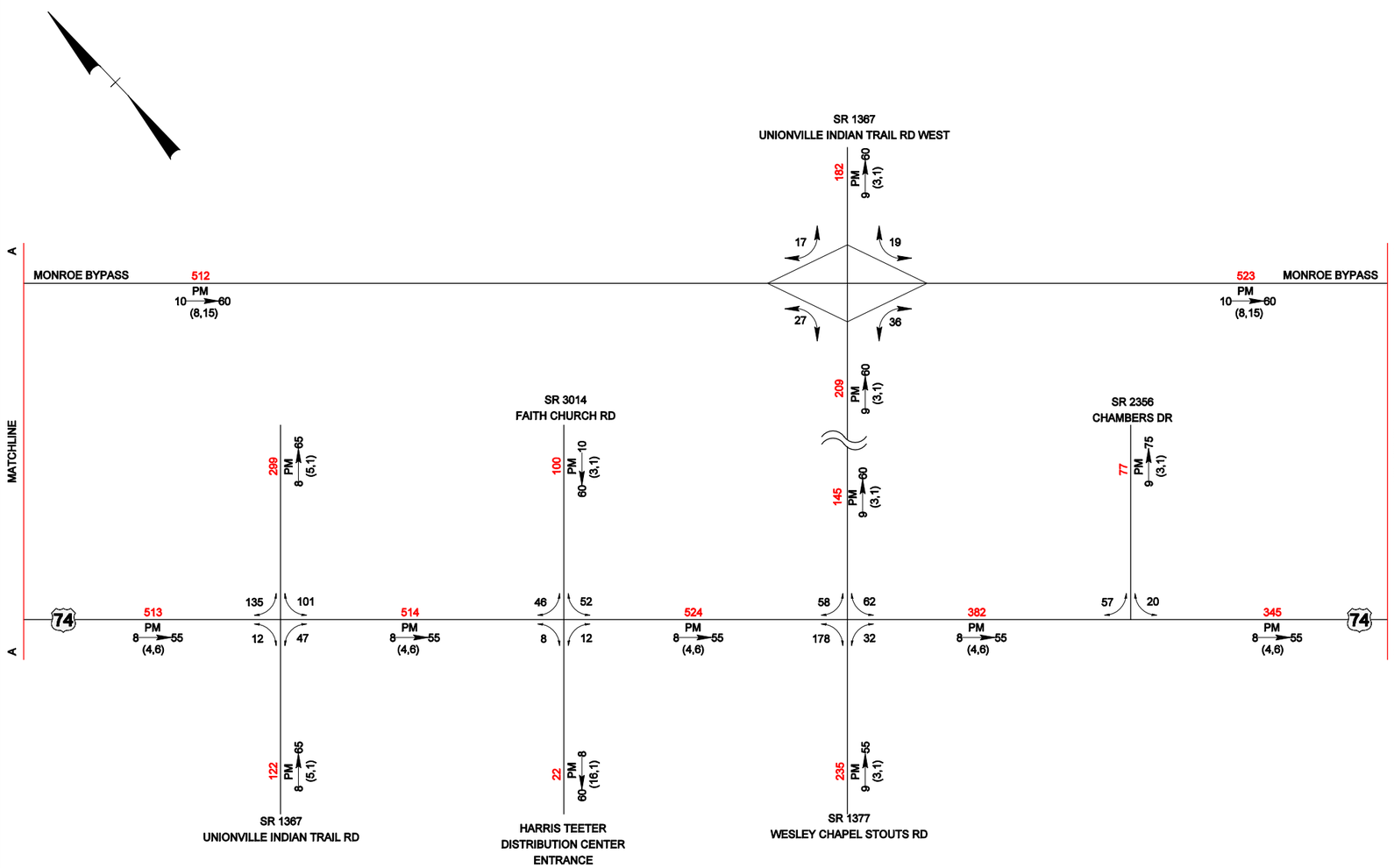
TIP: R-3329/R-2559	REVISED ALTERNATE: 3A	LOCATION:	US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER:	1
DIVISION: 10	DATE: June 2008	PREPARED BY:	Wilbur Smith Associates

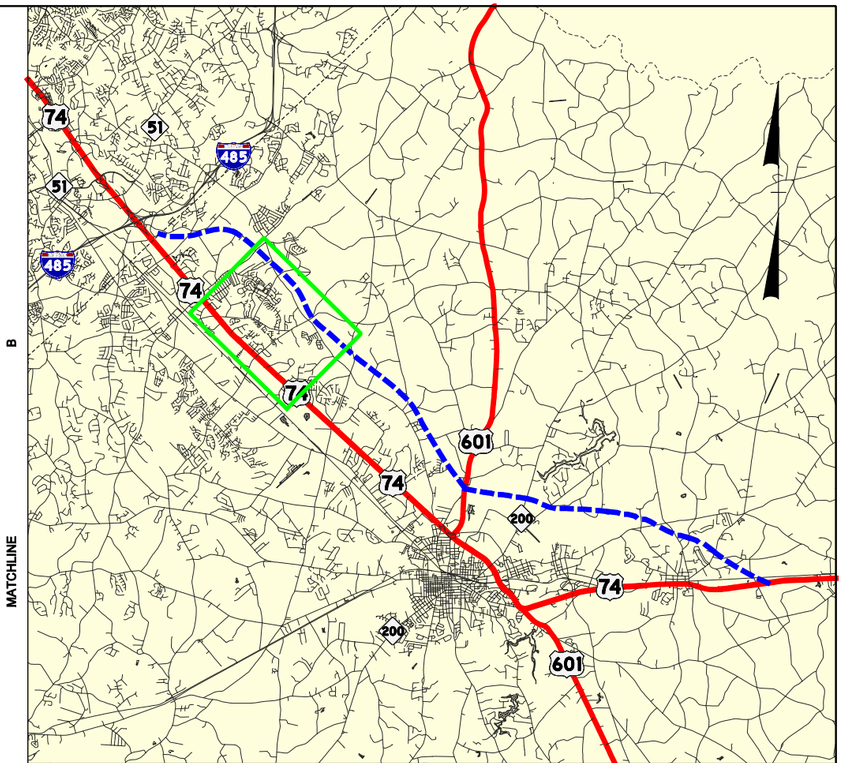
LEGEND

DHV $\xrightarrow[(d,\ t)]{PM}$ D

- DHV Design Hourly Volume (%) = K_{30}
- PM Peak Period
- D Peak Hour Directional Split (%)
- → Indicates Direction of D
- (d, t) Duals, TTST (%)

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- ### Turning volume (VPD)





2035 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

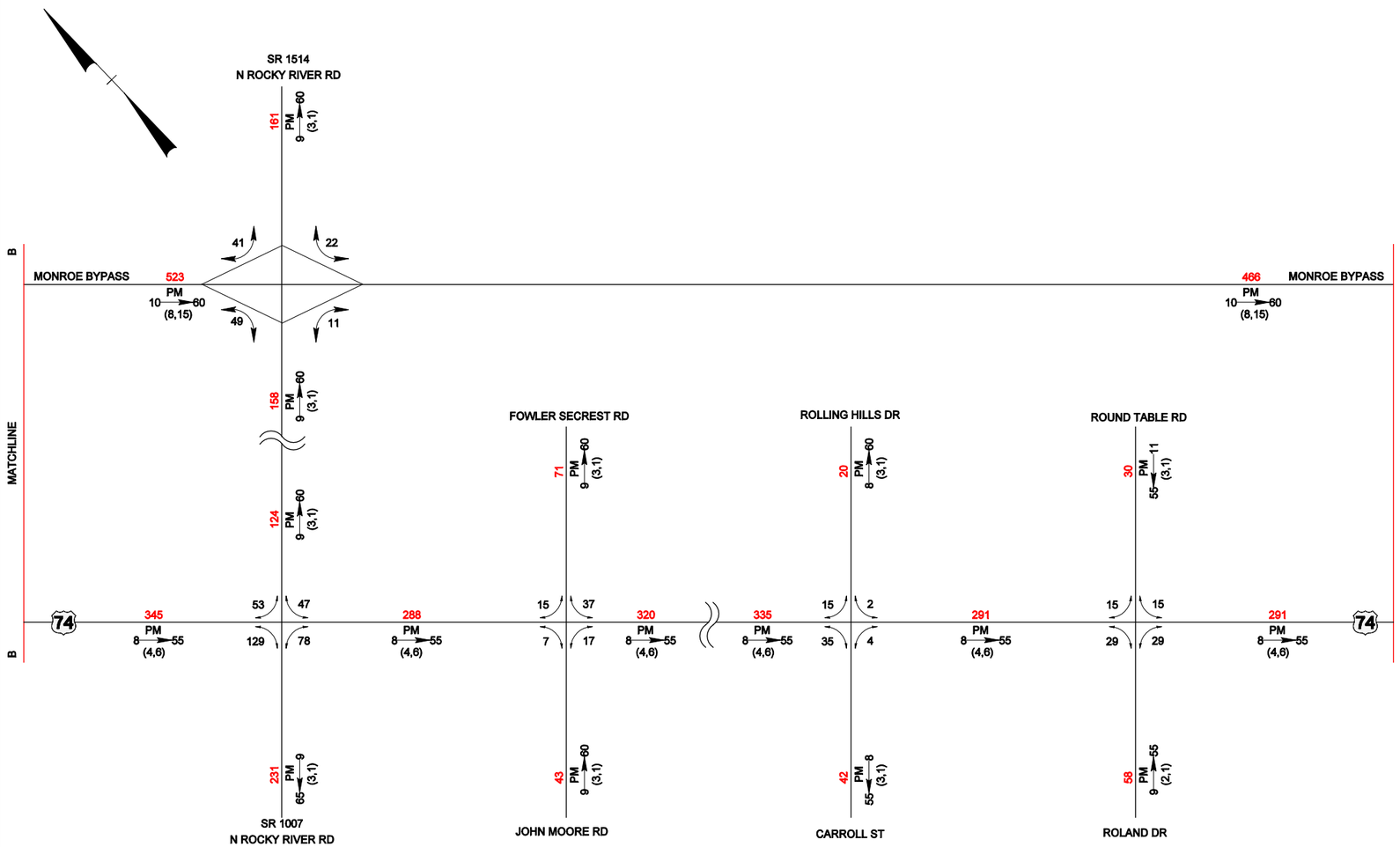
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 2
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

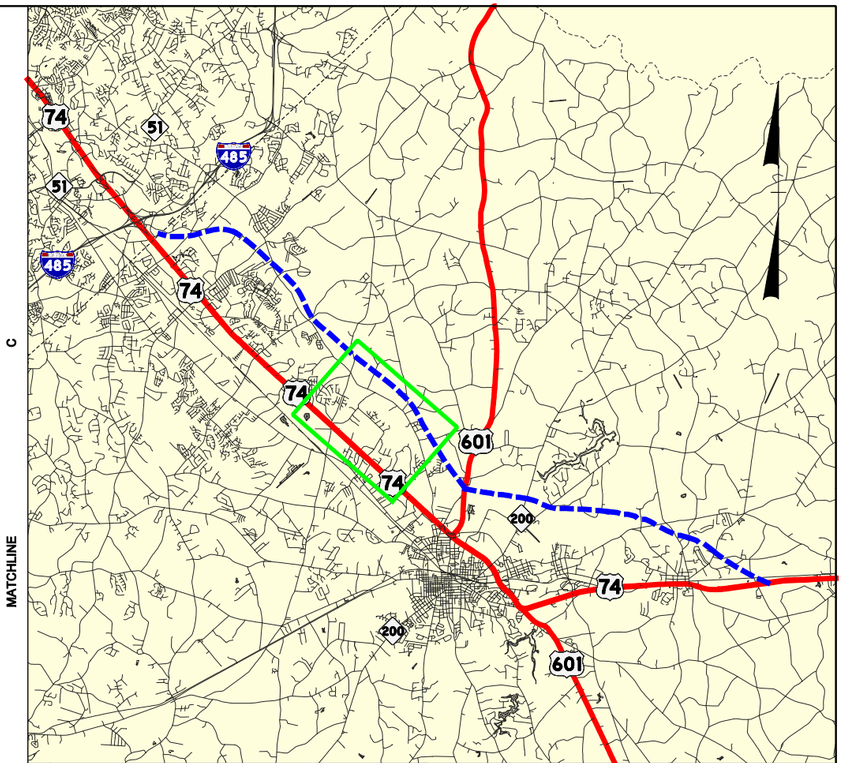
LEGEND

DHV $\xrightarrow[(d,\ t)]{PM}$ D

DHV	Design Hourly Volume (%) = K_{30}
PM	Peak Period
D	Peak Hour Directional Split (%)
→	Indicates Direction of D
(d, t)	Duals, TTST (%)

###	No. of Vehicles Per Day (VPD) in 100s
1-	Less than 50 VPD
###	Turning volume (VPD)





2035 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

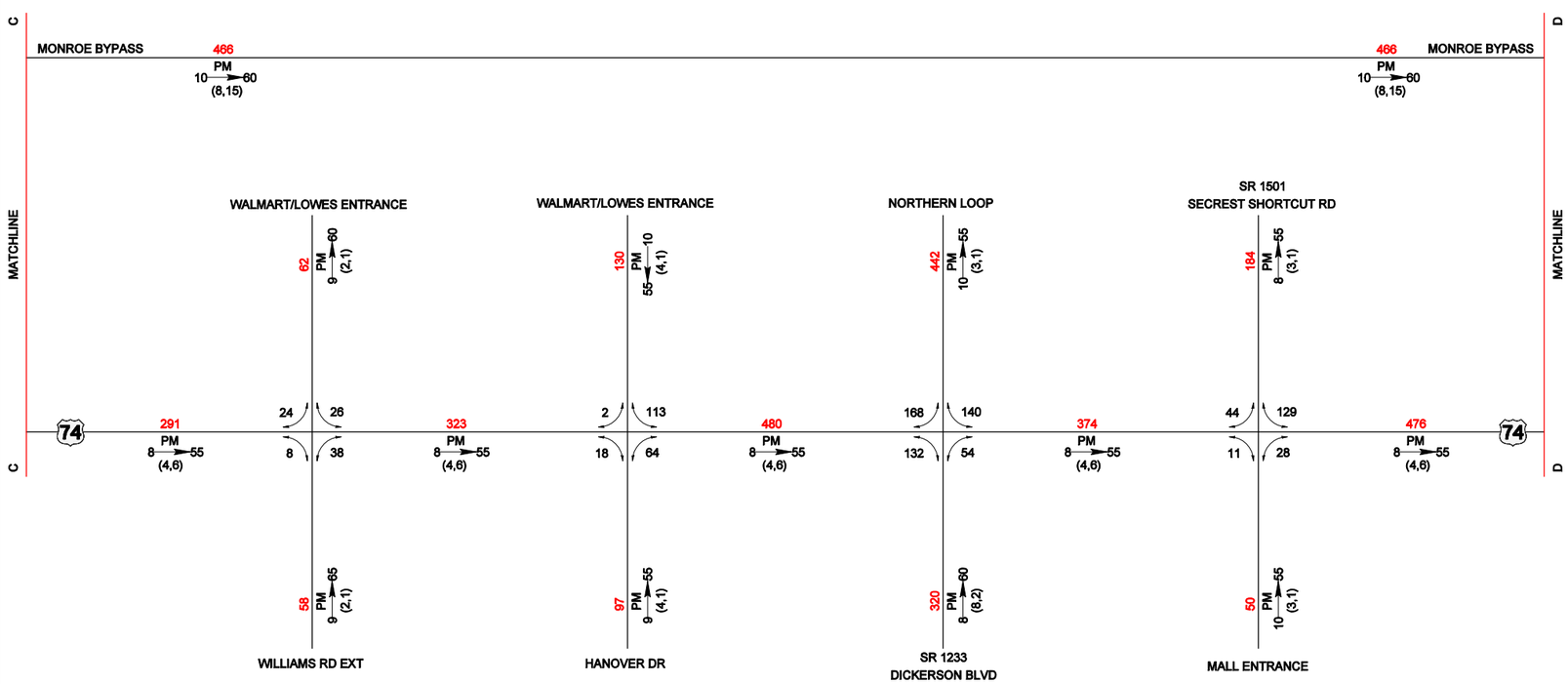
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 3
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

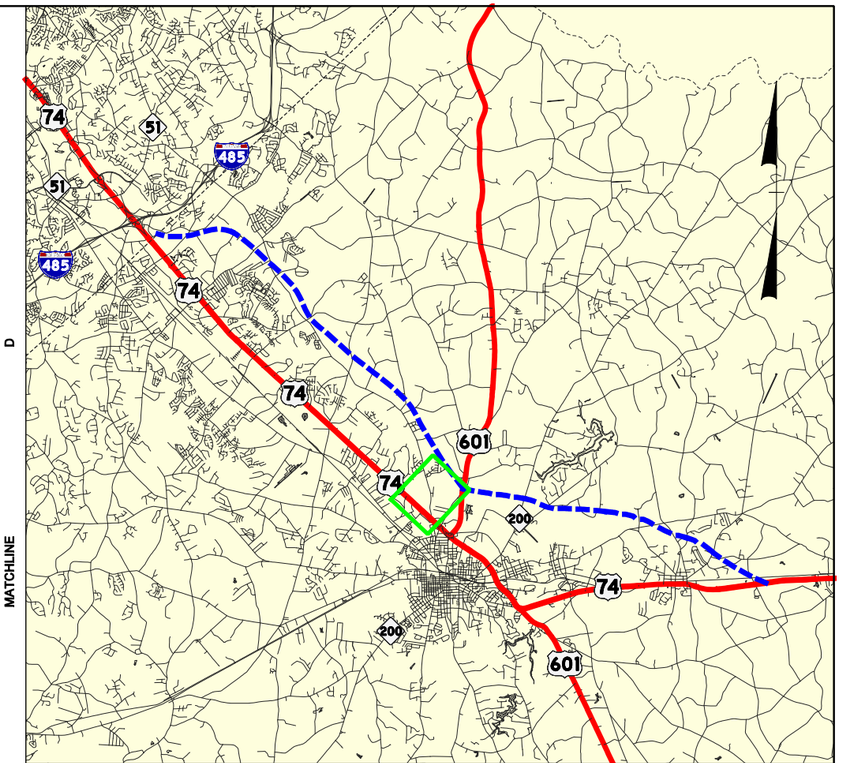
LEGEND

DHV $\xrightarrow[(d,\ t)]{PM}$ D

DHV	Design Hourly Volume (%) = K_{30}
PM	Peak Period
D	Peak Hour Directional Split (%)
→	Indicates Direction of D
(d, t)	Duals, TTST (%)

