

May 27, 2026



MEMORANDUM TO: Kenneth Dunn, PE  
Project Manager  
NCDOT Highway Divisions 7,9, & 10

FROM: John Burris, PTP  
HNTB North Carolina, PC

SUBJECT: Final Traffic Forecast for STIP Project R-2247EA+D  
Winston-Salem Northern Beltway  
Forsyth County

This traffic forecast was reviewed by the North Carolina Department of Transportation (NCDOT) Transportation Planning Division (TPD) and approved on May 27, 2026.

Please find attached the Final Traffic Forecast for the North Carolina Department of Transportation (NCDOT) State Transportation Improvement Program (STIP) Project R-2247EA+D, which includes the 10.3-mile western loop of the Winston-Salem Beltway. The entire 34.5-mile Winston-Salem Northern Beltway begins at US 158 and will end at I-74. Per the 2026 – 2035 STIP, R-2247EA is currently programmed for right-of-way in fiscal year 2028 and construction to begin in fiscal year 2030, while R-2247D is currently programmed for preliminary engineering only. The 2026 – 2035 STIP was approved by the NCDOT Board of Transportation in July 2025 and amended in January 2026.

The study area for the traffic forecast includes a total of nine interchanges (seven future) and eight intersections along or near I-74, Future I-274, and US 52. This traffic forecast includes the four scenarios listed below:

- 2026 Base Year No-Build (BYNB)
- 2026 Base Year Build (BYB)
- 2050 Future Year (FYNB)
- 2050 Future Year Build (FYB)

### **Fiscal Constraint**

Within a Transportation Planning Organization (TPO), future year traffic forecasts assume construction of projects listed within a TPO's Metropolitan Transportation Plan (MTP). This traffic forecast is consistent with the Winston-Salem Area TPO (WSATPO) 2050 MTP, which was adopted by their board in September 2025.

### **Travel Demand Model**

Output from the Piedmont Triad Regional Model (PTRM) was used as a tool in the development of this traffic forecast. The model was provided by the Piedmont Authority for Regional Transportation (PART NC), who maintains the PTRM for the Winston-Salem Area Transportation Planning Organization (WSATPO). The model has a base year of 2022 and a future year of 2050. The model includes all fiscally-constrained projects contained in the MTP at the time of the model's effective date, as well as socioeconomic data projections. For the purposes of this traffic forecast, model runs were completed after ensuring all relevant transportation projects proposed in the MTP were included and by modifying the highway network to include projects if they were not originally in the model.

The North Carolina Statewide Model (NCSTM) (Generation 4.5, TransCAD 7 Build 12375) was also used in the development of this traffic forecast. The NCSTM has an interim year of 2025 and a future year of 2045.

## **Interpolation**

To determine any intermediate years, straight-line interpolation may be used. AADT volumes may be extrapolated for up to two years immediately following 2050.

## **Development Activity**

After review, it was determined that all recent and planned developments were reviewed with local planners and were determined to fall within the scope of the planned growth shown in the future year socioeconomic data set, which includes all fiscally-constrained projects contained in the MTP.

## **Forecast Methodology**

The 2026 BYNB traffic forecast scenario is a traffic forecast for existing traffic study area conditions using actual field-collected traffic counts from March 2026, historical AADT, historical trend lines, previous forecasts completed, and engineering judgment.

The 2026 BYB traffic forecast scenario is a traffic forecast for existing traffic study area conditions with STIP Project R-2247EA+D complete using the travel demand model and diversion rates, socioeconomic data, historic trend line estimates, previous forecasts completed, knowledge of future land use, and engineering judgment.

