

Homestead Road Transportation Overview

1. Background
2. Existing Transportation Conditions
 - Roadway volumes
 - Bike/Ped infrastructure
 - Bus Routes and Ridership
 - Crash Data
3. Developments
 - Transportation Improvements
 - Roadway Capacity
4. Planned transportation facilities
 - Key Takeaways



Background

- Interest from the community about traffic impacts of new development along Homestead Road
- Interest from the Transportation and Connectivity Advisory Board on Transportation Impact Analysis (TIA) data after Active Adult Housing Special Use Permit
- Petition to Council from a resident related to traffic

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2. Existing Transportation Conditions

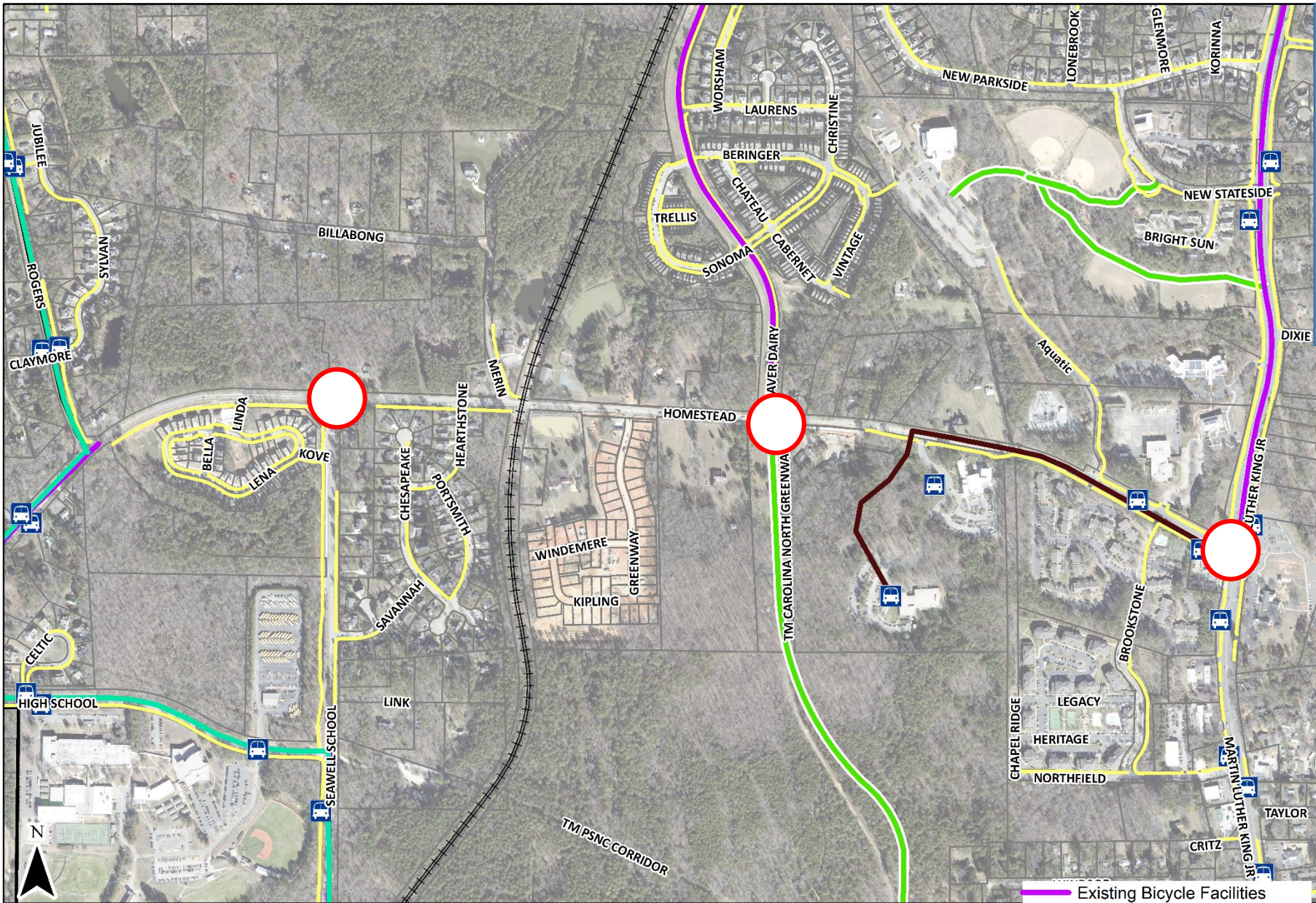
Roadway volumes

Bike/Ped infrastructure

Bus Routes and Ridership

Crash Data





Existing transportation facilities

- 2 lane road
- Some sidewalk
- Some bus service

○ Traffic signal

- Existing Bicycle Facilities
- Existing Sidewalk Network
- Existing Greenways
- Chapel Hill Jurisdictional Limits

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Roadway Traffic Conditions

Annual Average Daily Traffic
(cars on the road) for 2017
[Link to all AADT](#)

Note: many AADT station counts
have decreased in the last 10
years despite population growth

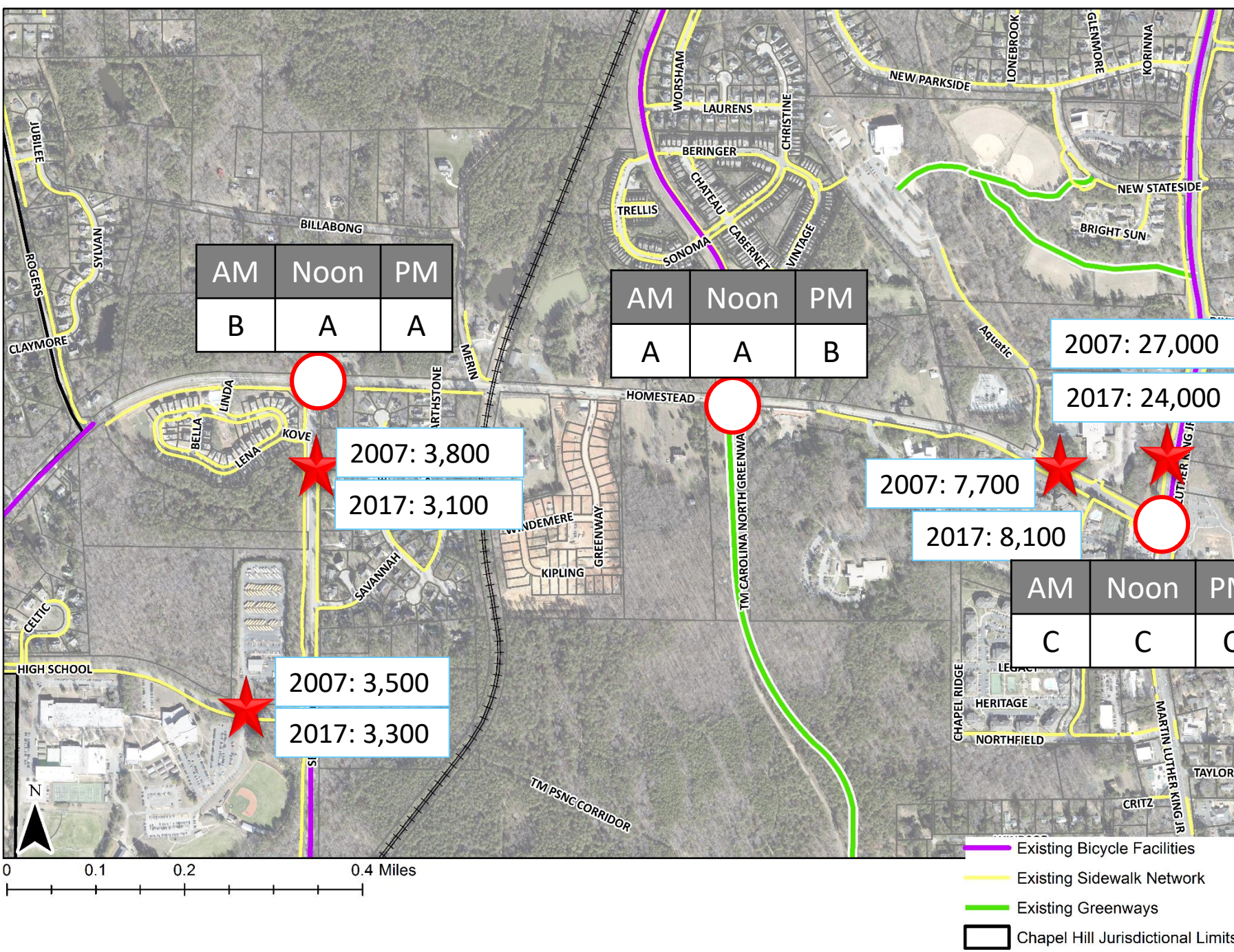
Intersection Level of Service
Source: Active Adult Housing
Development TIA Analysis 2017

