

September 25, 2019

## Project Level Traffic Forecast

# I-5980 & I-5981 Update

Construct an interchange at I-40 & Macy Grove Rd  
Widen I-40 from I-74 / US 311 to US 421 / Bus-40

WBS # 46964.1.1 & #47527.1.1

Prepared for:  
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
Transportation Planning Division  
Raleigh, North Carolina



Prepared by:



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## TRAFFIC FORECAST COVER LETTER

**MEMORANDUM TO:** Laura Sutton, PE and Verrol McLeary, NCDOT Central Project Delivery Team C

**FROM:** Nita Bhave

**DATE:** September 25, 2019

**SUBJECT:** Updated Traffic Forecast for STIP Project I-5980 & I-5981, Forsyth & Guilford County

*Forecast approved by the NCDOT Transportation Planning Division on September 23, 2019.*

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Please find attached the updated 2019 base year and 2040 future year Traffic Forecast for STIP projects I-5980 & I-5981 located in Forsyth & Guilford Counties. The first forecast done for this project was completed in 2018. This update extends the study area of the forecast to the east and west. NCDOT approved the plan to update and expand this forecast in June, 2019.

I-5981 includes widening the 10-mile stretch of I-40 from US 311 (Exit 196) to US 421 / I-40 Business (Exit 206) from 4-lanes to 6-lanes. I-5980 involves constructing an inter-change at the existing grade separation between I-40 and Macy Grove Road. This forecast update extends the study area to the west by including the Clemmons Rd & NC 109 / Thomasville Rd interchanges. And the study area is extended to the east by including the Sandy Ridge Rd and NC 68 interchanges. Please refer to the forecast diagrams.

Both projects are within NCDOT Division 7 and 9 and are included in the 2018-2027 State Transportation Improvement Program (STIP). The Piedmont-Triad Regional Model (PTRM) Version 4.2 Travel Demand Model, was utilized for this forecast along with project counts, and historical AADTs.

The following four scenarios are provided in the forecast:

- 2019 Base Year No-Build
- 2040 Future Year I-5980 No-Build (I-5981 Build)
- 2040 Future Year I-5981 No-Build (I-5980 Build)
- 2040 Future Year Build (I-5980 & I-5981 Build)

Certain assumptions were made in the development of the forecast, detailed below.

### Fiscal Constraints:

For projects falling within a Metropolitan Planning Organization (MPO), forecasts are fiscally constrained to match the assumptions of the MPO's Metropolitan Transportation Plan (MTP) or Metropolitan Transportation Improvement Plan (MTIP). The Greensboro MPO 2040 MTP and 2018-2027 MTIP was last updated in May, 2018 and the Winston-Salem Urban Area MPO 2040 MTP and 2016-

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2025 MTIP was approved on September 17, 2015. This forecast assumes that all projects within the MTP and MTIP are constructed and open to traffic in 2040.

Interpolation:

To determine any intermediate years, straight-line interpolation may be used. AADT volumes may be extrapolated for up to two years immediately following 2040. If it is determined that any of these assumptions have become inconsistent with the project and surrounding area activity, please request updated information.

If you have any questions, or I can be of further assistance, please do not hesitate to call me at 919-376-2700, or e-mail me at nita.bhave@wsp.com. Thank you.

cc: FILE (Forsyth & Guilford County, Project I-5980 & I-5981)

cc: (via e-mail as PDF attachments):

Doumit Ishak – NCDOT Congestion Management Section (dishak@ncdot.gov)

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Clark Morrison, PhD, PE – NCDOT Pavement Management Unit (cmorrison@ncdot.gov)

Ed Lewis – NCDOT Division 7 Planning Engineer (elewis@ncdot.gov)

Fred D Haith – NCDOT Division 9 Planning Engineer (fdhaith1@ncdot.gov)