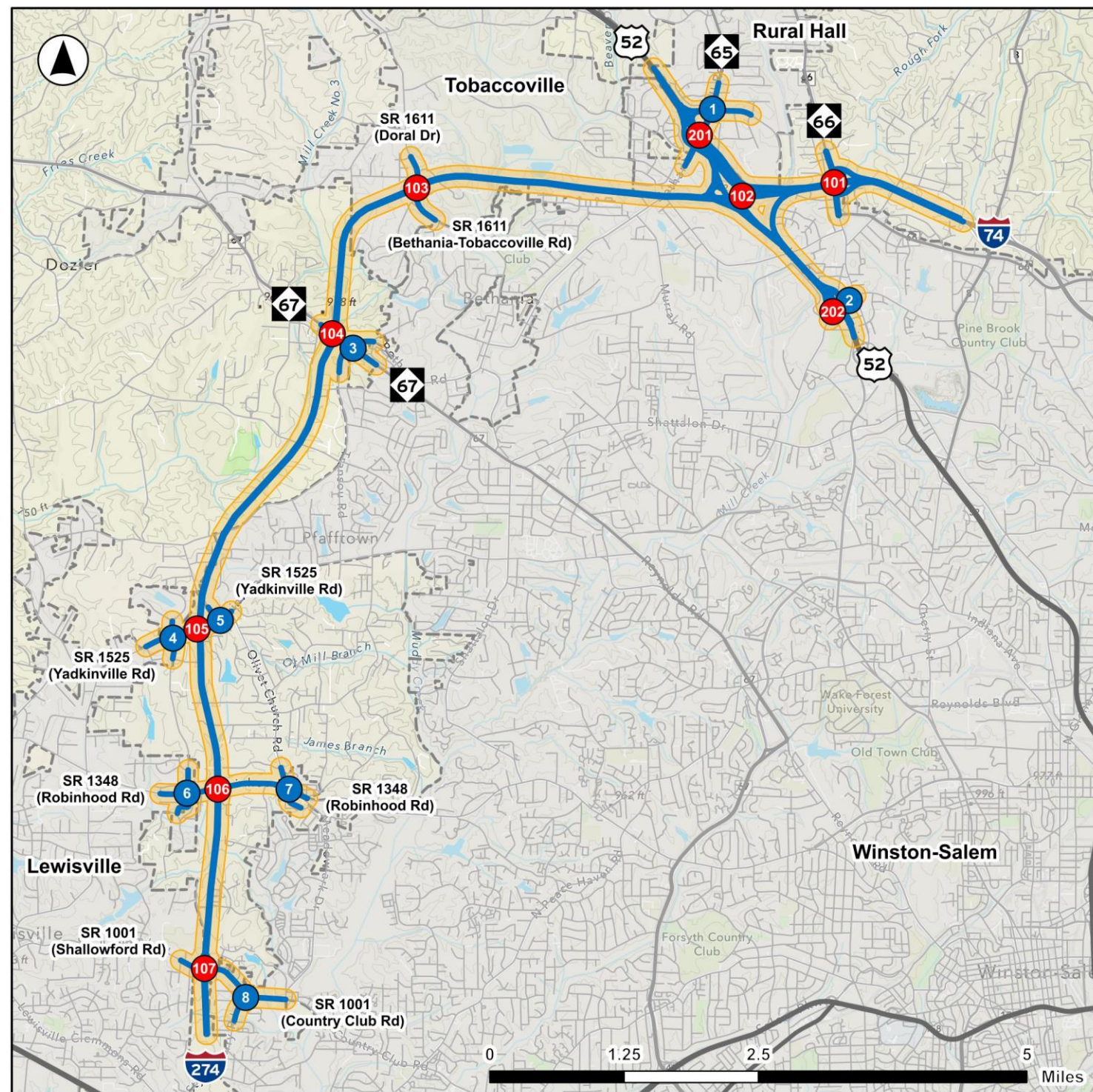
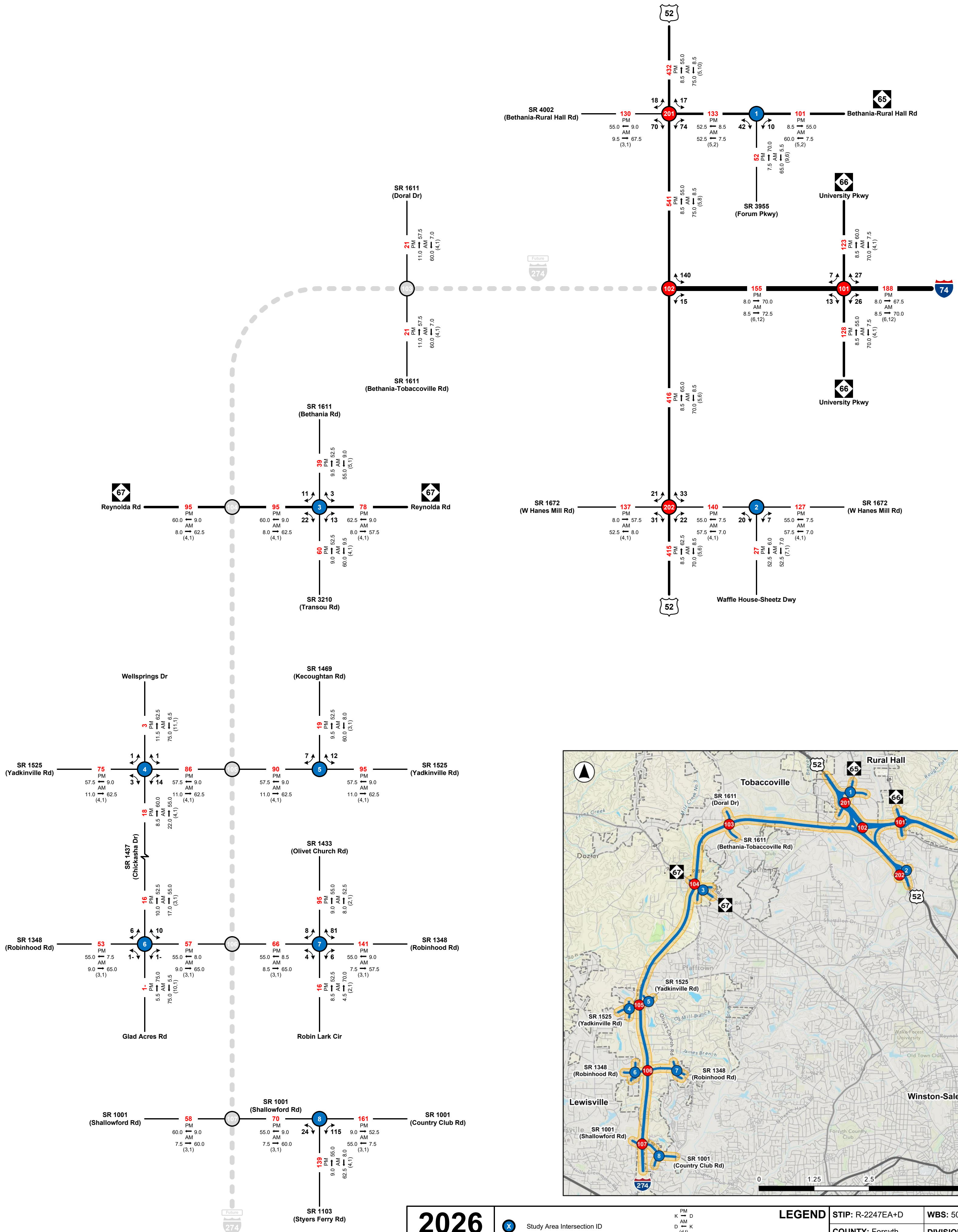
The 2050 FYNB traffic forecast scenario is a traffic forecast for the most likely future traffic study area conditions using the travel demand model and growth rates, socioeconomic data, historic trend line estimates, previous forecasts completed, knowledge of future land use, and engineering judgement. Model runs were completed for the FYNB traffic forecast scenario without any changes to the model network.