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AM	Noon	PM
B	A	A

AM	Noon	PM
A	A	B

AM	Noon	PM
C	C	C

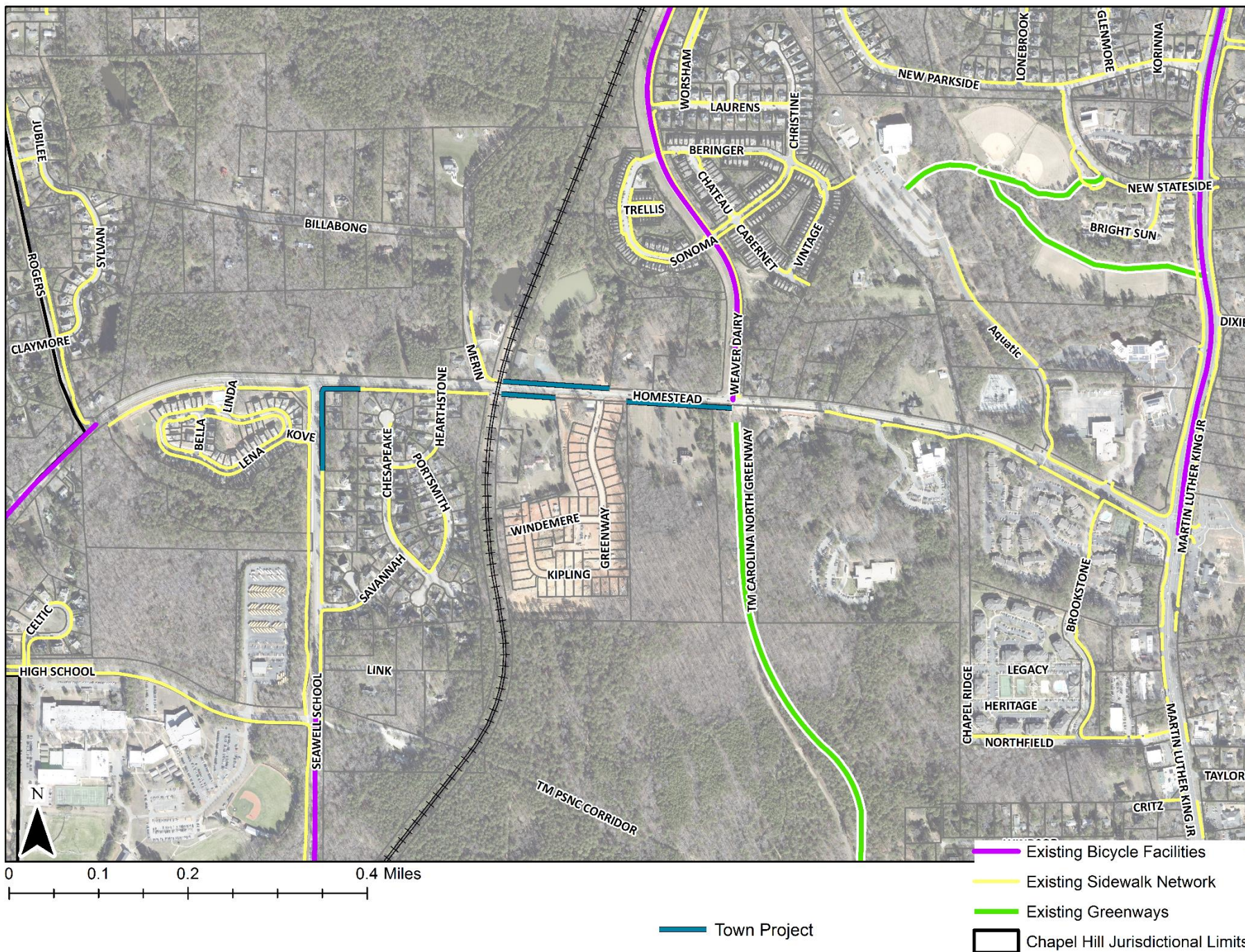


Bicycle and Pedestrian Facilities

Town Project to fill in network with 10' multi-use path and bike lanes along Homestead.

5' sidewalk along Seawell School Rd

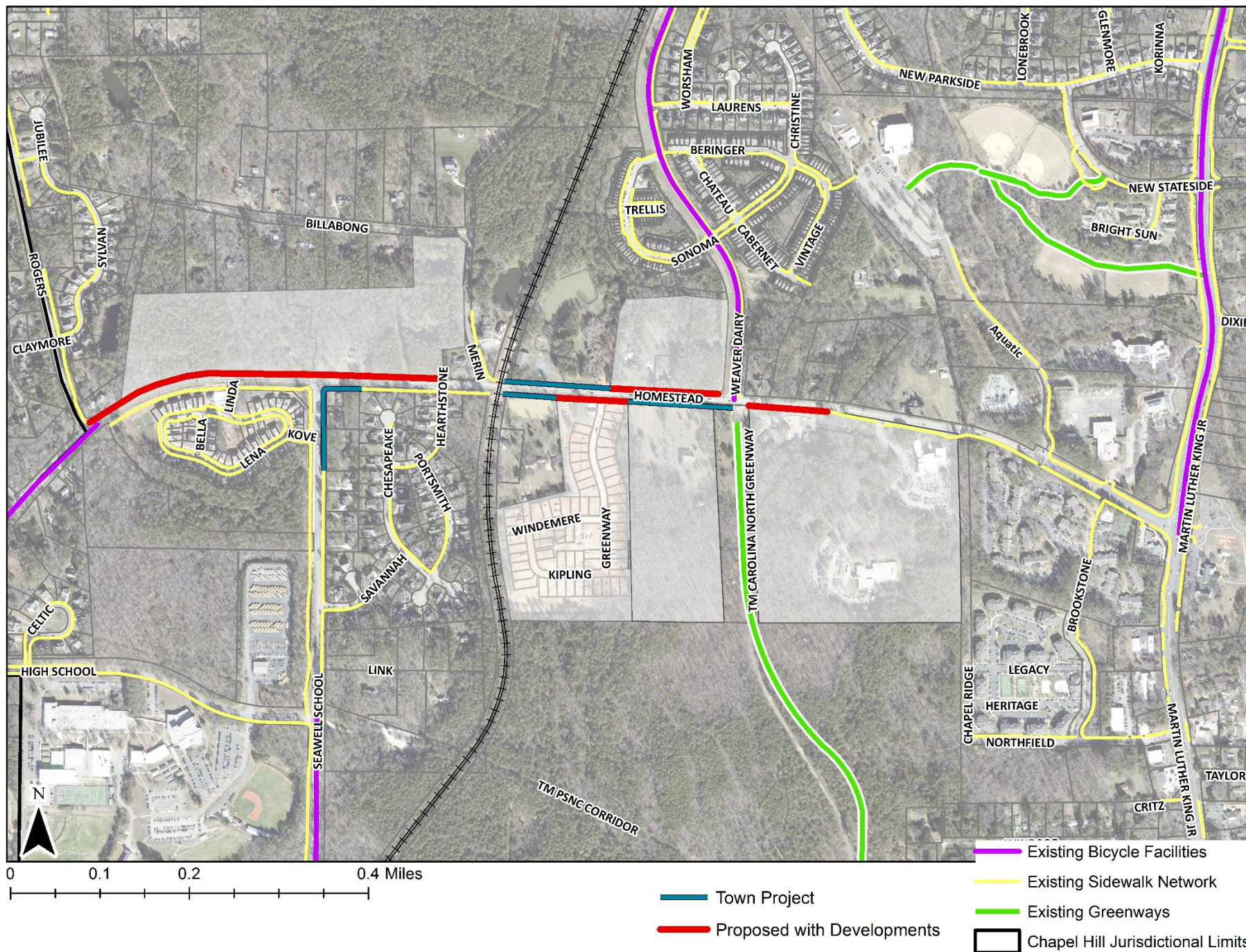
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Bicycle and Pedestrian Facilities