###	No. of Vehicles Per Day (VPD) in 100s
1-	Less than 50 VPD
###	Turning volume (VPD)





2035 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

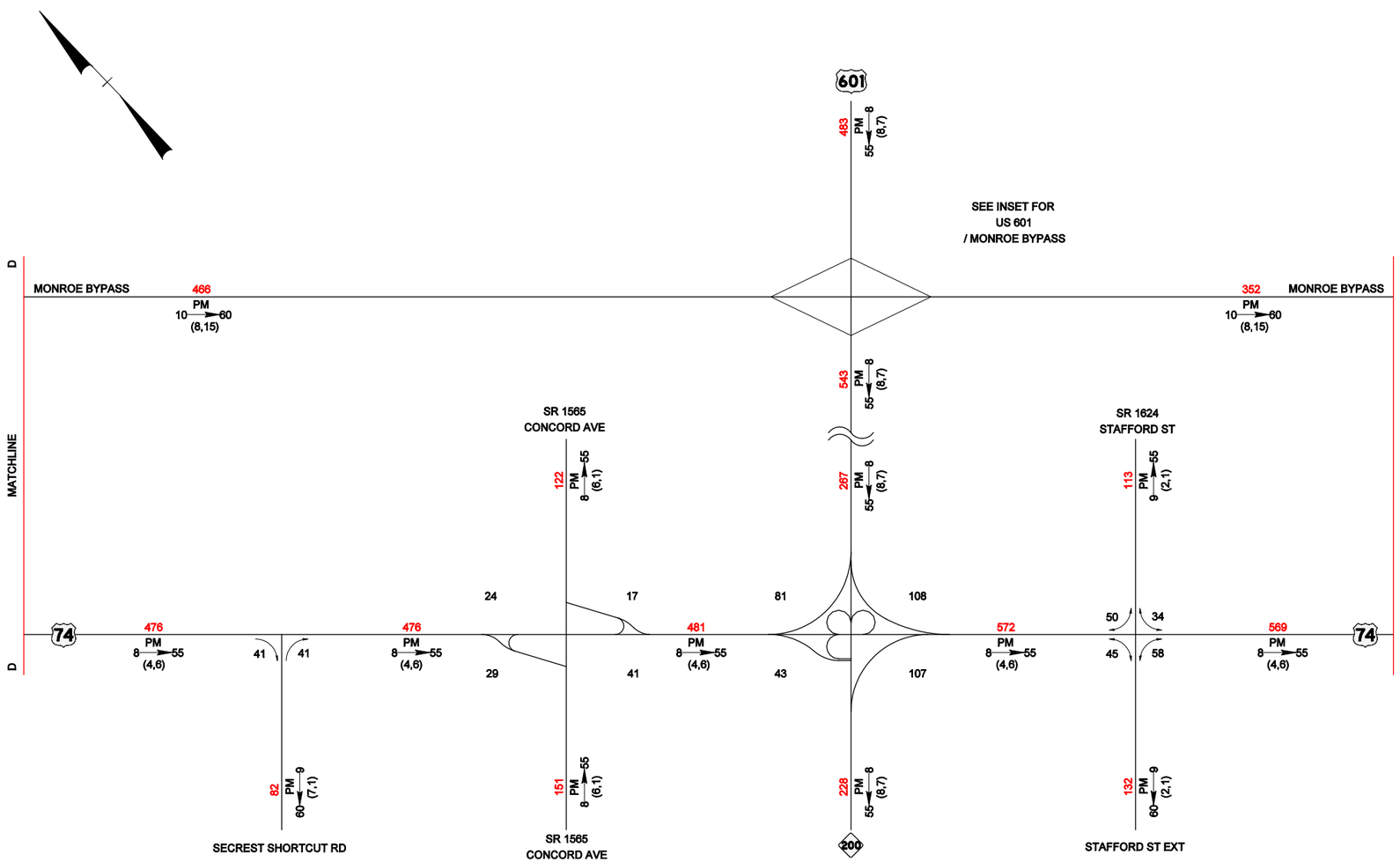
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 4
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

LEGEND

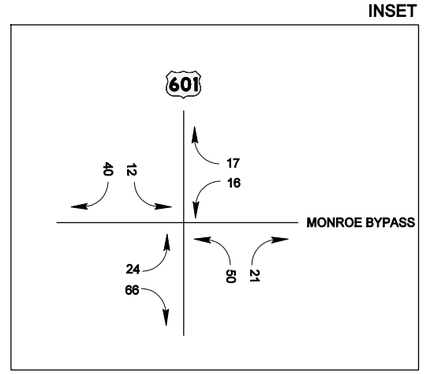
DHV $\xrightarrow[(d,\ t)]{PM}$ D

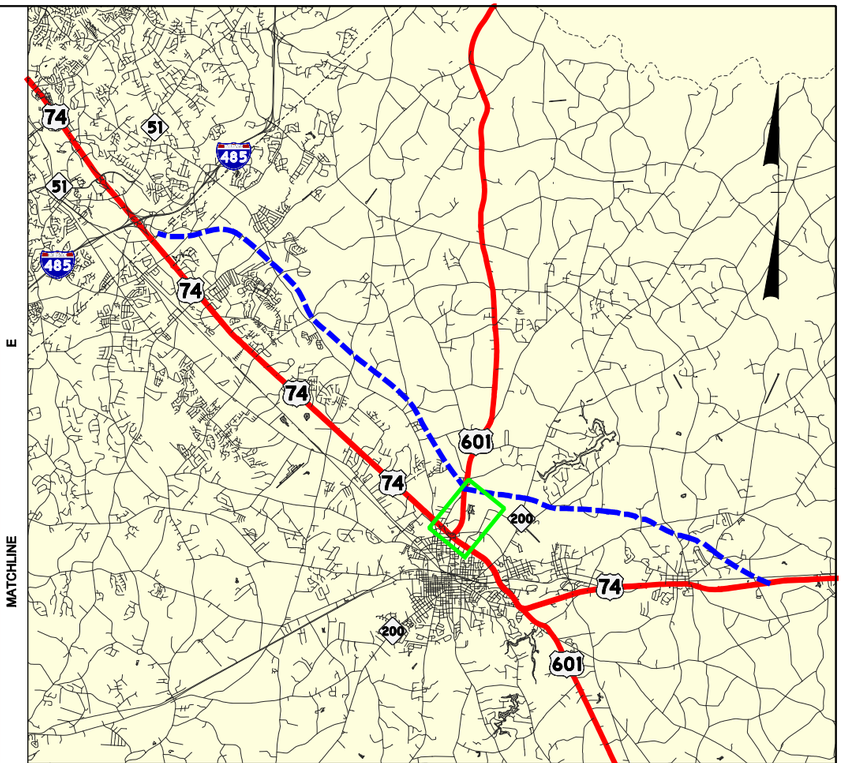
DHV	Design Hourly Volume (%) = K_{30}
PM	Peak Period
D	Peak Hour Directional Split (%)
→	Indicates Direction of D
(d, t)	Duals, TTST (%)

###	No. of Vehicles Per Day (VPD) in 100s
1-	Less than 50 VPD
###	Turning volume (VPD)



INSET





2035 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

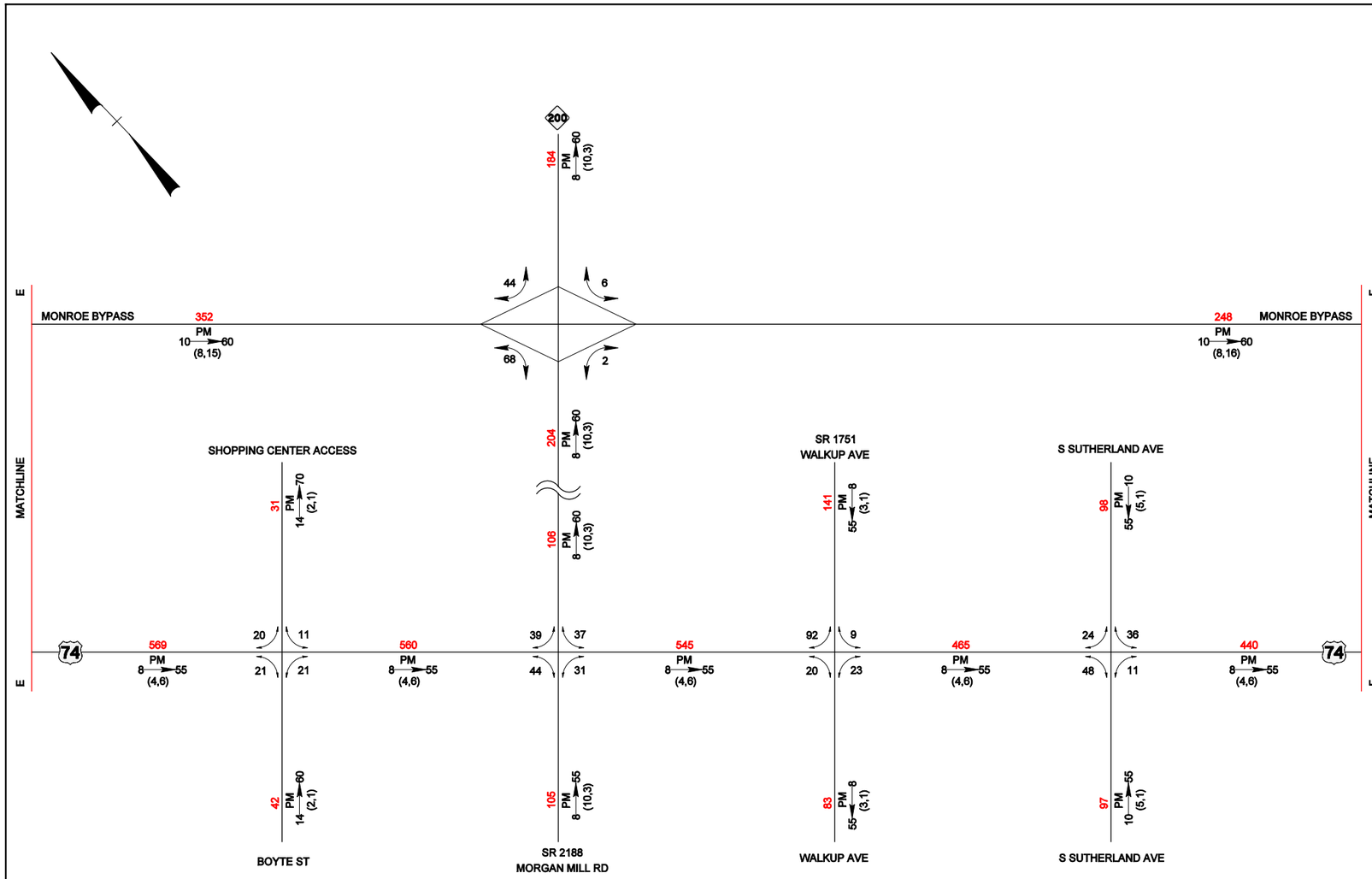
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 5
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

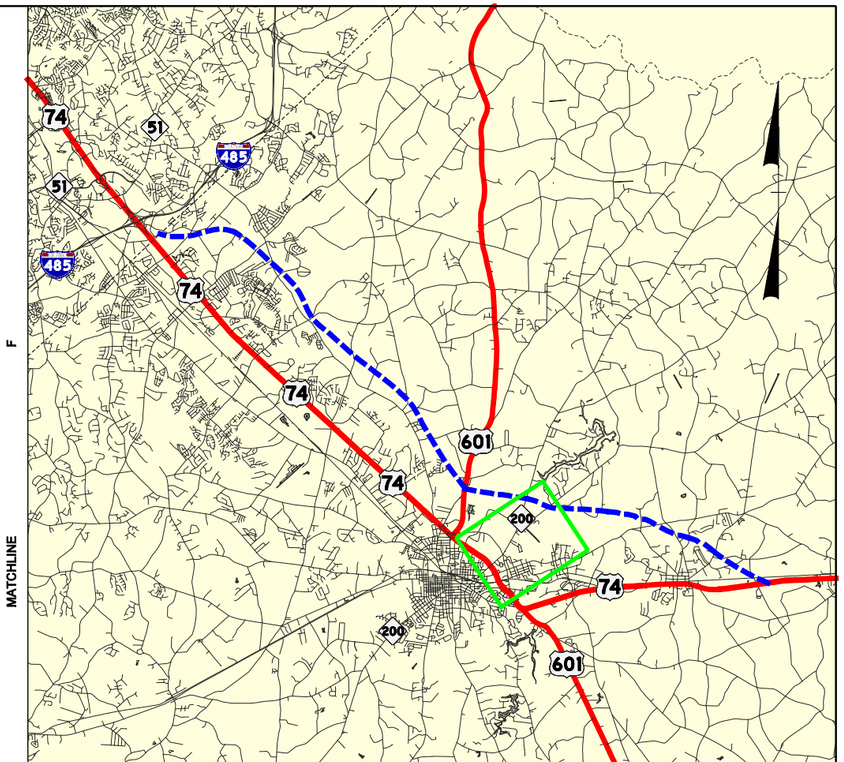
LEGEND

DHV $\xrightarrow[\text{(d, t)}]{\text{PM}}$ D

- DHV Design Hourly Volume (%) = K_{30}
- PM Peak Period
- D Peak Hour Directional Split (%)
- → Indicates Direction of D
- (d, t) Duals, TTST (%)

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- ### Turning volume (VPD)





2035 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

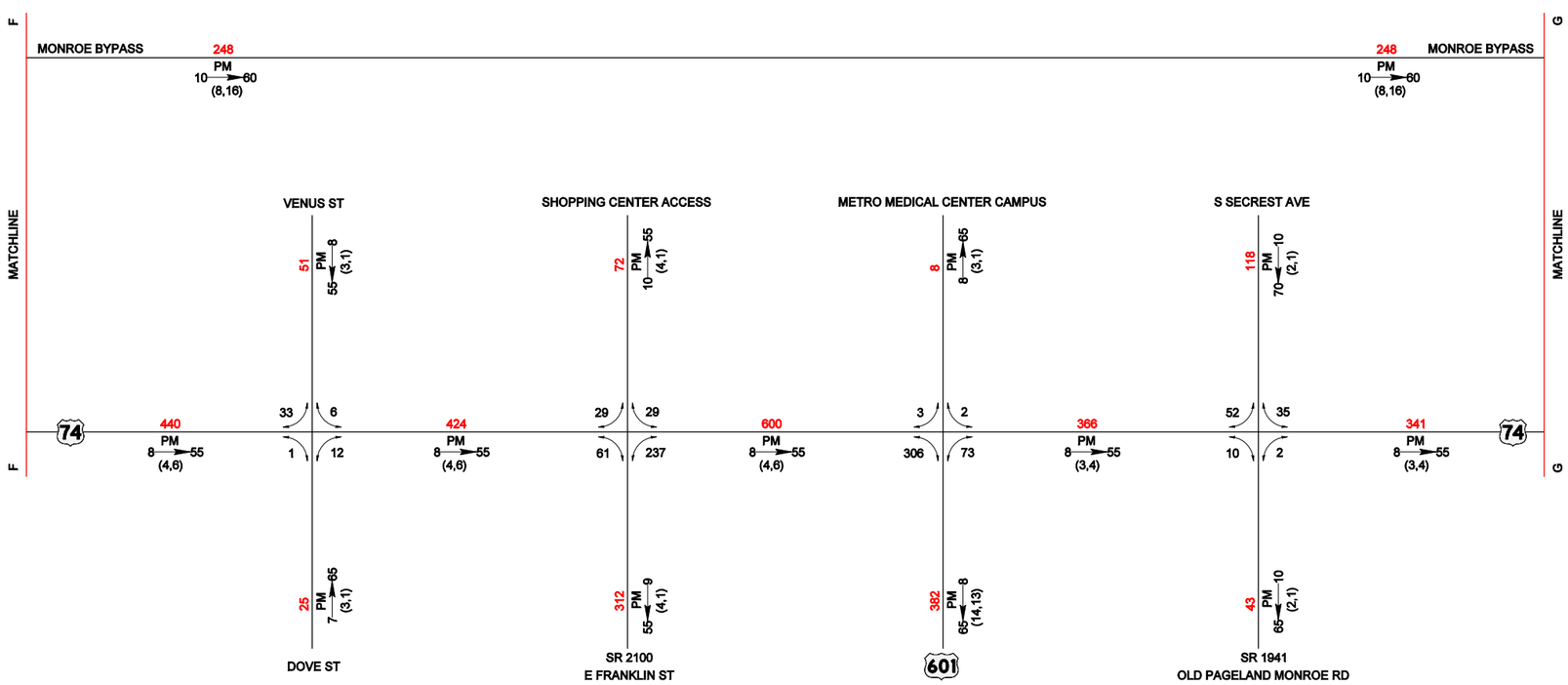
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 6
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

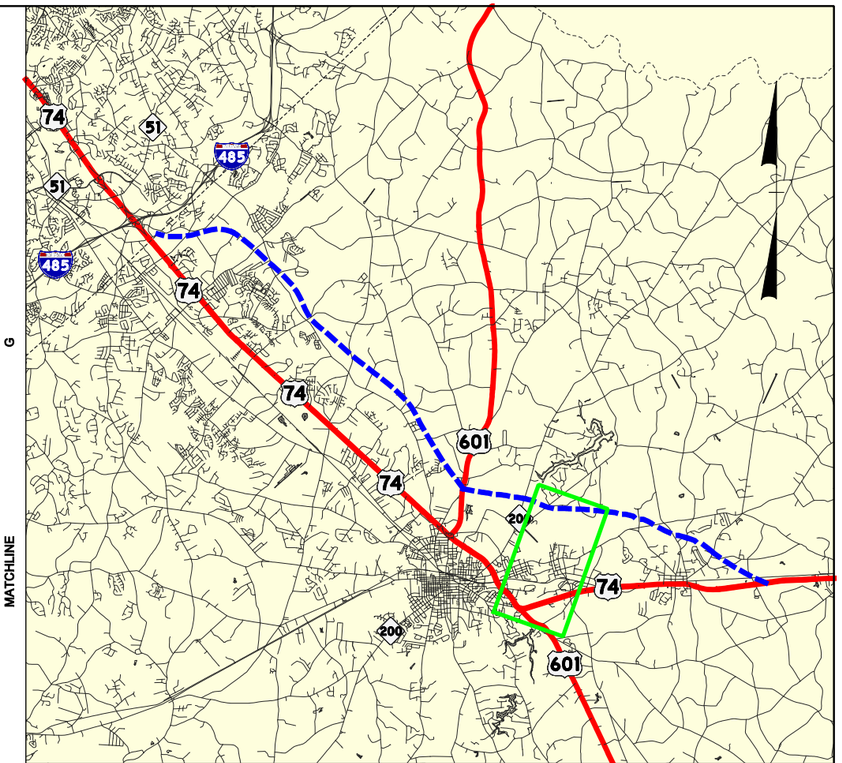
LEGEND

DHV $\xrightarrow[(d,\ t)]{PM}$ D

- DHV Design Hourly Volume (%) = K_{30}
- PM Peak Period
- D Peak Hour Directional Split (%)
- → Indicates Direction of D
- (d, t) Duals, TTST (%)