The 2050 FYB traffic forecast scenario is a traffic forecast for the most likely future traffic study area conditions with STIP Project R-2247EA+D complete using the travel demand model and diversion rates, socioeconomic data, historic trend line estimates, previous forecasts completed, knowledge of future land use, and engineering judgement. Model runs were completed for the FYB traffic forecast scenario without any changes to the model network.

The selected peak hour design characteristics (K and D) were determined to vary between no-build and build scenarios to reflect changes in traffic patterns associated with the proposed new location facility. This was based on a review of the existing and future roadway networks, travel demand model data, and engineering judgment. The selected heavy vehicle percentages (HV) were assumed to remain unchanged across all traffic forecast scenarios.

If it is determined that any of these assumptions have become inconsistent with the project and surrounding area activity, please request updated projections. If you have any questions or I can be of further assistance, please do not hesitate to call me at (919) 424-0483 or e-mail me at [jburris@hntb.com](mailto:jburris@hntb.com).

**cc:** Keith Dixon (trafficforecast@ncdot.gov), NCDOT Transportation Planning Division



# 2026 ANNUAL AVERAGE DAILY TRAFFIC

Base Year No-Build (BYNB)

- X Study Area Intersection ID
- X Study Area Interchange ID
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited

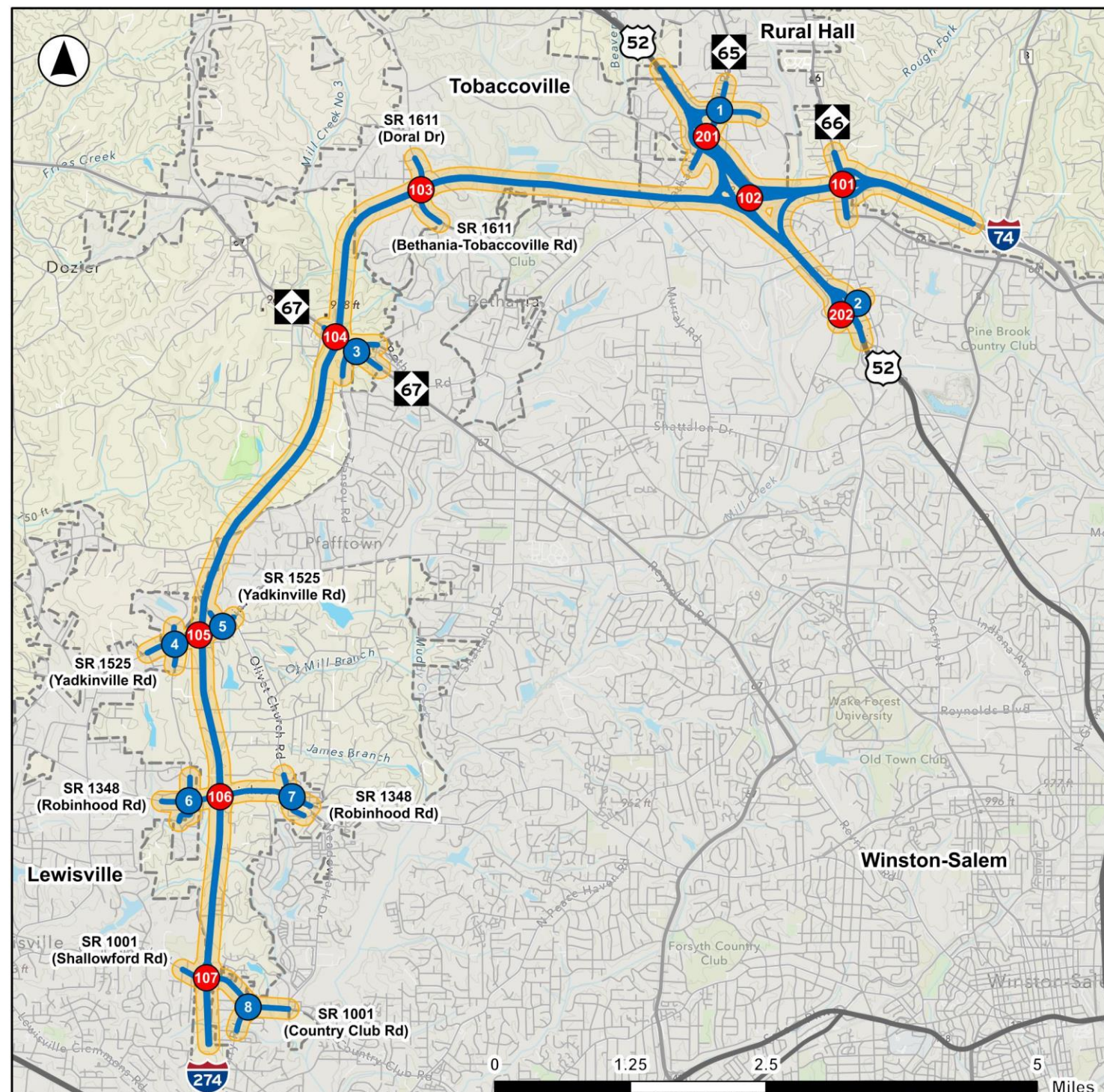
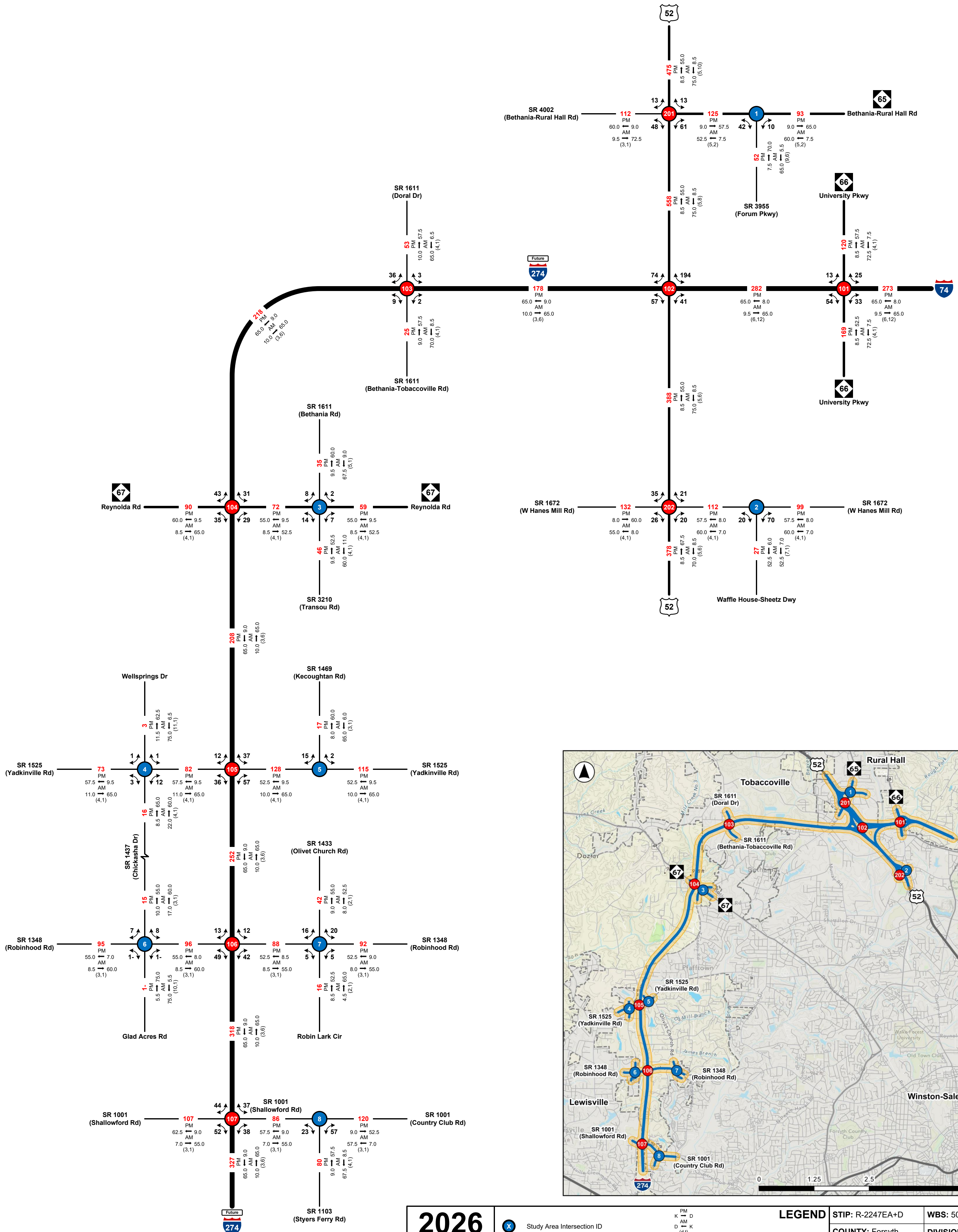
- PM Peak Hour
- K AM Peak Hour
- D Design Hour Factor (%)
- D Peak Hour Directional Split (%)
- (d,t) Indicates Direction of D
- (d,t) Duals, TT-STs (%)

