TRM Extent

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

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

TRM Extent

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

0   1   2   4 Miles

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

TRM Extent

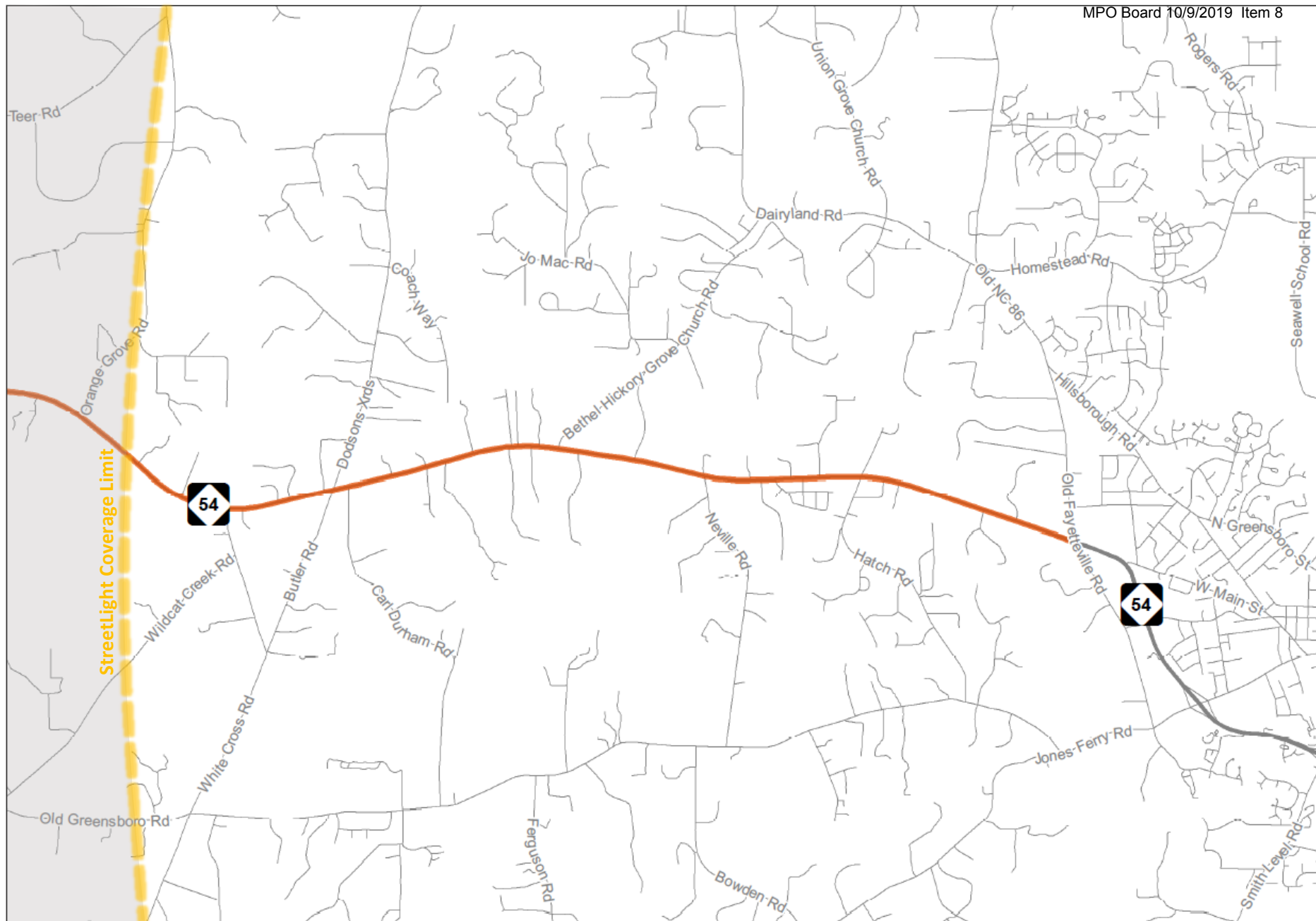**Figure 3: Estimated NC 54 Travelshed for Trips to Burlington**

0   1   2   4 Miles

Figure 4: StreetLight InSight Dataset Coverage

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

0   0.3   0.6   1.2 Miles

Daily Vehicle-Trip Distribution (StreetLight InSight Data)

100%

1%

1%

91%

<1%

7%

<1%

<1%

4%

<1%

87%

<1%

1%

1%

<1%

54

83%

8%

2%

7%

12%

54

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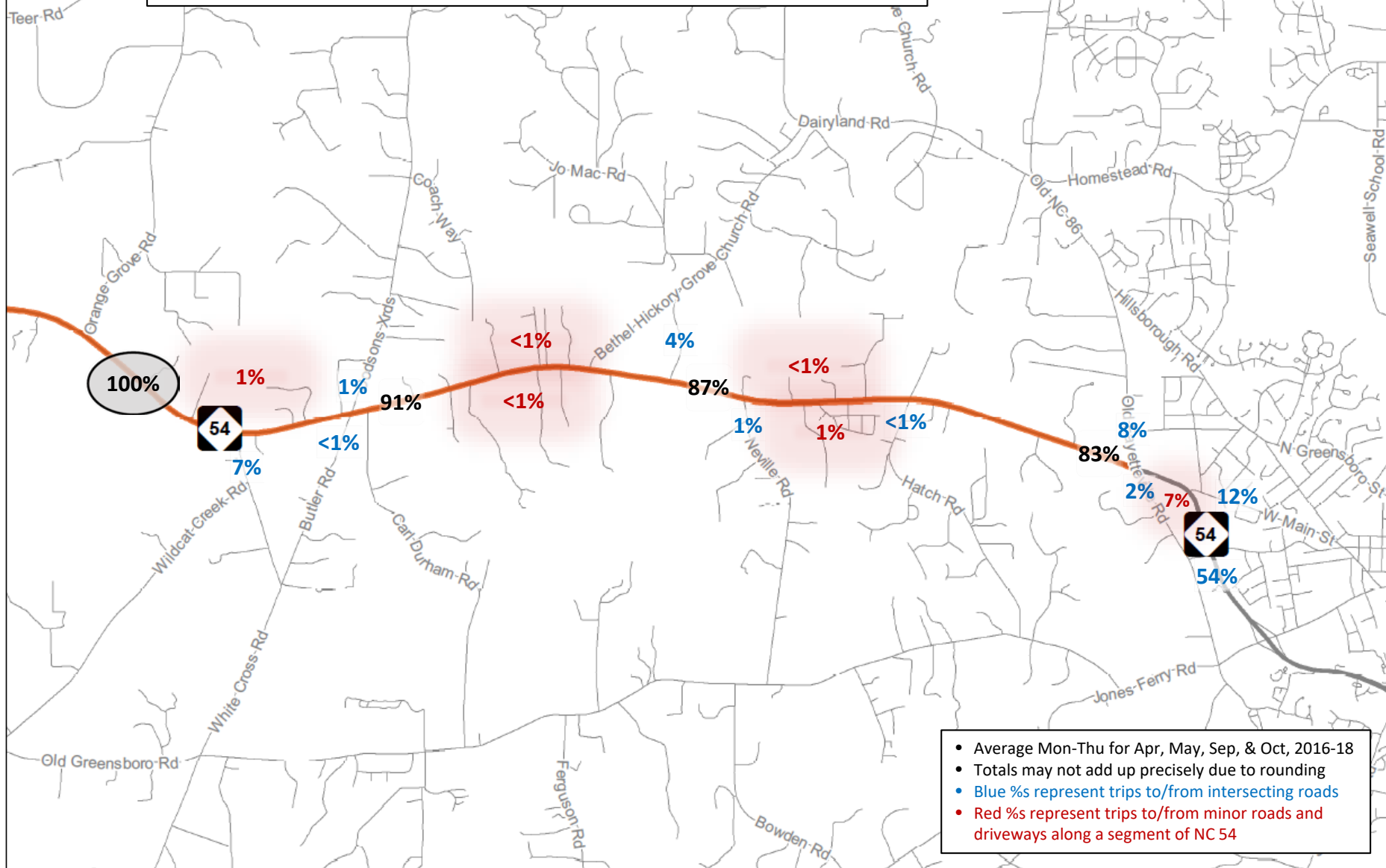
Figure 6: Origin-Destination Analysis – NC 54 East of Orange Grove Road