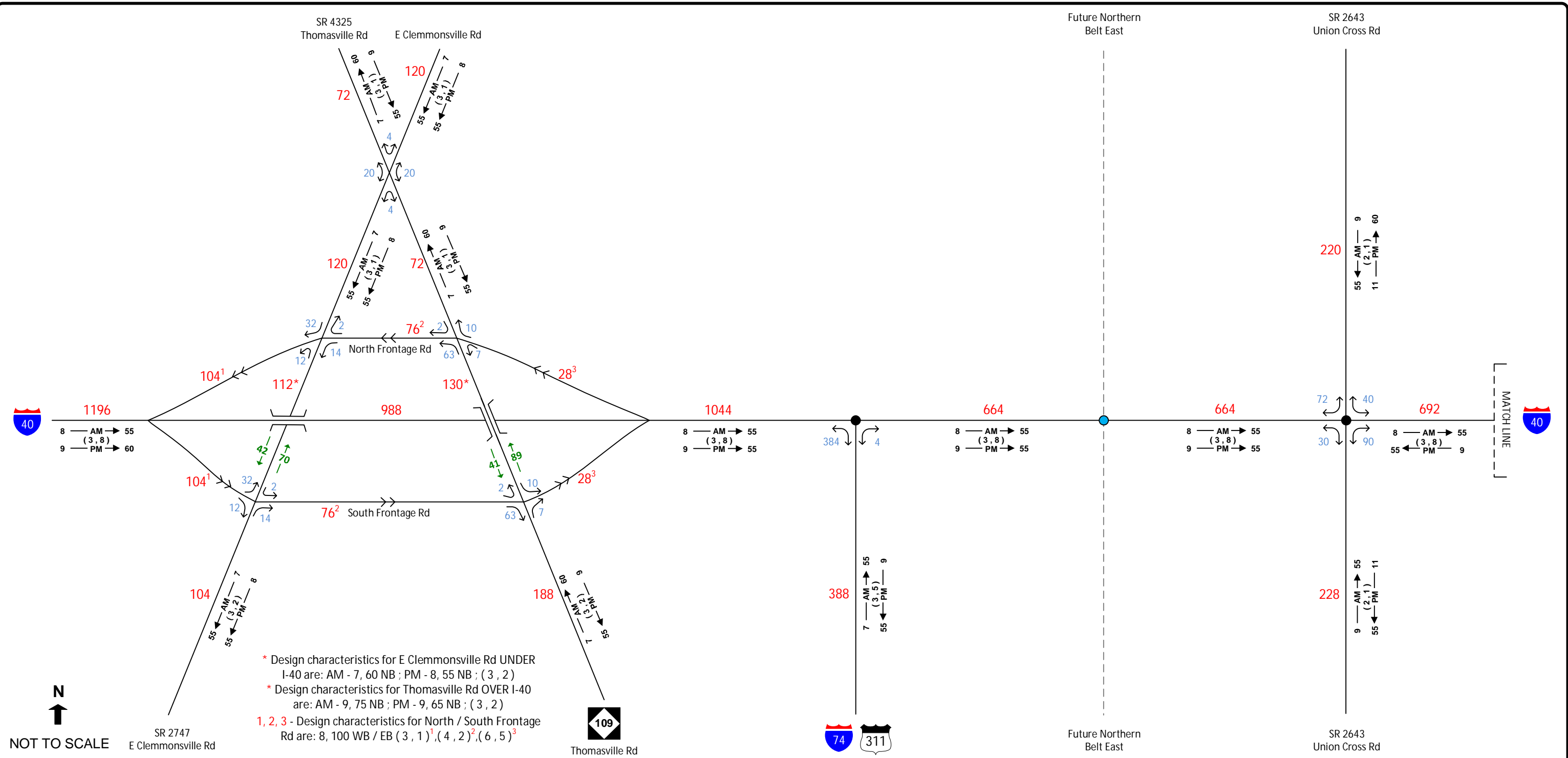
John A. Bailey – NCDOT Triad Forecasting and Planning Team (jabailey@ncdot.gov)

Brett Abernathy, PE – NCDOT Division 9 Project Development Engineer (jbabernathy@ncdot.gov)

Al Blanton, PE – NCDOT Division 9 Project Development Team Lead (wablanton@ncdot.gov)

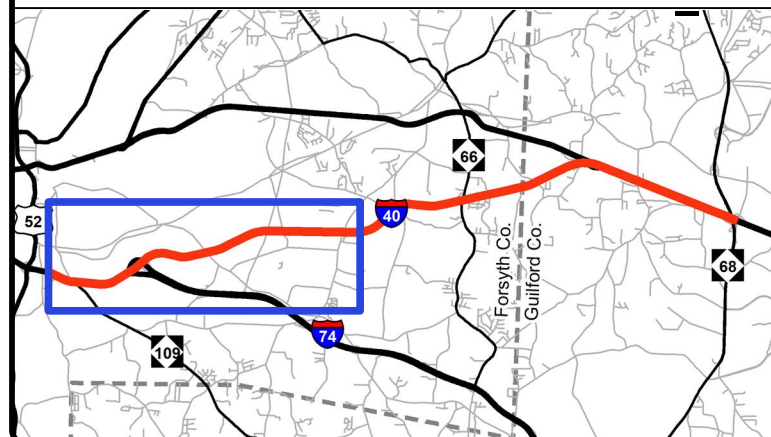
Keith Dixon – NCDOT Transportation Planning Division (kgdixon@ncdot.gov)

NCDOT Traffic Forecasting GIS Support (trafficforecastinggissupport@ncdot.gov)

