TRANSPORTATION IMPACT ANALYSIS
CAROLINA NORTH DEVELOPMENT

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Introduction

- An updated Transportation Impact Analysis has been completed by VHB on behalf of the Town:
  - The first TIA was originally completed on June 3, 2009 (Spring 2009 TIA)
  - New traffic, transit, pedestrian and bicycle data was collected during September and October of 2009
  - The Phase 2 horizon year was adjusted from 2025 to 2030
  - Using the new count data and horizon year change, a new TIA (Fall 2009 TIA) has been prepared to update the original TIA
  - Public Meeting held on December 10, 2009 and received input
  - This updated TIA was finalized on December 31, 2009
  - Full report posted on the web in January, 2010 and email update sent January 27th

Introduction

- Issues addressed by the study that HAVE NOT changed between the Spring 2009 TIA and Fall 2009 TIA:
  - Study area intersections
  - Phase 1 horizon year (2015)
  - Growth rates used to project future traffic volumes
  - Approved development traffic and committed improvements
  - Carolina North development program
  - Trip generation, mode split, and trip distribution
  - Crash data near Carolina North

Introduction

- Issues addressed by the study that HAVE changed between the Spring 2009 TIA and Fall 2009 TIA:
  - New traffic, transit, pedestrian and bicycle counts
  - Phase 2 horizon year (2030)
  - Used new analysis methodology to determine pedestrian and bicycle level of service (LOS)
  - Adjusted potential mitigation measures based on new analysis for traffic, transit, pedestrians and bicycles

TRANSPORTATION IMPACT ANALYSIS (TIA)
CAROLINA NORTH DEVELOPMENT

TIA DEVELOPMENT PLAN

Land Use	Short-Term Development (2015*)	Additional Long-Term Development	Total TIA Development (2030*)
Academic	410,000	870,000	1,280,000
Private**	180,000	520,000	700,000
Civic/Retail	10,000	60,000	70,000
Housing***	200,000	550,000	750,000
Health Care	0	200,000	200,000
Total	***800,000***	***2,200,000***	***3,000,000***

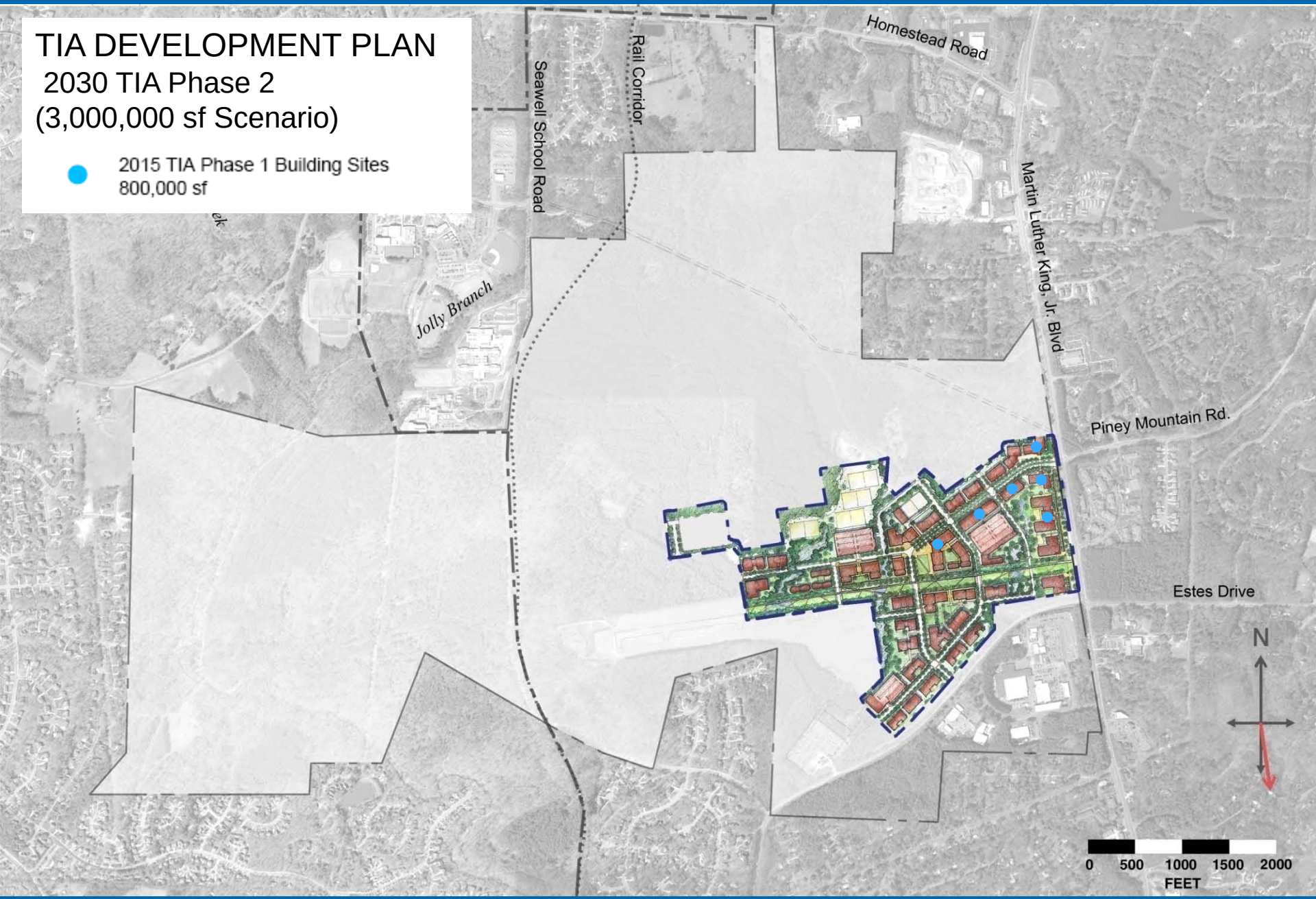
* Horizon years were selected to test impacts and are not predictions of specific development levels for these two years

** Includes Innovation Center approved at 85,000 sf

*** 1,000 gsf/unit results in 200 units for Short-Term and 750 total housing units

TIA DEVELOPMENT PLAN
2030 TIA Phase 2
(3,000,000 sf Scenario)