0   0.3   0.6   1.2 Miles

AM Peak Vehicle-Trip Distribution (StreetLight InSight Data)

100%

<1%
<1%
96%
<1%
<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
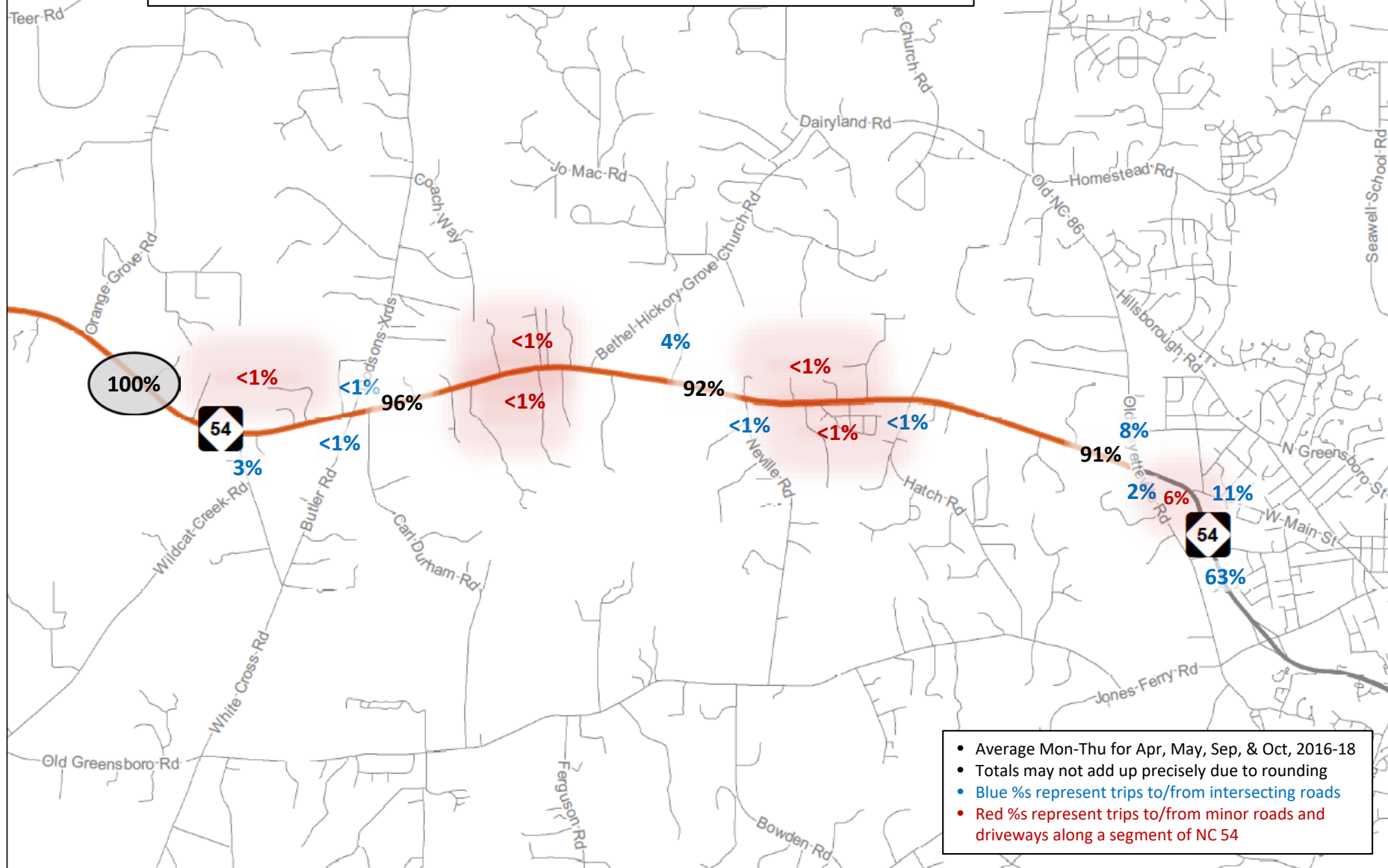
Figure 7: Origin-Destination Analysis – NC 54 East of Orange Grove Road

0   0.3   0.6   1.2 Miles

Daily Vehicle-Trip Distribution (StreetLight InSight Data)

- 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
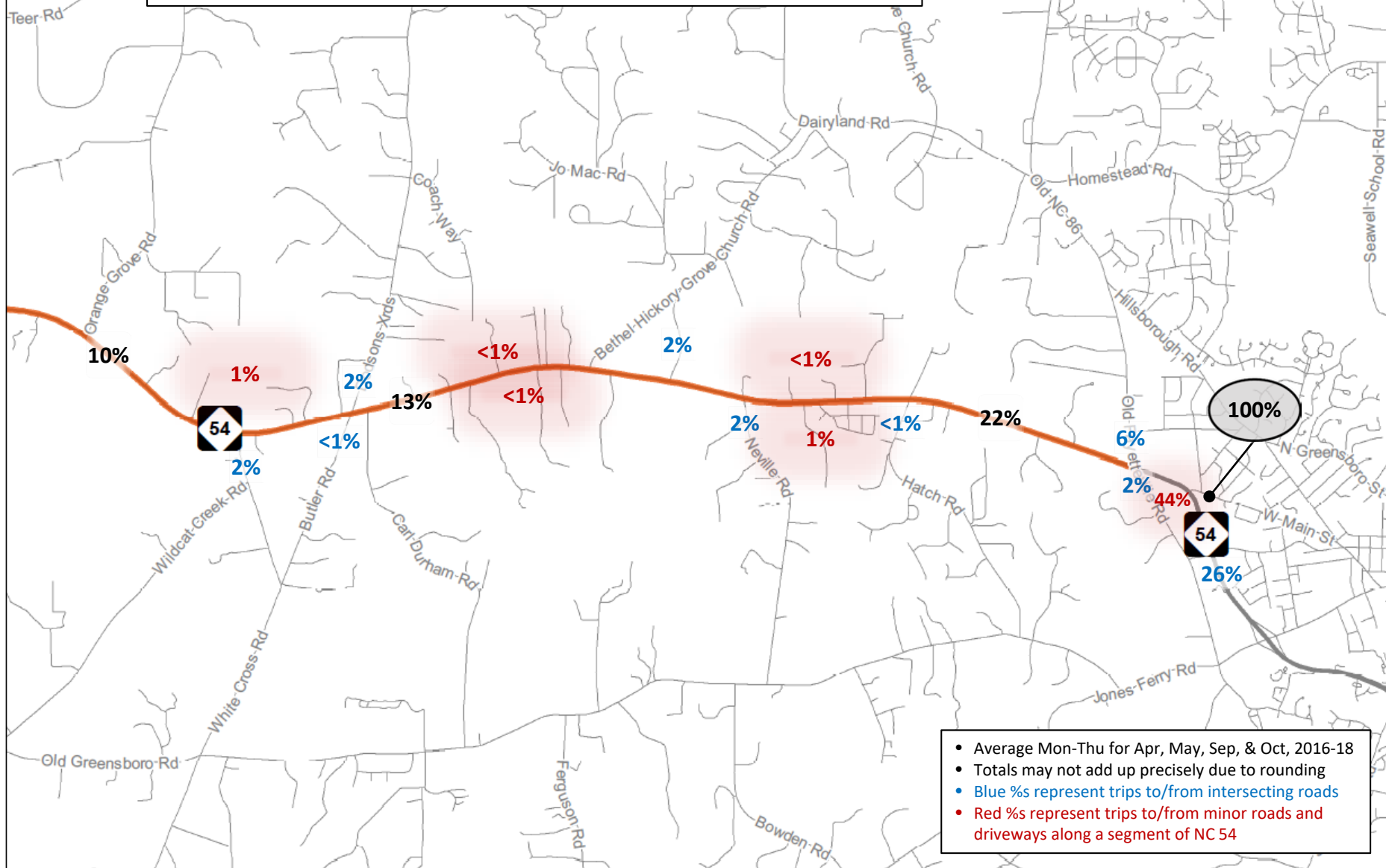- Red %s represent trips to/from minor roads and driveways along a segment of NC 54

