Derived from relative historical travel times for 8 AM weekday, per Google Maps

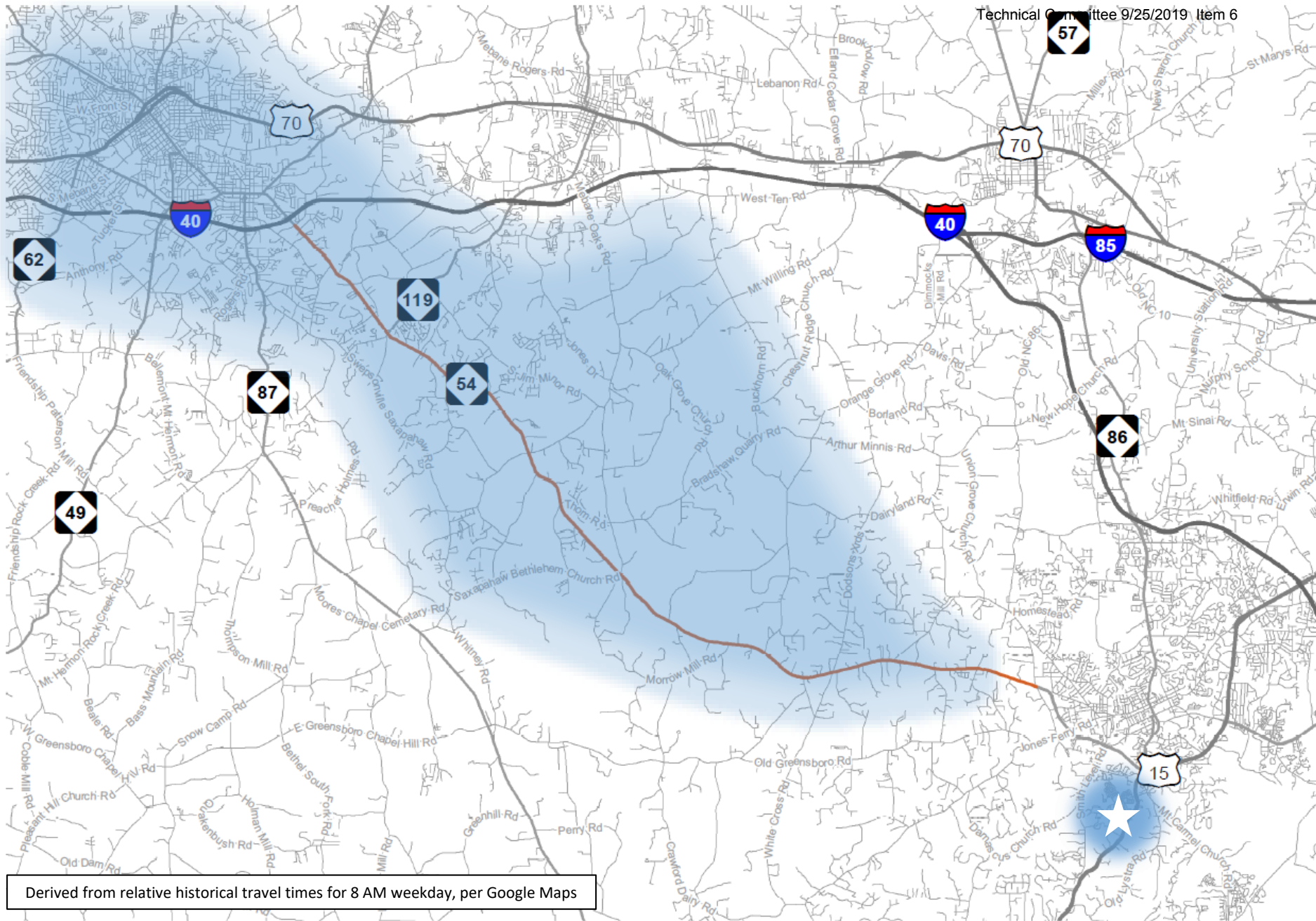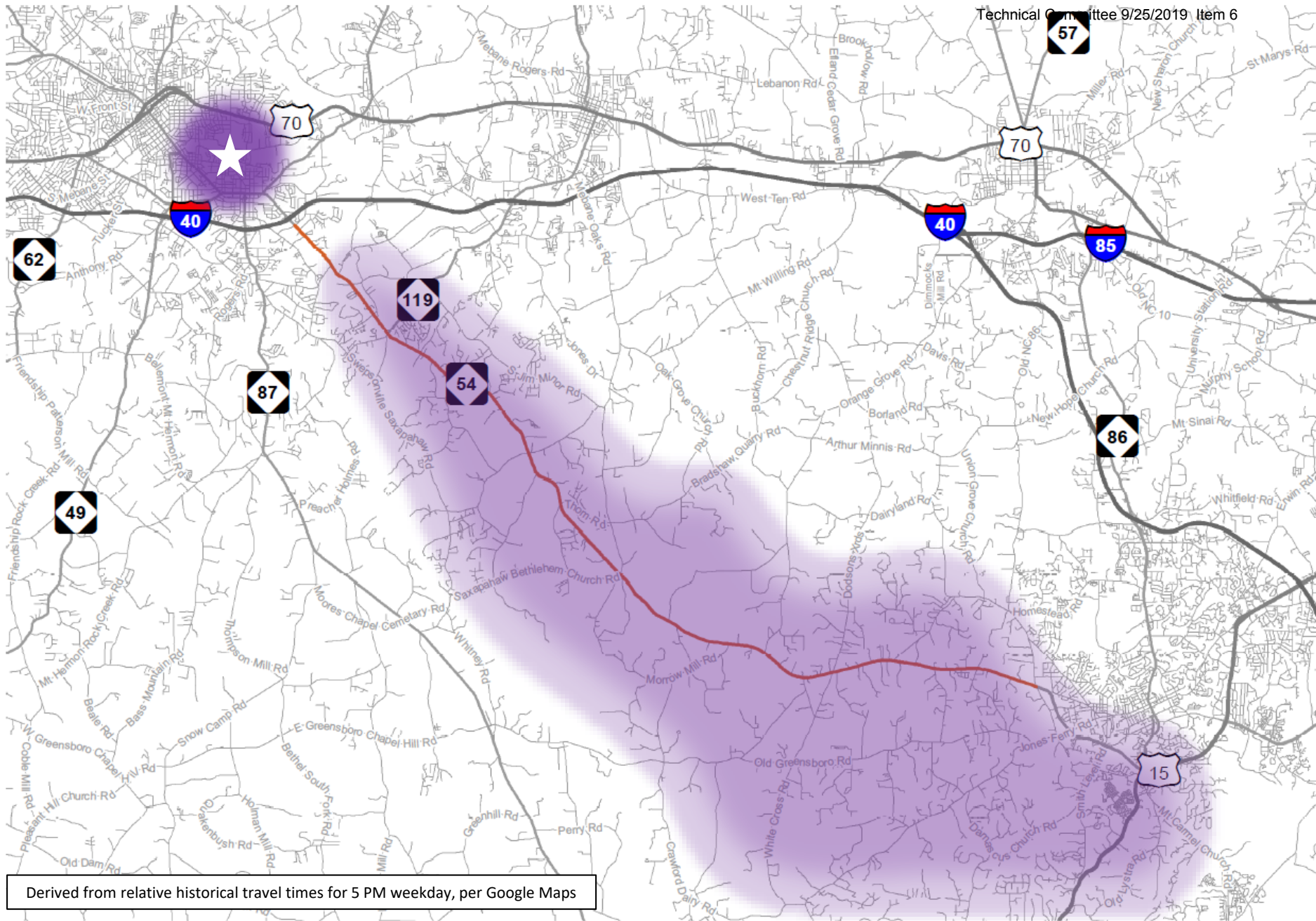**Figure 1: Estimated NC 54 Travelshed for Trips to Chapel Hill**

0   1   2   4 Miles

Figure 2: Estimated NC 54 Travelshed for Trips to Southern Village

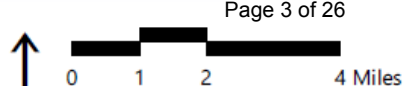Derived from relative historical travel times for 8 AM weekday, per Google Maps

Derived from relative historical travel times for 5 PM weekday, per Google Maps

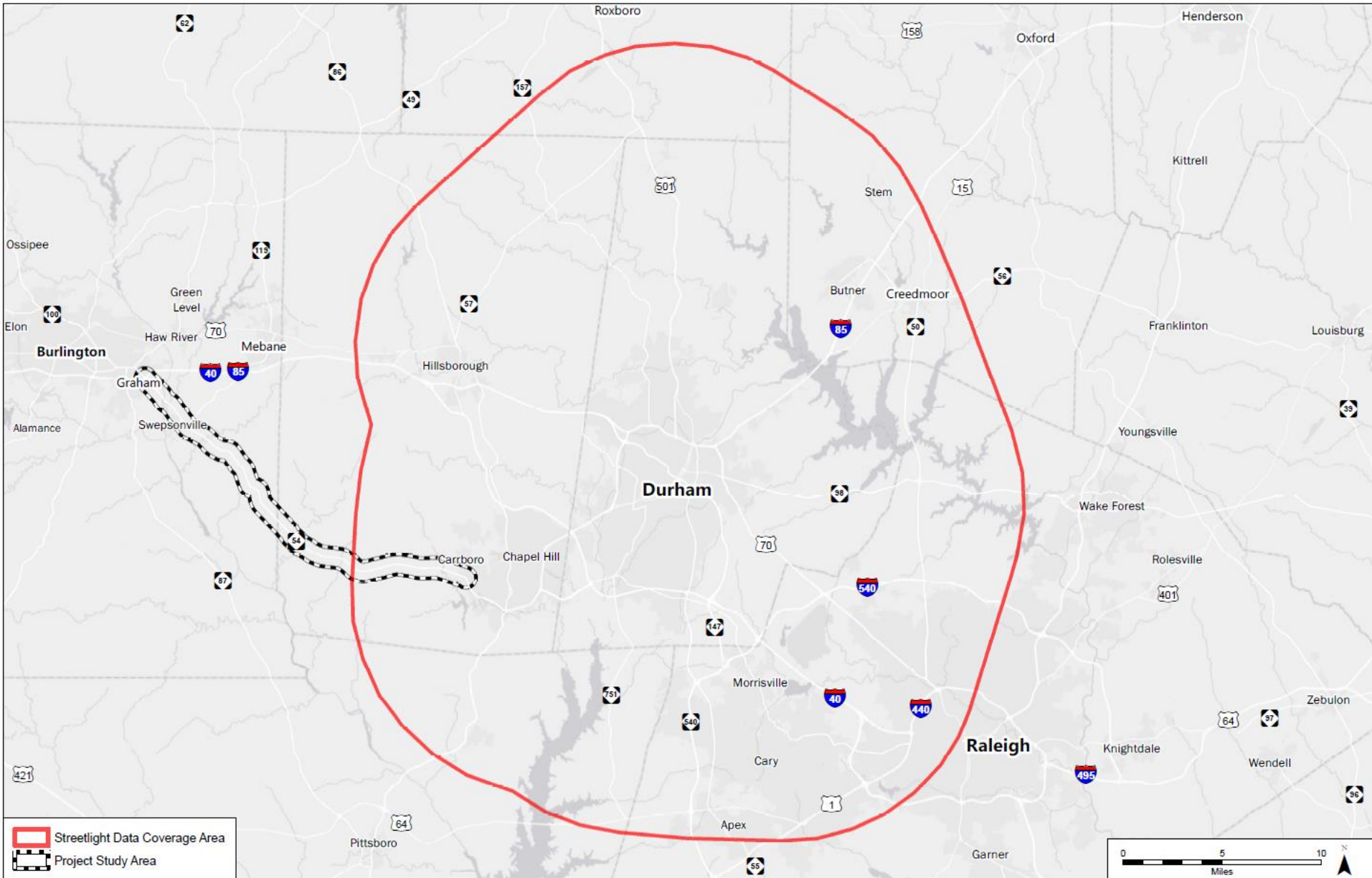**Figure 3: Estimated NC 54 Travelshed for Trips to Burlington**

