COMPLETE 540
TRIANGLE EXPRESSWAY
SOUTHEAST EXTENSION

TRAFFIC FORECAST
TECHNICAL
MEMORANDUM

NCDOT STIP Project R-2721,
R-2828 & R-2829

Wake County & Johnston County

PREPARED FOR:

North Carolina Turnpike Authority

PREPARED BY:

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April 2014

COMPLETE 540

TRIANGLE EXPRESSWAY SOUTHEAST EXTENSION

Triangle Expressway
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4-24-14

April 2014

EXECUTIVE SUMMARY

This report supersedes the *Triangle Expressway Southeast Extension Final Traffic Forecast Technical Memorandum*, dated June 19, 2012, prepared by HNTB. The superseded report includes the 2010, 2012 and 2035 No-Build and 2012 and 2035 Build forecasts for five Detailed Study Alternatives (DSAs 1-5). Since June of 2012, NCDOT has developed 12 additional alternatives (DSAs 6-17). As such, a total of 17 alternatives will be carried forward for detailed study in an Environmental Impact Statement, in accordance with the National Environmental Policy Act (NEPA). The forecast for all 17 DSAs are included in this report and the previous forecast addressing DSAs 1-5 should not be referenced. The same forecasting methodology, described later in this report, has been consistently applied to all 17 DSAs to compare alternatives. Once a preferred alternative is selected through the NEPA process, an updated traffic forecast will be prepared for that alternative using the most current available model and data.

PROJECT DESCRIPTION

HNTB North Carolina, PC has been contracted by the North Carolina Turnpike Authority (NCTA) to develop base, intermediate, and future year traffic forecasts for North Carolina Department of Transportation (NCDOT) State Transportation Improvement Program (STIP) Project R-2721, R-2828, and R-2829. The projects combine to form the southern and eastern portions of the Complete 540 – Triangle Expressway Southeast Extension outer loop around Raleigh and surrounding communities in Wake County and Johnston County.

The Complete 540, Triangle Expressway Southeast Extension will complete the Raleigh outer loop. Construction is currently scheduled to be completed in phases. Phase I (southern portion) is between N.C. 55 in Apex and I-40 near the Johnston County line. Phase II (eastern portion) continues the project at I-40 and ends at U.S. 64/U.S. 264 Bypass in Knightdale. The entire project is nearly 30 miles long. The project is located primarily in Wake County with a small portion of the project that extends into Johnston County.

Transportation demands, social and economic demands and mobility considerations are the basis for additional transportation infrastructure in southeastern Wake County. The Southeast Extension will link the towns of Clayton, Garner, Fuquay-Varina, Holly Springs, Apex, Cary, Knightdale, and Raleigh. It will also connect major roadways in southern Raleigh and ease congestion on the Raleigh Beltline (I-440), I-40, NC 42, NC 55, and Ten Ten Road. The project would increase the overall capacity of the existing roadway network and divert traffic from secondary roads in an area that is experiencing substantial growth.

PROJECT-LEVEL FORECAST OBJECTIVES

This document provides design data (design hourly volumes (K-factors), directional distribution percentages (D-factors), and heavy vehicle percentages (single-unit trucks, tractor-trailer-semi-trailers)) as well as average annual daily traffic (AADT) estimates for the study corridor, and describes the methodology and data inputs used in the forecasting process. These forecasts will be used to perform capacity analyses, air quality analyses, noise analyses, and pavement design to aid the final design of the project.

The forecasts for this project are derived primarily from comparisons between existing field-counted data/base year calibrated travel demand model data and future year growth trends/model estimates. The forecasts also include a review of previous study area forecasts,

output from the Triangle Regional Model (TRM) TRM V4-2008, TRM V4-2009 and TRM V5-2010, along with engineering judgment. The TRM V4-2008 includes all fiscally-constrained projects contained in the 2030 Capital Area Metropolitan Planning Organization (CAMPO) and Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) Long Range Transportation Plans (LRTP) dated September 15, 2004. The Triangle Expressway Southeast Extension was listed in the CAMPO 2030 LRTP with a 2030 horizon year. HNTB collected data from the CAMPO 2030 LRTP, relevant traffic forecasts, and NCDOT STIP projects to be included in the traffic forecast. In order to ensure all No-Build and Build DSAs are comparable and based on similar data, TRM V4-2008 was used as the primary modeling tool for all forecast scenarios.

The 2010 Base Year (No-Build) Forecast was developed using a comparison of historic AADT data at 63 study area locations, 2010 travel demand model data interpolated from 2009 and 2012 No-Build model runs, and field-collected traffic counts (peak hour turning movement, 16-hour turning movement and 48-hour classification count) completed from 2009 to 2013.

An intermediate year, 2012, was chosen because it is the opening year of the Triangle Expressway. The 2012 future year scenarios include forecasts for a No-Build alternative and seventeen Build alternatives with the projects as toll facilities. All Build alternative forecasts propose the Southern and Eastern Wake Freeways as controlled access, median divided six-lane freeway facilities. The forecasts use extrapolations of historic AADT in the study area, 2012 intermediate year TRM V4-2008 model data developed by HNTB, and comparisons/adjustments from the 2009/2010/2011 base year traffic counts as they applied to the historic and model information. The 2012 No-Build alternative forecast considers all horizon year 2010 projects in the fiscally constrained 2030 CAMPO LRTP, the 2030 DCHC MPO LRTP, and projects scheduled to be completed in 2012. The 2012 Build alternative considers those same projects, as well and the Southern and Eastern Wake Freeway as controlled-access facilities.

The 2035 future year scenarios include forecasts for a No-Build alternative and the seventeen Build alternatives with the Southern and Eastern Wake Freeway projects as toll facilities. The forecasts use extrapolations of historic AADT data in the study area, 2035 TRM V4 data, and comparisons/adjustments from the field-collected traffic counts as they applied to the historic and model information. The 2035 forecasts consider all fiscally-constrained projects in the CAMPO and DCHC 2030 LRTPs.

Once the preferred alternative is selected through the NEPA process, an updated traffic forecast is anticipated to be prepared for that alternative using the most current available model and data.

FORECAST DATA COLLECTION/DEVELOPMENT

Development of the 2010 Base Year forecast involved the following activities:

- **Existing/Historical Traffic Count Data**
  HNTB collaborated with the NCDOT Traffic Survey Group (TSG) to obtain existing traffic count data (24 hour directional/classification counts) for study area roadways. NCDOT ATR count data was collected at two (2) locations and 2009 AADT freeway ramp counts were provided at seven (7) existing study area interchanges. Two (2) 12-hour intersection counts were also

provided. Data was analyzed for applicability/relevance to traffic conditions and for inconsistencies between adjacent intersections/interchanges/roadway segments.

- **Existing Project-Level Traffic Forecasts**
  HNTB obtained project-level traffic forecasts for NCDOT STIP projects and/or municipal road projects in the study area from the NCDOT Transportation Planning Branch, TSG, and Feasibility Studies Unit (FSU) during the initial preparation of DSA 1-5 project-level forecasts. This included previous 2009 and 2000 forecasts of the Southern and Eastern Wake Freeways.

- **Field Data Collection**
  After researching the availability of existing traffic count data, HNTB collected and/or received, nine (9) peak hour turning movement counts (TMC), twenty-three (23) 16-hour TMC, and four (4) 48-hour vehicle classification counts. Some traffic counts were completed when local schools and universities were not in session. However, seasonal factors provided by NCDOT for the Triangle area were used to adjust these counts for school traffic. All tube classification counts were collected for a minimum of 48 hours of an average weekday (Tuesday-Thursday). Detailed traffic count information was collected and reviewed in the completion of this forecast.

- **Trend Line Estimates**
  HNTB reviewed all available NCDOT TSG AADT data from the previous 20 years in the project study area. Sixty-three (63) growth trend line estimates for 2035 for locations throughout the traffic forecast study area were developed using the 1990-2010 AADT travel history.

- **Triangle Regional Model**
  HNTB used the TRM V4-2008 obtained from ITRE on October 14, 2009 in the development of the traffic forecast volumes. The TRM V4-2008, TRM V4-2009 and TRM V5-2010 were reviewed, compared and considered in the methodology and forecast development as related to their respective socioeconomic data, highway network, and model validation in the project corridor.

  Due to the project forecast timeframe beginning in 2008, the TRM V4-2008 has previously been used throughout the Southeast Extension project process, including all of the following forecasts and reports:

  - *Southern and Eastern Wake Freeway Final Traffic Forecast Report (HNTB, February 2009)*
  - *Southern and Eastern Wake Expressway Draft Upgrade Existing and Hybrid Alternatives Report (HNTB, January 2010)*
  - *Southeast Extension – First Tier Screening Traffic Memorandum (HNTB, May 2011)*
  - *Triangle Expressway Southeast Extension Final Traffic Forecast Technical Memorandum, (HNTB, June 2012) [Superseded by this document]*

  While the TRM V4-2009 and TRM V5-2010 model version releases and corresponding output results were considered in the forecast, the TRM V4-2008 output is specifically referenced in the report tables.

  HNTB developed a Triangle Regional Toll Diversion Model in December 2010 and applied these toll diversion curves/model to the TRM V4-2008 in an effort to more accurately assess

tolling behavior in the region. With the Toll Diversion Model, the TRM V4-2008 is a Toll-capable tool that is very useful in projecting future traffic as well as the changes in travel patterns of new facilities. The model was used to evaluate the construction of the project as a Toll facility.

2010 BASE YEAR TRAFFIC FORECAST

The 2010 Base Year traffic forecast for the Complete 540 – Triangle Expressway Southeast Extension project was developed through the use of historical traffic growth trends, traffic count data, and interpolated daily traffic assignment data from the 2009 and 2012 TRM V4 No-Build models. Land use information from the TRM V4 was used as one criterion in determining study area growth between the 2010 and future forecast years. The TRM V4 uses specifically delineated Traffic Analysis Zones (TAZs) as areas where trips are generated or attracted based on population and employment data. Appropriate design characteristics (Design Hourly Volume (DHV), Directional Distribution Percentages (D), and Heavy Vehicle Percentage (Duals/TTSTs)) were determined for the 2010 project study area by reviewing relevant historic traffic forecasts, NCDOT historical AADT count station data, and 2009-2013 field collected 48-hour tube count and 16-hour turning movement count data.

After 2010 Base Year AADTs were estimated, bidirectional flow estimates were made at all project study area intersections. 2010 forecast results show that previous forecast and model predictions for daily traffic varied from field count data due to a quickly changing and developing study area and very low base year volumes, which make it difficult for the regional model to completely account for all existing conditions and recent changes.

2012 AND 2035 TRAFFIC FORECASTS

Intermediate and Future Year forecasts were primarily derived from anticipated daily traffic assignment growth from the 2012 and 2035 TRM V4-2008 runs for study area roadways. This data was converted to growth rates along each roadway segment and results were balanced for consistent upstream/downstream traffic flow and consistency with existing 2010 traffic flow patterns and forecast results.

The 2035 TRM V4-2008 model incorporates changes to future land use in the project study area through adjustments to population and employment data in specific TAZs. The model also includes all regional 2030 LRTP (September 15, 2004) projects, as mentioned previously. In certain instances, historical or model growth rates along facilities were averaged, based on engineering judgment, for select segments along individual facilities (i.e. I-40, US 64/264, US 64 Business and I-540) to provide consistent growth along each corridor and provide reasonable and balanced mainline and turning movement volumes.

As with the 2010 forecast results, 2012 and 2035 data indicates that the application of model growth rates to 2013 forecast volumes produces results that can vary considerably from raw 2012 and 2035 TRM V4 daily assignment data and forecast data from previous forecasts.

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1.0 PROJECT BACKGROUND

1.1 Project Request Information

HNTB North Carolina, PC has been contracted by the North Carolina Turnpike Authority (NCTA) to develop base, intermediate, and future year traffic forecasts for the NCDOT STIP Projects R-2721, R-2828, and R-2829. The projects combine to form the southern and eastern portions of the Complete 540 – Triangle Expressway Southeast Extension outer loop around Raleigh and surrounding communities in Wake County and Johnston County.

The DSA traffic forecasts for the base, intermediate, and future year No-Build and Build alternatives will be used for the environmental documentation required by NEPA. Seventeen DSAs are being studied in the NEPA process. All alternative routes are displayed in **Figure 1**. All forecast figures are included in ***Appendix A***. The corridors that combine to form complete alternative routes are illustrated in **Table 1**.

Table 1. Detailed Study Alternatives

Detailed Study Alternative	NC 55 Bypass to I-40	I-40 to US 64/264 Bypass
1	Orange	Green
2	Orange	Green-Mint-Green
3	Orange	Brown-Tan-Green
4	Orange	Brown-Green
5	Orange	Green-Teal-Brown-Green
6	Orange-Red	Green
7	Orange-Red	Mint-Green
8	Orange-Purple-Blue-Lilac	Green
9	Orange-Purple-Blue-Lilac	Green-Mint-Green
10	Orange-Purple-Blue-Lilac	Brown-Tan-Green
11	Orange-Purple-Blue-Lilac	Brown-Green
12	Orange-Purple-Blue-Lilac	Green-Teal-Brown-Green
13	Orange-Lilac	Green
14	Orange-Lilac	Green-Mint-Green
15	Orange-Lilac	Brown-Tan-Green
16	Orange-Lilac	Brown-Green
17	Orange-Lilac	Green-Teal-Brown-Green

Detailed Study Alternative 1 – This alternative features the Orange Corridor for the southern section of the project. The Orange Corridor, also known as the NCDOT Protected Corridor (August 1996, *North Carolina Transportation Corridor Official Map Act*, N.C.G.S. § 136-44.50), begins at the Triangle Expressway and NC 55 interchange in Holly Springs and travels eastward to the I-40 and US 70 interchange near the border of Wake and Johnston Counties. The Orange Corridor primarily runs to the south of and parallel to SR 1010 (Ten Ten Road) for the majority of its alignment. The Orange Corridor includes planned interchanges at NC 55, SR 1152 (Holly Springs Road), SR 1386 (Bells Lake Road), US 401, SR 1006 (Old Stage Road), NC 50 and I-40.

DSA 1 includes the Green Corridor for the eastern section of the project. The Green Corridor begins at the I-40 and US 70 interchange and heads north/northeast to the existing I-540 and US 64/264 interchange. The Green Corridor has planned interchanges with I-40, SR 2700 (White Oak Road), US 70 Business, SR 2542 (Rock Quarry Road), SR 2555 (Auburn-Knightdale Road), SR 1007 (Poole Road) and US 64/264.

Detailed Study Alternative 2 – DSA 2 utilizes the Orange Corridor (see description above) for the southern section. The eastern section includes the Green and Mint Corridors. The Mint Corridor has interchanges at the same locations as the Green Corridor. The only difference between the two alignments is that the section of the project between Rock Quarry Road and Auburn Knightdale Road has a proposed alignment slightly further to the east in the Mint Corridor option.

Detailed Study Alternative 3 – The Orange Corridor is used for the southern section. The Green,B, and Tan Corridors are used for the eastern section of DSA 3. DSA 3 has planned eastern section interchanges with I-40, SR 2700 (White Oak Road), US 70 Business, SR 5204 (Old Baucom Road), SR 2555 (Auburn-Knightdale Road), SR 1007 (Poole Road) and US 64/264. The I-40, Poole Road, and US 64/264 interchanges are proposed to be at the same locations as the Green Corridor. The Brown Corridor's White Oak Road interchange is located slightly to the east of the Green Corridor interchange. The Brown Corridor then takes a more eastern turn to it proposed US 70 Business interchange, which is located near the Wake and Johnston County line. Next, the Tan Corridor alignment begins and heads north to the proposed Old Baucom Road interchange, different from the Rock Quarry Road location found in the Green Corridor. The planned Auburn-Knightdale Road interchange is at the same location in the Tan Corridor as it is in the Green Corridor. From that point, the Tan Corridor merges back into the Green Corridor alignment.

Detailed Study Alternative 4 – DSA 4 is a slight variation of DSA 3. The Orange Corridor is used for the southern section. The Green and Brown Corridors are utilized for the eastern section of DSA 4. The Brown and Tan Corridors have interchanges on the same facilities. The only variations between the Brown and Tan are that the proposed Brown Corridor interchange with Old Baucom Road is slightly to the east of the Tan interchange location and the planned Auburn-Knightdale Road interchange location is slightly more to the east than the Green and Tan Corridor location. After the Auburn-Knightdale Road interchange the Brown Corridor merges back into the Green Corridor alignment.

Detailed Study Alternative 5 – DSA 5 is a combination of DSAs 1-4. The Orange Corridor is used for the southern section. The Green, Teal, and Brown Corridors are combined to create the eastern section of the project. DSA 5 has proposed interchanges with I-40, SR 2700 (White Oak Road), US 70 Business, SR 5204 (Old Baucom Road), SR 2555 (Auburn-Knightdale Road), SR 1007 (Poole Road), and US 64/264. The planned I-40, White Oak Road, and US 70 Business interchanges are the same as the Green Corridor. The Teal Corridor then aligns to the east and shares the proposed Old Baucom Road and Auburn-Knightdale Road interchanges with the Brown Corridor. This DSA then rejoins the Green Corridor at the Poole Road and US 64/264 interchange locations.

Detailed Study Alternative 6 – This alternative is a combination of the proposed Orange and Red Corridors for the southern section of the project. DSA 6 follows the Orange Corridor through the planned interchanges at NC 55 Bypass, SR 1152 (Holly Springs Road), and SR 1386 (Bells Lake Road). After the proposed Bells Lake Road interchange, the Red Corridor

continues eastward crossing SR 1010 (Ten Ten Road) and forming an interchange with US 401 north of SR 1010. The Red Corridor then continues northeast, traveling between Lake Wheeler and Lake Benson, featuring planned interchanges with SR 1006 (Old Stage Road) and NC 50 north of Lake Benson. The planned I-40 interchange location for the Red Corridor is located south of the existing I-40 and US 70 Business interchange (I-40 Exit 306) and north of the SR 2700 (White Oak Road) overpass.

Continuing into the eastern section of the project, the Red Corridor does not have an interchange with US 70 Business, but instead has a proposed interchange at SR 2542 (Rock Quarry Road) that includes an extension of Rock Quarry Road to the south that forms an intersection with US 70 Business. The proposed Rock Quarry Road interchange on the Red Corridor is in the same location as the Rock Quarry Road interchange on the Green Corridor. After the Rock Quarry Road interchange, DSA 6 follows the remainder of the Green Corridor, with future interchanges at SR 2555 (Auburn-Knightdale Road), SR 1007 (Poole Road) and US 64/264.

Detailed Study Alternative 7 – DSA 7 is a slight variation of DSA 6. DSA 7 utilizes the Orange and then the Red Corridor for the southern section, as described in DSA 6. The eastern section alignment includes the Red Corridor, Mint Corridor (see DSA 2 description above), and Green Corridor.

Detailed Study Alternative 8 – This alternative combines the Orange and then the Purple, Blue, and Lilac Corridors for the southern section of the project. The proposed DSA 8 alignment follows the Orange Corridor through the future interchanges at NC 55 Bypass and SR 1152 (Holly Springs Road). After the Holly Springs Road interchange, the Purple Corridor diverges southward from the Orange Corridor. The proposed Purple Corridor has an interchange with SR 1393 (Hilltop Needmore Road). The Purple Corridor alignment then continues southeast to a planned interchange with US 401. DSA 8 continues eastward on the Blue Corridor alignment, with a proposed interchange at SR 1006 (Old Stage Road). The Blue Corridor then merges into the Lilac Corridor alignment just west of the proposed NC 50 interchange. DSA 8 follows the Lilac Corridor alignment to the I-40 and US 70 interchange.

On the eastern section of the project, the Lilac Corridor alignment merges into the Green Corridor prior to the White Oak Road interchange. After the future White Oak Road interchange location, DSA 6 follows the remainder of the Green Corridor alignment, with future interchanges at SR 2542 (Rock Quarry Road), SR 2555 (Auburn-Knightdale Road), SR 1007 (Poole Road) and US 64/264.

Detailed Study Alternative 9 – DSA 9 is a slight variation of DSA 8. DSA 9 utilizes the Orange, Purple, Blue, and Lilac Corridors for the southern section, as described in DSA 8. The eastern section uses the Green and Mint Corridors (see DSA 2 description above).

Detailed Study Alternative 10 – DSA 10 features the Orange, Purple, Blue, and Lilac Corridor alignments (see DSA 9 description above) for the southern section. The eastern section utilizes a combination of the Brown, Tan, and Green Corridors (see DSA 3 description above).

Detailed Study Alternative 11 – DSA 11 features the Orange, Purple, Blue, and Lilac Corridor alignments (see DSA 9 description above) for the southern section. The eastern section proposed alignment features a combination of the Brown, and Green Corridors (see DSA 4 description above).

Detailed Study Alternative 12 – DSA 12 features the Orange, Purple, Blue, and Lilac Corridor alignment (see DSA 9 description above) for the southern section. The Green, Teal, and Brown Corridors are combined to create the eastern section alignment of this project alternative (see DSA 5 description above).

Detailed Study Alternative 13 – This alternative contains the Orange and Lilac Corridor alignments for the southern section of the project. The proposed Lilac Corridor diverges from the Orange Corridor east of the future SR 1006 (Old Stage Road) interchange. The planned Lilac Corridor interchanges with NC 50 and I-40 and US 70 are north of the locations of the proposed NC 50 and I-40 and US 70 interchanges on the Orange Corridor. On the eastern section of the project, the Lilac Corridor alignment merges into the Green Corridor prior to the proposed White Oak Road interchange. After the White Oak Road interchange, DSA 6 follows the remainder of the Green Corridor.

Detailed Study Alternative 14 – DSA 14 is a slight variation of DSA 13. DSA 14 utilizes the Orange and Lilac Corridor alignments for the southern section. The eastern section features the Green and Mint Corridors (see DSA 2 description above).

Detailed Study Alternative 15 – DSA 15 utilizes the Orange and Lilac Corridor alignments (see DSA 13 description above) for the southern section. The eastern section contains a combination of the Brown, Tan, and Green Corridors (see DSA 3 description above).

Detailed Study Alternative 16 – DSA 16 features the Orange and Lilac Corridor alignments (see DSA 13 description above) for the southern section. The eastern section utilizes a combination of the proposed Brown, and Green Corridors (see DSA 4 description above).

Detailed Study Alternative 17 – DSA 17 features the Orange and Lilac Corridor alignments (see DSA 13 description above) for the southern section. The proposed Green, Teal, and Brown Corridors are combined to create the eastern section of this project alternative (see DSA 5 description above).

The 2010 base year forecast includes existing No-Build conditions only and does not include the Triangle Expressway. The 2012 and 2035 No-Build alternatives include the Triangle Expressway constructed as a toll facility but contain no Southern or Eastern Wake Freeway. The 2012 and 2035 Build alternatives include the Triangle Expressway and Southern and Eastern Wake Freeway.

This traffic forecast document provides design data (design hourly volumes (K-factors), directional distribution percentages (D-factors), and heavy vehicle percentages (single-unit trucks, tractor-trailer-semi-trailers) as well as Average Annual Daily Traffic (AADT) estimates for the DSA traffic forecast study area alternatives and describes the methodology and data inputs used in the forecasting process.

The forecasts for this project are derived primarily from comparisons between existing field-counted data/base year calibrated travel demand model data and future year growth trends/model estimates. The forecasts also include a review of previous study area forecasts, output from the Triangle Regional Model (TRM) versions, along with engineering judgment. The TRM V4-2008 includes all fiscally-constrained projects contained in the 2030 Capital Area Metropolitan Planning Organization (CAMPO) and Durham-Chapel Hill-Carrboro Metropolitan

Planning Organization (DCHC MPO) Long Range Transportation Plans (LRTP) dated September 15, 2004. In order to ensure all No-Build and Build DSAs are comparable and based on similar data, TRM V4-2008 was used as the primary modeling tool for all forecast scenarios.

Once the preferred detailed study alternative is selected through the NEPA project process, an updated traffic forecast is anticipated to be prepared for that alternative using the most current available model and data.

1.2 Project History

The Triangle Expressway Southeast Extension was listed in the CAMPO 2030 LRTP (dated September 15,2004) with a 2030 horizon year, in the CAMPO 2035 LRTP (dated May 20, 2009) with a 2025 horizon year, and is currently listed in the 2040 MTP (dated April 2, 2013) with a 2030 horizon year. HNTB collected data from the CAMPO 2030 LRTP, relevant traffic forecasts, and NCDOT STIP projects to be included in the traffic forecast.

Scoping meetings for this traffic forecasting report, and subsequent decisions agreed upon by NCDOT Transportation Planning Branch (TPB), NCDOT Project Development and Environmental Analysis Unit (PDEA), and Federal Highway Administration (FHWA) established the limits of the traffic forecast study area for traffic forecasting and capacity analysis for the 2010 base year and 2012/2035 future years. **Figure 2** shows the traffic forecast study area for the base, intermediate and future year forecasts.

Base year (2010) traffic forecasts for a No-Build alternative were developed using a comparison of historic AADT data and field-collected traffic counts. TRM V4-2008 model data was used in development of No-Build and DSA 1-17 forecasts.

An intermediate year, 2012, was selected because it is the opening year of the Triangle Expressway Western Wake Freeway. The 2012 year scenarios include forecasts for a No-Build alternative and a Build alternative with the Southeast Extension as toll facility. All Build alternative forecasts propose the Southern and Eastern Wake Freeways (Southeast Extension) as controlled access, median divided six-lane freeway facilities. The forecasts use extrapolations of historic AADT in the study area, 2012 TRM V4 data, and comparisons/adjustments from traffic counts applied to historic and model information. The 2012 No-Build alternative forecast would include all horizon year 2010 projects in the fiscally constrained 2030 CAMPO LRTP, the 2030 DCHC MPO LRTP, and projects scheduled to be completed in 2012. The 2012 Build alternative considers those same projects, as well and the Southern and Eastern Wake Freeway as controlled-access facilities. **Figure 3** shows the study area CAMPO long range transportation plan projects for 2010, 2020, and 2030 per the 2030 LRTP (September 15, 2004).

The 2035 future year scenarios include forecasts for a No-Build alternative and the various Build alternatives with the Southern and Eastern Wake Freeway projects as toll facilities. The forecasts use extrapolations of historic AADT data in the study area, 2035 TRM V4 data, and comparisons/adjustments from the field-collected traffic counts as they applied to the historic and model information. The 2035 forecasts consider all fiscally-constrained projects in the CAMPO and DCHC 2030 LRTPs. The scenarios are summarized in **Table 2**.

Table 2. Forecast Scenarios and Alternatives

Forecast Scenario	Year	Tolling Assumption	Study Area Network Assumption
Base Year No-Build	2010	N/A	Existing Network
Intermediate Year No-Build	2012	$0.12 Per Mile User Cost	2010 LRTP Projects + Triangle Expressway (Toll Facility)
Intermediate Year Build Toll		$0.12 Per Mile User Cost	2010 LRTP Projects + Triangle Expressway & Southeast Extension (Toll Facility)
Design Year No-Build	2035	$0.12 Per Mile User Cost	Includes all Fiscally-Constrained 2030 LRTP + Southeast Extension (Toll Facility)
Design Year Build Toll			

1.3 Area Information

The project is located primarily in Wake County with a small portion of the project that extends into Johnston County. The Southern Wake Freeway (STIP's R-2721 and R-2828) extends eastward from the NC 55 Holly Springs Bypass to the junction of I-40 and the US 70 Clayton Bypass in Johnston County. For DSAs 6 and 7 that include the Red Corridor for a portion of the Southern Wake Freeway, the southern portion extends from NC 55 to I-40 at a new interchange location north of the I-40/US 70 Clayton Bypass interchange. The Eastern Wake Freeway (STIP R-2829) begins at the I-40/US 70 Clayton Bypass interchange for DSAs 1-5 and 8-17 or the I-40 interchange for DSAs 6 and 7 and ends at the US 64 Knightdale Bypass, completing the outer loop. The entire project length is nearly 30 miles.

Current land use in the traffic forecast study area is a mixture of urban and suburban commercial/residential development. Some interchanges in the traffic forecast study area feature dense "urban" development, while others have little to no existing development on more than one quadrant of the interchange.

1.4 Route Information

Study Area

In collaboration with HW Lochner, NCDOT, CAMPO, and FHWA, the Southern and Eastern Wake Freeway study area was defined for traffic forecasting related to the development of the project Purpose and Need statement and alternatives development and screening. The traffic forecast study area for traffic forecasting, shown graphically in **Figure 2**, includes the existing freeway and surface street arterials shown in **Table 3**.

Table 3. Existing Study Area Roadways

SR Number	Road Name	Functional Class*	Study Area Cross Sections	2009 AADT	Speed Limit
-	I-40	Interstate	4-6 lane divided	67,000	65
-	I-540	Interstate	6 lane divided	40,000	65
-	US 64 Bypass	Freeway	6 lane divided	60,000	65
-	US 70 Bypass (Clayton Bypass)	Freeway	4 lane divided	23,000	55
-	US 1	Freeway / Principal Arterial	4 lane divided	18,000	65
-	US 401	Principal Arterial	4 lane divided	33,000	55
-	NC 50	Principal Arterial	2 lane undivided	15,200	55
-	NC 55	Principal Arterial	4 lane divided	28,000	55
-	US 70 Business	Principal / Minor Arterial	4 lane divided	25,000 - 34,000	55
-	NC 42	Minor Arterial	5 lane with TWLTL	26,000	45
-	NC 42	Minor Arterial	2 lane undivided	12,000	55
1007	Poole Road	Minor Arterial	2 lane undivided	8,600	45
1010	Ten Ten Road	Minor Arterial	2 lane undivided	6,100 - 15,000	45
1152	Holly Springs Road	Minor Arterial	2 lane undivided	8,900	45
2711	Vandora Springs Road	Minor Arterial	2 lane undivided	7,900	35
2233	Smithfield Road	Minor Arterial	2 lane undivided	17,000	45
2711	Vandora Springs Road	Minor Arterial	2 lane undivided	7,900	35
1006	Old Stage Road	Minor Arterial / Collector	2 lane undivided	9,200	45
1010	Cleveland School Road	Major Collector	2 lane undivided	6,000	55
1393	Hilltop Needmore Road	Major Collector	2 lane undivided	3,300	45
2542	Rock Quarry Road	Collector	2 lane undivided	4,000	55
1386	Bells Lake Road	Local	2 lane undivided	10,400	45
2700	White Oak Road	Local	2 lane undivided	6,600	55
2555	Auburn-Knightdale Road	Local	2 lane undivided	2,600	55
1172	Old Smithfield Road	Local	2 lane undivided	1,000	35
1300	Kildaire Farm Road	Local	2 lane undivided	10,600	45
1503	Donny Brook Road	Local	2 lane undivided	3,000	45
2555	Raynor Road	Local	2 lane undivided	3,600	45
2555	Auburn-Knightdale Road	Local	2 lane undivided	3,200	55
5204	Old Baucom Road	Local	2 lane undivided	1,000	55
2516	Hodge Road	Local	2 lane undivided	9,200	45
1153	Old Holly Springs Apex Road	Local	2 lane undivided	1,800	45
2779	Old McCullers Road	Local	2 lane undivided	4,200	35
1421	Old Mills Road	Local	2 lane undivided	600	45
2750	Norman Blalock Road	Local	2 lane undivided	1,000	45
2753	Dwight Rowland Road	Local	2 lane undivided	2,600	45
5204	Old Baucom Road	Local	2 lane undivided	1,000	55
2515	Old Faison Road	Local	2 lane undivided	4,100	45

* - As defined on the *NCDOT Urban Functional Classification Map (2006)* TWLTL – Two-Way Left-turn Lane

The following future roadway facilities were also included in the traffic forecast study area:

- **Triangle Expressway Western Wake Freeway** from NC 55 (Holly Springs Bypass) to NC 55 near the Research Triangle Park (RTP) [*This facility is now open to traffic*]

- **Triangle Expressway Southeast Extension** from NC 55 (Holly Springs Bypass) to US 64 Bypass (Knightdale Bypass)

These forecast locations and roadway facilities were chosen as forecast links primarily based on their proximity to and potential impact by the project. Forecasts for existing or proposed -Y- line intersections and/or interchanges were included in this detailed forecasting effort.

Study Area Roadways

There are six major access-controlled freeways in the vicinity of the traffic forecast study area: I-40, I-540, NC 540, US 64 Bypass (Knightdale Bypass), and US 70 Bypass (Clayton Bypass). The following are descriptions of the major roadways within the traffic forecast study area:

- **I-40** is the primary freeway corridor for regional connectivity between Raleigh, RTP, Durham and Chapel Hill in the Triangle. I-40 varies from a four-lane to an eight-lane freeway in the traffic forecast study area. The posted speed limit is 65 miles per hour (mph) through the traffic forecast study area.

- **US 1** is an existing controlled access freeway that serves regional traffic in Cary and Apex. US 1 features a four-lane cross section in the traffic forecast study area, with auxiliary lanes near interchanges. The posted speed limit is 65 mph.

- **I-540** is an existing loop freeway around the northern portions of Wake County. It currently spans from I-40 on the western side of Wake County to the US 64 Bypass near Knightdale in eastern Wake County. The facility features a six-lane cross section in the study area, with auxiliary lanes at interchanges and a posted speed limit of 70 mph.

- **NC 540** is an existing freeway facility that is an extension of I-540 in western Wake County from I-40 to NC 55 near RTP. The facility features a six-lane cross section with a posted speed limit of 70 mph. The segment of NC 540 from NC 55 to NC 54 is a toll facility.

- **US 64 Bypass (Knightdale Bypass)** is an existing controlled access freeway in the traffic forecast study area providing access to areas of east Wake County to I-440 and further to I-95. In the traffic forecast study area, US 64 Bypass features a six-lane cross-section, with auxiliary lanes at interchanges and a posted 65 mph speed limit.

- **US 70 Bypass (Clayton Bypass)** is an existing controlled access freeway in the traffic forecast study area providing access to areas of Johnston County to I-40. In the traffic forecast study area, the Clayton Bypass contains a four-lane cross-section, with auxiliary lanes at interchanges and a posted speed limit of 65 mph.

Other roadways that are specifically included in the traffic forecast study area include NC 42, NC 50, NC 55, US 70, US 401, Holly Springs Road, Bells Lake Road, Ten Ten Road, Old Stage Road, Rock Quarry Road, Auburn-Knightdale Road and Poole Road. These existing thoroughfares are primarily multi-lane facilities with 35, 45, or 55 mph speed limits in the traffic forecast study area and provide regional connectivity and access throughout Wake County, with interchange connections to the seven major study area freeway facilities.

2.0 SOURCES OF INFORMATION AND DATA

2.1 Related Forecasts

HNTB obtained recent project-level traffic forecasts for NCDOT STIP projects and/or municipal road projects in the traffic forecast study area from the NCDOT TPB, TSG, and Feasibility Studies Unit (FSU). Historic traffic forecast information is summarized in **Table 4.**

Table 4. Historic Traffic Forecasts in the Study Area

Project STIP #	Year Forecast Completed	Details
R-2721 R-2828 R-2829	2009	Forecast includes previous planning-level forecast of the Southern and Eastern Wake Freeways
I-4744	2008	Forecast includes areas along I-40 and US 1/64 from Aviation Parkway to Gorman Street
U-4763B	2007	Forecast includes areas immediately to the west of the I-4744 2007 base year forecast along I-40
R-2000 AA-AF	2008	Forecast includes portions of I-40, I-540, and NC 540 located within the study area
R-2635	2007	Forecast includes Western Wake Freeway
R-2721 R-2828 R-2829	2000	Forecast includes previous forecast of the Southern and Eastern Wake Freeways
R-2552	1998	Forecast includes Clayton Bypass and parts of I-40 in the study area
U-3101	1998	Forecast includes areas of the 2008 I-4744 base year forecast along US 1/64 from I-40 through Cary Parkway

2.2 Historic AADT Data

HNTB reviewed all available NCDOT Traffic Survey Group (TSG) AADT data from the previous 20 years in the project study area. Each data point was evaluated and points that were considered outliers were removed from the data set. Some facilities have experienced fluctuations in AADT and diversions in traffic due to various factors, such as construction of new roadway facilities. For example, AADTs on NC 55 Business, US 70 Business, E. Garner Road, Hodge Road, Poole Road have experienced fluctuation primarily due to construction of NC 55 Bypass, US 70 Bypass and US 264/64 and diversion of traffic. **Figure 4** details the study area historic AADT count locations. Sixty-three (63) growth trend line estimates for 2035 for locations throughout the traffic forecast study area were developed using the 1990-2010 AADT travel history. ***Appendix C*** contains linear regression graphs based on the historical data points. **Table 5** shows the 2002-2009 NCDOT historic AADT volumes for key locations and locations where field traffic data was collected.

2.3 Field Data Collection

HNTB collaborated with the NCDOT TSG to obtain existing traffic count data (24 hour directional/classification counts) for study area roadways. NCDOT ATR count data was collected at two (2) locations and 2009 AADT freeway ramp counts were provided at seven (7) existing study area interchanges. Two (2) 12-hour intersection counts were also provided. Specific locations where historic traffic data was obtained are shown in **Figure 5**. Data was analyzed for applicability/relevance to traffic conditions and for inconsistencies between adjacent intersections/interchanges/roadway segments.

After researching the availability of existing traffic count data, HNTB coordinated with NCDOT to determine the locations and times of field traffic data collection activities. HNTB collected and/or received, nine (9) peak hour turning movement counts (TMC), twenty-three (23) 16-hour TMC, and four (4) 48-hour vehicle classification counts. Some traffic counts were completed when local schools and universities were not in session. However, seasonal factors provided by NCDOT for the Triangle area were used to adjust these counts for school traffic.

All tube vehicle classification counts were collected for a minimum of 48 hours of an average weekday (Tuesday-Thursday). Detailed traffic count information was collected and reviewed in the completion of this forecast. **Figure 5** shows traffic data collection locations. **Table 6** provides a summary of the field data collection completed for this forecast.

The 16-hour and 48-hour counts were first converted to daily traffic before conversion to AADT. 16-hour turning movement counts were adjusted to 24-hour counts by applying a 0.90 adjustment factor. 48-hour traffic tube/classification counts were analyzed during 16-hour periods and the resulting factors ranged from 0.90 to 0.94. Supporting information from the Institute of Transportation Engineers (ITE) states 16-hour counts generally account for 90 to 95 percent of 24-hour traffic volumes. Based on this information, a conservative 0.90 adjustment factor was applied to 16-hour turning movement volumes to convert to 24-hour counts. Once volumes were adjusted to 24-hour counts, reciprocal turning movements were added together to estimate bidirectional turns at the intersection or interchange.

HNTB converted the adjusted 24-hour counts to AADT volumes using seasonal adjustment factors provided by the NCDOT Traffic Survey Unit. For data related to interstate and mainline routes (US 264/64,US 70 Bypass, US 1, I-40), ADT volumes were adjusted by the NCDOT Interstate Automatic Traffic Recorder (ATR) Group 11 weekday average for the respective month traffic counts were collected. For non-interstate higher-volume urban secondary routes, such as US 64 Business, NC 42 and Ten Ten Road, ADT volumes were adjusted by the NCDOT non-interstate ATR Group 4 weekday average for the respective month and day traffic counts were collected. For all other study area roadway counts, non-interstate ATR Group 1 was applied.

Table 5. NCDOT Historic AADT Volumes

NCDOT ID	Roadway	Location	NCDOT Historical AADT Volumes								AADT Extrapolated to 2010+	Project Specific Count Data		2010 NB Traffic Forecast
			2002	2003	2004	2005	2006	2007	2008	2009		TMC	Mainline	
9100872	I-40	from Exit 303 (Jones Sausage Road) to Exit 306 (US 70)	83,000	82,000	88,000	86,000	91,000	93,000	87,000	94,000	99,500	-		99,500
9103495	I-40	from Exit 306 (US 70) Exit 309 (US 70 Bypass)	-	-	-	-	-	-	68,000	75,000	82,000	-		75,100
9100873	I-40	from US 70/S-E Wake Expwy to Exit 312 (NC 42)	51,000	49,000	52,000	53,000	56,000	58,000	51,000	55,000	56,300	-	36,800[a]	56,300
5000159	I-40	from Exit 312 (NC 42) to Exit 319 (NC 210)	42,000	38,000	41,000	43,000	44,000	46,000	42,000	44,000	50,100	-		50,100
9103485	I-540	from US 64/264 to US 64 Business	-	-	-	-	-	38,000	39,000	40,000	41,000	-		41,000
9103484	I-540	N of US 64 Business	-	-	-	-	-	45,000	47,000	48,000	49,700	-		49,700
5000185	NC 42	E of SR 1628 (Cleveland Crossing Dr)	13,000	13,000	20,000	14,000	15,000	15,000	13,000	15,000	14,800	21,400[4]		21,000
5000184	NC 42	W of SR 1800 (Technology Drive)	24,000	24,000	24,000	24,000	25,000	27,000	25,000	26,000	26,400	32,200[4]		31,600
5000147	NC 42	N of US 70 Bypass	12,000	12,000	13,000	12,000	13,000	13,000	-	12,000	15,000	11,700[3]		11,700
9100133	NC 50	S of SR 2562 (New Rand Rd) / N of Southern Wake Expressway (Red)	-	18,000	-	17,000	-	19,000	-	17,000	17,900	19,600[4]		19,500
9100133	NC 50	S of Southern Wake Expressway (Red)	-	18,000	-	17,000	-	19,000	-	17,000	17,900	19,600[4]		19,500
9100661	NC 50	N of Ten-Ten Rd (SR 1010)	-	13,000	-	12,000	-	13,000	-	12,000	12,100	14,000[4]		14,300
9103452	NC 50	N of Southern Wake Expwy / S of Ten-Ten Rd (SR 1010)	-	-	-	13,000	-	15,000	-	-	18,000	15,900[4]		15,200
9100659	NC 50	N of SR 1010 (Cleveland School Road)	-	13,000	-	12,000	-	11,000	-	12,000	11,200	15,200[3]		15,200
9102426	NC 50	S of SR 1010 (Cleveland School Road)	-	6,800	-	6,100	-	5,800	-	6,100	7,000	8,000[3]		8,000
9103432	NC 55	S of SR 1172 (Old Smithfield Road)	-	-	-	19,000	-	23,000	-	26,000	27,900	28,200[2]		29,400
9103427	NC 55	from SR 1172 (Old Smithfield Road) to Southern Wake Expressway	-	-	-	19,000	-	25,000	-	28,000	30,800	27,700[2]		30,200
9103427	NC 55	from Southern Wake Expwy to NC 55 Business	-	-	-	19,000	-	25,000	-	28,000	30,800	27,700[2]		30,200
9100145	SR 1006 (Old Stage Road)	N of SR 2711 (Vandora Springs Rd)	-	11,000	-	11,000	-	8,700	-	10,000	9,300	10,200[4]		9,700
9100147	SR 1006 (Old Stage Road)	S of SR 2711 (Vandora Springs Rd)	-	17,000	-	16,000	-	15,000	-	16,000	16,900	15,800[4]		14,800
9100841	SR 1006 (Old Stage Road)	N of Ten-Ten Rd (SR 1010)	-	15,000	-	14,000	-	13,000	-	13,000	12,800	15,800[4]		14,800
9100843	SR 1006 (Old Stage Road)	S of SR 1010 (Ten-Ten Rd)	-	10,000	-	9,600	-	9,100	-	9,200	10,600	10,800[2]		7,900
9100843	SR 1006 (Old Stage Road)	S of S Wake Expressway (N of SR 2724 Banks Rd)	-	10,000	-	9,600	-	9,100	-	9,200	10,600	10,800[2]		7,900
9104172	SR 1006 (Old Stage Road)	N of NC 42 (S of S Wake Expwy)	-	4,300	-	4,400	-	4,100	-	3,900	4,700	4,400[5]		3,800
9104602	SR 1007 (Poole Road)	E of Eastern Wake Expressway	-	10,000	-	5,400	-	4,300	-	3,700	10,600	7,900[2]		8,100
9100712	SR 1007 (Poole Road)	E of SR 2516 (Hodge Rd)	-	14,000	-	9,100	-	9,100	-	8,600	10,600	7,900[2]		8,100
9100714	SR 1007 (Poole Road)	W of SR 2516 (Hodge Rd)	-	17,000	-	9,500	-	8,300	-	7,900	6,100	6,600[2]		6,500
9103453	SR 1010 (Cleveland School Road)	E of NC 50	-	-	-	5,900	-	6,100	-	6,000	6,100	7,800[3]		7,800
9100743	SR 1010 (Ten-Ten Road)	E of SR 1386 (Bells Lake Road)	-	11,000	-	12,000	-	12,000	-	12,000	16,100	12,600[2]		13,300
9100839	SR 1010 (Ten Ten Rd)	E of US 401	-	13,000	-	14,000	-	16,000	-	15,000	16,000	14,700[4]		12,800
9103440	SR 1010 (Ten Ten Rd)	W of US 401	-	-	-	15,000	-	15,000	-	15,000	15,000	15,600[4]		14,100
9103451	SR 1010 (Ten Ten Rd)	W of NC 50	-	-	-	5,700	-	6,700	-	6,100	6,500	7,500[4]		6,700
9102947	SR 1153 (Old Holly Springs-Apex Road)	N of Western Wake Freeway	-	2,400	-	920	-	1,500	-	1,800	3,600	-		3,600
9102947	SR 1153 (Old Holly Springs-Apex Road)	S of Western Wake Freeway	-	2,400	-	920	-	1,500	-	1,800	3,600	-		3,600
9104085	SR 1386 (Bells Lake Road)	S of Southern Wake Expressway	-	3,400	-	3,500	-	4,100	-	4,300	4,500	6,000[2]		4,500
9100745	SR 1386 (Graham Newton Road)	N of SR 1010	-	5,500	-	5,500	-	6,200	-	6,000	6,900	7,500[2]		6,900
9103032	SR 1421 (Old Mills Rd)	S of SR 1393 (Hilltop Needmore Rd)	-	-	-	-	-	-	-	600	600	400[5]		400
9103475	SR 2233 (Smithfield Road)	N of US 64/264	-	-	-	9,000	-	8,000	-	8,300	7,900	6,300[3]		6,300
9103474	SR 2233 (Smithfield Road)	S of US 64/264	-	-	-	13,000	-	17,000	-	17,000	18,700	16,600[3]		16,600
9103476	SR 2516 (Hodge Road)	N of US 64/264	-	-	-	6,400	-	6,300	-	6,600	6,600	6,200[3]		6,200
9100711	SR 2516 (Hodge Road)	from US 64/264 to SR 1007	-	5,800	-	5,700	-	8,500	-	9,200	8,400	9,000[3]		9,000
9100713	SR 2516 (Hodge Road)	S of SR 1007	-	1,400	-	1,200	-	1,200	-	1,400	1,200	1,100[2]		1,100

Table 5 (Continued). NCDOT Historic AADT Volumes

NCDOT ID	Roadway	Location	NCDOT Historical AADT Volumes								AADT Extrapolated to 2010+	Project Specific Count Data		2010 NB Traffic Forecast
			2002	2003	2004	2005	2006	2007	2008	2009		TMC	Mainline	
9100725	SR 2542 (Rock Quarry Road)	W of Eastern Wake Expressway	-	5,500	-	4,600	-	4,600	-	4,000	3,800	4,000[2]		3,900
9100725	SR 2542 (Rock Quarry Road)	E of Eastern Wake Expressway	-	5,500	-	4,600	-	4,600	-	4,000	3,800	4,000[2]		3,900
9100723	SR 2555 (Auburn Knightdale Road)	N of SR 2542 (Rock Quarry Rd)	-	3,600	-	3,300	-	2,800	-	2,900	2,600	2,700[2]		2,600
9100731	SR 2555 (Auburn Knightdale Road)	S of SR 2542 (Rock Quarry Rd)	-	4,000	-	3,600	-	3,400	-	3,500	3,300	3,200[2]		3,100
9100146	SR 2711 (Vandora Springs Rd)	E of Old Stage Rd (SR 1006)	-	7,500	-	7,800	-	8,400	-	7,900	8,700	7,600[4]		6,900
9102330	US 1	N of Western Wake Freeway	-	17,000	-	-	-	-	-	18,000	20,400	-	21,700[c]	21,700
9102330	US 1	S of Western Wake Freeway	-	17,000	-	-	-	-	-	18,000	20,400	-	21,700[c]	21,700
9100737	US 401	S of St Patrick Dr (SR 2777) / N of Southern Wake Expressway (Red)	-	33,000	-	31,000	-	33,000	-	32,000	32,200	33,100[4]	-	33,300
9103439	US 401	S of Southern Wake Expressway (Red) / N of SR 1010 (Ten Ten Rd)	-	-	-	31,000	-	33,000	-	31,000	31,700	33,100[4]	-	33,300
9100838	US 401	N of Southern Wake Expressway (Orange)	-	33,000	-	32,000	-	34,000	-	33,000	27,800	32,300[2]		32,900
9100838	US 401	N of SR 1503 (Donny Brook Rd)	-	33,000	-	32,000	-	34,000	-	33,000	27,800	32,300[2]		32,900
9100707	US 64 Business	W of I-540		56,000	-	-	-	32,000	-	30,000	37,800	31,700[3]		31,700
9103492	US 64/264	W of SR 2516 (Hodge Road)	-	-	-	-	-	59,000	-	60,000	60,500		54,300[a]	60,500
9103493	US 64/264	from SR 2516 (Hodge Road) to I-540 / Eastern Wake Expressway	-	-	-	-	-	56,000	-	58,000	59,000	-		59,000
9103472	US 64/264	from I-540 / Eastern Wake Expressway to SR 2233 (Smithfield Road)	-	-	-	41,000	-	61,000	-	60,000	68,300	-		68,300
9103473	US 64/264	E of SR 2233 (Smithfield Road)	-	-	-	35,000	-	51,000	-	49,000	55,500		41,500[a]	55,500
9100733	US 70	E of I-40	-	49,000	-	49,000	-	50,000	-	34,000	48,000	-		34,000
9100150	US 70	W of I-40	-	22,000	-	25,000	-	29,000	-	29,000	29,100	-		29,000
9100728	US 70	E of Guy Rd (SR 2558) / E of Rock Quarry Road Extension (Red)	-	40,000	-	39,000	-	40,000	-	25,000	-	31,700[3]		31,700
5003514	US 70 Bypass	E of I-40	-	-	-	-	-	-	22,000	23,000	24,000	-	12,900[b]	23,000

+ linear rate used, 1990-2010
"-" – Data not available.
1 – 2008 Project Specific TM Counts, factored to AADT estimates
2 – 2009 Project Specific TM Counts, factored to AADT estimates
3 – 2010 Project Specific TM Counts, factored to AADT estimates
4 – 2012 Project Specific TM Counts, factored to AADT estimates
5 – 2013 Project Specific TM Counts, factored to AADT estimates

a – 2008 Project Specific 48 Hour Counts factored to AADT estimates
b – 2009 Project Specific 48 Hour Counts factored to AADT estimates
c – 2011 Project Specific 48 Hour Counts factored to AADT estimates

Table 6. Field Data Collection

Location	Type Count	Date(s)	County
NC 50 at Ten Ten Road	16 Hour TMC	11/03/2009	Wake
NC 50 at Cleveland School Rd	16 Hour TMC	03/24/2010	Wake
Holly Springs Road at Kildaire Farm Rd	16 Hour TMC	10/22/2009	Wake
Raynor Road at White Oak Road	16 Hour TMC	11/04/2009	Wake
Rock Quarry Road at Auburn Knightdale Road	16 Hour TMC	11/05/2009	Wake
US 401 at Donny Brook Road	16 Hour TMC	11/10/2009 & 10/05/2011	Wake
US 401 at Wake Tech Drive	16 Hour TMC	10/05/2011	Wake
NC 55 at Smithfield Road	16 Hour TMC	10/28/2009	Wake
Ten Ten Road at Bells Lake Road	16 Hour TMC	10/27/2009	Wake
	Peak Hour TMC	10/27/2009	Wake
Poole Road at Hodge Road	16 Hour TMC	10/29/2009	Wake
Rock Quarry Road at Old Baucom Road	16 Hour TMC	11/18/2009	Wake
US 401 at Ten Ten Road	16 Hour TMC	09/06/2012	Wake
Rock Quarry Road at E. Garner Road	16 Hour TMC	09/06/2012	Wake
NC 50 at Ten Ten Road	16 Hour TMC	09/11/2012	Wake
NC 50 at Timber Drive	16 Hour TMC	04/04/2012	Wake
Timber Drive at Aversboro Road	16 Hour TMC	09/23/2009	Wake
US 70 at White Oak Road	16 Hour TMC	04/04/2012	Wake
US 70 at Guy Road (SR 2558)	16 Hour TMC	10/19/2010	Wake
NC 50 at Buffaloe Road	16 Hour TMC	05/02/2010	Wake
Old Stage Road at Vandora Springs Road	16 Hour TMC	09/06/2012	Wake
Old Stage Road at Norman Blalock Road	16 Hour TMC	08/06/2013	Wake
Hilltop Needmore Road at Old Mills Road	16 Hour TMC	08/06/2013	Wake
US 401 at Dwight Rowland Road	16 Hour TMC	08/06/2013	Wake
US 70 Bypass west of Cornwallis Road (SR 1525)	48 Hour Vehicle Classification Count	11/17 through 11/19/2009	Johnston
US 70 Business west of Guy Road	48 Hour Vehicle Classification Count	11/17 through 11/19/2009	Wake
Old Stage Road south of Ten Ten Road	48 Hour Vehicle Classification Count	11/03 through 11/05/2009	Wake
US 1 south of NC 55	48 Hour Vehicle Classification Count	01/04/2011	Wake
US 264 EB Off Ramp at Hodge Road	Peak Hour TMC	05/12/2010	Wake
US 264 WB Off Ramp at Hodge Road	Peak Hour TMC	05/12/2010	Wake
US 70 EB On/Off Ramps at NC 42	Peak Hour TMC	05/11/2010	Johnston
US 70 WB On/Off Ramps at NC 42	Peak Hour TMC	05/11/2010	Johnston
US 64 WB On/Off Ramps at Smithfield Road	Peak Hour TMC	05/13/2010	Wake
US 64 EB On/Off Ramps at Smithfield Road	Peak Hour TMC	05/13/2010	Wake
US 64 Business EB at I-540	Peak Hour TMC	05/20/2010	Wake
US 64 Business WB at I-540	Peak Hour TMC	05/20/2010	Wake

2.4 Field Investigation

Field investigations have been conducted throughout the project forecasting process (2009 to 2013) to examine various detailed study alternatives, observe project study area facilities and collect traffic data.

2.5 Other Sources

HNTB collected information on relevant roadway improvement projects within and around the traffic forecast study area. These include NCDOT STIP projects and the projects listed in the CAMPO 2030 LRTP (dated September 15, 2004). A list of the 2030 LRTP fiscally constrained projects within the traffic forecast study area along with estimated dates of completion (horizon years) and other basic information are detailed in **Table 7**. The locations of these projects can be seen in **Figure 3**.

Table 7. CAMPO 2030 LRTP Study Area Projects

Segment Identifier	Facility Name	Segment From	Segment To	Length (miles)	2009 No. of Lanes	Future No. of Lanes	STIP #
A49a	Poole Road	Maybrook Dr.	Barwell Road	1.00	2	4	-
A91	Jones Sausage Rd.	Rock Quarry Rd	I-40	1.46	2	4	-
A95	NC 55 Widening	Holly Springs Bypass	SR 1108 (Wake Chapel Road)	3.30	2	4	R-2907
F9	US 1-64	US 64	Walnut Street	2.60	4	6	U-3101
A4b	Rogers Lane Extension (NL)	End of Existing Rogers Lane	Rogers Lane/New Hope	0.27	0	4	
F1a	I-540 (North & East Segment)	Triangle Town Blvd.	US 64 (Knightdale)	7.00	0	6	R-2000
F2	I-540 (East Segment)	US 64	US 64 Bypass	2.12	0	6	R-2641
F4a	I-540 (Western Segment)	I 40	NC 55 (Morrisville/Cary)	4.01	0	6	R-2000
F8	US 70 (Clayton) Bypass	I-40 (South)	US 70 Business	9.50	0	4	R-2552
F41	I-40 HOV/HOT Project	I-440/ US 1-64	Johnston County	17.29	8	8	-
F41	I-40 HOV/HOT Project	I-440/ US 1-64	Johnston County	17.29	8	8	-
A114	Ten Ten Road	Holly Springs Rd	US 1	3.47	2	4	-
A138a	Timber Dr./Jones Sausage Road Connector	US 70	Timber Drive Extension	0.65	0	4	-
A138b	Timber Dr./Jones Sausage Road Connector	Jones Sausage Road	US 70	0.28	0	4	-
A142b	Timber Drive East	White Oak Road	New Rand Road	1.27	0	4	U-4703
A163a	Holly Springs Road	Sunset Lake Rd	Old Holly Springs Apex	3.58	2	4	-
A166	Center Street/1010	US 1	Apex Peakway	1.04	2	4	-
A217	Sunset Lake Road Connector	NC 55	Optimist Farm Road	3.40	2	4	-
A40	Kildaire Farm Road	Swift Creek	Ten Ten Road	2.00	2	4	-
A480	US 401 (South)	US 70	East Pkwy (FV)	9.85	4	6	-
A51	Smithfield Road	Carrington Drive	Forestville Road	1.17	2	4	U-3441
A96a	NC 55	Olive Chapel Road	US 64	1.16	2	4	R-2906
A96b	NC 55	Apex Peakway (south)	Olive Chapel Road	1.67	2	3	U-2901
A120	Tryon Road Extension	Garner Road	Rock Quarry Road	2.90	0	4	U-3111
A207a	Judd Parkway NE (part NL)	Existing Judd Parkway	NC 55 (Broad Street)	1.70	0	3	-
F4b	I-540 (Western Wake Expressway)	NC 55 (Morrisville/Cary)	US 1	101.00	0	6	R-2635
F4c	I-540 (Western Wake Expressway)	US 1	NC 55 Bypass	2.30	0	6	R-2635
A112	Smithfield Rd.	Poole Road	US 64 Bypass	1.90	2	4	-
A113	Ten-Ten Rd.	Holly Springs Rd	Bells Lake Road	1.14	2	4	-
A117	New Hope Road	Old Poole Road	Rock Quarry Road	1.80	2	4	-
A118	NC 55	NC 42	Harnett County	4.40	2	4	R-2540
A122	Holly Springs Road	Sunset Lake Rd.	Kildaire Farm Road	0.91	2	6	-
A137a	Old Stage Road	US 401	Ten Ten Road	4.19	2	4	-
A138c	Timber Dr./Jones Sausage Road Connector	White Oak Road	I-40 (South)	1.59	2	4	-
A140a	Vandora Springs Road & Vandora Springs Road Ext.	Timber Drive	Old Stage Road	1.01	2	4	-
A142a	Timber Drive	US 70	White Oak Road	2.05	0	4	-
A143	White Oak Road	US 70	NC 42 (Johnston Co.)	7.32	2	4	-
A149a	Poole Road	I-540	Knightdale-Eagle Rock Rd.	7.64	2	4	-
A158	Hilltop-Needmore Extension (Part NL)	NC 55 (Broad Street)	US 401	5.70	0	3	-
A16	Rock Quarry Rd.	Old Birch Road	New Hope Road	2.00	2	4	-
A172	Kelly Road	Jenks Rd.	Old US 1	5.23	2	4	-
A178a	Olive Chapel Road	Kelly Road	NC 55	1.93	2	4	-

Table 7 (Continued). CAMPO 2030 LRTP Study Area Projects

Segment Identifier	Facility Name	Segment From	Segment To	Length (miles)	2009 No. of Lanes	Future No. of Lanes	STIP #
A187	Apex Peakway	NC 55	NC 55	6.19	0	4	-
A192	Bells Lake Road	Ten Ten Road	Johnson Pond Road	2.66	2	4	-
A193a	Sunset Lake Road	US 401	Hilltop-Needmore Road	2.58	2	4	-
A193b	Sunset Lake Road	Hilltop-Needmore Road	Optimist Farm Road	2.69	2	4	-
A201a	Rock Quarry Road	New Hope Road	Battle Bridge Road	1.40	2	4	-
A202	East Garner Road	Rock Quarry Rd	Shotwell Road	3.22	2	4	-
A204	Bethlehem Road	Smithfield Road	Grasshopper Road	3.44	2	4	-
A214	Garner Road	Tryon Road	Rock Quarry Road	7.16	2	3	-
A218a	Old Holly Springs Apex Road	Holly Springs Road	Jessie Drive	2.52	2	4	-
A218b	Jessie Dr. (part NL)	Ten Ten Road	Old Holly Springs Road	3.50	2	4	-
A224	Johnson Pond Road	US 401 North	Bells Lake Road	3.52	2	3	-
A403a	Hodge Road	Poole Road	US 64	3.15	2	4	-
A41	Kildaire Farm Road	Ten Ten Road	Kildaire Farm Connector	1.67	2	4	-
A410	Lake Pine Drive/Old Raleigh Road	Cary Parkway	Apex Peakway	1.70	2	4	-
A42	Penny Road	Ten Ten Road	Holly Springs Rd.	3.05	2	4	-
A426	NC 55 (Main Street)	Holly Springs Road	Bobbitt Road	2.96	2	4	-
A427a	Avent Ferry Road	NC 55 Bypass	Cass Holt	1.03	2	4	-
A49b	Poole Road	Barwell Road	I-540	1.57	2	4	-
A4c	Rogers Lane	US 64	Rogers Lane NL	1.13	3	4	-
A52	Smithfield Road	US 64 Bypass	Carrington Drive	2.21	2	4	-
A69	Holly Springs Road	Cary Parkway	Penny Road	2.17	2	6	-
A70	Holly Springs Road	Penny Road	Ten Ten Road	1.14	2	6	-
A71	Holly Springs Road	Ten Ten Road	Kildaire Farm Road Connec	1.59	2	6	-
A88	New Rand Road	NC 50	Old Garner Road	1.63	2	3	U-3607
F44a	I-40 (East)	I-440	US 70 Business (Garner)	4.40	4	8	I-5111
F44b	I-40 (East)	US 70 Business (Garner)	NC 42	6.30	4	8	I-5111
A157	Eastern Parkway	US 401	US 401	7.39	0	4	-
A159	Western Parkway (Fuquay Varina)	NC 55	US 401	5.56	0	4	-
A200	Creech/Jones Sausage Connector	Creech Road	Jones Sausage Rd	1.09	0	4	-
A403b	Hodge Road Extension	US 64	Old Milburnie Road	1.30	0	4	-
F3	I-540 (Eastern Wake Expressway)	I-40 (South)	US 64 Bypass	10.80	0	6	-
F5	I-540 (Southern Wake Expressway)	NC 55 Bypass	US 401 (South)	7.80	0	6	-
F6	I-540 (Southern Wake Expressway)	US 401 (South)	I-40 (South)	8.70	0	6	-

"-" – Data not available.

3.0 2010 BASE YEAR NO-BUILD TRAFFIC FORECAST

3.1 Assumptions

The 2010 Base Year scenario includes a forecast of existing study area conditions using actual field collected traffic counts from 2010 and historical NCDOT AADT data. The 2010 Base Year (No Build) scenario does not include NC 540 (Triangle Expressway / Western Wake Freeway).

A 2010 Base Year Build traffic forecast is not included in this report because during the scoping process it was determined that the Intermediate Year (2012) Build forecast, which does include NC 540 (Western Wake Freeway), would be included instead of the 2010 Base Year Build scenario.

3.2 2010 Base Year (No-Build) Forecast Methodology

A review was conducted for all available previous traffic forecasts and recent daily and peak hour traffic counts developed for the traffic forecast study area. 16-hour and 48-hour traffic counts were converted to AADT volumes using seasonal adjustment factors provided by the NCDOT TSG. Peak hour and 16-hour counts were used to supplement the forecasting process to help determine distributional splits at interchanges and aid in determining traffic factors where no additional information was available.

To determine interchange and intersection forecasts, AADT volumes, Directional Flow (D), and Design Hourly Volume (DHV) were input into adjustable and non-adjustable peak hour breakout spreadsheets provided by NCDOT TPB. For the 2010 Base Year forecast, balanced volumes were developed at interchanges and intersections and in between roadway segments. Forecast break lines were included along roadways where intervening roadways, developments or large distances did not allow volumes to balance between intersections.

The 2009 TRM V4 model run data was extrapolated to 2010 and shows daily assignment volumes varying (some higher and some lower) from existing count data along study area roadways. This can be attributed to a quickly changing and developing study area and very low base year volumes, which make it difficult for the regional model to completely account for all existing conditions and recent changes.

3.3 Determination of Base Year No-Build Design Factors

Appropriate design characteristics (Design Hourly Volume (DHV), Directional Flow (D), and Truck Percentages) were determined for the study area by reviewing relevant previous traffic forecasts, NCDOT historical AADT count station data, and existing 16-hour and 48-hour traffic count data. Using this data, the base year (2010 No-Build) forecast was developed. Detailed information on how these values were calculated can be found in **Table 8**. Additional details in the forecast development are listed below.

Peak Hour Directional (D) factors for this forecast were determined by comparing AM and PM peak hour approach/departure volumes to daily approach departure volumes for a particular roadway segment or corridor. The forecast attempted to provide a consistent D factor along a roadway corridor.

The directional split (D) provides information on the direction of traffic flow in the peak period. Generally D is in the 55% to 65% range for most previous project forecasts. Given that Raleigh

and Research Triangle Park (RTP) are centers of gravity for regional trip-making in this region, most roadway facilities, such as I-40, I-540, US 1, US 264 and US 64, act as radials. Based on existing traffic patterns, a D of 55% to 65% was used for most facilities.

Design Hourly Volume (DHV) factors were determined by comparing approach and departure highest peak hour volumes for a particular segment to the 24 hour average AADT to approximate K_{30}. Traffic forecasts normally report the K-value, which is the percentage of traffic that occurs during the peak period so that the DHV can in turn be estimated by multiplying K times the AADT (Pline, 1999). Typical values of K fall in the 8 to 12 percent range. Since ATR stations are not available throughout the study area, the highest hourly volume from the 16-hour and 48-hour ADT counts were used to determine the K-values. The K-values were estimated to be between 8 and 12, with lower K values generally occurring on primary routes and higher K-values occurring on secondary routes. DHV values are generally consistent with the field-collected 48-hour and 16-hour traffic counts, which were the raw data source from which the K estimates were made. Total inflow and outflow from intersection legs (or in both directions along a mainline) was calculated for AM and PM peak hours and then the highest value was divided by the raw daily traffic volume estimate (or actual field count) for that segment. The forecast attempted to provide a consistent DHV along a roadway corridor. In some instances, the DHV changed along the corridor to account for a change in traffic characteristics.

Truck Percentage (Duals/TTST) estimates were made for this project with the consideration that the traffic stream is not uniform in its makeup. In addition to passenger vehicles, trucks and buses are generally present on all roadways. Heavier vehicles have a disproportionately large effect on both facility capacity and pavement design. While traffic along the urban I-40 corridor in the traffic forecast study area is dominated by commuters and does not include a single large truck destination point, the I-40, US 1/64, I-440, US 64 Bypass, and US 70 corridors provide primary regional routes for heavy truck traffic. Daily truck percentages in the study area were estimated to be between 3 and 18 percent, with lower truck percentages generally occurring on lower volume secondary routes and higher truck percentages occurring on higher volume primary routes. These values are generally consistent with the field collected 16-hour and 48-hour traffic counts.

Truck percentages were determined by examining 16-hour counts, 48-hour classification data, NCDOT historic truck data from 2002 and 2005, and previous traffic forecasts mentioned in **Table 4**. From this data, overall truck percentages were separated into two standard classifications - Duals (single-unit trucks with at least one dual-axled tire) and TTSTs (multi-unit trucks with single and twin trailers) – and were forecasted. An attempt was made to maintain consistent truck percentages along roadway corridors except where system interchanges, roadway facility types, special roadway attractors, minor side-streets or other circumstances warranted a change in truck percentages.

Table 8 provides design hourly volume, directional split information and truck percentages.

Table 8. Design Data Information

Roadway	Location	D - Directional Distribution %			K - Peak Hour Factor %		
		A - Past Project	B - Existing Count	Selected 2010 Value	A - Past Project	B - Existing Count	Selected 2010 Value
Eastern Wake Fwy	I-40/US 70 Bypass to 264/64 Bypass	65[1], 60[6]	-	**55**	10[1], 10[6]	-	**10**
I-40	I-440 to NC 42	55[1], 65[2], 65[5]	60	**60**	9[1],13[2],13[5]	8	**9**
NC 42	US 401/NC 55 to US 70 Bypass	65[1]	55-65	**65 / 60**	10[1]	8-10	**10, 7**
NC 50	US 70 to Cleveland School Road	70[1]	65-75	**65**	10[1]	10,12	**10**
NC 55/Bypass	US 1 to NC 42	65[1]	65	**65**	10[1]	10	**10**
Southern Wake Fwy	NC 55 to NC 50	60[1], 60[6]	-	**65**	11[1], 10[6]	-	**10**
Southern Wake Fwy	NC 50 to I-40/US 70 Bypass	60[1], 60[6]	-	**65**	11[1], 10[6]	-	**10**
Old Stage Rd	N / S of Southern Wake Expressway	-	60-65	**60 / 65**	-	9-11	**10**
Poole Road	Hodge Rd	-	65	**65**	-	12	**12**
Ten Ten Road	US 1 to NC 50	55[1]	50-60	**60**	10[1]	9,10	**11**
Holly Springs Road	N of Kildaire Farm Road	-	60	**60**	-	9	**9**
OHS-Apex Road	N of Western Wake Freeway	60	-	**60**	10	-	**10**
Bells Lake Road	Ten Ten Rd	-	65	**65**	-	12	**12**
Hilltop Needmore Rd	Sunset Lake Rd to US 401	-	55	**55**	-	12	**12**
Rock Quarry Road	W of Eastern Wake Expressway	-	65	**65**	-	12	**12**
Auburn Knightdale Rd	Rock Quarry Rd	-	55	**55**	-	10	**10**
White Oak Road	Auburn Knightdale Rd / White Oak Rd	-	65	**65**	-	12	**12**
Vandora Springs Rd	Old Stage Rd	-	65	**65**	-	10	**10**
US 1	N of Triangle Expressway	60	-	**60**	8	-	**8**
US 64 Business	E of I-540	-	-	**60**	-	-	**9**
US 64 Business	W of I-540	-	-	**60**	-	-	**9**
US 264/64 Bypass	I-440 to I-540/Eastern Wake Fwy	65[1]	65	**65**	10[1]	10	**10**
US 264/64 Bypass	I-540/Eastern Wake Fwy to US 64	65[1]	55	**65**	10[1]	9	**10**
US 70	I-40/440 to I-40	60[1]	60	**60**	9[1]	9	**9**
US 70	I-40 to Guy Road	55[1]	55	**55**	9[1]	9	**9**
US 70 Bypass	I-40 to NC 42	65[1] / 65[4]	65	**65**	9[1] / 10[4]	9	**9**
US 401	N of Ten Ten Rd to NC 42/55	-	65	**65**	-	9	**9**
Triangle Expressway	US 1 to NC 55	60[1] / 60[5]	-	**65**	11[1] / 9[5]	-	**10**

"-" - Data not available.

* - Forecast design data for referenced forecasts may vary along freeway segments at interchanges and intersections. Only one design data point was referenced for the above table for the noted forecast year.

1 - R-2721, R-2828, R-2829 – Forecast Design Data (HNTB, 2009)
2 - I-4744 – Forecast Design Data (HNTB, 2008)
3 - R-2000AA-AF – Using 2012 Build Toll Forecast Design Data (NCDOT, 2008)
4 - R-2552 – Forecast Design Data (NCDOT, 1999)
5 - R-2635 – Forecast Design Data (NCDOT, 2001)
6 - R-2721, R-2828, R-2829 – Forecast Design Data (NCDOT, 2000)
7 - U-3101 – Using 1998 Build Forecast Design Data (NCDOT, 2000)
8 - U-4763B – Using 2030 Build Toll with McCrimmon Parkway Connector (MAB, 2007)

Table 8 (Continued). Design Data Information

Roadway	Location	Truck Percentage (Dual / TTST)		
		A - Past Project	**B -** Existing Count	**Selected 2010 Value**
Eastern Wake Freeway	I-40/US 70 Bypass to 264/64 Bypass	(6/9)[1], 16[6]	-	**(6 / 9)**
I-40	I-440 to NC 42	(6/12)[1], 10[2], 10[5]	(6/7)	**(6 / 12)**
NC 42	US 401/NC 55 to US 70 Bypass	(4/2)[1]	(3/1)^,(3/2)^,(4/2)^	**(4 / 3)**
NC 50	US 70 to Cleveland School Road	(4/2)[1]	(2/1)^,(3/1)^	**(3 / 1)**
NC 55/Bypass	US 1 to NC 42	(4/7)[1]	(3/4)^	**(4 / 7)**
Southern Wake Freeway	NC 55 to NC 50	(6/12)[1], 18[6]	-	**(6 / 12)**
Southern Wake Freeway	NC 50 to I-40/US 70 Bypass	(6/12)[1], 18[6]	-	**(6 / 12)**
Old Stage Rd	N / S of Southern Wake Expressway	-	(1/1),(3/1),(3/2)	**(2 / 1)**
Poole Road	Hodge Rd	-	(3/1)^	**(3 / 1)**
Ten Ten Road	US 1 to NC 50	(2/1)[1]	(1/1),(3/1),(3/2)	**(2 / 1)**
Holly Springs Road	N of Kildaire Farm Road	-	(2/1)^	**(2 / 1)**
Old Holly Springs-Apex Road	N of Western Wake Freeway	(2/1)	-	**(2 / 1)**
Bells Lake Road	Ten Ten Rd	-	(1/1)^	**(2 / 1)**
Hilltop Needmore Rd	Sunset Lake Rd to US 401	-	(6,4)^	**(3 / 2)**
Rock Quarry Road	W of Eastern Wake Expressway	-	(2/1)^	**(3 / 1)**
Auburn Knightdale Rd	Rock Quarry Rd	-	(4/2)^, (3/1)	**(4 / 2)**
White Oak Road	Auburn Knightdale Rd / White Oak Rd	-	(2/1)^	**(2 / 1)**
Vandora Springs Rd	Old Stage Rd	-	(3/1)^	**(3 / 1)**
US 1	N of Triangle Expressway	(6/10)	-	**(6 / 10)**
US 64 Business	E of I-540	-	(5/3)^	**(5 / 3)**
US 64 Business	W of I-540	-	(5/3)^	**(5 / 3)**
US 264/64 Bypass	I-440 to I-540/Eastern Wake Freeway	(6/9)[1]	(6/9)	**(6 / 9)**
US 264/64 Bypass	I-540/Eastern Wake Freeway to US 64	(6/10)[1]	(11/5)	**(6 / 10)**
US 70	I-40/440 to I-40	(5/2)[1]	-	**(5 / 2)**
US 70	I-40 to Guy Road	(5/3)[1]	(7/6)	**(5 / 3)**
US 70 Bypass	I-40 to NC 42	(4/3)[1], 8[4]	(4/6)	**(4 / 3)**
US 401	N of Ten Ten Rd to NC 42/55	-	(3/1)^, (3/2)^	**(3 / 2)**
Triangle Expressway	US 1 to NC 55	(6%/12%)[1], 18%[5]	-	**(6 / 12)**

"-" - Data not available.
* - Forecast design data for referenced forecasts may vary along freeway segments at interchanges and intersections. Only one design data point was referenced for the above table for the noted forecast year.
^ - Based on 16-hr, 12-hr or peak hour TMC.
1 - R-2721, R-2828, R-2829 – Forecast Design Data (HNTB, 2009)
2 - I-4744 – Forecast Design Data (HNTB, 2008)
3 - R-2000AA-AF – Using 2012 Build Toll Forecast Design Data (NCDOT, 2008)
4 - R-2552 – Forecast Design Data (NCDOT, 1999)
5 - R-2635 – Forecast Design Data (NCDOT, 2001)
6 - R-2721, R-2828, R-2829 – Forecast Design Data (NCDOT, 2000)
7 - U-3101 – Using 1998 Build Forecast Design Data (NCDOT, 2000)
8 - U-4763B – Using 2030 Build Toll with McCrimmon Parkway Connector (MAB, 2007)

3.4 2010 Base Year (No-Build) Forecast Results

Based on the methodology described in the previous section, a 2010 Base Year (No-Build) forecast was completed. .

The 2010 Base Year (No-Build) traffic forecast is shown in **Figures 11-1** through **11-7**. **Table 9** provides 2010 TRM V4 volumes, adjusted count data, 2010 NCDOT historic AADT trend line estimates, and 2010 No Build forecast volumes. Due to the large size of the study area, **Table 9** shows only selected locations of interest.

Table 9. 2010 Base Year No-Build Forecast Traffic Volumes

Roadway	Location	2010 TRM V4	Count Data	2010 NCDOT Linear Regression*	2010 Forecast Volume
I-40	from Exit 306 (US 70) to US 70 Bypass/Southeast Extension	94,900	-	82,000	75,100
NC 42	E of I-40	20,800	-	14,800	25,900
NC 50	S of Timber Dr	19,800	-	17,900	19,500
NC 50	S of Ten-Ten Road	19,200	15,200[2]	18,000	15,200
NC 55	from Old Smithfield Road to Triangle Expressway	31,700	28,200[1]	30,800	29,900
Old Stage Road	S of Vandora Springs Rd	15,200	15,800[3]	16,900	14,800
Old Stage Road	N of Banks Rd	10,900	10,800[1]	10,600	7,900
Old Stage Road	S of Norman Blalock Rd	6,200	4,400[4]	-	4,000
Poole Road	E of Hodge Rd	13,600	7,900[1]	10,500	7,900
Ten-Ten Road	E of Bells Lake Road	7,800	12,600[1]	13,300	13,300
Ten-Ten Road	E of US 401	18,700	14,700[3]	16,000	12,800
Ten-Ten Road	W of NC 50	11,100	7,500[3]	6,500	6,700
Holly Springs Road	N of Kildaire Farm Road	10,600	8,900[1]	-	9,000
Old Holly Springs-Apex Road	N of Triangle Expressway	10,200	-	1,900	1,900
Bells Lake Road	S of Ten-Ten Rd	8,500	-	4,500	4,500
Hilltop Needmore Road	E of Old Mills Rd	6,500	4,200[4]	-	3,500
Rock Quarry Road	W of Southeast Extension	11,800	4,000[1]	3,800	3,700
Auburn Knightdale Rd	N of Rock Quarry Rd	9,700	2,700[1]	2,600	2,600
White Oak Rd	E of Raynor Rd	13,900	7,600[1]	-	7,600
Vandora Springs Rd	E of Old Stage Rd	8,400	7,600[3]	8,700	6,900
US 1	N of Triangle Expressway	32,800	21,700[2]	20,400	21,700
US 401	N of Ten-Ten Rd	35,100	33,100[3]	31,700	33,300
US 401	N of Donny Brook Rd	34,800	32,300[1]	34,900	33,000
US 401	S of Dwight Rowland Rd	26,900	22,800[4]	-	21,200
US 64 Business	E of I-540	32,900	34,900[2]	-	34,900
US 64 Business	W of I-540	21,700	31,700[2]	37,800	31,800
US 64/264	from Hodge Road to I-540 / SE Extension	81,100	-	59,000	59,000
US 64/264	from I-540 / SE Extension to Smithfield Rd	79,000	-	68,300	68,300
US 70	W of SE Extension	35,500	30,800[1]	-	30,800
US 70	E of I-40	42,600	-	48,000	34,000
US 70 Bypass	E of I-40	29,000	-	24,000	23,000

1 –2009 count data, 2 – 2010 count data, 3 – 2012 count data, 4 – 2013 count data, "-" - Data not available.
* 2010 values obtained from AADT Historic Line Extrapolation using linear regression based on historical NCDOT AADTs from 1991-2009.

4.0 GENERAL MODEL DATA

The TRM is used by CAMPO and DCHC-MPO for evaluation of travel demand and air quality modeling for air conformity in the Triangle Region. The model has been developed in collaboration with NCDOT, the North Carolina State University Institute for Transportation Research and Education (ITRE), and the MPOs.

4.1 Model Information

The TRM V4-2008 was the official approved travel demand model used by the MPOs, Triangle Transit, and NCDOT in all plan evaluations and studies in the Triangle area at the beginning of this forecasting document and previous project forecasting efforts. Travel demand models are continually updated over time for various reasons. After the beginning of this project forecasting process, newer versions of the TRM (TRM Version 4-2009 and Version 5-2010) were officially adopted.

Due to the project forecast timeframe beginning in 2008, the TRM V4-2008 has previously been used throughout the Southeast Extension project process, including all of the following forecasts and reports:

- *Southern and Eastern Wake Freeway Final Traffic Forecast Report (HNTB, February 2009)*
- *Southern and Eastern Wake Expressway Draft Upgrade Existing and Hybrid Alternatives Report (HNTB, January 2010)*
- *Southeast Extension – First Tier Screening Traffic Memorandum (HNTB, May 2011)*
- *Triangle Expressway Southeast Extension Final Traffic Forecast Technical Memorandum, (HNTB, June 2012) [Superseded by this document]*

HNTB used the TRM V4-2008 obtained from ITRE on October 14, 2009 in the development of the traffic forecast volumes in this report. The TRM V4-2009 and TRM V5-2010 were reviewed, compared and considered in the methodology and forecast development as related to socioeconomic data, highway network, and model validation in the project corridor. While the TRM V4-2009 and TRM V5-2010 model version releases and corresponding output results were considered in the forecast, the TRM V4-2008 output is specifically referenced in the report tables.

The TRM V4-2008 has defined 2005 base and 2035 future year networks that were analyzed for the Triangle Expressway Southeast Extension traffic forecasts. The 2035 future network considers all fiscally constrained projects contained in the CAMPO and DCHC MPO 2030 LRTPs (dated September 15, 2004). **Figure 3** shows the location of all fiscally constrained projects in the Triangle Expressway Southeast Extension traffic forecast study area. ***Appendix B*** includes plots of the TRM V4-2008 networks used in the development of the 2010, 2012, and 2035 forecasts.

HNTB developed a Triangle Regional Toll Diversion Model in December 2010 and applied these toll diversion curves/model to the TRM V4-2008 in an effort to more accurately assess tolling behavior in the region. With the Toll Diversion Model, the TRM V4-2008 is a toll-capable tool that is useful in projecting future traffic as well as the changes in travel patterns of new facilities. The model was used to evaluate the construction of the project as a toll facility. Documentation of the toll diversion modeling procedures can be found in ***Appendix D***.

Land Use Assumptions

Current land use in the traffic forecast study area is a mixture of urban and suburban commercial/residential development. Some interchanges in the traffic forecast study area feature dense "urban" development, while others have little to no existing development on more than one quadrant of the interchange. Land use information from the TRM V4 was used as one criterion in determining study area growth between the 2010, 2012 and 2035 forecast years. The TRM uses specifically delineated TAZs as areas where trips are generated or attracted, based on existing and projected population and employment data. **Figure 6** shows locations of TAZs from the TRM V4 in the Triangle Expressway Southeast Extension traffic forecast study area and **Table 10**, below, shows 2005 base year population and employment data from these TAZs and the entire TRM V4 region.

Table 10. TRM V4 2005 Base Year TAZ Data

TAZ Statistic	Study Area	TRM V4
Employment	10,753	591,389
Special Generator Employment	400	87,824
Households	18,693	505,857
Population	51,797	1,149,114
Dwelling Units	20,513	498,562

Source: TRM V4-2008 Socio-Economic Data

4.2 Model Validation

Table 11 provides a listing of key study area segments that are included in the TRM V4 and comparable recent AADT information that provide validation for the use of the TRM V4 in project forecasting methodologies used in this report. The TRM V4 uses a 2010 base year for model calibration. The 2010 base year was used as the calibration year because major roadway network changes have occurred in the study area since the 2005 model year. Using 2005 as the calibration year would not provide as accurate a representation of existing and future year model calibration.

Table 11. Model Validation

Roadway	Key Location	Model Calibration 2010		Forecast Volume	Historic Growth Rate+	2012 No-Build Volumes			2035 No-Build Volumes		
		AADT*	Model	2010		Extrapolate	Model	Forecast**	Extrapolate	Model	Forecast **
I-40	from Exit 306 (US 70) to US 70 Bypass/Southeast Extension	75,000	94,900	**75,100**	10.3%	96,000	95,000	**75,800**	257,000	138,600	**108,900**
NC 42	E of I-40	15,000	20,800	**25,900**	--	16,400	22,700	**26,400**	14,800	26,300	**31,000**
NC 50	S of Timber Dr	--	19,800	**19,500**	--	18,800	21,100	**20,800**	19,100	29,100	**28,700**
NC 50	S of Ten-Ten Road	--	19,200	**15,200**	7.4%	20,000	21,600	**17,100**	43,000	25,400	**19,600**
NC 55	from Old Smithfield Road to Triangle Expressway	26,000	31,700	**29,900**	--	35,300	40,700	**39,600**	87,000	50,600	**51,300**
Old Stage Road	S of Vandora Springs Road	16,000	15,200	**14,800**	3.9%	17,400	16,200	**15,800**	23,700	42,500	**41,400**
Old Stage Road	N of Banks Road	--	10,900	**7,900**	--	11,100	11,800	**8,500**	16,700	25,200	**18,200**
Old Stage Road	S of Norman Blalock Road	--	6,200	**4,000**	--	--	6,600	**4,300**	--	13,900	**9,100**
Poole Road	E of Hodge Road	8,600	13,600	**7,900**	0.3%	10,600	15,500	**9,000**	11,500	46,600	**27,100**
Ten-Ten Road	E of Bells Lake Road	12,000	7,800	**13,300**	--	14,000	10,100	**17,200**	22,400	19,200	**32,700**
Ten-Ten Road	E of US 401	15,000	18,700	**12,800**	5.6%	16,700	21,500	**14,700**	24,700	27,700	**18,900**
Ten-Ten Road	W of NC 50	6,100	11,100	**6,700**	1.7%	6,700	12,500	**7,500**	9,000	17,500	**10,500**
Holly Springs Road	N of Kildaire Farm Road	--	10,600	**9,000**	--	--	10,800	**9,100**	--	28,300	**23,800**
Old Holly Springs-Apex Road	N of Triangle Expressway	1,800	10,200	**1,900**	--	2,100	10,100	**10,100**	4,600	29,800	**29,800**
Bells Lake Road	S of Ten-Ten Road	4,300	8,500	**4,500**	--	4,700	9,200	**4,900**	8,000	30,400	**13,200**
Hilltop Needmore Road	E of Old Mills Road	--	6,500	**3,500**	--	--	7,400	**3,900**	--	13,800	**7,300**
Rock Quarry Road	W of Southeast Extension	4,000	11,800	**3,700**	--	3,300	13,700	**4,300**	-1,900	30,800	**10,000**

Table 11 (Continued). Model Validation

Roadway	Key Location	Model Calibration 2010		Forecast Volume	Historic Growth Rate+	2012 No-Build Volumes			2035 No-Build Volumes		
		AADT*	Model	BY 2010		Extrapolate	Model	Forecast**	Extrapolate	Model	Forecast **
Auburn Knightdale Road	N of Rock Quarry Road	2,900	9,700	**2,600**	-3.5%	2,400	12,600	**3,400**	-600	28,000	**7,600**
White Oak Road	E of Raynor Road	--	13,900	**7,600**	--	--	15,700	**8,600**	--	31,400	**17,200**
Vandora Springs Road	E of Old Stage Road	7,900	8,400	**6,900**	4.3%	9,200	9,300	**7,600**	14,600	27,400	**22,400**
US 1	N of Triangle Expressway	18,000	32,800	**21,700**	--	21,800	37,300	**24,700**	38,000	66,600	**44,100**
US 401	N of Ten-Ten Road	31,000	35,100	**33,300**	0.0%	31,700	37,100	**35,200**	31,700	62,300	**59,600**
US 401	N of Donny Brook Road	33,000	34,800	**33,000**	--	36,400	38,100	**36,100**	54,500	64,200	**60,800**
US 401	S of Dwight Rowland Road	--	26,900	**21,200**	--	--	28,200	**22,300**	--	45,200	**35,700**
US 64 Business	E of I-540	--	32,900	**34,900**	--	--	36,600	**38,600**	--	48,900	**56,300**
US 64 Business	W of I-540	30,000	21,700	**31,800**	--	36,700	23,900	**35,100**	24,000	37,600	**50,600**
US 64/264	from Hodge Road to I-540 / SE Extension	58,000	81,100	**59,000**	1.8%	61,000	88,500	**65,700**	84,000	130,700	**98,200**
US 64/264	from I-540 / SE Extension to Smithfield Road	60,000	79,000	**68,300**	10.0%	77,800	88,600	**76,100**	187,000	137,400	**116,900**
US 70	W of SE Extension	34,000	35,500	**30,800**	--	--	36,900	**32,000**	--	50,200	**43,500**
US 70	E of I-40	34,000	42,600	**34,000**	--	49,400	44,700	**35,700**	64,900	54,000	**53,000**
US 70 Bypass	E of I-40	23,000	29,000	**23,000**	--	26,000	28,800	**25,400**	49,000	45,600	**40,200**
Triangle Expressway	From Old Holly Springs to NC 55	--	18,500	--	--	--	19,800	**19,800**	--	34,800	**34,800**

* - 2010 AADT Data Not Available – Results are for 2009 AADT
** - IY and FY Forecast Results Taken from Data in Sections 5.0 Through 8.0
+ - Historic Growth Rate = Average Annual Growth Rate From Available 1990-2010 AADT Data
"--" - Data not available

5.0 2012 INTERMEDIATE YEAR NO-BUILD TRAFFIC FORECAST

The 2012 Intermediate Year No-Build forecast uses extrapolations of historic AADT data in the study area, 2012 intermediate year TRM V4 model data developed by HNTB, and comparisons/adjustments from the 2010 Base Year field data counts as they applied to the historic and model information.

5.1 Assumptions

Future land use in the traffic forecast study area is projected to remain a mixture of rural and suburban commercial/residential development, with higher development intensities in many of the TAZs employed in the TRM V4. **Table 12** shows population and employment data from study area TAZs and the entire regional model from the 2005 base year and 2012 model and the percentage change in socio-economic data expected between those years. This information was compared to the growth in traffic assignments for the traffic forecast study area to check for consistency. TRM V4-2008 TAZ socio-economic data can be found in ***Appendix E*** .

Table 12. 2005-2012 TRM TAZ Data Comparison

TAZ Statistic	2005		2012 *		% Increase 2005-2012	
	Study Area	TRM	Study Area	TRM	Study Area	TRM
Employment	10.8	591.4	21.1	809.8	96.6%	36.9%
Special Generator Employment	0.4	87.8	0.4	94.1	6.0%	7.2%
Households	18.7	505.9	29.5	551.7	57.6%	9.0%
Population	51.8	1,149.1	81.3	1,306.1	57.0%	13.7%
Dwelling Units	20.5	498.6	32.1	609.2	56.6%	22.2%

All Study Area and TRM values shown in thousands (1000s)
* - 2012 TAZ data interpolated from 2005 to 2035

5.2 Fiscal Constraint

The 2012 Intermediate Year No Build forecast considers all fiscally-constrained projects scheduled for completion by 2012 in the CAMPO / DCHC MPO 2030 LRTP (dated September 15, 2004). The roadway projects listed in the NCDOT's 2009-2015 STIP and CAMPO / DCHC MPO 2030 LRTPs were included in the model used to develop the 2012 traffic forecasts and is reflected in changes to travel patterns/daily traffic assignments in the traffic forecast study area. In addition to changes in the TAZ socio-economic data between the 2005 and 2012 models, all fiscally constrained projects from the 2030 LRTPs were added from the base network. The laneage used in the 2012 TRM V4 for major roadways within the study area is listed in **Table 13**.

Table 13. 2012 TRM V4 Major Model Transportation Network Laneage

Study Area Roadway	2012 Model
Triangle Expressway	Six-Lane Freeway
Triangle Expressway Southeast Extension	N/A
I-40	Four/Six-Lane Freeway
I-540	Six-Lane Freeway
US 64/264	Six-Lane Freeway
US 1	Four-Lane Freeway
US 401	Four-Lane Divided Arterial
US 70	Four-Lane Freeway

5.3 Development Activity

No specific major anticipated developments in the project study area were included in the development of the 2012 Intermediate Year No-Build forecast. Changes in land use intensity are reflected in interpolated changes in the study area (and regional) TAZ socio-economic data found in the TRM V4.

5.4 Methodology

The methodology used to develop the 2012 No-Build forecast is based on the TRM V4 and comparisons with model results, model growth rates on specific network links, historic traffic data extrapolations and comparisons with existing traffic count data. The 2012 No-Build forecast volumes were developed by applying historical AADT growth rates or 2010 to 2012 TRM V4 annual growth rates to 2010 Base Year forecast volumes. 2012 intermediate year TRM V4 model data was developed from the 2010 model by straight-line interpolating socioeconomic data inputs to year 2012, modifying the network as necessary, processing the model and extracting raw model output for use in the forecast development. Bidirectional turning volumes were grown at appropriate rates to reach intermediate year volumes. They were then adjusted to balance with mainline volumes.

In certain instances, historical or model growth rates along facilities were averaged, based on engineering judgment, for select segments along individual facilities (i.e. I-40, US 64/264, US 64 Business and I-540) to provide consistent growth along each corridor and provide reasonable and balanced mainline and turning movement volumes. The 2012 No-Build forecast volumes were adjusted as necessary based on a review of all available data, the study area roadway network and engineering judgment.

The 2012 TRM V4 volumes and those derived from linear regression are very similar in most locations throughout the forecast. Many of the discrepancies can be attributed to changes in the highway network that would have a large impact on travel patterns (i.e., opening of the Triangle Expressway and I-40 widening from Wade Avenue to US 1/64). Most discrepancies occur on lesser facilities that have development potential along them.

Model Growth Rates

One of the primary functions of the 2012 model for this forecasting effort was to serve as a basis for determining model growth rates between 2010 Base Year and 2012 Intermediate Year daily forecast estimates. Data from the 2010 and 2012 No-Build models were compared and annual

growth rates were calculated for each link in the study area network using an exponential growth rate method (Future = Base $(1 + rate)^n$). The resulting growth rates were applied to the 2010 Base Year forecast AADTs to calculate 2012 unadjusted AADTs. This data was checked for reasonable growth assumptions. Several adjacent links are not expected to have similar growth patterns if 2012 year data a) did not match a relatively constant growth rate between the 2010 and 2012 model volumes, or b) was likely to increase by a different rate due to changes between the 2010 and 2012 models due to construction of new facilities in the traffic forecast study area.

Due to the changing nature of the study area, certain roadways produced growth rate data that resulted in inconsistent projections using this method. Inconsistencies in growth rate projections were addressed in these areas by using assignment data from the TRM V4 model or adjusted by engineering judgment. Model growth rates on select study area roadways are shown in **Table 14**. **Table 14** also provides a comparison of 2012 TRM V4 daily model assignment data to 2010 Base Year and 2012 Intermediate Year No-Build forecast data.

5.5 Design Factors

Forecast design characteristics (D, DHV, truck percentages) were determined to remain unchanged from the 2010 Base Year, based on a review of relevant TRM data, roadway network changes, future land use growth and engineering judgment. No data collected for this forecast suggests that major changes are expected in the study area for peak hour directional flow changes, changes in percentage of daily traffic expected in the peak hour, or changes to truck percentages along freeway facilities (Triangle Expressway, I-40, US 1, US 64/264, US 70 Bypass) or surface street facilities.

5.6 2012 No-Build Forecast Results

The 2012 No-Build traffic forecast is shown in **Figures 12-1** through **12-7**. **Table 14** provides 2012 TRM V4 No-Build volumes, historic, model and applied growth rates and 2012 Intermediate Year No-Build forecast volumes for selected locations.

The applied growth rate along Old Holly Springs-Apex Road is much greater than the historic and model growth rates because the 2010 No-Build forecast volume was based on historic AADT volumes for Old Holly Springs-Apex Road (see **Table 9**), while the 2012 No-Build forecast volume is primarily based on 2012 TRM V4 volumes. The 2012 TRM V4 volumes were used for the 2012 No-Build forecast at this location because they better reflect traffic assignment changes due to an interchange on the Triangle Expressway at Old Holly Springs-Apex Road and future development near the interchange.

Linear regression data does not provide close correlation to the selected 2012 forecast AADTs for all roadways. The regression data in inconsistent in many locations, since historic data is limited in the area recently opened roadway networks will alter future traffic volumes on existing facilities.

Table 14. 2012 No-Build Forecast Traffic Volumes

Location	Forecast (2010 NB) Volume	Historic Growth Rate	Model Growth Rate	Applied Rate	2011 AADT*	2012 NB Volumes	
		1990-2010	2010-2012			Model	Forecast
I-40 from Exit 306 (US 70) to US 70 Byp/SE Ext	75,100	8.2%	0.05%	0.47%	77,000^	95,000	75,800
NC 42 - E of I-40	25,900	5.3%	4.47%	0.96%	19,000^	22,700	26,400
NC 50 - S of Timber Drive	19,500	0.3%	3.23%	3.28%	16,000	21,100	20,800
NC 50 - S of Ten-Ten Road	15,200	5.4%	6.07%	6.07%	14,000	21,600	17,100
NC 55 - from Old Smithfield Road to Triangle Expressway	29,900	6.1%	13.31%	13.33%	25,000	40,700	39,600
Old Stage Road - S of Vandora Springs Rd	14,800	1.5%	3.24%	3.32%	16,000	16,200	15,800
Old Stage Road - N of Banks Rd	7,900	2.3%	4.05%	3.73%	9,400	11,800	8,500
Old Stage Road - S of Norman Blalock Rd	4,000	-	3.18%	3.68%	3,700	6,600	4,300
Poole Road - E of Hodge Rd	7,900	0.5%	6.76%	6.74%	7,100	15,500	9,000
Ten-Ten Road - E of Bells Lake Road	13,300	2.6%	13.79%	13.72%	12,000	10,100	17,200
Ten-Ten Road - E of US 401	12,800	-	7.23%	7.17%	15,000	21,500	14,700
Ten-Ten Road - W of NC 50	6,700	-	6.12%	5.80%	6,400	12,500	7,500
Holly Springs Road - N of Kildaire Farm Road	9,000	-	0.94%	1.12%	-	10,800	9,100
Old Holly Springs-Apex Road - N of Triangle Expressway	1,900	5.1%	-0.49%	130.56%	2,500	10,100	10,100
Bells Lake Road - S of Ten-Ten Rd	4,500	2.2%	4.04%	4.35%	-	9,200	4,900
Hilltop Needmore Road - E of Old Mills Rd	3,500	-	6.70%	5.56%	-	7,400	4,000
Rock Quarry Road - W of Southeast Extension	3,700	-1.4%	7.75%	7.42%	3,900	13,700	4,300
Auburn Knightdale Rd - N of Rock Quarry Rd	2,600	-3.9%	13.97%	14.35%	2,900	12,600	3,400
White Oak Road - E of Raynor Rd	7,600	-	6.28%	6.38%	-	15,700	8,600
Vandora Springs Rd - E of Old Stage Rd	6,900	2.8%	5.22%	4.95%	7,800	9,300	7,600
US 1 - N of Triangle Expressway	21,700	3.4%	6.64%	6.69%	17,000	37,300	24,700
US 401 - N of Ten-Ten Rd	33,300	0.0%	2.81%	2.83%	31,000	37,100	35,200
US 401 - N of Donny Brook Rd	33,000	2.1%	4.63%	4.59%	32,000	38,100	36,100
US 401 - S of Dwight Rowland Rd	21,200	-	2.39%	2.56%	-	28,200	22,400
US 64 Business - E of I-540	34,900	-	5.47%	5.17%	-	36,600	38,600
US 64 Business - W of I-540	31,800	-1.5%	4.95%	5.23%	28,000	23,900	35,100
US 64/264 - from Hodge Road to I-540 / SE Extension	59,000	1.7%	4.46%	5.53%	62,000	88,500	65,700
US 64/264 - from I-540 / SE Extension to Smithfield Rd	68,300	6.7%	5.90%	5.56%	63,000	88,600	76,100
US 70 - W of SE Extension	30,800	-	1.95%	1.93%	35,000	36,900	32,000
US 70 - E of I-40	34,000	1.4%	2.44%	2.47%	35,000	44,700	35,700
US 70 Bypass - E of I-40	23,000	4.1%	4.38%	4.47%	25,000^	28,800	25,400
Triangle Expressway - From Old Holly Springs to NC 55	-	-	3.45%	3.45%	-	19,800	19,800

"-" – Data not available.
GR Methodology $F = B(1+r)^n$
2012 AADT's not available at most locations
^2012 AADT

6.0 2012 INTERMEDIATE YEAR BUILD TRAFFIC FORECAST

6.1 Assumptions

The land use and transportation network assumptions, fiscal constraints, and development activity for the 2012 Intermediate Year Build forecast are consistent with those stated in the 2012 Intermediate Year No-Build forecast (**Section 5.0**). The 2012 Intermediate Year Build forecast includes the completion of the Southeast Extension, in addition to the Triangle Expressway (assumed complete in the 2012 No-Build forecast.

For all DSAs, some existing roadways are proposed for relocation. The following facilities were relocated in the 2012 Build scenarios and forecast volumes were adjusted accordingly to account for the redistribution in future traffic volumes:

- Kildaire Farm Road; relocated north of Southeast Extension on Holly Springs Road opposite Sancroft Drive.
- Donny Brook Road; relocated south on US 401 opposite Wake Tech Main Entrance.
- Old McCullers Road; relocated south to connect to Wake Tech internal roadway.
- Raynor Road and Cascade Drive; relocated west on White Oak Road to align opposite each other.
- Old Baucom Road; realigned east on Rock Quarry Road.

6.2 Methodology

For the 2012 Build forecast, models including the Triangle Expressway Southeast Extension were developed for 2012 DSAs 1 – 17 Build conditions. The 2012 Build model runs for each DSA were then compared to the 2012 No-Build model run results to determine 2012 No-Build/2012 Build growth rates. These growth rates were then applied to the 2012 No-Build forecast data to produce estimates of 2012 Build forecast daily traffic for facilities existing in the No-Build model network.

Five different model runs (DSA 1, 2, 13 & 14, DSA 3, 4, 15, & 16, DSA 5 & 17, DSA 6 & 7, and DSA 8 & 9) were performed to account for the DSAs in the 2012 build scenario. Minimal model volume differences between the DSA 1, 2, 13 & 14 model run and the DSA 3, 4, 15 & 16 and DSA 5 & 17 model runs led HNTB to use the same traffic forecast volumes for all facilities west of I-40 for these DSAs. Similarly, DSA 10-12 volumes for facilities west of I-40 were set equal to the DSA 8-9 volumes. Certain interchange and intersection locations at and east of I-40 have the same forecast volumes in all DSAs. Different forecast volumes were assigned at interchange and intersection locations in the eastern portion of the DSAs where model assignment volume differences warranted.

As in the 2012 No-Build forecast, adjustments to the model growth rate methodology were necessary in certain areas of the network to produce reasonable and balanced daily traffic volume estimates. Any adjustments made for the 2012 No-Build traffic forecasts with regard to incorporating actual 2012 model data were applied consistently to the 2012 Build DSA forecasts. Once the growth rates and adjustments were applied to 2012 Build segments, bi-directional turning movement volumes were then adjusted throughout the study area to account for change in traffic volumes and patterns between the 2012 No-Build and Build forecasts.

Daily directional traffic assignments indicate some traffic reassignment patterns from the 2012 No-Build, due to constructing the Southeast Extension. These patterns generally indicate slight

increases in -Y- line traffic volumes at Southeast Extension interchanges and a reduction in traffic along parallel facilities. The Southeast Extension also provides some traffic reduction for major arterials such as I-40 and US 264. The project also redistributes local traffic at each interchange. Local traffic shifts represented in the 2012 Build model are characterized by traffic shifting onto Southeast Extension and a corresponding slight decrease in traffic on parallel facilities. Both system-wide and local traffic shifts additively exhibit large-scale changes in traffic patterns in the 2012 model network. The largest percent volume changes in daily assignments generally occur along I-40, Ten Ten Road and Auburn-Knightdale Road, which will be parallel facilities to the Southeast Extension.

TRM V4 Model Assignments

The approved model used by the CAMPO and DHCHMPs provided a basis for the development of growth rates on study area roadways. On certain links in the study area, the TRM V4 daily traffic assignments do not provide daily assignment data that is consistent with existing or anticipated travel patterns. For the DSA corridors, TRM V4 daily traffic assignments are generally very similar for most roadway segments. These areas and relevant descriptions of observations are described in **Table 15**.

Table 15. 2012 TRM V4 Model Assignment Discrepancies

Area in the TRM	Discussion
Southeast Extension from NC 55 to Holly Springs Road	Daily link volume assignments show a large amount of traffic exiting the Southeast Extension and taking Sunset Lake Road and NC 55 as toll-free shortcuts before rejoining the Southeast Extension west of NC 55 and east of Holly Springs Road. This was an unrealistic travel pattern, based on engineering judgment, and volumes in the traffic forecast were adjusted to account for the TRM's assignment behavior in this area.
DSAs 1, 2, 13 and 14 highway network coding	The Orange and Green Corridors (DSA 1) are the alignments coded into the official highway network of the TRM. It was determined through the evaluation of TRM volumes that this network would also apply to the Mint Corridor used in DSAs 2 and 14 and the Lilac Corridor used in DSAs 13 and 14, due to no interchange relocations and very similar TRM output.
DSAs 3, 4, 15, and 16 highway network coding	DSAs 3 and 4 required edits to the TRM highway network on the eastern section of the Southeast Extension. The project's interchanges with White Oak Road and Auburn-Knightdale Road were left unchanged for modeling purposes. The US 70 Business interchange was relocated east of Guy Road. The Old Baucom Road interchange was relocated from its original location on Rock Quarry Road in the official TRM network. All network attributes remained unchanged from the official highway network. It was determined through the evaluation of TRM volumes that this network would also apply to the Lilac Corridor used in DSAs 15 and 16 due to no interchange relocations and very similar TRM output.
DSA 5 and 17 highway network coding	DSA 5 required edits to the TRM highway network on the eastern section of the Southeast Extension. The project's interchanges with White Oak Road, US 70 Business, and Auburn-Knightdale Road were left unchanged for modeling purposes. The Old Baucom Road interchange was relocated from its original location on Rock Quarry Road in the official TRM network. All network attributes remained unchanged from the official highway network. It was determined through the evaluation of TRM volumes that this network would also apply to the Lilac Corridor used in DSA 17 due to no interchange relocations and very similar TRM output.

Table 15 (Continued). 2012 TRM V4 Model Assignment Discrepancies

Area in the TRM	Discussion
DSAs 6 and 7 highway network coding	DSA 6 (Red Corridor) required edits to the TRM highway network on both the southern and eastern section of the Southeast Extension. The project's interchanges with Holly Springs Road, Bells Lake Road and Auburn-Knightdale Road were left unchanged for modeling purposes. The US 401 interchange was relocated north of Ten Ten Road. The Old Stage Road interchange was relocated south of Vandora Springs Road. The NC 50 interchange was relocated south of Timber Drive. The interchange with I-40 was moved between Exit 306 (US 70 Business) and Exit 309 (US 70 Bypass) on I-40. The interchanges with White Oak Road and US 70 Business were removed. The Rock Quarry Road interchange remained in the same location, but Rock Quarry Road was extended south to intersect with US 70 Business. All network attributes remained unchanged from the official highway network. It was determined through the evaluation of TRM volumes that this network would also apply to the Mint Corridor used in DSA 7 due to no interchange relocations and very similar TRM output.
DSAs 8-9 highway network coding	DSA 8 (Purple-Blue-Lilac Corridor) required edits to the TRM network on the southern section of the Southeast Extension. The project's interchanges with Holly Springs Road and NC 50 were left unchanged for modeling purposes. The Hilltop-Needmore Road interchange was relocated from its original location on Bells Lake Road in the official TRM network. The US 401 interchange was relocated south of Dwight Rowland Road. The Old Stage Road interchange was relocated south of Norman Blalock Road. All network attributes remained unchanged from the official highway network. It was determined through the evaluation of TRM volumes that this network would also apply to the Mint Corridor used in DSA 9 due to no interchange relocations and very similar TRM output.

Appendix F includes a chart of 2012 DSA Southeast Extension forecast volumes, a summary table of data used to aid in determining 2012 study area forecast volumes, and raw model output comparisons of the TRM V4-2008 and TRM V4-2009.

6.3 Design Factors

All available information was evaluated, along with engineering judgment, to determine the 2012 Build forecast. All other forecast characteristics (D, DHV, truck percentages) were determined to remain unchanged based on a review of relevant TRM data, roadway network changes, future land use growth and engineering judgment.

The proposed Western Wake Freeway and Southeast Extension are new location roadway facilities that require design data not produced in the 2010 Base Year and/or 2012 Intermediate Year No-Build scenarios. The design data for these roadway segments were generated by comparing previous traffic forecasts, comparing traffic characteristics of similar nearby/parallel facilities, examining existing I-540 and NC 540 traffic data, reviewing the TRM data and producing traffic factors reasonable to the study area characteristics based on engineering judgment. The design factors for the new location roadways are included in **Table 8**.

6.4 2012 Build Forecast Results

Table 16 provides 2012 TRM V4 and forecast volumes for selected DSAs at particular locations of interest, along with the model diversion percentage and the applied diversion percentage for facilities existing in the 2012 No-Build scenario. **Table 17** provides 2012 Intermediate Year Build

forecast volumes for all DSAs and 2012 Intermediate Year No-Build forecast volumes for comparison.

DSA 1, 2, 13 and 14

DSA 1 & 2 forecast volumes range from 17,600 to 33,300 AADT along the Southern Wake Freeway, similar to DSA 3, 4 and 5, and 20,900 to 48,600 AADT east of I-40 along the Eastern Wake Freeway. **Figures 13.1** through **13.6** show 2012 forecast volumes for DSA 1, 2, 13 & 14.

DSA 3, 4, 15 and 16

DSA 3 & 4 forecast volumes range from 17,600 to 33,300 AADT along the Southern Wake Freeway, similar to DSA 1, 2 and 5, and 18,900 to 51,800 AADT east of I-40 along the Eastern Wake Freeway. **Figures 14.**1 through **14.6** show 2012 forecast volumes for DSA 3, 4, 15 & 16.

DSA 5 and 17

DSA 5 forecast volumes range from 17,600 to 33,300 AADT along the Southern Wake Freeway, similar to DSA 1, 2, 3 and 4, and 20,900 to 46,000 AADT east of I-40 along the Eastern Wake Freeway. **Figures 15.1** through **15.6** show 2012 forecast volumes for DSA 5 & 17.

DSA 6 and 7

DSA 6 & 7 forecast volumes range from 15,200 to 25,300 AADT along the Southern Wake Freeway and 23,000 to 43,800 AADT east of I-40 along the Eastern Wake Freeway. **Figures 16.1** through **16.5** show 2012 forecast volumes for DSA 6 & 7.

DSA 8 and 9

DSA 8 & 9 forecast volumes range from 17,100 to 29,000 AADT along the Southern Wake Freeway and 18,800 to 48,500 AADT east of I-40 along the Eastern Wake Freeway. **Figures 17.1** through **17.6** show 2012 forecast volumes for DSA 8 & 9.

DSA 10 and 11

DSA 10 & 11 forecast volumes range from 17,100 to 29,000 AADT along the Southern Wake Freeway, similar to DSA 8 & 9, and 17,000 to 51,700 AADT east of I-40 along the Eastern Wake Freeway. **Figures 18.1** through **18.6** show 2012 forecast volumes for DSA 10 & 11.

DSA 12

DSA 12 forecast volumes range from 17,100 to 29,000 AADT along the Southern Wake Freeway, similar to DSA 8, 9, 10 & 11, and 18,800 to 45,900 AADT east of I-40 along the Eastern Wake Freeway. **Figures 19.1** through **19.6** show 2012 forecast volumes for DSA 12.

Table 16. 2012 Build Traffic Forecast Methodology

Location	2012 No Build		2012 Build															
			DSA 1,2,13 & 14				DSA 3,4,15 & 16				DSA 6 & 7				DSA 8 & 9			
			Model	Diversion %		Forecast	Model	Diversion %		Forecast	Model	Diversion %		Forecast	Model	Diversion %		Forecast
	Model	Forecast		Model	Applied			Model	Applied			Model	Applied			Model	Applied	
SE Ext (NC 540) - E of NC 55	-	-	17,600	-	-	17,600	17,100	-	-	17,600	15,200	-	-	15,200	16,500	-	-	23,600
SE Ext (NC 540) - E of Holly Springs Road	-	-	21,800	-	-	21,800	21,100	-	-	21,800	19,800	-	-	19,000	29,000	-	-	29,000
SE Ext (NC 540) - E of Bells Lake Rd / Hilltop Needmore Rd	-	-	30,500	-	-	30,500	30,000	-	-	30,500	22,500	-	-	22,500	28,100	-	-	28,100
SE Ext (NC 540) - E of US 401	-	-	33,300	-	-	33,300	33,000	-	-	33,300	22,100	-	-	22,100	20,400	-	-	20,400
SE Ext (NC 540) - E of Old Stage Road	-	-	26,100	-	-	26,100	25,800	-	-	26,100	21,800	-	-	21,800	17,100	-	-	17,100
SE Ext (NC 540) - E of NC 50	-	-	24,200	-	-	24,200	24,300	-	-	24,200	25,300	-	-	25,300	21,200	-	-	21,200
SE Ext (NC 540) - E of I-40	-	-	20,900	-	-	20,900	18,900	-	-	18,900	23,000	-	-	23,000	18,800	-	-	18,800
SE Ext (NC 540) - N of White Oak Road	-	-	27,200	-	-	27,200	20,600	-	-	20,600	-	-	-	-	25,700	-	-	25,700
SE Ext (NC 540) - N of US 70 Business	-	-	34,700	-	-	34,700	37,800	-	-	37,800	-	-	-	-	32,200	-	-	34,000
SE Ext (NC 540) - N of Rock Quarry Rd / Old Baucom Rd	-	-	37,800	-	-	37,800	-	-	-	-	33,400	-	-	33,400	37,900	-	-	37,900
SE Ext (NC 540) - N of Auburn Knightdale Road	-	-	37,700	-	-	37,700	41,200	-	-	41,100	34,100	-	-	34,100	37,600	-	-	37,600
SE Ext (NC 540) - N of Poole Road	-	-	48,600	-	-	48,600	51,900	-	-	51,800	43,800	-	-	43,800	47,300	-	-	48,500
I-40 from Exit 306 (US 70) to US 70 Byp/SE Ext	95,000	75,800	87,300	-8.11	-8.18	69,600	85,900	-9.58	-8.18	69,600	92,500	-2.63	-2.77	73,700	86,300	-9.16	-9.23	68,800
NC 42 - E of I-40	22,700	26,400	16,900	-25.55	-25.38	19,700	16,500	-27.31	-25.38	19,700	-	-	-	-	16,100	-29.07	-29.17	18,700
NC 50 - S of Timber Drive	21,100	20,800	-	-	-	-	-	-	-	-	23,800	12.80	12.98	23,500	-	-	-	-
NC 50 - S of Ten-Ten Road	21,600	17,100	15,600	-27.78	-26.90	12,500	15,600	-27.78	-26.90	12,500	-	-	-	-	21,600	0.00	0.00	17,100
NC 55 - from Old Smithfield Road to Triangle Expressway	40,700	39,600	40,300	-0.98	0.51	39,800	41,200	1.23	0.51	39,800	37,400	-8.11	-6.31	37,100	33,900	-16.71	-14.65	33,800
Old Stage Road - S of Vandora Springs Rd	16,200	15,800	-	-	-	-	-	-	-	-	21,800	34.57	35.44	21,400	-	-	-	-
Old Stage Road - N of Banks Rd	11,800	8,500	14,000	18.64	45.88	12,400	14,000	18.64	45.88	12,400	-	-	-	-	-	-	-	-
Old Stage Road - S of Norman Blalock Rd	6,600	4,300	-	-	-	-	-	-	-	-	-	-	-	-	5,900	-10.61	-11.63	3,800
Poole Road - E of Hodge Rd	15,500	9,000	14,800	-4.52	-3.33	8,700	14,100	-9.03	-3.33	8,700	13,900	-10.32	-7.78	8,300	14,300	-7.74	-7.78	8,300
Ten-Ten Road - E of Bells Lake Road	10,100	17,200	2,300	-77.23	-22.09	13,400	2,300	-77.23	-22.09	13,400	3,800	-62.38	-29.65	12,100	-	-	-	-
Ten-Ten Road - E of US 401	21,500	14,700	-	-	-	-	-	-	-	-	17,000	-20.93	-21.09	11,600	-	-	-	-
Ten-Ten Road - W of NC 50	12,500	7,500	5,800	-53.60	17.33	8,800	5,800	-53.60	17.33	8,800	-	-	-	-	11,000	-12.00	-12.00	6,600
Holly Springs Road - N of Kildaire Farm Road	10,800	9,100	11,000	1.85	2.20	9,300	11,000	1.85	2.20	9,300	10,300	-4.63	-3.30	8,800	25,500	136.11	51.65	13,800
Old Holly Springs-Apex Road - N of Triangle Expressway	10,100	10,100	10,600	4.95	4.95	10,600	10,500	3.96	4.95	10,600	9,700	-3.96	-3.96	9,700	9,800	-2.97	-2.97	9,800
Bells Lake Road - S of Ten-Ten Rd	9,200	4,900	16,400	78.26	142.86	11,900	16,300	77.17	142.86	11,900	10,900	18.48	61.22	7,900	-	-	-	-
Hilltop Needmore Road - E of Old Mills Rd	7,400	4,000	-	-	-	-	-	-	-	-	-	-	-	-	12,000	62.16	57.50	6,300
Rock Quarry Road - W of Southeast Extension	13,700	4,300	11,800	-13.87	-13.95	3,700	6,800	-50.36	-51.16	2,100	11,600	-15.33	-9.30	3,900	12,100	-11.68	-6.98	4,000
Auburn Knightdale Rd - N of Rock Quarry Rd	12,600	3,400	3,600	-71.43	-70.59	1,000	8,000	-36.51	-35.29	2,200	4,600	-63.49	-64.71	1,200	3,200	-74.60	-73.53	900
White Oak Road - E of Raynor Rd	15,700	8,600	15,200	-3.18	-3.49	8,300	18,800	19.75	19.77	10,300	-	-	-	-	15,200	-3.18	-3.49	8,300
Vandora Springs Rd - E of Old Stage Rd	9,300	7,600	-	-	-	-	-	-	-	-	10,400	11.83	22.37	9,300	-	-	-	-
US 1 - N of Triangle Expressway	37,300	24,700	36,100	-3.22	-3.24	23,900	36,300	-2.68	-3.24	23,900	36,400	-2.41	-2.02	24,200	36,700	-1.61	-2.02	24,200
US 401 - N of Ten-Ten Rd	37,100	35,200	-	-	-	-	-	-	-	-	38,100	2.70	9.38	38,500	-	-	-	-
US 401 - N of Donny Brook Rd	38,100	36,100	45,900	20.47	20.50	43,500	45,800	20.21	27.15	45,900	-	-	-	-	-	-	-	-
US 401 - S of Dwight Rowland Rd	28,200	22,400	-	-	-	-	-	-	-	-	-	-	-	-	25,800	-8.51	-8.93	20,400
US 64 Business - E of I-540	36,600	38,600	37,600	2.73	2.85	39,700	38,300	4.64	2.85	39,700	36,600	0.00	0.00	38,600	37,200	1.64	1.55	39,200
US 64 Business - W of I-540	23,900	35,100	26,400	10.46	10.54	38,800	26,800	12.13	10.54	38,800	26,000	8.79	8.83	38,200	26,500	10.88	10.83	38,900
US 64/264 - from Hodge Road to I-540 / SE Extension	88,500	65,700	87,900	-0.68	-0.61	65,300	91,500	3.39	-0.61	65,300	85,300	-3.62	-3.65	63,300	87,600	-1.02	-1.07	65,000
US 64/264 - from I-540 / SE Extension to Smithfield Rd	88,600	76,100	86,000	-2.93	-2.76	74,000	85,600	-3.39	-2.76	74,000	86,300	-2.60	-2.63	74,100	86,100	-2.82	-2.76	74,000
US 70 - W of SE Extension	36,900	32,000	36,100	-2.17	-1.88	31,400	29,500	-20.05	-19.69	25,700	-	-	-	-	35,900	-2.71	-2.81	31,100
US 70 - E of I-40	44,700	35,700	37,200	-16.78	-16.81	29,700	35,300	-21.03	-20.73	28,300	37,900	-15.21	-15.13	30,300	36,800	-17.67	-17.37	29,500
US 70 Bypass - E of I-40	28,800	25,400	37,700	30.90	30.71	33,200	33,600	16.67	16.54	29,600	28,500	-1.04	-2.36	24,800	32,400	12.50	11.02	28,200
Triangle Expressway - From Old Holly Springs to NC 55	19,800	19,800	23,200	17.17	17.17	23,200	23,500	18.69	17.17	23,200	17,700	-10.61	13.64	22,500	18,300	-7.58	17.68	23,300

"-" – Data not available.

Note: DSA 5 & 17, 10 & 11, and 12 were forecasted using similar methodology as discussed in Section 6.2. All 2012 DSA forecast volumes are presented in Table 17.

Table 17. 2012 Build Traffic Forecast Volumes

Location	2012 NB Forecast	2012 Build Forecast Volumes						
		DSA 1,2,13 & 14	DSA 3,4,15 & 16	DSA 5 & 17	DSA 6 & 7	DSA 8 & 9	DSA 10 & 11	DSA 12
SE Ext (NC 540) - E of NC 55	-	17,600	17,600	17,600	15,200	23,600	23,600	23,600
SE Ext (NC 540) - E of Holly Springs Road	-	21,800	21,800	21,800	19,000	29,000	29,000	29,000
SE Ext (NC 540) - E of Bells Lake Rd / Hilltop Needmore Rd	-	30,500	30,500	30,500	22,500	28,100	28,100	28,100
SE Ext (NC 540) - E of US 401	-	33,300	33,300	33,300	22,100	20,400	20,400	20,400
SE Ext (NC 540) - E of Old Stage Road	-	26,100	26,100	26,100	21,800	17,100	17,100	17,100
SE Ext (NC 540) - E of NC 50	-	24,200	24,200	24,200	25,300	21,200	21,200	21,200
SE Ext (NC 540) - E of I-40	-	20,900	18,900	20,900	23,000	18,800	17,000	18,800
SE Ext (NC 540) - N of White Oak Road	-	27,200	20,600	25,800	-	25,700	19,500	24,400
SE Ext (NC 540) - N of US 70 Business	-	34,700	37,800	27,500	-	34,000	37,000	26,900
SE Ext (NC 540) - N of Rock Quarry Rd / Old Baucom Rd	-	37,800	-	-	33,400	37,900	37,100	33,100
SE Ext (NC 540) - N of Auburn Knightdale Road	-	37,700	41,100	35,300	34,100	37,600	41,000	35,200
SE Ext (NC 540) - N of Poole Road	-	48,600	51,800	46,000	43,800	48,500	51,700	45,900
I-40 from Exit 306 (US 70) to US 70 Byp/SE Ext	75,800	69,600	69,600	69,600	73,700	68,800	68,800	68,800
NC 42 - E of I-40	26,400	19,700	19,700	19,700	-	18,700	18,700	18,700
NC 50 - S of Timber Drive	20,800	-	-	-	23,500	-	-	-
NC 50 - S of Ten-Ten Road	17,100	12,500	12,500	12,500	-	17,100	17,100	17,100
NC 55 - from Old Smithfield Road to Triangle Expressway	39,600	39,800	39,800	39,800	37,100	33,800	33,800	33,800
Old Stage Road - S of Vandora Springs Rd	15,800	-	-	-	21,400	-	-	-
Old Stage Road - N of Banks Rd	8,500	12,400	12,400	12,400	-	-	-	-
Old Stage Road - S of Norman Blalock Rd	4,300	-	-	-	-	3,800	3,800	3,800
Poole Road - E of Hodge Rd	9,000	8,700	8,700	8,700	8,300	8,300	8,300	8,300
Ten-Ten Road - E of Bells Lake Road	17,200	13,400	13,400	13,400	12,100	-	-	-
Ten-Ten Road - E of US 401	14,700	-	-	-	11,600	-	-	-
Ten-Ten Road - W of NC 50	7,500	8,800	8,800	8,800	-	6,600	6,600	6,600
Holly Springs Road - N of Kildaire Farm Road	9,100	9,300	9,300	9,300	8,800	13,800	13,800	13,800
Old Holly Springs-Apex Road - N of Triangle Expressway	10,100	10,600	10,600	10,600	9,700	9,800	9,800	9,800
Bells Lake Road - S of Ten-Ten Rd	4,900	11,900	11,900	11,900	7,900	-	-	-
Hilltop Needmore Road - E of Old Mills Rd	4,000	-	-	-	-	6,300	6,300	6,300
Rock Quarry Road - W of Southeast Extension	4,300	3,700	2,100	3,500	3,900	4,000	2,200	3,600
Auburn Knightdale Rd - N of Rock Quarry Rd	3,400	1,000	2,200	1,500	1,200	900	2,100	1,400
White Oak Road - E of Raynor Rd	8,600	8,300	10,300	8,500	-	8,300	10,300	8,500
Vandora Springs Rd - E of Old Stage Rd	7,600	-	-	-	9,300	-	-	-
US 1 - N of Triangle Expressway	24,700	23,900	23,900	23,900	24,200	24,200	24,200	24,200
US 401 - N of Ten-Ten Rd	35,200	-	-	-	38,500	-	-	-
US 401 - N of Donny Brook Rd	36,100	43,500	45,900	43,400	-	-	-	-
US 401 - S of Dwight Rowland Rd	22,400	-	-	-	-	20,400	20,400	20,400
US 64 Business - E of I-540	38,600	39,700	39,700	39,700	38,600	39,200	39,200	39,200
US 64 Business - W of I-540	35,100	38,800	38,800	38,800	38,200	38,900	38,900	38,900
US 64/264 - from Hodge Road to I-540 / SE Extension	65,700	65,300	65,300	65,300	63,300	65,000	65,000	65,000
US 64/264 - from I-540 / SE Extension to Smithfield Rd	76,100	74,000	74,000	74,000	74,100	74,000	74,000	74,000
US 70 - W of SE Extension	32,000	31,400	25,700	33,900	-	31,100	25,600	33,700
US 70 - E of I-40	35,700	29,700	28,300	29,700	30,300	29,500	28,100	29,500
US 70 Bypass - E of I-40	25,400	33,200	29,600	33,200	24,800	28,200	25,400	28,600
Triangle Expressway - From Old Holly Springs to NC 55	19,800	23,200	23,200	23,400	22,500	23,300	23,300	23,300

"-" – Data not available.

7.0 2035 FUTURE YEAR NO-BUILD TRAFFIC FORECAST

The 2035 Future Year No-Build forecast uses extrapolations of historic AADT data in the study area, 2035 model data, and comparisons/adjustments from the 2010 Base Year and 2012 Intermediate Year volumes as they applied to the historic and model information.

7.1 Assumptions

Land Use

Future land use in the traffic forecast study area is projected to remain a mixture of rural and suburban commercial/residential development, with higher development intensities in many of the TAZs employed in the TRM V4. It is likely that several interchanges with limited existing development could see higher density development by 2035. **Table 18** shows population and employment data from study area TAZs and the entire regional model from the 2005 base year and 2035 model and the percentage change in socio-economic data expected between those years. This information was compared to the growth in traffic assignments for the traffic forecast study area to check for consistency. TRM V4 TAZ socio-economic data can be found in ***Appendix E***.

Table 18. 2005-2035 TRM V4 TAZ Data Comparison

TAZ Statistic	2005		2035		% Increase 2005-2035	
	Study Area	TRM	Study Area	TRM	Study Area	TRM
Employment	10.8	591.4	55.2	1,244.2	413.7	110.4
Special Generator Employment	0.4	87.8	0.5	113.8	25.0	29.6
Households	18.7	505.9	64.8	973.2	247.0	92.4
Population	51.8	1,149.1	178.3	2,264.0	244.2	97.0
Dwelling Units	20.5	498.6	70.3	986.7	242.6	97.9

All Study Area and TRM values shown in thousands (1000s)

Study Area Transportation Network

The roadway projects listed in the NCDOT's 2009-2015 STIP and CAMPO and DCHC MPO 2030 LRTPs (dated September 15, 2004) were included in the TRM V4-2008 model used to develop the 2035 traffic forecasts and is reflected in changes to travel patterns/daily traffic assignments in the traffic forecast study area. Besides the Triangle Expressway Southeast Extension, many other important projects are anticipated to open in 2035. Scheduled major roadway network changes in the TRM V4 are listed below in **Table 19**.

Table 19. 2035 TRM V4 Major Model Transportation Network Laneage

Study Area Roadway	2035 Model
Triangle Expressway	Six-Lane Freeway
Triangle Expressway Southeast Extension	Six-Lane Freeway
I-40	Eight-Lane Freeway
I-540	Six-Lane Freeway
US 64/264	Six-Lane Freeway
US 1	Four-Lane Freeway
US 401	Six-Lane Divided Arterial
US 70	Four-Lane Freeway

7.2 Fiscal Constraint

The 2035 Future Year No Build forecast considers all fiscally-constrained projects scheduled for completion by 2035 in the CAMPO / DCHC MPO 2030 LRTP (dated September 15, 2004).

7.3 Development Activity

As with the 2012 Intermediate Year forecast assumptions, development activity in the project study area was accounted for by changes in socio-economic data for study area TAZs in the TRM V4. No specific traffic generators were analyzed beyond changes in TAZ data between the 2012 and 2035 forecast years.

7.4 Methodology

The methodology used to develop the 2035 No-Build forecast is based on the TRM V4 and comparisons with model results, model growth rates on specific network links, historic traffic data extrapolations and comparisons with existing traffic count data.

The 2035 Future Year No-Build scenario was completed based on a review and comparison of 2010-2035 and 2012-2035 TRM V4 model growth rates, 2035 TRM V4 data, and historical trend line estimates. Model runs were completed for the 2035 No-Build forecast by removing the Triangle Expressway Southeast Extension from the 2035 model network. The model 2012 No-Build/2035 No-Build growth rate was applied to the 2012 No-Build forecast to determine 2035 No-Build forecast volumes. Adjustments were made to produce consistent daily traffic flow patterns upstream and downstream along study area freeways and surface streets. Bidirectional turning movements were forecasted at interchanges to calibrate, as closely as possible, with 2012 and 2035 TRM V4 daily turning movement volumes while accounting for roadway network changes and traffic flow pattern shifts.

As discussed in **Section 3.2**, the differences in 2010 TRM V4 and Base Year forecast volumes translated into 2035 volume differences, based on a similar proportion or ratio. For instance, I-40, US 1, and US 64/264 forecast volumes are much lower than the TRM V4 volumes and US 64 Business volumes are higher due to differences in 2010 TRM V4 and forecast volumes.

Model Growth Rates

One of the primary functions of the 2035 model for this forecasting effort was to serve as a basis for determining annual growth rates between the 2012 Intermediate Year and 2035 Future Year daily forecast estimates. Data from the 2012 and 2035 models for both Build and No-Build

alternatives was compared and annual growth rates were calculated for each link in the study area network. The resulting growth rates were applied to the 2012 Intermediate Year forecast AADTs to calculate 2035 unadjusted AADTs. This data was checked for reasonable growth assumptions. Several adjacent links are not expected to have similar growth patterns if 2035 year data a) did not match a relatively constant growth rate between the 2012 and 2035 model volumes, or b) was likely to increase by a different rate due to changes between the 2012 and 2035 models due to construction of new facilities or major TAZ differences in the traffic forecast study area.

In most instances, 2012 Intermediate Year forecast volumes are less than 2012 TRM V4 daily assignments. Therefore, based on model growth rates, 2035 forecast volumes are generally less than 2035 TRM V4 daily assignments on major network facilities such as I-40, US 1, US 64/264, NC 42, NC 50 and NC 55.

Due to the changing nature of the study area, certain roadways produced growth rate data that resulted in inconsistent projections using this method. Inconsistencies in growth rate projections were addressed in these areas by using assignment data from the TRM V4 model or adjusted based on engineering judgment. Model growth rates on select study area roadways are shown on **Table 20**. **Table 20** also provides a comparison of 2035 TRM V4 daily No-Build model assignment data to 2012 Intermediate Year and 2035 Future Year No-Build forecast data.

7.5 Design Factors

Forecast design characteristics (D, DHV, truck percentages) were determined to remain unchanged from the Intermediate Year based on a review of relevant TRM data, roadway network changes, future land use growth and engineering judgment. No data collected for this forecast suggests that major changes are expected in the study area for peak hour directional flow changes, changes in percentage of daily traffic expected in the peak hour, or changes to truck percentages along freeway facilities (Triangle Expressway, I-40, US 1, US 64/264, US 70 Bypass) or surface street facilities.

7.6 2035 No-Build Forecast Results

The 2035 No-Build traffic forecast is shown on **Figures 8-1** through **8-6**. **Table 20** provides 2035 No-Build AADT estimates through interpolation/extrapolation of NCDOT historic count linear regression data, 2035 TRM V4 volumes and the proposed 2035 No-Build forecast volumes.

Table 20. 2035 No-Build Traffic Forecast Data

Location	Forecast (2012 NB) Volume	Historic Growth Rate (%)	Model Growth Rate (%)	Applied Rate (%)	2035 NB Volumes	
		1990-2010	2012-2035		Model	Forecast
I-40 from Exit 306 (US 70) to US 70 Byp/SE Ext	75,800	8.2	1.66	1.59	138,600	108,900
NC 42 - E of I-40	26,400	5.3	0.64	0.69	26,300	30,900
NC 50 - S of Timber Drive	20,800	0.3	1.41	1.41	29,100	28,700
NC 50 - S of Ten-Ten Road	17,100	5.4	0.71	0.71	25,400	20,100
NC 55 - from Old Smithfield Road to Tri Expwy	39,600	6.1	0.95	0.95	50,600	47,700
Old Stage Road - S of Vandora Springs Rd	15,800	1.5	4.28	4.29	42,500	41,500
Old Stage Road - N of Banks Rd	8,500	2.3	3.35	3.37	25,200	18,200
Old Stage Road - S of Norman Blalock Rd	4,300	-	3.29	3.31	13,900	9,100
Poole Road - E of Hodge Rd	9,000	0.5	4.90	4.91	46,600	27,100
Ten-Ten Road - E of Bells Lake Road	17,200	2.6	2.83	2.83	19,200	32,700
Ten-Ten Road - E of US 401	14,700	-	1.11	1.10	27,700	18,900
Ten-Ten Road - W of NC 50	7,500	-	1.47	1.47	17,500	10,500
Holly Springs Road - N of Kildaire Farm Road	9,100	-	4.28	4.27	28,300	23,800
Old Holly Springs-Apex Road - N of Tri Expwy	10,100	5.1	4.82	4.82	29,800	29,800
Bells Lake Road - S of Ten-Ten Rd	4,900	2.2	5.33	4.40	30,400	13,200
Hilltop Needmore Road - E of Old Mills Rd	4,000	-	2.75	2.76	13,800	7,300
Rock Quarry Road - W of Southeast Extension	4,300	-1.4	3.73	3.71	31,800	10,400
Auburn Knightdale Rd - N of Rock Quarry Rd	3,400	-3.9	3.53	3.56	28,000	7,600
White Oak Road - E of Raynor Rd	8,600	-	3.06	3.06	31,400	17,200
Vandora Springs Rd - E of Old Stage Rd	7,600	2.8	4.81	4.81	27,400	22,400
US 1 - N of Triangle Expressway	24,700	3.4	2.55	2.55	66,600	44,100
US 401 - N of Ten-Ten Rd	35,200	0.0	2.28	2.28	62,300	58,800
US 401 - N of Donny Brook Rd	36,100	2.1	2.29	2.29	64,200	60,800
US 401 - S of Dwight Rowland Rd	22,400	-	2.07	2.07	45,200	35,700
US 64 Business - E of I-540	38,600	-	1.27	1.63	48,900	56,000
US 64 Business - W of I-540	35,100	-1.5	1.99	1.63	37,600	50,900
US 64/264 - from Hodge Road to I-540 / SE Ext.	65,700	1.7	1.71	1.85	130,700	100,100
US 64/264 - from I-540 / SE Extension to Smithfield Rd	76,100	6.7	1.93	1.85	137,400	116,000
US 70 - W of SE Extension	32,000	-	1.35	1.34	50,200	43,500
US 70 - E of I-40	35,700	1.4	0.83	1.73	54,000	53,000
US 70 Bypass - E of I-40	25,400	4.1	2.02	2.01	45,600	39,700
Tri Expwy - From Old Holly Springs to NC 55	19,800	-	2.48	2.48	34,800	34,800

"-" – Data not available.

8.0 2035 FUTURE YEAR BUILD TRAFFIC FORECAST

8.1 Assumptions

The land use and transportation network assumptions, fiscal constraints, and development activity for the 2035 Future Year Build forecast are consistent with those stated in the 2035 Future Year No-Build forecast (**Section 7.0**).

For all DSA corridors, some existing roadways are proposed for relocation. The following facilities were relocated in the 2035 Build DSA scenarios and forecast volumes were adjusted accordingly to account for the redistribution in future traffic volumes.

- Kildaire Farm Road; relocated north of Southeast Extension on Holly Springs Road opposite Sancroft Drive.
- Donny Brook Road; relocated south on US 401 opposite Wake Tech Main Entrance.
- Old McCullers Road; relocated south to connect to Wake Tech internal roadway.
- Raynor Road and Cascade Drive; relocated west on White Oak Road to align opposite each other.
- Old Baucom Road; realigned east on Rock Quarry Road.