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

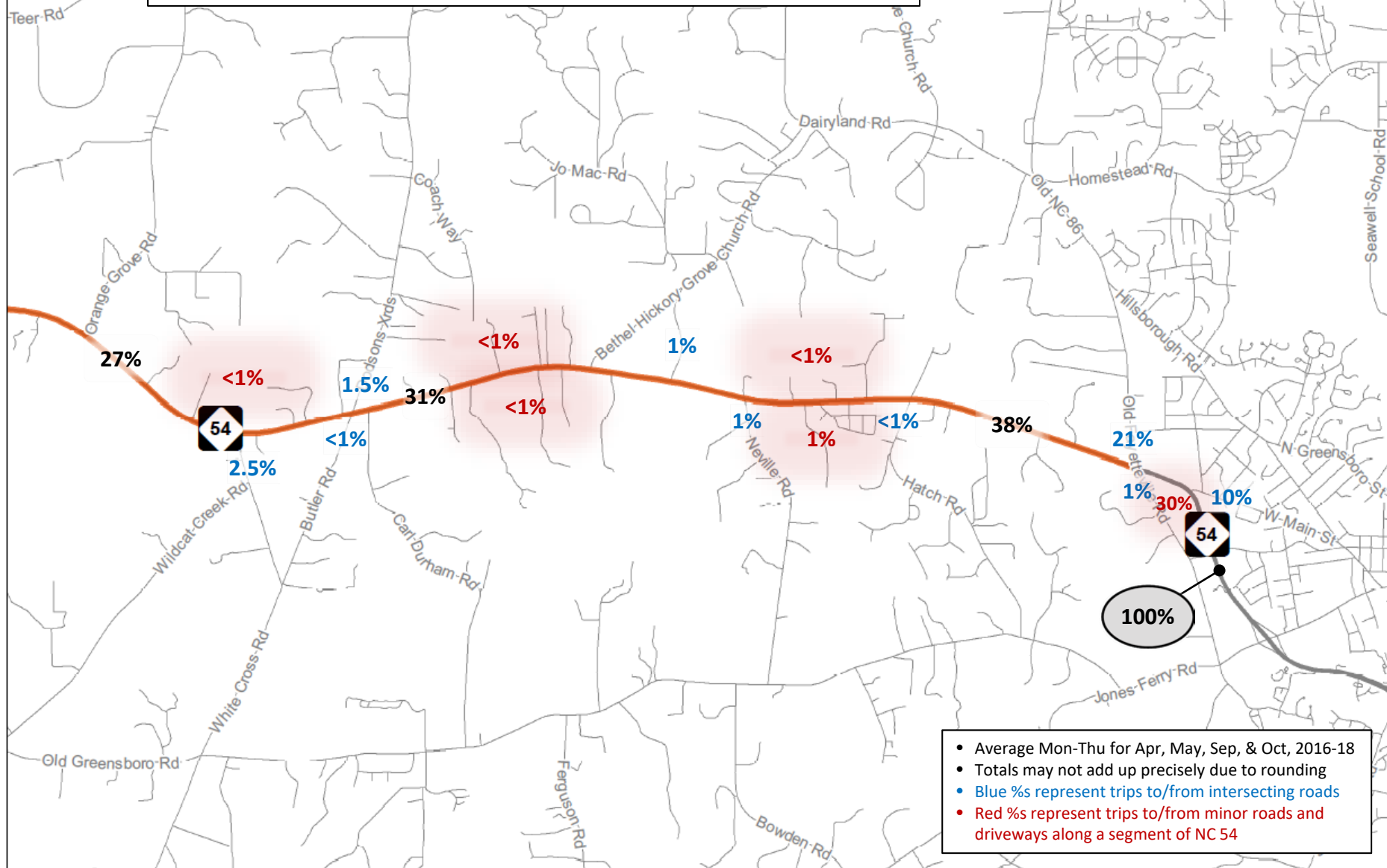# Daily Vehicle-Trip Distribution (StreetLight InSight Data)

27%

<1%

1.5%

31%

<1%

<1%

<1%

2.5%

<1%

1%

<1%

<1%

1%

1%

<1%

38%

21%

1%

30%

10%

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

TRM Extent

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

0 1 2 4 Miles
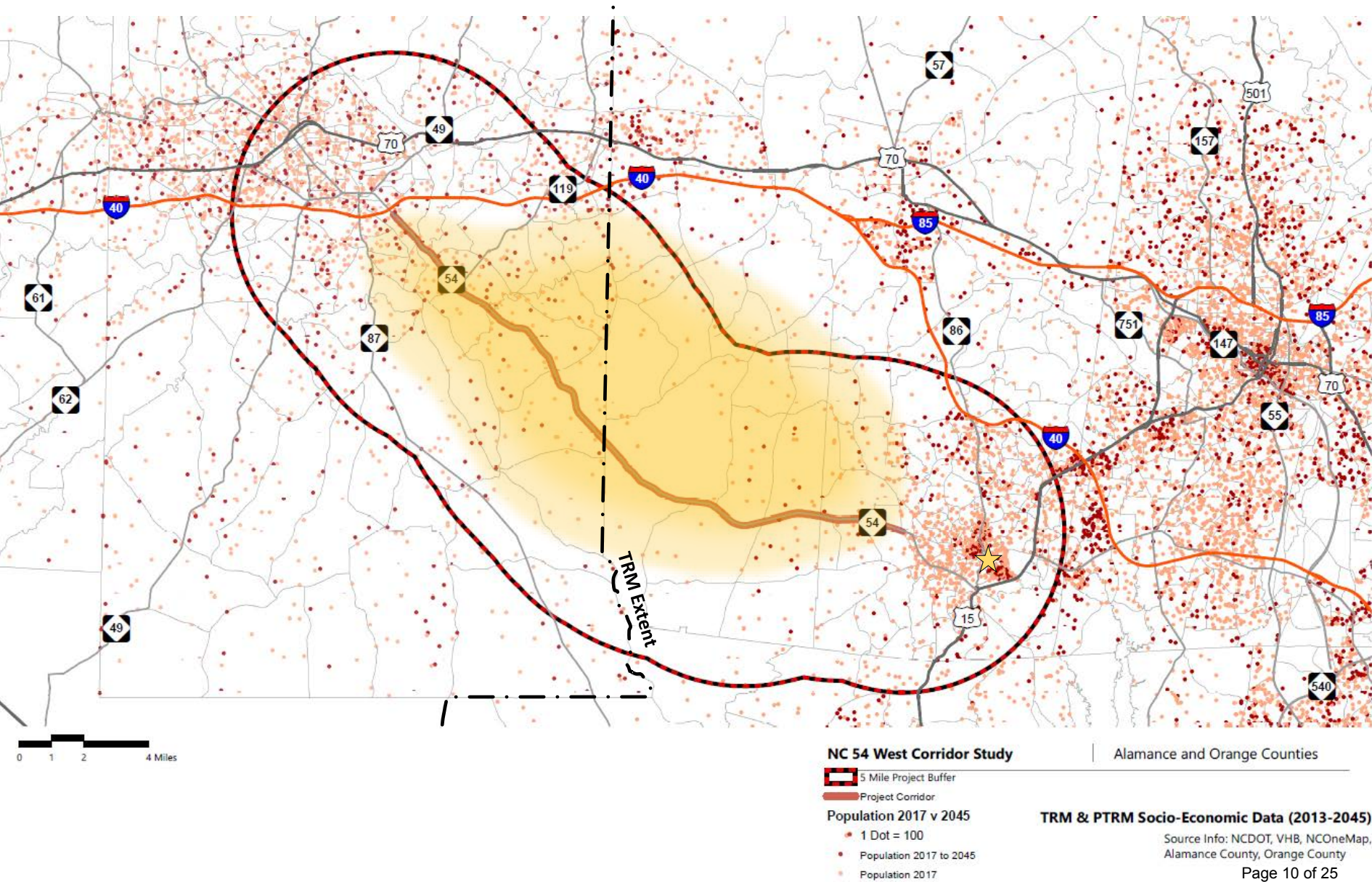
Figure 10b: TRM & PTRM Population Growth (2013 – 2045)

