

## TRAFFIC FORECAST COVER LETTER

April 7, 2022

MEMORANDUM TO: Phillip Craver  
NCDOT Division 9 Corridor Development Engineer

FROM: Peter Trencansky, PE, PTOE, AICP  
Patriot Transportation Engineering, PLLC

SUBJECT: Traffic Forecast for H193481  
Davidson County  
I-85/Old Linwood Road (SR 1104) Interchange

***This forecast has been reviewed and approved by the NCDOT Transportation Planning Division on April 7, 2022.***

Please find attached the 2022 and 2045 traffic forecast for NCDOT Project H193481 in Davidson County. The proposed project, H193481, would provide a new interchange on I-85 at Old Linwood Road (SR 1104). This traffic forecast for this project was requested by NCDOT Division 9 in support of project development activities, including environmental documentation and design for the project.

The project is located within the boundaries of the High Point Metropolitan Planning Organization (HPMPO). The following four scenarios are provided in this forecast:

- 2022 Base Year, No-Build (Existing Conditions)
- 2022 Base Year Build Alternative
- 2045 Future Year No-Build
- 2045 Future Year Build Alternative

### Fiscal Constraint

The project is located within the HPMPO boundaries; therefore, the travel demand model and traffic forecast are fiscally constrained to match the assumptions of the corresponding Metropolitan Transportation Plan (MTP).

The study project is currently not included in the *High Point MPO Metropolitan Transportation Plan 2045* (adopted on August 25, 2020).

The 2045 MTP includes the following projects in the area which are anticipated to affect travel patterns on the subject project and are described as follows:

- 35BB (U-2545 – Westside Bypass (NC 8)) – Widen to multi-lane median divided facility, part on new location
- 35CC (R-2200B – US 64 Widening) – Widen to a multi-lane facility

### Travel Demand Model

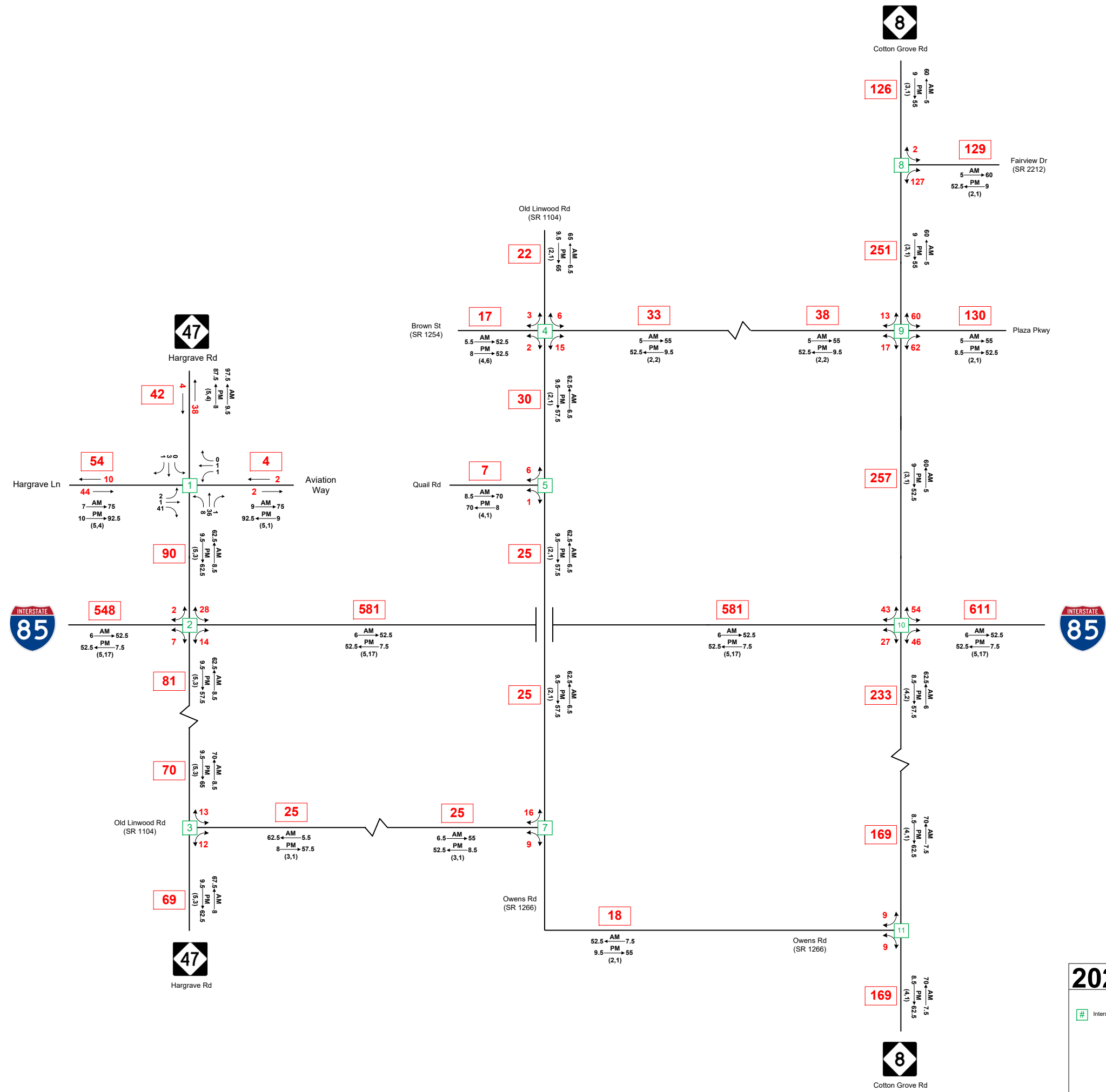
The Piedmont Triad Regional Travel Model (v5.2, issued February 2021), provided by Piedmont Authority for Regional Transportation, was utilized as a tool in the development of the forecast.