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- ### Turning volume (VPD)





2035 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

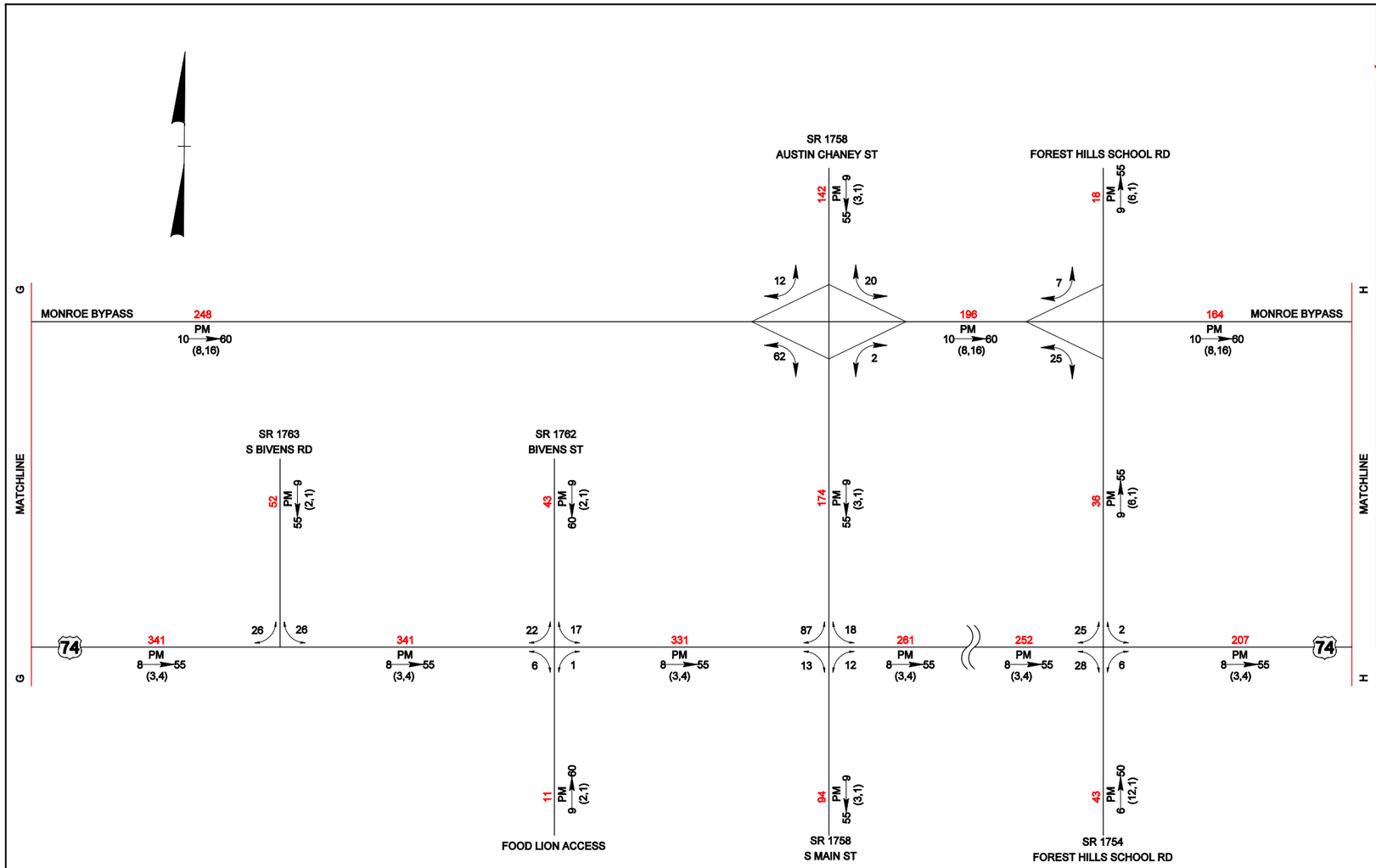
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 7
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

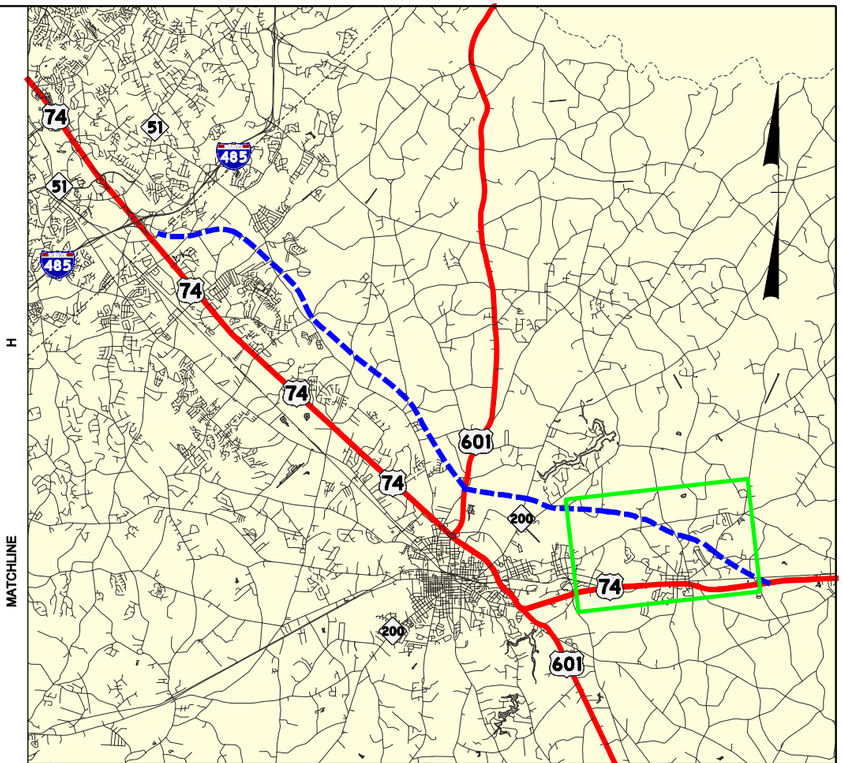
LEGEND

DHV $\xrightarrow[(d,\ t)]{PM}$ D

DHV	Design Hourly Volume (%) = K_{30}
PM	Peak Period
D	Peak Hour Directional Split (%)
→	Indicates Direction of D
(d, t)	Duals, TTST (%)

###	No. of Vehicles Per Day (VPD) in 100s
1-	Less than 50 VPD
###	Turning volume (VPD)





2035 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

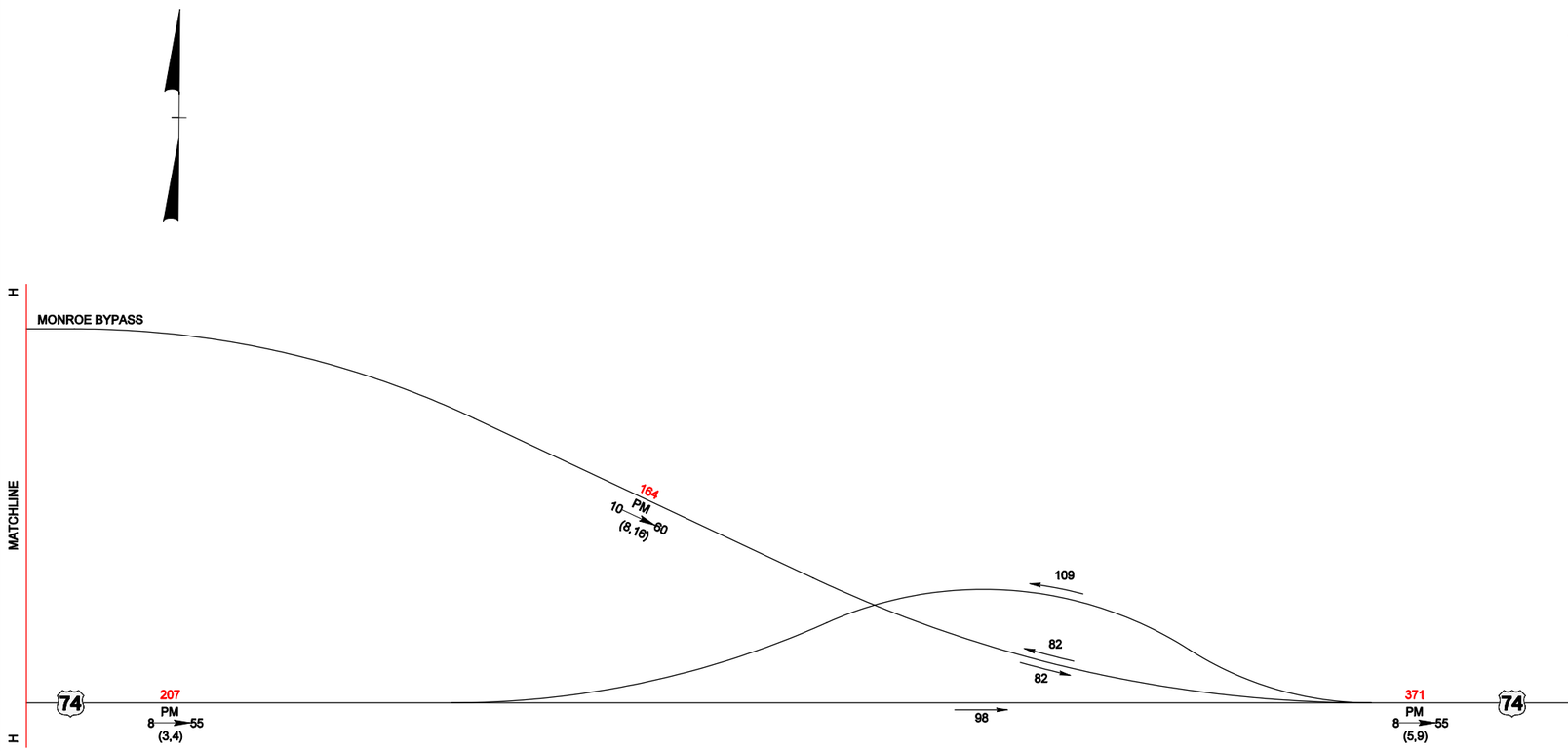
TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 8
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

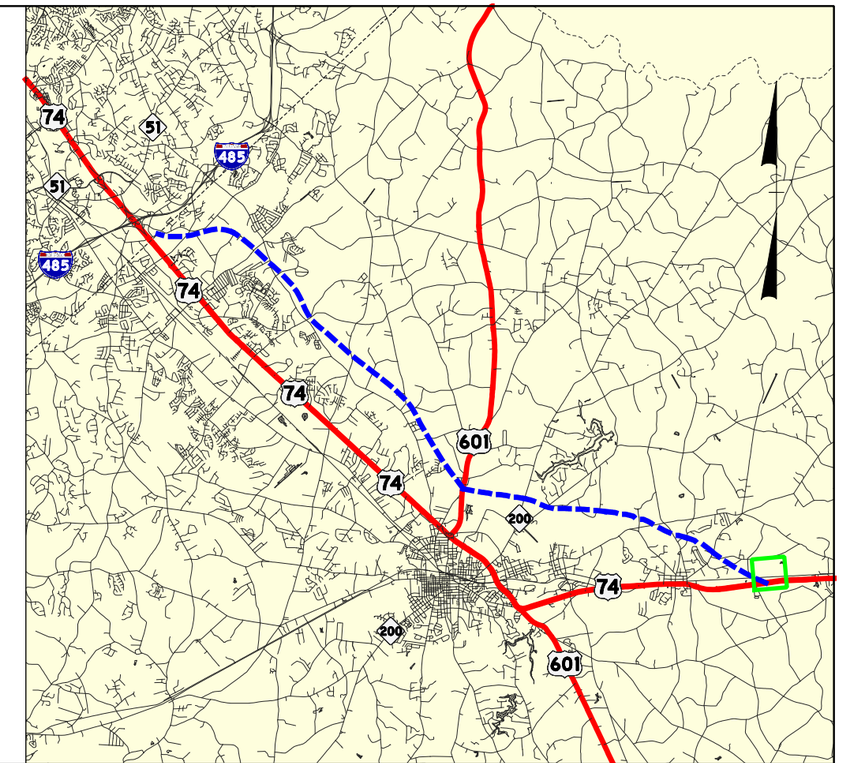
LEGEND

DHV $\xrightarrow[(d,\ t)]{PM}$ D

- DHV Design Hourly Volume (%) = K_{30}
- PM Peak Period
- D Peak Hour Directional Split (%)
- → Indicates Direction of D
- (d, t) Duals, TTST (%)

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- ### Turning volume (VPD)





2035 BUILD "TOLL" SCENARIO

AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL FACTORS

TIP: R-3329/R-2559	ALTERNATE: 3A	LOCATION: US 74 in Mecklenburg and Union Counties
PROJECT: Monroe Connector/Bypass		SHEET NUMBER: 9
DIVISION: 10	DATE: May 2008	PREPARED BY: Wilbur Smith Associates

LEGEND

DHV $\xrightarrow[(d,\ t)]{PM}$ D

DHV	Design Hourly Volume (%) = K_{30}
PM	Peak Period
D	Peak Hour Directional Split (%)
→	Indicates Direction of D
(d, t)	Duals, TTST (%)

###	No. of Vehicles Per Day (VPD) in 100s
1-	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

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

Prepared By:

PBS&J

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

April 2009

NORTH CAROLINA PROFESSIONAL SEAL 024814 ENGINEER JOHN Z. LUK

John Z Luk
4-14-2009

APPENDIX B

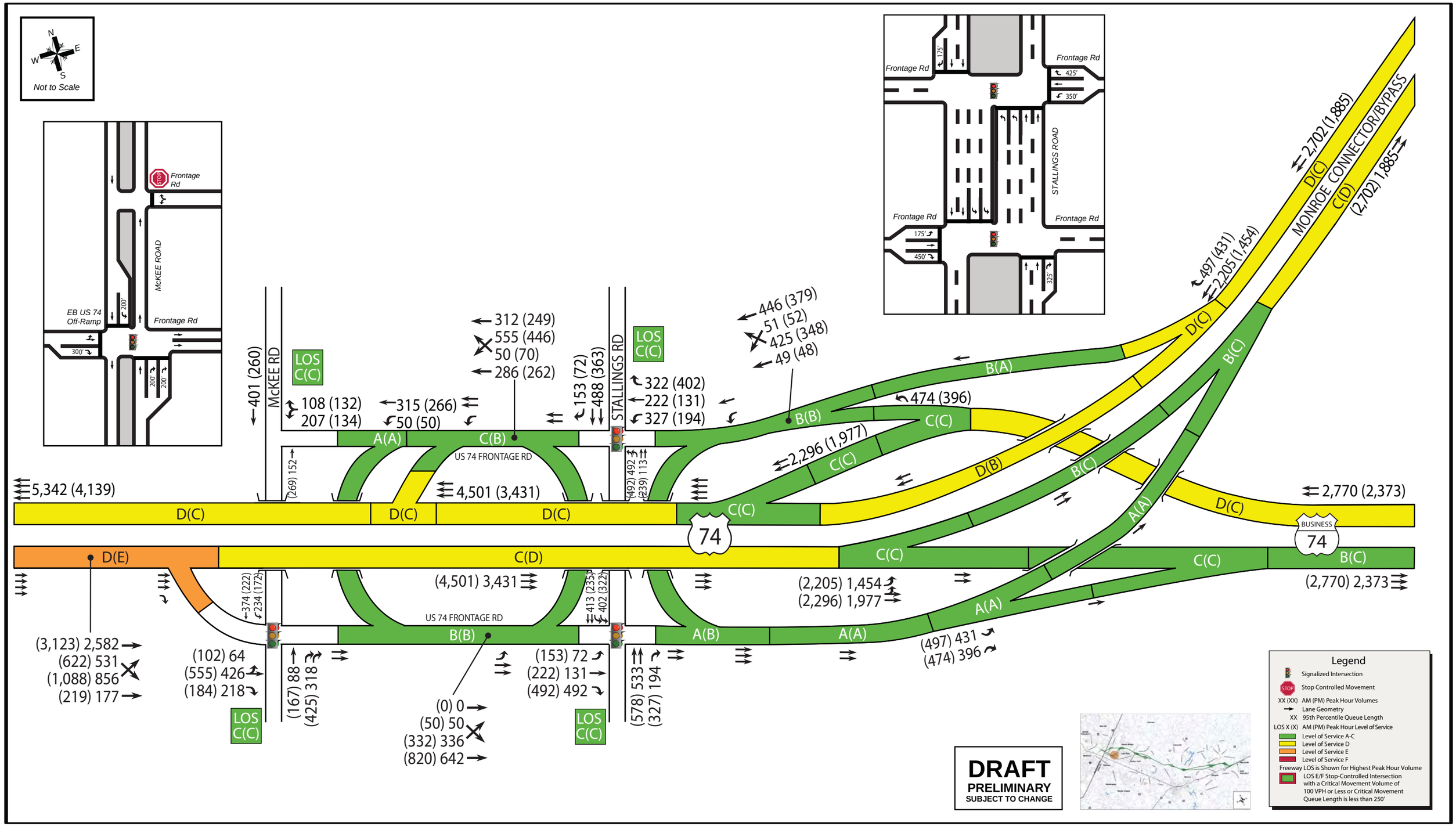
Monroe Connector / Bypass Corridor

Lane Geometry, 2035 Build Peak Hour Volumes and Levels of Service

B - 9

Year 2035 Build Alternative 3A

Monroe Connector / Bypass Corridor



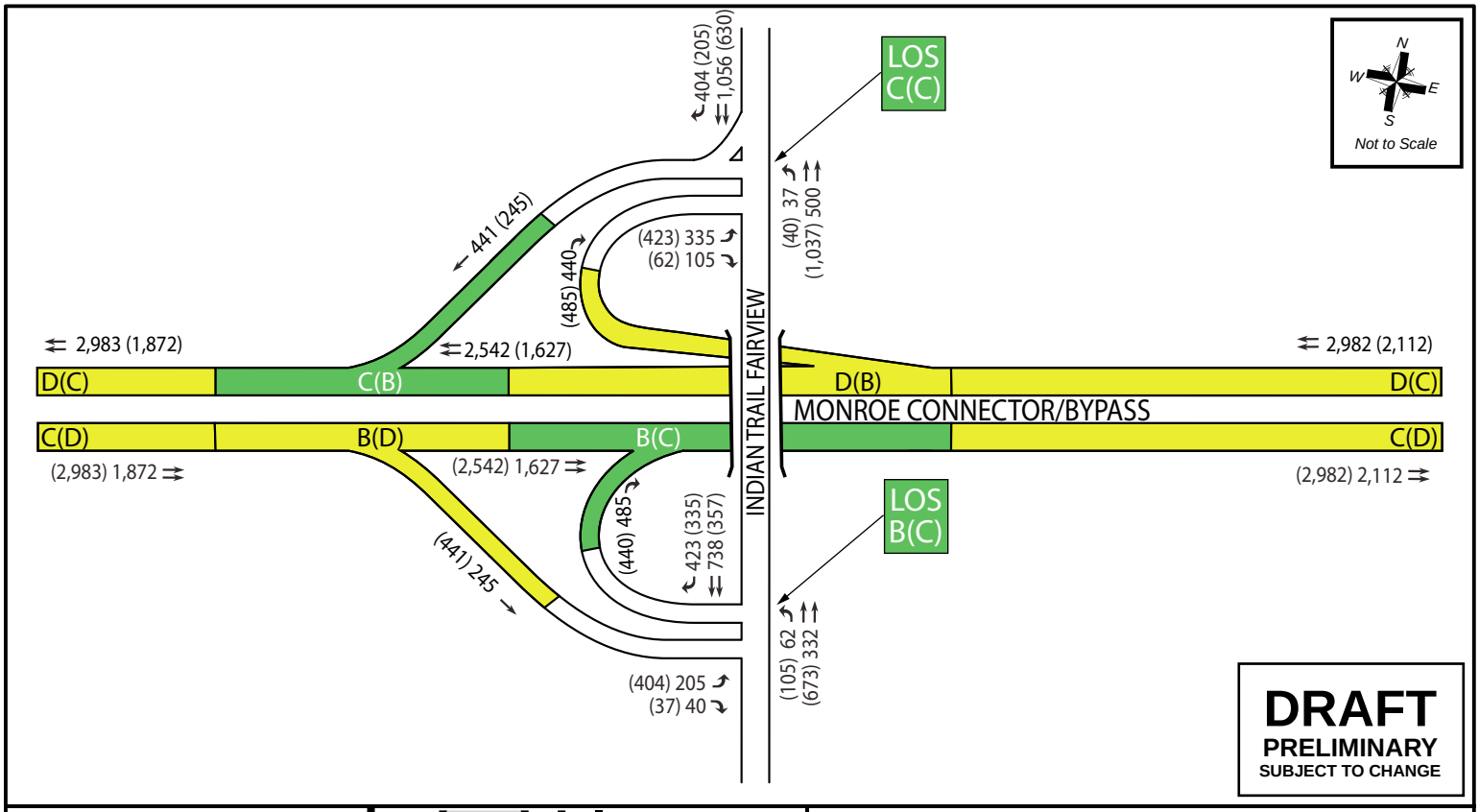
NORTH CAROLINA Turnpike Authority

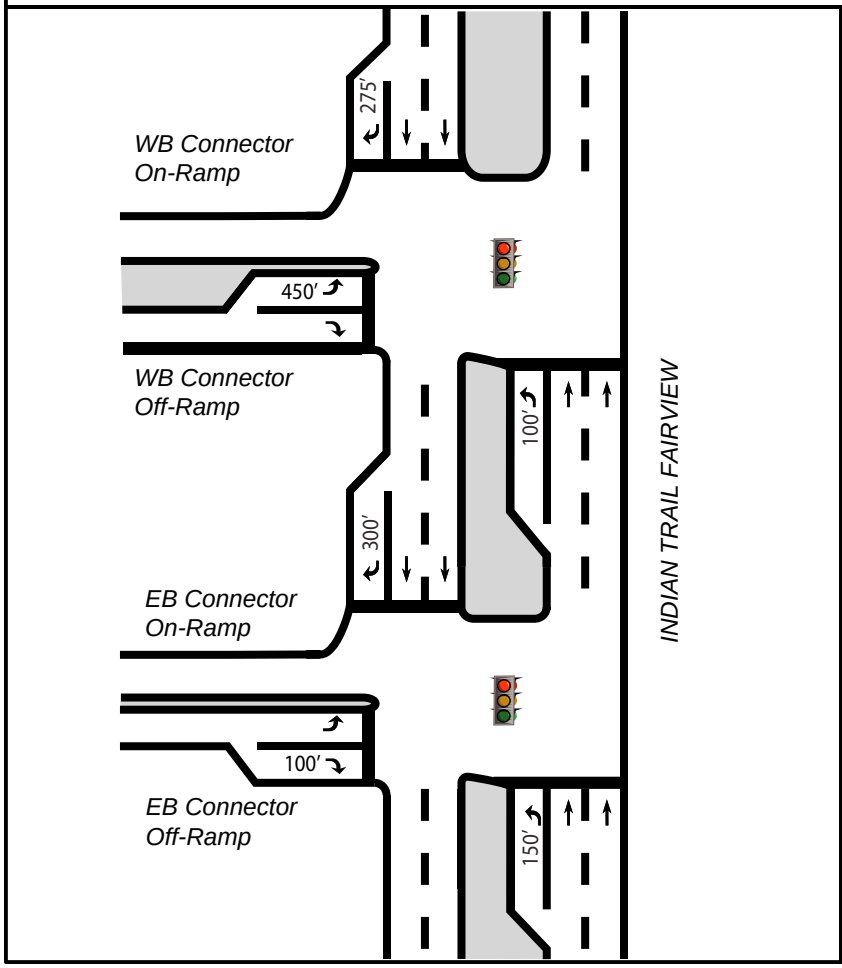
MONROE CONNECTOR / BYPASS
TIP Project Numbers R-3329 & R-2559
Mecklenburg and Union Counties

Year 2035 Build Alternative 3A
Monroe Connector / Bypass Corridor
US 74
February 3, 2009

Figure 1

2035_BuildAlternative3AConnectorCorridor.ai





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'

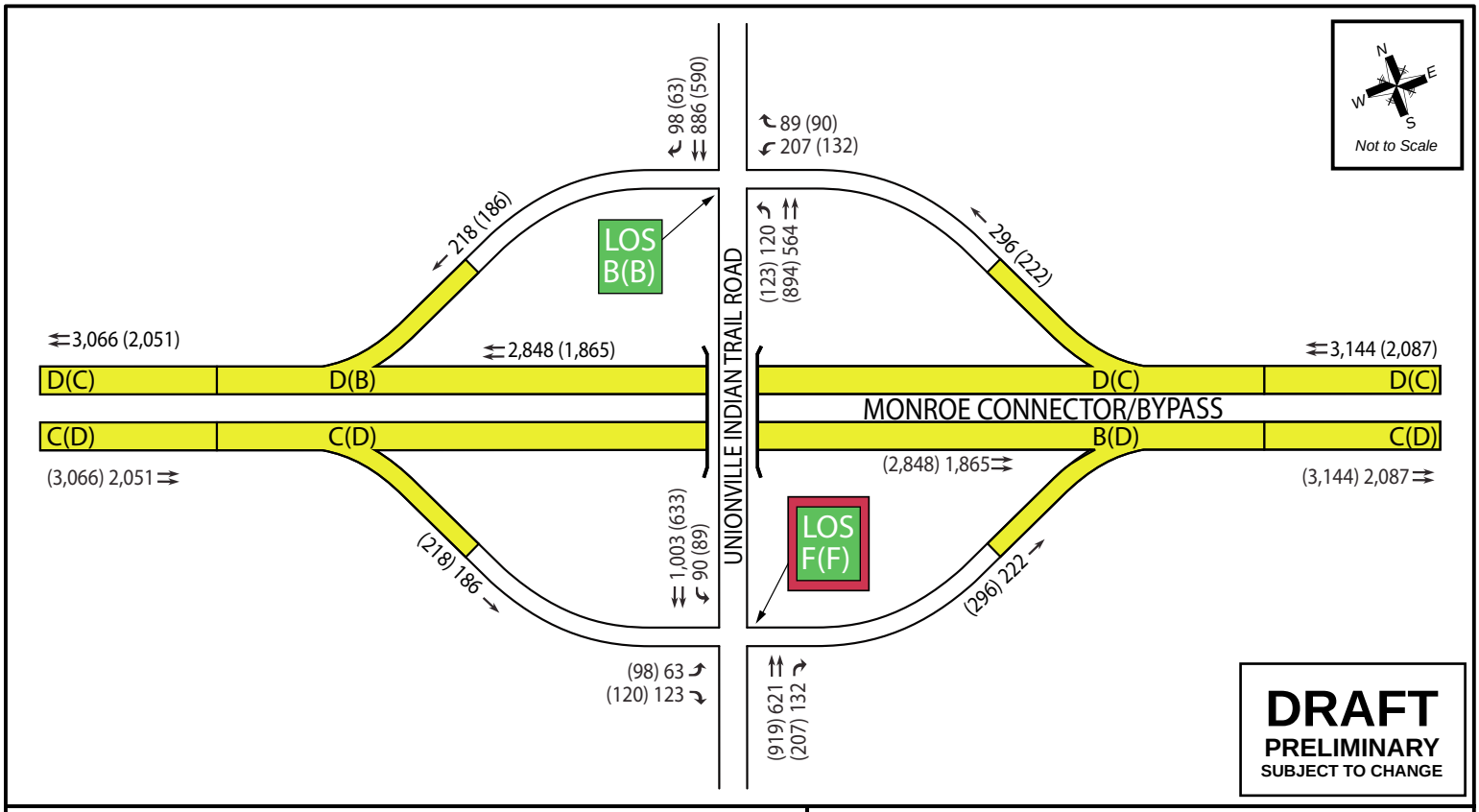
NORTH CAROLINA Turnpike Authority

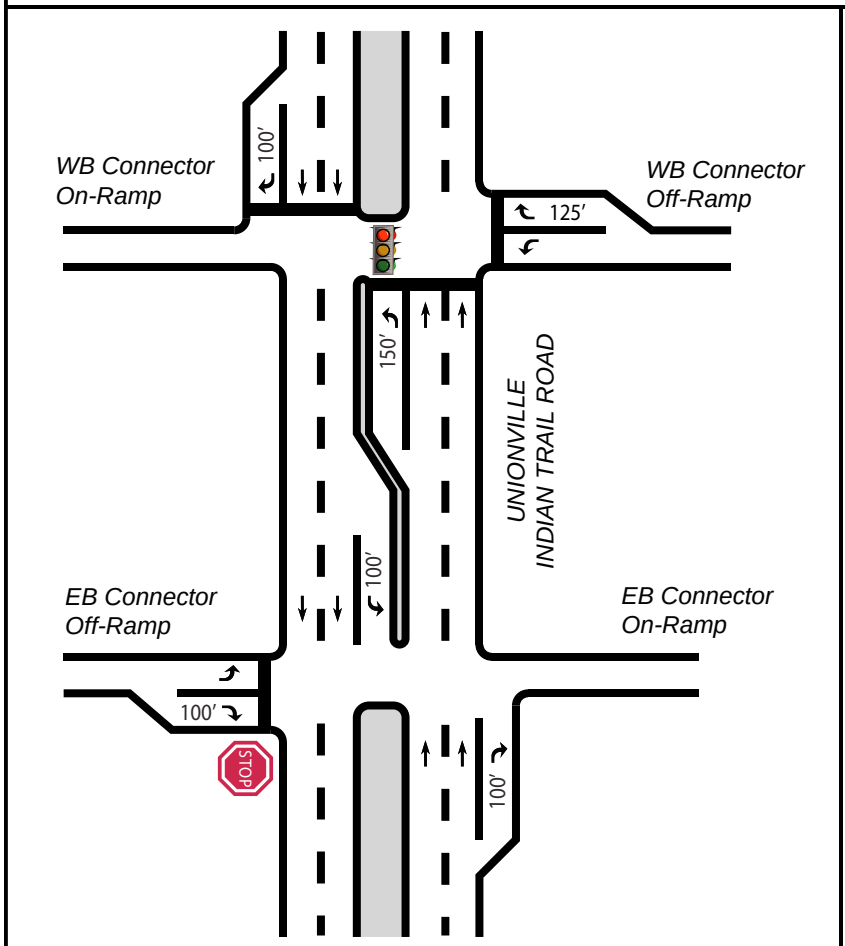
MONROE CONNECTOR / BYPASS
TIP Project Numbers R-3329 & R-2559
Mecklenburg and Union Counties

Year 2035 Build Alternative 3A
Monroe Connector / Bypass Corridor
Indian Trail Fairview Road
February 3, 2009

Figure 2

2035_BuildAlternative3AConnectorCorridor.ai





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'

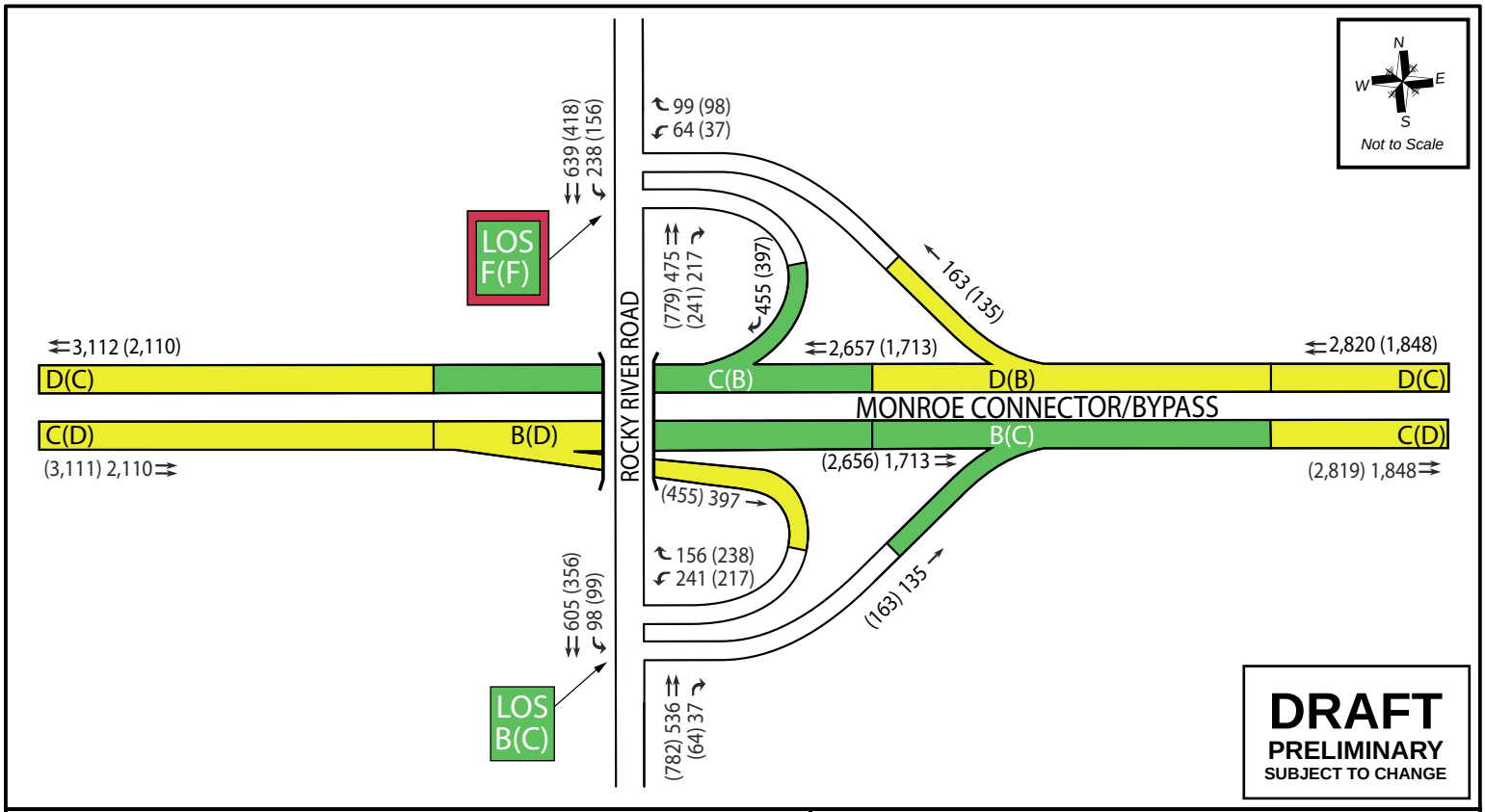
NORTH CAROLINA Turnpike Authority

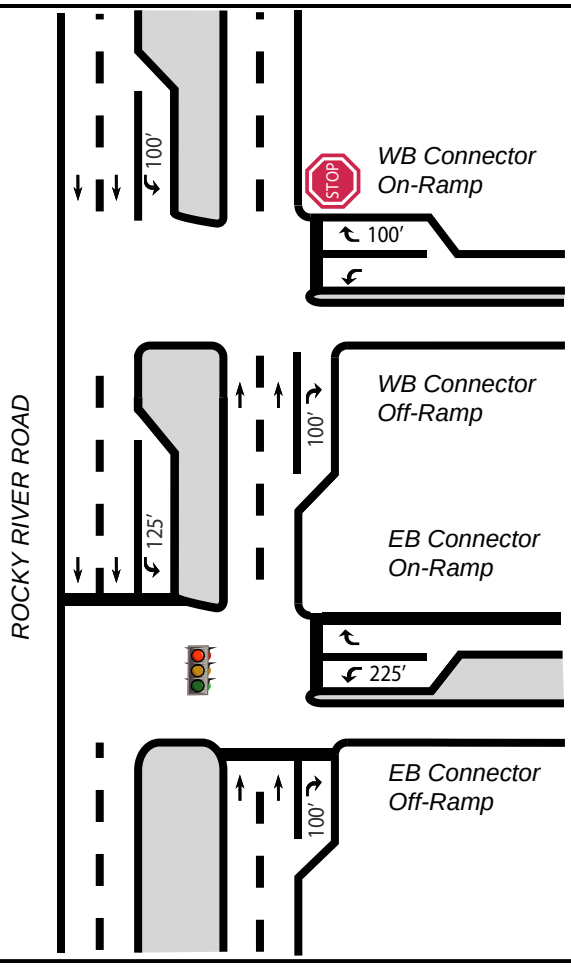
MONROE CONNECTOR / BYPASS
TIP Project Numbers R-3329 & R-2559
Mecklenburg and Union Counties

Year 2035 Build Alternative 3A
Monroe Connector / Bypass Corridor
Unionville Indian Trail
February 3, 2009

Figure 3

2035_BuildAlternative3AConnectorCorridor.ai





Legend

- Signalized Intersection
- STOP 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'