8.2 Methodology

For the 2035 Build forecast, models including the Triangle Expressway Southeast Extension were developed for 2035 DSAs 1 – 17 Build conditions. Seven different model runs (DSA 1, 2, 13 & 14, DSA 3, 4, 15 & 16, DSA 5 & 17, DSA 6 & 7, DSA 8 & 9, DSA 10 & 11, and DSA 12) were performed to account for the DSAs in the 2035 build scenarios. Minimal model volume differences led HNTB to use the same traffic forecast volumes for all facilities west of I-40. Certain interchange and intersection locations at and east of I-40 have the same forecast volumes in all DSAs. Different forecast volumes were assigned at interchange and intersection locations in the eastern portion of the DSAs where model assignment volume differences warranted. TRM V4 model assignment discrepancies and differences between DSAs are described in **Table 15**.

The 2035 Build model runs for each DSA were then compared to the 2035 No-Build model run results to determine 2035 No-Build/2035 Build growth rates. These growth rates were then applied to the 2035 No-Build forecast data to produce estimates of 2035 Build forecast daily traffic for each DSA. As in the 2035 No-Build forecast, adjustments to the model growth rate methodology were necessary in certain areas of the network to produce reasonable and balanced daily traffic volume estimates. Any adjustments made for the 2035 No-Build traffic forecasts with regard to incorporating actual 2035 model data were applied consistently to the 2035 Build forecast. Once the growth rates and adjustments were applied to 2035 Build segments, bidirectional turning movement volumes were then adjusted throughout the study area to account for change in traffic volumes and patterns between the 2035 No-Build and 2035 Build forecasts.

Daily directional traffic assignments indicate some traffic reassignment patterns from the 2035 No-Build, due to constructing the Southeast Extension. These patterns show shifts to the Southeast Extension from I-40/I-440 traffic otherwise going through Raleigh and from traffic previously on parallel facilities such as NC 42 and Ten-Ten Road. The Southeast Extension reduces traffic on the eastern side of Raleigh/Wake County, particularly on freeways such as I-440 and the US 64 Bypass. These patterns generally indicate slight increases in -Y- line traffic volumes at Southeast Extension interchanges and a reduction in traffic along parallel facilities. Local traffic shifts at

interchanges are characterized by traffic shifting onto Southeast Extension and a corresponding slight decrease in traffic on parallel facilities. Both system-wide and local traffic shifts additively exhibit large-scale changes in traffic patterns in the 2035 model network. The largest percent volume changes in the study area generally occur along I-40, Ten Ten Road and Auburn-Knightdale Road, which are parallel facilities to Southeast Extension. All available information was evaluated, along with engineering judgment, to determine the 2035 Build forecast.

Appendix F includes a chart of 2035 DSA Southeast Extension forecast volumes, a summary table of data used to aid in determining all study area forecast volumes, and raw model output comparisons of the TRM V4-2008 and TRM V4-2009.

8.3 Design Factors

All available information was evaluated, along with engineering judgment, to determine the 2035 Future Year Build forecast. All other forecast characteristics (D, DHV, truck percentages) were determined to remain unchanged based on a review of relevant TRM data, roadway network changes, future land use growth and engineering judgment. The 2035 Future Year Build scenario design data for Southeast Extension is the same as the 2012 Intermediate Year Build scenario design factors. The design factors for Southeast Extension are included in **Table 8**.

8.4 2035 Build Forecast Results

Table 21 provides 2035 TRM V4 and forecast volumes for selected DSAs at particular locations of interest, along with the model diversion percentage and the applied diversion percentage for facilities existing in the 2035 No-Build scenario. **Table 22** provides 2035 Future Year Build forecast volumes for all DSAs and 2035 Future Year No-Build forecast volumes for comparison.

DSA 1, 2, 13 and 14
DSA 1 & 2 forecast volumes range from 47,400 to 71,600 AADT along the Southern Wake Freeway, similar to DSA 3, 4 and 5, and 45,900 to 91,900 AADT east of I-40 along the Eastern Wake Freeway. **Figures 21.1** through **21.6** show 2035 forecast volumes for DSA 1, 2, 13 & 14.

DSA 3, 4, 15 and 16
DSA 3 & 4 forecast volumes range from 47,400 to 71,600 AADT along the Southern Wake Freeway, similar to DSA 1, 2 and 5, and 43,900 to 95,300 AADT east of I-40 along the Eastern Wake Freeway. **Figures 22.1** through **22.6** show 2035 forecast volumes for DSA 3, 4, 15 & 16.

DSA 5 and 17
DSA 5 forecast volumes range from 47,400 to 71,600 AADT along the Southern Wake Freeway, similar to DSA 1, 2, 3 and 4, and 44,300 to 89,100 AADT east of I-40 along the Eastern Wake Freeway. **Figures 23.1** through **23.6** show 2035 forecast volumes for DSA 5 & 17.

DSA 6 and 7
DSA 6 & 7 forecast volumes range from 48,800 to 64,800 AADT along the Southern Wake Freeway and 64,800 to 94,000 AADT east of I-40 along the Eastern Wake Freeway. **Figures 24.1** through **24.5** show 2035 forecast volumes for DSA 6 & 7.

DSA 8 and 9
DSA 8 & 9 forecast volumes range from 42,000 to 68,300 AADT along the Southern Wake Freeway and 37,900 to 91,400 AADT east of I-40 along the Eastern Wake Freeway. **Figures 25.1** through **25.6** show 2035 forecast volumes for DSA 8 & 9.

DSA 10 and 11

DSA 10 & 11 forecast volumes range from 42,000 to 68,300 AADT along the Southern Wake Freeway, similar to DSA 8 & 9, and 41,000 to 94,800 AADT east of I-40 along the Eastern Wake Freeway. **Figures 26.1** through **26.6** show 2035 forecast volumes for DSA 10 & 11.

DSA 12

DSA 12 forecast volumes range from 42,000 to 68,300 AADT along the Southern Wake Freeway, similar to DSA 8, 9, 10 & 11, and 41,400 to 88,600 AADT east of I-40 along the Eastern Wake Freeway. **Figures 27.1** through **27.6** show 2035 forecast volumes for DSA 12.

Discussion

There are some discrepancies between NCDOT AADT linear regression estimates, raw TRM V4 model volumes and selected forecast volumes. The following points highlight some of causes of variation and impacts on the selected forecast values:

2035 Historic Forecast Extrapolations – The previous forecasts for STIP R-2635 (Western Wake Freeway) do not replicate with 2010 Base Year, 2012 Build or 2035 Build forecast results, due to a lack of a Base Year scenario and no scenarios with the Old Holly Springs/Apex Road interchange. STIP R-2635 forecasted 2011 and 2030 Build Toll scenarios. Based on direct comparison of data and extrapolations to 2012 and 2035, STIP R-2635 volumes are generally lower in 2012, except along US 1, and are generally higher in 2035, except along NC 55 and Old Holly Springs Apex Road. The planning-level STIP R-2721, R-2828, and R-2829 2011 and 2035 No-Build and Build Toll forecasts are largely based on TRM V4 output and do not include certain TRM V4 model updates, such as the toll diversion module. Therefore, while the volumes presented in this forecast are different, they are generally within a reasonable range. While some discrepancies exist, the variation in forecast volumes can be attributed to the toll diversion module, model growth factors, and an updated TRM V4, which has adjustments to socio-economic data, 2030 LRTP (dated September 15, 2004) projects, and various other inputs, based on information used in this forecast.

2012 and 2035 TRM V4 Raw Daily Assignment – In the study area and surrounding areas, there are parallel east-west and north-south facilities (I-40, US 264, NC 42, Ten Ten Road, Sunset Lake Road and Auburn-Knightdale Road). Few existing east-west parallel facilities will compete for traffic with Southeast Extension. However, in the 2035 TRM V4, the Kildaire Farm Road Connector appears to attract traffic from Southeast Extension by providing a non-toll parallel facility for a short distance. While this parallel route serves as an attractive option for local and commuter routes, the model appears to over-assign traffic on this connector and under-assign traffic on the segment of Southeast Extension between NC 55 Bypass and Holly Springs Road. While this facility may remain an attractive non-toll route during off-peak periods, the Southeast Extension corridor may be more attractive during the heavier peak hour periods when signalized corridors become congested and travel times increase. TRM V4 raw daily assignment volumes were adjusted along the Southeast Extension to account for this assignment adjustment. This traffic assignment approach was based on a review of appropriate roadway growth rates, facility operating capacities, previously approved forecasts and engineering judgment.

2012 and 2035 Linear Regression from Historic Count Data – Linear regression results do not provide a useful correlation between the selected 2012 and 2035 forecast AADTs for all roadways. The regression data is unreasonable in many locations, since historic data is limited in the area and new roadway networks would alter future traffic volumes on existing facilities.

Table 21. 2035 Build Traffic Forecast Methodology

Location	2035 No Build		2035 Build															
			DSA 1,2,13 & 14				DSA 3,4,15 & 16				DSA 6 & 7				DSA 8 & 9			
			Model	Diversion %		Forecast	Model	Diversion %		Forecast	Model	Diversion %		Forecast	Model	Diversion %		Forecast
	Model	Forecast		Model	Applied			Model	Applied			Model	Applied			Model	Applied	
SE Ext (NC 540) - E of NC 55	-	-	41,400	-	-	47,400	40,300	-	-	47,400	42,800	-	-	48,800	45,100	-	-	51,100
SE Ext (NC 540) - E of Holly Springs Road	-	-	57,800	-	-	57,800	57,200	-	-	57,800	57,500	-	-	57,500	67,500	-	-	67,500
SE Ext (NC 540) - E of Bells Lake Rd / Hilltop Needmore Rd	-	-	70,300	-	-	70,300	70,200	-	-	70,300	61,300	-	-	61,300	68,300	-	-	68,300
SE Ext (NC 540) - E of US 401	-	-	71,600	-	-	71,600	71,300	-	-	71,600	59,100	-	-	59,100	50,800	-	-	50,800
SE Ext (NC 540) - E of Old Stage Road	-	-	57,300	-	-	57,300	56,700	-	-	57,300	64,800	-	-	64,800	42,000	-	-	42,000
SE Ext (NC 540) - E of NC 50	-	-	51,800	-	-	51,800	51,800	-	-	51,800	58,200	-	-	58,200	49,300	-	-	49,300
SE Ext (NC 540) - E of I-40	-	-	45,900	-	-	45,900	43,800	-	-	43,900	64,800	-	-	64,800	37,900	-	-	42,900
SE Ext (NC 540) - N of White Oak Road	-	-	54,000	-	-	54,000	46,700	-	-	46,700	-	-	-	-	51,500	-	-	51,500
SE Ext (NC 540) - N of US 70 Business	-	-	64,000	-	-	64,000	66,400	-	-	66,400	-	-	-	-	66,900	-	-	62,500
SE Ext (NC 540) - N of Rock Quarry Rd / Old Baucom Rd	-	-	69,300	-	-	69,400	67,200	-	-	67,200	73,700	-	-	73,700	73,800	-	-	69,400
SE Ext (NC 540) - N of Auburn Knightdale Road	-	-	72,200	-	-	72,200	75,700	-	-	75,800	75,500	-	-	75,500	76,400	-	-	72,000
SE Ext (NC 540) - N of Poole Road	-	-	91,900	-	-	91,900	95,300	-	-	95,300	94,000	-	-	94,000	95,800	-	-	91,400
I-40 from Exit 306 (US 70) to US 70 Byp/SE Ext	138,600	108,900	120,700	-12.91	-12.95	94,800	122,300	-11.76	-12.95	94,800	140,200	1.15	1.29	110,300	126,100	-9.02	-9.00	99,100
NC 42 - E of I-40	26,300	30,900	23,700	-9.89	-10.03	27,800	23,200	-11.79	-10.03	27,800	-	-	-	-	22,800	-13.31	-13.27	26,800
NC 50 - S of Timber Drive	29,100	28,700	-	-	-	-	-	-	-	-	35,300	21.31	21.25	34,800	-	-	-	-
NC 50 - S of Ten-Ten Road	25,400	20,100	18,600	-26.77	-26.37	14,800	18,800	-25.98	-26.37	14,800	-	-	-	-	26,200	3.15	3.48	20,800
NC 55 - from Old Smithfield Road to Triangle Expressway	50,600	47,700	49,700	-1.78	3.77	49,500	49,300	-2.57	3.77	49,500	50,500	-0.20	5.24	50,200	49,700	-1.78	3.77	49,500
Old Stage Road - S of Vandora Springs Rd	42,500	41,500	-	-	-	-	-	-	-	-	57,200	34.59	34.94	56,000	-	-	-	-
Old Stage Road - N of Banks Rd	25,200	18,200	26,300	4.37	15.93	21,100	26,600	5.56	15.93	21,100	-	-	-	-	-	-	-	-
Old Stage Road - S of Norman Blalock Rd	13,900	9,100	-	-	-	-	-	-	-	-	-	-	-	-	11,800	-15.11	-14.29	7,800
Poole Road - E of Hodge Rd	46,600	27,100	39,600	-15.02	-15.13	23,000	41,200	-11.59	-15.13	23,000	39,500	-15.24	-13.28	23,500	40,000	-14.16	-14.02	23,300
Ten-Ten Road - E of Bells Lake Road	19,200	32,700	6,200	-67.71	-21.71	25,600	6,100	-68.23	-21.71	25,600	8,500	-55.73	-21.10	25,800	-	-	-	-
Ten-Ten Road - E of US 401	27,700	18,900	-	-	-	-	-	-	-	-	24,800	-10.47	-10.05	17,000	-	-	-	-
Ten-Ten Road - W of NC 50	17,500	10,500	8,800	-49.71	-49.52	5,300	8,800	-49.71	-49.52	5,300	-	-	-	-	14,000	-20.00	-18.10	8,600
Holly Springs Road - N of Kildaire Farm Road	28,300	23,800	27,400	-3.18	-3.36	23,000	27,800	-1.77	-3.36	23,000	29,500	4.24	4.20	24,800	68,600	142.40	15.13	27,400
Old Holly Springs-Apex Road - N of Triangle Expressway	29,800	29,800	32,900	10.40	10.40	32,900	32,100	7.72	10.40	32,900	43,000	44.30	10.40	32,900	43,300	45.30	10.40	32,900
Bells Lake Road - S of Ten-Ten Rd	30,400	13,200	38,200	25.66	63.64	21,600	38,600	26.97	63.64	21,600	34,600	13.82	48.48	19,600	-	-	-	-
Hilltop Needmore Road - E of Old Mills Rd	13,800	7,300	-	-	-	-	-	-	-	-	-	-	-	-	21,000	52.17	52.05	11,100
Rock Quarry Road - W of Southeast Extension	31,800	10,400	29,600	-6.92	-10.58	9,300	22,100	-30.50	-33.65	6,900	27,200	-14.47	-14.4%	8,900	30,100	-5.35	-9.62	9,400
Auburn Knightdale Rd - N of Rock Quarry Rd	28,000	7,600	13,700	-51.07	-51.32	3,700	19,800	-29.29	-27.63	5,500	13,600	-51.43	-51.32	3,700	12,700	-54.64	-55.26	3,400
White Oak Road - E of Raynor Rd	31,400	17,200	33,200	5.73	5.81	18,200	38,000	21.02	20.93	20,800	-	-	-	-	33,400	6.37	6.40	18,300
Vandora Springs Rd - E of Old Stage Rd	27,400	22,400	-	-	-	-	-	-	-	-	22,600	-17.52	-17.41	18,500	-	-	-	-
US 1 - N of Triangle Expressway	66,600	44,100	65,800	-1.20	-1.13	43,600	65,500	-1.65	-1.13	43,600	68,900	3.45	3.40	45,600	70,400	5.71	5.67	46,600
US 401 - N of Ten-Ten Rd	62,300	58,800	-	-	-	-	-	-	-	-	70,900	13.80	9.01	64,100	-	-	-	-
US 401 - N of Donny Brook Rd	64,200	60,800	78,700	22.59	22.70	74,600	78,800	22.74	22.70	74,600	-	-	-	-	-	-	-	-
US 401 - S of Dwight Rowland Rd	45,200	35,700	-	-	-	-	-	-	-	-	-	-	-	-	50,600	11.95	-3.92	34,300
US 64 Business - E of I-540	48,900	56,000	49,800	1.84	1.79	57,000	50,800	3.89	1.79	57,000	50,500	3.27	3.21	57,800	50,200	2.66	2.68	57,500
US 64 Business - W of I-540	37,600	50,900	40,900	8.78	8.84	55,400	40,700	8.24	8.84	55,400	41,400	10.11	10.22	56,100	40,700	8.24	8.45	55,200
US 64/264 - from Hodge Road to I-540 / SE Extension	130,700	100,100	126,300	-3.37	-3.40	96,700	128,400	-1.76	-3.40	96,700	126,200	-3.44	-3.40	96,700	129,900	-0.61	-0.60	99,500
US 64/264 - from I-540 / SE Extension to Smithfield Rd	137,400	116,000	133,800	-2.62	-2.59	113,000	133,000	-3.20	-2.59	113,000	133,100	-3.13	-3.10	112,400	132,500	-3.57	-3.53	111,900
US 70 - W of SE Extension	50,200	43,500	51,300	2.19	2.53	44,600	49,200	-1.99	-2.07	42,600	-	-	-	-	50,900	1.39	1.38	44,100
US 70 - E of I-40	54,000	53,000	48,100	-10.93	-10.94	47,200	45,800	-15.19	-15.09	45,000	50,700	-6.11	-6.04	49,800	48,200	-10.74	-10.75	47,300
US 70 Bypass - E of I-40	45,600	39,700	56,000	22.81	24.69	49,500	53,500	17.32	19.14	47,300	44,200	-3.07	-2.77	38,600	47,700	4.61	17.38	46,600
Triangle Expressway - From Old Holly Springs to NC 55	34,800	34,800	51,900	49.14	49.14	51,900	51,500	47.99	49.14	51,900	55,700	60.06	47.70	51,400	57,100	64.08	51.15	52,600

"-" – Data not available.

Note: DSA 5 & 17, 10 & 11, and 12 were forecasted using similar methodology as discussed in Section 8.2. All 2035 DSA forecast volumes are presented in Table 22.

Table 22. 2035 Build Traffic Forecast Volumes

Location	2035 NB Forecast	2035 Build Forecast Volumes						
		DSA 1,2,13 & 14	DSA 3,4,15 & 16	DSA 5 & 17	DSA 6 & 7	DSA 8 & 9	DSA 10 & 11	DSA 12
SE Ext (NC 540) - E of NC 55	-	47,400	47,400	47,400	48,800	51,100	51,100	51,100
SE Ext (NC 540) - E of Holly Springs Road	-	57,800	57,800	57,800	57,500	67,500	67,500	67,500
SE Ext (NC 540) - E of Bells Lake Rd / Hilltop Needmore Rd	-	70,300	70,300	70,300	61,300	68,300	68,300	68,300
SE Ext (NC 540) - E of US 401	-	71,600	71,600	71,600	59,100	50,800	50,800	50,800
SE Ext (NC 540) - E of Old Stage Road	-	57,300	57,300	57,300	64,800	42,000	42,000	42,000
SE Ext (NC 540) - E of NC 50	-	51,800	51,800	51,800	58,200	49,300	49,300	49,300
SE Ext (NC 540) - E of I-40	-	45,900	43,900	44,300	64,800	42,900	41,000	41,400
SE Ext (NC 540) - N of White Oak Road	-	54,000	46,700	50,200	-	51,500	44,500	47,900
SE Ext (NC 540) - N of US 70 Business	-	64,000	66,400	56,100	-	62,500	64,800	54,800
SE Ext (NC 540) - N of Rock Quarry Rd / Old Baucom Rd	-	69,400	67,200	63,700	73,700	69,400	67,300	63,800
SE Ext (NC 540) - N of Auburn Knightdale Road	-	72,200	75,800	69,800	75,500	72,000	75,600	69,600
SE Ext (NC 540) - N of Poole Road	-	91,900	95,300	89,100	94,000	91,400	94,800	88,600
I-40 from Exit 306 (US 70) to US 70 Byp/SE Ext	108,900	94,800	94,800	94,800	110,300	99,100	99,100	99,100
NC 42 - E of I-40	30,900	27,800	27,800	27,800	-	26,800	26,800	26,800
NC 50 - S of Timber Drive	28,700	-	-	-	34,800	-	-	-
NC 50 - S of Ten-Ten Road	20,100	14,800	14,800	14,800	-	20,800	20,800	20,800
NC 55 - from Old Smithfield Road to Triangle Expressway	47,700	49,500	49,500	49,500	50,200	49,500	49,500	49,500
Old Stage Road - S of Vandora Springs Rd	41,500	-	-	-	56,000	-	-	-
Old Stage Road - N of Banks Rd	18,200	21,100	21,100	21,100	-	-	-	-
Old Stage Road - S of Norman Blalock Rd	9,100	-	-	-	-	7,800	7,800	7,800
Poole Road - E of Hodge Rd	27,100	23,000	23,000	23,000	23,500	23,300	23,300	23,300
Ten-Ten Road - E of Bells Lake Road	32,700	25,600	25,600	25,600	25,800	-	-	-
Ten-Ten Road - E of US 401	18,900	-	-	-	17,000	-	-	-
Ten-Ten Road - W of NC 50	10,500	5,300	5,300	5,300	-	8,600	8,600	8,600
Holly Springs Road - N of Kildaire Farm Road	23,800	23,000	23,000	23,000	24,800	27,400	27,400	27,400
Old Holly Springs-Apex Road - N of Triangle Expressway	29,800	32,900	32,900	32,900	32,900	32,900	32,900	32,900
Bells Lake Road - S of Ten-Ten Rd	13,200	21,600	21,600	21,600	19,600	-	-	-
Hilltop Needmore Road - E of Old Mills Rd	7,300	-	-	-	-	11,100	11,100	11,100
Rock Quarry Road - W of Southeast Extension	10,400	9,300	6,900	6,000	8,900	9,400	6,700	5,800
Auburn Knightdale Rd - N of Rock Quarry Rd	7,600	3,700	5,500	4,800	3,700	3,400	5,100	4,400
White Oak Road - E of Raynor Rd	17,200	18,200	20,800	18,300	-	18,300	20,900	18,300
Vandora Springs Rd - E of Old Stage Rd	22,400	-	-	-	18,500	-	-	-
US 1 - N of Triangle Expressway	44,100	43,600	43,600	43,600	45,600	46,600	46,600	46,600
US 401 - N of Ten-Ten Rd	58,800	-	-	-	64,100	-	-	-
US 401 - N of Donny Brook Rd	60,800	74,600	74,600	74,600	-	-	-	-
US 401 - S of Dwight Rowland Rd	35,700	-	-	-	-	34,300	34,300	34,300
US 64 Business - E of I-540	56,000	57,000	57,000	57,000	57,800	57,500	57,500	57,500
US 64 Business - W of I-540	50,900	55,400	55,400	55,400	56,100	55,200	55,200	55,200
US 64/264 - from Hodge Road to I-540 / SE Extension	100,100	96,700	96,700	96,700	96,700	99,500	99,500	99,500
US 64/264 - from I-540 / SE Extension to Smithfield Rd	116,000	113,000	113,000	113,000	112,400	111,900	111,900	111,900
US 70 - W of SE Extension	43,500	44,600	42,600	47,300	-	44,100	42,200	47,000
US 70 - E of I-40	53,000	47,200	45,000	47,200	49,800	47,300	45,100	47,300
US 70 Bypass - E of I-40	39,700	49,500	47,300	48,900	38,600	46,600	45,300	46,700
Triangle Expressway - From Old Holly Springs to NC 55	34,800	51,900	51,900	51,900	51,400	52,600	52,600	52,600

9.0 2012 / 2035 FUTURE YEAR OVER/UNDERPASS TRAFFIC FORECAST

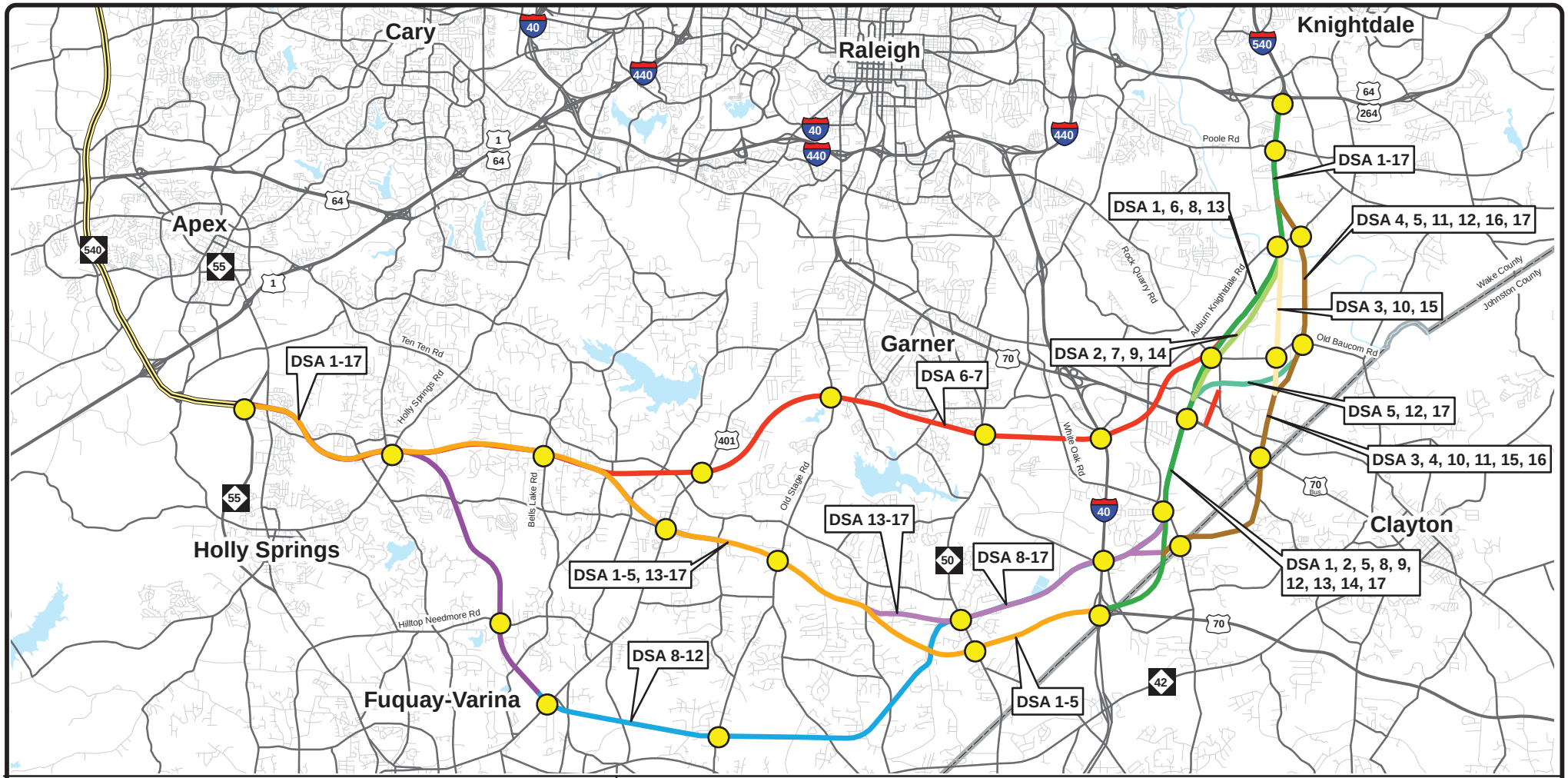
Thirty-five (35) overpass and underpass locations were identified based on the preliminary roadway designs of Southeast Extension alternatives. AADT forecast volumes and traffic factors (design hourly volume, directional split information and truck percentages) were developed for -Y- line facilities using the similar forecasting methodology as the other study area roadways. 48-hour traffic counts, model data, historical AADT's, previous forecasts, comparing traffic factors from parallel facilities, preparing daily trip generation volumes for residential neighborhoods, and engineering judgment, where applicable, were considered. The forecast volumes shown in **Table 23** relate to the numerically lowest DSA corridor number that applies for that location. ***Appendix F*** includes additional -Y- line forecasting data.

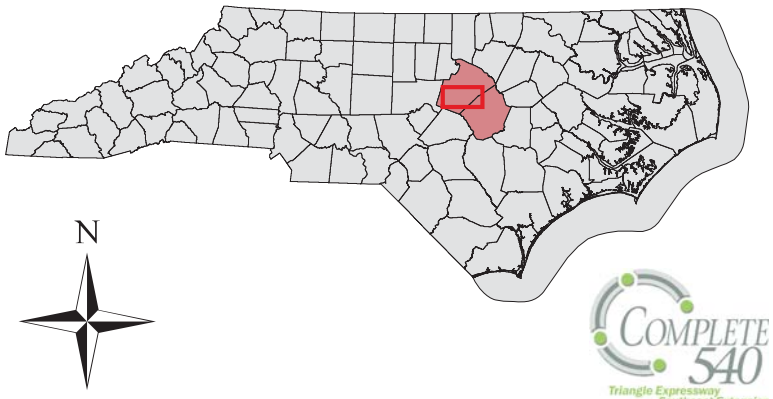
Table 23. Over/Underpass Traffic Forecast

Triangle Expressway Southeast Extension Crossing Locations				Design Factors (%)					No-Build Forecast AADT			Build Forecast AADT	
DSA		Y Line	Crossing Type	DHV	D	D Dir	Duals	TTST	2010	2012	2035	2012	2035
Southern	1-17	Old NC 55 (Main St.)	UP	10	65	SB	4	1	17,300	20,000	33,900	17,100	26,500
		Sunset Lake Road	OP	10	65	SB	2	1	10,200	13,200	23,900	8,500	17,500
		Sunset Lake Road	OP	10	65	SB	2	1	7,900	10,200	22,900	6,800	15,900
		Pierce-Olive Road	OP	10	60	SB	2	1	3,300	3,600	9,400	3,600	9,400
	1-7, 13-17	West Lake Road	OP	10	55	SB	5	1	7,300	8,000	16,800	8,000	16,800
		Rhodes Road	OP	11	60	SB	7	1	1,000	1,100	2,200	1,200	2,200
		Deer Meadow Road	OP	10	60	SB	2	1	1100*	1,100	1,400	1,100	1,400
		Johnson Pond Road	OP	10	65	SB	2	1	2,500	2,800	4,300	2,100	3,100
		Lake Wheeler Road	UP	10	65	SB	2	1	7,000	8,200	14,800	6,500	11,000
	8-12	Optimist Farm Road	OP	10	65	EB	2	1	7,200	9,400	16,500	5,500	11,300
		Johnson Pond Road	OP	10	65	SB	2	1	3,800	3,900	19,200	2,100	11,500
		Hilltop Road	OP	10	65	SB	2	1	4,200	4,800	8,400	3,000	5,100
		Norman Blalock Road	OP	10	65	WB	3	2	1,100	1,100	1,800	1,100	1,800
		Barber Bridge Road	OP	10	65	SB	2	1	700	800	1,300	800	1,300
		Rock Service Station Road	OP	10	65	SB	3	1	2,700	3,300	10,300	2,200	7,100
		Mal Weathers Road	OP	10	65	SB	2	1	800	900	1,500	900	1,500
		Sauls Road	OP	10	65	SB	5	1	1,700	1,900	3,900	1,500	4,200
	6-7	Ten-Ten Road	UP	9	55	EB	3	2	15,000	15,600	20,500	10,300	14,700
		Buffaloe Road	OP	11	65	EB	3	1	3,200	3,300	7,500	3,200	5,900
		Thompson Road	OP	10	65	SB	2	1	1,300	1,300	1,700	1,300	1,700
		Aversboro Road	OP	10	60	SB	3	1	7,300	8,100	13,200	8,300	14,000
		Bryan Road	OP	10	65	SB	2	1	1,000	1,100	1,800	1,100	1,800
		White Oak Road	OP	12	65	SB	2	1	10,400	12,100	27,700	11,300	25,800
	1-5, 13-17	Old McCullers Road	UP	10	65	SB	2	1	1100**	1,200	1,900	1,200	1,900
		Fanny Brown Road	OP	10	65	SB	2	1	4,700	4,900	7,500	3,900	7,500
		Holland Church Road	OP	10	70	SB	6	1	3,300	3,500	6,500	3,500	6,500
		Sauls Road	OP	10	65	SB	5	1	3,400	3,600	6,800	3,800	9,200
	1-5, 8-17	Jordan Road	OP	10	65	SB	2	1	2,000	2,200	4,800	2,200	4,800
	8-17	New Bethel Church Road	OP	10	65	EB	2	1	400	500	900	300	600
Eastern	6-7	Waterfield Dr	UP	10	65	EB	3	1	3,000	3,300	6,500	3,500	6,500
		Raynor Road	UP	12	65	SB	2	1	5,900	7,200	12,300	6,500	11,400
	1-2, 5-9, 12-14, 17	E. Garner Road	UP	16	75	EB	2	1	3,100	3,700	21,800	3,200	19,900
	3-4,10-11,15-16	Guy Road	OP	8	55	SB	2	1	7,500	8,700	17,200	9,500	19,000
		E. Garner Road	UP	15	75	EB	3	1	6,400	6,000	19,400	6,000	20,400
	1-17	Battle Bridge Road	OP	15	55	EB	12	4	1,100	1,500	3,900	1,400	4,800

"OP" – overpass; "UP" – underpass
* 2010 No-Build AADT for Deer Meadow Road determined using ITE Trip Generation rates. The 2010 No-Build AADT forecast was then grown at model rates
** Old McCullers Rd AADT (near the underpass location) calculated as 25% of Old McCullers Rd forecasted AADT at intersection with US 401.

Appendix A – Figures





Detailed Study Alternative Corridors

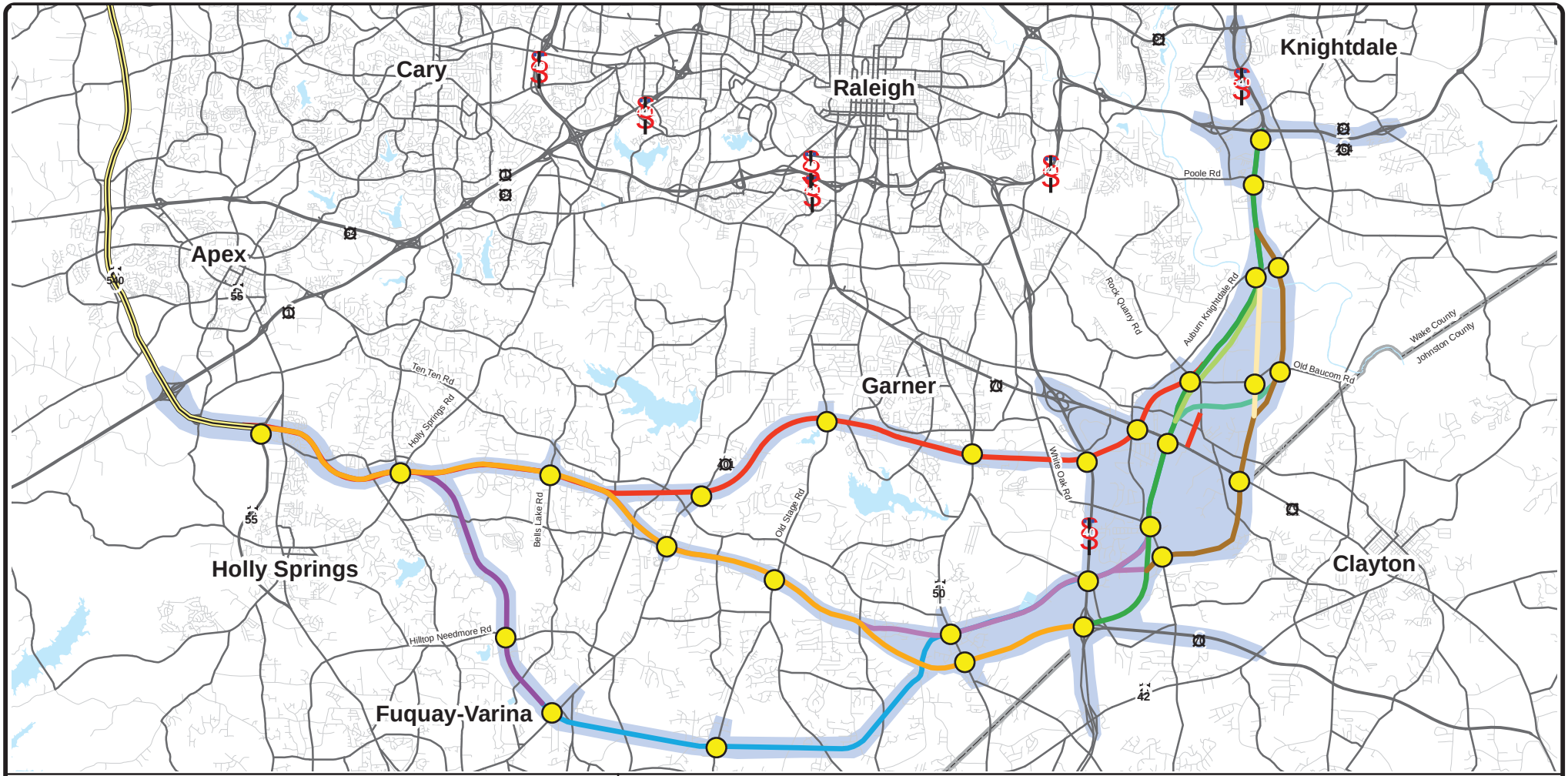
Legend

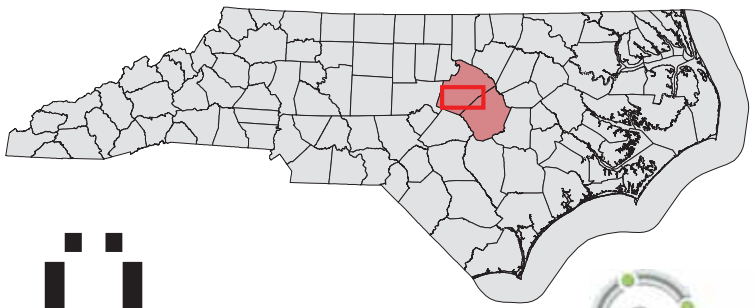
- Interchanges
- Triangle Expressway
- Major Roads
- Counties

DSA Corridors

- Orange
- Green
- Mint
- Brown
- Tan
- Teal
- Lilac
- Red
- Blue
- Purple

STIP: R-2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 1**





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COMPLETE 540

Traffic Forecast Study Area

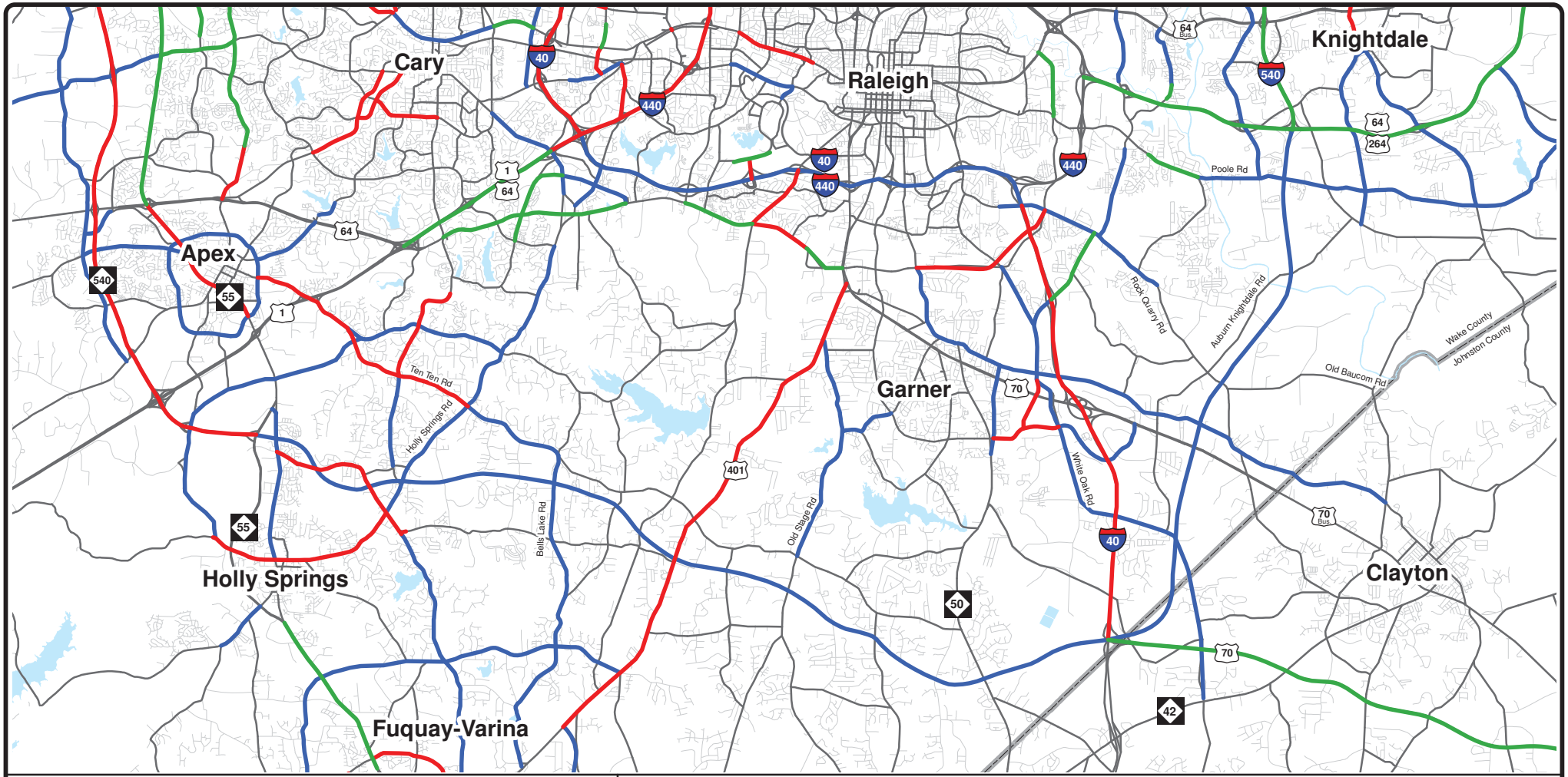
Legend

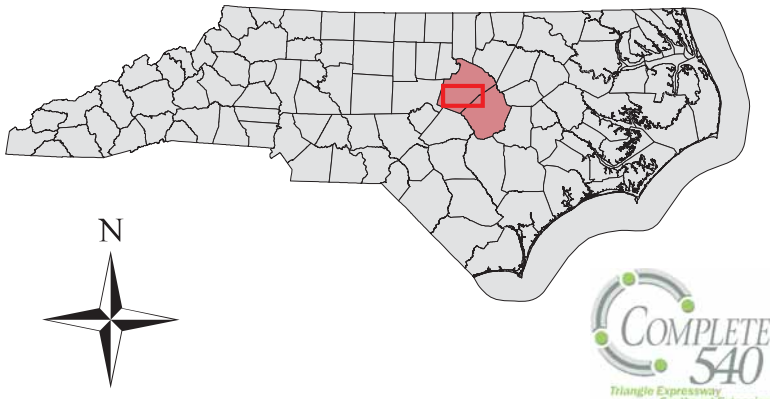
- Triangle Expressway
- Major Roads
- Study Area
- Counties
- Interchanges

DSA Corridors

- Orange
- Green
- Mint
- Brown
- Tan
- Teal
- Lilac
- Red
- Blue
- Purple

STIP: R-2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 2**



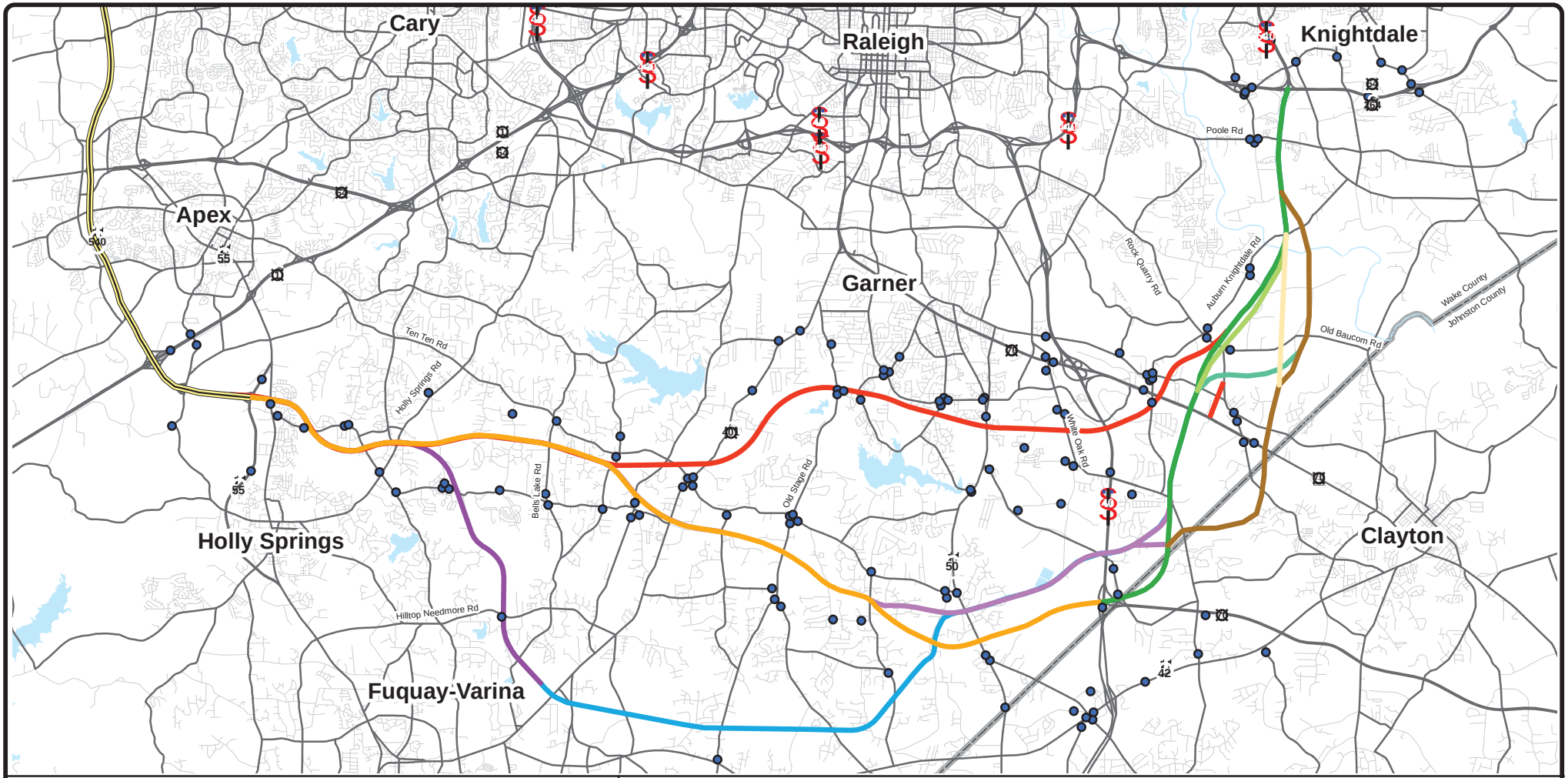


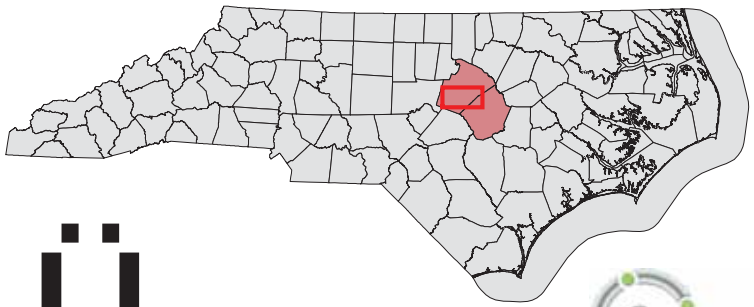
Study Area Long Range Transportation Plan Projects

Legend

- 2010 LRTP Projects
- 2020 LRTP Projects
- 2030 LRTP Projects
- Major Roads
- Counties

STIP: R-2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 3**





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COMPLETE 540

NCDOT Historic AADT Count Locations

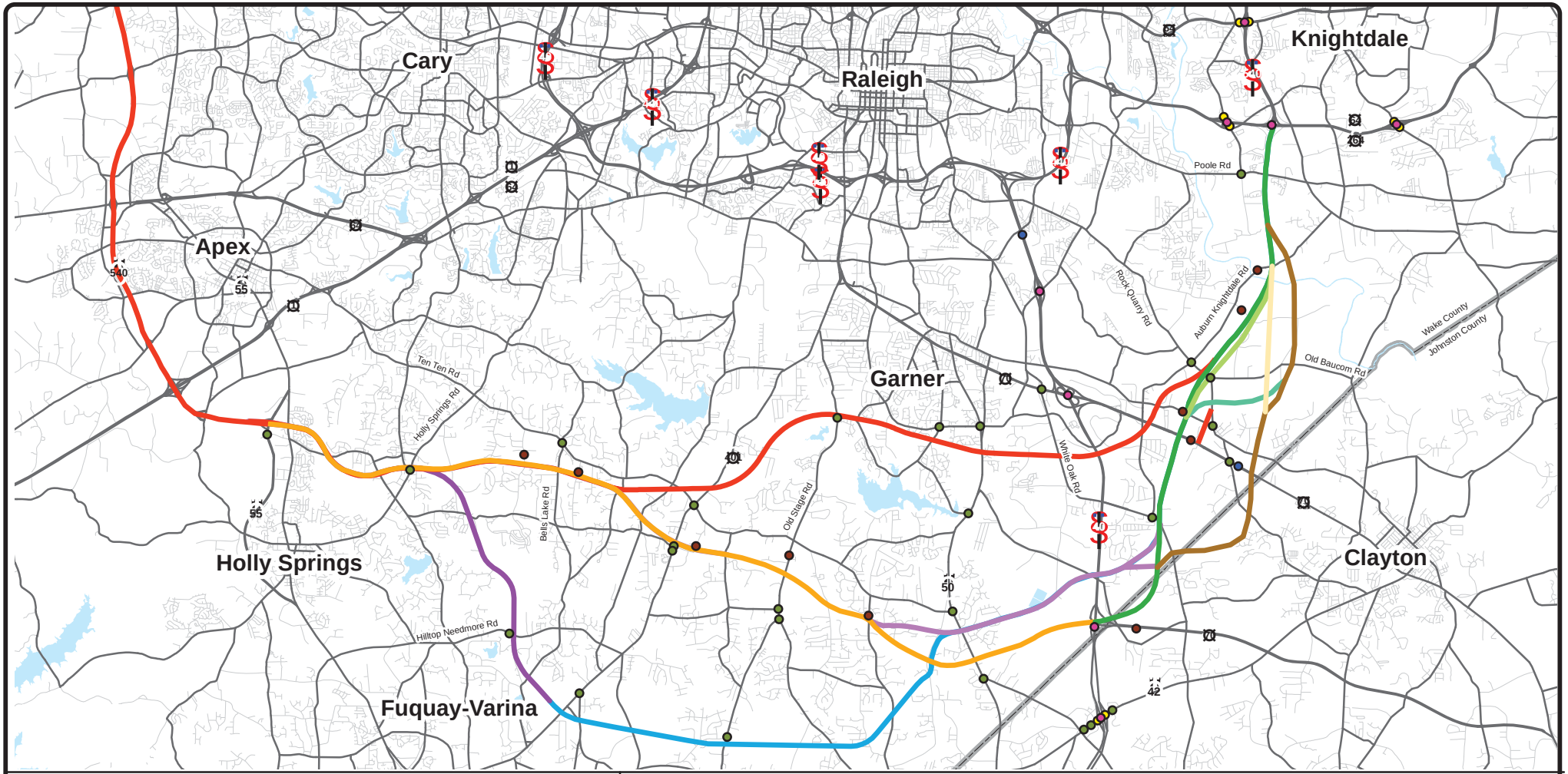
Legend

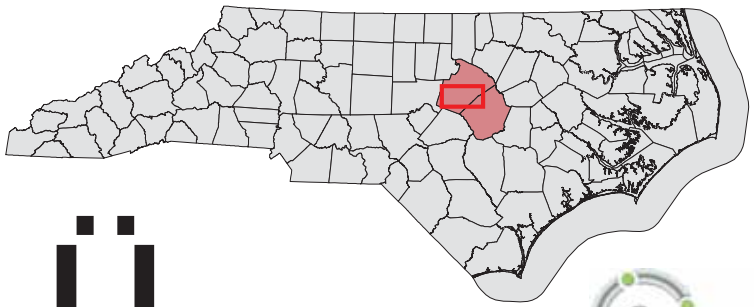
- Study Area AADT Locations
- Major Roads
- Counties
- Triangle Expressway

DSA Corridors

- Orange
- Green
- Mint
- Brown
- Tan
- Teal
- Lilac
- Red
- Blue
- Purple

STIP: R-2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 4**





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COMPLETE 540
Triangle Expressway Southeast Extension

Study Area Traffic Count Locations

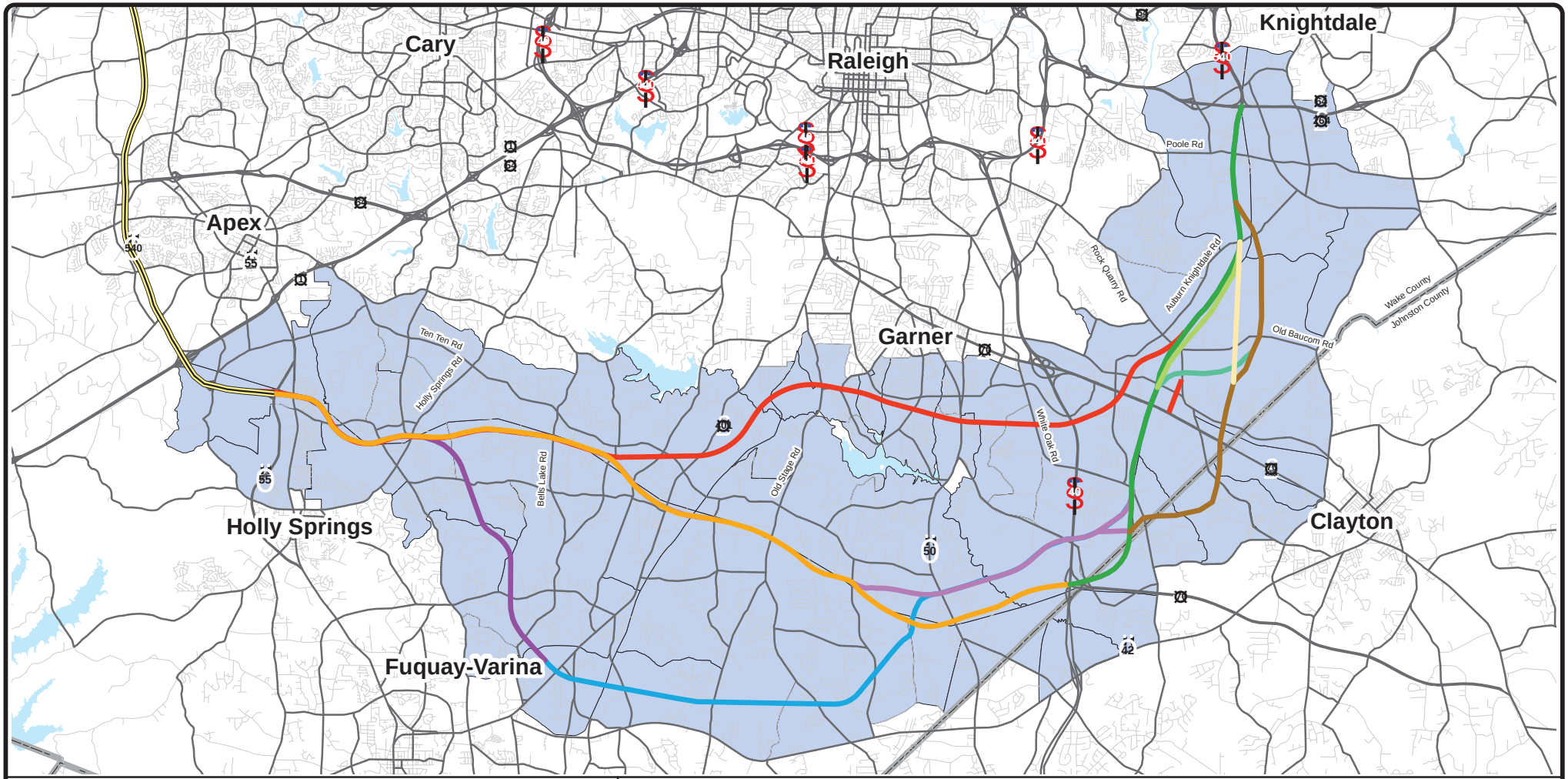
Legend

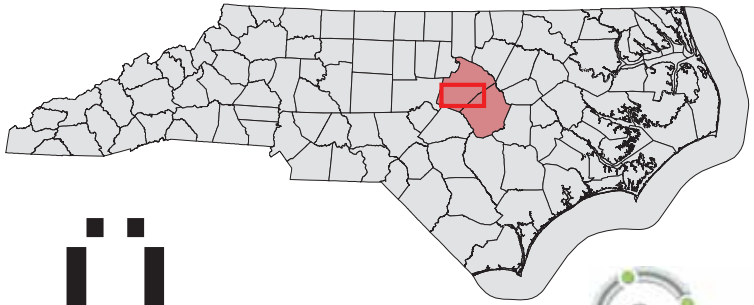
- Freeway Ramp Counts
- ATR Count Locations
- Peak Hour Count Locations
- 48 Hour Count Locations
- 16 Hour Count Locations

DSA Corridors

- Orange
- Green
- Mint
- Brown
- Tan
- Teal
- Lilac
- Red
- Blue
- Purple

STIP: R-2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 5**





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Study Area Traffic Analysis Zones

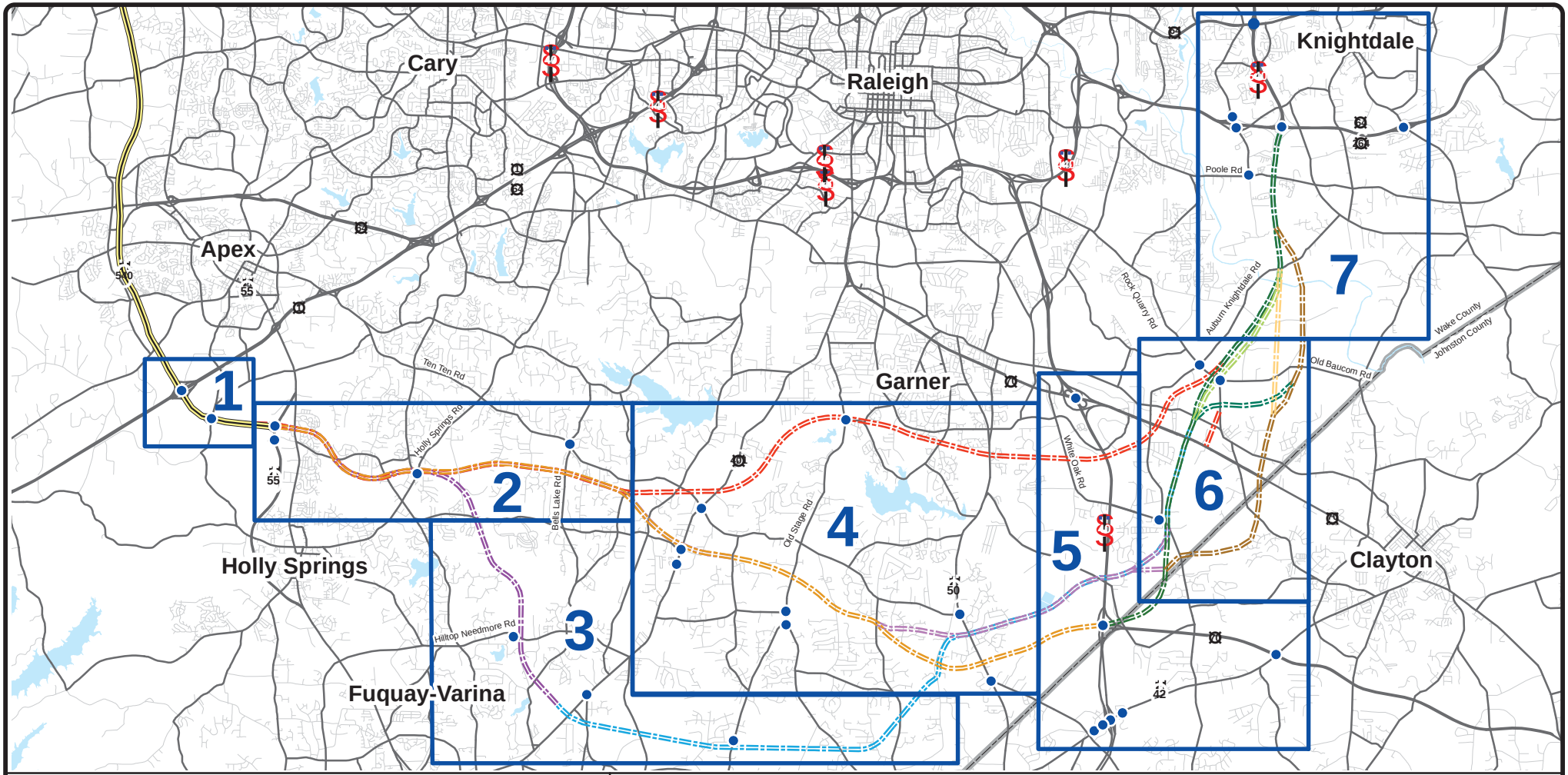
Legend

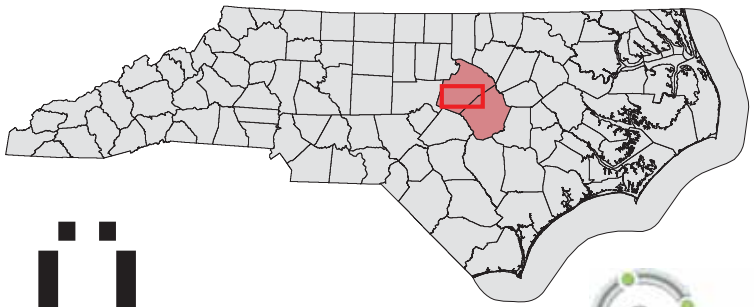
- Triangle Expressway
- Major Roads
- Counties
- TRM DSA TAZs

DSA Corridors

- Orange
- Green
- Mint
- Brown
- Tan
- Teal
- Lilac
- Red
- Blue
- Purple

STIP: R-2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 6**





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No Build Traffic Forecast Figures Sheet Key

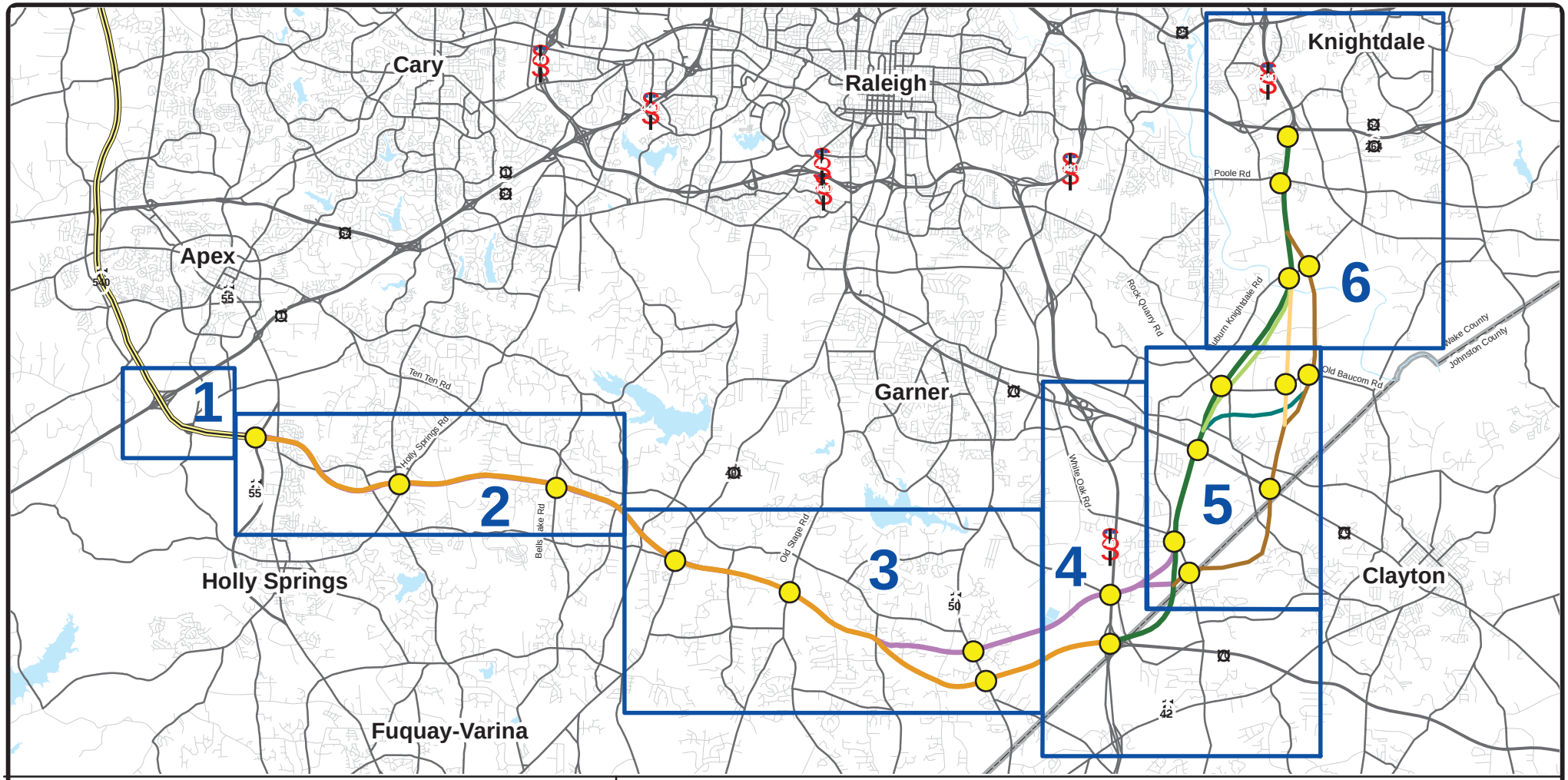
Legend

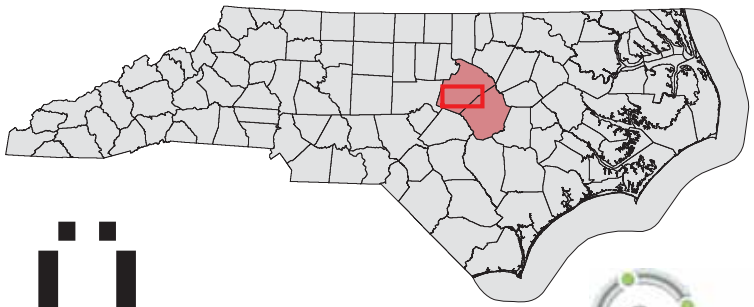
- Forecasted Intersections
- Triangle Expressway
- Major Roads
- Counties

DSA Corridors

- Orange
- Green
- Mint
- Brown
- Tan
- Teal
- Lilac
- Red
- Blue
- Purple

STIP: R-2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 7**





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DSA 1-5, 13-17 Traffic Forecast Figures Sheet Key

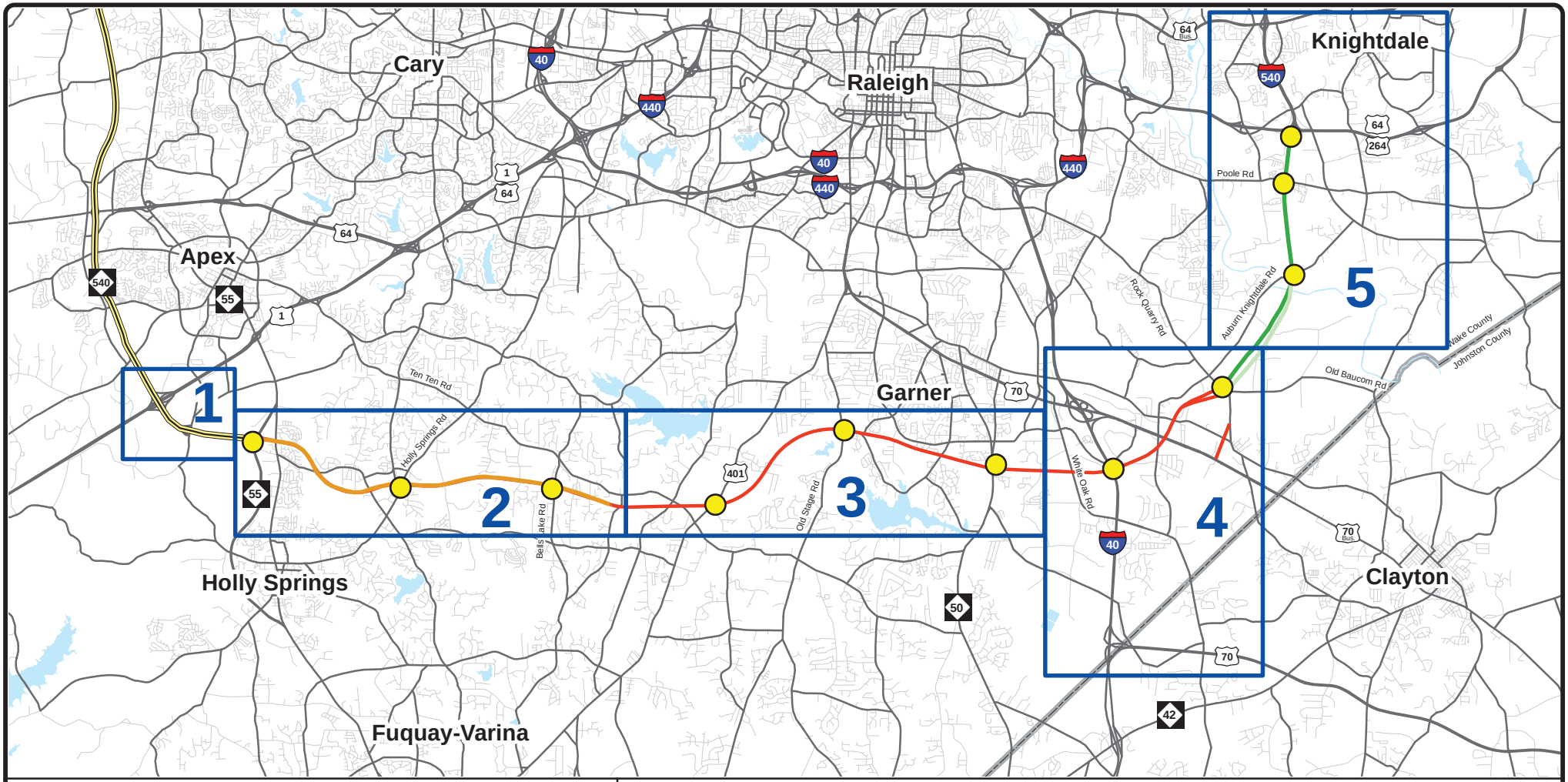
Legend

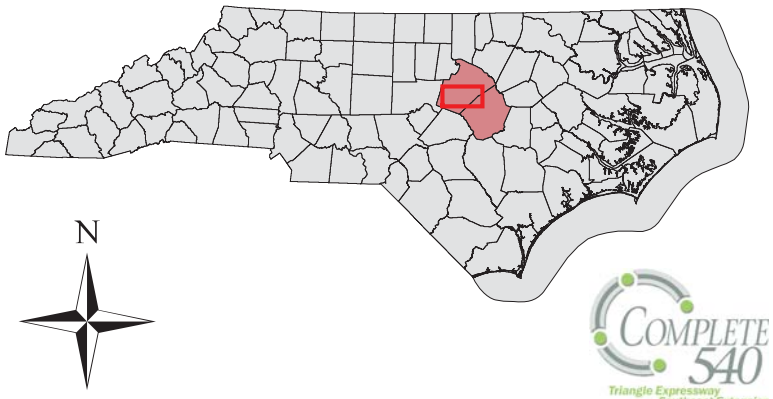
- Interchanges
- Triangle Expressway
- Major Roads
- Counties

DSA Corridors

- Orange
- Green
- Mint
- Brown
- Tan
- Teal
- Lilac

STIP: R-2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 8**



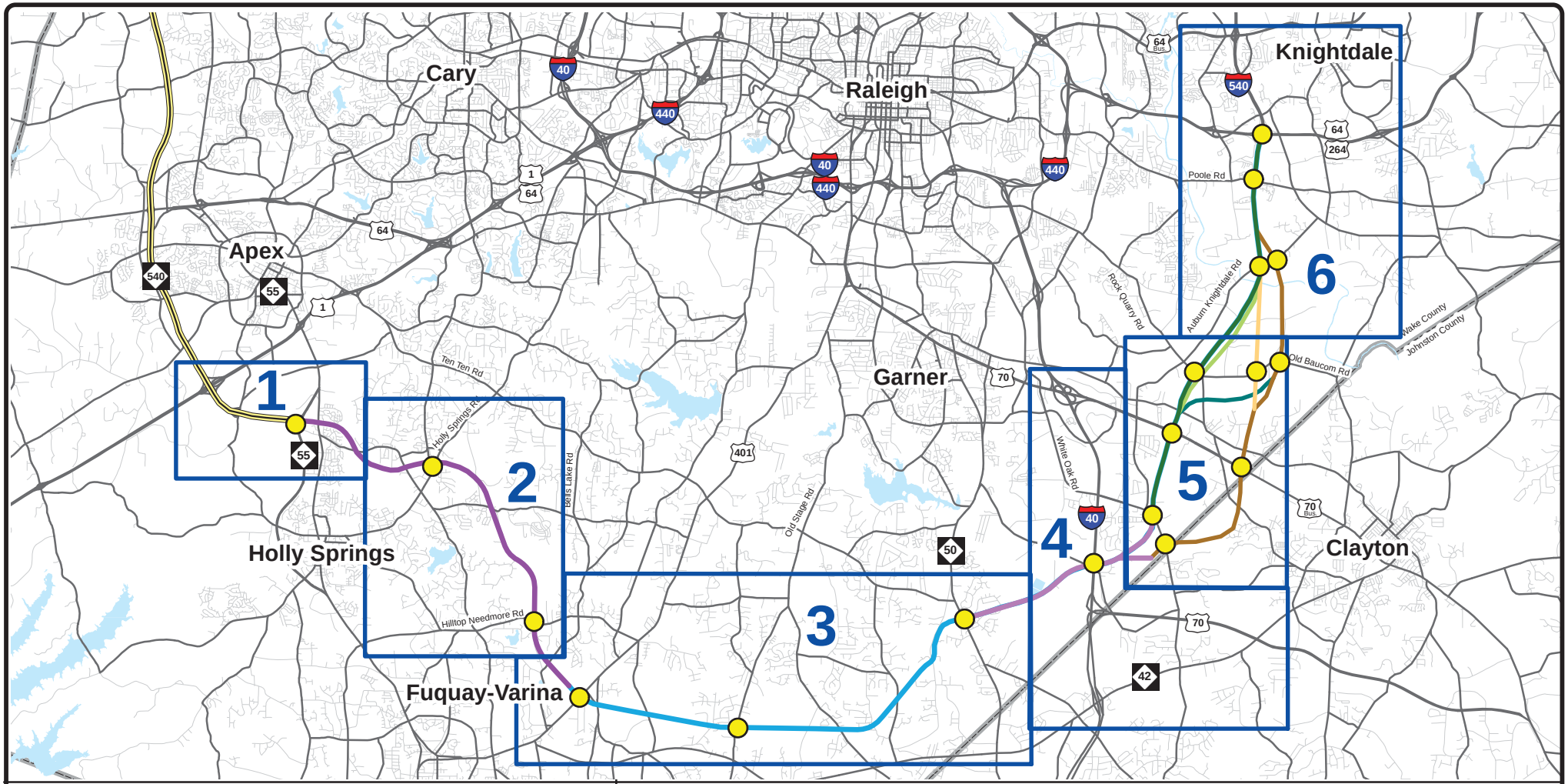


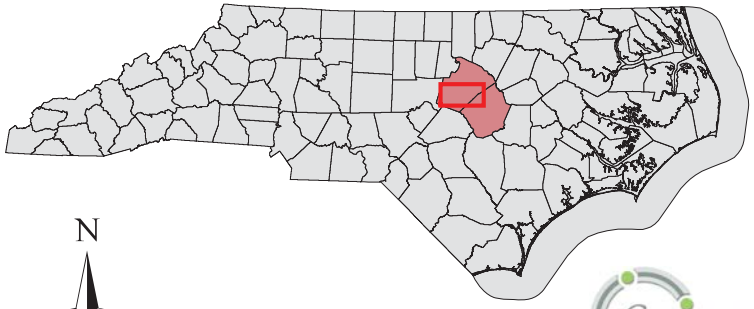
DSA 6-7 Traffic Forecast Figures Sheet Key

Legend

- Interchanges
- Triangle Expressway
- Major Roads
- Counties
- Orange Corridor
- Red Corridor
- Green Corridor
- Mint Corridor

STIP: R-2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 9**





DSA 8-12 Traffic Forecast Figures Sheet Key

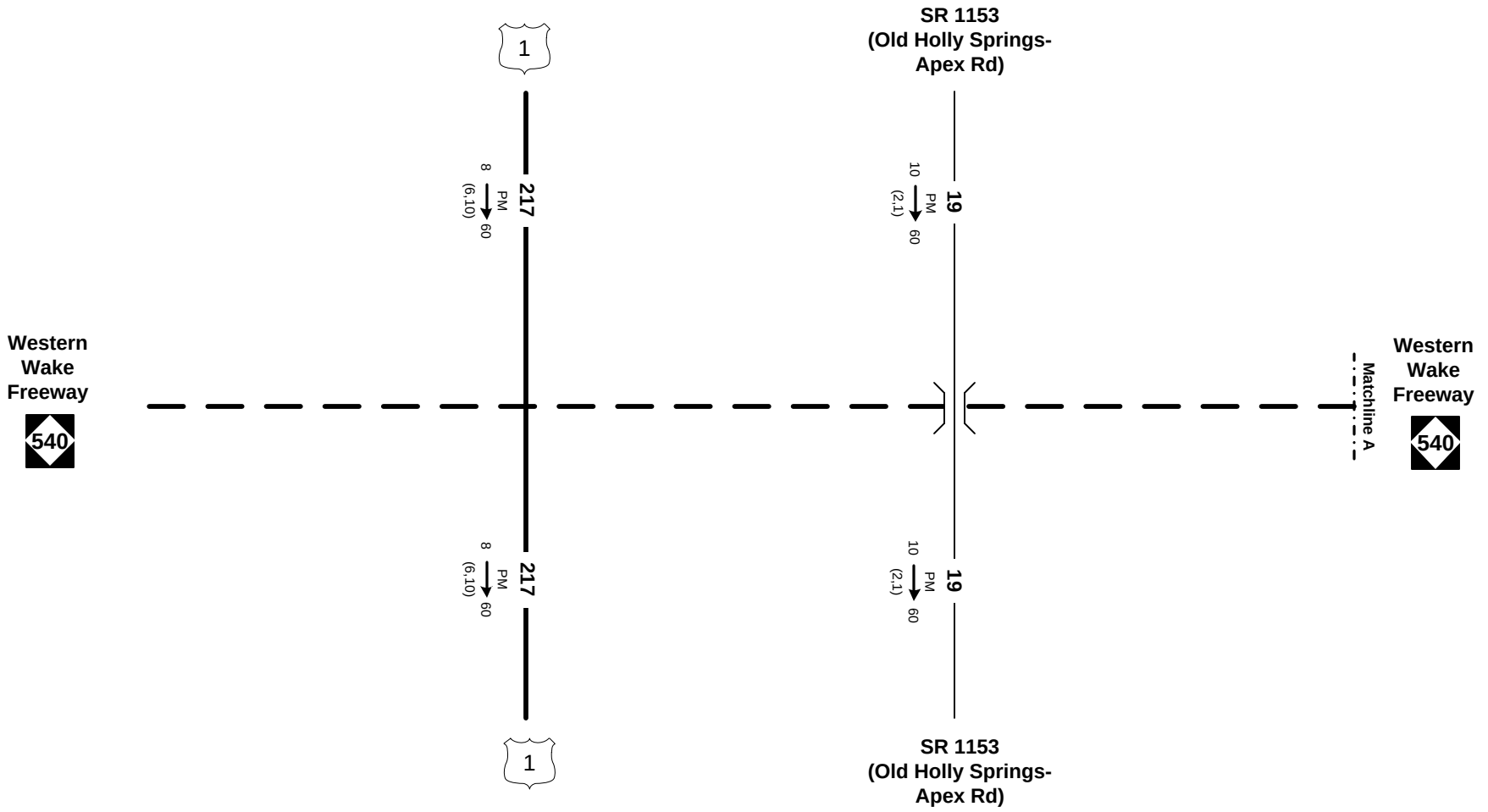
Legend

- Interchanges
- Triangle Expressway
- Major Roads
- Counties

DSA Corridor

- Green Corridor
- Lilac Corridor
- Mint Corridor
- Blue Corridor
- Brown Corridor
- Purple Corridor
- Tan Corridor
- Teal Corridor

STIP: R-2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 10**



2010 AVERAGE ANNUAL DAILY TRAFFIC

No-Build

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
→ = Indicates Direction of D
(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements

N
NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

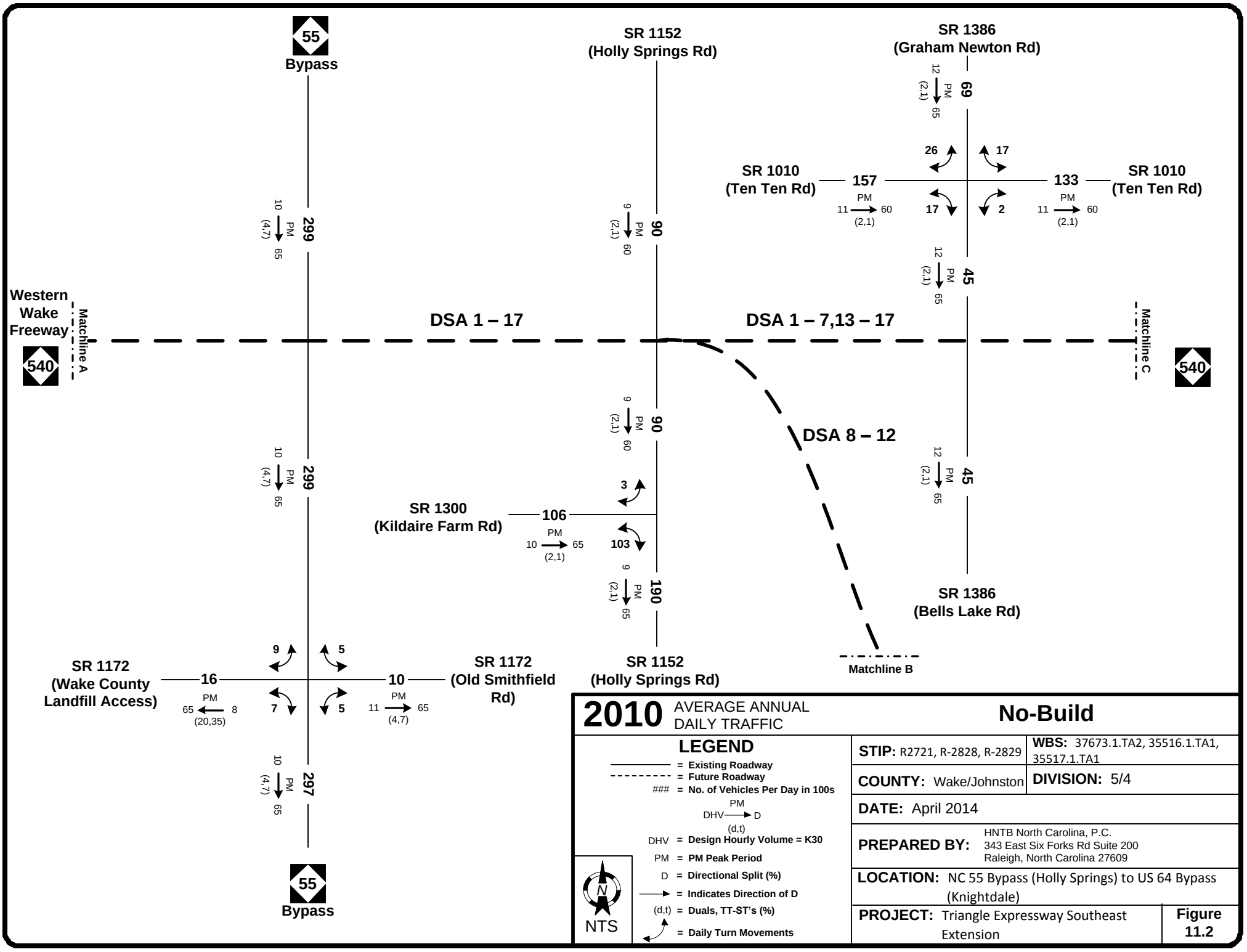
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

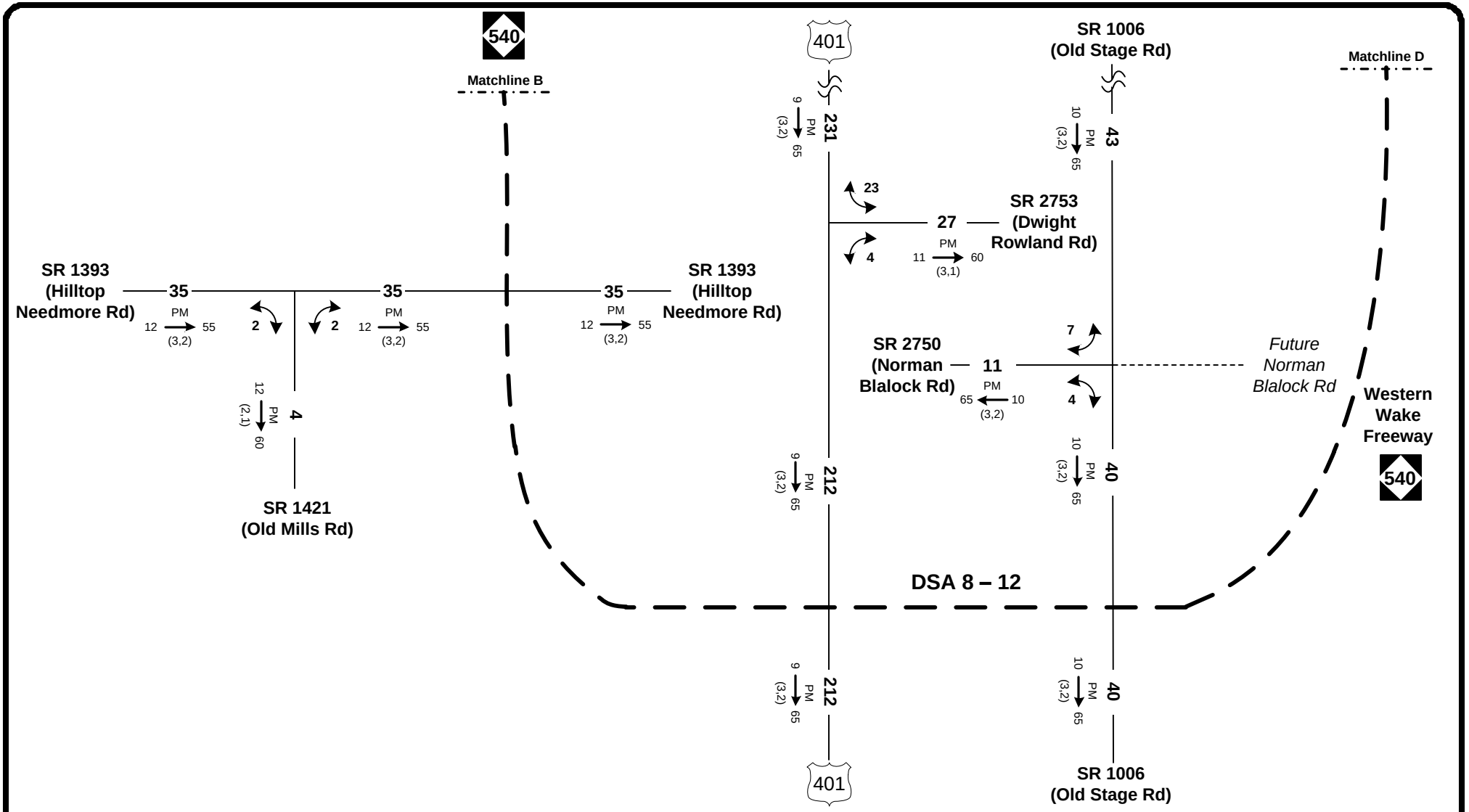
Figure 11.1



2010 AVERAGE ANNUAL DAILY TRAFFIC

No-Build

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 11.2**



2010 AVERAGE ANNUAL DAILY TRAFFIC

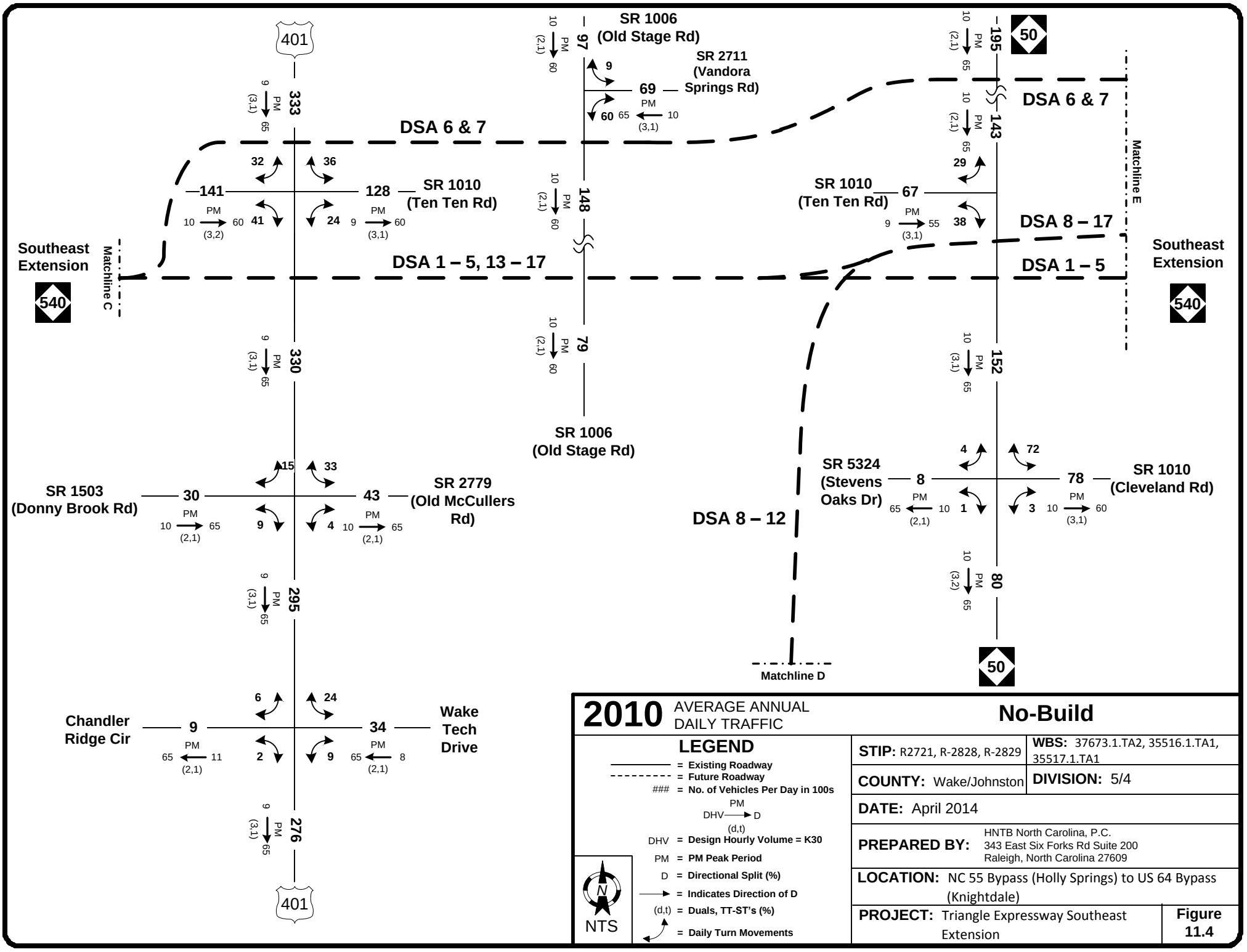
No-Build

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM / DHV → D / (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 11.3**



2010 AVERAGE ANNUAL DAILY TRAFFIC

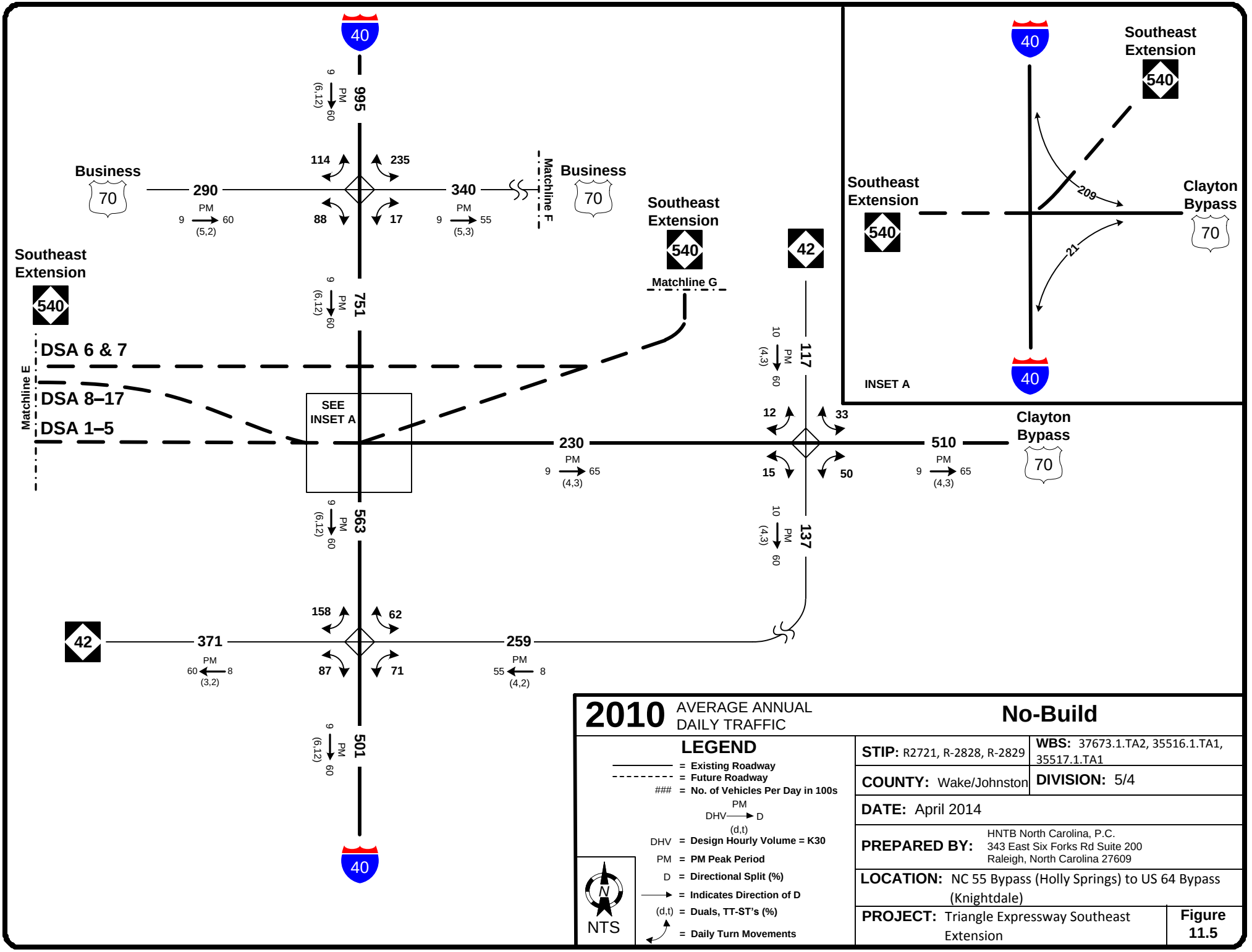
No-Build

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM / DHV → D / (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 11.4**



2010 AVERAGE ANNUAL DAILY TRAFFIC

No-Build

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
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- (d,t) = Duals, TT-ST's (%)
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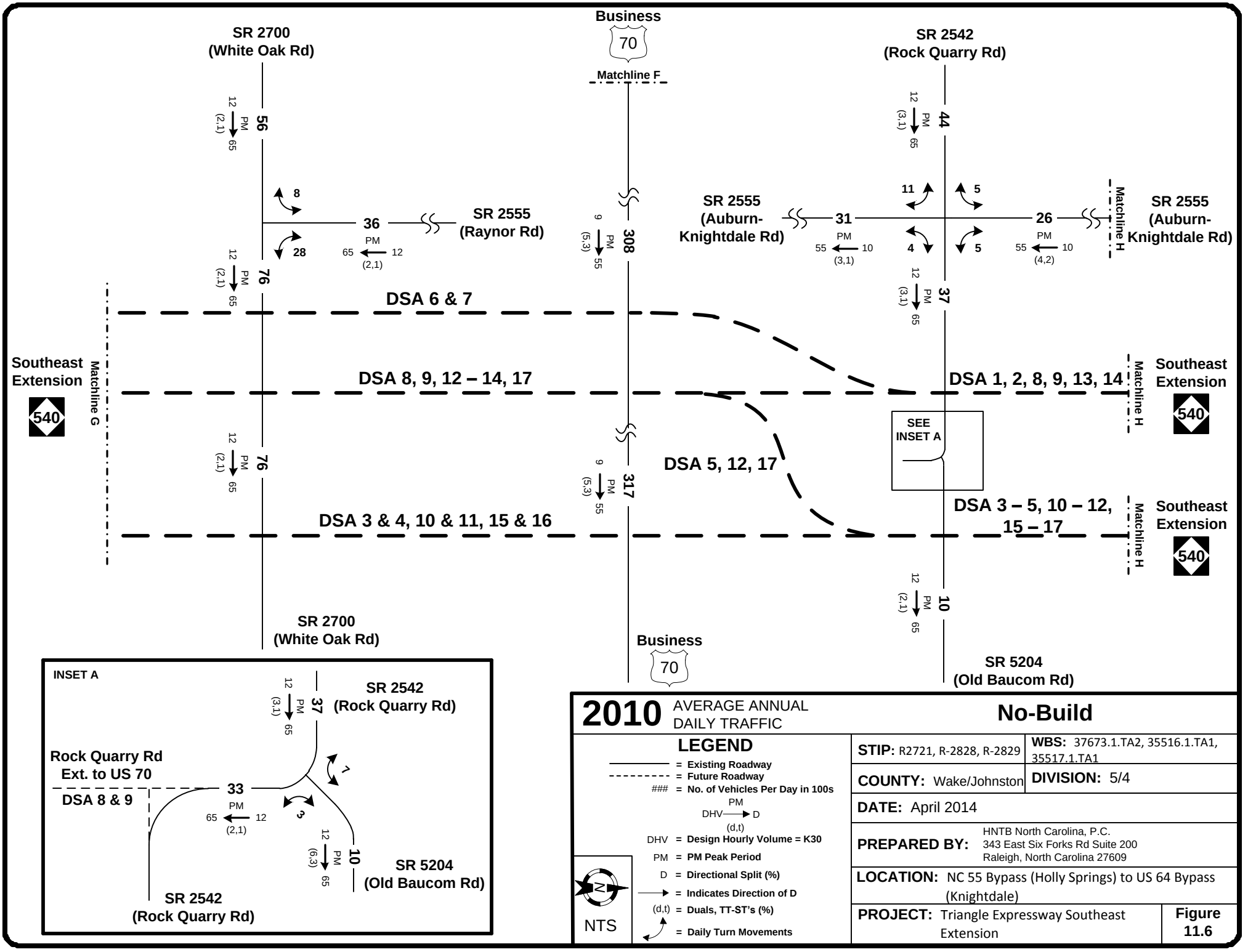
N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 11.5**



2010 AVERAGE ANNUAL DAILY TRAFFIC

No-Build

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
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NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

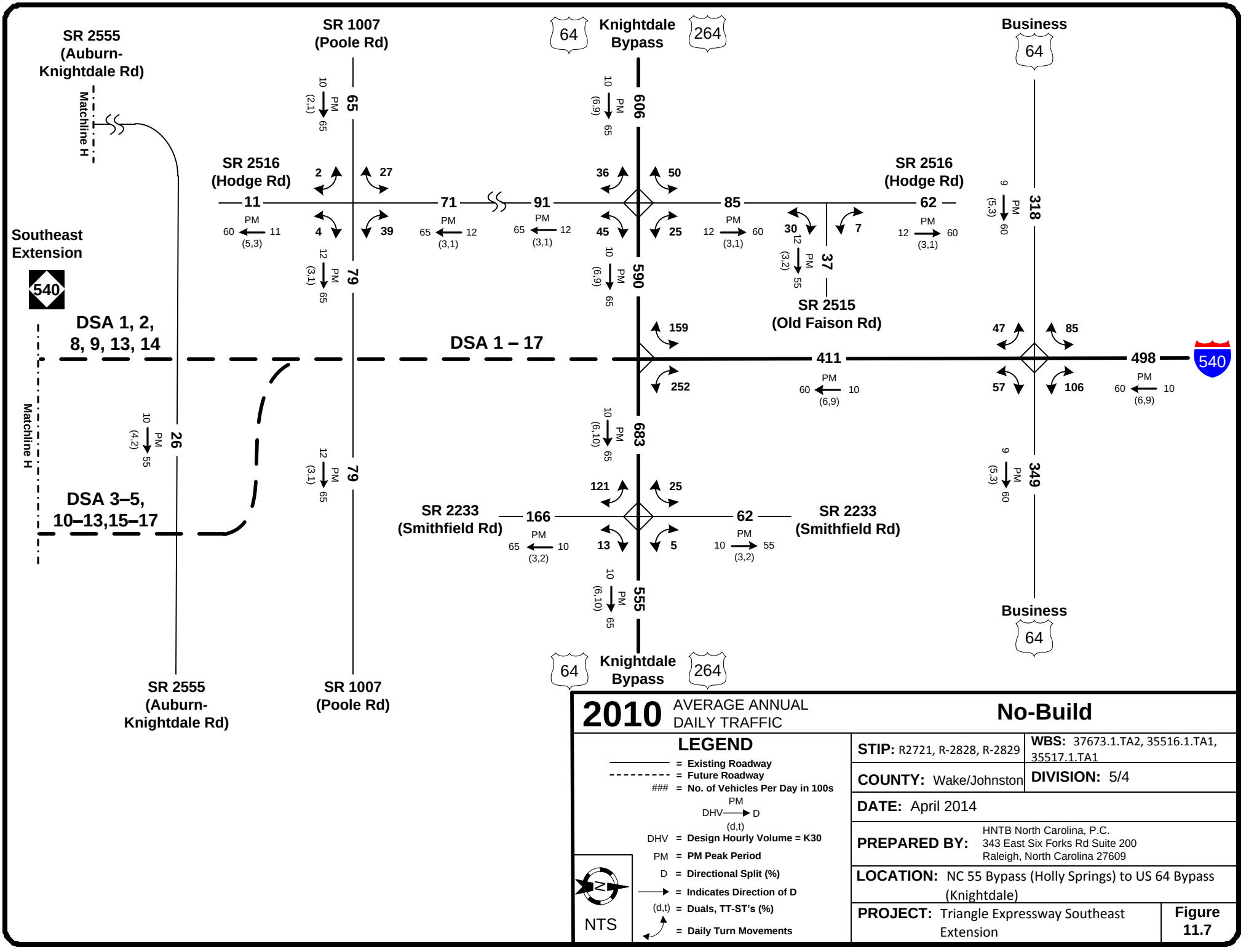
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 11.6



2010 AVERAGE ANNUAL DAILY TRAFFIC

No-Build

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= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
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DHV → D
(d,t)
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NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

DATE: April 2014

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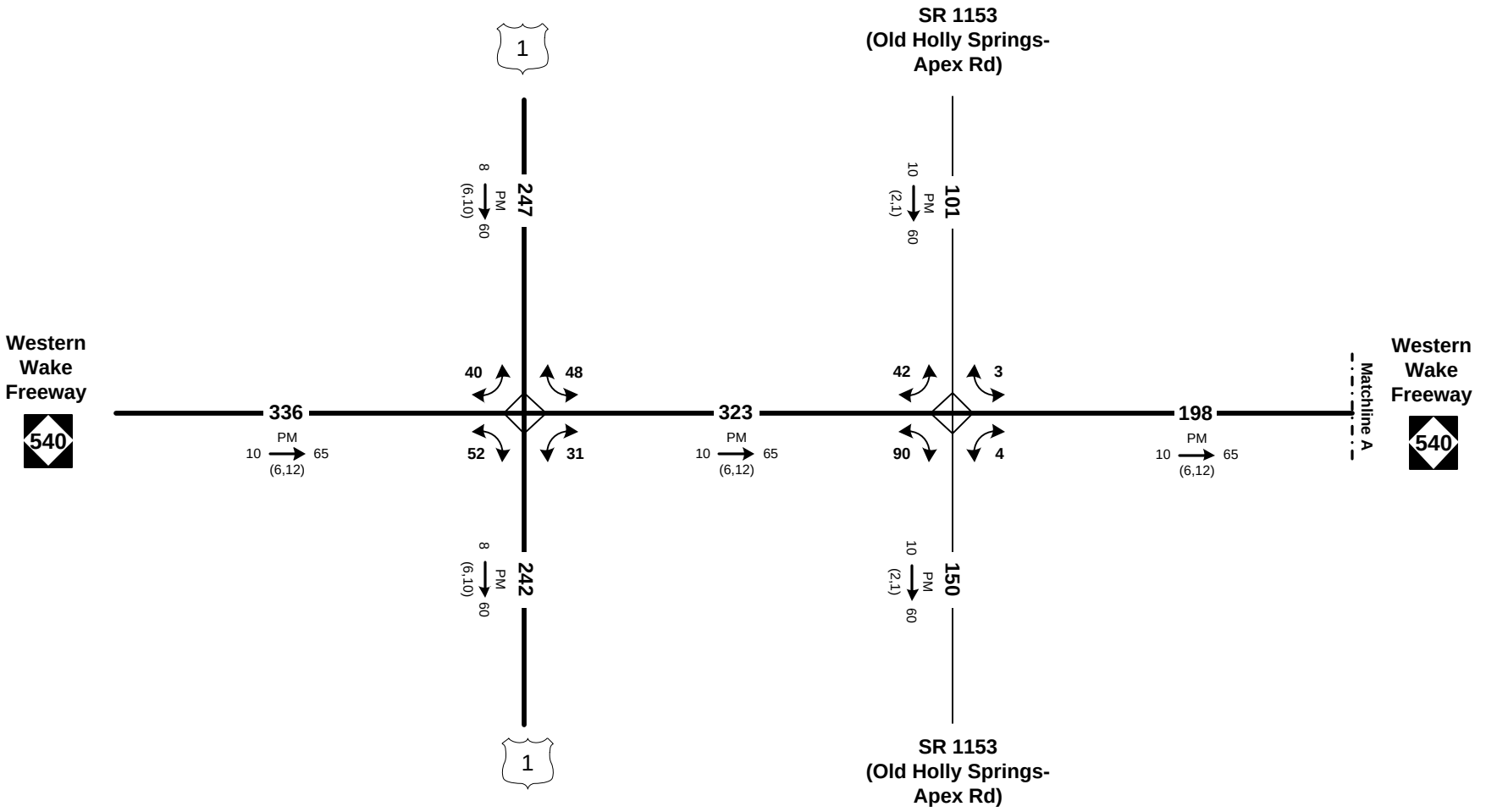
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 11.7



2012 AVERAGE ANNUAL DAILY TRAFFIC

No-Build

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NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
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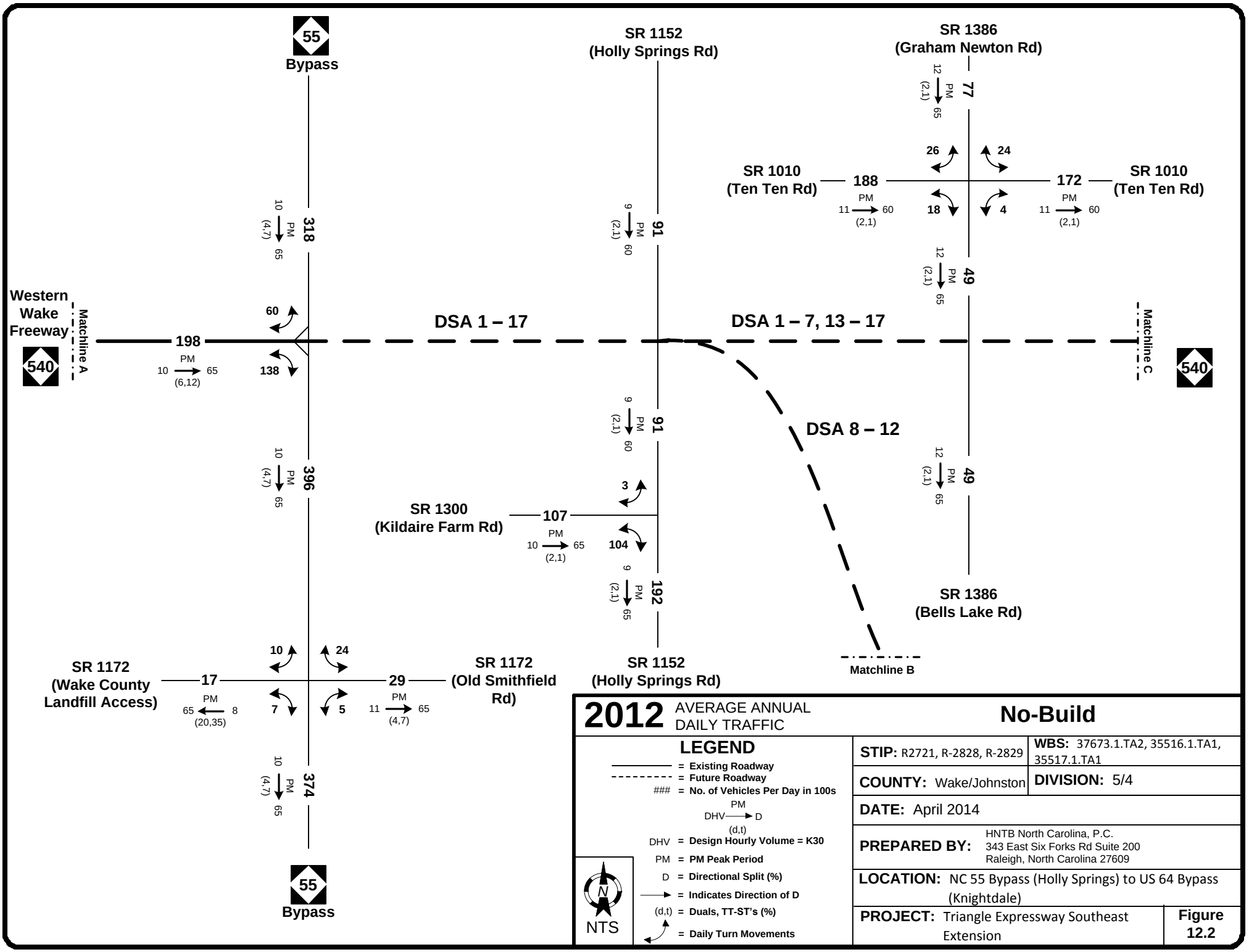
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 12.1**



2012 AVERAGE ANNUAL DAILY TRAFFIC

No-Build

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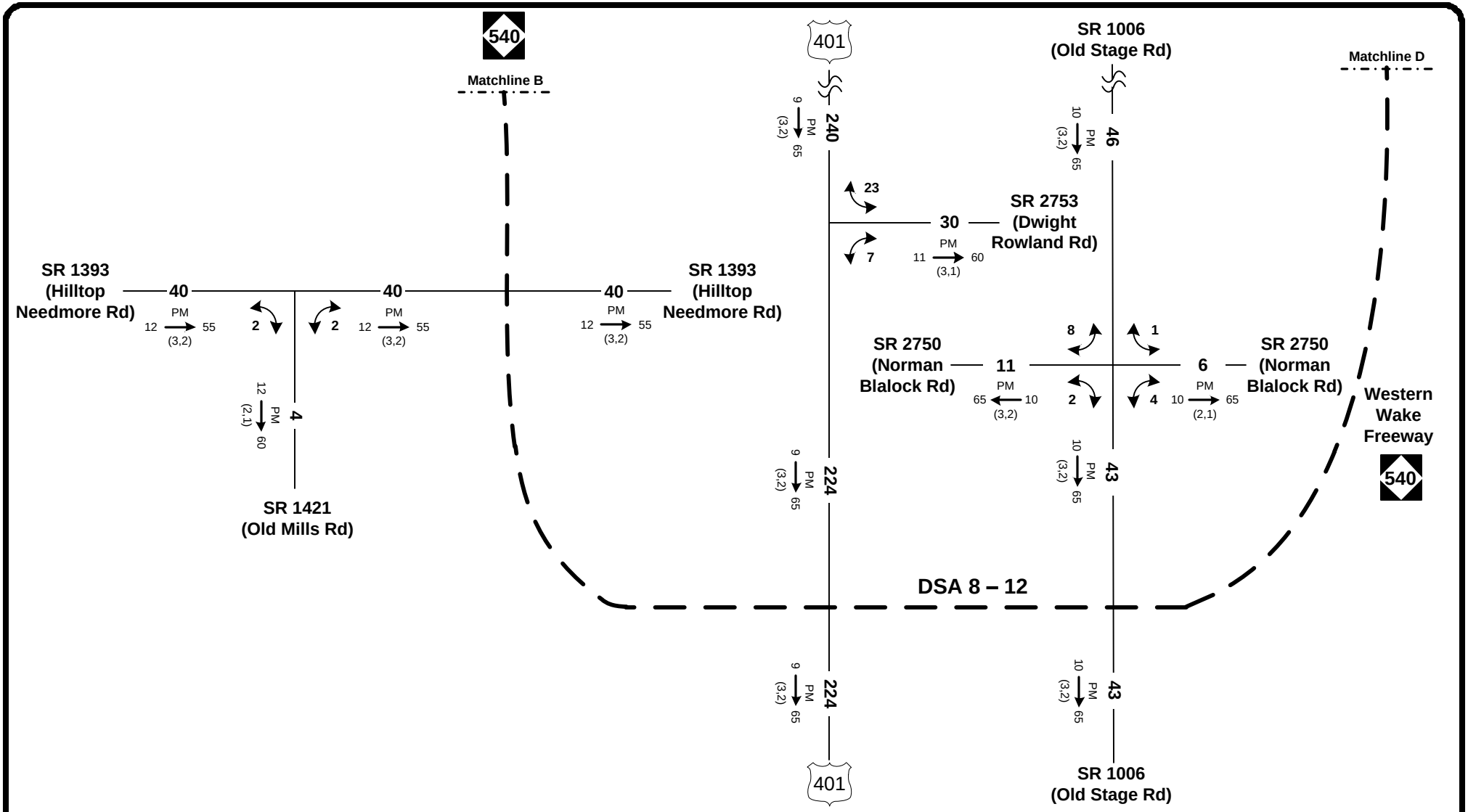
NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 12.2**



2012 AVERAGE ANNUAL DAILY TRAFFIC

No-Build

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NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

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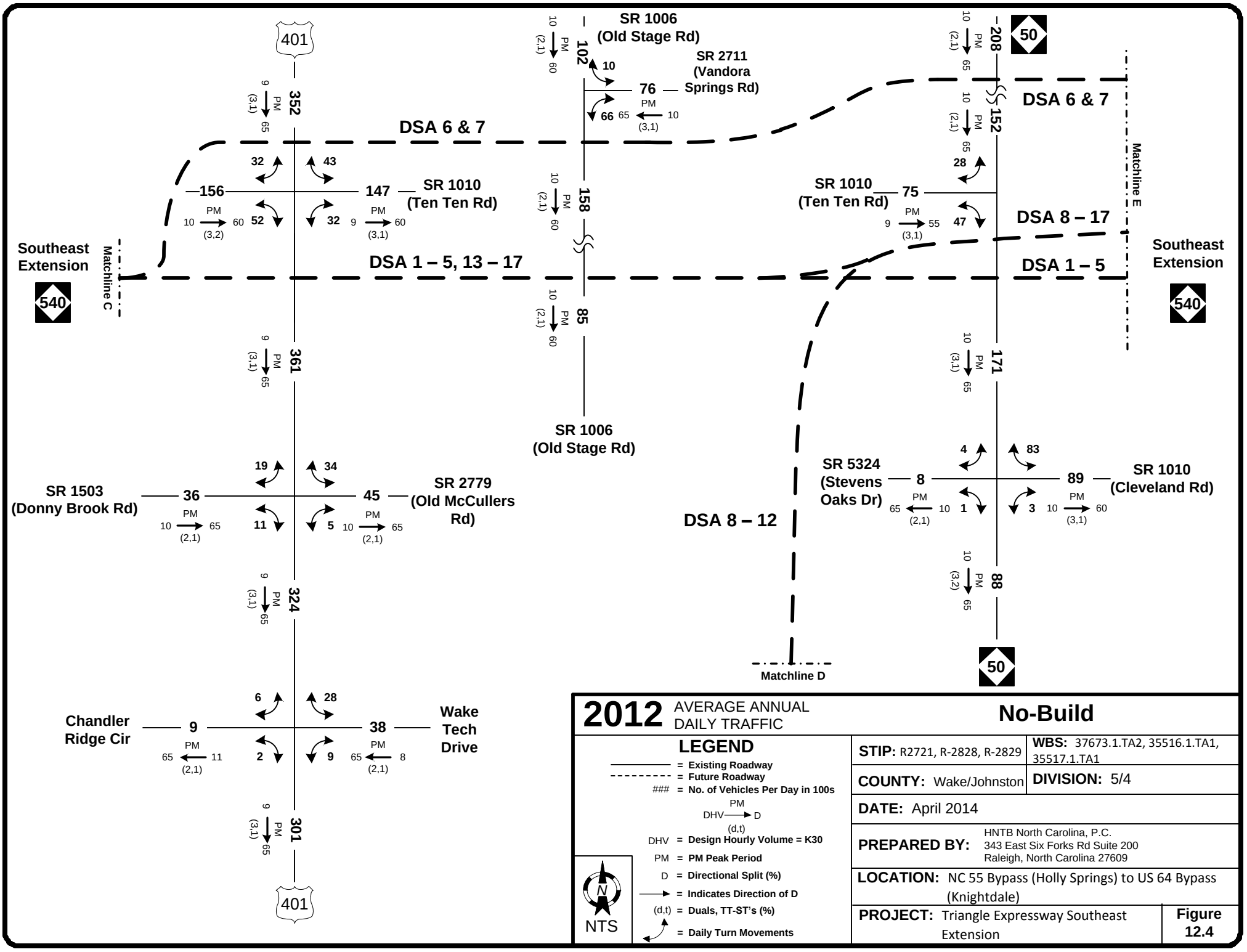
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 12.3



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COUNTY: Wake/Johnston	**DIVISION:** 5/4
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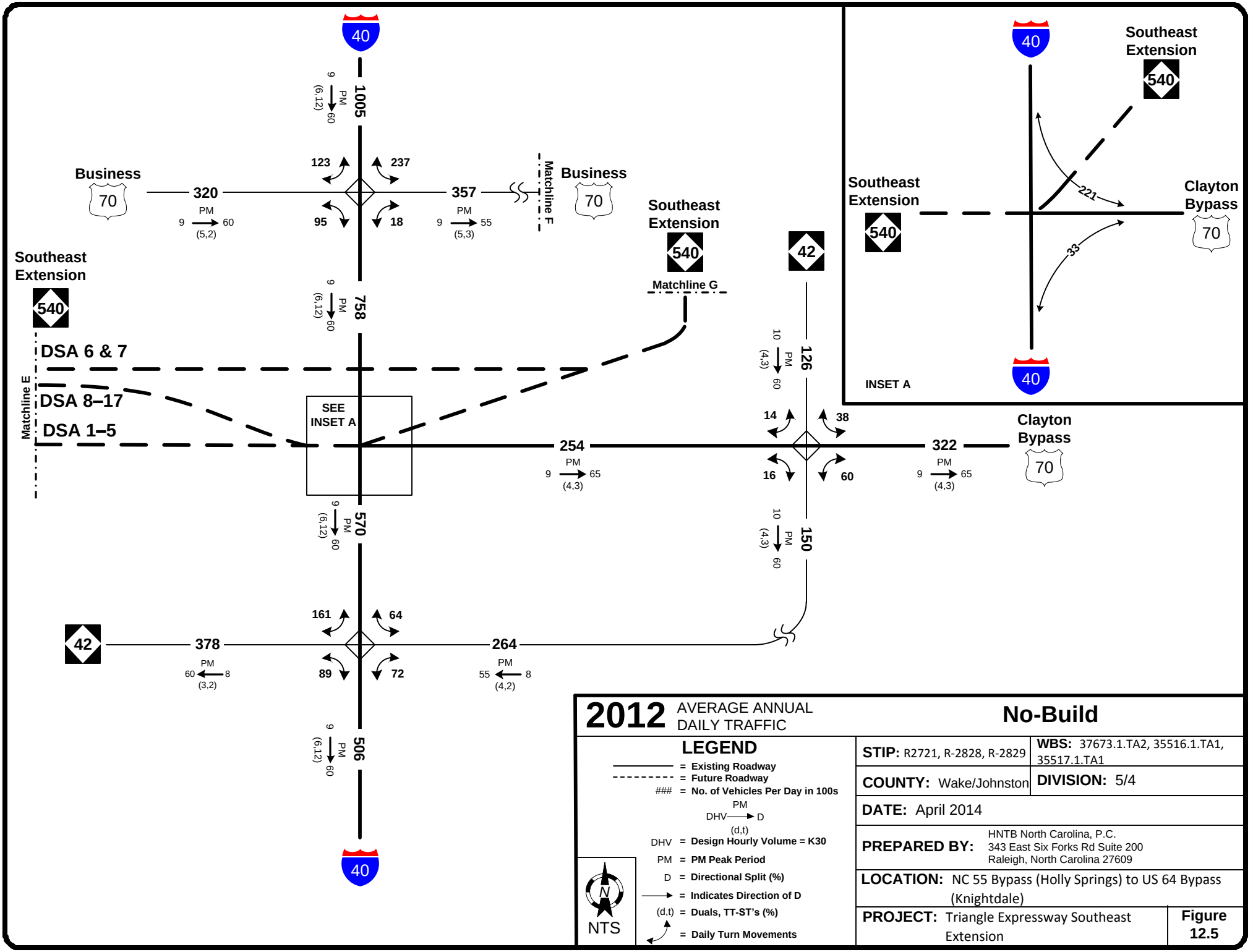
PROJECT: Triangle Expressway Southeast Extension	**Figure 12.4**



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NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
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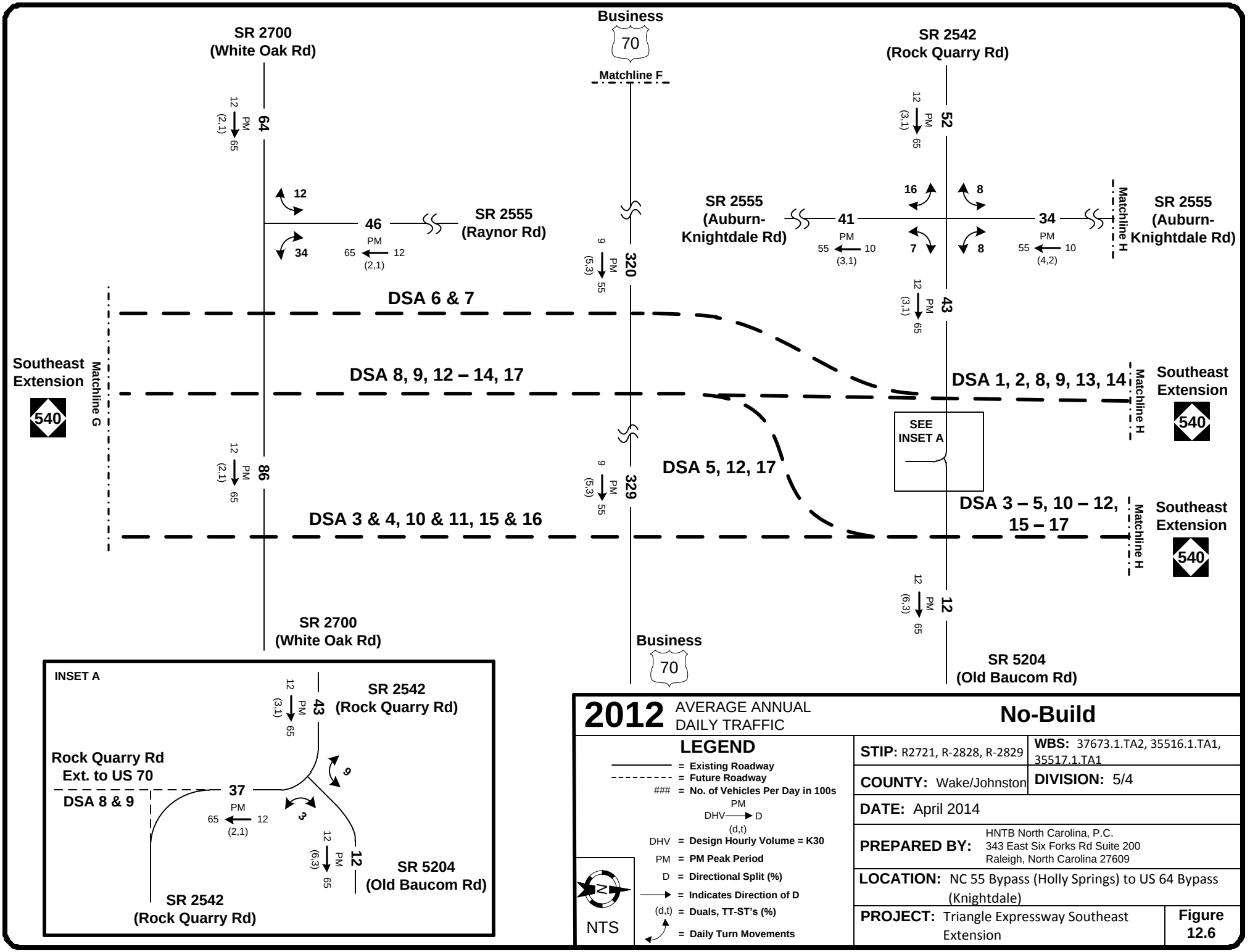
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 12.5**



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No-Build

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NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
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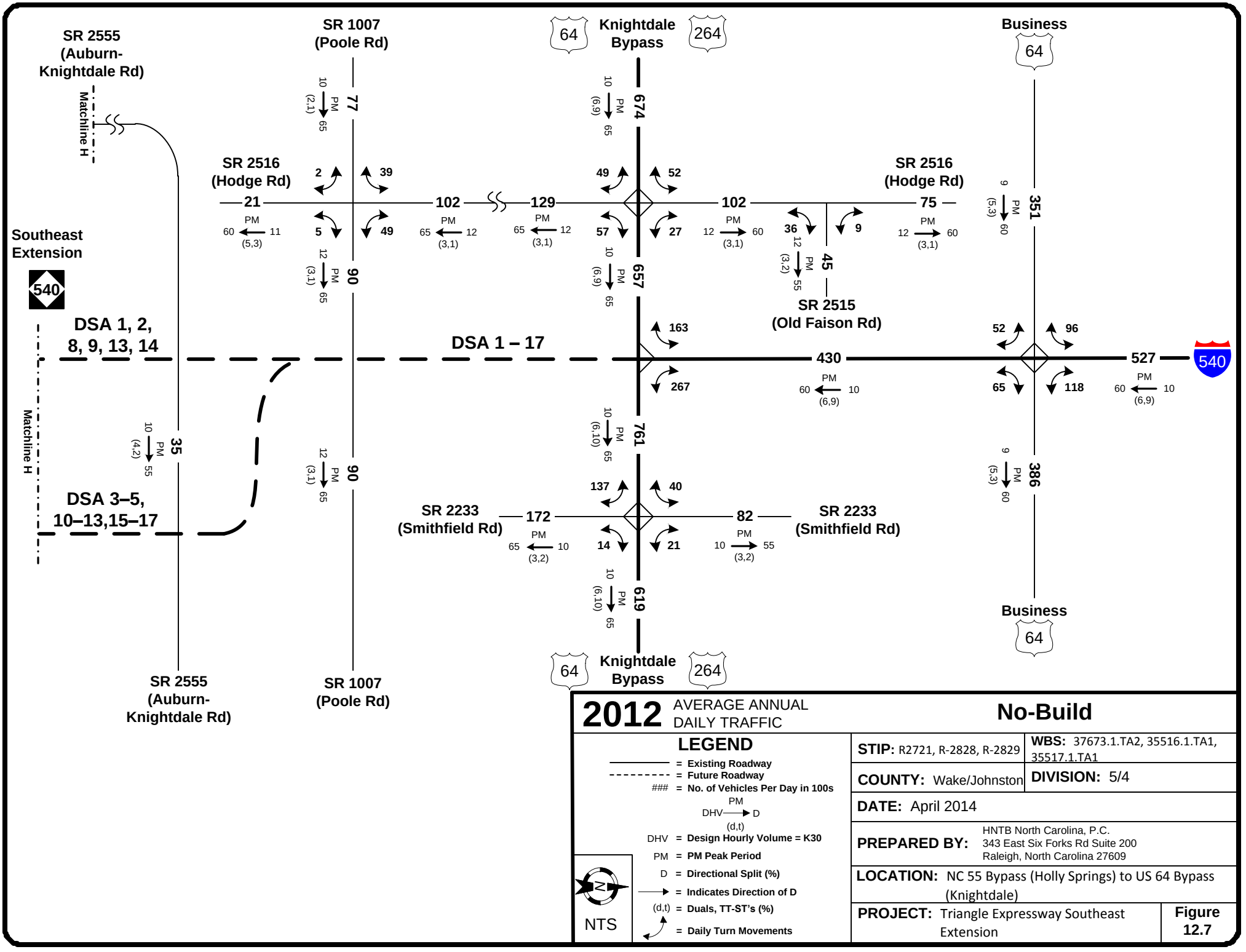
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 12.6**



2012 AVERAGE ANNUAL DAILY TRAFFIC

No-Build

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NTS

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COUNTY: Wake/Johnston

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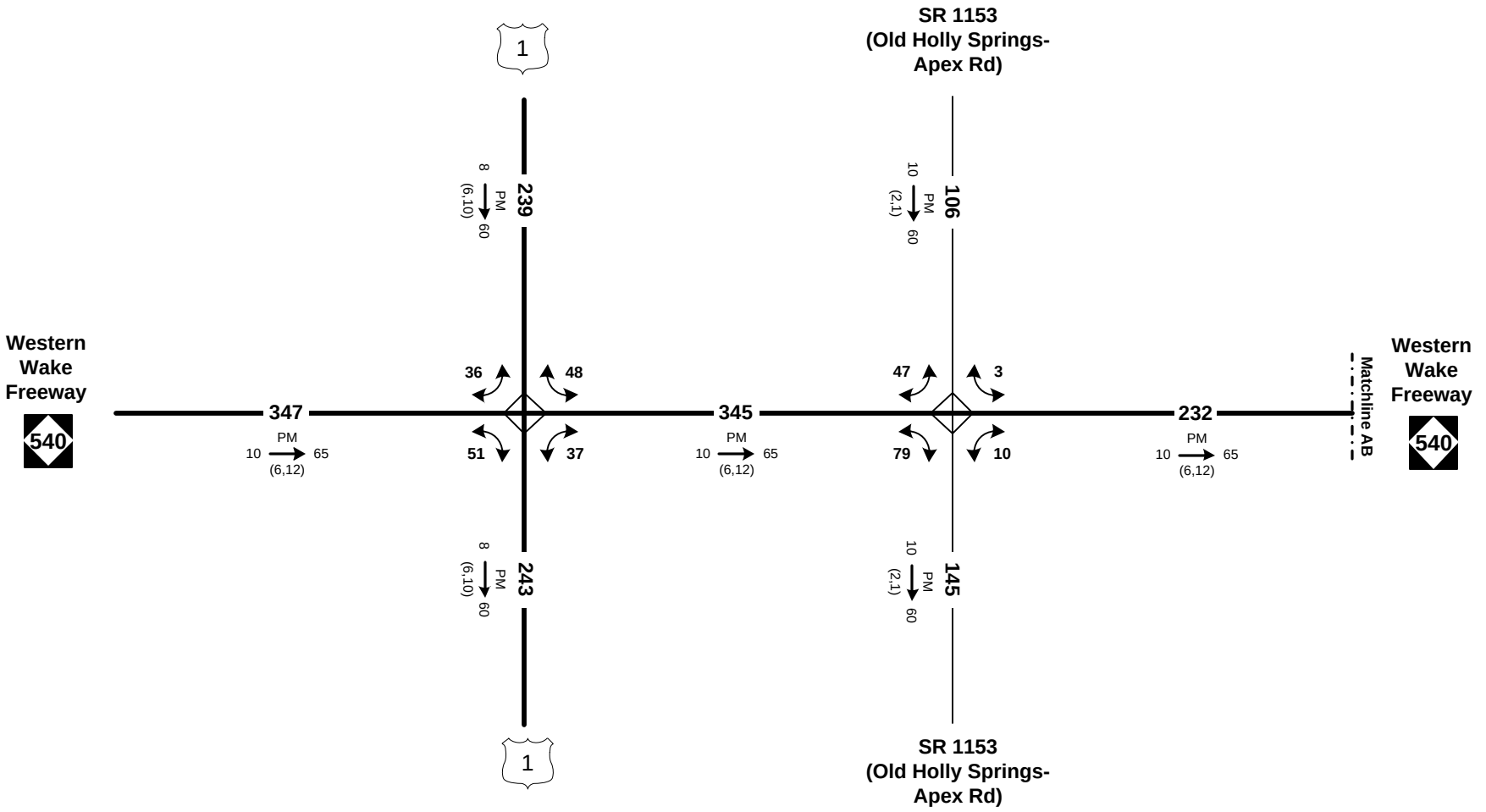
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 12.7



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 1 & 2, 13 & 14

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
→ = Indicates Direction of D
(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements

N
NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

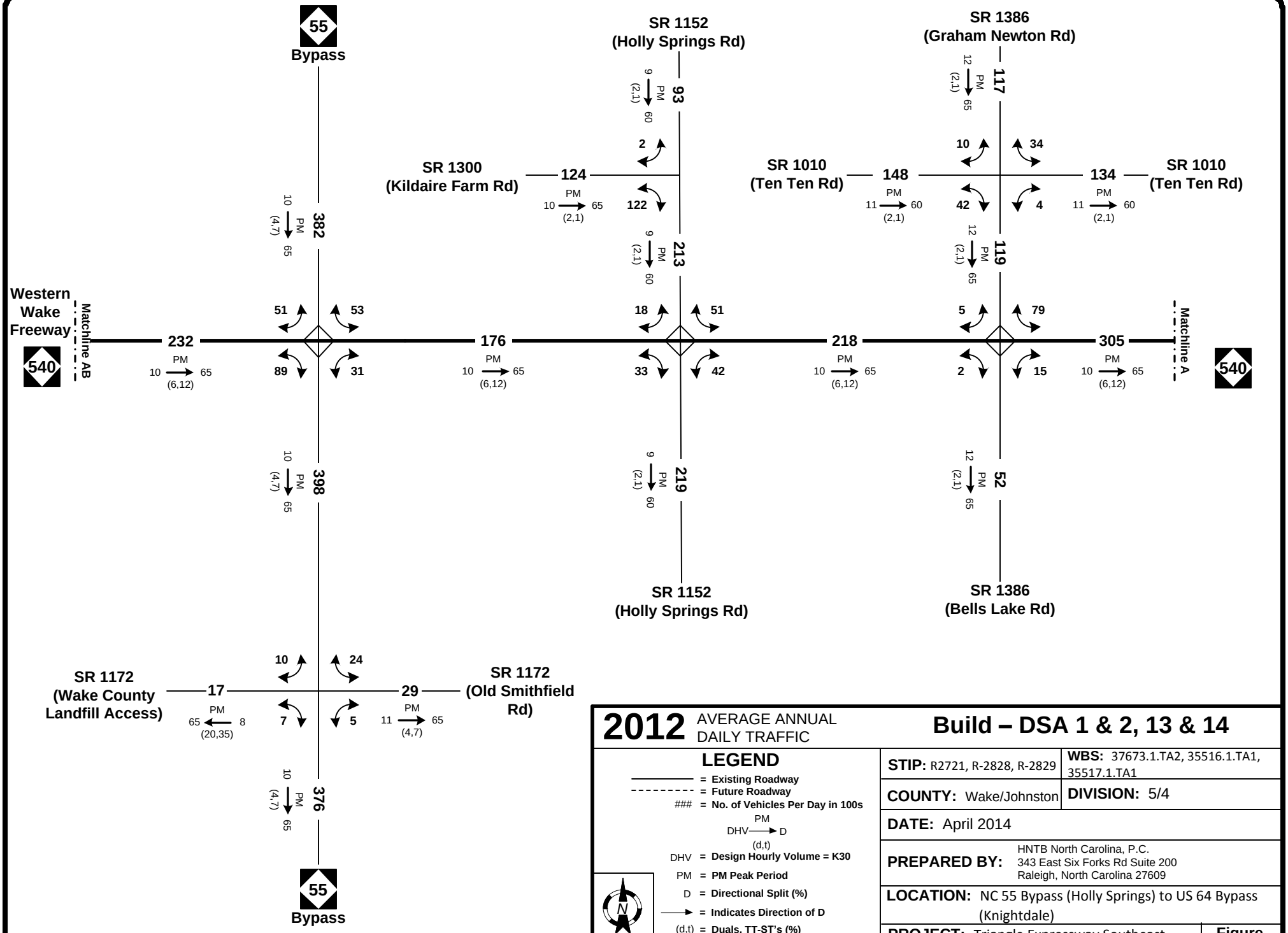
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 13.1