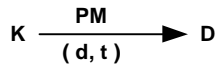


# 2019 AVERAGE ANNUAL DAILY TRAFFIC SHEET 1 of 2

## No Build Alternative



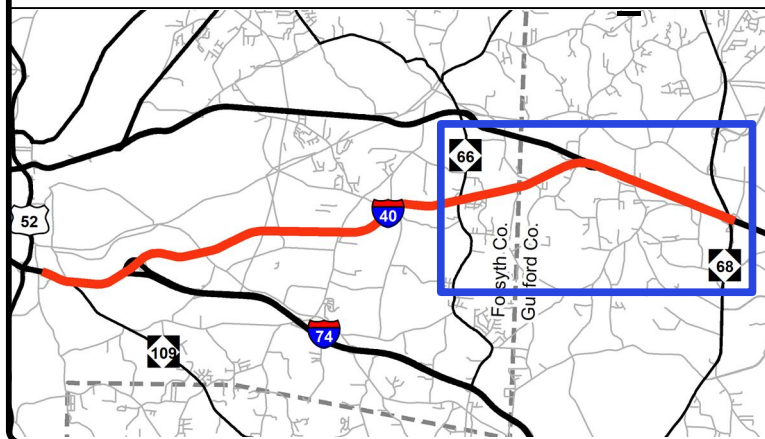
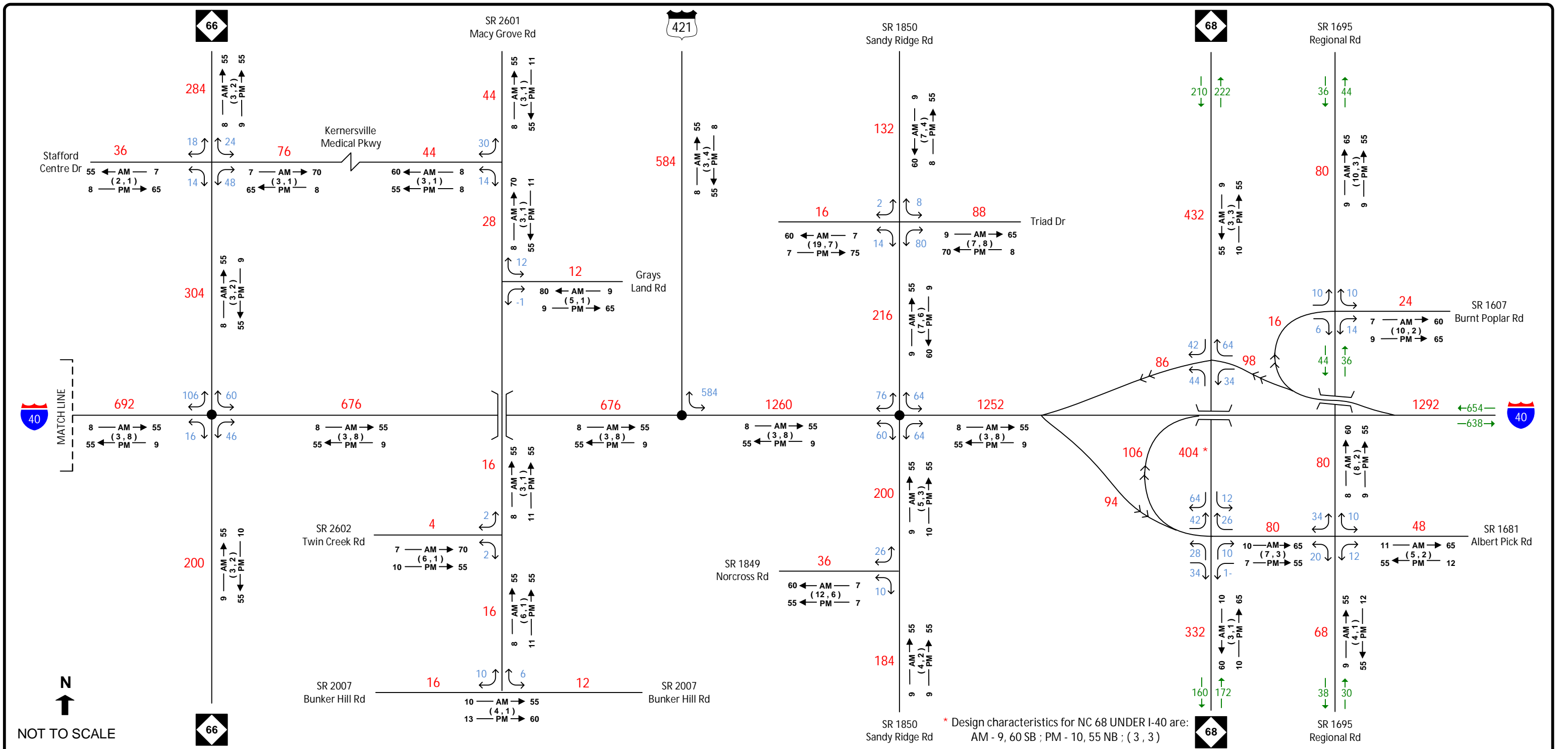
### LEGEND



- ### Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Roadway
- Existing Interchange
- Future Interchange

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

TIP: I-5980 & I-5981		WBS: 46964.1.1 & 47527.1.1	
COUNTY: Forsyth & Guilford		DIVISION: 7 & 9	
DATE: September 23, 2019			
PREPARED BY: WSP, USA			
LOCATION: I-40 from E Clemmonsville Rd to NC 68			
PROJECT: Construct new interchange at I-40 and Macy Grove Rd (I-5980). Widen I-40 from I-74 / US 311 to Bus 40 / US 421 to a six-lane facility (I-5981).			



