

September 24, 2018

■  
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Suite 600  
Raleigh, North Carolina  
27601

Memorandum To: Anil Panicker  
Division 12 Planning Engineer  
North Carolina Department of Transportation

From: Tim Padgett, PE  
Kimley-Horn and Associates, Inc.

Subject: Traffic Forecast Update for I-5991 (I-40 widening) in Catawba  
County

This forecast has been reviewed and approved by the NCDOT Transportation Planning Division as of September 24, 2018.

Please find attached the 2018 traffic estimates and 2040 traffic forecasts for I-5991 in Catawba County. This is an update to the previous forecast delivered on 4/24/2018. The project studies the widening of I-40 to a six-lane facility from US 321 (Exit 123) to NC 16 (Exit 132). The following scenarios are provided:

- Base Year 2018 No-Build
- Base Year 2018 Build
- Future Year 2040 No-Build
- Future Year 2040 Build

John Marshall of the Greater Hickory MPO, Pam Cook of NCDOT and Lance Hight from the City of Conover were contacted during the development of this forecast.

This forecast was requested by Division 12 in coordination with the Transportation Planning Division on December 21, 2017.

Certain assumptions were made in the development of the forecast:

***Fiscal Constraint.*** Within the Metropolitan Planning Organization (MPO) area, future forecasts are based on projects included in the Financial Plan for the 2040 Greater Hickory Long Range Transportation Plan (LRTP). This information is included in the official version of the Greater Hickory Regional Model.

***Future Conditions and Development Activity.*** The forecast was developed using output from the Greater Hickory Regional Model. Assumptions about future development activity and changes in the distribution of population and employment in the forecast study area are implicit in the model.



**Forecast Methodology.** Base year 2018 estimates and Horizon Year 2040 forecasts provided in the attached forecast were developed using a method under which observed traffic data as well as 2011 and 2040 model output were considered.

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 projections at this location.

Cc: Keith Dixon, Transportation Planning Division  
Pam Cook, PE, Transportation Planning Division  
James Dunlop, PE, Congestion Management Section  
Clark Morrison, PhD, PE, Pavement Management Unit  
Brenda Moore, PE, CPM, Roadway Design Unit  
Brian Horton, MPO Manager, Greater Hickory MPO  
Traffic Forecasting GIS Support





# I-5991

## 2018 No Build

Without I-40 Widening

## Vehicles Per Day in 100s    1- Less than 50 VPD

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

DHV Design Hourly Volume (%) = K30  
 PM PM Peak Period  
 D Peak Hour Directional Split (%)  
 $\rightarrow$  Indicates Direction of D  
 (d,t) Dual, TT-STs (%)

— Existing Roadway  
 — Road Widening  
 - - - Proposed Roadway

### EXTENTS

US 321 (Exit 123) to SR 1476 (Fairgrove Church Road) (Exit 128)