- 2015 TIA Phase 1 Building Sites
  800,000 sf



2009 Scenario

- 52 Intersections

2015 Scenario

- 18 Intersections

2030 Scenario

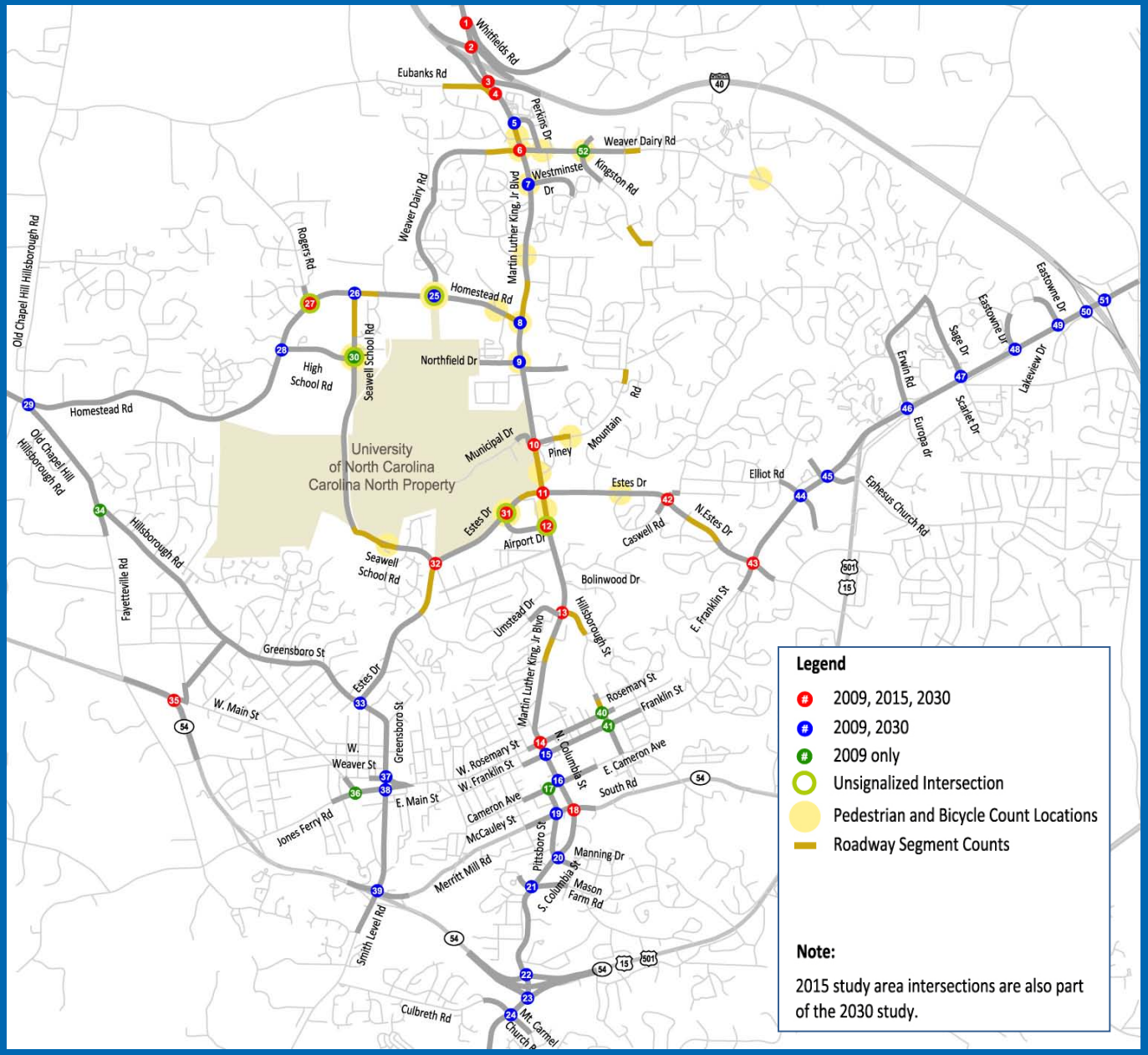
- 46 Intersections

Pedestrian and Bicycle Counts

- 18 Locations

Roadway Segment Counts

- 21 Locations

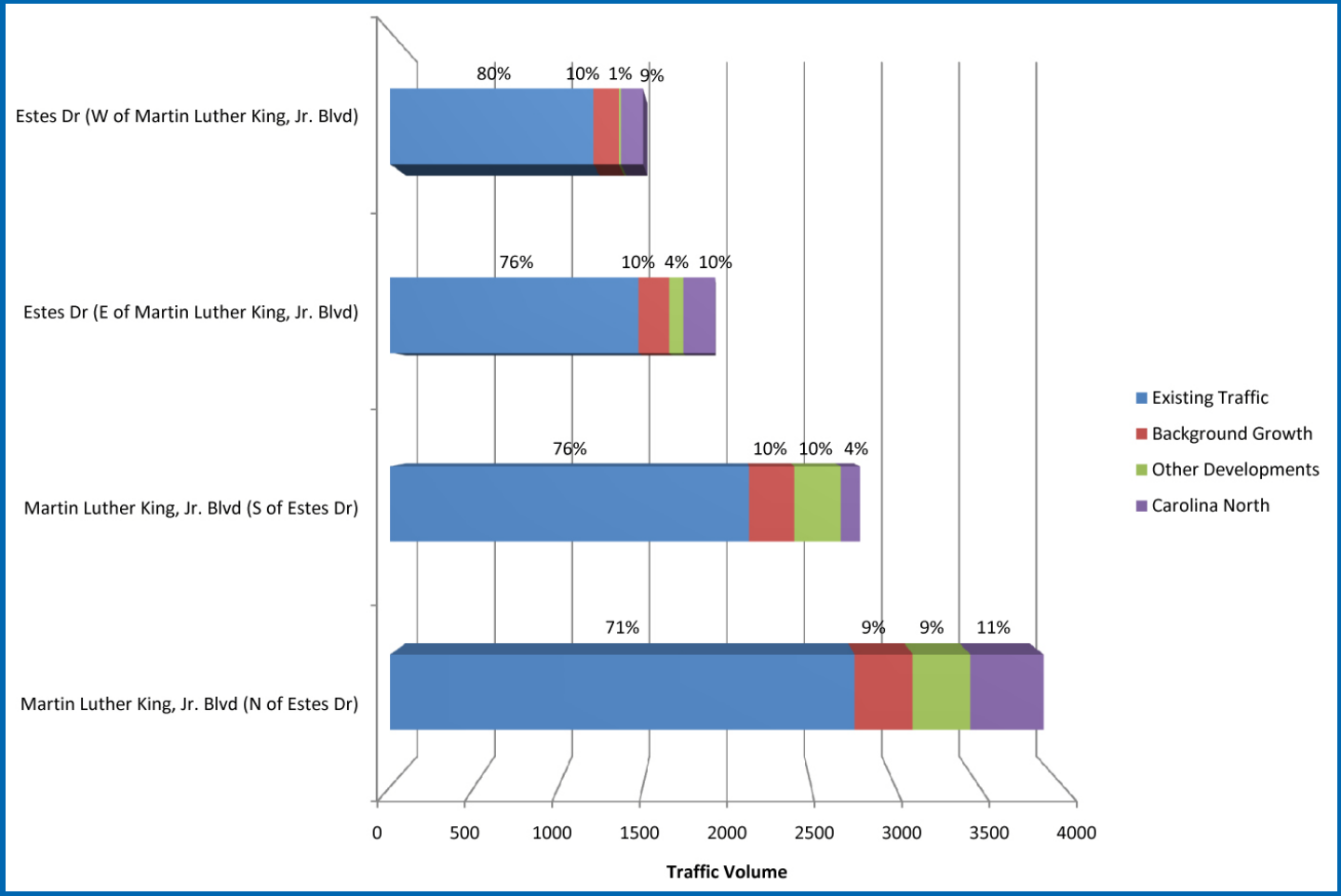


Traffic Volume Comparison

Roadway Section	Spring 2009 ADT	Fall 2009 ADT	% Change
Martin Luther King, Jr. Blvd (NC 86) between Clyde Rd and Hilltop MHP	7606	7070	-7.05%
Eubanks Rd between Northwood Dr and Martin Luther King, Jr. Blvd (NC 86)	7960	7495	-5.84%
Martin Luther King, Jr. Blvd (NC 86) between Perkins Dr and Northwood Dr	30280	23361	-22.85%
Weaver Dairy Rd Ext between Lonebrook and Martin Luther King, Jr. Blvd (NC 86)	5290	4836	-8.58%
Weaver Dairy Rd between Timberlyne Rd and Weatherstone Dr	11291	10178	-9.86%
Seawell School Rd between Homestead Rd and Savannah Terrace	4581	4121	-10.04%
Homestead Rd between Brookstone Dr and Martin Luther King, Jr. Blvd (NC 86)	8944	9669	8.11%
Martin Luther King, Jr. Blvd (NC 86) between Dixie Ln and Homestead Rd	26564	24689	-7.06%
Seawell School Rd between Hanover Place and Railroad Xing 0.1 mi to the West	4974	3527	-29.09%
Estes Dr Ext between Seawell School Rd and Umstead Rd	13662	12609	-7.71%
N. Estes Dr between Martin Luther King, Jr. Blvd (NC 86) and UNC Facilities Dept. Driveway to the west	17171	11806	-31.24%
Martin Luther King, Jr. Blvd (NC 86) between N. Estes Dr and YMCA Driveway to the south	21843	21699	-0.66%
N. Estes Dr between Halifax Rd and Granville Rd	15567	14148	-9.12%
Martin Luther King, Jr. Blvd (NC 86) between Bolin Heights and E. Longview St	17916	19222	7.29%
Hillsborough St between North St and Rosemary St	7987	7750	-2.97%
Hillsborough St between Bolinwood Dr and Martin Luther King, Jr. Blvd (NC 86)	6949	6589	-5.18%
Martin Luther King, Jr. Blvd (NC 86) between Piney Mountain Rd and N. Estes Dr	28090	28391	1.07%
Piney Mountain Rd between Timber Hollow Ct and Woodshire Ln	2954	2743	-7.14%
Piney Mountain Rd between Lake Ellen Dr and Oosting Dr	2395	2442	1.96%
Kingston Dr between Balsam Ct and Kingston Ct	1037	1038	0.10%
Homestead Rd between Seawell School Rd and Hearthstone Ln	9472	9030	-4.67%
Overall % Change			**-8.66%**