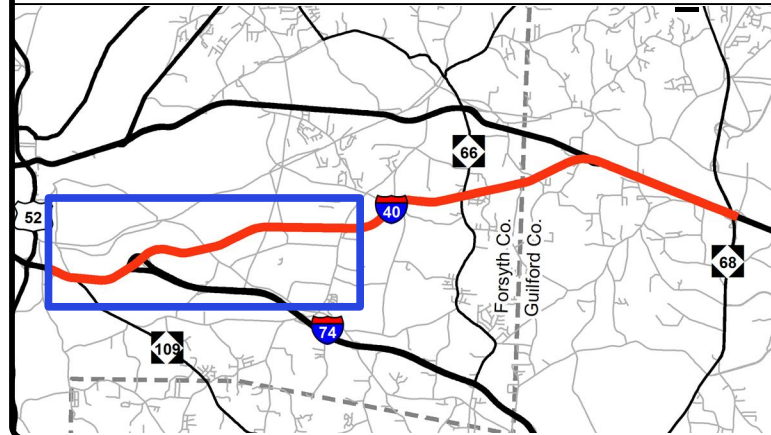
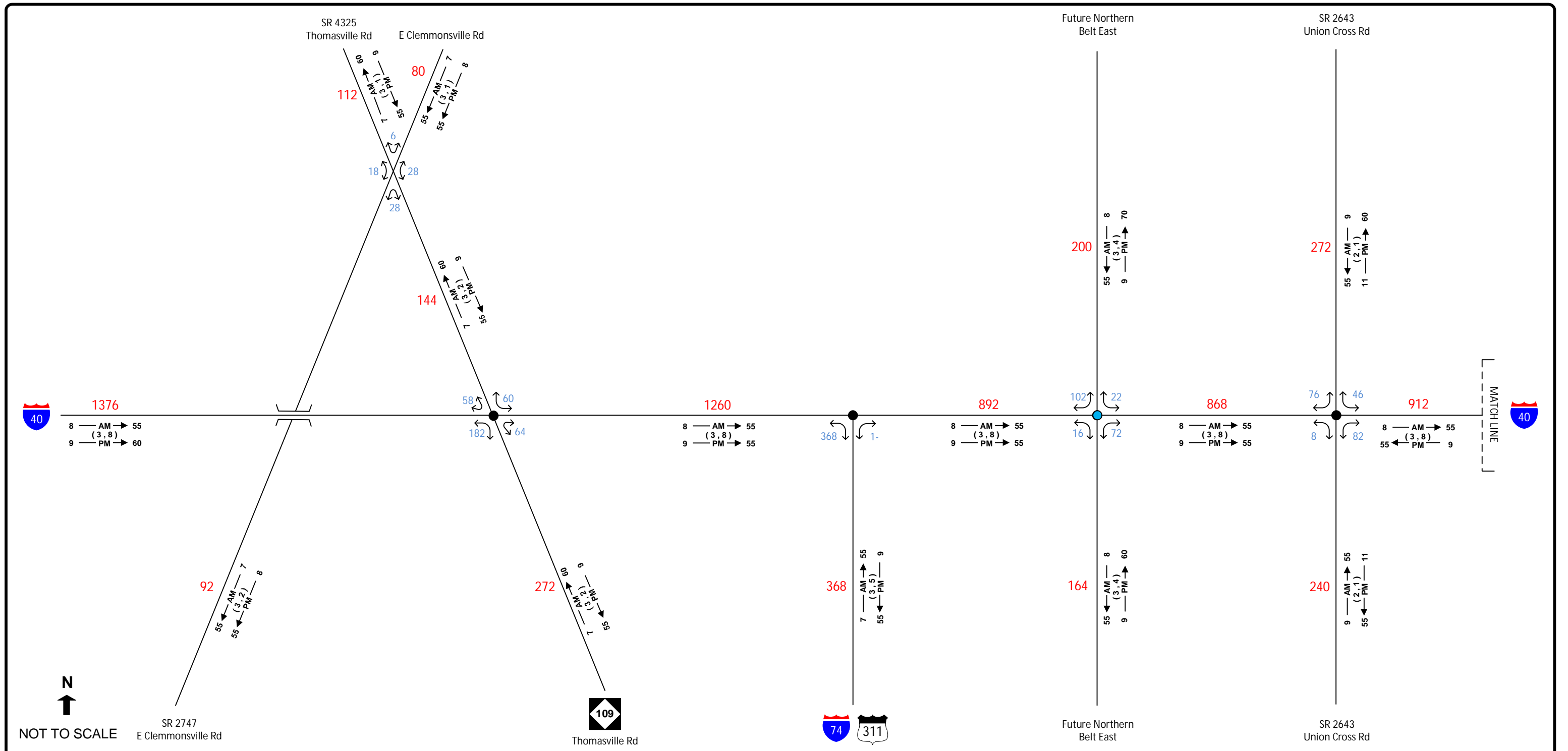
# 2019 AVERAGE ANNUAL DAILY TRAFFIC SHEET 2 of 2

## LEGEND

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<b>X</b>	Movement Prohibited	<b>D</b>	Peak Hour Directional Split
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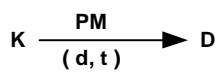
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# 2040 AVERAGE ANNUAL DAILY TRAFFIC SHEET 1 of 2