### Forecast Methodology

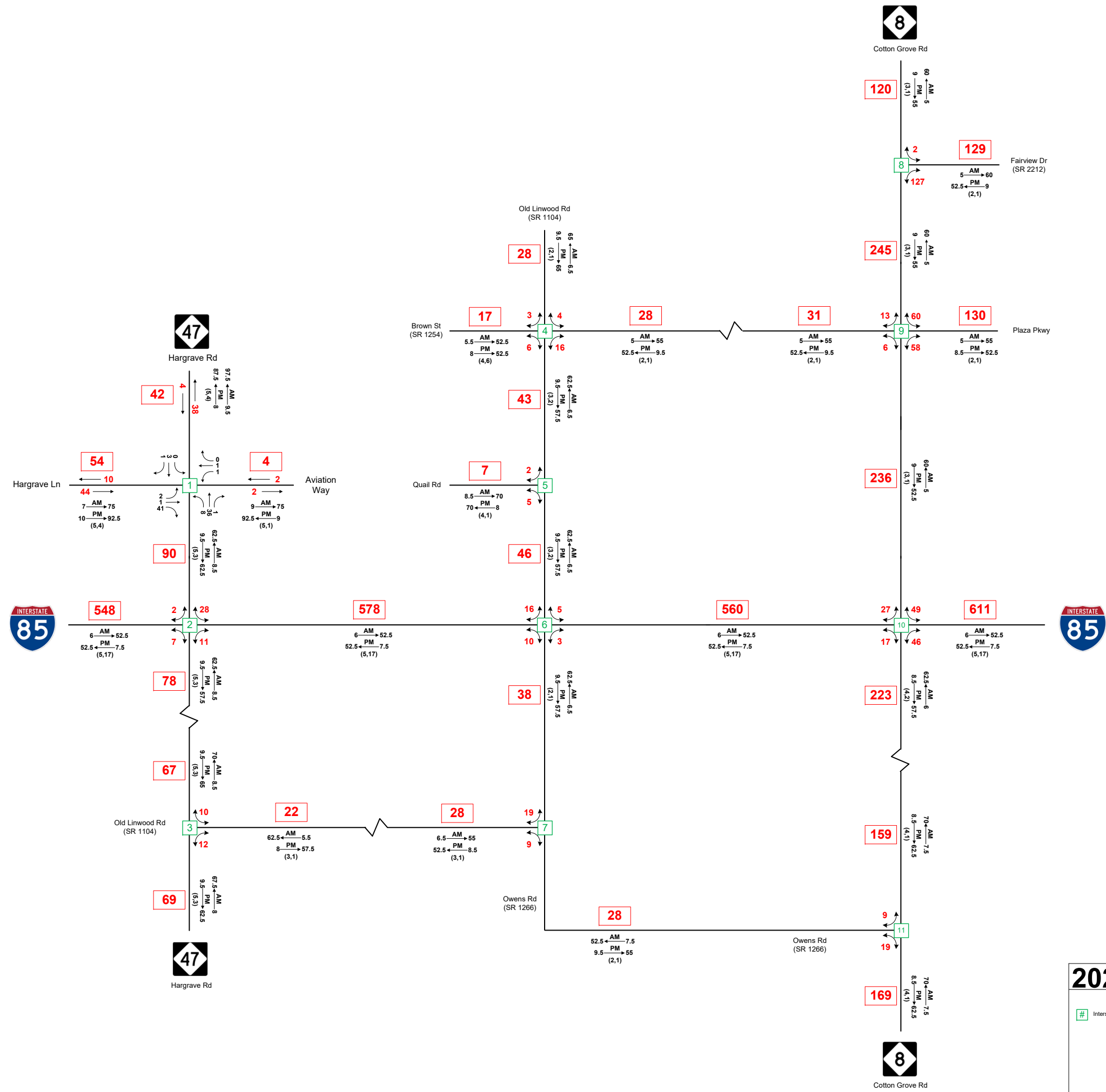
The 2022 Base Year No-Build traffic volumes and design factors were developed based upon current counts, historic counts and historic AADT trend projections. The 2045 future year no-build traffic volumes generally included the development of compound annual growth rates between two model years. The build alternative volumes generally included the development of diversion rates between like model years with different scenarios. The compound annual growth rates or diversion rates were then applied to the AADT volumes from another scenario to develop initial volumes for each scenario. Engineering judgment adjustments were applied as needed in finalizing the volumes in order to develop a balanced forecast.