Catawba County    Division 12

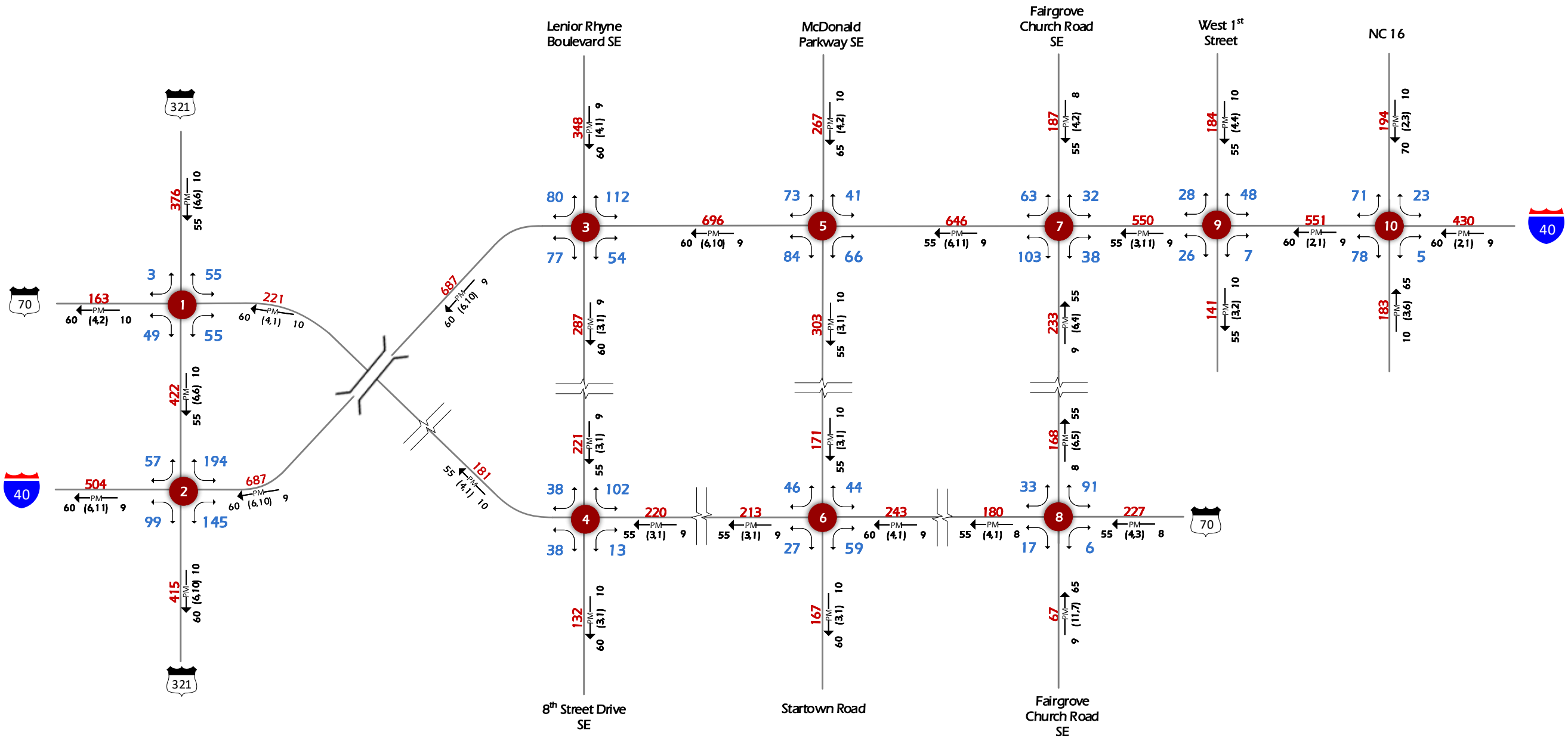
### PROJECT

Widening of I-40 in Hickory, NC from US 321 (Exit 123) to NC 16 (Exit 132)

WBS# 47537.1.1

SHEET 1 OF 4

September 13, 2018





I-5991

2018  
Build

With I-40 Widening

## Vehicles Per Day in 100s 1- Less than 50 VPD

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

DHV Design Hourly Volume (%) = K30  
 PM PM Peak Period  
 D Peak Hour Directional Split (%)  
 $\rightarrow$  Indicates Direction of D  
 (d,t) Dual, TT-STs (%)

Existing Roadway  
 Road Widening  
 Proposed Roadway

EXTENTS

US 321 (Exit 123) to SR 1476 (Fairgrove Church Road) (Exit 128)