## I-5980 No Build & I-5981 Build

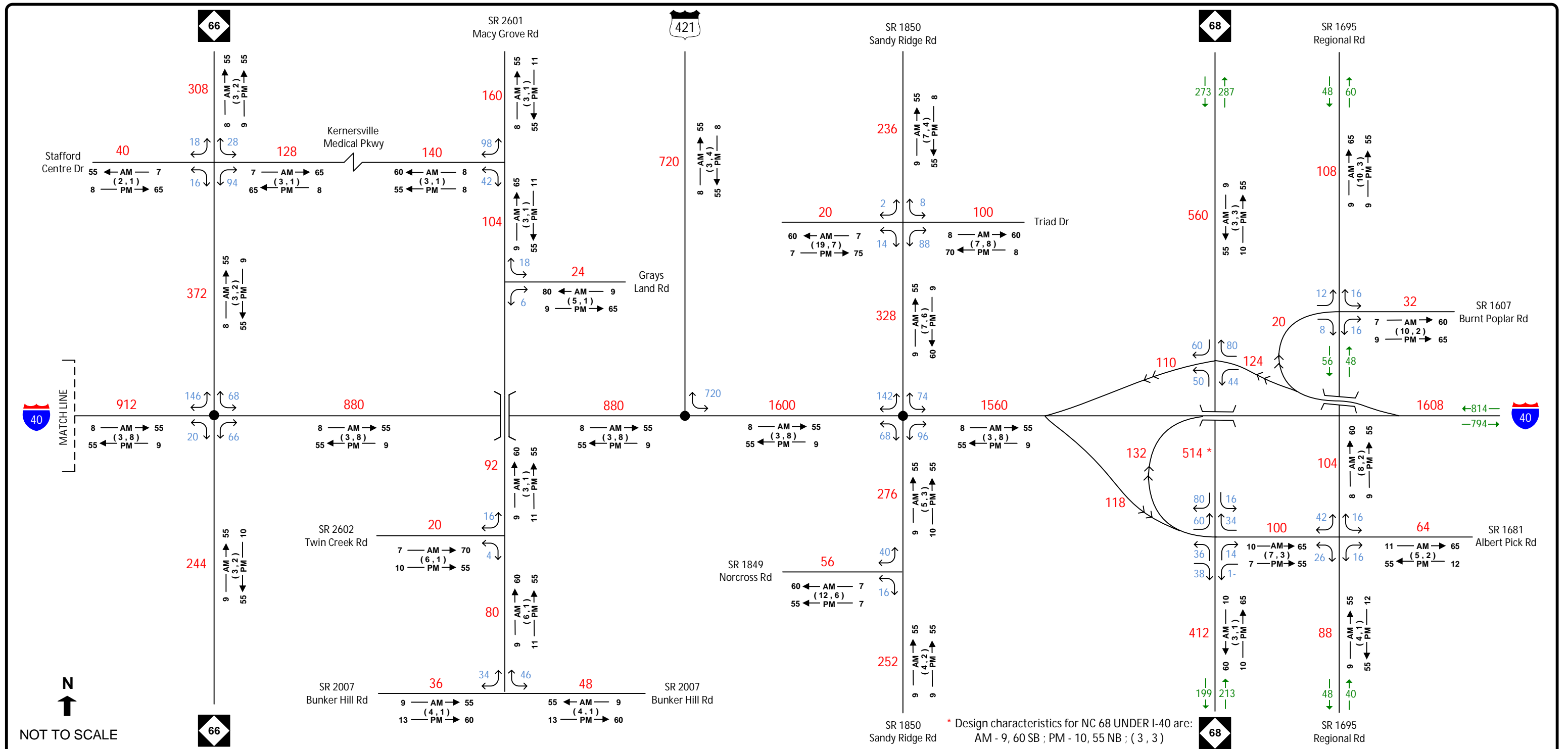
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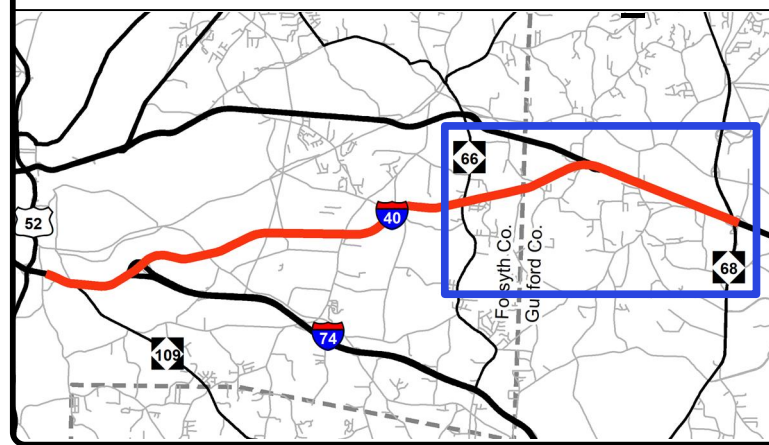
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NOT TO SCALE



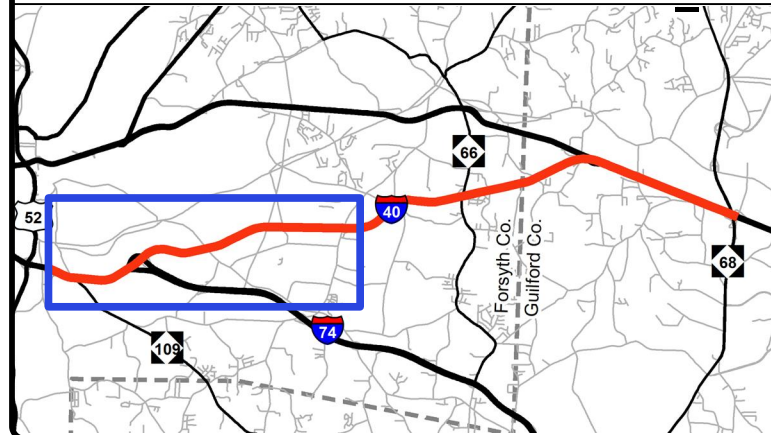
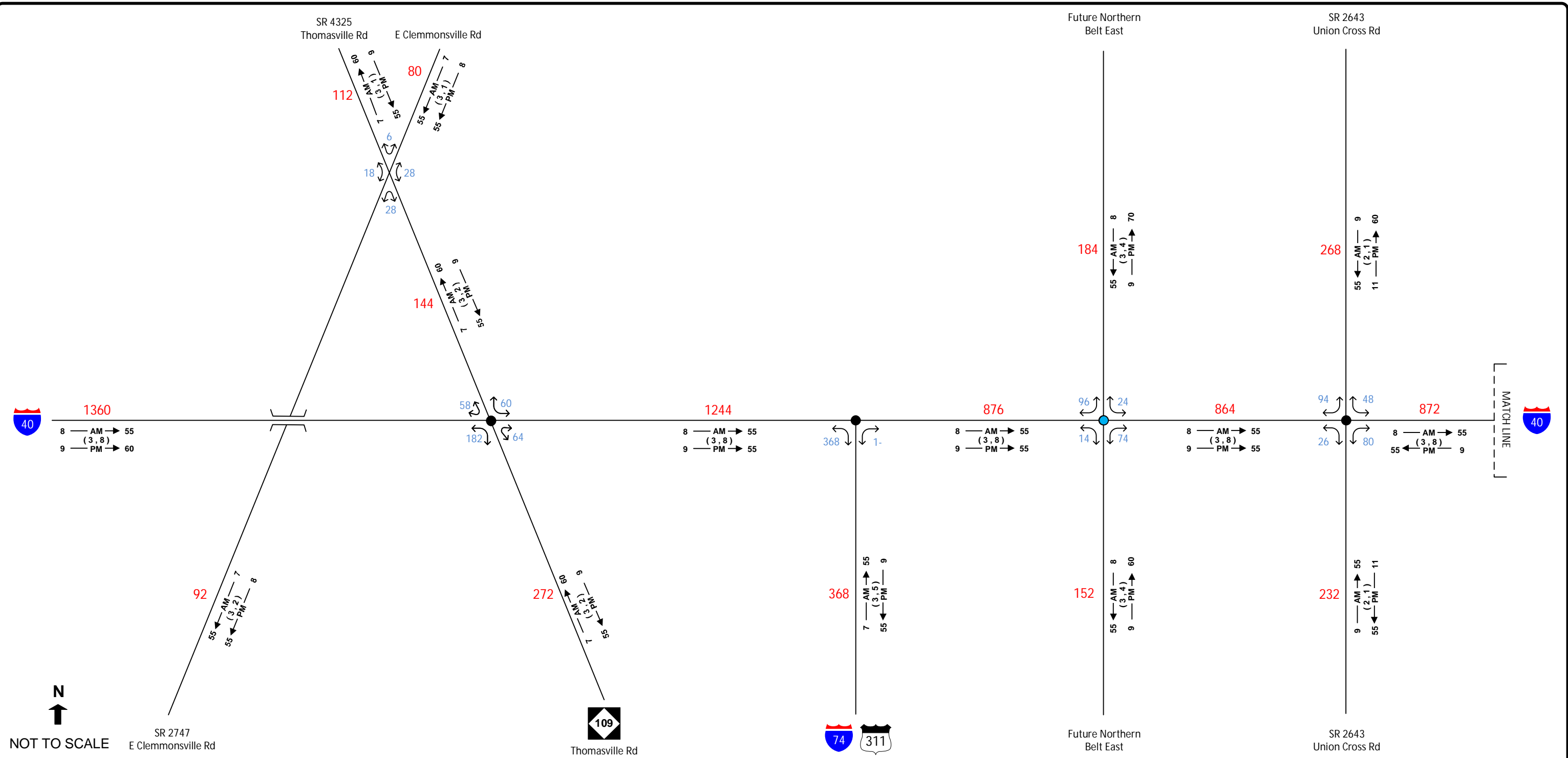
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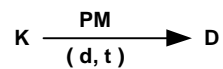
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## I-5980 Build and I-5981 No Build