Town Project and segments by developments

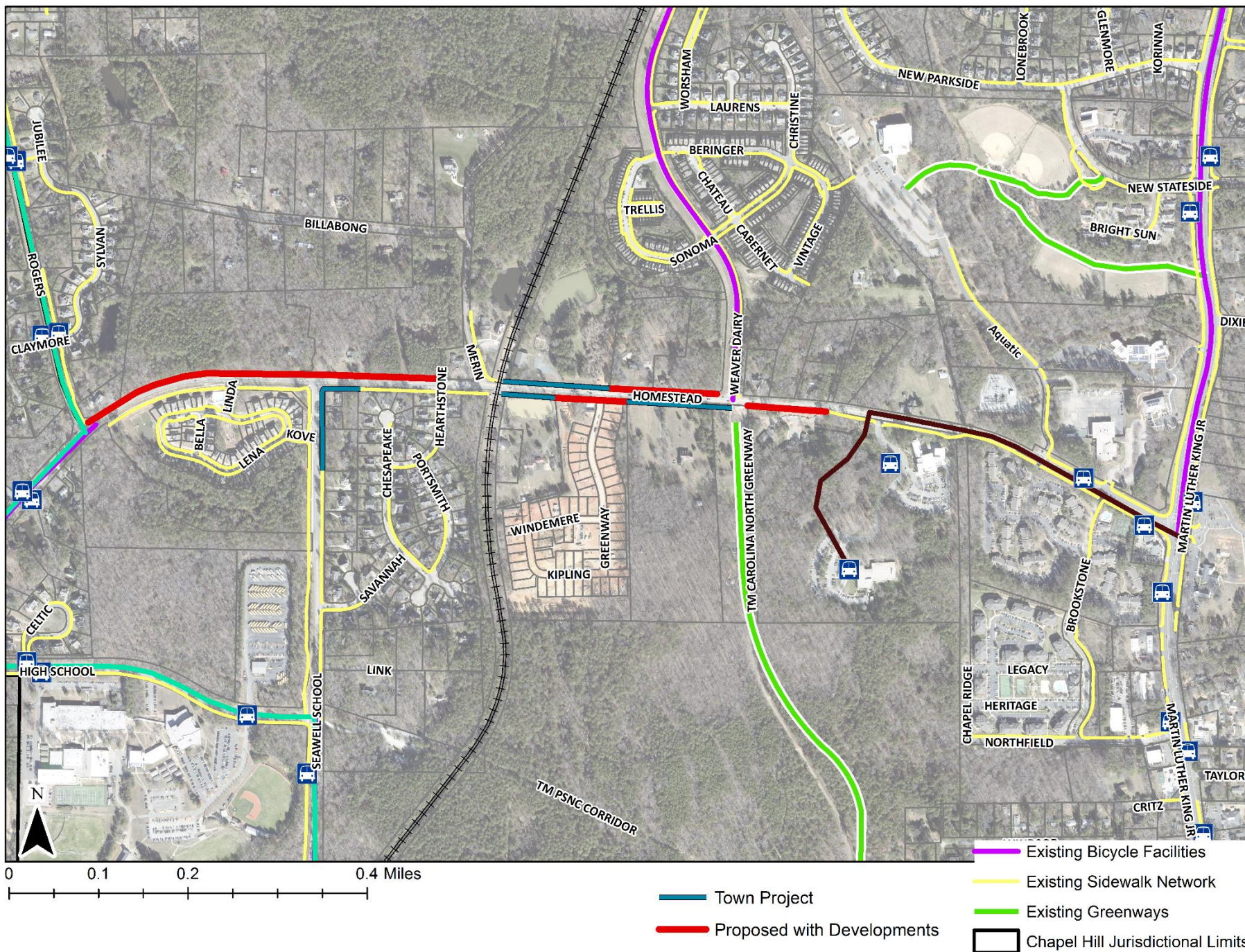
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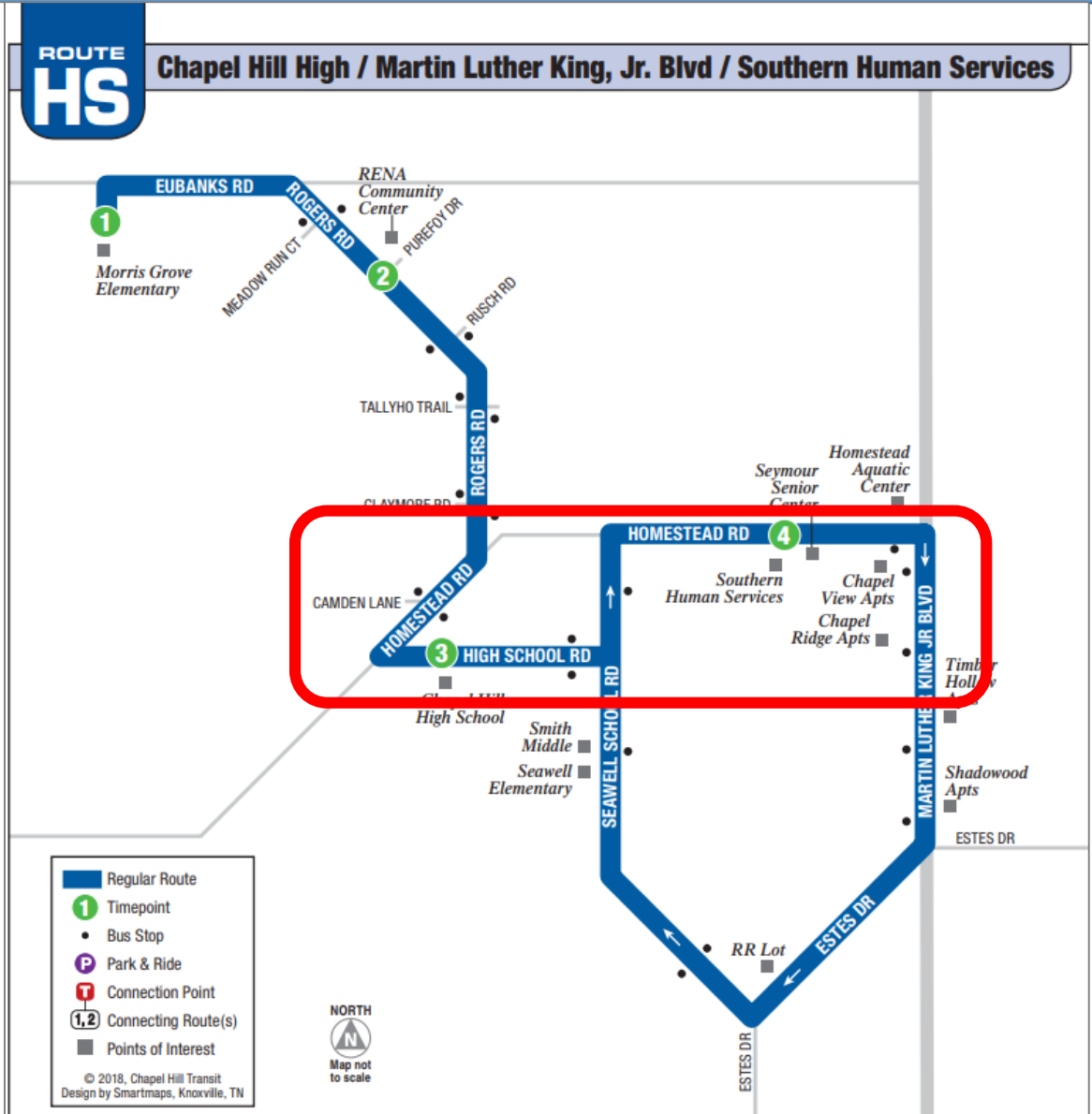
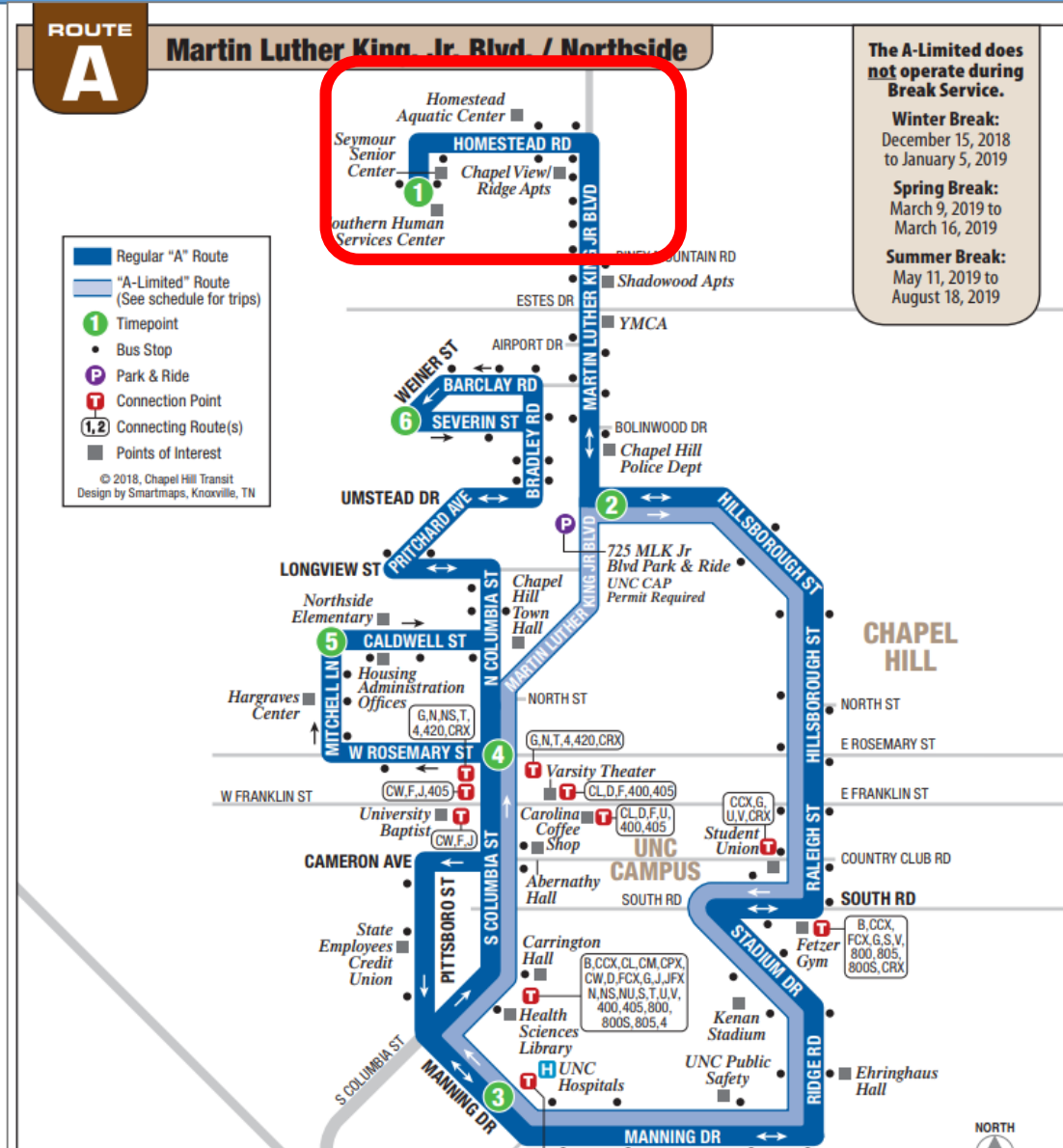
Bus Routes and Ridership

Served by A route and HS route

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Homestead Rd served by A and HS routes



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On: 3
Off: 1

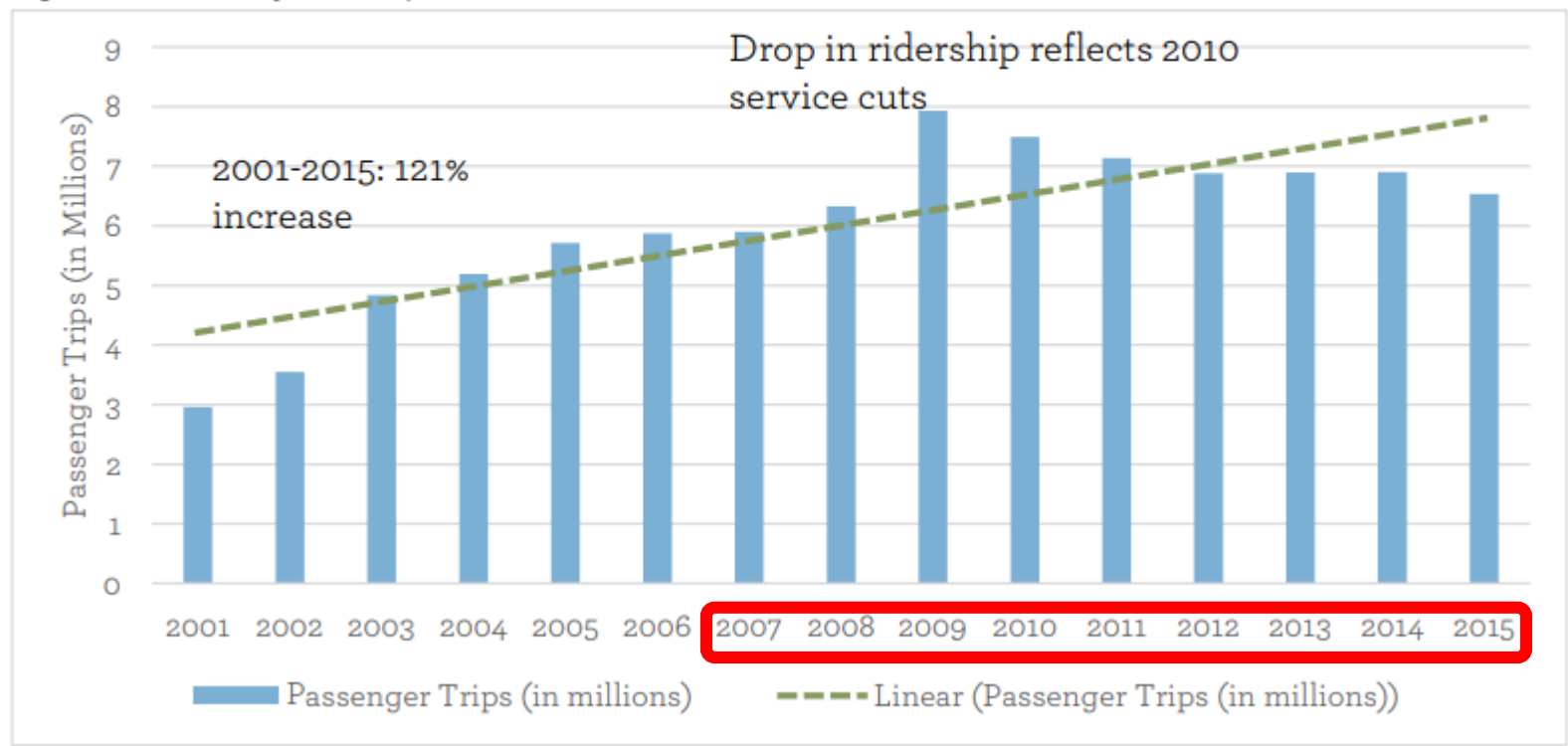
On: 2
Off: 0

On:
Off:

CHAPEL HILL SHORT-RANGE TRANSIT PLAN

Chapel Hill Transit

Figure 4-1 Yearly Ridership, 2001 – 2015



Source: NelsonWygaard adapted from National Transit Database

Bus Routes and Ridership

Served by A route and HS route
Average Daily Ridership
7/1/2017 - 7/1/2018

53

22

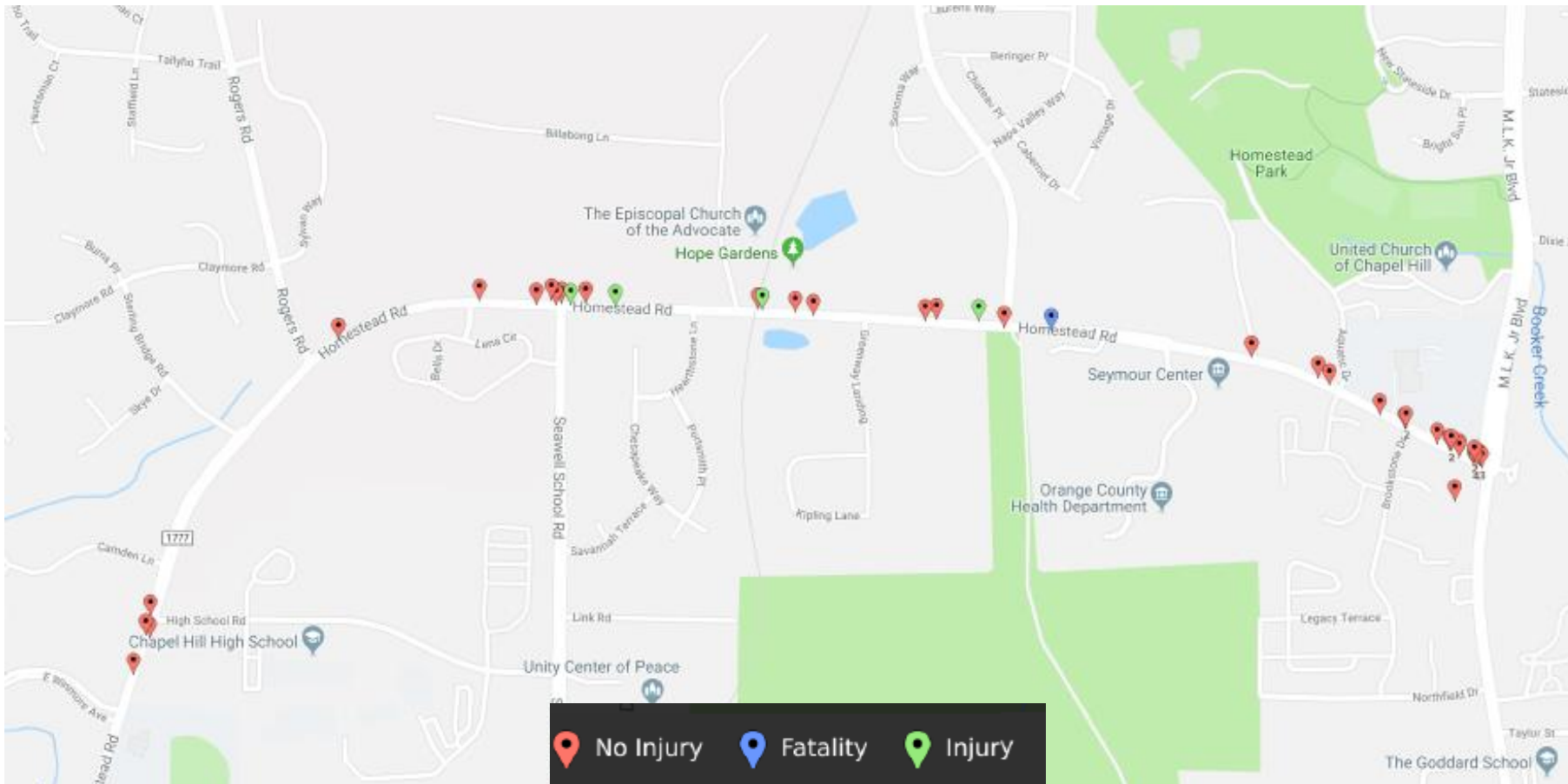
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- Town Project
- Proposed with Developments
- Existing Bicycle Facilities
- Existing Sidewalk Network
- Existing Greenways
- Chapel Hill Jurisdictional Limits

Crash Data 2015-2018

- Total of 43 crashes over 3 years
- 1 of these involved a pedestrian fatality in 2015. None of the other crashes involved bike/ped.

	Crashes	Injury	Fatal
2015	16	1	1
2016	9	2	0
2017	14	2	0
2018	4	0	0



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3. Developments

Transportation Improvements
Roadway Capacity



Homestead Road Project Map

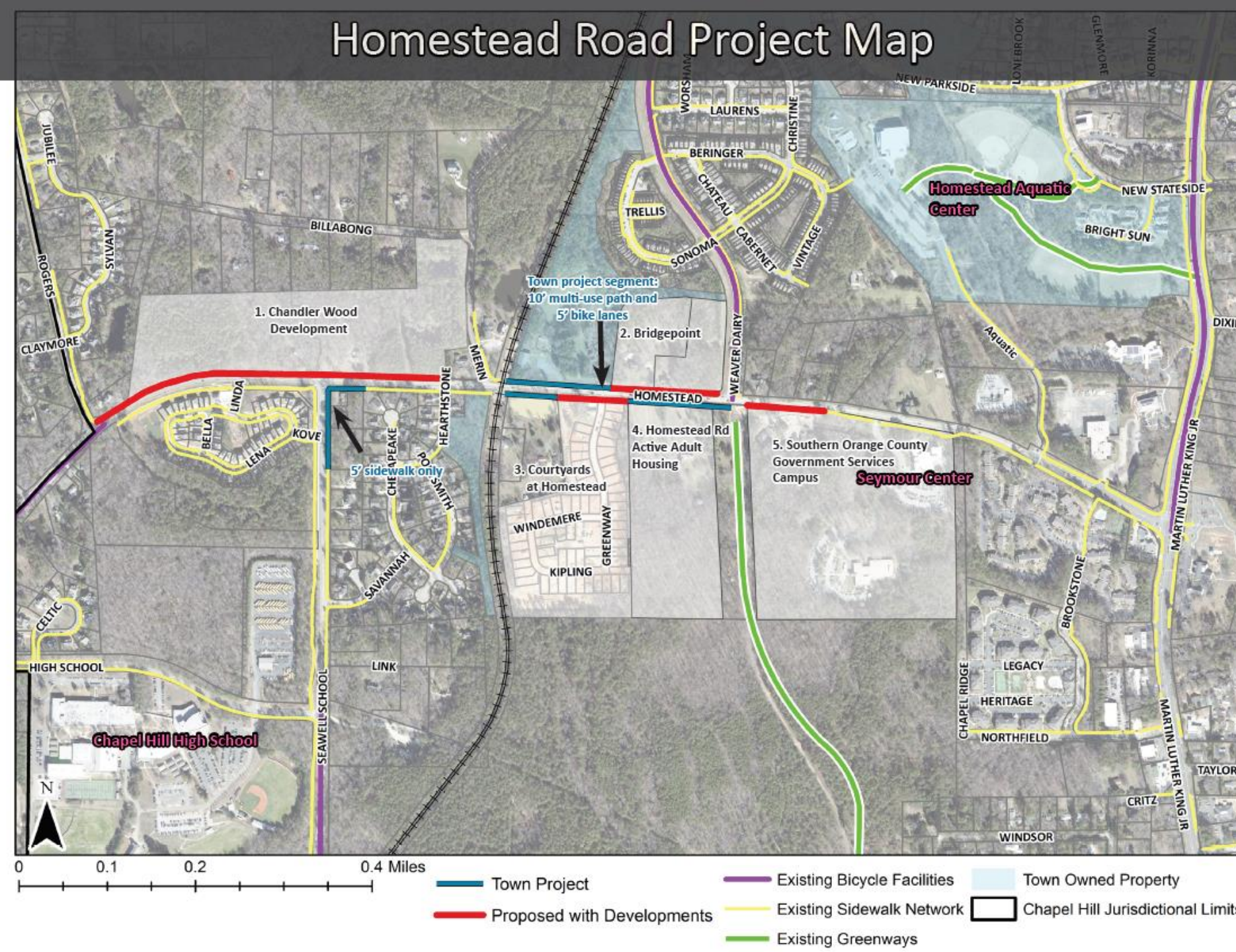
Development Activity

5 development plans

1 almost completed
(Courtyards at Homestead)

1 still in review (Homestead
Rd Active Adult Housing)

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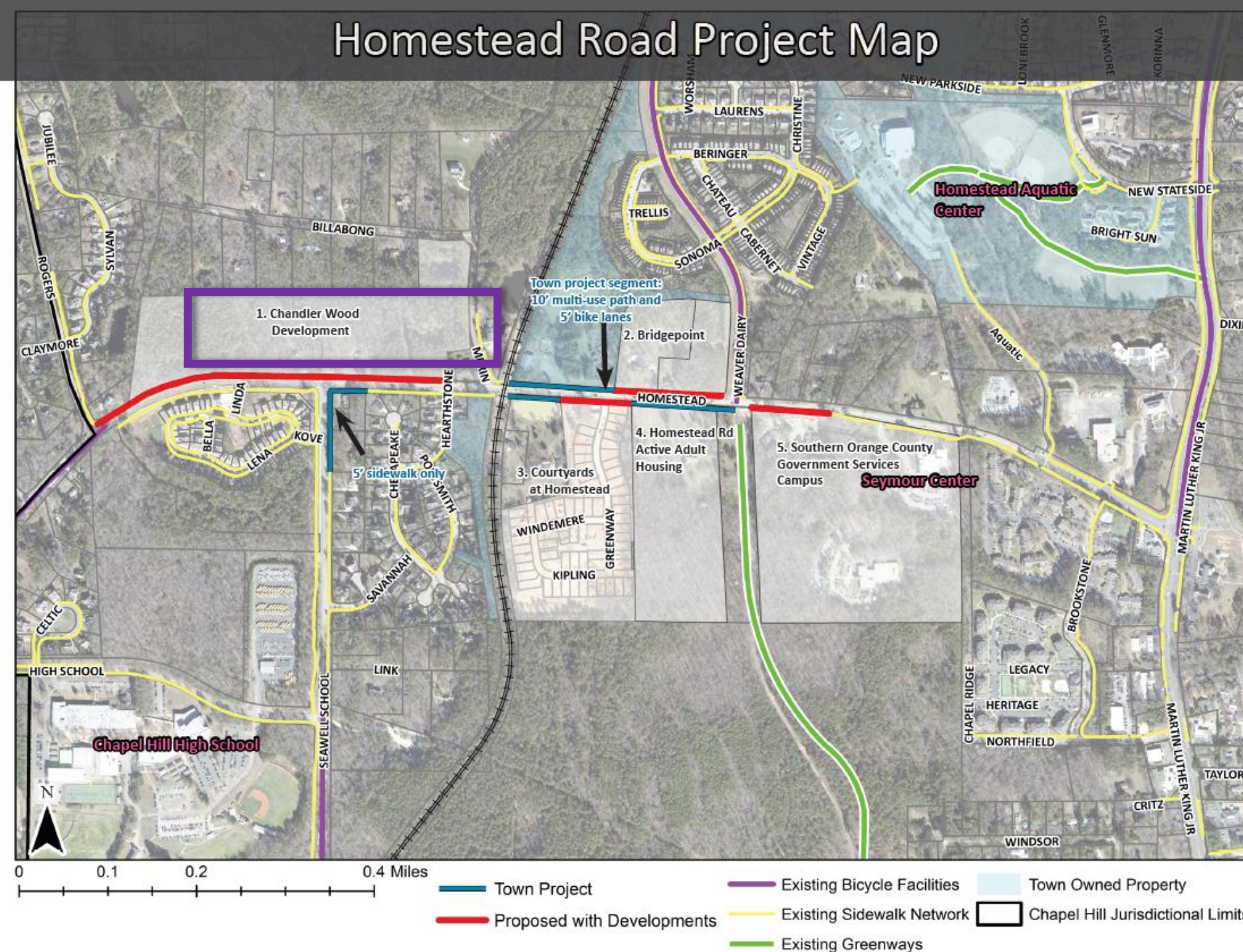
Homestead Road Project Map