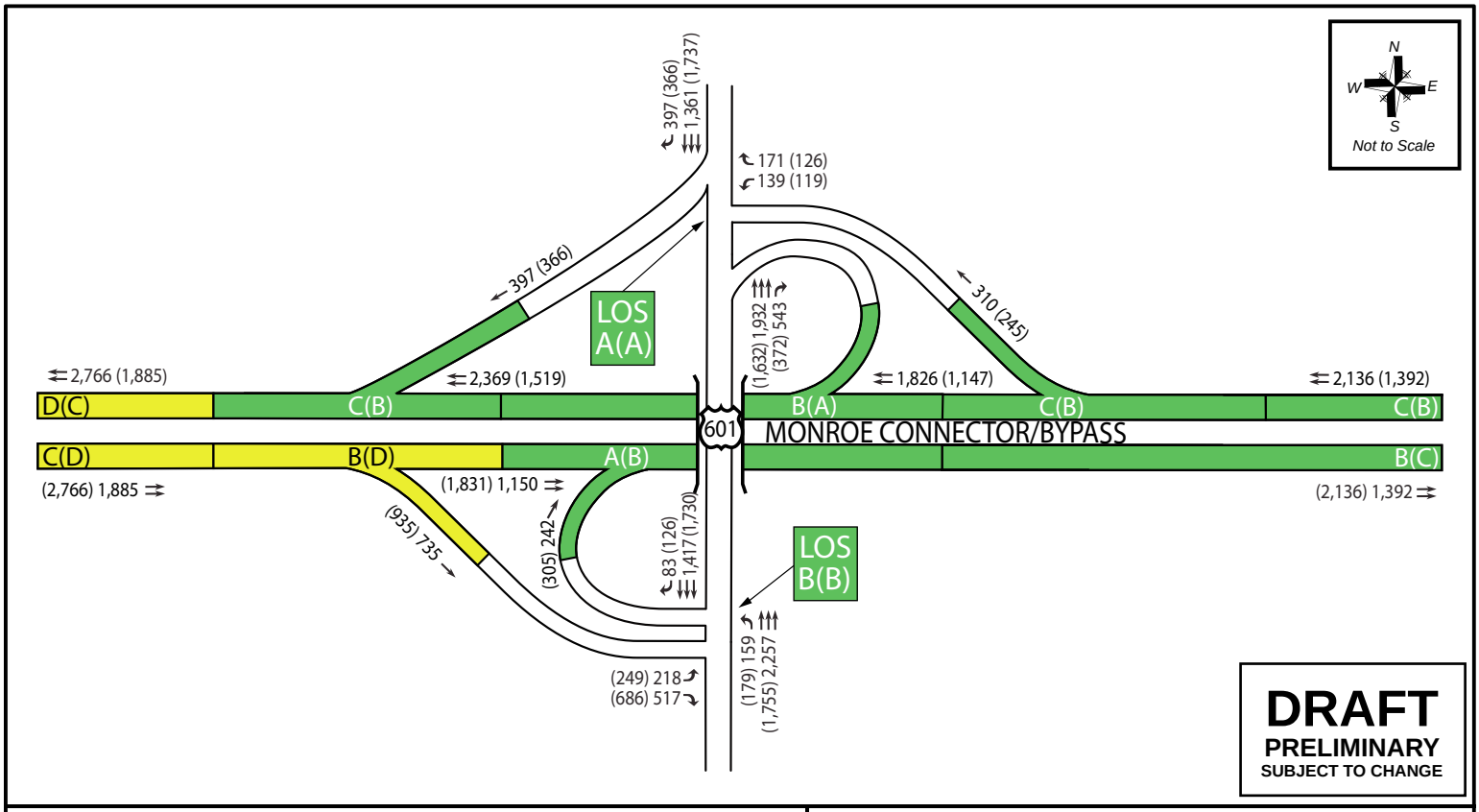
NORTH CAROLINA Turnpike Authority

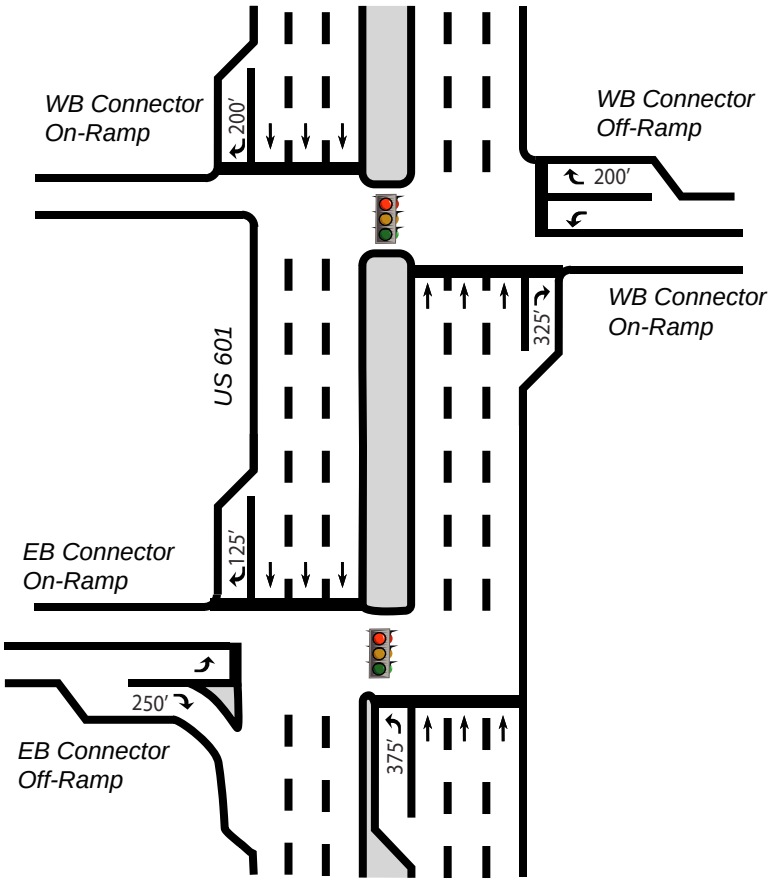
MONROE CONNECTOR / BYPASS
TIP Project Numbers R-3329 & R-2559
Mecklenburg and Union Counties

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

Figure 4

2035_BuildAlternative3AConnectorCorridor.ai





Legend

- Signalized Intersection
- STOP 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'

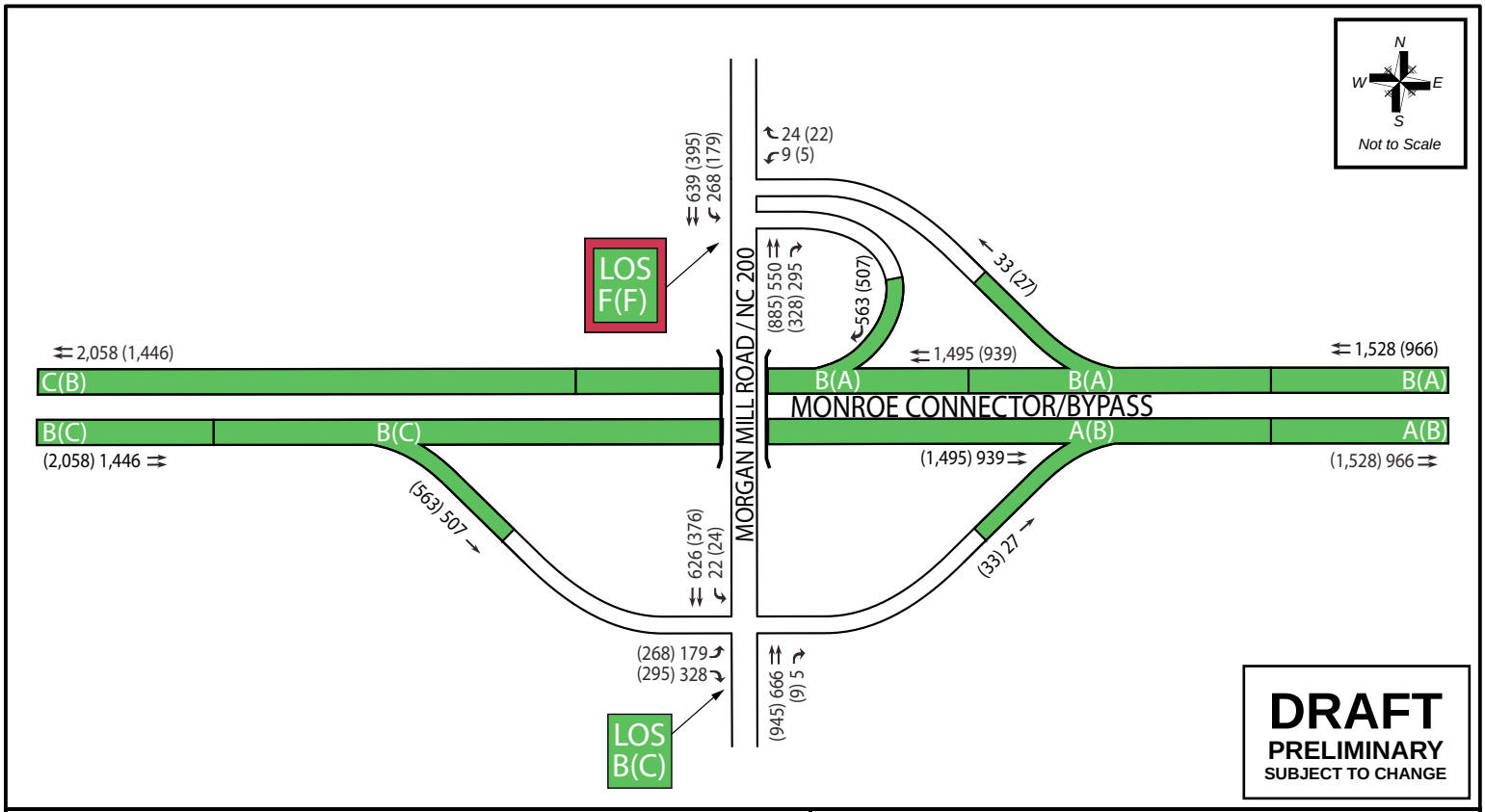
NORTH CAROLINA Turnpike Authority

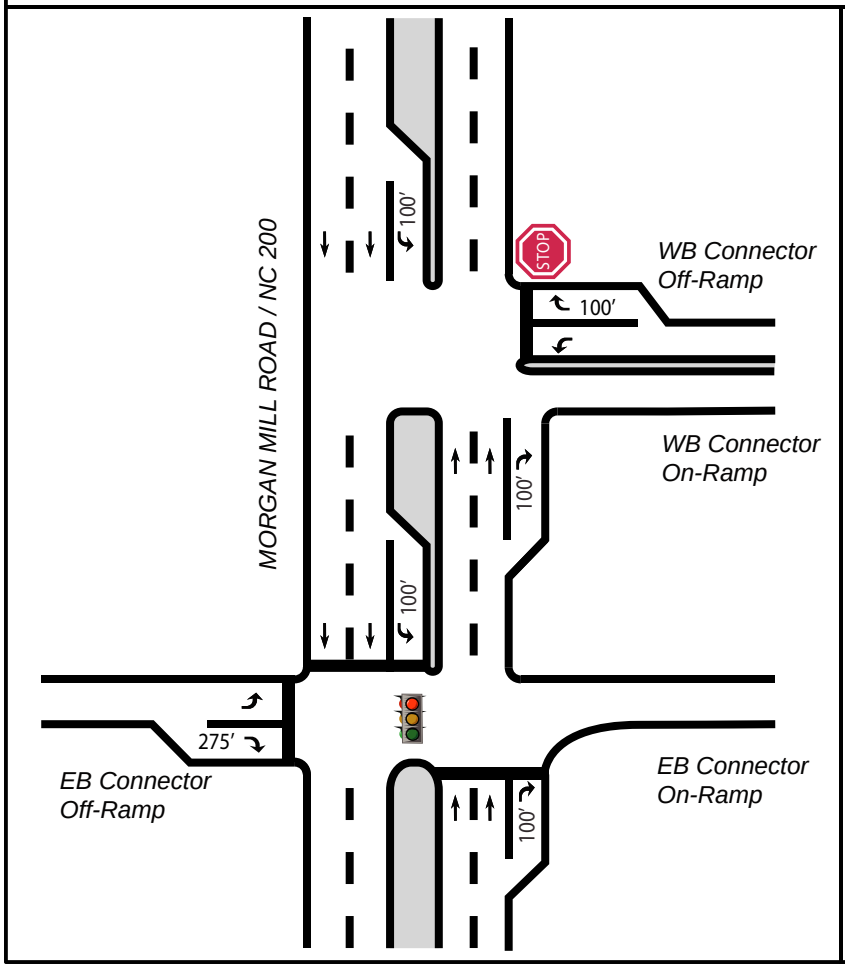
MONROE CONNECTOR / BYPASS
TIP Project Numbers R-3329 & R-2559
Mecklenburg and Union Counties

Year 2035 Build Alternative 3A
Monroe Connector / Bypass Corridor
US 601
February 3, 2009

Figure 5

2035_BuildAlternative3AConnectorCorridor.ai





Legend

- Signalized Intersection
- STOP 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′

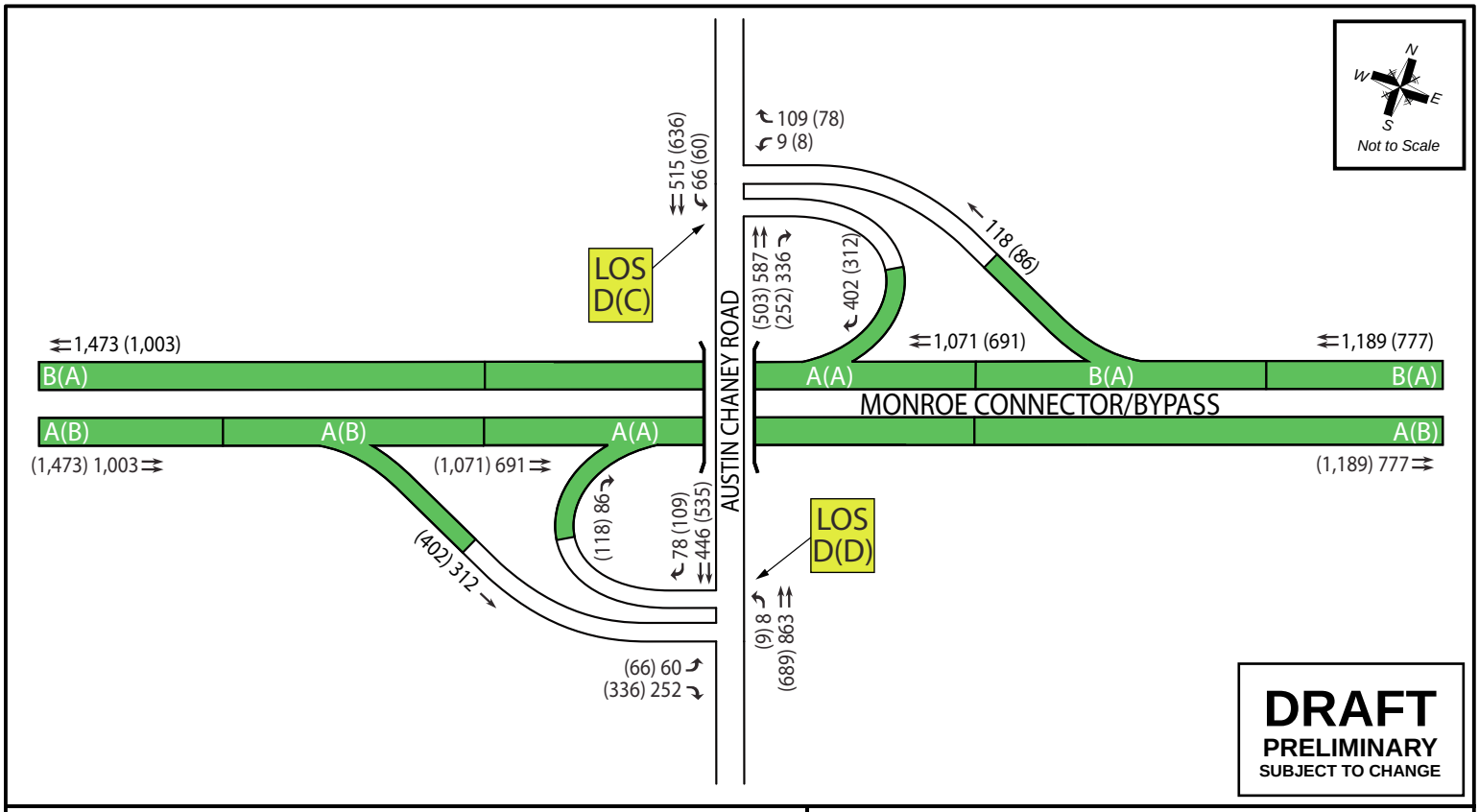
NORTH CAROLINA Turnpike Authority

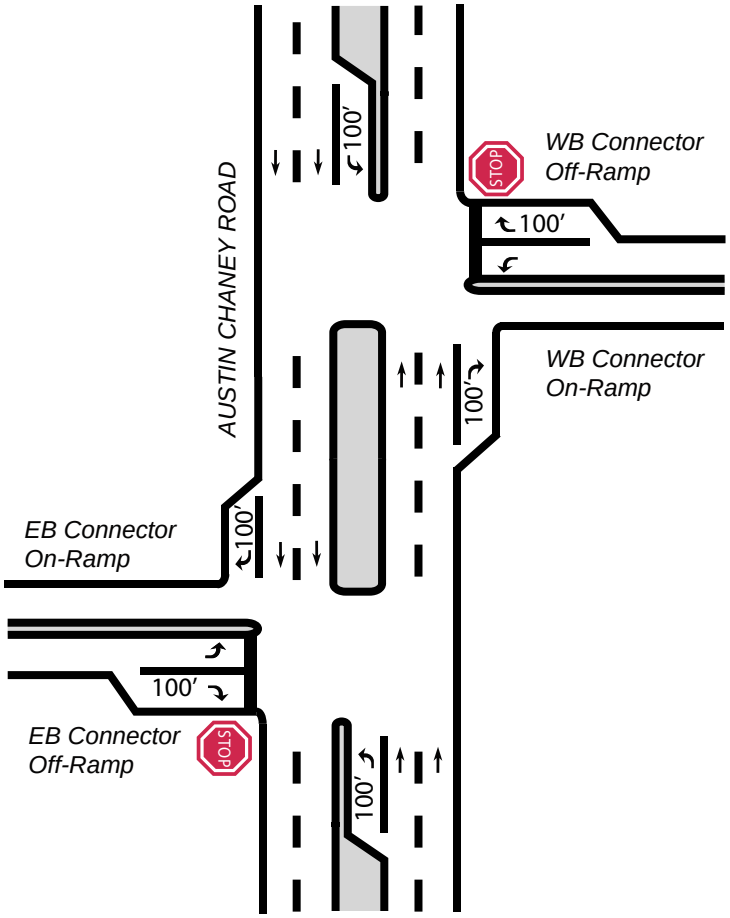
MONROE CONNECTOR / BYPASS
TIP Project Numbers R-3329 & R-2559
Mecklenburg and Union Counties