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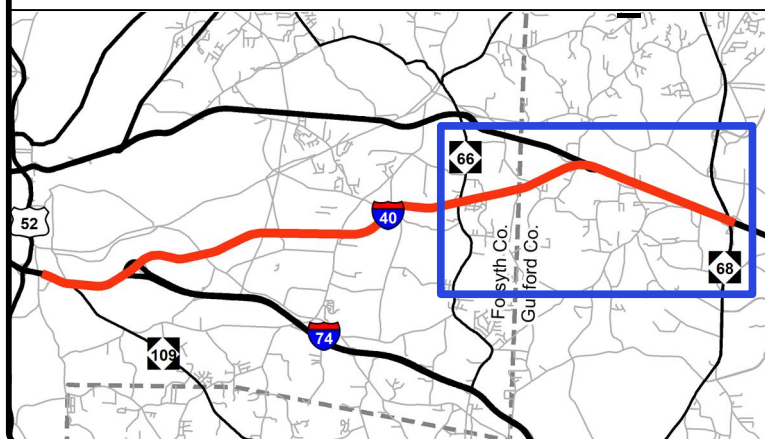
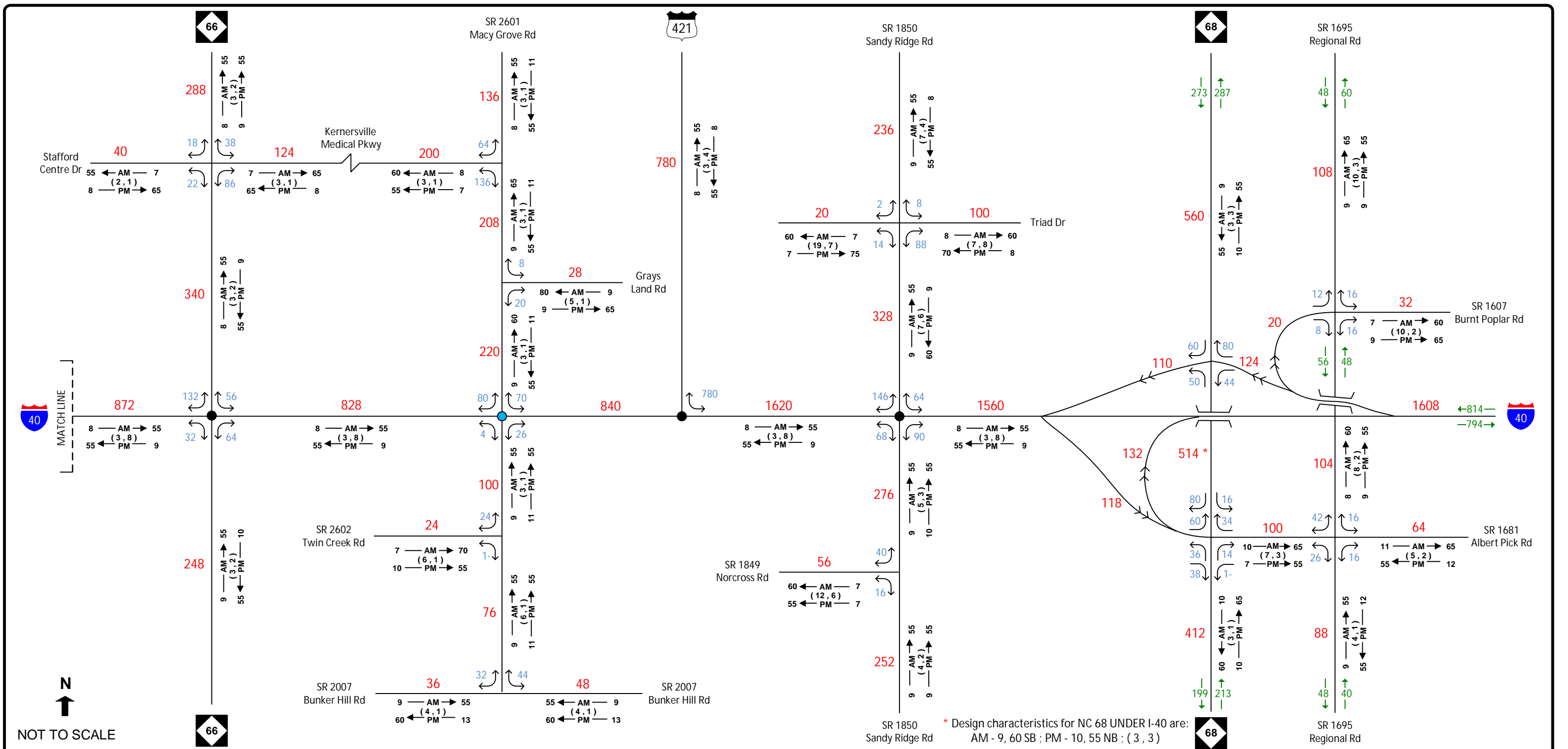