Chandler Wood

SUP Approval: April 16, 2016

Residential community with
61 single family units and
9 townhomes

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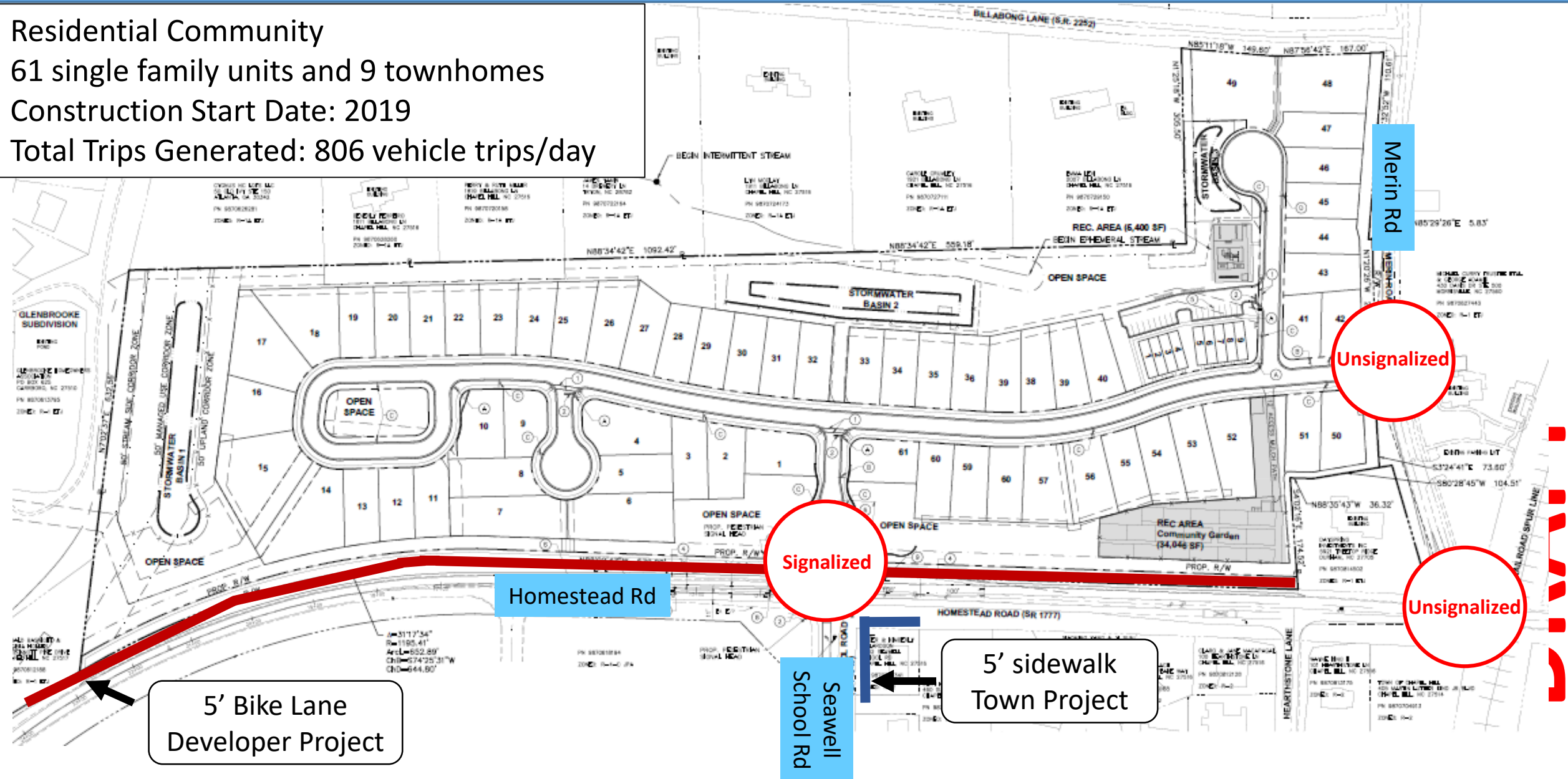
Chandler Wood site plan

Residential Community

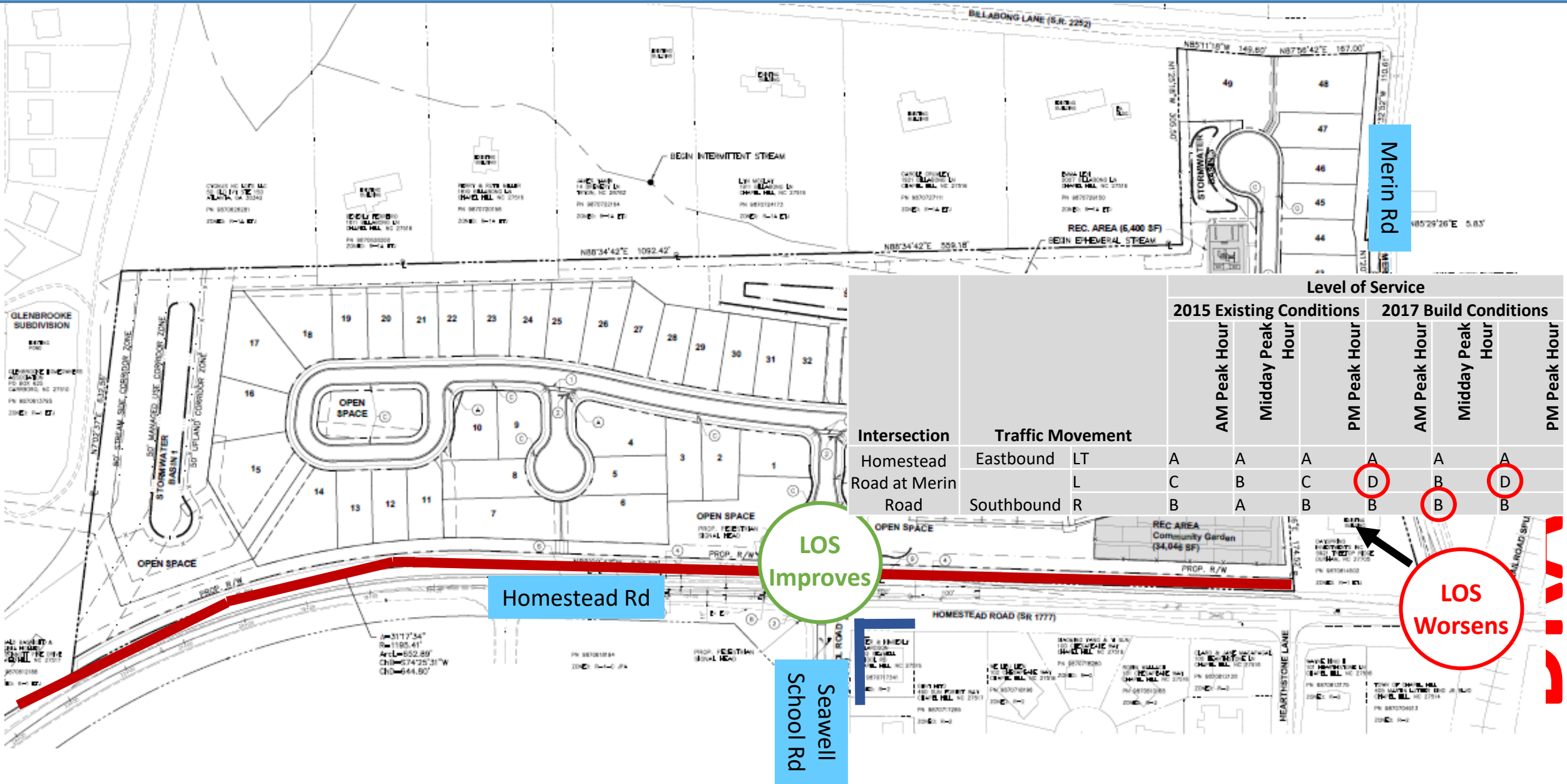
61 single family units and 9 townhomes

Construction Start Date: 2019

Total Trips Generated: 806 vehicle trips/day



Intersection Level of Service



Intersection		Level of Service					
		2015 Existing Conditions			2017 Build Conditions		
		AM Peak Hour	Midday Peak Hour	PM Peak Hour	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Homestead Road at Merin Road	Eastbound LT	A	A	A	A	A	A
	L	C	B	C	D	B	D
	Southbound R	B	A	B	B	B	B