## LEGEND

STIP: R-2247EA+D	WBS: 50184.1.1
COUNTY: Forsyth	DIVISION: 9
PREPARED BY: HNTB North Carolina, PC	
PROJECT: Winston-Salem Northern Beltway	
DATE: May 2026	Sheet 1 of 1

Note: The selected peak hour design characteristics (K and D) were determined to vary between no-build and build scenarios to reflect changes in traffic patterns associated with the proposed facility.

FINAL



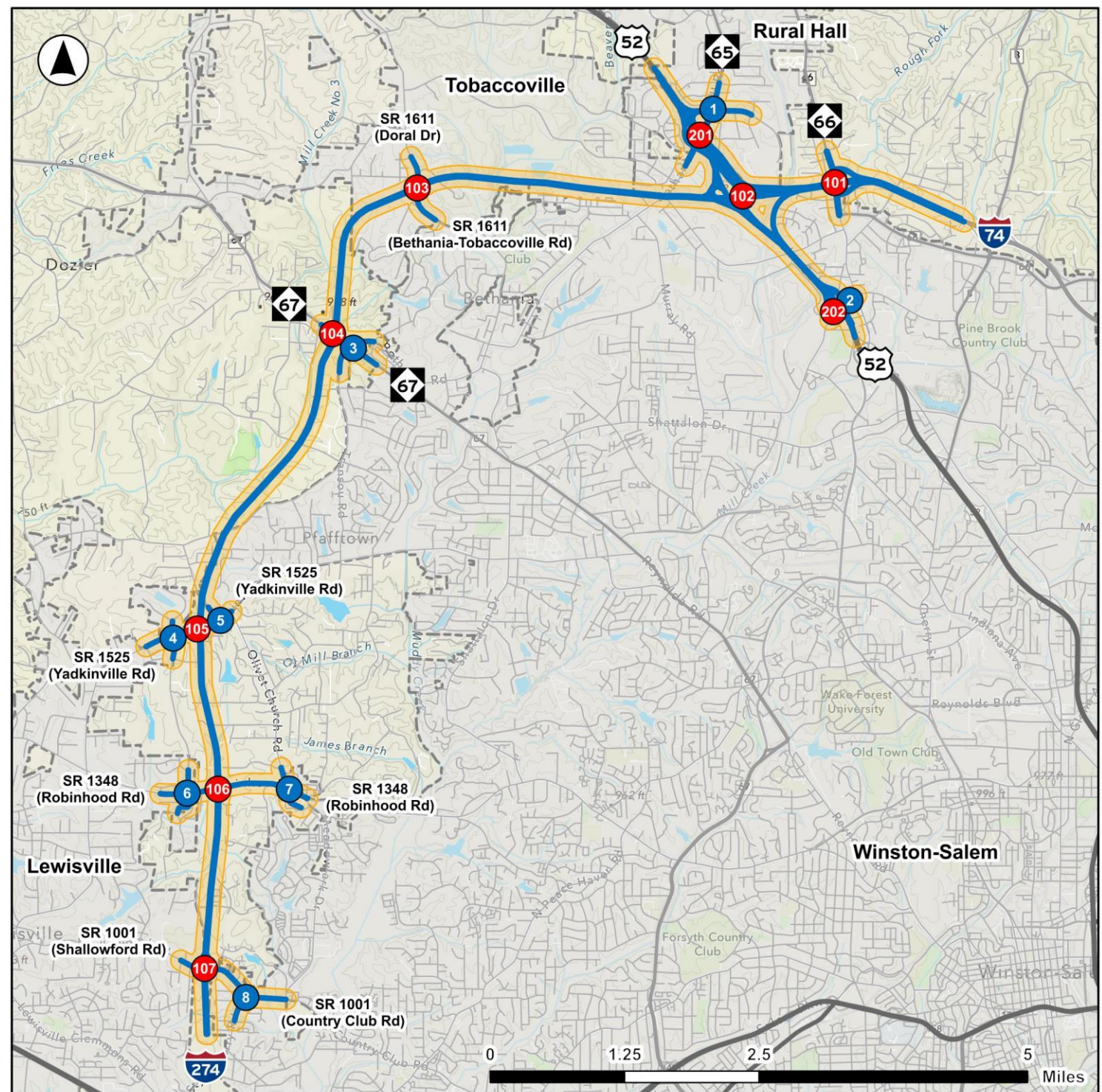
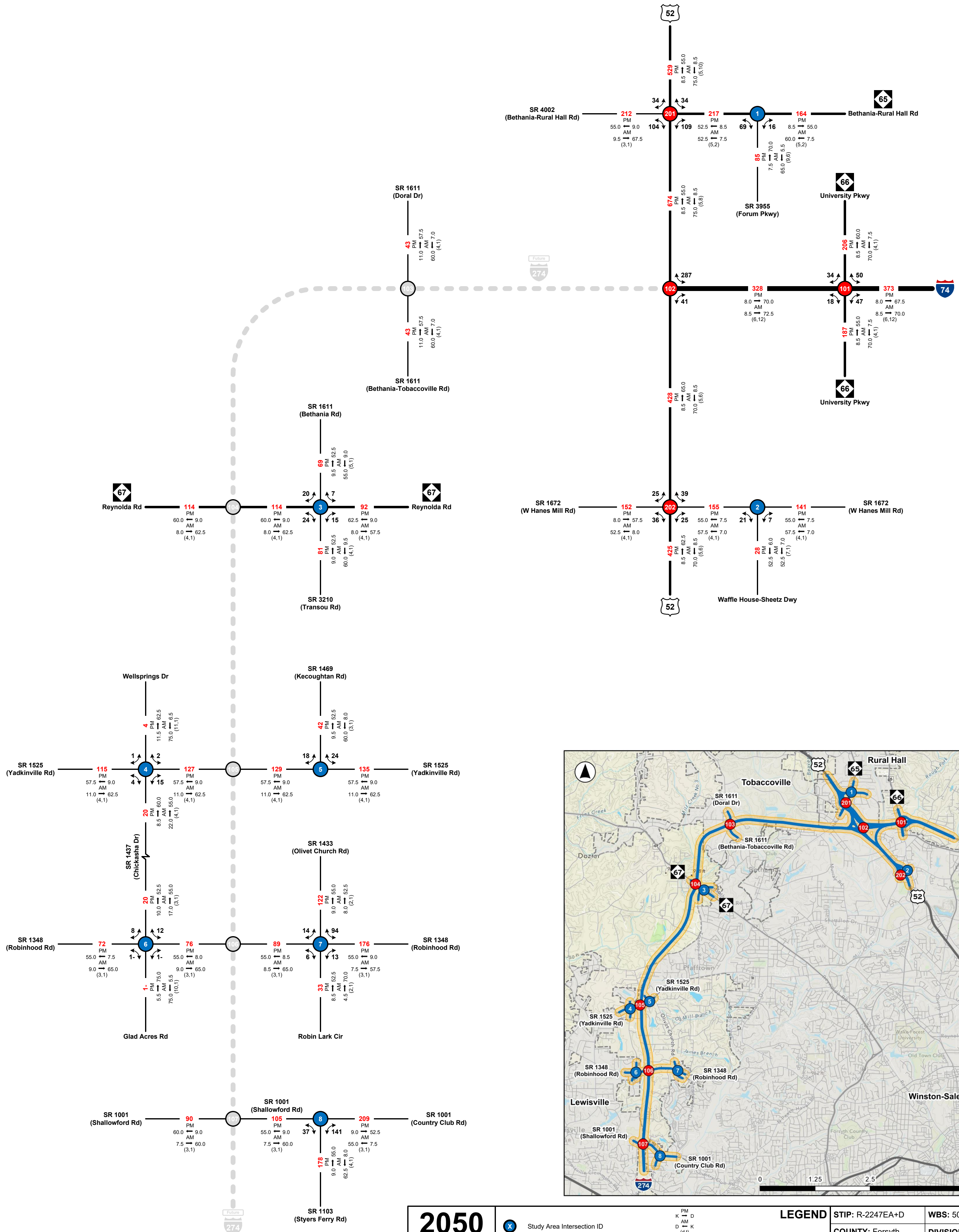
**2026**  
ANNUAL AVERAGE  
DAILY TRAFFIC  
Base Year Build  
(BYB)