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 10c: 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
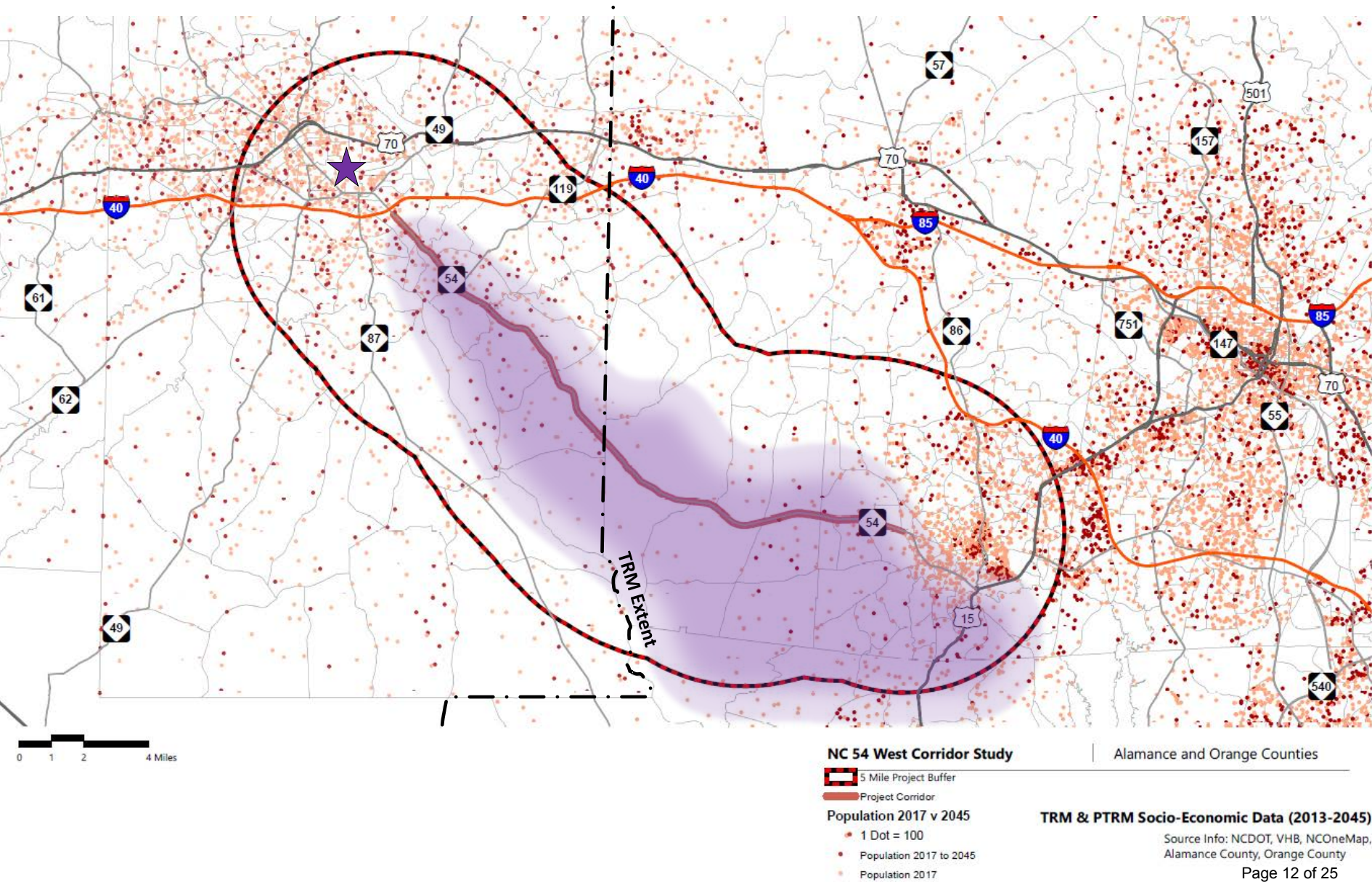
Figure 11a: TRM & PTRM Employment Growth (2013 – 2045)

TRM Extent

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

0 1 2 4 Miles
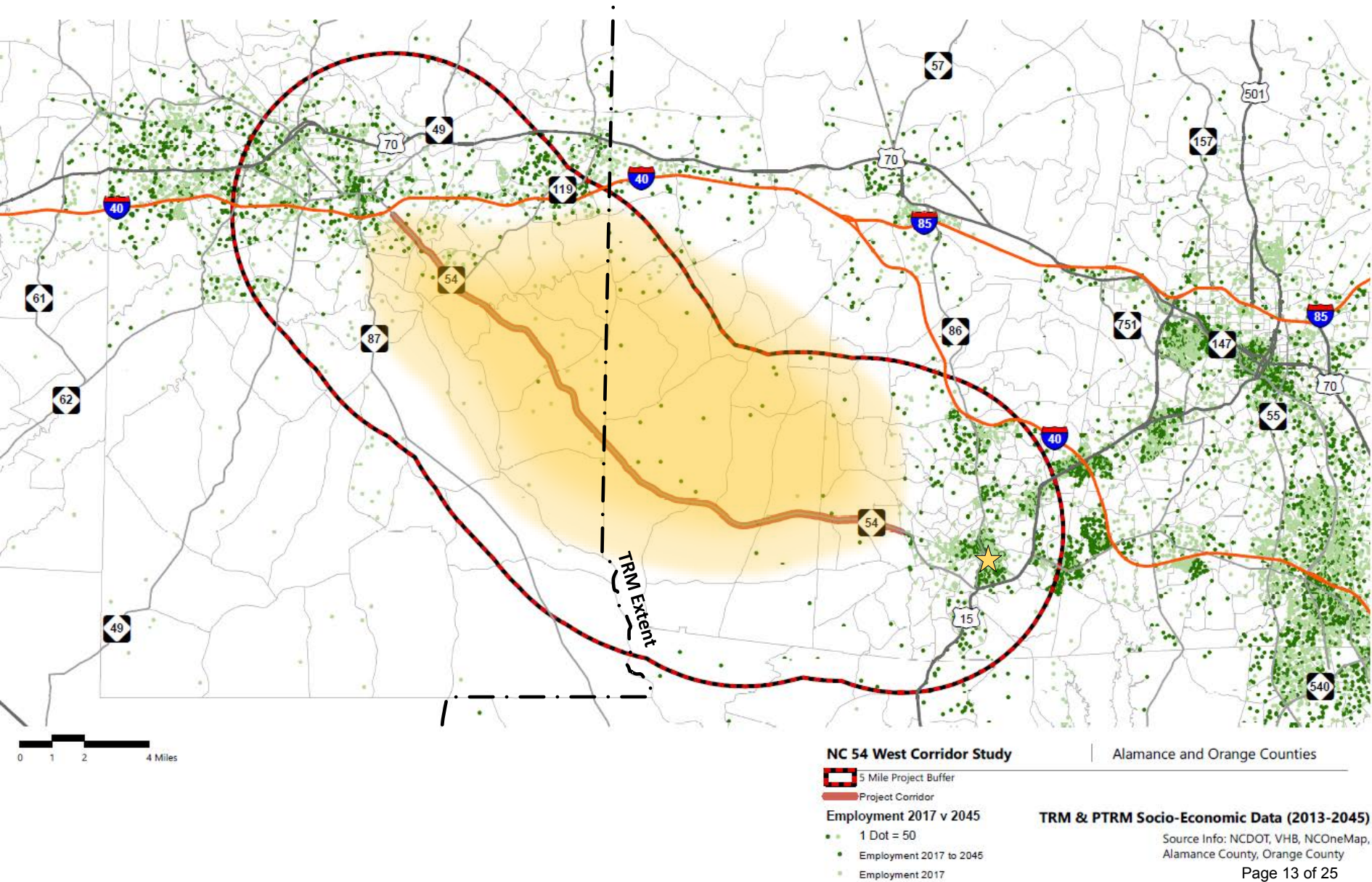
Figure 11b: TRM & PTRM Employment Growth (2013 – 2045)