0   1   2   4 Miles

Streetlight Data Coverage Area
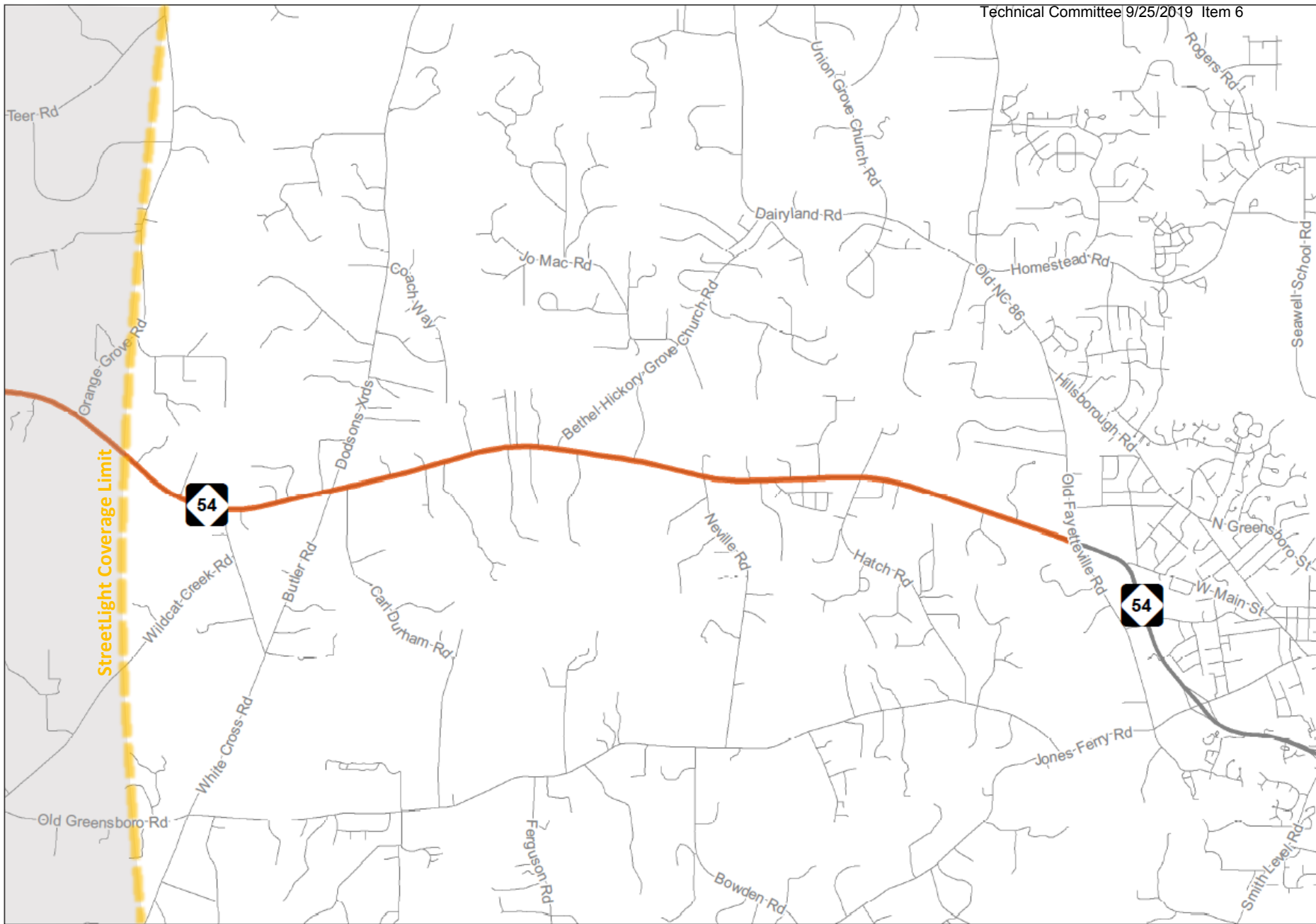Project Study Area

Figure 4: StreetLight InSight Dataset Coverage

Figure 5: NC 54 Corridor Segment for StreetLight Origin-Destination Analysis

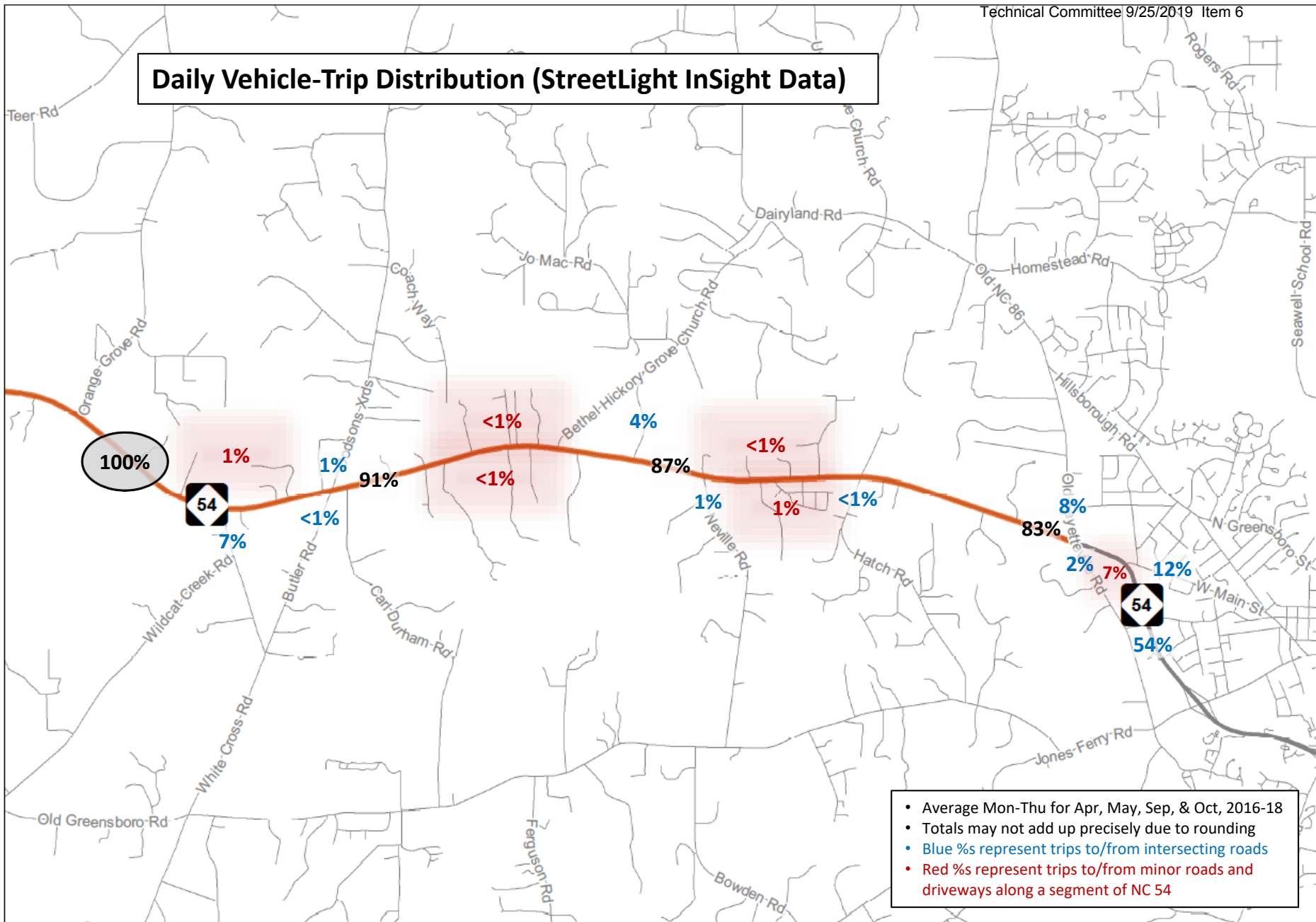**Daily Vehicle-Trip Distribution (StreetLight InSight Data)**

100%

1%

1%

91%

<1%

7%

<1%

<1%

4%

87%

<1%

1%

1%

<1%

83%

8%

2%

7%

12%

54%

- Average Mon-Thu for Apr, May, Sep, & Oct, 2016-18
- Totals may not add up precisely due to rounding
- Blue %s represent trips to/from intersecting roads
- Red %s represent trips to/from minor roads and driveways along a segment of NC 54

Figure 6: Origin-Destination Analysis – NC 54 East of Orange Grove Road

0   0.3   0.6   1.2 Miles

AM Peak Vehicle-Trip Distribution (StreetLight InSight Data)

100%

<1%

<1%

96%

3%

<1%

<1%

<1%

4%

92%

<1%

<1%

<1%

<1%

91%

8%

2% 6% 11%

63%

- Average Mon-Thu for Apr, May, Sep, & Oct, 2016-18
- Totals may not add up precisely due to rounding
- Blue %s represent trips to/from intersecting roads
- Red %s represent trips to/from minor roads and driveways along a segment of NC 54
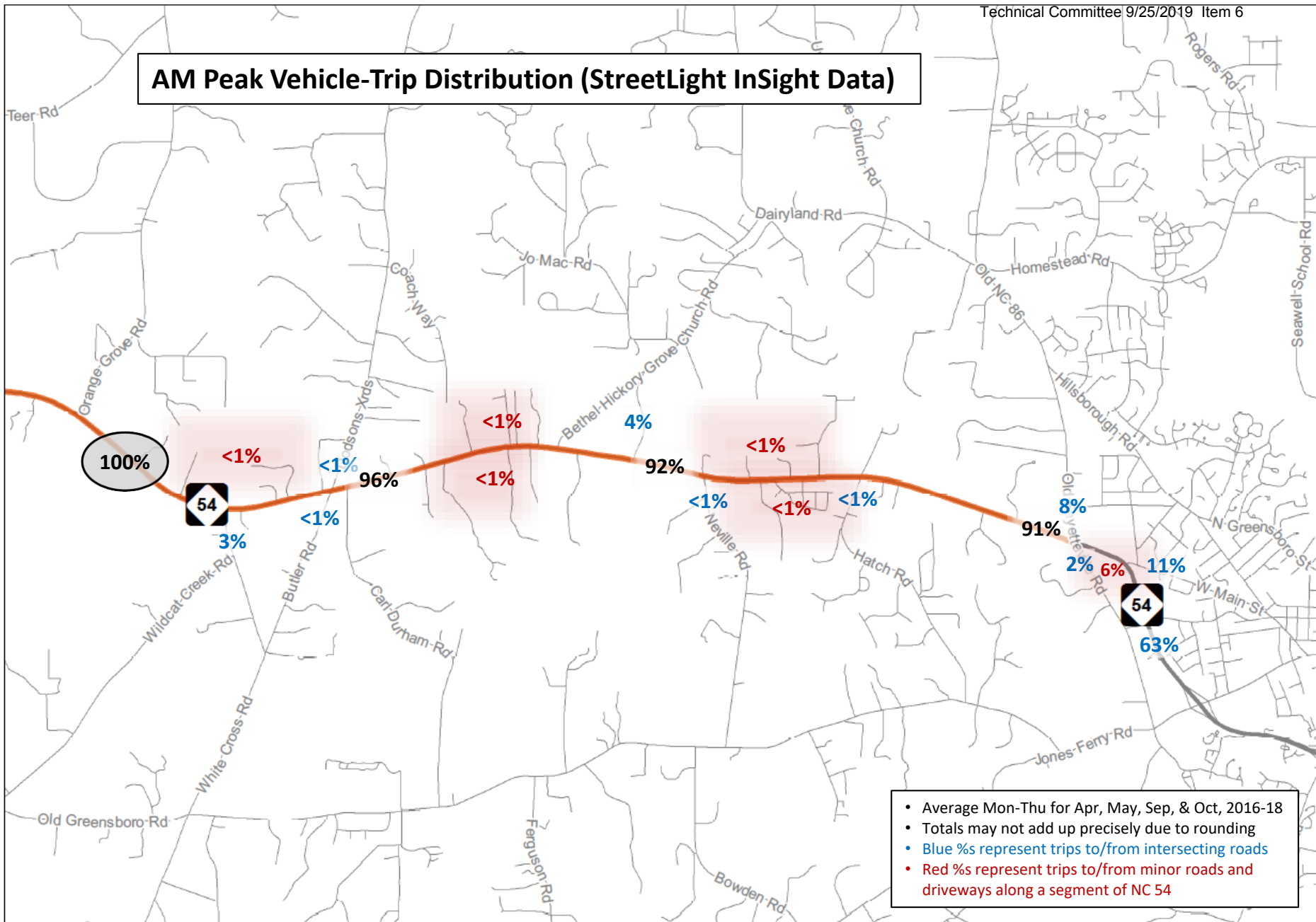
Figure 7: Origin-Destination Analysis – NC 54 East of Orange Grove Road

0   0.3   0.6   1.2 Miles

Daily Vehicle-Trip Distribution (StreetLight InSight Data)