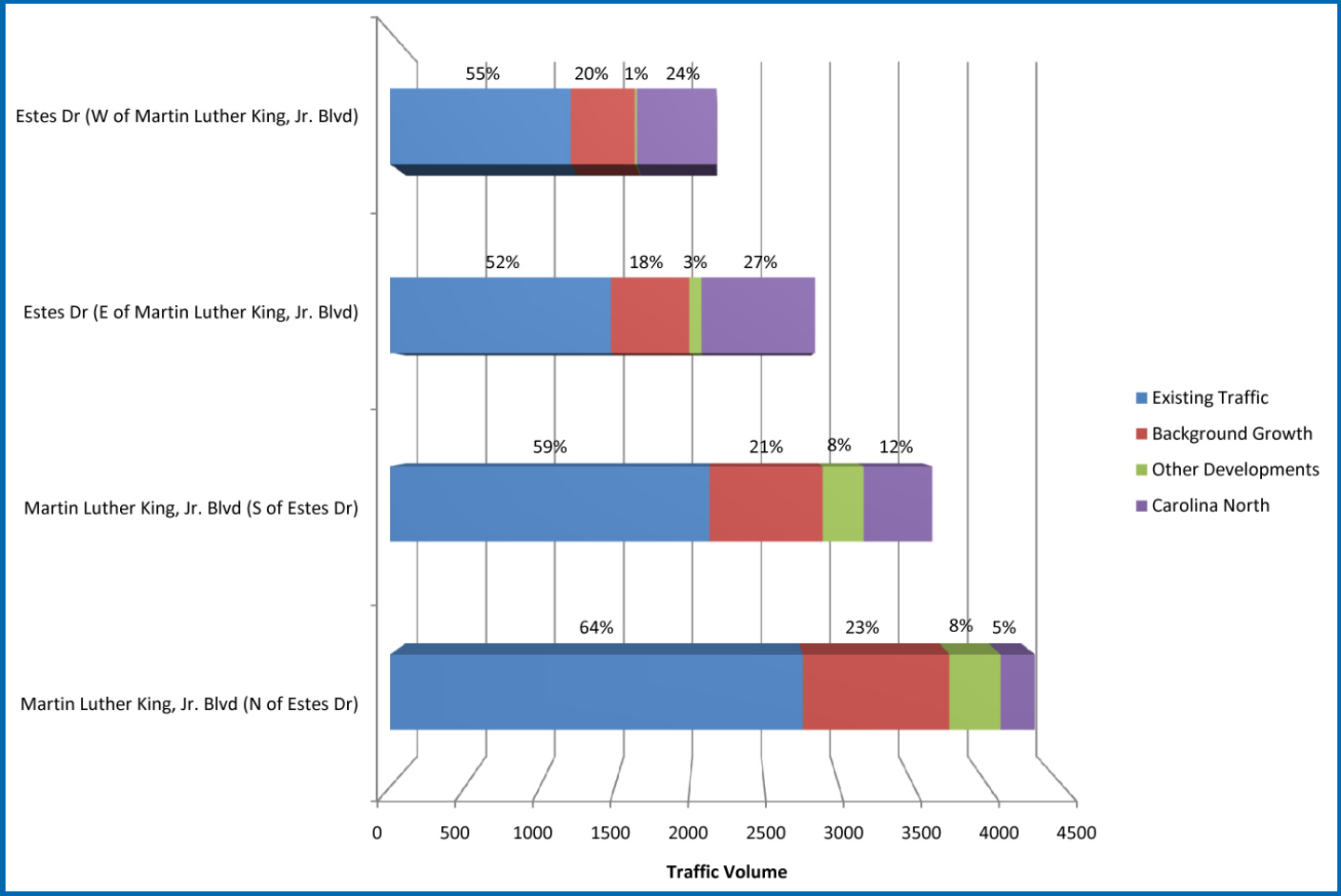
2015 Traffic Volumes

Martin Luther King, Jr. Boulevard & Estes Drive – PM Peak Hour

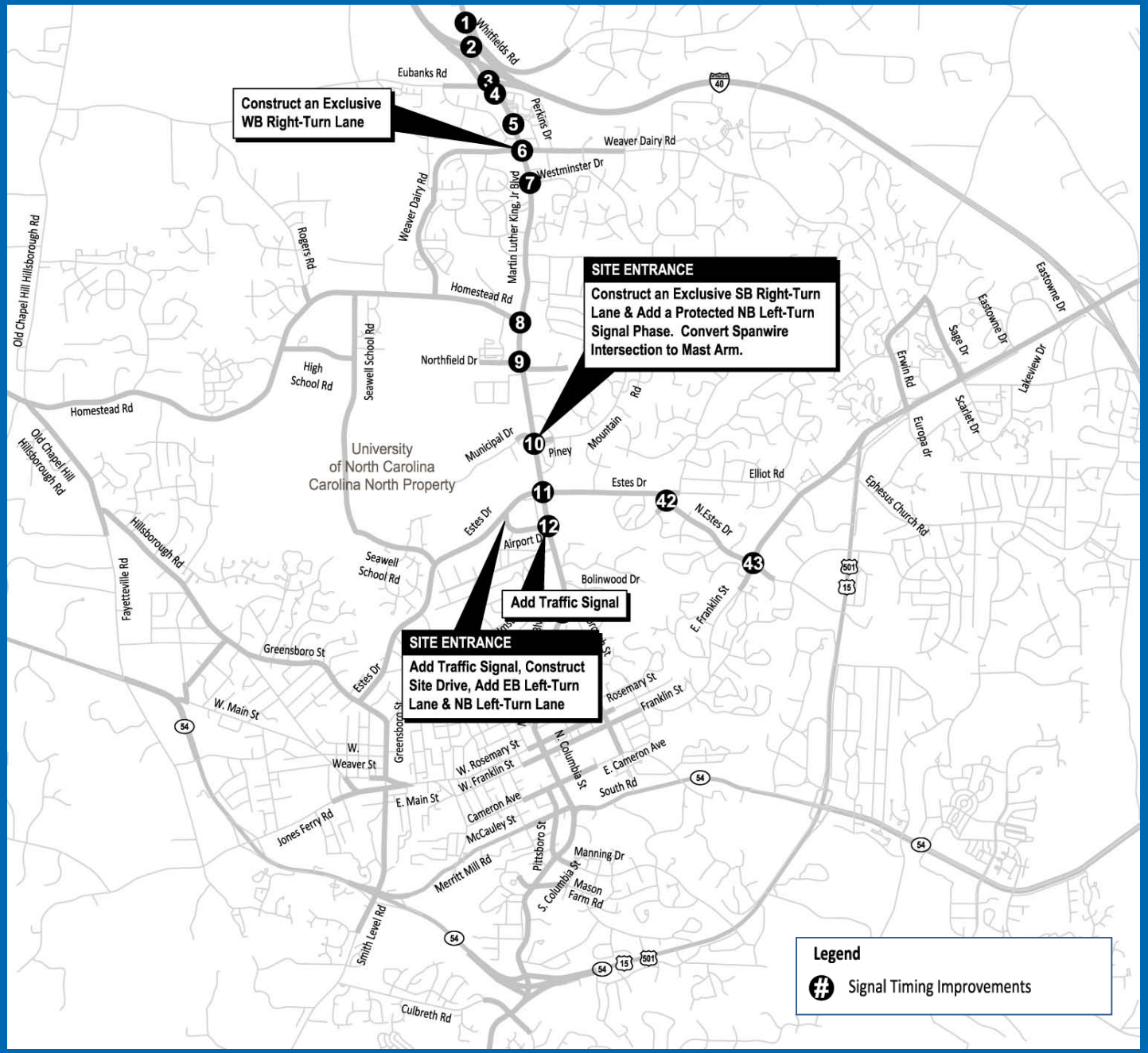


2030 Traffic Volumes

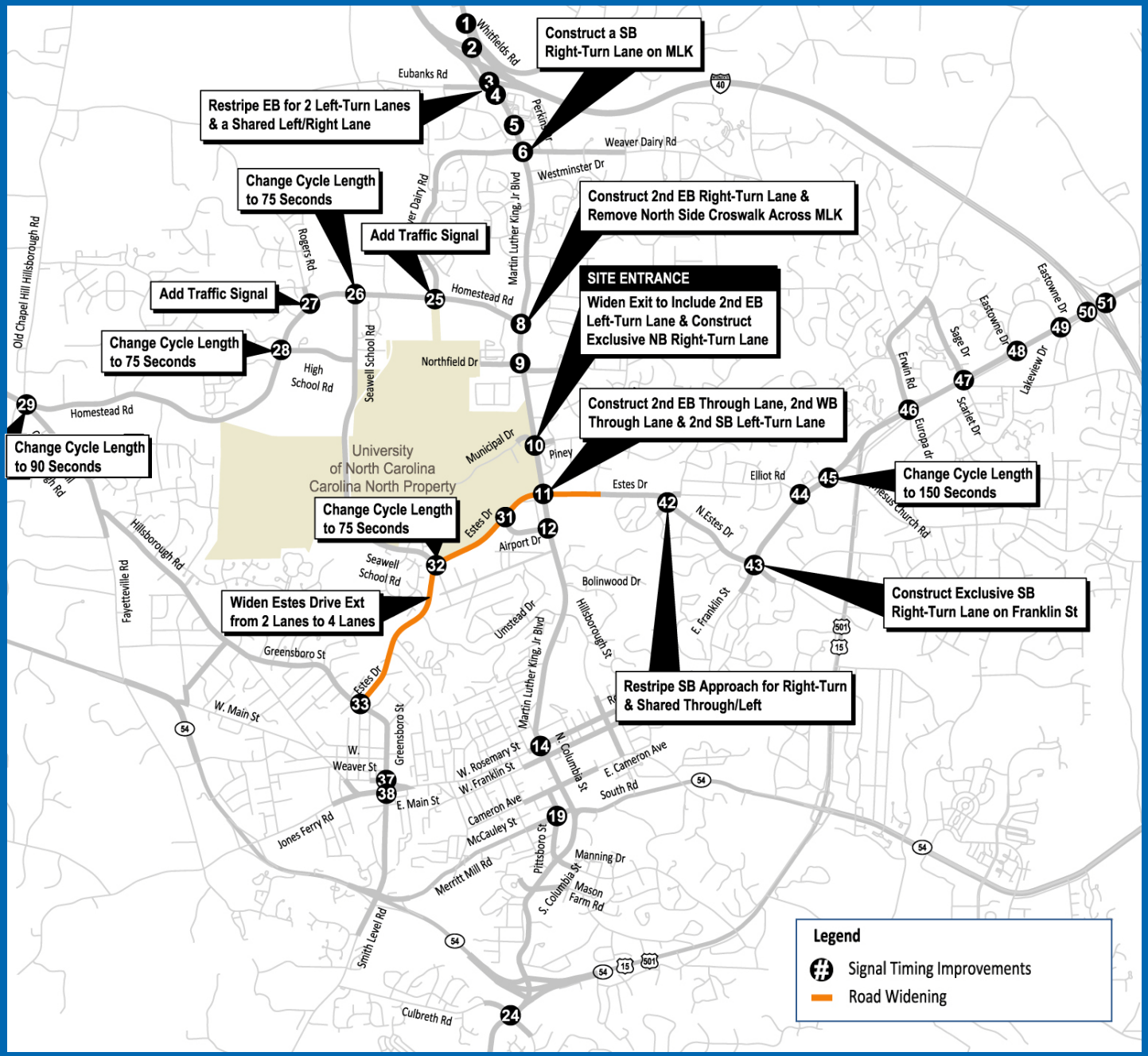
Martin Luther King, Jr. Boulevard & Estes Drive – PM Peak Hour