### Interpolation/Extrapolation

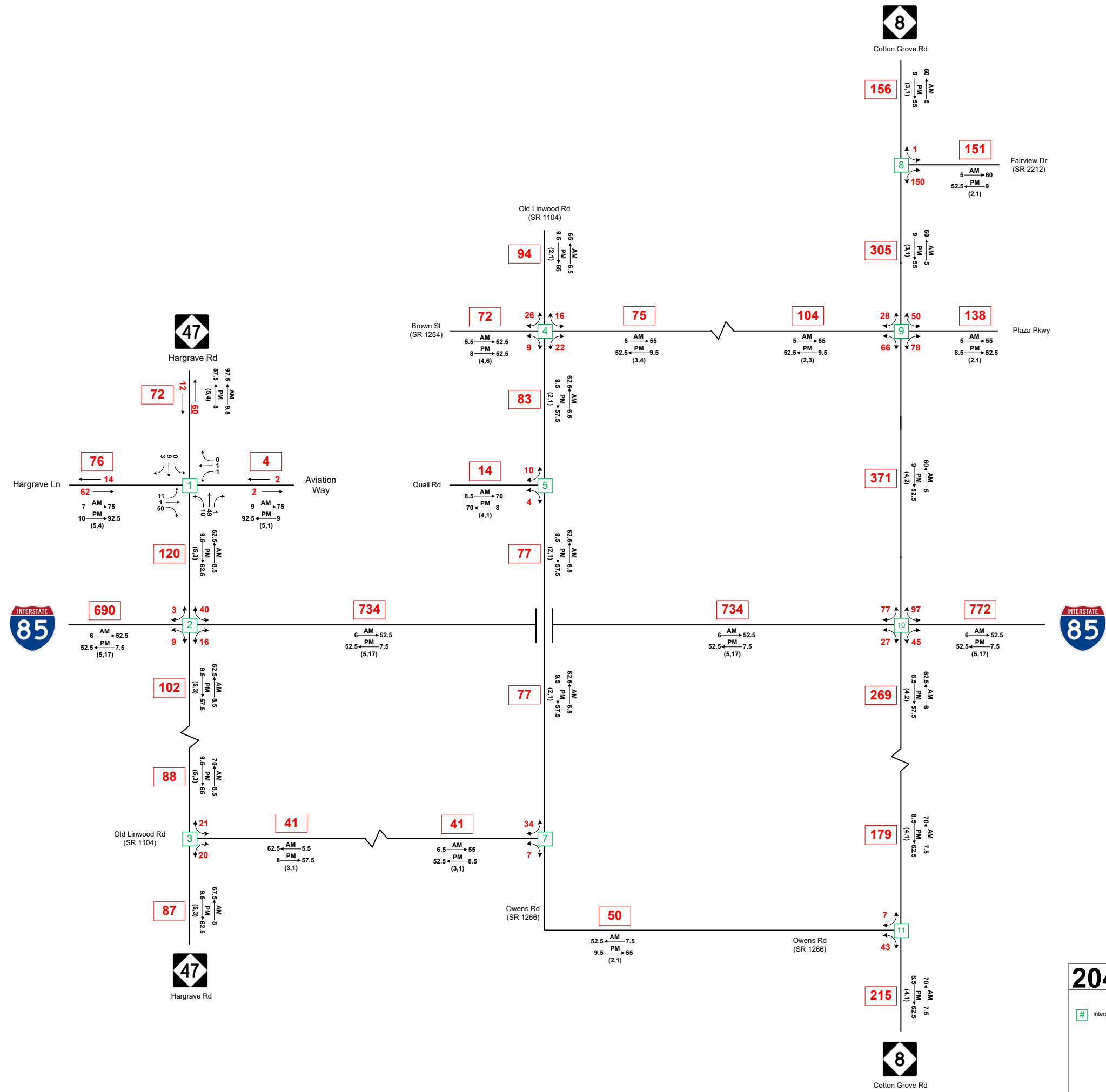
To estimate AADT volumes between 2022 and 2045, straight line interpolation between the 2022 and the 2045 scenarios is acceptable. AADT volumes may be extrapolated for up to two years immediately following 2045. If it is determined that any of these assumptions have become inconsistent with the project and surrounding area activity, please request updated projections at this location.