10%

1%

2%

13%

<1%

<1%

2%

<1%

<1%

2%

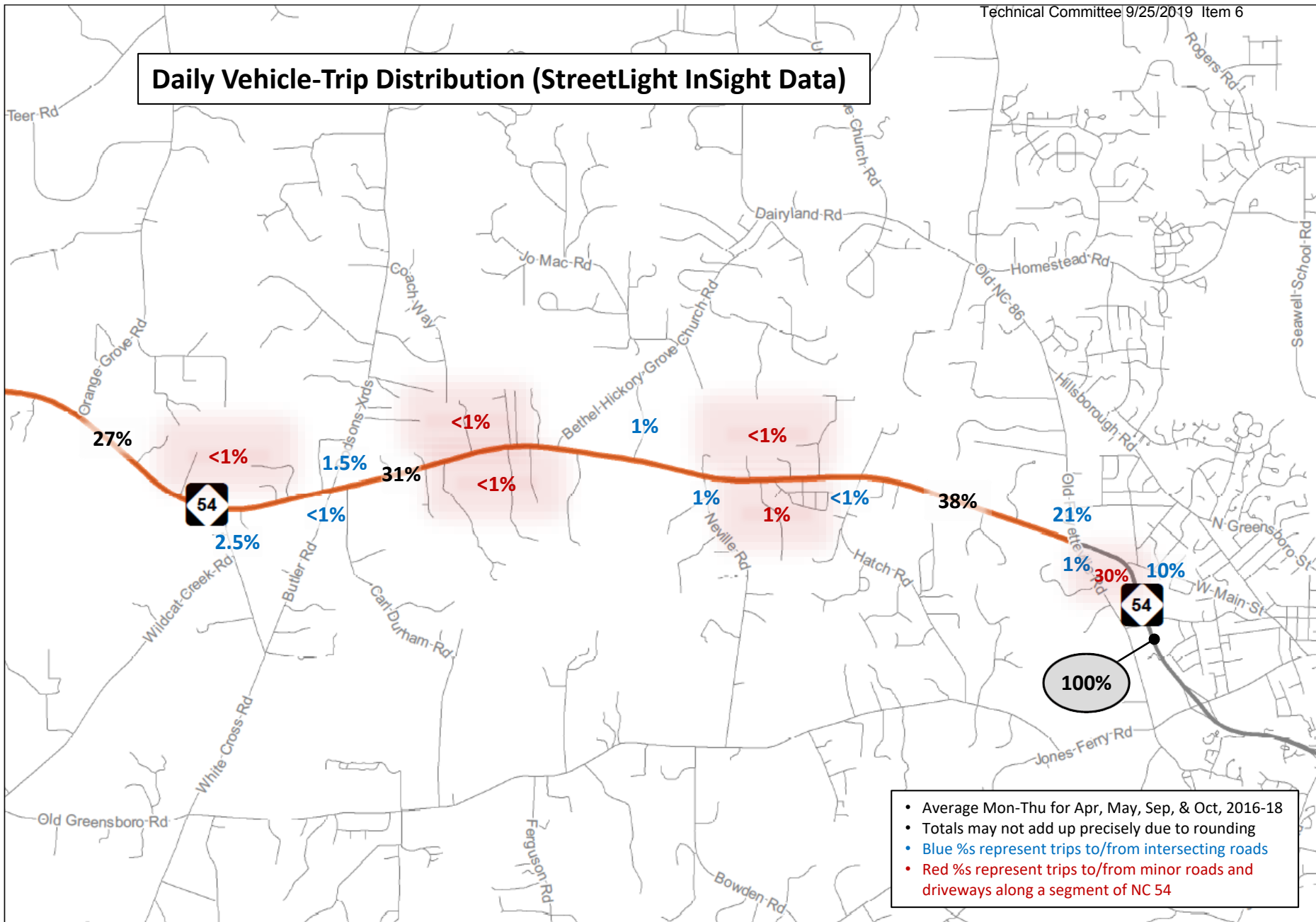<1%

1%

22%

2%

6%

2%

44%

26%

100%
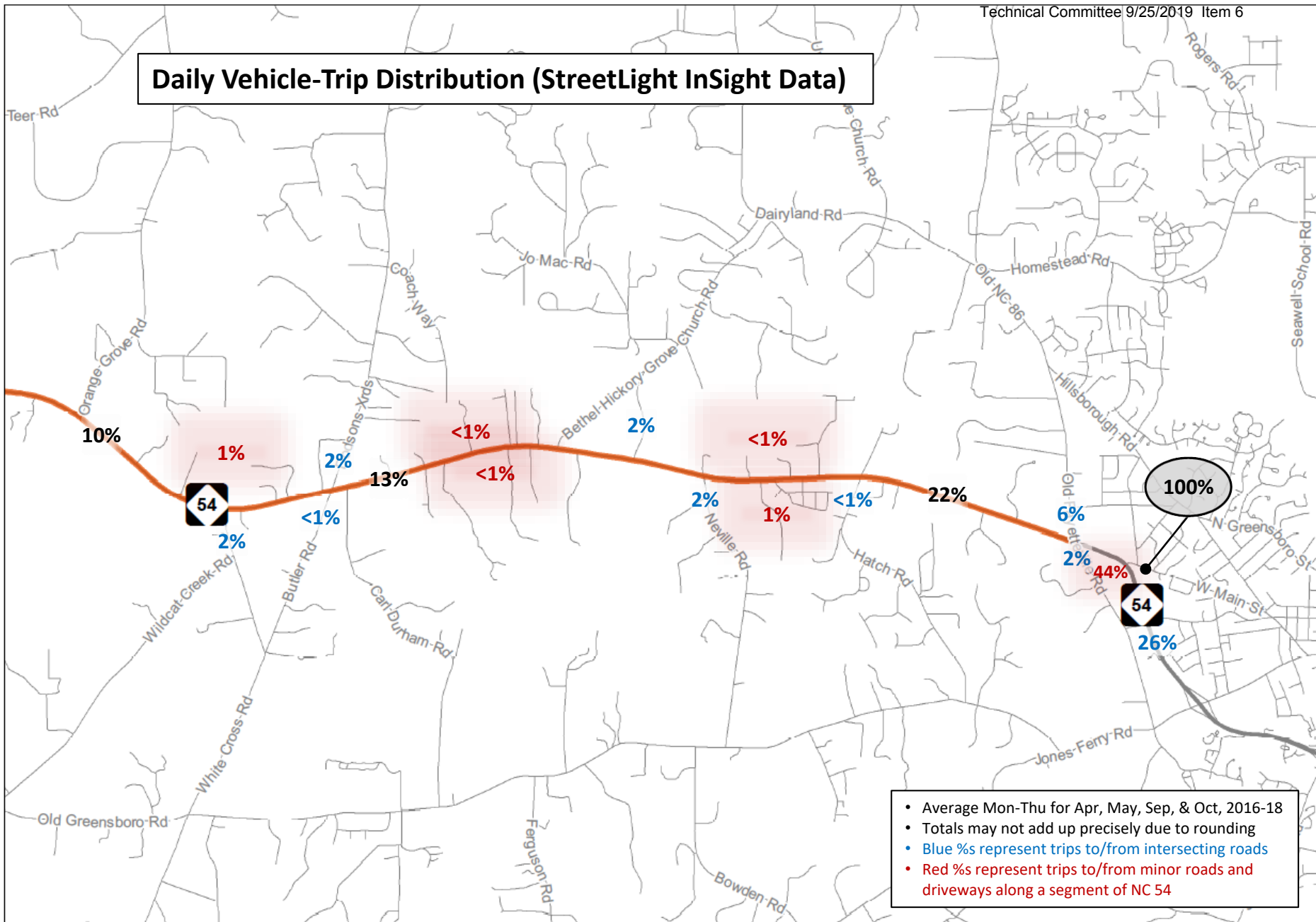
- Average Mon-Thu for Apr, May, Sep, & Oct, 2016-18
- Totals may not add up precisely due to rounding
- Blue %s represent trips to/from intersecting roads
- Red %s represent trips to/from minor roads and driveways along a segment of NC 54

Figure 8: Origin-Destination Analysis – West Main St East of NC 54 Bypass

0   0.3   0.6   1.2 Miles

Daily Vehicle-Trip Distribution (StreetLight InSight Data)

27%

<1%

1.5%

31%

<1%

<1%

<1%

1%

<1%

1%

1%

<1%

38%

21%

1%

30%

10%

2.5%

<1%

100%

- Average Mon-Thu for Apr, May, Sep, & Oct, 2016-18
- Totals may not add up precisely due to rounding
- Blue %s represent trips to/from intersecting roads
- Red %s represent trips to/from minor roads and driveways along a segment of NC 54

Figure 9: Origin-Destination Analysis – NC 54 Bypass South of West Main St

0   0.3   0.6   1.2 Miles

Figure 10: TRM & PTRM Population Growth (2013 – 2045)
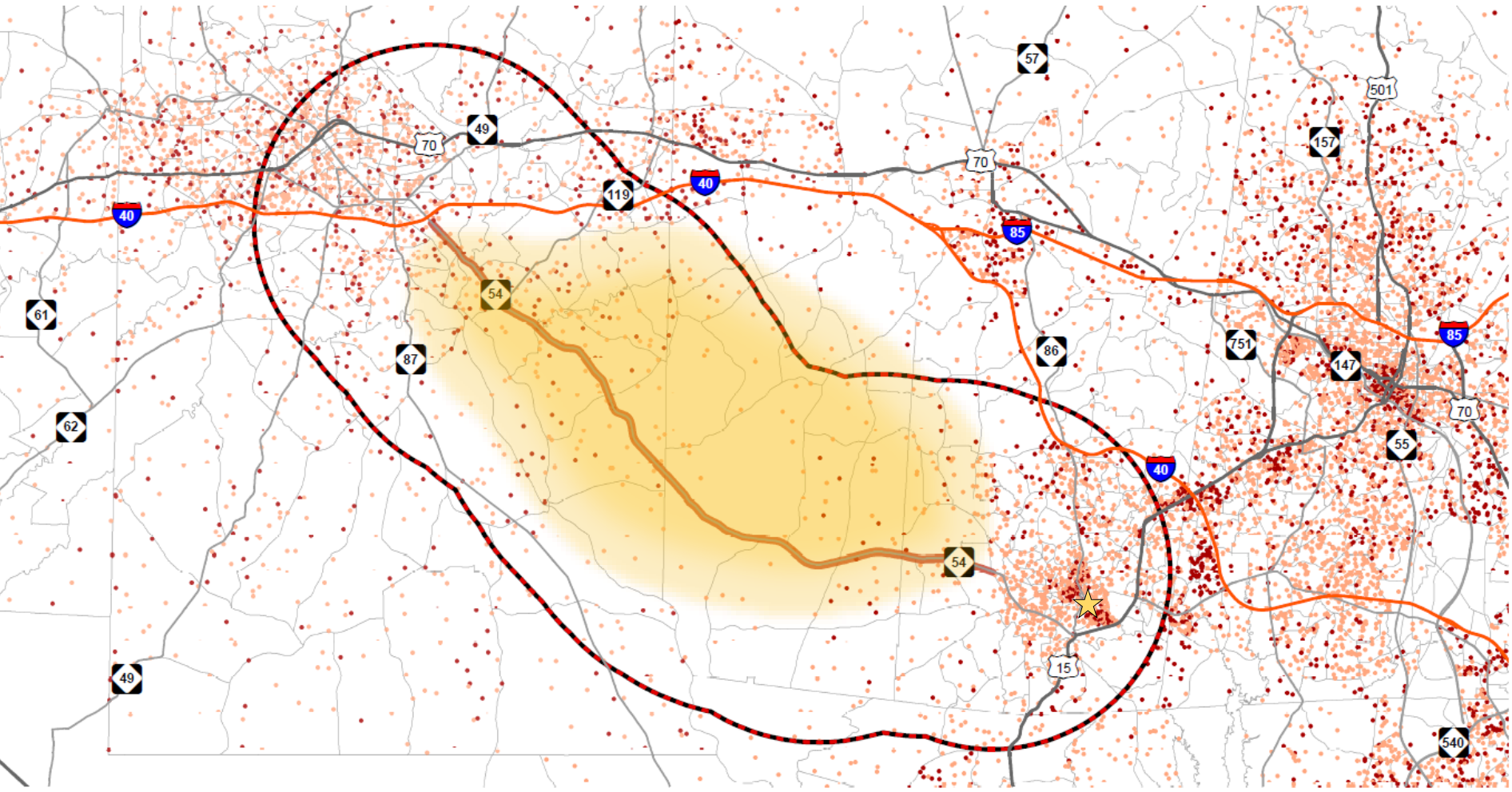
NC 54 West Corridor Study | Alamance and Orange Counties