2015 Intersection Impacts and Potential Mitigation



2030 Intersection Impacts and Potential Mitigation



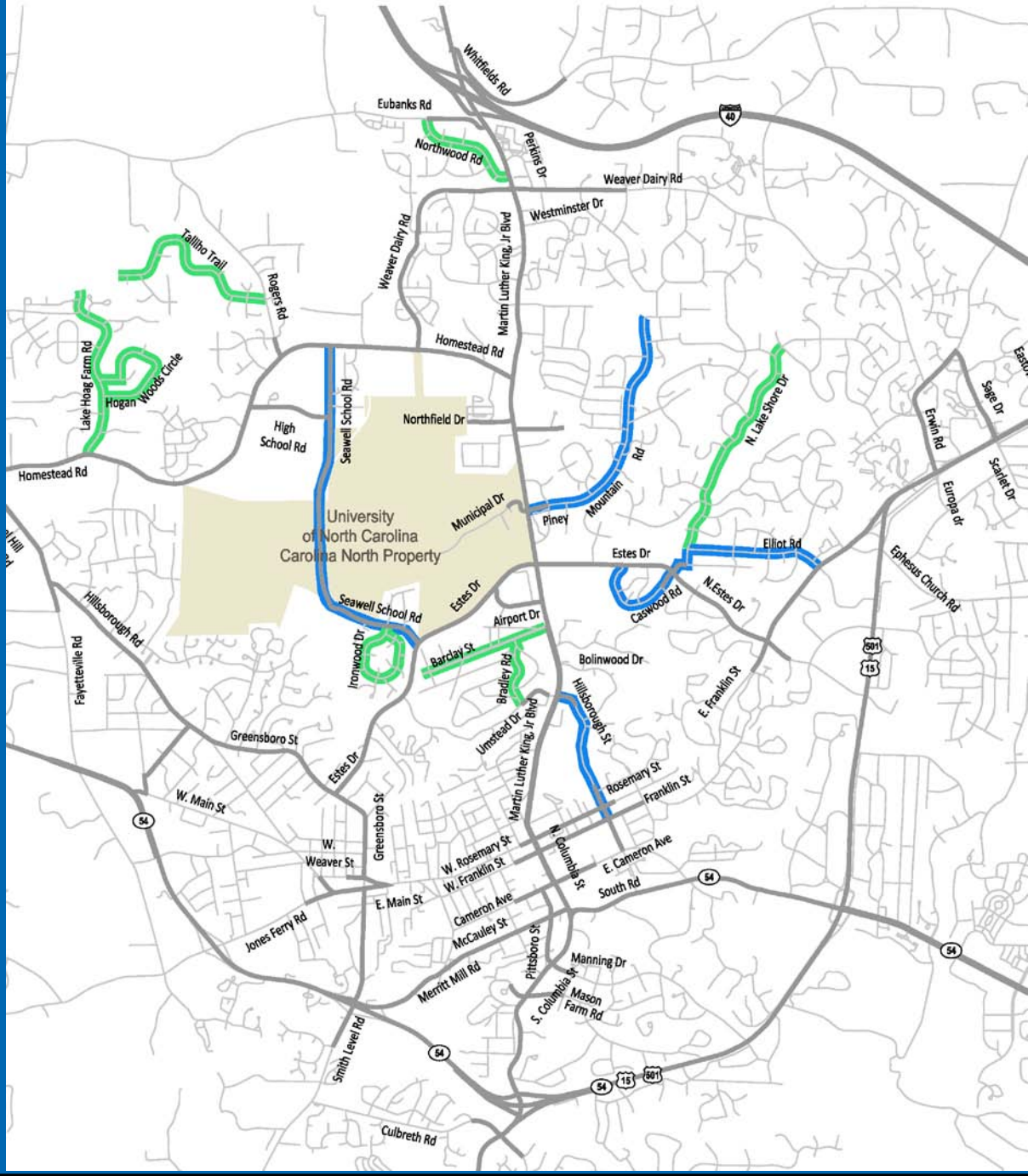
Streets Evaluated for Traffic Calming Implementation

Carolina North Traffic Expected

- Piney Mountain Road
- Hillsborough Street
- Seawell School Road
- North Elliott/Curtis/Caswell Roads