TRM Extent

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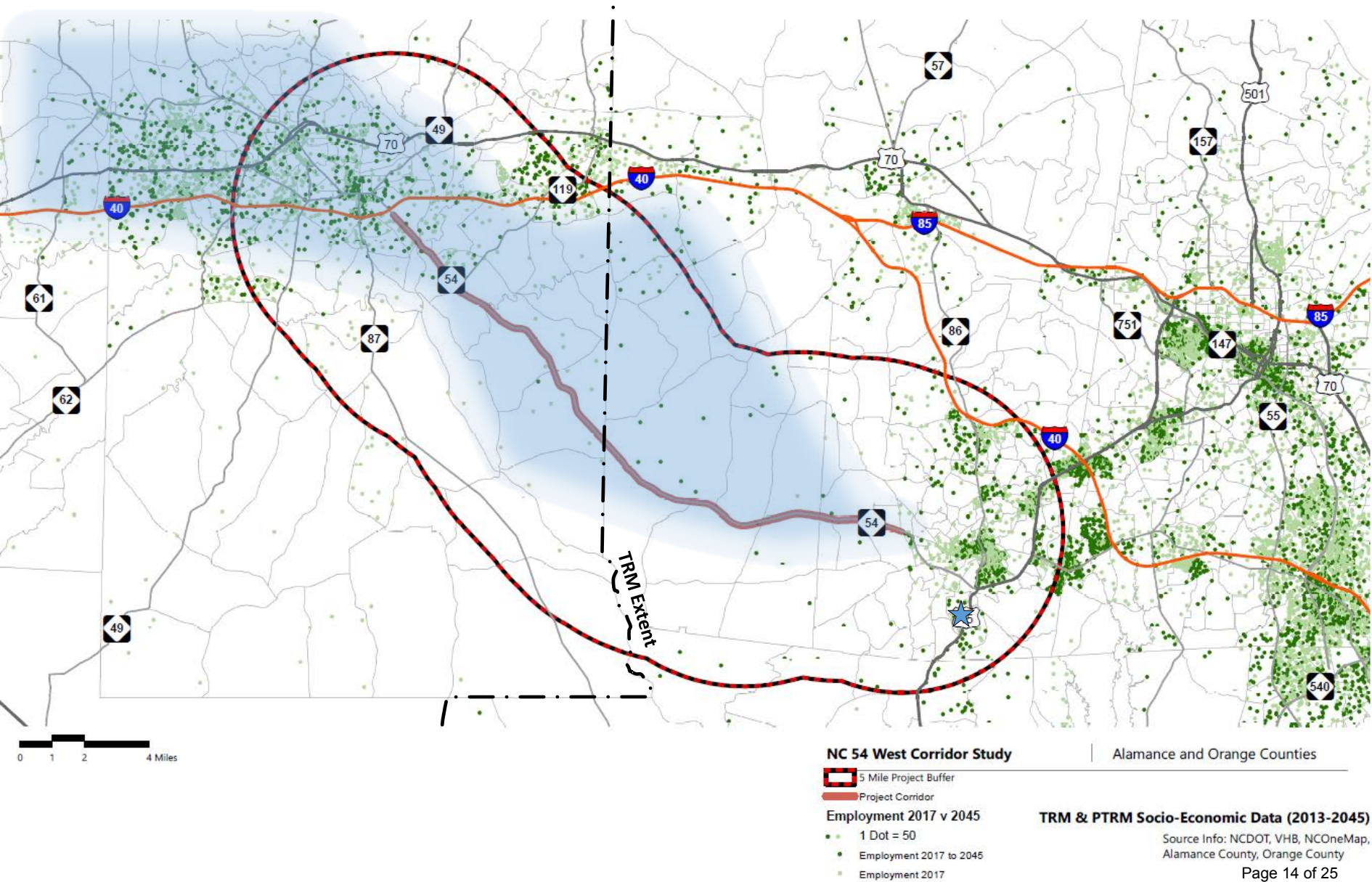
Figure 11c: TRM & PTRM Employment Growth (2013 – 2045)

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%

<1%

7%

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

Figure 13: TRM – Daily Traffic Differences between 2045 NC 54 Widened and No-Build Scenarios

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
Yellow indicates roads in TRM network with ≤100 veh/day change between Build & No Build
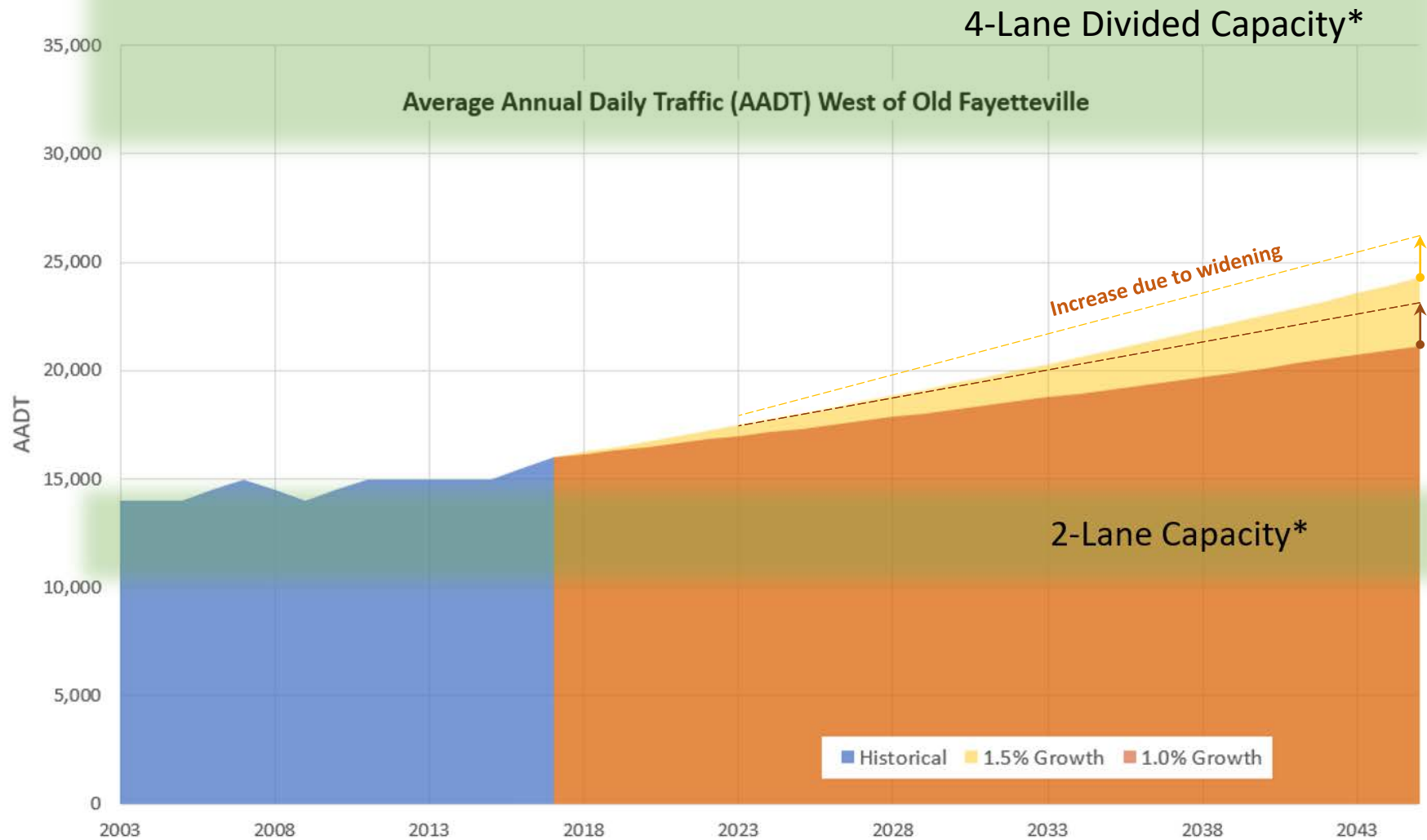
Figure 14: Relative Impacts of Traffic Shifts due to NC 54 Widening