- 5 Mile Project Buffer
- Project Corridor

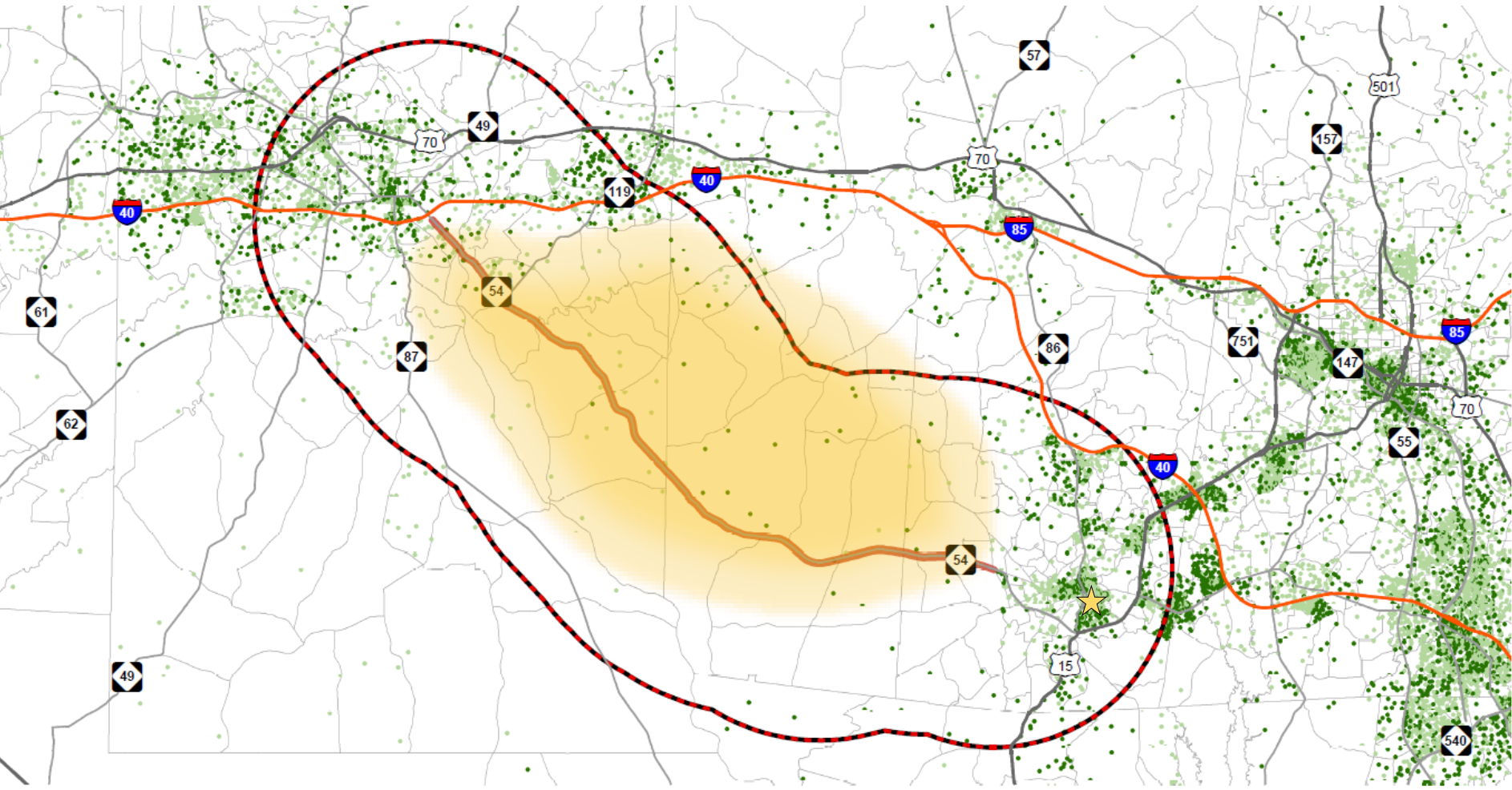**Population 2017 v 2045**
- 1 Dot = 100
- Population 2017 to 2045
- Population 2017

TRM & PTRM Socio-Economic Data (2013-2045)

Source Info: NCDOT, VHB, NCOneMap,
Alamance County, Orange County

Figure 11: TRM & PTRM Employment Growth (2013 – 2045)

NC 54 West Corridor Study | Alamance and Orange Counties

■ ■ ■ 5 Mile Project Buffer
■■■■ Project Corridor
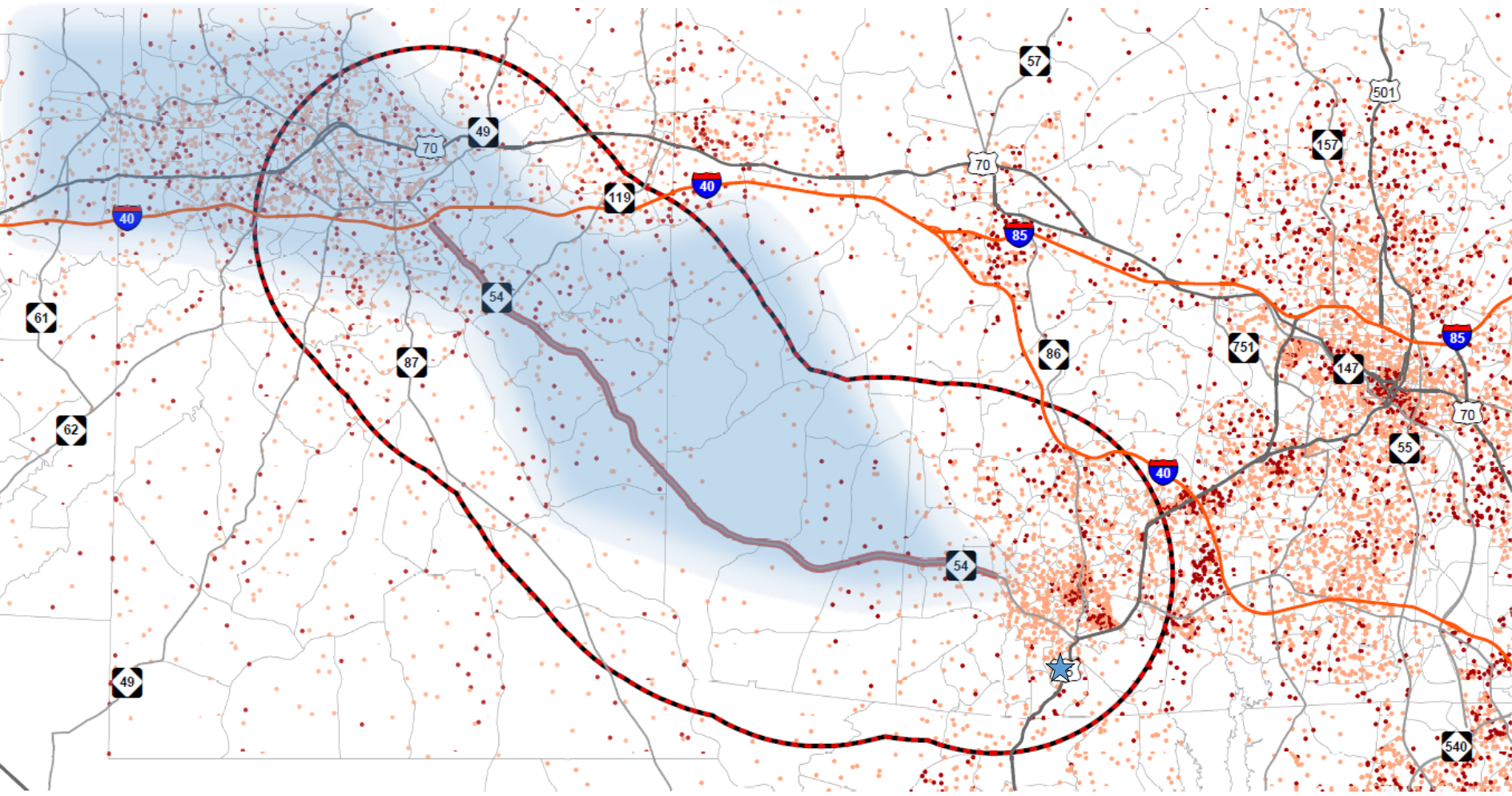
Employment 2017 v 2045
• 1 Dot = 50
• Employment 2017 to 2045
• Employment 2017

TRM & PTRM Socio-Economic Data (2013-2045)
Source Info: NCDOT, VHB, NCOneMap,
Alamance County, Orange County

Figure 10a: TRM & PTRM Population Growth (2013 – 2045)

NC 54 West Corridor Study | Alamance and Orange Counties

- 5 Mile Project Buffer
- Project Corridor

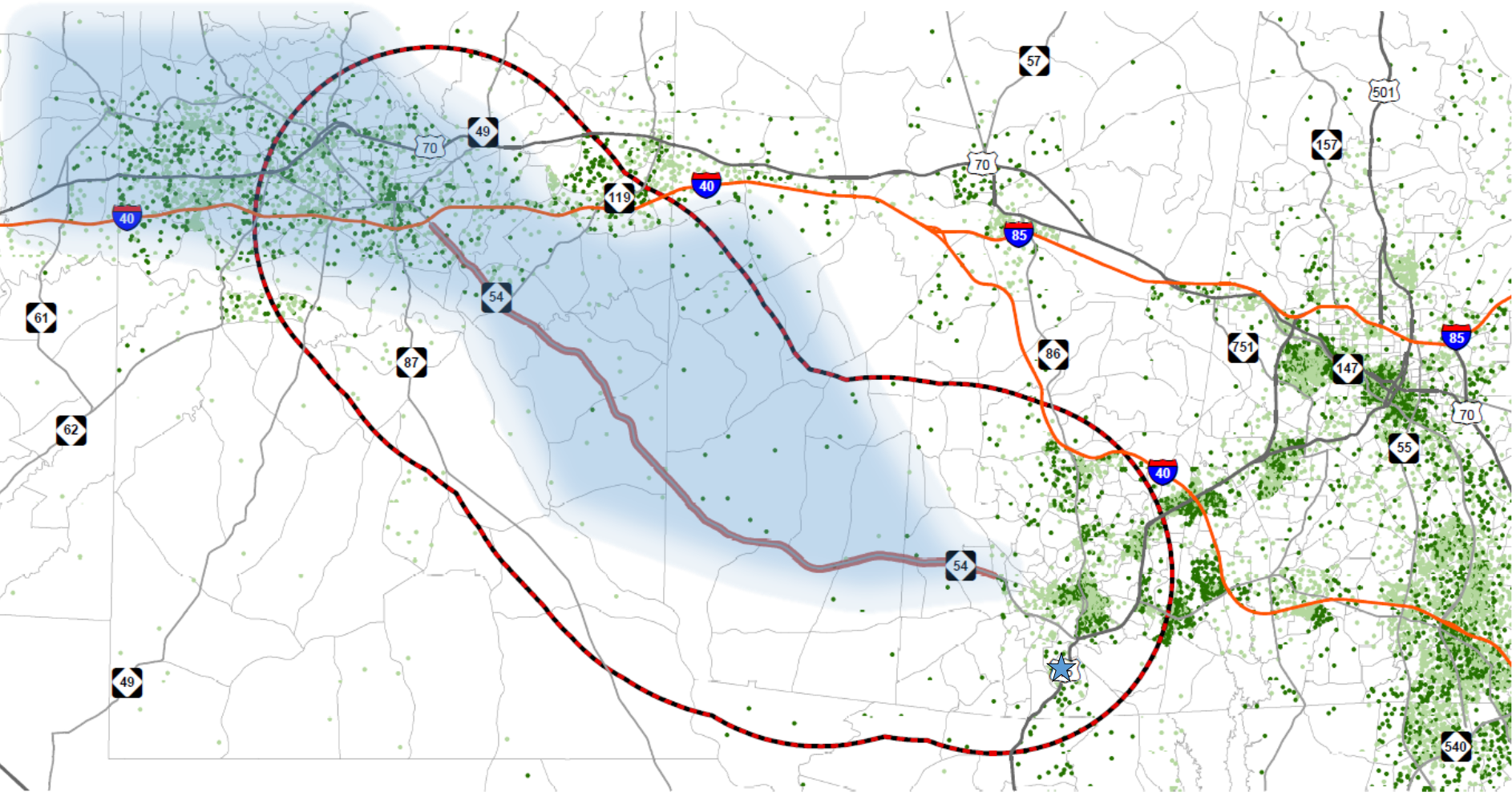**Population 2017 v 2045**
- 1 Dot = 100
- Population 2017 to 2045
- Population 2017

TRM & PTRM Socio-Economic Data (2013-2045)
Source Info: NCDOT, VHB, NCOneMap,
Alamance County, Orange County