Year 2035 Build Alternative 3A
Monroe Connector / Bypass Corridor
Morgan Mill Road
February 3, 2009

Figure 6

2035_BuildAlternative3AConnectorCorridor.ai





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'

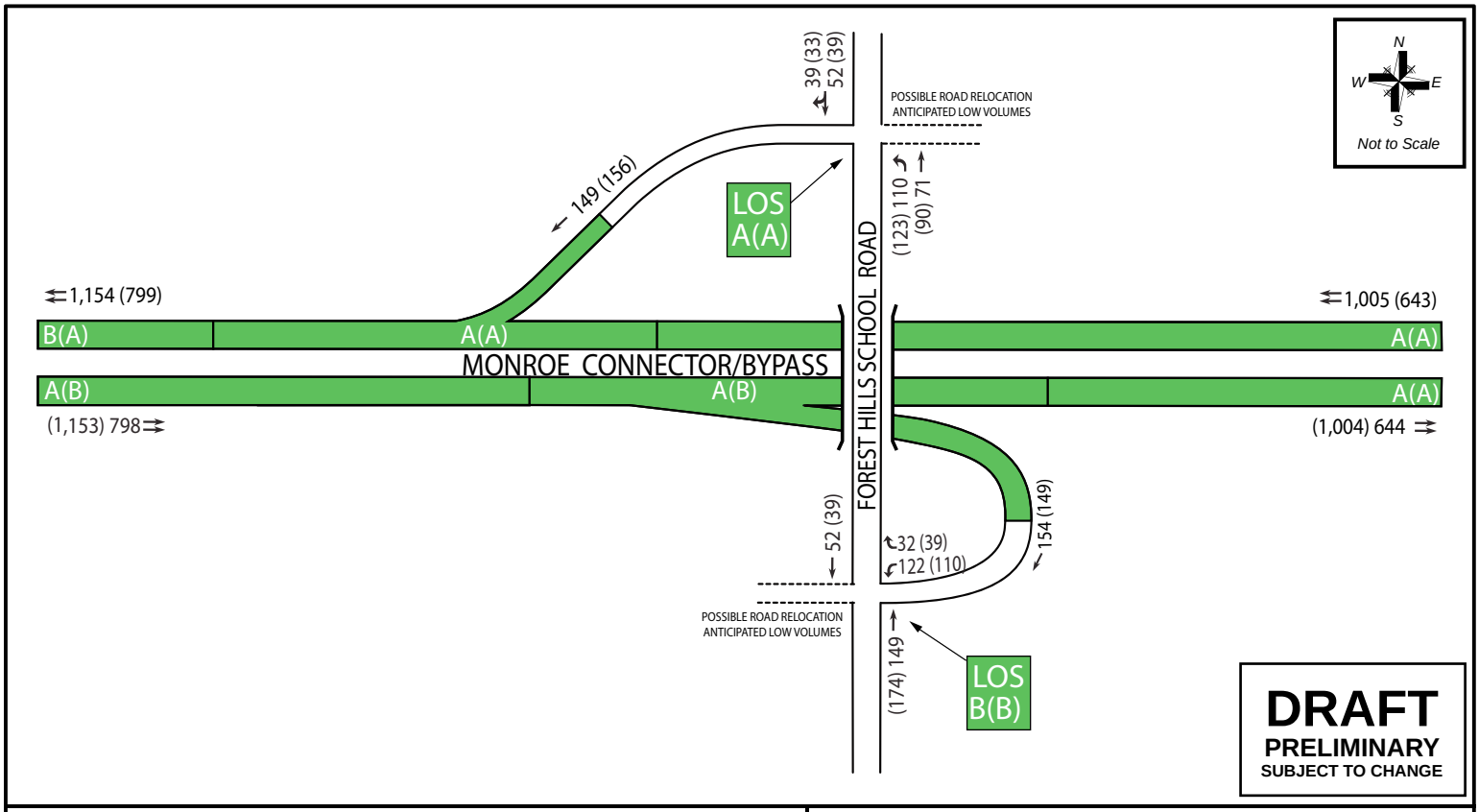
NORTH CAROLINA Turnpike Authority

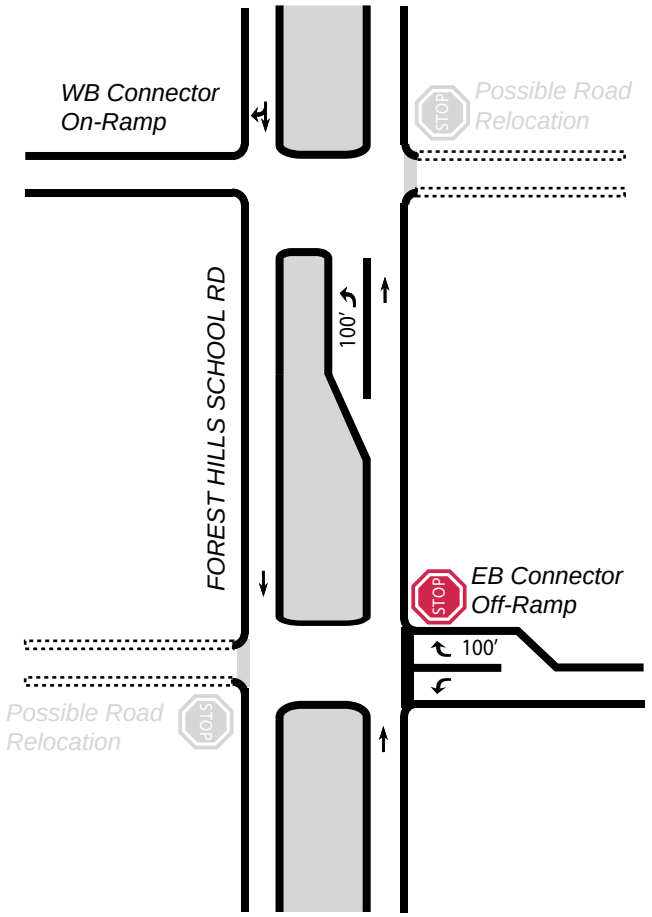
MONROE CONNECTOR / BYPASS
TIP Project Numbers R-3329 & R-2559
Mecklenburg and Union Counties

Year 2035 Build Alternative 3A
Monroe Connector / Bypass Corridor
Austin Chaney Road
February 3, 2009

Figure 7

2035_BuildAlternative3AConnectorCorridor.ai





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'

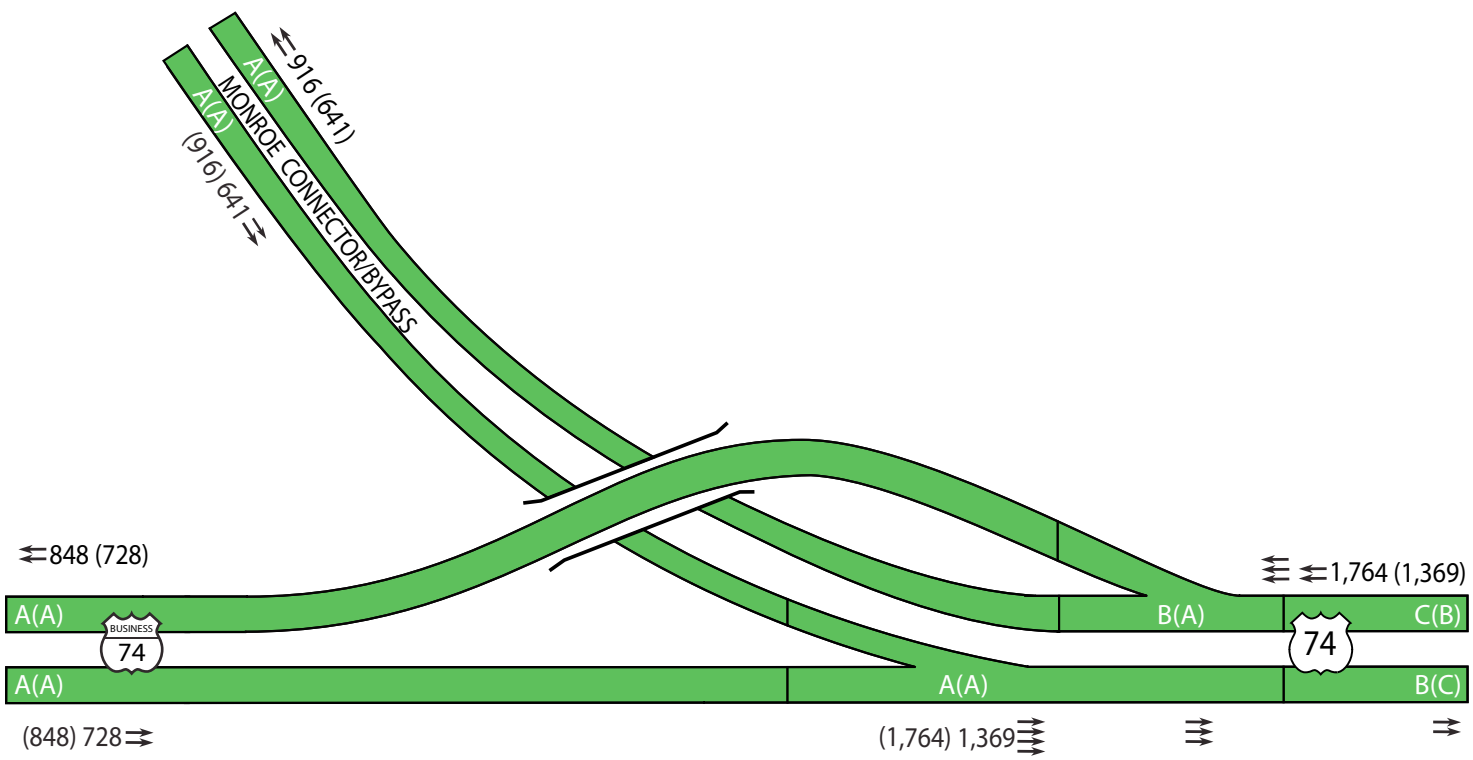
NORTH CAROLINA Turnpike Authority

MONROE CONNECTOR / BYPASS
TIP Project Numbers R-3329 & R-2559
Mecklenburg and Union Counties

Year 2035 Build Alternative 3A
Monroe Connector / Bypass Corridor
Forest Hills School Road
February 3, 2009

Figure 8

2035_BuildAlternative3AConnectorCorridor.ai



DRAFT
PRELIMINARY
SUBJECT TO CHANGE

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'

NORTH CAROLINA Turnpike Authority

MONROE CONNECTOR / BYPASS
TIP Project Numbers R-3329 & R-2559
Mecklenburg and Union Counties

Year 2035 Build Alternative 3A
Monroe Connector / Bypass Corridor
US 74
February 3, 2009

Figure 9

2035_BuildAlternative3AConnectorCorridor.ai

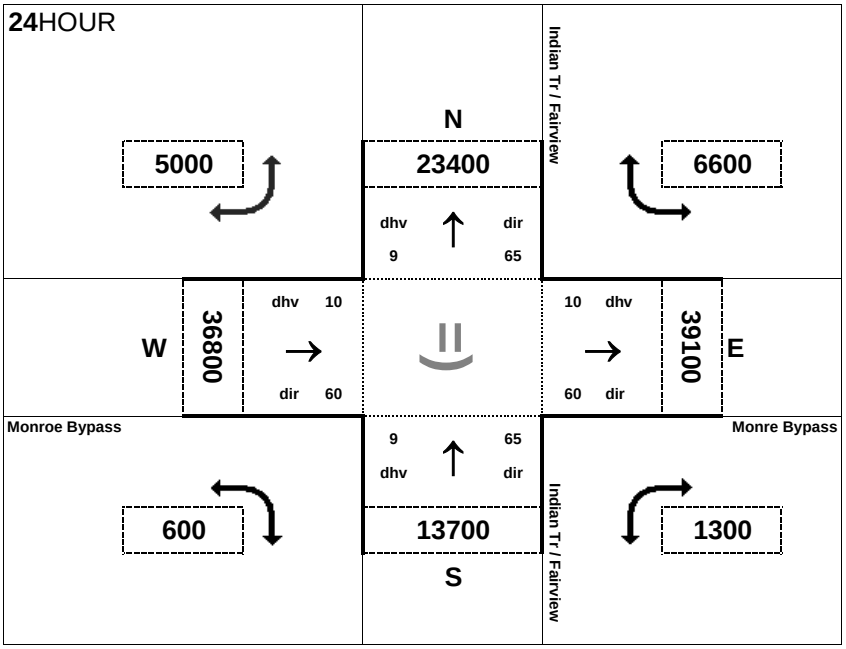
Appendix C – 2025 Daily Forecast Breakout Sheets

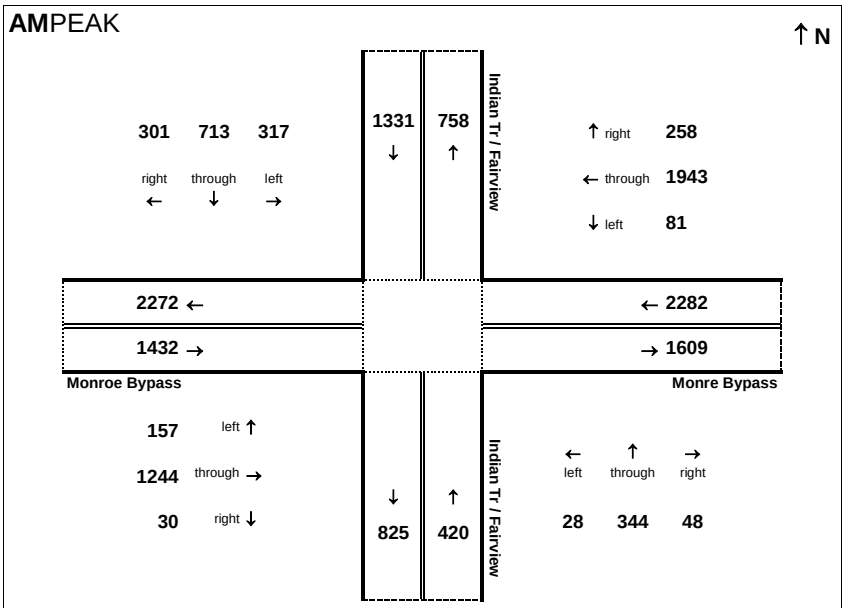
Peak Hour Volume Breakouts Report:
Alt 3A: Monroe Bypass at Indian Trail Rd / Fairview Rd

Traffic Forecast Release Date:
July-10

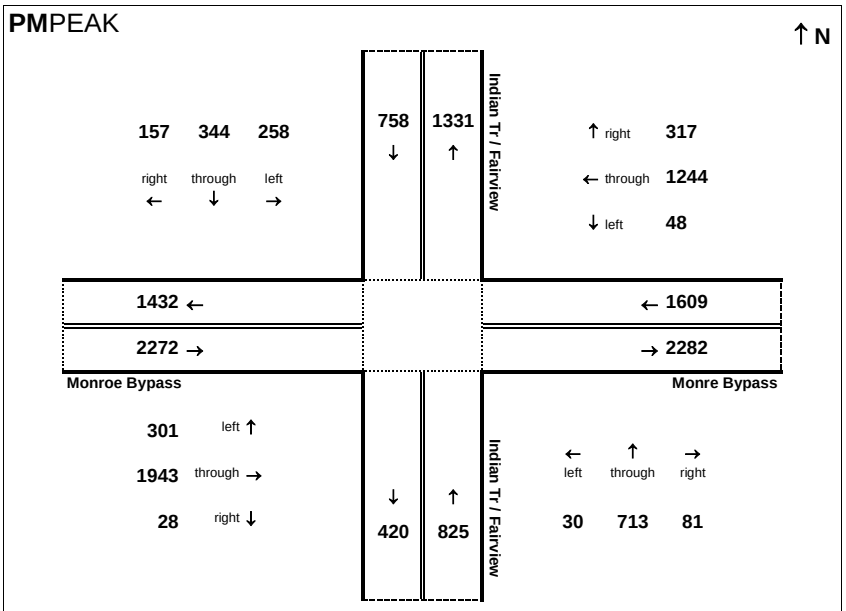
Traffic Data Year:
2025

Project:
R-3329/R-2559 Toll Scenario





AM peak hour inflow is 5465 vehicles. AM peak hour outflow is 5464 vehicles.



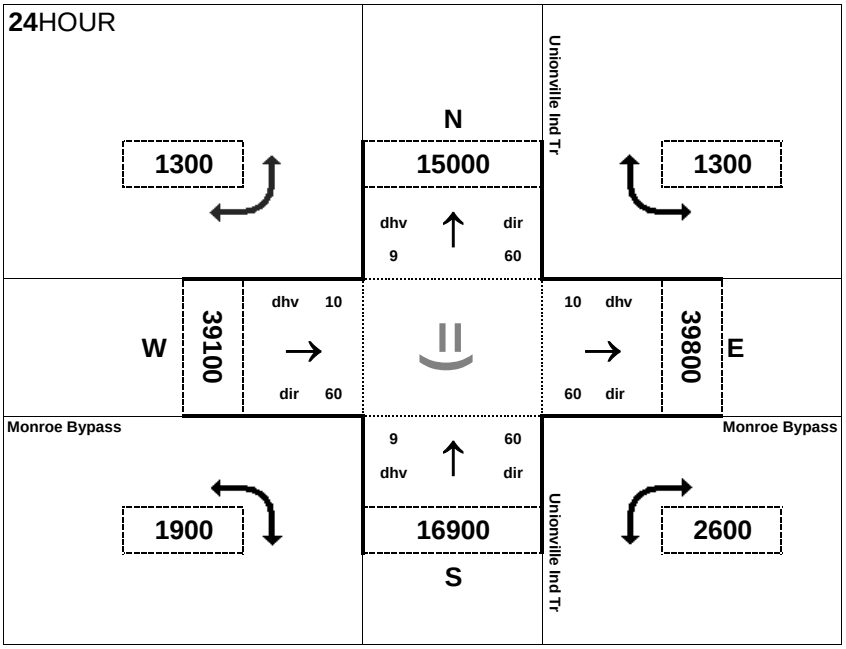
PM peak hour inflow is 5464 vehicles. PM peak hour outflow is 5465 vehicles.