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 1 & 2, 13 & 14

LEGEND

- = Existing Roadway
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NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
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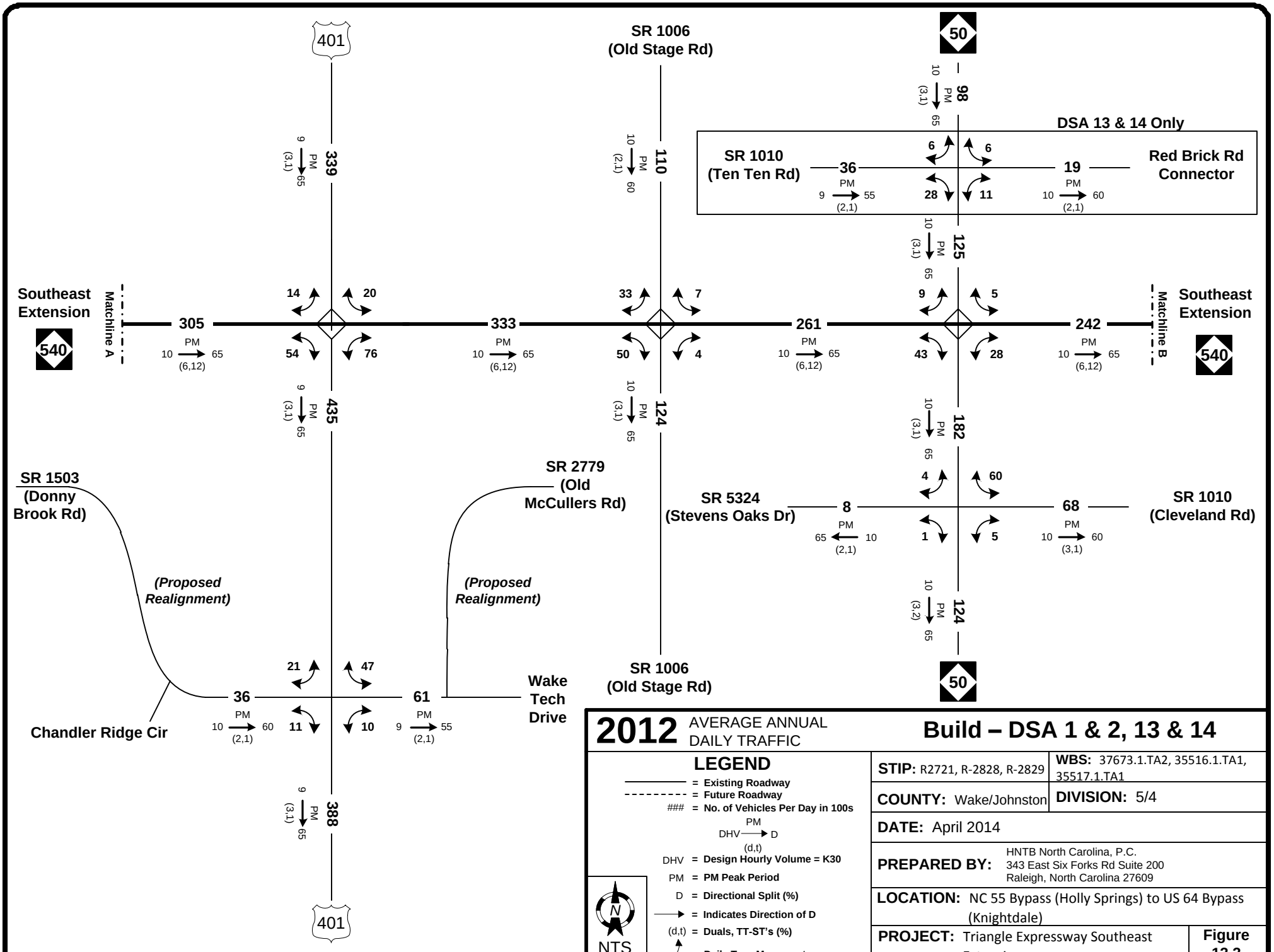
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 13.2**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 1 & 2, 13 & 14

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- = Existing Roadway
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- ### = No. of Vehicles Per Day in 100s
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NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
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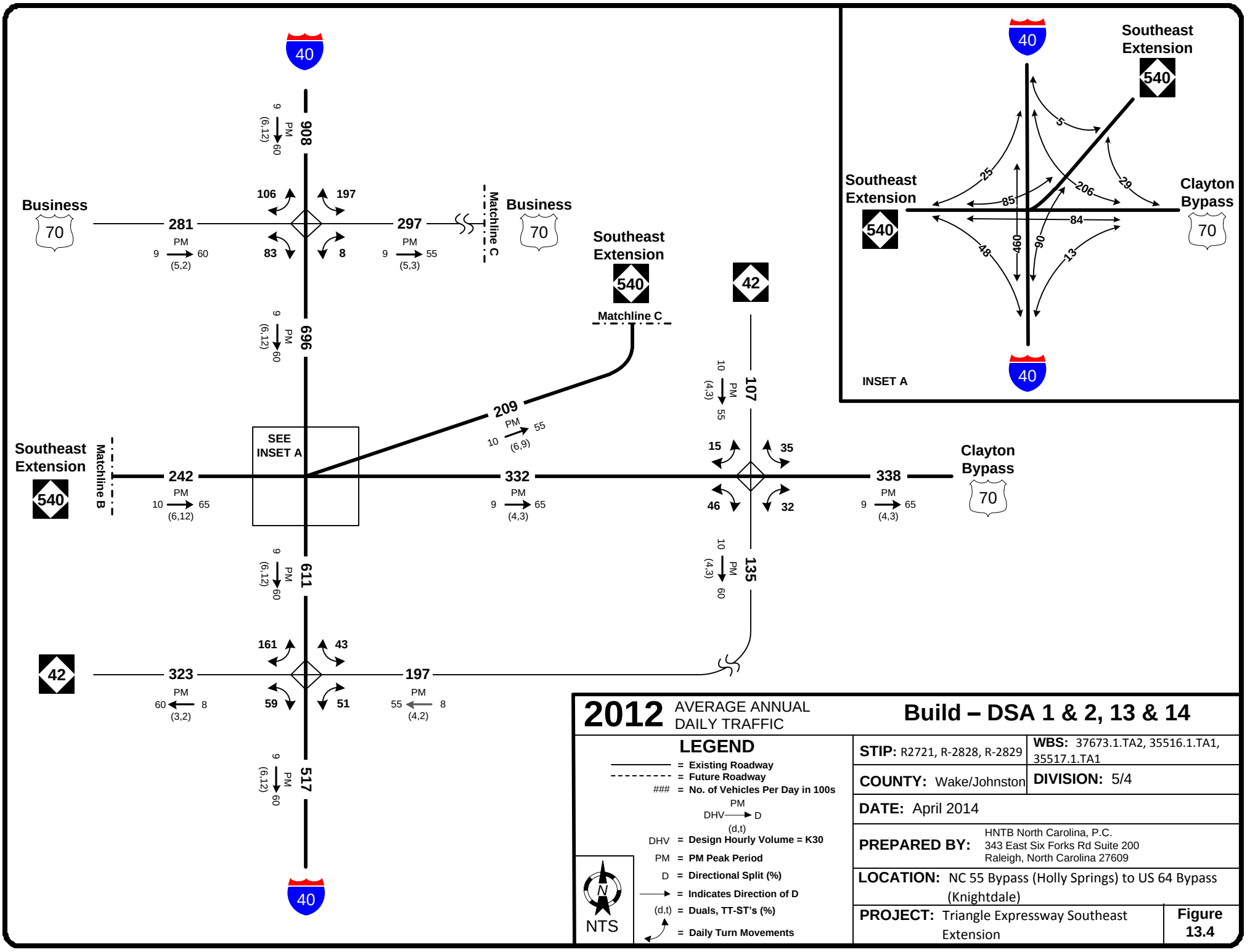
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 13.3**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 1 & 2, 13 & 14

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NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
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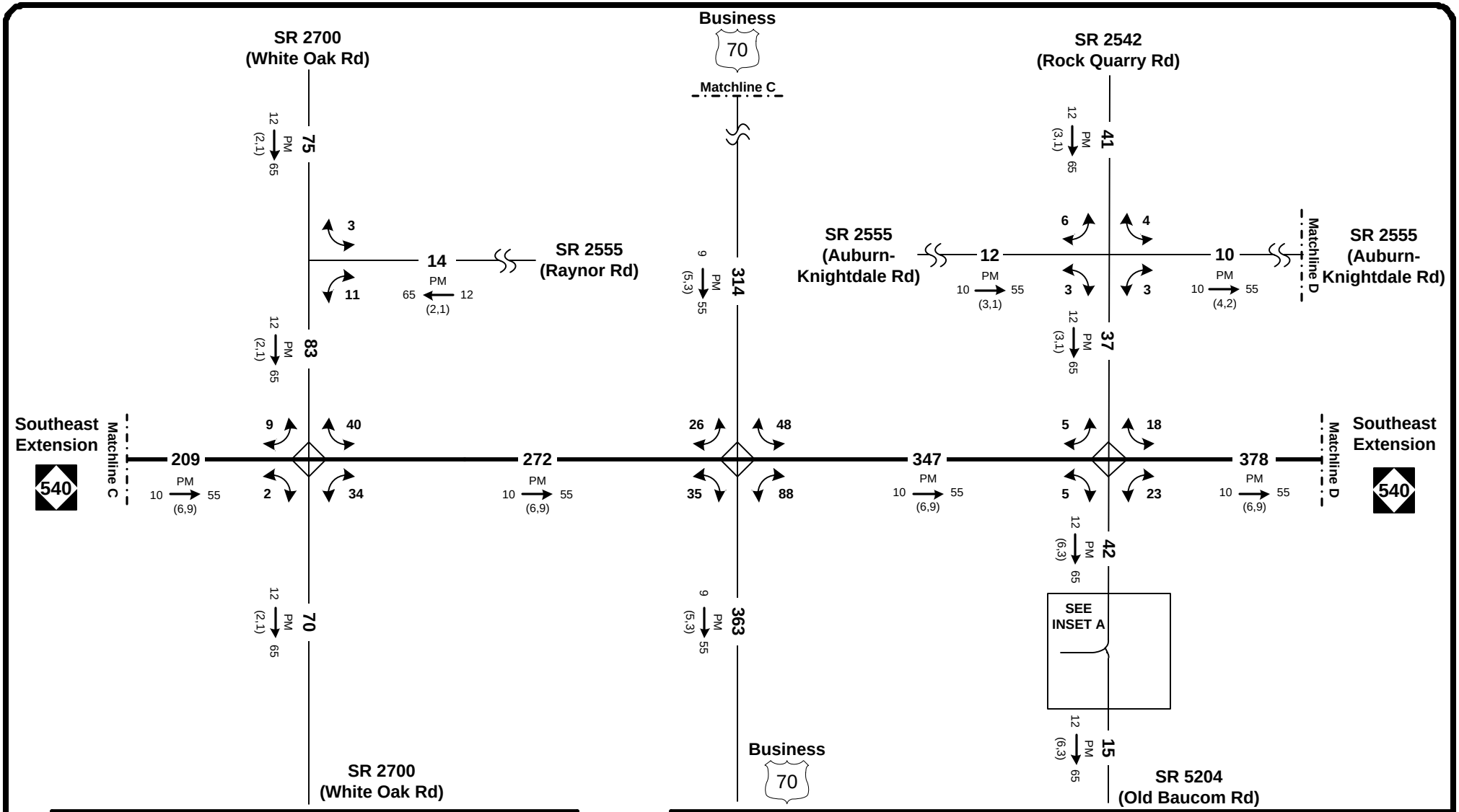
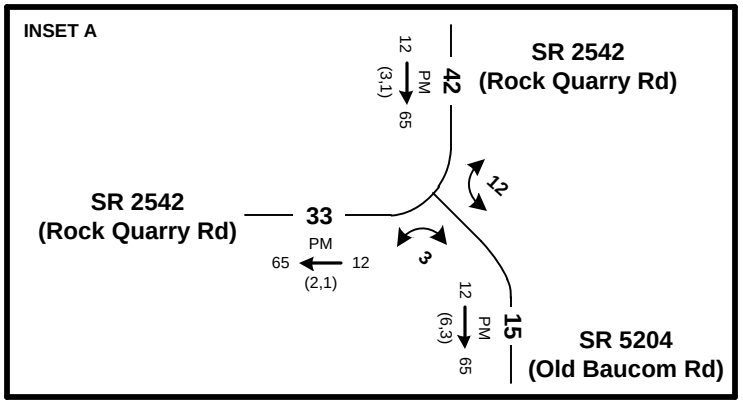
PROJECT: Triangle Expressway Southeast Extension	**Figure 13.4**





2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 1 & 2, 13 & 14

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NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
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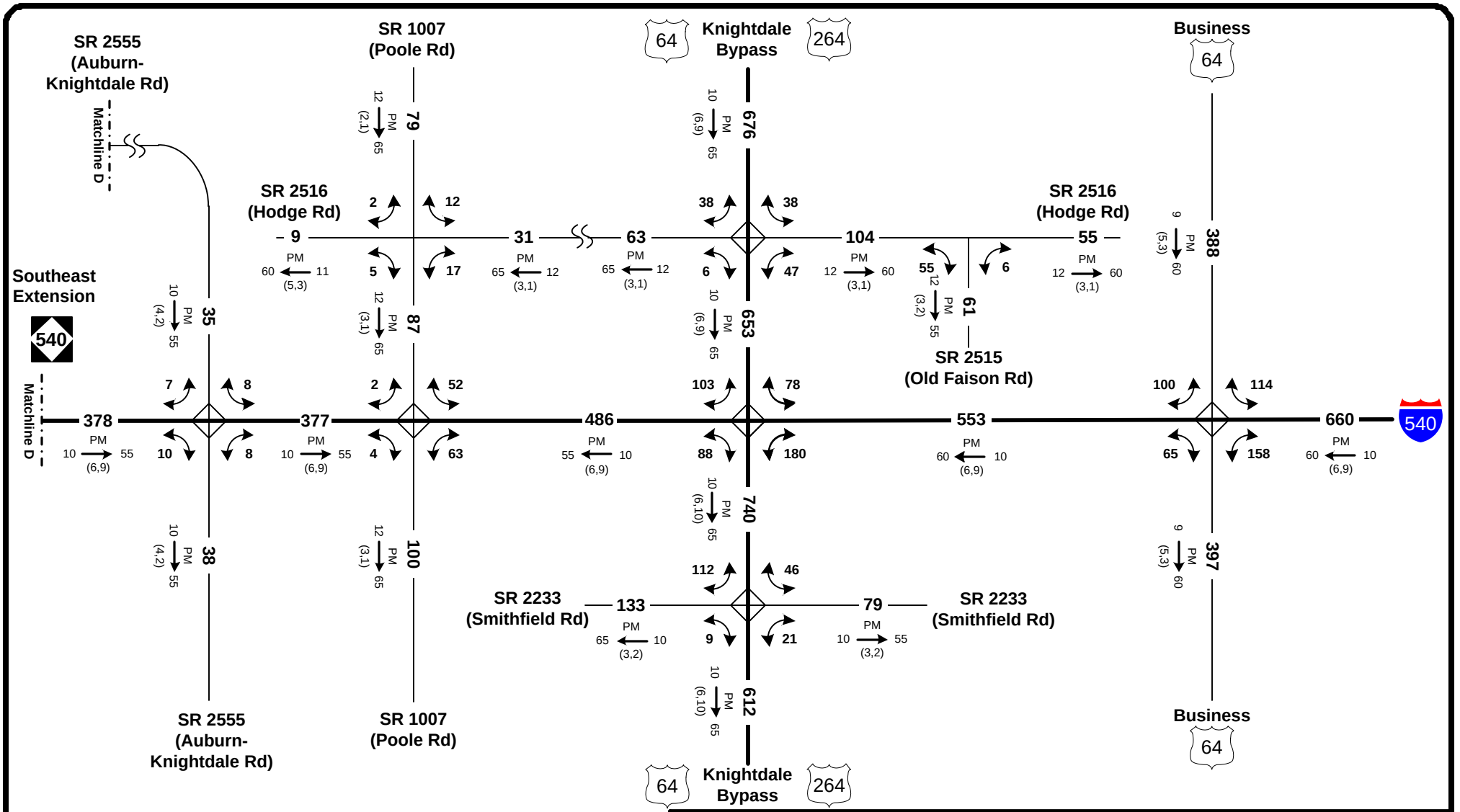
PROJECT: Triangle Expressway Southeast Extension	**Figure 13.5**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 1 & 2, 13 & 14

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
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NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

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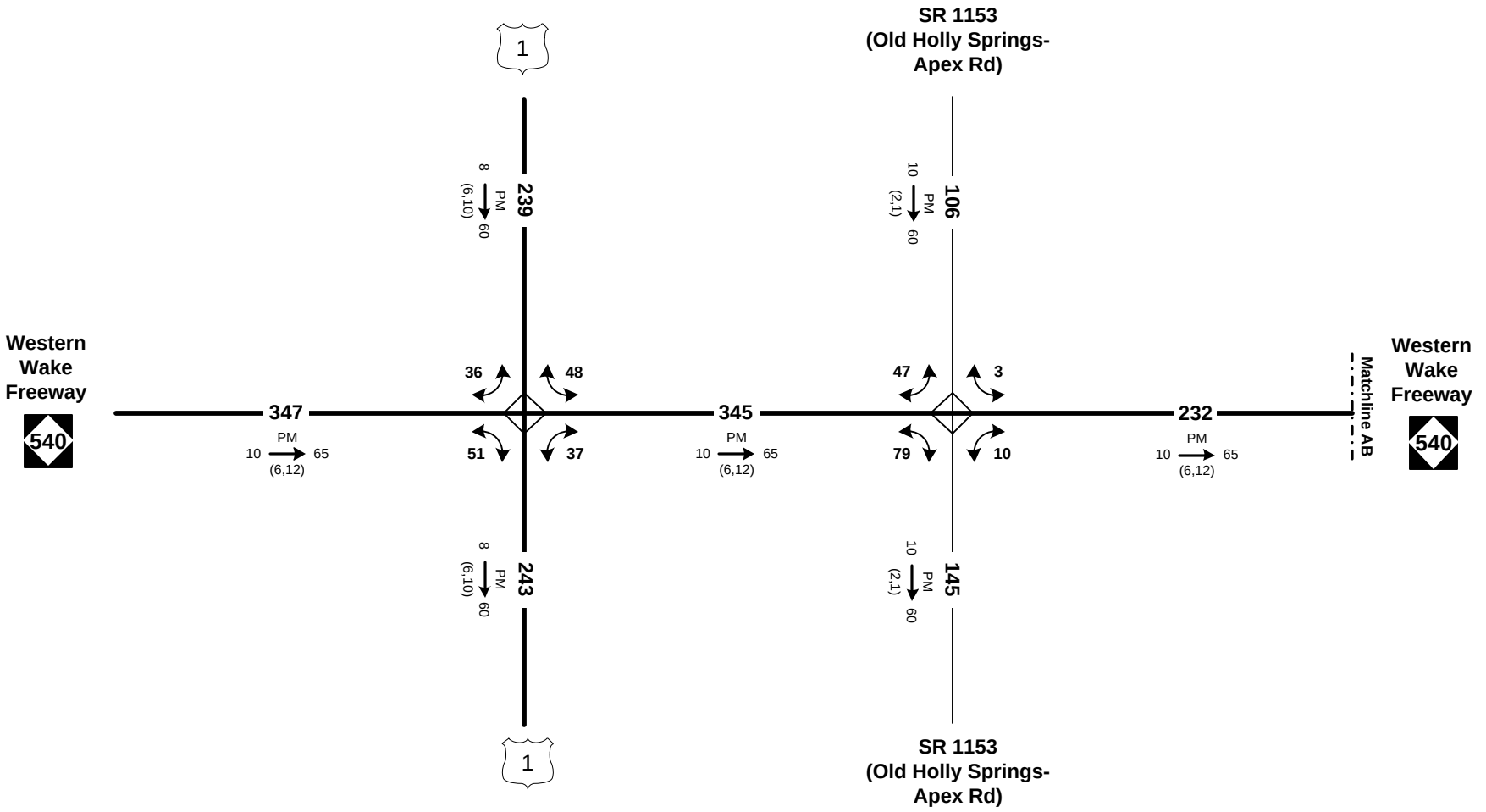
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 13.6



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 3 & 4, 15 & 16

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
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- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
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N

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

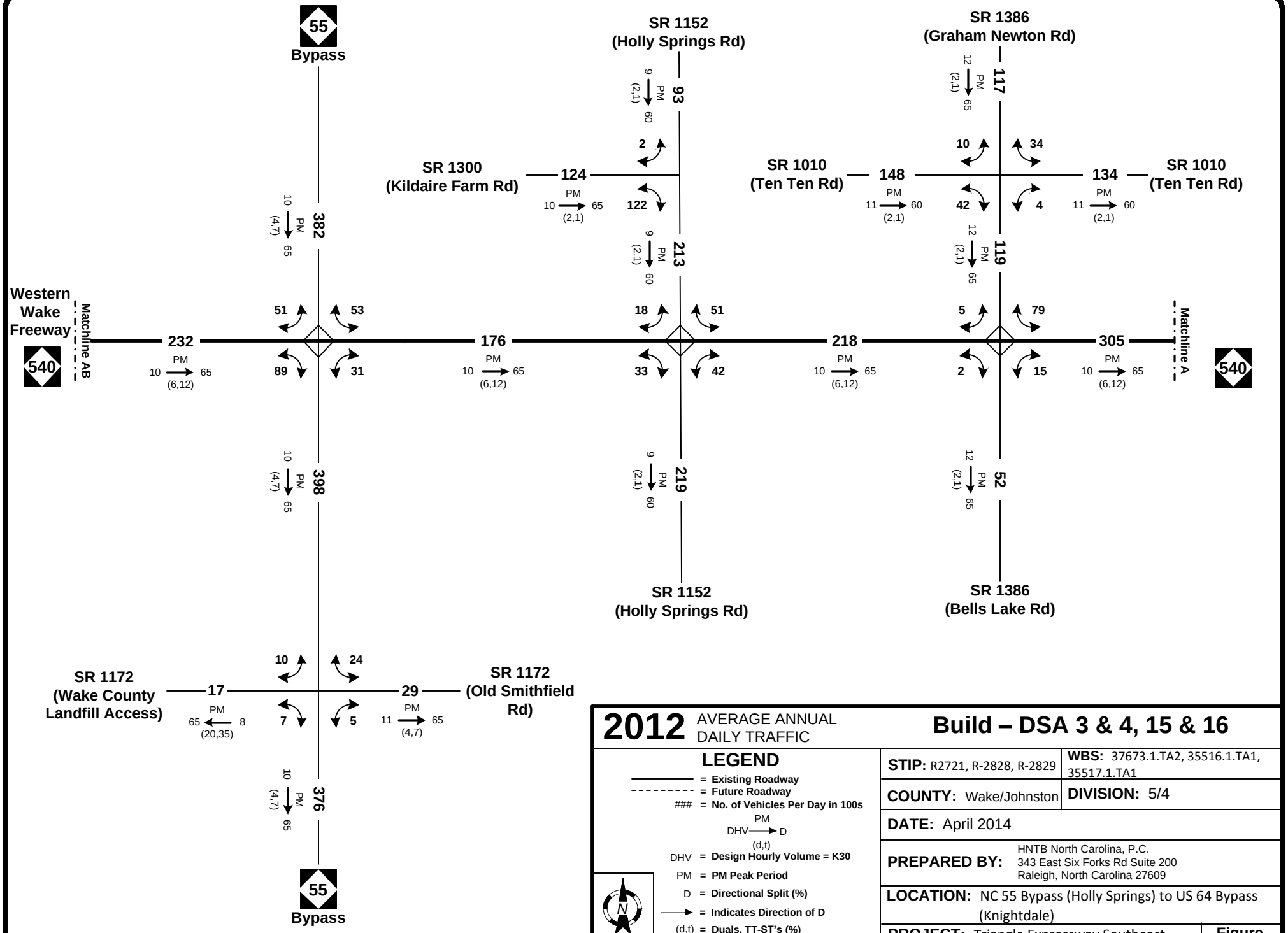
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 14.1


55
Bypass
SR 1152
(Holly Springs Rd)
SR 1386
(Graham Newton Rd)
SR 1300
(Kildaire Farm Rd)
SR 1010
(Ten Ten Rd)
SR 1010
(Ten Ten Rd)
Western
Wake
Freeway
540
Matchline AB
Matchline A
540
SR 1152
(Holly Springs Rd)
SR 1386
(Bells Lake Rd)
SR 1172
(Wake County
Landfill Access)
SR 1172
(Old Smithfield
Rd)
55
Bypass
2012 AVERAGE ANNUAL DAILY TRAFFIC
Build – DSA 3 & 4, 15 & 16
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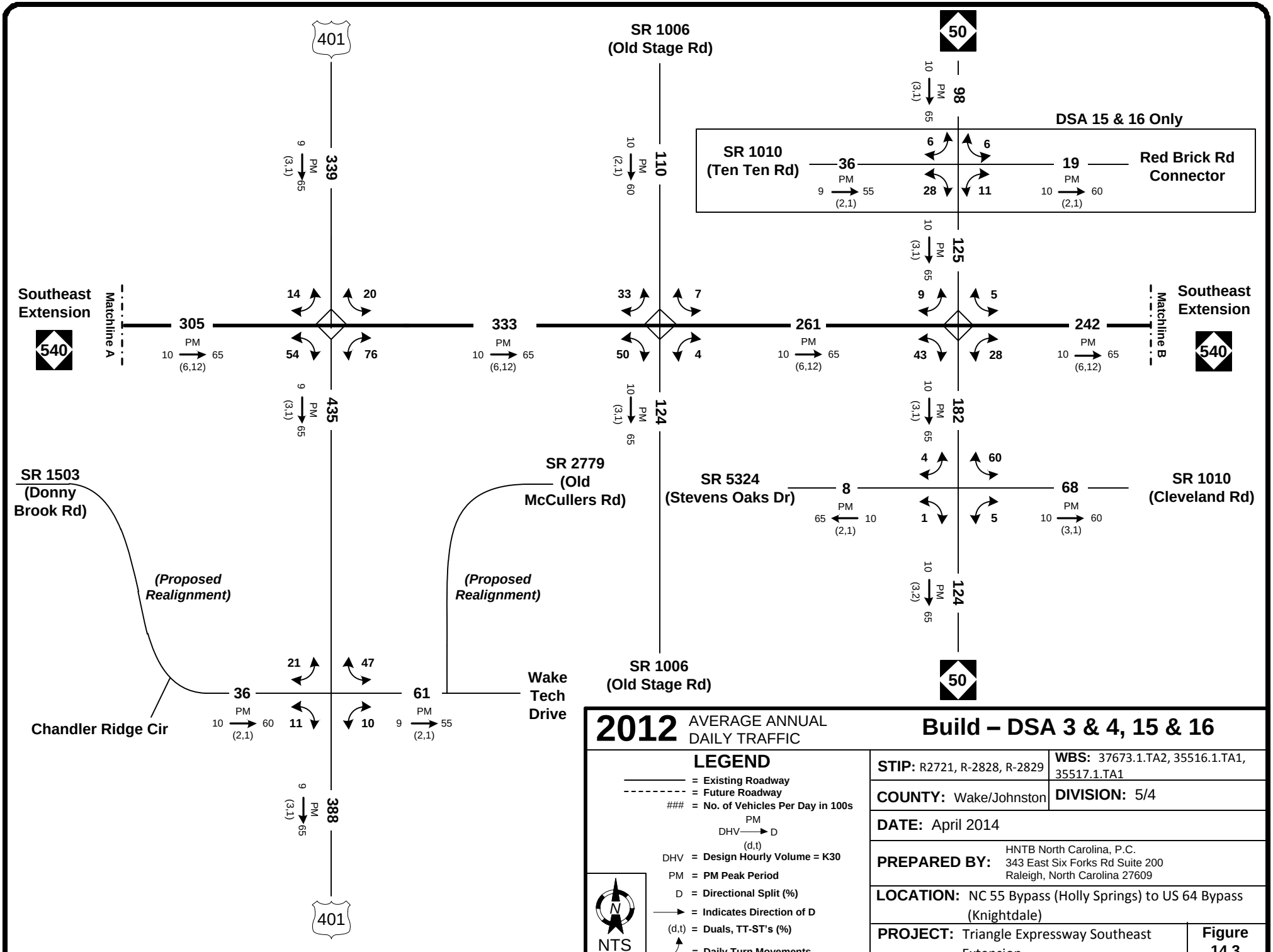
PROJECT: Triangle Expressway Southeast Extension
Figure 14.2



2012 AVERAGE ANNUAL DAILY TRAFFIC

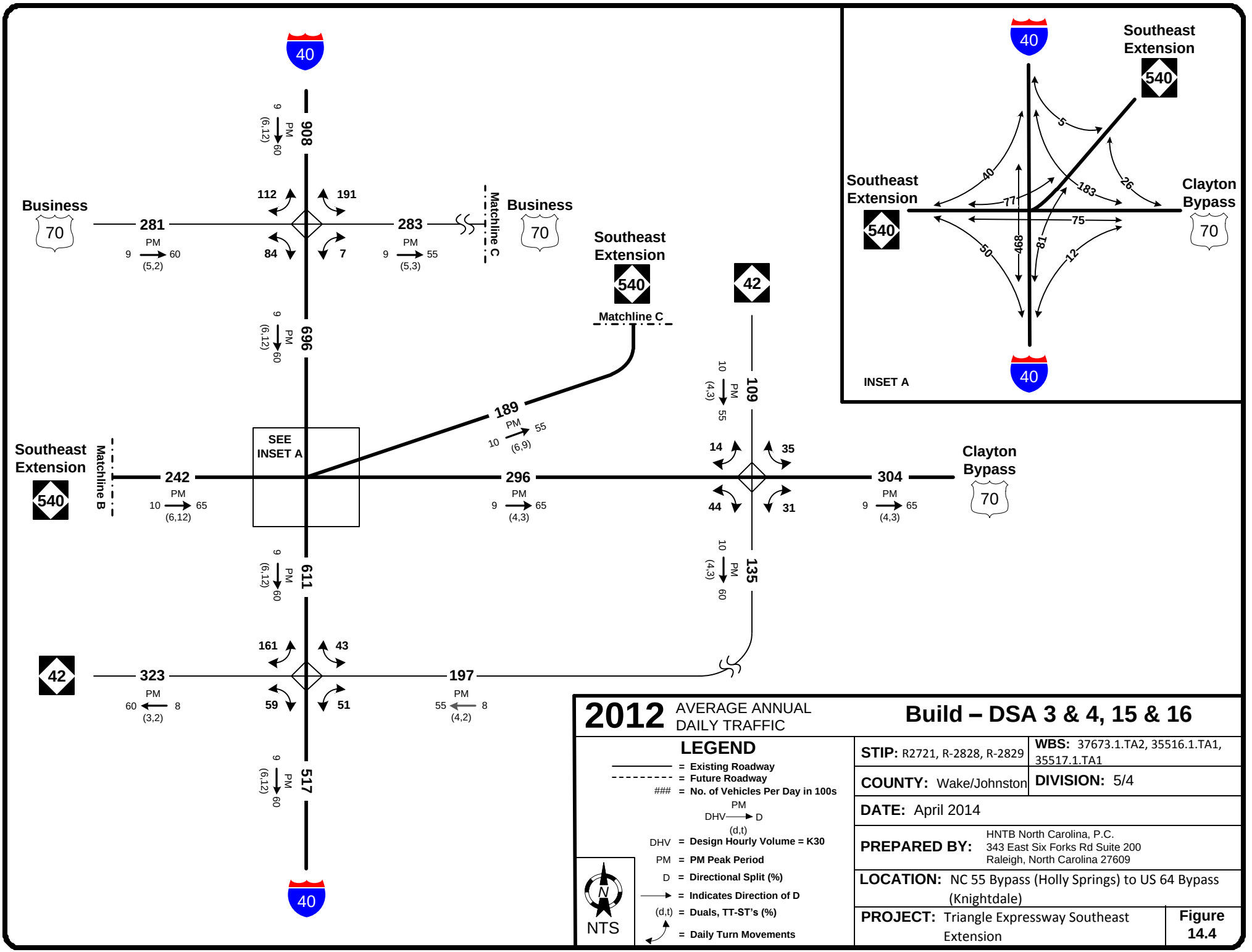
Build – DSA 3 & 4, 15 & 16

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 14.3**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 3 & 4, 15 & 16

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
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- (d,t) = Duals, TT-ST's (%)
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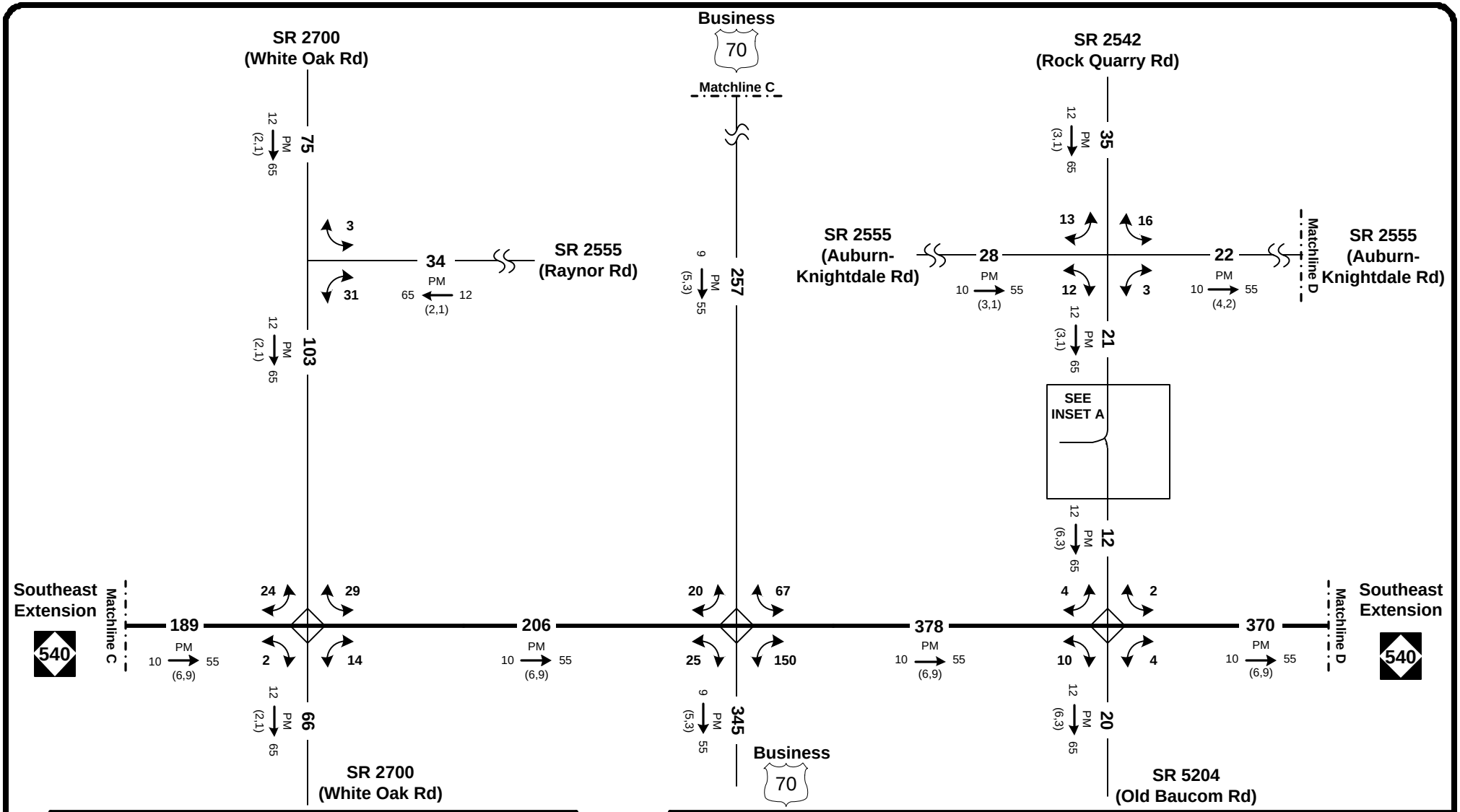
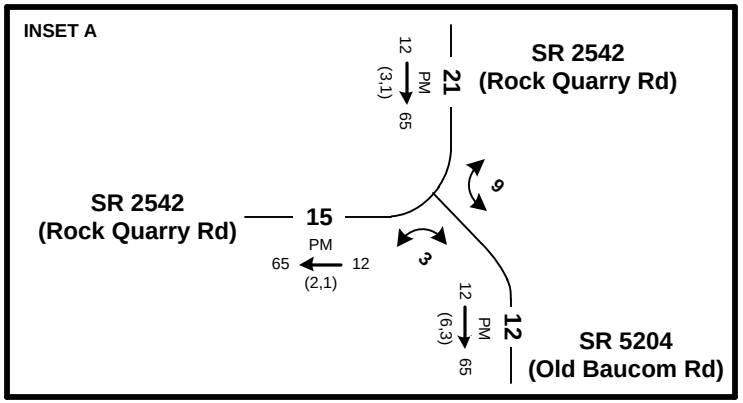
N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 14.4**





2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 3 & 4, 15 & 16

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
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- (d,t) = Duals, TT-ST's (%)
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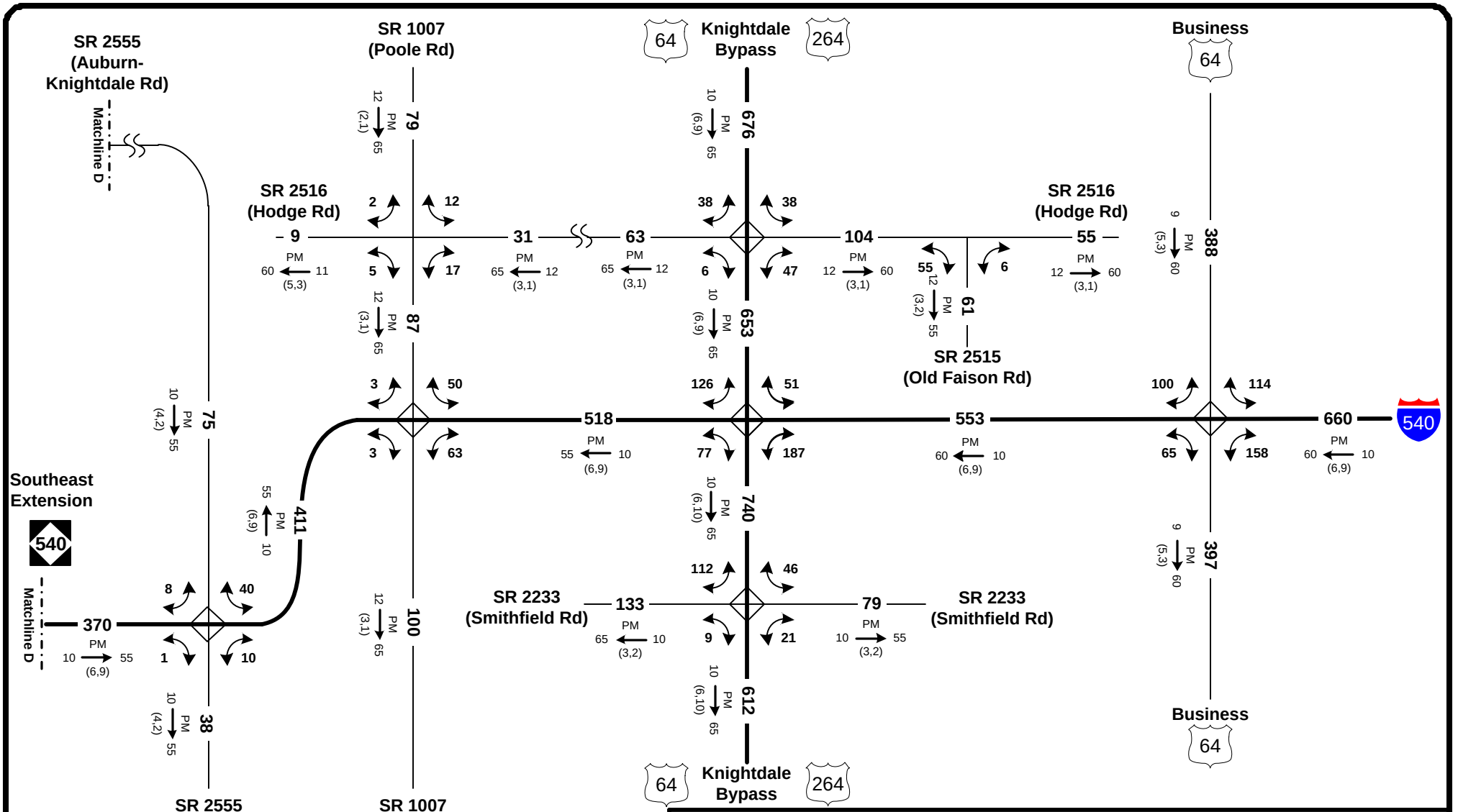
NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 14.5**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 3 & 4, 15 & 16

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
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- (d,t) = Duals, TT-ST's (%)
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NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

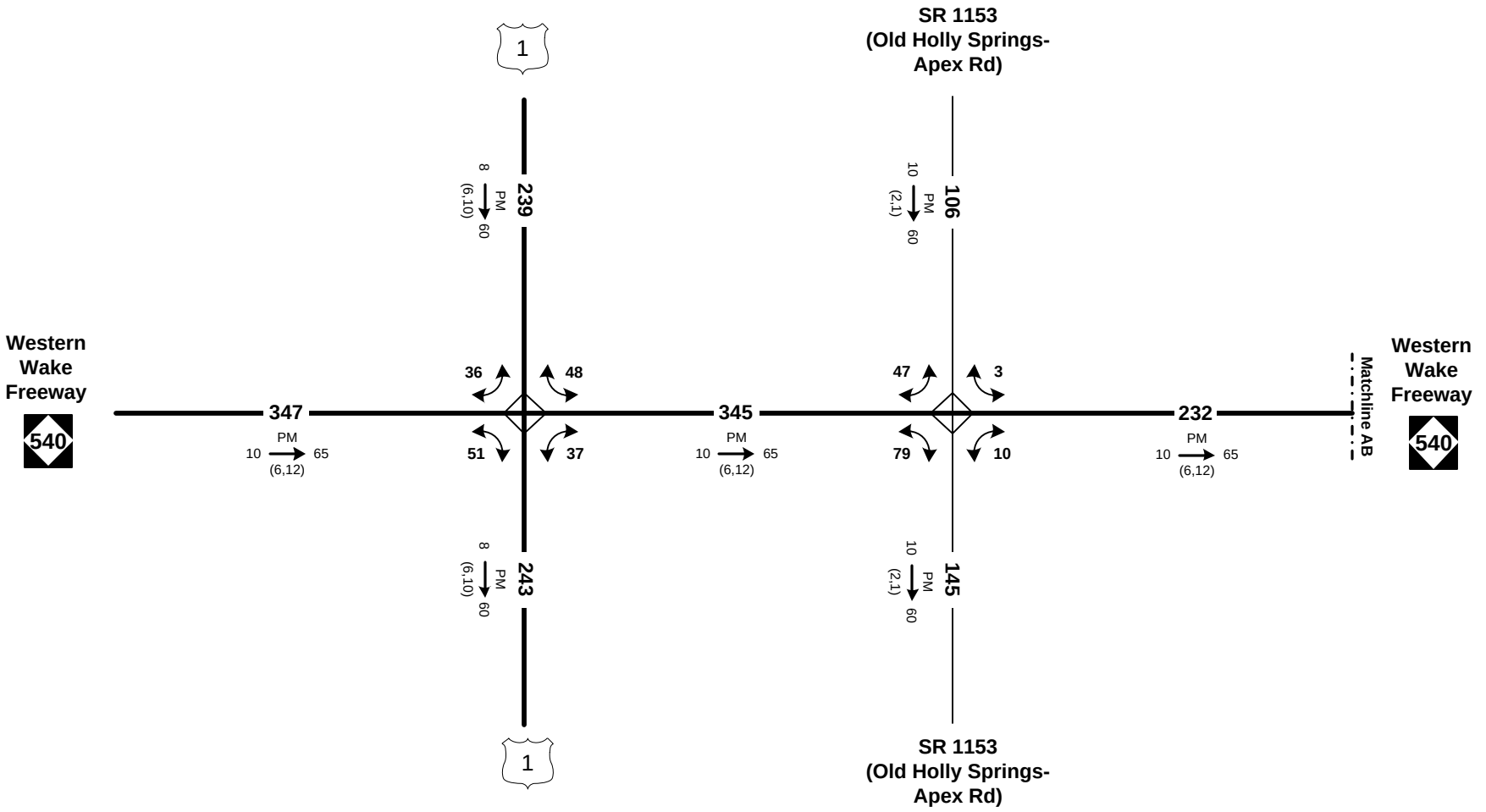
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 14.6



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 5 & 17

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

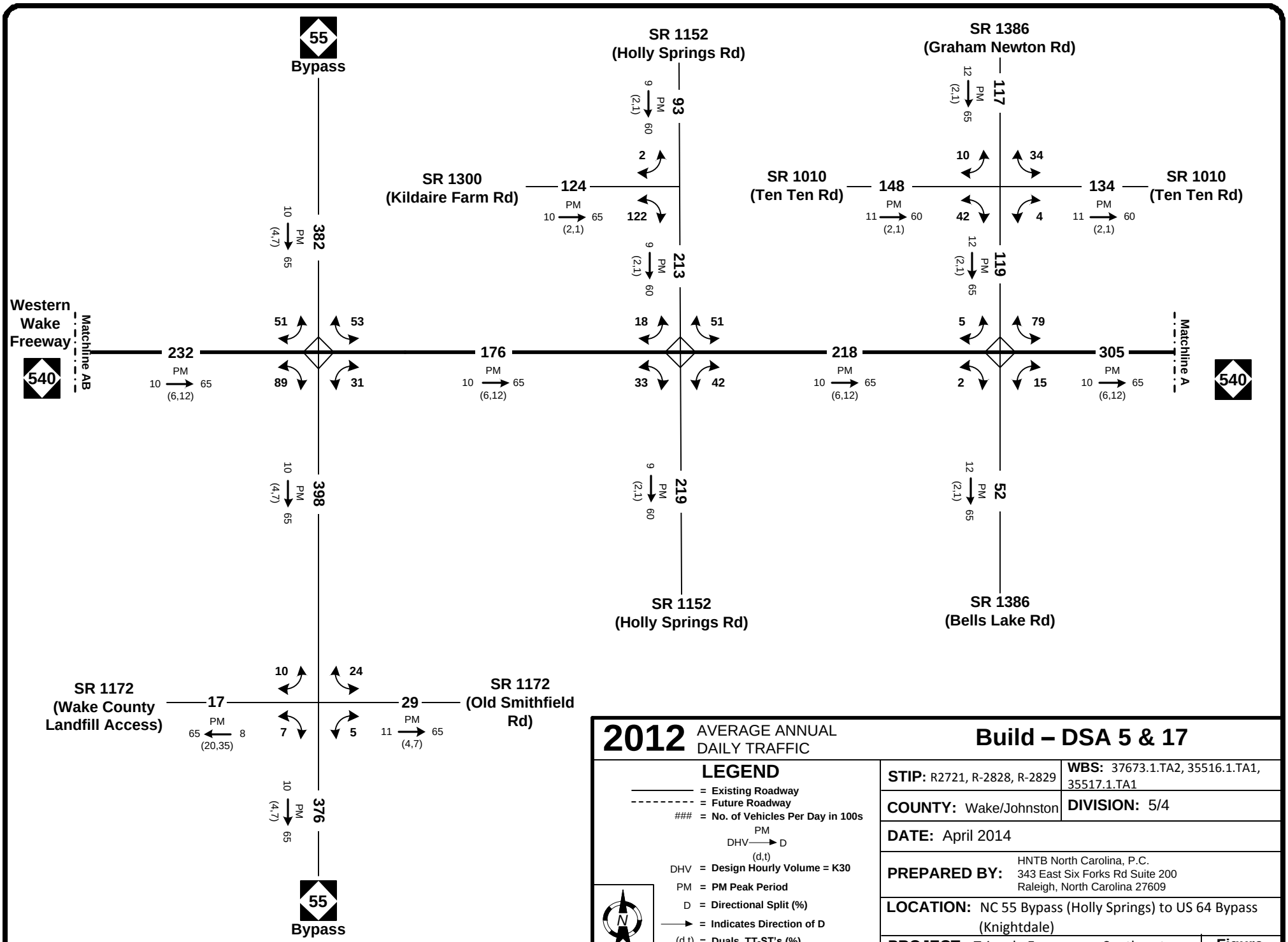
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 15.1



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 5 & 17

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
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NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
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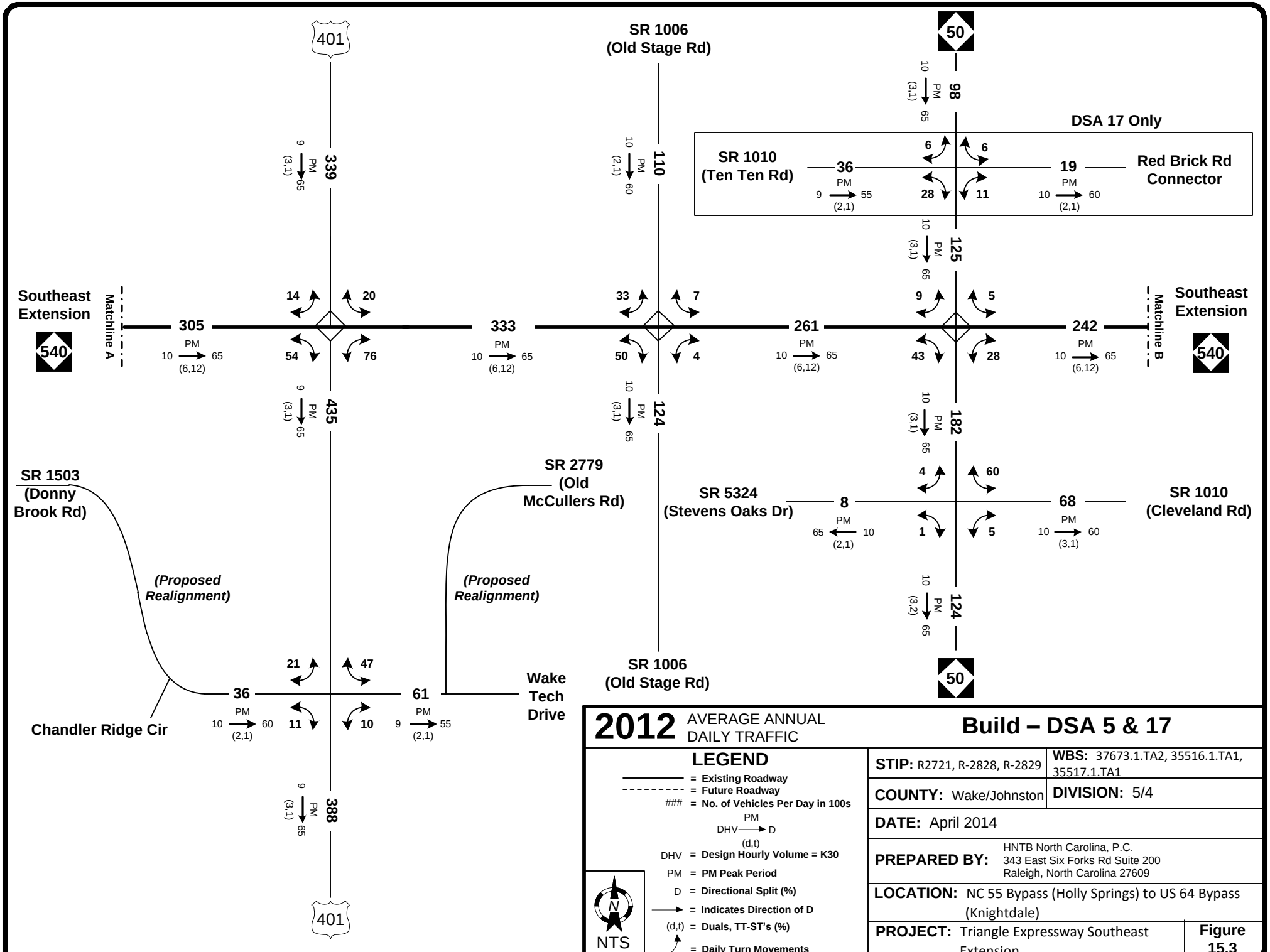
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 15.2**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 5 & 17

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
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(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
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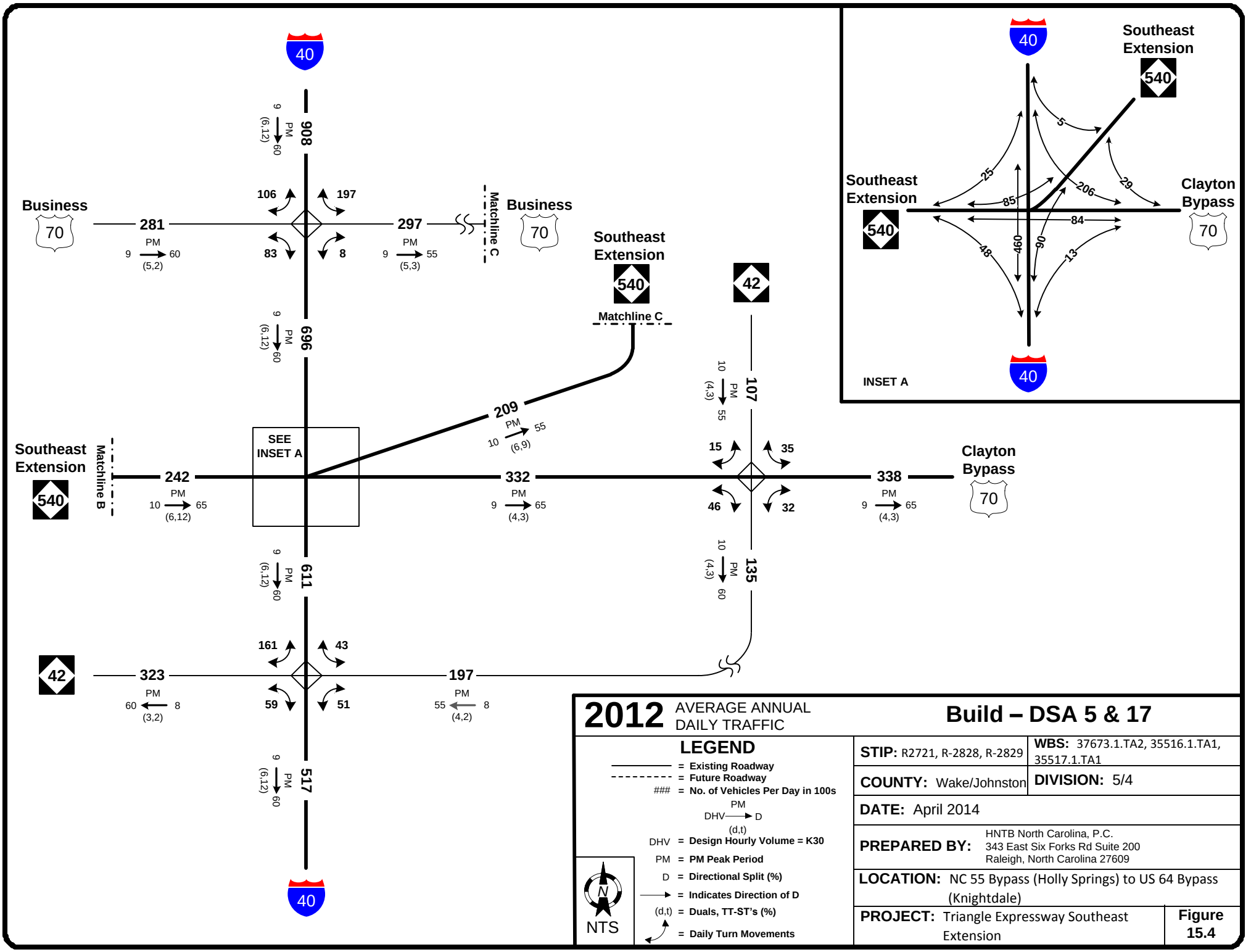
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 15.3**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 5 & 17

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
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NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
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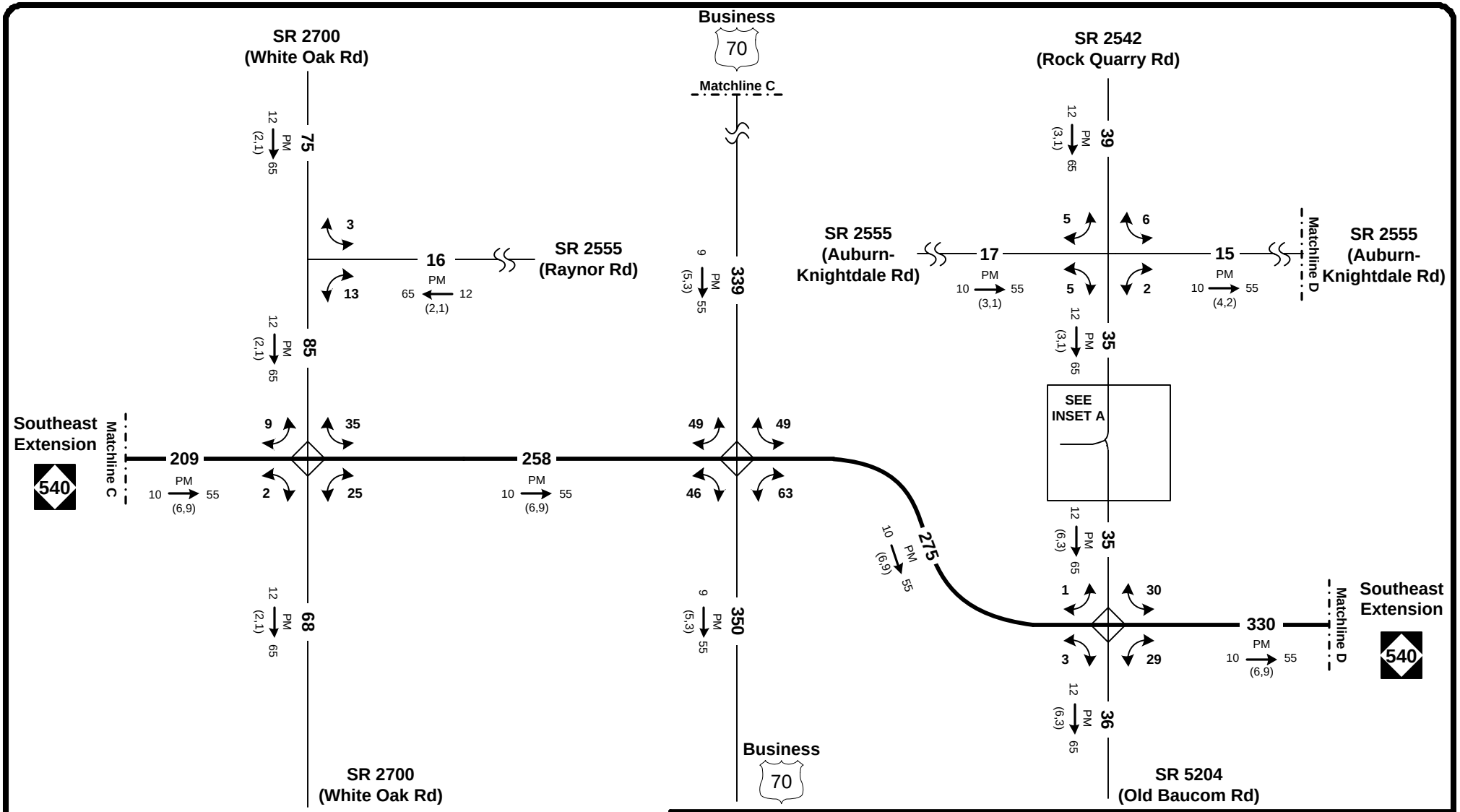
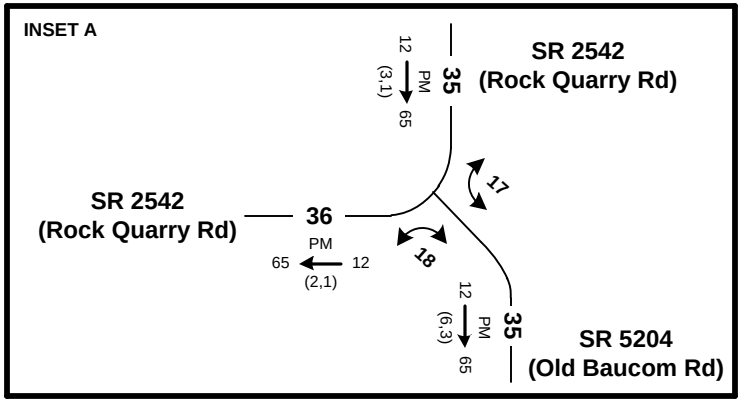
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 15.4**





2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 5 & 17

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
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- (d,t) = Duals, TT-ST's (%)
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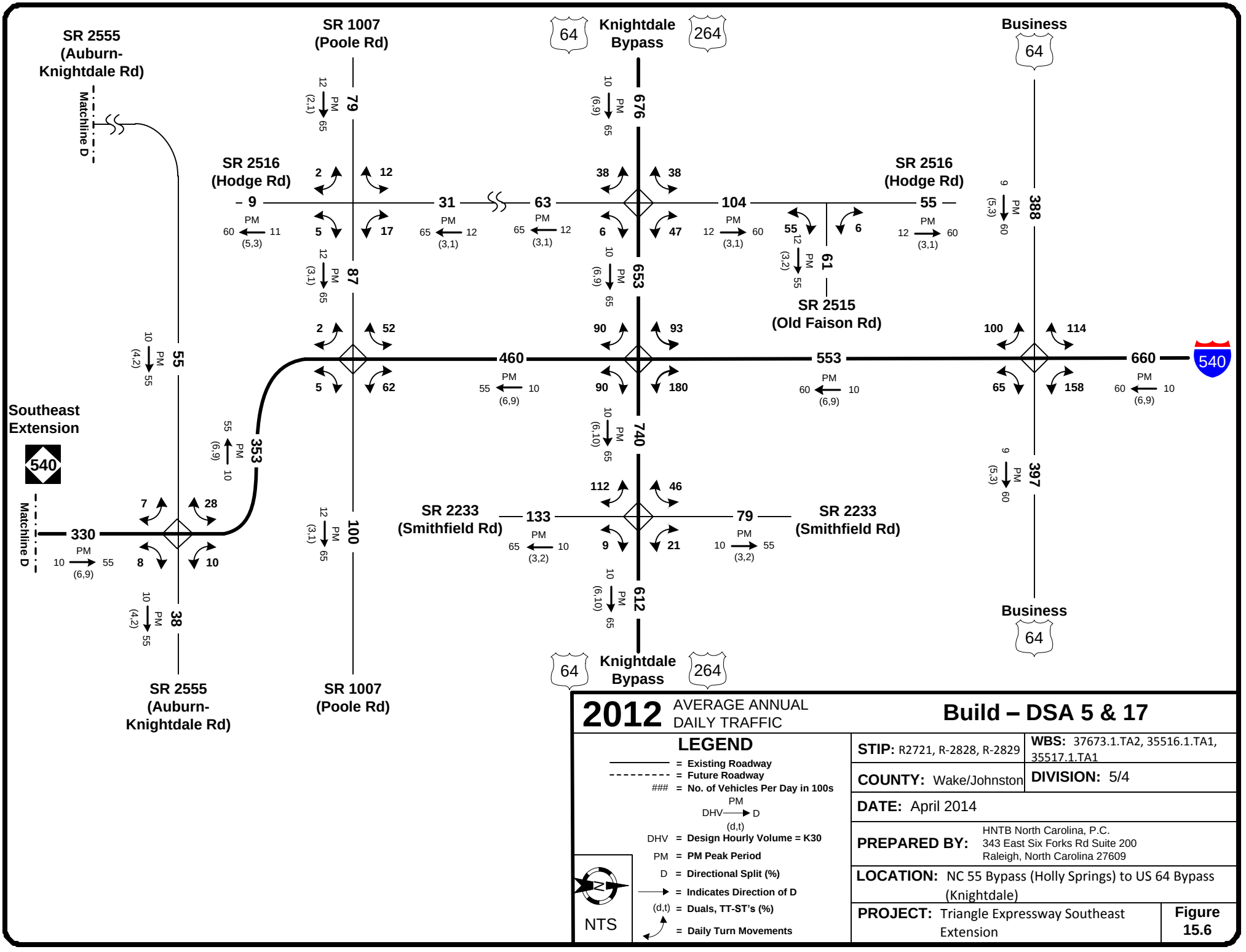
NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 15.5**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 5 & 17

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM / DHV → D / (d,t)
- DHV = Design Hourly Volume = K30
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NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
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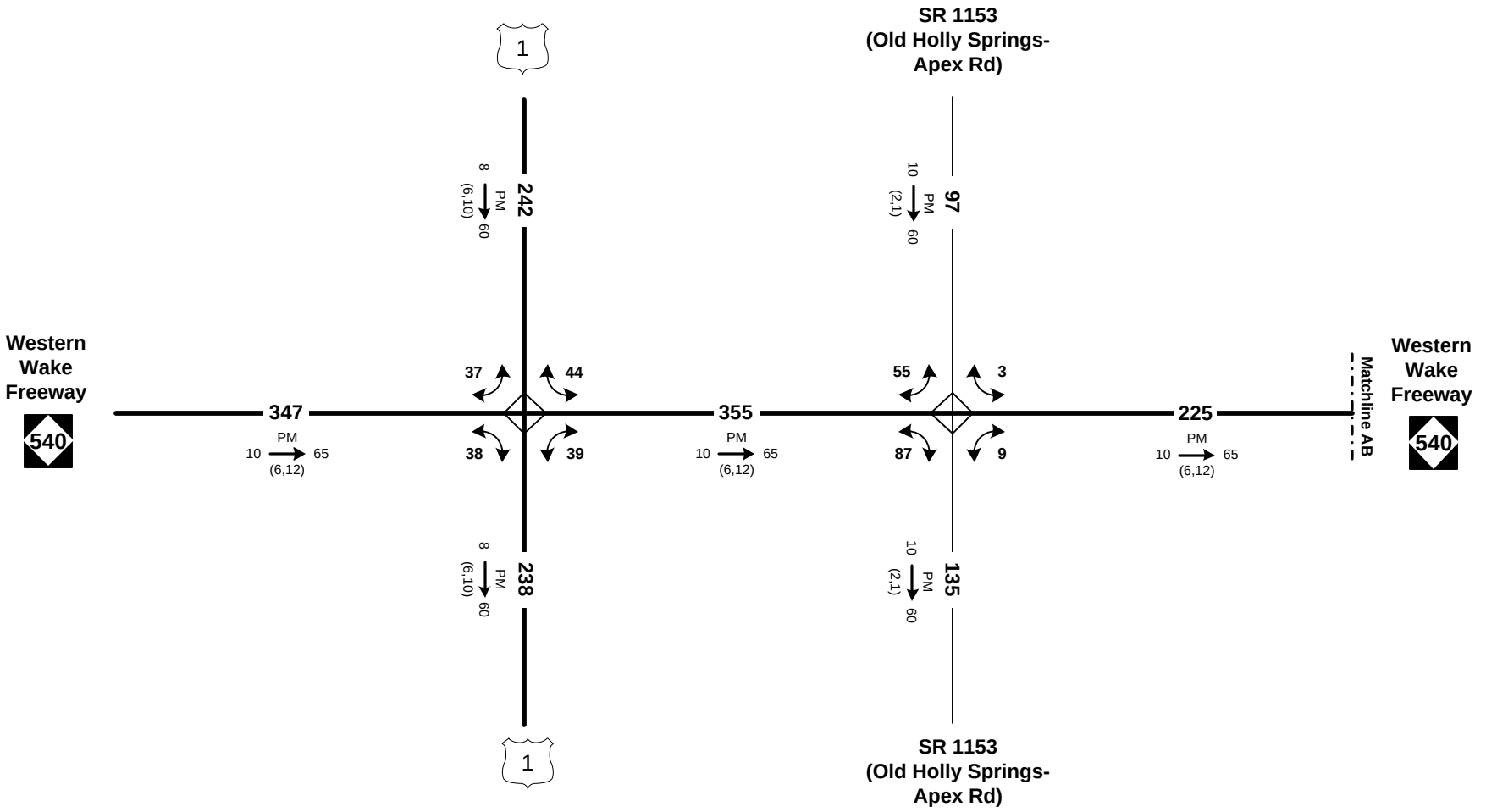
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 15.6**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 6 & 7

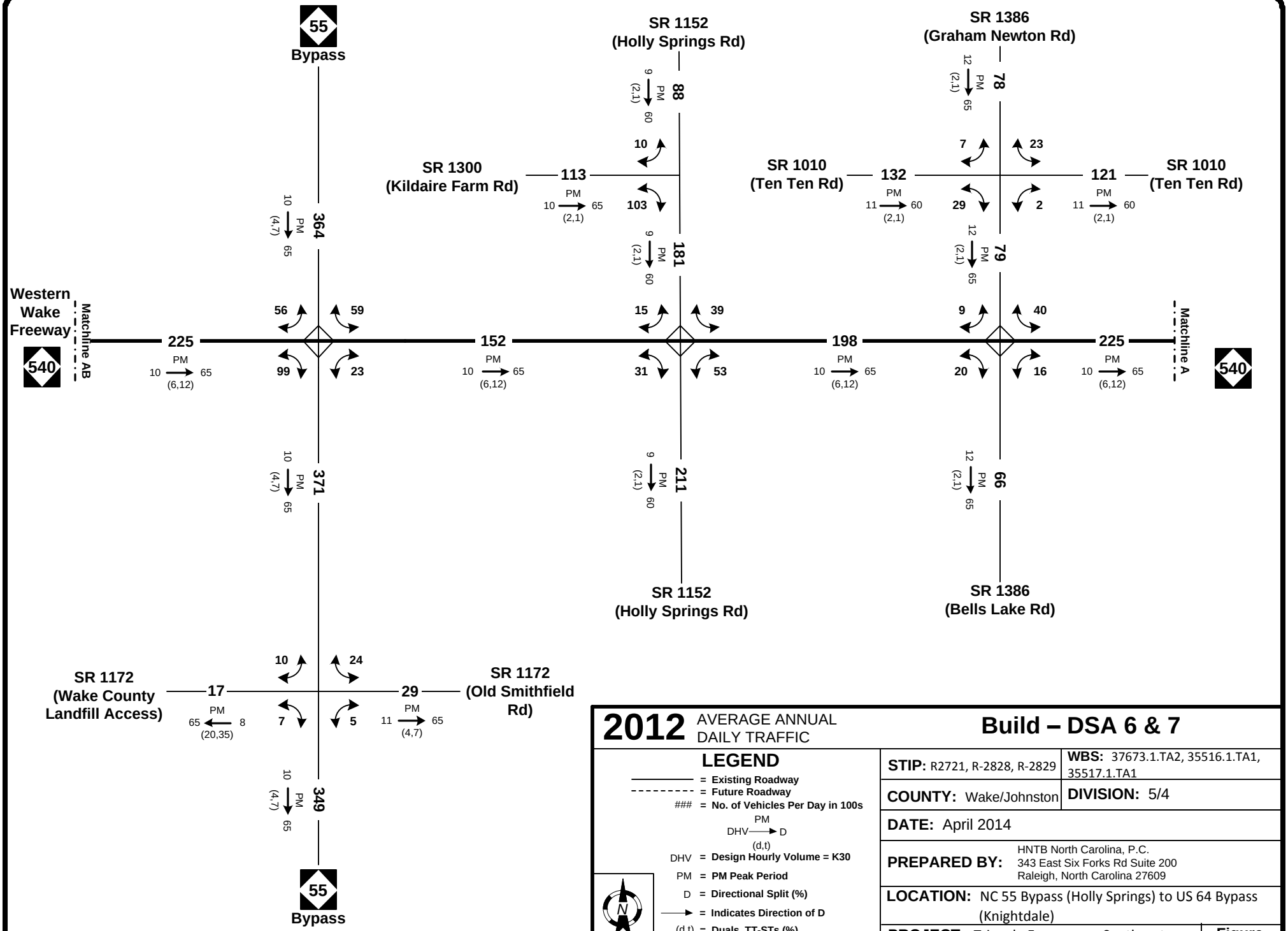
LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t) = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-STs (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 16.1**


55
Bypass
SR 1152
(Holly Springs Rd)
SR 1386
(Graham Newton Rd)
SR 1300
(Kildaire Farm Rd)
SR 1010
(Ten Ten Rd)
SR 1010
(Ten Ten Rd)
Western
Wake
Freeway
540
Matchline AB
Matchline A
540
SR 1152
(Holly Springs Rd)
SR 1386
(Bells Lake Rd)
SR 1172
(Wake County
Landfill Access)
SR 1172
(Old Smithfield
Rd)
55
Bypass
2012 AVERAGE ANNUAL DAILY TRAFFIC
Build – DSA 6 & 7
LEGEND
= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
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N
NTS
STIP: R2721, R-2828, R-2829
WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston
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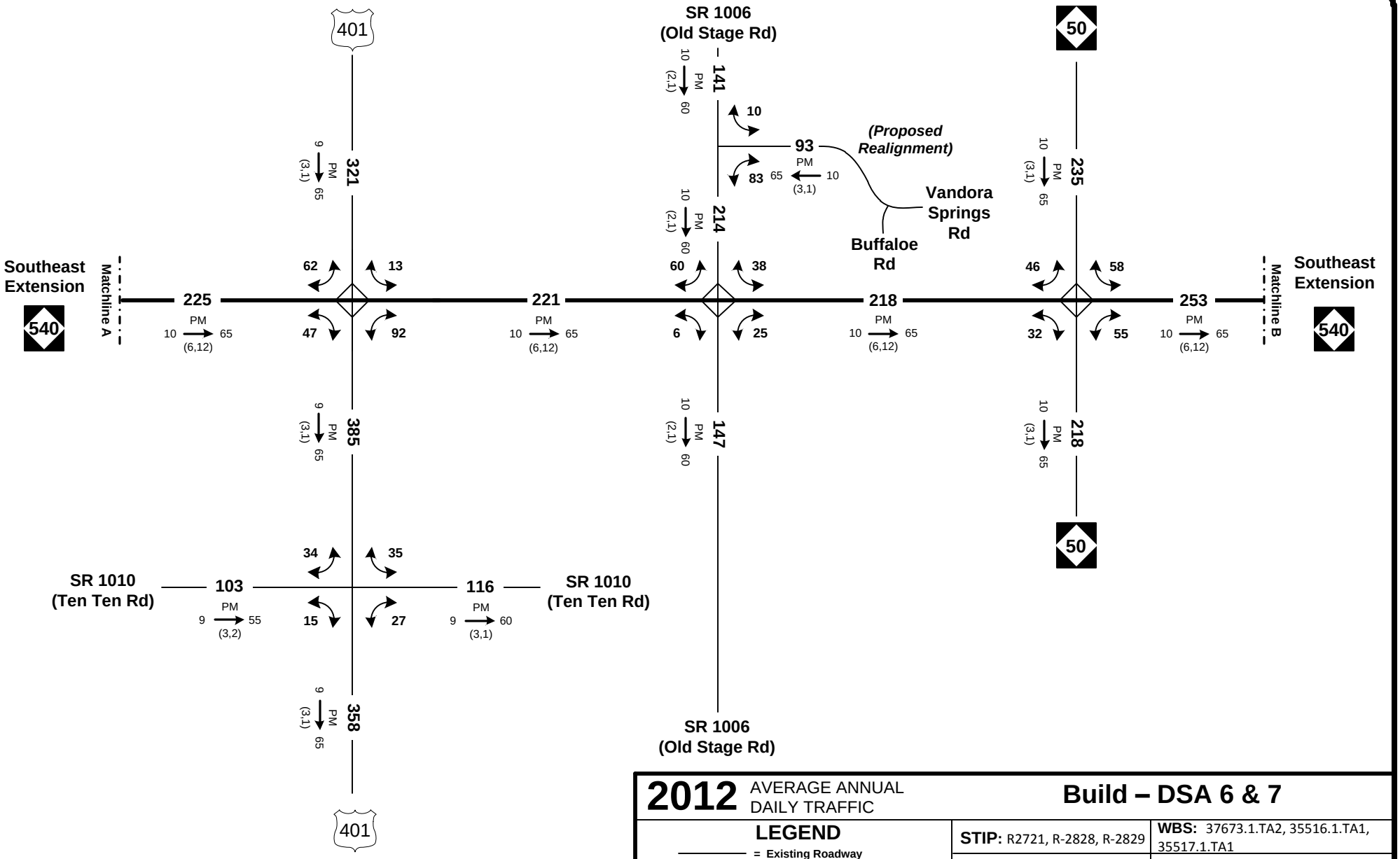
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)
PROJECT: Triangle Expressway Southeast Extension
Figure 16.2



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 6 & 7

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
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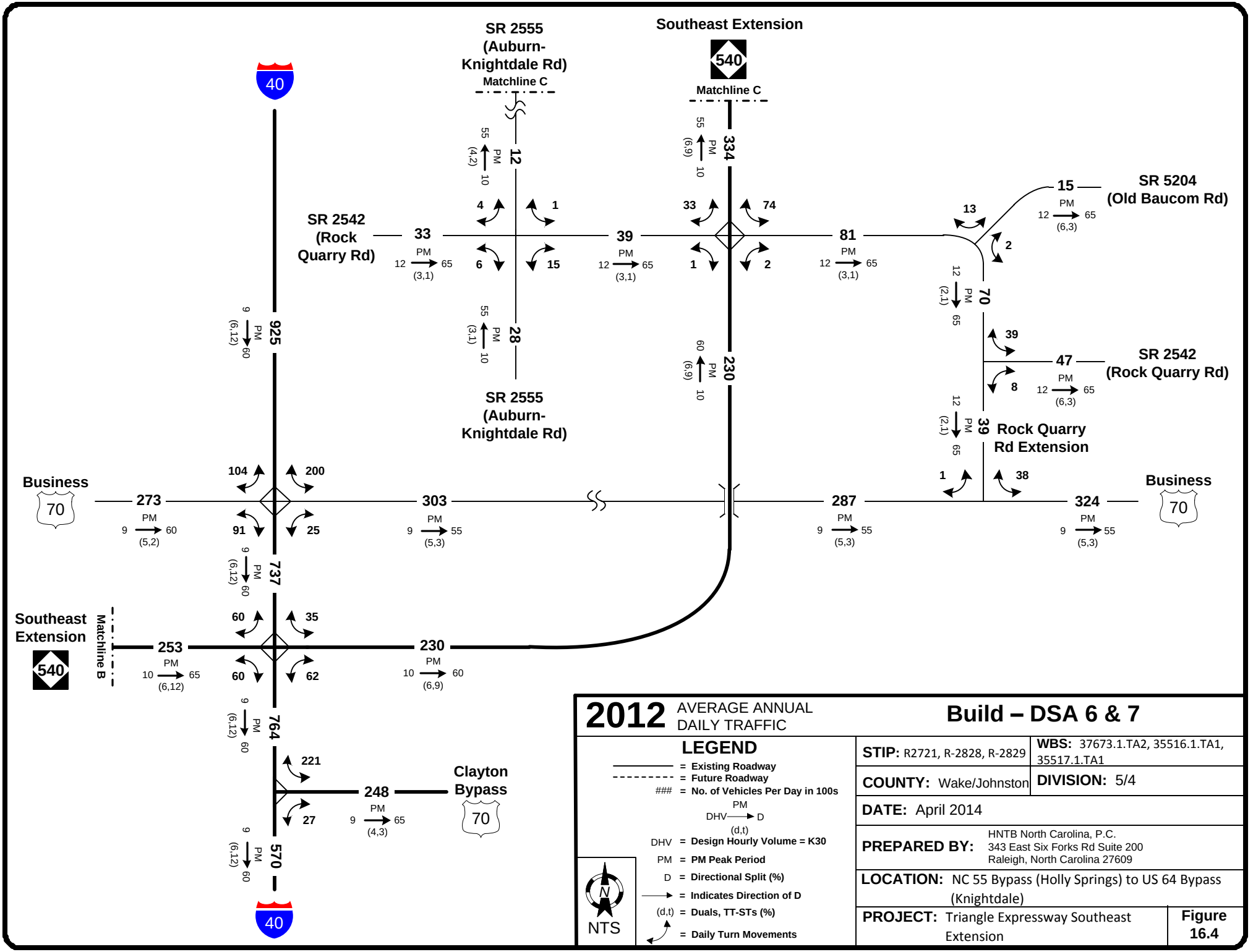
N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 16.3**


SR 2555 (Auburn-Knightdale Rd)
Matchline C
Southeast Extension
540
Matchline C
40
SR 2542 (Rock Quarry Rd)
SR 5204 (Old Baucom Rd)
SR 2542 (Rock Quarry Rd)
Rock Quarry Rd Extension
SR 2555 (Auburn-Knightdale Rd)
Business 70
Business 70
Southeast Extension 540
Matchline B
Clayton Bypass 70
925
737
764
570
12
28
334
230
70
39
47
15
273
303
287
324
253
230
248
PM
DHV → D
(d,t)
2012 AVERAGE ANNUAL DAILY TRAFFIC
Build – DSA 6 & 7
LEGEND
= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
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NTS
STIP: R2721, R-2828, R-2829
WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston
DIVISION: 5/4
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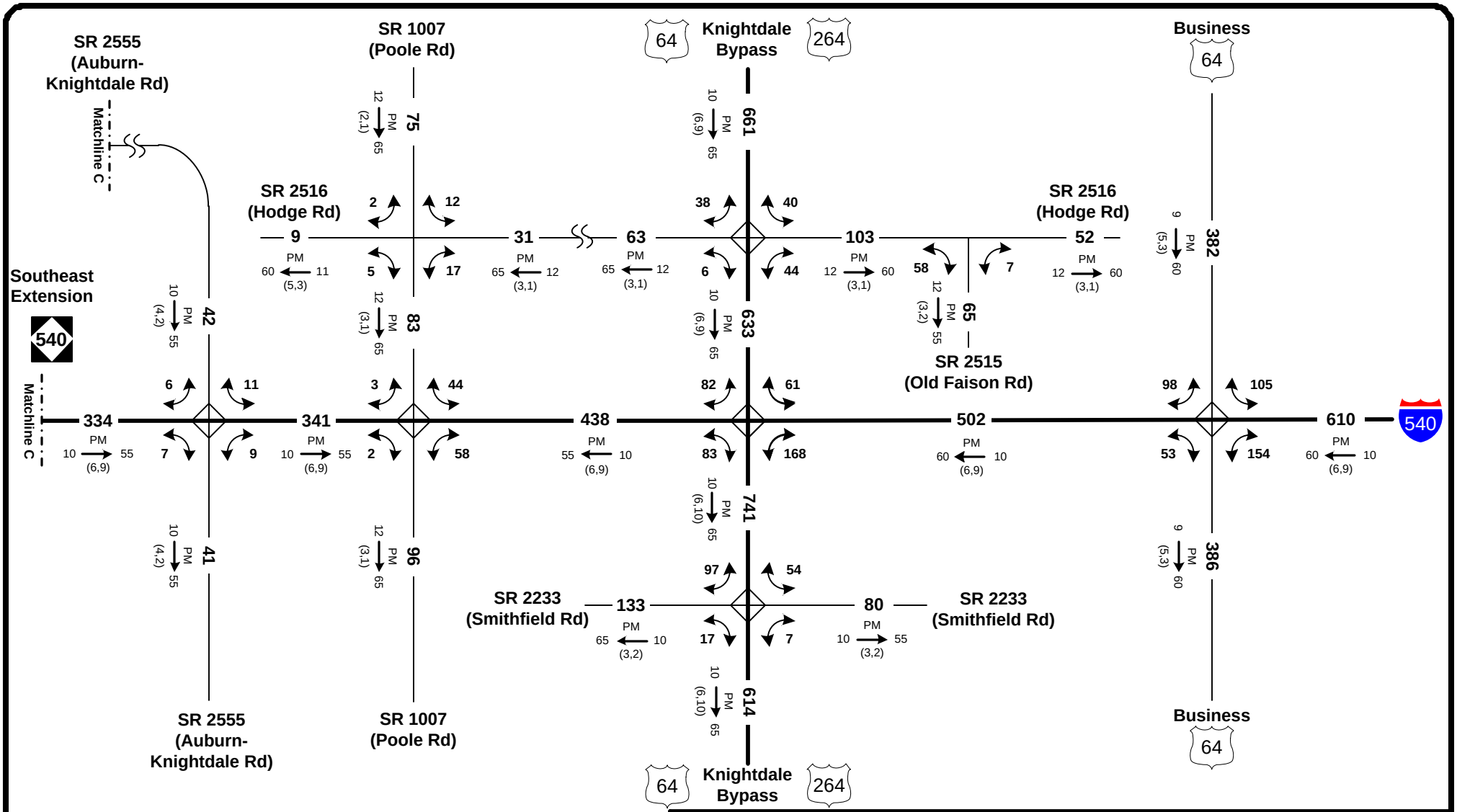
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)
PROJECT: Triangle Expressway Southeast Extension
Figure 16.4



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 6 & 7

LEGEND

= Existing Roadway
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PM
DHV → D
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NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

DATE: April 2014

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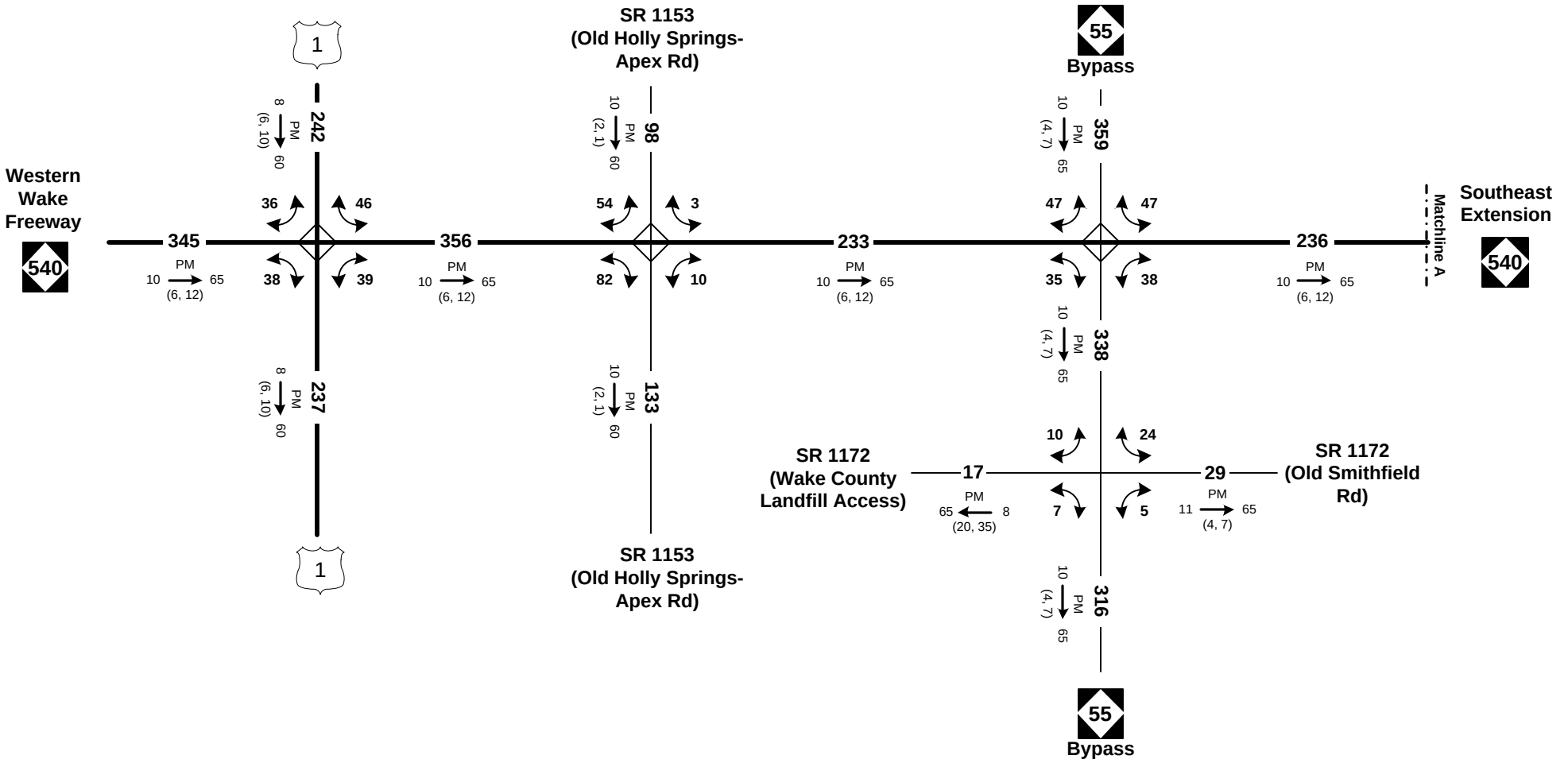
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 16.5



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 8 & 9

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

DATE: April 2014

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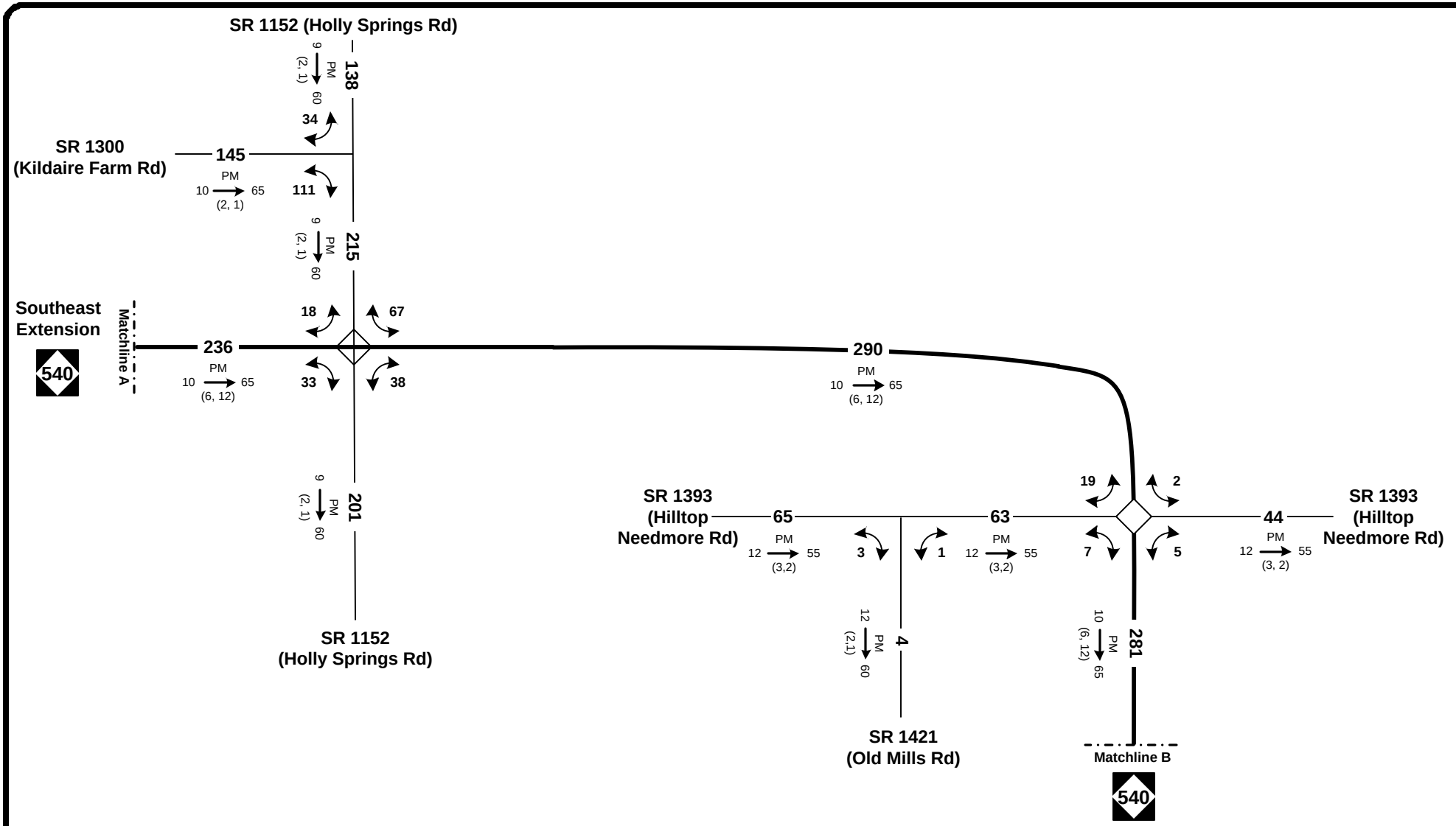
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 17.1



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 8 & 9

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
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NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

DATE: April 2014

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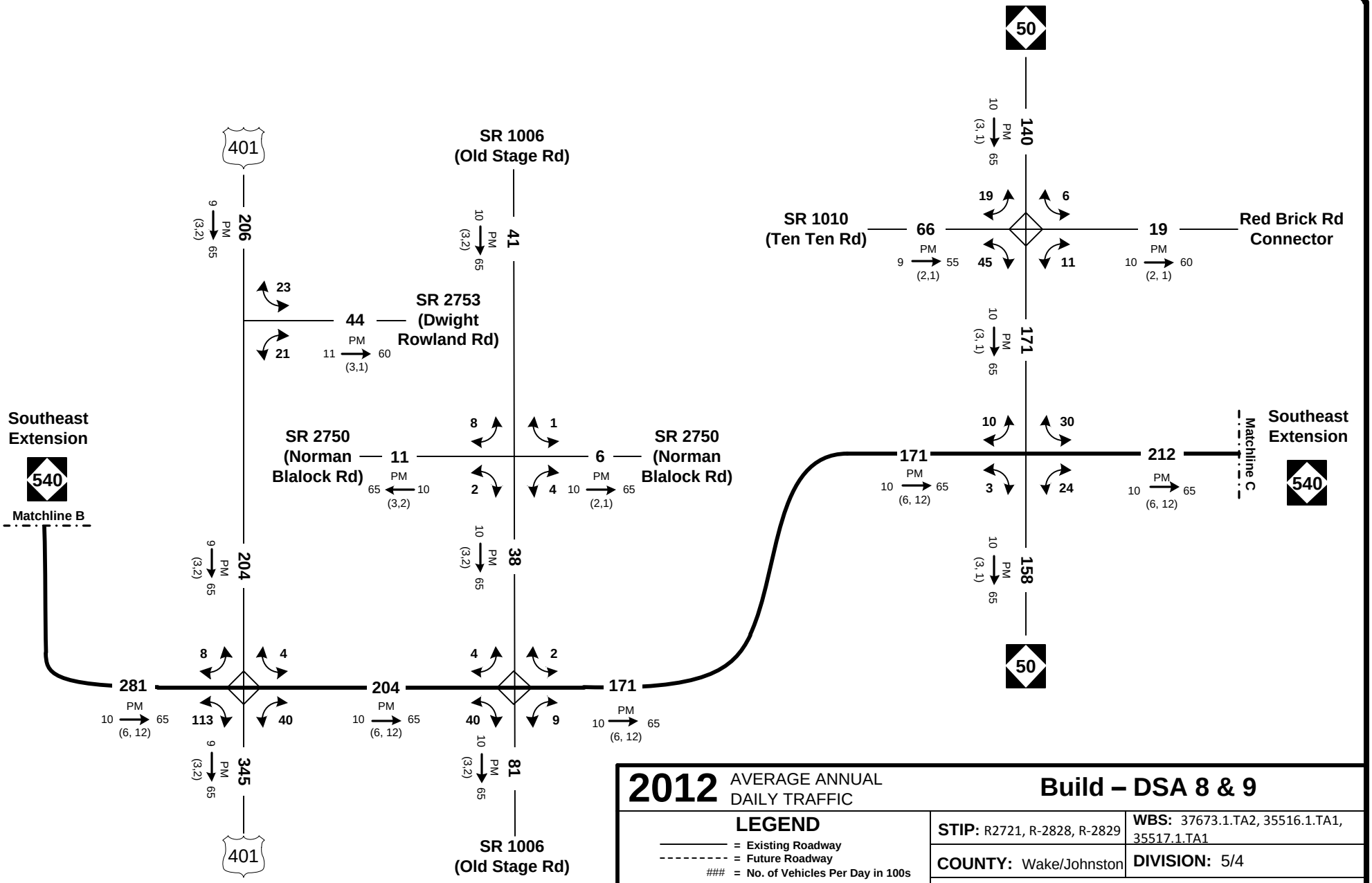
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 17.2



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 8 & 9

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM / DHV → D / (d,t)
- DHV = Design Hourly Volume = K30
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NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
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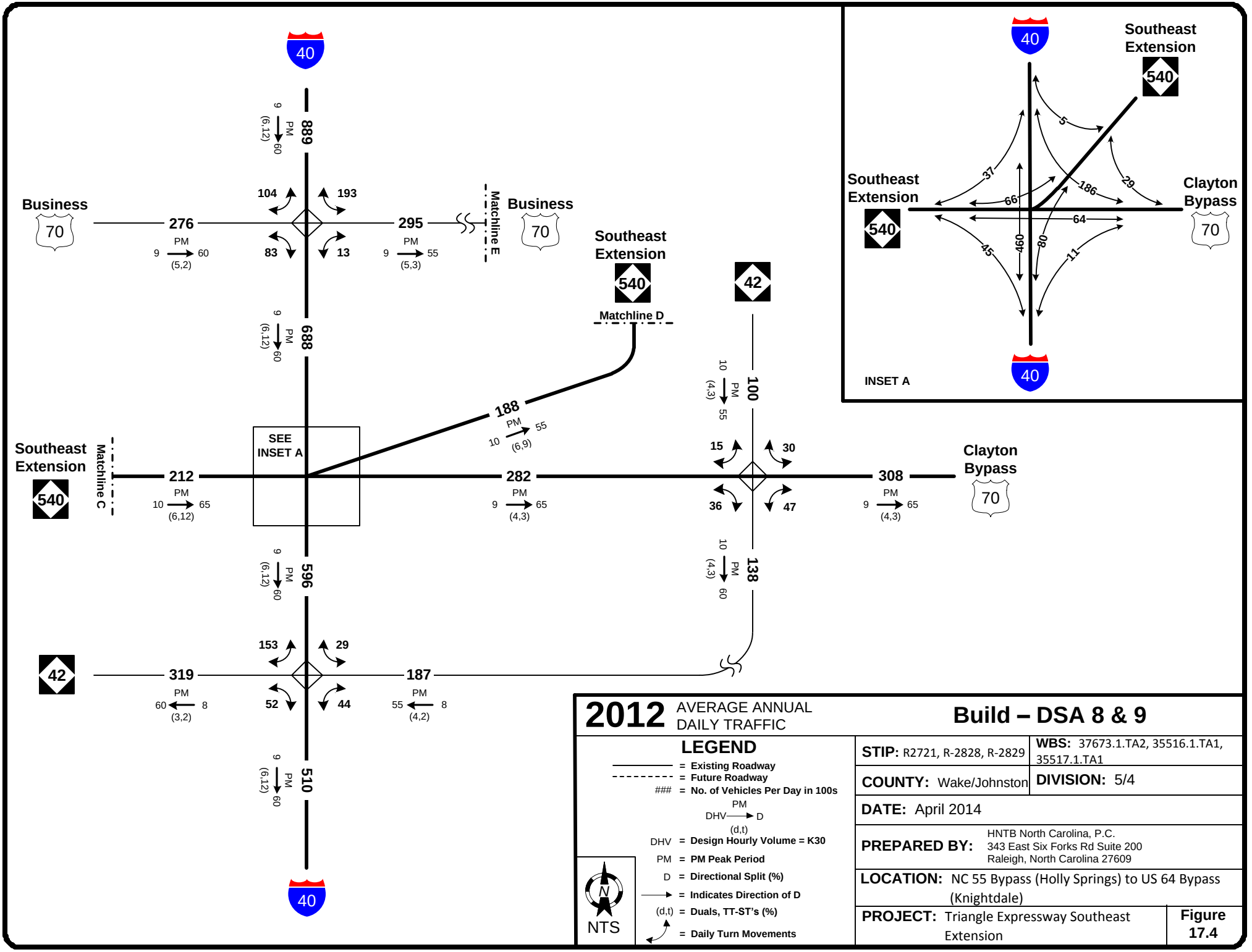
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 17.3**



2012 AVERAGE ANNUAL DAILY TRAFFIC

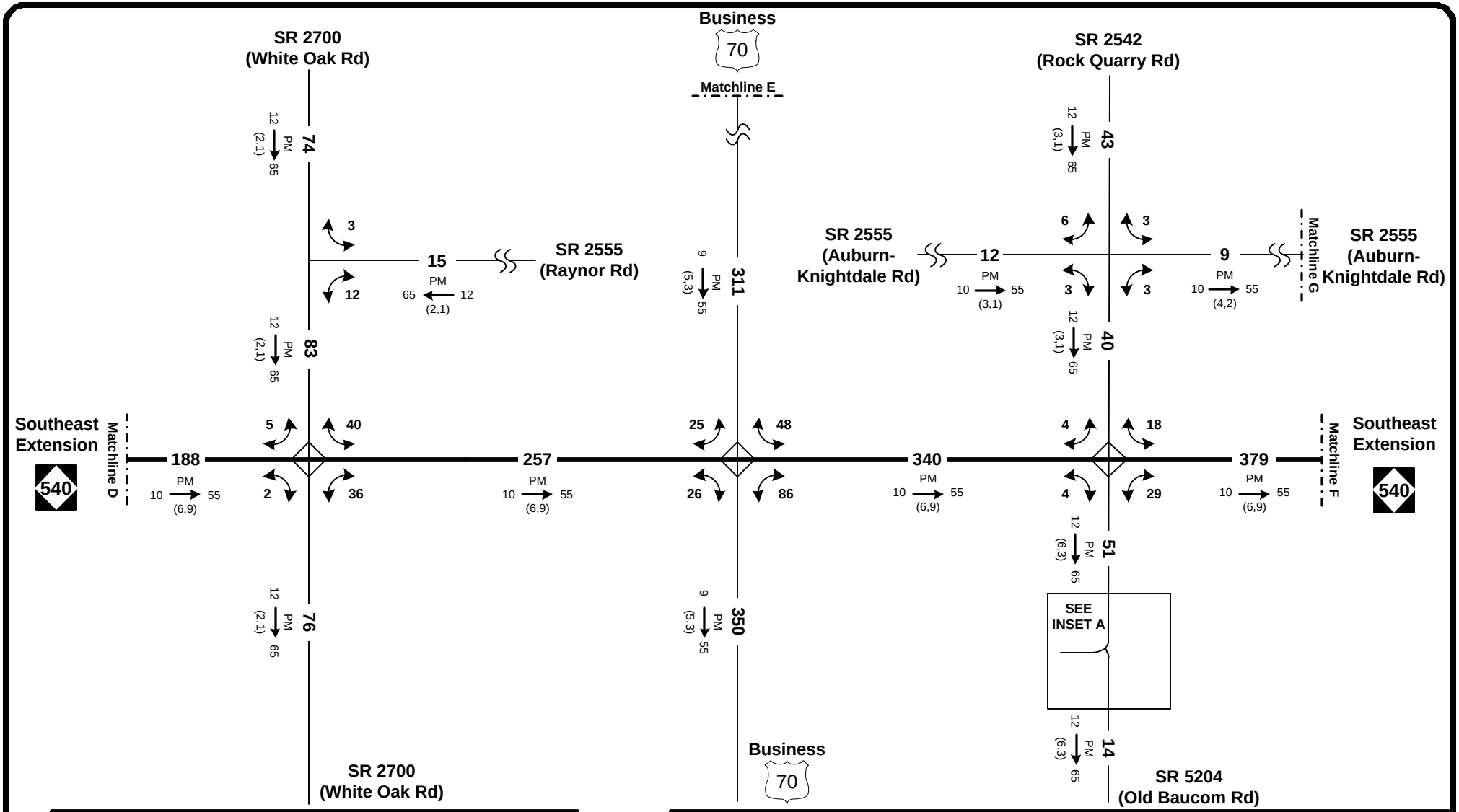
Build – DSA 8 & 9

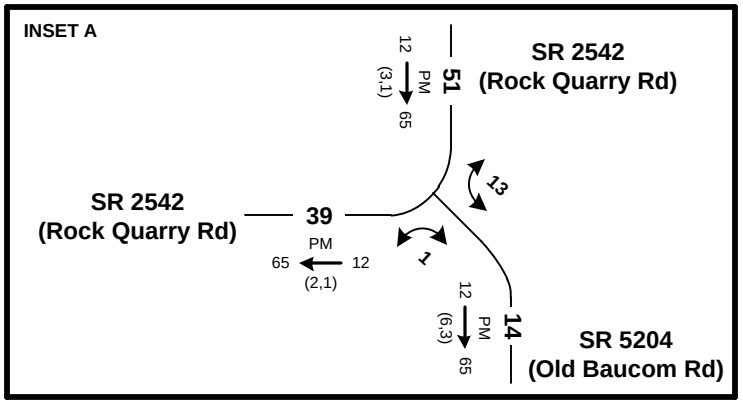
LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 17.4**





2012 AVERAGE ANNUAL DAILY TRAFFIC

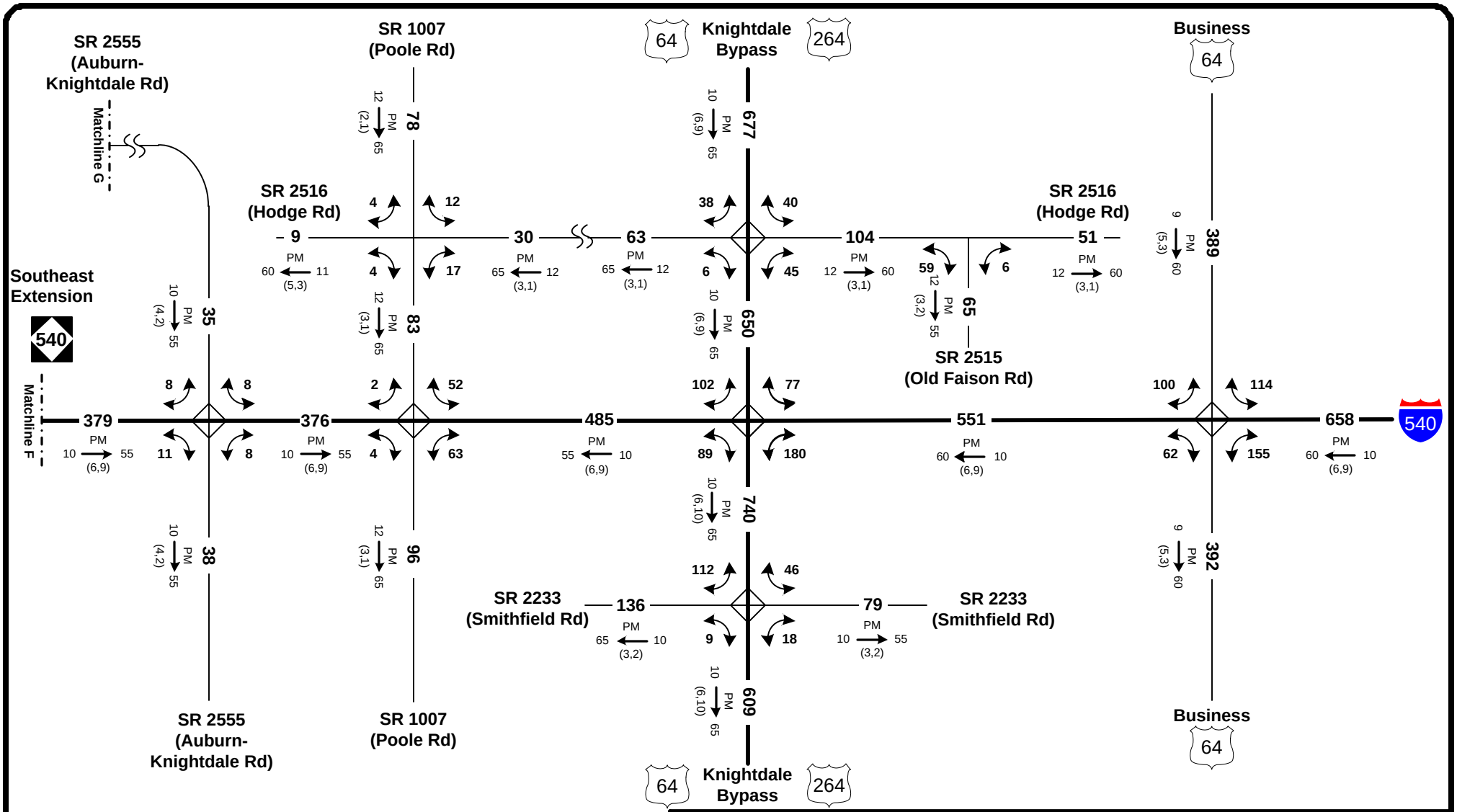
Build – DSA 8 & 9

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 17.5**



2012 AVERAGE ANNUAL DAILY TRAFFIC

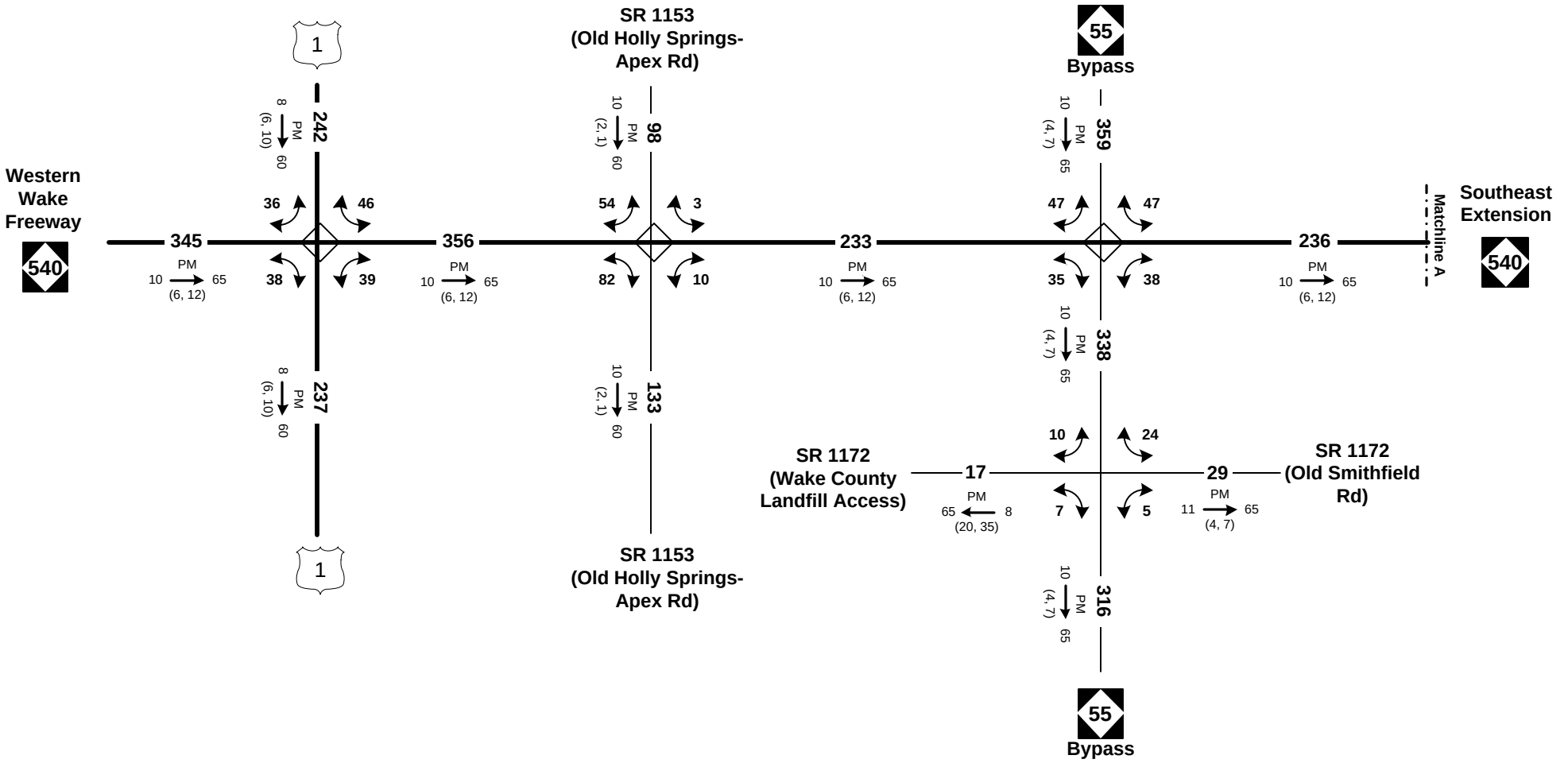
Build – DSA 8 & 9

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 17.6**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 10 & 11

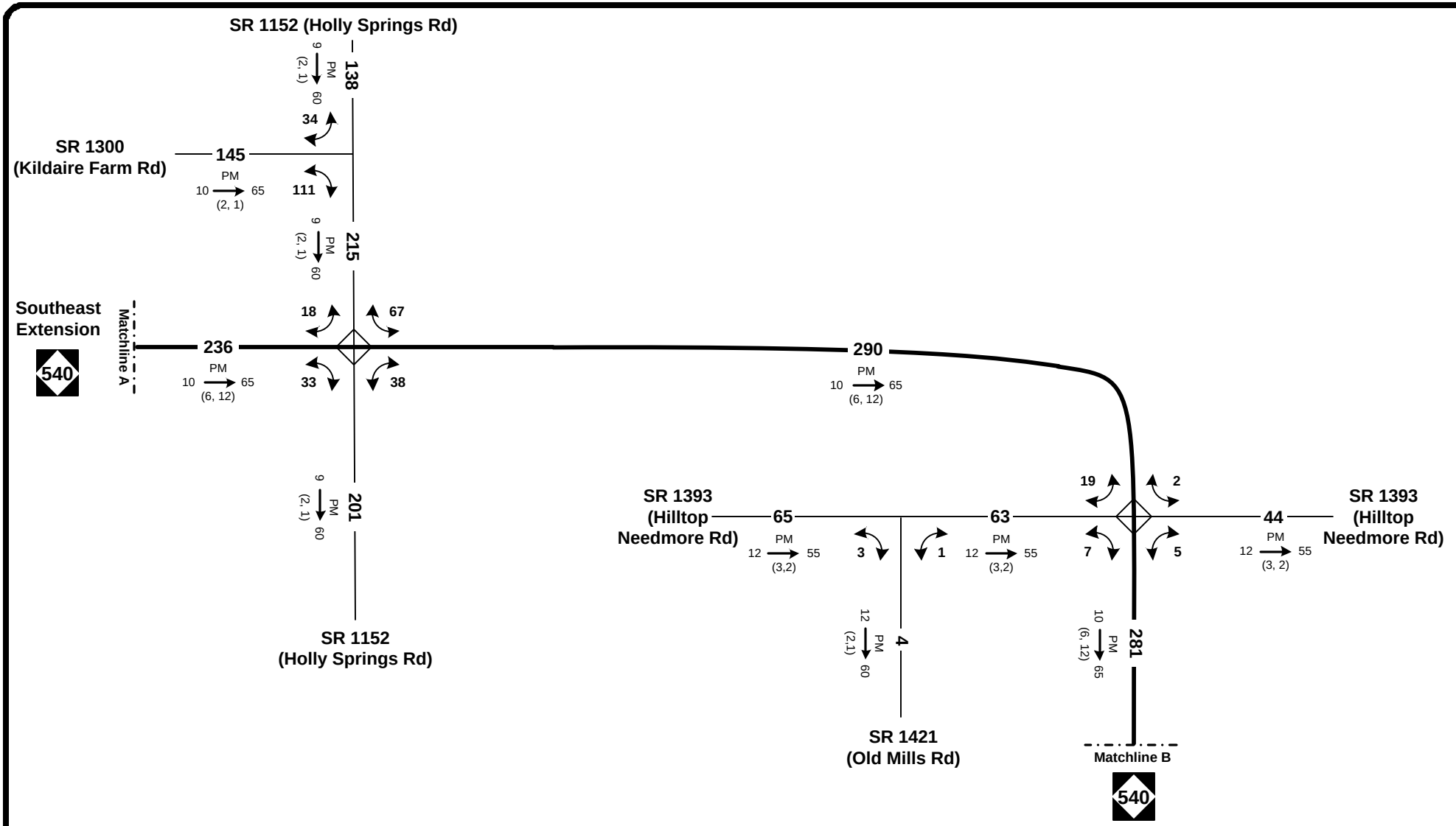
LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY:	HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 18.1**



2012 AVERAGE ANNUAL DAILY TRAFFIC

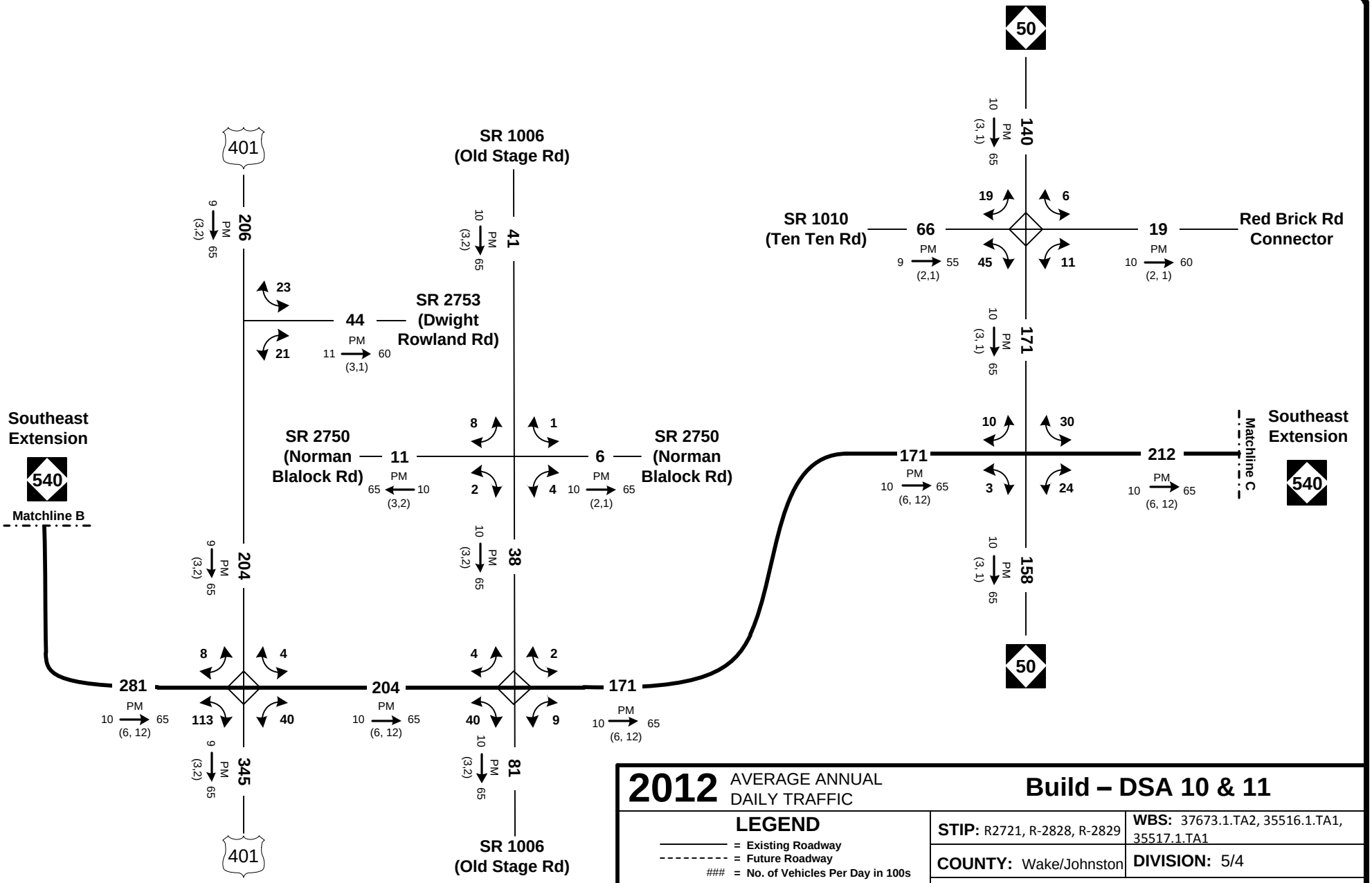
Build – DSA 10 & 11

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 18.2**



2012 AVERAGE ANNUAL DAILY TRAFFIC

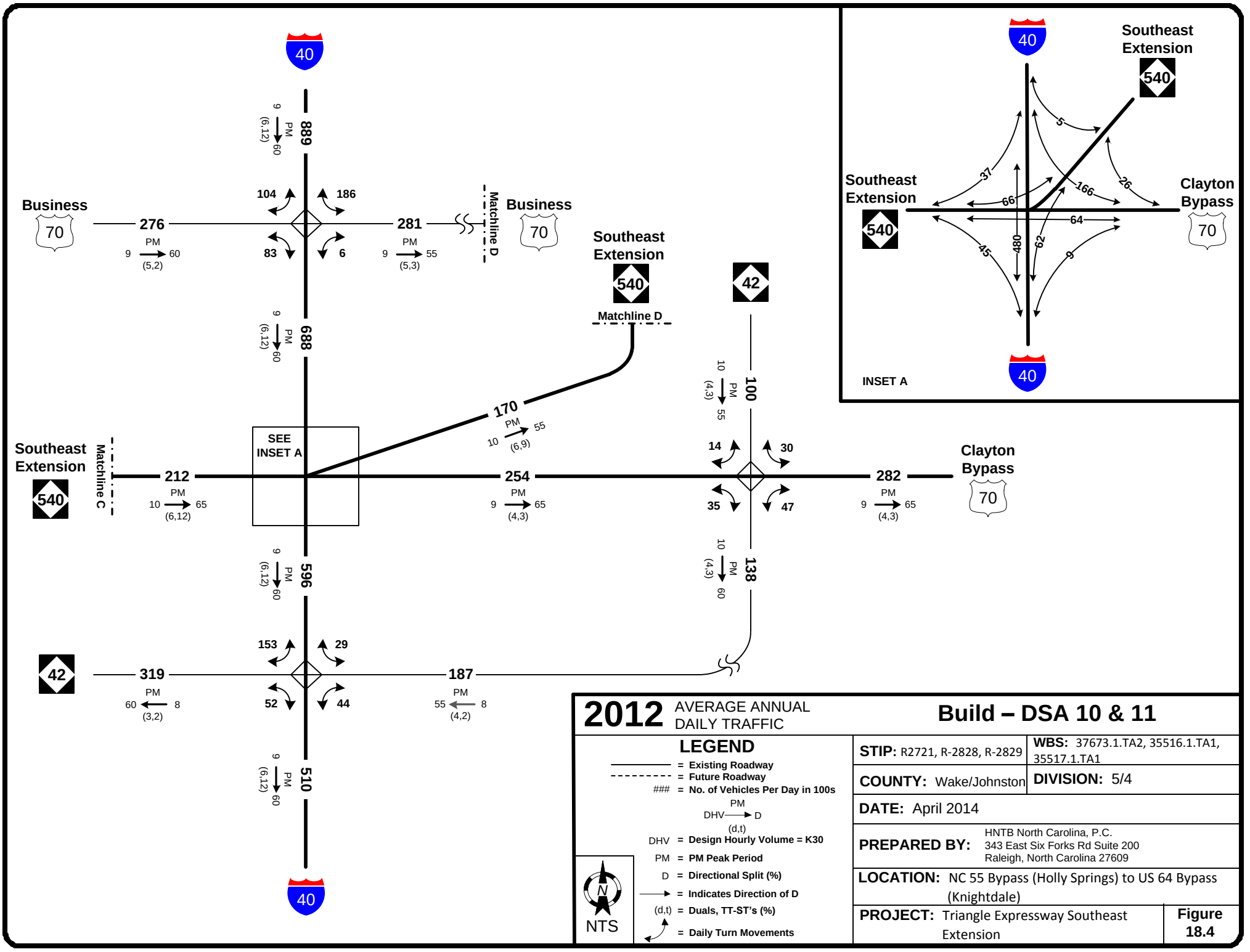
Build – DSA 10 & 11

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM DHV → D (d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
→ = Indicates Direction of D
(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements

N
NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 18.3**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 10 & 11

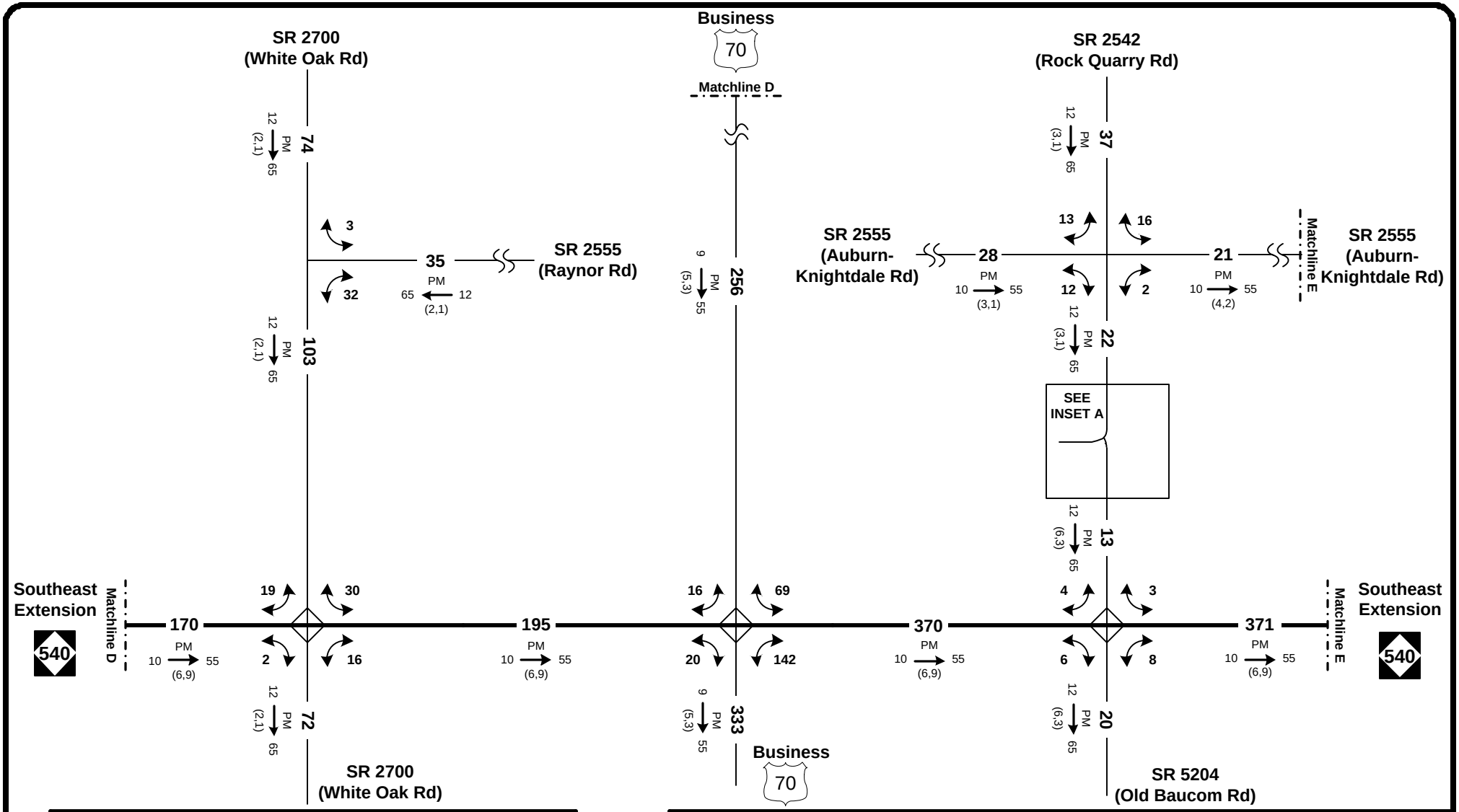
LEGEND

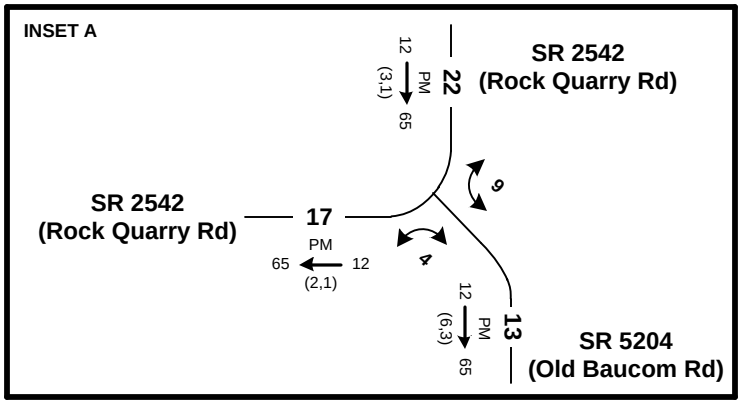
- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 18.4**





2012 AVERAGE ANNUAL DAILY TRAFFIC

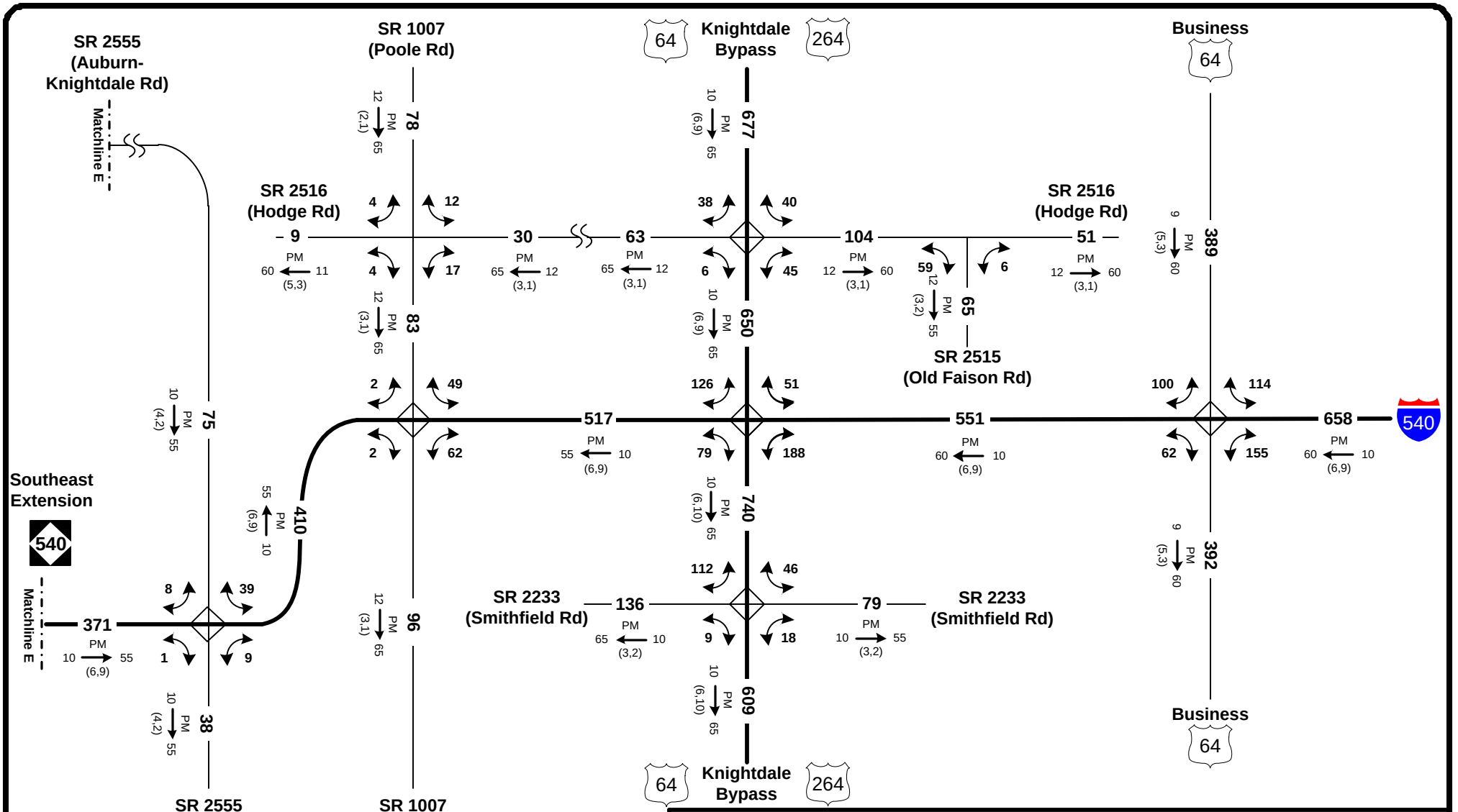
BUILD – DSA 10 & 11

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 18.5**



2012 AVERAGE ANNUAL DAILY TRAFFIC

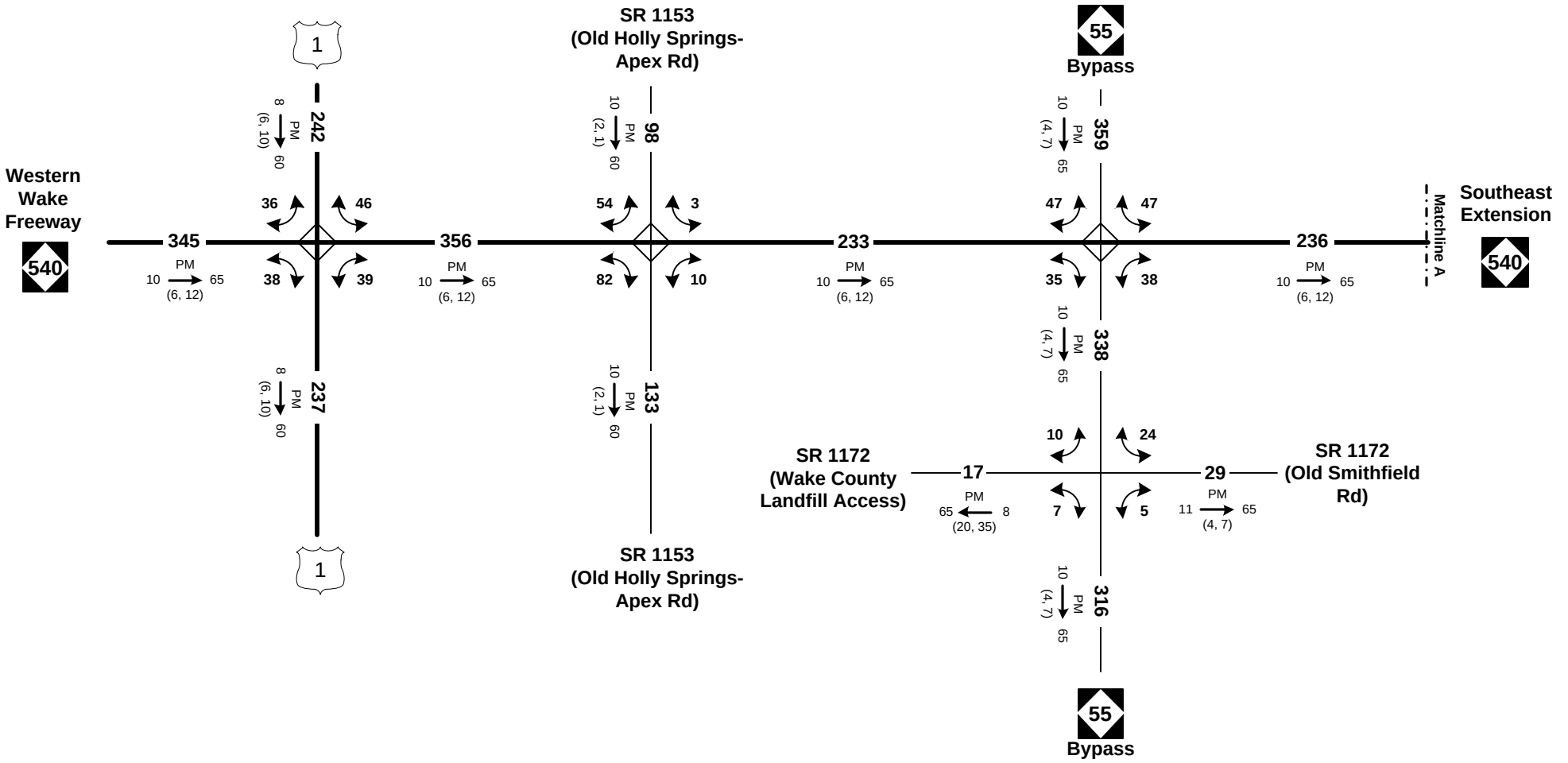
Build – DSA 10 & 11

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM / DHV → D / (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 18.6**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 12