LOS Improves

LOS Worsens

Homestead Rd

Seawell School Rd

Homestead Road Project Map

Chandler Wood

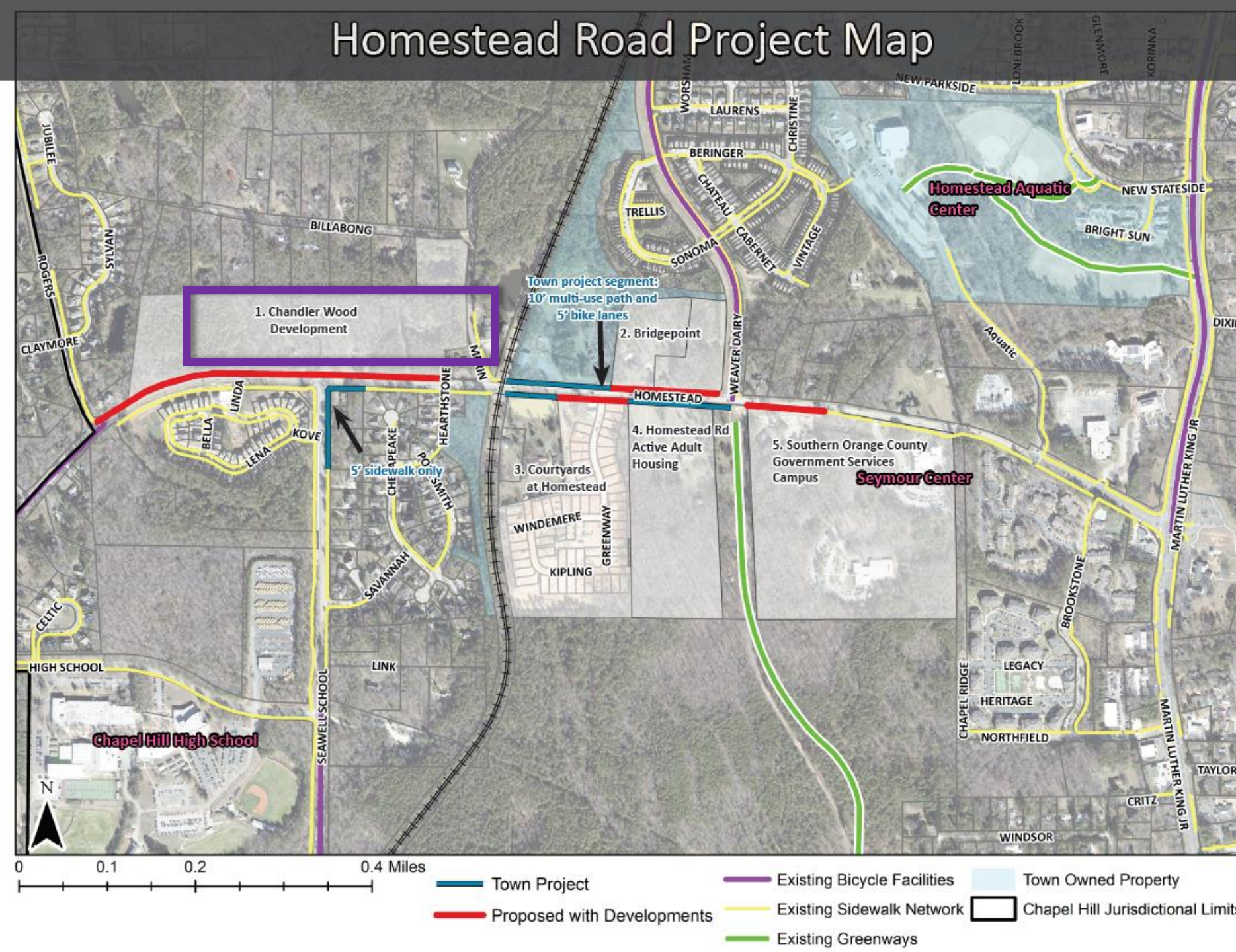
Summary:

5' sidewalk along property frontage and extended to Rogers Rd

5' bike lane

Turn lanes, internal road improvements, signal timing improvements at Homestead/Seawell intersection

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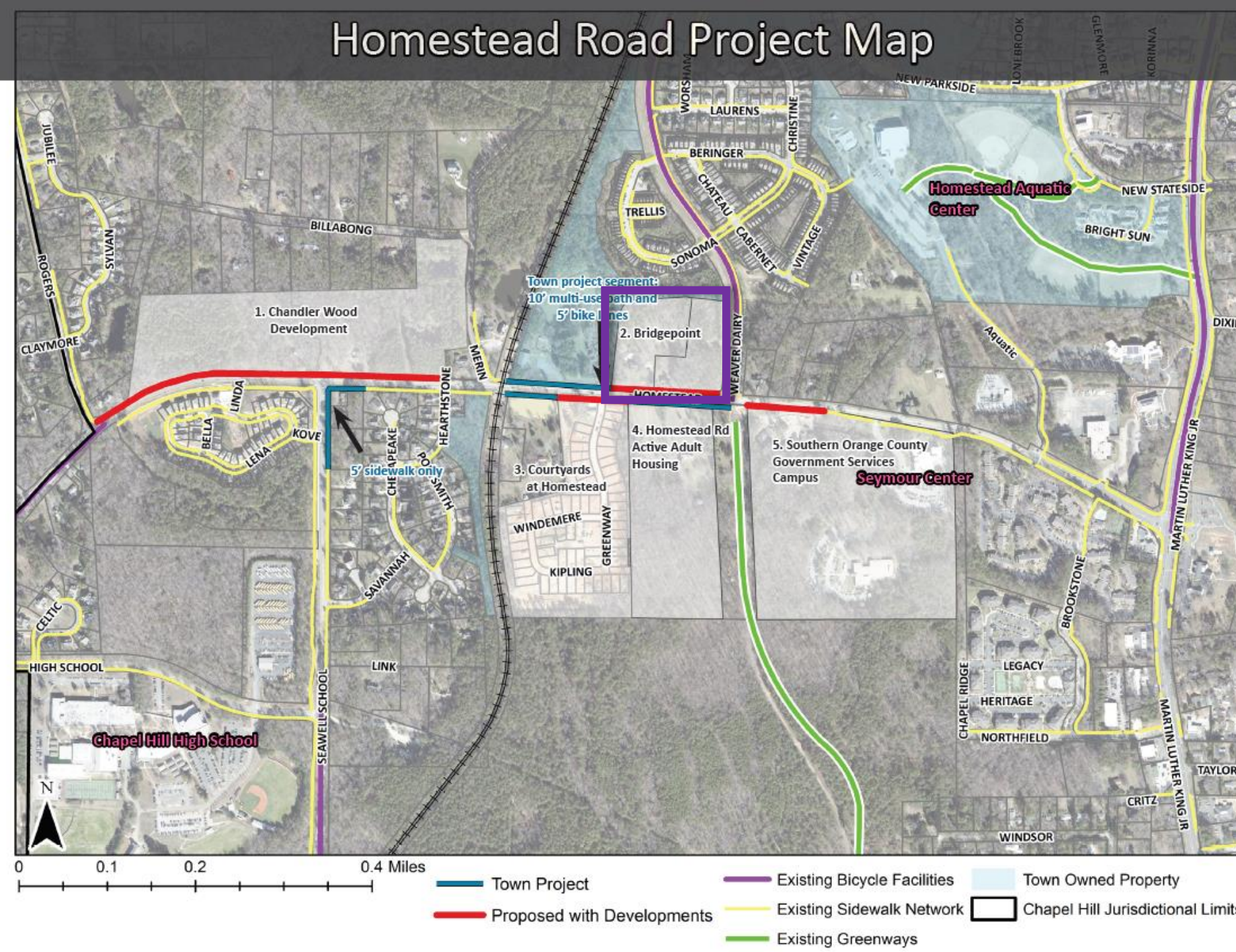
Homestead Road Project Map

Bridgepoint

SUP Approval: May 24, 2010

32 townhomes and 27,400 square feet of commercial area

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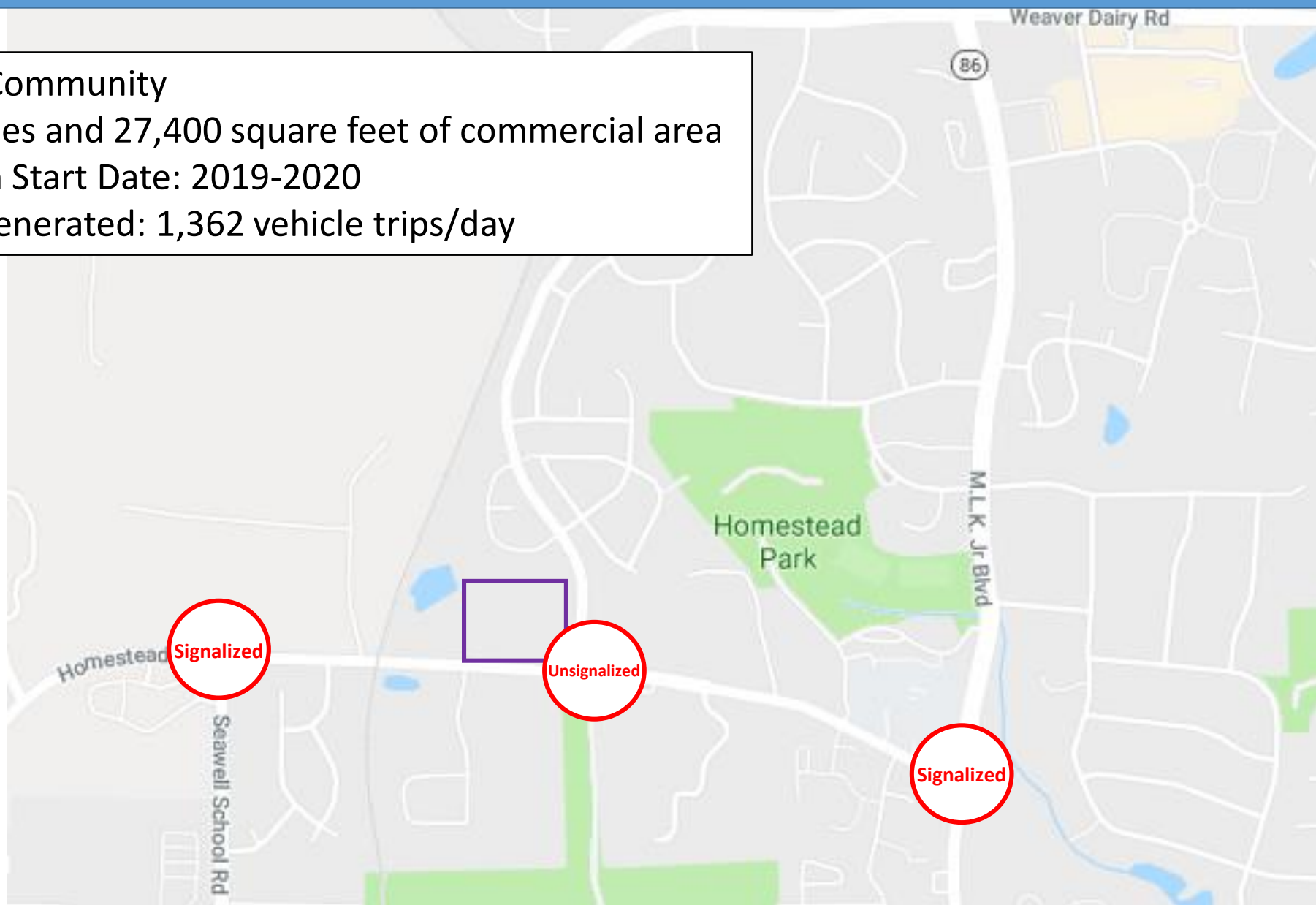
Bridgepoint site plan