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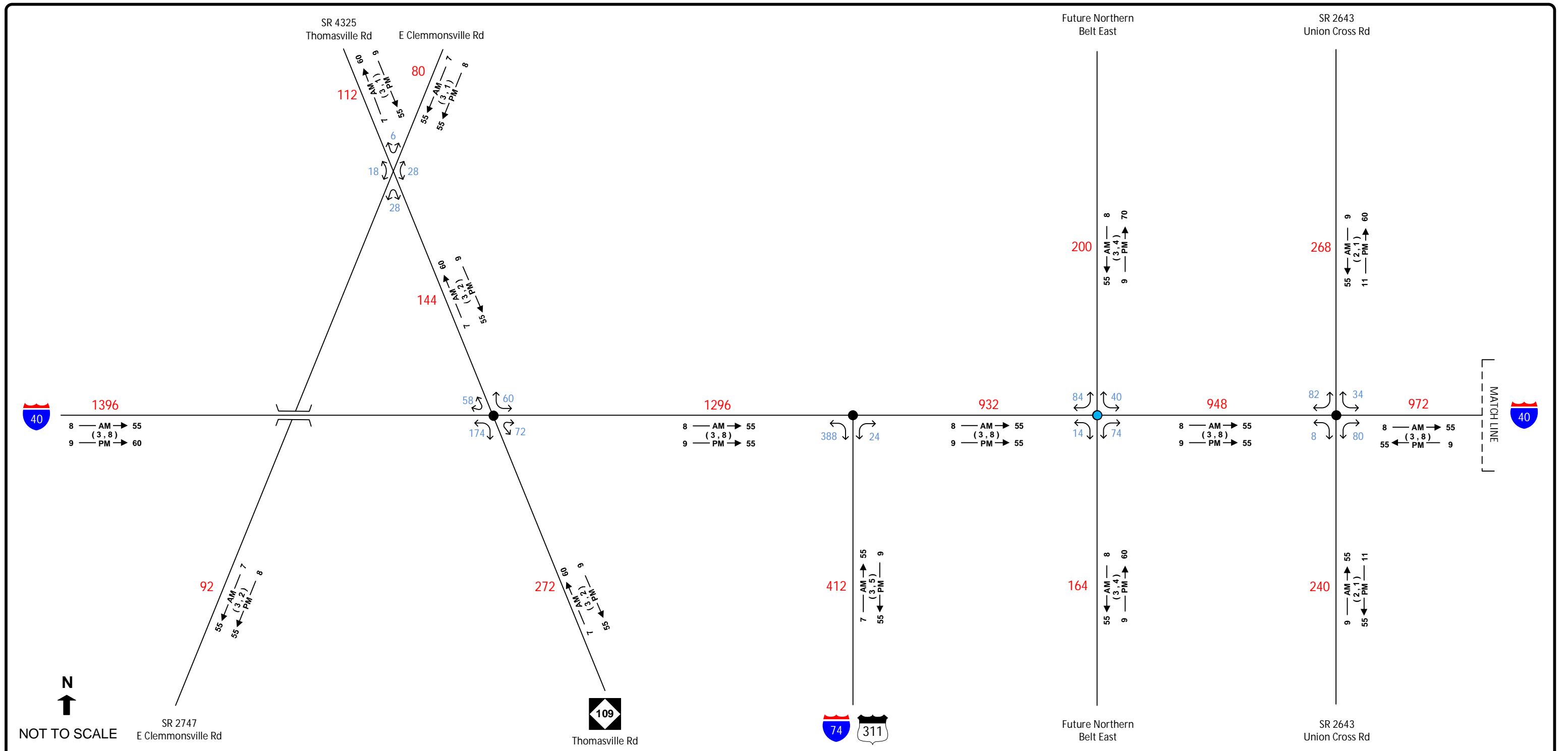
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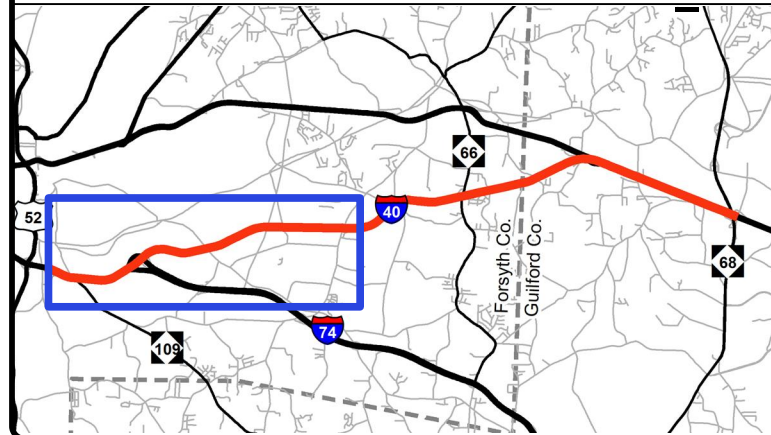
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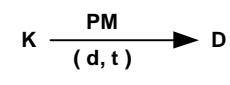
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## BUILD ALTERNATIVE