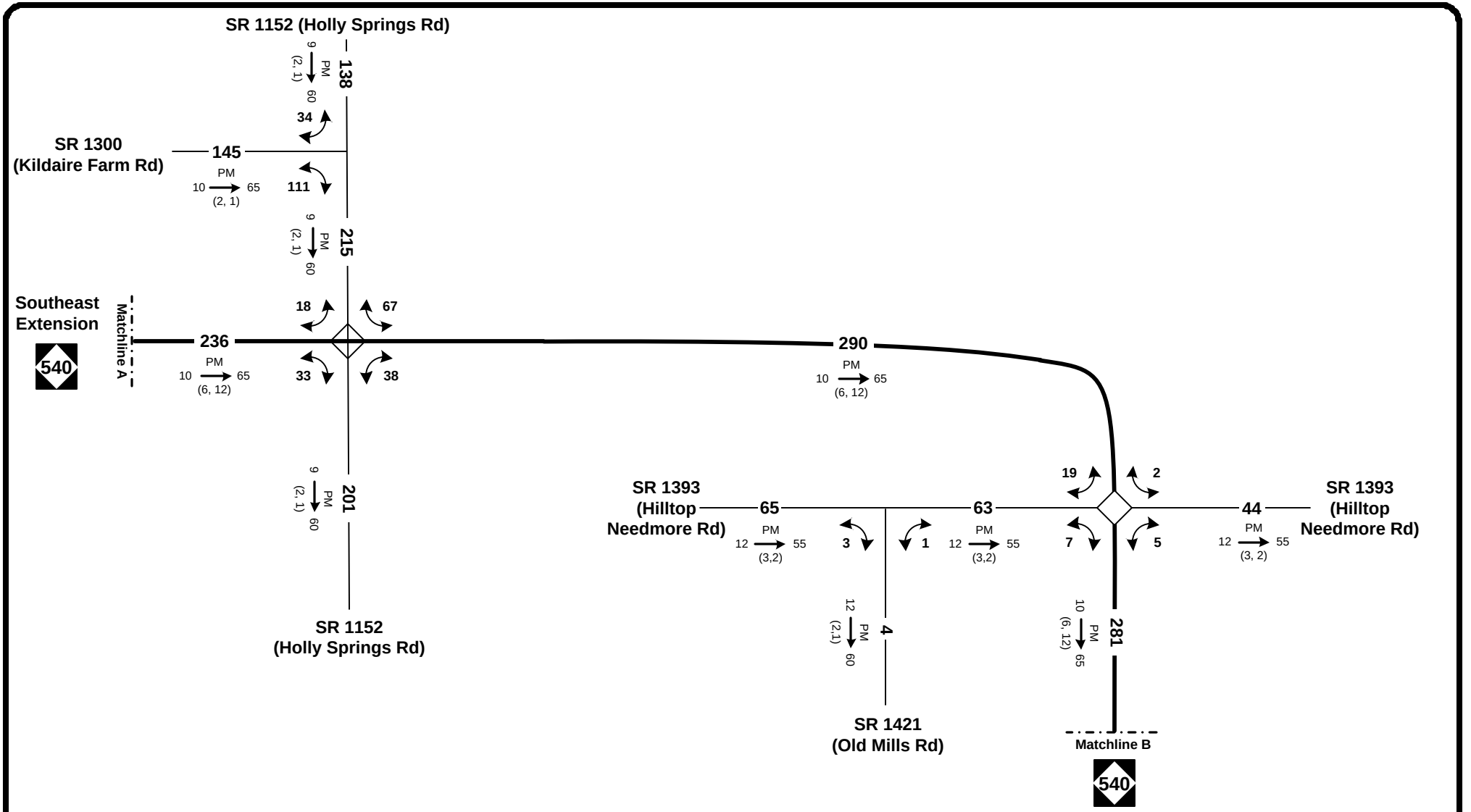
LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 19.1**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 12

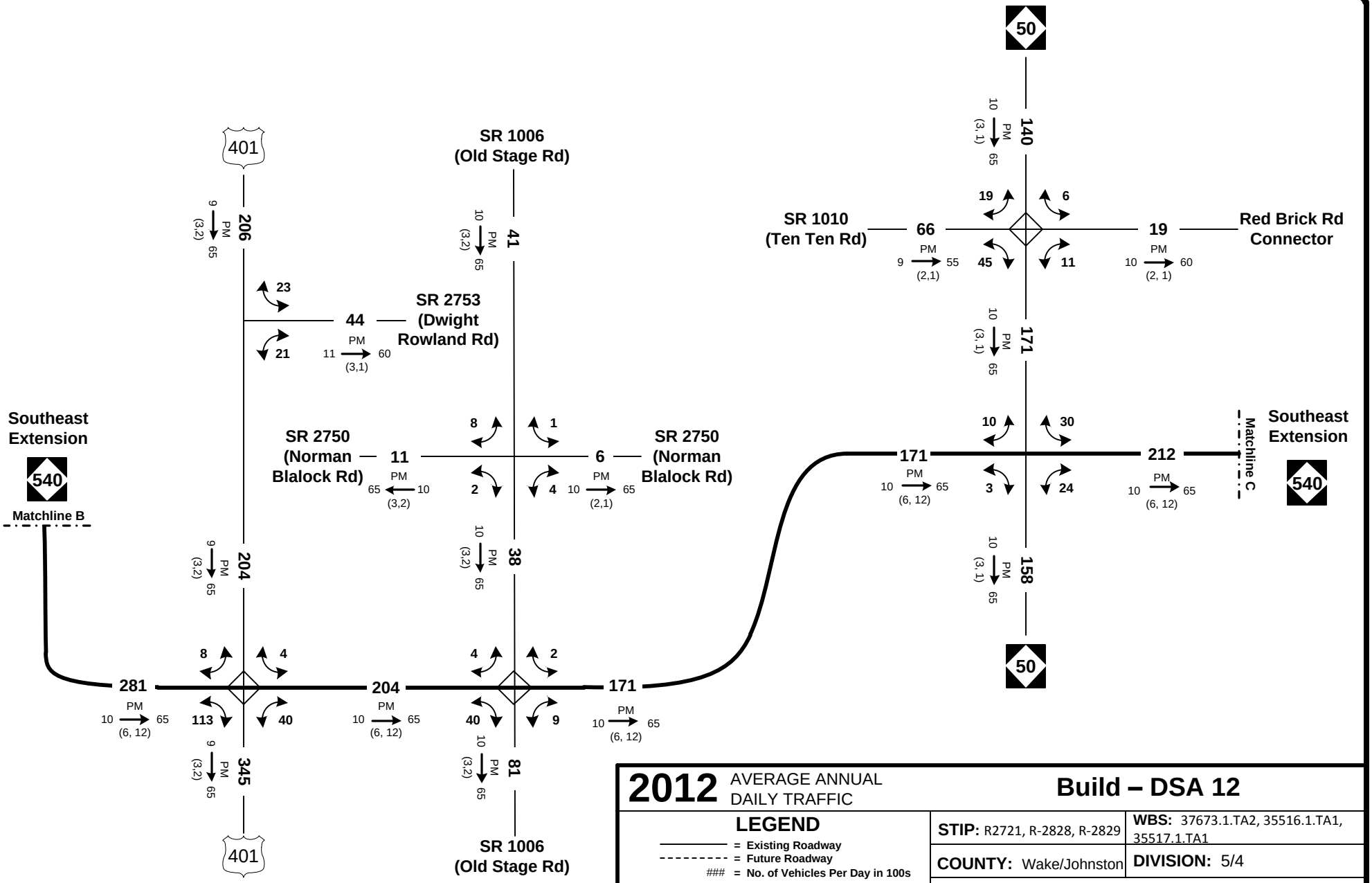
LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 19.2**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 12

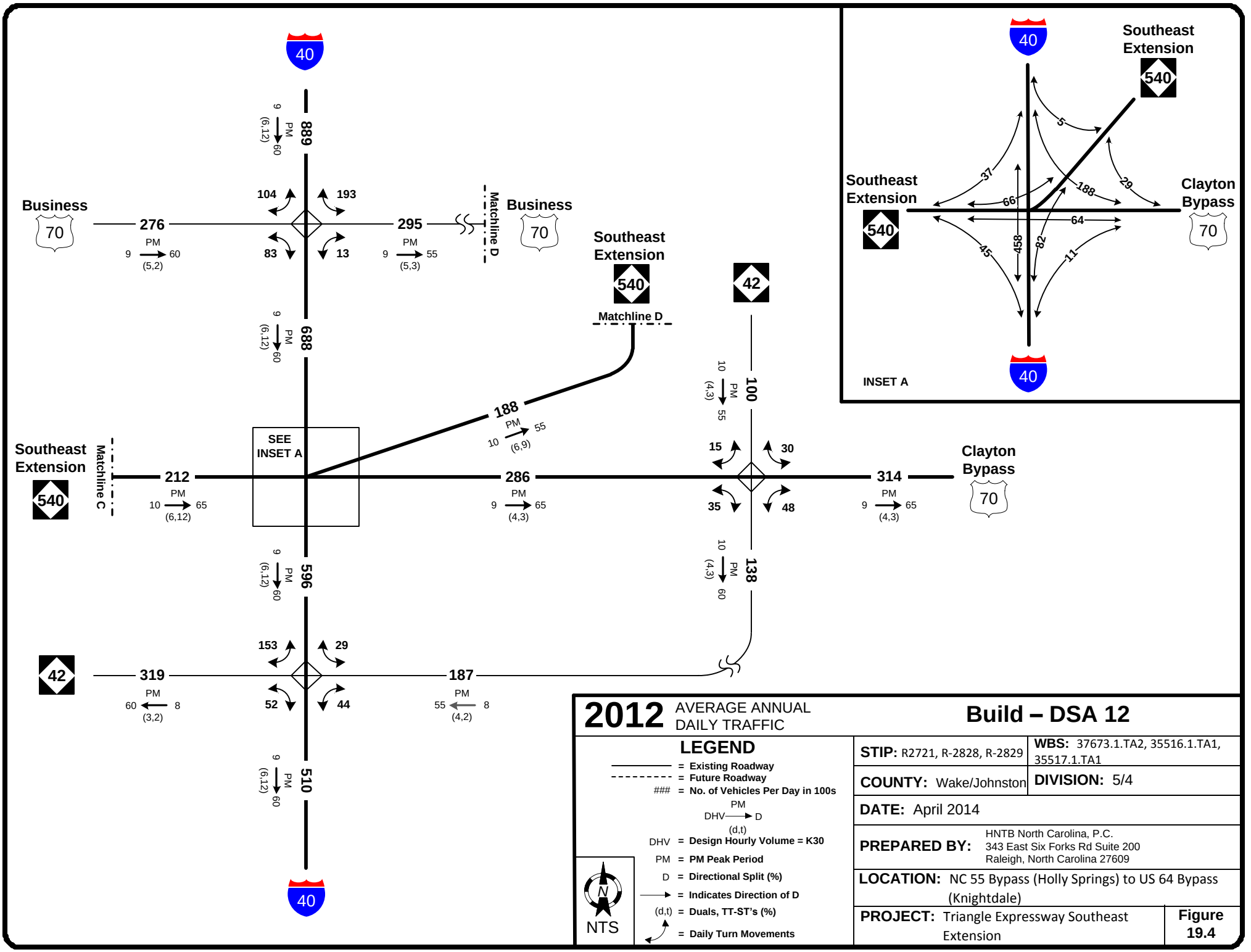
LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 19.3**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 12

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
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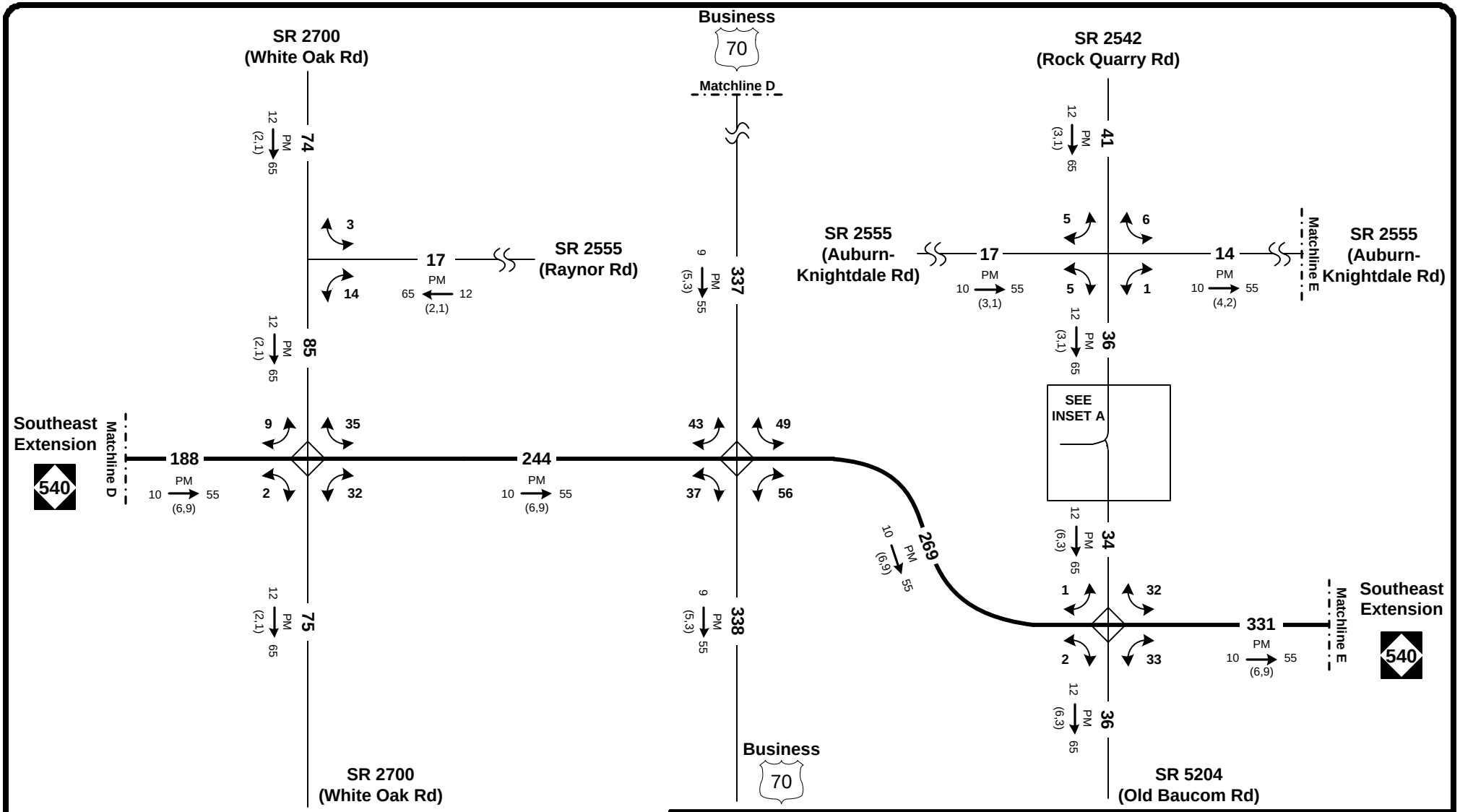
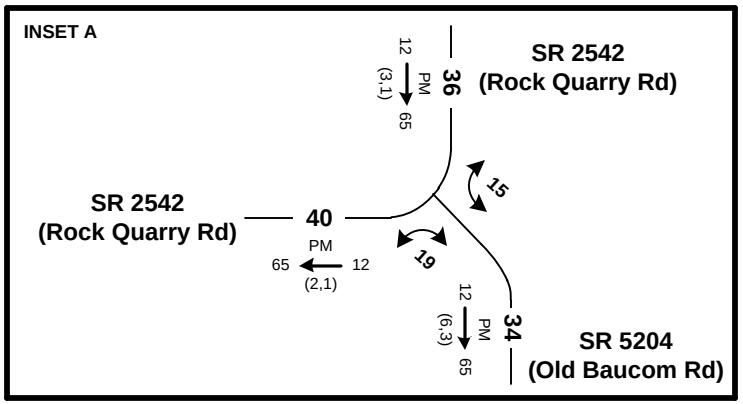
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 19.4**





2012 AVERAGE ANNUAL DAILY TRAFFIC

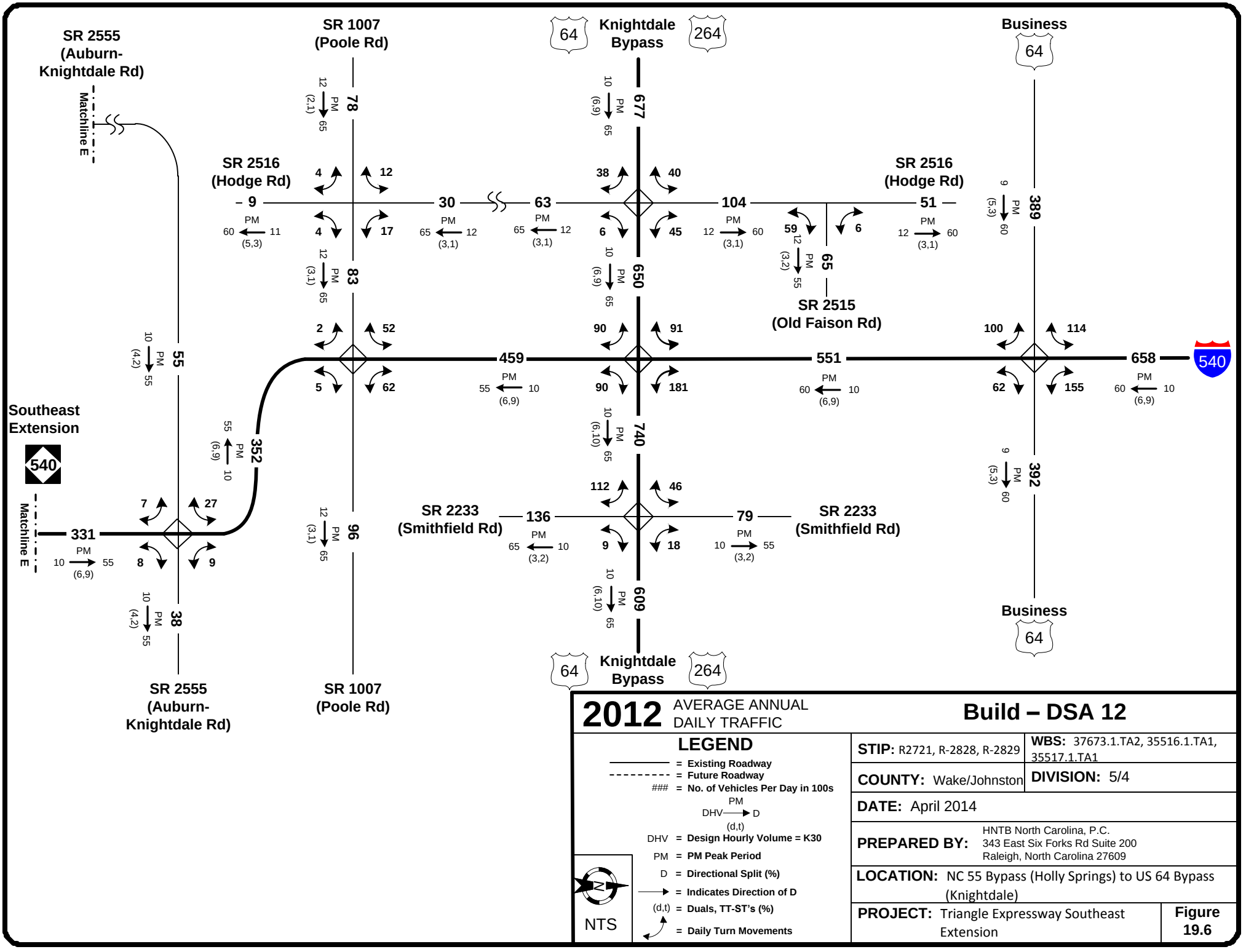
Build – DSA 12

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 19.5**



2012 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 12

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

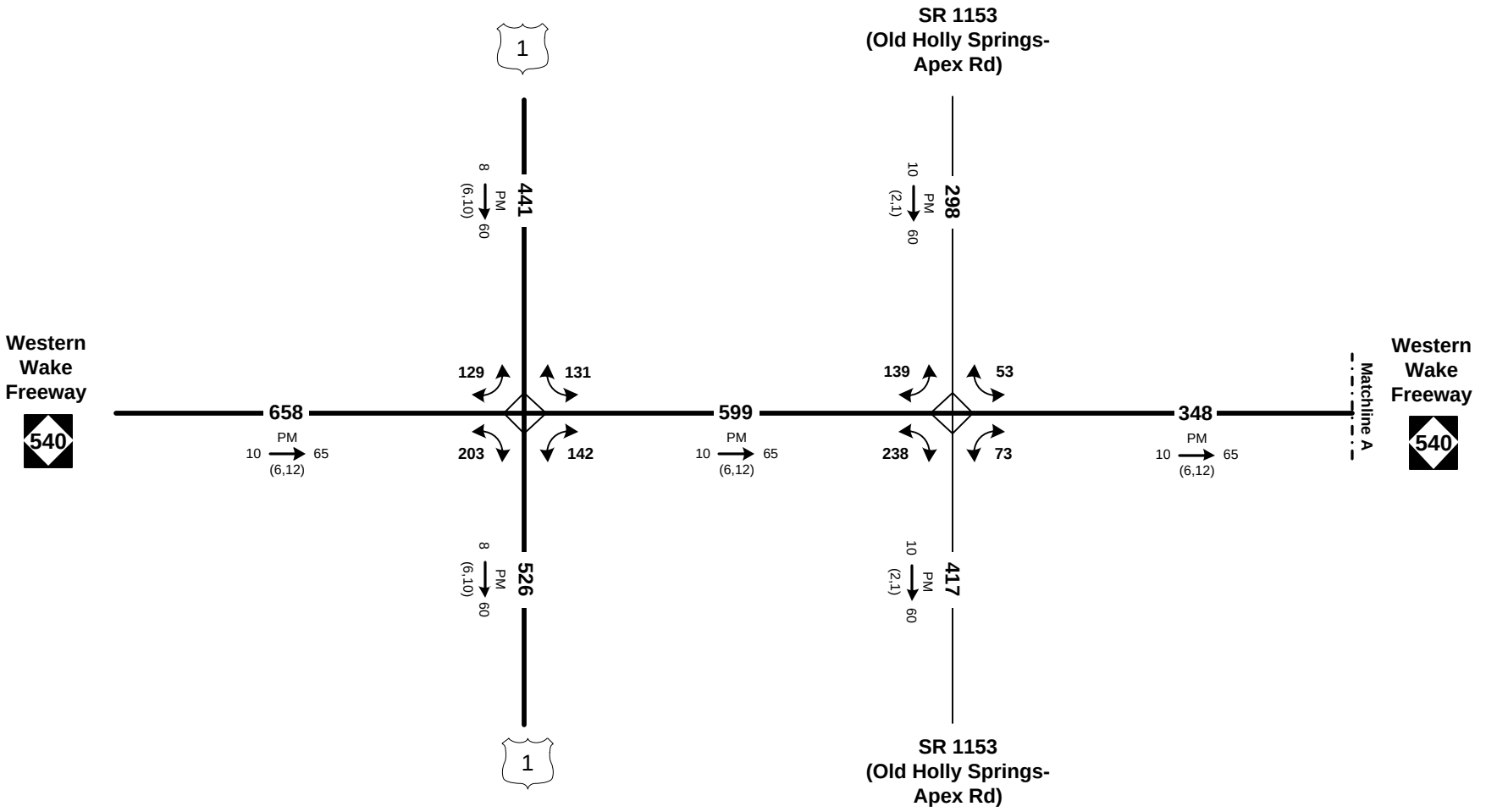
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 19.6



2035 AVERAGE ANNUAL DAILY TRAFFIC

No-Build

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

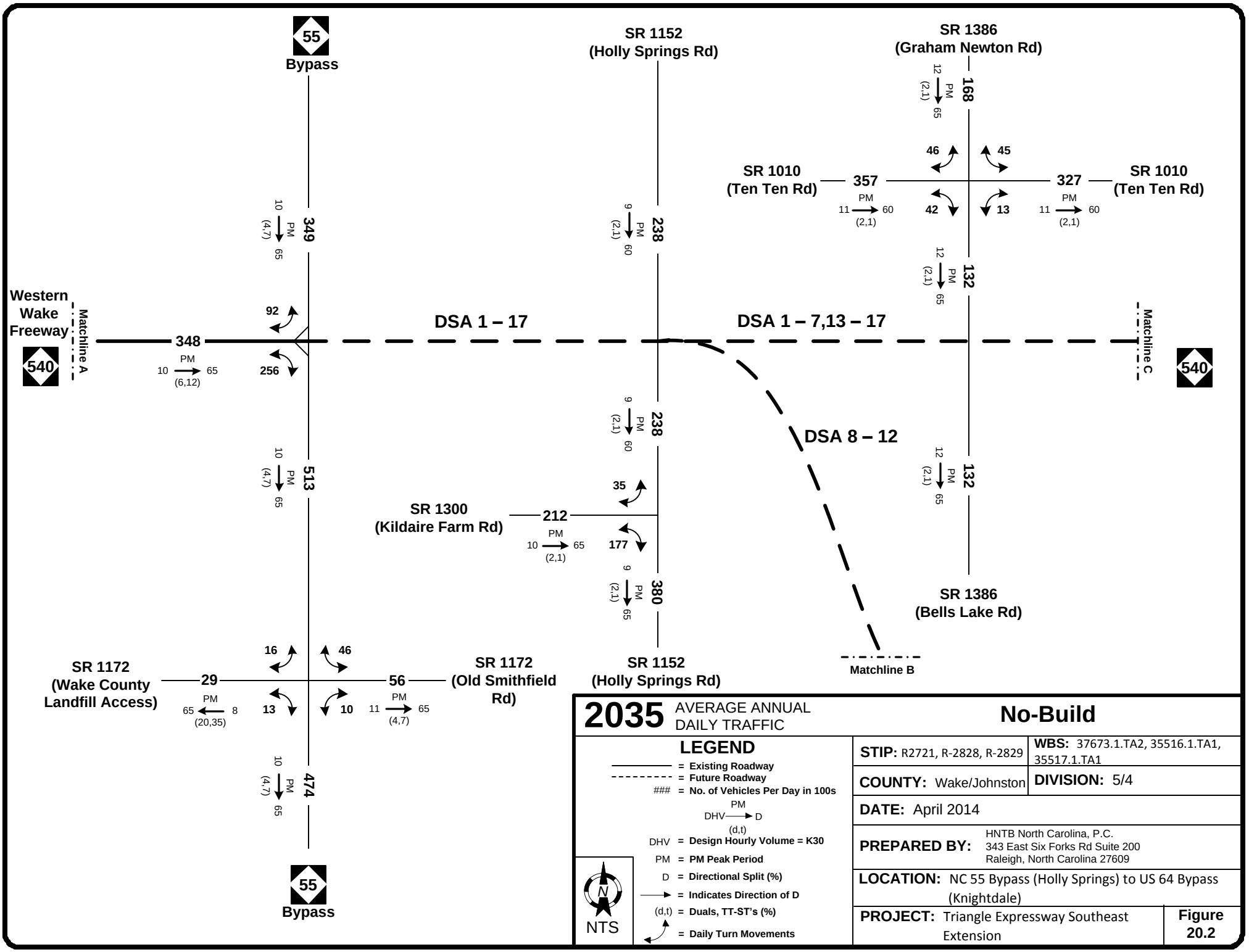
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 20.1



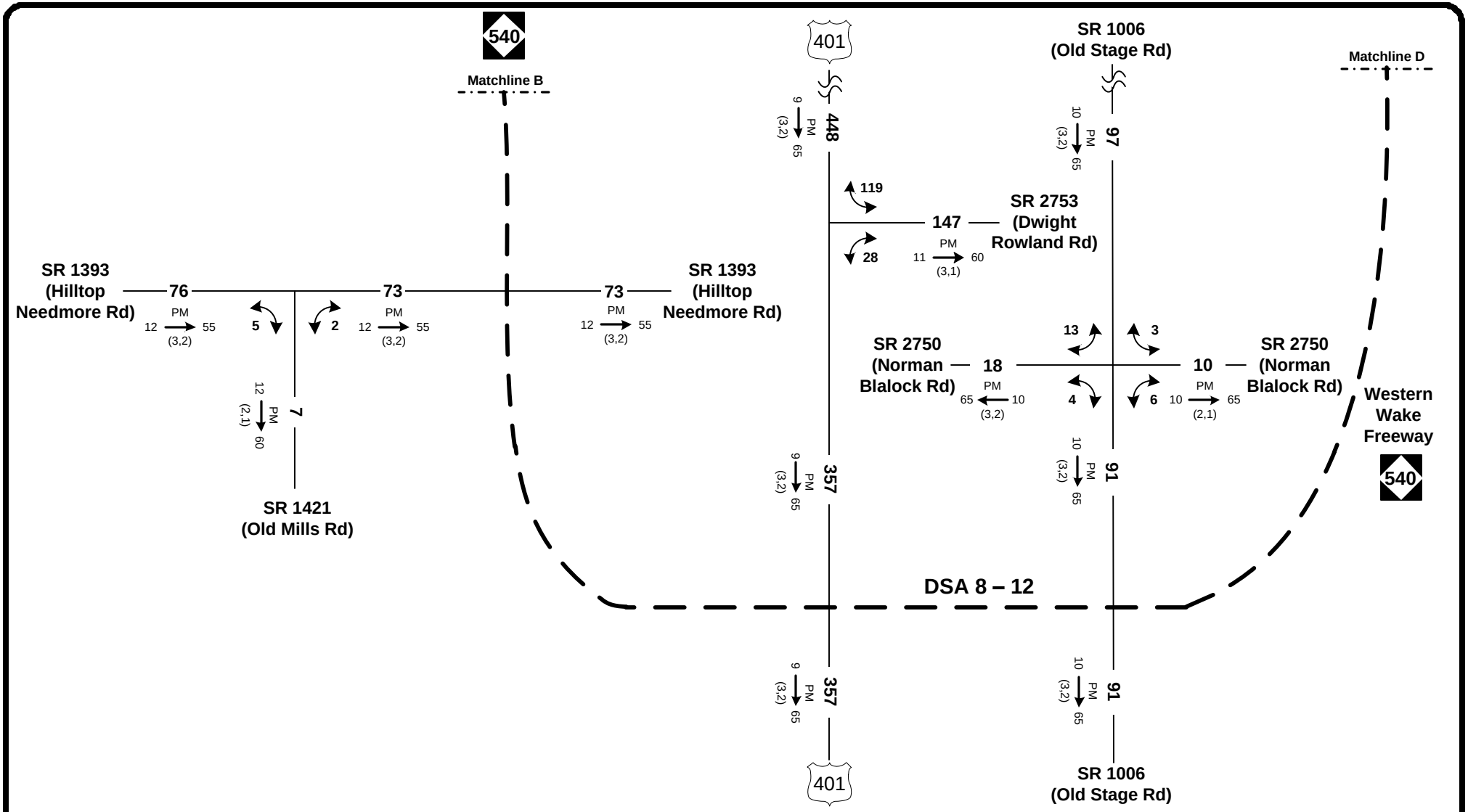
2035 AVERAGE ANNUAL DAILY TRAFFIC

No-Build

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 20.2**



2035 AVERAGE ANNUAL DAILY TRAFFIC

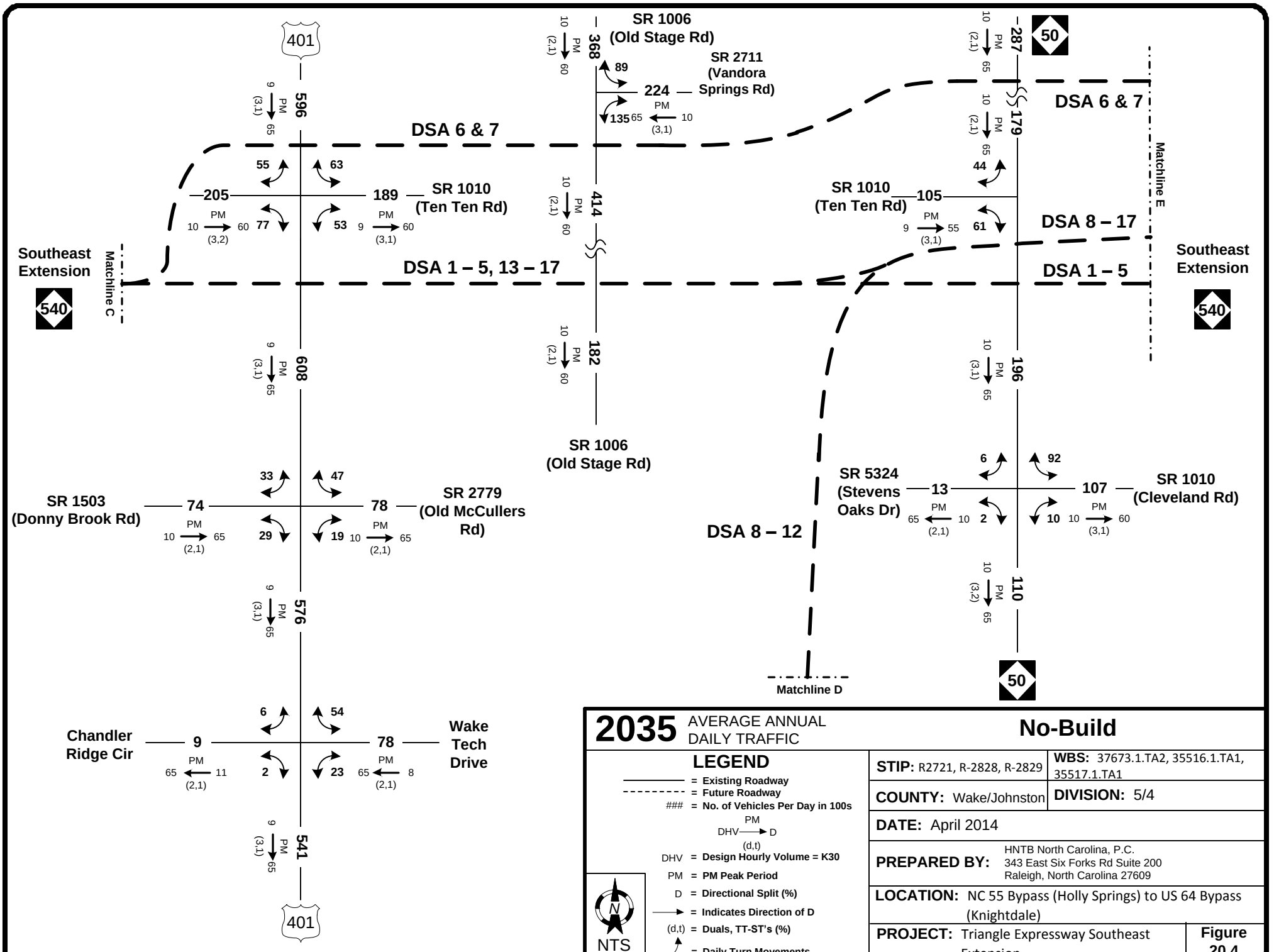
No-Build

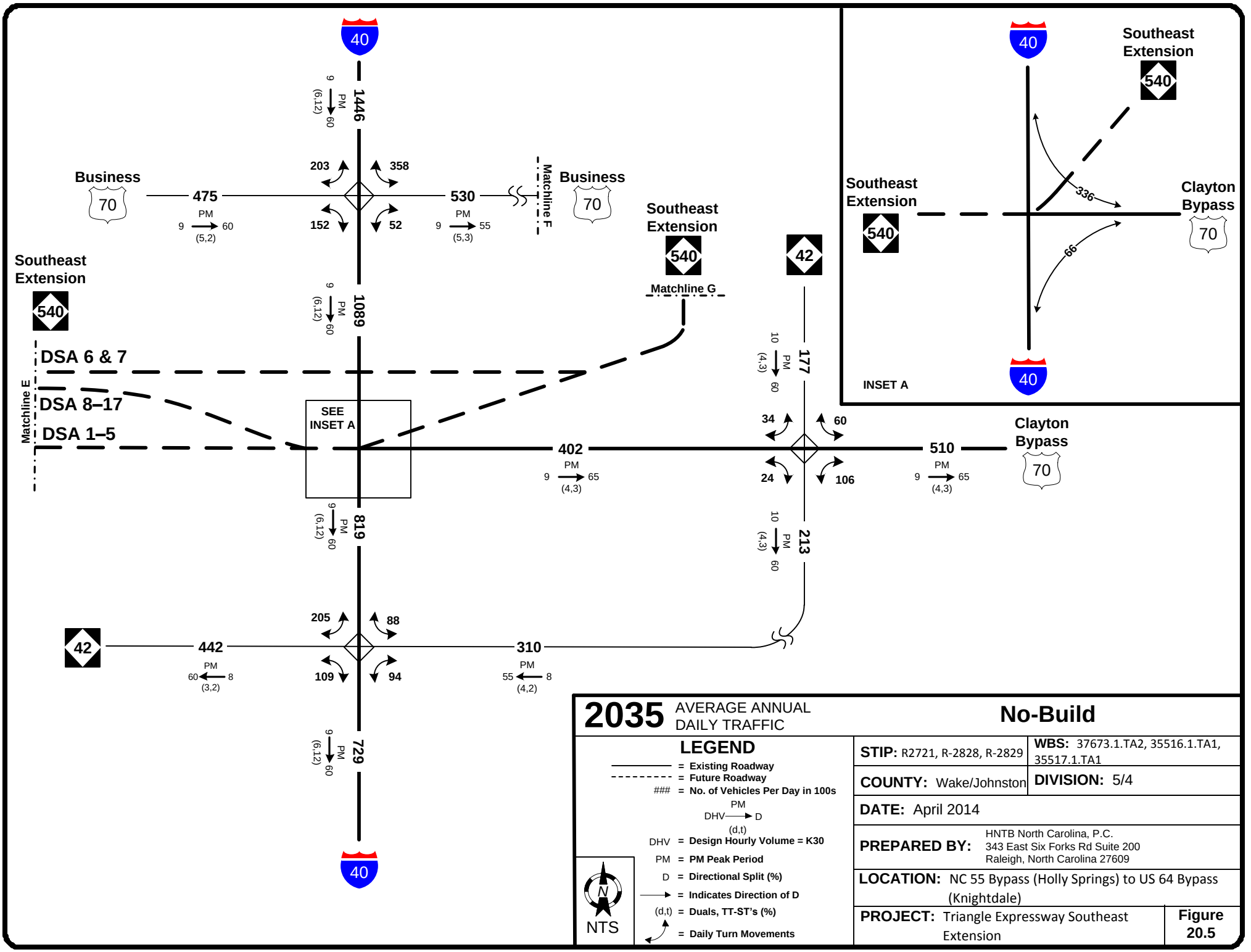
LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM / DHV → D / (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 20.3**


401
596
9 PM (3,1) 65
DSA 6 & 7
55
63
205
189
SR 1010 (Ten Ten Rd)
PM 10 60 (3,2)
77
53
PM 9 60 (3,1)
Southeast Extension
540
Matchline C
DSA 1 – 5, 13 – 17
608
9 PM (3,1) 65
33
47
SR 1503 (Donny Brook Rd)
74
78
SR 2779 (Old McCullers Rd)
PM 10 65 (2,1)
29
19
PM 10 65 (2,1)
576
9 PM (3,1) 65
6
54
Chandler Ridge Cir
9
78
Wake Tech Drive
PM 65 11 (2,1)
2
23
PM 65 8 (2,1)
541
9 PM (3,1) 65
401
SR 1006 (Old Stage Rd)
10 PM (2,1) 60
368
89
224
SR 2711 (Vandora Springs Rd)
135
PM 65 10 (3,1)
414
10 PM (2,1) 60
182
10 PM (2,1) 60
SR 1006 (Old Stage Rd)
287
10 PM (2,1) 65
50
DSA 6 & 7
179
10 PM (2,1) 65
44
SR 1010 (Ten Ten Rd)
105
PM 9 55 (3,1)
61
DSA 8 – 17
DSA 1 – 5
Matchline E
Southeast Extension
540
196
10 PM (3,1) 65
6
92
SR 5324 (Stevens Oaks Dr)
13
107
SR 1010 (Cleveland Rd)
65 PM 10 (2,1)
2
10
10 PM 10 60 (3,1)
DSA 8 – 12
110
10 PM (3,2) 65
Matchline D
50
2035 AVERAGE ANNUAL DAILY TRAFFIC
No-Build
LEGEND
= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
→ = Indicates Direction of D
(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements
N
NTS
STIP: R2721, R-2828, R-2829
WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston
DIVISION: 5/4
DATE: April 2014
PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)
PROJECT: Triangle Expressway Southeast Extension
Figure 20.4



2035 AVERAGE ANNUAL DAILY TRAFFIC

No-Build

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
→ = Indicates Direction of D
(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements

N
NTS

STIP: R2721, R-2828, R-2829
WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston
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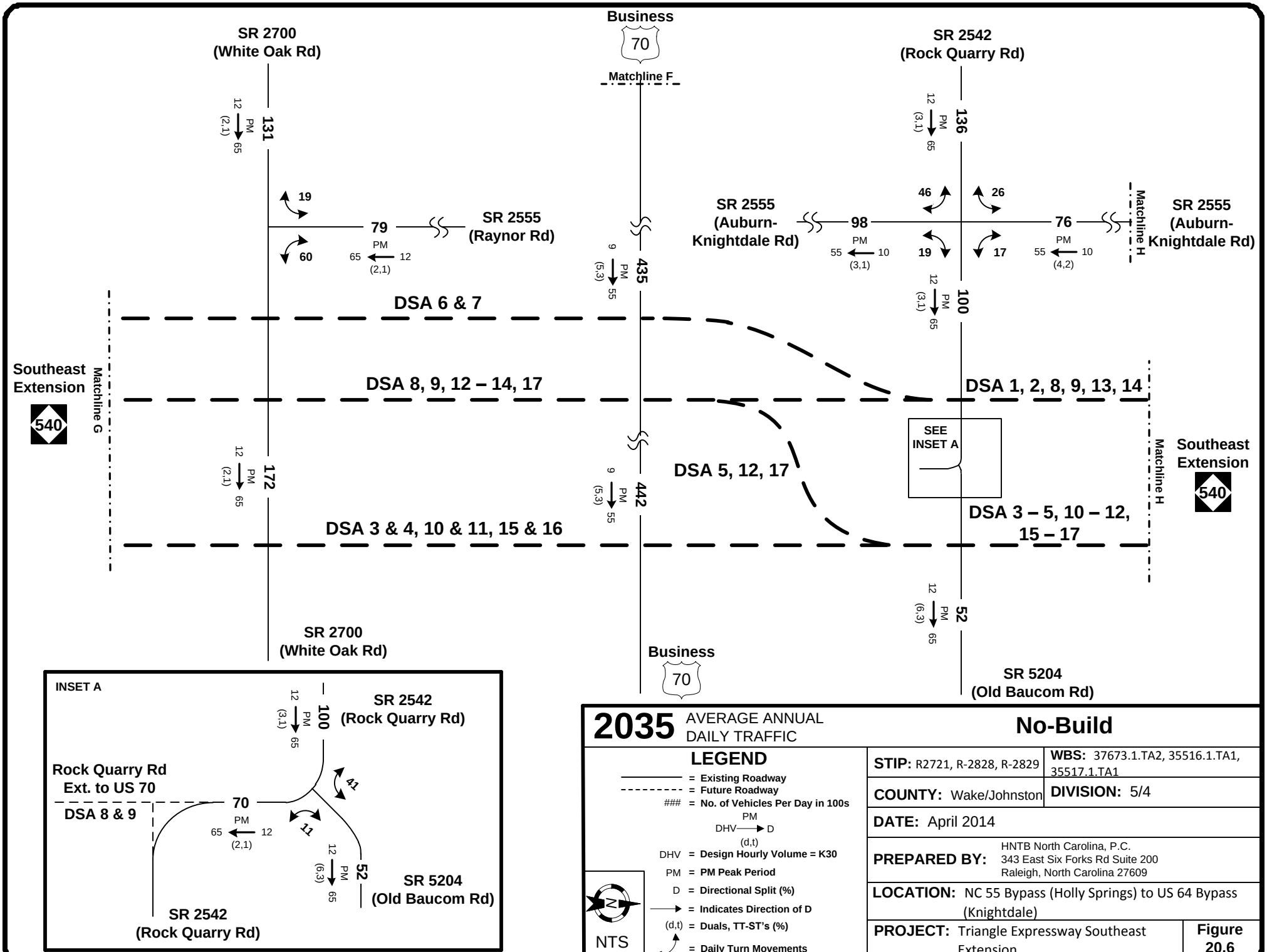
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)
PROJECT: Triangle Expressway Southeast Extension

Figure 20.5



2035 AVERAGE ANNUAL DAILY TRAFFIC

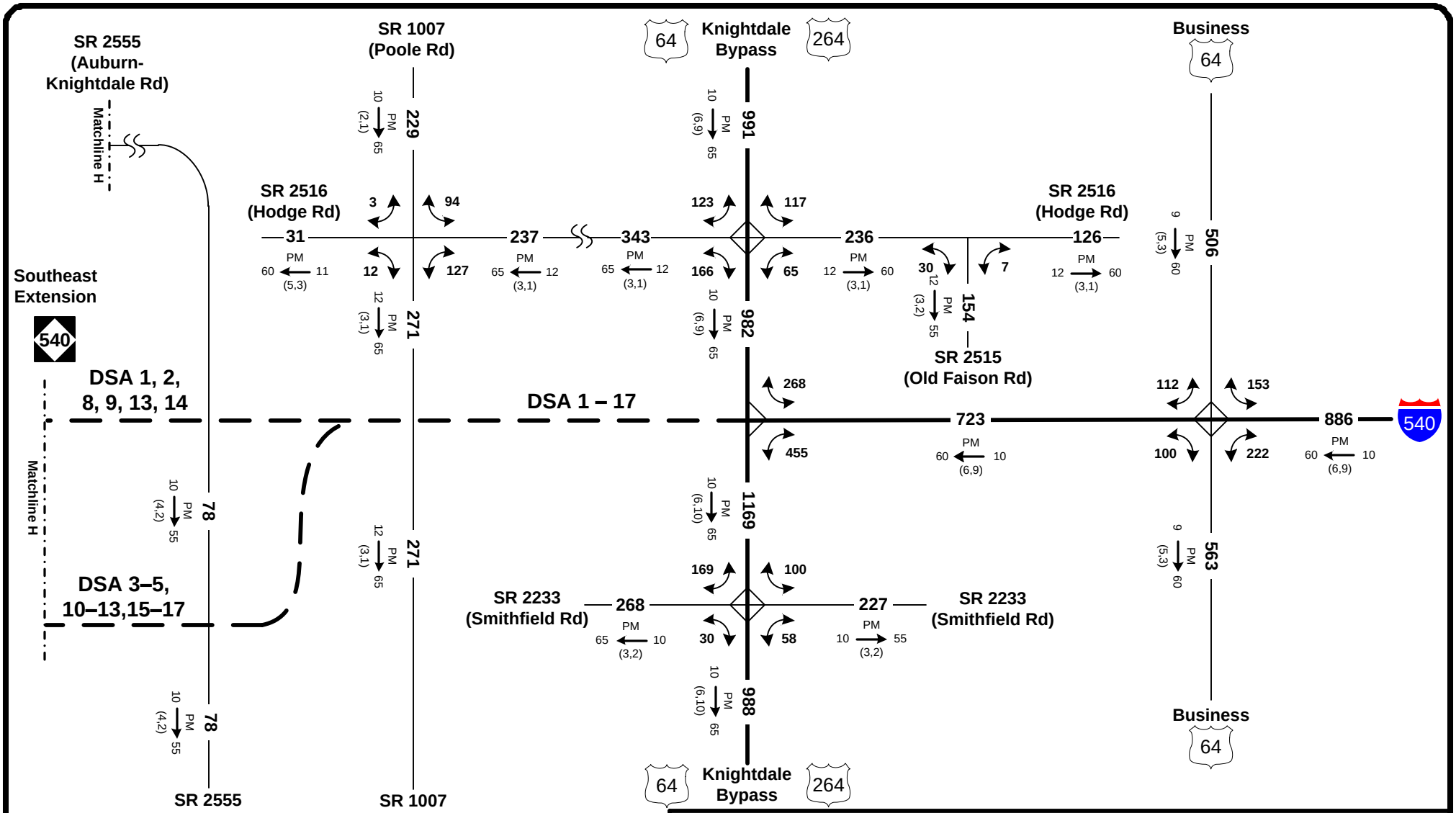
No-Build

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 20.6**



2035 AVERAGE ANNUAL DAILY TRAFFIC

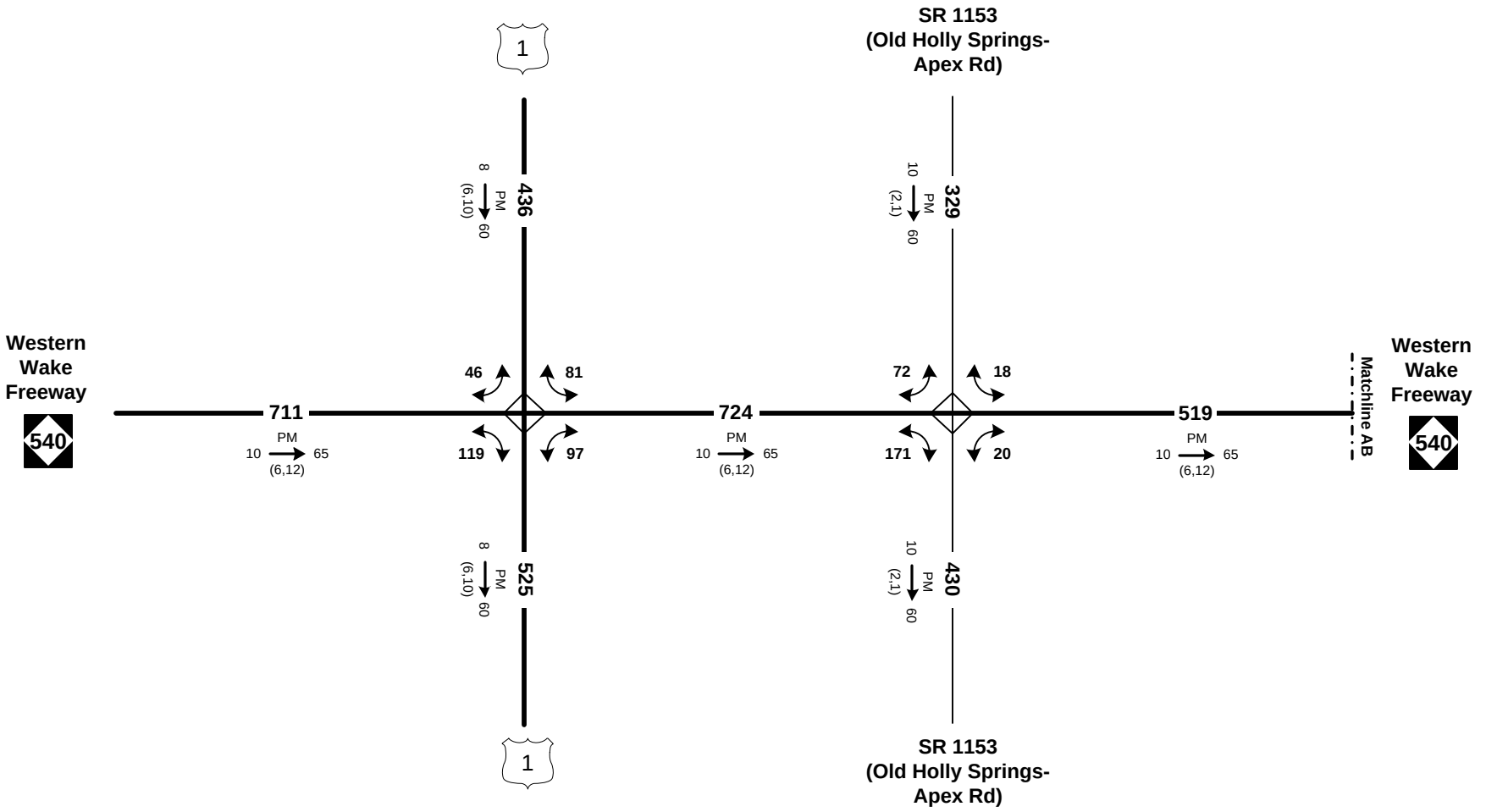
No-Build

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM DHV → D (d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
→ = Indicates Direction of D
(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 20.7**



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 1 & 2, 13 & 14

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
→ = Indicates Direction of D
(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements

N
NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

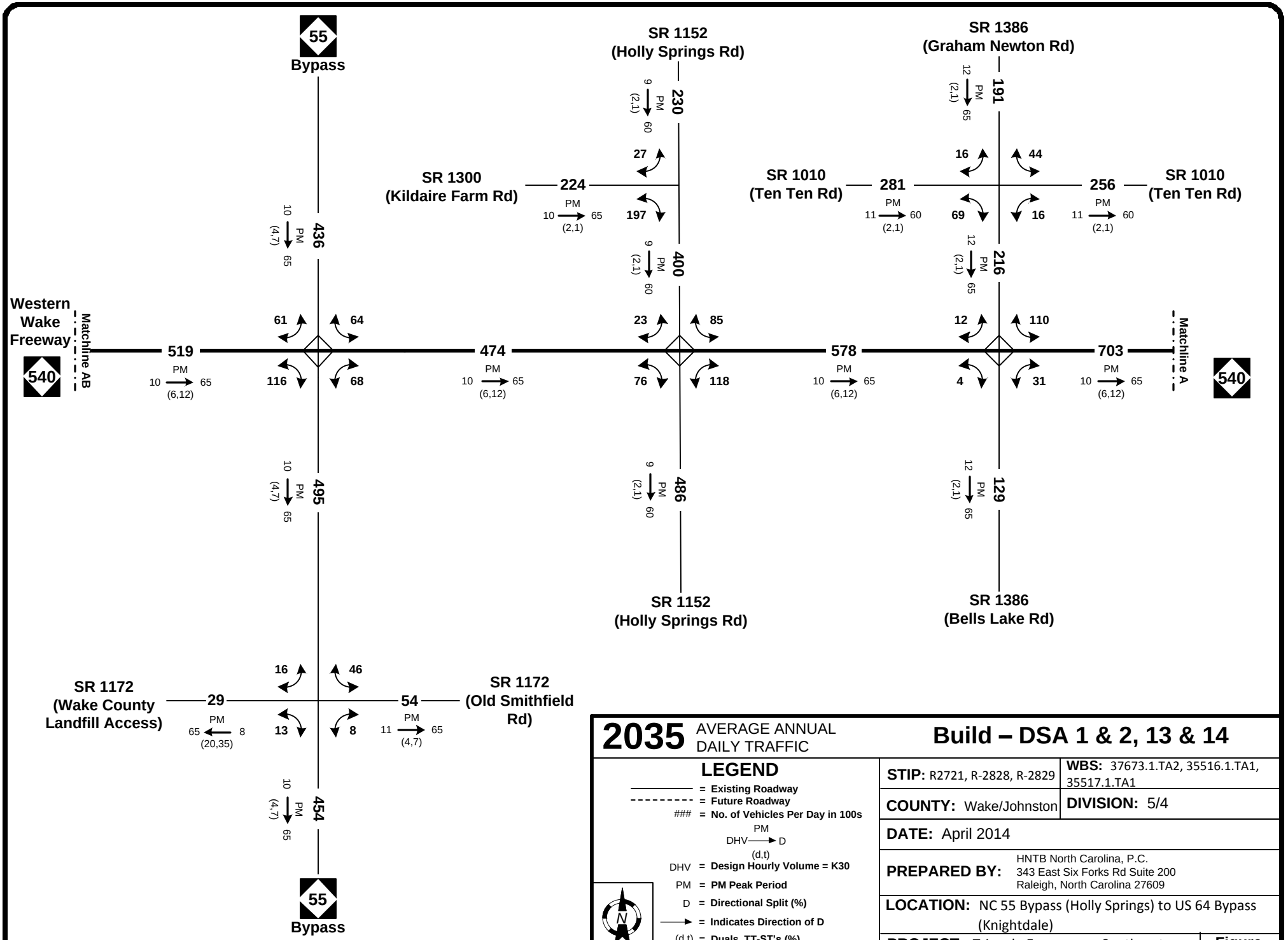
DATE: April 2014

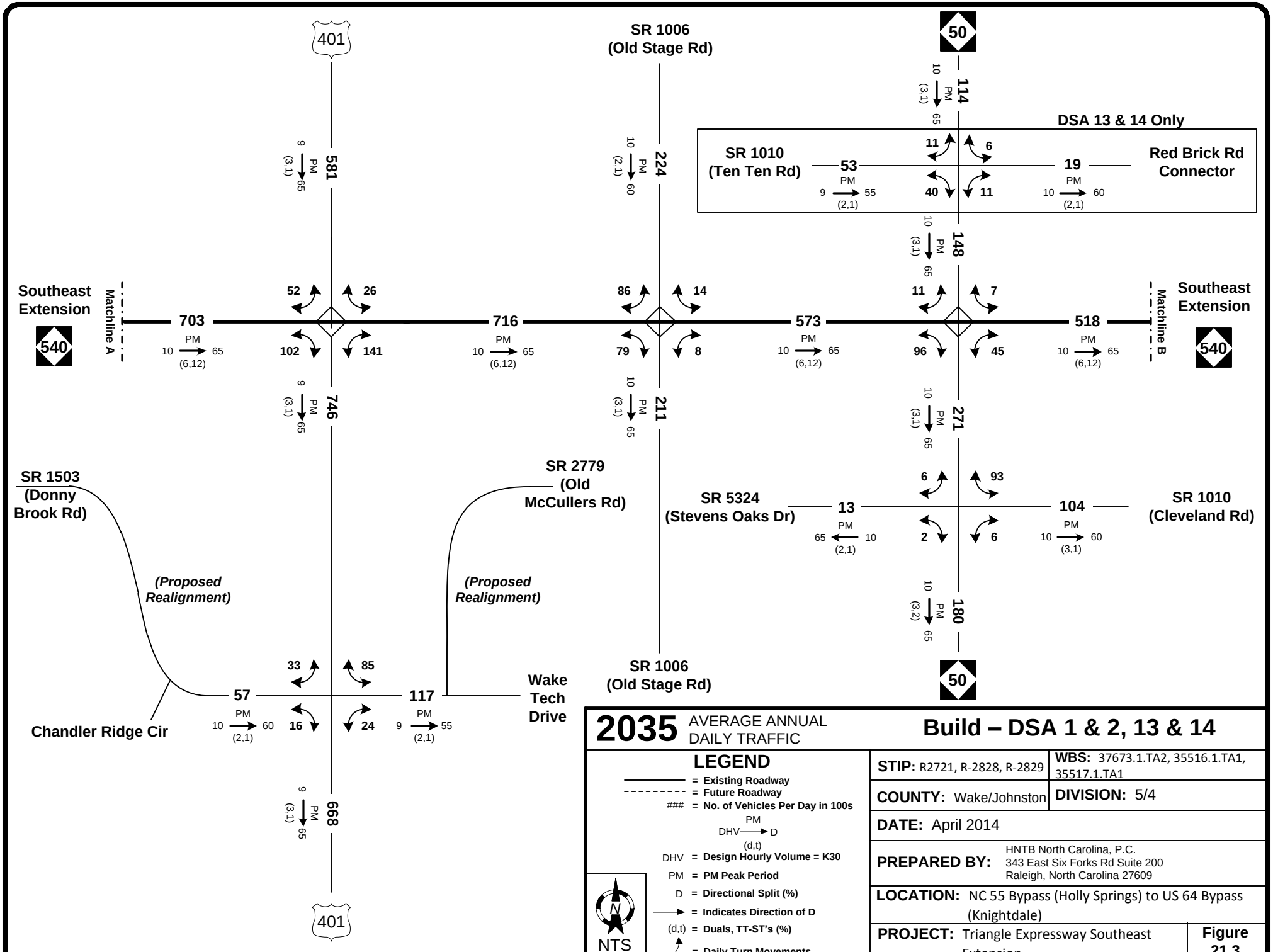
PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 21.1


55
Bypass
SR 1152
(Holly Springs Rd)
SR 1386
(Graham Newton Rd)
SR 1300
(Kildaire Farm Rd)
SR 1010
(Ten Ten Rd)
SR 1010
(Ten Ten Rd)
Western
Wake
Freeway
540
Matchline AB
Matchline A
540
SR 1152
(Holly Springs Rd)
SR 1386
(Bells Lake Rd)
SR 1172
(Wake County
Landfill Access)
SR 1172
(Old Smithfield
Rd)
55
Bypass
2035 AVERAGE ANNUAL DAILY TRAFFIC
Build – DSA 1 & 2, 13 & 14
LEGEND
= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
→ = Indicates Direction of D
(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements
N
NTS
STIP: R2721, R-2828, R-2829
WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston
DIVISION: 5/4
DATE: April 2014
PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)
PROJECT: Triangle Expressway Southeast Extension
Figure 21.2



2035 AVERAGE ANNUAL DAILY TRAFFIC

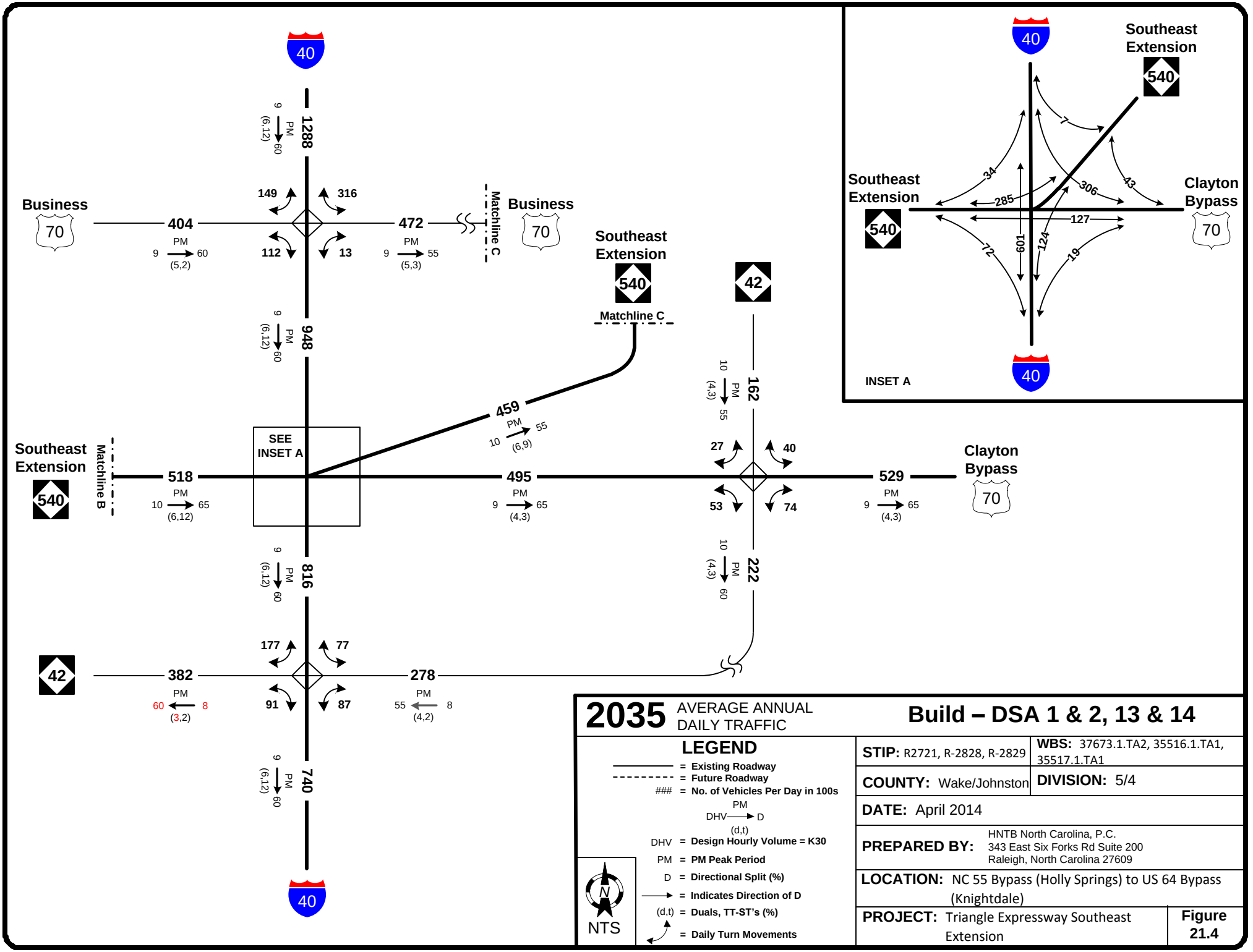
Build – DSA 1 & 2, 13 & 14

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 21.3**



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 1 & 2, 13 & 14

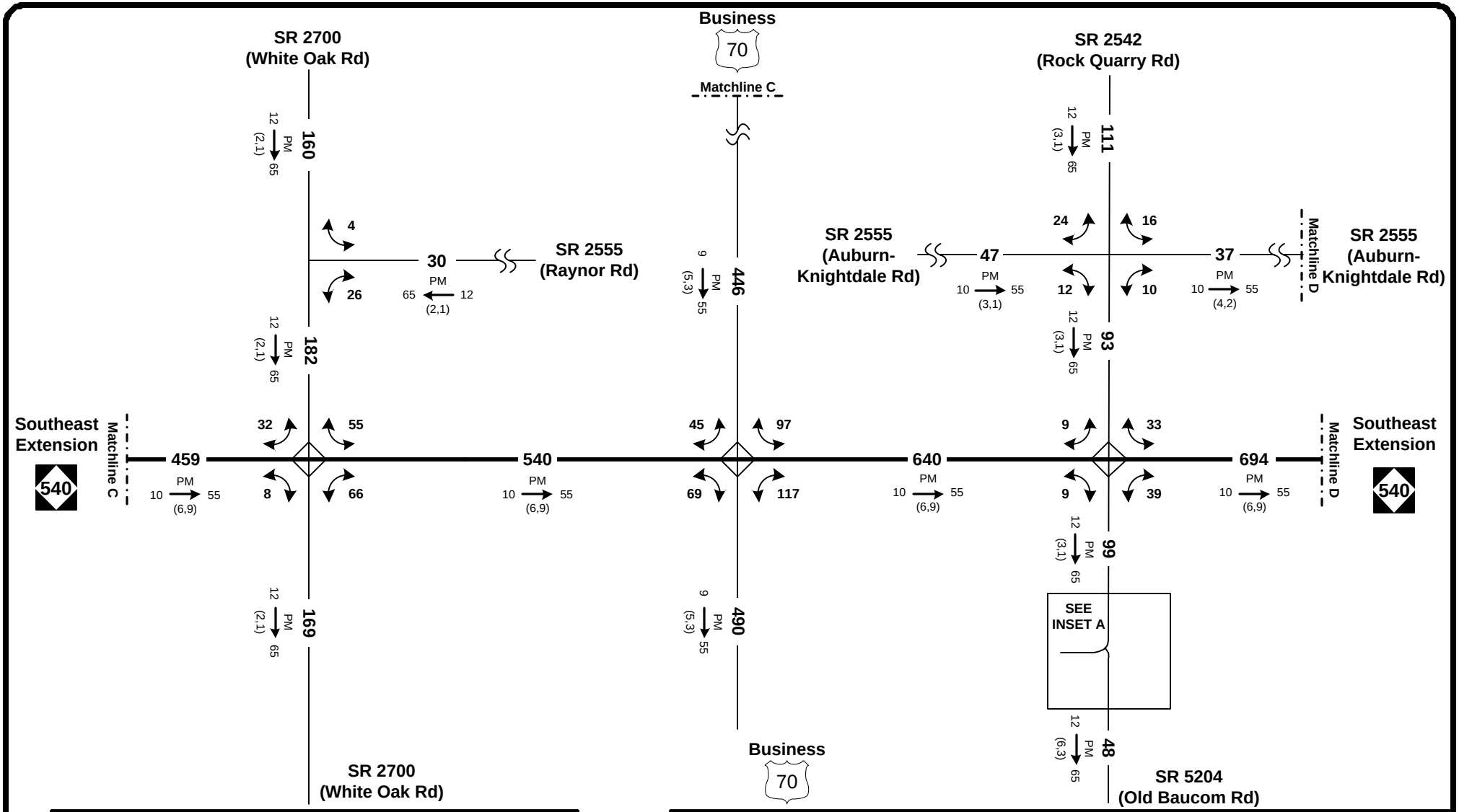
LEGEND

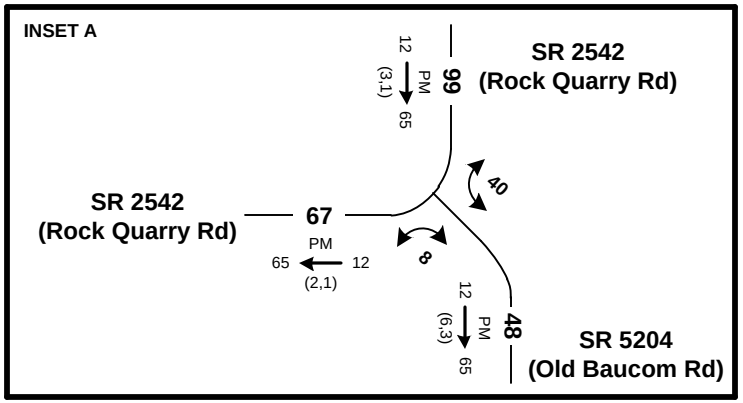
- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 21.4**





2035 AVERAGE ANNUAL DAILY TRAFFIC

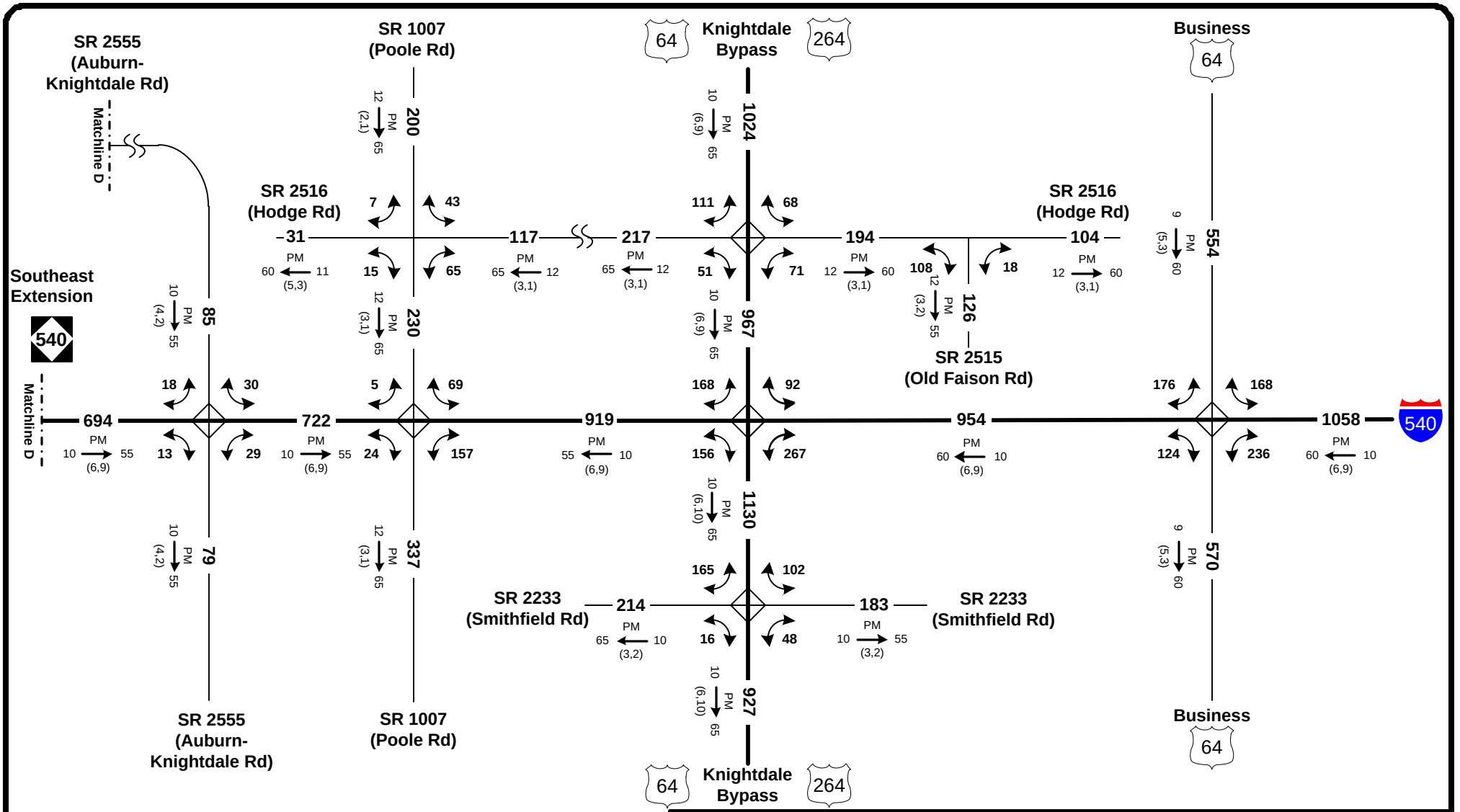
Build – DSA 1 & 2, 13 & 14

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 21.5**



2035 AVERAGE ANNUAL DAILY TRAFFIC

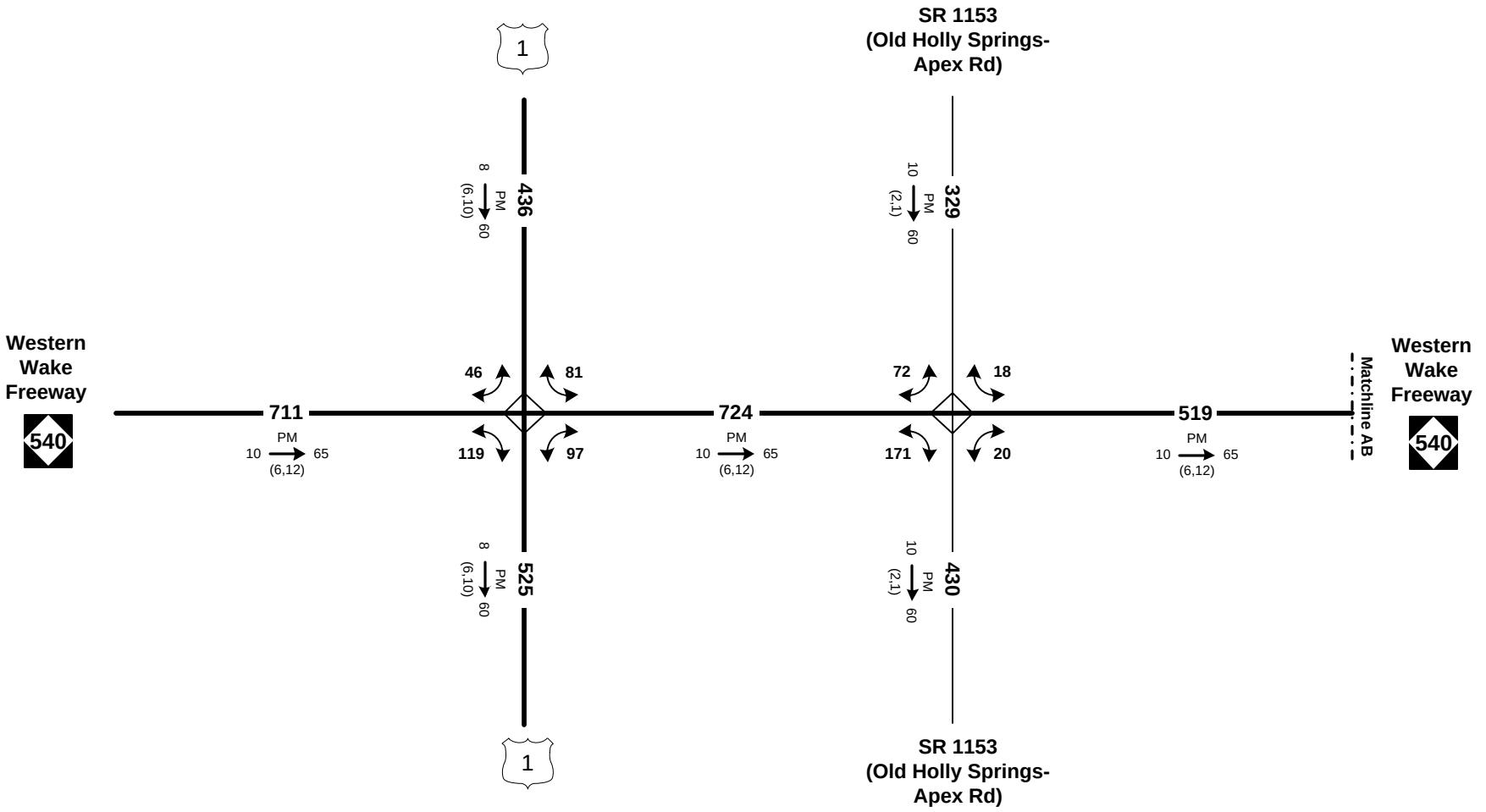
Build – DSA 1 & 2, 13 & 14

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM / DHV → D / (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 21.6**



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 3 & 4, 15 & 16

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
→ = Indicates Direction of D
(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements

N
NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

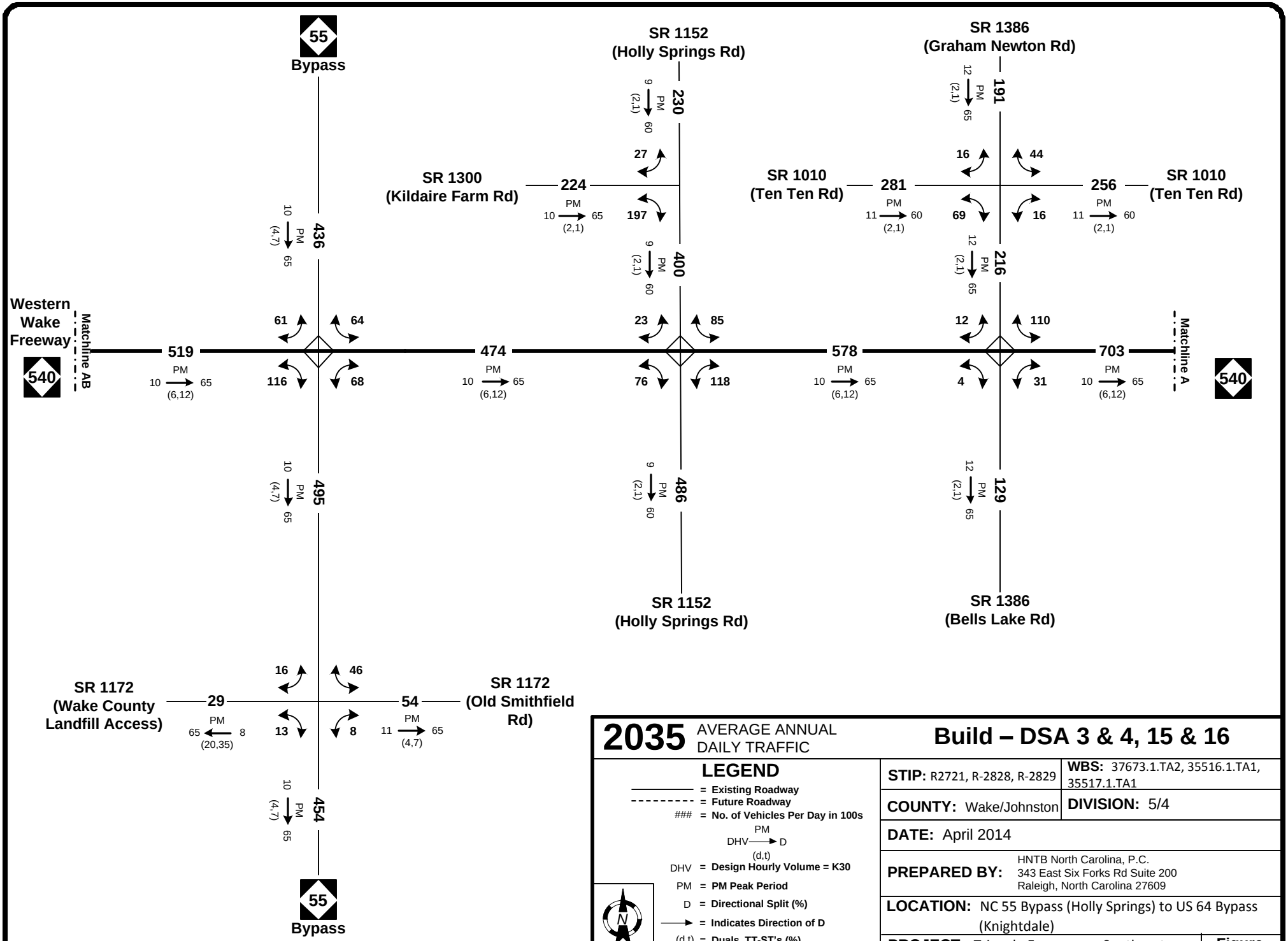
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 22.1


55
Bypass
SR 1152
(Holly Springs Rd)
SR 1386
(Graham Newton Rd)
SR 1300
(Kildaire Farm Rd)
SR 1010
(Ten Ten Rd)
SR 1010
(Ten Ten Rd)
Western
Wake
Freeway
540
Matchline AB
Matchline A
540
SR 1152
(Holly Springs Rd)
SR 1386
(Bells Lake Rd)
SR 1172
(Wake County
Landfill Access)
SR 1172
(Old Smithfield
Rd)
55
Bypass
2035 AVERAGE ANNUAL DAILY TRAFFIC
Build – DSA 3 & 4, 15 & 16
LEGEND
= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
→ = Indicates Direction of D
(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements
N
NTS
STIP: R2721, R-2828, R-2829
WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston
DIVISION: 5/4
DATE: April 2014
PREPARED BY: HNTB North Carolina, P.C.
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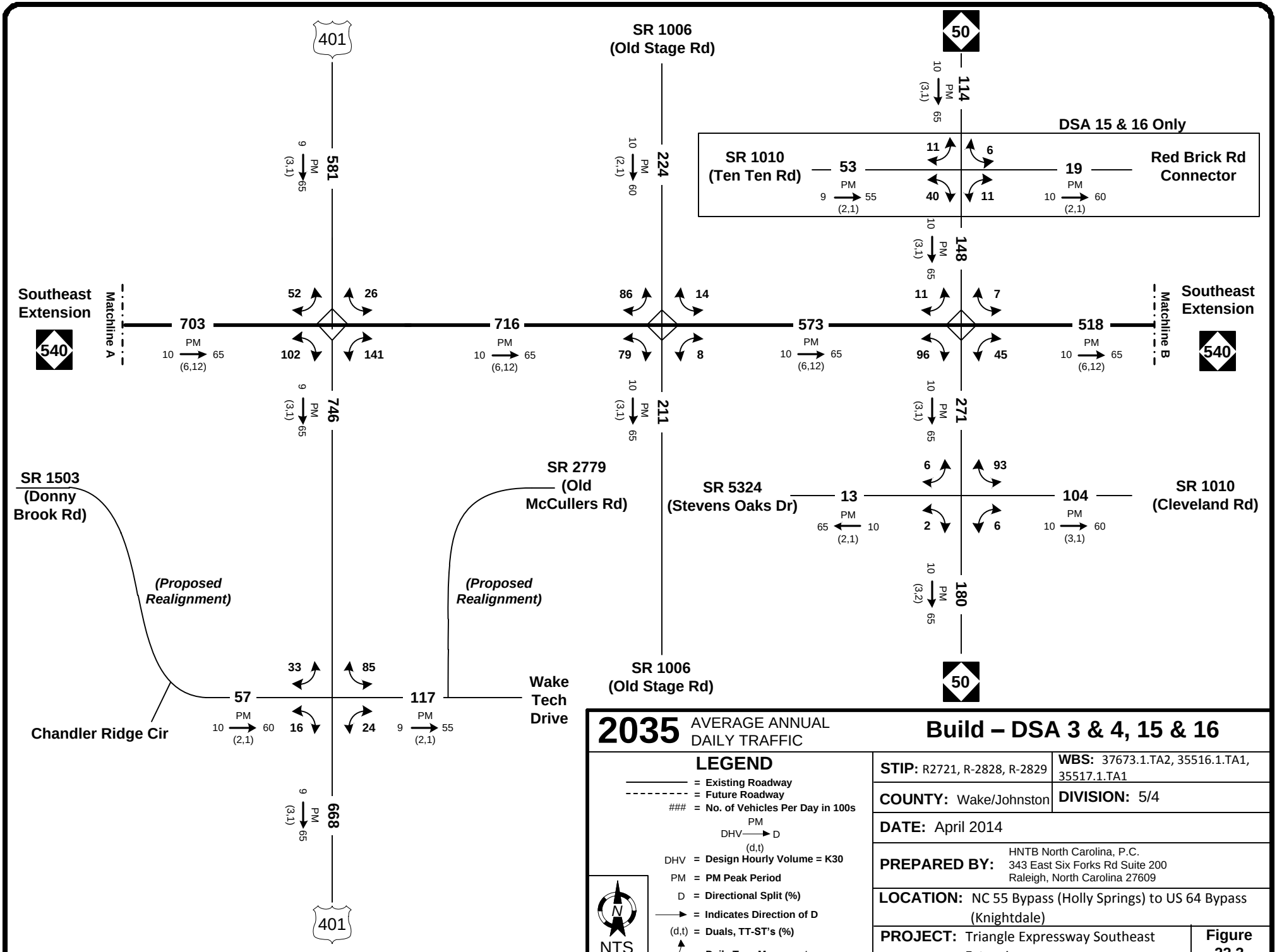
Raleigh, North Carolina 27609
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)
PROJECT: Triangle Expressway Southeast Extension
Figure 22.2



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 3 & 4, 15 & 16

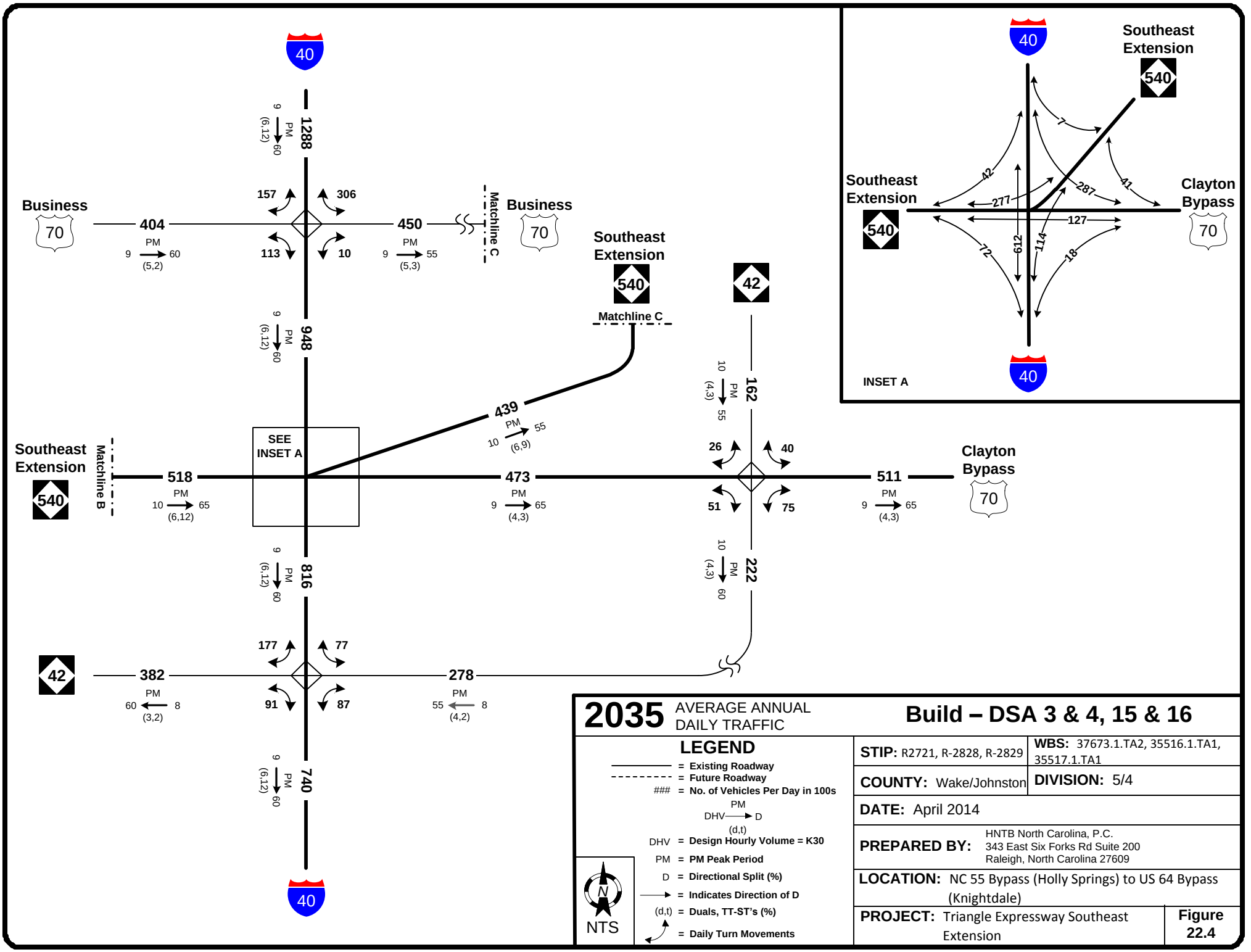
LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 22.3**



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 3 & 4, 15 & 16

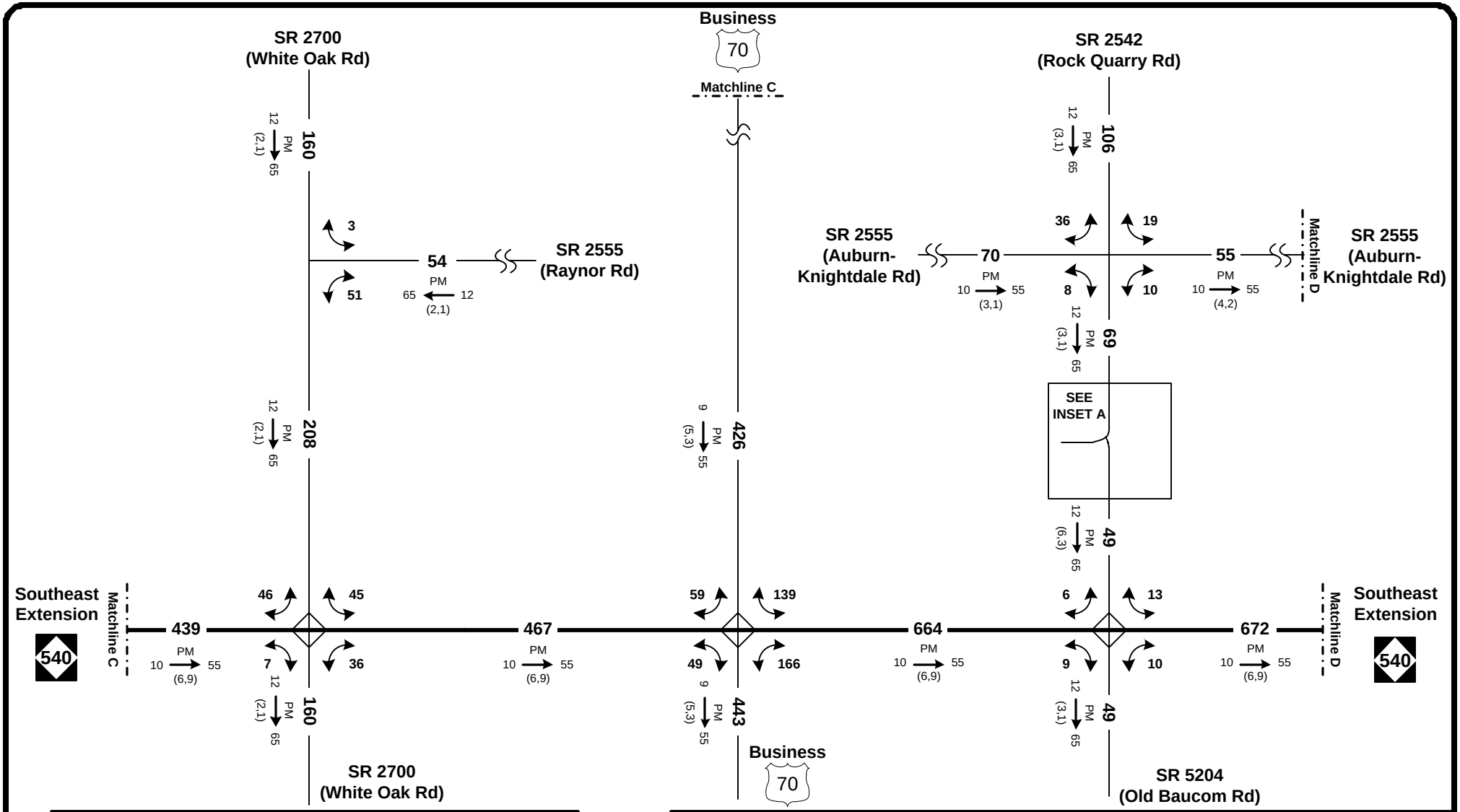
LEGEND

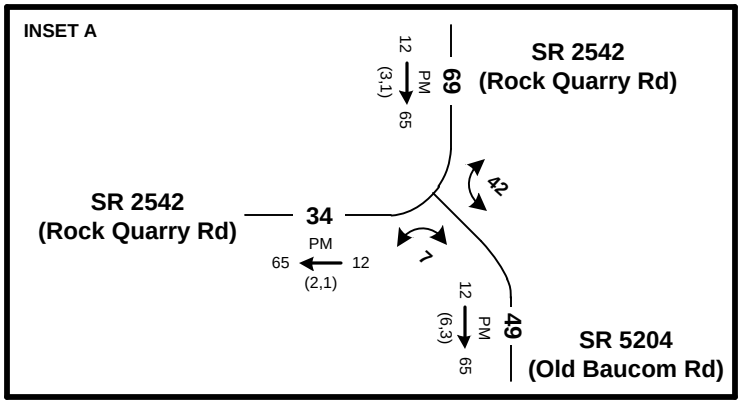
- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 22.4**





2035 AVERAGE ANNUAL DAILY TRAFFIC

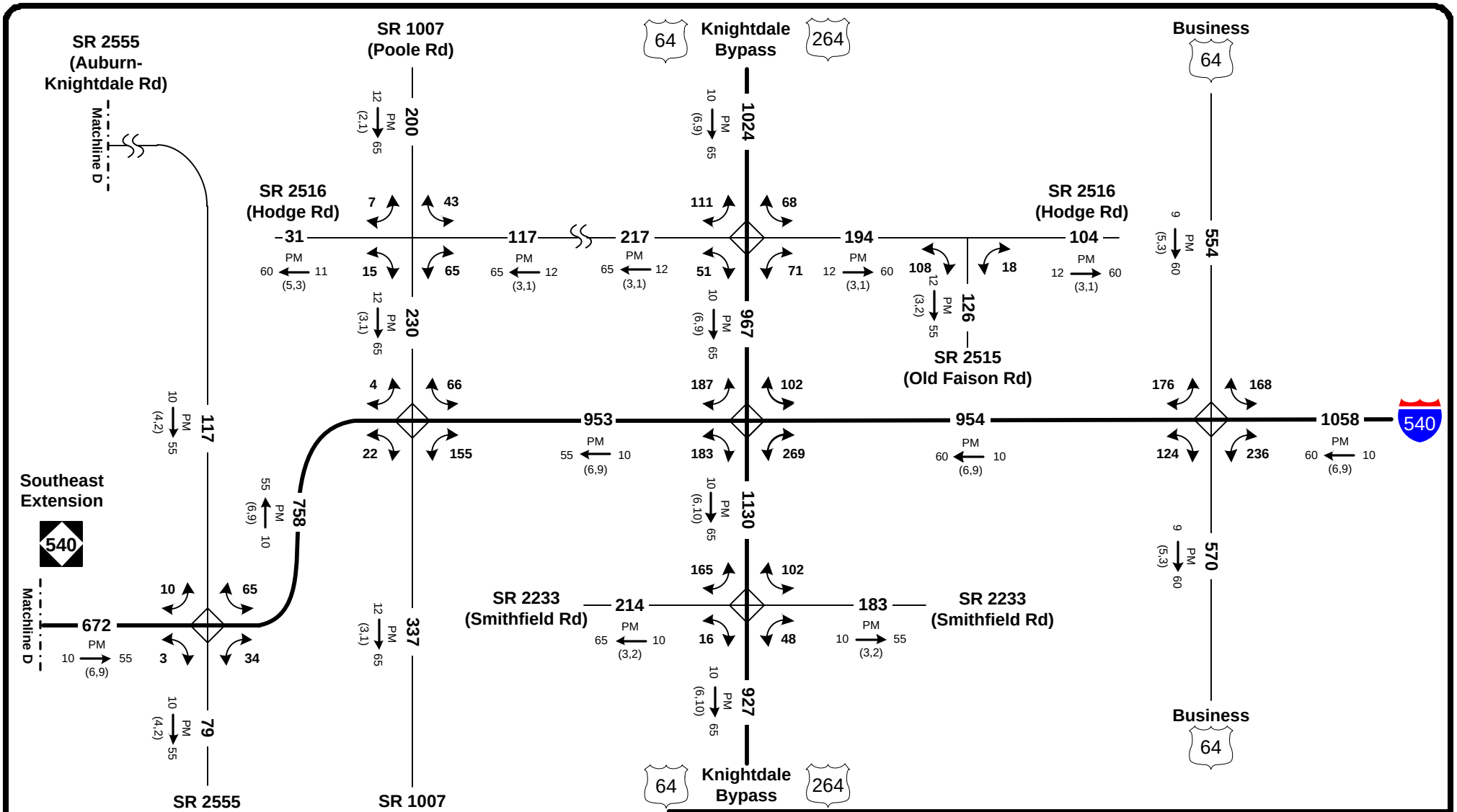
Build – DSA 3 & 4, 15 & 16

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 22.5**



2035 AVERAGE ANNUAL DAILY TRAFFIC

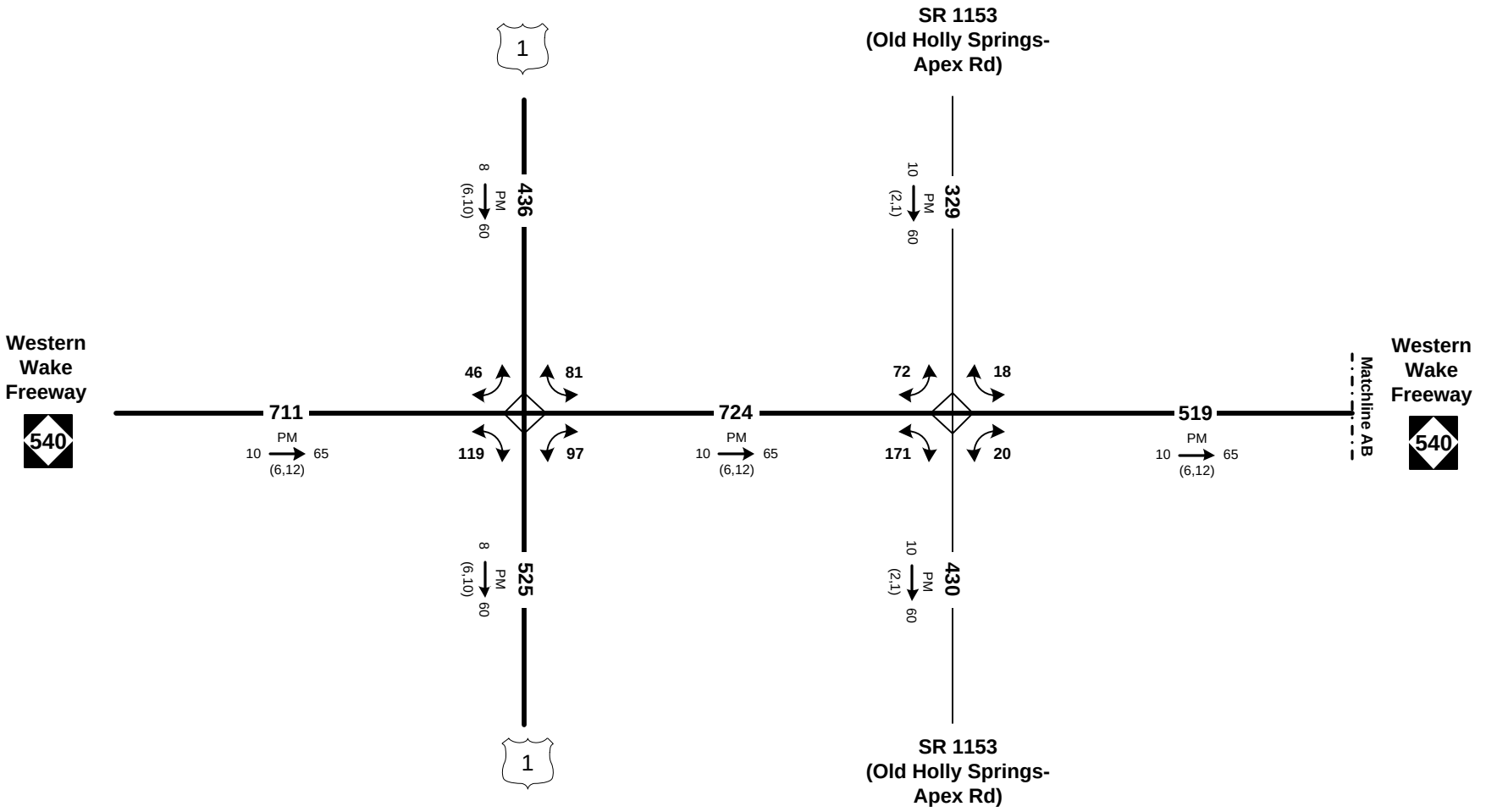
Build – DSA 3 & 4, 15 & 16

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 22.6**



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 5 & 17

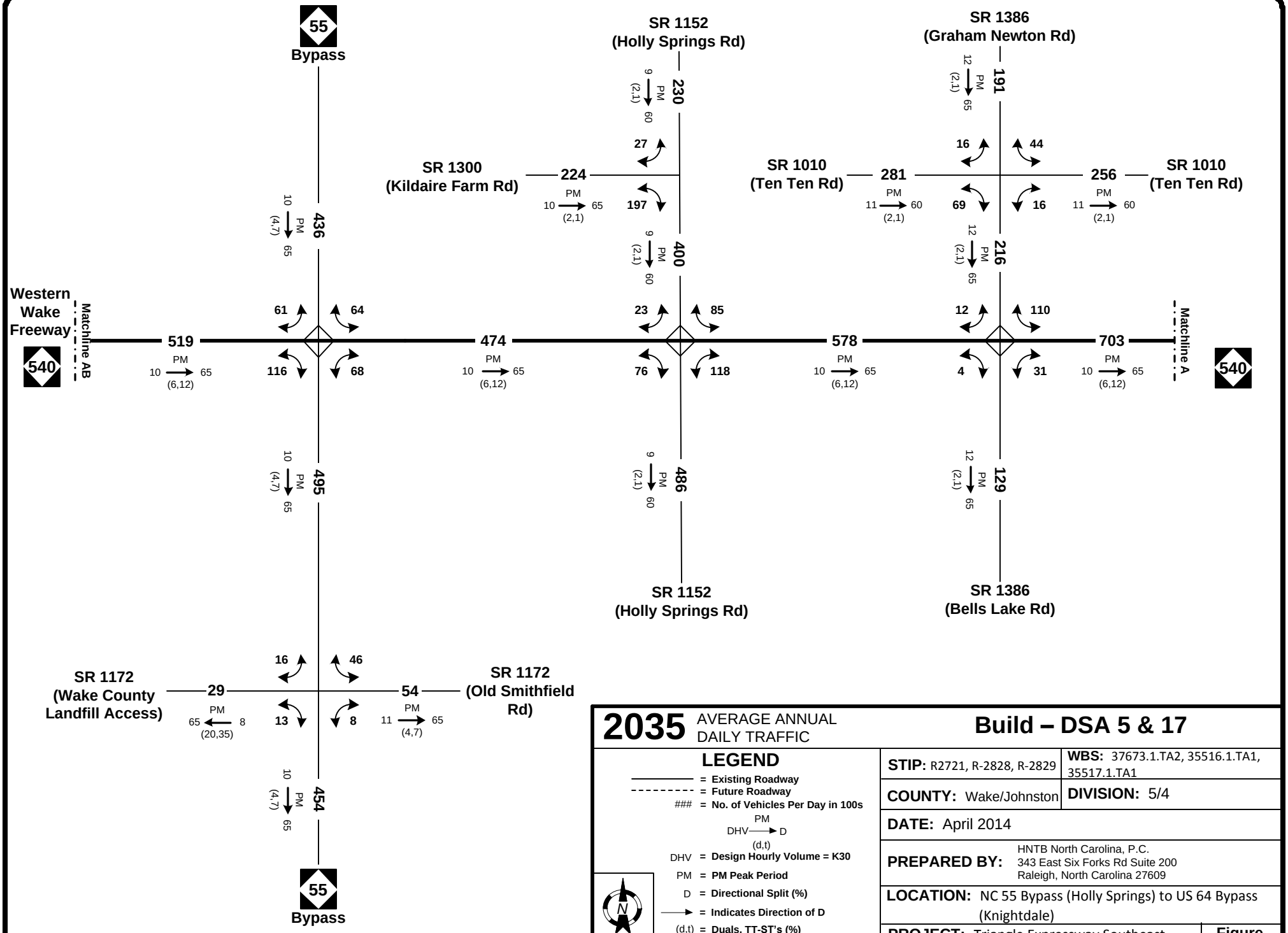
LEGEND

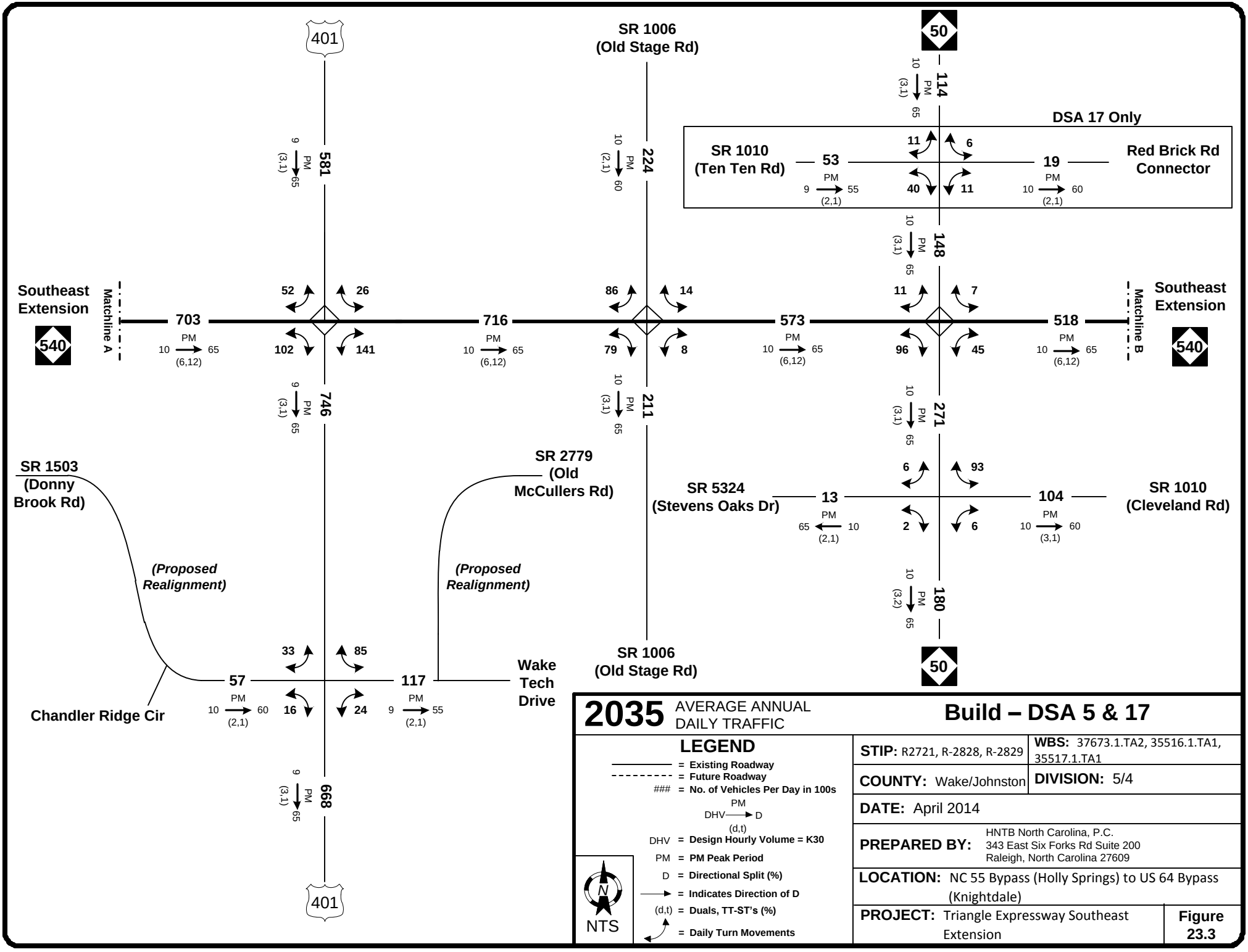
- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 23.1**


55
Bypass
SR 1152
(Holly Springs Rd)
SR 1386
(Graham Newton Rd)
SR 1300
(Kildaire Farm Rd)
SR 1010
(Ten Ten Rd)
SR 1010
(Ten Ten Rd)
Western
Wake
Freeway
540
Matchline AB
Matchline A
540
SR 1152
(Holly Springs Rd)
SR 1386
(Bells Lake Rd)
SR 1172
(Wake County
Landfill Access)
SR 1172
(Old Smithfield
Rd)
55
Bypass
2035 AVERAGE ANNUAL DAILY TRAFFIC
Build – DSA 5 & 17
LEGEND
= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
→ = Indicates Direction of D
(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements
N
NTS
STIP: R2721, R-2828, R-2829
WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston
DIVISION: 5/4
DATE: April 2014
PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)
PROJECT: Triangle Expressway Southeast Extension
Figure 23.2


401
SR 1006
(Old Stage Rd)
50
DSA 17 Only
SR 1010
(Ten Ten Rd)
Red Brick Rd
Connector
Southeast
Extension
Matchline A
Matchline B
540
703
716
573
518
581
224
114
53
19
148
746
211
271
SR 1503
(Donny
Brook Rd)
SR 2779
(Old
McCullers Rd)
(Proposed
Realignment)
SR 5324
(Stevens Oaks Dr)
SR 1010
(Cleveland Rd)
13
104
180
57
117
Chandler Ridge Cir
Wake
Tech
Drive
668
SR 1006
(Old Stage Rd)
401
2035 AVERAGE ANNUAL DAILY TRAFFIC
Build – DSA 5 & 17
LEGEND
= Existing Roadway
= Future Roadway
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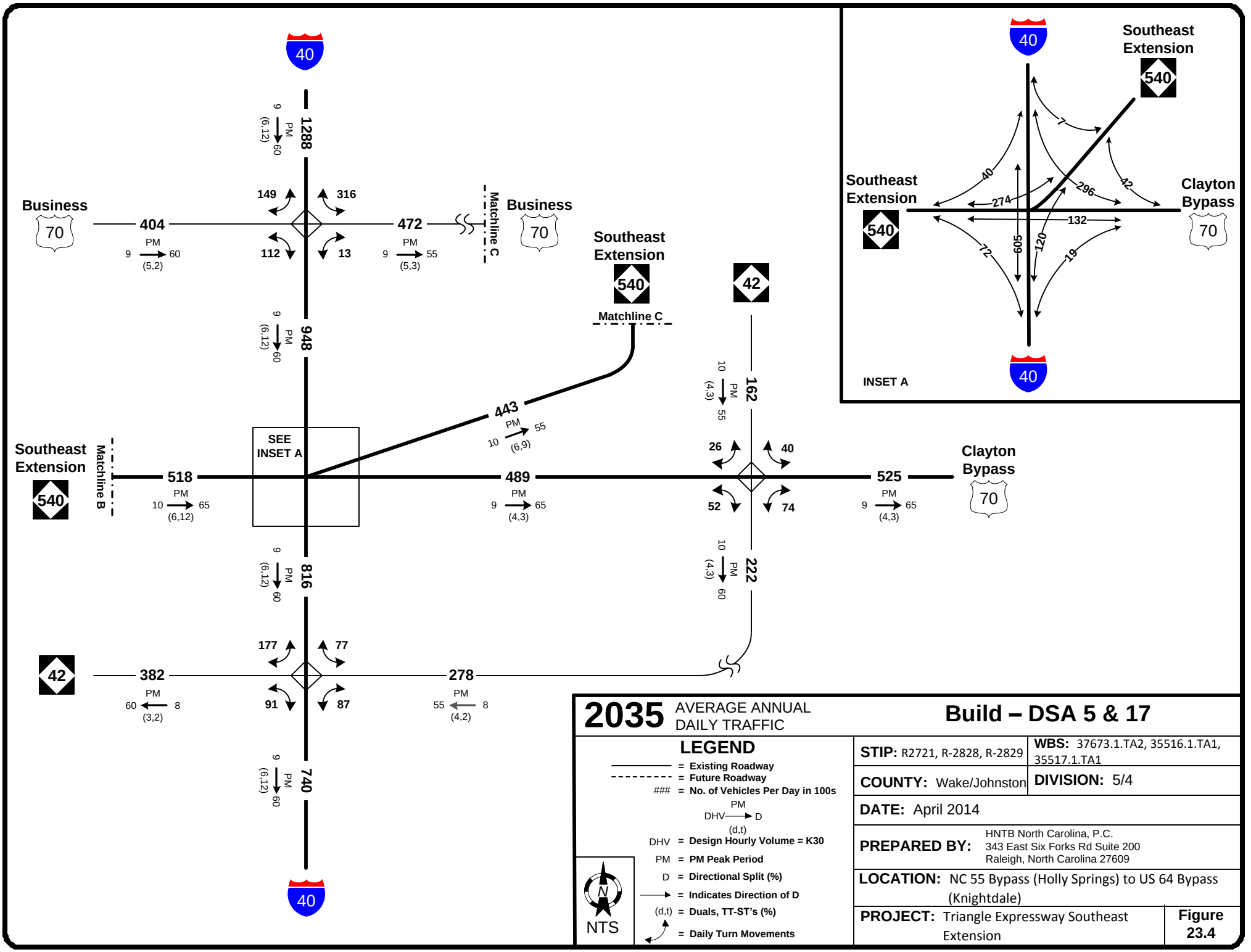
40
1288
9 PM 60
(6,12)
Business
70
149
316
404
PM
9 60
(5,2)
112
13
472
PM
9 55
(5,3)
Matchline C
Business
70
Southeast Extension
540
Matchline C
42
948
9 PM 60
(6,12)
443
PM
10 55
(6,9)
162
10 PM 55
(4,3)
Southeast Extension
540
Matchline B
SEE INSET A
518
PM
10 65
(6,12)
489
PM
9 65
(4,3)
26
40
52
74
525
PM
9 65
(4,3)
Clayton Bypass
70
816
9 PM 60
(6,12)
222
10 PM 60
(4,3)
177
77
42
382
PM
60 8
(3,2)
91
87
278
PM
55 8
(4,2)
740
9 PM 60
(6,12)
40
INSET A
Southeast Extension
540
40
7
40
274
296
42
Southeast Extension
540
Clayton Bypass
70
132
72
605
120
19
40
2035 AVERAGE ANNUAL DAILY TRAFFIC
Build – DSA 5 & 17
LEGEND
= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
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(d,t) = Duals, TT-ST's (%)
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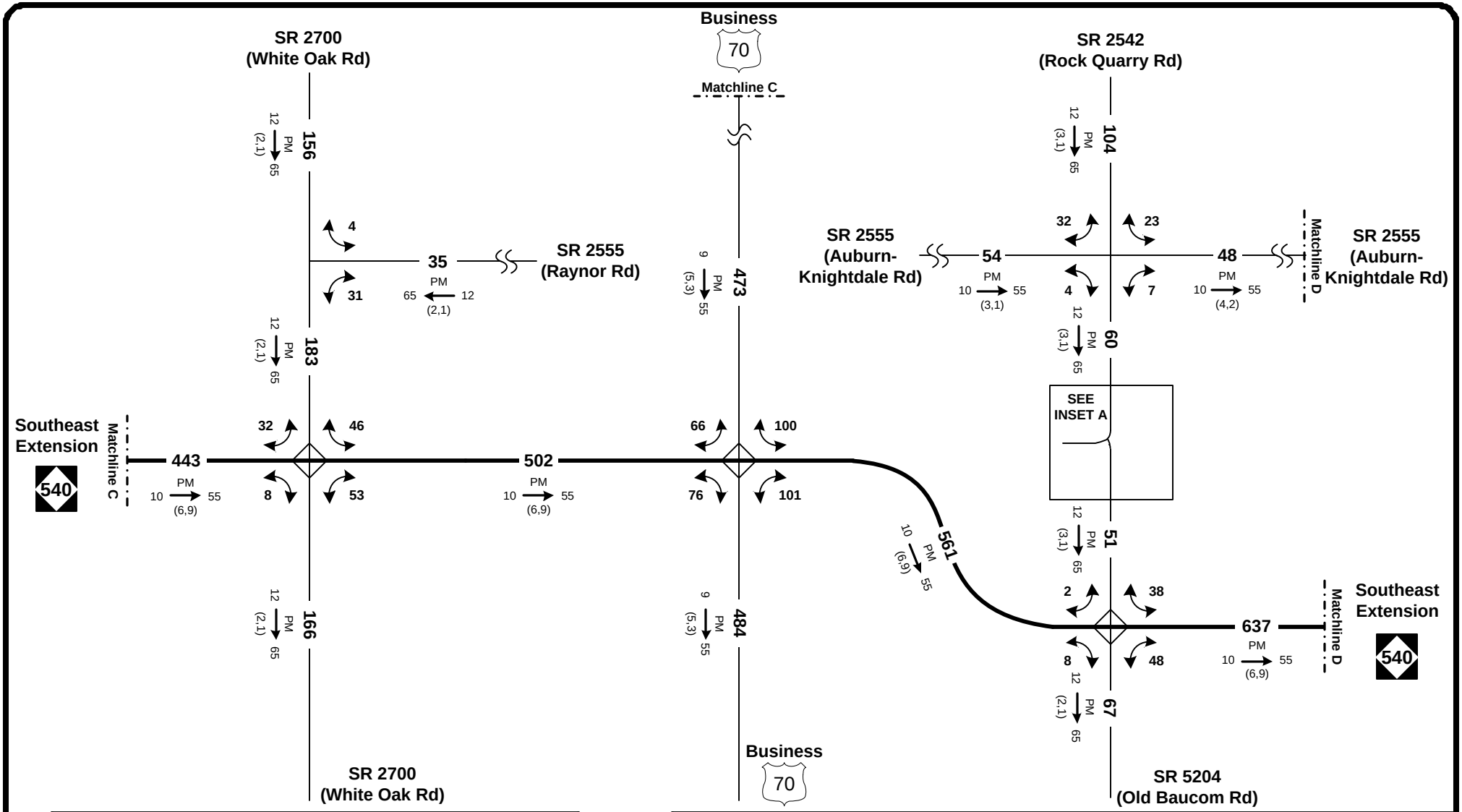
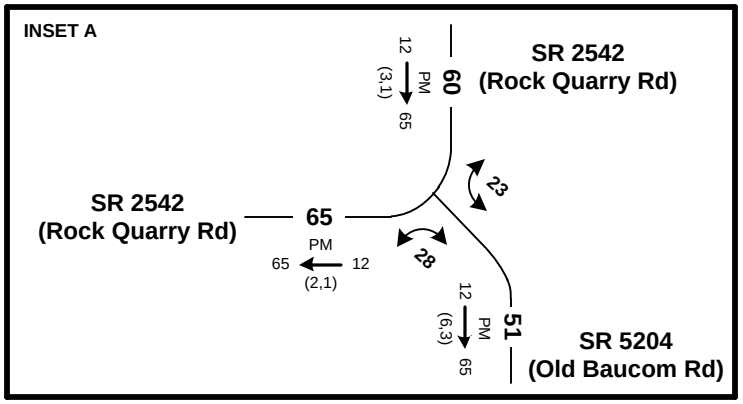
PROJECT: Triangle Expressway Southeast Extension
Figure 23.4





2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 5 & 17

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
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- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
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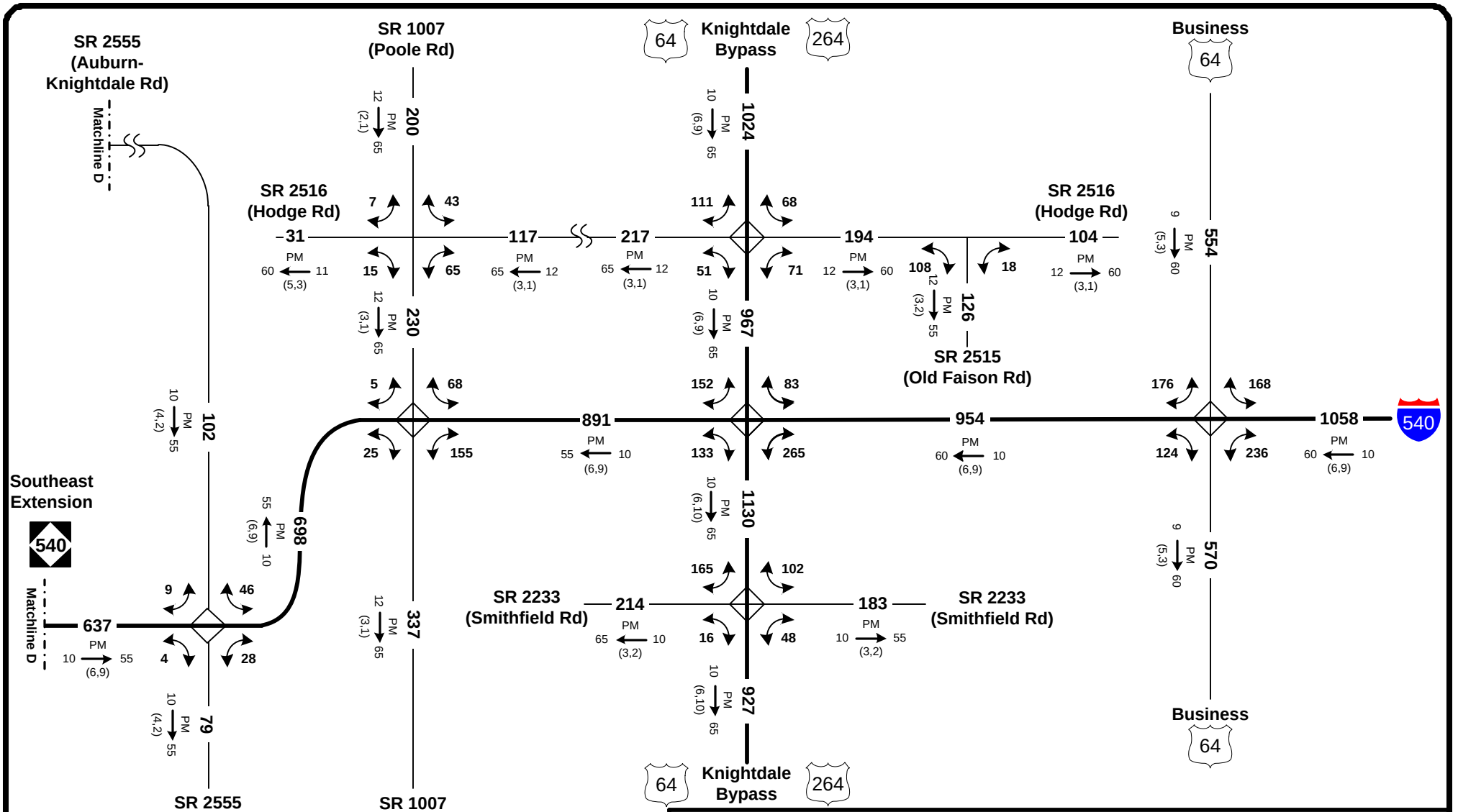
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 23.5**



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 5 & 17

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
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NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
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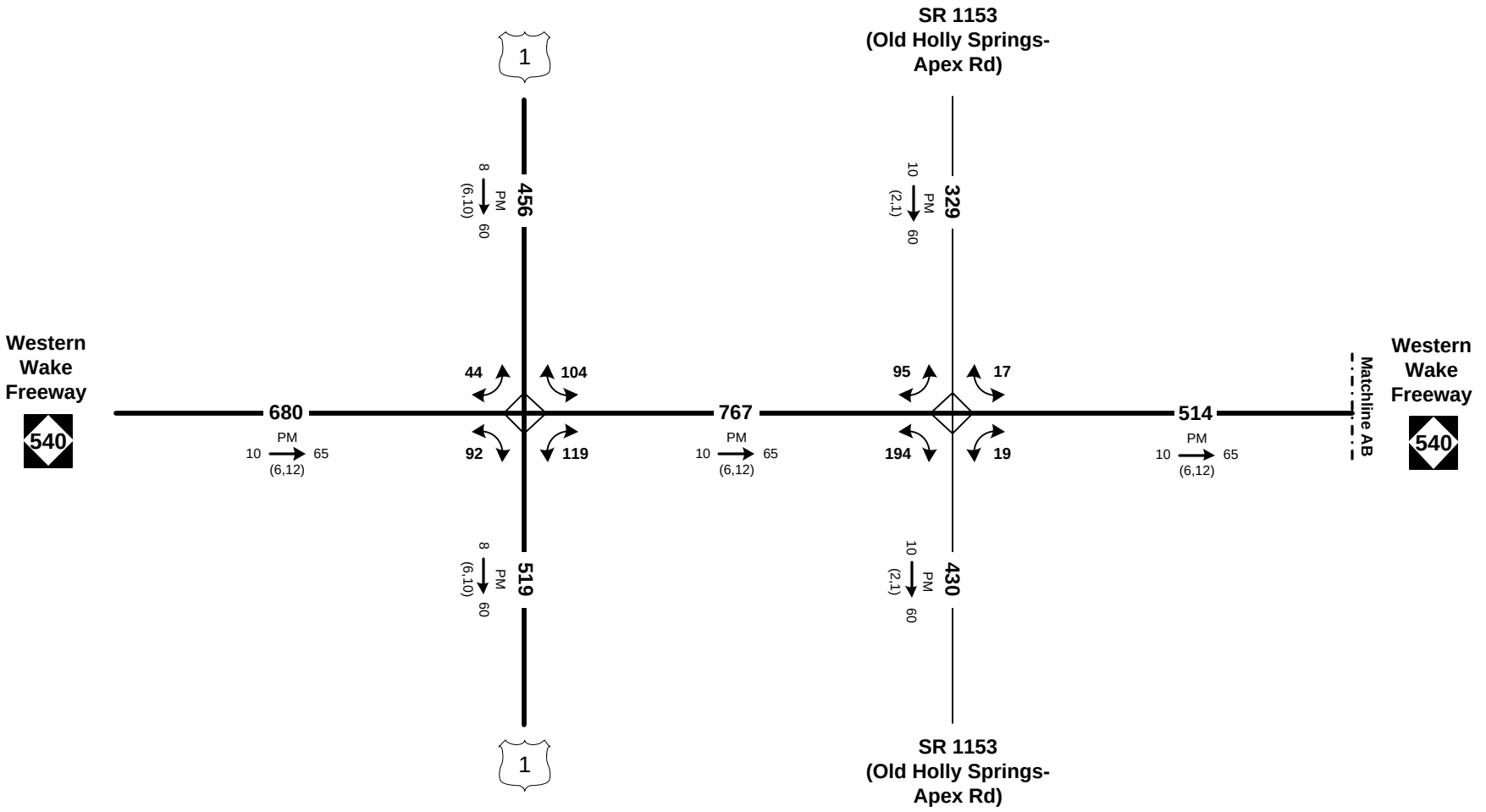
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 23.6**



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 6 & 7

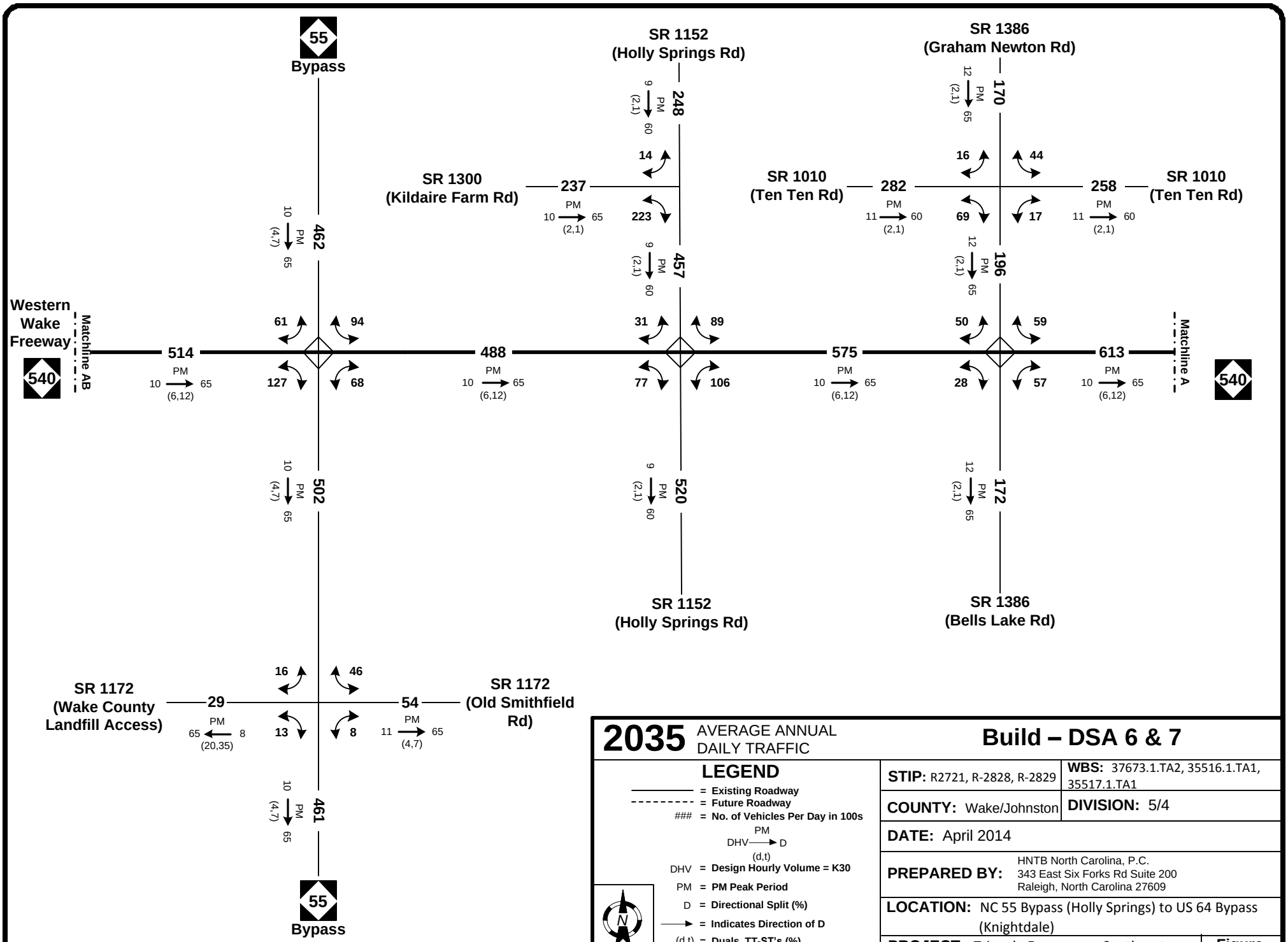
LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV ⟶ D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- ⟶ = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 24.1**


55
Bypass
SR 1152
(Holly Springs Rd)
SR 1386
(Graham Newton Rd)
SR 1300
(Kildaire Farm Rd)
SR 1010
(Ten Ten Rd)
SR 1010
(Ten Ten Rd)
Western
Wake
Freeway
540
Matchline AB
Matchline A
540
SR 1152
(Holly Springs Rd)
SR 1386
(Bells Lake Rd)
SR 1172
(Wake County
Landfill Access)
SR 1172
(Old Smithfield
Rd)
55
Bypass
2035 AVERAGE ANNUAL DAILY TRAFFIC
Build – DSA 6 & 7
LEGEND
= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
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(d,t) = Duals, TT-ST's (%)
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NTS
STIP: R2721, R-2828, R-2829
WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston
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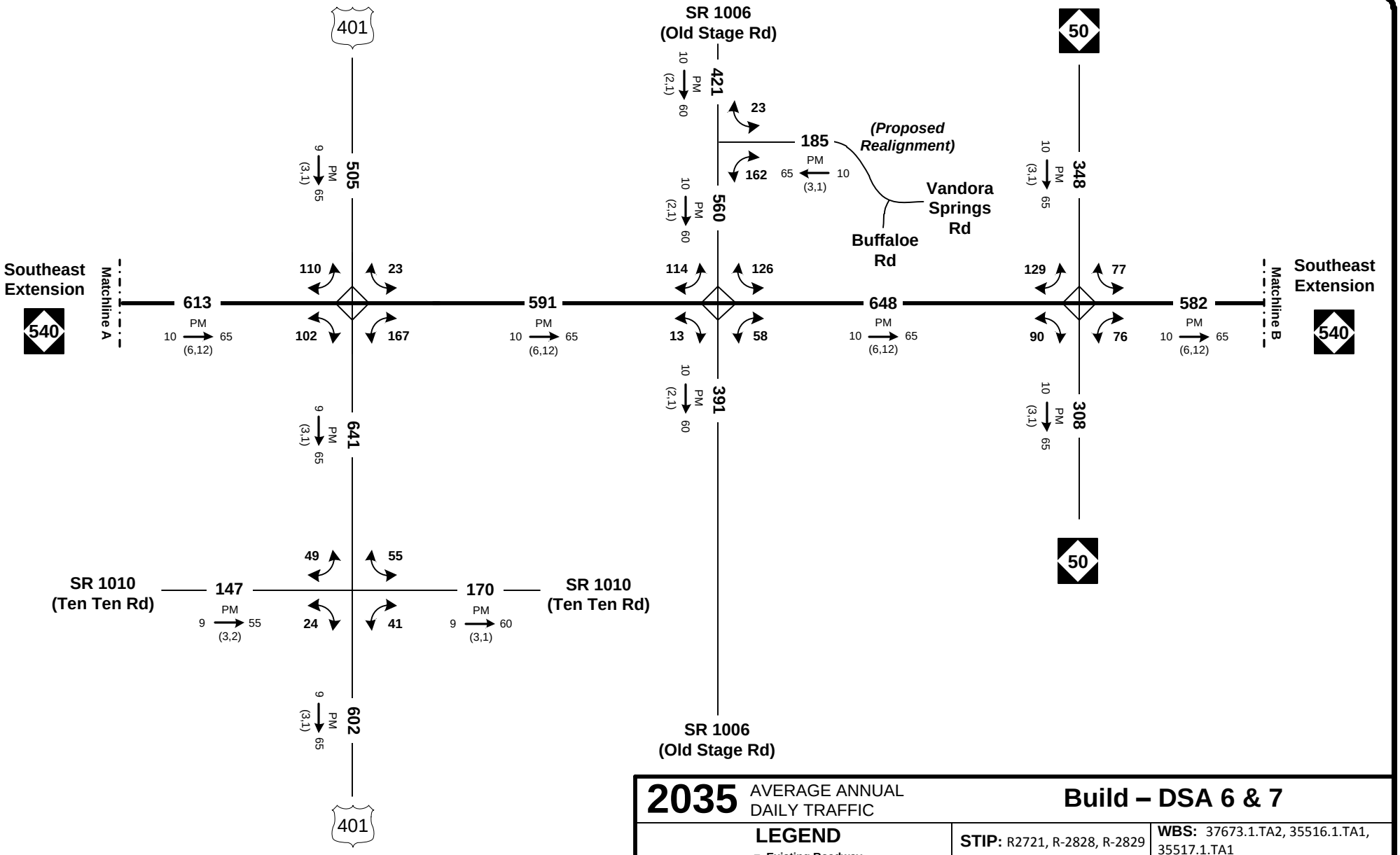
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)
PROJECT: Triangle Expressway Southeast Extension
Figure 24.2