Catawba County Division 12

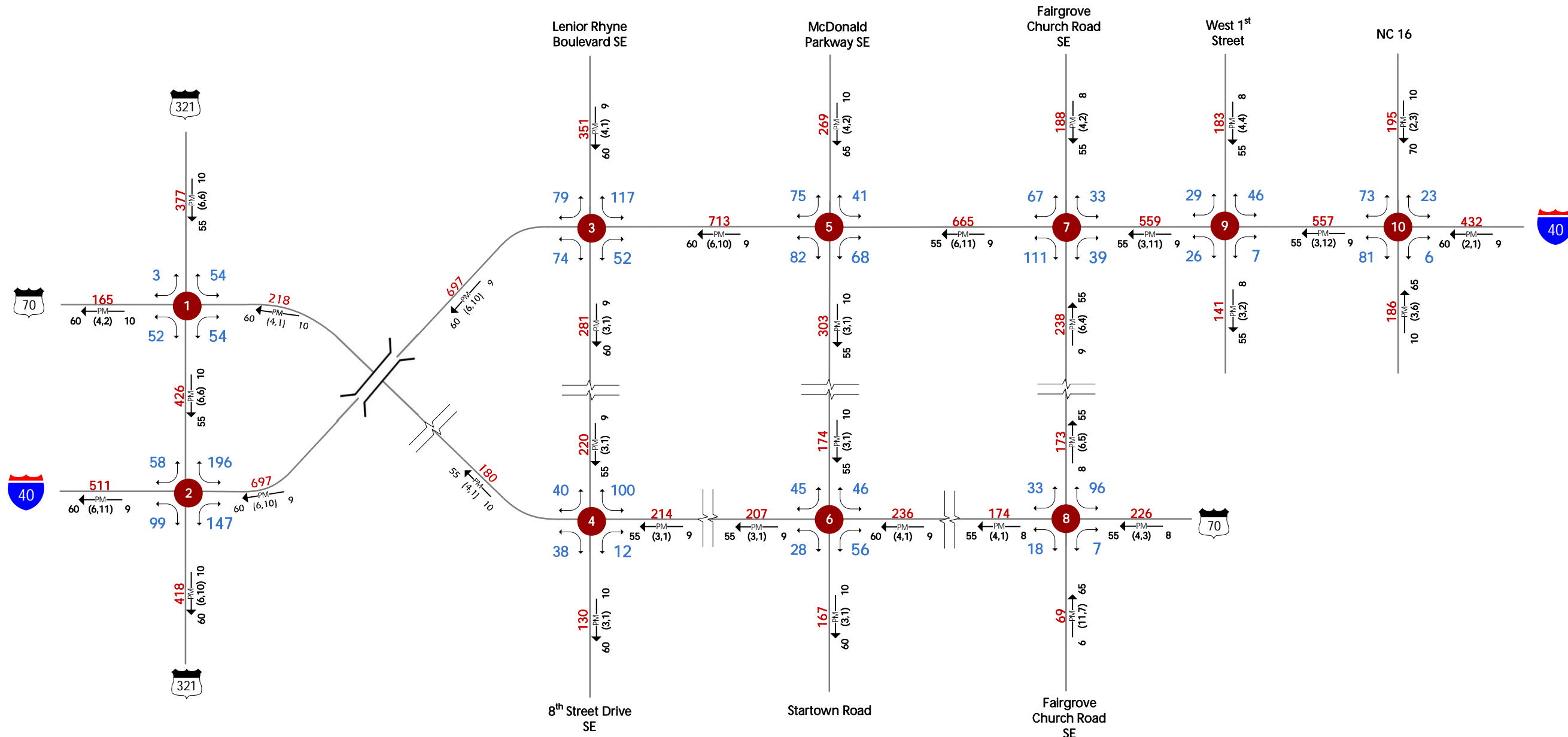
PROJECT

Widening of I-40 in Hickory, NC from US 321 (Exit 123) to NC 16 (Exit 132)

WBS# 47537.1.1

SHEET 2 OF 4

September 13, 2018





I-5991

**2040**  
**No Build**

Without I-40 Widening

## Vehicles Per Day in 100s    1- Less than 50 VPD

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

DHV Design Hourly Volume (%) = K30  
 PM PM Peak Period  
 D Peak Hour Directional Split (%)  
 $\rightarrow$  Indicates Direction of D  
 (d,t) Dual, TT-STs (%)

— Existing Roadway  
 — Road Widening  
 - - - Proposed Roadway

EXTENTS

US 321 (Exit 123) to SR 1476 (Fairgrove Church Road) (Exit 128)