Figure 15: Areas Included in Population-AADT Correlation Analysis
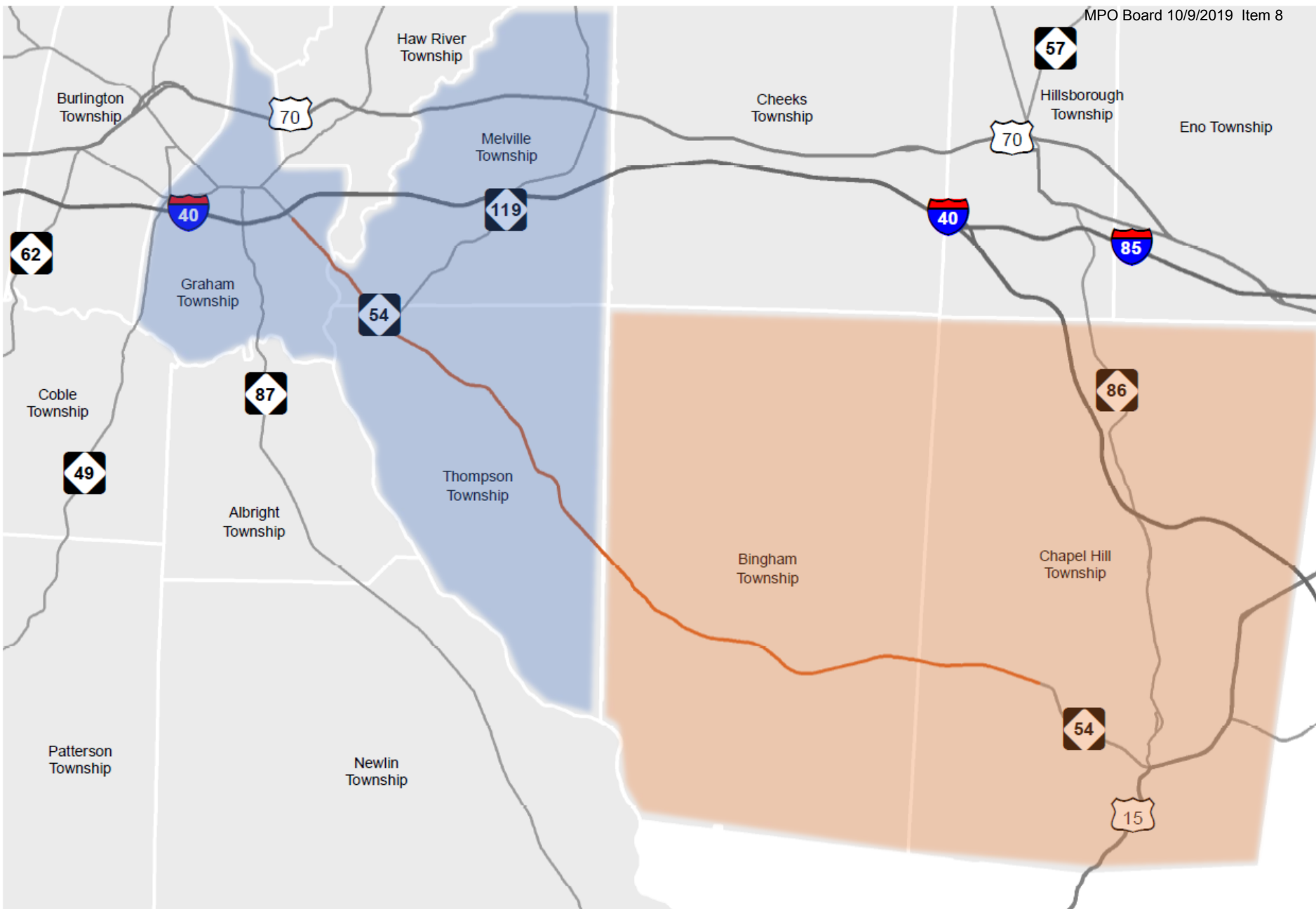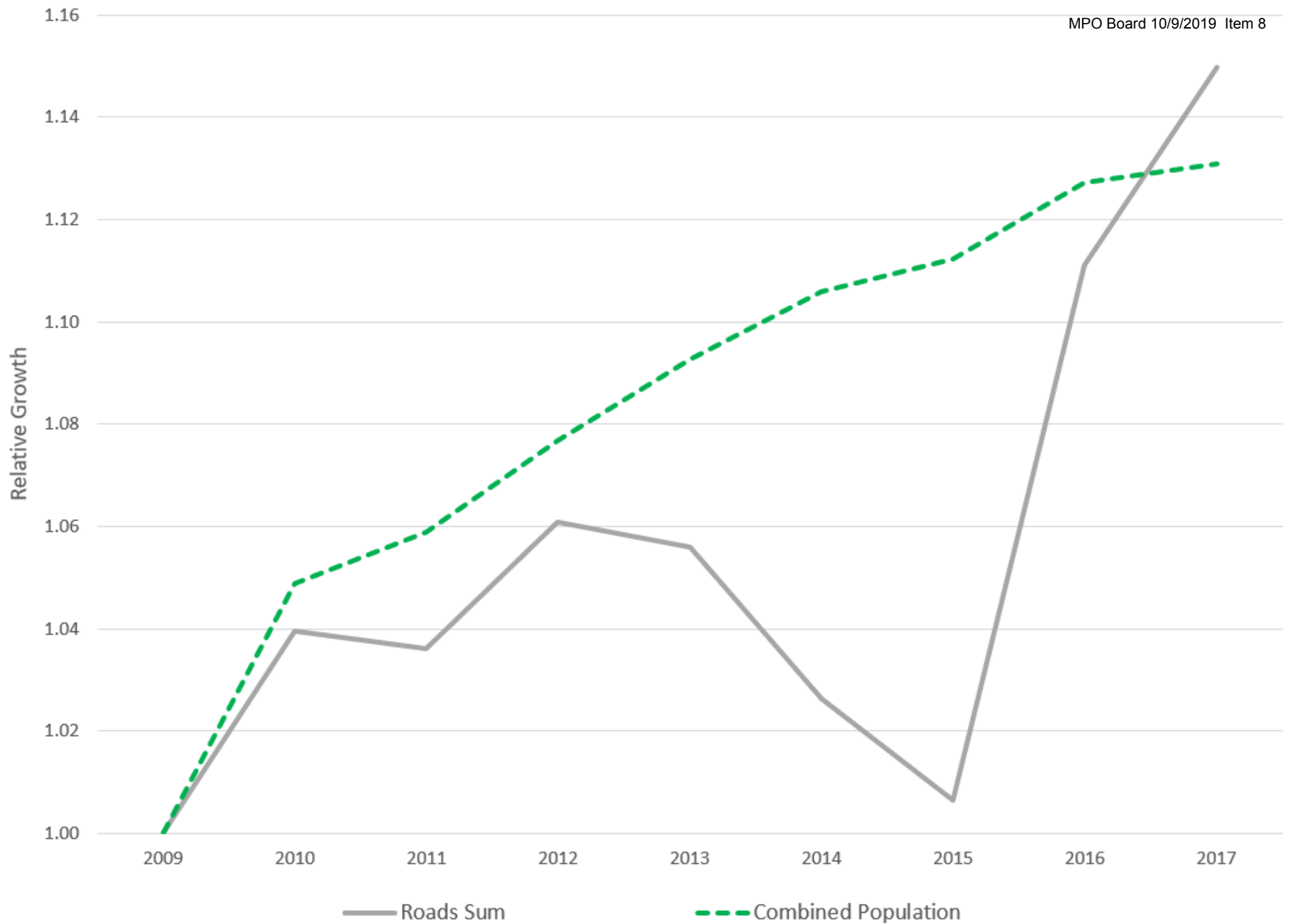
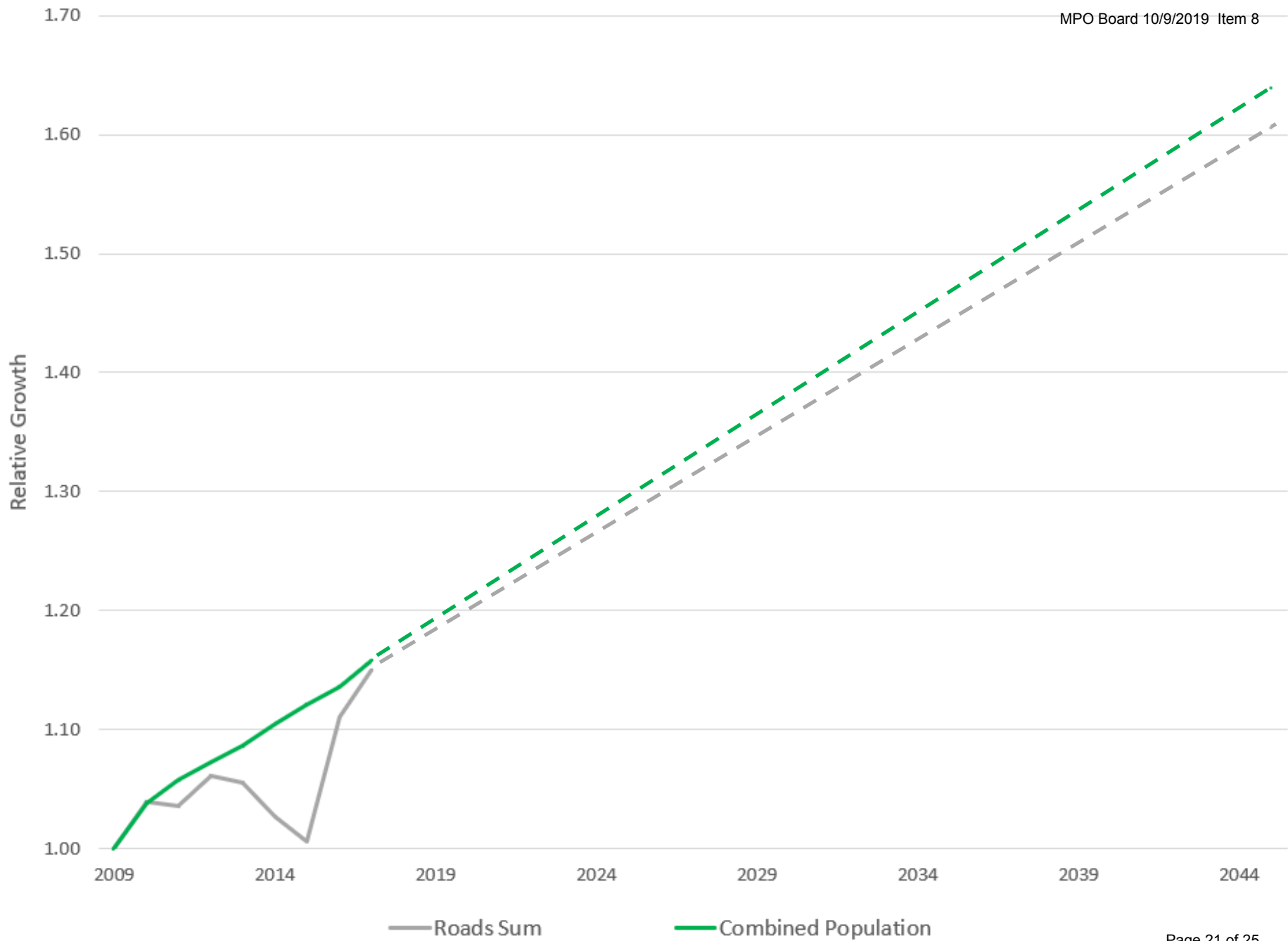**Figure 16: Comparison of Historical Population and AADT Aggregations**