Carolina North Traffic Possible

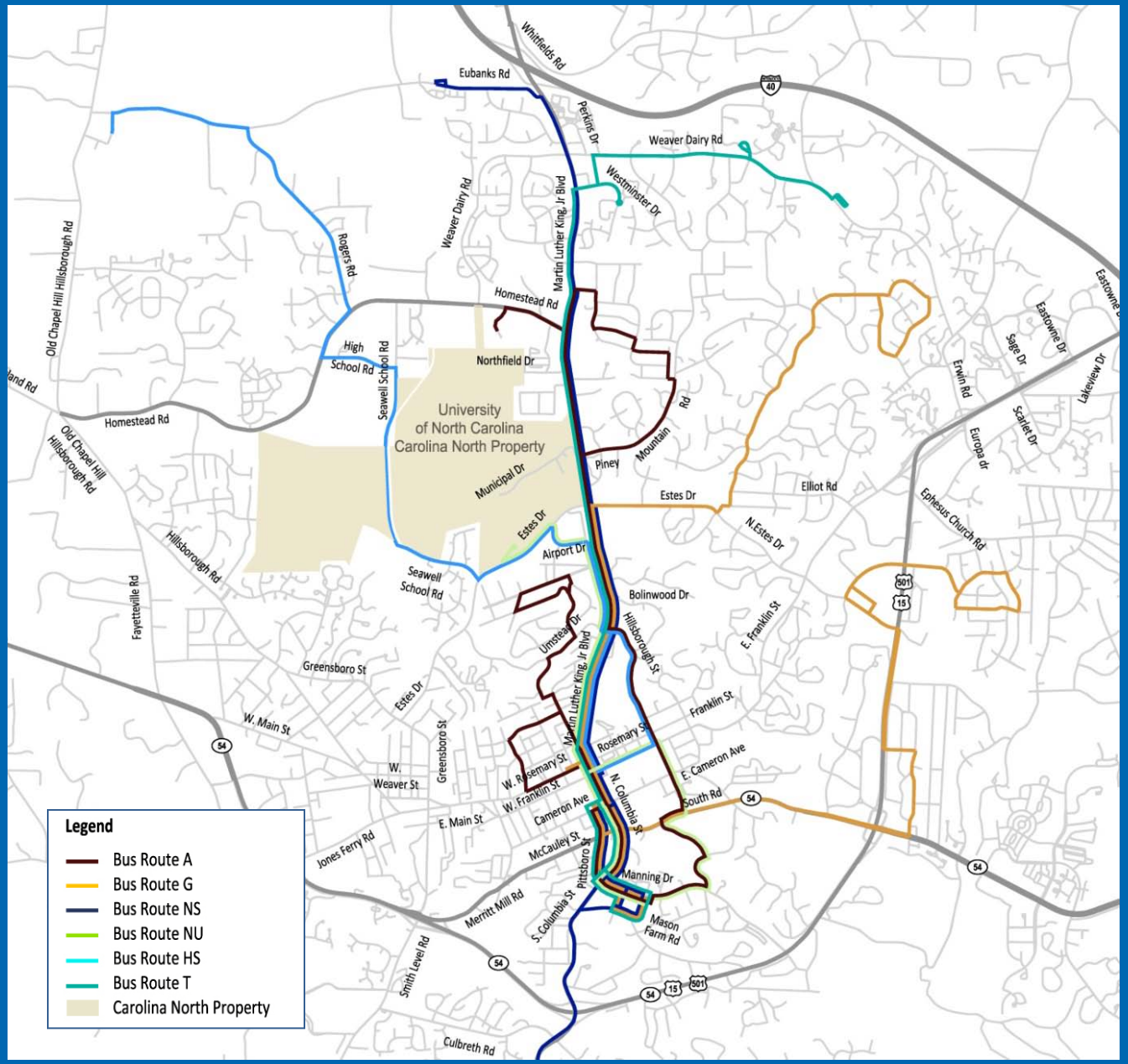
- Northwoods Road
- North Lakeshore Drive
- Barclay Road



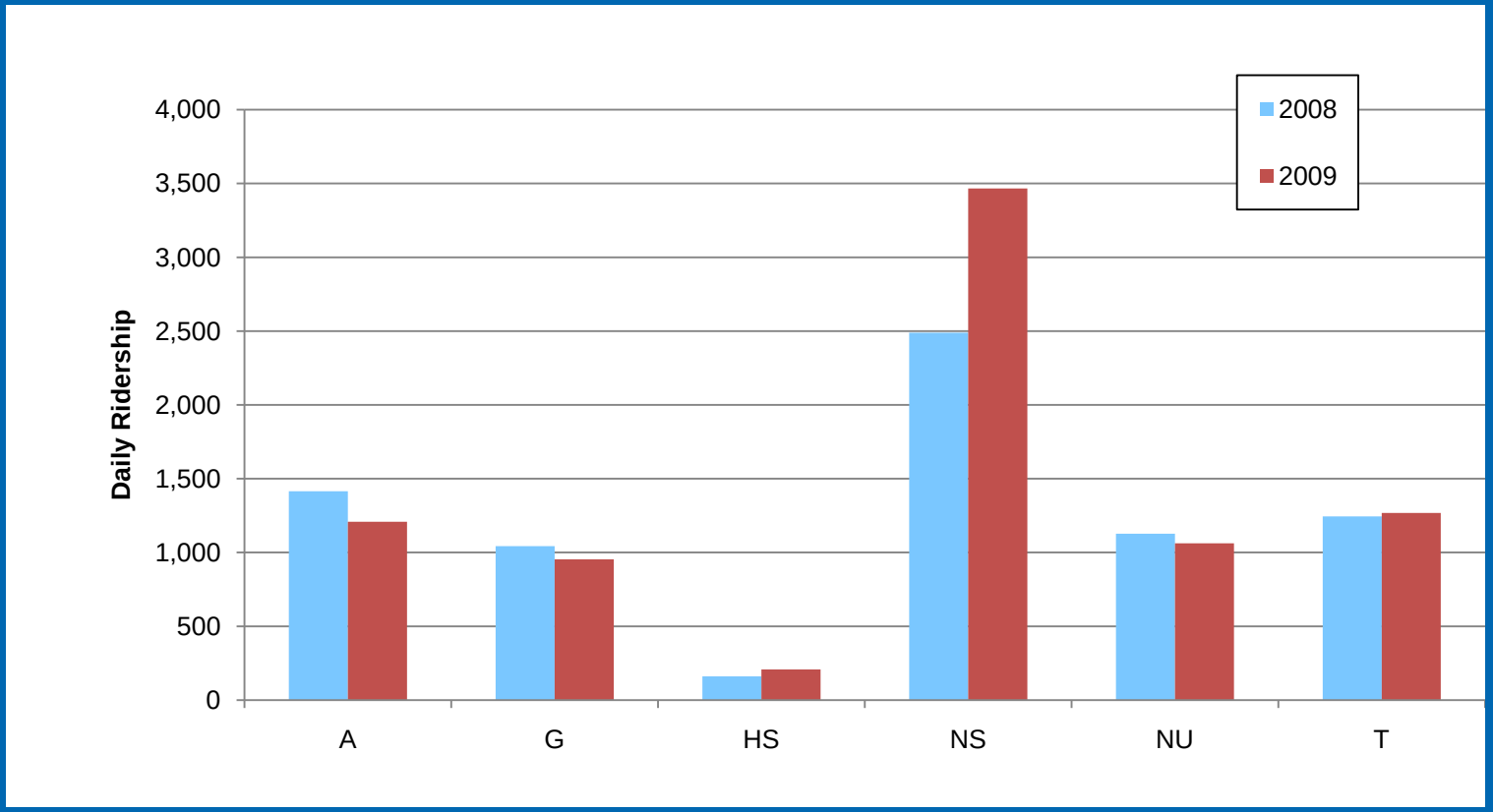
Existing Chapel Hill Transit

Routes near Carolina North*:

- Route A
- Route G
- Route NS
- Route NU
- Route HS
- Route T



Transit Ridership Comparison



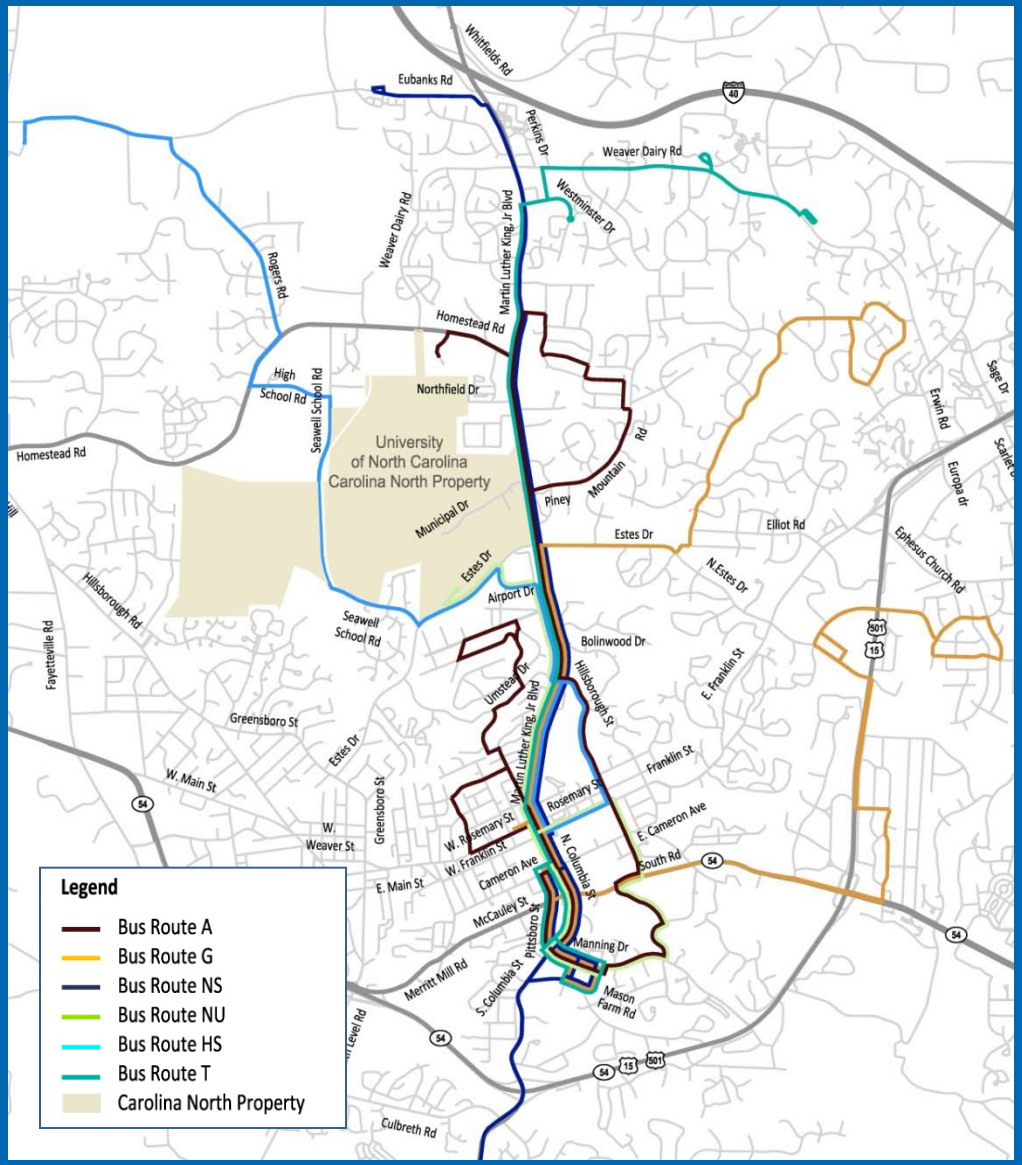
Park-and-Ride Comparison

Lot Name	Owner	Bus Routes Serving Lot	No. of Parking Spaces	Parking Occupancy Fall 2007	Parking Occupancy April 2009	Parking Occupancy Nov 2009	Available Parking Spaces
Eubanks	Chapel Hill	NS	400	234	201	268	132
Carrboro Plaza	Chapel Hill	CPX, CW	145	136	132	111	34
Jones Ferry	Chapel Hill	JFX, CW, CM	443	252	240	230	213
Southern Village	Chapel Hill	NS, V	400	388	332	385	15
NC-54 East	Chapel Hill	HU, S	512	508	505	512	0
Friday Center	University	HU, V, FCX	871	882	867	871	0
Chatham County	University	CCX	550	150	215	214	336
Franklin Street	University	CL, D, F, M	67	67	67	67	0
Martin Luther King, Jr. Blvd	University	G, HS, NS, NU, T	40	39	39	40	0
Total			**3,428**	**2,656**	**2,598**	**2,698**	**730**

Transit Impacts

2015 TIA Phase 1
(800,000 SF of Development)

- Available capacity remains on all routes serving Carolina North
- No additional vehicles needed to serve Carolina North
- Approximately 500 additional Park-and-Ride spaces needed
- Route adjustments to provide stops within the site
- Analysis includes new 10 minute headway on NS Route (assumes continuation through 2015)

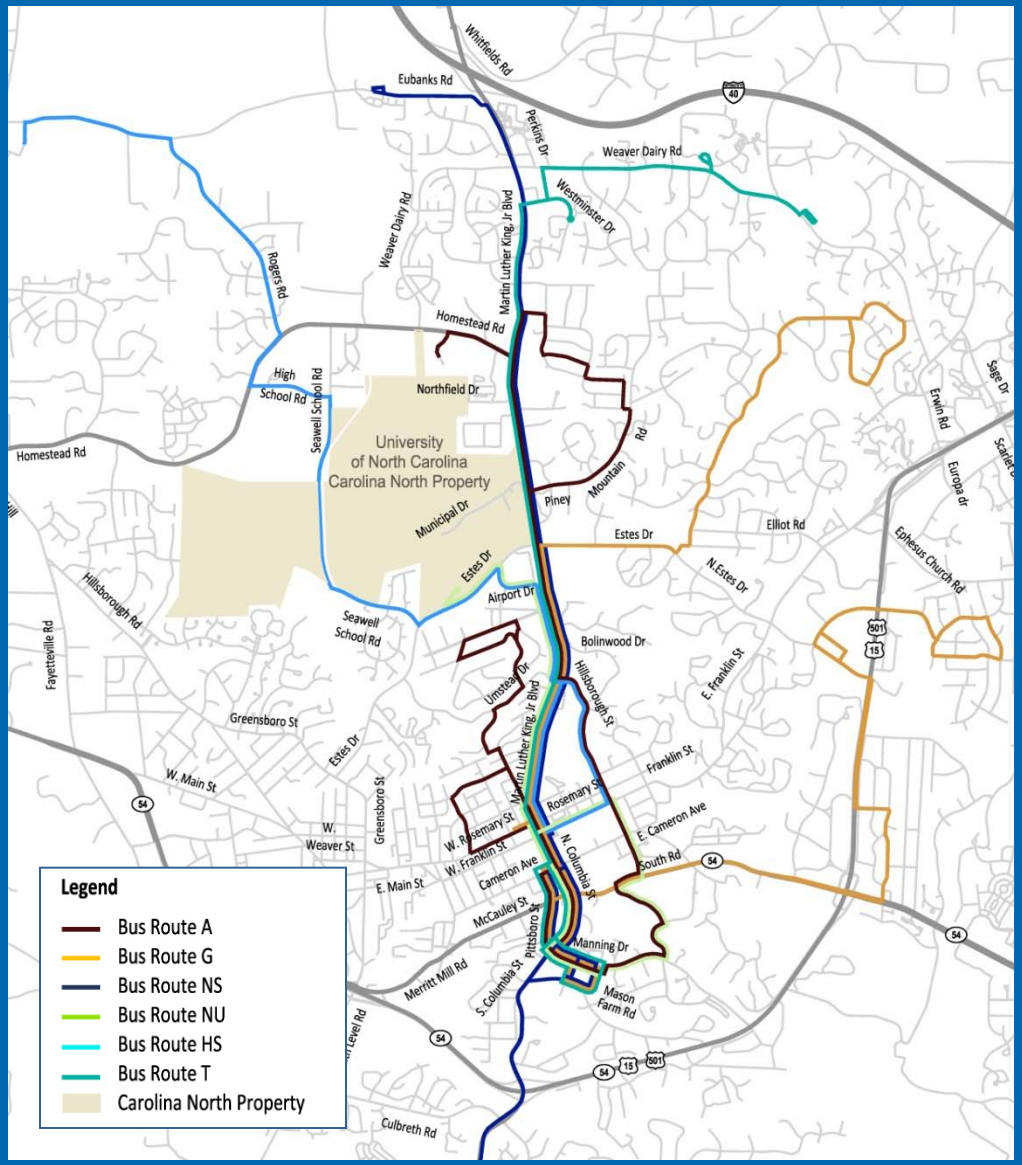


Note: Analysis is based on existing ridership which may change over time

Transit Impacts

2030 TIA Phase 2
(3,000,000 SF of Development)

- Additional service needed on A, G, NS and T Routes
- 13 additional vehicles needed to serve Carolina North
- Approximately 1,500 additional Park-and-Ride spaces needed
- Route structure may need to change if additional stops within the site are needed
- Analysis includes new 10 minute headway on NS Route (assumes continuation through 2030)