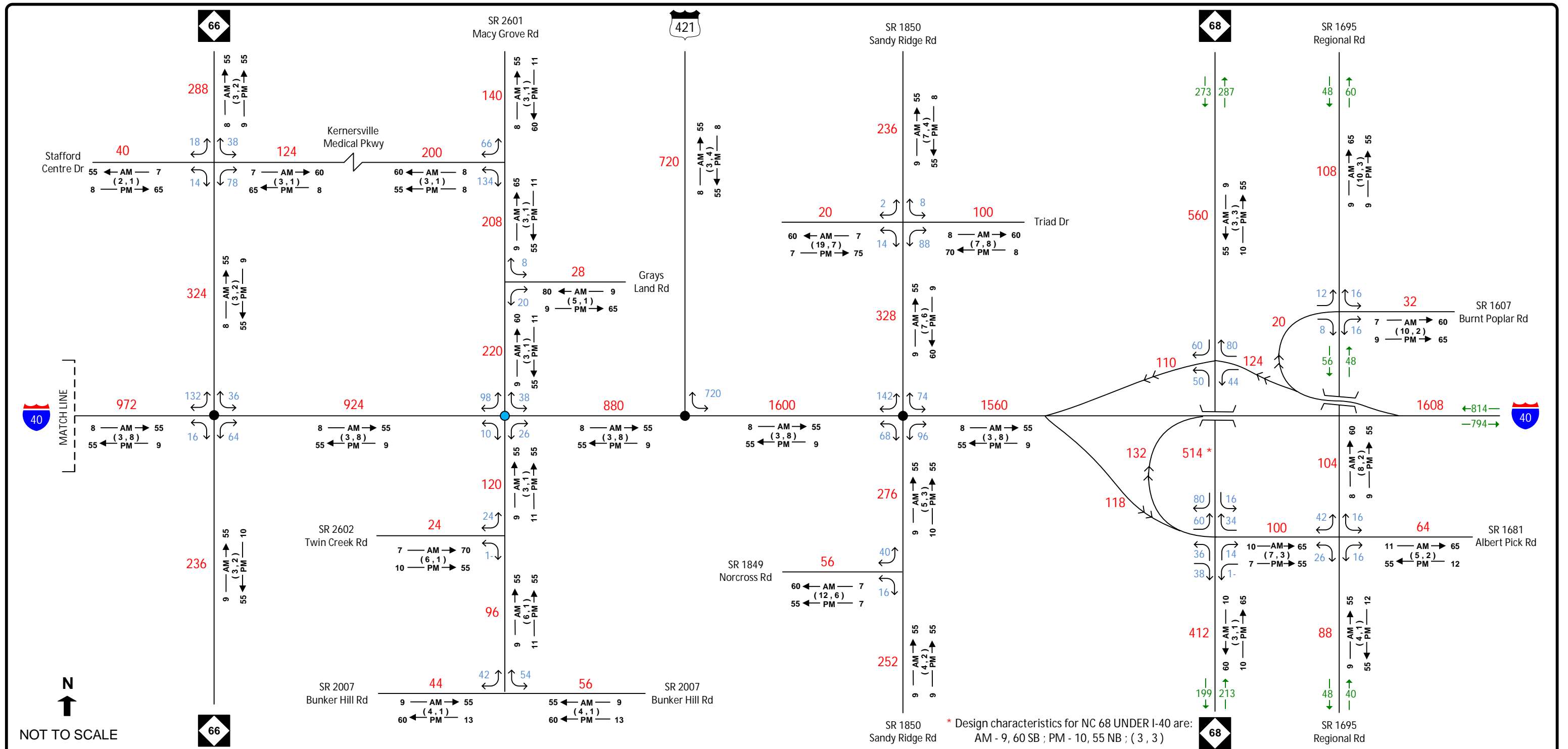
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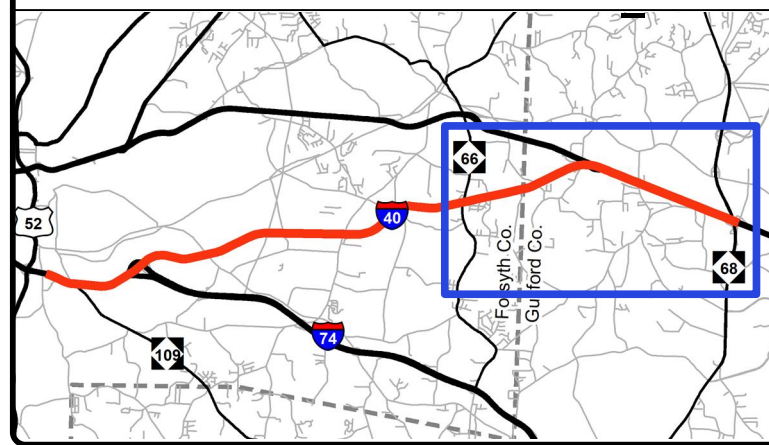
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