- X Study Area Intersection ID
- X Study Area Interchange ID
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited

- PM PM Peak Hour
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COUNTY: Forsyth	DIVISION: 9
PREPARED BY: HNTB North Carolina, PC	
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DATE: May 2026	Sheet 1 of 1



# 2050 ANNUAL AVERAGE DAILY TRAFFIC

Future Year No-Build (FYNB)

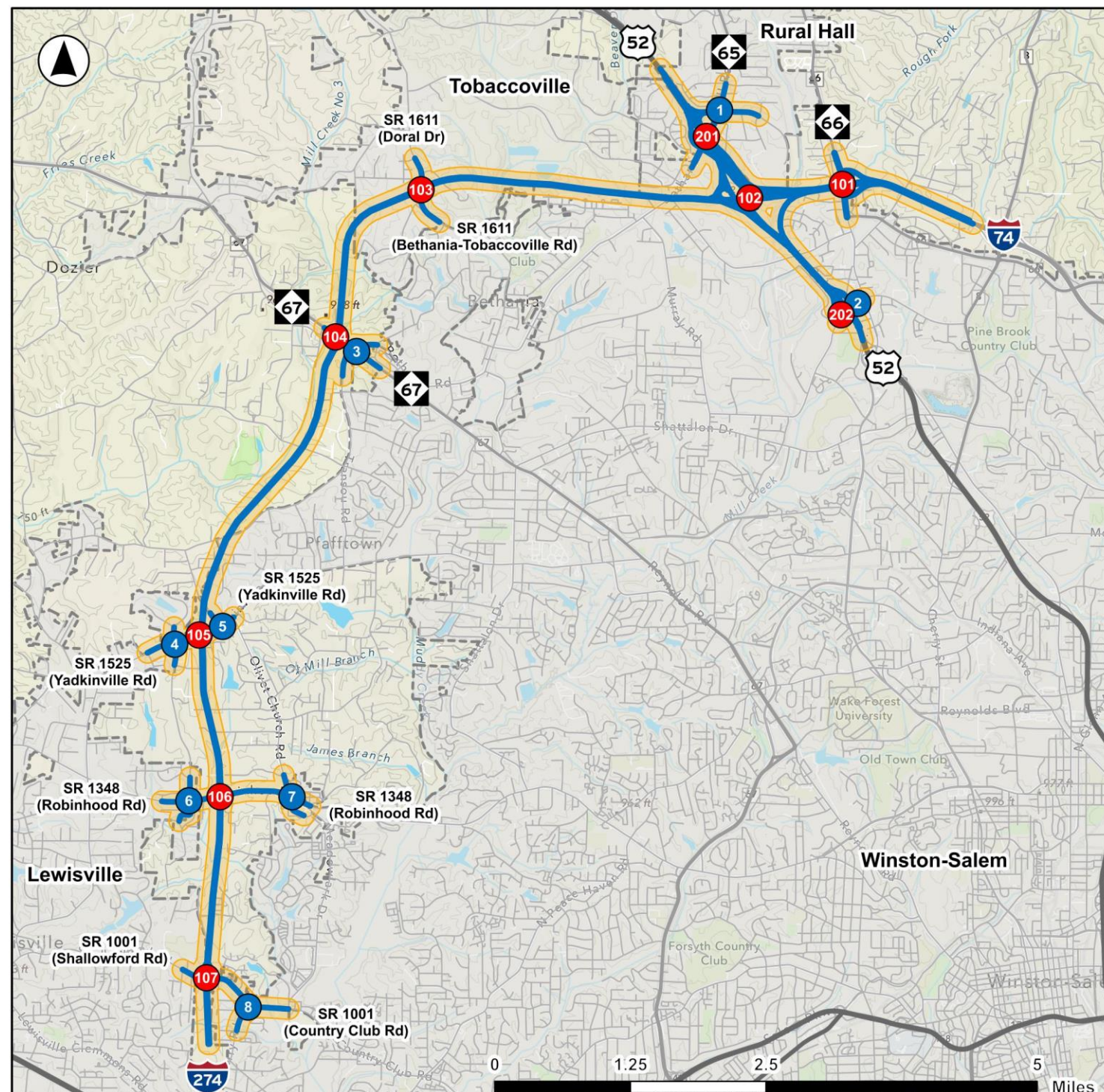
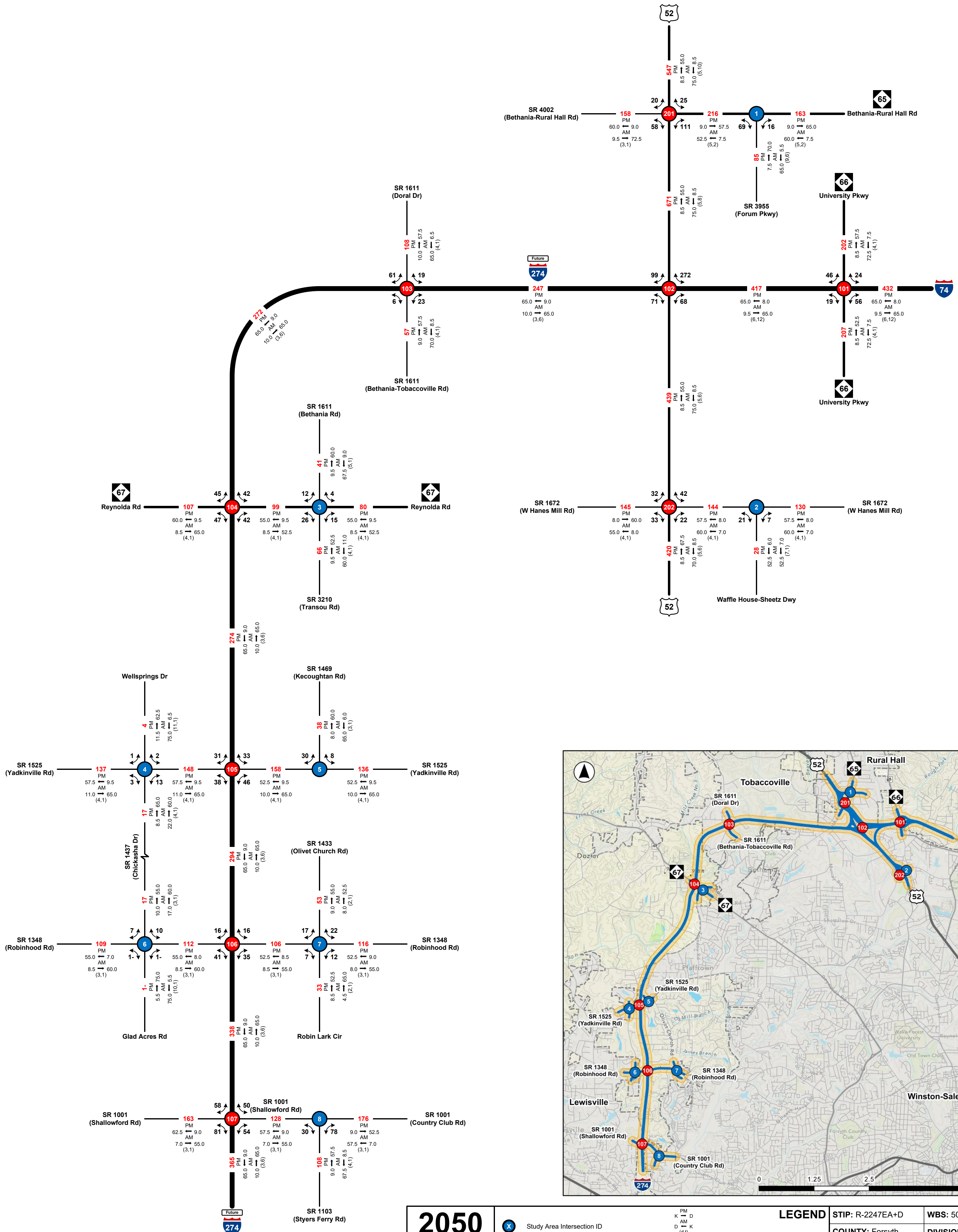
- X Study Area Intersection ID
- X Study Area Interchange ID
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- PM PM Peak Hour
- K AM AM Peak Hour
- D Design Hour Factor (%)
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Note: The selected peak hour design characteristics (K and D) were determined to vary between no-build and build scenarios to reflect changes in traffic patterns associated with the proposed facility.

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# 2050

## ANNUAL AVERAGE DAILY TRAFFIC

### Future Year Build (FYB)

- X Study Area Intersection ID
- X Study Area Interchange ID
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited

- PM PM Peak Hour
- K AM Peak Hour
- D Design Hour Factor (%)
- 1- K Peak Hour Directional Split (%)
- D Indicates Direction of D
- (d,t) Duals, TT-STs (%)

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