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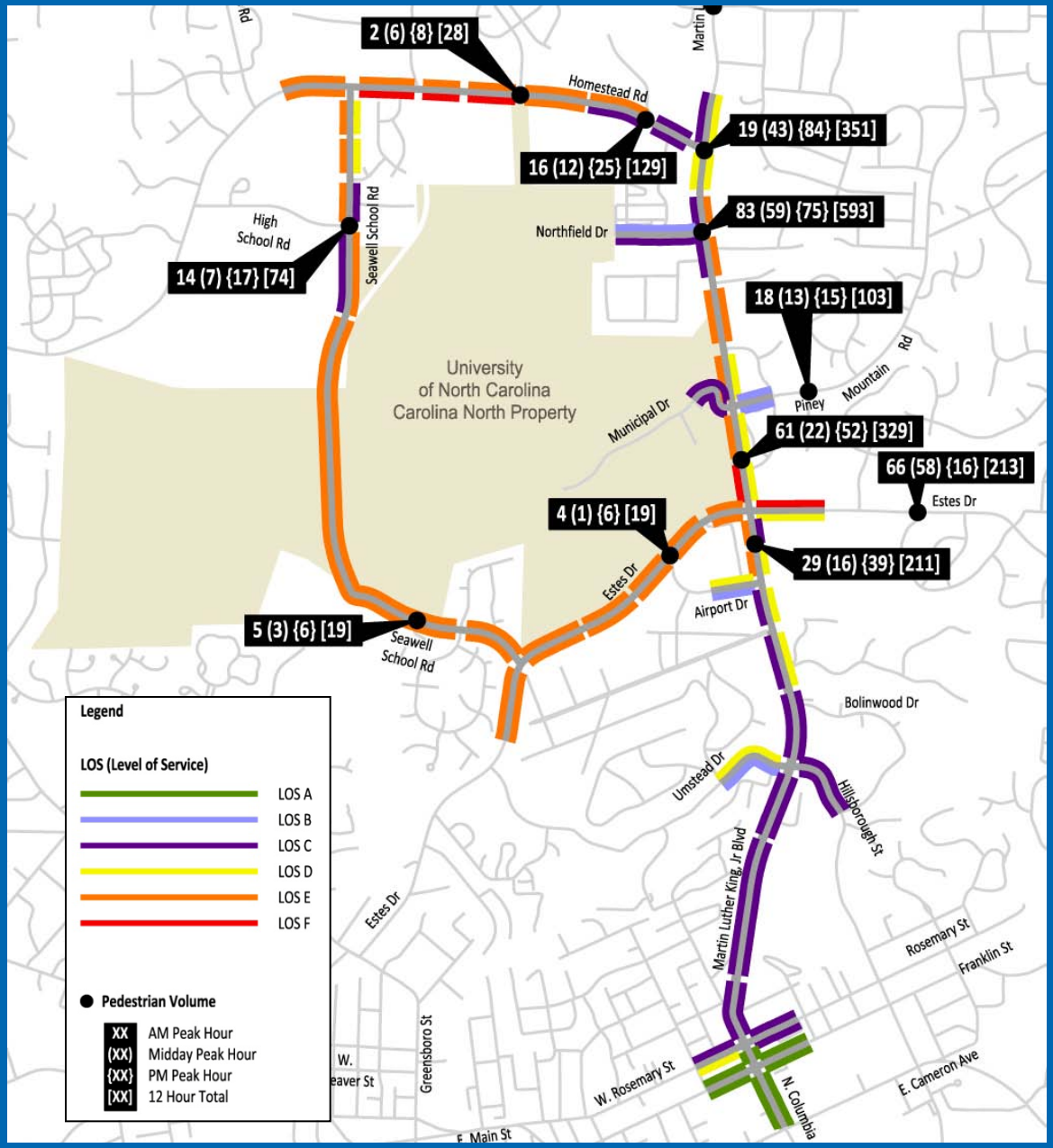
Existing Pedestrian Volumes and Levels-of-Service*

*Pedestrian LOS analysis was performed in accordance with the Transportation Research Board's *Multimodal Level of Service Analysis for Urban Streets (NCHRP Report 616)*