Residential Community

32 townhomes and 27,400 square feet of commercial area

Construction Start Date: 2019-2020

Total Trips Generated: 1,362 vehicle trips/day



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Bridgepoint site plan



Weaver Dairy Rd/Driveway #
1 =

full access intersection

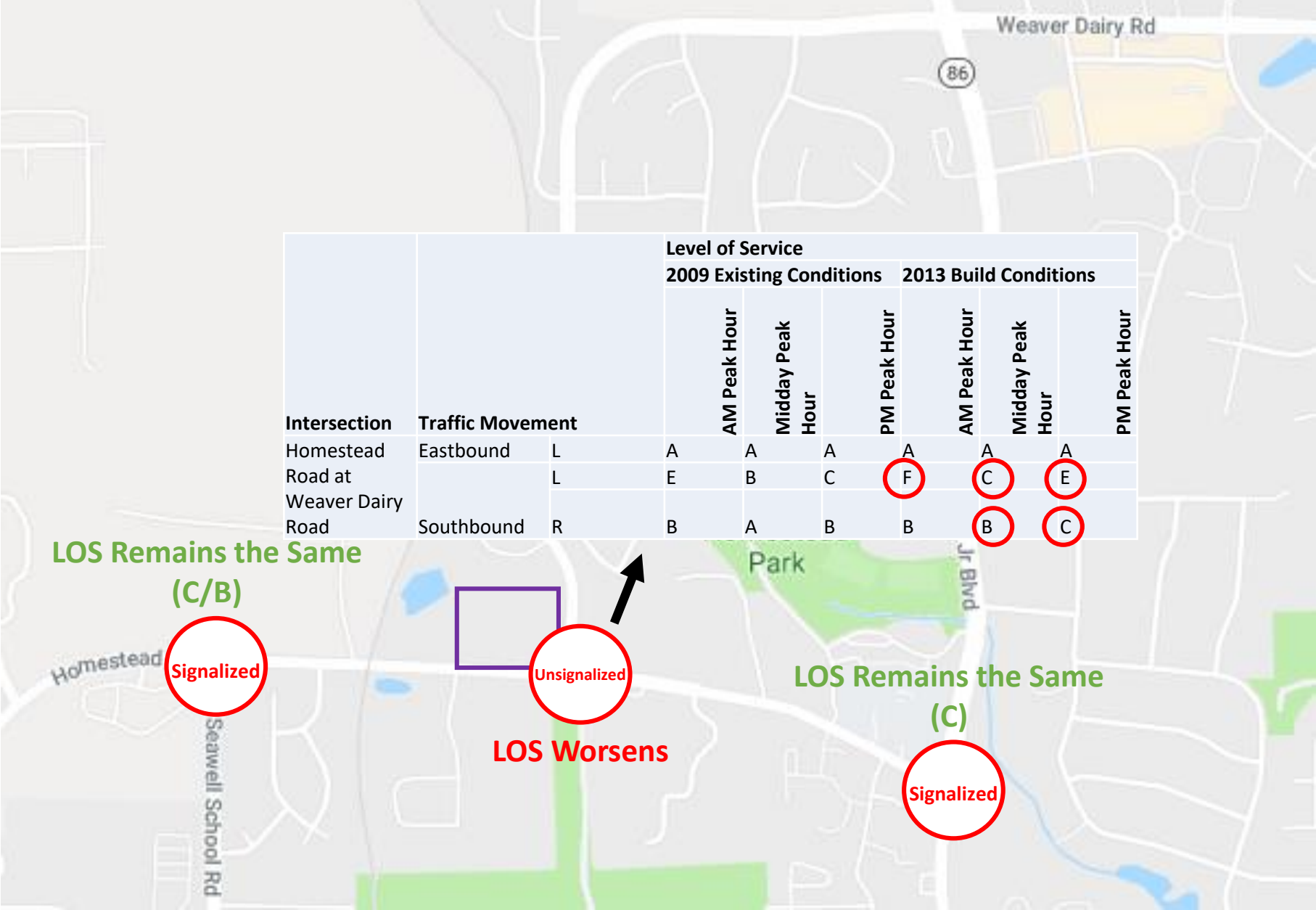
&

Homestead Rd/Driveway # 2
=

right-in/ right-out access
intersection



Bridgepoint Level of Service



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LOS



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Homestead Road Project Map

Bridgepoint

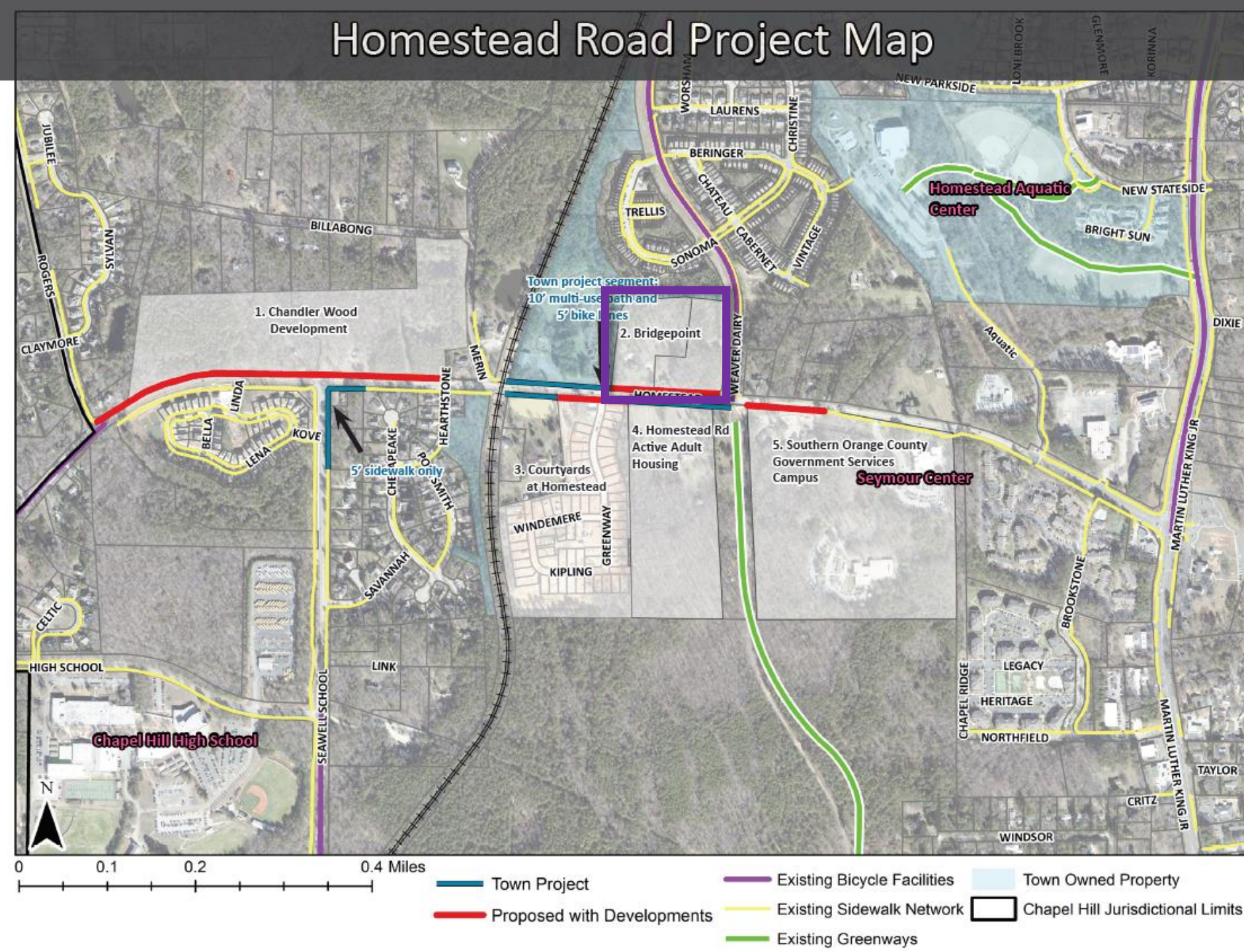
Summary:

10' multi-use path

4' bike lane

Turn lanes, center median, bus pull-offs.

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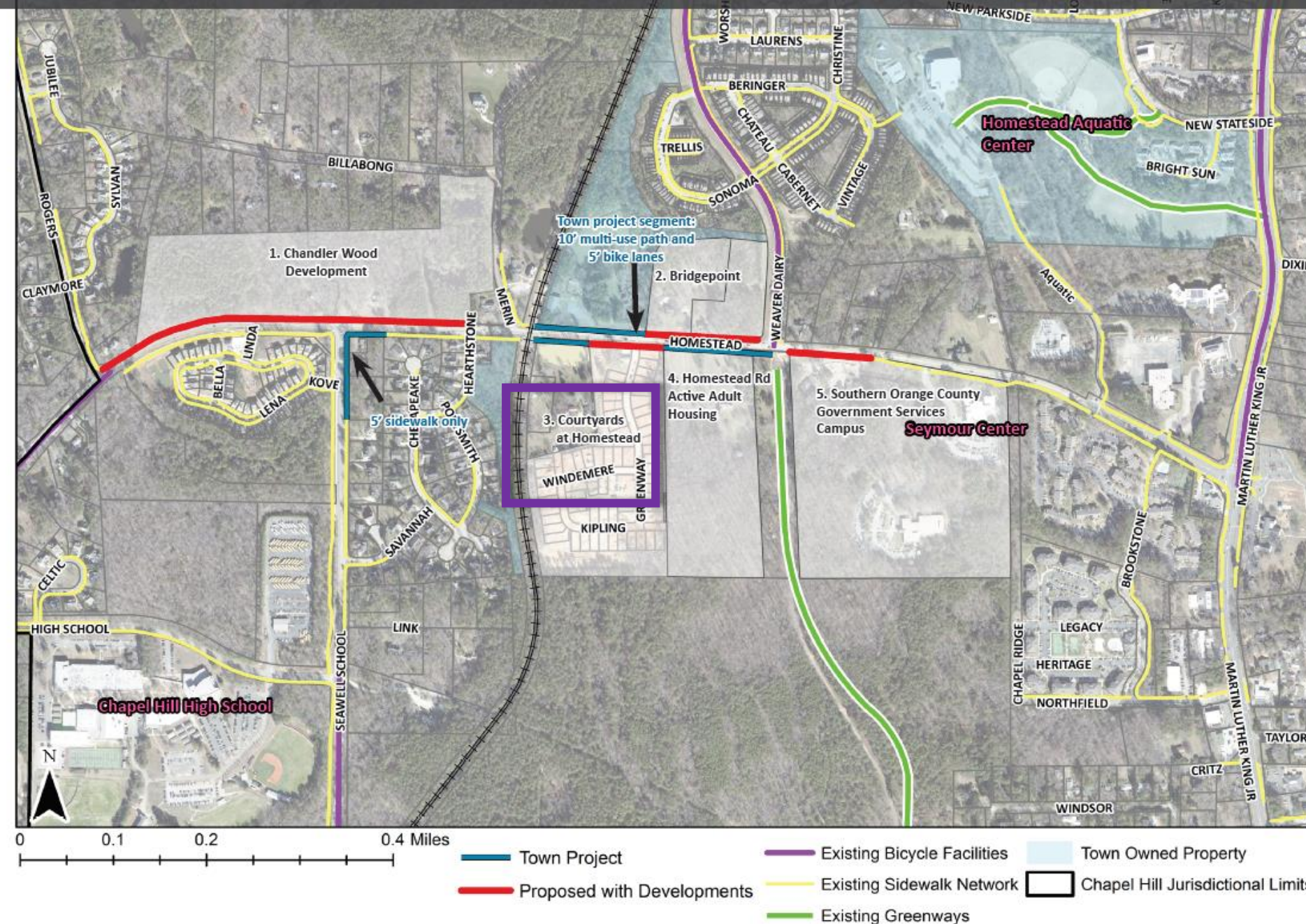
Homestead Road Project Map