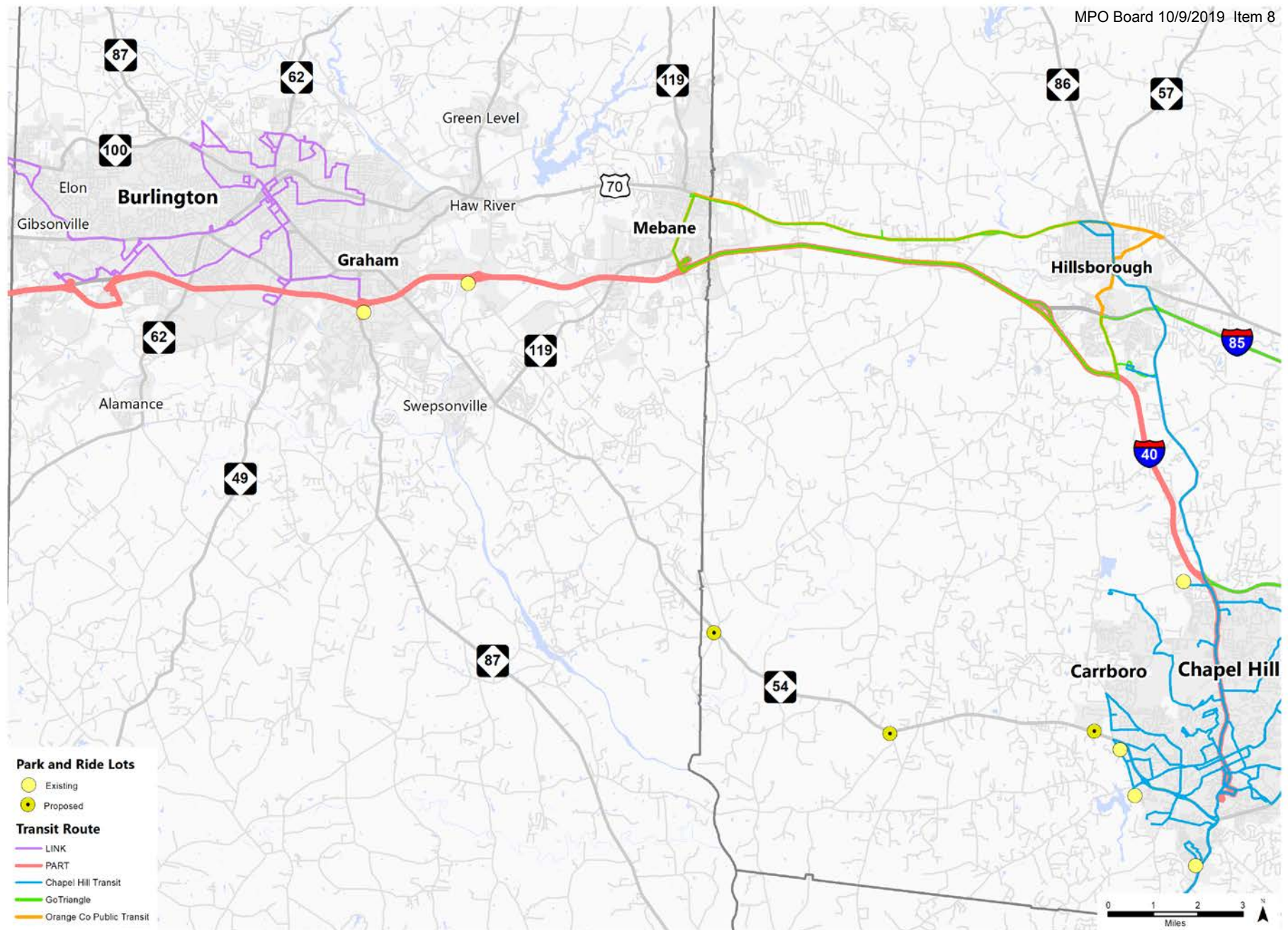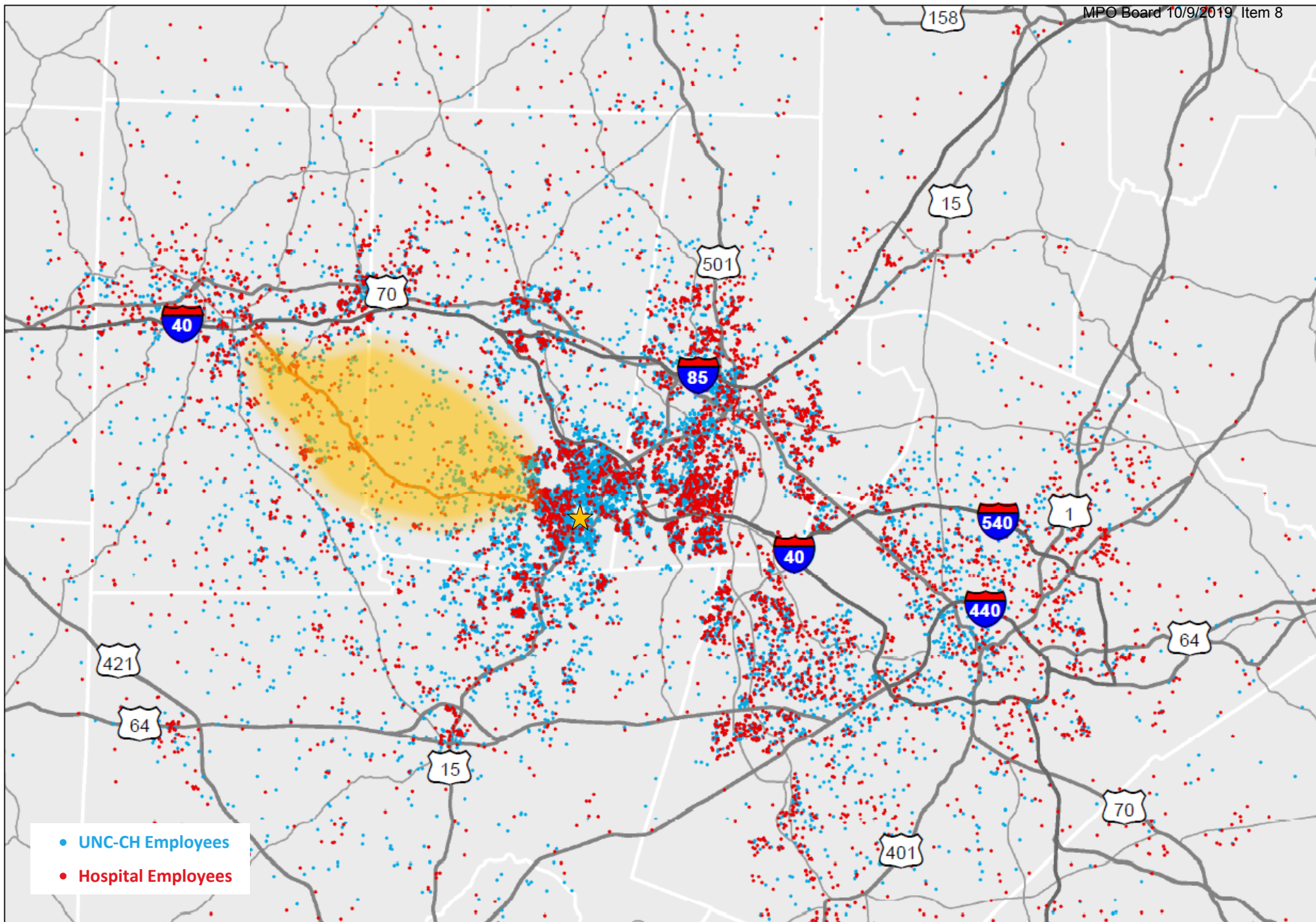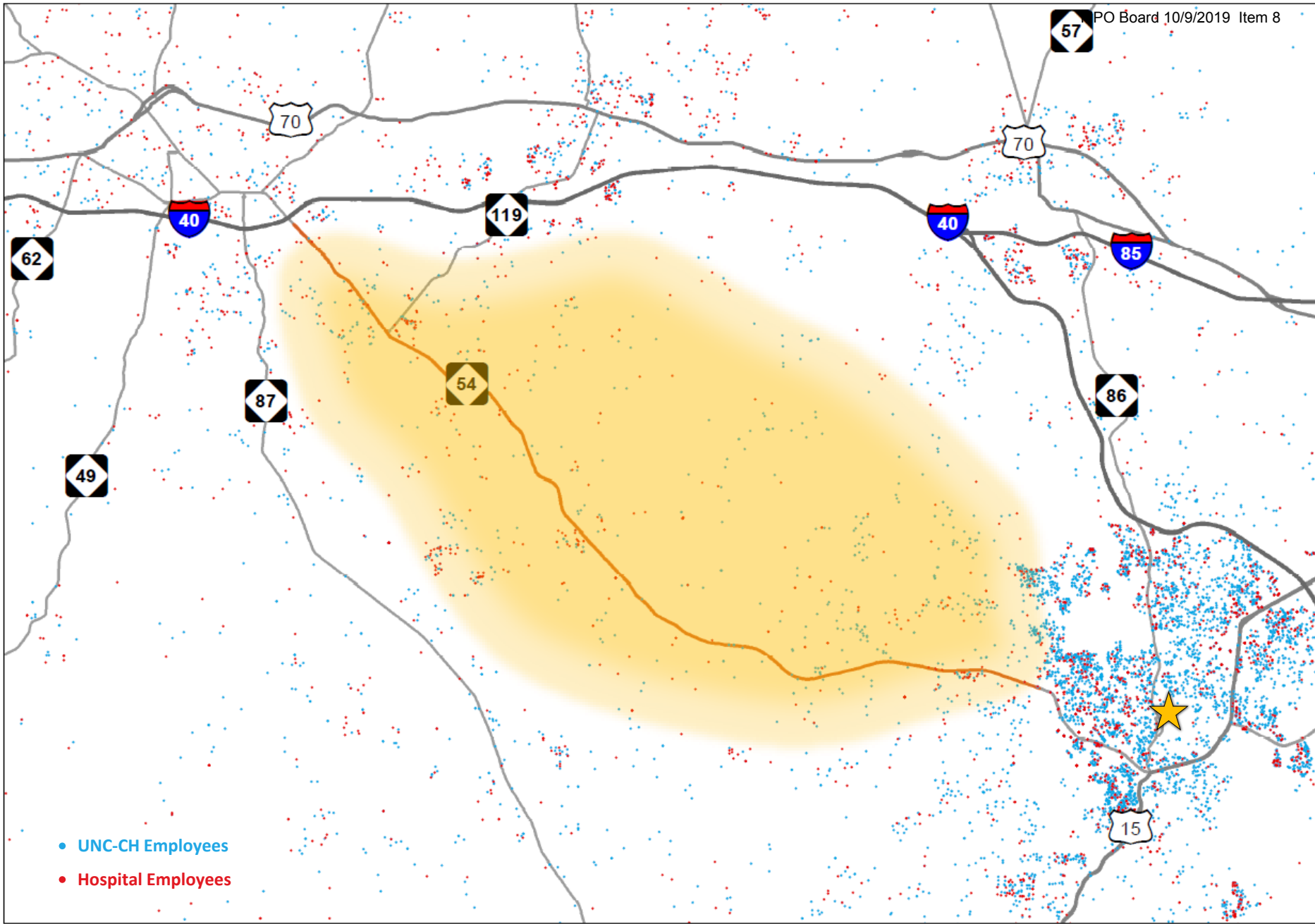**Figure 17: Comparison of Aggregated Population and AADT Forecasts**

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

Source: UNC-CH Development Plan, 2017 TIA Update

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

Source: UNC-CH Development Plan, 2017 TIA Update

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

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

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

NC 54
Travelshed

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)