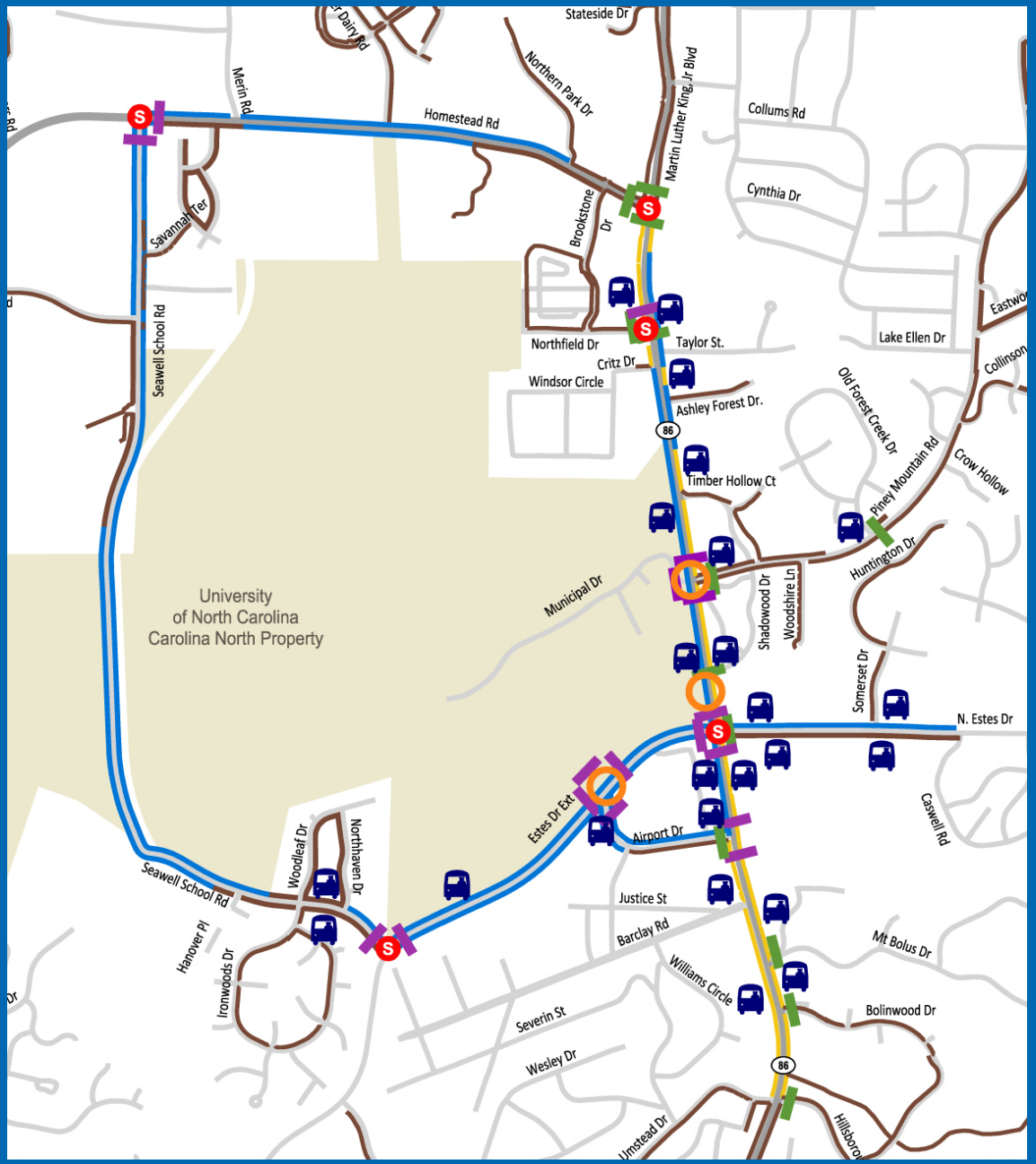


Potential Pedestrian Facility Needs

Legend

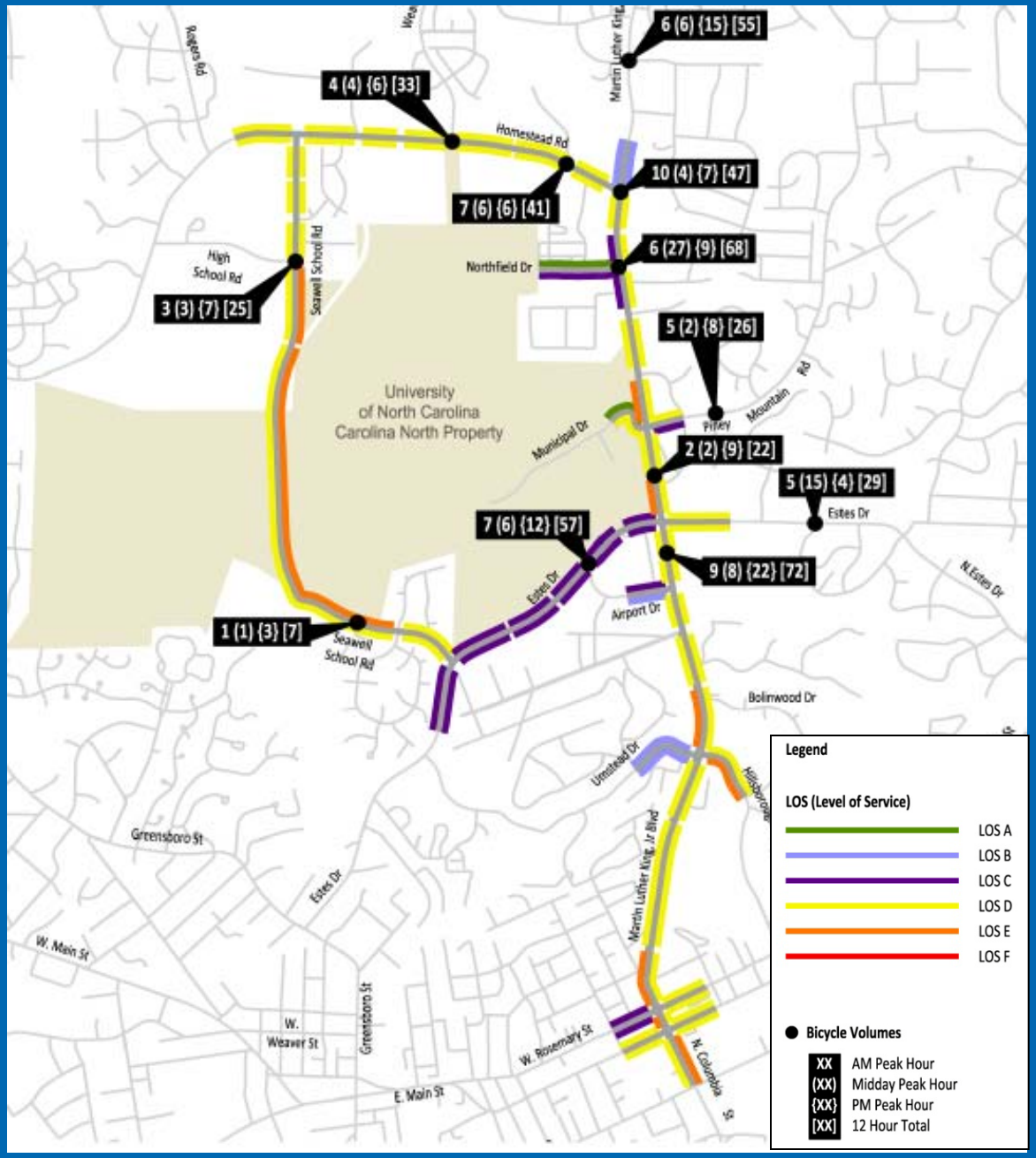
- Signalized Intersections
- Existing Sidewalk
- Recommended New Sidewalk
- Recommended Reconstruction of Existing Sidewalk
- Existing Crosswalk
- Recommended New Crosswalk
- Access Points
- Existing Bus Stop

Note: Recommendations are the outcome of the LOS analysis, and do not necessarily reflect the improvements committed by the Carolina North development.



Existing Bicycle Volumes and Levels-of-Service*

*Bicycle LOS analysis was performed in accordance with the Transportation Research Board's *Multimodal Level of Service Analysis for Urban Streets (NCHRP Report 616)*



Potential Bicycle Facility Needs

Legend

- Study Area Intersections
- Existing Bicycle Network
- Recommended New Bicycle Lanes
- Access Points

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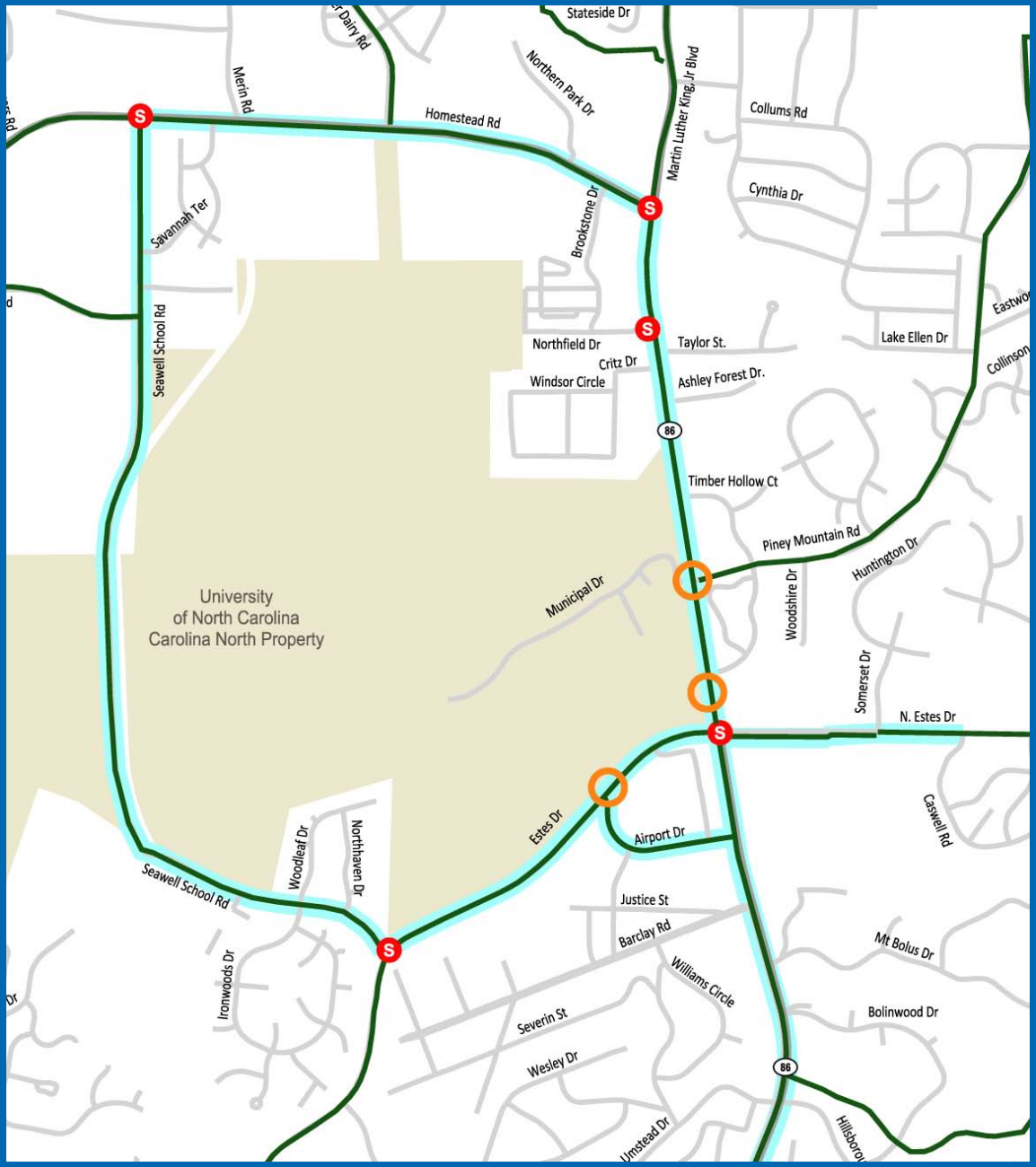

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Question and Comments