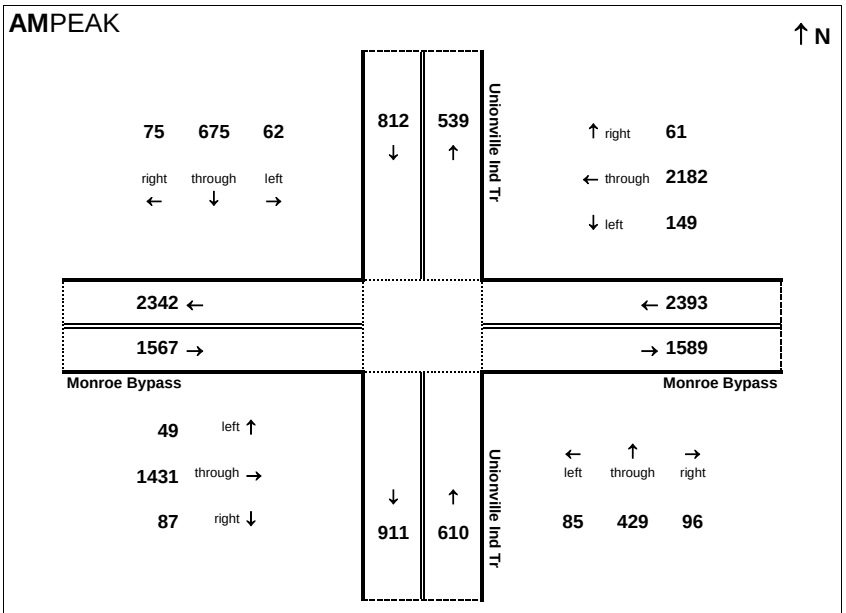
Peak Hour Volume Breakouts Report:
Alt 3A:
Monroe Bypass at Unionville Indian Tr Rd West

Traffic Forecast Release Date:
July-10

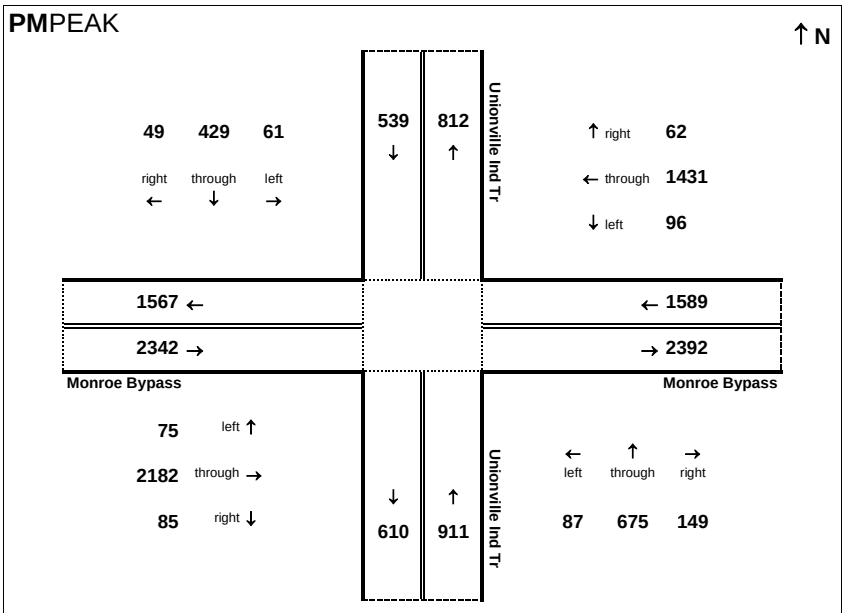
Traffic Data Year:
2025

Project:
R-3329/R-2559 Toll Scenario

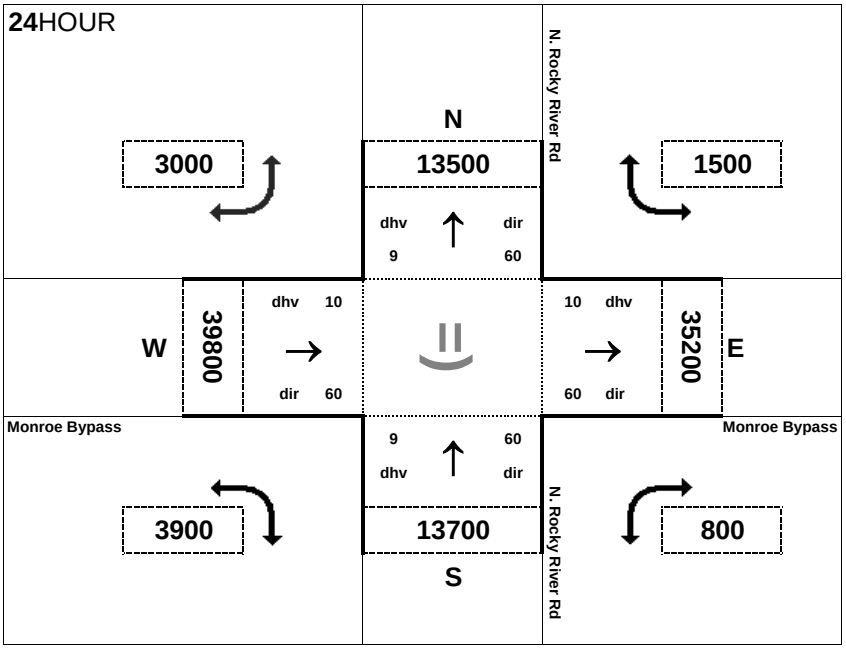




AM peak hour inflow is 5382 vehicles. AM peak hour outflow is 5381 vehicles.



PM peak hour inflow is 5381 vehicles. PM peak hour outflow is 5381 vehicles.

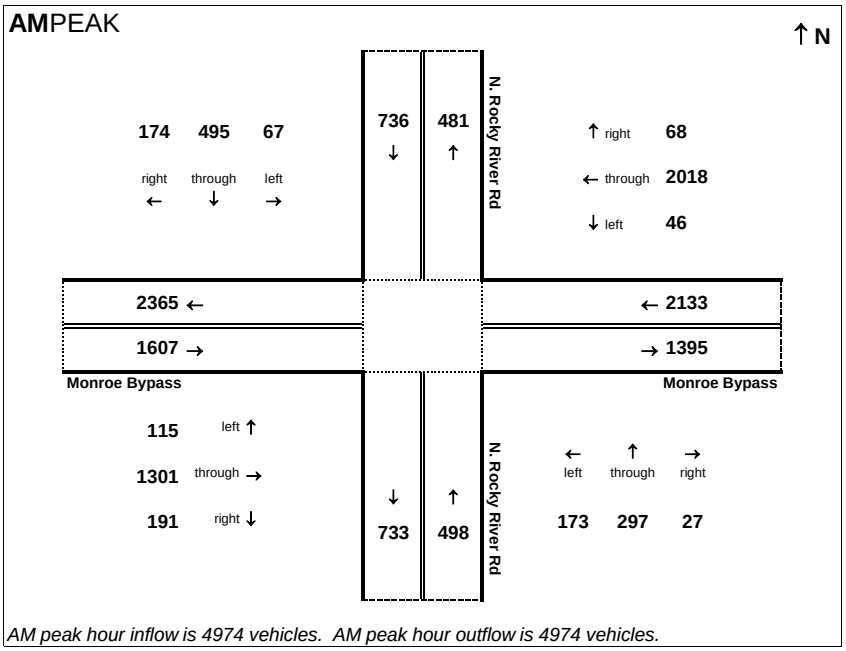


Peak Hour Volume Breakouts Report:
Alt 3A: Monroe Bypass at North Rocky River Rd

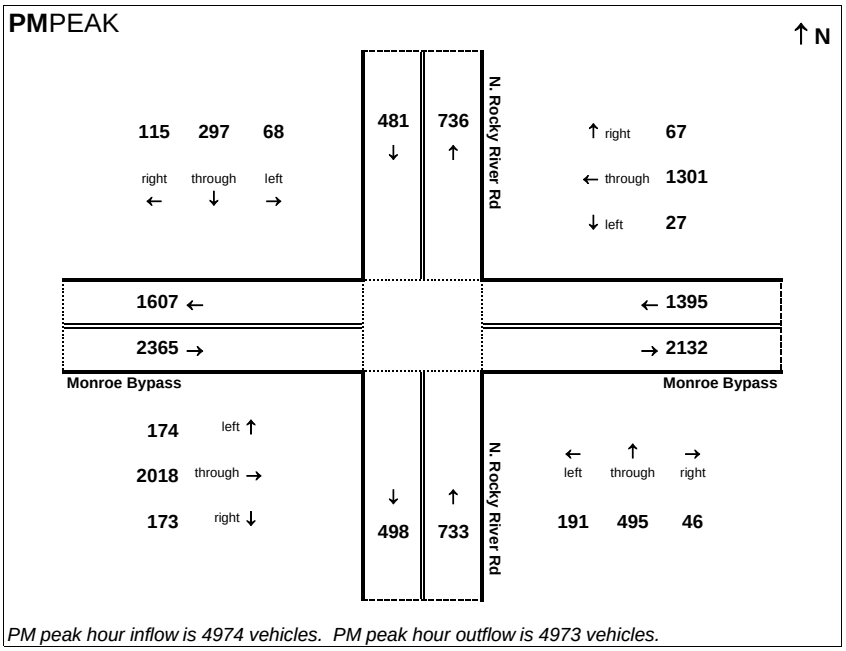
Traffic Forecast Release Date:
July-10

Traffic Data Year:
2025

Project:
R-3329/R-2559 Toll Scenario



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

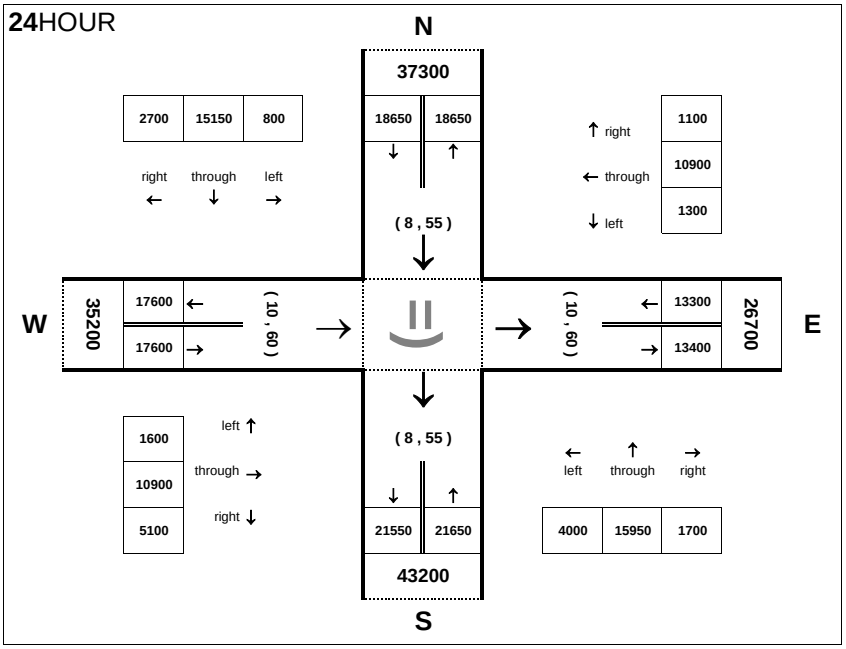


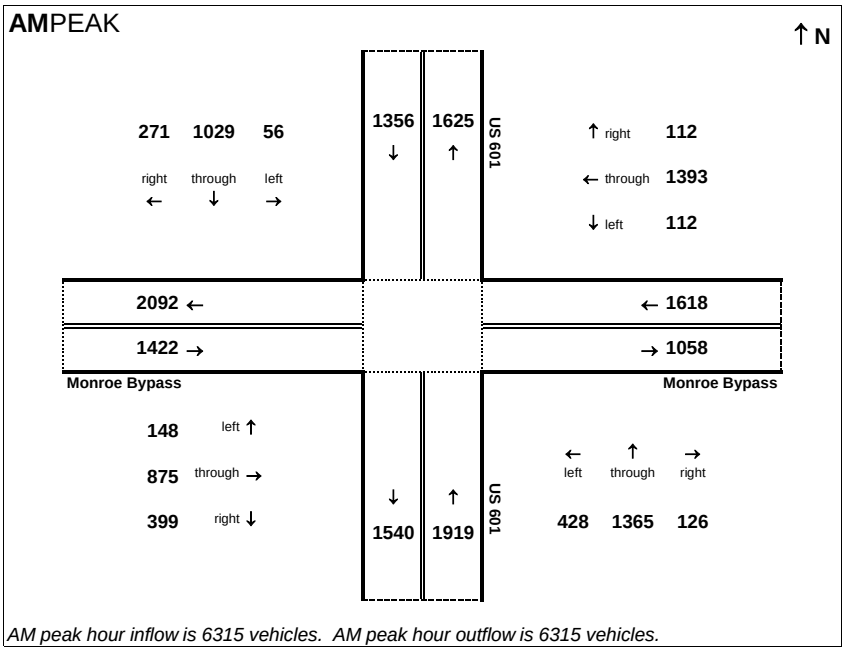
PM peak hour inflow is 4974 vehicles. PM peak hour outflow is 4973 vehicles.

Peak Hour Volume Breakouts Report:
Alt 3A:
Monroe Bypass at US 601 Toll Forecasts

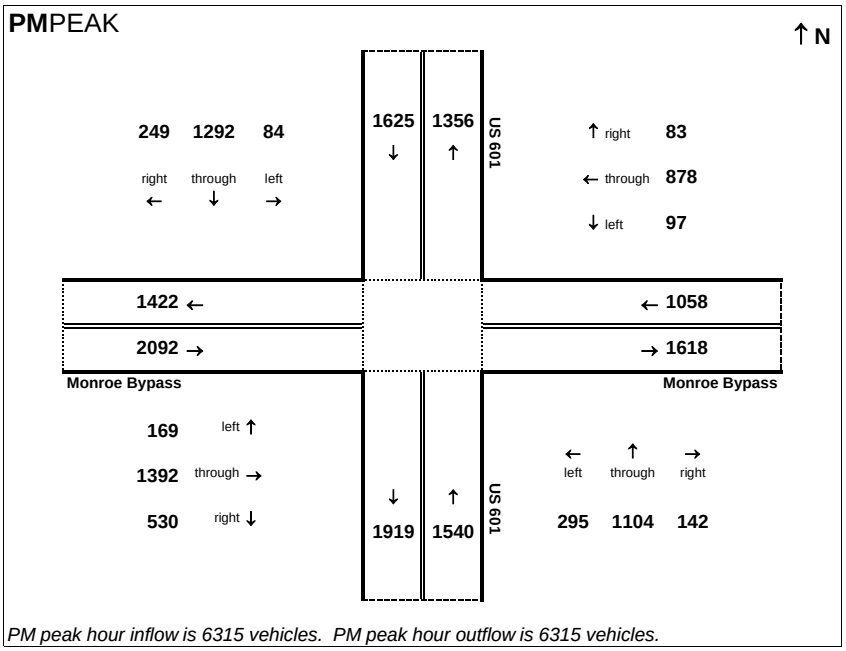
Traffic Forecast Release Date:
July-10

Traffic Data Year:
2025

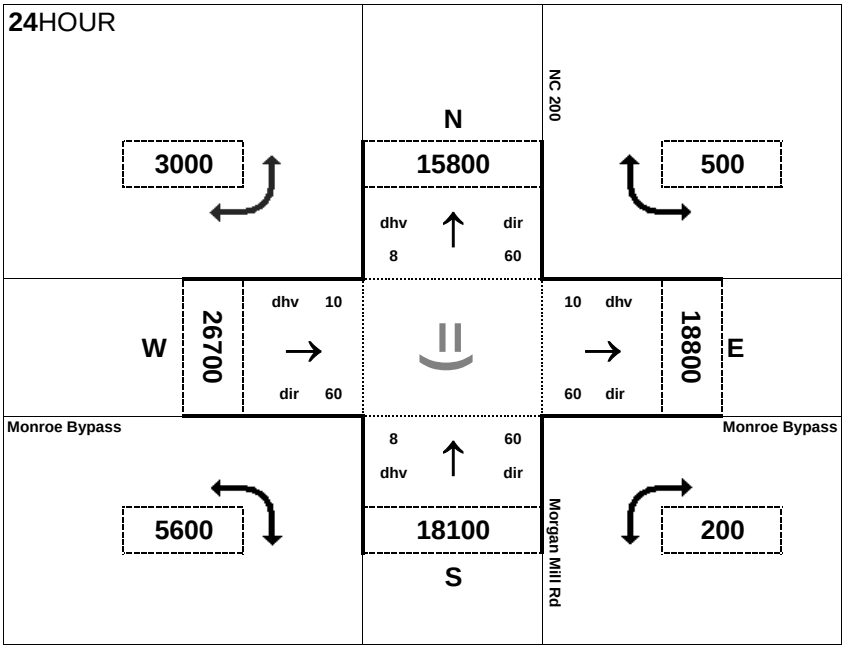




AM peak hour inflow is 6315 vehicles. AM peak hour outflow is 6315 vehicles.