Catawba County    Division 12

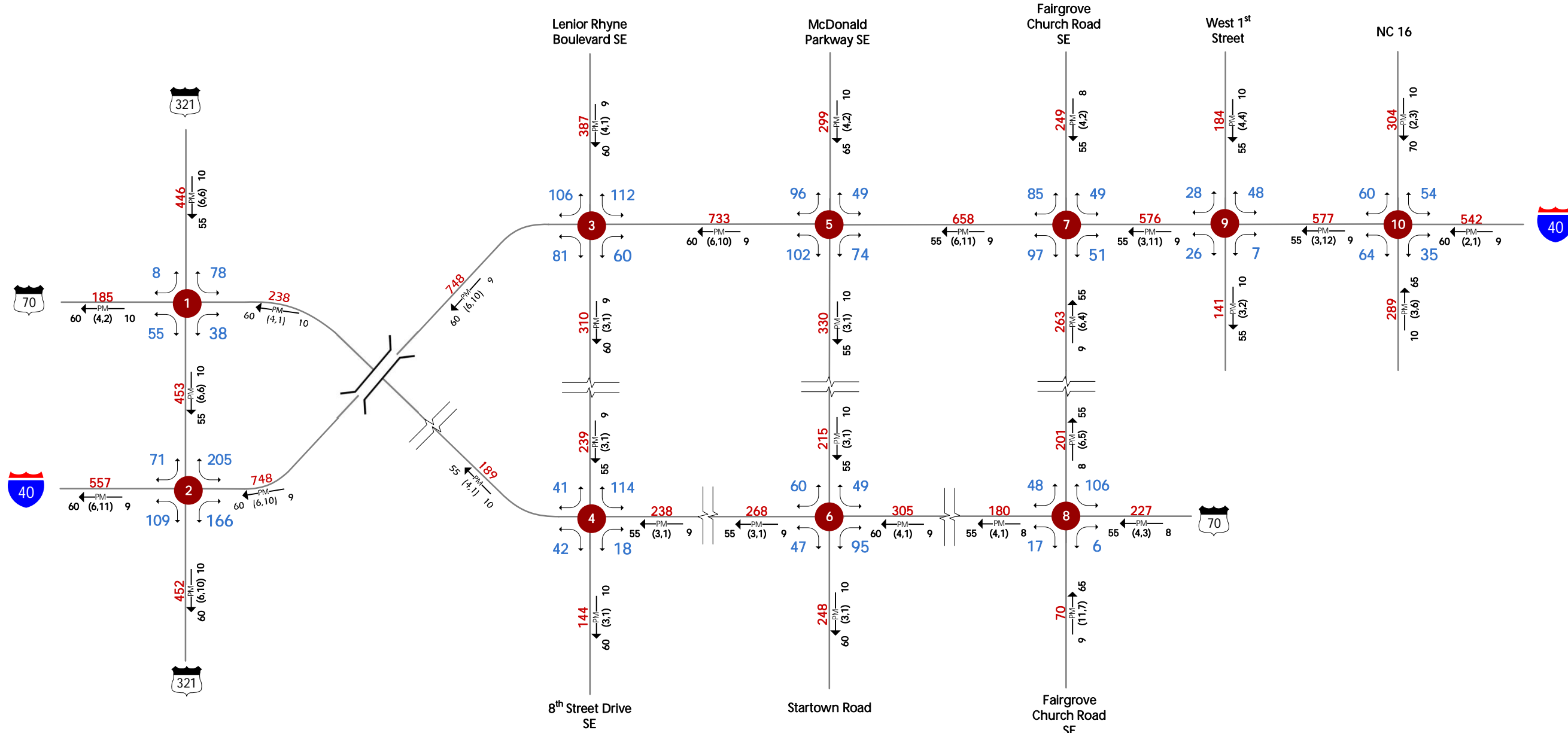
PROJECT

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WBS# 47537.1.1

SHEET 3 OF 4

September 13, 2018





I-5991

2040  
Build

With I-40 Widening

## Vehicles Per Day in 100s 1- Less than 50 VPD

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

DHV Design Hourly Volume (%) = K30  
 PM PM Peak Period  
 D Peak Hour Directional Split (%)  
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Existing Roadway  
 Road Widening  
 Proposed Roadway

EXTENTS

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PROJECT

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SHEET 4 OF 4

September 13, 2018