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 6 & 7

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM / DHV → D / (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
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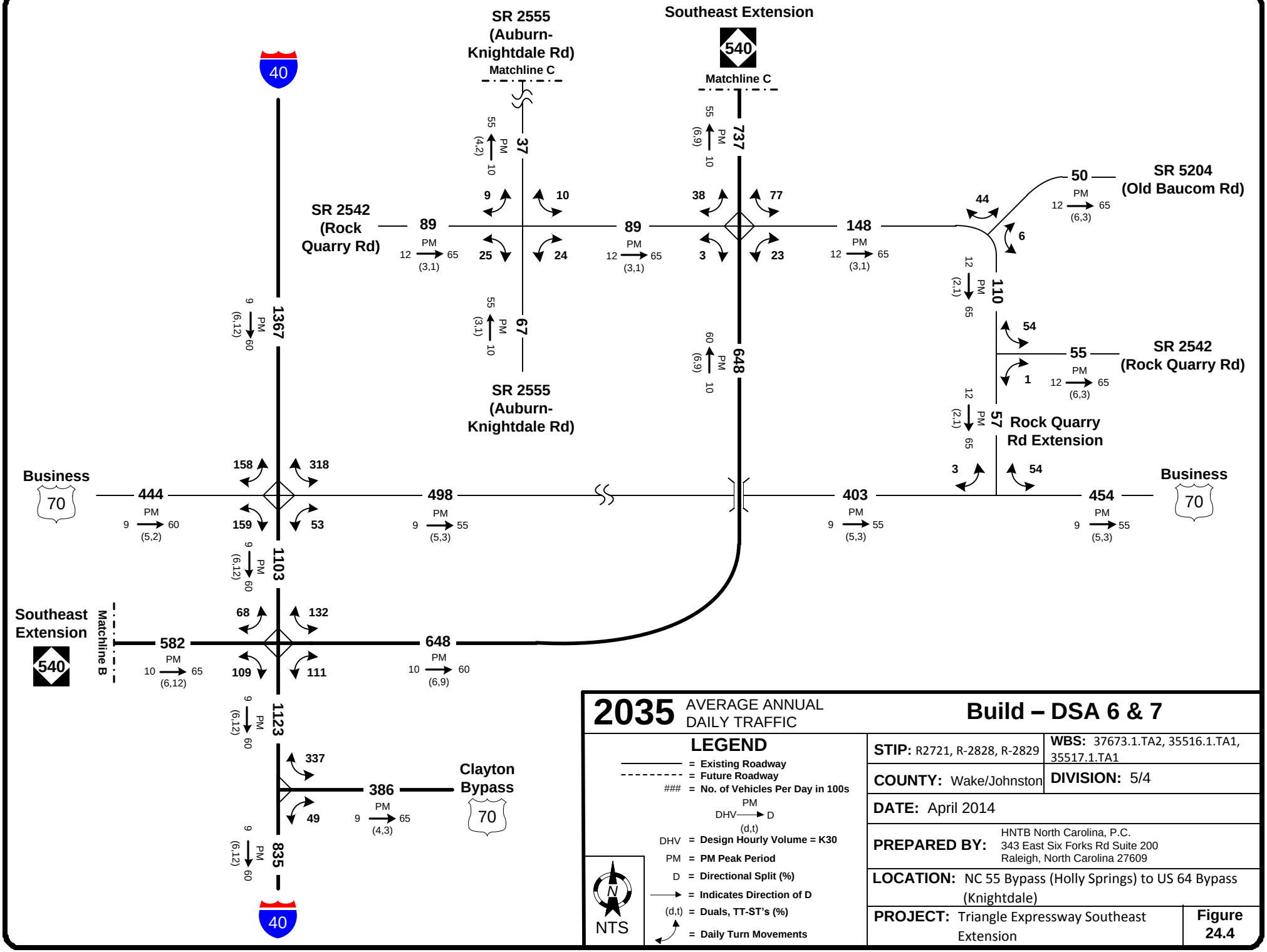
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 24.3**



2035 AVERAGE ANNUAL DAILY TRAFFIC

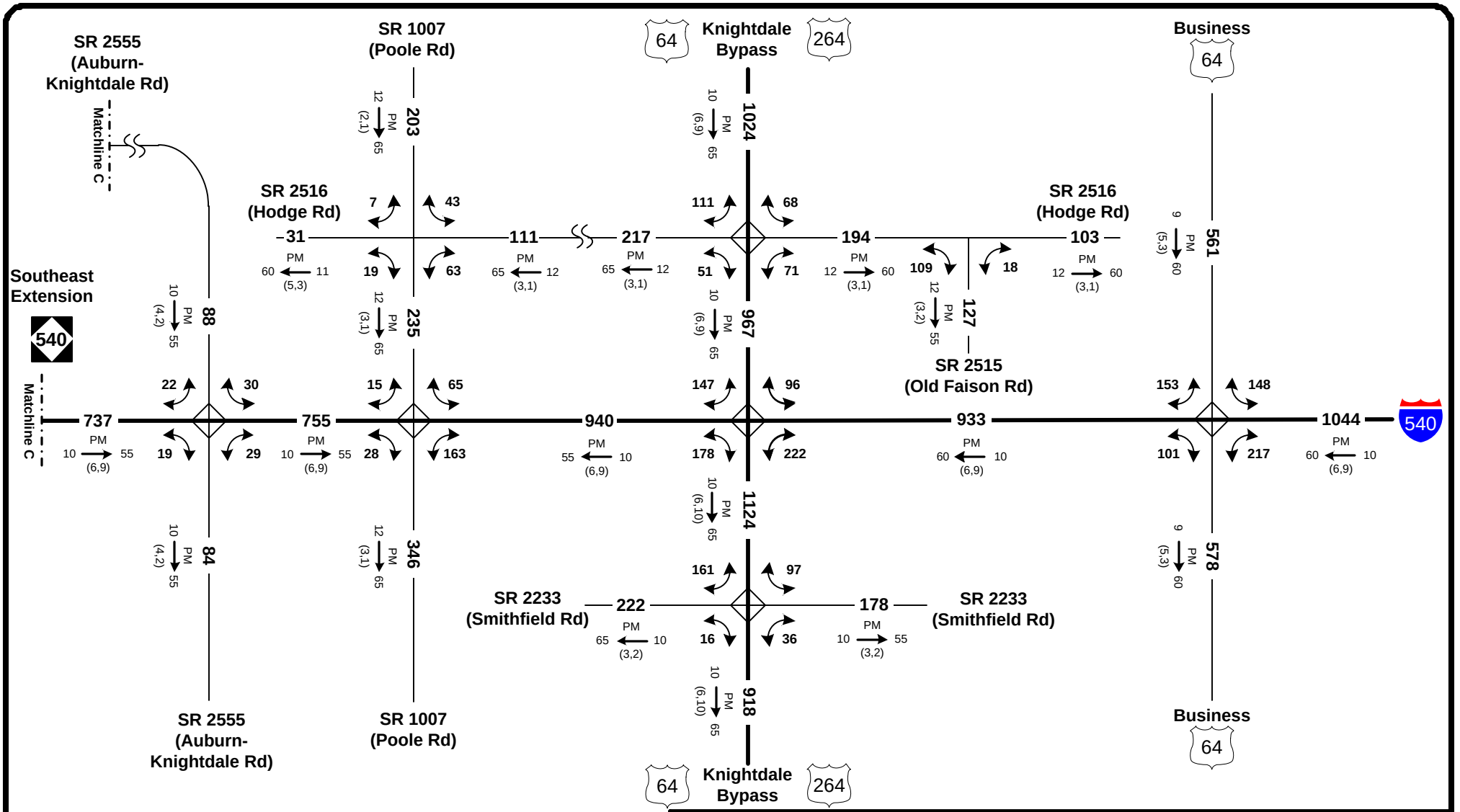
Build – DSA 6 & 7

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 24.4**



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 6 & 7

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
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- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

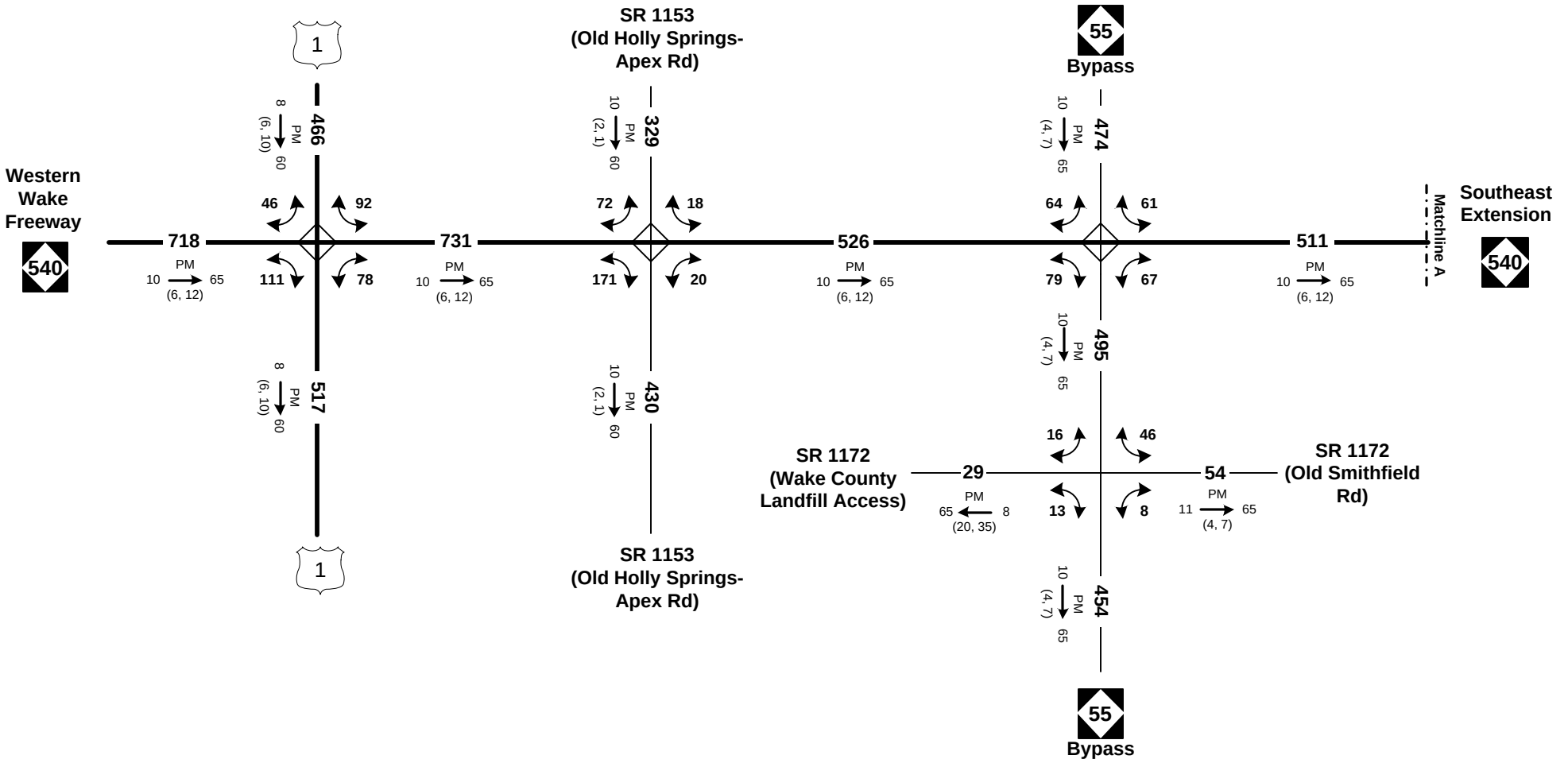
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 24.5



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 8 & 9

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

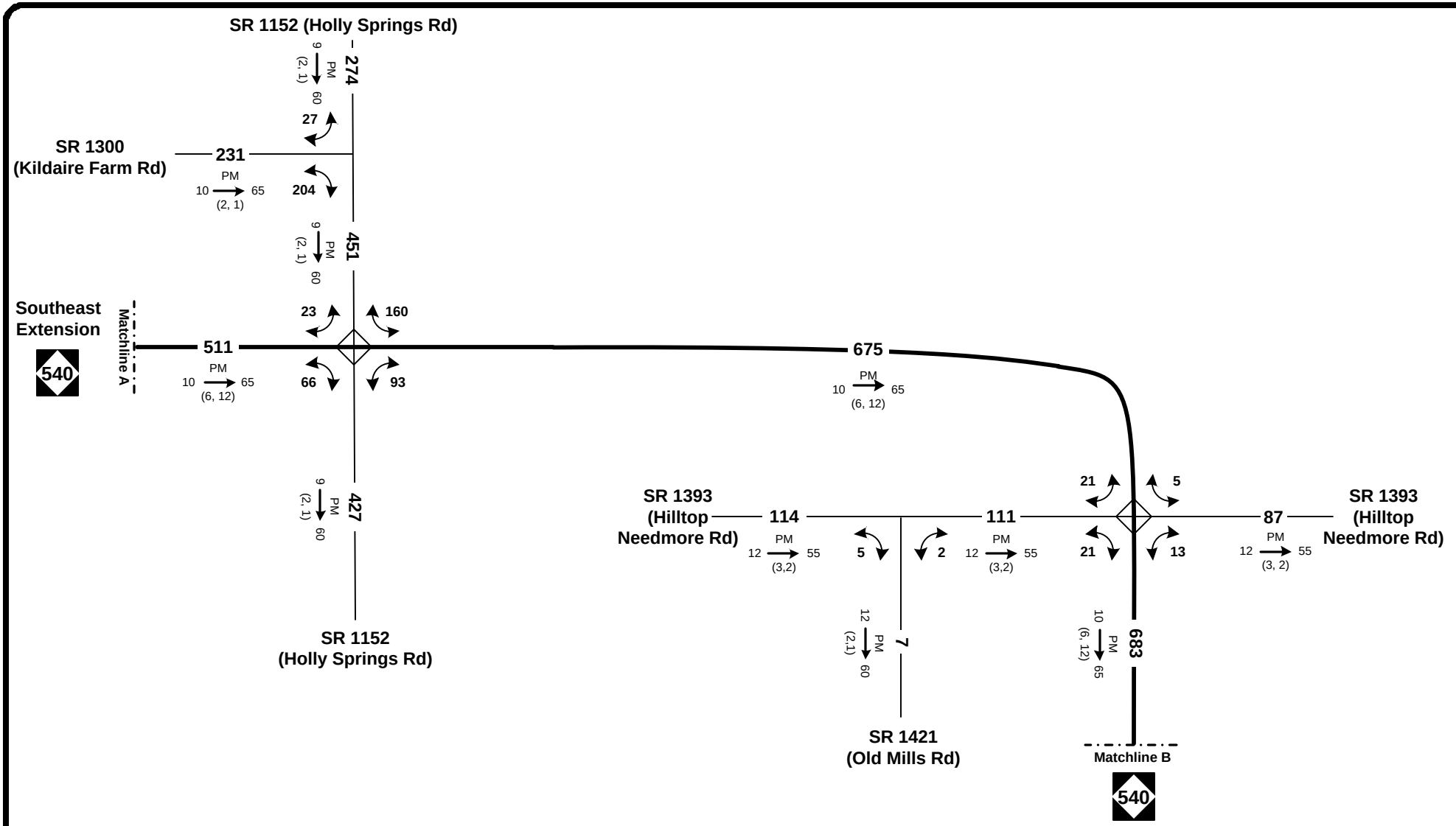
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 25.1



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 8 & 9

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
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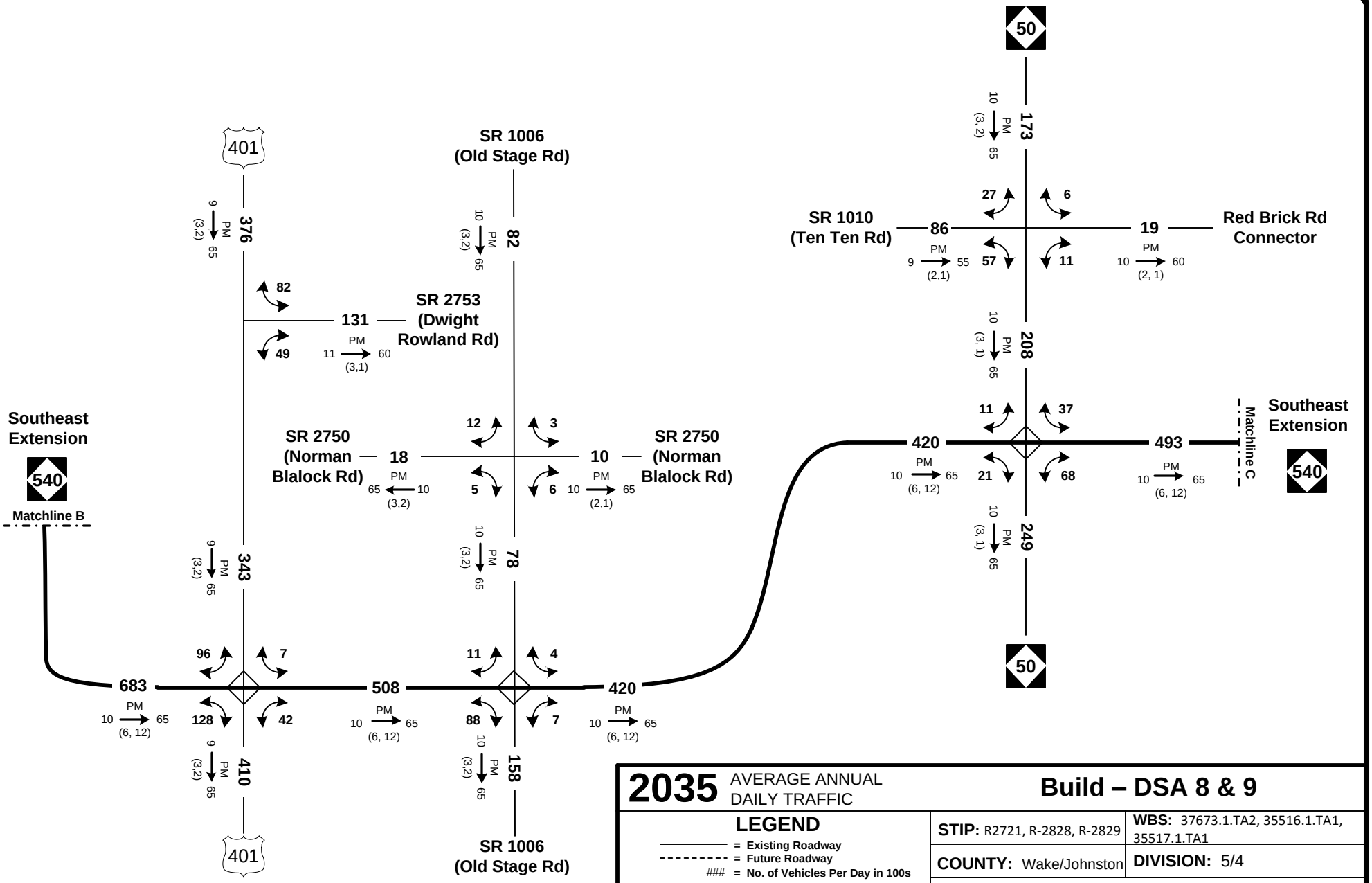
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 25.2**



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 8 & 9

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
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- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
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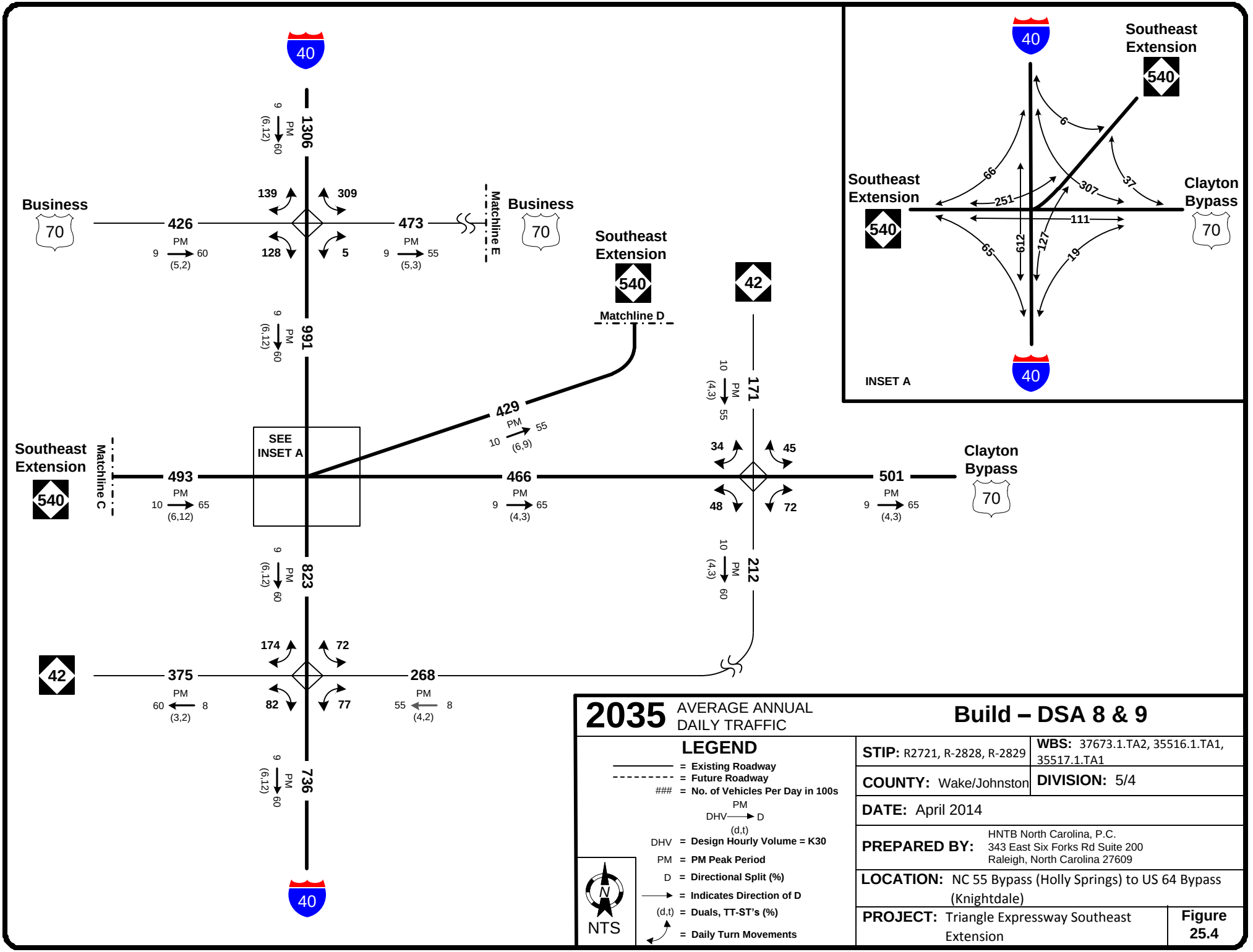
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 25.3**



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 8 & 9

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
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NTS

STIP: R2721, R-2828, R-2829

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COUNTY: Wake/Johnston

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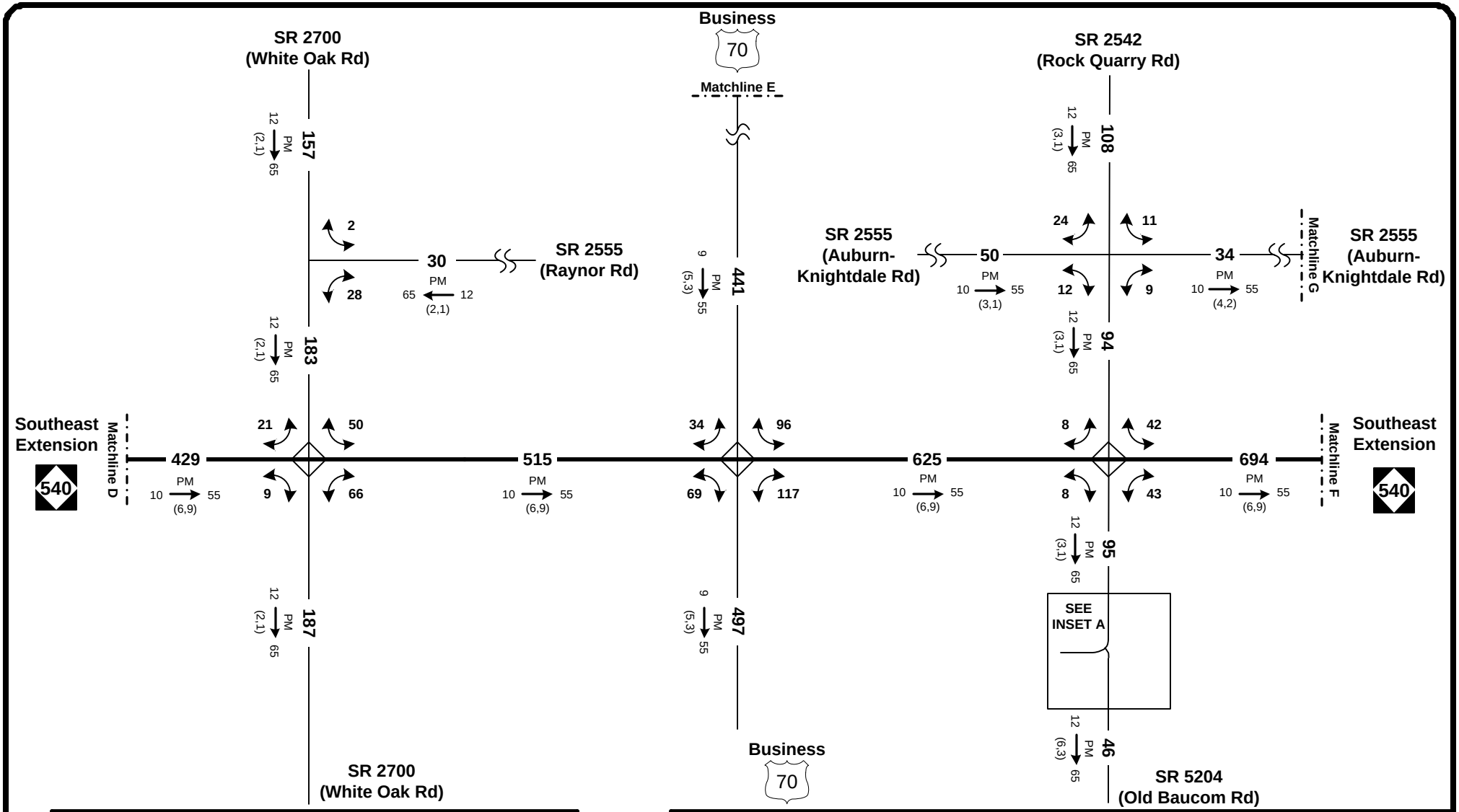
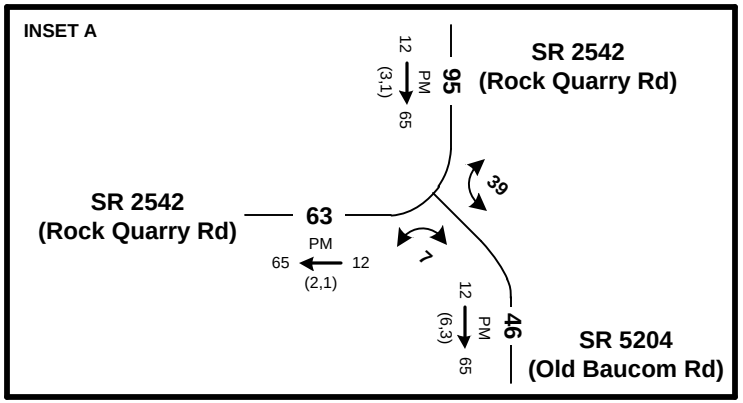
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 25.4





2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 8 & 9

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
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- (d,t) = Duals, TT-ST's (%)
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NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

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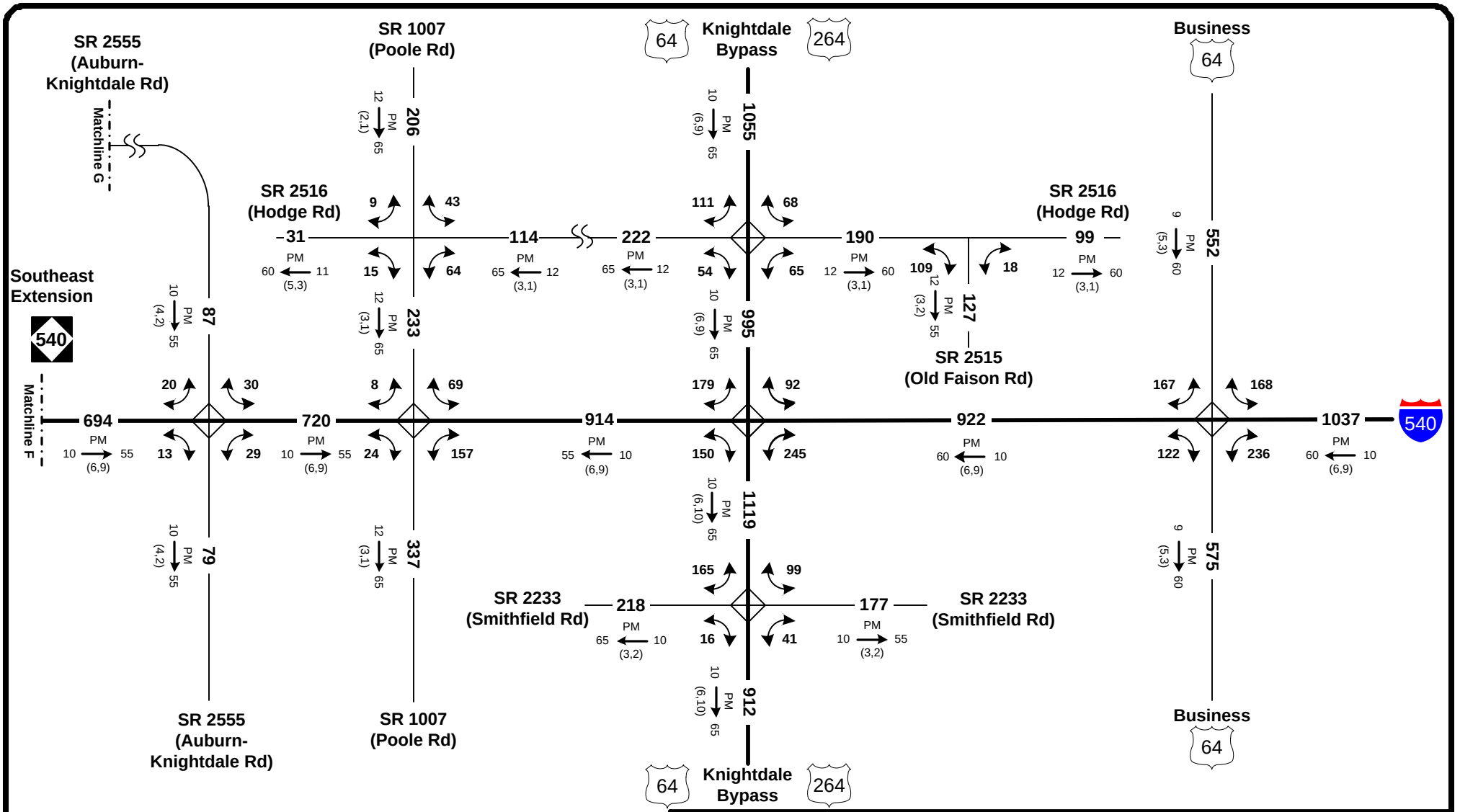
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 25.5



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 8 & 9

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM / DHV → D / (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

DATE: April 2014

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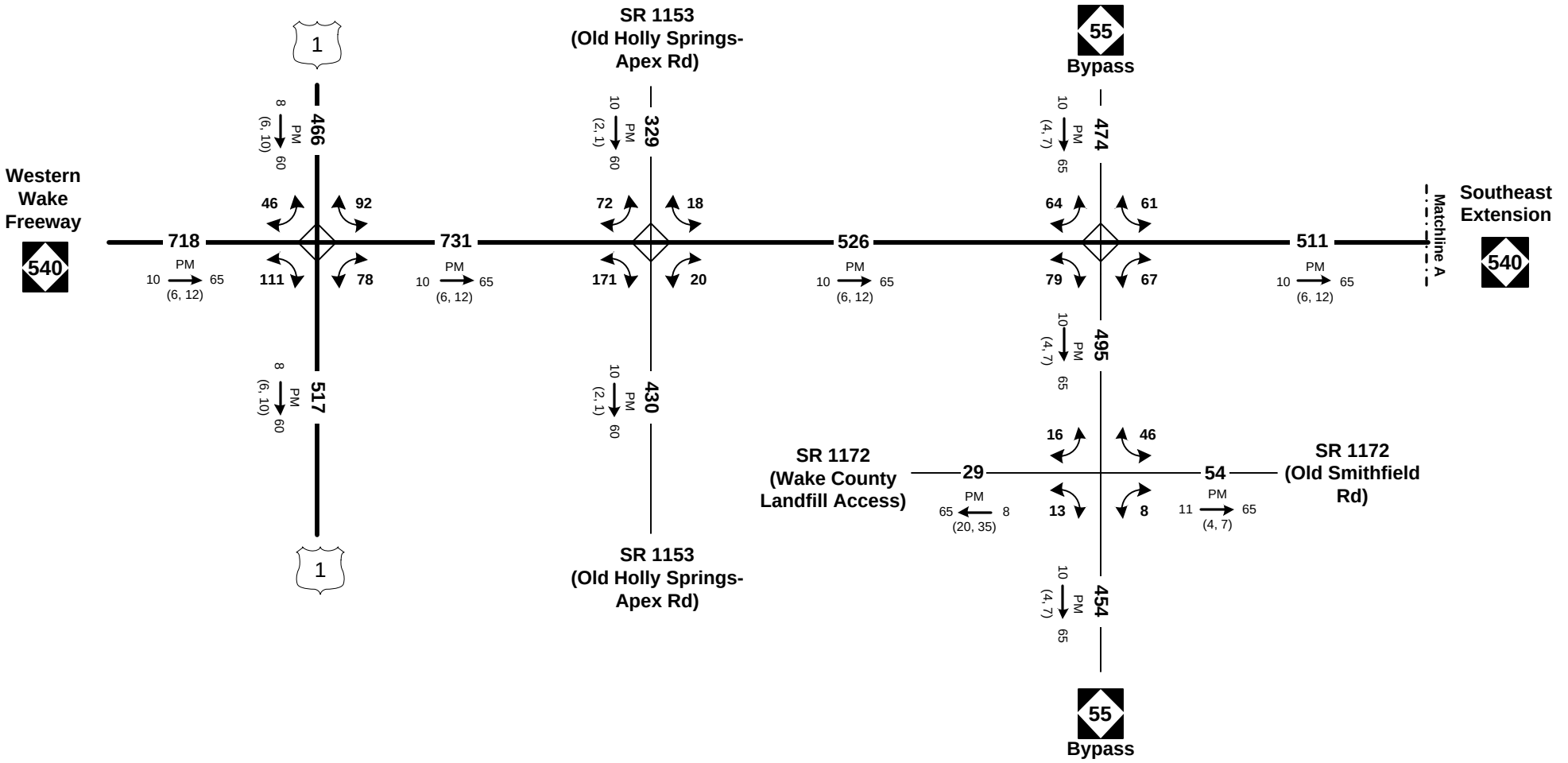
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 25.6



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 10 & 11

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

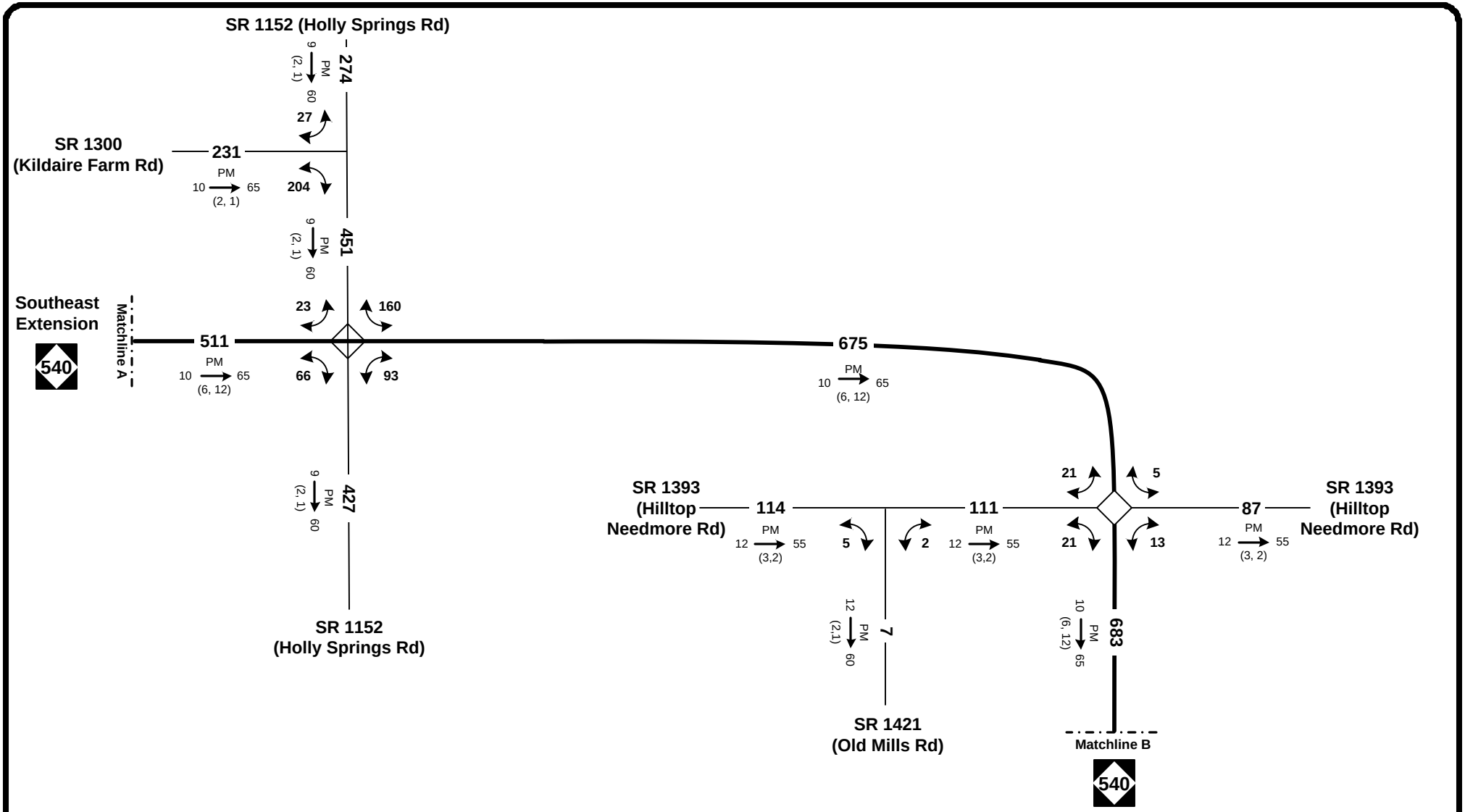
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 26.1



2035 AVERAGE ANNUAL DAILY TRAFFIC

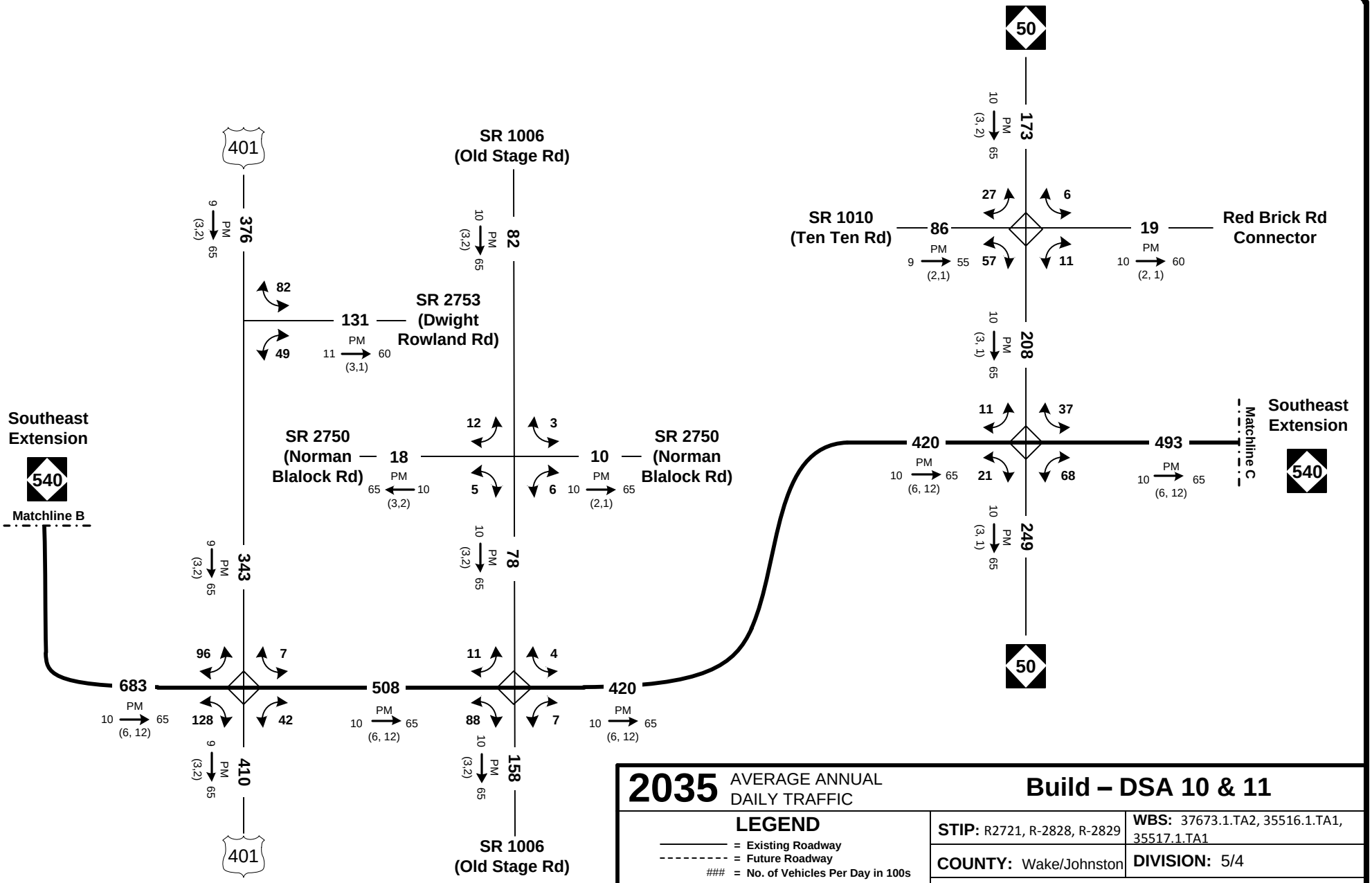
Build – DSA 10 & 11

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 26.2**



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 10 & 11

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM / DHV → D / (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

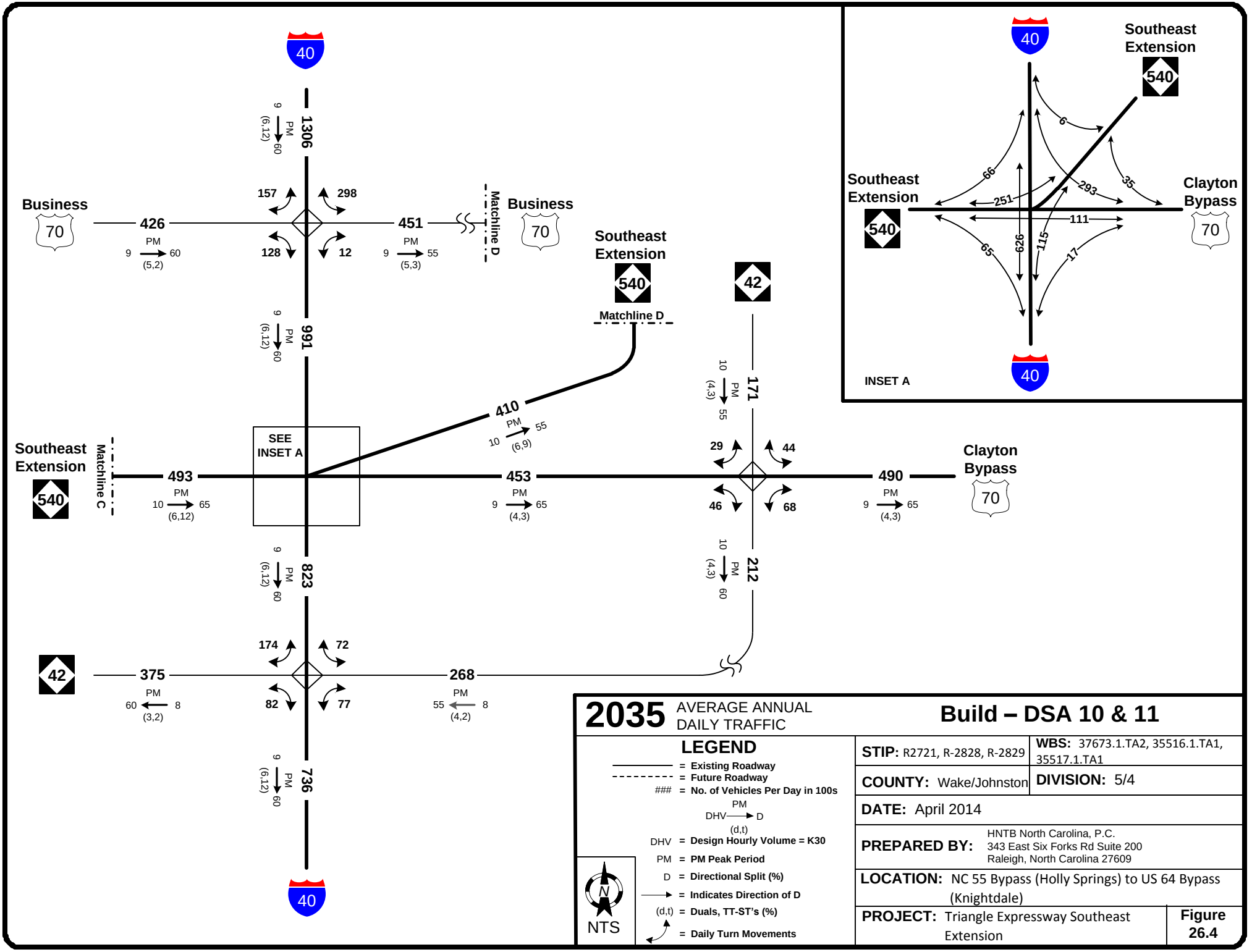
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 26.3



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 10 & 11

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

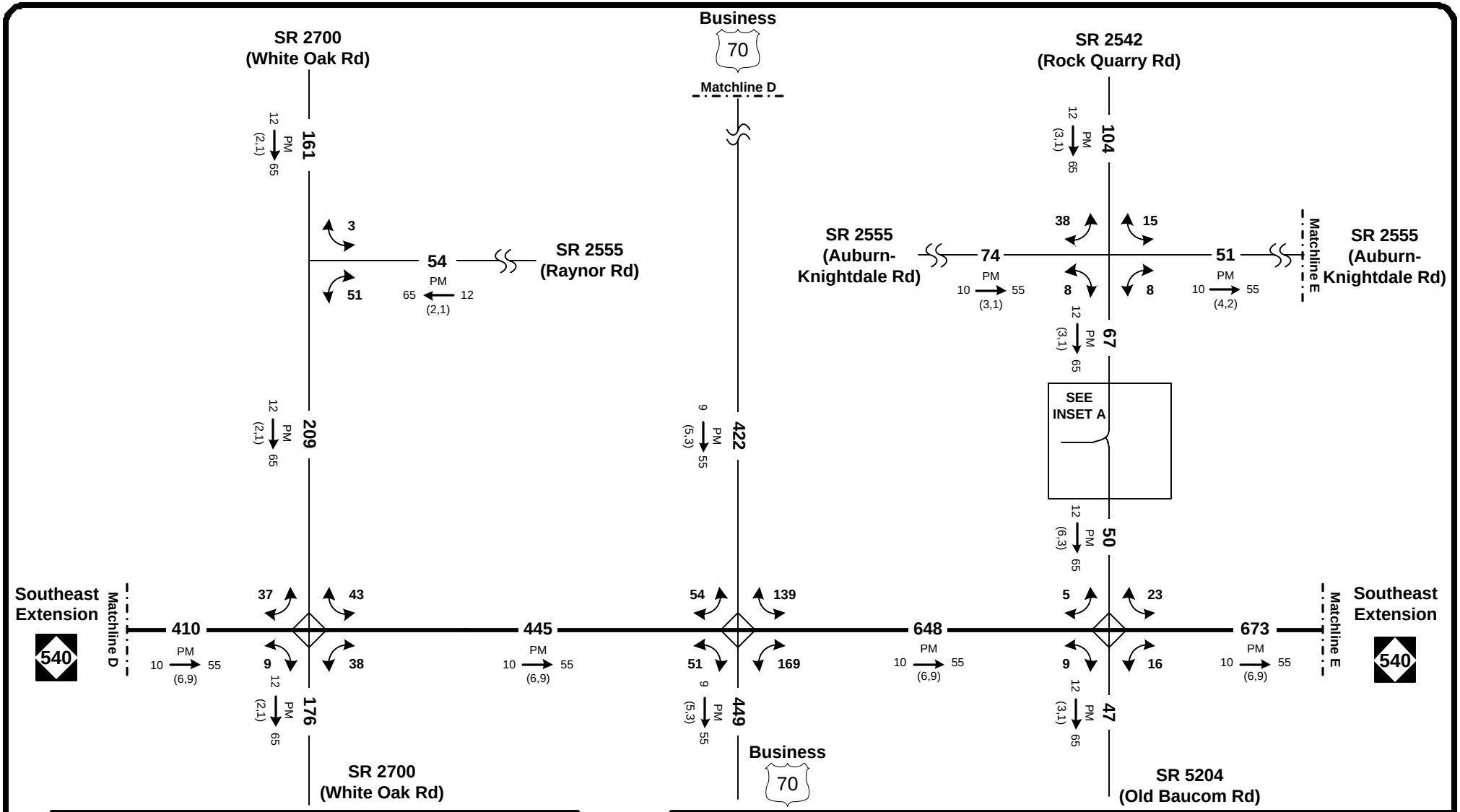
DATE: April 2014

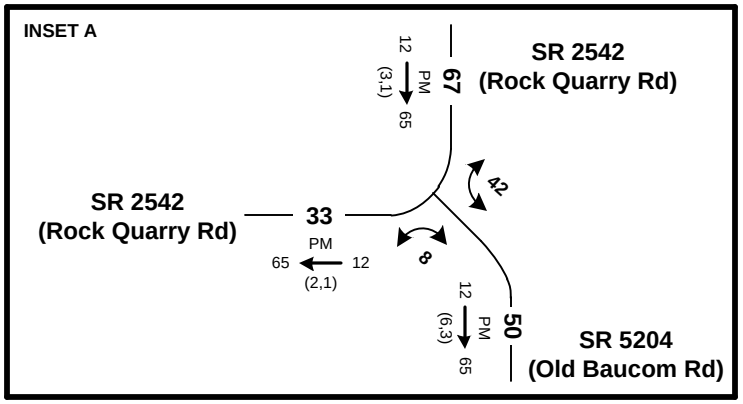
PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 26.4





2035 AVERAGE ANNUAL DAILY TRAFFIC

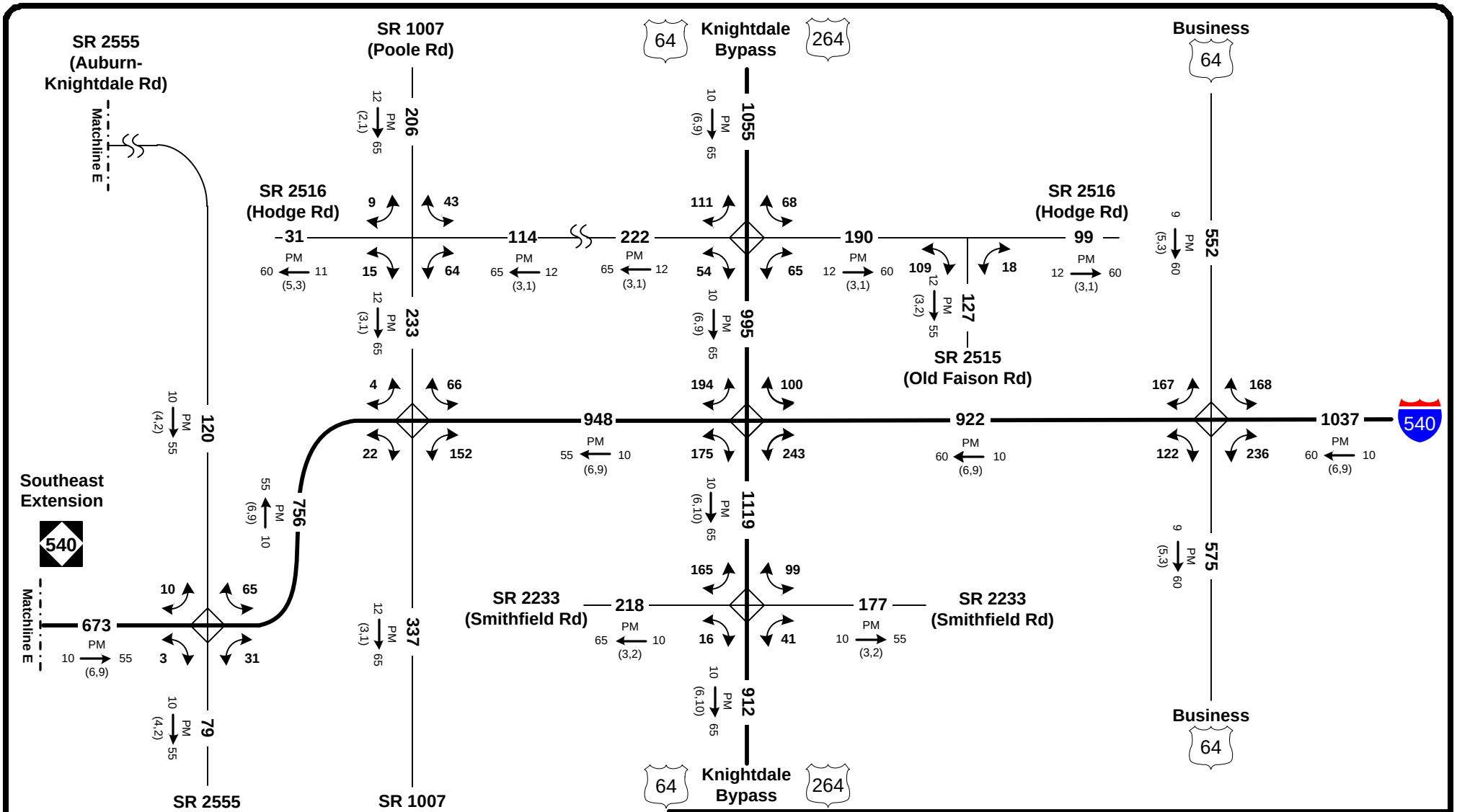
Build – DSA 10 & 11

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
→ = Indicates Direction of D
(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 26.5**



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 10 & 11

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

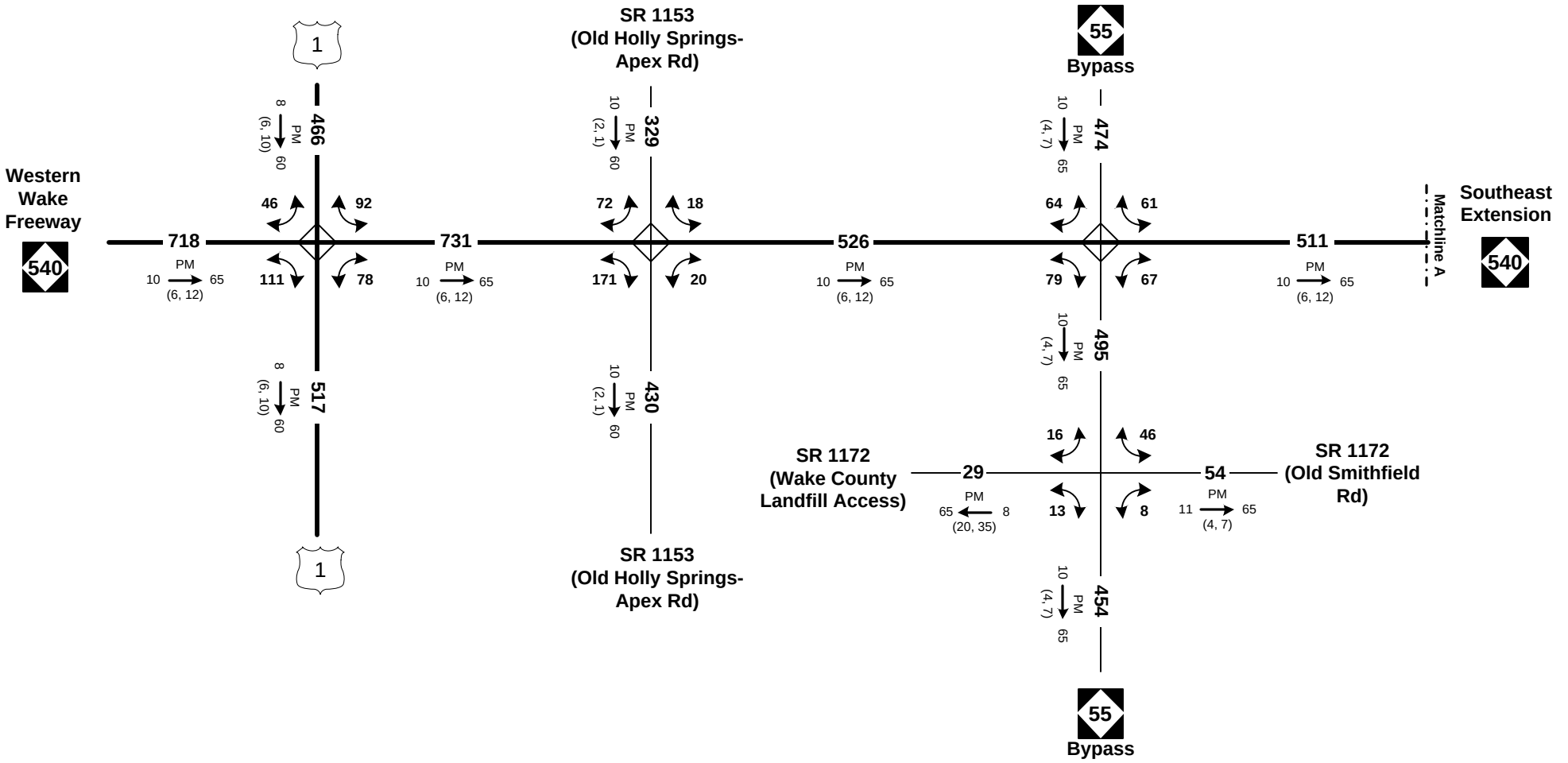
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 26.6



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 12

LEGEND

- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

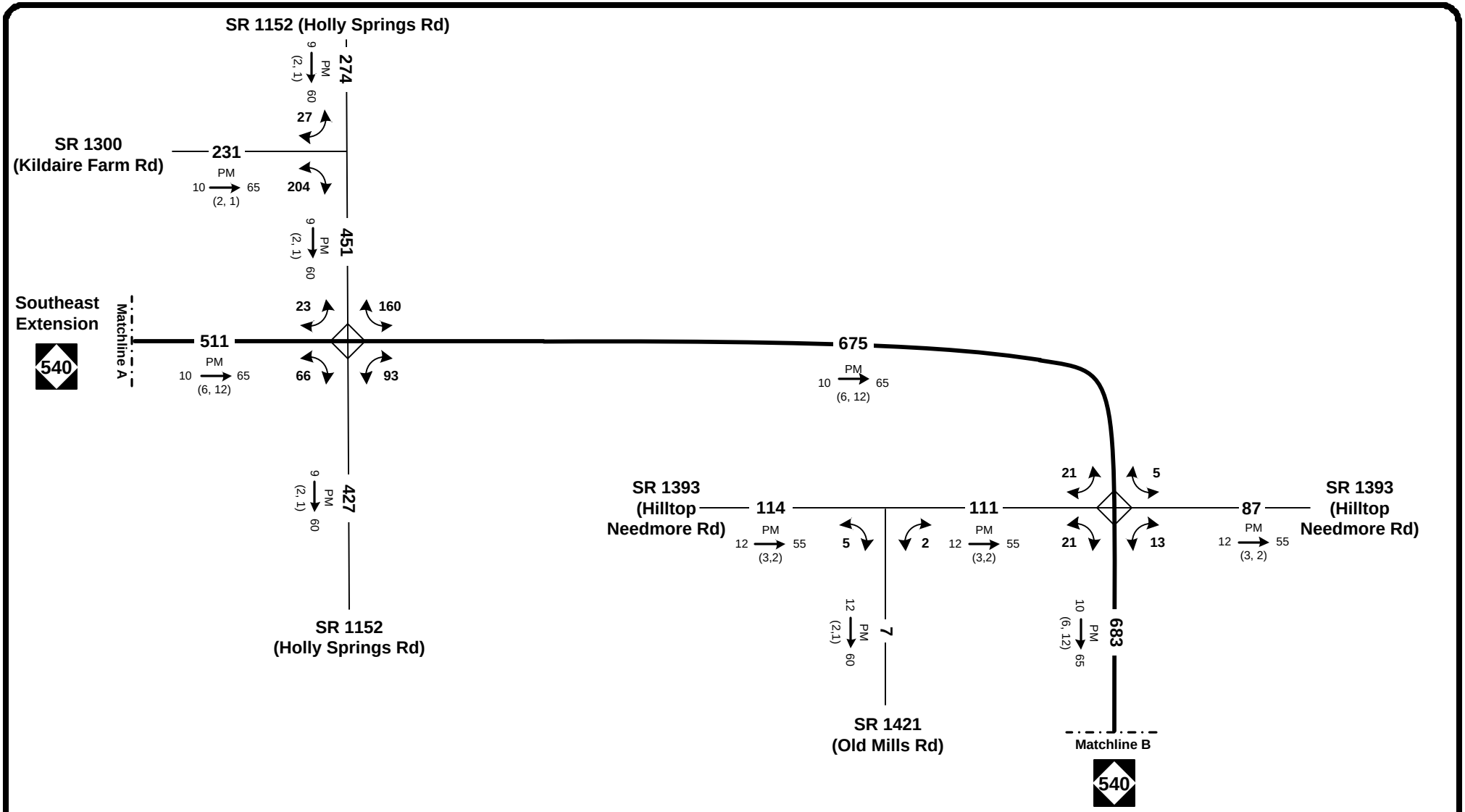
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 27.1



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 12

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

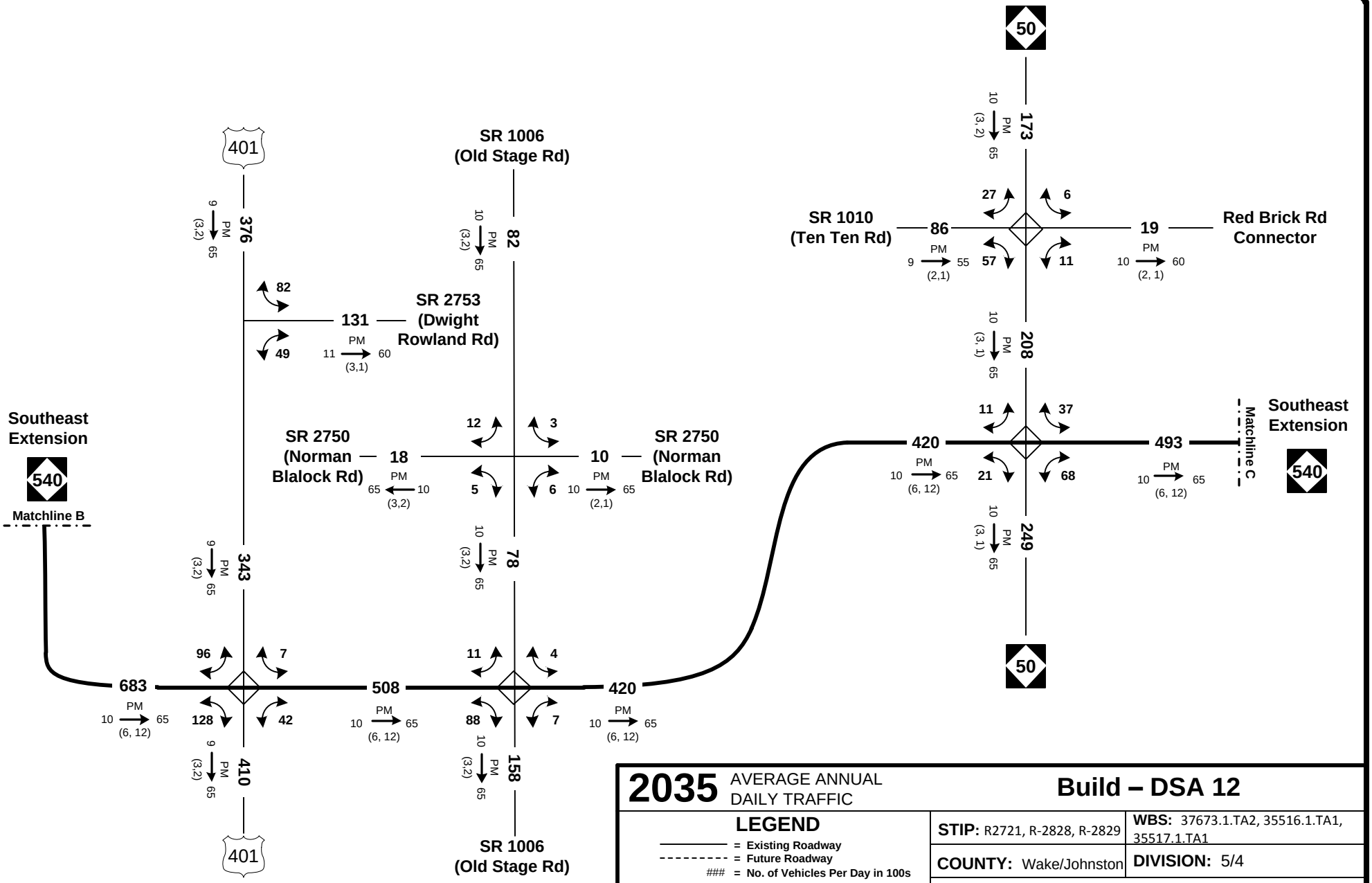
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 27.2



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 12

LEGEND

= Existing Roadway
= Future Roadway
= No. of Vehicles Per Day in 100s
PM
DHV → D
(d,t)
DHV = Design Hourly Volume = K30
PM = PM Peak Period
D = Directional Split (%)
→ = Indicates Direction of D
(d,t) = Duals, TT-ST's (%)
= Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

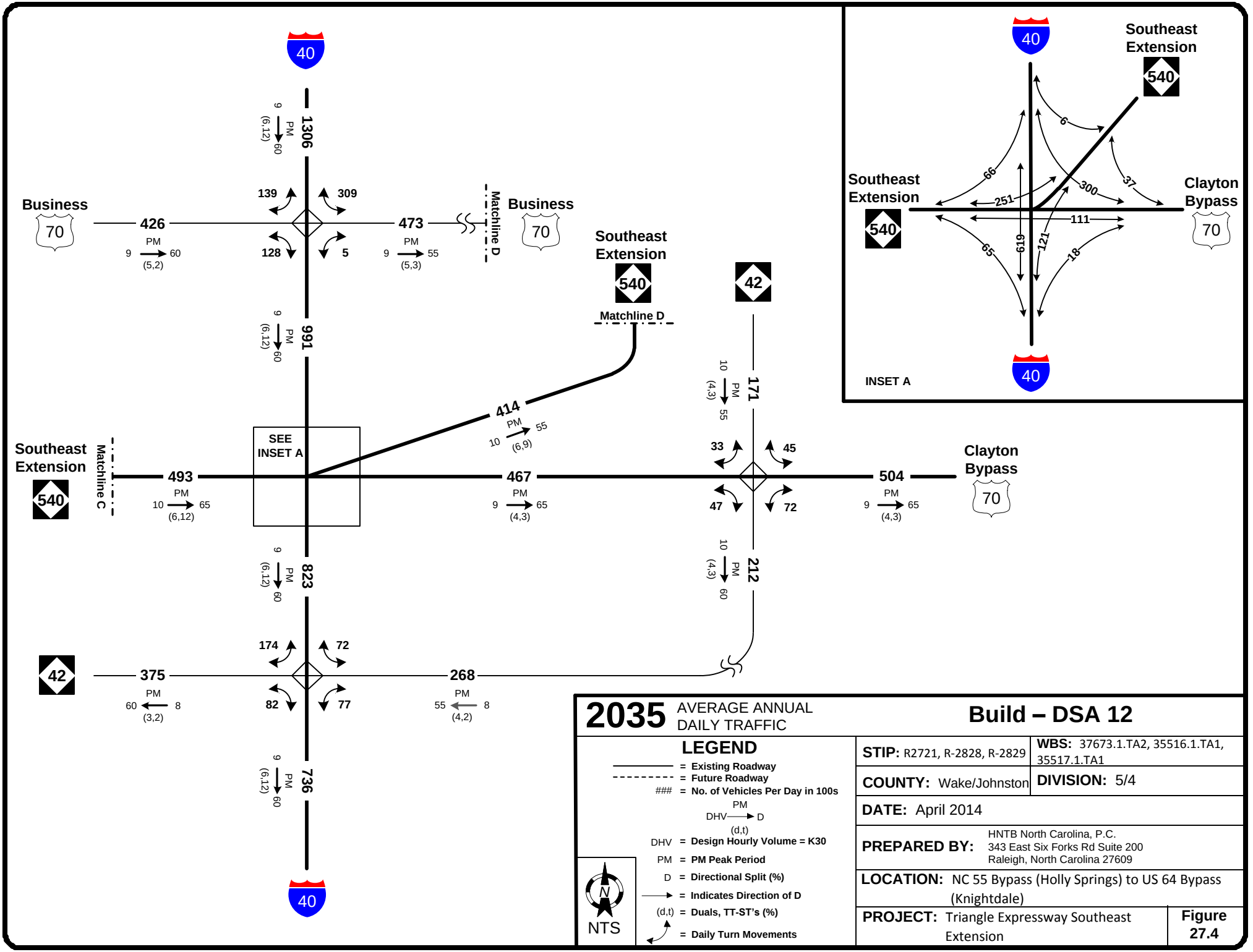
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 27.3



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 12

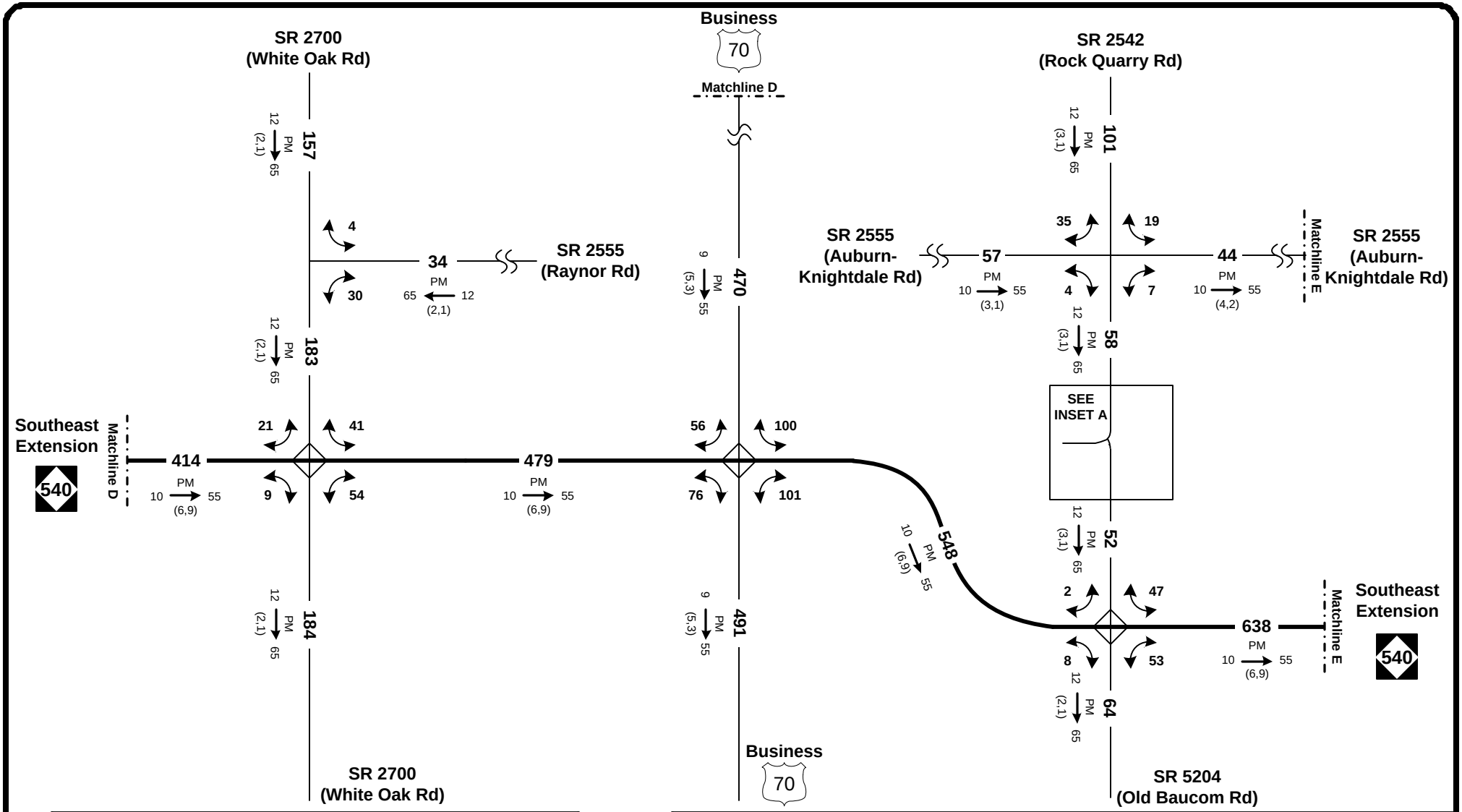
LEGEND

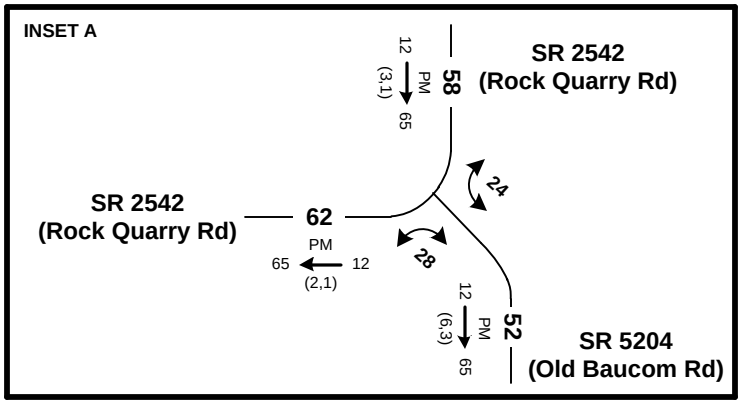
- ——— = Existing Roadway
- - - - - - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

N

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 27.4**





2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 12

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
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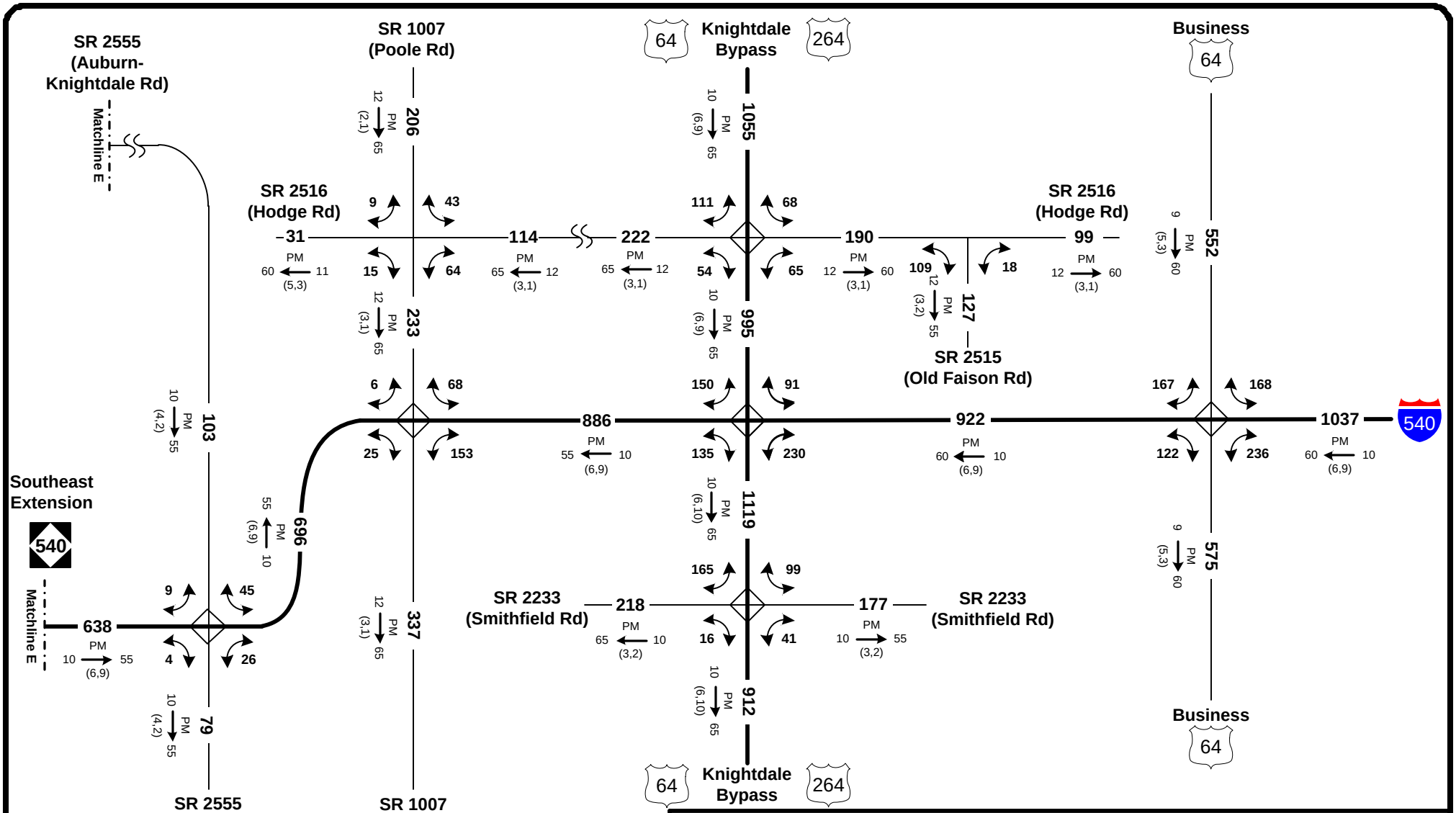
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 27.5**



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 12

LEGEND

- = Existing Roadway
- = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
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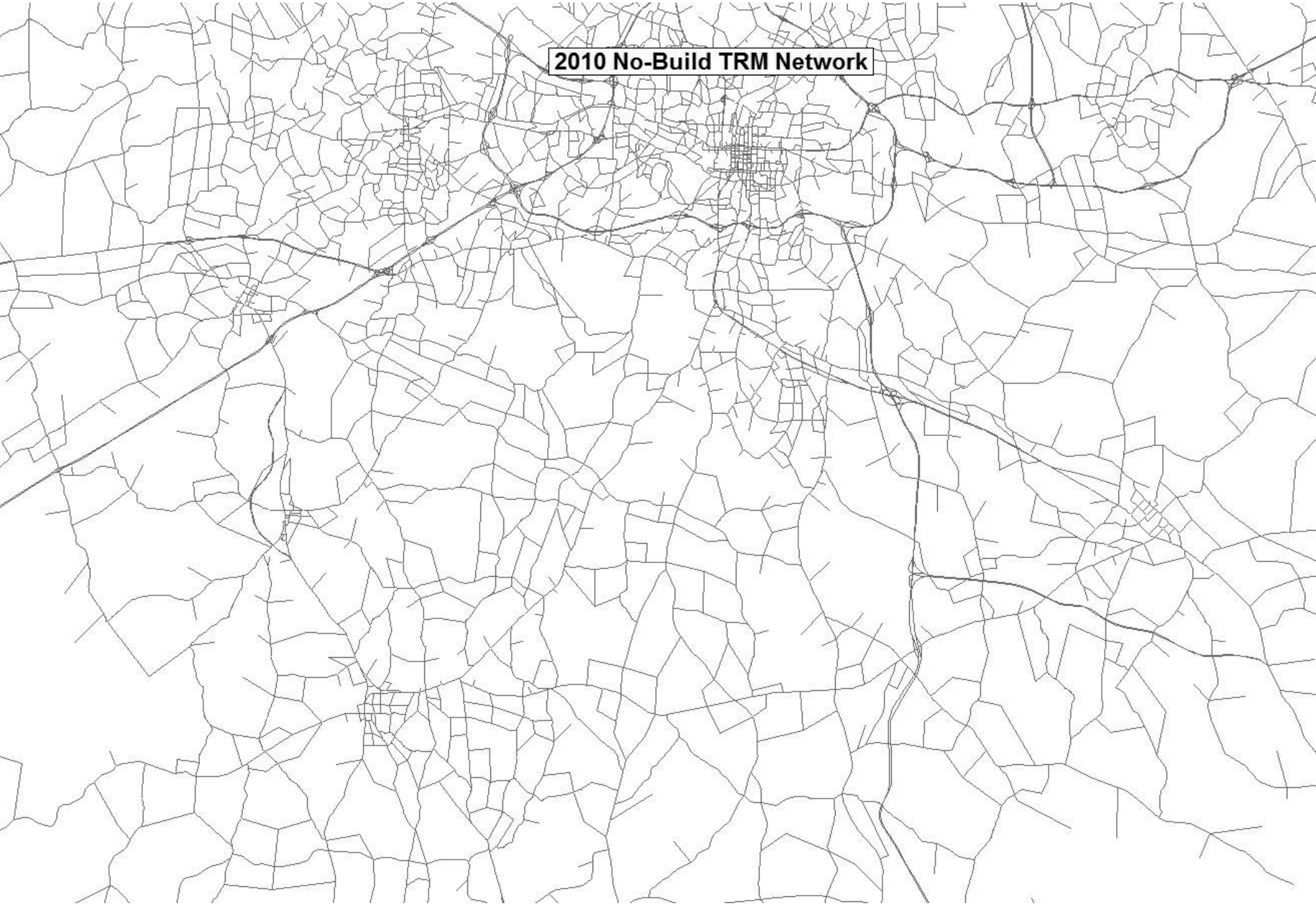
- → = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

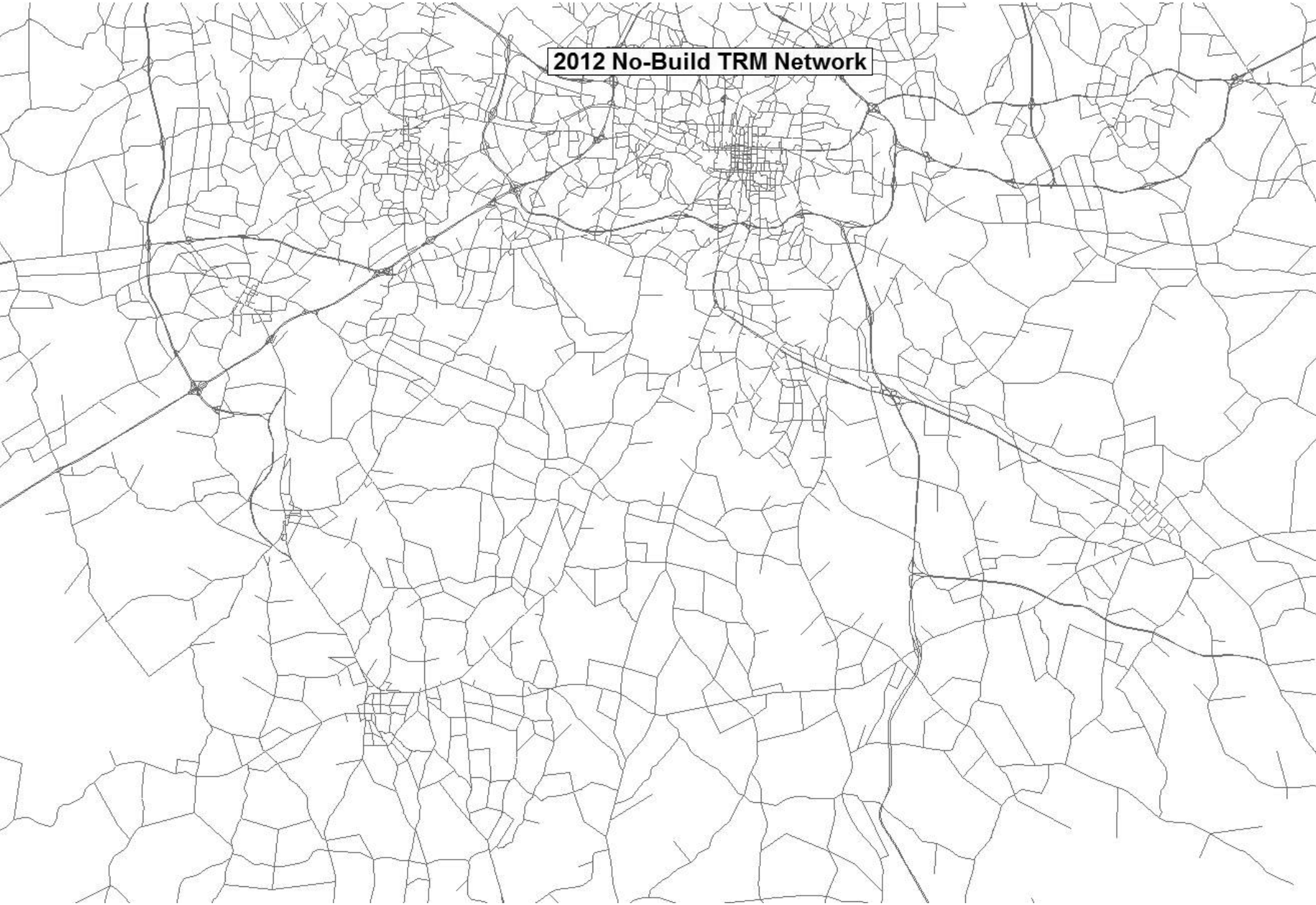
NTS

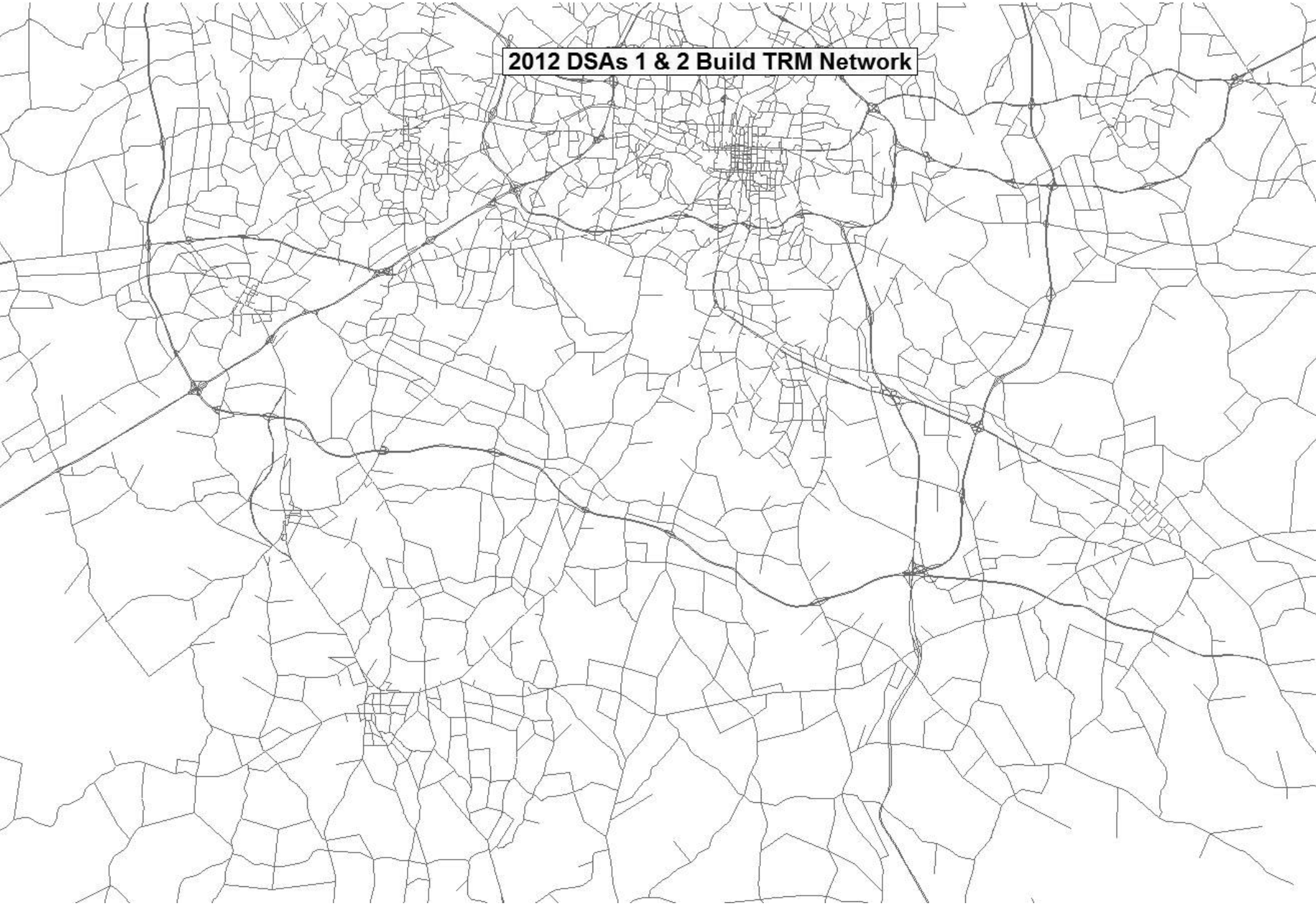
STIP: R2721, R-2828, R-2829	**WBS:** 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	**DIVISION:** 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	**Figure 27.6**

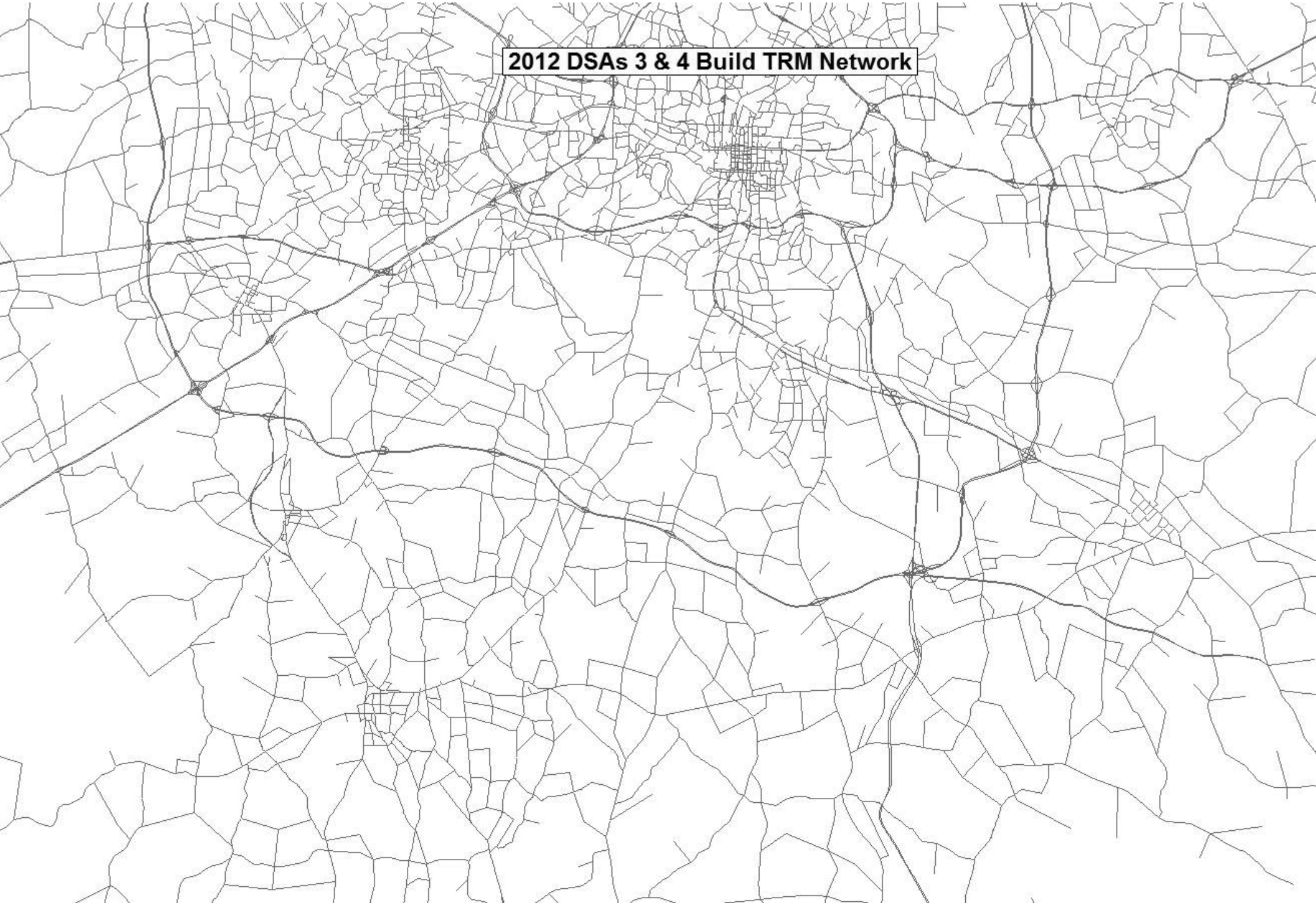
Appendix B – Triangle Regional Model

Study Area Network

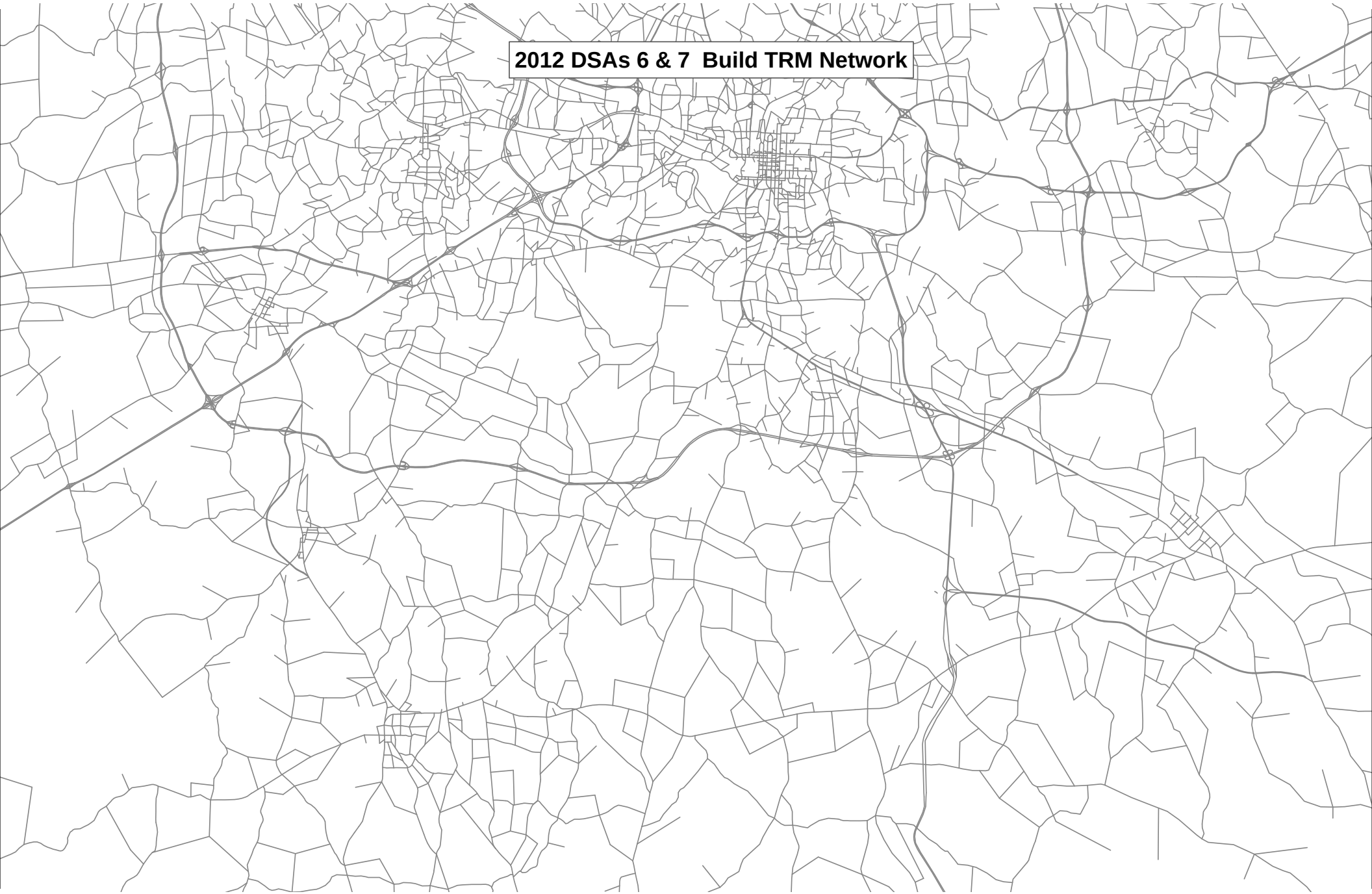

2010 No-Build TRM Network

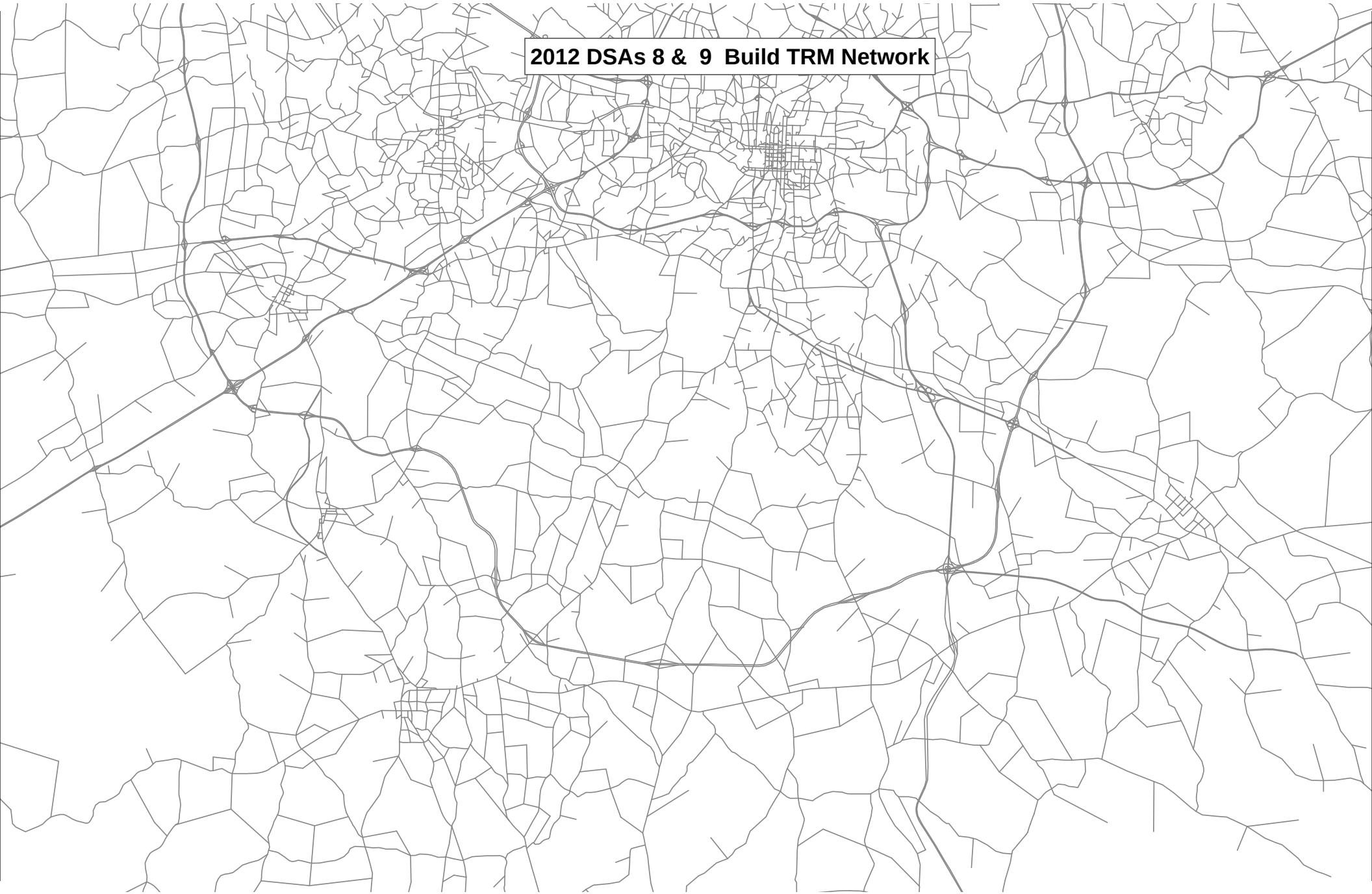

2012 No-Build TRM Network

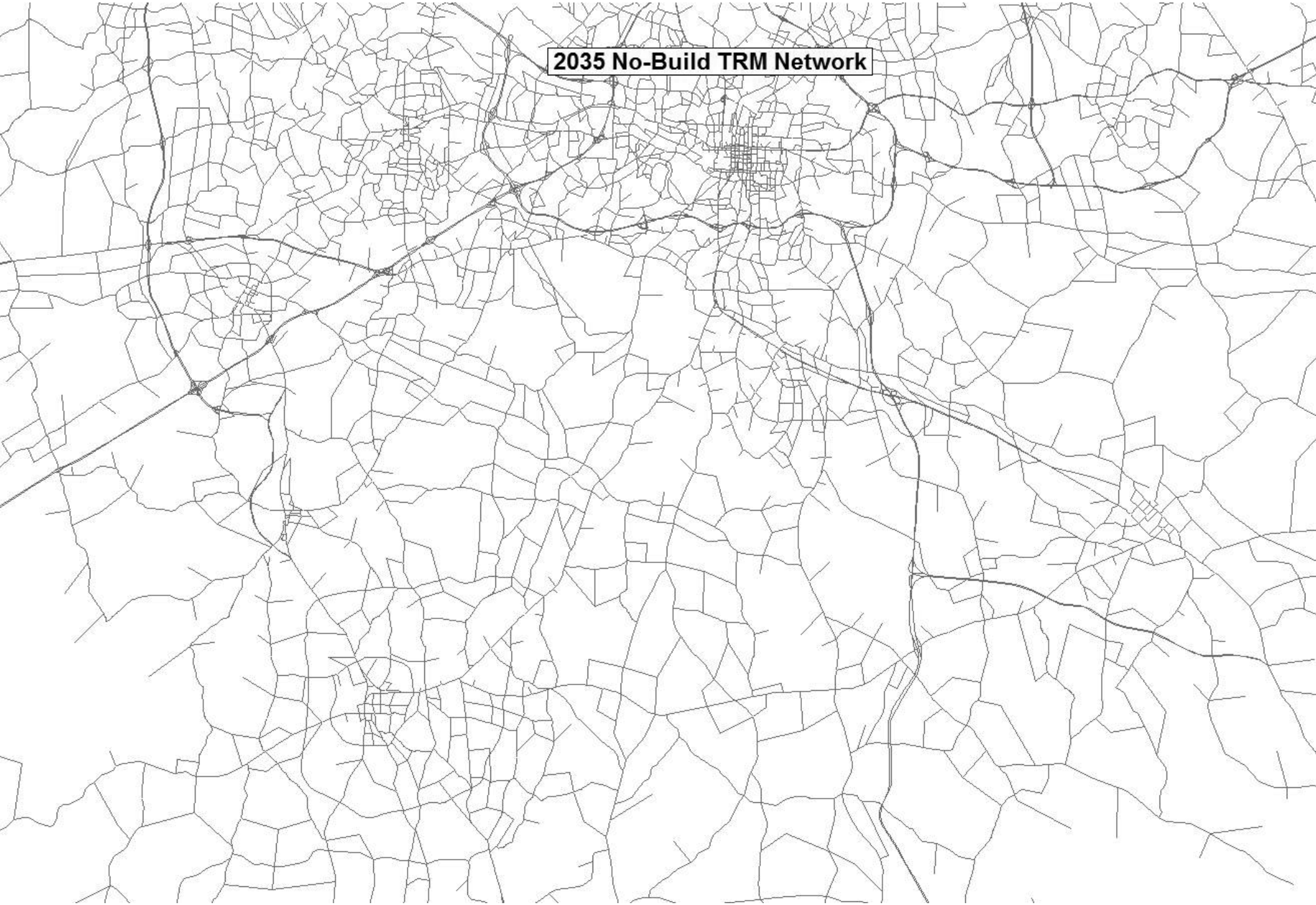

2012 DSAs 1 & 2 Build TRM Network

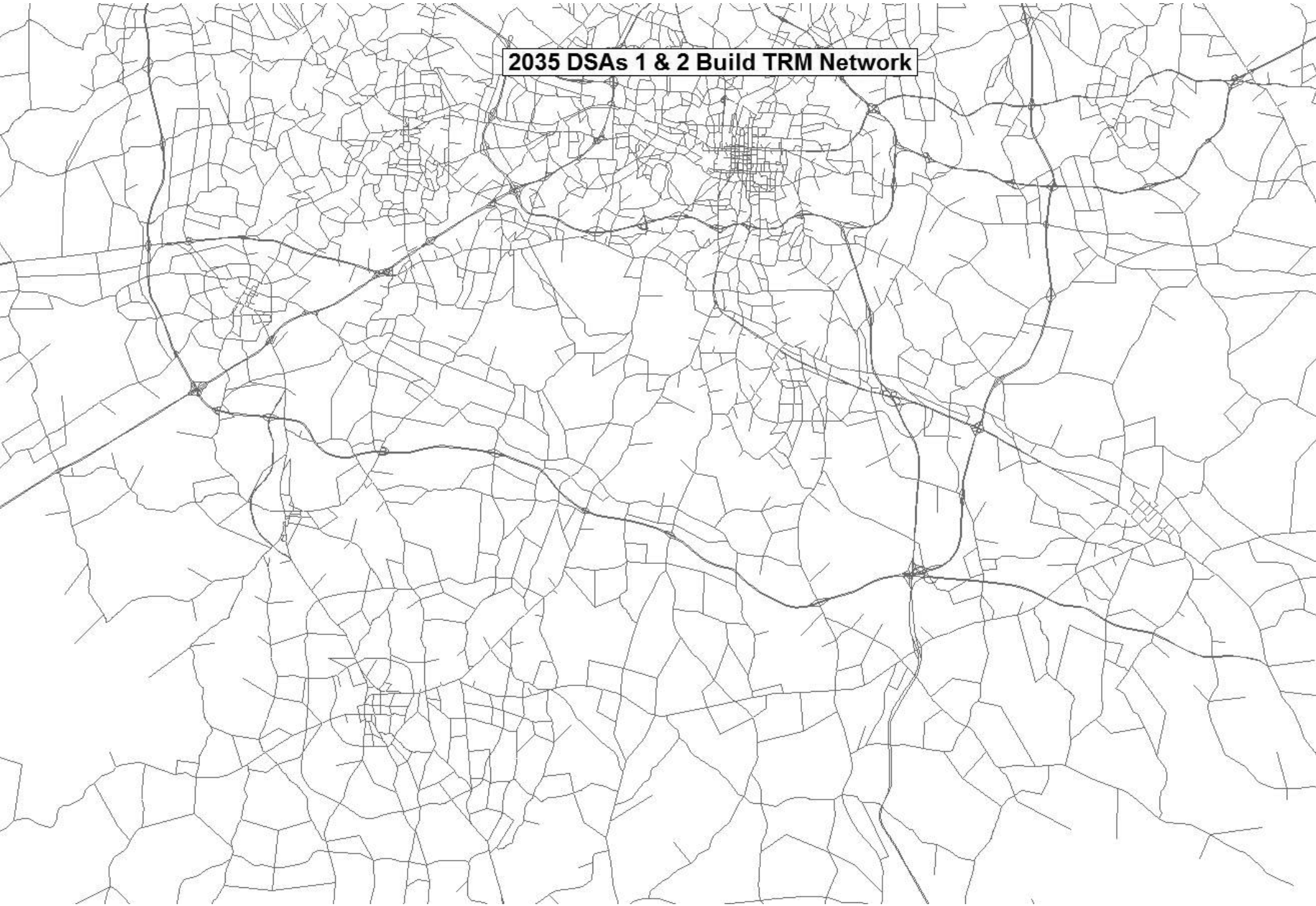

2012 DSAs 3 & 4 Build TRM Network

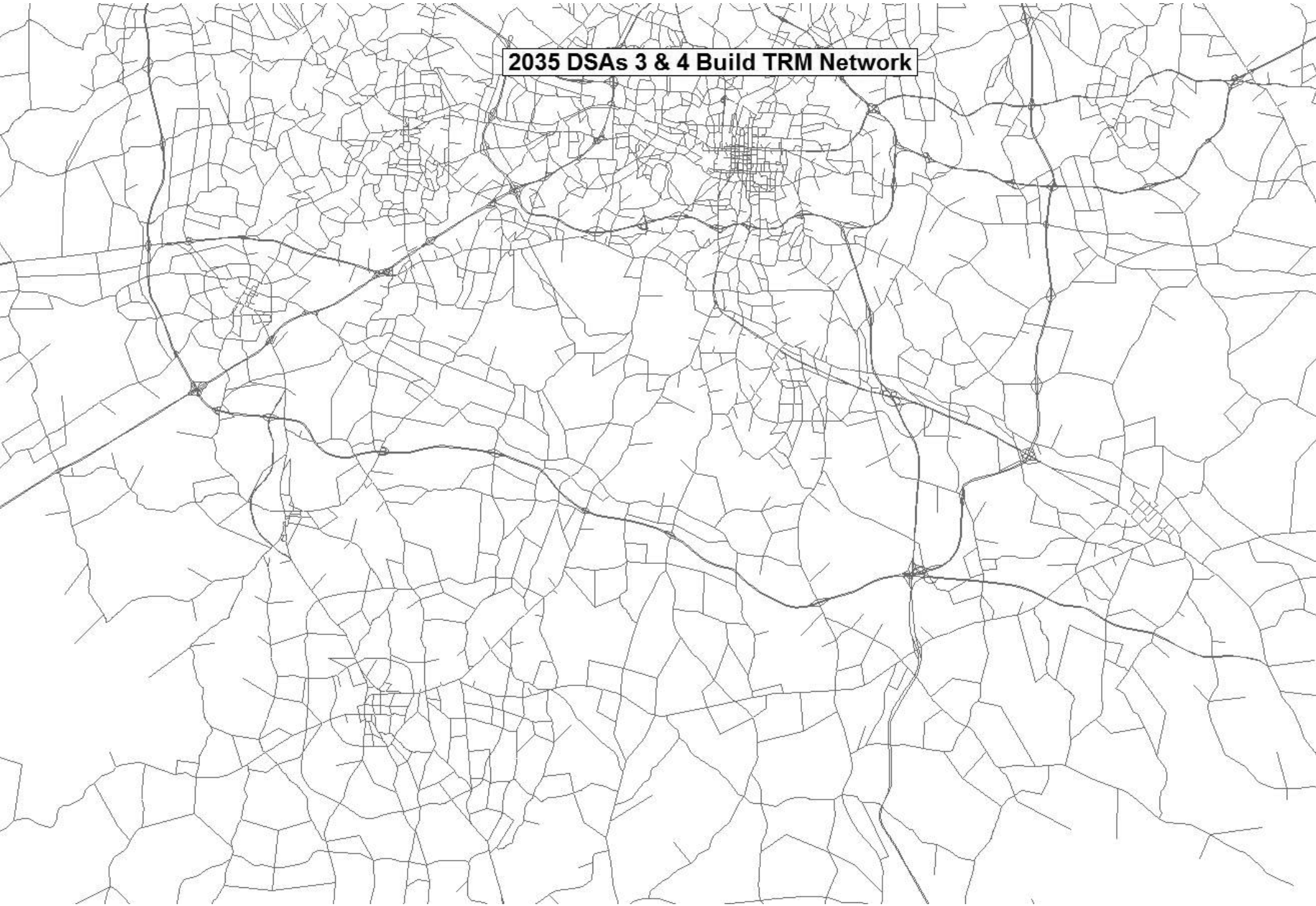

2012 DSA 5 Build TRM Network

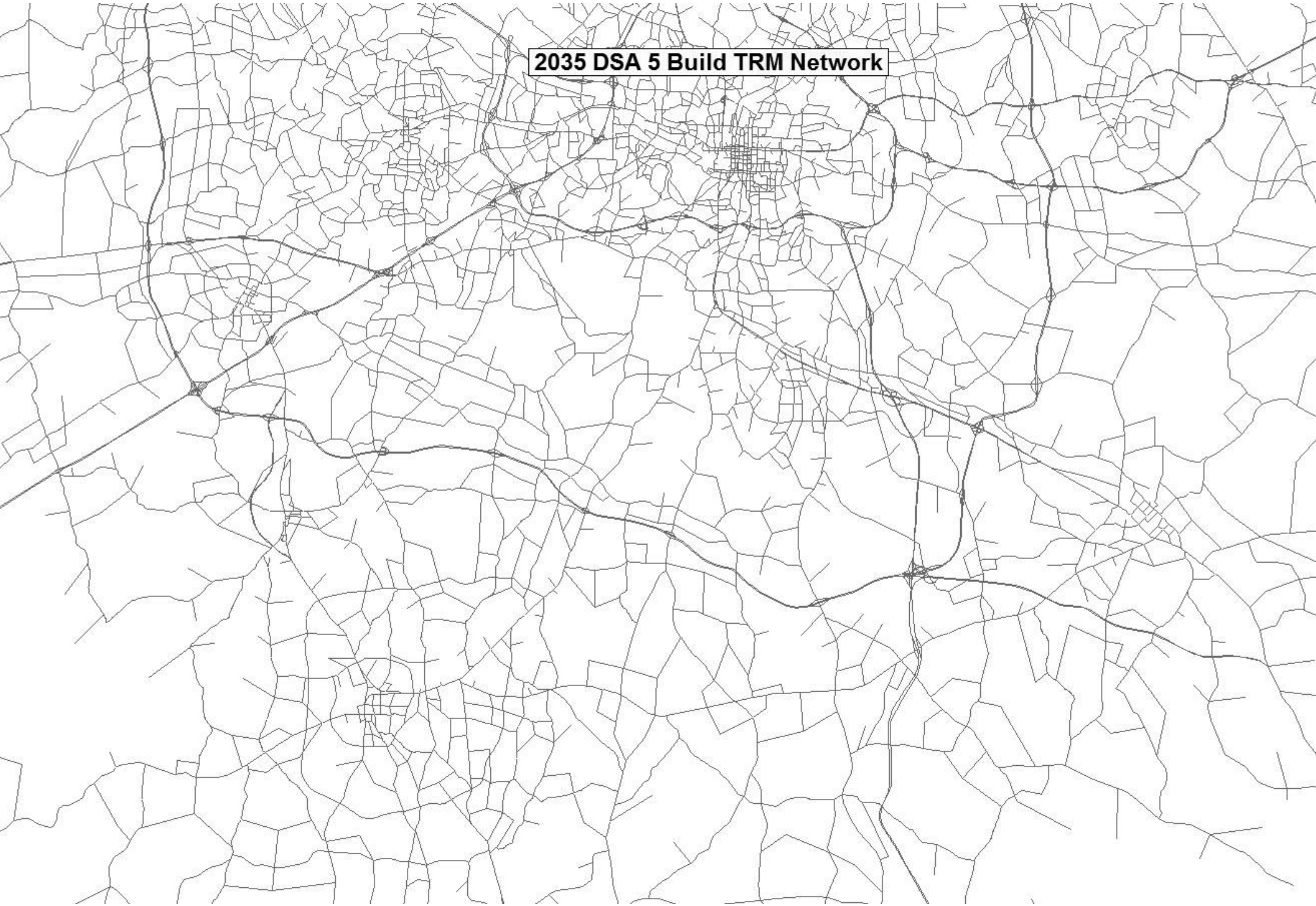

2012 DSAs 6 & 7 Build TRM Network

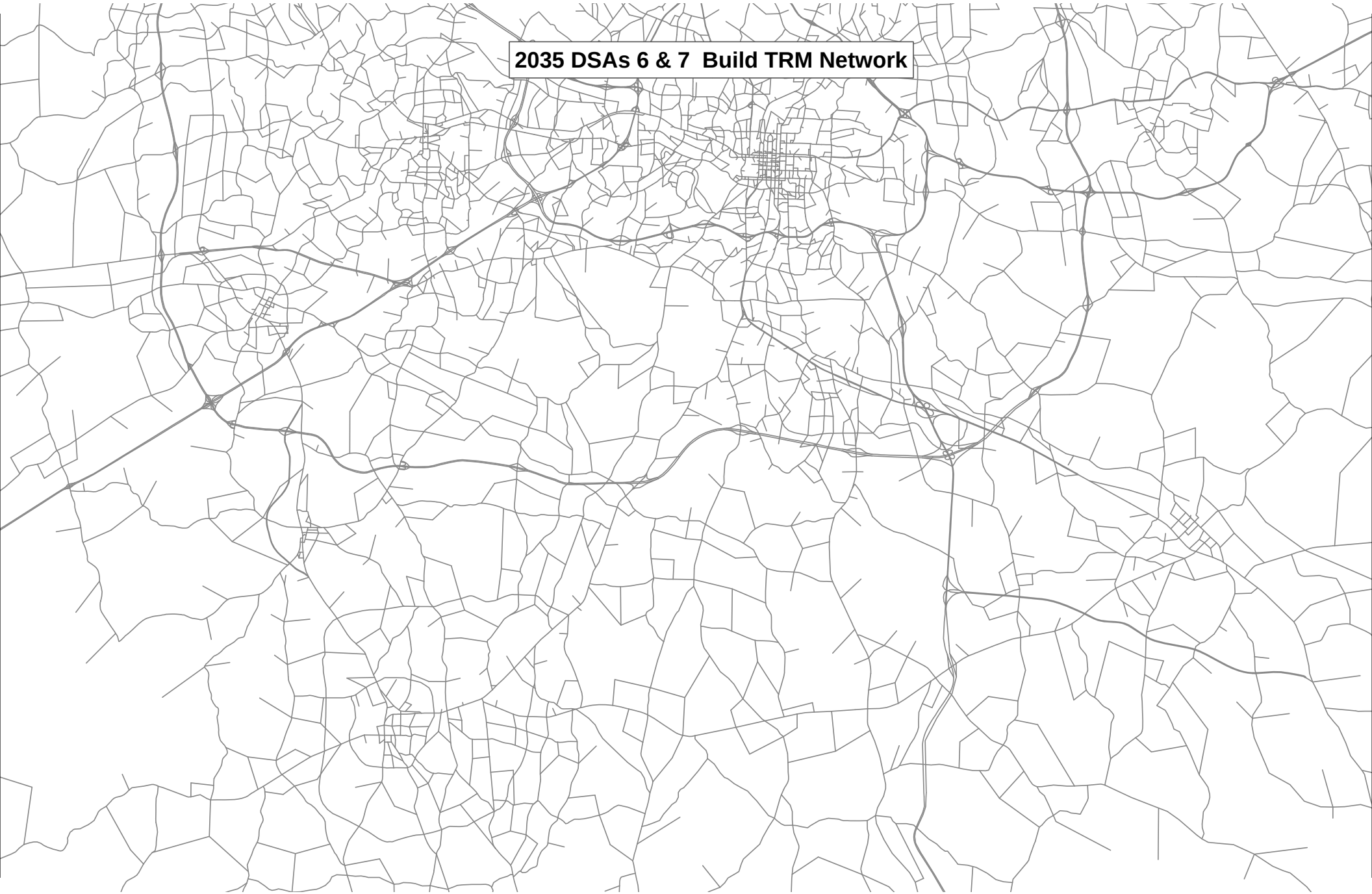

2012 DSAs 8 & 9 Build TRM Network

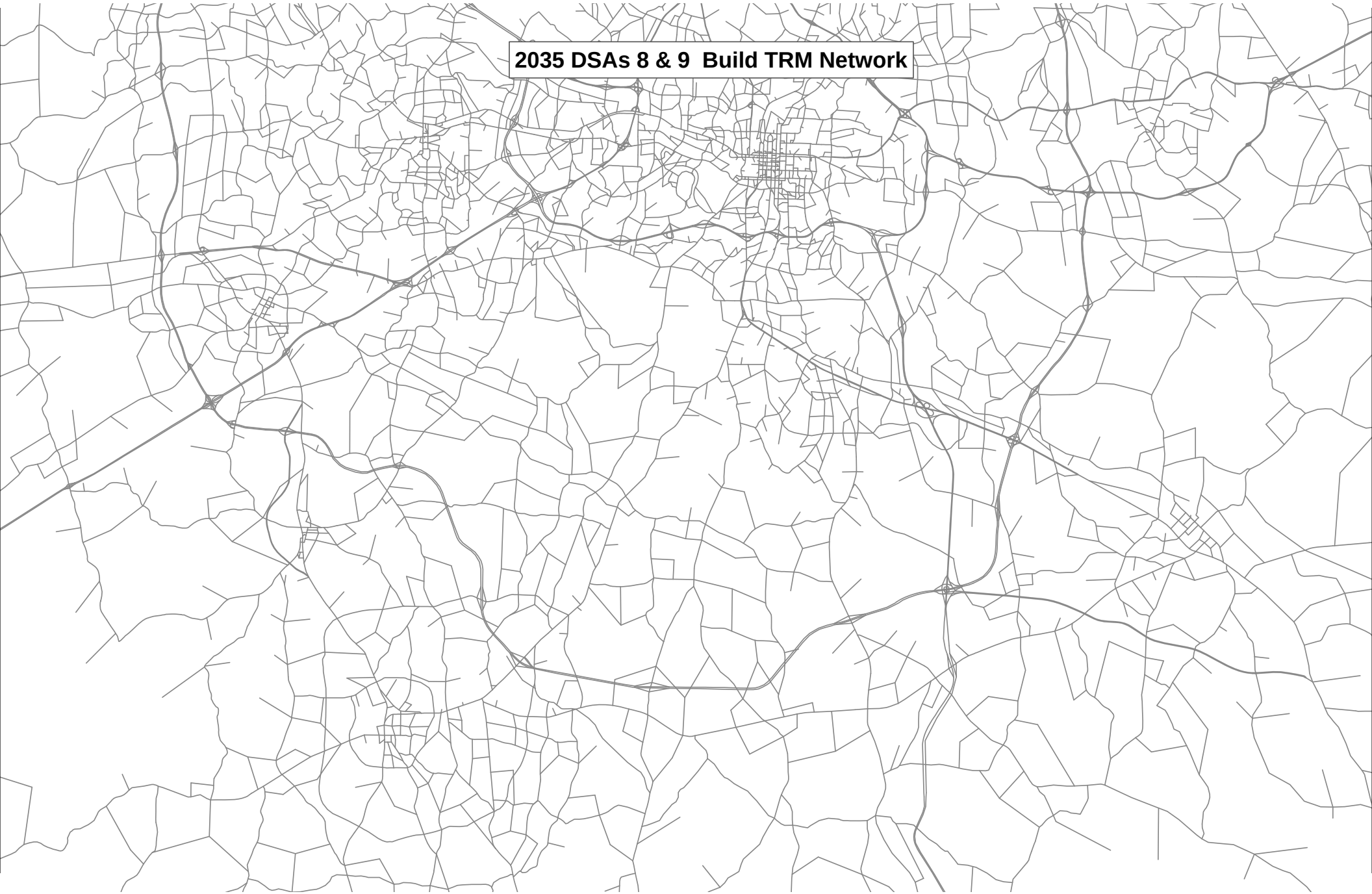

2035 No-Build TRM Network


2035 DSAs 1 & 2 Build TRM Network


2035 DSAs 3 & 4 Build TRM Network


2035 DSA 5 Build TRM Network


2035 DSAs 6 & 7 Build TRM Network


2035 DSAs 8 & 9 Build TRM Network

Appendix C – NCDOT Historic AADT

Linear Regression Charts

AADT TREND ANALYSIS

#1 -- AUBURN KNIGHTDALE RD (SR 2555) N OF ROCK QUARRY RD (SR 2542)

HISTORIC DATA	
Year	AADT
2003	3600
2005	3300
2007	2800
2009	2900

STATISTICAL RESULTS	
AVG ANN INC:	-117
AVG ANN RATE:	-3.5%
LINEAR REG:	-130
EXPONENTIAL REG:	-4.0%
R-SQUARED	
LINEAR:	0.8244
EXPONENTIAL:	0.8139
NUMBER OF DATA POINTS:	
	4

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

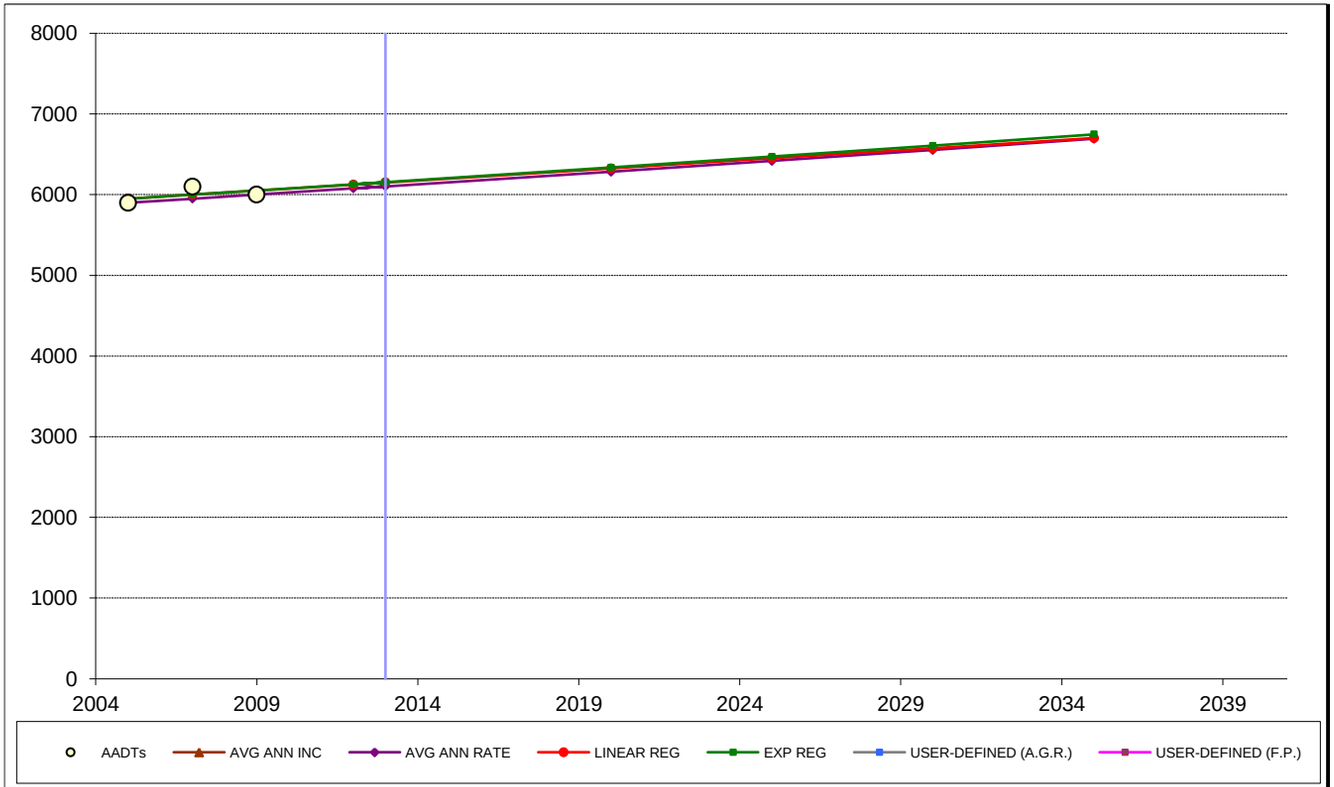
SHOW STATION #:	
1- AUBURN KNIGHTDALE RD (SR 2555) N OF ROCK	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
2433	2511	2240	2358
2550	2603	2370	2456
1617	1951	1330	1774
1033	1629	680	1448
450	1361	30	1181
-133	1136	-620	964

AADT TREND ANALYSIS

#2 -- CLEVELAND SCHOOL RD (SR 1010) E OF NC 50



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	25
2005	5900	AVG ANN RATE:	0.4%
2007	6100	LINEAR REG:	25
2009	6000	EXPONENTIAL REG:	0.4%
		R-SQUARED	
		LINEAR:	0.2500
		EXPONENTIAL:	0.2542
		NUMBER OF DATA POINTS:	
			3

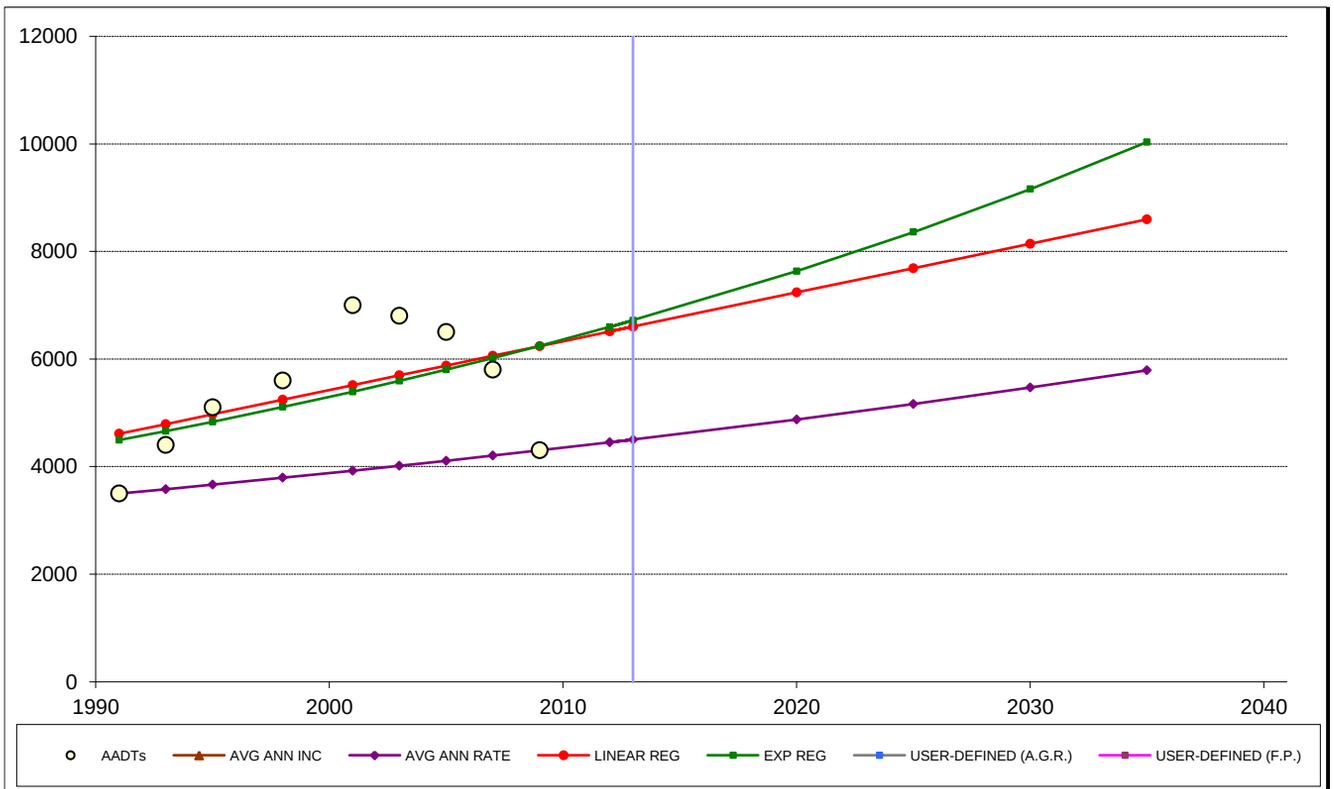
SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	2- CLEVELAND SCHOOL RD (SR 1010) E OF NC 50	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
6100	6102	6150	6153
6075	6076	6125	6127
6275	6284	6325	6336
6400	6417	6450	6471
6525	6553	6575	6608
6650	6693	6700	6748

AADT TREND ANALYSIS

#3 -- E GARNER RD (SR 1004) W OF I-40



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
3- E GARNER RD (SR 1004) W OF I-40	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA	
Year	AADT
1991	3500
1993	4400
1995	5100
1998	5600
2001	7000
2003	6800
2005	6500
2007	5800
2009	4300

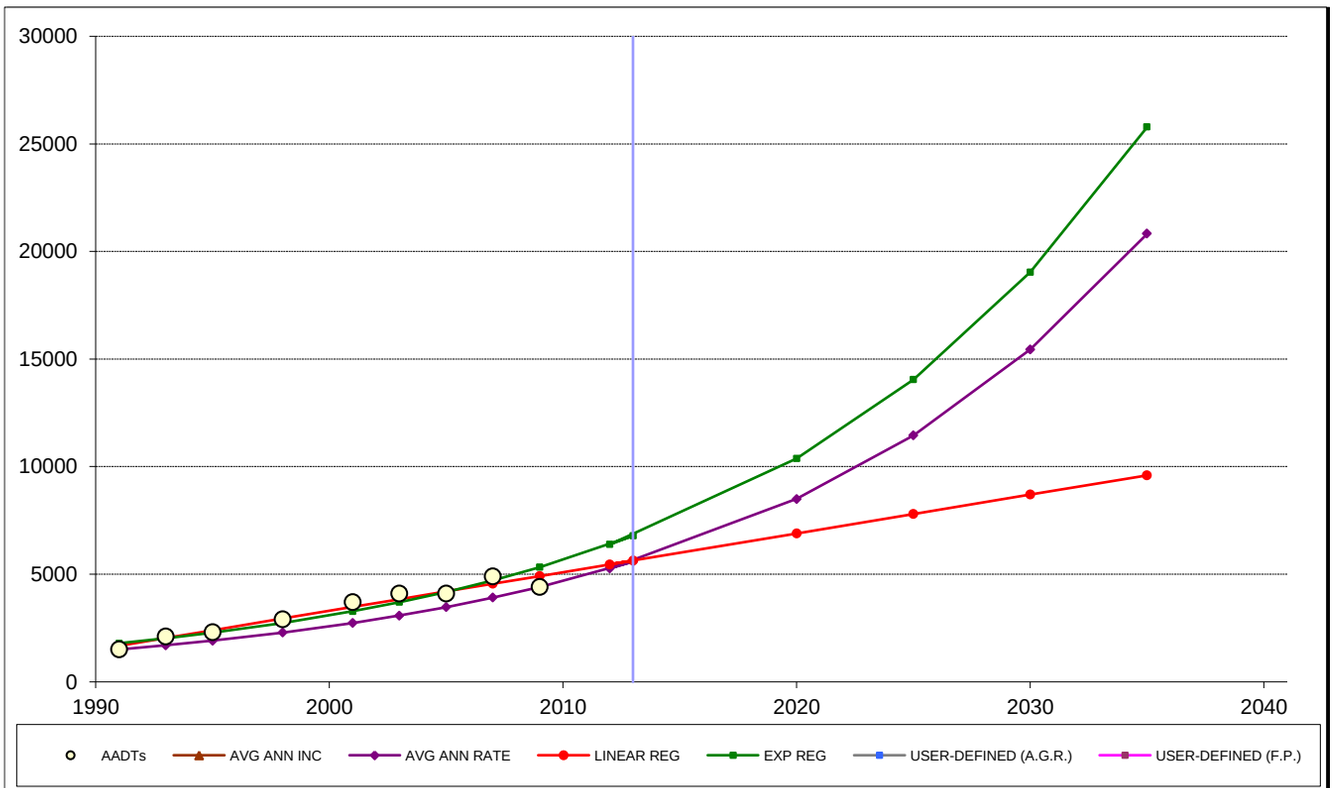
STATISTICAL RESULTS	
AVG ANN INC:	44
AVG ANN RATE:	1.2%
LINEAR REG:	91
EXPONENTIAL REG:	1.8%
R-SQUARED	
LINEAR:	0.2246
EXPONENTIAL:	0.2429
NUMBER OF DATA POINTS:	
	9

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
4478	4501	6602	6714
4433	4450	6511	6592
4789	4876	7236	7629
5011	5163	7689	8359
5233	5467	8142	9158
5456	5789	8595	10034

AADT TREND ANALYSIS

#4 -- FANNY BROWN RD (SR 2723) S OF TEN-TEN RD (SR 1010)



HISTORIC DATA	
Year	AADT
1991	1500
1993	2100
1995	2300
1998	2900
2001	3700
2003	4100
2005	4100
2007	4900
2009	4400

STATISTICAL RESULTS	
AVG ANN INC:	161
AVG ANN RATE:	6.2%
LINEAR REG:	180
EXPONENTIAL REG:	6.3%
R-SQUARED	
LINEAR:	0.9493
EXPONENTIAL:	0.9231
NUMBER OF DATA POINTS:	
	9