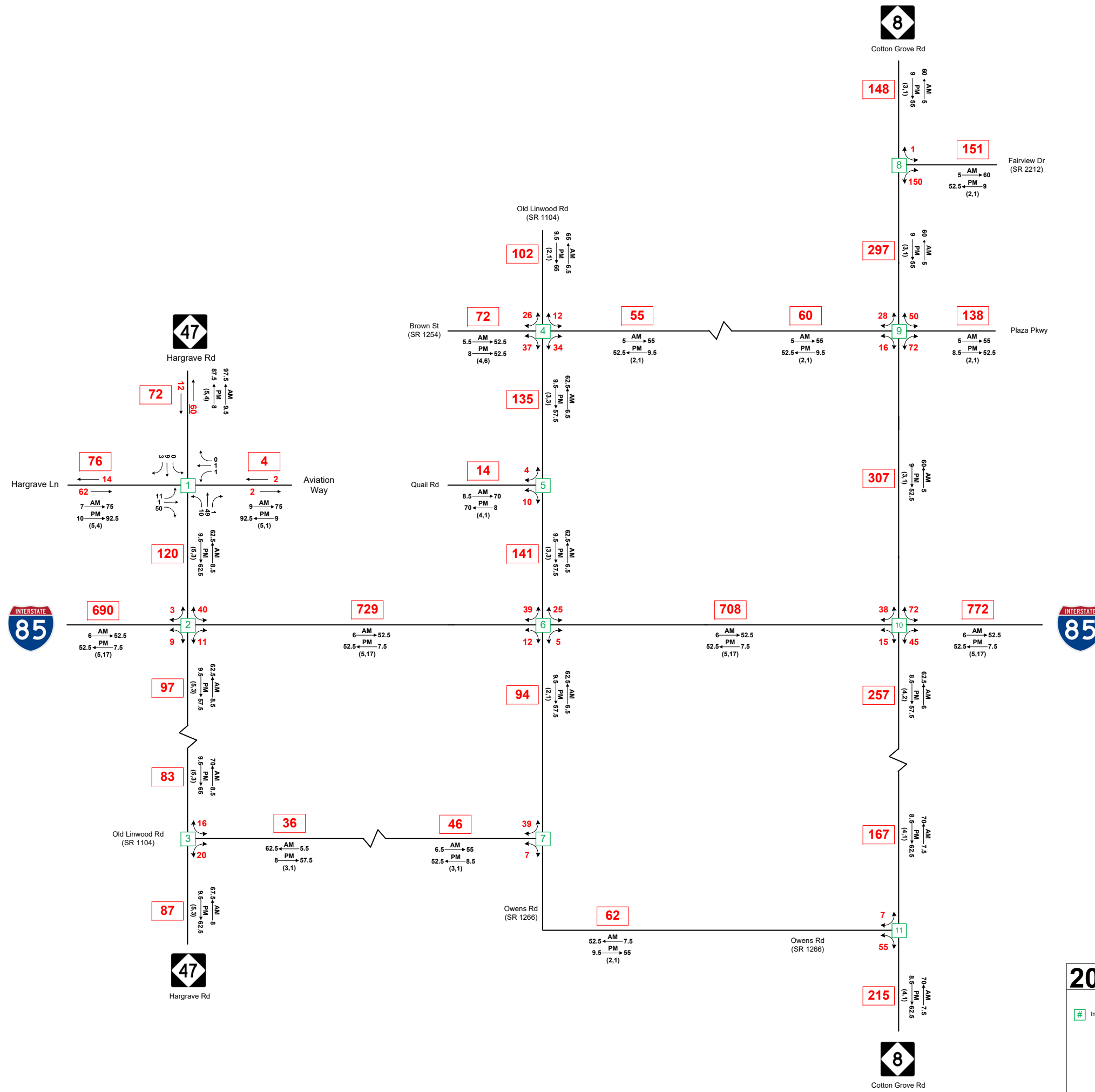
<b>2022</b> AVERAGE ANNUAL WEEKDAY TRAFFIC		<b>NO-BUILD SCENARIO</b>	
<b>LEGEND</b>		TIP: H193481	WBS: 34263.1.1
# Intersection ID	### Overall Link Volume (VPD) in 100s	COUNTY: Davidson	DIVISION: 9
K- $\frac{PM}{(d,t)}$ → D	### No. of Vehicles Per Day (VPD) in 100s	DATE: 04-07-2022	PREPARED BY: Patriot Transportation Engineering, PLLC
K Design Hour Factor (%)	PM Peak Period	LOCATION: I-85 from NC 47 (Hargrave Rd) to NC 8 (Cotton Grove Rd)	PROJECT: I-85 at Old Linwood Rd Interchange
D Peak Hour Directional Split	Indicates Direction of D		
→ Duals, TT-STs (%)	(d, t)		



<b>2022</b> AVERAGE ANNUAL WEEKDAY TRAFFIC		<b>BUILD SCENARIO</b>	
<b>LEGEND</b>		TIP: H193481	WBS: 34263.1.1
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	Duals, TT-STs (%)		
		DATE: 04-07-2022	
		PREPARED BY: Patriot Transportation Engineering, PLLC	
		LOCATION: I-85 from NC 47 (Hargrave Rd) to NC 8 (Cotton Grove Rd)	
		PROJECT: I-85 at Old Linwood Rd Interchange	



<b>2045</b> AVERAGE ANNUAL WEEKDAY TRAFFIC		<b>NO-BUILD SCENARIO</b>	
<b>LEGEND</b>		TIP: H193481	WBS: 34263.1.1
#	Intersection ID	###	Overall Link Volume (VPD) in 100s
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