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

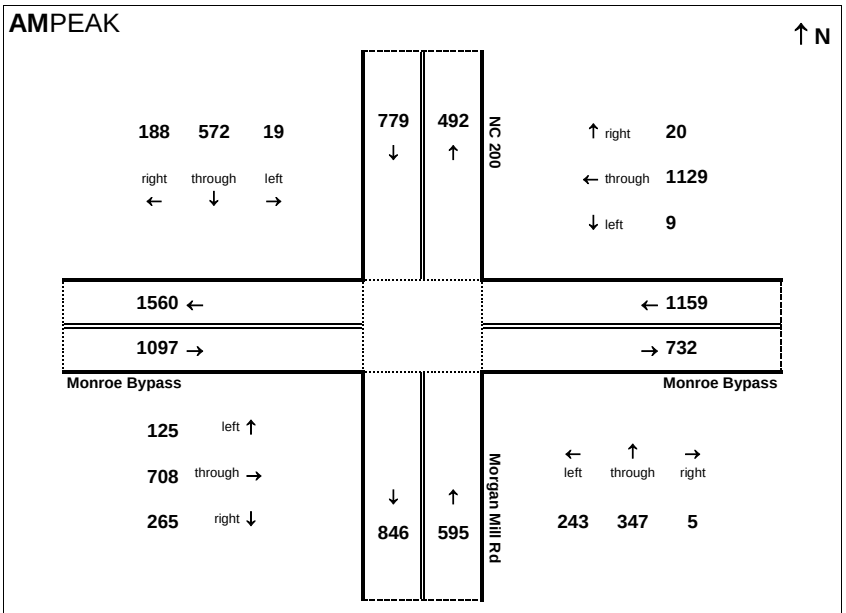


Peak Hour Volume Breakouts Report:
Alt 3A: Monroe Bypass at NC 200 / Morgan Mill Rd

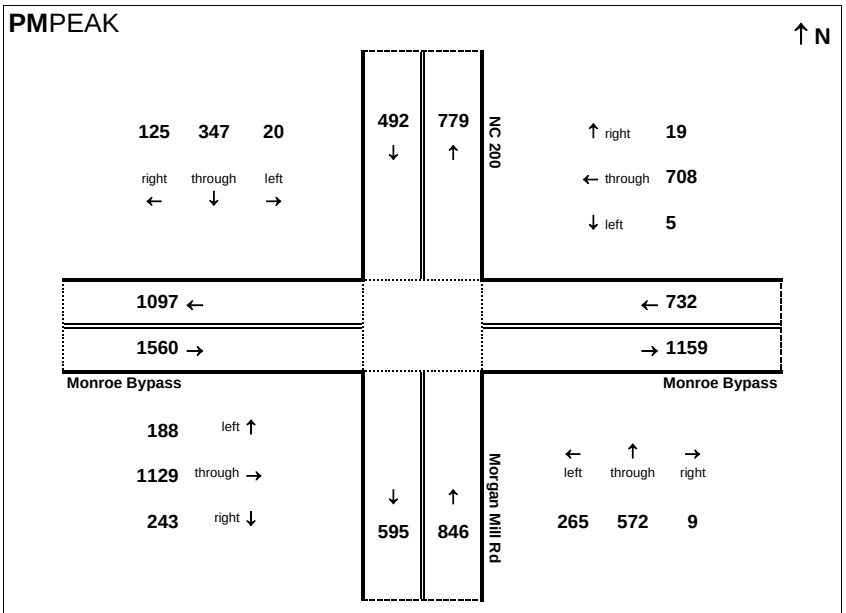
Traffic Forecast Release Date:
July-10

Traffic Data Year:
2025

Project:
R-3329/R-2559 Toll Scenario



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



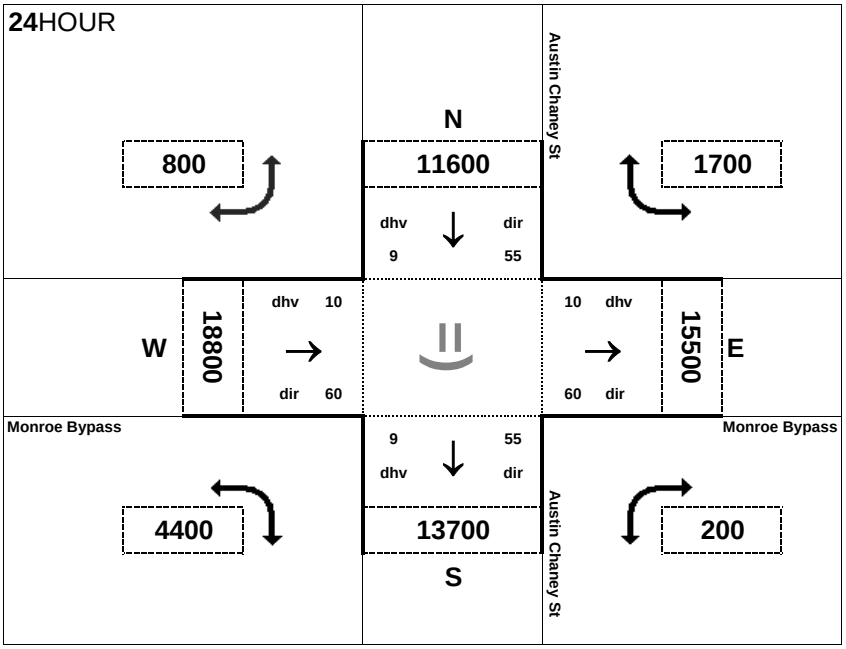
PM peak hour inflow is 3630 vehicles. PM peak hour outflow is 3630 vehicles.

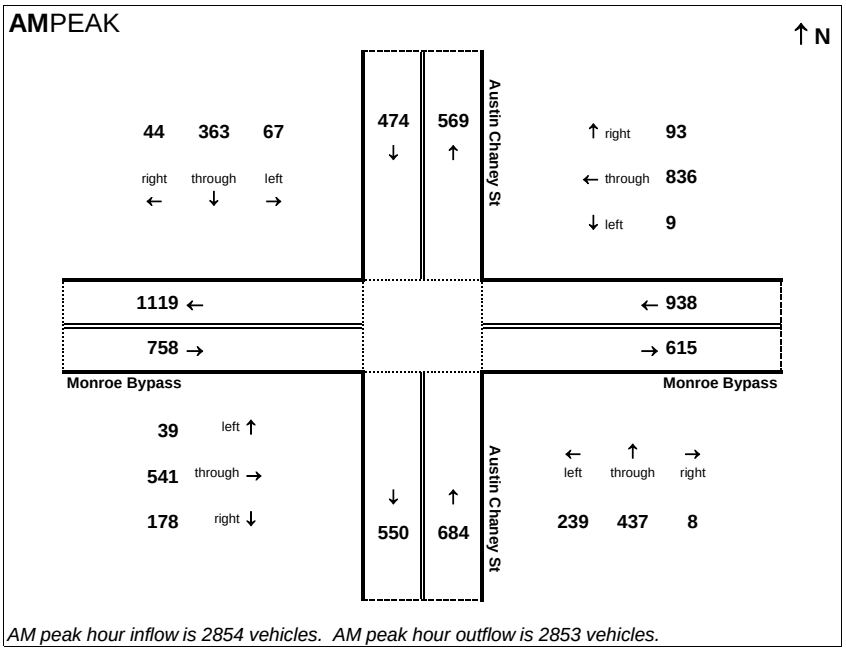
Peak Hour Volume Breakouts Report:
Alt 3A: Monroe Bypass at Austin Chaney St

Traffic Forecast Release Date:
July-10

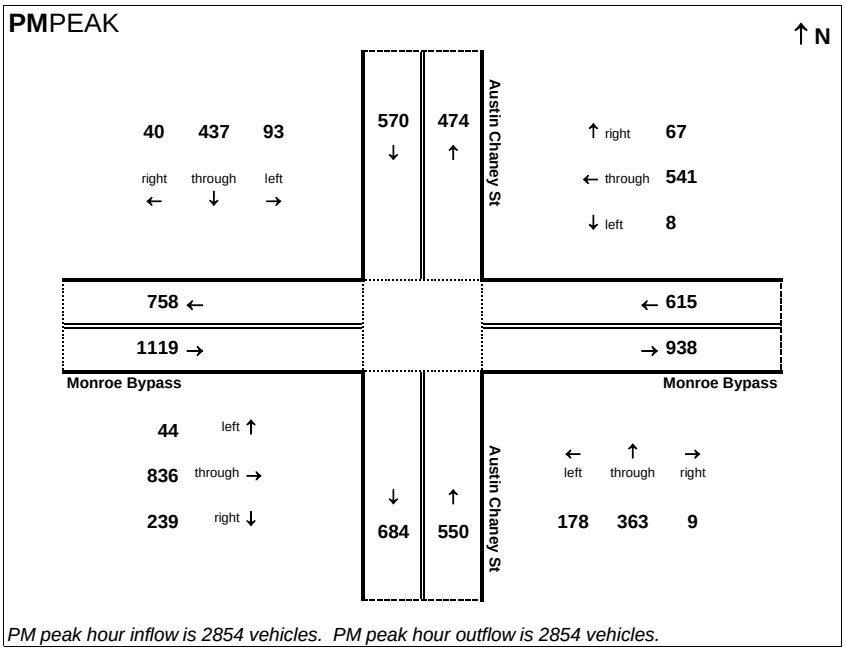
Traffic Data Year:
2025

Project:
R-3329/R-2559 Toll Scenario





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



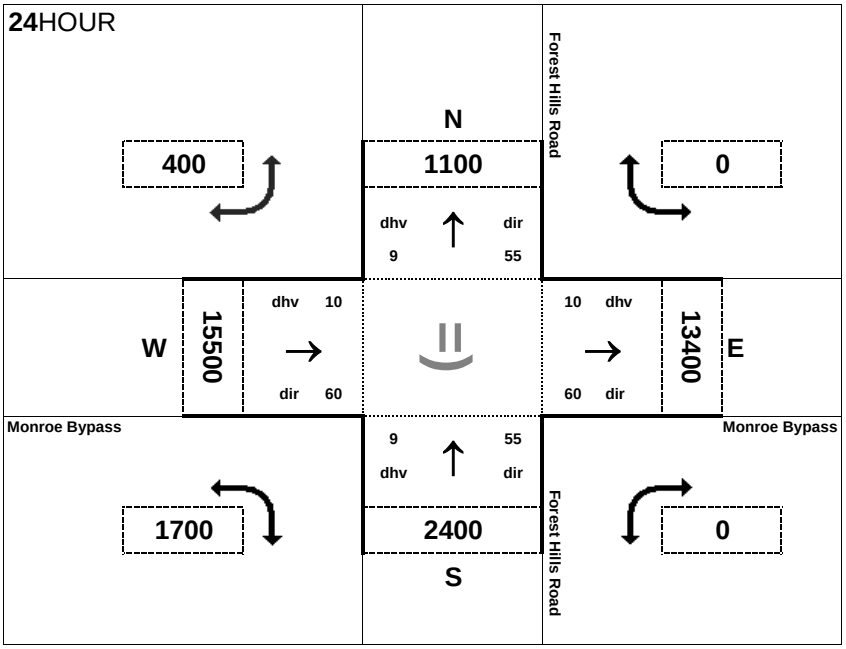
PM peak hour inflow is 2854 vehicles. PM peak hour outflow is 2854 vehicles.

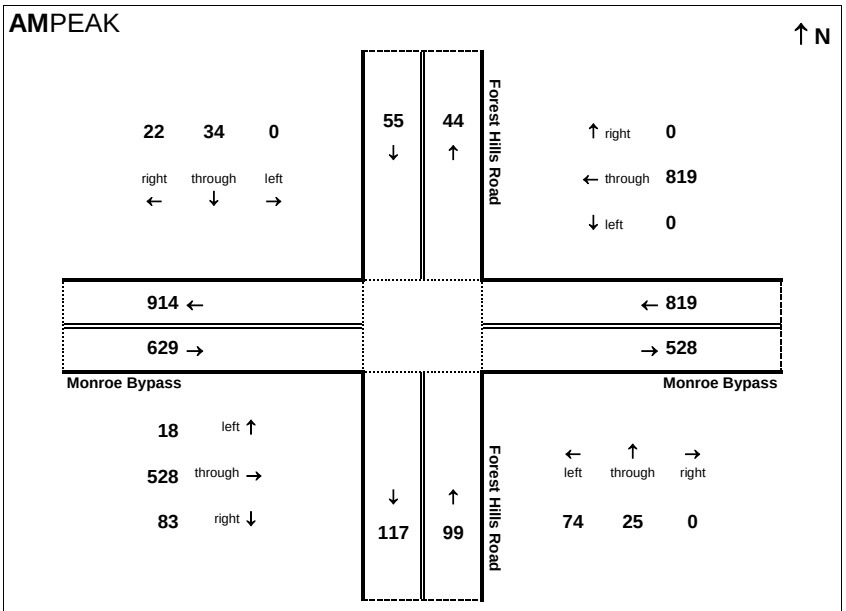
Peak Hour Volume Breakouts Report:
Alt 3A: Monroe Bypass at Forest Hills Road

Traffic Forecast Release Date:
July-10

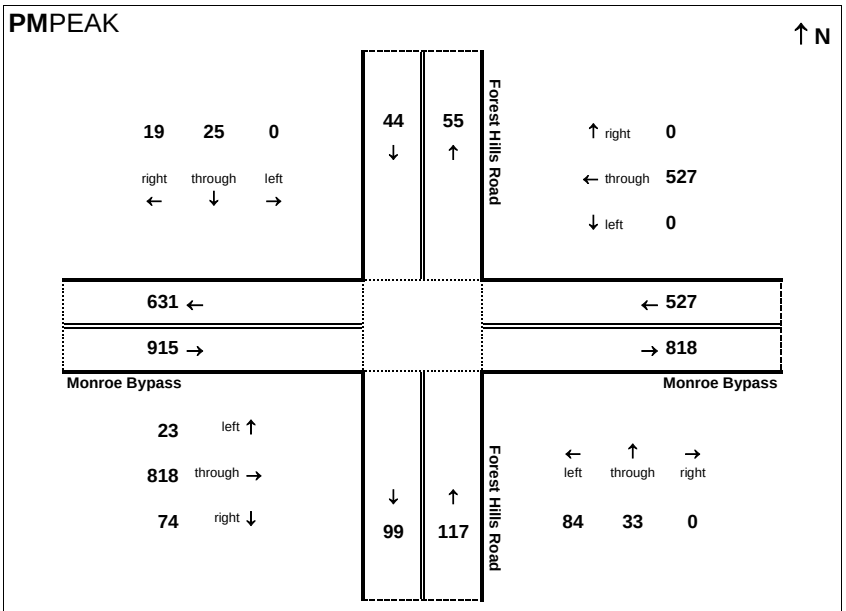
Traffic Data Year:
2025

Project:
R-3329/R-2559 Toll Scenario





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



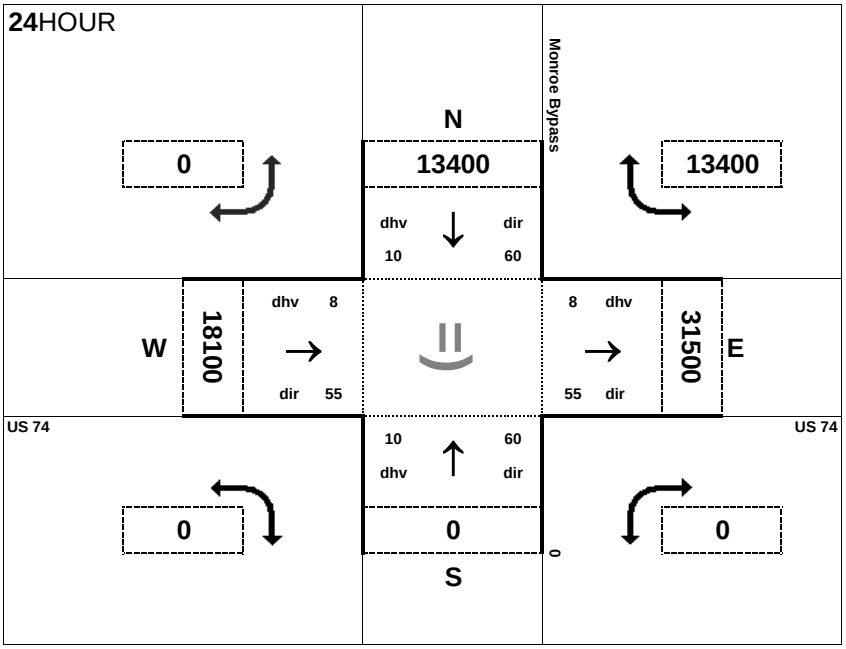
PM peak hour inflow is 1603 vehicles. PM peak hour outflow is 1603 vehicles.

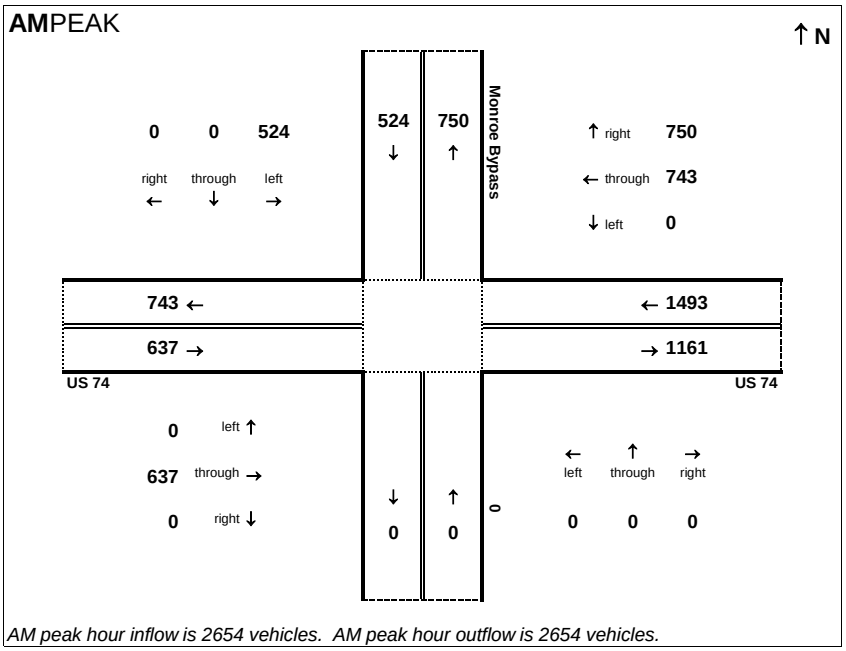
Peak Hour Volume Breakouts Report:
Alt 3A: Monroe Bypass at US 74

Traffic Forecast Release Date:
July-10

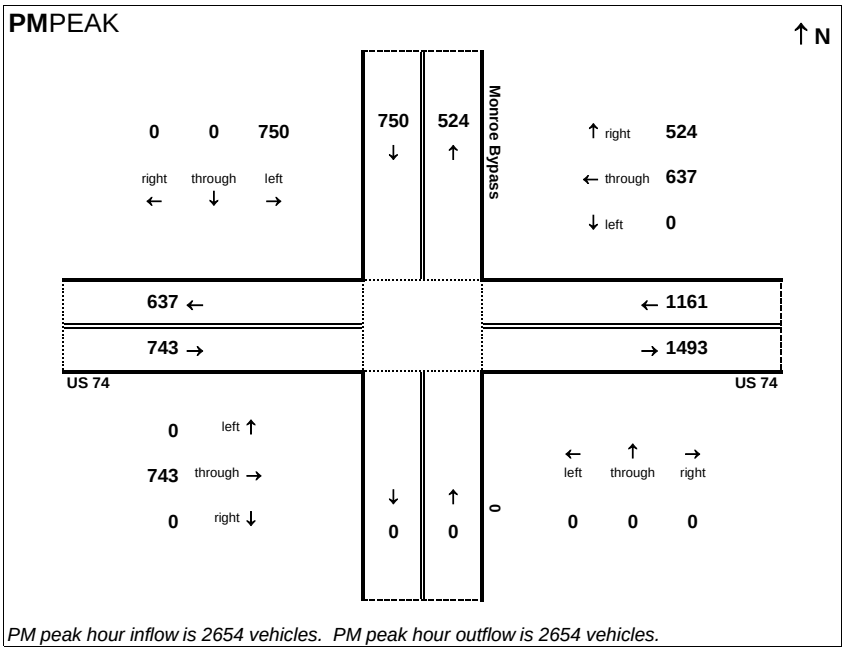
Traffic Data Year:
2025

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.