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

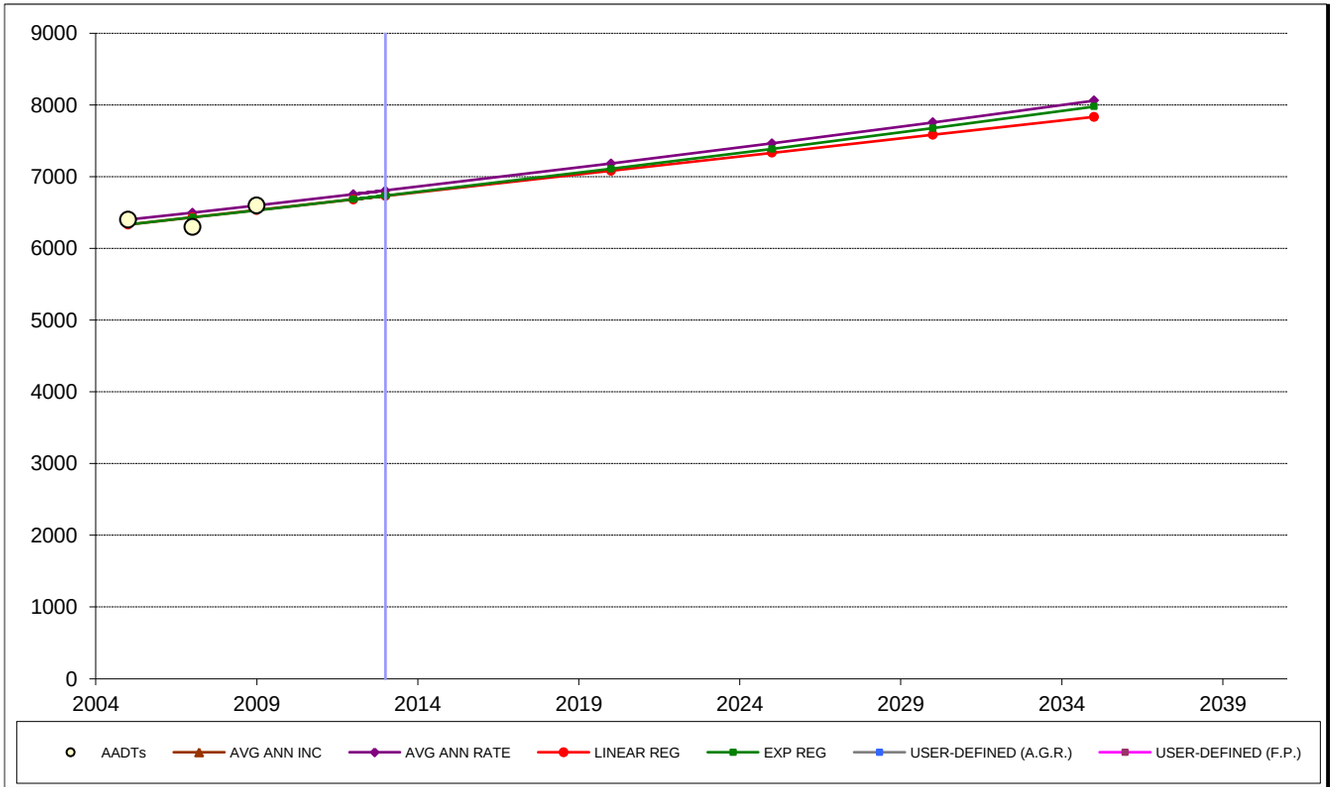
SHOW STATION #:	
4- FANNY BROWN RD (SR 2723) S OF TEN-TEN RD (S	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
5044	5589	5633	6781
4883	5264	5453	6382
6172	8493	6893	10372
6978	11452	7793	14050
7783	15442	8693	19032
8589	20822	9593	25782

AADT TREND ANALYSIS

#5 -- HODGE RD (SR 2516) N OF US 64 BYP



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	50
2005	6400	AVG ANN RATE:	0.8%
2007	6300	LINEAR REG:	50
2009	6600	EXPONENTIAL REG:	0.8%
		R-SQUARED	
		LINEAR:	0.4286
		EXPONENTIAL:	0.4228
		NUMBER OF DATA POINTS:	
			3

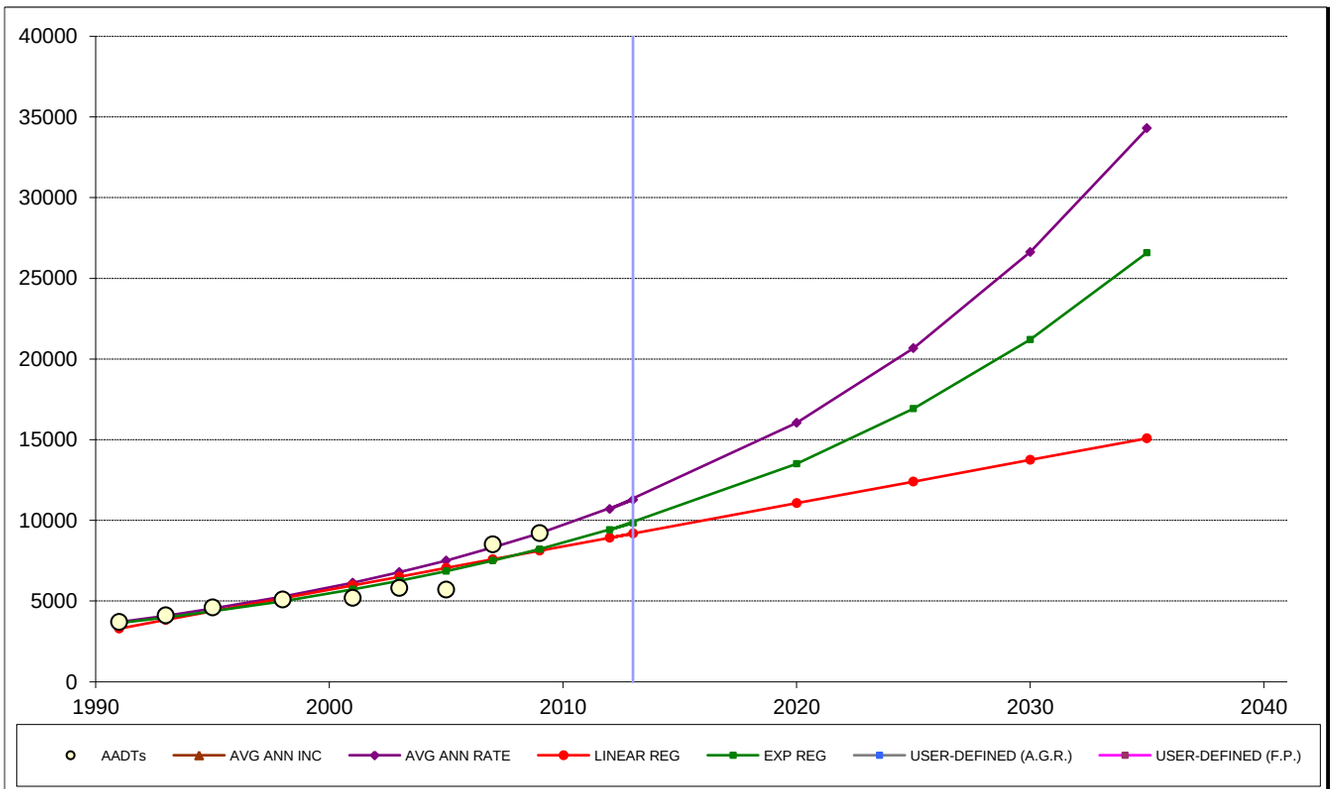
SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	5- HODGE RD (SR 2516) N OF US 64 BYP	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
6800	6806	6733	6736
6750	6754	6683	6684
7150	7183	7083	7109
7400	7464	7333	7387
7650	7757	7583	7677
7900	8061	7833	7978

AADT TREND ANALYSIS

#6 -- HODGE RD (SR 2516) S OF FAISON RIDGE LANE (SR 2515)



HISTORIC DATA	
Year	AADT
1991	3700
1993	4100
1995	4600
1998	5100
2001	5200
2003	5800
2005	5700
2007	8500
2009	9200

STATISTICAL RESULTS	
AVG ANN INC:	306
AVG ANN RATE:	5.2%
LINEAR REG:	268
EXPONENTIAL REG:	4.6%
R-SQUARED	
LINEAR:	0.8163
EXPONENTIAL:	0.8898
NUMBER OF DATA POINTS:	
	9

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

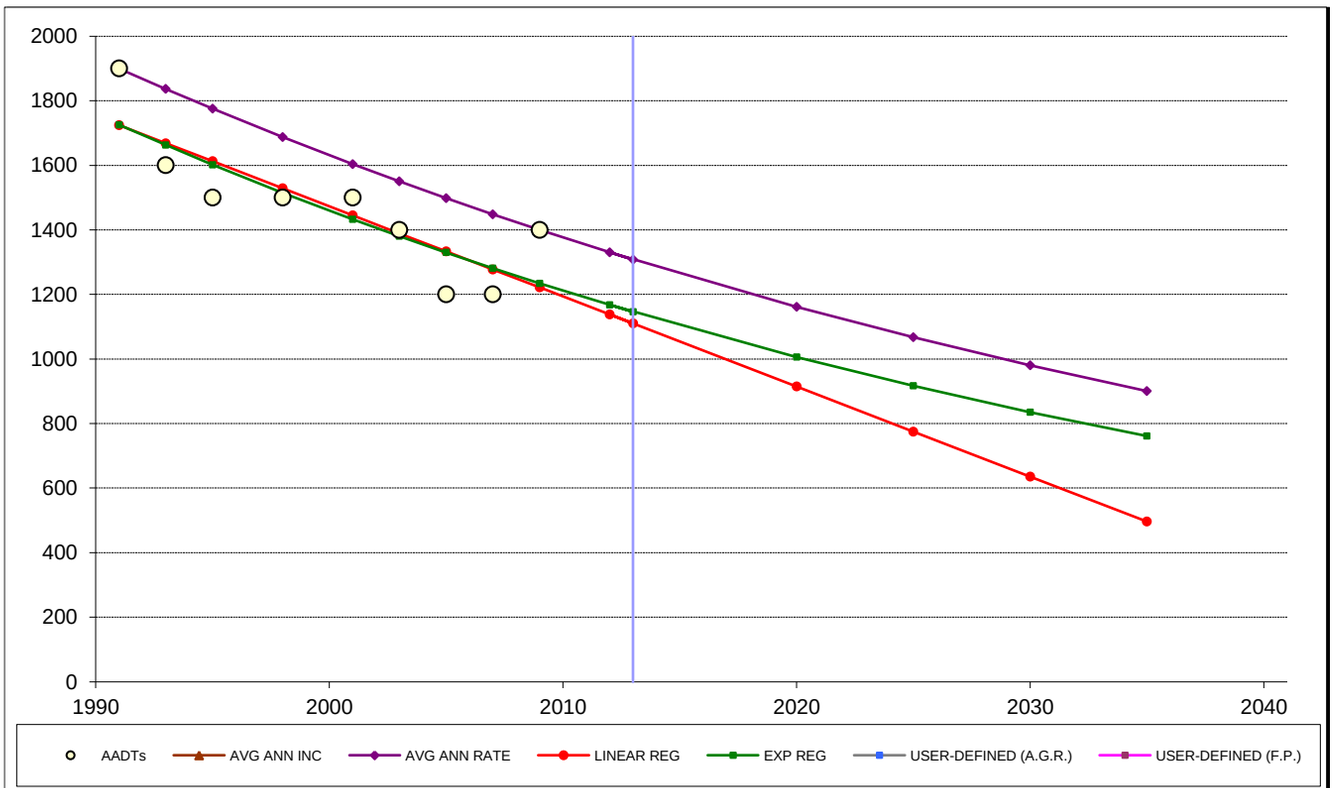
SHOW STATION #:	
6- HODGE RD (SR 2516) S OF FAISON RIDGE LANE (	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
10422	11264	9189	9839
10117	10708	8921	9404
12561	16052	11064	13499
14089	20674	12404	16920
15617	26626	13743	21209
17144	34292	15082	26585

AADT TREND ANALYSIS

#7 -- HODGE RD (SR 2516) S OF POOLE RD (SR 1007)



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	-28
1991	1900	AVG ANN RATE:	-1.7%
1993	1600	LINEAR REG:	-28
1995	1500	EXPONENTIAL REG:	-1.8%
1998	1500		
2001	1500	R-SQUARED	
2003	1400	LINEAR:	0.7006
2005	1200	EXPONENTIAL:	0.6995
2007	1200		
2009	1400		
		NUMBER OF DATA POINTS:	
			9

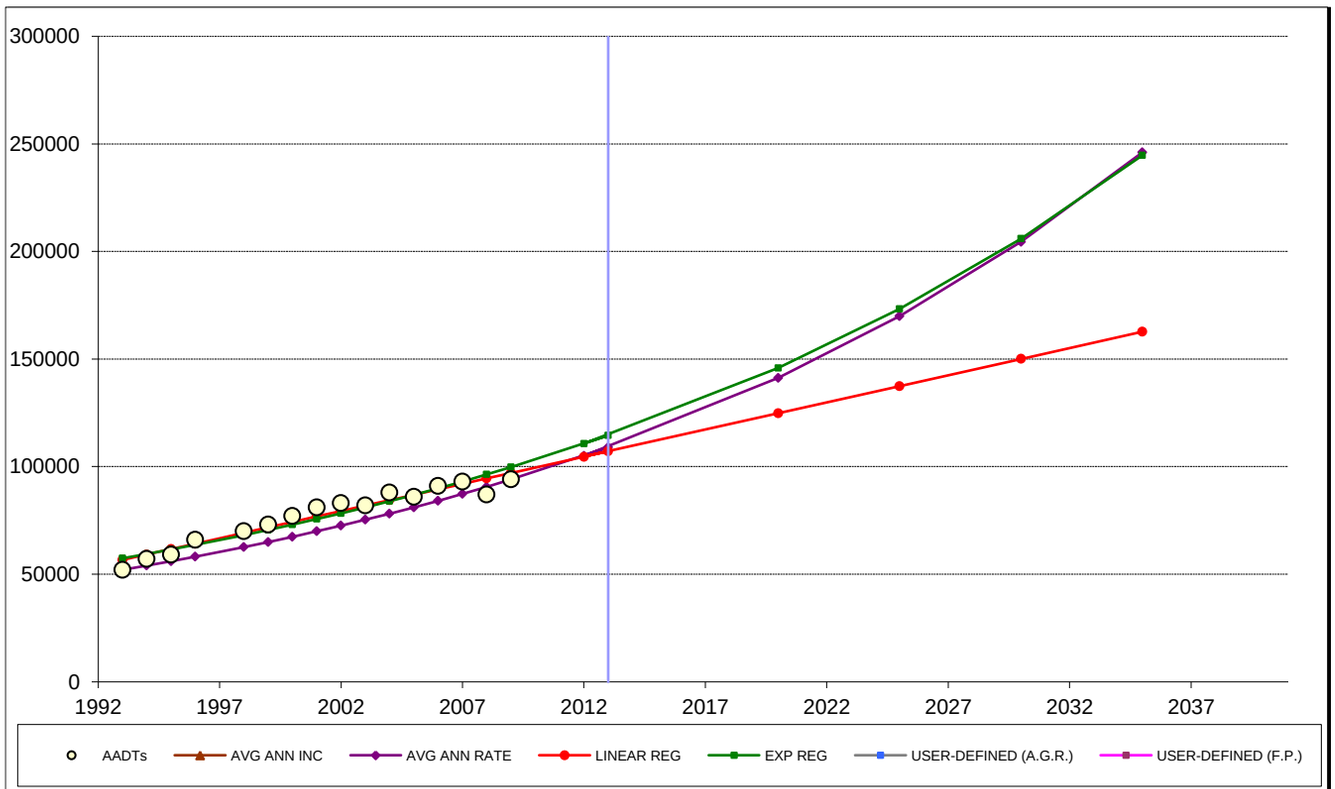
SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	7- HODGE RD (SR 2516) S OF POOLE RD (SR 1007)	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
1289	1308	1110	1146
1317	1331	1138	1167
1094	1162	914	1006
956	1067	775	917
817	980	635	835
678	901	496	761

AADT TREND ANALYSIS

#8 -- I-40 FROM EXIT 303 TO EXIT 306



SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	8- I-40 FROM EXIT 303 TO EXIT 306	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

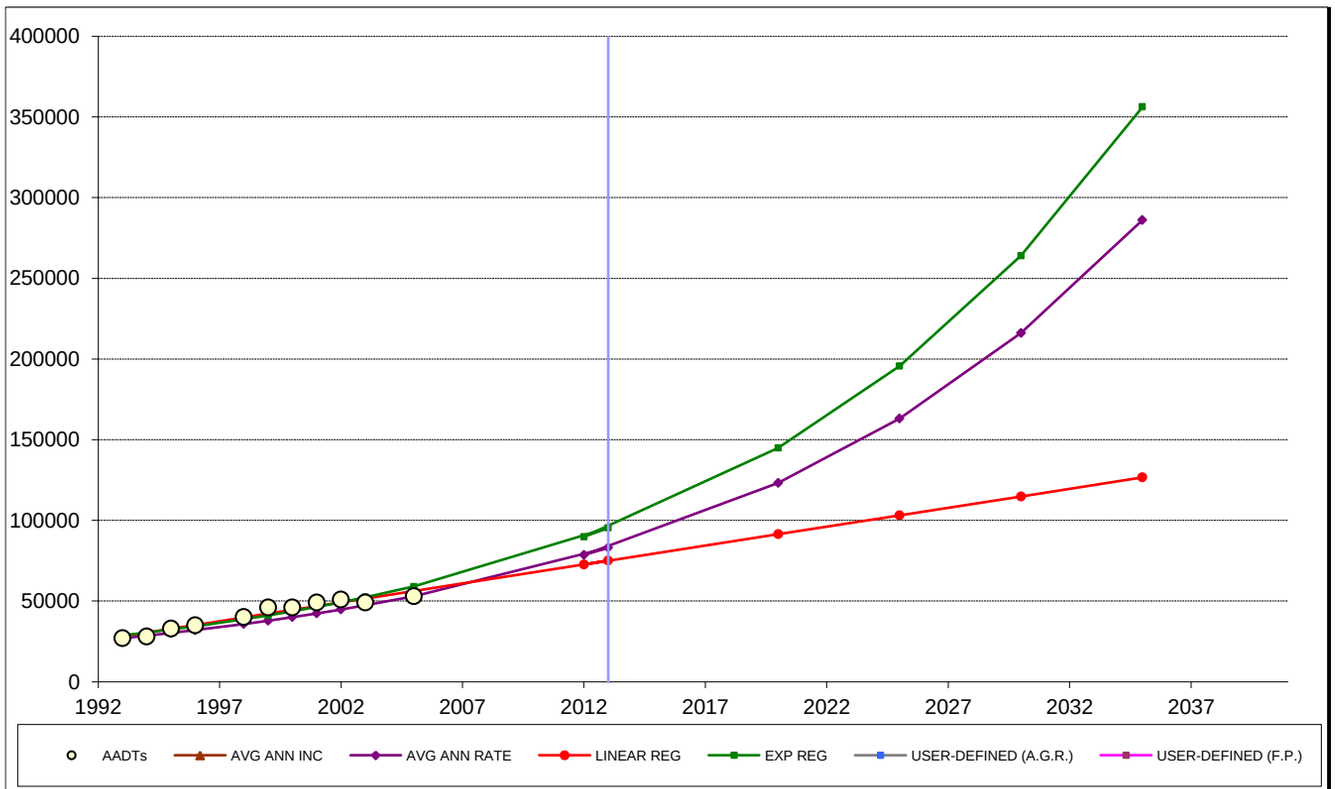
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	2625
1993	52000	AVG ANN RATE:	3.8%
1994	57000	LINEAR REG:	2525
1995	59000	EXPONENTIAL REG:	3.5%
1996	66000		
1998	70000	R-SQUARED	
1999	73000	LINEAR:	0.9400
2000	77000	EXPONENTIAL:	0.9146
2001	81000		
2002	83000		
2003	82000	NUMBER OF DATA POINTS:	
2004	88000		16
2005	86000		
2006	91000		
2007	93000		
2008	87000		
2009	94000		

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
104500	108996	107105	114456
101875	105036	104581	110570
122875	141222	124780	145767
136000	169923	137405	173250
149125	204458	150029	205914
162250	246011	162654	244737

AADT TREND ANALYSIS

#10 -- I-40 FROM EXIT 306 TO EXIT 312



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	2167
1993	27000	AVG ANN RATE:	5.8%
1994	28000	LINEAR REG:	2343
1995	33000	EXPONENTIAL REG:	6.2%
1996	35000		
1998	40000	R-SQUARED	
1999	46000	LINEAR:	0.9447
2000	46000	EXPONENTIAL:	0.9199
2001	49000		
2002	51000		
2003	49000	NUMBER OF DATA POINTS:	
2005	53000		11

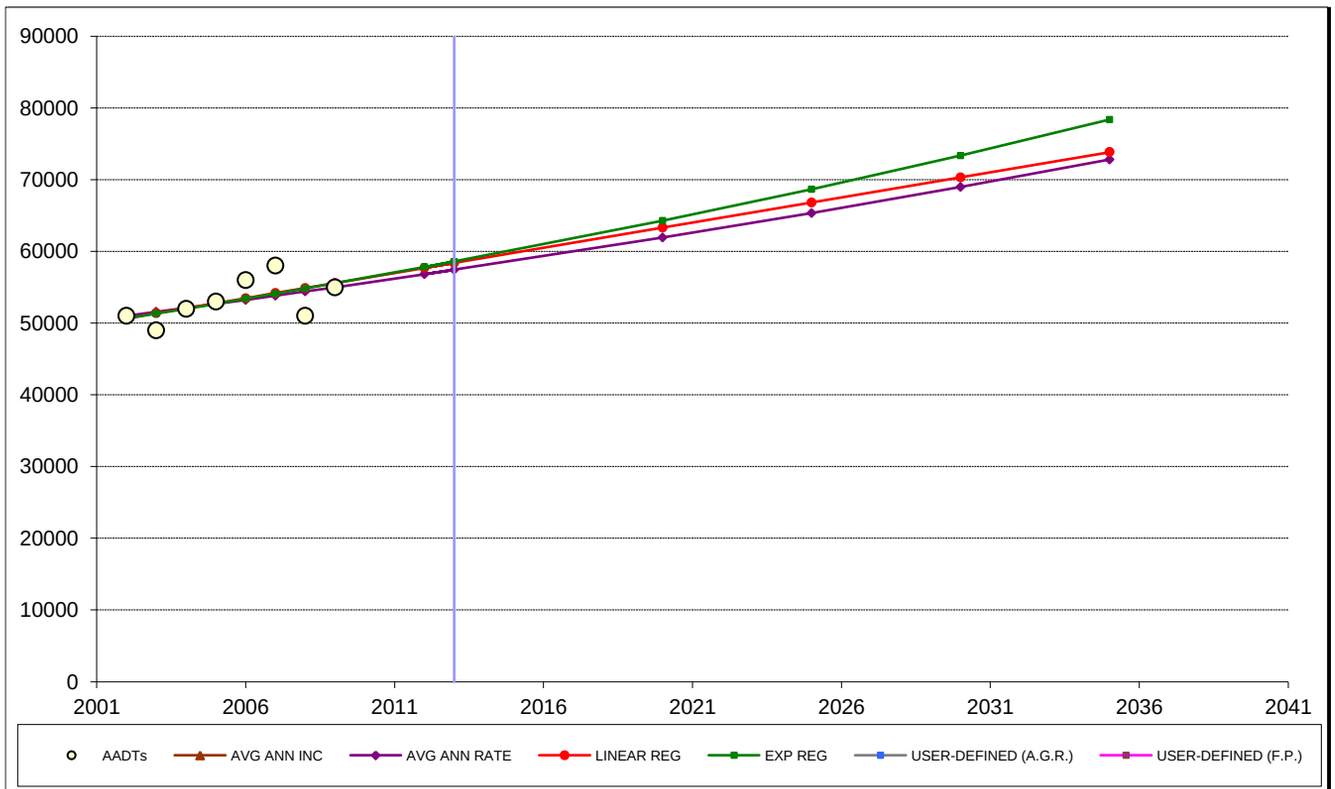
SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	10- I-40 FROM EXIT 306 TO EXIT 312	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
70333	83090	74993	95268
68167	78549	72650	89725
85500	123145	91398	144942
96333	163103	103115	195601
107167	216028	114833	263965
118000	286125	126550	356223

AADT TREND ANALYSIS

#11 -- I-40 FROM EXIT 309 TO EXIT 312



HISTORIC DATA	
Year	AADT
2002	51000
2003	49000
2004	52000
2005	53000
2006	56000
2007	58000
2008	51000
2009	55000

STATISTICAL RESULTS	
AVG ANN INC:	571
AVG ANN RATE:	1.1%
LINEAR REG:	702
EXPONENTIAL REG:	1.3%
R-SQUARED	
LINEAR:	0.3295
EXPONENTIAL:	0.3341
NUMBER OF DATA POINTS:	
	8

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

SHOW STATION #:	
11- I-40 FROM EXIT 309 TO EXIT 312	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

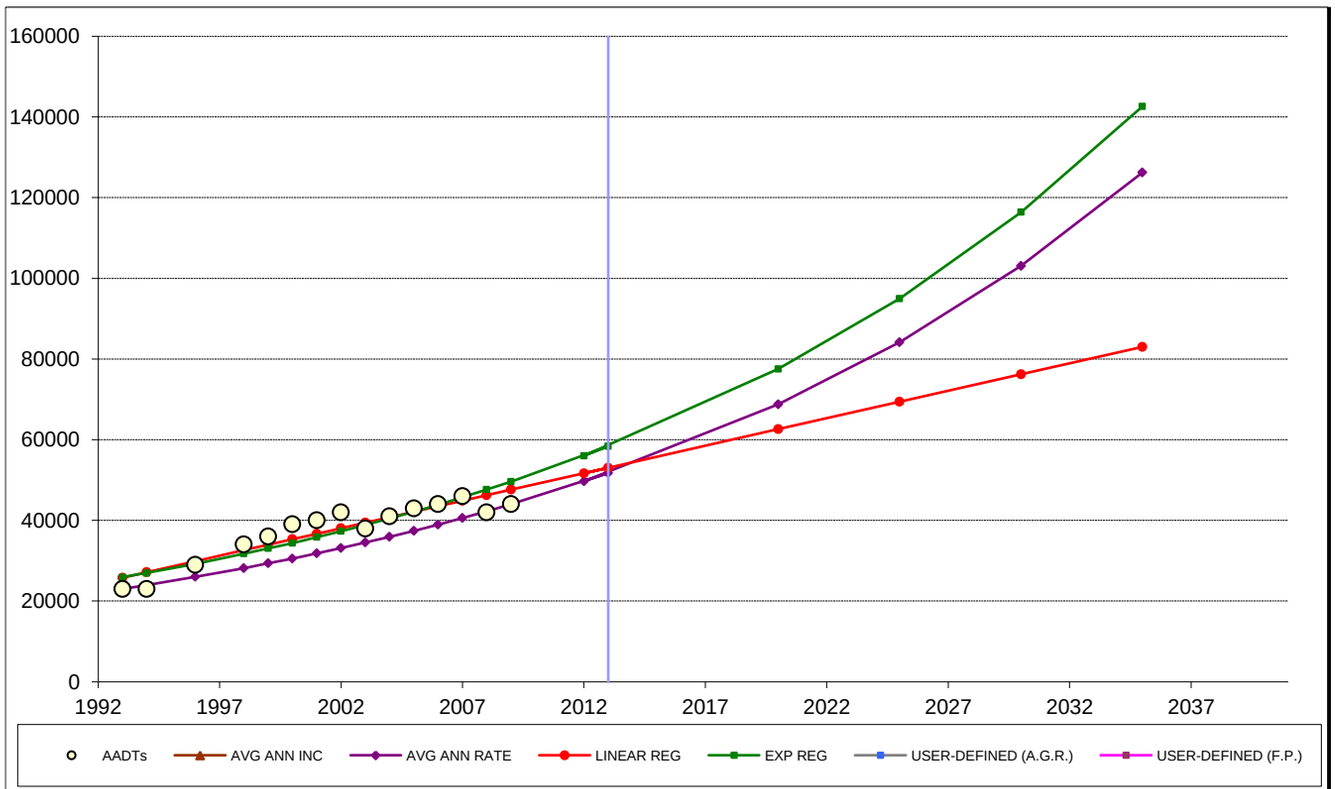
FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
57286	57425	58393	58585
56714	56809	57690	57815
61286	61929	63310	64270
64143	65361	66821	68665
67000	68983	70333	73360
69857	72805	73845	78376

Complete 540 - Triangle Expressway Southeast Extension - Wake and Johnston Counties, North Carolina
NCDOT STIP Project Number R-2721, R-2828 & R-2829

AADT TREND ANALYSIS

#12 -- I-40 FROM EXIT 312 TO EXIT 319



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	1313
1993	23000	AVG ANN RATE:	4.1%
1994	23000	LINEAR REG:	1363
1996	29000	EXPONENTIAL REG:	4.1%
1998	34000		
1999	36000	R-SQUARED	
2000	39000	LINEAR:	0.8584
2001	40000	EXPONENTIAL:	0.8224
2002	42000		
2003	38000		
2004	41000	NUMBER OF DATA POINTS:	
2005	43000		15
2006	44000		
2007	46000		
2008	42000		
2009	44000		

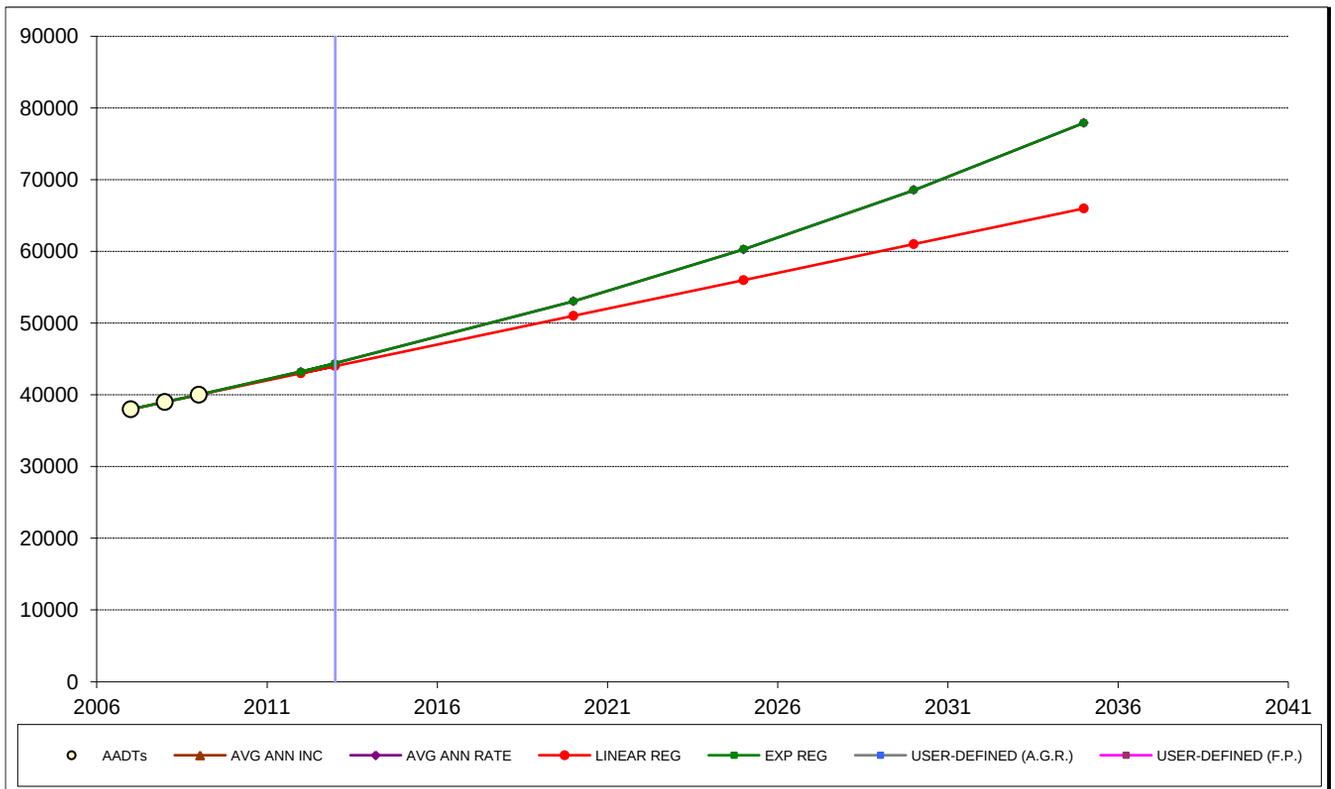
SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	12- I-40 FROM EXIT 312 TO EXIT 319	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg	
49250	51747	53043	58332	
47938	49691	51680	56009	
58438	68729	62581	77521	
65000	84174	69394	94982	
71563	103090	76207	116376	
78125	126257	83020	142590	

AADT TREND ANALYSIS

#13 -- I-540 FROM EXIT 24 TO EXIT 26



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	1000
2007	38000	AVG ANN RATE:	2.6%
2008	39000	LINEAR REG:	1000
2009	40000	EXPONENTIAL REG:	2.6%
		R-SQUARED	
		LINEAR:	1.0000
		EXPONENTIAL:	0.9999
		NUMBER OF DATA POINTS:	3

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

SHOW STATION #:	
13- I-540 FROM EXIT 24 TO EXIT 26	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

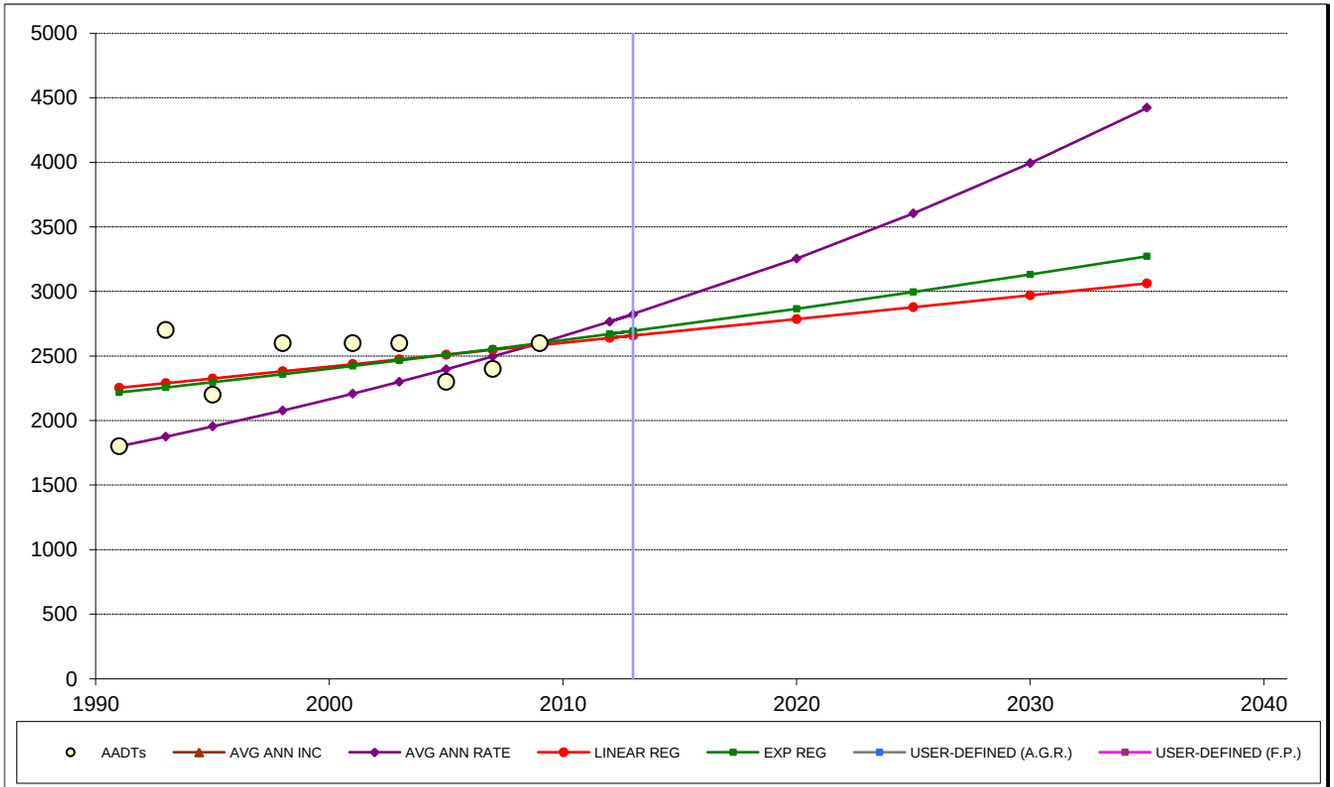
FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
44000	44321	44000	44326
43000	43199	43000	43204
51000	53037	51000	53043
56000	60294	56000	60300
61000	68543	61000	68550
66000	77921	66000	77929

Complete 540 - Triangle Expressway Southeast Extension - Wake and Johnston Counties, North Carolina
NCDOT STIP Project Number R-2721, R-2828 & R-2829

AADT TREND ANALYSIS

#14 -- JOHNSON POND RD (SR 1404) S OF TEN-TEN RD (SR 1010)



HISTORIC DATA	
Year	AADT
1991	1800
1993	2700
1995	2200
1998	2600
2001	2600
2003	2600
2005	2300
2007	2400
2009	2600

STATISTICAL RESULTS	
AVG ANN INC:	44
AVG ANN RATE:	2.1%
LINEAR REG:	18
EXPONENTIAL REG:	0.9%
R-SQUARED	
LINEAR:	0.1672
EXPONENTIAL:	0.1925
NUMBER OF DATA POINTS:	
	9

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

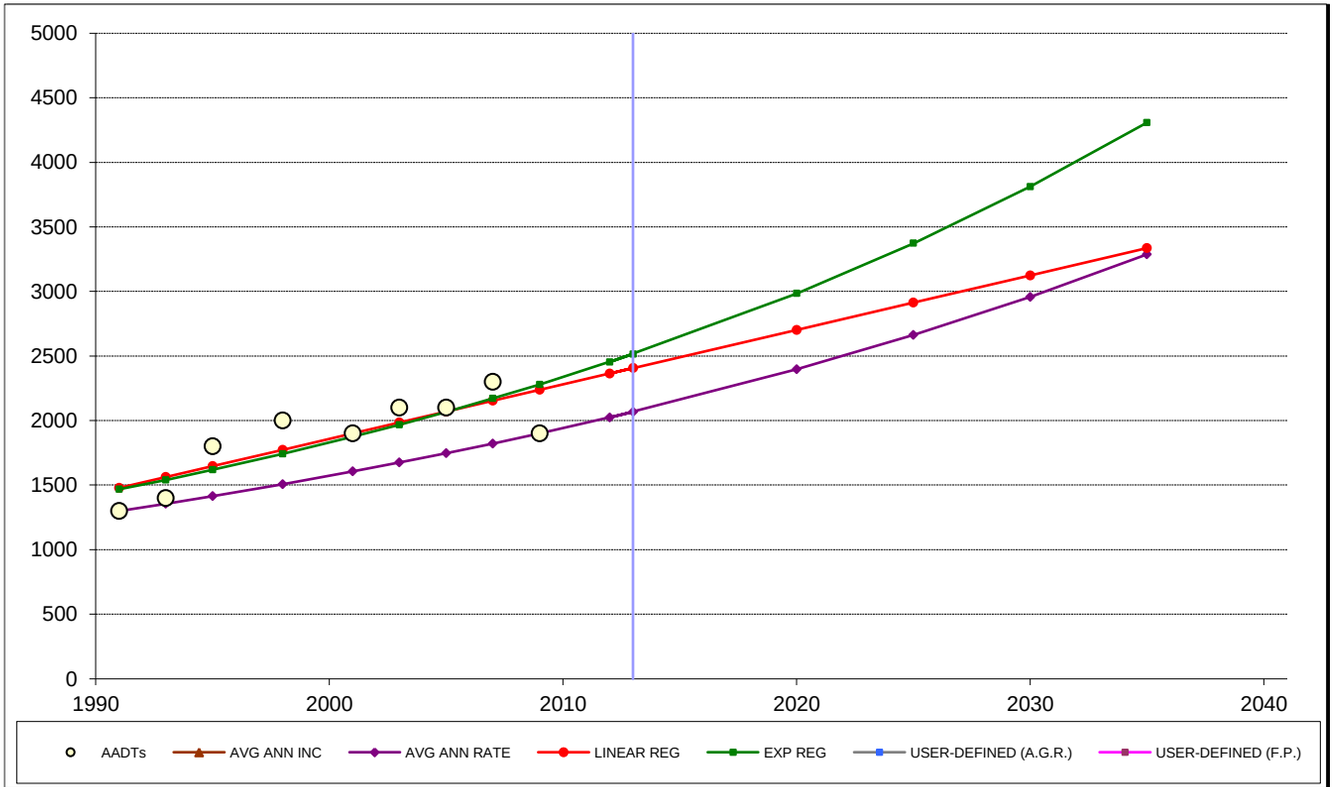
SHOW STATION #:	
14- JOHNSON POND RD (SR 1404) S OF TEN-TEN RD	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
2778	2821	2657	2693
2733	2764	2639	2670
3089	3255	2786	2866
3311	3605	2878	2995
3533	3993	2970	3131
3756	4422	3062	3272

AADT TREND ANALYSIS

#15 -- JORDAN RD (SR 2731) S OF TEN-TEN RD (SR 1010)



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	33
1991	1300	AVG ANN RATE:	2.1%
1993	1400	LINEAR REG:	42
1995	1800	EXPONENTIAL REG:	2.5%
1998	2000		
2001	1900	R-SQUARED	
2003	2100	LINEAR:	0.6712
2005	2100	EXPONENTIAL:	0.6702
2007	2300		
2009	1900		
		NUMBER OF DATA POINTS:	
			9

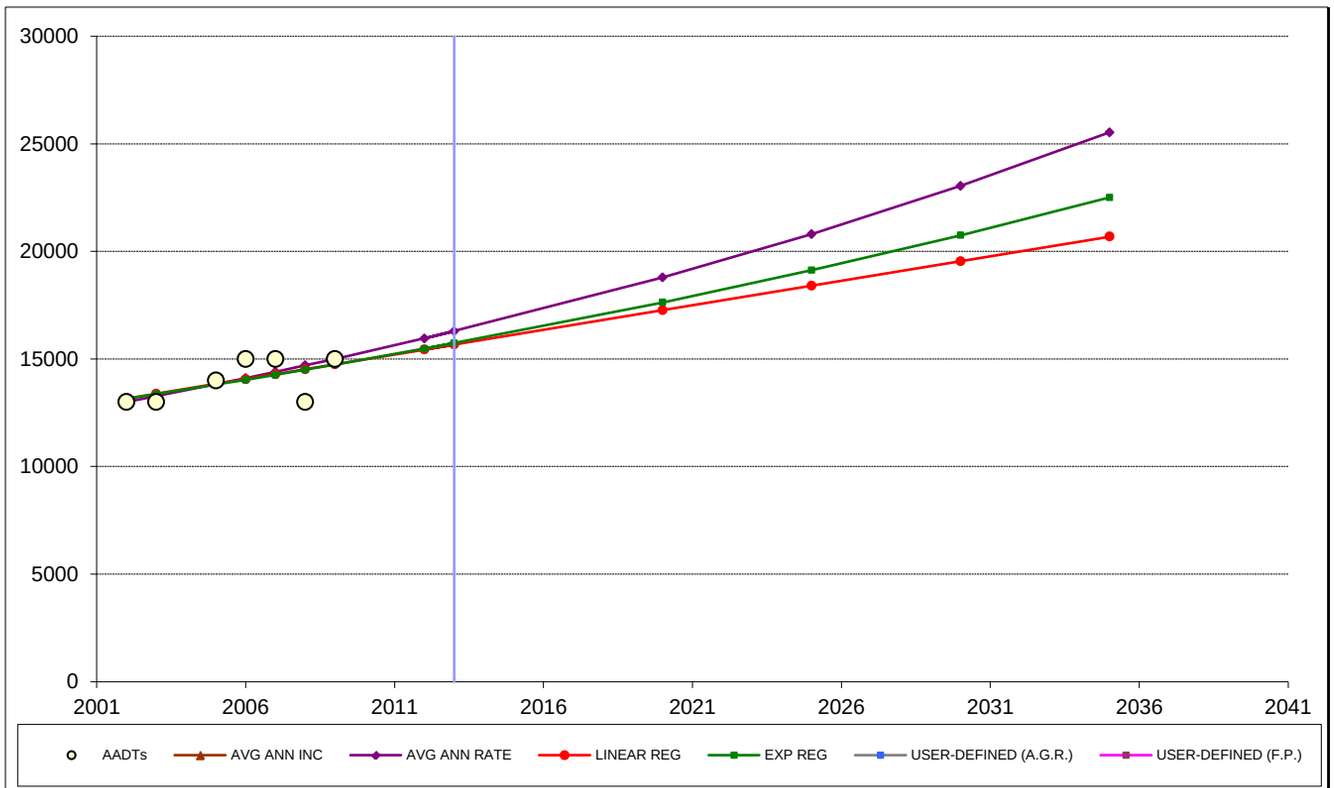
SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	15- JORDAN RD (SR 2731) S OF TEN-TEN RD (SR 101	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
2033	2067	2406	2514
2000	2024	2364	2453
2267	2396	2702	2984
2433	2662	2913	3373
2600	2958	3124	3812
2767	3287	3336	4309

AADT TREND ANALYSIS

#16 -- NC 42 E OF CLEVELAND CROSSING DR (SR 1628)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
16- NC 42 E OF CLEVELAND CROSSING DR (SR 1628	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	286
2002	13000	AVG ANN RATE:	2.1%
2003	13000	LINEAR REG:	228
2005	14000	EXPONENTIAL REG:	1.6%
2006	15000		
2007	15000	R-SQUARED	
2008	13000	LINEAR:	0.3424
2009	15000	EXPONENTIAL:	0.3404

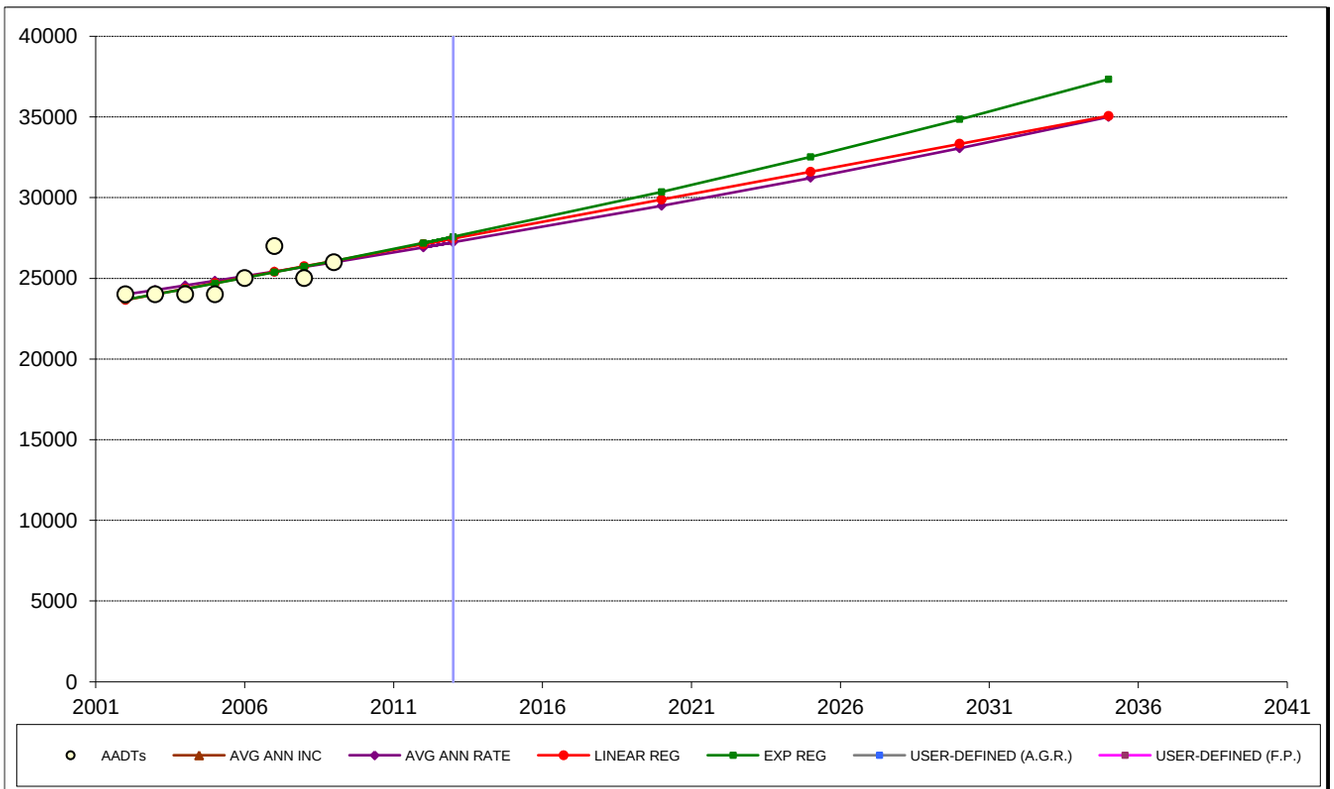
NUMBER OF DATA POINTS: 7

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
16143	16278	15663	15729
15857	15949	15435	15475
18143	18782	17261	17629
19571	20804	18402	19124
21000	23043	19543	20747
22429	25523	20685	22507

AADT TREND ANALYSIS

#17 -- NC 42 E OF CLEVELAND RD (SR 1010)



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	286
2002	24000	AVG ANN RATE:	1.2%
2003	24000	LINEAR REG:	345
2004	24000	EXPONENTIAL REG:	1.4%
2005	24000		
2006	25000	R-SQUARED	
2007	27000	LINEAR:	0.5641
2008	25000	EXPONENTIAL:	0.5769
2009	26000		

NUMBER OF DATA POINTS:
8

SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	17- NC 42 E OF CLEVELAND RD (SR 1010)	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
27143	27217	27464	27562
26857	26907	27119	27184
29143	29485	29881	30356
30571	31220	31607	32523
32000	33057	33333	34845
33429	35002	35060	37333

AADT TREND ANALYSIS

#18 -- NC 50 N OF CLEVELAND SCHOOL RD (SR 1010)

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
18- NC 50 N OF CLEVELAND SCHOOL RD (SR 1010)	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

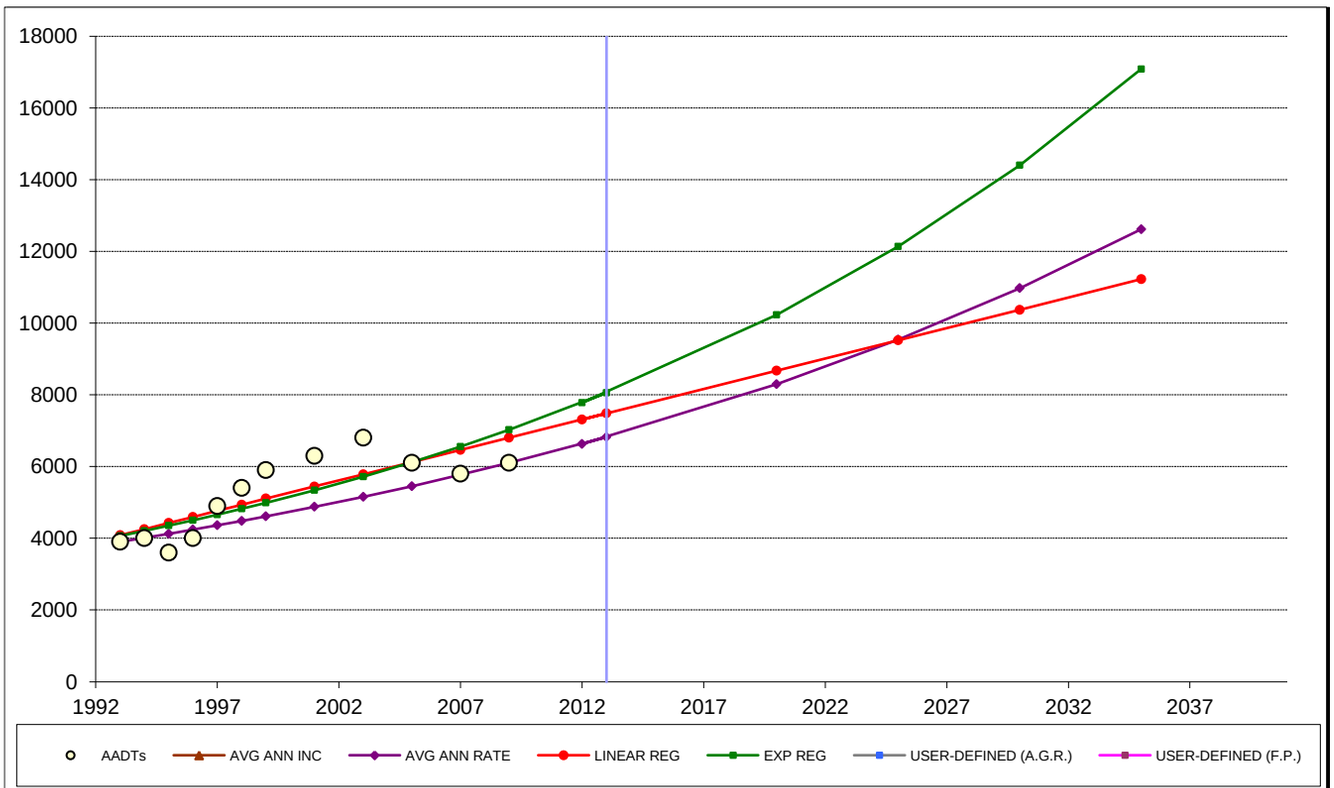
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	-167
2003	13000	AVG ANN RATE:	-1.3%
2005	12000	LINEAR REG:	-200
2007	11000	EXPONENTIAL REG:	-1.6%
2009	12000		
		R-SQUARED	
		LINEAR:	0.4000
		EXPONENTIAL:	0.3832
		NUMBER OF DATA POINTS:	
			4

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
11333	11376	10600	10683
11500	11529	10800	10859
10167	10362	9200	9527
9333	9694	8200	8779
8500	9068	7200	8090
7667	8483	6200	7454

AADT TREND ANALYSIS

#19 -- NC 50 S OF BIRDIE DR (SR 2883)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
19- NC 50 S OF BIRDIE DR (SR 2883)	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

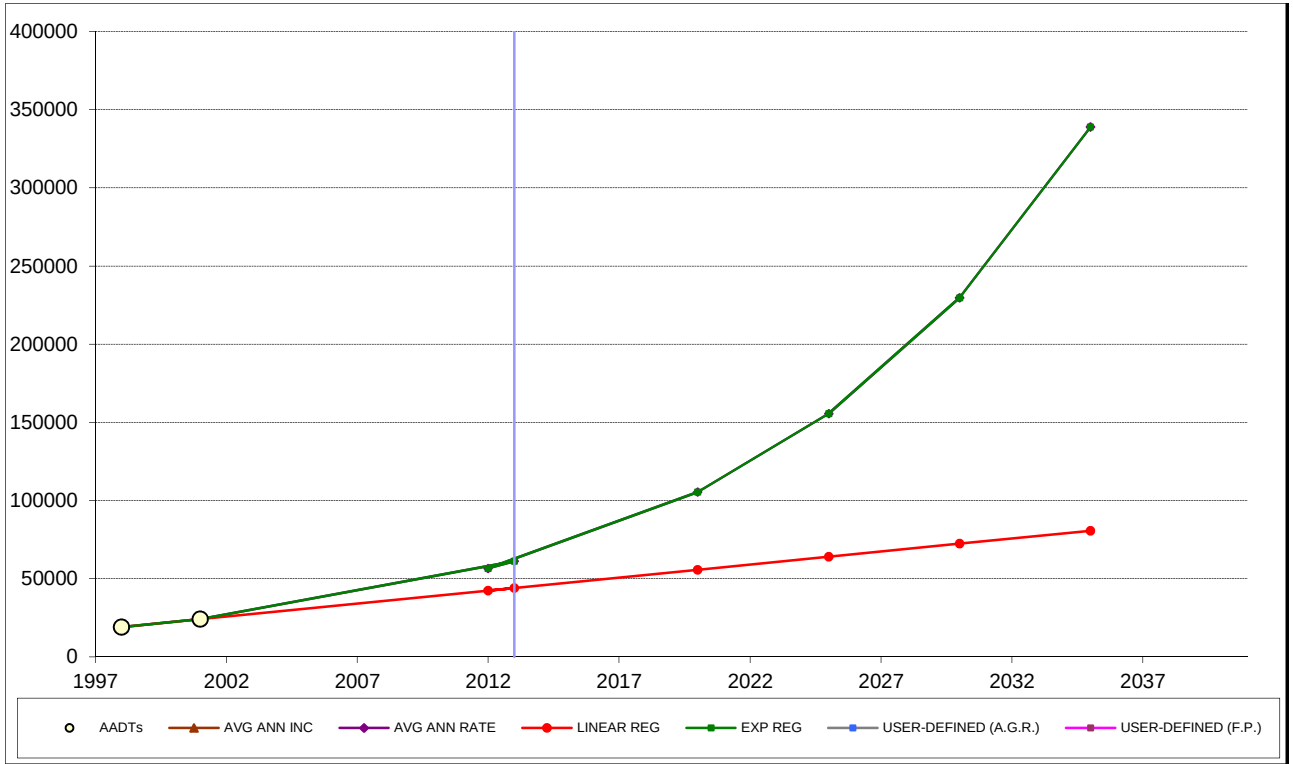
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	138
1993	3900	AVG ANN RATE:	2.8%
1994	4000	LINEAR REG:	170
1995	3600	EXPONENTIAL REG:	3.5%
1996	4000		
1997	4900	R-SQUARED	
1998	5400	LINEAR:	0.6514
1999	5900	EXPONENTIAL:	0.6521
2001	6300		
2003	6800		
2005	6100	NUMBER OF DATA POINTS:	
2007	5800		12
2009	6100		

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
6650	6822	7485	8053
6513	6634	7315	7783
7613	8296	8674	10231
8300	9541	9524	12138
8988	10972	10374	14401
9675	12619	11223	17085

AADT TREND ANALYSIS

#21A -- NC 55 BUS N OF FELDER AVE (SR 1301)



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	1667
1998	19000	AVG ANN RATE:	8.1%
2001	24000	LINEAR REG:	1667
		EXPONENTIAL REG:	8.1%
		R-SQUARED	
		LINEAR:	1.0000
		EXPONENTIAL:	1.0000
		NUMBER OF DATA POINTS:	
			2

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

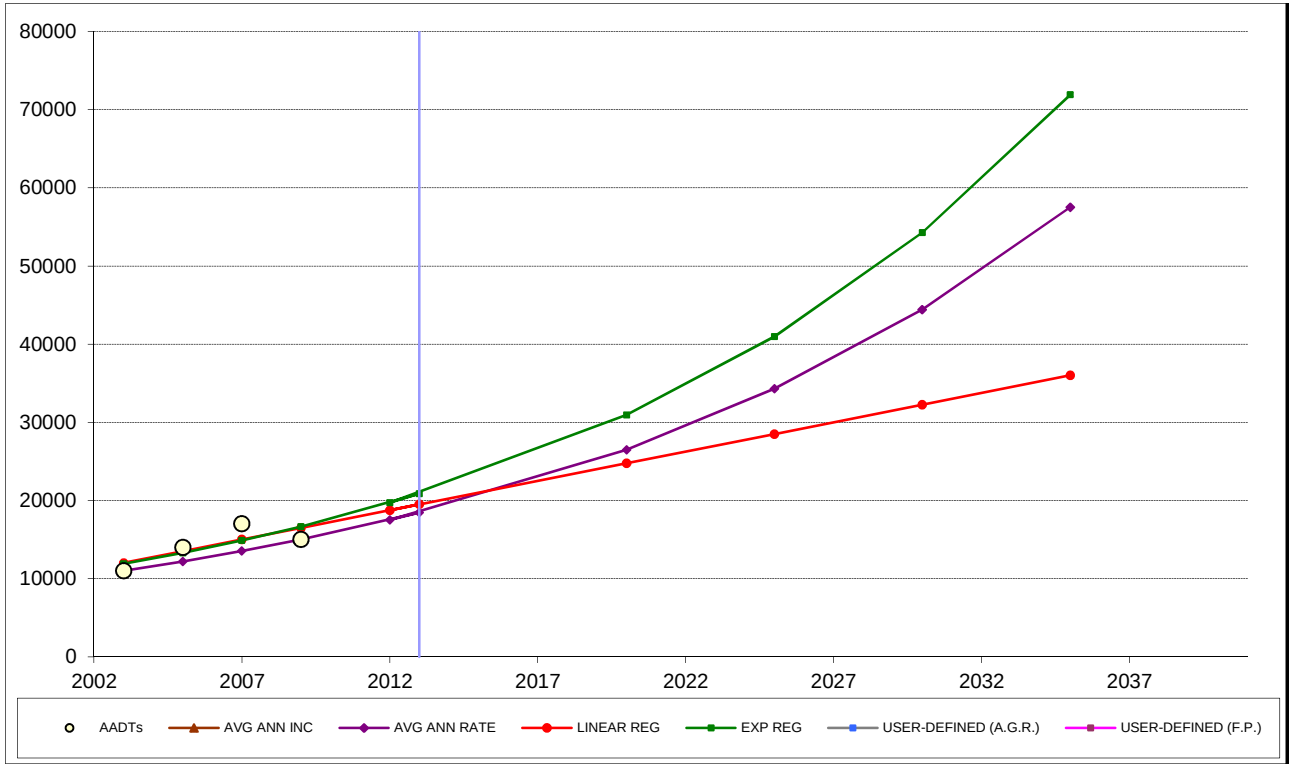
SHOW STATION #:	
21- NC 55 BUS N OF FELDER AVE (SR 1301)	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
44000	61100	44000	61100
42333	56523	42333	56523
55667	105384	55667	105384
64000	155551	64000	155551
72333	229598	72333	229598
80667	338894	80667	338894

AADT TREND ANALYSIS

#21B -- NC 55 BUS N OF FELDER AVE (SR 1301)



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	667
2003	11000	AVG ANN RATE:	5.3%
2005	14000	LINEAR REG:	750
2007	17000	EXPONENTIAL REG:	5.8%
2009	15000		
		R-SQUARED	
		LINEAR:	0.6000
		EXPONENTIAL:	0.6293
		NUMBER OF DATA POINTS:	
			4

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

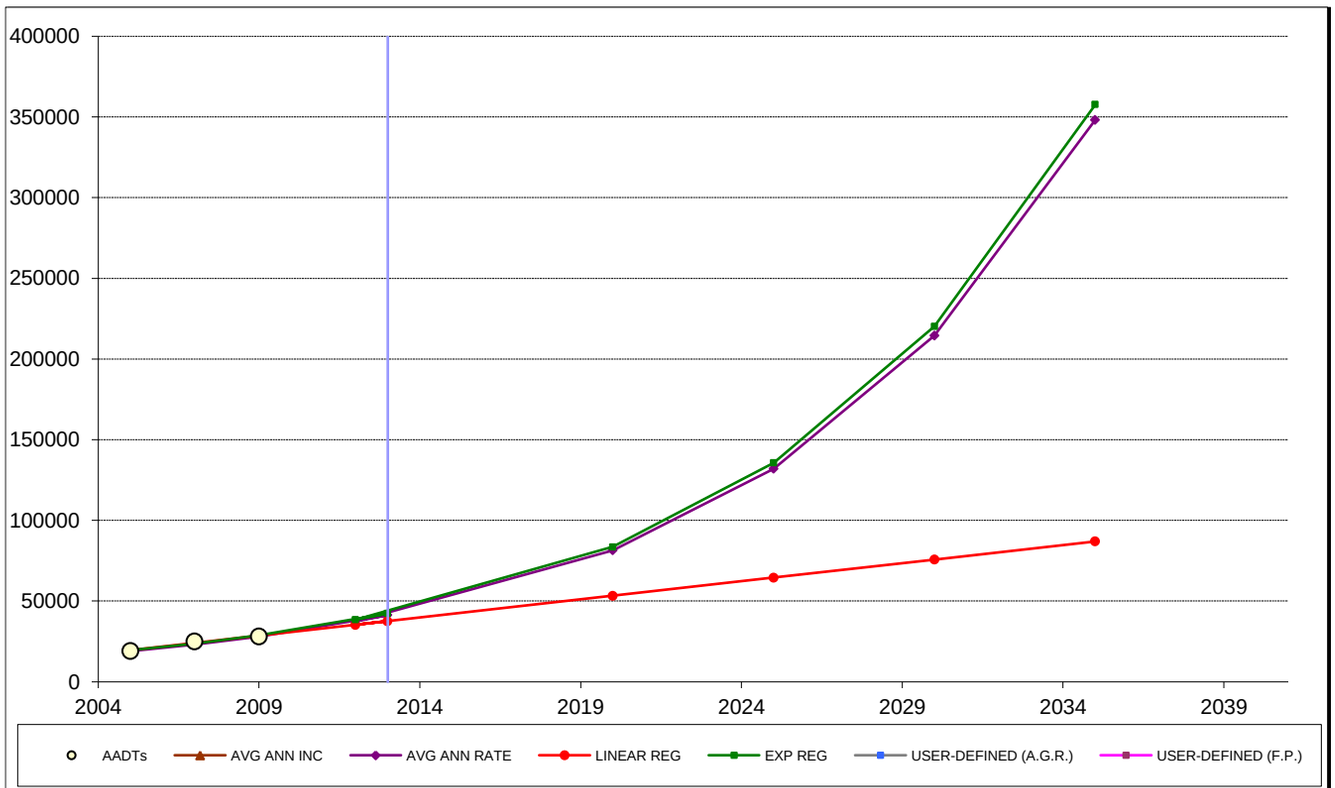
SHOW STATION #:	
21- NC 55 BUS N OF FELDER AVE (SR 1301)	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
17667	18445	19500	20867
17000	17516	18750	19726
22333	26487	24750	30932
25667	34299	28500	40974
29000	44416	32250	54277
32333	57516	36000	71898

AADT TREND ANALYSIS

#22 -- NC 55 BYP S OF TECHNOLOGY DR (SR 1191)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
22- NC 55 BYP S OF TECHNOLOGY DR (SR 1191)	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

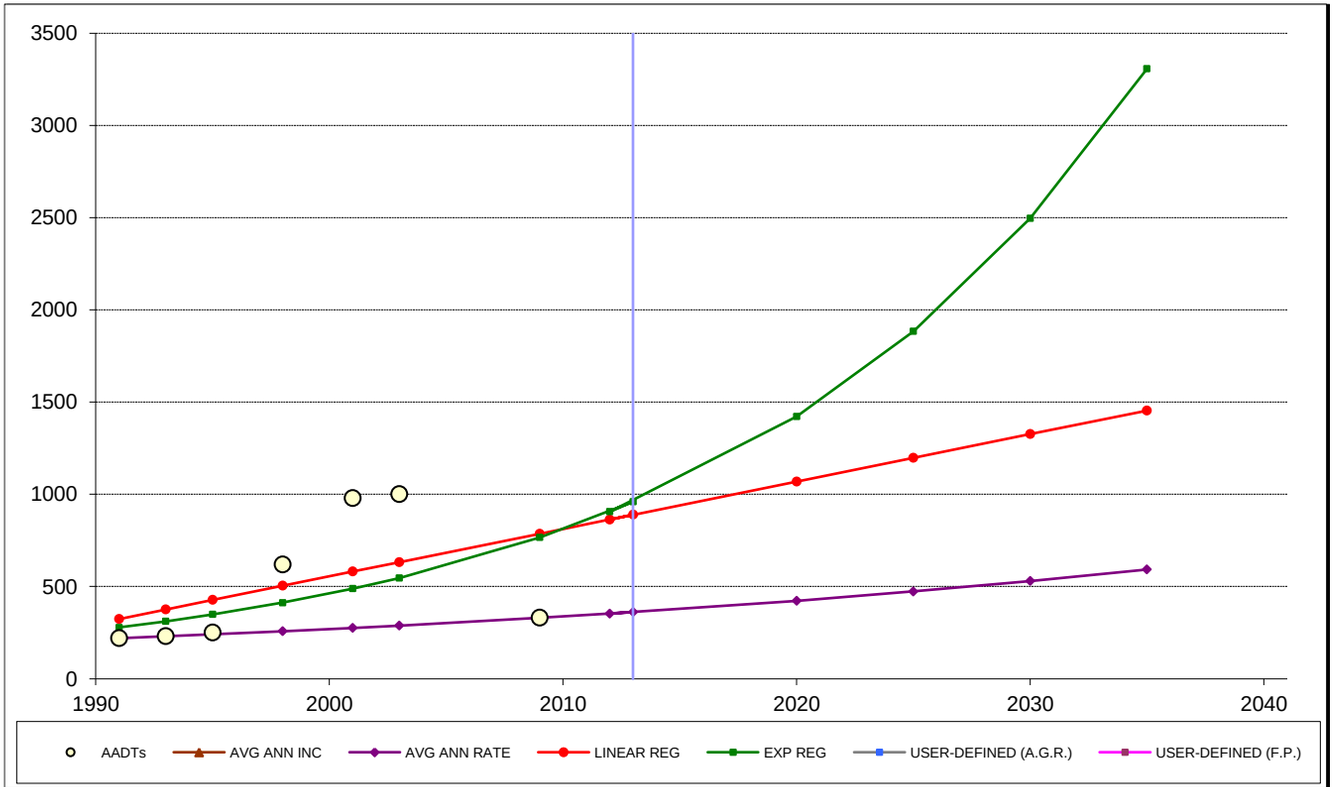
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	2250
2005	19000	AVG ANN RATE:	10.2%
2007	25000	LINEAR REG:	2250
2009	28000	EXPONENTIAL REG:	10.2%
		R-SQUARED	
		LINEAR:	0.9643
		EXPONENTIAL:	0.9456
		NUMBER OF DATA POINTS:	3

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
37000	41263	37500	42386
34750	37451	35250	38470
52750	81334	53250	83547
64000	132061	64500	135655
75250	214428	75750	220264
86500	348166	87000	357642

AADT TREND ANALYSIS

#23 -- NEW BETHEL CHURCH RD (SR 2703) E OF I-40



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
23- NEW BETHEL CHURCH RD (SR 2703) E OF I-40	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	6
1991	220	AVG ANN RATE:	2.3%
1993	230	LINEAR REG:	26
1995	250	EXPONENTIAL REG:	5.8%
1998	620		
2001	980	R-SQUARED	
2003	1000	LINEAR:	0.2116
2009	330	EXPONENTIAL:	0.2736

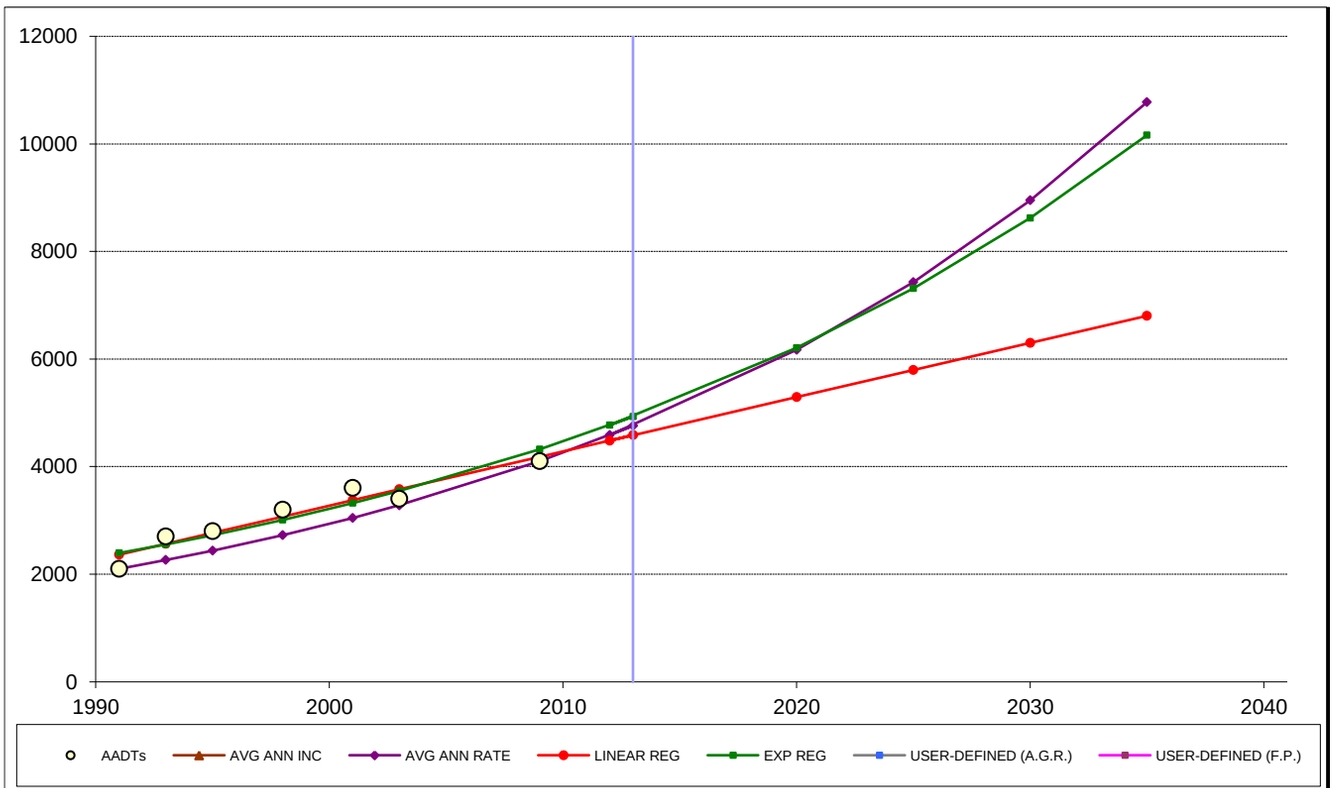
NUMBER OF DATA POINTS: 7

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
354	361	889	959
348	353	864	907
397	423	1069	1422
428	473	1198	1884
458	530	1326	2497
489	593	1454	3308

AADT TREND ANALYSIS

#24 -- OLD FAISON RD (SR 2515) E OF HODGE RD (SR 2516)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
24- OLD FAISON RD (SR 2515) E OF HODGE RD (SR	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	111
1991	2100	AVG ANN RATE:	3.8%
1993	2700	LINEAR REG:	101
1995	2800	EXPONENTIAL REG:	3.3%
1998	3200		
2001	3600	R-SQUARED	
2003	3400	LINEAR:	0.9252
2009	4100	EXPONENTIAL:	0.8779

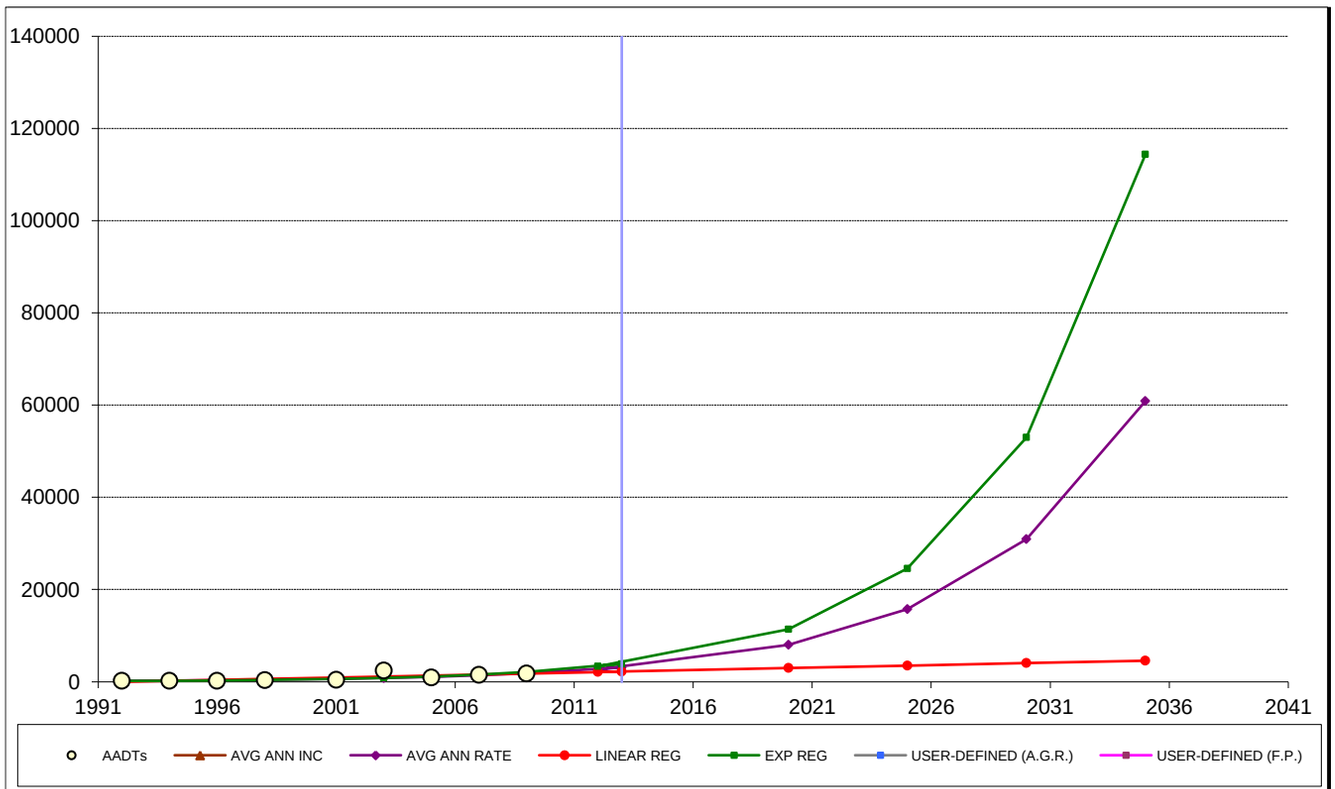
NUMBER OF DATA POINTS: 7

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
4544	4757	4585	4928
4433	4584	4484	4769
5322	6171	5291	6204
5878	7431	5795	7313
6433	8949	6300	8620
6989	10777	6805	10161

AADT TREND ANALYSIS

#25 -- OLD HOLLY SPRINGS APEX RD (SR 1153) S OF PRINCE DEAD END RD(SR 1177)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
25- OLD HOLLY SPRINGS APEX RD (SR 1153) S OF P	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA	
Year	AADT
1992	180
1994	220
1996	220
1998	310
2001	400
2003	2400
2005	920
2007	1500
2009	1800

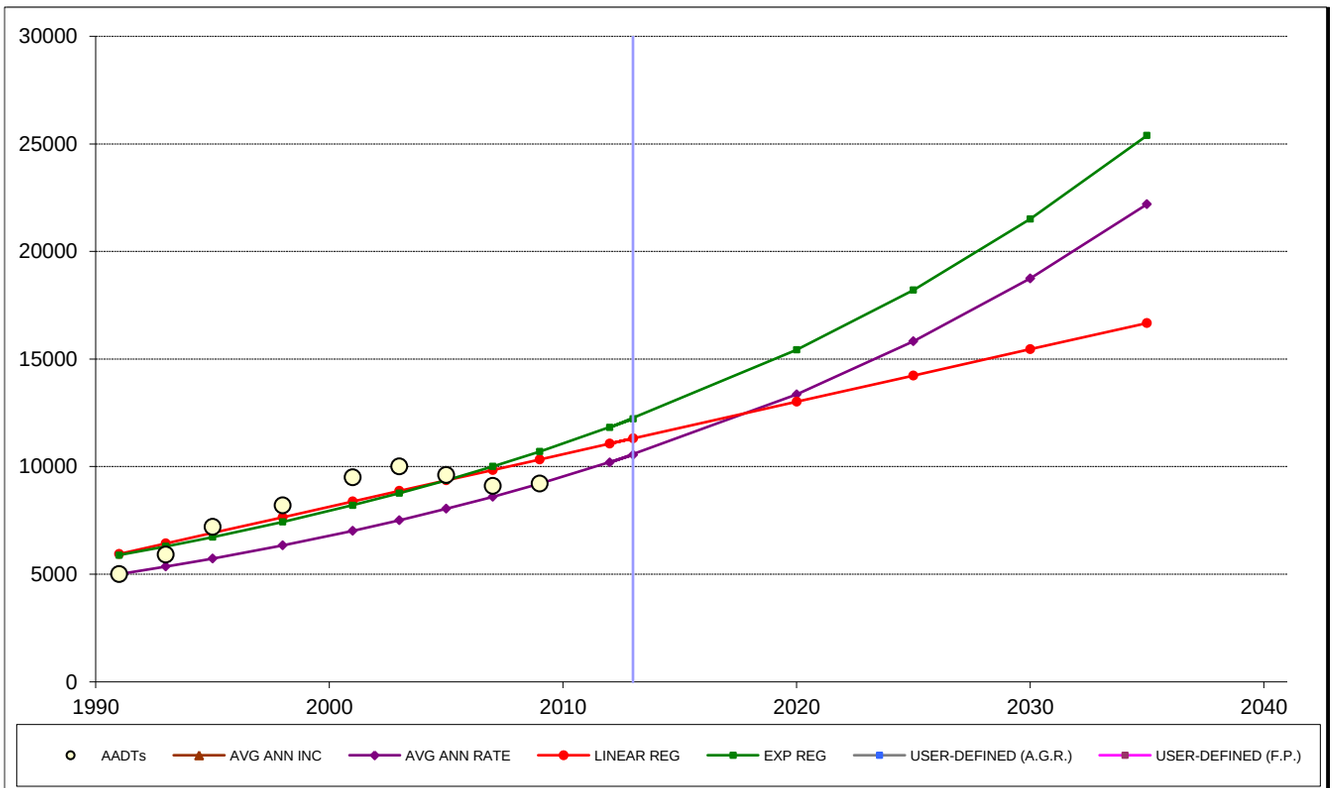
STATISTICAL RESULTS	
AVG ANN INC:	95
AVG ANN RATE:	14.5%
LINEAR REG:	107
EXPONENTIAL REG:	16.6%
R-SQUARED	
LINEAR:	0.5929
EXPONENTIAL:	0.8157
NUMBER OF DATA POINTS:	
	9

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
2181	3094	2216	3874
2086	2702	2109	3322
2848	7986	2966	11375
3325	15720	3501	24551
3801	30943	4037	52992
4278	60909	4572	114377

AADT TREND ANALYSIS

#26 -- OLD STAGE RD (SR 1006) S OF TEN-TEN RD (SR 1010)



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	233
1991	5000	AVG ANN RATE:	3.4%
1993	5900	LINEAR REG:	244
1995	7200	EXPONENTIAL REG:	3.4%
1998	8200		
2001	9500	R-SQUARED	
2003	10000	LINEAR:	0.7630
2005	9600	EXPONENTIAL:	0.7540
2007	9100		
2009	9200		
		NUMBER OF DATA POINTS:	
			9

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

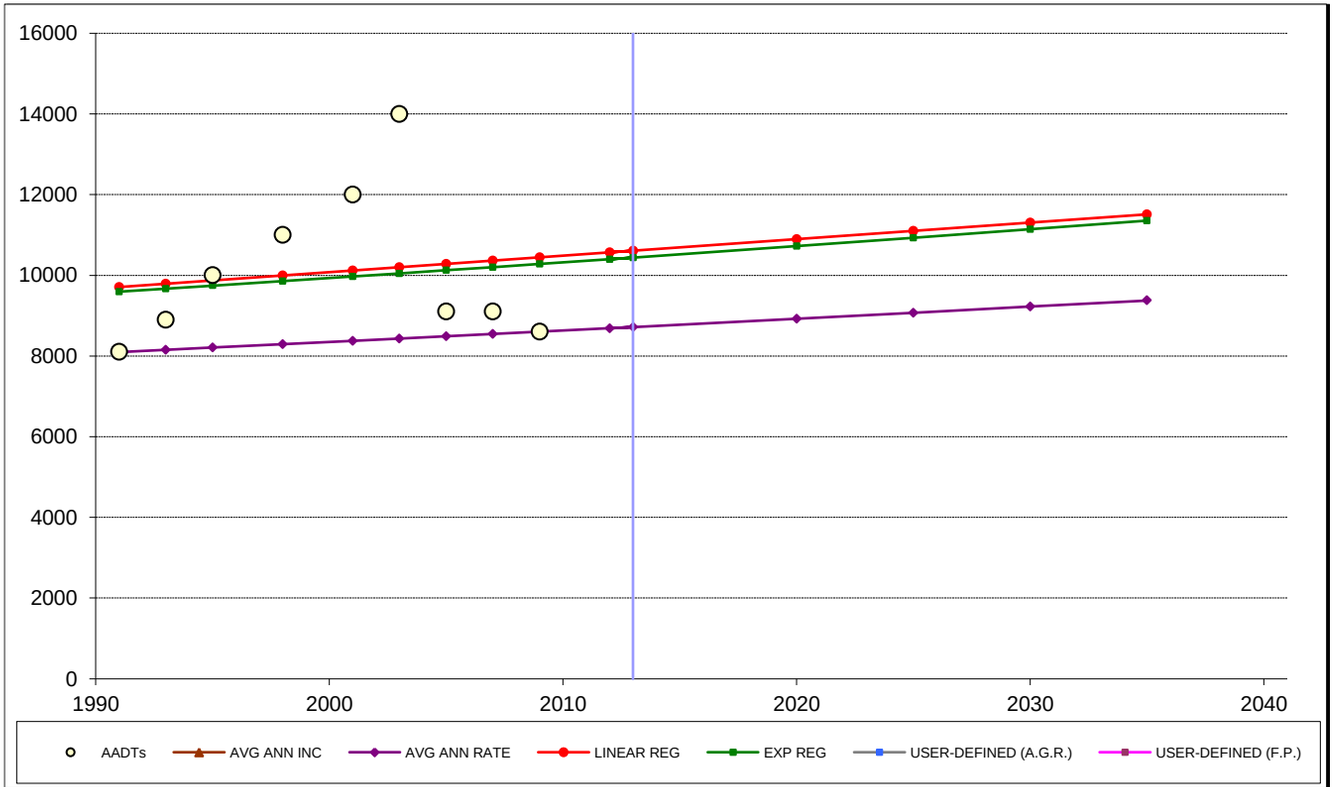
SHOW STATION #:	
26- OLD STAGE RD (SR 1006) S OF TEN-TEN RD (SR	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
10133	10535	11306	12220
9900	10184	11062	11821
11767	13354	13013	15421
12933	15819	14233	18209
14100	18739	15452	21501
15267	22197	16672	25388

AADT TREND ANALYSIS

#27 -- POOLE RD (SR 1007) E OF HODGE RD (SR 2516)



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	28
1991	8100	AVG ANN RATE:	0.3%
1993	8900	LINEAR REG:	41
1995	10000	EXPONENTIAL REG:	0.4%
1998	11000		
2001	12000	R-SQUARED	
2003	14000	LINEAR:	0.0184
2005	9100	EXPONENTIAL:	0.0186
2007	9100		
2009	8600		
		NUMBER OF DATA POINTS:	
			9

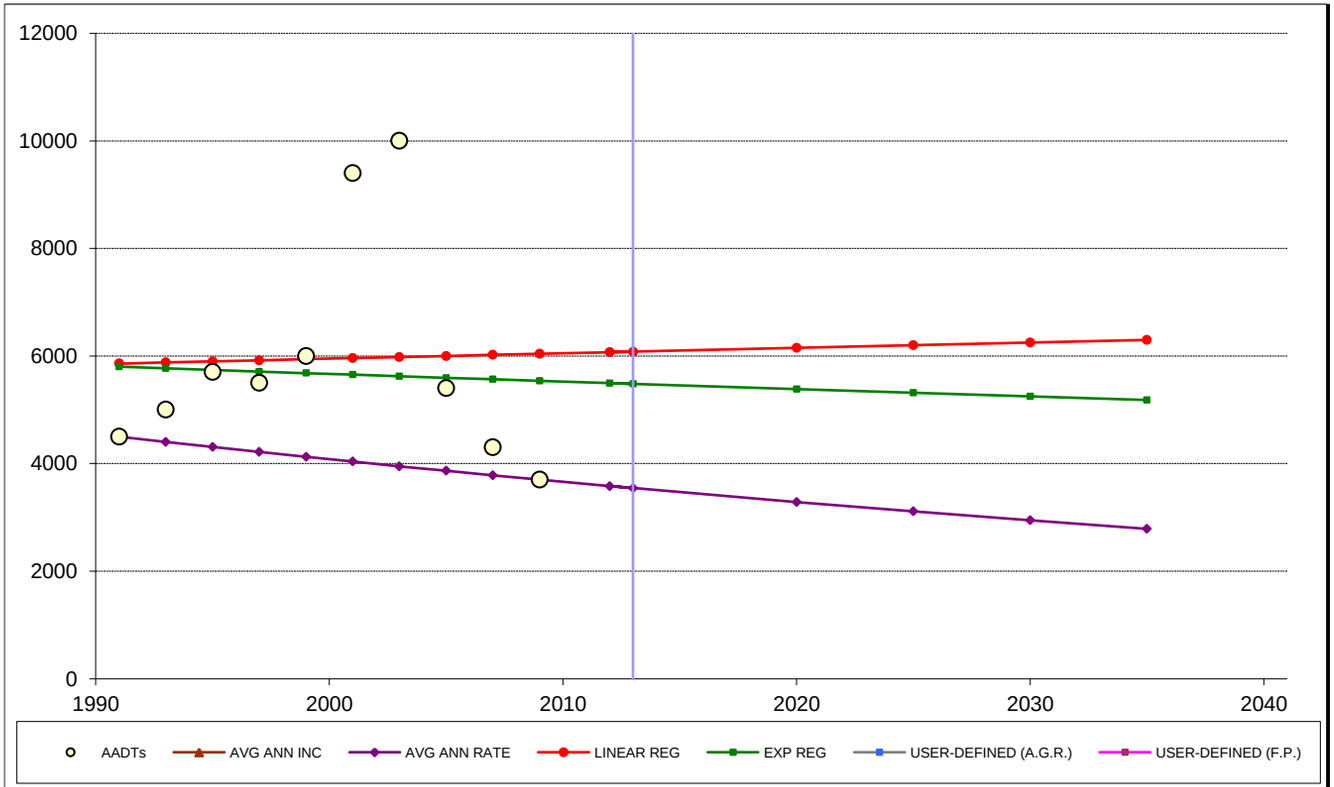
SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	27- POOLE RD (SR 1007) E OF HODGE RD (SR 2516)	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
8711	8715	10611	10439
8683	8686	10570	10399
8906	8921	10897	10722
9044	9070	11101	10929
9183	9222	11306	11139
9322	9377	11510	11354

AADT TREND ANALYSIS

#28 -- POOLE RD (SR 1007) E OF CLIFTON RD (SR 2511)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
28- POOLE RD (SR 1007) E OF CLIFTON RD (SR 2511	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

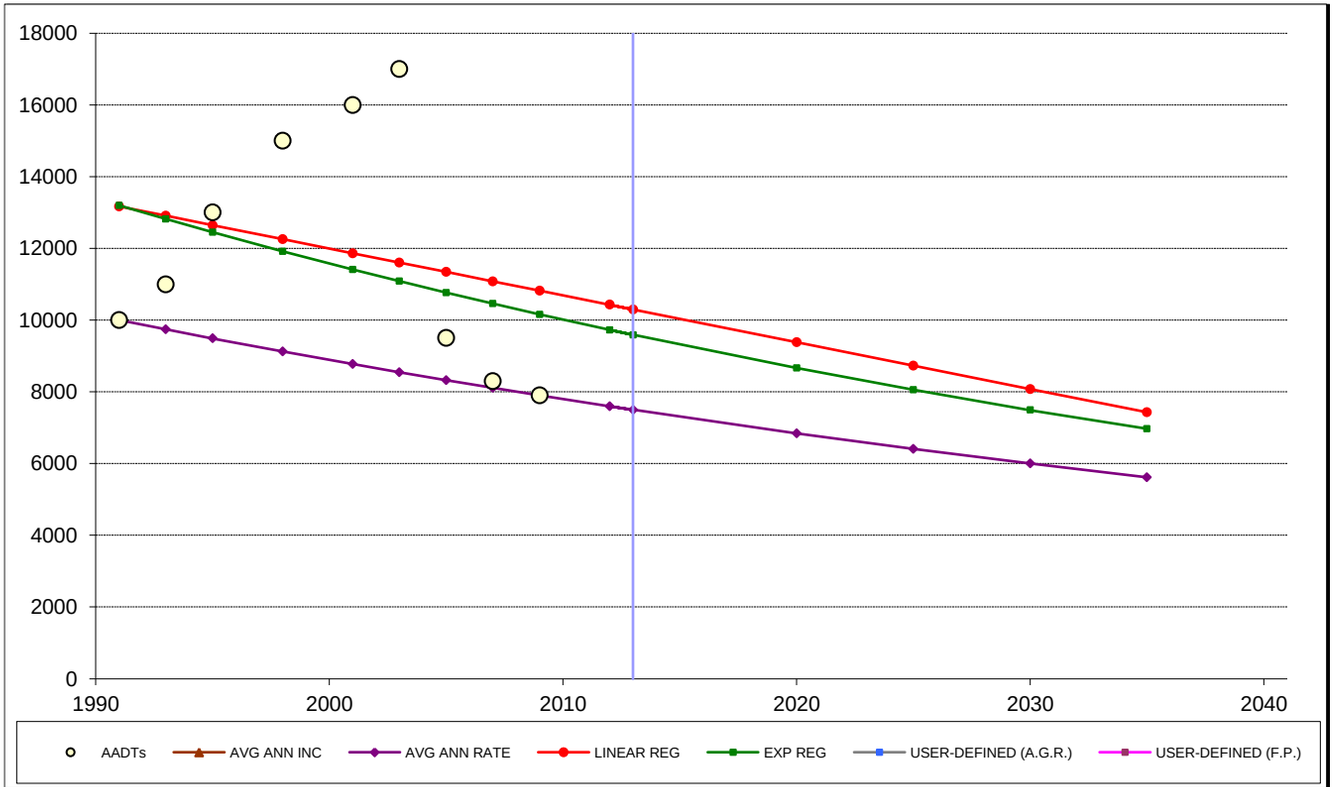
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	-44
1991	4500	AVG ANN RATE:	-1.1%
1993	5000	LINEAR REG:	10
1995	5700	EXPONENTIAL REG:	-0.3%
1997	5500		
1999	6000	R-SQUARED	
2001	9400	LINEAR:	0.0008
2003	10000	EXPONENTIAL:	0.0024
2005	5400		
2007	4300		
2009	3700	NUMBER OF DATA POINTS:	
			10

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
3522	3543	6080	5482
3567	3581	6070	5496
3211	3283	6150	5384
2989	3109	6200	5316
2767	2945	6250	5248
2544	2789	6300	5181

AADT TREND ANALYSIS

#29 -- POOLE RD (SR 1007) W OF HODGE RD (SR 2516)



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	-117
1991	10000	AVG ANN RATE:	-1.3%
1993	11000	LINEAR REG:	-131
1995	13000	EXPONENTIAL REG:	-1.4%
1998	15000		
2001	16000	R-SQUARED	
2003	17000	LINEAR:	0.0594
2005	9500	EXPONENTIAL:	0.1045
2007	8300		
2009	7900		
		NUMBER OF DATA POINTS:	
			9

SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	29- POOLE RD (SR 1007) W OF HODGE RD (SR 2516)	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
7433	7497	10299	9588
7550	7596	10429	9728
6617	6840	9385	8661
6033	6407	8732	8055
5450	6001	8080	7491
4867	5620	7427	6966

AADT TREND ANALYSIS

#30 -- ROCK QUARRY RD (SR 2542) E OF AUBURN KNIGHTDALE RD (SR 2555)

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
30- ROCK QUARRY RD (SR 2542) E OF AUBURN KNI	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA	
Year	AADT
2003	5500
2005	4600
2007	4600
2009	4000

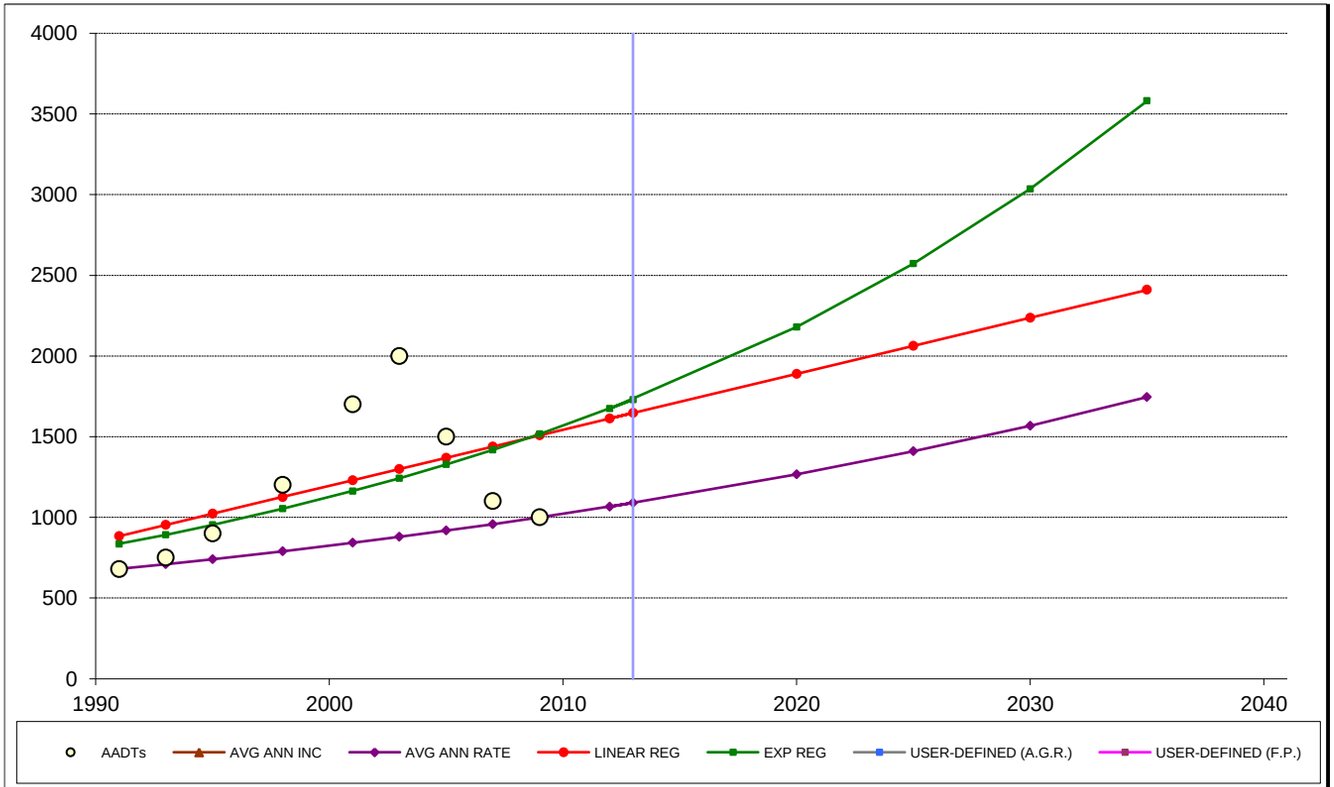
STATISTICAL RESULTS	
AVG ANN INC:	-250
AVG ANN RATE:	-5.2%
LINEAR REG:	-225
EXPONENTIAL REG:	-4.7%
R-SQUARED	
LINEAR:	0.8824
EXPONENTIAL:	0.8933
NUMBER OF DATA POINTS:	4

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
3000	3235	3100	3325
3250	3411	3325	3487
1250	2231	1525	2380
0	1711	400	1874
-1250	1312	-725	1476
-2500	1006	-1850	1162

AADT TREND ANALYSIS

#31 -- OLD BAUCOM RD (SR 5204) E OF ROCK QUARRY RD (SR 2542)



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	18
1991	680	AVG ANN RATE:	2.2%
1993	750	LINEAR REG:	35
1995	900	EXPONENTIAL REG:	3.4%
1998	1200		
2001	1700	R-SQUARED	
2003	2000	LINEAR:	0.2444
2005	1500	EXPONENTIAL:	0.3308
2007	1100		
2009	1000		
		NUMBER OF DATA POINTS:	
			9

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

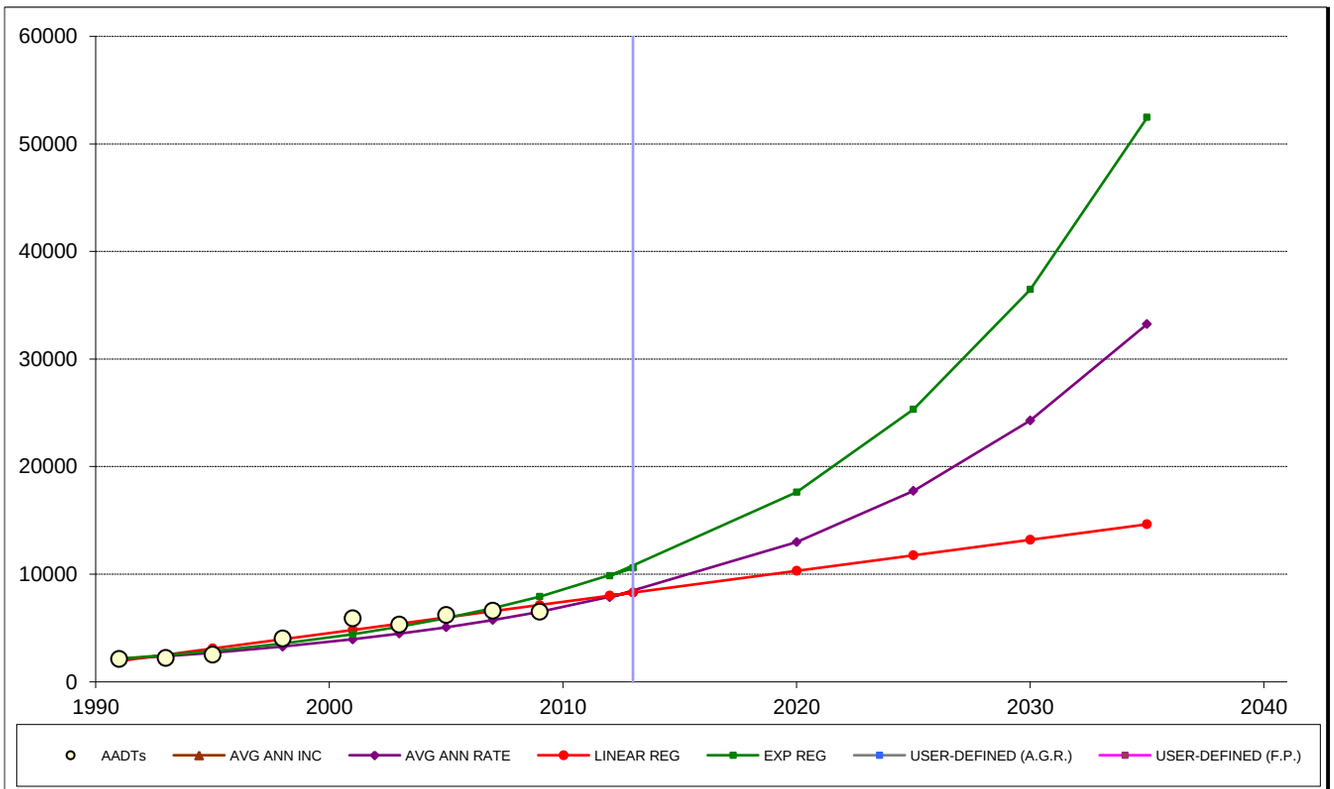
SHOW STATION #:	
31- OLD BAUCOM RD (SR 5204) E OF ROCK QUARRY	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
1071	1089	1647	1730
1053	1066	1612	1673
1196	1266	1889	2180
1284	1409	2063	2572
1373	1568	2236	3035
1462	1746	2410	3581

AADT TREND ANALYSIS

#32 -- LAKE WHEELER RD (SR 1375) N OF OPTIMIST FARM RD (SR 1390)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
32- LAKE WHEELER RD (SR 1375) N OF OPTIMIST FA	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA	
Year	AADT
1991	2100
1993	2200
1995	2500
1998	4000
2001	5900
2003	5300
2005	6200
2007	6600
2009	6500

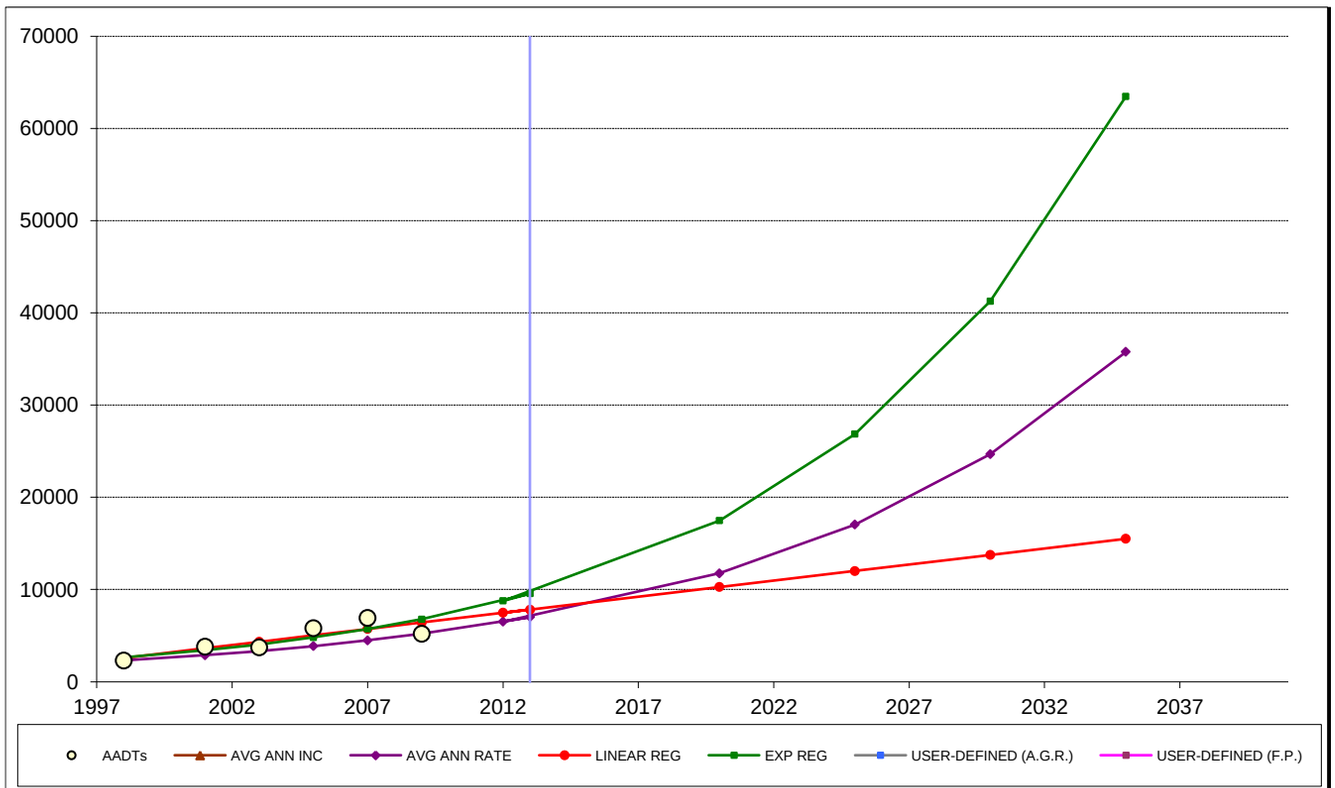
STATISTICAL RESULTS	
AVG ANN INC:	244
AVG ANN RATE:	6.5%
LINEAR REG:	289
EXPONENTIAL REG:	7.5%
R-SQUARED	
LINEAR:	0.9280
EXPONENTIAL:	0.9087
NUMBER OF DATA POINTS:	
	9

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
7478	8355	8282	10578
7233	7847	7993	9835
9189	12965	10306	17605
10411	17745	11751	25333
11633	24288	13196	36452
12856	33242	14641	52452

AADT TREND ANALYSIS

#33 -- SUNSET LAKE RD (SR 1301) E OF NC 55 BUS



SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	33- SUNSET LAKE RD (SR 1301) E OF NC 55 BUS	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

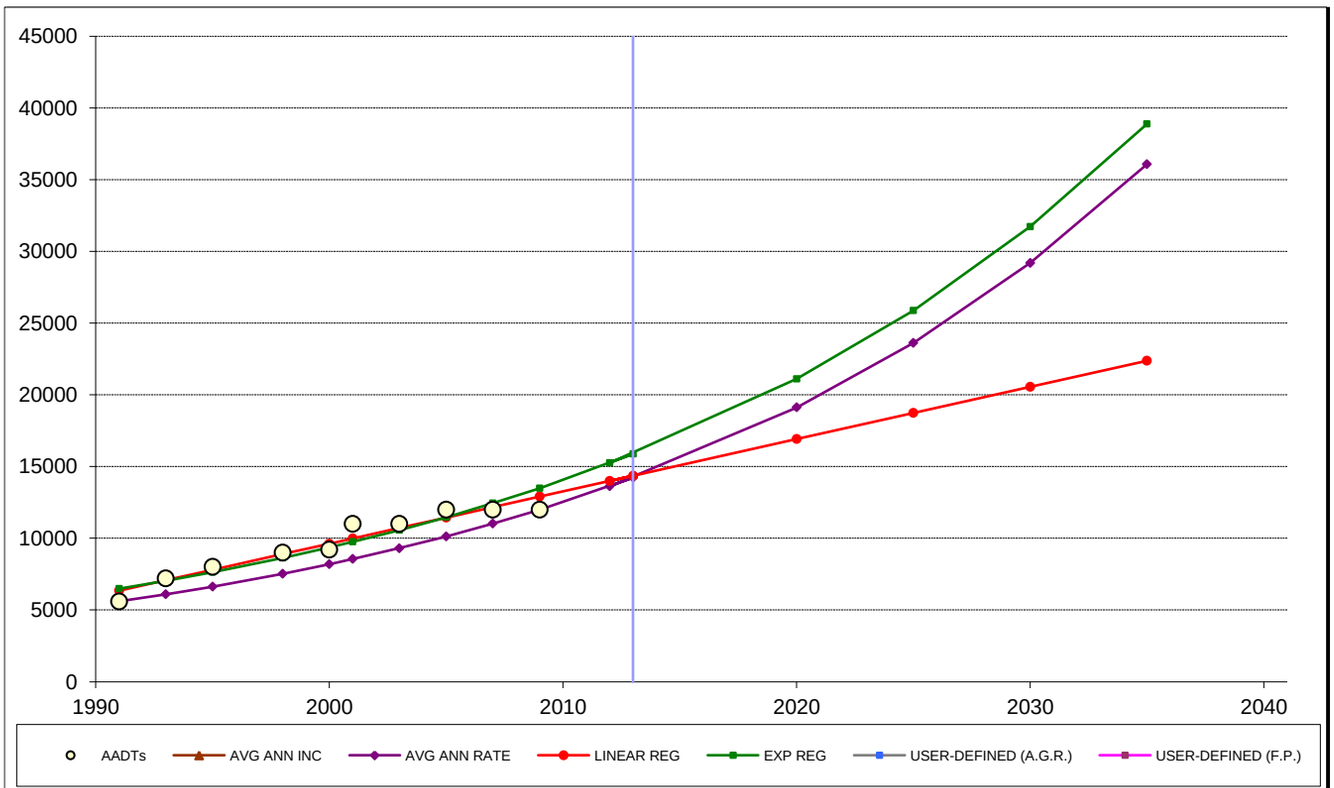
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	264
1998	2300	AVG ANN RATE:	7.7%
2001	3800	LINEAR REG:	349
2003	3700	EXPONENTIAL REG:	9.0%
2005	5800		
2007	6900	R-SQUARED	
2009	5200	LINEAR:	0.7123
		EXPONENTIAL:	0.7689
		NUMBER OF DATA POINTS:	6

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
6255	6996	7816	9561
5991	6496	7467	8772
8100	11757	10260	17459
9418	17034	12005	26842
10736	24680	13751	41270
12055	35759	15496	63451

AADT TREND ANALYSIS

#34 -- TEN-TEN RD (SR 1010) E OF GRAHAM NEWTON RD (SR 1386)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

SHOW STATION #:	
34- TEN-TEN RD (SR 1010) E OF GRAHAM NEWTON	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

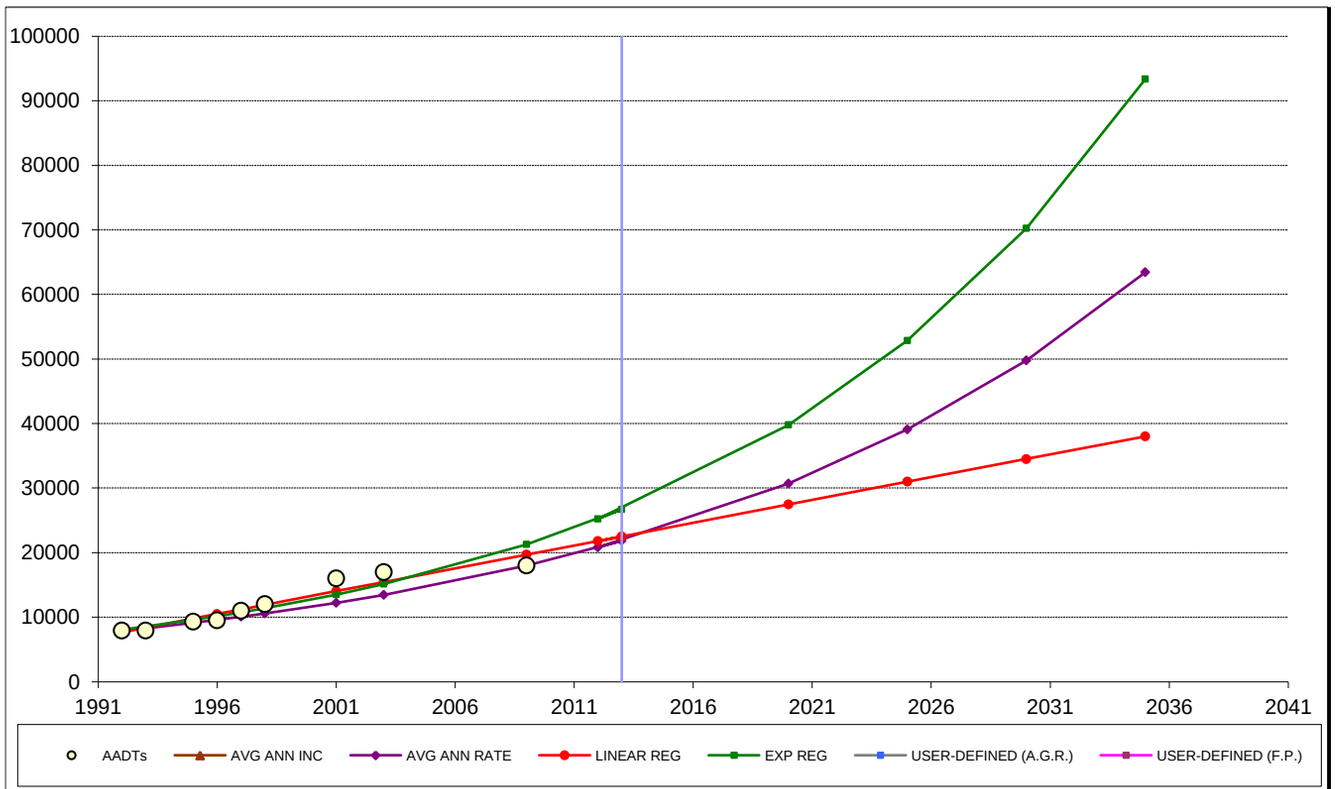
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	356
1991	5600	AVG ANN RATE:	4.3%
1993	7200	LINEAR REG:	364
1995	8000	EXPONENTIAL REG:	4.2%
1998	9000		
2000	9200	R-SQUARED	
2001	11000	LINEAR:	0.9335
2003	11000	EXPONENTIAL:	0.8996
2005	12000		
2007	12000		
2009	12000	NUMBER OF DATA POINTS:	
			10

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
13422	14215	14360	15884
13067	13625	13996	15250
15911	19119	16908	21120
17689	23626	18728	25886
19467	29197	20548	31728
21244	36081	22368	38889

AADT TREND ANALYSIS

#35 -- US 1 N OF TINGEN RD (SR 1156)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
35- US 1 N OF TINGEN RD (SR 1156)	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA	
Year	AADT
1992	7900
1993	7900
1995	9300
1996	9500
1997	11000
1998	12000
2001	16000
2003	17000
2009	18000

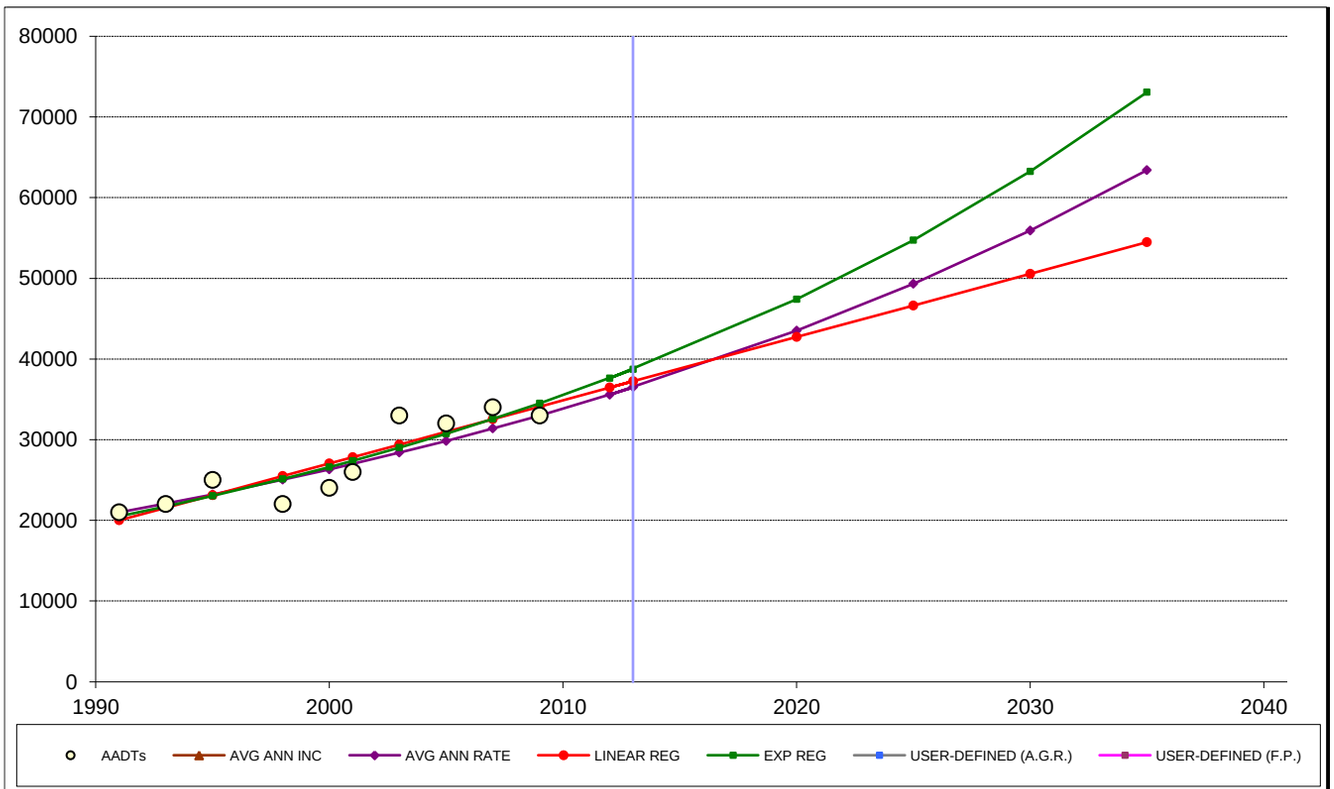
STATISTICAL RESULTS	
AVG ANN INC:	594
AVG ANN RATE:	5.0%
LINEAR REG:	706
EXPONENTIAL REG:	5.9%
R-SQUARED	
LINEAR:	0.9145
EXPONENTIAL:	0.8959
NUMBER OF DATA POINTS:	
	9

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
20376	21849	22500	26704
19782	20815	21794	25226
24535	30668	27442	39773
27506	39073	30972	52865
30476	49782	34502	70267
33447	63425	38032	93397

AADT TREND ANALYSIS

#36 -- US 401 S OF TEN-TEN RD (SR 1010)



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	667
1991	21000	AVG ANN RATE:	2.5%
1993	22000	LINEAR REG:	784
1995	25000	EXPONENTIAL REG:	2.9%
1998	22000		
2000	24000	R-SQUARED	
2001	26000	LINEAR:	0.8092
2003	33000	EXPONENTIAL:	0.8173
2005	32000		
2007	34000		
2009	33000	NUMBER OF DATA POINTS:	
			10

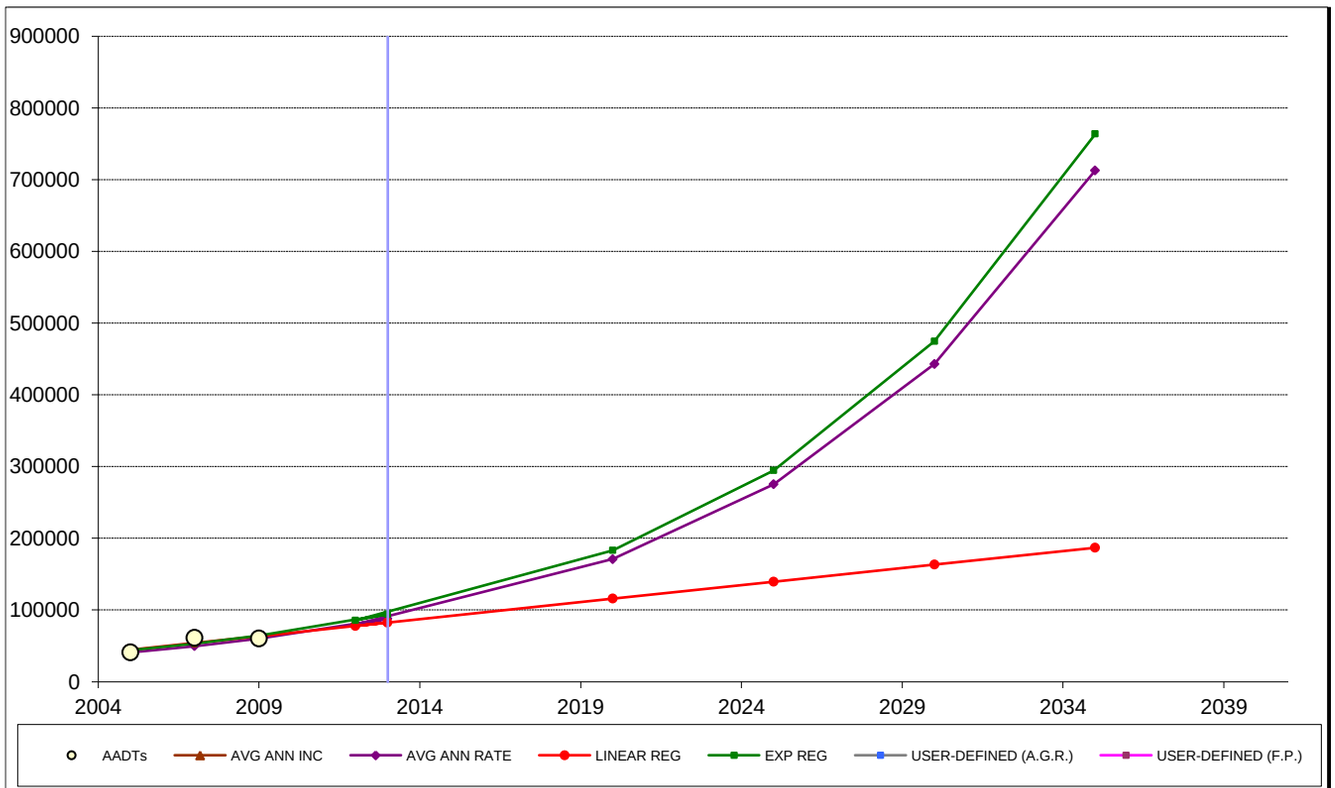
SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	36- US 401 S OF TEN-TEN RD (SR 1010)	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
35667	36487	37231	38713
35000	35582	36447	37612
40333	43498	42717	47383
43667	49317	46635	54740
47000	55914	50554	63240
50333	63394	54472	73059

AADT TREND ANALYSIS

#37 -- US 64 BYP FROM EXIT 423 TO EXIT 425



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	4750
2005	41000	AVG ANN RATE:	10.0%
2007	61000	LINEAR REG:	4750
2009	60000	EXPONENTIAL REG:	10.0%
		R-SQUARED	
		LINEAR:	0.7106
		EXPONENTIAL:	0.7175
		NUMBER OF DATA POINTS:	3

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

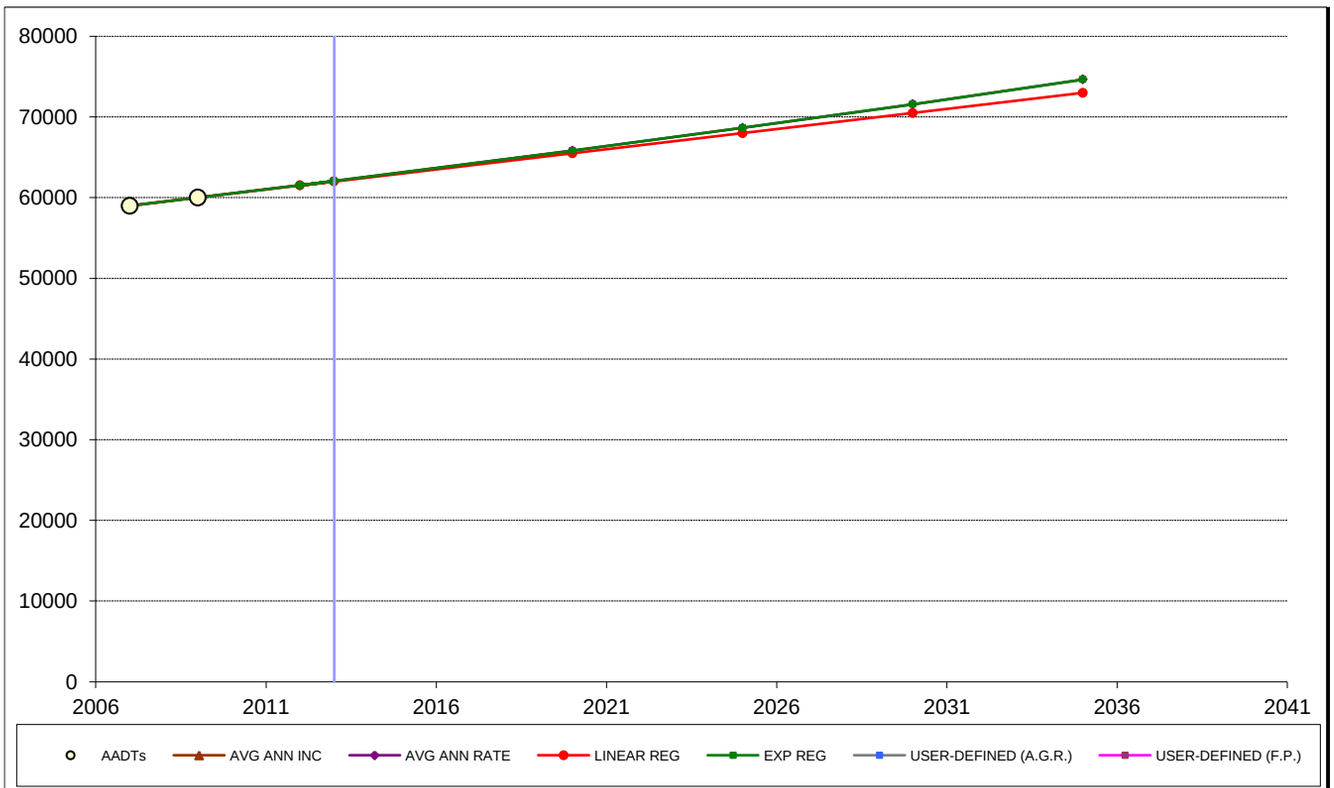
SHOW STATION #:	
37- US 64 BYP FROM EXIT 423 TO EXIT 425	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
79000	87805	82500	94075
74250	79832	77750	85532
112250	170967	115750	183175
136000	275183	139500	294832
159750	442925	163250	474552
183500	712918	187000	763824

AADT TREND ANALYSIS

#38 -- US 64/264 FROM EXIT 420 TO EXIT 422



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	500
2007	59000	AVG ANN RATE:	0.8%
2009	60000	LINEAR REG:	500
		EXPONENTIAL REG:	0.8%
		R-SQUARED	
		LINEAR:	1.0000
		EXPONENTIAL:	1.0000
		NUMBER OF DATA POINTS:	
			2

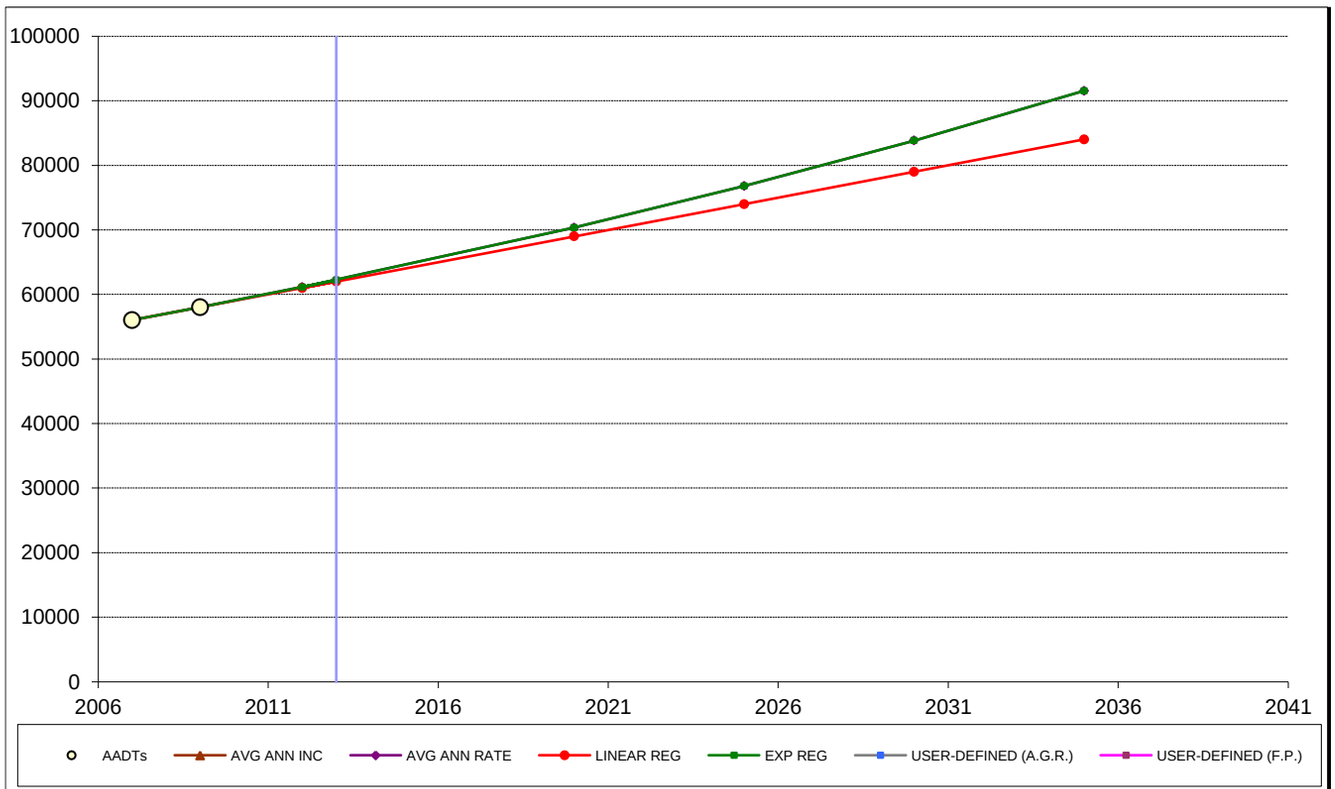
SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	38- US 64/264 FROM EXIT 420 TO EXIT 422	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
62000	62051	62000	62051
61500	61532	61500	61532
65500	65811	65500	65811
68000	68635	68000	68635
70500	71580	70500	71580
73000	74652	73000	74652

AADT TREND ANALYSIS

#39 -- US 64/264 FROM EXIT 422 TO EXIT 423



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
39- US 64/264 FROM EXIT 422 TO EXIT 423	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

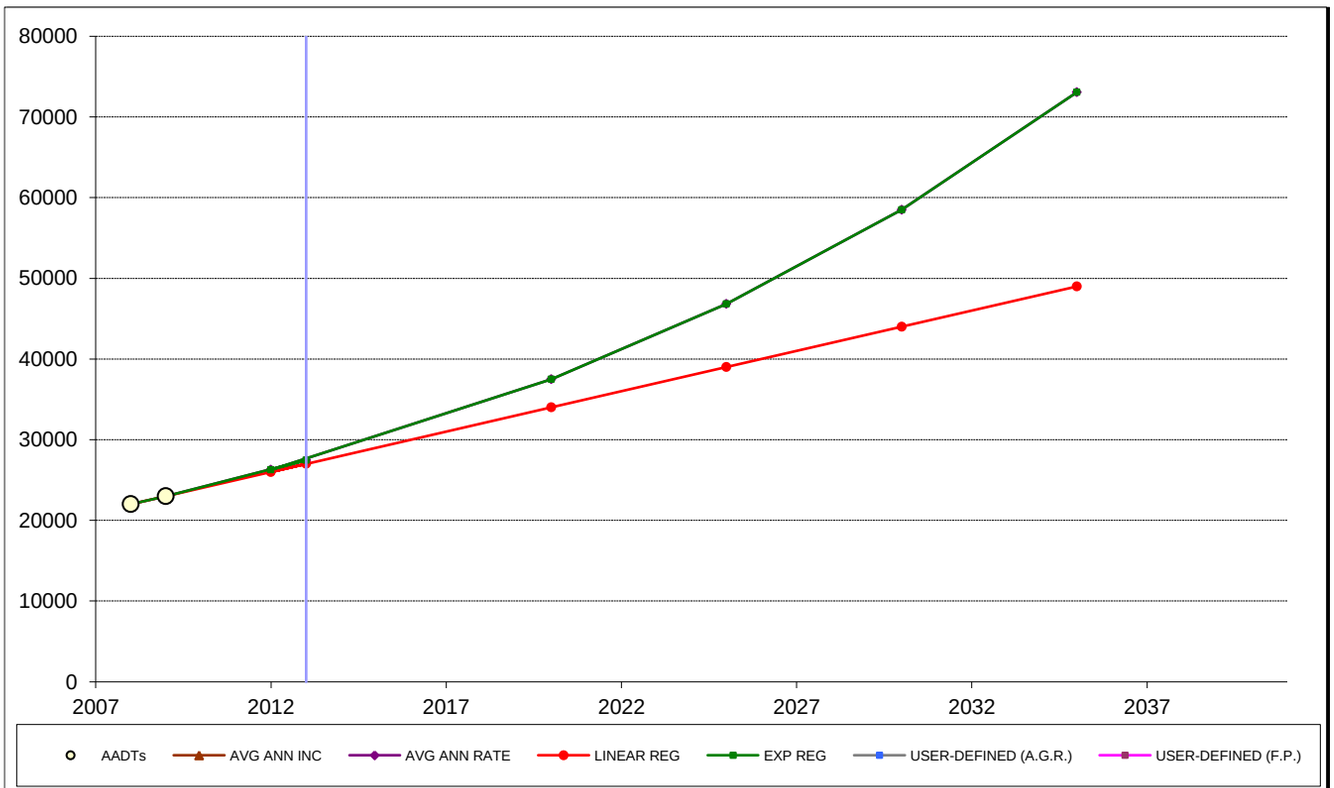
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	1000
2007	56000	AVG ANN RATE:	1.8%
2009	58000	LINEAR REG:	1000
		EXPONENTIAL REG:	1.8%
		R-SQUARED	
		LINEAR:	1.0000
		EXPONENTIAL:	1.0000
		NUMBER OF DATA POINTS:	2

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
62000	62217	62000	62217
61000	61135	61000	61135
69000	70347	69000	70347
74000	76798	74000	76798
79000	83839	79000	83839
84000	91527	84000	91527

AADT TREND ANALYSIS

#40 -- US 70 BYP E OF CORNWALLIS RD (SR 1525)



HISTORIC DATA	
Year	AADT
2008	22000
2009	23000

STATISTICAL RESULTS	
AVG ANN INC:	1000
AVG ANN RATE:	4.5%
LINEAR REG:	1000
EXPONENTIAL REG:	4.5%
R-SQUARED	
LINEAR:	1.0000
EXPONENTIAL:	1.0000
NUMBER OF DATA POINTS:	
	2