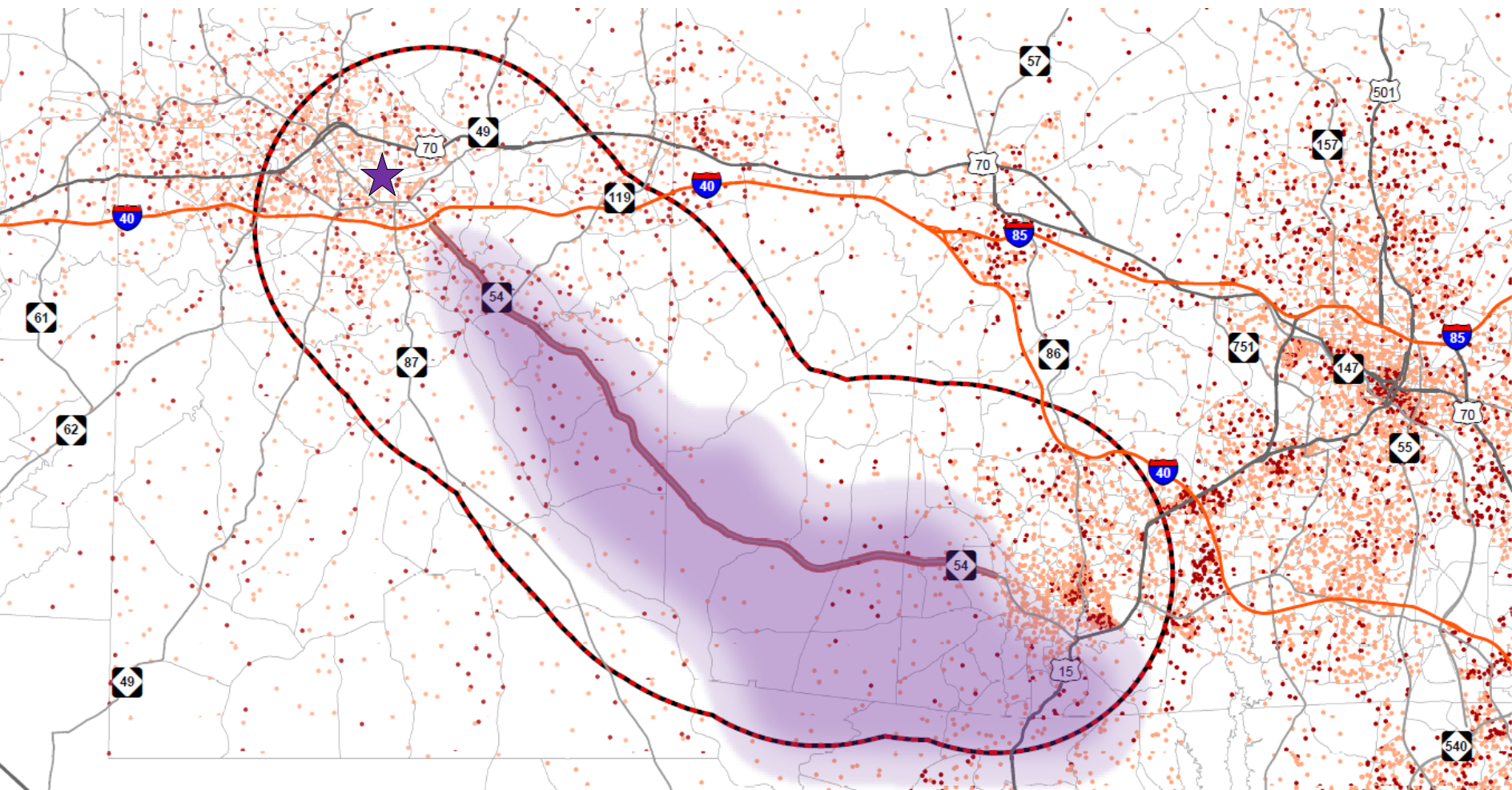# Figure 11a: TRM & PTRM Employment Growth (2013 – 2045)

NC 54 West Corridor Study | Alamance and Orange Counties

5 Mile Project Buffer
Project Corridor

Employment 2017 v 2045
- 1 Dot = 50
- Employment 2017 to 2045
- Employment 2017

TRM & PTRM Socio-Economic Data (2013-2045)

Source Info: NCDOT, VHB, NCOneMap, Alamance County, Orange County

Figure 10b: TRM & PTRM Population Growth (2013 – 2045)

NC 54 West Corridor Study | Alamance and Orange Counties

5 Mile Project Buffer
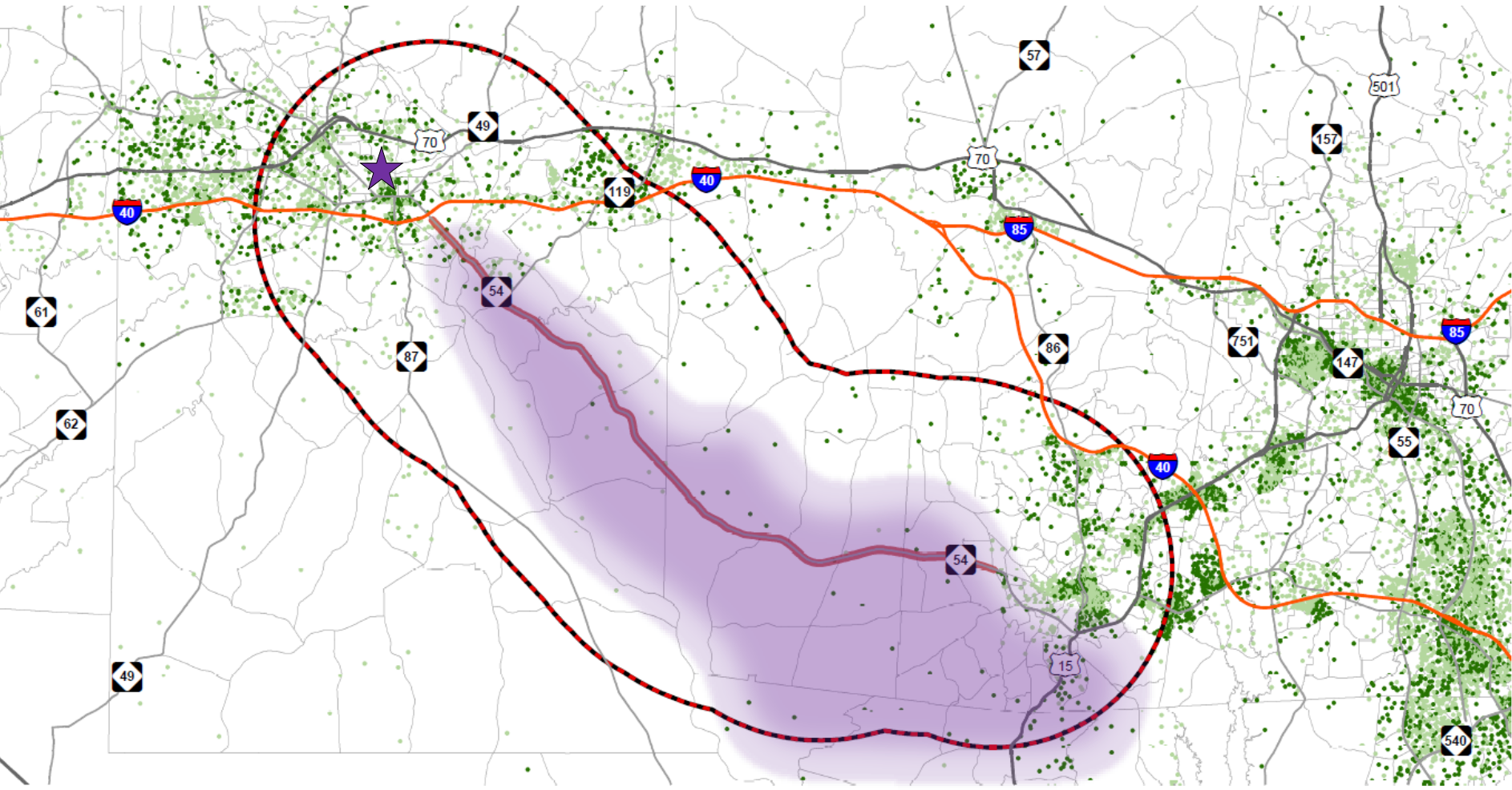**Project Corridor**
Population 2017 v 2045
- 1 Dot = 100
- Population 2017 to 2045
- Population 2017

TRM & PTRM Socio-Economic Data (2013-2045)

Source Info: NCDOT, VHB, NCOneMap,
Alamance County, Orange County

Figure 11b: TRM & PTRM Employment Growth (2013 – 2045)
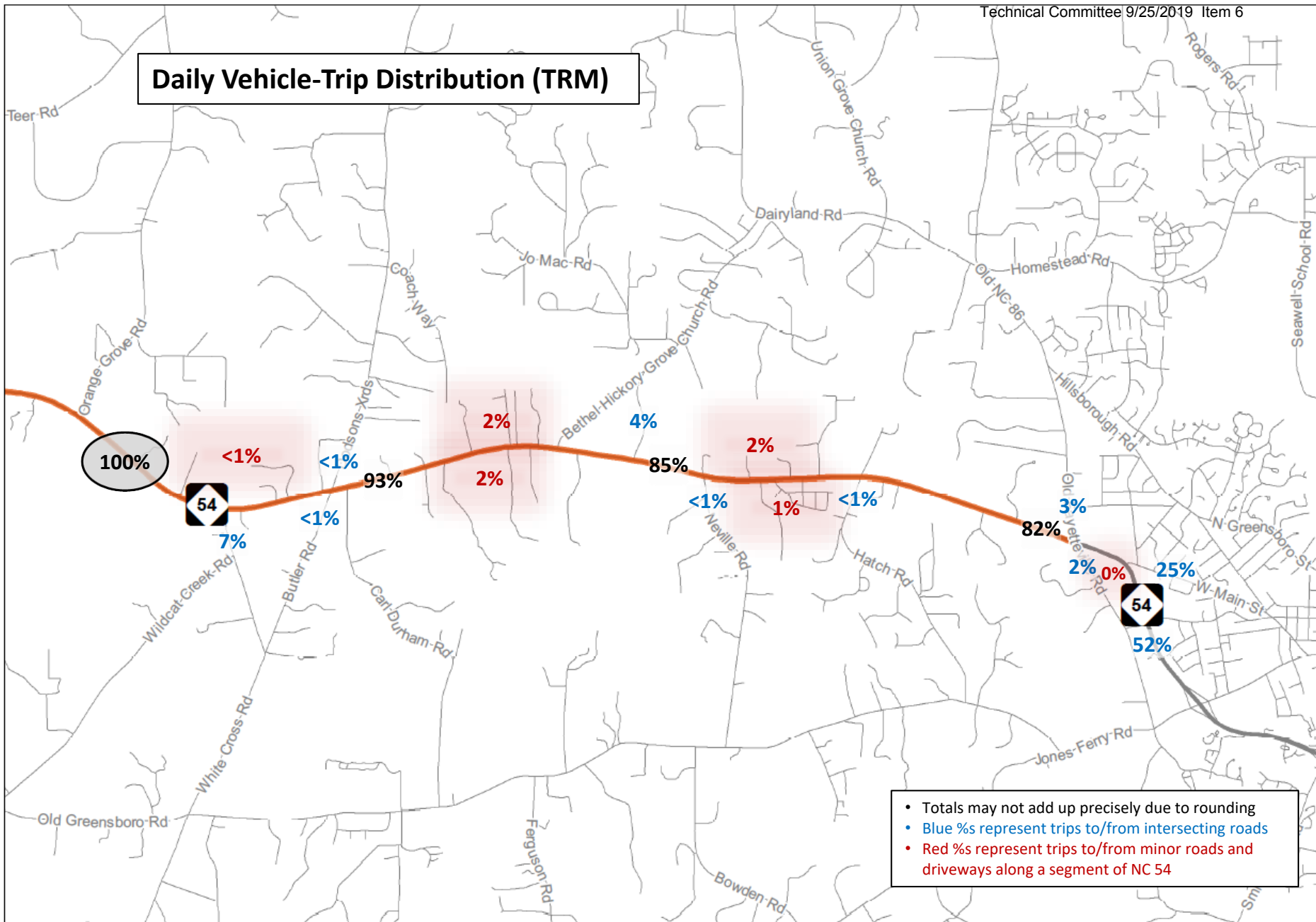

NC 54 West Corridor Study | Alamance and Orange Counties

5 Mile Project Buffer
Project Corridor

Employment 2017 v 2045
- 1 Dot = 50
- Employment 2017 to 2045
- Employment 2017

TRM & PTRM Socio-Economic Data (2013-2045)

Source Info: NCDOT, VHB, NCOneMap,
Alamance County, Orange County

Daily Vehicle-Trip Distribution (TRM)

100%

<1%

<1%

93%

7%

<1%

2%

2%

4%

85%

2%

<1%

1%

<1%

82%

3%

2%

0%

25%

52%

- Totals may not add up precisely due to rounding
- Blue %s represent trips to/from intersecting roads
- Red %s represent trips to/from minor roads and driveways along a segment of NC 54

Figure 12: TRM Select Link Analysis – NC 54 East of Orange Grove Road

0   0.3   0.6   1.2 Miles

Daily Vehicle-Trip Distribution (StreetLight InSight Data)

100%

1%

1%

91%

<1%

7%

<1%

<1%

4%

87%

<1%

1%

1%

<1%

83%

8%

2% 7% 12%

54%

- Average Mon-Thu for Apr, May, Sep, & Oct, 2016-18
- Totals may not add up precisely due to rounding
- Blue %s represent trips to/from intersecting roads
- Red %s represent trips to/from minor roads and driveways along a segment of NC 54

Figure 6: Origin-Destination Analysis – NC 54 East of Orange Grove Road

0   0.3   0.6   1.2 Miles

Legend:

-XXX Vehicle/day reduction due to NC 54 widening

+XXX Vehicle/day increase due to NC 54 widening

XXX* Manually adjusted to compensate for TRM over-assignment to West Main St

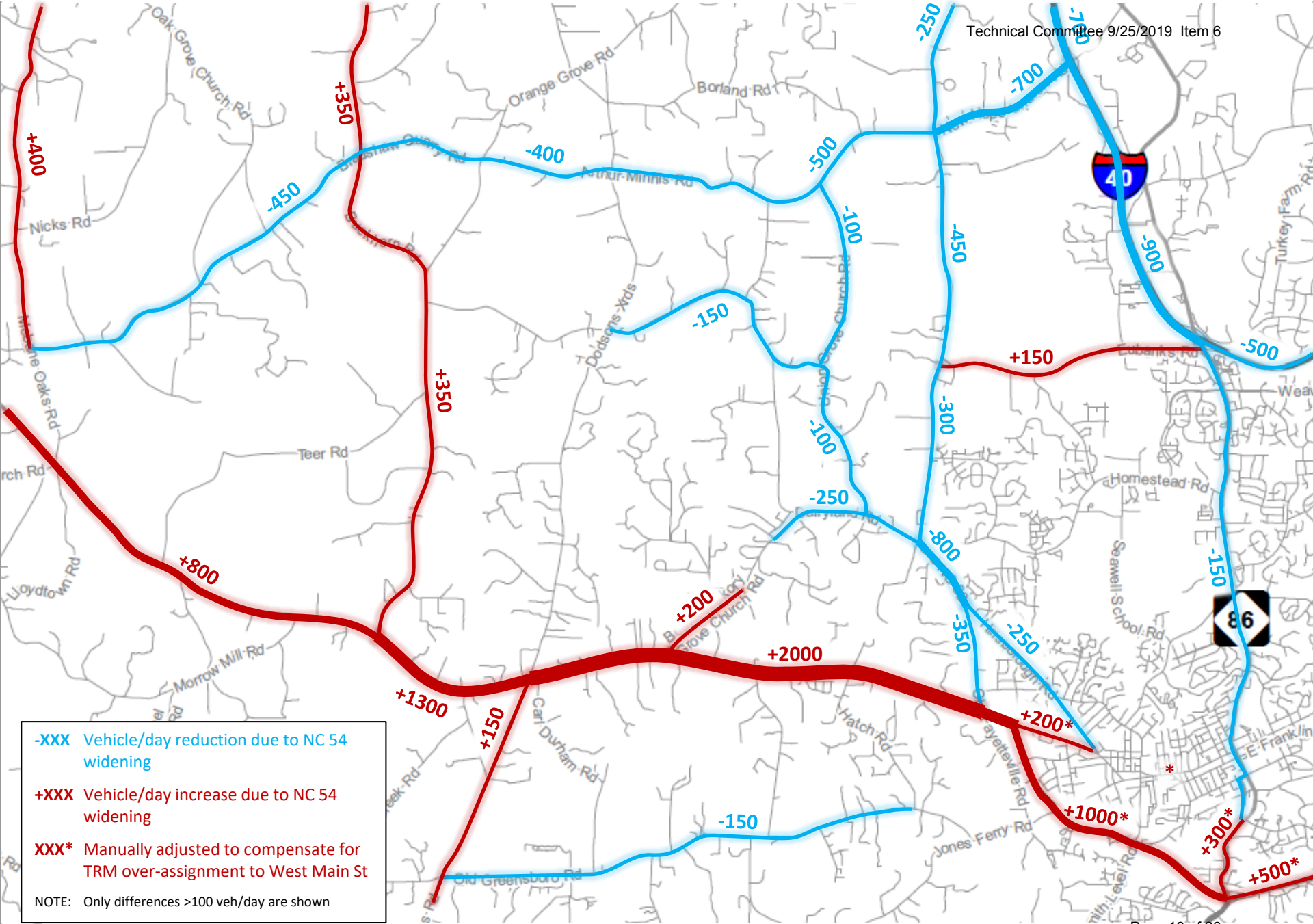NOTE: Only differences >100 veh/day are shown
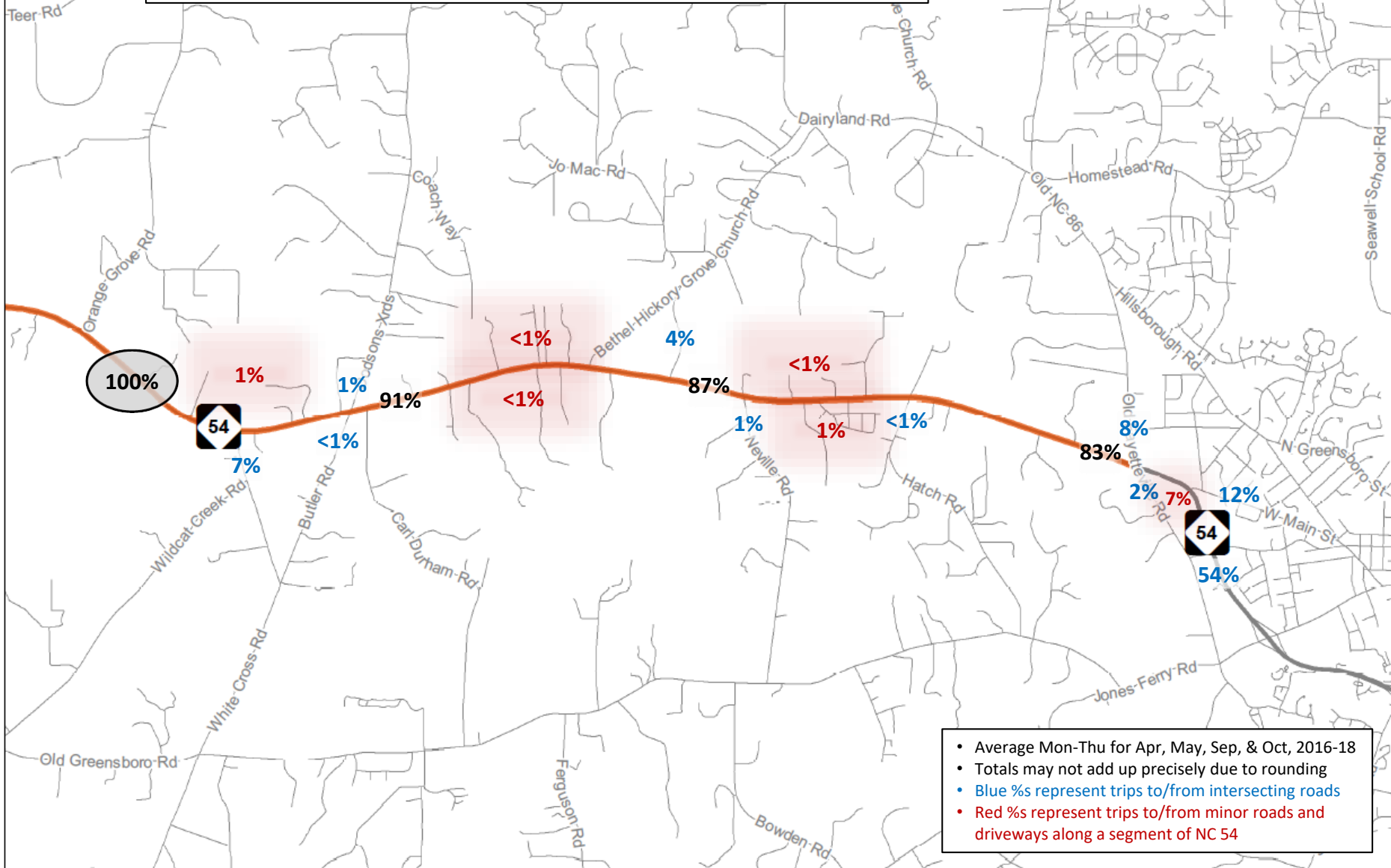
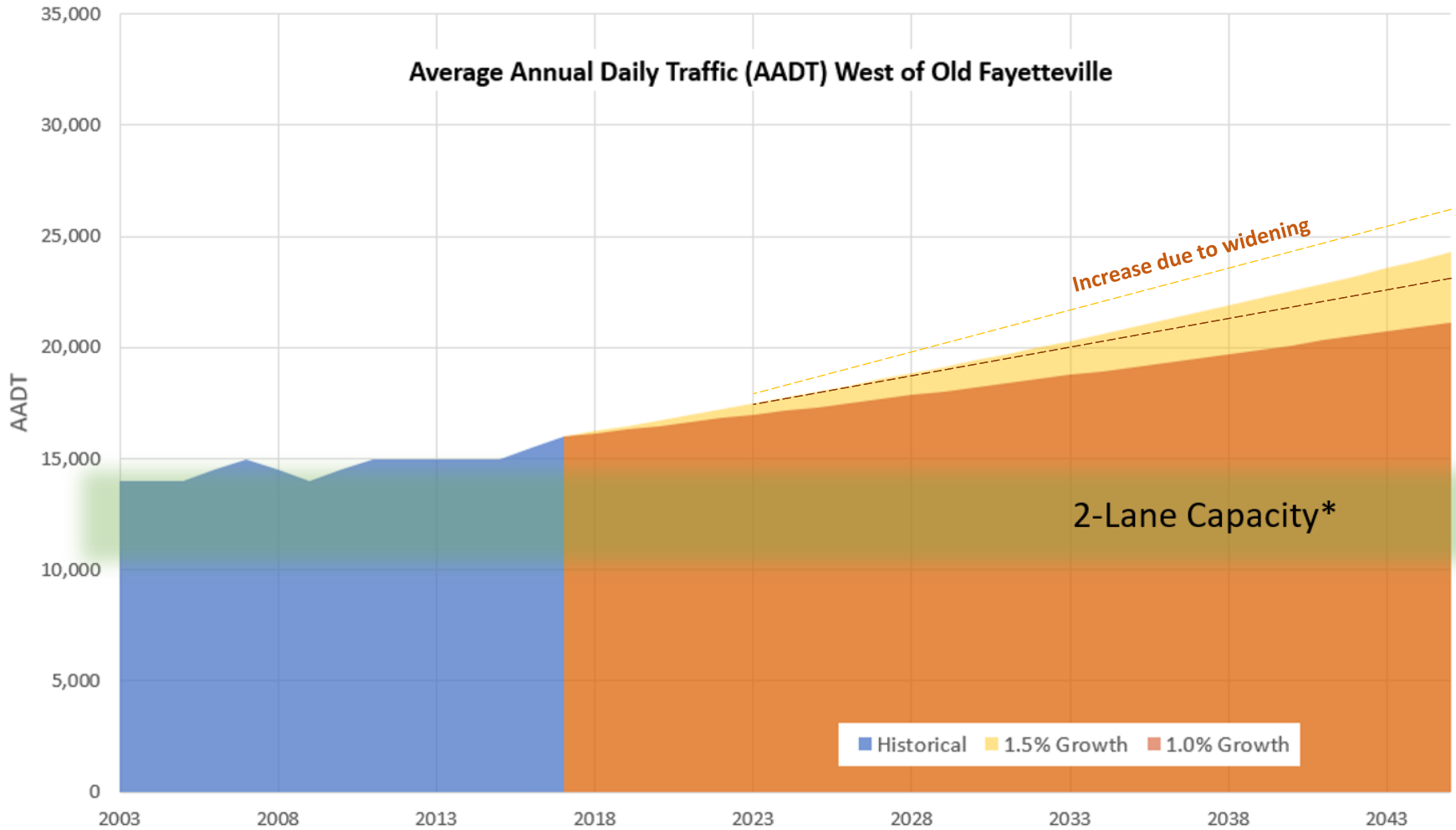**Figure 13: TRM – Daily Traffic Differences between 2045 NC 54 Widened and No-Build Scenarios**

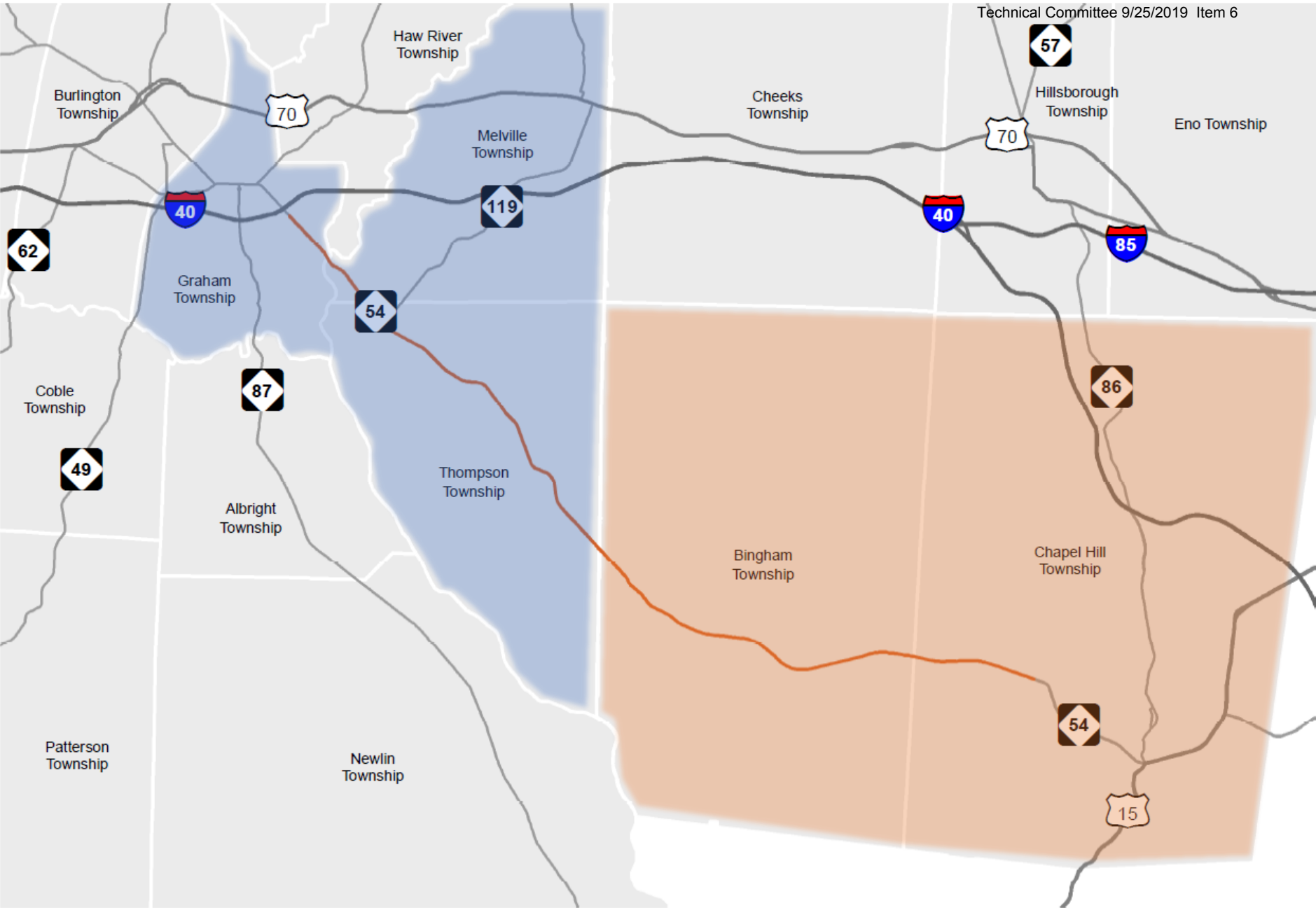**Figure 14: Comparison of 2045 Build and No-Build Scenarios Relative to 2-Lane Capacity Roadway**