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

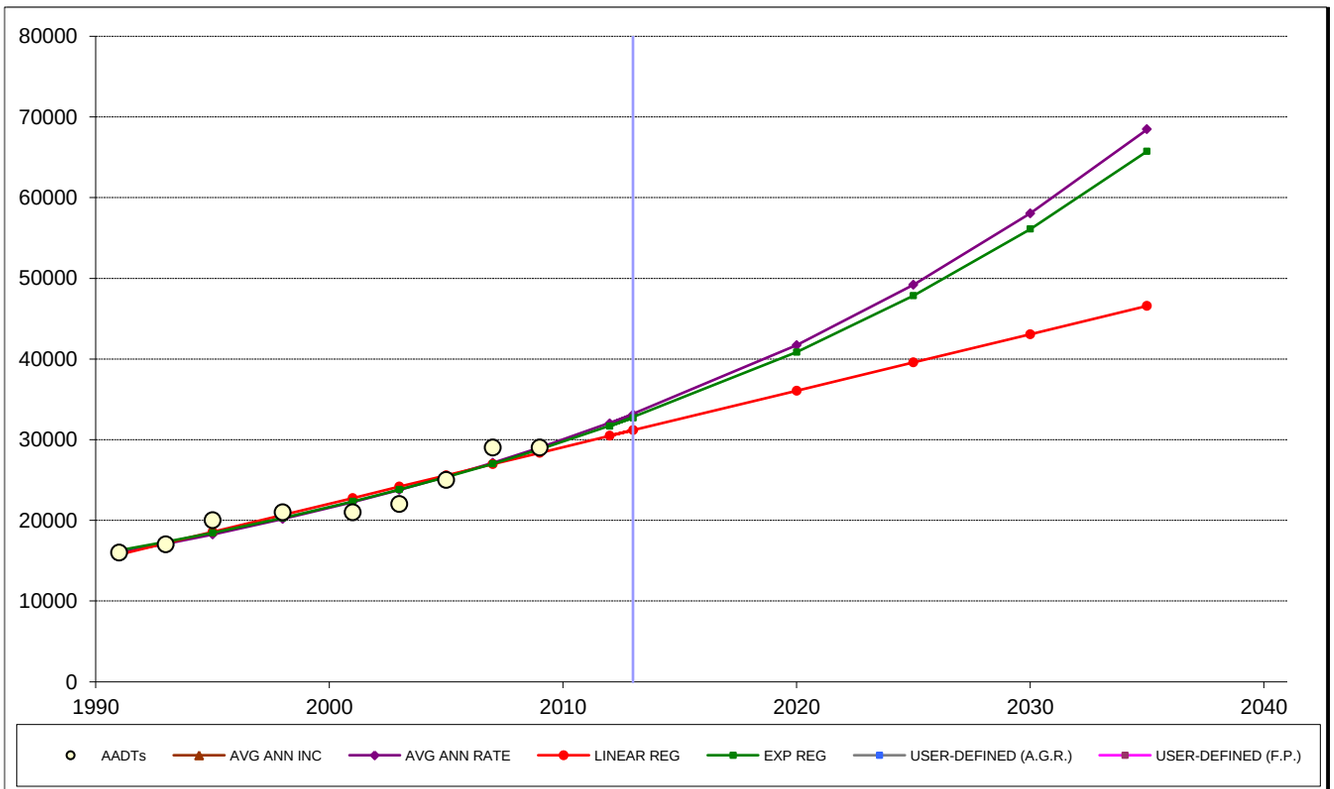
SHOW STATION #:	
40- US 70 BYP E OF CORNWALLIS RD (SR 1525)	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
27000	27476	27000	27476
26000	26281	26000	26281
34000	37505	34000	37505
39000	46839	39000	46839
44000	58497	44000	58497
49000	73057	49000	73057

AADT TREND ANALYSIS

#41 -- US 70 E OF WHITE OAK RD (SR 2547)



HISTORIC DATA	
Year	AADT
1991	16000
1993	17000
1995	20000
1998	21000
2001	21000
2003	22000
2005	25000
2007	29000
2009	29000

STATISTICAL RESULTS	
AVG ANN INC:	722
AVG ANN RATE:	3.4%
LINEAR REG:	700
EXPONENTIAL REG:	3.2%
R-SQUARED	
LINEAR:	0.9140
EXPONENTIAL:	0.9331
NUMBER OF DATA POINTS:	
	9

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

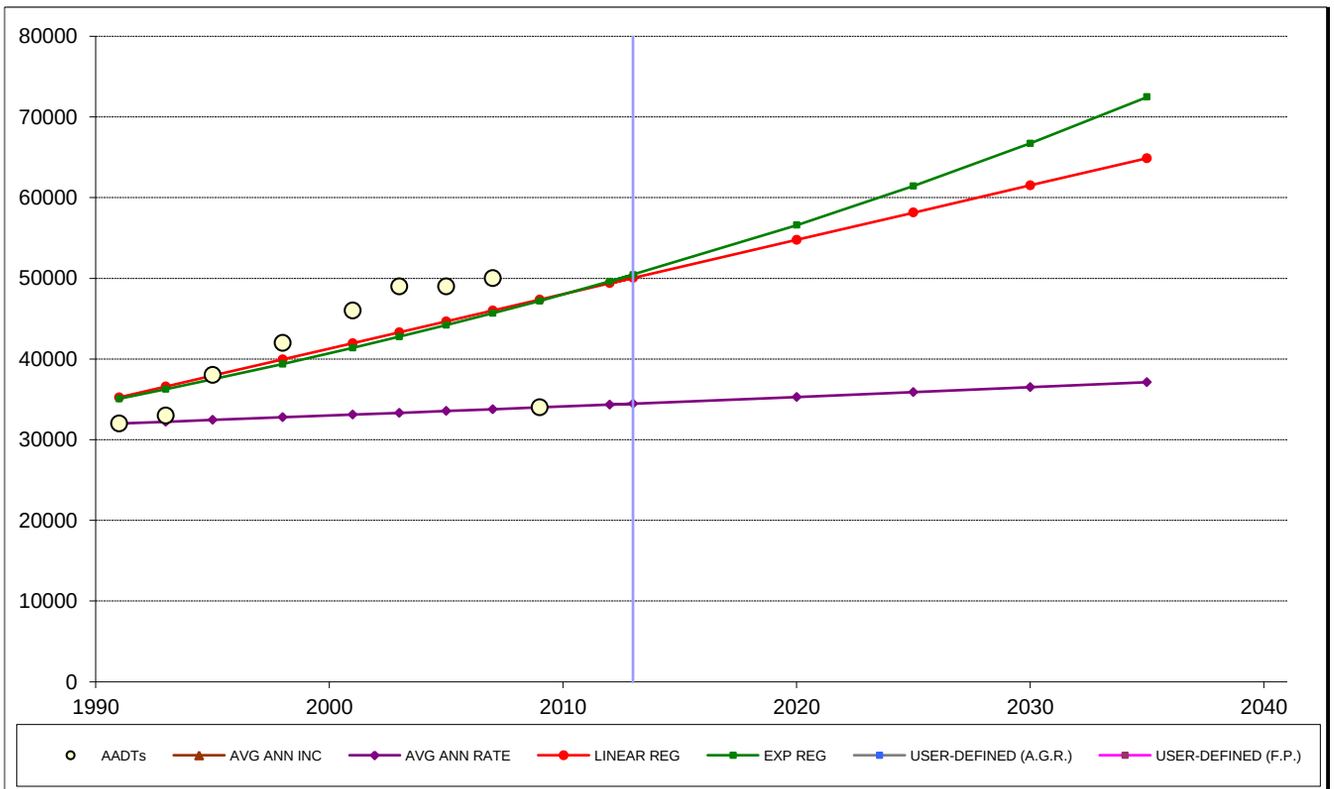
SHOW STATION #:	
41- US 70 E OF WHITE OAK RD (SR 2547)	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
31889	33097	31169	32699
31167	32022	30469	31677
36944	41709	36071	40836
40556	49202	39572	47861
44167	58039	43073	56094
47778	68465	46574	65744

AADT TREND ANALYSIS

#42 -- US 70 E OF GREENFIELD PKWY (SR 4142)



HISTORIC DATA	
Year	AADT
1991	32000
1993	33000
1995	38000
1998	42000
2001	46000
2003	49000
2005	49000
2007	50000
2009	34000

STATISTICAL RESULTS	
AVG ANN INC:	111
AVG ANN RATE:	0.3%
LINEAR REG:	674
EXPONENTIAL REG:	1.7%
R-SQUARED	
LINEAR:	0.3371
EXPONENTIAL:	0.3307
NUMBER OF DATA POINTS:	
	9

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

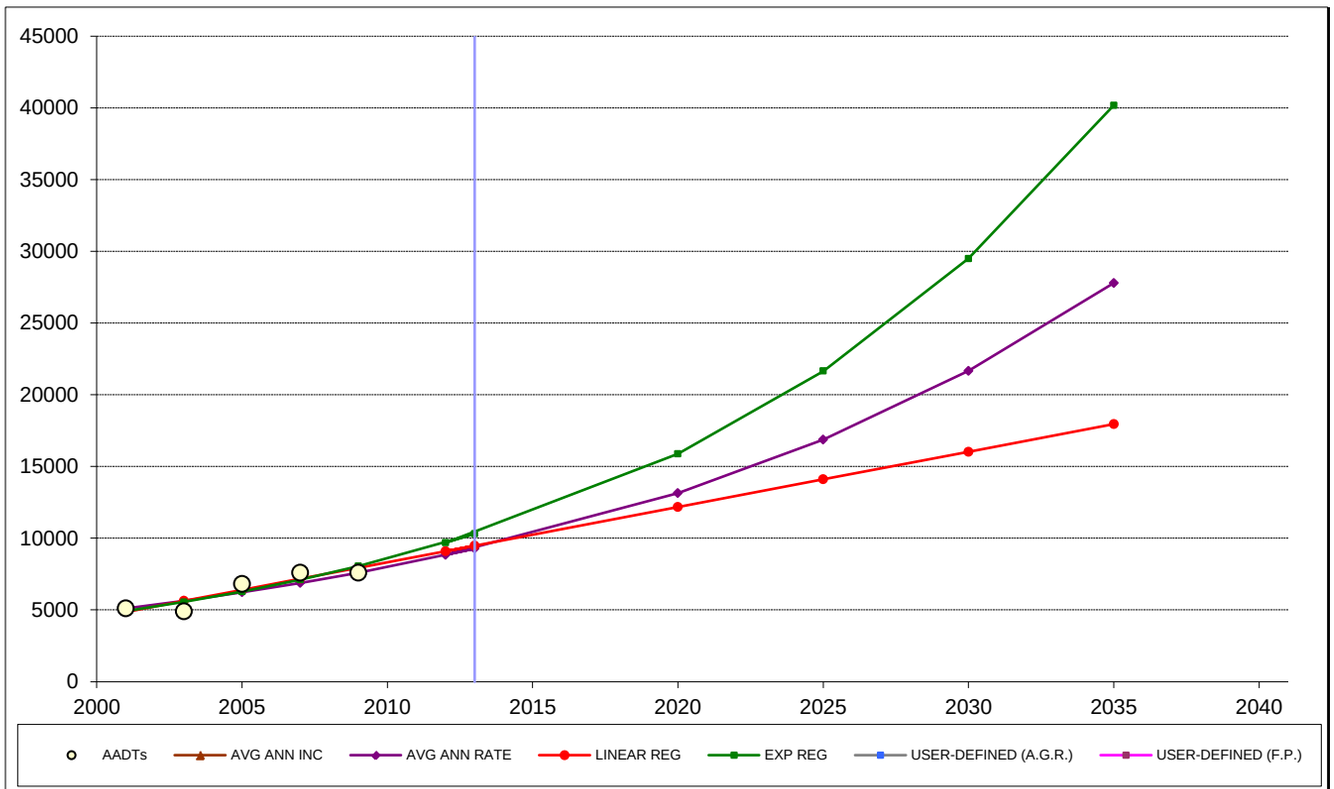
SHOW STATION #:	
42- US 70 E OF GREENFIELD PKWY (SR 4142)	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
34444	34461	50058	50424
34333	34345	49384	49599
35222	35283	54777	56593
35778	35882	58147	61456
36333	36492	61518	66737
36889	37112	64888	72471

AADT TREND ANALYSIS

#43 -- W LAKE RD (SR 1387) S OF TEN-TEN RD (SR 1010)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
43- W LAKE RD (SR 1387) S OF TEN-TEN RD (SR 101	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

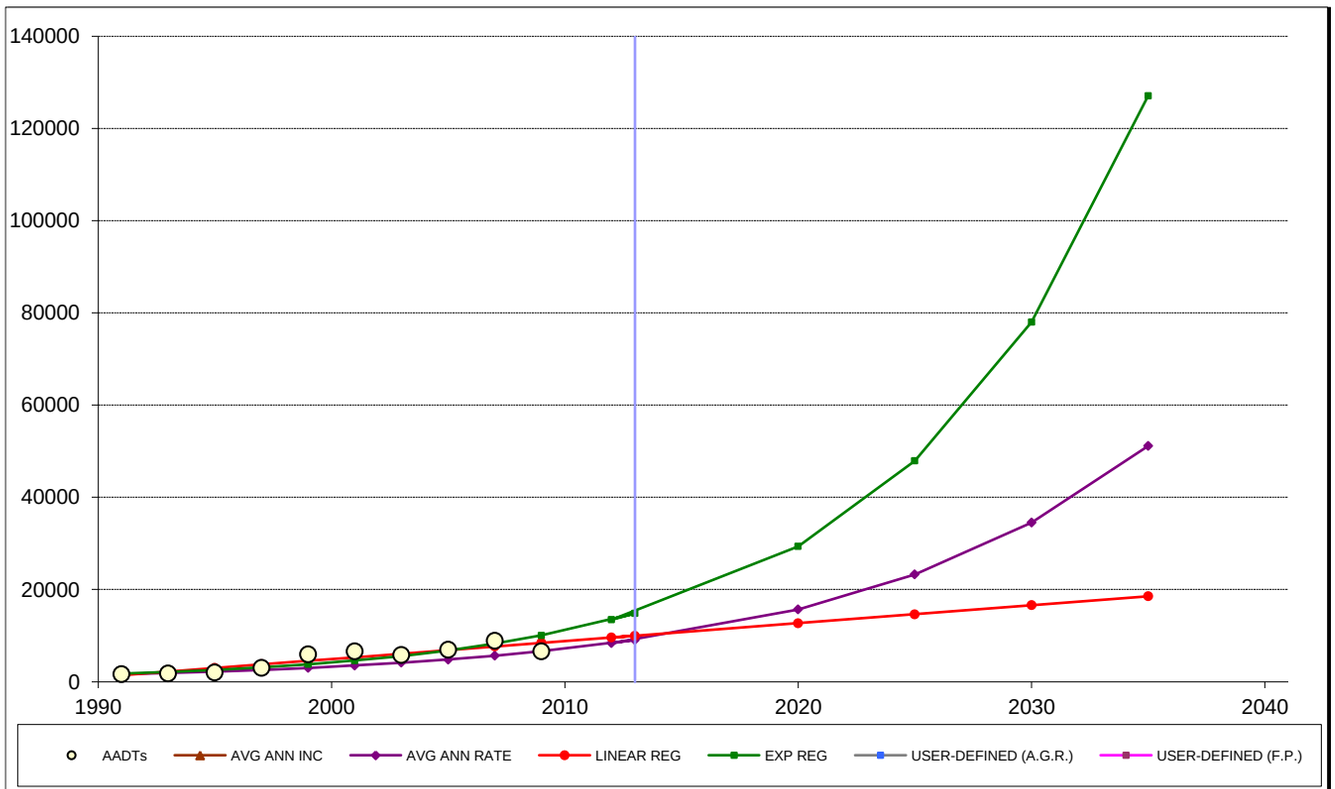
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	313
2001	5100	AVG ANN RATE:	5.1%
2003	4900	LINEAR REG:	385
2005	6800	EXPONENTIAL REG:	6.4%
2007	7600		
2009	7600	R-SQUARED	
		LINEAR:	0.8494
		EXPONENTIAL:	0.8312
		NUMBER OF DATA POINTS:	
			5

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
8850	9278	9480	10309
8538	8826	9095	9691
11038	13153	12175	15893
12600	16877	14100	21651
14163	21656	16025	29496
15725	27788	17950	40183

AADT TREND ANALYSIS

#44 -- SUNSET LAKE RD (SR 1301) W OF HOLLY SPRINGS RD (SR 1152)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

SHOW STATION #:	
44- SUNSET LAKE RD (SR 1301) W OF HOLLY SPRIN	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

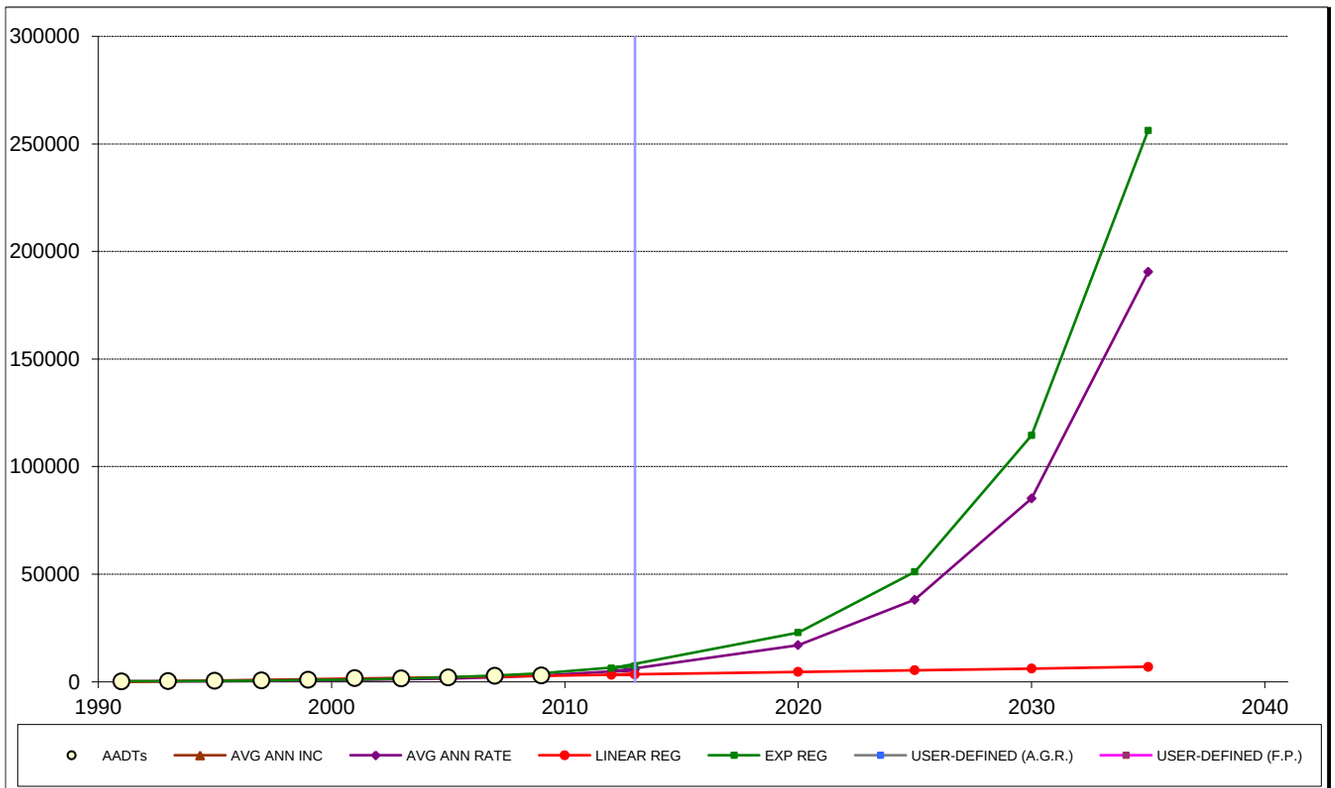
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	278
1991	1600	AVG ANN RATE:	8.2%
1993	1800	LINEAR REG:	389
1995	2000	EXPONENTIAL REG:	10.3%
1997	3000		
1999	5900	R-SQUARED	
2001	6600	LINEAR:	0.8299
2003	5800	EXPONENTIAL:	0.8388
2005	6900		
2007	8900		
2009	6600	NUMBER OF DATA POINTS:	
			10

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
7711	9043	9964	14832
7433	8358	9575	13452
9656	15690	12686	29380
11044	23259	14630	47873
12433	34478	16574	78006
13822	51108	18518	127105

AADT TREND ANALYSIS

#45 -- PIERCE-OLIVE RD (SR 1389) N OF OPTIMIST FARM RD (SR 1390)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

SHOW STATION #:	
45- PIERCE-OLIVE RD (SR 1389) N OF OPTIMIST FAR	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

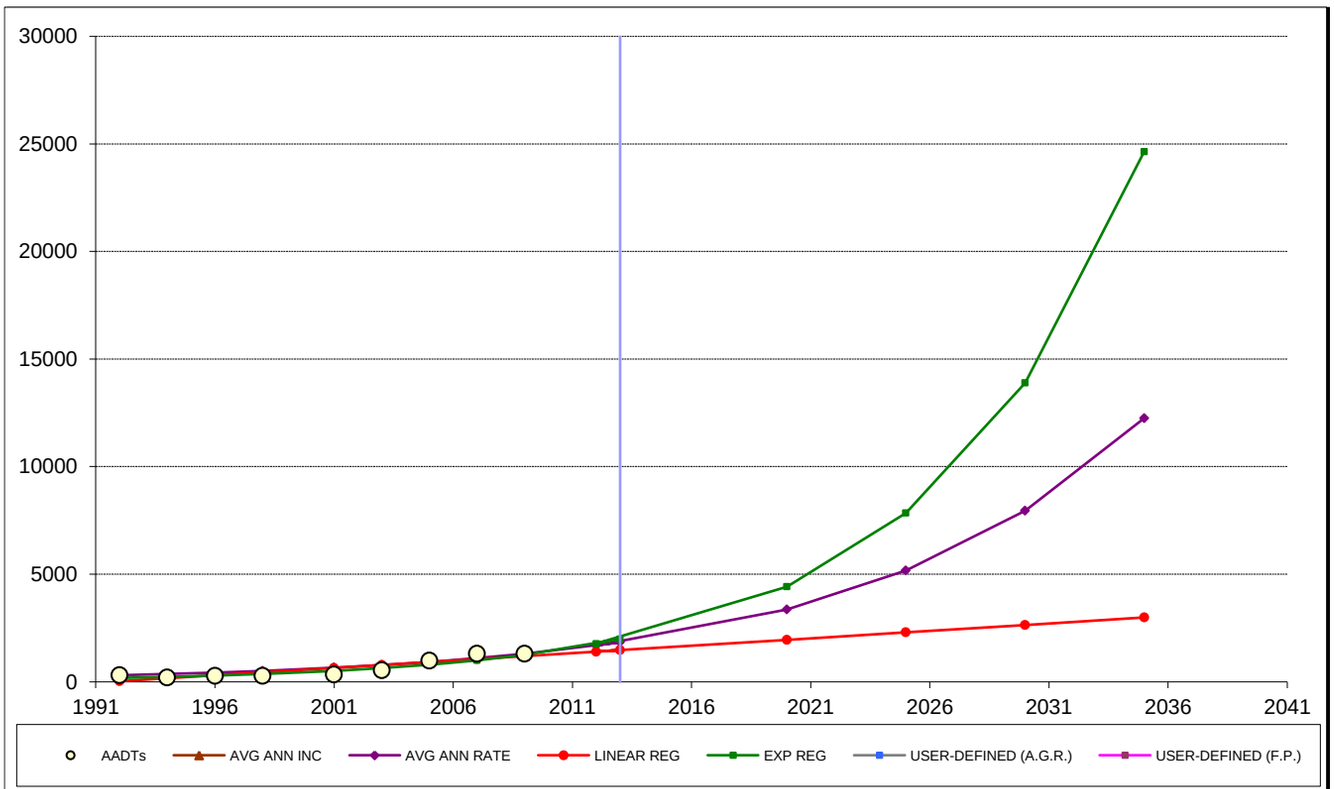
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	152
1991	160	AVG ANN RATE:	17.5%
1993	280	LINEAR REG:	161
1995	450	EXPONENTIAL REG:	17.5%
1997	520		
1999	920	R-SQUARED	
2001	1700	LINEAR:	0.9458
2003	1500	EXPONENTIAL:	0.9519
2005	2000		
2007	2700		
2009	2900	NUMBER OF DATA POINTS:	
			10

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
3509	5521	3404	7389
3357	4700	3243	6289
4574	17035	4529	22833
5336	38095	5333	51116
6097	85190	6138	114435
6858	190507	6942	256187

AADT TREND ANALYSIS

#46 -- BATTLE BRIDGE RD (SR 2552) E OF AUBURN KNIGHTDALE RD (SR 2555)



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	59
1992	300	AVG ANN RATE:	9.0%
1994	190	LINEAR REG:	69
1996	270	EXPONENTIAL REG:	12.1%
1998	270		
2001	340	R-SQUARED	
2003	540	LINEAR:	0.8024
2005	980	EXPONENTIAL:	0.8477
2007	1300		
2009	1300		
		NUMBER OF DATA POINTS:	
			9

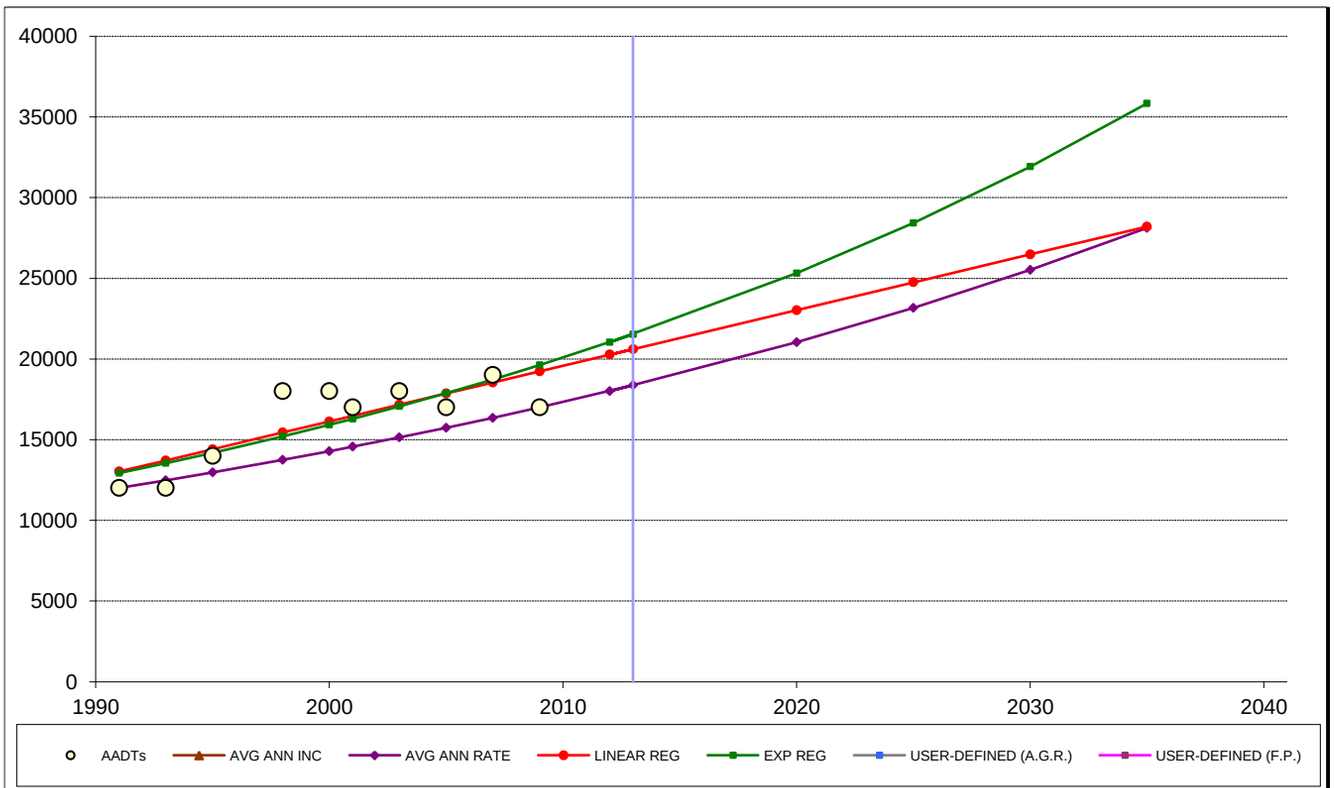
SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☐ AVG ANN INC	☐ AVG ANN INC	46- BATTLE BRIDGE RD (SR 2552) E OF AUBURN KN	
☐ AVG ANN RATE	☑ AVG ANN RATE	FUT YRS:	2013
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION	#1	2012
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	#2	2020
	☐ USER-DEFINED (FUT PROJ)	#3	2025
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)	#4	2030
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
1535	1836	1468	1982
1476	1684	1399	1767
1947	3357	1950	4419
2241	5168	2295	7835
2535	7954	2639	13893
2829	12244	2984	24635

AADT TREND ANALYSIS

#47 -- NC 50 S OF NEW RAND RD (SR 2562) / N of S WAKE EXPWY



HISTORIC DATA	
Year	AADT
1991	12000
1993	12000
1995	14000
1998	18000
2000	18000
2001	17000
2003	18000
2005	17000
2007	19000
2009	17000

STATISTICAL RESULTS	
AVG ANN INC:	278
AVG ANN RATE:	2.0%
LINEAR REG:	345
EXPONENTIAL REG:	2.3%
R-SQUARED	
LINEAR:	0.6458
EXPONENTIAL:	0.6548
NUMBER OF DATA POINTS:	10

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

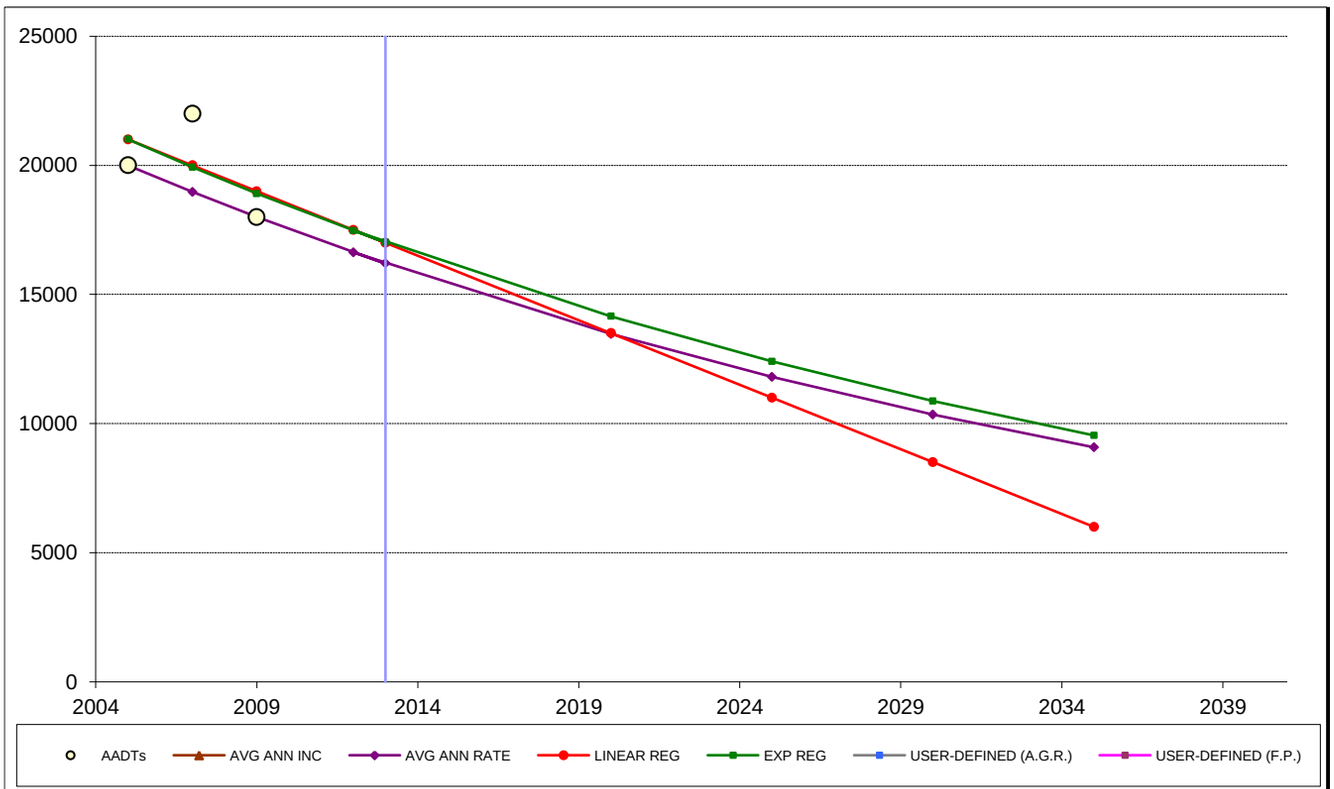
SHOW STATION #:	
47- NC 50 S OF NEW RAND RD (SR 2562) / N of S WA	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
18111	18368	20614	21523
17833	18016	20269	21030
20056	21032	23028	25314
21444	23169	24753	28425
22833	25523	26477	31918
24222	28116	28201	35840

AADT TREND ANALYSIS

#48 -- NC 50 S of S WAKE EXPWY / BUFFALOE RD (SR 2711)



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	-500
2005	20000	AVG ANN RATE:	-2.6%
2007	22000	LINEAR REG:	-500
2009	18000	EXPONENTIAL REG:	-2.6%
		R-SQUARED	
		LINEAR:	0.2500
		EXPONENTIAL:	0.2754
		NUMBER OF DATA POINTS:	3

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

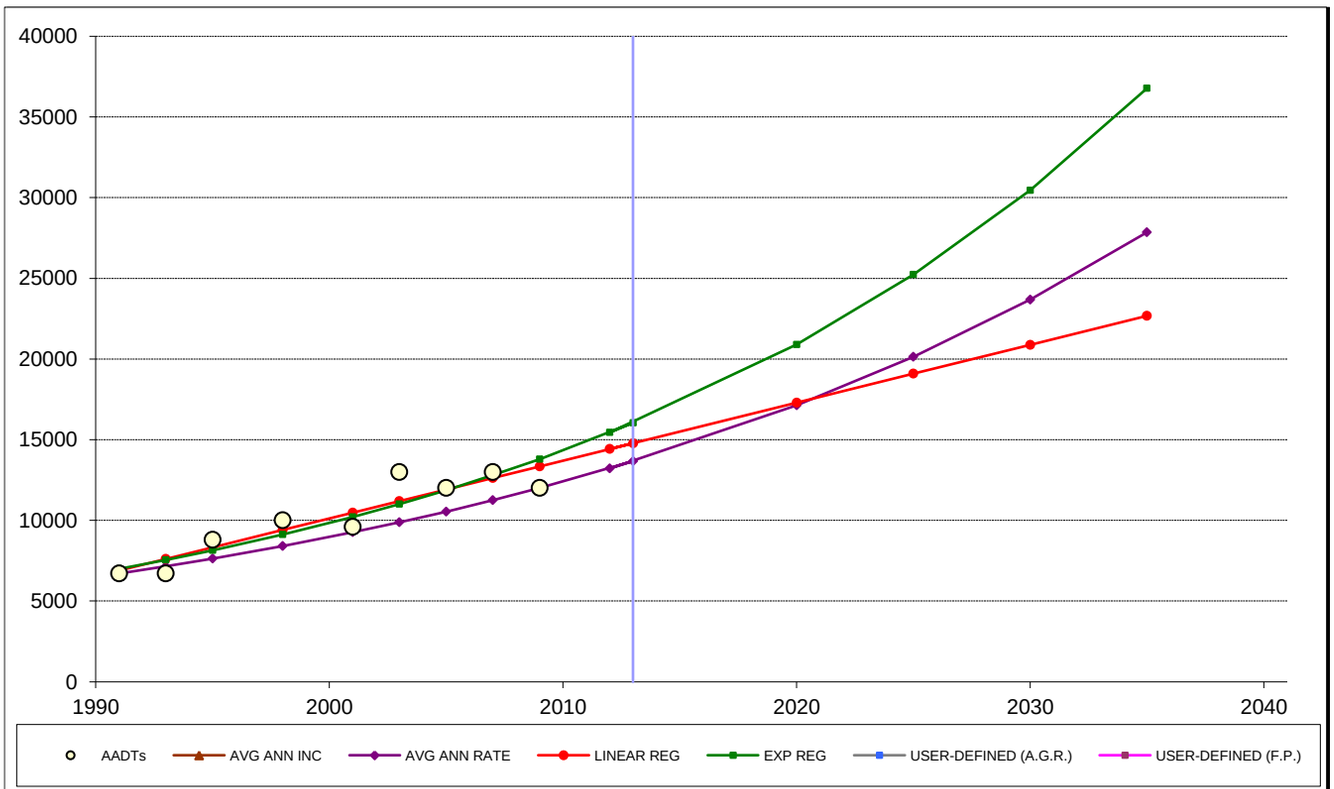
SHOW STATION #:	
48- NC 50 S of S WAKE EXPWY / BUFFALOE RD (SR	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
16000	16200	17000	17019
16500	16632	17500	17473
12500	13472	13500	14153
10000	11810	11000	12407
7500	10353	8500	10876
5000	9075	6000	9534

AADT TREND ANALYSIS

#49 -- NC 50 N OF TEN-TEN RD (SR 1010)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
49- NC 50 N OF TEN-TEN RD (SR 1010)	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA	
Year	AADT
1991	6700
1993	6700
1995	8800
1998	10000
2001	9600
2003	13000
2005	12000
2007	13000
2009	12000

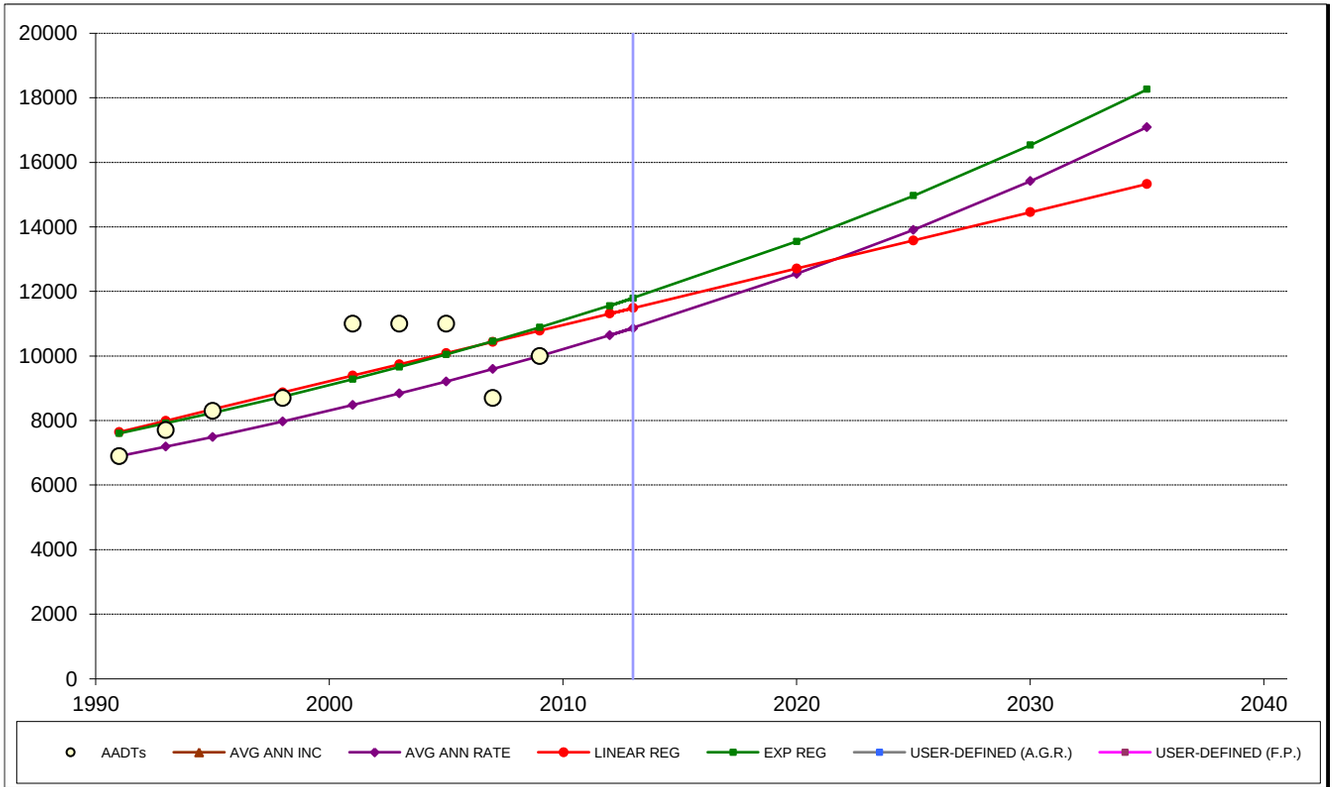
STATISTICAL RESULTS	
AVG ANN INC:	294
AVG ANN RATE:	3.3%
LINEAR REG:	359
EXPONENTIAL REG:	3.8%
R-SQUARED	
LINEAR:	0.8484
EXPONENTIAL:	0.8484
NUMBER OF DATA POINTS:	
	9

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
13178	13659	14781	16046
12883	13224	14423	15452
15239	17134	17291	20893
16711	20145	19083	25228
18183	23685	20876	30462
19656	27847	22668	36782

AADT TREND ANALYSIS

#50 -- SR 1006 (OLD STAGE ROAD) N OF SR 2711 (VANDORA SPRINGS RD)



HISTORIC DATA	
Year	AADT
1991	6900
1993	7700
1995	8300
1998	8700
2001	11000
2003	11000
2005	11000
2007	8700
2009	10000

STATISTICAL RESULTS	
AVG ANN INC:	172
AVG ANN RATE:	2.1%
LINEAR REG:	175
EXPONENTIAL REG:	2.0%
R-SQUARED	
LINEAR:	0.5141
EXPONENTIAL:	0.5491
NUMBER OF DATA POINTS:	
	9

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

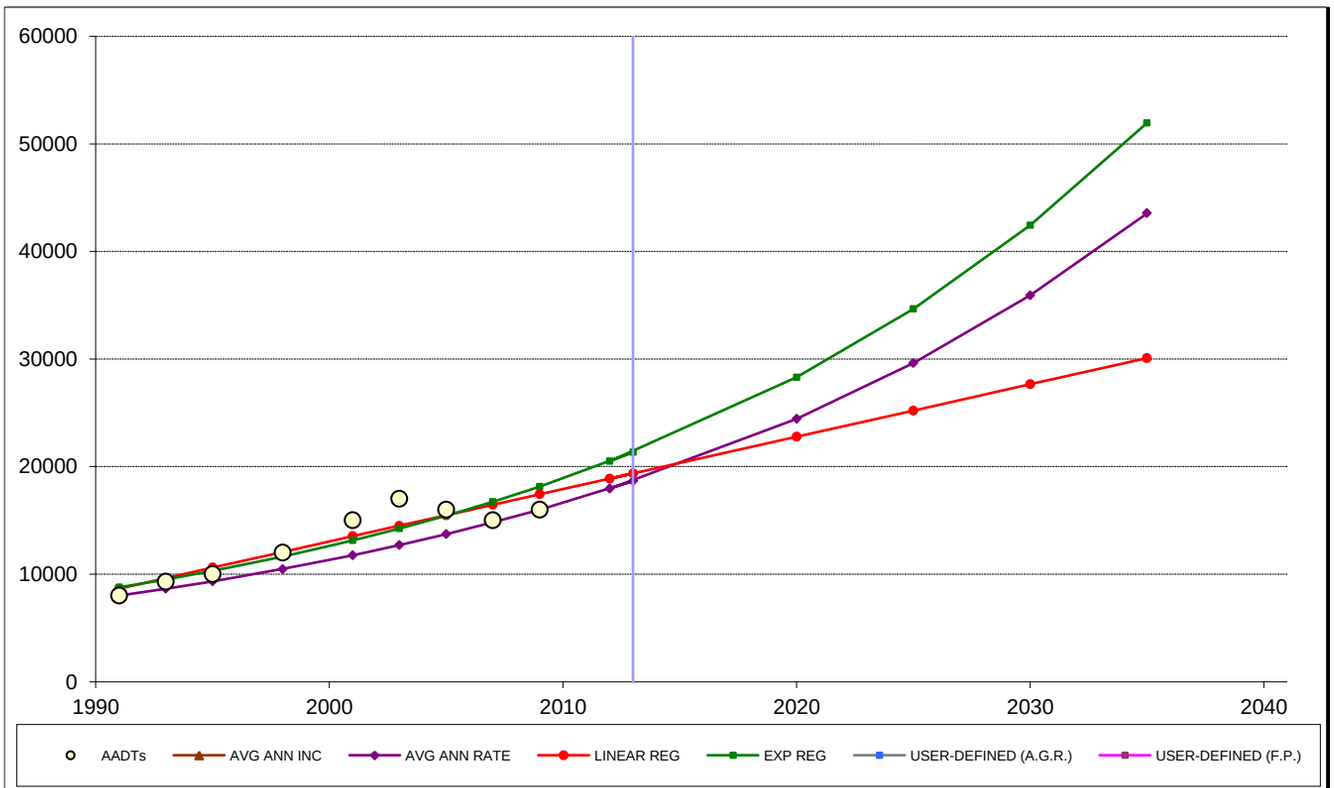
SHOW STATION #:	
50- SR 1006 (OLD STAGE ROAD) N OF SR 2711 (VAN	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
10689	10860	11486	11785
10517	10638	11312	11553
11894	12545	12709	13548
12756	13907	13581	14966
13617	15417	14454	16533
14478	17091	15327	18264

AADT TREND ANALYSIS

#51 -- SR 1006 (OLD STAGE ROAD) S OF SR 2711 (VANDORA SPRINGS RD)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
51- SR 1006 (OLD STAGE ROAD) S OF SR 2711 (VAN	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA	
Year	AADT
1991	8000
1993	9300
1995	10000
1998	12000
2001	15000
2003	17000
2005	16000
2007	15000
2009	16000

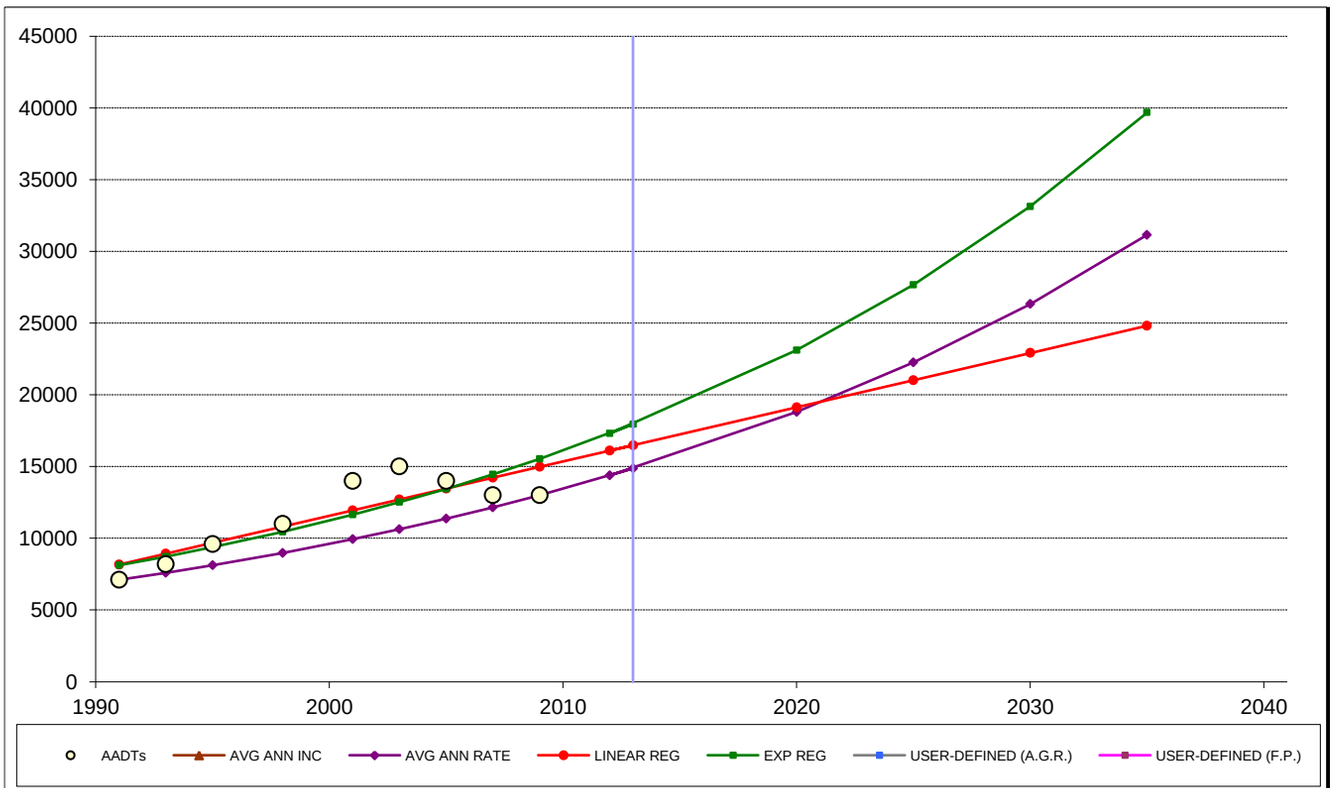
STATISTICAL RESULTS	
AVG ANN INC:	444
AVG ANN RATE:	3.9%
LINEAR REG:	487
EXPONENTIAL REG:	4.1%
R-SQUARED	
LINEAR:	0.8483
EXPONENTIAL:	0.8561
NUMBER OF DATA POINTS:	
	9

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
17778	18664	19369	21333
17333	17959	18882	20488
20889	24439	22779	28314
23111	29628	25214	34660
25333	35919	27650	42427
27556	43545	30085	51936

AADT TREND ANALYSIS

#52 -- SR 1006 (OLD STAGE ROAD) S of S WAKE EXPWY / N of TEN-TEN RD (SR 1010)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

SHOW STATION #:	
52- SR 1006 (OLD STAGE ROAD) S of S WAKE EXPW	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA	
Year	AADT
1991	7100
1993	8200
1995	9600
1998	11000
2001	14000
2003	15000
2005	14000
2007	13000
2009	13000

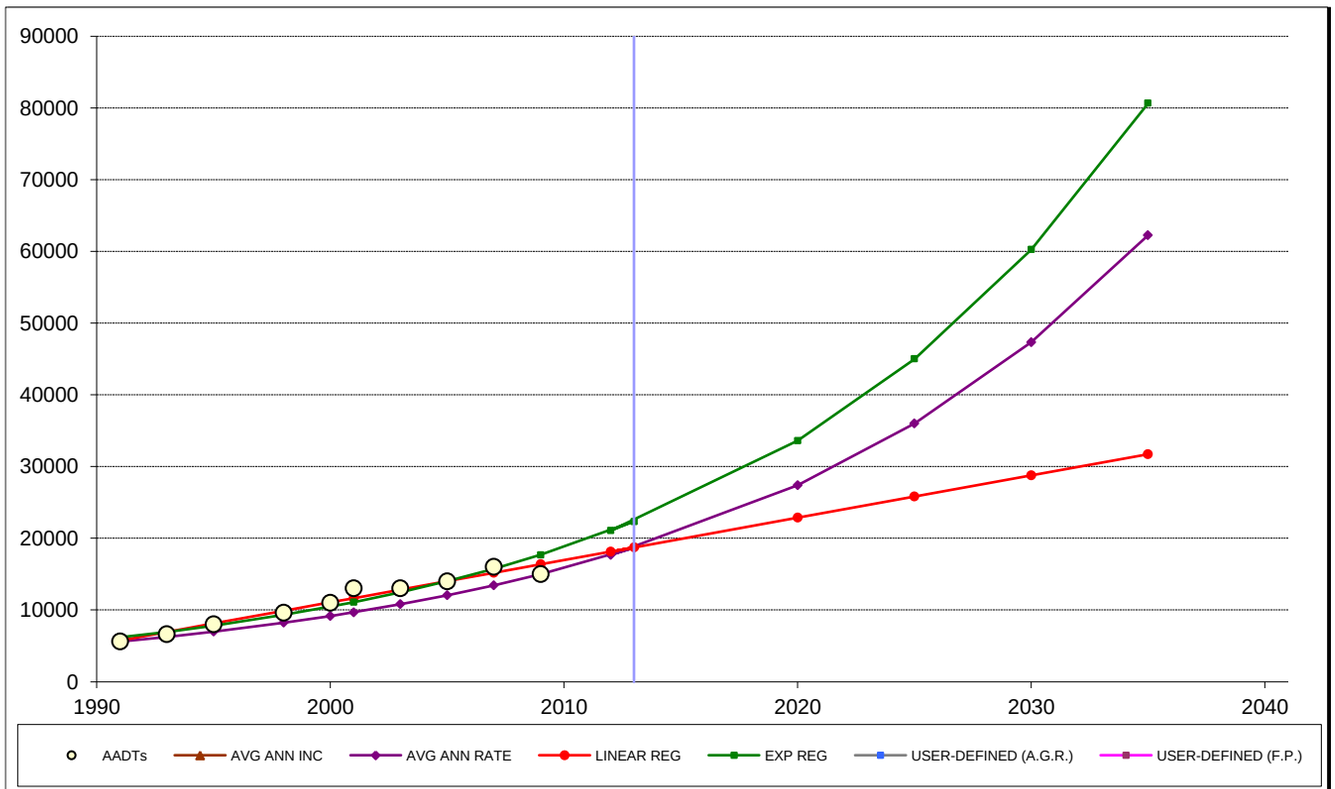
STATISTICAL RESULTS	
AVG ANN INC:	328
AVG ANN RATE:	3.4%
LINEAR REG:	378
EXPONENTIAL REG:	3.7%
R-SQUARED	
LINEAR:	0.7332
EXPONENTIAL:	0.7552
NUMBER OF DATA POINTS:	
	9

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
14311	14870	16489	17949
13983	14379	16111	17313
16606	18814	19137	23104
18244	22256	21028	27670
19883	26327	22919	33138
21522	31144	24811	39687

AADT TREND ANALYSIS

#53 -- SR 1010 (TEN TEN RD) E of US 401



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
53- SR 1010 (TEN TEN RD) E of US 401	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA	
Year	AADT
1991	5600
1993	6600
1995	8000
1998	9600
2000	11000
2001	13000
2003	13000
2005	14000
2007	16000
2009	15000

STATISTICAL RESULTS	
AVG ANN INC:	522
AVG ANN RATE:	5.6%
LINEAR REG:	590
EXPONENTIAL REG:	6.0%
R-SQUARED	
LINEAR:	0.9607
EXPONENTIAL:	0.9393
NUMBER OF DATA POINTS:	10

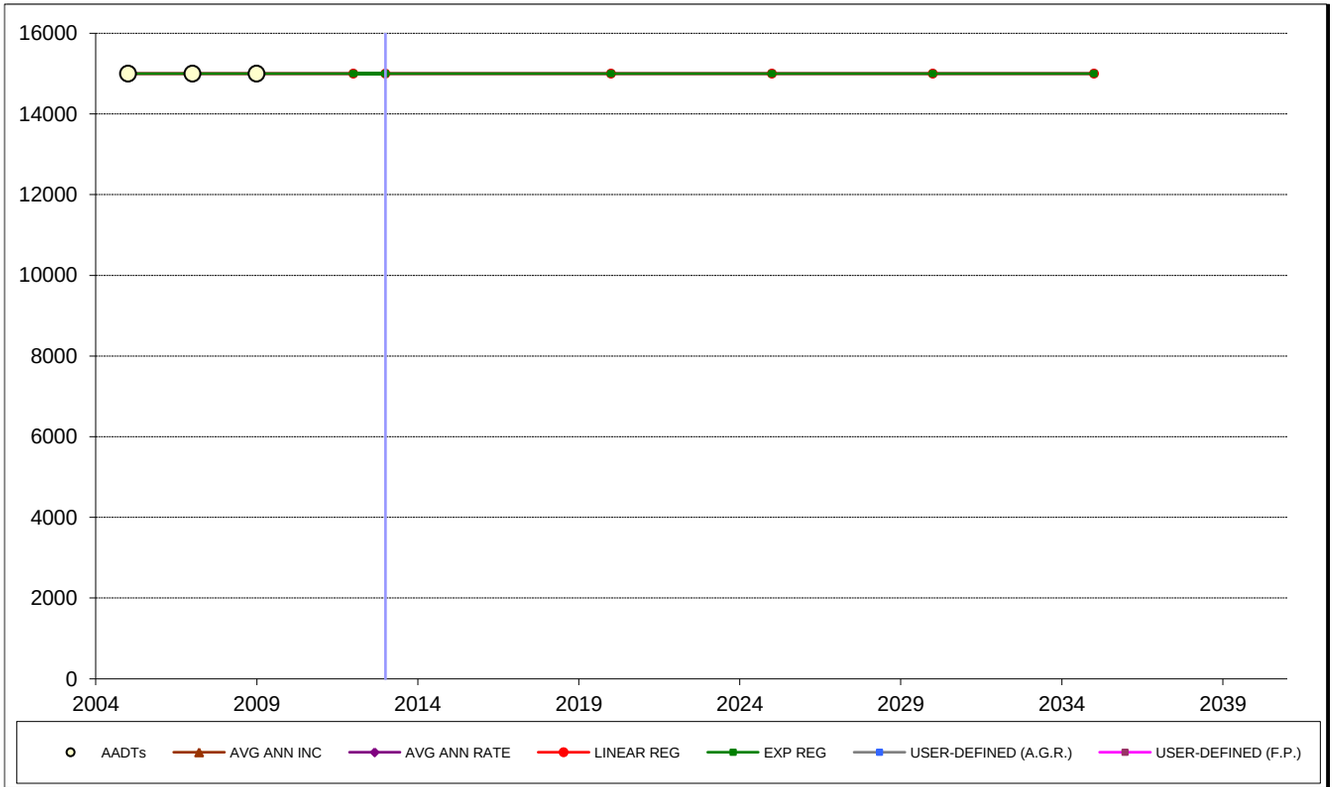
FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
17089	18672	18729	22347
16567	17677	18139	21080
20744	27390	22857	33620
23356	36012	25806	45008
25967	47349	28754	60254
28578	62255	31703	80665

Complete 540 - Triangle Expressway Southeast Extension - Wake and Johnston Counties, North Carolina
NCDOT STIP Project Number R-2721, R-2828 & R-2829

AADT TREND ANALYSIS

#54 -- SR 1010 (TEN TEN RD) W of US 401



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
54- SR 1010 (TEN TEN RD) W of US 401	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

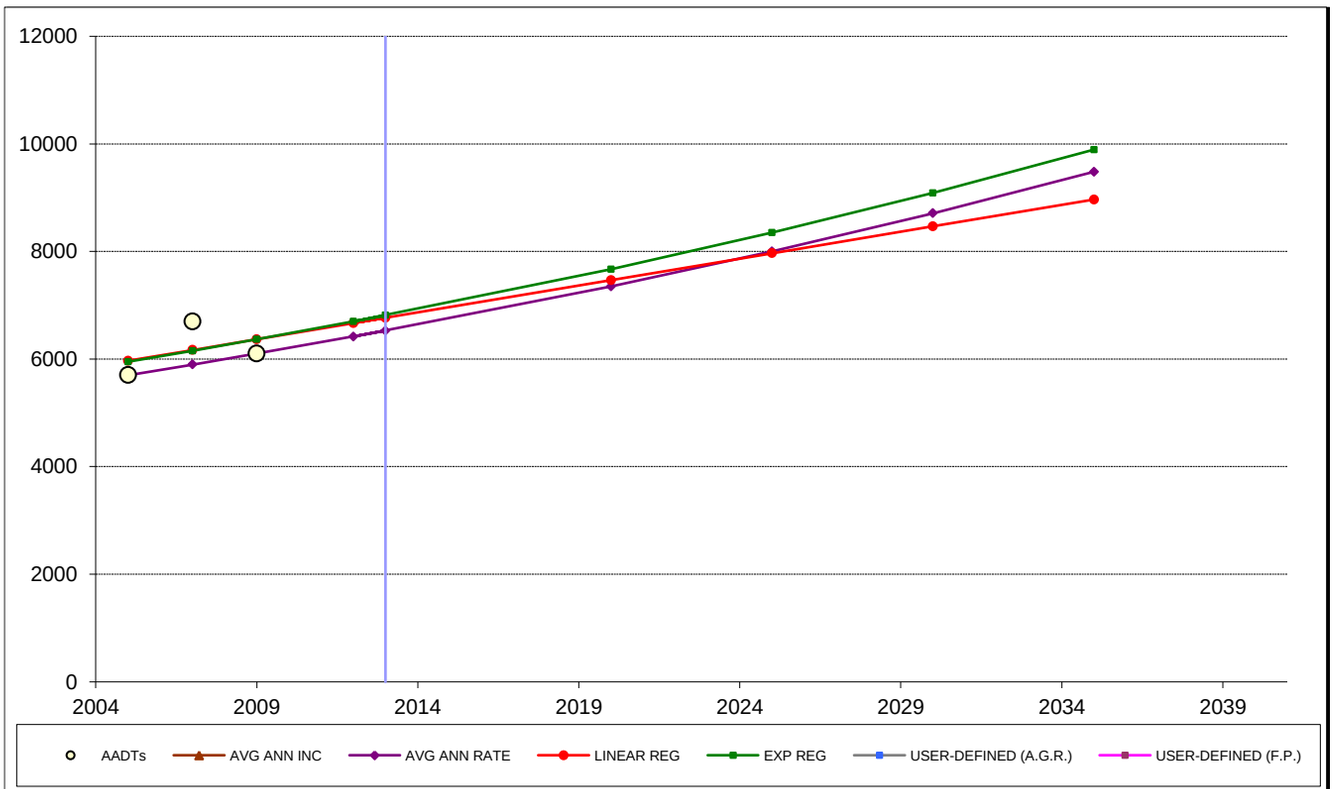
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	0
2005	15000	AVG ANN RATE:	0.0%
2007	15000	LINEAR REG:	0
2009	15000	EXPONENTIAL REG:	0.0%
		R-SQUARED	
		LINEAR:	#DIV/0!
		EXPONENTIAL:	#DIV/0!
		NUMBER OF DATA POINTS:	
			3

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
15000	15000	15000	15000
15000	15000	15000	15000
15000	15000	15000	15000
15000	15000	15000	15000
15000	15000	15000	15000
15000	15000	15000	15000

AADT TREND ANALYSIS

#55 -- SR 1010 (TEN TEN RD) W of NC 50



HISTORIC DATA	
Year	AADT
2005	5700
2007	6700
2009	6100

STATISTICAL RESULTS	
AVG ANN INC:	100
AVG ANN RATE:	1.7%
LINEAR REG:	100
EXPONENTIAL REG:	1.7%
R-SQUARED	
LINEAR:	0.1579
EXPONENTIAL:	0.1745
NUMBER OF DATA POINTS:	
	3

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

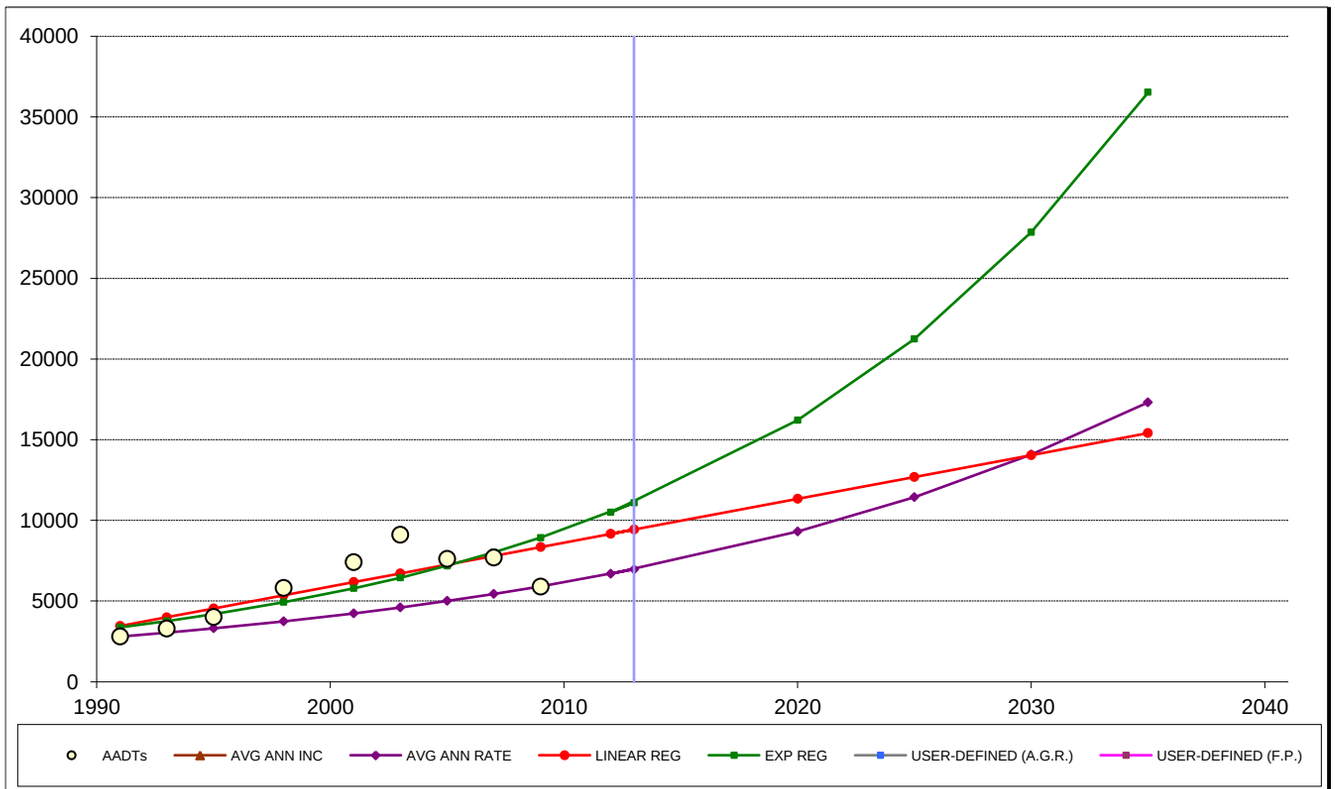
SHOW STATION #:	
55- SR 1010 (TEN TEN RD) W of NC 50	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
6500	6528	6767	6812
6400	6418	6667	6697
7200	7351	7467	7670
7700	8001	7967	8349
8200	8709	8467	9088
8700	9480	8967	9892

AADT TREND ANALYSIS

#56 -- SR 1004 (E GARNER ROAD) E OF ROCK QUARRY RD EXTENSION



HISTORIC DATA	
Year	AADT
1991	2800
1993	3300
1995	4000
1998	5800
2001	7400
2003	9100
2005	7600
2007	7700
2009	5900

STATISTICAL RESULTS	
AVG ANN INC:	172
AVG ANN RATE:	4.2%
LINEAR REG:	272
EXPONENTIAL REG:	5.6%
R-SQUARED	
LINEAR:	0.6188
EXPONENTIAL:	0.6861
NUMBER OF DATA POINTS:	
	9

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

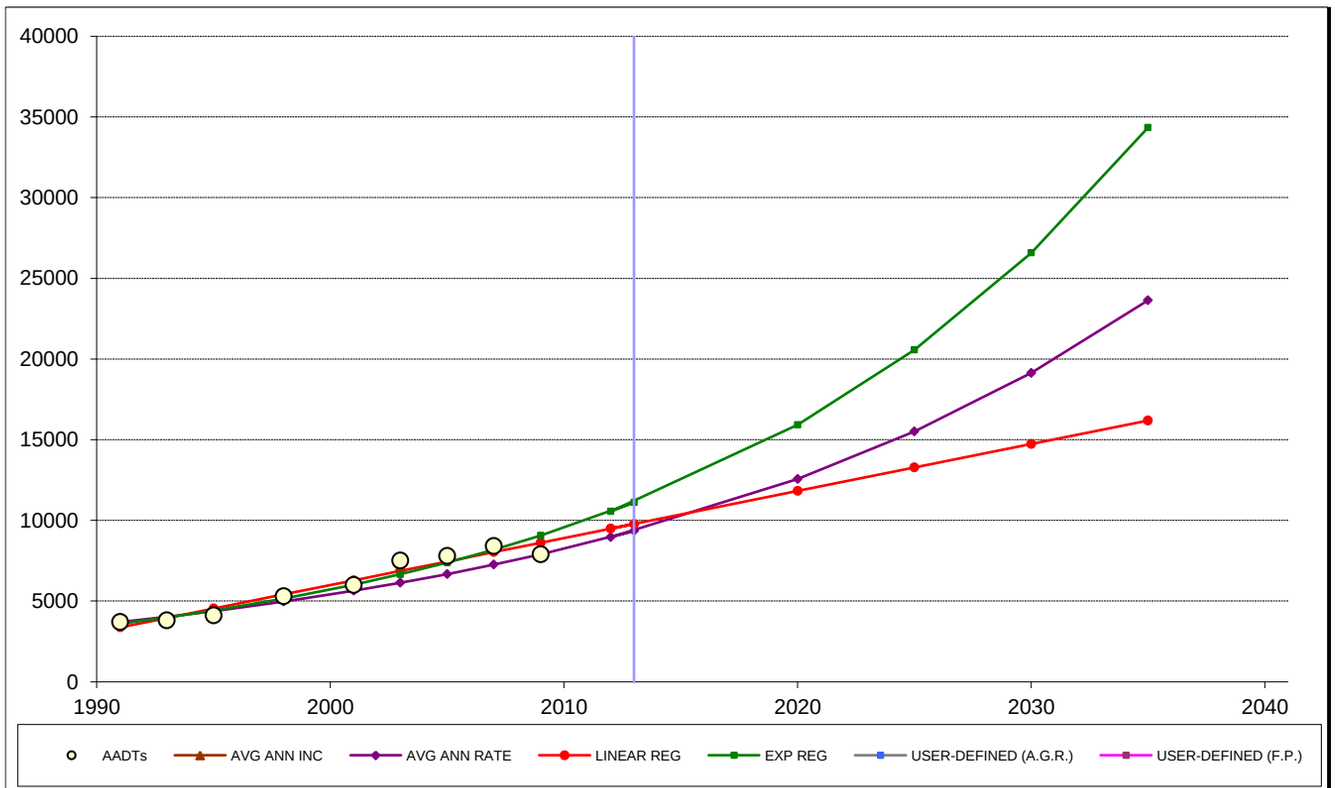
SHOW STATION #:	
56- SR 1004 (E GARNER ROAD) E OF ROCK QUARRY	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
6589	6963	9426	11088
6417	6680	9155	10504
7794	9304	11328	16203
8656	11444	12686	21245
9517	14077	14044	27856
10378	17315	15402	36524

AADT TREND ANALYSIS

#57 -- SR 2711 (VANDORA SPRINGS RD) E OF OLD STAGE RD (SR 1006)



HISTORIC DATA	
Year	AADT
1991	3700
1993	3800
1995	4100
1998	5300
2001	6000
2003	7500
2005	7800
2007	8400
2009	7900

STATISTICAL RESULTS	
AVG ANN INC:	233
AVG ANN RATE:	4.3%
LINEAR REG:	291
EXPONENTIAL REG:	5.3%
R-SQUARED	
LINEAR:	0.9455
EXPONENTIAL:	0.9485
NUMBER OF DATA POINTS:	
	9

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

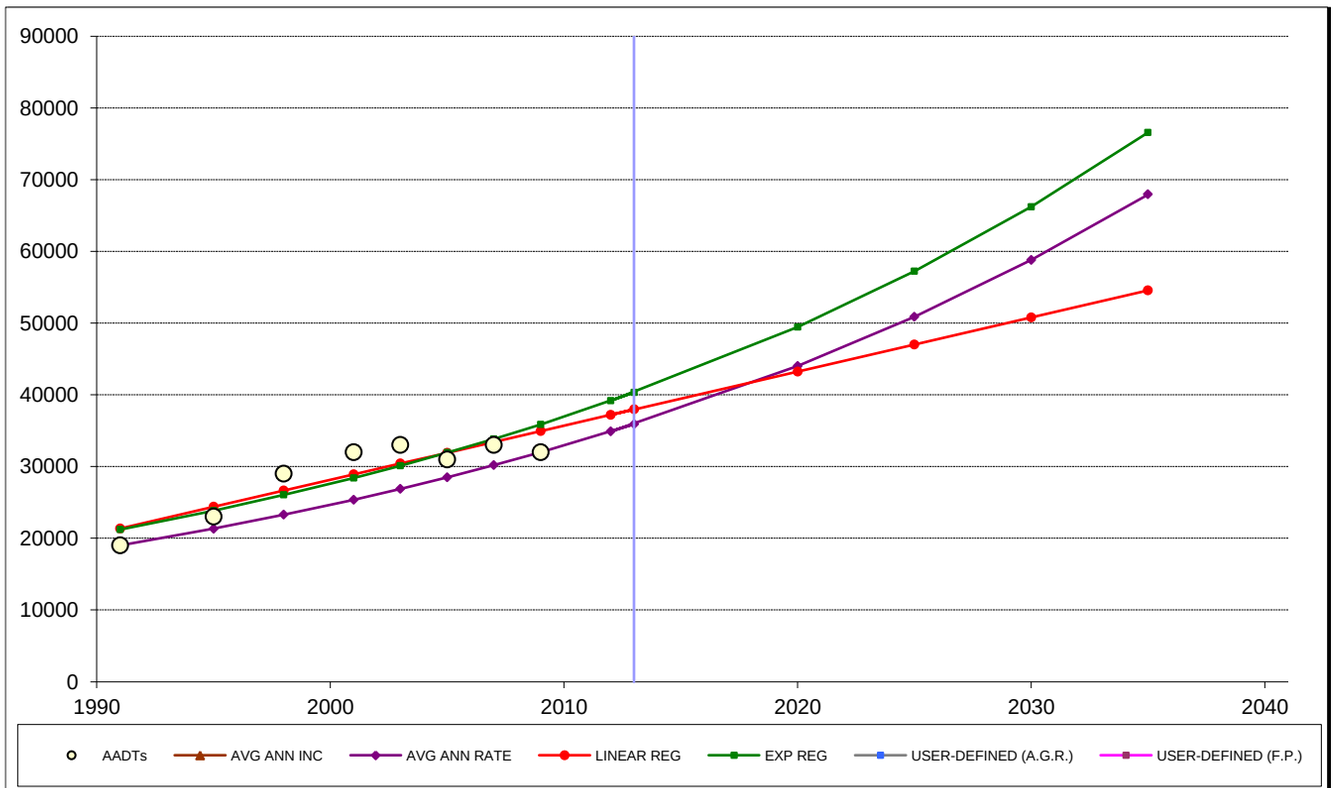
SHOW STATION #:	
57- SR 2711 (VANDORA SPRINGS RD) E OF OLD STA	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
8833	9350	9779	11115
8600	8965	9488	10559
10467	12559	11819	15914
11633	15504	13276	20564
12800	19141	14733	26574
13967	23630	16190	34339

AADT TREND ANALYSIS

#58 -- US 401 S OF ST PATRICK DR (SR 2777) / N of S WAKE EXPWY



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
58- US 401 S OF ST PATRICK DR (SR 2777) / N of S W	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA	
Year	AADT
1991	19000
1995	23000
1998	29000
2001	32000
2003	33000
2005	31000
2007	33000
2009	32000

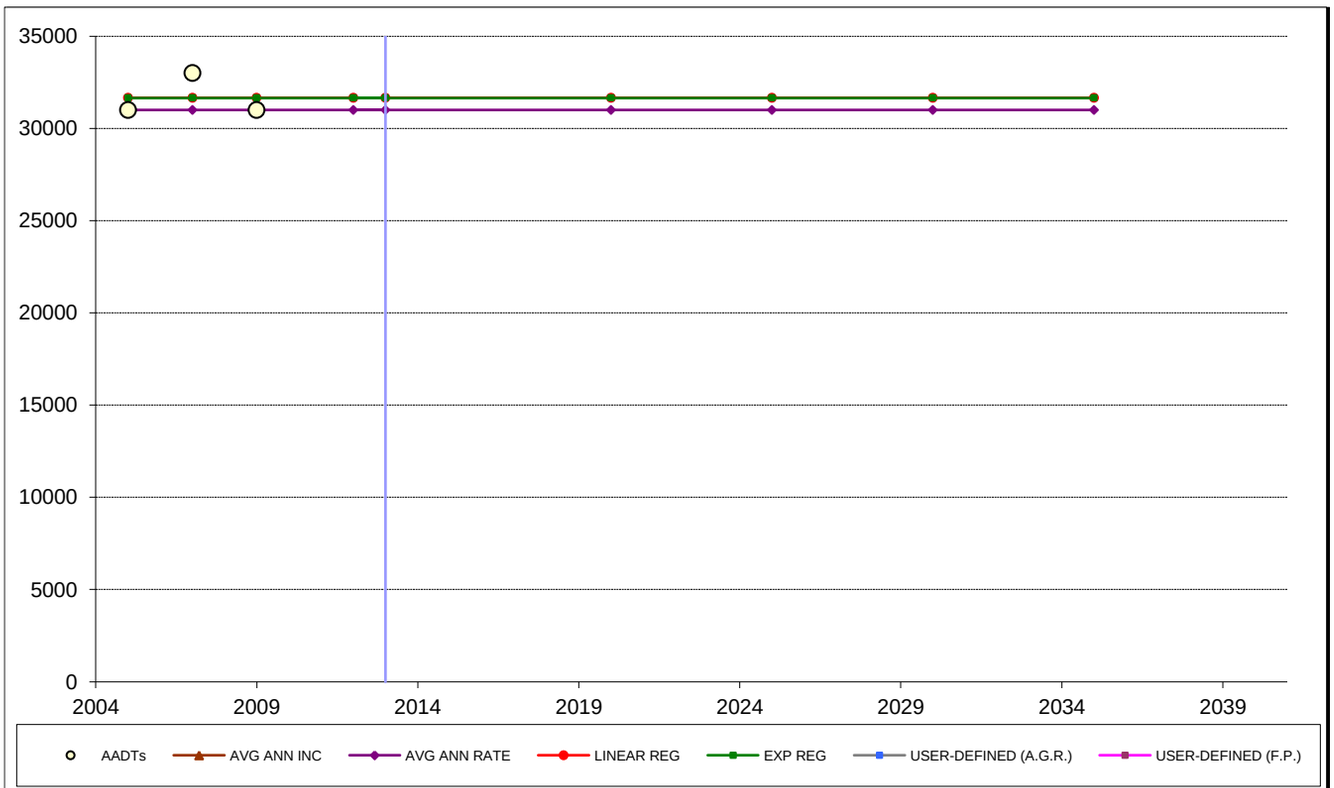
STATISTICAL RESULTS	
AVG ANN INC:	722
AVG ANN RATE:	2.9%
LINEAR REG:	755
EXPONENTIAL REG:	3.0%
R-SQUARED	
LINEAR:	0.7948
EXPONENTIAL:	0.7833
NUMBER OF DATA POINTS:	
	8

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
34889	35930	37966	40326
34167	34905	37211	39167
39944	44005	43252	49458
43556	50862	47027	57221
47167	58787	50803	66203
50778	67946	54578	76595

AADT TREND ANALYSIS

#59 -- US 401 S of S WAKE EXPWY / N of SR 1010 (TEN TEN RD)



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	0
2005	31000	AVG ANN RATE:	0.0%
2007	33000	LINEAR REG:	0
2009	31000	EXPONENTIAL REG:	0.0%
		R-SQUARED	
		LINEAR:	0.0000
		EXPONENTIAL:	0.0000
		NUMBER OF DATA POINTS:	
			3

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

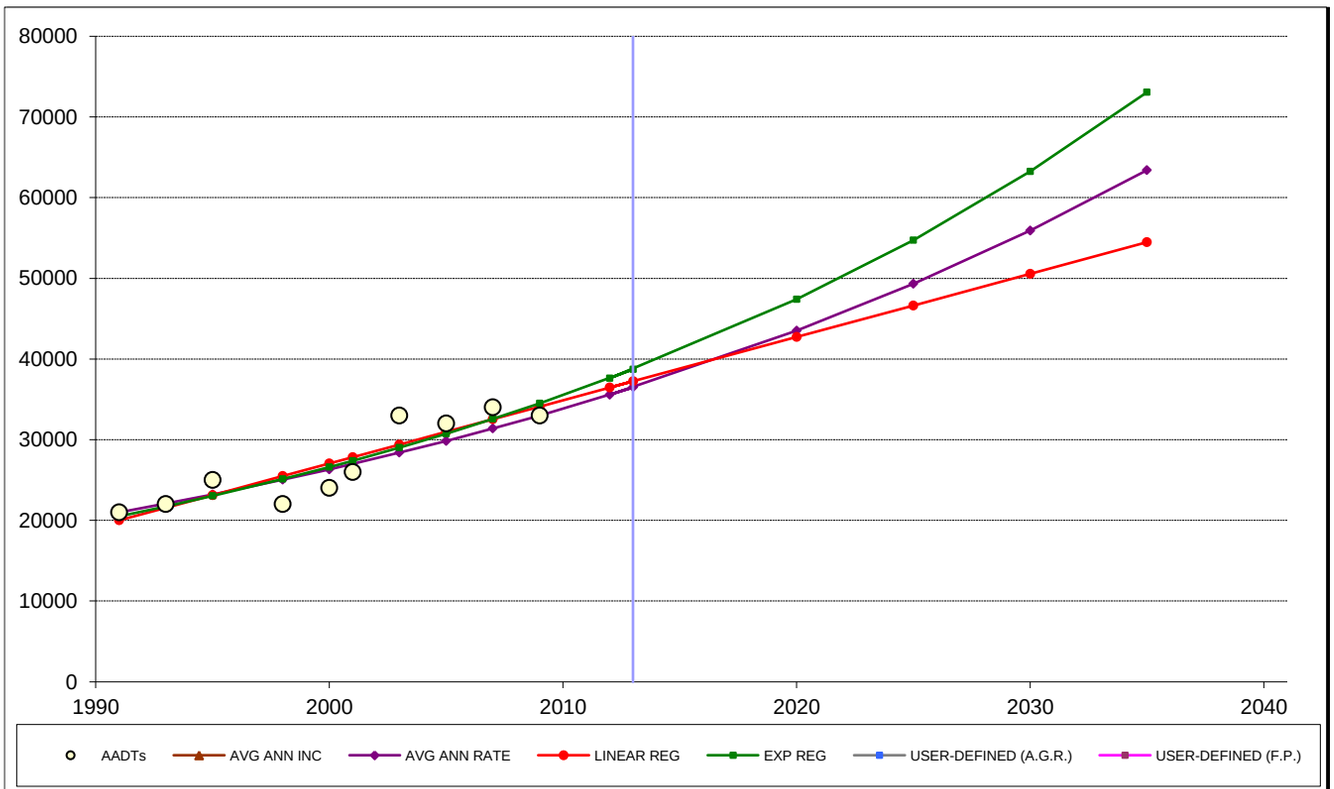
SHOW STATION #:	
59- US 401 S of S WAKE EXPWY / N of SR 1010 (TEN	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
31000	31000	31667	31653
31000	31000	31667	31653
31000	31000	31667	31653
31000	31000	31667	31653
31000	31000	31667	31653
31000	31000	31667	31653

AADT TREND ANALYSIS

#60 -- US 401 S of SR 1010 (TEN TEN RD)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
60- US 401 S of SR 1010 (TEN TEN RD)	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

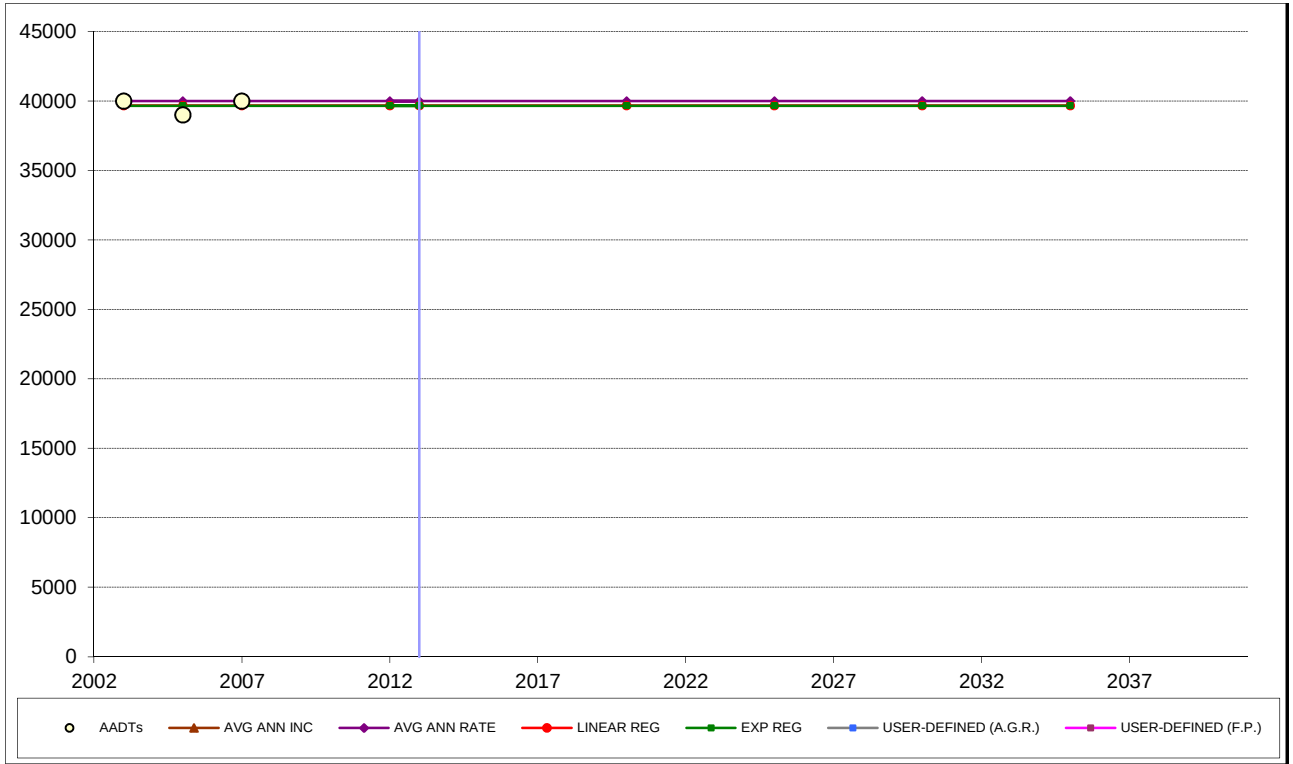
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	667
1991	21000	AVG ANN RATE:	2.5%
1993	22000	LINEAR REG:	784
1995	25000	EXPONENTIAL REG:	2.9%
1998	22000		
2000	24000	R-SQUARED	
2001	26000	LINEAR:	0.8092
2003	33000	EXPONENTIAL:	0.8173
2005	32000		
2007	34000		
2009	33000	NUMBER OF DATA POINTS:	
			10

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
35667	36487	37231	38713
35000	35582	36447	37612
40333	43498	42717	47383
43667	49317	46635	54740
47000	55914	50554	63240
50333	63394	54472	73059

AADT TREND ANALYSIS

#61A -- US 70 E OF GUY RD (SR 2558) / E of ROCK QUARRY ROAD EXTENSION



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	0
2003	40000	AVG ANN RATE:	0.0%
2005	39000	LINEAR REG:	0
2007	40000	EXPONENTIAL REG:	0.0%
		R-SQUARED	
		LINEAR:	0.0000
		EXPONENTIAL:	0.0000
		NUMBER OF DATA POINTS:	
			3

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

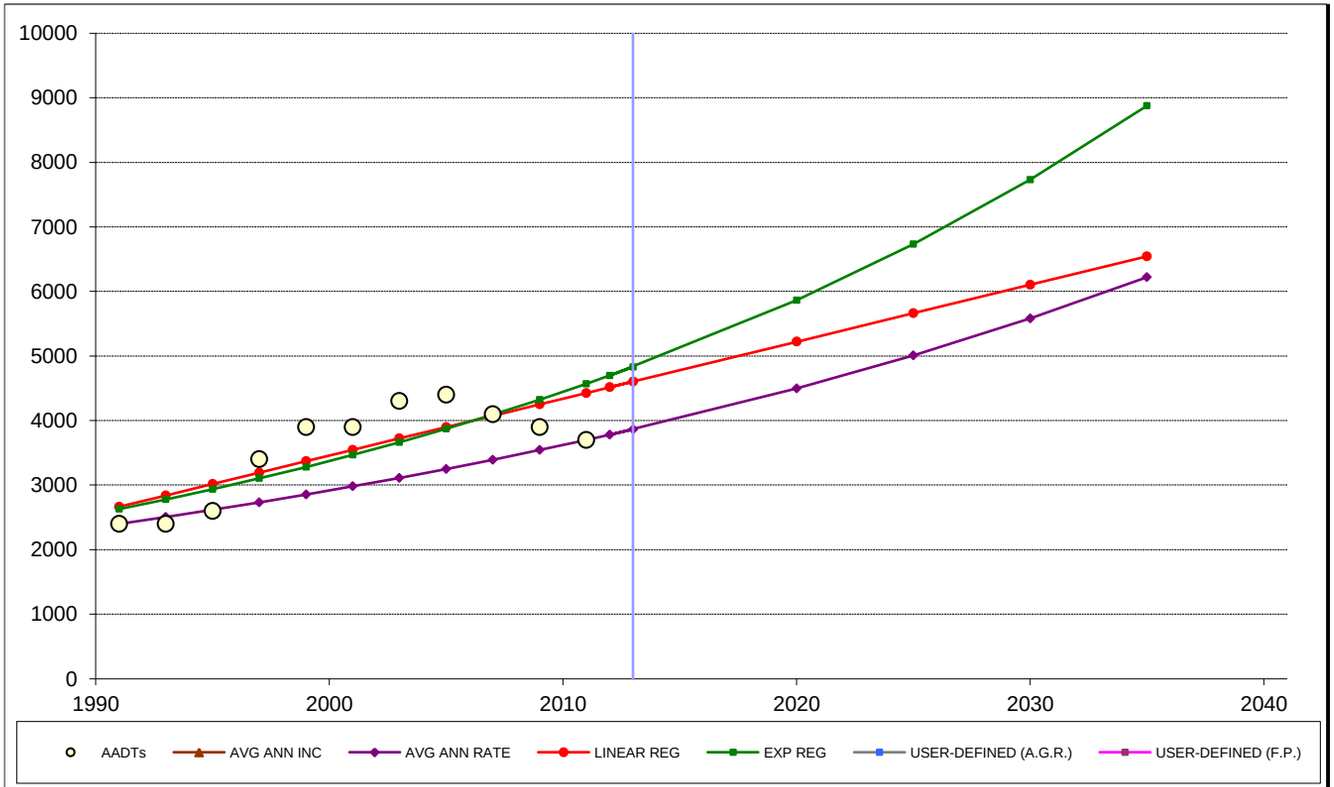
SHOW STATION #:	
61- US 70 E OF GUY RD (SR 2558) / E of ROCK QUA	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
40000	40000	39667	39664
40000	40000	39667	39664
40000	40000	39667	39664
40000	40000	39667	39664
40000	40000	39667	39664
40000	40000	39667	39664

AADT TREND ANALYSIS

#62 -- SR 1006 (Old Stage Road) N of NC 42 (S of S Wake Expwy)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
62- SR 1006 (Old Stage Road) N of NC 42 (S of S Wak	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

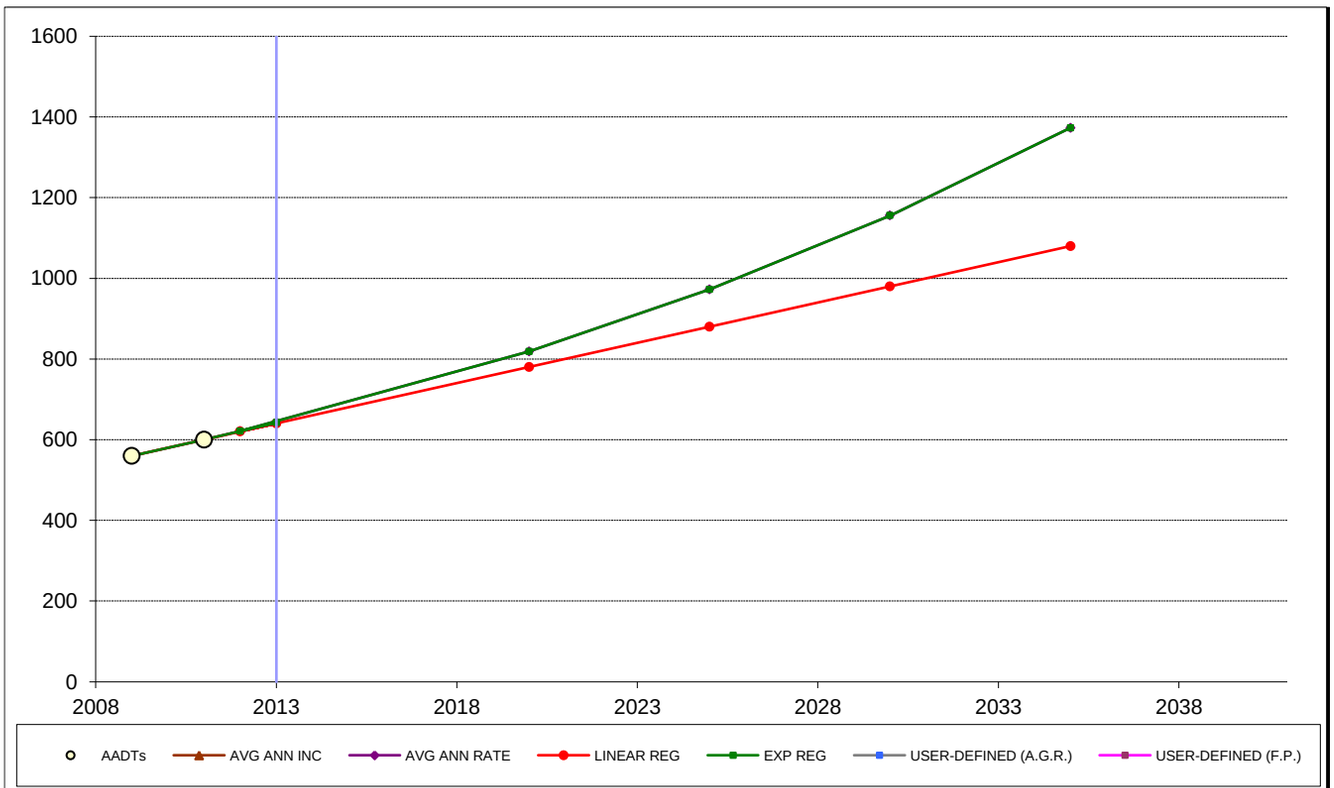
HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	65
1991	2400	AVG ANN RATE:	2.2%
1993	2400	LINEAR REG:	88
1995	2600	EXPONENTIAL REG:	2.8%
1997	3400		
1999	3900	R-SQUARED	
2001	3900	LINEAR:	0.6168
2003	4300	EXPONENTIAL:	0.6343
2005	4400		
2007	4100		
2009	3900	NUMBER OF DATA POINTS:	
2011	3700		11

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
3830	3864	4604	4830
3765	3781	4515	4699
4285	4496	5221	5863
4610	5010	5662	6732
4935	5582	6103	7731
5260	6220	6544	8878

AADT TREND ANALYSIS

#63 -- SR 1421 (Old Mills Rd) S of SR 1393 (Hilltop Needmore Rd)



SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☐ AVG ANN INC	☐ AVG ANN INC
☐ AVG ANN RATE	☑ AVG ANN RATE
☐ LINEAR REGRESSION	☑ LINEAR REGRESSION
☐ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
	☐ USER-DEFINED (FUT PROJ)
☑ HISTORIC DATA	☐ USER-DEFINED (A.G.R.)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH

SHOW STATION #:	
63- SR 1421 (Old Mills Rd) S of SR 1393 (Hilltop Need	
FUT YRS:	2013
#1	2012
#2	2020
#3	2025
#4	2030
#5	2035

HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	AVG ANN INC:	20
2009	560	AVG ANN RATE:	3.5%
2011	600	LINEAR REG:	20
		EXPONENTIAL REG:	3.5%
		R-SQUARED	
		LINEAR:	1.0000
		EXPONENTIAL:	1.0000
		NUMBER OF DATA POINTS:	
			2

FUTURE PROJECTIONS:

Avg Ann Inc	Avg Ann Rate	Linear Reg	Exp Reg
640	643	640	643
620	621	620	621
780	818	780	818
880	973	880	973
980	1156	980	1156
1080	1373	1080	1373

Appendix D – Toll Diversion Model

Triangle Regional
Toll Diversion Model Development

Technical Memorandum

December 2010

Background

The proposed Southeast Extension in the Triangle area is one of several candidate toll facility projects under consideration by the North Carolina Turnpike Authority (NCTA). The Southeast Extension will extend the Triangle Expressway and complete the Raleigh Outer Loop. It will link the towns of Clayton, Garner, Fuquay-Varina, Holly Springs, Apex, Cary and Raleigh. It will also connect major roadways in southern Raleigh and ease congestion on the Raleigh Beltline (I-440), I-40, NC 42, NC 55, and Ten Ten Road. According to the NCTA, the project would increase the overall capacity of the existing roadway network and divert traffic from secondary roads in an area that is experiencing substantial growth.

The primary objection of this task is to develop a new toll diversion modeling procedure for the Triangle Regional TransCAD Travel Demand Model to help better estimate the traffic and revenue of the proposed tolled Southeast Extension.

MPO toll modeling procedures range from simple time penalties applied in the assignment process to a complex set of interactions between multiple model components including auto ownership, mode choice (toll / non-toll nests), distribution (logsum composite impedance) and time-of-day choice.

Currently, toll facilities in the Triangle regional model are evaluated using simple time penalties based on the charged toll rates and Value of Time (VOT). The VOT for Single Occupancy Vehicle (SOV) was assumed to be $12/hour; the VOT for High Occupancy Vehicle (HOV) and Commercial Vehicle (CV) was assumed to be $18/hour. The new procedure applies the toll diversion modeling in the traffic assignment for the Triangle Regional model. It calculates the toll diversion for each origin-destination pair based on Willingness-To-Pay (WTP) diversion curves and travel time savings that a toll facility can provide. It then estimates toll diversion within traffic assignments by assuming trips (autos, commercial vehicles and external-external trips) that can use either a toll or a non-toll path during each iteration of the assignment, with final toll volumes being the equilibrium weighted average of the iterations. With WTP diversion curves, trips are split into toll and non-toll trips prior to being assigned permitting the trips to be assigned to appropriate toll or non-toll paths for each iteration. This new toll diversion modeling process has been designed to provide a greater degree of user flexibility. It provides an improved level of evaluation of the intermediate results. This should result in improved estimation of traffic and revenue by time of day and by vehicle type (auto vs. commercial vehicles).

Recommended Methodology

The Willingness-To-Pay methodology was chosen and applied in the Toll Diversion Modeling process to assess the traffic and toll revenue for the following reasons:

- It is relatively easy to understand and apply
- The value of time and WTP curve can be developed from the stated preference surveys conducted in North Carolina
- It allows the flexibility to apply different WTP curves to individual trip type (autos, commercial vehicles and external-external trips)

- It produces meaningful and intuitive traffic and revenue results ranging from low per mile toll rates to high per mile toll rates

Toll Diversion Curve Development

As part of the development of the auto and truck toll diversion curves for use in the Triangle Regional travel demand model, HNTB reviewed a number of surveys conducted within North Carolina and in other states. These stated preference surveys provided information on drivers' value of time through systematic evaluation of their willingness to pay for travel time savings. Raw data from three studies within North Carolina was analyzed to develop example willingness to pay curves for comparison purposes. These studies included the Metrolina Region Stated Preference Travel Study (2010), the Monroe Connector/Bypass Stated Preference Travel Study (2009), and the Triangle Expressway Stated Preference Travel Study (2008). In addition, summary information was gathered from a number of studies conducted in other states in order to gain national perspective and establish a range with which to compare the results from the North Carolina studies. A more detailed review of each study is contained in the Appendix.

After a thorough review, three sets of auto and commercial vehicle willingness to pay curves were developed to be incorporated into the Triangle Regional's toll diversion travel demand model set.

Toll Diversion Curve Set #1

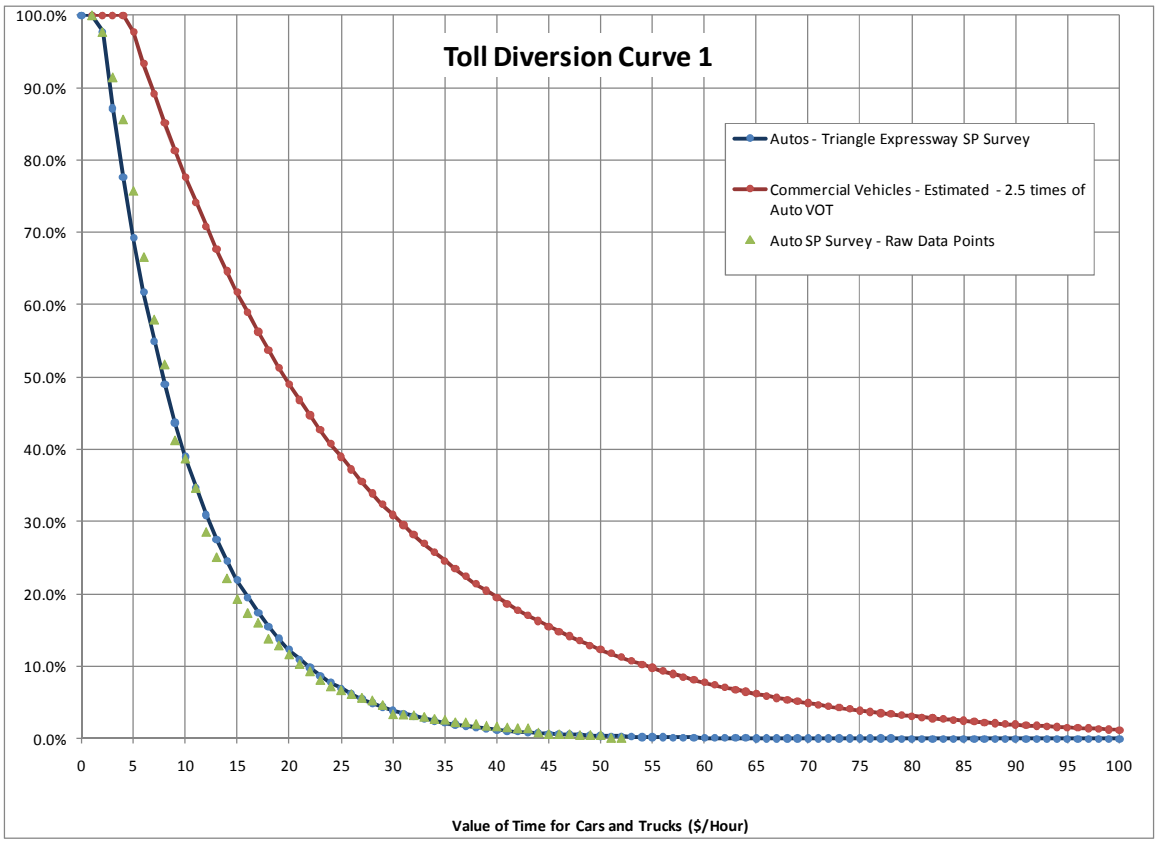
The auto WTP diversion curve in the first set was developed based on the Triangle Expressway Stated Preference (SP) Survey, which was conducted in January and February 2007. This was the most extensive of the three North Carolina surveys reviewed as part of this study, with 4,725 respondents. The relatively large number of responses led to the most complete picture of willingness to pay and smoothest diversion curve from the North Carolina surveys. Each of the respondents in the SP survey was presented with several scenarios designed to understand willingness to pay. The approach involved a series of detailed trade-offs between travel time and tolls, and respondents would state whether they would take the tolled or free route for each scenario. This survey provided the detailed information to allow an analysis of toll sensitivity by trip type in the route diversion modeling. Average values of time (VOT) were also calculated (in $2010) for the respondents from the Triangle Expressway SP Survey. The calculations took into account only those who responded that they would be willing to pay under at least one of the scenarios presented to them. The average VOT for Triangle Expressway is $10.72/hr, which is well within the range of comparable studies across the country (the majority of estimates for value of time nationwide fall within a range of $10-$15 per hour).

The three North Carolina studies did not address the value of time for trucks, however there is an extensive body of national research available for use in truck VOT estimation. Truck usage is often a key determinant in the total revenue generation of a new toll facility, so it is crucial to establish an accurate estimate for use in traffic forecasting tools, like the Triangle Regional travel demand model. A national literature review shows a broad range for truck value of time from $14 per hour up to $200 per hour or higher. Despite this broad range, it appears that in surveys including analysis of both auto and truck drivers, the value of time for trucks is approximately three times that of autos. Using the typical range for autos, $10-$15 per hour, this equates to an average truck value of time of $30-$45 per hour.

As part of this analysis, a truck diversion curve was developed based on a ratio of 2.5 times the auto diversion curve. Trucks and autos generally have different responses to toll rates and toll rate increases, and this curve reflects these facts. The primary assumptions used to develop this curve were that a larger share of trucks are willing to pay a toll to save time and that those trucks that are willing to pay a toll are less sensitive to toll rate increases.

Figure 1 displays the first set of willingness to pay curves for autos and trucks. As the cost of travel time savings increases from zero, there is a significant drop-off of auto users willing to pay. Only about 20% of these users would be willing to pay $15 or more per hour of time savings. Trucks are generally less sensitive to price, and subsequently the drop-off in the curve for trucks is less drastic than that for autos. 30% of trucks are willing to pay $30 or more per hour of time savings. Relative to national averages, these curves are toward the low end of the willingness to pay spectrum. In addition, the shape of the curves is not precisely in line with national norms, because they begin to fall quickly at even small changes in value of time. For these reasons, additional curves were developed to test the sensitivity of the toll diversion model and the subsequent impact on forecast revenues.

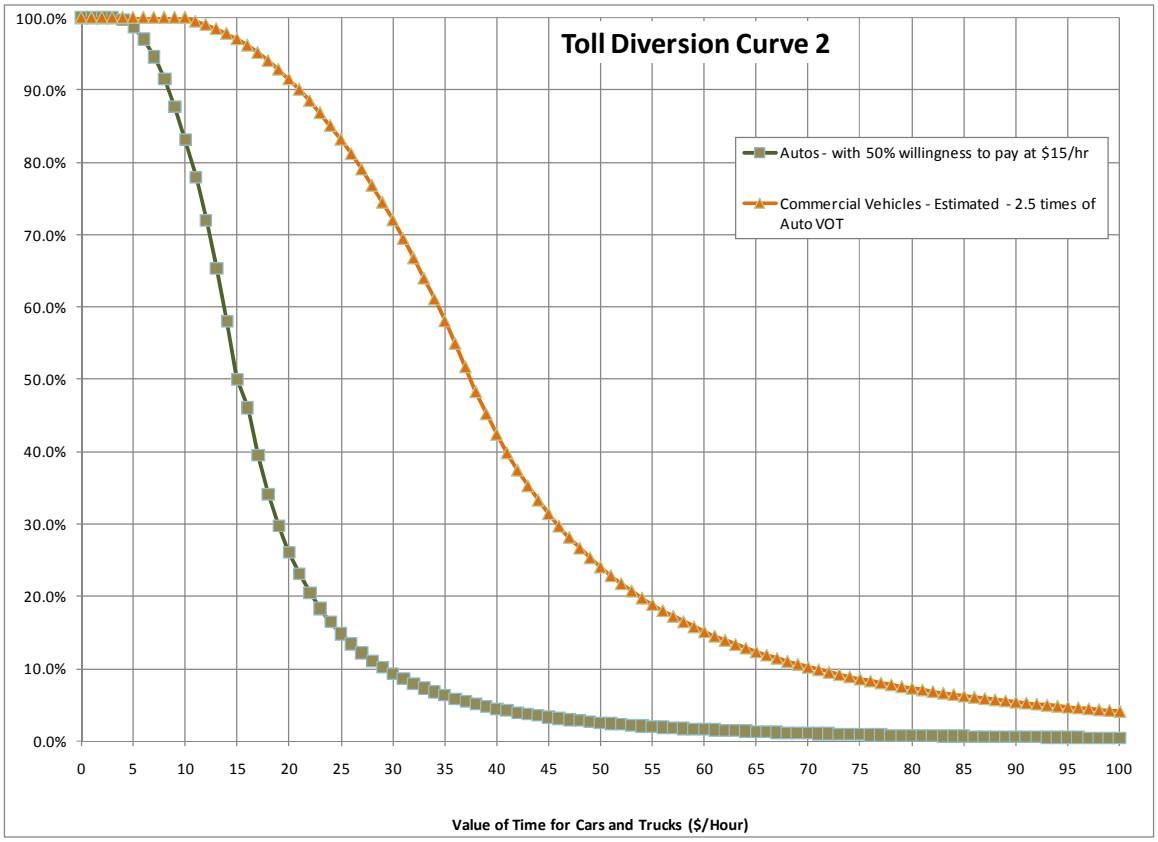
Figure 1 - WTP Diversion Curves (Auto and Commercial Vehicle)



Toll Diversion Curve Set #2

The second set of toll diversion curves was developed to reflect a higher value of time and willingness to pay for both cars and commercial vehicles. Under this set of curves, approximately 50% of autos would be willing to pay $15 or more for an hour of travel time savings, and over 70% of trucks would be willing to pay $30 or more. This reflects an average value of time for autos of between $20-25 per hour, and an average value for trucks of over $45 per hour. In addition, the shapes of these curves are different from the previous set. The curves in this set indicate that a large percentage of users are willing to pay small amounts for travel time savings. Then as the price for travel time savings increases beyond a nominal amount, willingness to pay begins to rapidly decline, as seen in the previous curve set.

Figure 2 - WTP Diversion Curves #2 (Auto and Commercial Vehicle)

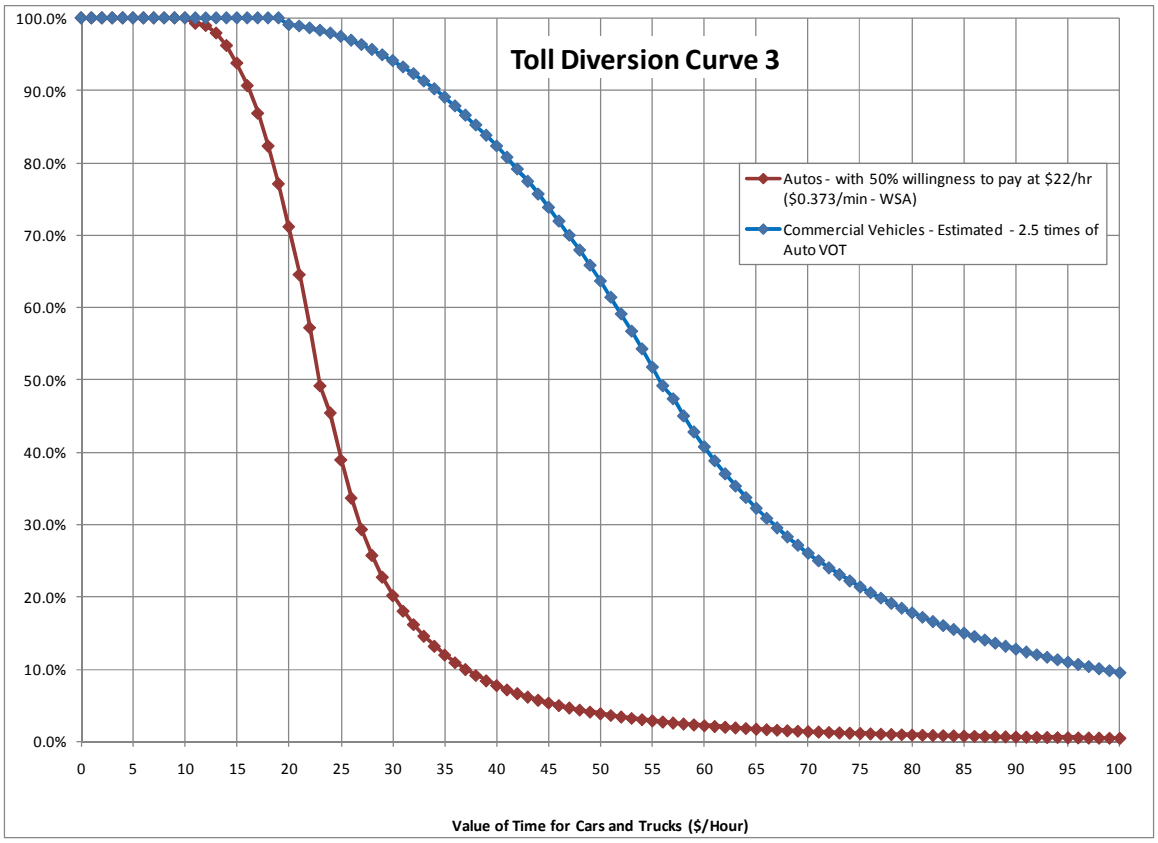


Toll Diversion Curve Set #3

The third set of toll diversion curves was developed to reflect an aggressive assumption of willingness to pay. Under this set of curves, approximately 50% of autos would be willing to pay $22 or more for an hour of travel time savings, and over 70% of trucks would be willing to pay $45 or more. This set of curves was helpful for evaluation and comparison purposes, as the subsequent revenue estimates serve as an upper bound on the forecasts and provide improved understanding regarding the sensitivity of the toll diversion model incorporated into the MPO's

travel demand model stream. However, it should be noted that these curves are associated with high levels of willingness to pay that are outside of the range determined through a nationwide literature review.

Figure 3 - WTP Diversion Curves #3 (Auto and Commercial Vehicle)



Process Overview

It should be noted that the model execution process requires user intervention. Users must set up folders and input files for subsequent steps in the process. The following is a summary of the recommended toll diversion modeling process:

1. Set up a toll assignment folder for the specific horizon year
2. Prepare data inputs
   i) Required network input file
   ii) Required input trip tables
   iii) Required toll rate DBF table
3. Run script to perform toll sensitivity assignments
   i) Multi-Modal Multi-Class Assignment (MMA) Assignment
   ii) Summarize sensitivity assignment results (traffic and revenue by time-of-day and by vehicle type)

The following section describes the details of each step.

Step 1: Set up a toll assignment folder for the specific horizon year

Specific file structures are recommended for the toll diversion modeling. A new folder is recommended for addition to the standard Triangle Regional travel demand model folder system. This special application can be placed in a new folder named "Toll Diversion Model" under the project main folder and specific horizon year. Within the "Toll Diversion Model" folder, subfolders for different toll diversion curve can be created.

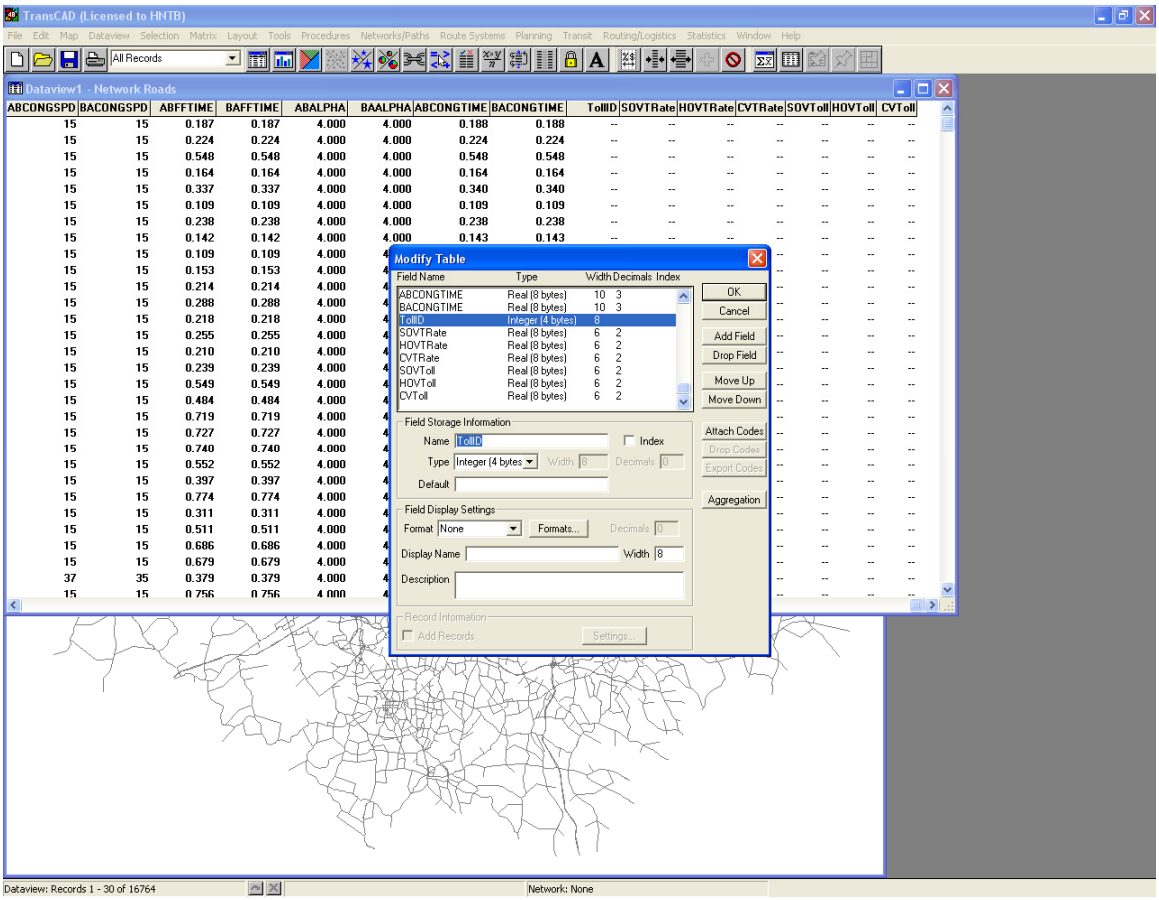
C:\TRM Model\2035\
C:\TRM Model\2035\Toll Diversion Model\
C:\TRM Model\2035\Toll Diversion Model\Toll Diversion Curve 1\
C:\TRM Model\2035\Toll Diversion Model\Toll Diversion Curve 2\
C:\TRM Model\2035\Toll Diversion Model\Toll Diversion Curve 3\

Step 2: Prepare data inputs

- **Required network input file**

Since TollID and additional special coding are required for the tolled facility, it is expected that the input network will be manually edited and placed in the Toll Diversion Curve folder. A network with special coding, speed and capacities is required for input to the toll diversion model assignment GISDK codes. It recommended that the user copy the "Highway_Line.dbd" file under \Input\Highway\ folder to the Toll Diversion Model\ and edits the network named for toll diversion assignment.

To prepare the input network for the toll diversion assignment process, TollID for the tolled facility corridor must be added. In TransCAD, a new attribute (TollID) can be added to a network using the Dataview-Modify Table… menu option as shown in Figure 4 on the next page.



For this study, ten unique ID were assignment to the study corridor/segments. Table 1 on the next page lists the Toll ID and associated segments.

Toll ID	Description	Direction
11	Segment 1: Toll Route 147 from I-40 to Toll Route 540	Counterclockwise (SB)
12		Clockwise (NB)
21	Segment 2: Toll Route 540 from Toll Route 540 to Bypass 55	Counterclockwise (SB)
22		Clockwise (NB)
31	Segment 3: Toll Route 540 (proposed Southern Wake Expressway) from Bypass 55 to I-40	Counterclockwise (SB/EB)
32		Clockwise (NB/WB)
41	Segment 4: Toll Route 540 (proposed Eastern Wake Expressway) from I-40 to US 264/US 64	Counterclockwise (NB)
42		Clockwise (SB)
51	Existing I-540 from US 264/US 64 to I-40	Counterclockwise (NB/WB)
52		Clockwise (SB/EB)

To prepare the input network for the toll diversion assignment process, special code for the tolled facility corridor must be updated. The following table lists the existing special codes utilized in the Triangle Regional model and four additional special codes included as part of toll diversion model. The additional special coding will allow the toll diversion model to estimate traffic and revenue for HOT lanes (HOV Free, SOV pay, Trucks prohibited), Toll Lanes (Trucks prohibited), Truck Only Lanes and Truck Only Toll Lanes.

Table 1 –Special Code List

Special Code	Transit	SOVs	HOVs	Trucks	Note
1	Ø	√	√	√	Interstate/Freeway
2	Ø	√	√	√	Suburban Freeway
3	Ø	√	√	√	Urban Freeway
4	Ø	√	√	√	Rural Highway
5	Ø	√	√	√	Suburban Freeway / Expressway
6	Ø	√	√	√	Collector / Distributor
21	Ø	√	√	√	Freeway to freeway ramps
22	Ø	√	√	√	Freeway to freeway loop ramp with weave
23	Ø	√	√	√	Freeway to freeway loop ramp
24	Ø	√	√	√	Freeway to arterial ramp/loop
25	Ø	√	√	√	Arterial to freeway ramp/loop
26	Ø	√	√	√	Arterial to arterial ramp/loop
31	Ø	√	√	√	Centroid connector
41	Ø	Ø	√	Ø	HOV Lanes
42	Ø	$	√	$	HOT Lanes (HOV Free, SOV pay, Trucks pay)
43	Ø	$	$	$	Mixed Toll Lanes (for all vehicles)
44*	Ø	$	√	Ø	HOT Lanes (HOV Free, SOV pay, Trucks prohibited)
45*	Ø	$	$	Ø	Toll Lanes (Trucks prohibited)
46*	Ø	Ø	Ø	√	Truck Only Lanes
47*	Ø	Ø	Ø	$	Truck Only Toll Lanes
55	√	Ø	Ø	Ø	Transit Only Links

*: Additional special coding included in Toll Diversion Model

√: Allowed Ø: Prohibited **$: Priced**

- **Required input trip tables**

The following three trip tables are required inputs for the toll diversion model process.

- TOTAM_OD.mtx - Total AM vehicle trips matrix
- TOTPM_OD.mtx - Total PM trips matrix
- TOTOP_OD.mtx - Total Off-Peak trips matrix

The Time-of-day AM, PM and Off-peak are defined as follows:

- Four hour AM peak period: 6:00 am to 10:00 am
- Four hour PM peak period: 3:30 pm to 7:30 pm
- Off-peak (the remaining time of the day)

These three trip tables can be found in the "Trip Distribution" folder under different horizon years. The user will need to copy and paste these trip tables into the in the \Toll Diversion Model\ folder under different horizon years. No other special preparations are required for the trip tables. Under each original trip TOD matrix, there are three matrices (SOV, HOV and CV) and six additional trip matrices will be generated automatically by the resource file:

\ TotalAM.mtx, TotalMD.mtx, TotalPM.mtx, TotalOP.mtx

Matrix Name(s)	Description
SOV	Total Single Occupancy Vehicle (SOV) Trip Matrix (by TOD)
HOV	Total High Occupancy Vehicle (HOV) Matrix (by TOD)
CV	Total Commercial Vehicle (CV) Trip Matrix (by TOD)
SOV_T*	Total **Tolled** SOV Trip Matrix (by TOD)
HOV_T*	Total **Tolled** HOV Trip Matrix (by TOD)
CV_T*	Total **Tolled** CV Trip Matrix (by TOD)
SOV_NT*	Total **Non-Tolled** SOV Trip Matrix (by TOD)
HOV_NT*	Total **Non-Tolled** HOV Trip Matrix (by TOD)
CV_NT*	Total **Non-Tolled** CV Trip Matrix (by TOD)

*: these matrices will be generated automatically by the resource file.

- **Required Toll Rate DBF Table**

For the toll diversion assignment process, a toll rate dbf table is required. Table 2 lists the range of toll rate by vehicle type (SOV, HOV, and CV) and by TollID used in this study. This allows the toll diversion model to estimate traffic and revenue by different toll rates by vehicle type and corridor segments.

Table 2 –Toll Rate DBF Table

TollID	Single Occupancy Vehicle (SOV)/ High Occupancy Vehicle (HOV)					Commercial Vehicle (CV)				
	Toll Rate 1	Toll Rate 2	Toll Rate 3	Toll Rate 4	Toll Rate 5	Toll Rate 1	Toll Rate 2	Toll Rate 3	Toll Rate 4	Toll Rate 5
11	0.05	0.08	0.10	0.15	0.20	0.15	0.24	0.30	0.45	0.60
12	0.05	0.08	0.10	0.15	0.20	0.15	0.24	0.30	0.45	0.60
21	0.05	0.08	0.10	0.15	0.20	0.15	0.24	0.30	0.45	0.60
22	0.05	0.08	0.10	0.15	0.20	0.15	0.24	0.30	0.45	0.60
31	0.05	0.08	0.10	0.15	0.20	0.15	0.24	0.30	0.45	0.60
32	0.05	0.08	0.10	0.15	0.20	0.15	0.24	0.30	0.45	0.60
41	0.05	0.08	0.10	0.15	0.20	0.15	0.24	0.30	0.45	0.60
42	0.05	0.08	0.10	0.15	0.20	0.15	0.24	0.30	0.45	0.60
51	0.05	0.08	0.10	0.15	0.20	0.15	0.24	0.30	0.45	0.60
52	0.05	0.08	0.10	0.15	0.20	0.15	0.24	0.30	0.45	0.60

Step 3: Run RSC file to perform toll sensitivity assignments

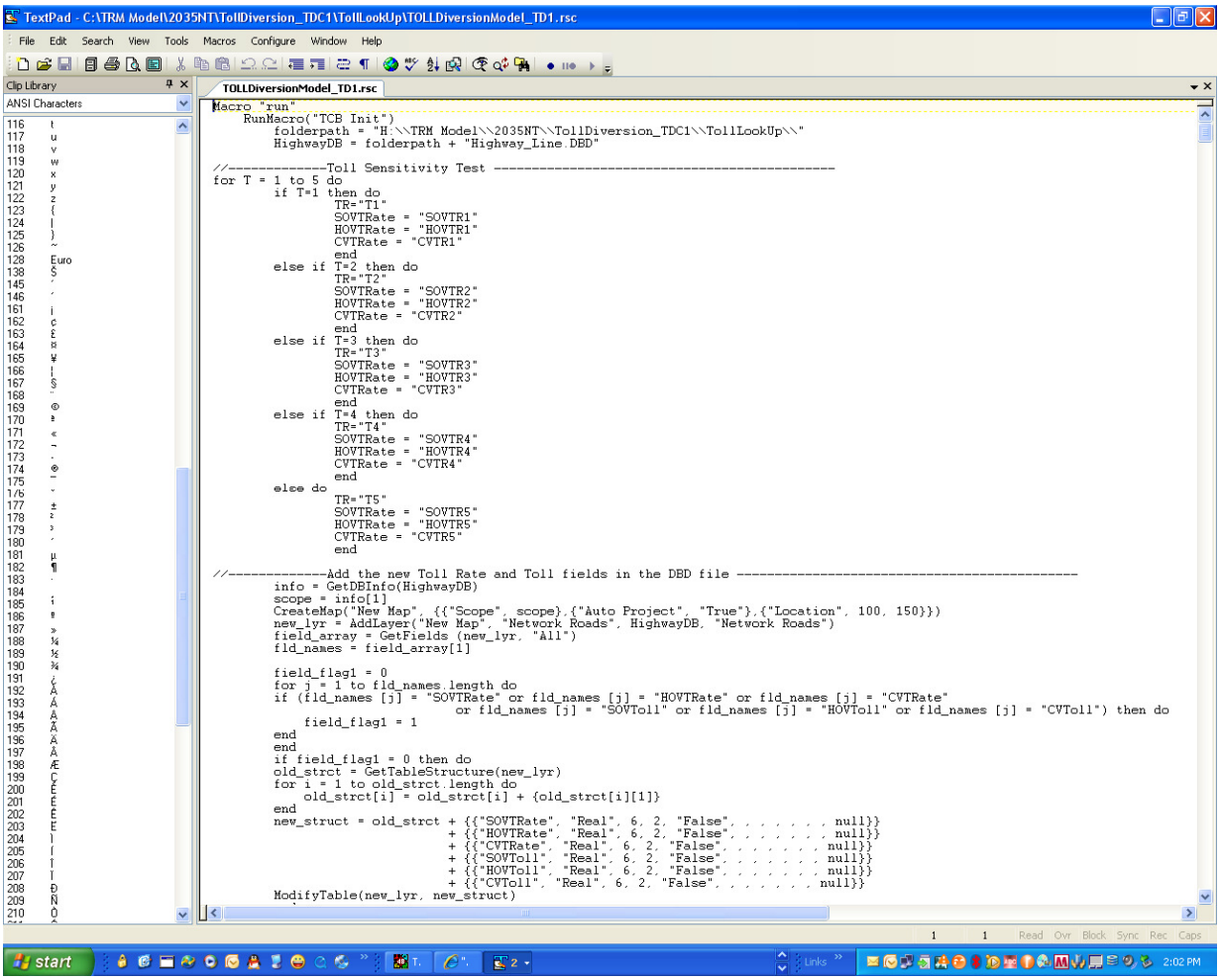
Once the highway network, time-of-day trips tables and toll rate dbf table have been saved and modified in the toll diversion folder, toll assignments can be performed by running the RSC file called "TOLLDiversionModel_TD*number*.rsc". It needs to be noted that all trips tables, revised network of "Highway_Line.dbd" with coding of special and TollID attributes, toll rate DBF table and "TOLLDiversionModel_TD*number*.rsc" need to be saved under the same project folder.

The "TOLLDiversionModel_TD*number*.rsc" automatically calculates link capacity (AB direction and BA direction) and free-flow travel time (AB direction and BA direction) for different time-of-day (AM, PM and OP) and consists of three time-of-day assignments using the same per mile toll for every tolled link/facility. A step-by-step description of how this approach will be applied within the model framework is presented below:

- Travel time skims are run for SOV, HOV and commercial vehicles with and without use of the tolled facilities
- The appropriate willingness-to-pay curves are then used to determine the percentage of travelers who are willing to pay to use the tolled facilities for the predetermined price. This percent willing to pay is determine by: value of time, per mile toll rate, and the travel time saving offered by the tolled facilities.
    - A combined auto willingness-to-pay curve that reflects the composition of the trip purpose in the study area are applied to the total SOV and HOV trip table
    - A Commercial vehicle willingness-to-pay curve are applied to CV trip tables

- Once the fraction of travelers who are willing to pay is determined, the corresponding trip tables (SOV, HOV and CV) are separated resulting in two trip tables for each vehicle/trip type – those willing to pay (SOV_T, HOV_T, CV_T), and those not willing to pay (SOV_NT, HOV_NT, CV_NT).
- A Multi-Modal Multi-Class Assignment (MMA) with stochastic user equilibrium process is then applied with eligibility restrictions lifted on the tolled facilities for the "willing to pay" travelers. The willing to pay trip table represents the universe of those eligible to use the tolled facilities for a price and does not reflect actual usage. Actual usage is determined through the MMA assignment process.
- The entire process is performed iteratively for each analysis period until the prescribed equilibrium tolerance (<1%) is achieved.

A screenshot of "TOLLDiversionModel_TDnumber.rsc" is provided as follows:



In the "TOLLDiversionModel_TDnumber.rsc", the user will only need to revise the folder path to reflect the right folder location. Once "TOLLDiversionModel_TD*number*.rsc" runs successfully, the following bin files will be generated under each toll rate scenario:

\ MMA_LinkFlow_T1AM.bin; \MMA_LinkFlow_T1PM.bin; \ MMA_LinkFlow_T1OP.bin **\ MMA_LinkFlow_T2AM.bin; \MMA_LinkFlow_T1PM.bin; \ MMA_LinkFlow_T1OP.bin** **\ MMA_LinkFlow_T3AM.bin; \MMA_LinkFlow_T1PM.bin; \ MMA_LinkFlow_T1OP.bin** **\ MMA_LinkFlow_T4AM.bin; \MMA_LinkFlow_T1PM.bin; \ MMA_LinkFlow_T1OP.bin** **\ MMA_LinkFlow_T5AM.bin; \MMA_LinkFlow_T1PM.bin; \ MMA_LinkFlow_T1OP.bin**	
Field Name(s)	**Description**
AB_Time	Congested Travel Time in TOD (AM/PM/OP): AB Direction
BA_Time	Congested Travel Time in TOD (AM/PM/OP): BA Direction
Max_Time	Maximum Value of Congested Travel Time in TOD: Total AB + BA
AB_voc	Volume Capacity Ratio in TOD (AM/PM/OP): AB Direction
BA_voc	Volume Capacity Ratio in TOD (AM/PM/OP): BA Direction
MAX_voc	Maximum Value of Volume Capacity Ratio in TOD: Total AB + BA
AB_vmt	Vehicle Miles Traveled in TOD (AM/PM/OP): AB Direction
BA_vmt	Vehicle Miles Traveled in TOD (AM/PM/OP): BA Direction
TOT_vmt	Total Vehicle Miles Traveled in TOD: Total AB + BA
AB_vht	Vehicle Hours Traveled in TOD (AM/PM/OP): AB Direction
BA_vht	Vehicle Hours Traveled in TOD (AM/PM/OP): BA Direction
TOT_vht	Total Vehicle Hours Traveled in TOD: Total AB + BA
AB_speed	Vehicle Speed in TOD (AM/PM/OP): AB Direction
BA_speed	Vehicle Speed in TOD (AM/PM/OP): BA Direction
AB_VDF	Volume Delay Function in TOD (AM/PM/OP): AB Direction
BA_VDF	Volume Delay Function in TOD (AM/PM/OP): BA Direction
MAX_VDF	Maximum Value of Volume Delay Function in TOD: Total AB+BA
AB_Flow_SOV_T	Volume of Tolled Single Occupancy Vehicles in TOD: AB Direction
BA_Flow_SOV_T	Volume of Tolled Single Occupancy Vehicles in TOD: BA Direction
AB_Flow_HOV_T	Volume of Tolled High Occupancy Vehicles in TOD: AB Direction
BA_Flow_HOV_T	Volume of Tolled High Occupancy Vehicles in TOD: BA Direction
AB_Flow_CV_T	Volume of Tolled Commercial Vehicles in TOD: AB Direction
BA_Flow_CV_T	Volume of Tolled Commercial Vehicles in TOD: BA Direction
AB_Flow_SOV_NT	Volume of Non-Tolled Single Occupancy Vehicles in TOD: AB Direction
BA_Flow_SOV_NT	Volume of Non-Tolled Single Occupancy Vehicles in TOD: BA Direction
AB_Flow_HOV_NT	Volume of Non-Tolled High Occupancy Vehicles in TOD: AB Direction
BA_Flow_HOV_NT	Volume of Non-Tolled High Occupancy Vehicles in TOD: BA Direction
AB_Flow_CV_NT	Volume of Non-Tolled Commercial Vehicles in TOD: AB Direction
BA_Flow_CV_NT	Volume of Non-Tolled Commercial Vehicles in TOD: BA Direction
AB_Flow	All Vehicle Volume in TOD: AB Direction
BA_Flow	All Vehicle Volume in TOD: AB Direction
Tot_Flow	Total Vehicle Volumes in TOD: Total AB + BA

The resource file will also generate new loaded network files under each toll rates under the same project folder. The fields included in those loaded network files are summarized as follows:

\ Highway_Line_T1_loaded.dbd	
\ Highway_Line_T2_loaded.dbd	
\ Highway_Line_T3_loaded.dbd	
\ Highway_Line_T4_loaded.dbd	
\ Highway_Line_T5_loaded.dbd	
SOVTRate	Toll Rate for Single Occupancy Vehicle ($/mile)
HOVTRate	Toll Rate for High Occupancy Vehicle ($/mile)
CVTRate	Toll Rate for Commercial Vehicle ($/mile)
SOVToll	Tolls for Single Occupancy Vehicles ($): SOVTRate*Length
HOVToll	Tolls for High Occupancy Vehicles ($): HOVTRate*Length
CVToll	Tolls for Commercial Vehicles ($): CVTRate*Length
AB_Flow_AM	All Vehicle Volume during AM Peak Period: AB Direction
BA_Flow_AM	All Vehicle Volume during AM Peak Period: BA Direction
Tot_Flow_AM	All Vehicle Volume during AM Peak Period: Total AB+BA
AB_Flow_OP	All Vehicle Volume during Off-Peak Period: AB Direction
BA_Flow_OP	All Vehicle Volume during Off-Peak Period: BA Direction
Tot_Flow_OP	All Vehicle Volume during Off-Peak Period: Total AB+BA
AB_Flow_PM	All Vehicle Volume during PM Peak Period: AB Direction
BA_Flow_PM	All Vehicle Volume during PM Peak Period: BA Direction
Tot_Flow_PM	All Vehicle Volume during PM Peak Period: Total AB+BA
AB_Flow_Daily	All Vehicle Daily Volume: AB Direction
BA_Flow_Daily	All Vehicle Daily Volume: BA Direction
Tot_Flow_Daily	All Vehicle Daily Volume: Total AB+BA
AB_Rev_AM	Revenue During AM Peak Period: AB Direction
BA_Rev_AM	Revenue During AM Peak Period: BA Direction
Tot_Rev_AM	Revenue During AM Peak Period: Total AB+BA
AB_Rev_OP	Revenue During Off-Peak Period: AB Direction
BA_Rev_OP	Revenue During Off-Peak Period: BA Direction
Tot_Rev_OP	Revenue During Off-Peak Period: Total AB +BA
AB_Rev_PM	Revenue During PM Peak Period: AB Direction
BA_Rev_PM	Revenue During PM Peak Period: BA Direction
Tot_Rev_PM	Revenue During PM Peak Period: Total AB+BA
AB_Rev_Daily	All Daily Revenue: AB direction
BA_Rev_Daily	All Daily Revenue: BA direction
Tot_Rev_Daily	All Daily Revenue: Total AB+BA

Appendix E – Detailed TAZ Information

TAZ	ATYPE	HH	HH_STUD	POP	MEANINC	DWELLUN	UBEDS	IND	RET	HWY	OFF	SER	SPUNIV	SPSC	SPAIR	SPHOSP	INDPERC	RETPERC	HWYPERC	OFFPERC	SERPERC
1507	2	341	0	964	78792	359	0	14	31	0	30	72	0	0	0	0	0	0	0	0	0
1508	2	574	13	1623	78918	614	0	36	171	69	15	288	0	0	0	0	0	0	0	0	0
1737	2	397	0	1126	78523	417	0	1056	83	79	138	373	0	0	0	0	0	0	0	0	0
1818	2	647	1	1837	62119	682	0	291	36	10	67	107	0	0	0	0	0	0	0	0	0
1538	2	704	1	1992	65157	743	0	539	66	24	250	236	0	0	0	0	0	0	0	0	0
1817	2	288	10	816	65998	311	0	2	0	0	1	13	0	0	0	0	0	0	0	0	0
1509	1	1046	22	2920	73554	1149	0	6	45	10	1	58	0	0	0	0	0	0	0	0	0
1510	2	1024	9	2858	65627	1116	0	11	61	53	56	97	0	0	0	0	0	0	0	0	0
1739	2	417	9	1179	72951	444	0	3	21	15	0	44	0	0	0	0	0	0	0	0	0
1741	2	234	3	653	68889	256	0	0	108	10	7	72	0	0	0	0	0	0	0	0	0
1389	2	47	0	132	84683	52	0	0	21	0	2	2	0	0	0	0	0	0	0	0	0
1390	2	214	6	598	148453	237	0	0	3	0	2	19	0	0	0	0	0	0	0	0	0
1382	2	556	0	1552	65692	605	0	0	3	0	126	418	0	0	0	0	0	0	0	0	0
1736	2	469	5	1308	82133	512	0	19	30	0	36	465	0	0	0	0	0	0	0	0	0
1512	2	466	18	1300	88034	516	0	56	22	0	1	62	0	0	0	0	0	0	0	0	0
1383	2	470	15	1331	110091	508	0	1	18	13	12	142	0	0	0	0	0	0	0	0	0
1511	2	469	1	1327	78813	495	0	0	8	0	13	8	0	0	0	0	0	0	0	0	0
959	2	421	25	1239	114759	456	0	21	7	0	2	55	0	0	0	0	0	0	0	0	0
1436	2	385	15	1102	116217	433	0	33	276	12	1	37	0	0	0	0	0	0	0	0	0
1735	2	257	3	728	86808	272	0	10	16	8	0	109	0	0	0	0	0	0	0	0	0
1731	2	334	8	982	103674	354	0	0	0	0	19	45	0	0	0	0	0	0	0	0	0
1729	2	388	11	1142	113252	414	0	29	5	15	0	17	0	0	0	0	0	0	0	0	0
1727	2	305	18	763	108197	338	0	35	1	1	8	35	0	0	0	0	0	0	0	0	0
1733	2	166	3	469	77700	189	0	27	10	3	0	16	0	0	0	0	0	0	0	0	0
1506	2	324	4	918	78145	371	0	6	0	4	0	29	0	0	0	0	0	0	0	0	0
1332	2	582	22	1648	78058	675	0	14	5	0	5	112	0	0	0	0	0	0	0	0	0
1331	2	447	10	1249	83481	492	0	15	0	0	14	23	0	0	0	0	0	0	0	0	0
957	2	151	4	377	100573	165	0	3	8	12	3	28	0	0	0	0	0	0	0	0	0
1313	2	330	10	827	68514	358	0	29	129	119	20	94	0	0	0	0	0	0	0	0	0
1716	2	46	1	130	69438	54	0	0	40	8	0	48	0	0	0	0	0	0	0	0	0
1732	2	83	3	235	118020	97	0	10	23	4	6	145	0	0	0	0	0	0	0	0	0
1715	2	432	8	1222	67149	496	0	92	33	3	70	148	0	0	0	0	0	0	0	0	0
1717	2	16	1	46	67303	20	0	67	55	13	33	139	408	0	0	0	0	0	0	0	100
1719	2	553	12	1564	61937	636	0	518	11	1	4	61	0	0	0	0	0	0	0	0	0
1503	2	79	0	223	53390	89	0	1	18	4	5	119	0	0	0	0	0	0	0	0	0
1315	2	228	4	571	86088	247	0	22	0	0	4	3	0	0	0	0	0	0	0	0	0
1499	2	657	12	1860	78701	706	0	8	7	2	8	25	0	0	0	0	0	0	0	0	0
1698	2	214	2	604	57536	229	0	0	1	5	0	12	0	0	0	0	0	0	0	0	0
1314	2	434	12	1084	44839	471	0	17	11	0	5	91	0	0	0	0	0	0	0	0	0
1316	2	288	6	815	85351	310	0	1	20	0	2	36	0	0	0	0	0	0	0	0	0
1318	2	750	8	2122	66774	803	0	26	15	16	4	74	0	0	0	0	0	0	0	0	0
1498	2	358	7	1014	64453	385	0	23	10	4	0	38	0	0	0	0	0	0	0	0	0
1695	2	434	8	1229	82613	466	0	11	18	5	8	38	0	0	0	0	0	0	0	0	0
1696	2	230	4	650	52335	246	0	5	0	2	1	9	0	0	0	0	0	0	0	0	0
1697	2	356	3	1009	66580	381	0	12	28	0	4	24	0	0	0	0	0	0	0	0	0
1320	2	72	4	205	67492	79	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
1319	3	44	0	125	149194	47	0	7	0	2	0	0	0	0	0	0	0	0	0	0	0
1502	3	52	4	149	81417	58	0	4	10	0	0	12	0	0	0	0	0	0	0	0	0
1711	2	189	0	517	52867	195	0	68	0	16	0	30	0	0	0	0	0	0	0	0	0
2184	2	366	3	931	76277	383	0	38	76	45	17	88	0	0	0	0	0	0	0	0	0
2188	3	21	0	61	51413	21	0	1	1	1	0	2	0	0	0	0	0	0	0	0	0

2174	2	194	0	519	37741	195	0	791	228	366	89	270	0	0	0	0	0	0	0	0
2183	2	178	0	494	78037	187	0	10	46	28	8	57	0	0	0	0	0	0	0	0
1710	2	606	1	1641	63944	632	0	21	1	6	0	40	0	0	0	0	0	0	0	0
2251	2	253	1	692	89903	281	0	0	0	0	0	20	0	0	0	0	0	0	0	0
1709	2	55	4	151	60592	59	0	0	2	5	0	9	0	0	0	0	0	0	0	0
1501	2	272	1	738	58290	285	0	20	21	12	0	46	0	0	0	0	0	0	0	0
1707	3	82	2	223	59136	87	0	31	4	34	17	3	0	0	0	0	0	0	0	0
2164	2	447	1	1193	60443	473	0	11	28	10	4	22	0	0	0	0	0	0	0	0
2204	2	154	7	408	64255	162	0	4	31	5	2	25	0	0	0	0	0	0	0	0
2217	2	217	3	599	58352	225	0	0	366	90	23	74	0	0	0	0	0	0	0	0
2218	2	19	0	54	64504	19	0	20	53	142	3	106	0	0	0	0	0	0	0	0
2160	2	420	5	982	73171	476	0	116	13	2	8	29	0	0	0	0	0	0	0	0
871	2	432	9	1127	84412	465	0	5	13	3	7	56	0	0	0	0	0	0	0	0
1708	2	53	0	138	49365	58	0	19	51	4	4	44	0	0	0	0	0	0	0	0
873	2	6	0	17	27778	7	0	0	46	13	0	47	0	0	0	0	0	0	0	0
872	2	16	0	44	34222	18	0	11	8	3	7	6	0	0	0	0	0	0	0	0
1704	2	45	2	117	80863	50	0	100	0	0	230	14	0	0	0	0	0	0	0	0
1705	2	40	8	104	75672	45	0	5	7	0	156	301	0	0	0	0	0	0	0	0
1677	2	223	11	601	72934	240	0	1	1	0	4	1	0	0	0	0	0	0	0	0
1676	2	164	3	439	60707	176	0	0	0	0	0	3	0	0	0	0	0	0	0	0
1491	2	466	19	1250	60741	498	0	19	41	4	13	49	0	0	0	0	0	0	0	0
868	2	189	17	492	69825	204	0	0	6	46	2	4	0	0	0	0	0	0	0	0
867	2	1401	12	3656	59131	1546	0	8	3	1	5	85	0	0	0	0	0	0	0	0
1679	2	306	0	835	54971	333	0	8	30	19	5	23	0	0	0	0	0	0	0	0
1492	2	533	5	1455	52478	570	0	6	56	27	32	131	0	0	0	0	0	0	0	0
1678	2	509	15	1389	61417	548	0	26	21	5	12	57	0	0	0	0	0	0	0	0
1496	2	315	7	843	67529	333	0	7	6	0	5	61	0	0	0	0	0	0	0	0
1687	2	176	5	471	58356	189	0	5	5	0	72	39	0	0	0	0	0	0	0	0

TAZ	ATYPE	HH	HH_STUD	POP	MEANINC	DWELLUN	UBEDS	IND	RET	HWY	OFF	SER	SPUNIV	SPSC	SPAIR	SPHOSP	INDPERC	RETPERC	HWYPERC	OFFPERC	SERPERC
1507	3	384	0	1085	63977	402	0	17	43	0	47	115	0	0	0	0	0	0	0	0	0
1508	2	599	14	1696	73351	652	0	36	210	94	15	376	0	0	0	0	0	0	0	0	0
1737	2	1661	0	4715	63727	1751	0	1502	363	164	520	1060	0	0	0	0	0	0	0	0	0
1818	2	761	1	2161	63110	802	0	309	48	17	104	135	0	0	0	0	0	0	0	0	0
1538	2	1045	1	2958	63784	1106	0	602	69	38	393	236	0	0	0	0	0	0	0	0	0
1817	2	290	10	821	65998	315	0	2	0	0	1	13	0	0	0	0	0	0	0	0	0
1509	2	1008	21	2813	70324	1111	0	7	70	13	1	71	0	0	0	0	0	0	0	0	0
1510	2	876	8	2445	63964	955	0	11	92	59	66	130	0	0	0	0	0	0	0	0	0
1739	2	394	9	1116	66879	464	0	3	29	25	0	49	0	0	0	0	0	0	0	0	0
1741	2	242	3	673	65149	264	0	0	157	16	10	107	0	0	0	0	0	0	0	0	0
1389	2	59	0	165	84683	64	0	0	33	0	4	2	0	0	0	0	0	0	0	0	0
1390	2	224	6	626	148453	249	0	0	3	0	2	20	0	0	0	0	0	0	0	0	0
1382	2	538	0	1502	64010	586	0	0	3	0	185	495	0	0	0	0	0	0	0	0	0
1736	2	414	4	1154	82133	452	0	27	46	0	52	565	0	0	0	0	0	0	0	0	0
1512	2	427	17	1190	88034	475	0	59	30	0	1	69	0	0	0	0	0	0	0	0	0
1383	2	482	15	1363	110091	522	0	1	26	21	12	180	0	0	0	0	0	0	0	0	0
1511	2	461	1	1305	78813	488	0	0	8	0	13	8	0	0	0	0	0	0	0	0	0
959	2	394	23	1157	114759	430	0	21	10	1	4	55	0	0	0	0	0	0	0	0	0
1436	2	382	14	1093	116217	432	0	38	358	15	1	37	0	0	0	0	0	0	0	0	0
1735	2	173	2	491	86808	184	0	20	22	8	0	33	0	0	0	0	0	0	0	0	0
1731	2	336	8	988	103674	358	0	0	0	0	31	46	0	0	0	0	0	0	0	0	0
1729	2	394	11	1158	113252	421	0	34	5	15	0	19	0	0	0	0	0	0	0	0	0
1727	2	319	19	796	108197	356	0	51	1	1	8	35	0	0	0	0	0	0	0	0	0
1733	2	175	3	495	69018	201	0	29	10	3	0	16	0	0	0	0	0	0	0	0	0
1506	2	339	4	961	72351	389	0	6	0	4	0	31	0	0	0	0	0	0	0	0	0
1332	2	645	24	1826	71554	751	0	14	5	0	5	113	0	0	0	0	0	0	0	0	0
1331	2	474	10	1324	74334	523	0	15	0	0	21	23	0	0	0	0	0	0	0	0	0
957	3	204	6	512	100573	223	0	3	19	16	4	41	0	0	0	0	0	0	0	0	0
1313	2	316	9	791	64380	367	0	29	126	118	27	90	0	0	0	0	0	0	0	0	0
1716	2	66	1	186	65822	77	0	0	53	11	0	65	0	0	0	0	0	0	0	0	0
1732	2	105	4	297	118020	123	0	10	34	6	10	160	0	0	0	0	0	0	0	0	0
1715	2	444	8	1255	65692	510	0	106	60	9	75	184	0	0	0	0	0	0	0	0	0
1717	2	21	1	61	65536	26	0	69	58	14	48	165	423	0	0	0	0	0	0	0	100
1719	2	649	15	1837	62887	748	0	518	13	2	4	66	0	0	0	0	0	0	0	0	0
1503	2	138	0	391	62504	156	0	1	27	6	7	137	0	0	0	0	0	0	0	0	0
1315	2	266	5	667	72048	288	0	22	0	0	4	3	0	0	0	0	0	0	0	0	0
1499	2	724	14	2049	71242	780	0	8	8	3	8	27	0	0	0	0	0	0	0	0	0
1698	2	217	2	614	60799	249	0	0	2	8	0	16	0	0	0	0	0	0	0	0	0
1314	2	361	10	902	56024	415	0	17	11	1	5	93	0	0	0	0	0	0	0	0	0
1316	2	305	7	863	74113	330	0	1	20	0	2	37	0	0	0	0	0	0	0	0	0
1318	2	791	8	2239	65247	865	0	27	16	18	6	78	0	0	0	0	0	0	0	0	0
1498	2	361	7	1020	64090	409	0	23	11	7	0	41	0	0	0	0	0	0	0	0	0
1695	2	428	7	1210	73835	491	0	11	18	6	8	38	0	0	0	0	0	0	0	0	0
1696	2	292	5	827	60001	313	0	5	0	2	0	9	0	0	0	0	0	0	0	0	0
1697	2	412	4	1166	64596	442	0	12	28	0	4	24	0	0	0	0	0	0	0	0	0
1320	3	97	5	274	64562	106	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
1319	2	53	0	149	149194	56	0	7	0	3	0	0	0	0	0	0	0	0	0	0	0
1502	3	108	9	307	64884	118	0	4	10	0	0	12	0	0	0	0	0	0	0	0	0
1711	3	392	0	1069	63243	404	0	106	0	24	0	30	0	0	0	0	0	0	0	0	0
2184	2	390	4	1004	65154	408	0	43	101	61	22	117	0	0	0	0	0	0	0	0	0
2188	3	25	0	72	55370	26	0	1	2	1	0	2	0	0	0	0	0	0	0	0	0

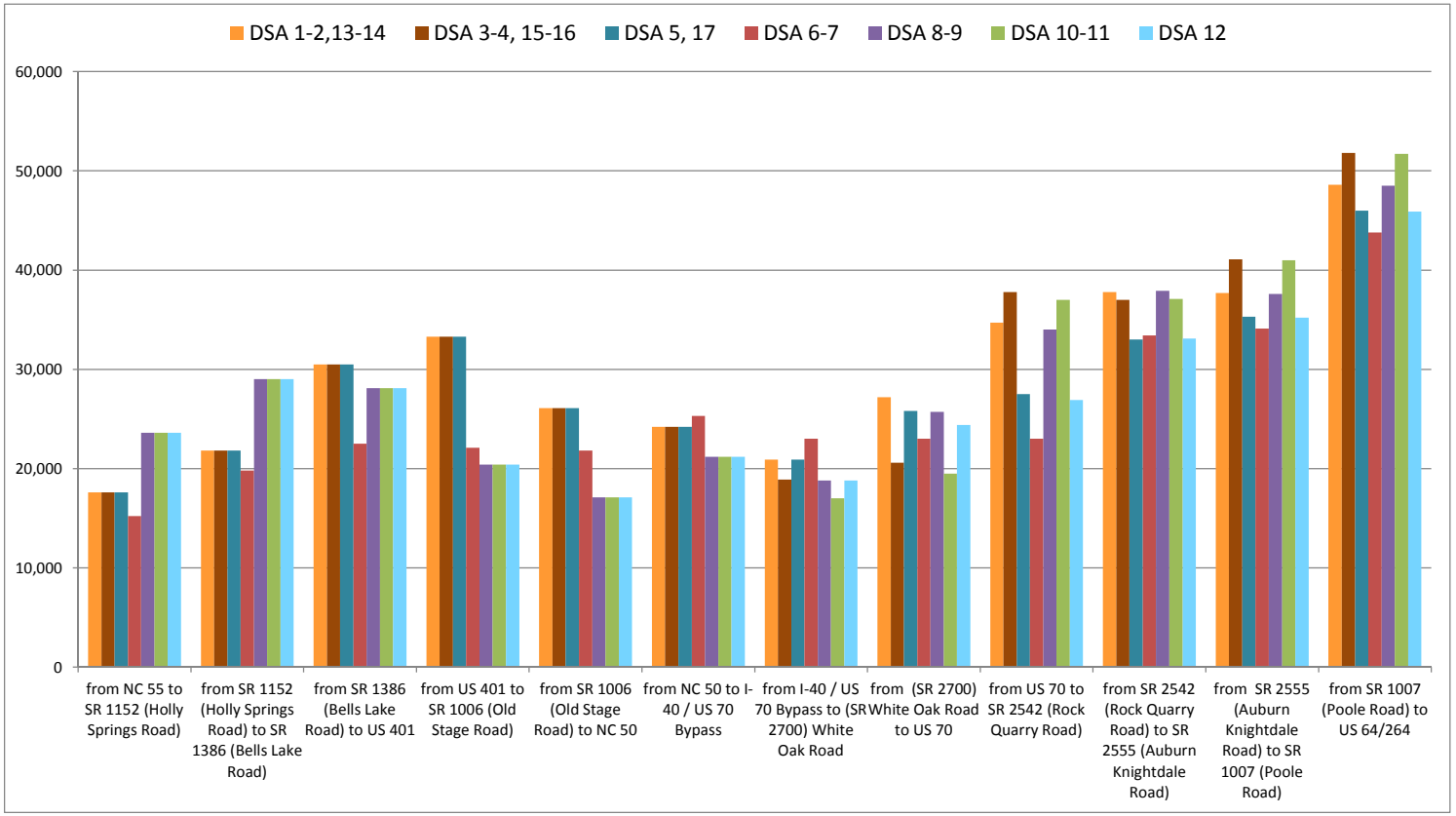
2174	2	160	0	428	55193	161	0	790	226	364	88	267	0	0	0	0	0	0	0	0
2183	3	199	0	551	61843	208	0	14	62	38	11	75	0	0	0	0	0	0	0	0
1710	3	738	1	1999	63588	772	0	21	1	9	0	42	0	0	0	0	0	0	0	0
2251	2	267	1	729	76355	292	0	0	0	0	0	20	0	0	0	0	0	0	0	0
1709	3	112	9	304	63294	118	0	0	1	3	0	4	0	0	0	0	0	0	0	0
1501	2	294	1	795	58290	308	0	25	24	19	0	55	0	0	0	0	0	0	0	0
1707	3	95	2	257	60922	101	0	45	4	39	27	3	0	0	0	0	0	0	0	0
2164	3	403	1	1082	57015	426	0	10	25	9	4	20	0	0	0	0	0	0	0	0
2204	3	156	9	418	59445	170	0	5	35	7	3	30	0	0	0	0	0	0	0	0
2217	2	222	4	610	57290	236	0	0	376	96	24	77	0	0	0	0	0	0	0	0
2218	2	19	0	54	60791	20	0	20	57	143	3	110	0	0	0	0	0	0	0	0
2160	2	453	6	1081	63233	510	0	116	15	2	8	31	0	0	0	0	0	0	0	0
871	3	637	14	1664	67255	687	0	5	13	3	7	56	0	0	0	0	0	0	0	0
1708	2	83	0	216	61002	90	0	29	55	7	2	48	0	0	0	0	0	0	0	0
873	3	10	0	26	27778	11	0	0	27	10	0	27	0	0	0	0	0	0	0	0
872	2	29	0	79	57695	31	0	11	8	4	11	6	0	0	0	0	0	0	0	0
1704	3	51	2	134	80863	57	0	151	0	0	694	14	0	0	0	0	0	0	0	0
1705	3	34	7	90	64646	39	0	5	7	0	143	463	0	0	0	0	0	0	0	0
1677	3	243	12	653	65004	261	0	1	1	0	4	1	0	0	0	0	0	0	0	0
1676	3	146	3	390	63051	156	0	0	0	0	0	3	0	0	0	0	0	0	0	0
1491	3	467	19	1251	63309	498	0	20	66	5	18	67	0	0	0	0	0	0	0	0
868	3	201	18	521	63973	217	0	0	61	70	12	4	0	0	0	0	0	0	0	0
867	2	1430	12	3732	61191	1581	0	8	3	1	5	93	0	0	0	0	0	0	0	0
1679	3	480	0	1309	63391	523	0	9	45	28	8	30	0	0	0	0	0	0	0	0
1492	2	604	6	1648	61086	647	0	6	73	40	51	155	0	0	0	0	0	0	0	0
1678	3	714	20	1948	63066	769	0	29	23	7	18	67	0	0	0	0	0	0	0	0
1496	3	299	7	803	64152	319	0	7	12	0	5	90	0	0	0	0	0	0	0	0
1687	3	263	8	706	62770	281	0	5	5	0	111	41	0	0	0	0	0	0	0	0

TAZ	ATYPE	HH	HH_STUD	POP	MEANINC	DWELLUN	UBEDS	IND	RET	HWY	OFF	SER	SPUNIV	SPSC	SPAIR	SPHOSP	INDPERC	RETPERC	HWYPERC	OFFPERC	SERPERC
1507	2	1509	0	4269	63977	1583	0	48	174	0	200	465	0	0	0	0	0	0	0	0	0
1508	2	854	17	2417	73351	935	0	44	629	307	17	1082	0	0	0	0	0	0	0	0	0
1737	1	6999	0	19860	63727	7378	0	3120	1518	622	2220	4345	0	0	0	0	0	0	0	0	0
1818	1	1778	0	5051	63110	1872	0	466	182	72	431	360	0	0	0	0	0	0	0	0	0
1538	1	2991	0	8466	63784	3162	0	1164	105	161	1661	236	0	0	0	0	0	0	0	0	0
1817	2	303	9	858	65998	320	0	2	0	0	1	13	0	0	0	0	0	0	0	0	0
1509	1	1402	28	3912	70324	1523	0	18	296	41	5	184	0	0	0	0	0	0	0	0	0
1510	2	2297	23	6408	63964	2497	0	11	370	110	156	435	0	0	0	0	0	0	0	0	0
1739	2	740	15	2095	66879	962	0	3	122	105	0	89	0	0	0	0	0	0	0	0	0
1741	2	546	5	1522	65149	593	0	0	614	70	33	432	0	0	0	0	0	0	0	0	0
1389	2	66	0	184	84683	72	0	0	142	0	16	2	0	0	0	0	0	0	0	0	0
1390	2	229	7	639	148453	249	0	0	3	0	7	26	0	0	0	0	0	0	0	0	0
1382	2	1371	0	3824	64010	1491	0	0	3	0	730	1200	0	0	0	0	0	0	0	0	0
1736	2	517	5	1443	82133	561	0	98	196	0	195	1493	0	0	0	0	0	0	0	0	0
1512	2	563	23	1571	88034	611	0	81	107	0	1	134	0	0	0	0	0	0	0	0	0
1383	2	493	15	1395	110091	522	0	1	113	92	12	488	0	0	0	0	0	0	0	0	0
1511	2	464	0	1313	78813	490	0	2	8	0	13	8	0	0	0	0	0	0	0	0	0
959	2	455	27	1337	114759	477	0	21	31	3	16	59	0	0	0	0	0	0	0	0	0
1436	1	396	16	1132	116217	435	0	82	1111	36	1	37	0	0	0	0	0	0	0	0	0
1735	2	204	2	578	86808	215	0	64	96	12	0	33	0	0	0	0	0	0	0	0	0
1731	2	399	8	1174	103674	417	0	0	0	0	132	49	0	0	0	0	0	0	0	0	0
1729	2	488	15	1435	113252	511	0	79	5	15	0	31	0	0	0	0	0	0	0	0	0
1727	2	521	31	1302	108197	561	0	200	1	5	8	35	0	0	0	0	0	0	0	0	0
1733	2	349	7	988	69018	397	0	44	10	4	0	16	0	0	0	0	0	0	0	0	0
1506	2	511	5	1447	72351	581	0	6	1	4	0	51	0	0	0	0	0	0	0	0	0
1332	2	1047	42	2963	71554	1192	0	14	5	0	6	128	0	0	0	0	0	0	0	0	0
1331	2	774	15	2160	74334	841	0	15	0	0	90	23	0	0	0	0	0	0	0	0	0
957	2	452	14	1132	100573	486	0	3	65	32	18	110	0	0	0	0	0	0	0	0	0
1313	2	873	26	2188	64380	1040	0	29	148	131	84	96	0	0	0	0	0	0	0	0	0
1716	2	131	3	371	65822	151	0	0	170	36	2	221	0	0	0	0	0	0	0	0	0
1732	2	108	4	305	118020	123	0	10	131	27	42	293	0	0	0	0	0	0	0	0	0
1715	2	673	13	1904	65692	765	0	234	199	39	124	369	0	0	0	0	0	0	0	0	0
1717	1	36	2	102	65536	42	0	87	198	48	191	558	500	0	0	0	0	0	0	0	100
1719	2	1293	26	3659	62887	1471	0	518	38	9	4	111	0	0	0	0	0	0	0	0	0
1503	2	462	0	1305	62504	520	0	1	117	25	32	304	0	0	0	0	0	0	0	0	0
1315	2	538	11	1351	72048	579	0	22	0	0	4	3	0	0	0	0	0	0	0	0	0
1499	2	1227	25	3472	71242	1307	0	8	10	12	8	38	0	0	0	0	0	0	0	0	0
1698	2	359	4	1016	60799	450	0	0	8	34	0	47	0	0	0	0	0	0	0	0	0
1314	2	666	20	1666	56024	807	0	17	11	3	5	110	0	0	0	0	0	0	0	0	0
1316	2	535	11	1514	74113	571	0	1	20	1	2	39	0	0	0	0	0	0	0	0	0
1318	2	1259	13	3562	65247	1406	0	34	18	29	13	111	0	0	0	0	0	0	0	0	0
1498	2	484	10	1370	64090	600	0	23	18	28	1	67	0	0	0	0	0	0	0	0	0
1695	2	620	12	1754	73835	792	0	11	20	12	9	45	0	0	0	0	0	0	0	0	0
1696	2	653	13	1850	60001	695	0	7	0	2	0	9	0	0	0	0	0	0	0	0	0
1697	2	858	9	2429	64596	917	0	12	28	0	4	24	0	0	0	0	0	0	0	0	0
1320	2	238	12	672	64562	255	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
1319	2	58	0	164	149194	64	0	7	0	11	0	0	0	0	0	0	0	0	0	0	0
1502	2	384	31	1093	64884	414	0	4	10	0	0	12	0	0	0	0	0	0	0	0	0
1711	2	1571	0	4285	63243	1619	0	454	0	104	0	30	0	0	0	0	0	0	0	0	0
2184	2	717	7	1685	65154	747	0	113	405	257	80	470	0	0	0	0	0	0	0	0	0
2188	2	81	0	237	55370	83	0	3	7	3	0	9	0	0	0	0	0	0	0	0	0

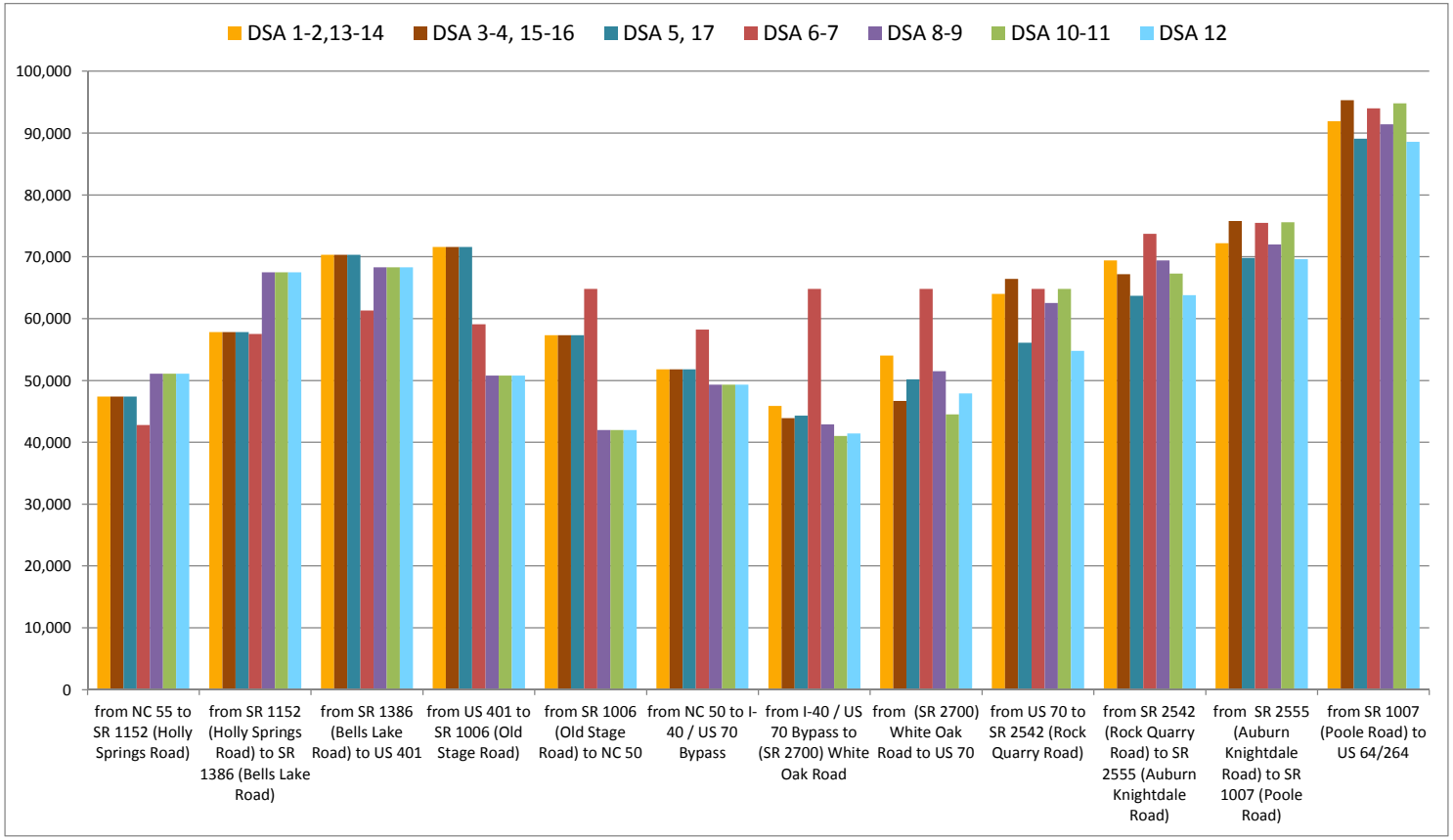
2174	2	620	0	1655	55193	620	0	806	297	410	102	350	0	0	0	0	0	0	0	0
2183	2	480	0	1349	61843	505	0	58	254	161	49	297	0	0	0	0	0	0	0	0
1710	2	1999	0	5417	63588	2089	0	21	5	38	0	53	0	0	0	0	0	0	0	0
2251	2	372	0	1019	76355	443	0	0	0	0	0	20	0	0	0	0	0	0	0	0
1709	2	403	32	1096	63294	419	0	0	6	12	0	16	0	0	0	0	0	0	0	0
1501	2	391	0	1059	58290	409	0	70	53	81	0	137	0	0	0	0	0	0	0	0
1707	2	146	3	397	60922	153	0	172	4	86	115	3	0	0	0	0	0	0	0	0
2164	2	996	0	2629	57015	1060	0	24	108	38	10	80	0	0	0	0	0	0	0	0
2204	2	320	17	851	59445	326	0	16	94	31	12	88	0	0	0	0	0	0	0	0
2217	2	370	7	1093	57290	377	0	0	493	163	35	110	0	0	0	0	0	0	0	0
2218	2	31	0	104	60791	34	0	20	104	148	3	151	0	0	0	0	0	0	0	0
2160	2	826	9	1710	63233	972	0	121	43	10	10	50	0	0	0	0	0	0	0	0
871	2	1807	36	4718	67255	1932	0	5	18	3	7	56	0	0	0	0	0	0	0	0
1708	2	236	0	612	61002	255	0	125	90	28	9	87	0	0	0	0	0	0	0	0
873	2	10	0	26	27778	11	0	0	116	43	0	117	0	0	0	0	0	0	0	0
872	2	79	0	214	57695	85	0	15	9	18	49	6	0	0	0	0	0	0	0	0
1704	2	55	2	144	80863	59	0	619	0	0	2707	14	0	0	0	0	0	0	0	0
1705	1	121	24	315	64646	133	0	6	7	0	614	1923	0	0	0	0	0	0	0	0
1677	2	722	36	1939	65004	765	0	1	1	0	4	1	0	0	0	0	0	0	0	0
1676	2	429	9	1146	63051	457	0	0	0	0	0	3	0	0	0	0	0	0	0	0
1491	2	1681	67	4499	63309	1780	0	25	246	23	62	231	0	0	0	0	0	0	0	0
868	2	718	65	1864	63973	764	0	0	258	301	52	4	0	0	0	0	0	0	0	0
867	2	2351	24	6135	61191	2588	0	8	3	5	5	166	0	0	0	0	0	0	0	0
1679	2	1984	0	5411	63391	2164	0	27	192	119	31	90	0	0	0	0	0	0	0	0
1492	2	1581	16	4318	61086	1688	0	6	247	173	217	355	0	0	0	0	0	0	0	0
1678	2	1918	58	5237	63066	2047	0	56	41	29	79	149	0	0	0	0	0	0	0	0
1496	2	879	18	2358	64152	928	0	7	51	0	5	348	0	0	0	0	0	0	0	0
1687	2	806	24	2163	62770	854	0	5	5	0	474	54	0	0	0	0	0	0	0	0

Appendix F – Forecasting Summary Data

Southeast Extension 2012 Build DSA Forecast Volumes								
Facility	**Location**	**DSA 1-2,13-14**	**DSA 3-4, 15-16**	**DSA 5, 17**	**DSA 6-7**	**DSA 8-9**	**DSA 10-11**	**DSA 12**
Southeast Extension	from NC 55 to SR 1152 (Holly Springs Road)	17,600	17,600	17,600	15,200	23,600	23,600	23,600
	from SR 1152 (Holly Springs Road) to SR 1386 (Bells Lake Road)	21,800	21,800	21,800	19,800	29,000	29,000	29,000
	from SR 1386 (Bells Lake Road) to US 401	30,500	30,500	30,500	22,500	28,100	28,100	28,100
	from US 401 to SR 1006 (Old Stage Road)	33,300	33,300	33,300	22,100	20,400	20,400	20,400
	from SR 1006 (Old Stage Road) to NC 50	26,100	26,100	26,100	21,800	17,100	17,100	17,100
	from NC 50 to I-40 / US 70 Bypass	24,200	24,200	24,200	25,300	21,200	21,200	21,200
	from I-40 / US 70 Bypass to (SR 2700) White Oak Road	20,900	18,900	20,900	23,000	18,800	17,000	18,800
	from (SR 2700) White Oak Road to US 70	27,200	20,600	25,800	23,000	25,700	19,500	24,400
	from US 70 to SR 2542 (Rock Quarry Road)	34,700	37,800	27,500	23,000	34,000	37,000	26,900
	from SR 2542 (Rock Quarry Road) to SR 2555 (Auburn Knightdale Road)	37,800	37,000	33,000	33,400	37,900	37,100	33,100
	from SR 2555 (Auburn Knightdale Road) to SR 1007 (Poole Road)	37,700	41,100	35,300	34,100	37,600	41,000	35,200
	from SR 1007 (Poole Road) to US 64/264	48,600	51,800	46,000	43,800	48,500	51,700	45,900



Southeast Extension 2035 Build DSA Forecast Volumes								
Facility	**Location**	**DSA 1-2,13-14**	**DSA 3-4, 15-16**	**DSA 5, 17**	**DSA 6-7**	**DSA 8-9**	**DSA 10-11**	**DSA 12**
Southeast Extension	from NC 55 to SR 1152 (Holly Springs Road)	47,400	47,400	47,400	42,800	51,100	51,100	51,100
	from SR 1152 (Holly Springs Road) to SR 1386 (Bells Lake Road)	57,800	57,800	57,800	57,500	67,500	67,500	67,500
	from SR 1386 (Bells Lake Road) to US 401	70,300	70,300	70,300	61,300	68,300	68,300	68,300
	from US 401 to SR 1006 (Old Stage Road)	71,600	71,600	71,600	59,100	50,800	50,800	50,800
	from SR 1006 (Old Stage Road) to NC 50	57,300	57,300	57,300	64,800	42,000	42,000	42,000
	from NC 50 to I-40 / US 70 Bypass	51,800	51,800	51,800	58,200	49,300	49,300	49,300
	from I-40 / US 70 Bypass to (SR 2700) White Oak Road	45,900	43,900	44,300	64,800	42,900	41,000	41,400
	from (SR 2700) White Oak Road to US 70	54,000	46,700	50,200	64,800	51,500	44,500	47,900
	from US 70 to SR 2542 (Rock Quarry Road)	64,000	66,400	56,100	64,800	62,500	64,800	54,800
	from SR 2542 (Rock Quarry Road) to SR 2555 (Auburn Knightdale Road)	69,400	67,200	63,700	73,700	69,400	67,300	63,800
	from SR 2555 (Auburn Knightdale Road) to SR 1007 (Poole Road)	72,200	75,800	69,800	75,500	72,000	75,600	69,600
	from SR 1007 (Poole Road) to US 64/264	91,900	95,300	89,100	94,000	91,400	94,800	88,600



COMPLETE 540
Triangle Expressway Southeast Extension

Triangle Expressway Southeast Extension

2035 Traffic Forecast Volume Comparison

Date: April 2014

XX,XXX DSA 1 (Orange) 2035 AADT

XX,XXX DSA 6 (Red) 2035 AADT

XX,XXX DSA 8 (Purple) 2035 AADT

Interchanges

Legend

Highway Network

Counties

DSA Corridors

Orange Corridor

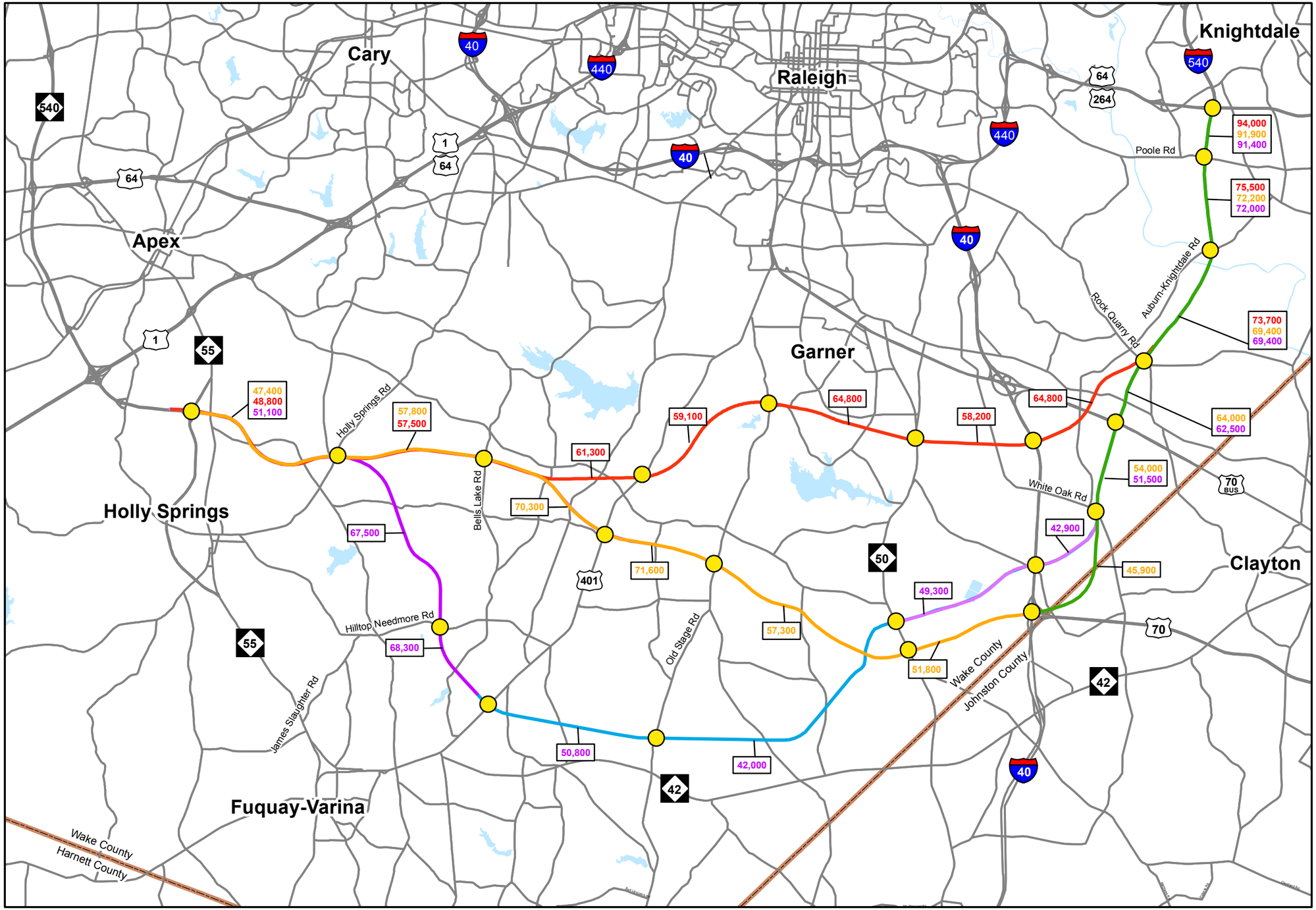
Green Corridor

Lilac Corridor

Red Corridor

Blue Corridor

Purple Corridor



0 0.6 1.2 1.8 2.4 3 Miles

*For representative purposes, only DSA 1 (Orange), DSA 6 (Red), and DSA 8 (Purple) to Green mainline volumes are shown.

NORTH CAROLINA Turnpike Authority

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

Complete 540 - SE Extension Traffic Forecast

				No-Build														Build 1 - Orange to Green					
				TRM Raw Model				Rate	Rate	Rate	FINAL			TRM Factors			Rate	Raw Model		Rate	FINAL		Rate
	HNTB ID	Facility	Location	2009	2012	2035	2010	2035 / 2010 Growth Factor	2010-2012 Model Growth Rate	2012-2035 Model Growth Rate	2010	2012	2035	2010 TRM Factor	2012 TRM Factor	2035 TRM Factor	2012-2035 Final Annual Growth Rate	2012 2/22/2011 Model	2035 'New Model' 1/3/2011	Build Model Growth Rate	2012	2035	Final Annual Growth Rate
	1	Eastern Wake Expressway	from I-40 / US 70 Bypass to (SR 2700) White Oak Road						4.38%	2.25%				1.00	1.00	1.00		20,900	45,900	3.48%	20,900	45,900	3.48%
	2	Eastern Wake Expressway	from (SR 2700) White Oak Road to US 70						4.38%	2.25%				1.00	1.00	1.00		27,200	54,000	3.03%	27,200	54,000	3.03%
	3	Eastern Wake Expressway	from US 70 to SR 2542 (Rock Quarry Road)						4.38%	2.25%				1.00	1.00	1.00		34,700	64,000	2.70%	34,700	64,000	2.70%
Red	1-3	Eastern Wake Expressway	from I-40 to SR 2542 (Rock Quarry Road)						4.38%	2.25%				1.00	1.00	1.00		0	0				
	4	Eastern Wake Expressway	from SR 2542 (Rock Quarry Road)/Old Baucom to SR 2555 (Auburn Knightdale Road)						4.38%	2.25%				1.00	1.00	1.00		37,800	69,300	2.67%	37,800	69,300	2.67%
	5	Eastern Wake Expressway	from SR 2555 (Auburn Knightdale Road) to SR 1007 (Poole Road)						4.38%	2.25%				1.00	1.00	1.00		37,700	72,200	2.87%	37,700	72,200	2.87%
	6	Eastern Wake Expressway	from SR 1007 (Poole Road) to US 64/264						4.38%	2.25%				1.00	1.00	1.00		48,600	91,900	2.81%	48,600	91,900	2.81%
	7	I-40	from Exit 303 (Jones Sausage Road) to Exit 306 (US 70)	121,900	123,600	173,600	122,500	1.42	0.45%	1.49%	99,500	100,200	144,900	0.81	0.81	0.83	1.62%	111,700	154,600	1.42%	90,600	128,800	1.54%
Red	8a	I-40	from Exit 306 (US 70) to S-E Wake Expwy	94,900	95,000	138,600	94,900	1.46	0.05%	1.66%	75,000	75,700	108,900	0.79	0.80	0.79	1.59%	0	0			0	
Red	8b	I-40	from S-E Wake Expwy to US 70 Bypass	94,900	95,000	138,600	94,900	1.46	0.05%	1.66%	75,000	75,700	108,900	0.79	0.80	0.79	1.59%	0	0				
	8	I-40	from Exit 306 (US 70) to US 70 Bypass/S-E Wake Expwy	94,900	95,000	138,600	94,900	1.46	0.05%	1.66%	75,000	75,700	108,900	0.79	0.80	0.79	1.59%	87,300	120,700	1.42%	69,600	94,800	1.35%
	9	I-40	from US 70/S-E Wake to Exit 312 (NC 42)	65,900	67,400	101,000	66,400	1.52	0.75%	1.77%	56,300	56,700	82,000	0.85	0.84	0.81	1.62%	72,400	100,600	1.44%	60,900	81,700	1.29%
	10	I-40	from Exit 312 (NC 42) to Exit 319 (NC 210)	48,400	49,400	69,000	48,700	1.42	0.72%	1.46%	50,100	50,400	72,900	1.03	1.02	1.06	1.62%	50,500	70,100	1.44%	51,500	74,100	1.59%
	12	I-540	N of US 64 Business	24,700	38,500	80,300	29,300	2.74	14.63%	2.25%	49,700	52,700	87,900	1.70	1.37	1.09	2.25%	48,000	95,800	3.05%	65,700	104,900	2.06%
	11	I-540	from US 64/264 to US 64 Business	15,600	25,700	57,900	19,000	3.05	16.30%	2.25%	41,000	43,000	71,700	2.16	1.37	1.09	2.25%	40,300	86,500	3.38%	55,200	94,700	2.37%
	13a	NC 42	E of I-40	19,800	22,700	26,300	20,800	1.26	4.47%	0.64%	25,900	26,400	30,900	1.25	1.16	1.17	0.69%	16,900	23,700	1.48%	19,700	27,800	1.51%
	14a	NC 42	W of I-40	34,900	36,000	42,100	35,300	1.19	0.99%	0.68%	37,100	37,800	44,200	1.05	1.05	1.05	0.68%	30,800	36,400	0.73%	32,300	38,200	0.73%
	15	NC 42	N of US 70 Bypass	12,400	13,800	19,500	12,900	1.51	3.43%	1.51%	11,700	12,500	17,700	0.91	0.91	0.91	1.52%	14,100	21,300	1.81%	10,700	16,200	1.82%
	16	NC 42	S of US 70 Bypass	21,200	24,400	34,600	22,300	1.55	4.60%	1.53%	13,700	15,000	21,300	0.61	0.61	0.62	1.54%	17,700	29,100	2.19%	13,500	22,200	2.19%
Red	new	NC 50	S of SR 2812 (Timber Dr) (N of S Wake Expwy)	19,200	21,100	29,100	19,800	1.47	3.23%	1.41%	19,500	20,800	28,700	0.98	0.99	0.99		0	0				
Red	new	NC 50	S of S Wake Expwy	19,200	21,100	29,100	19,800	1.47	3.23%	1.41%	19,500	20,800	28,700	0.98	0.99	0.99		0	0				
Lilac	new	NC 50	N of SR 1010 (Ten Ten Rd)	13,300	14,600	17,700	13,700	1.29	3.23%	0.84%	14,300	15,200	18,400	1.04	1.04	1.04		12,300	14,400	0.69%	9,800	11,400	
	17	NC 50	N of S Wake Expwy / S of SR 1010 (Ten-Ten Rd)	18,000	21,600	25,400	19,200	1.32	6.07%	0.71%	15,200	17,100	20,100	0.79	0.79	0.79	0.71%	15,600	18,600	0.77%	12,400	14,700	0.74%
	18	NC 50	N of SR 1010 (Cleveland School Road)	18,000	21,600	25,400	19,200	1.32	6.07%	0.71%	15,200	17,100	20,100	0.79	0.79	0.79	0.71%	23,000	34,200	1.74%	18,200	27,100	1.75%
	19	NC 50	S of SR 1010 (Cleveland School Road)	9,600	11,000	13,800	10,100	1.37	4.36%	0.99%	8,000	8,700	10,900	0.79	0.79	0.79	0.98%	13,800	19,800	1.58%	10,900	15,600	1.57%
	20	NC 55 Bypass	S of SR 1172 (Old Smithfield Road)	27,200	40,700	50,600	31,700	1.60	13.31%	0.95%	29,700	38,100	47,400	0.94	0.94	0.94	0.95%				38,100	47,400	0.95%
	21	NC 55 Bypass	from SR 1172 (Old Smithfield Road) to Triangle Expwy	27,200	40,700	50,600	31,700	1.60	13.31%	0.95%	29,900	38,400	47,700	0.94	0.94	0.94	0.95%	40,300	49,700	0.92%	38,000	46,900	0.92%
	22	NC 55 Bypass	from Triangle Expwy to NC 55 Business	27,200	31,500	36,800	28,600	1.29	4.95%	0.68%	29,900	32,900	38,400	1.05	1.04	1.04	0.67%	38,200	44,300	0.65%	39,900	46,200	0.64%
	23	Southern Wake Expressway	from NC 55 to SR 1152 (Holly Springs Road)						4.38%	2.25%				1.00	1.00	1.00		17,600	41,400	3.79%	17,600	41,400	3.79%
Orange	24	Southern Wake Expressway	from SR 1152 (Holly Springs Road) to SR 1386 (Bells Lake Road)						4.38%	2.25%				1.00	1.00	1.00		21,800	57,800	4.33%	21,800	57,800	4.33%
Purple	24a	Southern Wake Expressway	from SR 1152 (Holly Springs Road) to SR 1393 (Hilltop Needmore Road)						4.38%	2.25%				1.00	1.00	1.00							
	25	Southern Wake Expressway	from SR 1386 (Bells Lake Road) to US 401						4.38%	2.25%				1.00	1.00	1.00		30,500	70,300	3.70%	30,500	70,300	3.70%
Purple	25a	Southern Wake Expressway	from SR 1393 (Hilltop Needmore Road) to US 401						4.38%	2.25%				1.00	1.00	1.00							
	26	Southern Wake Expressway	from US 401 to SR 1006 (Old Stage Road)						4.38%	2.25%				1.00	1.00	1.00		33,300	71,600	3.38%	33,300	71,600	3.38%
	27	Southern Wake Expressway	from SR 1006 (Old Stage Road) to NC 50						4.38%	2.25%				1.00	1.00	1.00		26,100	57,300	3.48%	26,100	57,300	3.48%
	28	Southern Wake Expressway	from NC 50 to I-40 / US 70 Bypass						4.38%	2.25%				1.00	1.00	1.00		24,200	51,800	3.36%	24,200	51,800	3.36%
Red		SR 1006 (Old Stage Road)	N of SR 2711 (Vandora Springs Rd)	9,500	10,200	36,800	9,700	3.79	2.54%	5.74%	9,700	10,200	36,800	1.00	1.00	1.00	5.74%	0	0				
Red		SR 1006 (Old Stage Road)	S of SR 2711 (Vandora Springs Rd)	14,700	16,200	42,500	15,200	2.80	3.24%	4.28%	14,800	15,800	41,500	0.97	0.98	0.98	4.29%	0	0				
Red		SR 1006 (Old Stage Road)	N of SR 1010 (Ten Ten Rd)	14,700	16,200	42,500	15,200	2.80	3.24%	4.28%	14,800	15,800	41,500	0.97	0.98	0.98	4.29%	0	0				
Orange	29	SR 1006 (Old Stage Road)	S of SR 1010 (Ten Ten Rd)	10,400	11,800	25,200	10,900	2.31	4.05%	3.35%	7,900	8,500	18,200	0.72	0.72	0.72	3.37%	15,100	30,900	3.16%	**10,900**	**22,300**	3.16%
Orange	30	SR 1006 (Old Stage Road)	S of Southern Wake Expressway (N of SR 2724 Banks Rd)	10,400	11,800	25,200	10,900	2.31	4.05%	3.35%	7,900	8,500	18,200	0.72	0.72	0.72	3.37%	14,000	26,300	2.78%	*10,100*	*19,000*	2.79%
Lilac		SR 1006 (Old Stage Road)	N of SR 2736 (Rock Service Station Rd)	7,800	9,200	22,900	8,300	2.76	5.28%	4.04%	8,800	9,700	20,700	1.06	1.05	0.90		11,800	23,200	2.98%	12,400	21,000	
Lilac		SR 1006 (Old Stage Road)	S of SR 2736 (Rock Service Station Rd)	3,100	3,200	7,700	3,100	2.48	1.60%	3.89%	4,900	5,100	10,800	1.58	1.59	1.40		3,200	7,700	3.89%	5,100	10,800	
Blue		SR 1006 (Old Stage Road)	N of Norman Blalock Rd	6,000	6,600	13,900	6,200	2.24	3.18%	3.29%	4,300	4,600	9,700	0.69	0.70	0.70	3.30%	6,200	13,100	3.31%			
Blue		SR 1006 (Old Stage Road)	S of Norman Blalock Rd (N of S Wake Expwy)	6,000	6,600	13,900	6,200	2.24	3.18%	3.29%	4,000	4,300	9,100	0.65	0.65	0.65	3.31%	4,400	13,100	4.86%			
Blue		SR 1006 (Old Stage Road)	N of NC 42 (S of S Wake Expwy)	4,800	4,900	10,200	4,800	2.13	1.04%	3.24%	3,800	3,900	8,100	0.79	0.80	0.79	3.23%	4,400	9,400	3.36%			
	31	SR 1007 (Poole Road)	E of Eastern Wake Expressway	12,700	15,500	46,600	13,600	3.43	6.76%	4.90%	7,900	9,000	27,100	0.58	0.58	0.58	4.91%	17,200	57,900	5.42%	10,000	33,700	5.42%
	32	SR 1007 (Poole Road)	E of SR 2516 (Hodge Rd) / W of Eastern Wake Expwy	12,700	15,500	46,600	13,600	3.43	6.76%	4.90%	7,900	9,000	27,100	0.58	0.58	0.58	4.91%	14,800	39,600	4.37%	8,600	23,000	4.37%
	33	SR 1007 (Poole Road)	W of SR 2516 (Hodge Rd)	10,000	13,200	39,200	11,100	3.53	9.05%	4.85%	6,500	7,700	22,900	0.59	0.58	0.58	4.85%	13,500	34,200	4.12%	7,900	20,000	4.12%
Orange	34	SR 1010 (Cleveland School Road)	E of NC 50	8,900	10,800	13,000	9,500	1.37	6.62%	0.81%	7,800	8,900	10,700	0.82	0.82	0.82	0.80%	8,300	12,600	1.83%	6,800	10,400	1.86%
	35	SR 1010 (Ten-Ten Road)	E of SR 1386 (Bells Lake Road)	6,700	10,100	19,200	7,800	2.46	13.79%	2.83%	13,300	17,200	32,700	1.71	1.70	1.70	2.83%	2,300	6,200	4.41%	13,400	25,600	2.85%
	36	SR 1010 (Ten-Ten Road)	W of SR 1386 (Bells Lake Road)	9,900	13,200	37,900	11,000	3.45	9.54%	4.69%	15,700	18,800	35,700	1.43	1.42	0.94	2.83%	10,300	29,700	4.71%	14,700	28,000	2.84%
Red		SR 1010 (Ten-Ten Road)	E of US 401	17,300	21,500	27,700	18,700	1.48	7.23%	1.11%	12,800	14,700	18,900	0.68	0.68	0.68		9,000	15,400	2.36%	6,200	10,500	2.32%
Red		SR 1010 (Ten-Ten Road)	W of US 401	17,600	20,600	27,100	18,600	1.46	5.24%	1.20%	14,100	15,600	20,500	0.76	0.76	0.76		11,800	17,000	1.60%	8,900	12,900	
Lilac		SR 1010 (Ten-Ten Road)	W of NC 50	10,400	12,500	17,500	11,100	1.58	6.12%	1.47%	6,700	7,500	10,500	0.60	0.60	0.60		5,800	8,800	1.83%	3,500	5,300	
	37	SR 1152 (Holly Springs Road)	N of SR 1300 (Kildaire Farm Road Connection)	10,500	10,800	28,300	10,600	2.67	0.94%	4.28%	8,900	9,100	23,800	0.84	0.84	0.84	4.27%	11,000	27,400	4.05%	9,300	23,000	4.02%
	1	SR 1152 (Holly Springs Road)	N of Southern Wake Expressway	10,500	10,800	28,300	10,600	2.67	0.94%	4.28%	8,900	9,100	23,800	0.84	0.84	0.84	4.27%	*25,300*	27,400	0.35%	21,300	23,000	0.33%
	39	SR 1152 (Holly Springs Road)	S of Southern Wake Expressway and SR 1300 (Kildaire Farm Road)	23,400	23,800	47,100	23,500	2.00	0.64%	3.01%	19,000	19,200	38,000	0.81	0.81	0.81	3.01%	27,200	60,300	3.52%	21,900	48,600	3.53%
	40	SR 1153 (Old Holly Springs-Apex Road)	N of Triangle Expressway (NC 540)	10,200	10,100	29,800	10,200	2.92	-0.49%	4.82%	1,900	10,100	29,800	0.19	1.00	1.00	4.82%	10,600	32,900	5.05%	10,600	32,900	5.05%
	41	SR 1153 (Old Holly Springs-Apex Road)	S of Triangle Expressway (NC 540)	10,200	15,000	41,600	11,800	3.53	12.75%	4.53%	1,900	15,000	41,600	0.16	1.00	1.00	4.53%	14,500	43,000	4.84%	14,500	43,000	4.84%
	42	SR 1172 (Old Smithfield Road)	E of NC 55 Bypass						4.38%	2.25%	1,000	1,100	1,800				2.16%				1,100	1,800	2.16%
	43	SR 1172 (Old Smithfield Road)	W of NC 55 Bypass						4.38%	2.25%	1,500	1,600	2,700				2.30%				1,600	2,700	2.30%
Plum		SR 1800 (Technology Drive)	N of NC 42						4.38%	2.25%	3,000	3,300	5,500					0	0		3,100	5,200	
	44	SR 1300 (Kildaire Farm Road)	W of SR 1152 (Holly Springs Road)	12,900	13,100	25,900	13,000	1.99	0.38%	3.01%	10,600	10,700	21,200	0.82	0.82	0.82	3.02%	15,200	34,600	3.64%	12,400	28,300	3.65%
	45	SR 1386 (Bells Lake Road)	S of SR 1010 (Ten Ten Rd)	8,100	9,200	30,400	8,500	3.58	4.04%	5.33%	4,500	4,900	13,200	0.53	0.53	0.43	4.40%	16,400	38,200	3.74%	11,900	21,600	2.63%
	46	SR 1386 (Bells Lake Road)	S of Southern Wake Expressway	8,100	9,200	30,400	8,500	3.58	4.04%	5.33%	4,500	4,900	13,200	0.53	0.53	0.43	4.40%	9,600	29,400	4.99%	5,100	12,800	4.08%
	47	SR 1386 (Graham Newton Road)	N of SR 1010	4,700	5,600	12,300	5,000	2.46	5.83%	3.48%	6,900	7,700	16,900	1.38	1.38	1.37	3.48%	8,500	13,900	2.16%	11,700	19,100	2.15%
Purple		SR 1393 (Hilltop Needmore Rd)	W of SR 1421 (Old Mills Rd)	6,100	7,400	13,800	6,500	2.12	6.70%	2.75%	3,500	4,000	7,500	0.54	0.54	0.54	2.77%	6,600	11,000	2.25%			
Purple		SR 1393 (Hilltop Needmore Rd)	E of SR 1421 (Old Mills Rd) / W of S Wake Expwy	6,100	7,400	13,800	6,500	2.12	6.70%	2.75%	3,500	3,900	7,300	0.54	0.53	0.53	2.76%	6,600	11,000	2.25%			
Purple		SR 1393 (Hilltop Needmore Rd)	E of S Wake Expwy	6,100	7,400	13,800	6,500	2.12	6.70%	2.75%	3,500	3,900	7,300	0.54	0.53	0.53	2.76%	6,600	11,000	2.25%			
Purple		SR 1421 (Old Mills Rd)	S of SR 1393 (Hilltop Needmore Rd)						4.38%	2.25%	400	400	700				2.46%						
	48	SR 1503 (Donny Brook Road)	W of US 401	7,800	10,400	21,500	8,700	2.47	9.33%	3.21%	3,000	3,600	7,400	0.34	0.35	0.34	3.18%	7,900	13,900	2.49%	2,700	4,800	2.53%
	49	SR 2233 (Smithfield Road)	N of US 64/264	4,700	7,300	20,200	5,600	3.61	14.17%	4.52%	6,300	8,200	22,700	1.13	1.12	0.90	4.53%	7,000	20,500	4.78%	7,900	18,300	3.72%
	50	SR 2233 (Smithfield Road)	S of US 64/264	25,600	27,100	42,200	26,100	1.62	1.90%	1.94%	16,600	17,200	26,800	0.64	0.63	0.64	1.95%	20,900	33,700	2.10%	13,300	21,400	2.09%
	51	SR 2516 (Hodge Road)	N of Old Faison Rd	4,100	5,600	13,800	4,600	3.00	10.34%	4.00%	6,200	7,500	12,500	1.35	1.34	0.91	2.25%	4,100	11,400	4.55%	5,500	10,300	2.77%
	52	SR 2516 (Hodge Road)	from US 64/264 to SR 1007 (Poole Rd)	9,800	18,100	33,200	12,600	2.63	19.85%	2.67%	9,000	12,900	23,700	0.71	0.71	0.71	2.68%	4,300	16,200	5.94%	3,100	11,600	5.91%
	53	SR 2516 (Hodge Road)	S of SR 1007 (Poole Rd)	3,500	11,900	17,600	6,300	2.79	37.44%	1.72%	1,100	2,100	3,100	0.17	0.18	0.18	1.71%	5,100	17,600	5.53%	900	3,100	5.52%
	54	SR 2542 (Rock Quarry Road)	W of SR 2555 (Auburn Knightdale Rd)	8,900	11,800	30,800	9,900	3.11	9.18%	4.26%	4,400	5,200	13,600	0.44	0.44	0.44	4.27%	9,400	25,100	4.36%	4,100	11,100	4.43%
	55	SR 2542 (Rock Quarry Road)	E of SR 2555 (Auburn-Knightdale Rd) (W of SE Ext)	10,900	13,700	31,800	11,800	2.69	7.75%	3.73%	3,900	4,500	10,400	0.33	0.33	0.33	3.71%	11,800	29,600	4.08%	3,900	9,700	4.04%
	56	SR 2542 (Rock Quarry Road)	E of Eastern Wake Expressway	10,900	13,700	31,800	11,800	2.69	7.75%	3.73%	3,900	4,500	10,400	0.33	0.33	0.33	3.71%	13,500	31,600	3.77%	4,400	10,300	3.77%
	57	SR 2542 (Rock Quarry Road)	E of SR 5204 (Old Baucom Rd)	8,600	10,800	20,000	9,300	2.15	7.76%	2.72%	3,200	3,700	6,900	0.34	0.34	0.35	2.75%	9,500	19,300	3.13%	3,300	6,700	3.13%
Red		SR 2542 (Rock Quarry Road)	E of Rock Quarry Road Extension	8,600	10,800	20,000	9,300	2.15	7.76%	2.72%								0	0				
	58	SR 2555 (Auburn Knightdale Road)	N of SR 2542 (Rock Quarry Rd)	8,300	12,600	28,000	9,700	2.89	13.97%	3.53%	2,600	3,400	7,600	0.27	0.27	0.27	3.56%	3,600	13,700	5.98%	1,000	3,700	5.85%
	59	SR 2555 (Auburn Knightdale Road)	S of SR 2542 (Rock Quarry Rd)	5,700	9,200	22,100	6,900	3.20	15.47%	3.88%	3,100	4,100	9,800	0.45	0.45	0.44	3.86%	2,600	10,500	6.26%	1,200	4,700	6.12%
	60	SR 2555 (Auburn Knightdale Road)	S of SR 2511 (Grasshopper Road) / E of Eastern Wake Expressway	8,000	13,200	29,500	9,700	3.04	16.65%	3.56%	2,600	3,500	7,800	0.27	0.65	0.43	3.55%	5,900	18,100	4.99%	3,800	7,800	3.18%
	61	SR 2555 (Auburn Knightdale Road)	W of Eastern Wake Expressway	8,000	13,200	29,500	9,700	3.04	16.65%	3.56%	2,600	3,500	7,800	0.27	0.65	0.43	3.55%	5,400	19,700	5.79%	3,500	8,500	3.93%
	62	SR 2555 (Raynor Road)	N of SR 2700 (White Oak Rd)	6,900	10,000	17,100	7,900	2.16	12.51%	2.36%	3,600	4,600	7,900	0.46	0.46	0.46	2.38%	3,000	6,500	3.42%	1,400	3,000	3.37%
	63	SR 2700 (White Oak Road)	E of SR 2555 (Raynor Rd) / SR 2700 (White Oak Rd)	13,000	15,700	31,400	13,900	2.26	6.28%	3.06%	7,600	8,600	17,200	0.55	0.55	0.55	3.06%	15,200	33,200	3.46%	8,300	18,200	3.47%
	64	SR 2700 (White Oak Road)	W of SR 2555 (Raynor Rd) / SR 2700 (White Oak Rd)	10,000	12,200	25,300	10,700	2.36	6.78%	3.22%	5,500	6,300	13,100	0.51	0.52	0.52	3.23%	14,500	30,200	3.24%	7,500	15,600	3.24%
	65	SR 2700 (White Oak Road)	E of Eastern Wake Expressway	13,000	15,700	31,400	13,900	2.26	6.28%	3.06%	7,600	8,600	17,200	0.55	0.55	0.55	3.06%	12,800	30,800	3.89%	7,000	16,900	3.91%
Red		SR 2711 (Vandora Springs Road)	E of SR 1006 (Old Stage Road)	8,000	9,300	27,400	8,400	3.26	5.22%	4.81%	6,900	7,600	22,400	0.82	0.82	0.82		0	0		0	0	
Lilac		SR 2724 (Banks Road)	W of SR 1006 (Old Stage Road)	8,300	10,200	18,700	8,900	2.10	7.05%	2.67%	3,100	3,600	6,600	0.35	0.35	0.35		5,900	9,900	2.28%	3,800	6,400	
Lilac		SR 2736 (Rock Service Station Road)	E of SR 1006 (Old Stage Road)	4,800	6,200	15,600	5,300	2.94	8.16%	4.09%	4,800	5,600	14,100	0.91	0.90	0.90		5,600	11,800	3.29%	5,100	10,700	
Blue		SR 2750 (Norman Blalock Rd)	W of SR 1006 (Old Stage Road)						4.38%	2.25%	1,100	1,100	1,800				2.16%						
Blue		SR 2750 (Norman Blalock Rd)	E of SR 1006 (Old Stage Road)						4.38%	2.25%	500	600	1,000				2.25%						
Blue		SR 2753 (Dwight Rowland Rd)	S of US 401	1,600	1,900	9,300	1,700	5.47	5.72%	7.15%	2,700	3,000	14,700	1.59	1.58	1.58	7.15%	1,900	10,228	7.59%			
Orange	66	SR 2779 (Old McCullers Road)	E of US 401	300	600	2,400	400	6.00	22.47%	6.21%	4,200	6,300	25,200	10.50	10.50	10.50	6.21%				6,300	25,200	6.21%
	67	SR 5204 (Old Baucom Road)	E of SR 2542 (Rock Quarry Rd)	2,700	3,500	15,300	3,000	5.10	8.01%	6.62%	900	1,100	4,800	0.30	0.31	0.31	6.62%	4,400	14,200	5.23%	1,400	4,500	5.21%
	68	US 1	N of Triangle Expressway (NC 540)	30,600	37,300	66,600	32,800	2.03	6.64%	2.55%	21,700	24,700	44,100	0.66	0.66	0.66	2.55%	36,100	65,800	2.64%	23,900	43,600	2.65%
	69	US 1	S of Triangle Expressway (NC 540)	30,600	36,200	78,700	32,500	2.42	5.54%	3.43%	21,700	24,200	52,600	0.67	0.67	0.67	3.43%	36,300	78,600	3.42%	24,300	52,500	3.41%
Red		US 401	N of S Wake Expwy	34,100	37,100	62,300	35,100	1.77	2.81%	2.28%	33,100	35,000	58,800	0.94	0.94	0.94		0	0				
Red		US 401	S of S Wake Expwy / N of SR 1010 (Ten Ten Rd)	34,100	37,100	62,300	35,100	1.77	2.81%	2.28%	33,100	35,000	58,800	0.94	0.94	0.94		0	0				
Red		US 401	S of SR 1010 (Ten Ten Rd)	33,500	38,500	64,300	35,200	1.83	4.58%	2.26%	32,600	36,100	60,300	0.93	0.94	0.94		0	0				
Orange	70	US 401	N of Southern Wake Expressway	33,200	38,100	64,200	34,800	1.84	4.63%	2.29%	33,000	36,100	60,800	0.95	0.95	0.95	2.29%	35,400	60,700	2.37%	33,500	57,500	2.38%
Orange	71	US 401	N of SR 1503 (Donny Brook Rd)	33,200	38,100	64,200	34,800	1.84	4.63%	2.29%	33,000	36,100	60,800	0.95	0.95	0.95	2.29%	45,900	78,700	2.37%	43,500	74,500	2.37%
Orange	72	US 401	S of SR 1503 (Donny Brook Rd)	27,400	31,600	56,200	28,800	1.95	4.75%	2.53%	29,500	32,400	57,600	1.02	1.03	1.02	2.53%	38,500	66,400	2.40%	39,500	68,100	2.40%
Blue		US 401	N of SR 2753 (Dwight Rowland Rd)	27,200	29,200	54,500	27,900	1.95	2.30%	2.75%	23,000	24,000	44,800	0.82	0.82	0.82	2.75%	31,900	57,800	2.62%			
Blue		US 401	S of SR 2753 (Dwight Rowland Rd)	26,300	28,200	45,200	26,900	1.68	2.39%	2.07%	21,200	22,300	35,700	0.79	0.79	0.79	2.07%	30,700	47,600	1.93%			
Blue		US 401	S of Eastern Parkway	26,300	28,200	45,200	26,900	1.68	2.39%	2.07%	21,200	22,300	35,700	0.79	0.79	0.79	2.07%						
Blue		US 401	S of S Wake Expwy	26,300	28,200	45,200	26,900	1.68	2.39%	2.07%	21,200	22,300	35,700	0.79	0.79	0.79	2.07%	30,468	30,099	-0.05%			
	73	US 64 Business	E of I-540	31,100	36,600	48,900	32,900	1.49	5.47%	1.27%	34,900	38,600	56,000	1.06	1.05	1.15	1.63%	37,600	49,800	1.23%	39,700	57,000	1.59%
	74	US 64 Business	W of I-540	20,600	23,900	37,600	21,700	1.73	4.95%	1.99%	31,700	35,100	50,900	1.46	1.47	1.35	1.63%	26,400	40,900	1.92%	38,800	55,400	1.56%
	75	US 64/264	W of SR 2516 (Hodge Road)	89,400	99,800	141,800	92,900	1.53	3.65%	1.54%	60,500	67,400	102,700	0.65	0.68	0.72	1.85%	100,100	141,400	1.51%	67,600	102,400	1.82%
	76	US 64/264	from SR 2516 (Hodge Road) to I-540 / Eastern Wake Expressway	77,400	88,500	130,700	81,100	1.61	4.46%	1.71%	59,000	65,700	100,100	0.73	0.74	0.77	1.85%	87,900	126,300	1.59%	65,300	96,700	1.72%
	77	US 64/264	from I-540 / Eastern Wake Expressway to SR 2233 (Smithfield Road)	74,200	88,600	137,400	79,000	1.74	5.90%	1.93%	68,300	76,100	116,000	0.86	0.86	0.84	1.85%	86,000	133,800	1.94%	73,900	113,000	1.86%
	78	US 64/264	E of SR 2233 (Smithfield Road)	55,100	70,200	116,400	60,100	1.94	8.08%	2.22%	55,500	61,800	94,200	0.92	0.88	0.81	1.85%	69,500	114,500	2.19%	61,200	92,700	1.82%
Red		US 70	E of Rock Quarry Road Extension	34,600	36,600	49,200	35,300	1.39	1.82%	1.29%	31,700	32,900	44,200					0	0				
	79	US 70	E of Eastern Wake Expwy	34,800	36,900	50,200	35,500	1.41	1.95%	1.35%	30,800	32,000	43,500	0.87	0.87	0.87	1.34%	41,900	56,600	1.32%	36,300	49,000	1.31%
	80	US 70	W of Eastern Wake Expwy	34,800	36,900	50,200	35,500	1.41	1.95%	1.35%	30,800	32,000	43,500	0.87	0.87	0.87	1.34%	36,100	51,300	1.54%	31,300	44,500	1.54%
	81	US 70	E of I-40	41,600	44,700	54,000	42,600	1.27	2.44%	0.83%	34,000	35,700	53,000	0.80	0.80	0.98	1.73%	37,200	48,100	1.12%	29,700	47,200	2.03%
	82	US 70	W of I-40	28,400	33,100	49,100	30,000	1.64	5.04%	1.73%	29,000	32,000	47,500	0.97	0.97	0.97	1.73%	29,000	41,700	1.59%	28,000	40,300	1.60%
	83	US 70 Bypass	E of I-40	29,100	28,800	45,600	29,000	1.57	4.38%	2.02%	23,000	25,100	39,700	0.79	0.87	0.87	2.01%	37,700	56,000	1.74%	32,900	48,800	1.73%
	84	US 70 Bypass	E of NC 42	35,800	36,500	57,800	36,000	1.61	0.69%	2.02%	28,600	31,800	50,300	0.79	0.87	0.87	2.01%	38,200	60,000	1.98%	33,300	52,200	1.97%
	85	Triangle Expressway - NC 540	from Old Holly Springs to NC 55		19,800	34,800	18,500	1.88	3.45%	2.48%	18,500	19,800	34,800	1.00	1.00	1.00	2.48%	23,200	51,900	3.56%	23,200	51,900	3.56%
	86	Triangle Expressway - NC 540	from Old Holly Springs to US 1		32,300	59,900	29,900	2.00	3.94%	2.72%	29,900	32,300	59,900	1.00	1.00	1.00	2.72%	34,400	72,400	3.29%	34,400	72,400	3.29%
	87	Triangle Expressway - NC 540	from US 1 to Old US 1		33,600	65,800	30,800	2.14	4.45%	2.97%	30,800	33,600	65,800	1.00	1.00	1.00	2.97%	34,700	71,100	3.17%	34,700	71,100	3.17%
Orange	88	SR 5324 (Stevens Oaks Drive)	W of NC 50	2,100	2,500	5,500	2,200	2.50	6.60%	3.49%	700	800	1,800	0.32	0.32	0.33	3.59%				800	1,300	2.13%
Brown	89	SR 5204 (Old Baucom Road)	E of Eastern Wake Expwy	2,700	3,500	15,300	3,000	5.10	8.01%	6.62%	900	1,100	4,800	0.30	0.31	0.31	6.62%	4,300			1,400	4,800	5.50%
Orange	90	Wake Tech Drive	E of US 401	4,100	4,800	9,800	4,300	2.28	5.65%	3.15%	3,400	3,800	7,800	0.79	0.79	0.80	3.18%	4,800	9,800	3.15%	3,800	7,800	3.18%
Orange	91	Chandler Apartments	W of US 401						0.00%	0.00%	900	900	900	1.00	1.00	1.00	0.00%				0	0	
Orange	92	US 401	S of Wake Tech Drive	26,800	30,600	55,000	28,100	1.96	4.35%	2.58%	27,600	30,100	54,100	0.98	0.98	0.98	2.58%	37,400	63,600	2.34%	36,800	62,600	2.34%
		SR 2515 (Old Faison Rd)	East of SR 2516 (Hodge Rd)	6,700	8,400	16,900	7,300	2.32	7.27%	3.09%	3,700	4,500	15,400	0.51	0.54	0.91		6,800	14,400	3.32%	6,100	12,600	
Red		Rock Quarry Road Extension	S of Rock Quarry Road						4.38%	2.25%								0	0				
Lilac		Residential Drive (Red Brick Connector)	E of NC 50						4.38%	2.25%								4,200	6,100	1.64%	1,900	1,900	
Lilac		Commercial Drive	W of Rock Service Station Road						4.38%	2.25%	400	400	700					0	0				
				2,431,900	2,854,200	4,784,400	2,623,000		4.38%	2.25%	2,227,700	2,426,500	3,982,100	0.906	0.917	0.900	2.18%				2,278,700	3,885,700	2.35%

Complete 540 - SE Extension Traffic Forecast

	HNTB ID	Facility	Location	Build 2 - Orange to Brown to Green						Build 3 - Orange to Green to Teal to Brown to Green						Build 4 - Orange-Red-Green					
				Raw Model		Rate	FINAL		Rate	Raw Model		Rate	FINAL		Rate	Raw Model		Rate	FINAL		Rate
	HNTB ID	Facility	Location	2012 Model	2035 Model	Build Model Growth Rate	2012	2035	Final Annual Growth Rate	2012 Model	2035 Model	Build Model Growth Rate	2012	2035	Final Annual Growth Rate	2012 Model	2035 Model	Build Model Growth Rate	2012	2035	Final Annual Growth Rate
	1	Eastern Wake Expressway	from I-40 / US 70 Bypass to (SR 2700) White Oak Road	18,900	43,800	3.72%	18,900	43,900	3.73%	20,500	44,200	3.40%	20,900	44,300	3.32%	0	0		0	0	
	2	Eastern Wake Expressway	from (SR 2700) White Oak Road to US 70	20,600	46,700	3.62%	20,600	46,700	3.62%	25,800	50,200	2.94%	25,800	50,200	2.94%	0	0		0	0	
	3	Eastern Wake Expressway	from US 70 to SR 2542 (Rock Quarry Road)	37,800	66,400	2.48%	37,800	66,400	2.48%	27,500	56,100	3.15%	27,500	56,100	3.15%	0	0		0	0	
Red	1-3	Eastern Wake Expressway	from I-40 to SR 2542 (Rock Quarry Road)													23,000	64,800	4.61%	23,000	64,800	4.61%
	4	Eastern Wake Expressway	from SR 2542 (Rock Quarry Road)/Old Baucom to SR 2555 (Auburn Knightdale Road)	37,000	67,200	2.63%	37,000	67,200	2.63%	33,000	63,700	2.90%	33,000	63,700	2.90%	33,400	73,700	3.50%	33,400	73,700	3.50%
	5	Eastern Wake Expressway	from SR 2555 (Auburn Knightdale Road) to SR 1007 (Poole Road)	41,200	75,700	2.68%	41,100	75,800	2.70%	35,200	69,700	3.01%	35,300	69,800	3.01%	34,100	75,500	3.52%	34,100	75,500	3.52%
	6	Eastern Wake Expressway	from SR 1007 (Poole Road) to US 64/264	51,900	95,300	2.68%	51,800	95,300	2.69%	46,000	89,000	2.91%	46,000	89,100	2.92%	43,800	94,000	3.38%	43,800	94,000	3.38%
	7	I-40	from Exit 303 (Jones Sausage Road) to Exit 306 (US 70)	109,500	153,200	1.47%	90,800	128,800	1.53%	113,900	155,600	1.37%	90,800	128,800	1.53%	114,100	163,800	1.58%	92,500	136,700	1.71%
Red	8a	I-40	from Exit 306 (US 70) to S-E Wake Expwy													92,500	140,200	1.82%	73,700	110,200	1.76%
Red	8b	I-40	from S-E Wake Expwy to US 70 Bypass													95,800	142,900	1.75%	76,300	112,300	1.69%
	8	I-40	from Exit 306 (US 70) to US 70 Bypass/S-E Wake Expwy	85,900	122,300	1.55%	69,600	94,800	1.35%	87,600	122,100	1.45%	69,600	94,800	1.35%	0	0		0	0	
	9	I-40	from US 70/S-E Wake to Exit 312 (NC 42)	72,600	101,000	1.45%	61,100	81,600	1.27%	72,800	100,900	1.43%	61,100	81,600	1.27%	67,700	102,800	1.83%	57,000	83,500	1.67%
	10	I-40	from Exit 312 (NC 42) to Exit 319 (NC 210)	50,700	70,300	1.43%	51,700	74,000	1.57%	50,600	70,100	1.43%	51,700	74,000	1.57%	49,200	71,500	1.64%	50,200	75,500	1.79%
	12	I-540	N of US 64 Business	48,200	97,400	3.11%	66,000	105,800	2.07%	48,100	94,800	2.99%	66,000	105,800	2.07%	44,500	95,300	3.37%	60,900	104,300	2.37%
	11	I-540	from US 64/264 to US 64 Business	39,800	85,600	3.39%	55,300	95,400	2.40%	39,700	83,900	3.31%	55,300	95,400	2.40%	36,600	85,100	3.74%	50,100	93,200	2.74%
	13a	NC 42	E of I-40	16,500	23,200	1.49%	19,700	27,800	1.51%	16,500	23,800	1.61%	19,700	27,800	1.51%	19,300	24,400	1.02%	22,400	28,700	1.08%
	14a	NC 42	W of I-40	31,000	36,400	0.70%	32,300	38,200	0.73%	30,600	36,600	0.78%	32,300	38,200	0.73%	32,400	40,300	0.95%	34,000	42,300	0.95%
	15	NC 42	N of US 70 Bypass	13,400	20,300	1.82%	10,900	16,200	1.74%	14,100	20,800	1.70%	10,700	16,200	1.82%	12,400	17,300	1.46%	11,200	15,700	1.48%
	16	NC 42	S of US 70 Bypass	17,400	28,300	2.14%	13,500	22,200	2.19%	17,200	28,600	2.24%	13,500	22,200	2.19%	20,700	31,900	1.90%	12,700	19,600	1.90%
Red	new	NC 50	S of SR 2812 (Timber Dr) (N of S Wake Expwy)													23,800	35,300	1.73%	23,500	34,800	1.72%
Red	new	NC 50	S of S Wake Expwy													22,100	31,200	1.51%	21,800	30,800	1.51%
Lilac	new	NC 50	N of SR 1010 (Ten Ten Rd)													14,500	17,100	0.72%	15,100	17,800	0.72%
	17	NC 50	N of S Wake Expwy / S of SR 1010 (Ten-Ten Rd)	15,600	18,800	0.81%	12,400	14,900	0.80%	15,400	18,600	0.82%	12,200	14,700	0.81%	19,100	12,000	-2.00%	15,100	9,500	-1.99%
	18	NC 50	N of SR 1010 (Cleveland School Road)	21,700	31,100	1.58%	17,200	24,600	1.57%	21,400	31,400	1.68%	16,900	24,800	1.68%	0	0		0	0	
	19	NC 50	S of SR 1010 (Cleveland School Road)	13,800	19,800	1.58%	10,900	15,600	1.57%	13,800	20,000	1.63%	10,900	15,800	1.63%	0	0		0	0	
	20	NC 55 Bypass	S of SR 1172 (Old Smithfield Road)	41,200	49,300	0.78%	38,600	46,200	0.78%	41,100	49,800	0.84%	38,500	46,700	0.84%				38,100	47,400	0.95%
	21	NC 55 Bypass	from SR 1172 (Old Smithfield Road) to Triangle Expwy	41,200	49,300	0.78%	38,900	46,500	0.78%	41,100	49,800	0.84%	38,800	46,900	0.83%	37,400	50,500	1.31%	35,300	47,600	1.31%
	22	NC 55 Bypass	from Triangle Expwy to NC 55 Business	38,100	44,500	0.68%	39,800	46,400	0.67%	38,100	43,800	0.61%	39,800	45,700	0.60%	36,500	46,800	1.09%	38,100	48,800	1.08%
	23	Southern Wake Expressway	from NC 55 to SR 1152 (Holly Springs Road)	17,100	40,300	3.80%	17,100	40,300	3.80%	17,100	40,900	3.86%	17,100	40,900	3.86%	15,200	42,800	4.60%	15,200	42,800	4.60%
Orange	24	Southern Wake Expressway	from SR 1152 (Holly Springs Road) to SR 1386 (Bells Lake Road)	21,100	57,200	4.43%	21,100	57,200	4.43%	21,400	57,800	4.41%	21,400	57,800	4.41%	19,800	57,500	4.74%	19,800	57,500	4.74%
Purple	24a	Southern Wake Expressway	from SR 1152 (Holly Springs Road) to SR 1393 (Hilltop Needmore Road)																		
	25	Southern Wake Expressway	from SR 1386 (Bells Lake Road) to US 401	30,000	70,200	3.77%	30,000	70,200	3.77%	30,000	70,200	3.77%	30,000	70,200	3.77%	22,500	61,300	4.45%	22,500	61,300	4.45%
Purple	25a	Southern Wake Expressway	from SR 1393 (Hilltop Needmore Road) to US 401																		
	26	Southern Wake Expressway	from US 401 to SR 1006 (Old Stage Road)	33,000	71,300	3.41%	33,000	71,300	3.41%	32,800	71,000	3.41%	32,800	71,000	3.41%	22,100	59,100	4.37%	22,100	59,100	4.37%
	27	Southern Wake Expressway	from SR 1006 (Old Stage Road) to NC 50	25,800	56,700	3.48%	25,800	56,700	3.48%	25,600	56,900	3.53%	25,600	56,900	3.53%	21,800	64,800	4.85%	21,800	64,800	4.85%
	28	Southern Wake Expressway	from NC 50 to I-40 / US 70 Bypass	24,300	51,800	3.35%	24,300	51,800	3.35%	23,900	51,300	3.38%	23,900	51,300	3.38%	25,300	58,200	3.69%	25,300	58,200	3.69%
Red		SR 1006 (Old Stage Road)	N of SR 2711 (Vandora Springs Rd)													13,200	42,000	5.16%	13,200	42,000	5.16%
Red		SR 1006 (Old Stage Road)	S of SR 2711 (Vandora Springs Rd)													21,800	57,200	4.28%	21,300	55,900	4.28%
Red		SR 1006 (Old Stage Road)	N of SR 1010 (Ten Ten Rd)													15,100	40,000	4.33%	14,700	39,100	4.35%
Orange	29	SR 1006 (Old Stage Road)	S of SR 1010 (Ten Ten Rd)	15,000	30,700	3.16%	10,800	22,200	3.18%	15,000	30,400	3.12%	10,800	22,000	3.14%	12,200	23,100	2.81%	8,800	16,700	2.82%
Orange	30	SR 1006 (Old Stage Road)	S of Southern Wake Expressway (N of SR 2724 Banks Rd)	14,000	26,600	2.83%	10,100	19,200	2.83%	13,900	26,200	2.79%	10,000	18,900	2.81%	10,100	40,000	6.17%	7,300	28,900	6.17%
Lilac		SR 1006 (Old Stage Road)	N of SR 2736 (Rock Service Station Rd)													0	0		0	0	
Lilac		SR 1006 (Old Stage Road)	S of SR 2736 (Rock Service Station Rd)													0	0		0	0	
Blue		SR 1006 (Old Stage Road)	N of Norman Blalock Rd																		
Blue		SR 1006 (Old Stage Road)	S of Norman Blalock Rd (N of S Wake Expwy)																		
Blue		SR 1006 (Old Stage Road)	N of NC 42 (S of S Wake Expwy)																		
	31	SR 1007 (Poole Road)	E of Eastern Wake Expressway	16,900	57,100	5.44%	10,000	33,700	5.42%	16,400	56,300	5.51%	10,000	33,700	5.42%	16,000	58,000	5.76%	9,300	33,700	5.76%
	32	SR 1007 (Poole Road)	E of SR 2516 (Hodge Rd) / W of Eastern Wake Expwy	14,100	41,200	4.77%	8,700	23,000	4.32%	14,100	39,700	4.60%	8,700	23,000	4.32%	13,900	39,500	4.65%	8,100	23,000	4.64%
	33	SR 1007 (Poole Road)	W of SR 2516 (Hodge Rd)	15,500	43,900	4.63%	7,900	20,000	4.12%	15,300	42,900	4.58%	7,900	20,000	4.12%	12,600	34,300	4.45%	7,400	20,000	4.42%
Orange	34	SR 1010 (Cleveland School Road)	E of NC 50	8,300	12,400	1.76%	6,800	10,200	1.78%	7,900	12,500	2.02%	6,500	10,300	2.02%	0	10,400		0	8,600	
	35	SR 1010 (Ten-Ten Road)	E of SR 1386 (Bells Lake Road)	2,300	6,100	4.33%	13,400	25,600	2.85%	2,300	5,700	4.02%	13,400	25,600	2.85%	3,800	8,500	3.56%	12,100	25,800	3.35%
	36	SR 1010 (Ten-Ten Road)	W of SR 1386 (Bells Lake Road)	10,700	30,700	4.69%	15,200	28,900	2.83%	10,500	29,400	4.58%	15,000	27,700	2.70%	9,300	29,900	5.21%	13,200	28,200	3.36%
Red		SR 1010 (Ten-Ten Road)	E of US 401													17,000	24,800	1.66%	11,600	16,900	1.65%
Red		SR 1010 (Ten-Ten Road)	W of US 401													13,600	19,400	1.56%	10,300	14,700	1.56%
Lilac		SR 1010 (Ten-Ten Road)	W of NC 50													0	0		0	0	
	37	SR 1152 (Holly Springs Road)	N of SR 1300 (Kildaire Farm Road Connection)	11,000	35,400	5.21%	9,300	29,800	5.19%	10,900	35,600	5.28%	9,200	29,900	5.26%	10,300	29,500	4.68%	8,700	24,800	4.66%
	1	SR 1152 (Holly Springs Road)	N of Southern Wake Expressway	11,000	27,800	4.11%	9,300	23,400	4.09%	10,900	27,600	4.12%	9,200	23,200	4.10%	21,700	29,500	1.34%	18,300	24,800	1.33%
	39	SR 1152 (Holly Springs Road)	S of Southern Wake Expressway and SR 1300 (Kildaire Farm Road)	27,000	60,000	3.53%	21,800	48,400	3.53%	26,900	60,100	3.56%	21,700	48,500	3.56%	26,200	64,500	3.99%	21,100	52,000	4.00%
	40	SR 1153 (Old Holly Springs-Apex Road)	N of Triangle Expressway (NC 540)	10,500	32,100	4.98%	10,500	32,100	4.98%	10,300	32,500	5.12%	10,300	32,500	5.12%	9,700	43,000	6.69%	9,700	43,000	6.69%
	41	SR 1153 (Old Holly Springs-Apex Road)	S of Triangle Expressway (NC 540)	14,600	42,000	4.70%	14,600	42,000	4.70%	14,700	42,600	4.73%	14,700	42,600	4.73%	13,600	53,300	6.12%	13,600	53,300	6.12%
	42	SR 1172 (Old Smithfield Road)	E of NC 55 Bypass													0	0		1,100	1,800	2.16%
	43	SR 1172 (Old Smithfield Road)	W of NC 55 Bypass													0	0		1,600	2,700	2.30%
Plum		SR 1800 (Technology Drive)	N of NC 42													0	0		0	0	
	44	SR 1300 (Kildaire Farm Road)	W of SR 1152 (Holly Springs Road)	14,600	20,900	1.57%	11,900	17,100	1.59%	14,300	20,500	1.58%	11,700	16,800	1.59%	13,800	36,300	4.29%	11,300	29,700	4.29%
	45	SR 1386 (Bells Lake Road)	S of SR 1010 (Ten Ten Rd)	16,300	38,600	3.82%	8,700	16,800	2.90%	16,000	38,700	3.91%	8,500	16,800	3.01%	10,900	34,600	5.15%	7,900	19,600	4.03%
	46	SR 1386 (Bells Lake Road)	S of Southern Wake Expressway	9,500	29,300	5.02%	5,100	12,700	4.05%	9,500	29,800	5.10%	5,100	12,900	4.12%	12,500	39,600	5.14%	6,700	17,200	4.18%
	47	SR 1386 (Graham Newton Road)	N of SR 1010	8,200	13,300	2.13%	11,300	18,300	2.12%	8,100	14,400	2.53%	11,100	19,800	2.55%	5,600	12,400	3.52%	7,700	17,000	3.50%
Purple		SR 1393 (Hilltop Needmore Rd)	W of SR 1421 (Old Mills Rd)																		
Purple		SR 1393 (Hilltop Needmore Rd)	E of SR 1421 (Old Mills Rd) / W of S Wake Expwy																		
Purple		SR 1393 (Hilltop Needmore Rd)	E of S Wake Expwy																		
Purple		SR 1421 (Old Mills Rd)	S of SR 1393 (Hilltop Needmore Rd)																		
	48	SR 1503 (Donny Brook Road)	W of US 401	7,800	13,800	2.51%	2,700	4,700	2.44%	7,900	13,300	2.29%	2,700	4,600	2.34%	5,200	10,100	2.93%	1,800	3,500	2.93%
	49	SR 2233 (Smithfield Road)	N of US 64/264	7,100	20,700	4.76%	7,900	18,300	3.72%	7,300	20,800	4.66%	7,900	18,300	3.72%	7,000	19,900	4.65%	7,900	17,800	3.60%
	50	SR 2233 (Smithfield Road)	S of US 64/264	20,700	33,200	2.08%	13,300	21,400	2.09%	20,700	34,900	2.30%	13,300	21,400	2.09%	21,000	34,900	2.23%	13,300	22,200	2.25%
	51	SR 2516 (Hodge Road)	N of Old Faison Rd	4,300	10,400	3.91%	5,500	10,400	2.81%	4,200	11,400	4.44%	5,500	10,400	2.81%	3,900	11,400	4.77%	5,200	10,300	3.02%
	52	SR 2516 (Hodge Road)	from US 64/264 to SR 1007 (Poole Rd)	9,900	29,500	4.86%	3,100	11,600	5.91%	9,800	30,300	5.03%	3,100	11,600	5.91%	4,300	15,500	5.73%	3,100	11,100	5.70%
	53	SR 2516 (Hodge Road)	S of SR 1007 (Poole Rd)				900	3,100	5.52%				900	3,100	5.52%	5,200	17,900	5.52%	900	3,200	5.67%
	54	SR 2542 (Rock Quarry Road)	W of SR 2555 (Auburn Knightdale Rd)	8,000	23,900	4.87%	3,500	10,600	4.94%	8,800	23,600	4.38%	3,900	10,400	4.36%	7,600	20,200	4.34%	3,300	8,900	4.41%
	55	SR 2542 (Rock Quarry Road)	E of SR 2555 (Auburn-Knightdale Rd) (W of SE Ext)	6,800	22,100	5.26%	2,100	6,900	5.31%	6,800	19,100	4.59%	3,500	6,000	2.37%	11,600	27,200	3.77%	3,800	8,900	3.77%
	56	SR 2542 (Rock Quarry Road)	E of Eastern Wake Expressway													24,700	45,200	2.66%	8,100	14,800	2.66%
	57	SR 2542 (Rock Quarry Road)	E of SR 5204 (Old Baucom Rd)	4,300	9,900	3.69%	1,500	3,400	3.62%	10,400	18,800	2.61%	3,500	6,500	2.73%	20,300	31,900	1.98%	7,000	11,000	1.98%
Red		SR 2542 (Rock Quarry Road)	E of Rock Quarry Road Extension													21,900	27,200	0.95%	7,500	9,400	0.99%
	58	SR 2555 (Auburn Knightdale Road)	N of SR 2542 (Rock Quarry Rd)	8,000	19,800	4.02%	2,200	5,500	4.06%	5,500	17,300	5.11%	1,500	4,800	5.19%	4,600	13,600	4.83%	1,200	3,700	5.02%
	59	SR 2555 (Auburn Knightdale Road)	S of SR 2542 (Rock Quarry Rd)	6,300	15,800	4.08%	2,800	7,000	4.06%	3,800	12,200	5.20%	1,700	5,400	5.15%	6,200	15,100	3.95%	2,800	6,700	3.87%
	60	SR 2555 (Auburn Knightdale Road)	S of SR 2511 (Grasshopper Road) / E of Eastern Wake Expressway	5,800	18,400	5.15%	3,800	7,900	3.23%	5,600	18,200	5.26%	3,800	7,900	3.23%	6,300	19,500	5.04%	4,100	8,400	3.17%
	61	SR 2555 (Auburn Knightdale Road)	W of Eastern Wake Expressway	11,400	27,100	3.84%	7,500	11,700	1.95%	8,500	23,700	4.56%	5,500	10,200	2.72%	6,400	20,300	5.15%	4,200	8,700	3.22%
	62	SR 2555 (Raynor Road)	N of SR 2700 (White Oak Rd)	6,900	11,500	2.25%	3,400	5,400	2.03%	3,400	7,400	3.44%	1,600	3,500	3.46%	8,700	15,500	2.54%	4,000	7,200	2.59%
	63	SR 2700 (White Oak Road)	E of SR 2555 (Raynor Rd) / SR 2700 (White Oak Rd)	18,800	38,000	3.11%	10,300	20,800	3.10%	15,500	33,400	3.39%	8,500	18,300	3.39%	14,500	30,400	3.27%	7,900	16,700	3.31%
	64	SR 2700 (White Oak Road)	W of SR 2555 (Raynor Rd) / SR 2700 (White Oak Rd)	14,500	30,900	3.34%	7,500	16,000	3.35%	14,400	30,100	3.26%	7,500	15,600	3.24%	11,200	23,200	3.22%	5,800	12,000	3.21%
	65	SR 2700 (White Oak Road)	E of Eastern Wake Expressway	12,000	29,100	3.93%	6,600	16,000	3.93%	12,300	30,100	3.97%	6,800	16,600	3.96%	14,500	30,400	3.27%	7,900	16,700	3.31%
Red		SR 2711 (Vandora Springs Road)	E of SR 1006 (Old Stage Road)													10,400	22,600	3.43%	8,500	18,500	3.44%
Lilac		SR 2724 (Banks Road)	W of SR 1006 (Old Stage Road)													0	0		0	0	
Lilac		SR 2736 (Rock Service Station Road)	E of SR 1006 (Old Stage Road)													0	0		0	0	
Blue		SR 2750 (Norman Blalock Rd)	W of SR 1006 (Old Stage Road)																		
Blue		SR 2750 (Norman Blalock Rd)	E of SR 1006 (Old Stage Road)																		
Blue		SR 2753 (Dwight Rowland Rd)	S of US 401																		
Orange	66	SR 2779 (Old McCullers Road)	E of US 401				0	0					0	0		0	0		0	0	
	67	SR 5204 (Old Baucom Road)	E of SR 2542 (Rock Quarry Rd)	3,200	14,400	6.76%	1,200	4,900	6.31%	6,500	15,100	3.73%	3,500	5,100	1.65%	5,000	15,700	5.10%	1,600	4,900	4.99%
	68	US 1	N of Triangle Expressway (NC 540)	36,300	65,500	2.60%	24,000	43,400	2.61%	36,000	66,000	2.67%	23,800	43,700	2.68%	36,400	68,900	2.81%	24,100	45,600	2.81%
	69	US 1	S of Triangle Expressway (NC 540)	36,200	78,900	3.45%	24,200	52,700	3.44%	36,200	78,800	3.44%	24,200	52,700	3.44%	35,600	77,600	3.45%	23,800	51,900	3.45%
Red		US 401	N of S Wake Expwy													35,600	55,800	1.97%	33,600	52,700	1.98%
Red		US 401	S of S Wake Expwy / N of SR 1010 (Ten Ten Rd)													42,500	70,900	2.25%	40,100	66,900	2.25%
Red		US 401	S of SR 1010 (Ten Ten Rd)													38,100	64,200	2.29%	35,700	60,200	2.30%
Orange	70	US 401	N of Southern Wake Expressway	35,700	60,600	2.33%	33,800	57,400	2.33%	35,700	61,200	2.37%	33,800	58,000	2.38%	35,600	63,400	2.54%	33,700	60,000	2.54%
Orange	71	US 401	N of SR 1503 (Donny Brook Rd)	45,800	78,800	2.39%	43,400	74,600	2.38%	45,900	78,400	2.35%	43,500	74,200	2.35%	37,500	63,400	2.31%	35,500	60,000	2.31%
Orange	72	US 401	S of SR 1503 (Donny Brook Rd)	38,600	66,400	2.39%	39,600	68,100	2.39%	38,600	66,700	2.41%	39,600	68,400	2.40%	33,800	59,300	2.47%	34,700	60,800	2.47%
Blue		US 401	N of SR 2753 (Dwight Rowland Rd)																		
Blue		US 401	S of SR 2753 (Dwight Rowland Rd)																		
Blue		US 401	S of Eastern Parkway																		
Blue		US 401	S of S Wake Expwy																		
	73	US 64 Business	E of I-540	38,300	50,800	1.24%	39,700	57,000	1.59%	38,300	49,500	1.12%	39,700	57,000	1.59%	36,600	50,500	1.41%	38,600	57,800	1.77%
	74	US 64 Business	W of I-540	26,800	40,700	1.83%	38,800	55,400	1.56%	26,700	40,600	1.84%	38,800	55,400	1.56%	26,000	41,400	2.04%	38,200	56,000	1.68%
	75	US 64/264	W of SR 2516 (Hodge Road)	104,500	143,600	1.39%	67,600	102,400	1.82%	100,100	141,200	1.51%	67,600	102,400	1.82%	97,800	141,400	1.62%	66,000	102,400	1.93%
	76	US 64/264	from SR 2516 (Hodge Road) to I-540 / Eastern Wake Expressway	91,500	128,400	1.48%	65,300	96,700	1.72%	87,300	126,400	1.62%	65,300	96,700	1.72%	85,300	126,200	1.72%	63,300	96,700	1.86%
	77	US 64/264	from I-540 / Eastern Wake Expressway to SR 2233 (Smithfield Road)	85,600	133,000	1.93%	74,000	113,000	1.86%	86,200	134,900	1.97%	74,000	113,000	1.86%	86,300	133,100	1.90%	74,100	112,400	1.83%
	78	US 64/264	E of SR 2233 (Smithfield Road)	68,800	114,100	2.22%	61,200	92,700	1.82%	69,700	113,800	2.15%	61,200	92,700	1.82%	69,700	113,400	2.14%	61,400	91,800	1.76%
Red		US 70	E of Rock Quarry Road Extension													0	47,800	#DIV/0!	29,500	41,400	1.48%
	79	US 70	E of Eastern Wake Expwy	39,800	51,100	1.09%	34,500	44,300	1.09%	40,400	55,700	1.41%	35,000	48,400	1.42%	33,100	46,500	1.49%	28,700	40,300	1.49%
	80	US 70	W of Eastern Wake Expwy	29,500	49,200	2.25%	25,700	42,600	2.22%	39,100	54,600	1.46%	33,900	47,300	1.46%	33,100	47,500	1.58%	28,700	41,200	1.58%
	81	US 70	E of I-40	35,300	45,800	1.14%	28,300	45,000	2.04%	39,000	48,400	0.94%	29,700	47,200	2.03%	37,900	50,700	1.27%	30,300	49,800	2.18%
	82	US 70	W of I-40	28,700	40,300	1.49%	28,100	40,400	1.59%	29,000	41,500	1.57%	28,100	40,400	1.59%	28,300	45,800	2.12%	27,400	44,300	2.11%
	83	US 70 Bypass	E of I-40	33,600	53,500	2.04%	29,600	47,300	2.06%	37,500	55,500	1.72%	33,200	48,900	1.70%	28,500	44,200	1.93%	24,800	38,500	1.93%
	84	US 70 Bypass	E of NC 42	34,300	57,900	2.30%	30,400	51,100	2.28%	37,800	59,600	2.00%	33,800	52,500	1.93%	34,200	55,800	2.15%	29,800	48,600	2.15%
	85	Triangle Expressway - NC 540	from Old Holly Springs to NC 55	23,500	51,500	3.47%	23,500	51,500	3.47%	23,400	52,500	3.58%	23,400	52,500	3.58%	17,700	55,700	5.11%	17,700	55,700	5.11%
	86	Triangle Expressway - NC 540	from Old Holly Springs to US 1	34,700	72,500	3.26%	34,700	72,500	3.26%	34,700	73,200	3.30%	34,700	73,200	3.30%	27,900	83,200	4.87%	27,900	83,200	4.87%
	87	Triangle Expressway - NC 540	from US 1 to Old US 1	34,800	71,000	3.15%	34,800	71,000	3.15%	35,100	71,300	3.13%	35,100	71,300	3.13%	27,200	73,700	4.43%	27,200	73,700	4.43%
Orange	88	SR 5324 (Stevens Oaks Drive)	W of NC 50				0	0					0	0		0	0		0	0	
Brown	89	SR 5204 (Old Baucom Road)	E of Eastern Wake Expwy	5,400	17,800	5.32%	2,000	4,900	3.97%	6,400	19,700	5.01%	3,600	6,700	2.74%	4,600	15,600	5.45%	1,400	4,900	5.60%
Orange	90	Wake Tech Drive	E of US 401	4,800	9,800	3.15%	3,800	7,800	3.18%	4,800	9,800	3.15%	3,800	7,800	3.18%	4,800	10,100	3.29%	3,800	8,000	3.29%
Orange	91	Chandler Apartments	W of US 401				0	0					0	0		0	0		0	0	
Orange	92	US 401	S of Wake Tech Drive	38,600	67,100					38,600	67,100					33,000	57,800	2.47%	32,500	56,900	2.46%
		SR 2515 (Old Faison Rd)	East of SR 2516 (Hodge Rd)				6,100	12,600					6,100	12,600					6,500	12,700	
Red		Rock Quarry Road Extension	S of Rock Quarry Road													0	4,700		1,000	1,600	2.06%
Lilac		Residential Drive (Red Brick Connector)	E of NC 50													0	0		0	0	
Lilac		Commercial Drive	W of Rock Service Station Road													0	0				
							2,039,600	3,509,900	2.39%				2,034,000	3,500,500	2.39%				2,263,900	4,088,800	2.60%

Complete 540 - SE Extension Traffic Forecast

				Build 5 - Orange-Purple-Blue-Lilac-Green						DSA 10-11		DSA 12	
				Raw Model		Rate	FINAL		Rate	FINAL		FINAL	
	HNTB ID	Facility	Location	2012 Model	2035 Model	Build Model Growth Rate	2012	2035	Final Applied Annual Growth Rate	2012	2035	2012	2035
	1	Eastern Wake Expressway	from I-40 / US 70 Bypass to (SR 2700) White Oak Road	18,800	37,900	3.10%	18,800	42,900	3.65%	17,000	41,000	18,800	41,400
	2	Eastern Wake Expressway	from (SR 2700) White Oak Road to US 70	25,700	51,500	3.07%	25,700	51,500	3.07%	19,500	44,500	24,400	47,900
	3	Eastern Wake Expressway	from US 70 to SR 2542 (Rock Quarry Road)	32,200	66,900	3.23%	34,000	62,500	2.68%	37,000	64,800	26,900	54,800
Red	1-3	Eastern Wake Expressway	from I-40 to SR 2542 (Rock Quarry Road)										
	4	Eastern Wake Expressway	from SR 2542 (Rock Quarry Road)/Old Baucom to SR 2555 (Auburn Knightdale Road)	37,900	73,800	2.94%	37,900	69,400	2.67%	37,100	67,300	33,100	63,800
	5	Eastern Wake Expressway	from SR 2555 (Auburn Knightdale Road) to SR 1007 (Poole Road)	37,600	76,400	3.13%	37,600	72,000	2.86%	41,000	75,600	35,200	69,600
	6	Eastern Wake Expressway	from SR 1007 (Poole Road) to US 64/264	47,300	95,800	3.12%	48,500	91,400	2.79%	51,700	94,800	45,900	88,600
	7	I-40	from Exit 303 (Jones Sausage Road) to Exit 306 (US 70)	109,600	156,500	1.56%	88,900	130,600	1.69%	88,900	130,600	88,900	130,600
Red	8a	I-40	from Exit 306 (US 70) to S-E Wake Expwy										
Red	8b	I-40	from S-E Wake Expwy to US 70 Bypass										
	8	I-40	from Exit 306 (US 70) to US 70 Bypass/S-E Wake Expwy	86,300	126,100	1.66%	68,800	99,100	1.60%	68,800	99,100	68,800	99,100
	9	I-40	from US 70/S-E Wake to Exit 312 (NC 42)	70,800	101,400	1.57%	59,600	82,300	1.41%	59,600	82,300	59,600	82,300
	10	I-40	from Exit 312 (NC 42) to Exit 319 (NC 210)	49,900	69,700	1.46%	51,000	73,600	1.61%	51,000	73,600	51,000	73,600
	12	I-540	N of US 64 Business	46,600	94,700	3.13%	65,800	103,700	2.00%	65,800	103,700	65,800	103,700
	11	I-540	from US 64/264 to US 64 Business	38,500	83,600	3.43%	55,100	92,200	2.26%	55,100	92,200	55,100	92,200
	13a	NC 42	E of I-40	16,100	22,800	1.52%	18,700	26,800	1.58%	18,700	26,800	18,700	26,800
	14a	NC 42	W of I-40	30,400	35,700	0.70%	31,900	37,500	0.71%	31,900	37,500	31,900	37,500
	15	NC 42	N of US 70 Bypass	13,100	18,800	1.58%	10,000	17,100	2.36%	10,000	17,100	10,000	17,100
	16	NC 42	S of US 70 Bypass	18,100	30,200	2.25%	13,800	21,200	1.88%	13,800	21,200	13,800	21,200
Red	new	NC 50	S of SR 2812 (Timber Dr) (N of S Wake Expwy)										
Red	new	NC 50	S of S Wake Expwy										
Lilac	new	NC 50	N of SR 1010 (Ten Ten Rd)	13,500	16,600	0.90%	**14,000**	**17,300**	0.92%	14,000	17,300	14,000	17,300
	17	NC 50	N of S Wake Expwy / S of SR 1010 (Ten-Ten Rd)	21,600	26,300	0.86%	**17,100**	**20,800**	0.86%	17,100	20,800	17,100	20,800
	18	NC 50	N of SR 1010 (Cleveland School Road)	20,000	31,500	1.99%	**15,800**	**24,900**	2.00%	15,800	24,900	15,800	24,900
	19	NC 50	S of SR 1010 (Cleveland School Road)										
	20	NC 55 Bypass	S of SR 1172 (Old Smithfield Road)	33,900	49,700	1.68%	**31,600**	**45,400**	1.59%	31,600	45,400	31,600	45,400
	21	NC 55 Bypass	from SR 1172 (Old Smithfield Road) to Triangle Expwy	33,900	49,700	1.68%	**33,800**	**49,500**	1.67%	33,800	49,500	33,800	49,500
	22	NC 55 Bypass	from Triangle Expwy to NC 55 Business	36,000	47,900	1.25%	**35,900**	**47,400**	1.22%	35,900	47,400	35,900	47,400
	23	Southern Wake Expressway	from NC 55 to SR 1152 (Holly Springs Road)	16,500	45,100	4.47%	**23,600**	**51,100**	3.42%	23,600	51,100	23,600	51,100
Orange	24	Southern Wake Expressway	from SR 1152 (Holly Springs Road) to SR 1386 (Bells Lake Road)										
Purple	24a	Southern Wake Expressway	from SR 1152 (Holly Springs Road) to SR 1393 (Hilltop Needmore Road)	29,000	67,500	3.74%	**29,000**	**67,500**	3.74%	29,000	67,500	29,000	67,500
	25	Southern Wake Expressway	from SR 1386 (Bells Lake Road) to US 401										
Purple	25a	Southern Wake Expressway	from SR 1393 (Hilltop Needmore Road) to US 401	28,100	68,300	3.94%	**28,100**	**68,300**	3.94%	28,100	68,300	28,100	68,300
	26	Southern Wake Expressway	from US 401 to SR 1006 (Old Stage Road)	20,400	50,800	4.05%	**20,400**	**50,800**	4.05%	20,400	50,800	20,400	50,800
	27	Southern Wake Expressway	from SR 1006 (Old Stage Road) to NC 50	17,100	42,000	3.98%	**17,100**	**42,000**	3.98%	17,100	42,000	17,100	42,000
	28	Southern Wake Expressway	from NC 50 to I-40 / US 70 Bypass	21,200	49,300	3.74%	**21,200**	**49,300**	3.74%	21,200	49,300	21,200	49,300
Red		SR 1006 (Old Stage Road)	N of SR 2711 (Vandora Springs Rd)										
Red		SR 1006 (Old Stage Road)	S of SR 2711 (Vandora Springs Rd)										
Red		SR 1006 (Old Stage Road)	N of SR 1010 (Ten Ten Rd)										
Orange	29	SR 1006 (Old Stage Road)	S of SR 1010 (Ten Ten Rd)										
Orange	30	SR 1006 (Old Stage Road)	S of Southern Wake Expressway (N of SR 2724 Banks Rd)										
Lilac		SR 1006 (Old Stage Road)	N of SR 2736 (Rock Service Station Rd)										
Lilac		SR 1006 (Old Stage Road)	S of SR 2736 (Rock Service Station Rd)										
Blue		SR 1006 (Old Stage Road)	N of Norman Blalock Rd	5,900	11,900	3.10%	**4,100**	**8,200**	3.06%	4,100	8,200	4,100	8,200
Blue		SR 1006 (Old Stage Road)	S of Norman Blalock Rd (N of S Wake Expwy)	5,900	11,900	3.10%	**3,800**	**7,800**	3.18%	3,800	7,800	3,800	7,800
Blue		SR 1006 (Old Stage Road)	N of NC 42 (S of S Wake Expwy)	10,200	19,800	2.93%	**8,100**	**15,800**	2.95%	8,100	15,800	8,100	15,800
	31	SR 1007 (Poole Road)	E of Eastern Wake Expressway	16,400	58,000	5.65%	9,600	33,700	5.61%	9,600	33,700	9,600	33,700
	32	SR 1007 (Poole Road)	E of SR 2516 (Hodge Rd) / W of Eastern Wake Expwy	14,300	40,000	4.57%	8,300	23,300	4.59%	8,300	23,300	8,300	23,300
	33	SR 1007 (Poole Road)	W of SR 2516 (Hodge Rd)	13,300	35,300	4.34%	7,800	20,600	4.31%	7,800	20,600	7,800	20,600
Orange	34	SR 1010 (Cleveland School Road)	E of NC 50	8,100	12,500	1.90%							
	35	SR 1010 (Ten-Ten Road)	E of SR 1386 (Bells Lake Road)	5,900	13,300	3.60%							
	36	SR 1010 (Ten-Ten Road)	W of SR 1386 (Bells Lake Road)	7,600	23,500	5.03%							
Red		SR 1010 (Ten-Ten Road)	E of US 401										
Red		SR 1010 (Ten-Ten Road)	W of US 401										
Lilac		SR 1010 (Ten-Ten Road)	W of NC 50	11,000	14,400	1.18%	**6,600**	**8,600**	1.16%	6,600	8,600	6,600	8,600
	37	SR 1152 (Holly Springs Road)	N of SR 1300 (Kildaire Farm Road Connection)	16,400	40,100	3.96%	**13,800**	**27,400**	3.03%	13,800	27,400	13,800	27,400
	1	SR 1152 (Holly Springs Road)	N of Southern Wake Expressway	25,500	68,600	4.40%	**21,500**	**45,100**	3.27%	21,500	45,100	21,500	45,100
	39	SR 1152 (Holly Springs Road)	S of Southern Wake Expressway and SR 1300 (Kildaire Farm Road)	20,800	52,800	4.13%	**20,100**	**42,700**	3.33%	20,100	42,700	20,100	42,700
	40	SR 1153 (Old Holly Springs-Apex Road)	N of Triangle Expressway (NC 540)	9,800	43,300	6.67%	**9,800**	**32,900**	5.41%	9,800	32,900	9,800	32,900
	41	SR 1153 (Old Holly Springs-Apex Road)	S of Triangle Expressway (NC 540)	13,300	52,800	6.18%	**13,300**	**43,000**	5.23%	13,300	43,000	13,300	43,000
	42	SR 1172 (Old Smithfield Road)	E of NC 55 Bypass				**2,900**	**5,400**	2.74%	2,900	5,400	2,900	5,400
	43	SR 1172 (Old Smithfield Road)	W of NC 55 Bypass				**1,700**	**2,900**	2.35%	1,700	2,900	1,700	2,900
Plum		SR 1800 (Technology Drive)	N of NC 42										
	44	SR 1300 (Kildaire Farm Road)	W of SR 1152 (Holly Springs Road)	17,900	43,200	3.90%	**14,500**	**23,100**	2.05%	14,500	23,100	14,500	23,100
	45	SR 1386 (Bells Lake Road)	S of SR 1010 (Ten Ten Rd)	5,900	18,000	4.97%							
	46	SR 1386 (Bells Lake Road)	S of Southern Wake Expressway	5,900	18,000	4.97%							
	47	SR 1386 (Graham Newton Road)	N of SR 1010	4,200	8,800	3.27%							
Purple		SR 1393 (Hilltop Needmore Rd)	W of SR 1421 (Old Mills Rd)	12,000	21,000	2.46%	**6,500**	**11,400**	2.47%	6,500	11,400	6,500	11,400
Purple		SR 1393 (Hilltop Needmore Rd)	E of SR 1421 (Old Mills Rd) / W of S Wake Expwy	12,000	21,000	2.46%	**6,300**	**11,100**	2.49%	6,300	11,100	6,300	11,100
Purple		SR 1393 (Hilltop Needmore Rd)	E of S Wake Expwy	8,300	16,300	2.98%	**4,400**	**8,700**	3.01%	4,400	8,700	4,400	8,700
Purple		SR 1421 (Old Mills Rd)	S of SR 1393 (Hilltop Needmore Rd)				**400**	**700**	2.46%	400	700	400	700
	48	SR 1503 (Donny Brook Road)	W of US 401	6,600	13,400	3.13%							
	49	SR 2233 (Smithfield Road)	N of US 64/264	6,900	19,800	4.69%	7,900	17,700	3.57%	7,900	17,700	7,900	17,700
	50	SR 2233 (Smithfield Road)	S of US 64/264	21,400	34,400	2.09%	13,600	21,800	2.07%	13,600	21,800	13,600	21,800
	51	SR 2516 (Hodge Road)	N of Old Faison Rd	3,800	10,900	4.69%	5,100	9,900	2.93%	5,100	9,900	5,100	9,900
	52	SR 2516 (Hodge Road)	from US 64/264 to SR 1007 (Poole Rd)	4,200	16,000	5.99%	3,000	11,400	5.98%	3,000	11,400	3,000	11,400
	53	SR 2516 (Hodge Road)	S of SR 1007 (Poole Rd)	5,200	17,900	5.52%	900	3,100	5.52%	900	3,100	900	3,100
	54	SR 2542 (Rock Quarry Road)	W of SR 2555 (Auburn Knightdale Rd)	9,700	24,500	4.11%	4,300	10,800	4.09%	3,700	10,400	4,100	10,100
	55	SR 2542 (Rock Quarry Road)	E of SR 2555 (Auburn-Knightdale Rd) (W of SE Ext)	12,100	30,100	4.04%	4,000	9,400	3.78%	2,200	6,700	3,600	5,800
	56	SR 2542 (Rock Quarry Road)	E of Eastern Wake Expressway	15,700	30,400	2.91%	5,100	9,500	2.74%				
	57	SR 2542 (Rock Quarry Road)	E of SR 5204 (Old Baucom Rd)	11,600	18,400	2.03%	3,900	6,300	2.11%	1,700	3,300	4,000	6,200
Red		SR 2542 (Rock Quarry Road)	E of Rock Quarry Road Extension										
	58	SR 2555 (Auburn Knightdale Road)	N of SR 2542 (Rock Quarry Rd)	3,200	12,700	6.18%	900	3,400	5.95%	2,100	5,100	1,400	4,400
	59	SR 2555 (Auburn Knightdale Road)	S of SR 2542 (Rock Quarry Rd)	2,800	11,400	6.29%	1,200	5,000	6.40%	2,800	7,400	1,700	5,700
	60	SR 2555 (Auburn Knightdale Road)	S of SR 2511 (Grasshopper Road) / E of Eastern Wake Expressway	5,800	18,300	5.12%	3,800	7,900	3.23%	3,800	7,900	3,800	7,900
	61	SR 2555 (Auburn Knightdale Road)	W of Eastern Wake Expressway	5,300	20,400	6.04%	3,500	8,700	4.04%	7,500	12,000	5,500	10,300
	62	SR 2555 (Raynor Road)	N of SR 2700 (White Oak Rd)	3,200	6,500	3.13%	1,500	3,000	3.06%	3,500	5,400	1,700	3,400
	63	SR 2700 (White Oak Road)	E of SR 2555 (Raynor Rd) / SR 2700 (White Oak Rd)	15,200	33,400	3.48%	8,300	18,300	3.50%	10,300	20,900	8,500	18,300
	64	SR 2700 (White Oak Road)	W of SR 2555 (Raynor Rd) / SR 2700 (White Oak Rd)	14,200	30,400	3.36%	7,400	15,700	3.32%	7,400	16,100	7,400	15,700
	65	SR 2700 (White Oak Road)	E of Eastern Wake Expressway	14,000	34,200	3.96%	7,600	18,700	3.99%	7,200	17,600	7,500	18,400
Red		SR 2711 (Vandora Springs Road)	E of SR 1006 (Old Stage Road)	7,100	19,900	4.58%							
Lilac		SR 2724 (Banks Road)	W of SR 1006 (Old Stage Road)	7,500	13,700	2.65%							
Lilac		SR 2736 (Rock Service Station Road)	E of SR 1006 (Old Stage Road)	4,900	11,300	3.70%							
Blue		SR 2750 (Norman Blalock Rd)	W of SR 1006 (Old Stage Road)				**1,100**	**1,800**	2.16%	1,100	1,800	1,100	1,800
Blue		SR 2750 (Norman Blalock Rd)	E of SR 1006 (Old Stage Road)				**600**	**1,000**	2.25%	600	1,000	600	1,000
Blue		SR 2753 (Dwight Rowland Rd)	S of US 401	2,800	8,300	4.84%	**4,400**	**13,100**	4.86%	4,400	13,100	4,400	13,100
Orange	66	SR 2779 (Old McCullers Road)	E of US 401	-									
	67	SR 5204 (Old Baucom Road)	E of SR 2542 (Rock Quarry Rd)	4,600	14,600	5.15%	1,400	4,600	5.31%	1,300	5,000	3,400	5,200
	68	US 1	N of Triangle Expressway (NC 540)	36,700	70,400	2.87%	**24,200**	**46,600**	2.89%	24,200	46,600	24,200	46,600
	69	US 1	S of Triangle Expressway (NC 540)	35,400	77,400	3.46%	**23,700**	**51,700**	3.45%	23,700	51,700	23,700	51,700
Red		US 401	N of S Wake Expwy										
Red		US 401	S of S Wake Expwy / N of SR 1010 (Ten Ten Rd)										
Red		US 401	S of SR 1010 (Ten Ten Rd)										
Orange	70	US 401	N of Southern Wake Expressway	30,800	50,600	2.18%							
Orange	71	US 401	N of SR 1503 (Donny Brook Rd)	30,800	50,600	2.18%							
Orange	72	US 401	S of SR 1503 (Donny Brook Rd)	26,000	43,600	2.27%							
Blue		US 401	N of SR 2753 (Dwight Rowland Rd)	25,000	45,700	2.66%	**20,600**	**37,600**	2.65%	20,600	37,600	20,600	37,600
Blue		US 401	S of SR 2753 (Dwight Rowland Rd)	25,800	37,400	1.63%	**20,400**		-99.77%	20,400		20,400	
Blue		US 401	S of Eastern Parkway		43,400			**34,300**			34,300		34,300
Blue		US 401	S of S Wake Expwy	43,500	51,900	0.77%	**34,500**	**41,000**	0.75%	34,500	41,000	34,500	41,000
	73	US 64 Business	E of I-540	37,200	50,200	1.31%	39,200	57,500	1.68%	39,200	57,500	39,200	57,500
	74	US 64 Business	W of I-540	26,500	40,700	1.88%	38,900	55,200	1.53%	38,900	55,200	38,900	55,200
	75	US 64/264	W of SR 2516 (Hodge Road)	100,200	145,600	1.64%	67,700	105,500	1.95%	67,700	105,500	67,700	105,500
	76	US 64/264	from SR 2516 (Hodge Road) to I-540 / Eastern Wake Expressway	87,600	129,900	1.73%	65,000	99,500	1.87%	65,000	99,500	65,000	99,500
	77	US 64/264	from I-540 / Eastern Wake Expressway to SR 2233 (Smithfield Road)	86,100	132,500	1.89%	74,000	111,900	1.81%	74,000	111,900	74,000	111,900
	78	US 64/264	E of SR 2233 (Smithfield Road)	69,200	112,700	2.14%	60,900	91,200	1.77%	60,900	91,200	60,900	91,200
Red		US 70	E of Rock Quarry Road Extension										
	79	US 70	E of Eastern Wake Expwy	40,400	57,900	1.58%	35,000	49,700	1.54%	33,300	44,900	33,800	49,100
	80	US 70	W of Eastern Wake Expwy	35,900	50,900	1.53%	31,100	44,100	1.53%	25,600	42,200	33,700	47,000
	81	US 70	E of I-40	36,800	48,200	1.18%	29,500	47,300	2.07%	28,100	45,100	29,500	47,300
	82	US 70	W of I-40	28,500	44,000	1.91%	27,600	42,600	1.91%	27,600	42,600	27,600	42,600
	83	US 70 Bypass	E of I-40	32,400	47,700	1.70%	28,200	46,600	2.21%	25,400	45,300	28,600	46,700
	84	US 70 Bypass	E of NC 42	35,400	56,900	2.08%	30,800	50,100	2.14%	28,200	49,000	31,400	50,400
	85	Triangle Expressway - NC 540	from Old Holly Springs to NC 55	18,300	57,100	5.07%	**23,300**	**52,600**	3.60%	23,300	52,600	23,300	52,600
	86	Triangle Expressway - NC 540	from Old Holly Springs to US 1	28,000	83,600	4.87%	**35,600**	**73,100**	3.18%	35,600	73,100	35,600	73,100
	87	Triangle Expressway - NC 540	from US 1 to Old US 1	27,100	73,500	4.43%	**34,500**	**71,800**	3.24%	34,500	71,800	34,500	71,800
Orange	88	SR 5324 (Stevens Oaks Drive)	W of NC 50	-									
Brown	89	SR 5204 (Old Baucom Road)	E of Eastern Wake Expwy	4,600	14,600	5.15%				2,000	4,700	3,600	6,400
Orange	90	Wake Tech Drive	E of US 401										
Orange	91	Chandler Apartments	W of US 401										
Orange	92	US 401	S of Wake Tech Drive										
		SR 2515 (Old Faison Rd)	East of SR 2516 (Hodge Rd)	7,200	14,500	3.09%	6,500	12,700	2.95%	6,500	12,700	6,500	12,700
Red		Rock Quarry Road Extension	S of Rock Quarry Road										
Lilac		Residential Drive (Red Brick Connector)	E of NC 50	-	-		**1,900**	**1,900**	0.00%	1,900	1,900	1,900	1,900
Lilac		Commercial Drive	W of Rock Service Station Road										
							1,959,800	3,391,500	2.41%				

Triangle Expressway Southeast Extension Crossing Locations						Model Data					Historical NCDOT AADT				48-Hr Field Data Counts & Selected Design Data							No-Build Forecast AADT			Build Forecast AADT	
						No-Build			Build																		
	DSA	State Route No.	Y Line	Crossing Type	Location	2009	2012	2035	2012	2035	2003	2005	2007	2009	Year	AADT	DHV (%)	D (%)	D Dir	Duals (%)	TTST (%)	2010	2012	2035	2012	2035
Southern	1-17	-	Old NC 55 (Main St.)	UNDERPASS	NC 55 - N of Felder Ave	20300	25600	43300	21900	33800	11,000	14,000	17,000	15,000	-	-	10%	65%	SB	4%	1%	17,300	20,000	33,900	17,100	26,500
		1301	Sunset Lake Rd	OVERPASS	Sunset Lake Rd - W of Family Circle Rd	8700	13200	23900	8500	17600	-	-	-	5,400	-	-	10%	65%	SB	2%	1%	10,200	13,200	23,900	8,500	17,500
		1301	Sunset Lake Rd	OVERPASS	Sunset Lake Rd - E of Stephenson Rd (SR 1302)	8400	12500	28000	8300	19500	5,800	6,900	8,900	6,600	-	-	10%	65%	SB	2%	1%	7,900	10,200	22,900	6,800	15,900
		1389	Pierce-Olive Rd	OVERPASS	Pierce-Olive Rd - N of Optimist Farm Rd (SR 1390)	3200	4300	13400	4300	13400	1,500	2,000	2,700	2,900	-	-	10%	60%	SB	2%	1%	3,300	3,600	9,400	3,600	9,400
	1-7, 13-17	1387	West Lake Rd	OVERPASS	West Lake Rd - N of Langston Cir (SR 4758)	6100	7200	15000	7200	15000	4,900	6,800	7,600	7,600	2011	7,300	10%	55%	SB	5%	1%	7,300	8,000	16,800	8,000	16,800
		1405	Rhodes Rd	OVERPASS	Rhodes Rd - N of Deerborn Dr (SR 1568)	900	1100	2200	1200	2100	-	-	-	-	2011	1,000	11%	60%	SB	7%	1%	1,000	1,100	2,200	1,200	2,200
		1578	Deer Meadow Rd	OVERPASS	Southern Wake Freeway	2000	2100	2600	2000	2600	-	-	-	-	-	-	10%	60%	SB	2%	1%	1100*	1,100	1,400	1,100	1,400
		1404	Johnson Pond Rd	OVERPASS	S of Ten-Ten Rd (SR 1010)	7000	8400	12900	6300	9100	2,600	2,300	2,400	2,600	-	-	10%	65%	SB	2%	1%	2,500	2,800	4,300	2,100	3,100
		1371	Lake Wheeler Rd	UNDERPASS	N of Optimist Farm Rd (SR 1390)	5200	6700	12100	5300	9000	5,300	6,200	6,600	6,500	-	-	10%	65%	SB	2%	1%	7,000	8,200	14,800	6,500	11,000
	8-12	1390	Optimist Farm Rd	OVERPASS	E of Pierce Olive Rd (SR 1389)	5500	8500	14900	5000	10200	3,400	6,100	6,400	6,100	-	-	10%	65%	EB	2%	1%	7,200	9,400	16,500	5,500	11,300
		1404	Johnson Pond Rd	OVERPASS	S of Hilltop Needmore Rd (SR 1404)	2900	3100	15300	1700	9200	2,800	3,200	3,600	3,500	-	-	10%	65%	SB	2%	1%	3,800	3,900	19,200	2,100	11,500
		2751	Hilltop Rd	OVERPASS	N of NC 42	7900	9900	17300	6100	10500	3,400	3,700	4,200	3,900	-	-	10%	65%	SB	2%	1%	4,200	4,800	8,400	3,000	5,100
		2750	Norman Blalock Rd	OVERPASS	W of Bridgemont Ln (SR 5309)	-	-	-	-	-	-	-	-	-	2013	1,200	10%	65%	WB	3%	2%	1,100	1,100	1,800	1,100	1,800
		2739	Barber Bridge Rd	OVERPASS	N of NC 42	-	-	-	-	-	650	720	700	690	-	-	10%	65%	SB	2%	1%	700	800	1,300	800	1,300
		2736	Rock Service Station Rd	OVERPASS	N of NC 42	2000	2700	8400	1800	5800	3,100	2,800	2,800	2,800	-	-	10%	65%	SB	3%	1%	2,700	3,300	10,300	2,200	7,100
		2738	Mal Weathers Rd	OVERPASS	S of Southern Meadows Dr (SR 5902)	-	-	-	-	-	560	640	710	790	-	-	10%	65%	SB	2%	1%	800	900	1,500	900	1,500
		2727	Sauls Rd	OVERPASS	S of Pagan Rd (SR 2737)	1900	2200	4500	1700	4800	1,700	1,600	1,700	1,700	-	-	10%	65%	SB	5%	1%	1,700	1,900	3,900	1,500	4,200
	6-7	1010	Ten-Ten Rd	UNDERPASS	W of US 401	17600	20600	27100	13600	19400	-	15,000	15,000	15,000	2012	15,600	9%	55%	EB	3%	2%	15,000	15,600	20,500	10,300	14,700
		2711	Buffaloe Rd	OVERPASS	S of Vandora Springs Rd (SR 2713)	3200	3400	7700	3300	6100	3,200	2,100	3,100	3,300	-	-	11%	65%	EB	3%	1%	3,200	3,300	7,500	3,200	5,900
		2712	Thompson Rd	OVERPASS	S of Timber Dr (SR 2812)	1300	1300	1700	1300	1700	-	-	-	-	-	-	10%	65%	SB	2%	1%	1,300	1,300	1,700	1,300	1,700
		2710	Aversboro Rd	OVERPASS	S of Timber Dr (SR 2812)	6600	7800	12700	8000	13500	5,900	6,200	6,700	6,900	2009	8,600	10%	60%	SB	3%	1%	7,300	8,100	13,200	8,300	14,000
		2707	Bryan Rd	OVERPASS	S of Tallowwood Dr / S of Southern Wake Freeway	-	-	-	-	-	-	-	-	940	-	-	10%	65%	SB	2%	1%	1,000	1,100	1,800	1,100	1,800
		2547	White Oak Rd	OVERPASS	S of Bryan Rd (SR 2707)	10400	12100	27700	11300	25800	-	-	-	-	-	-	12%	65%	SB	2%	1%	10,400	12,100	27,700	11,300	25,800
	1-5, 13-17	2722	Old McCullers Rd	UNDERPASS	Southern Wake Freeway	1200	1600	4400	1600	4400	-	-	-	-	-	-	10%	65%	SB	2%	1%	1100**	1,200	1,900	1,200	1,900
		2723	Fanny Brown Rd	OVERPASS	S of Ten-Ten Rd (SR 1010)	8000	8400	12800	6600	12900	4,100	4,100	4,900	4,400	-	-	10%	65%	SB	2%	1%	4,700	4,900	7,500	3,900	7,500
		2725	Holland Church Rd	OVERPASS	S of Ten-Ten Rd (SR 1010)	1800	2000	3800	2000	3800	-	-	-	-	2009	3,300	10%	70%	SB	6%	1%	3,300	3,500	6,500	3,500	6,500
		2727	Sauls Rd	OVERPASS	S of Contender Dr (SR 5396)	4400	4800	9000	5000	12100	-	-	-	-	2011	3,400	10%	65%	SB	5%	1%	3,400	3,600	6,800	3,800	9,200
	1-5, 8-17	2731	Jordan Rd	OVERPASS	S of Ten-Ten Rd (SR 1010)	8000	8400	12800	6600	12900	2,100	2,100	2,300	1,900	-	-	10%	65%	SB	2%	1%	2,000	2,200	4,800	2,200	4,800
	8-17	2703	New Bethel Church Rd	OVERPASS	E of I-40	4200	6100	11100	3200	7100	-	-	-	300	-	-	10%	65%	EB	2%	1%	400	500	900	300	600
Eastern	6-7	-	Waterfield Dr	UNDERPASS	E of S Greenfield Parkway (SR 4142)	2800	3300	6500	3500	6500	-	-	-	-	-	-	10%	65%	EB	3%	1%	3,000	3,300	6,500	3,500	6,500
		2555	Raynor Rd	UNDERPASS	S of US 70 Business	10000	13600	23200	12200	21500	5,500	5,300	5,800	5,700	-	-	12%	65%	SB	2%	1%	5,900	7,200	12,300	6,500	11,400
	1-2,5, 8-9,12-14,17	1004	E. Garner Rd	UNDERPASS	E of Auburn-Knightdale Rd (SR 2555)	3000	4100	23800	3500	21700	5,300	5,000	4,600	3,500	2009	3,400	16%	75%	EB	2%	1%	3,100	3,700	21,800	3,200	19,900
	3-4, 10-11, 15-16	2558	Guy Rd	OVERPASS	S of US 70 Business	8900	11100	21900	12100	24200	7,300	7,100	7,800	6,600	2010	7,500	8%	55%	SB	2%	1%	7,500	8,700	17,200	9,500	19,000
		1004	E. Garner Rd	UNDERPASS	E of Rock Quarry Rd (SR 2542)	6400	8100	26200	8100	27600	9,100	7,600	7,700	5,900	2012	6,000	15%	75%	EB	3%	1%	6,400	6,000	19,400	6,000	20,400
	1-17	2552	Battle Bridge Rd	OVERPASS	E of Auburn-Knightdale Rd (SR 2555)	1500	2600	6700	2400	8300	540	980	1,300	1,300	2011	1,100	15%	55%	EB	12%	4%	1,100	1,500	3,900	1,400	4,800

* 2010 No-Build AADT for Deer Meadow Rd determined using ITE Trip Generation rates. The 2010 No-Build AADT forecast was then grown at model rates.

** Old McCullers Rd AADT (near the underpass location) calculated as 25% of Old McCullers Rd forecasted AADT at intersection with US 401.