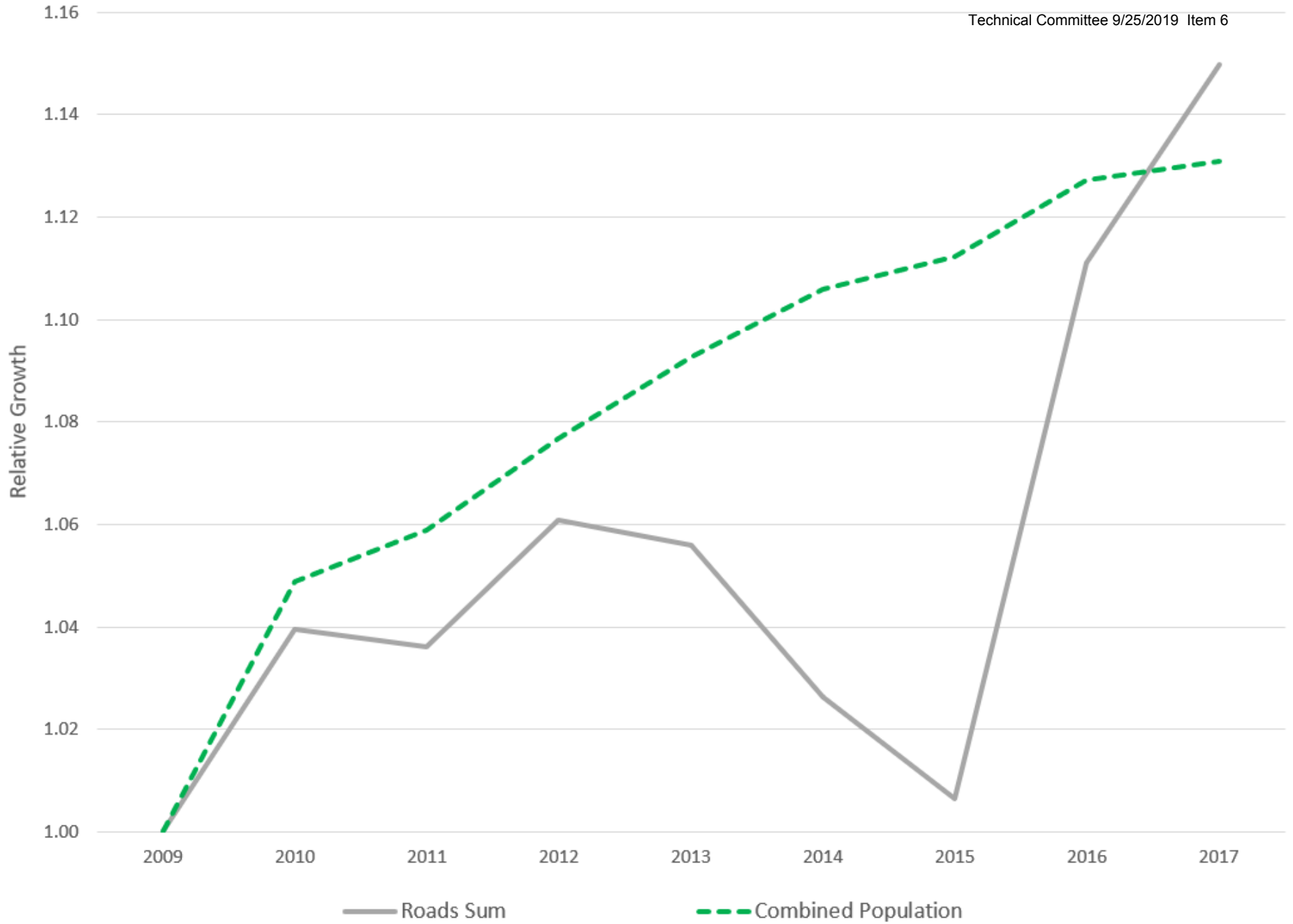**Figure 15: Areas Included in Population-AADT Correlation Analysis**

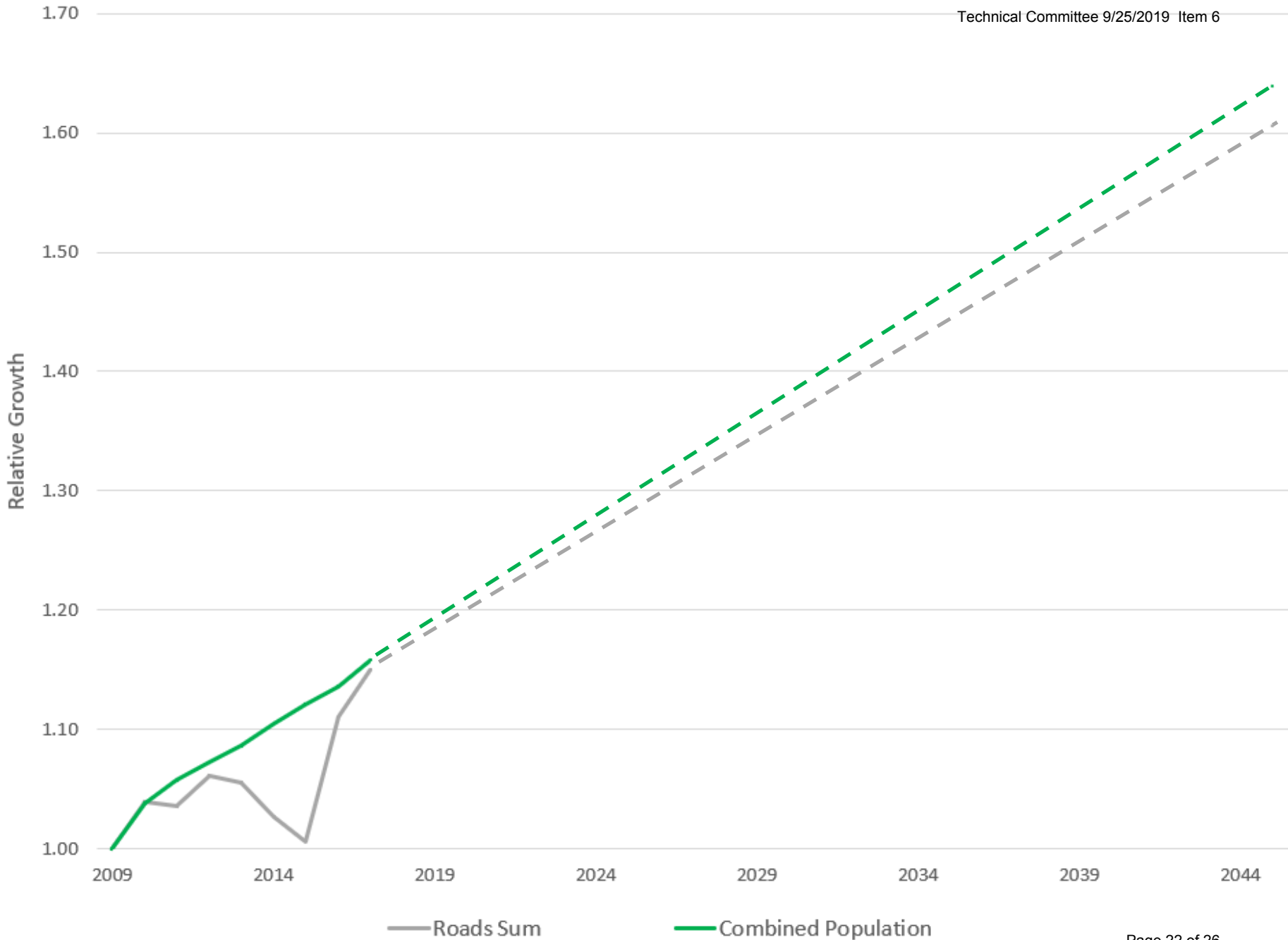**Figure 16: Comparison of Historical Population and AADT Aggregations**

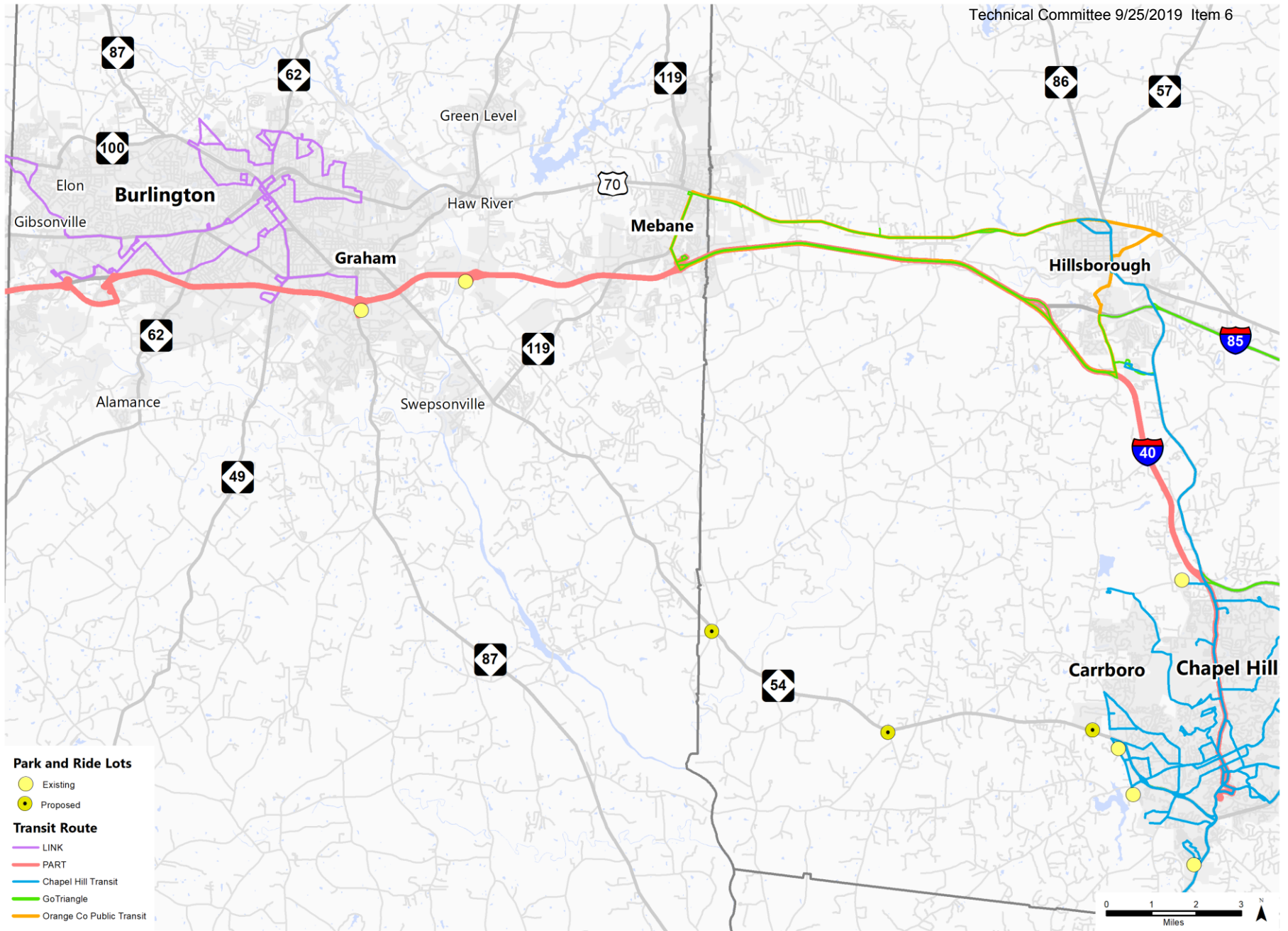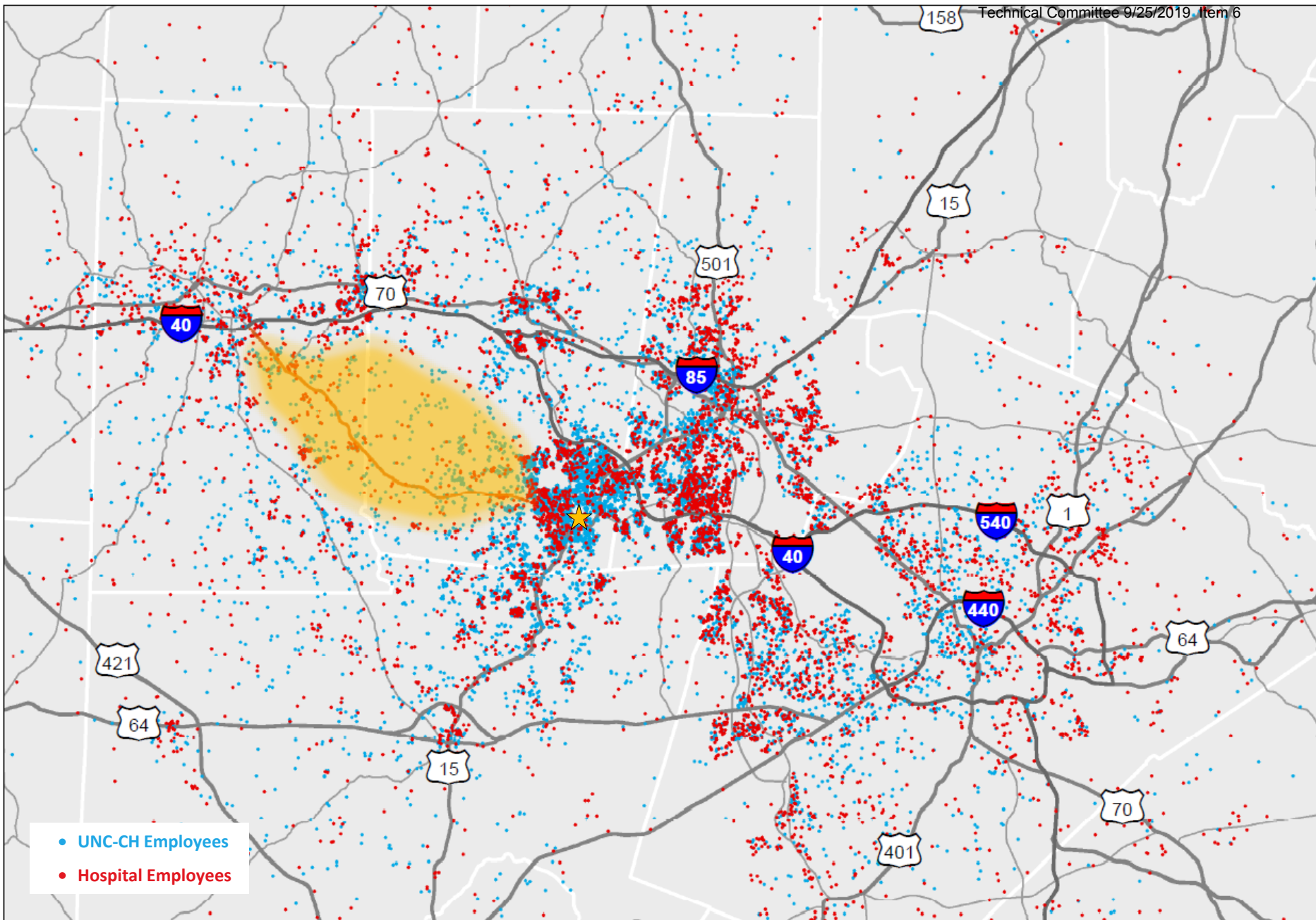**Figure 17: Comparison of Aggregated Population and AADT Forecasts**

Figure 18: Transit Routes and Park-&-Ride Lots

Park and Ride Lots
- Existing
- Proposed

Transit Route
- LINK
- PART
- Chapel Hill Transit
- GoTriangle
- Orange Co Public Transit

Figure 19: Regional Distribution of UNC-CH and Hospital Employee Residences (2017)

Legend:
- UNC-CH Employees
- Hospital Employees

- **UNC-CH Employees**
- **Hospital Employees**

Source: UNC-CH Development Plan, 2017 TIA Update

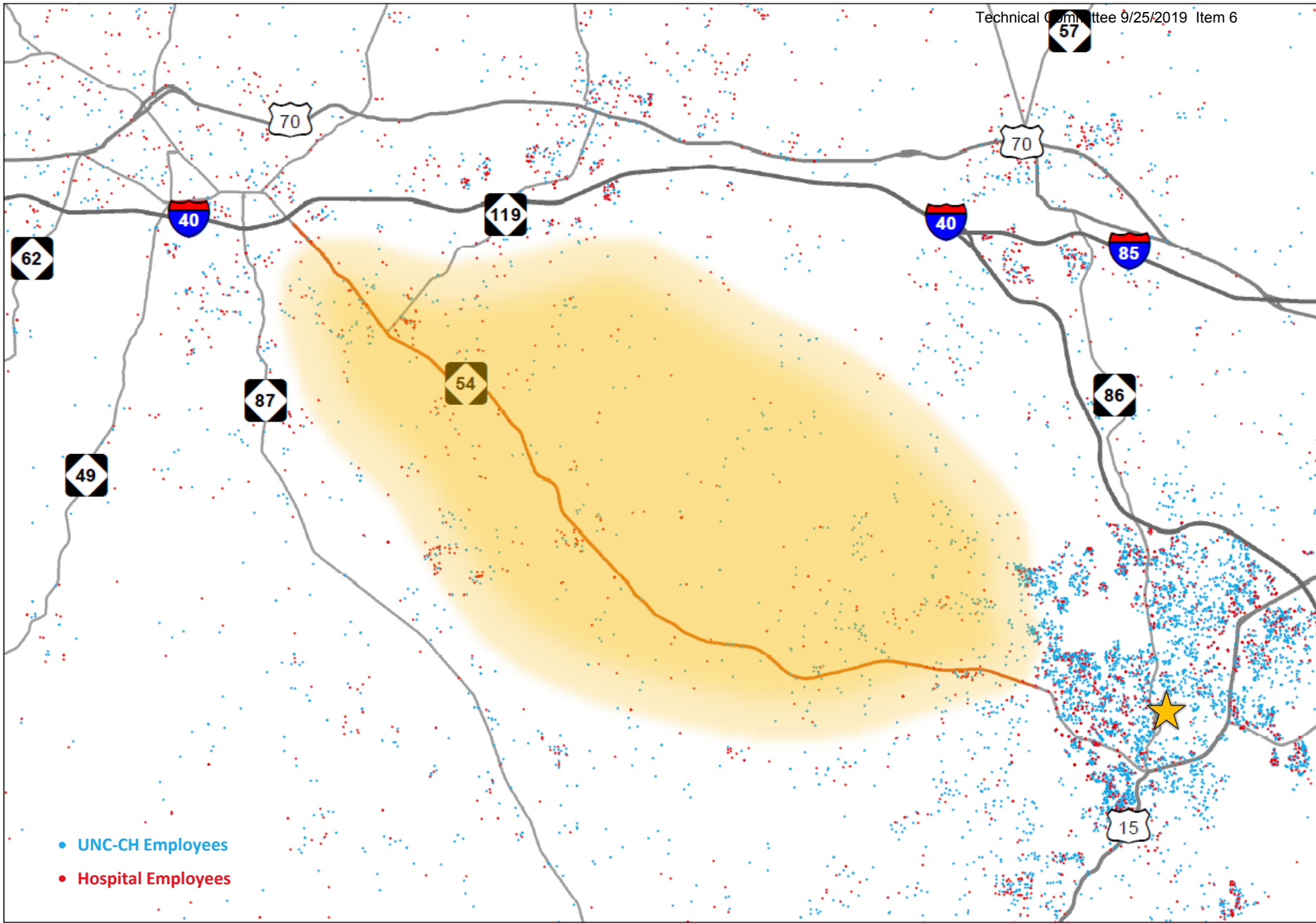**Figure 20: Study Area Distribution of UNC-CH and Hospital Employee Residences (2017)**

Approach Corridors

- ⬛ Study Area
- ⭐ Bell Tower
- — Highway

Employees in Approach

	1,993
	939
	2,331
	3,906
	1,949
	2,058
	2,557
	7,713

24.8%
3,906

13.1%
2,058

12.4%
1,949

7,713

14.8%
2,331
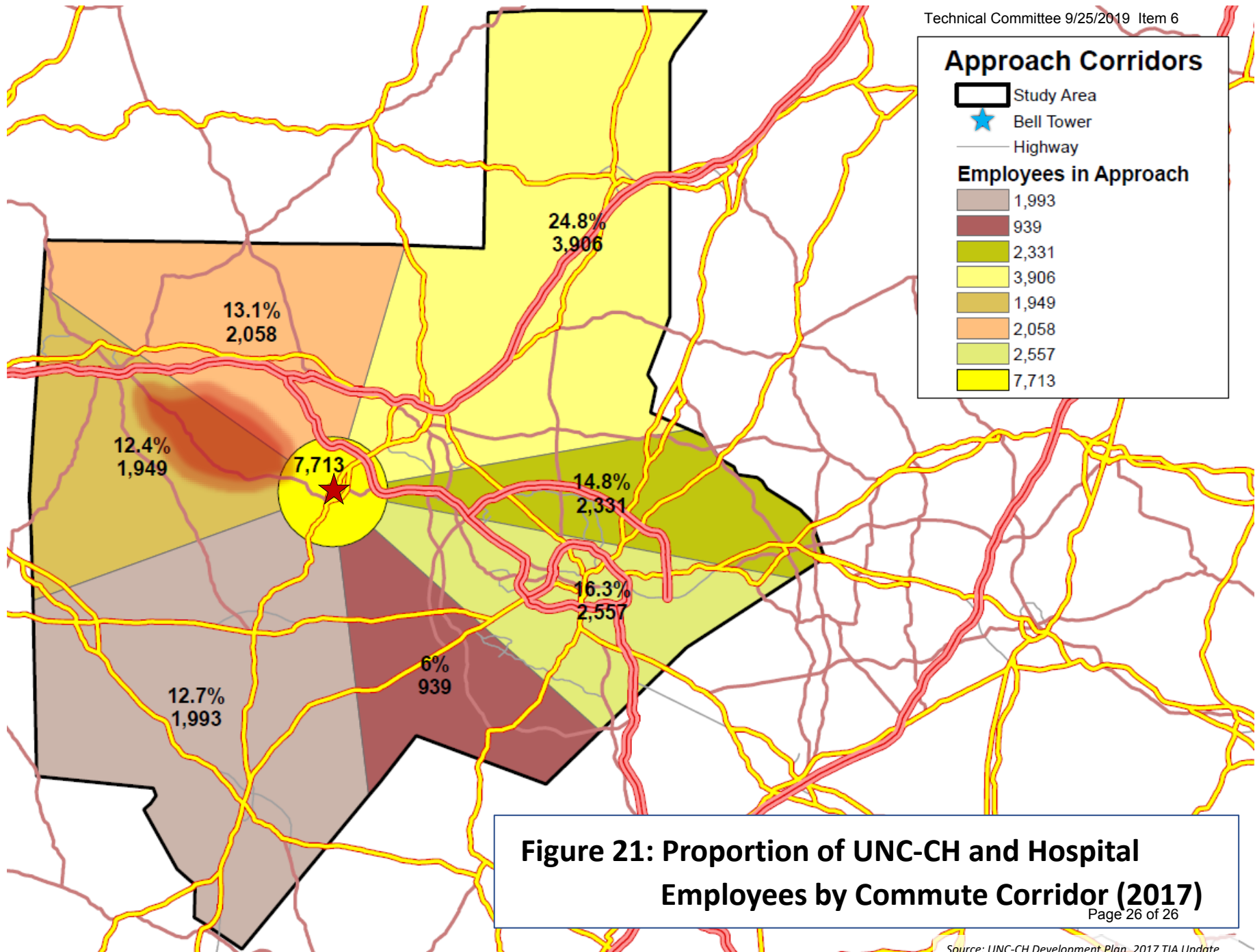
16.3%
2,557

12.7%
1,993

6%
939

Figure 21: Proportion of UNC-CH and Hospital Employees by Commute Corridor (2017)

Source: UNC-CH Development Plan, 2017 TIA Update