Courtyards at Homestead

SUP Approval: Oct 27, 2014

63 age-restricted single family units

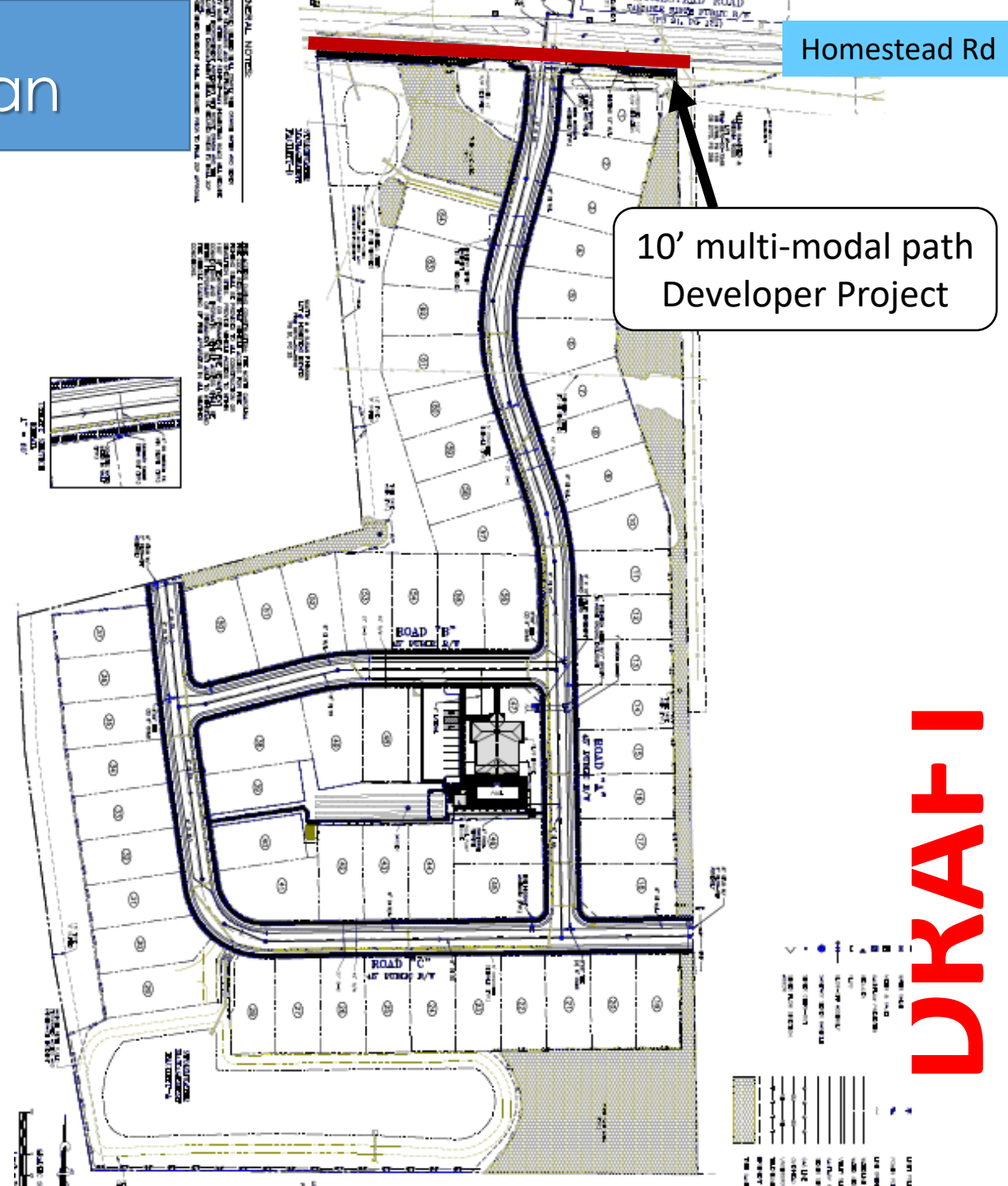
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Courtyards at Homestead Site Plan

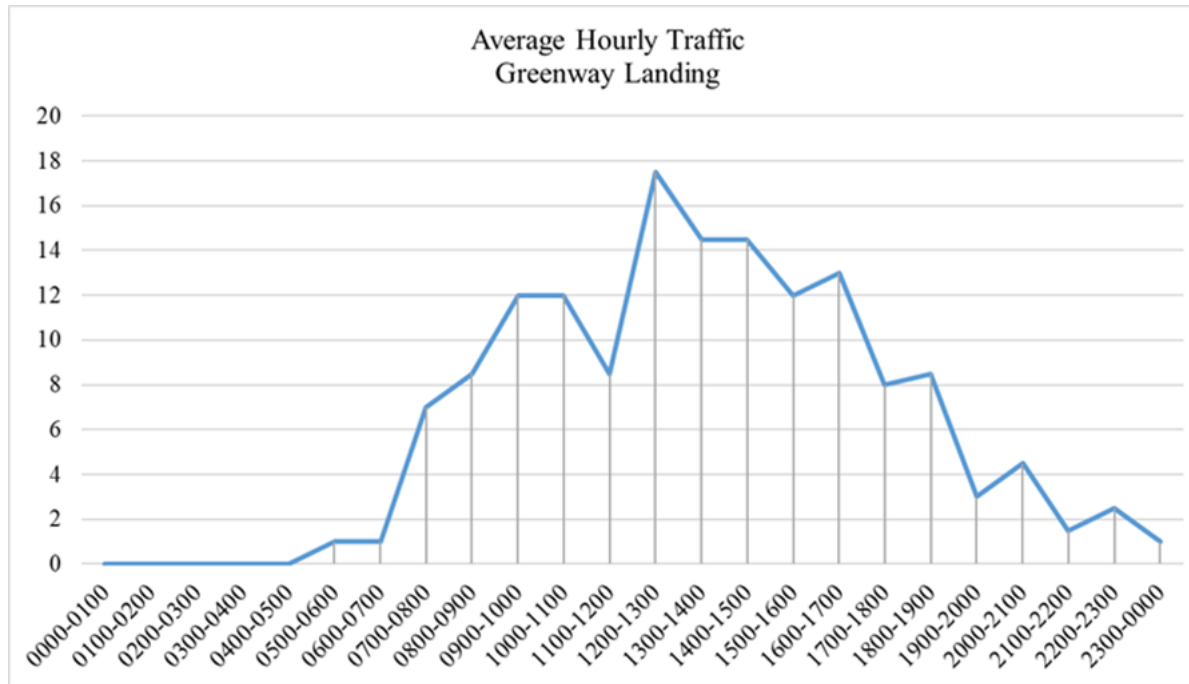
Residential Community
63 age-restricted single family units
Construction Completion Date: 2018

*Development exempt from TIA



Courtyards Traffic Data

Below is vehicle volume and speed data for Greenway Landing in the Courtyards development. For two days (Tuesday 11/6-Thursday 11/8) it averaged 155 cars per day, but there is still a lot of construction in there



Average Speed – 16.2

85th Percentile – 20

Maximum Speed – 26

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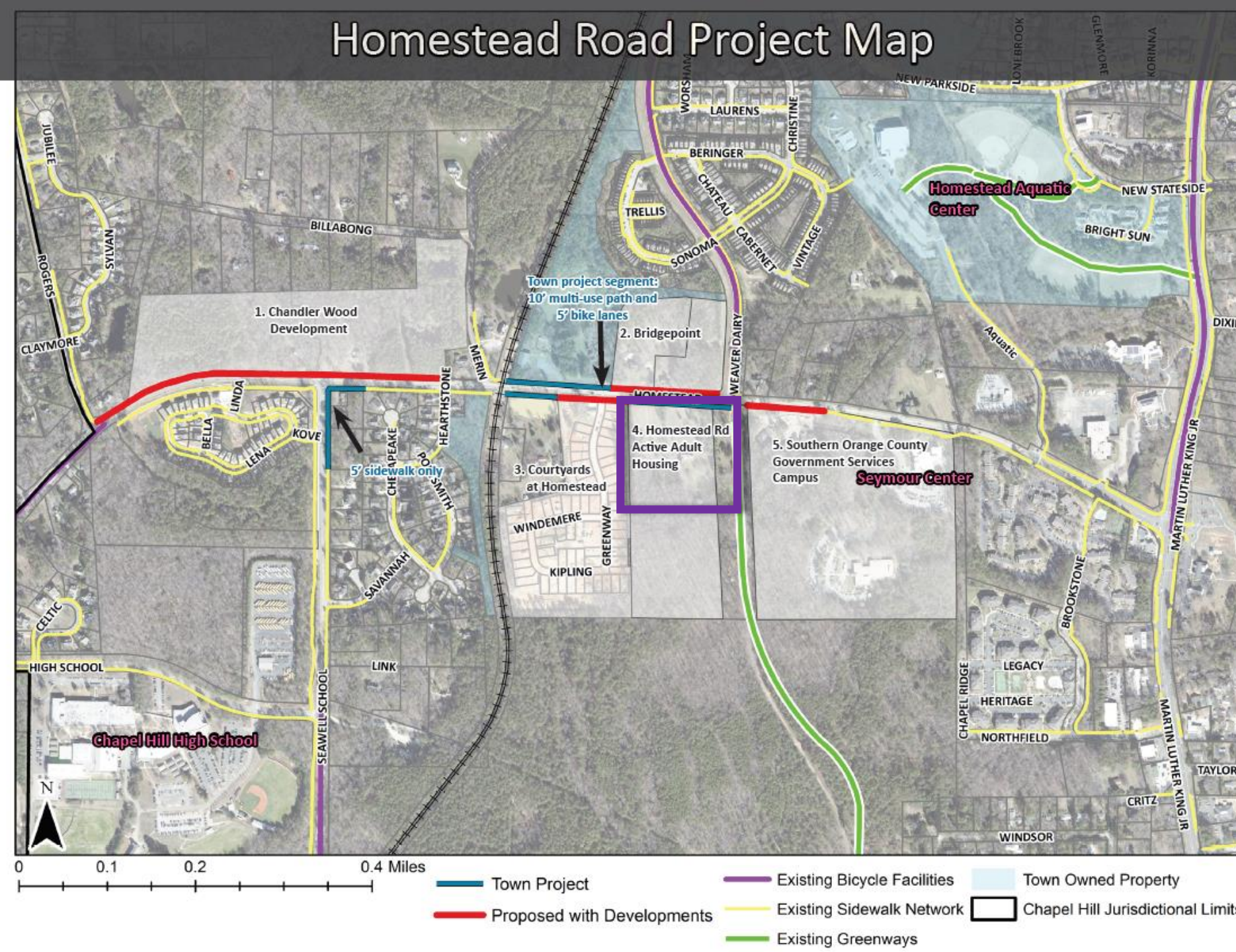
Homestead Road Project Map

Homestead Rd Active Adult Housing

SUP Approval: Under Review

190 unit retirement
apartments

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Homestead Rd Active Adult Housing Site Plan

Residential Community

190 unit retirement apartments

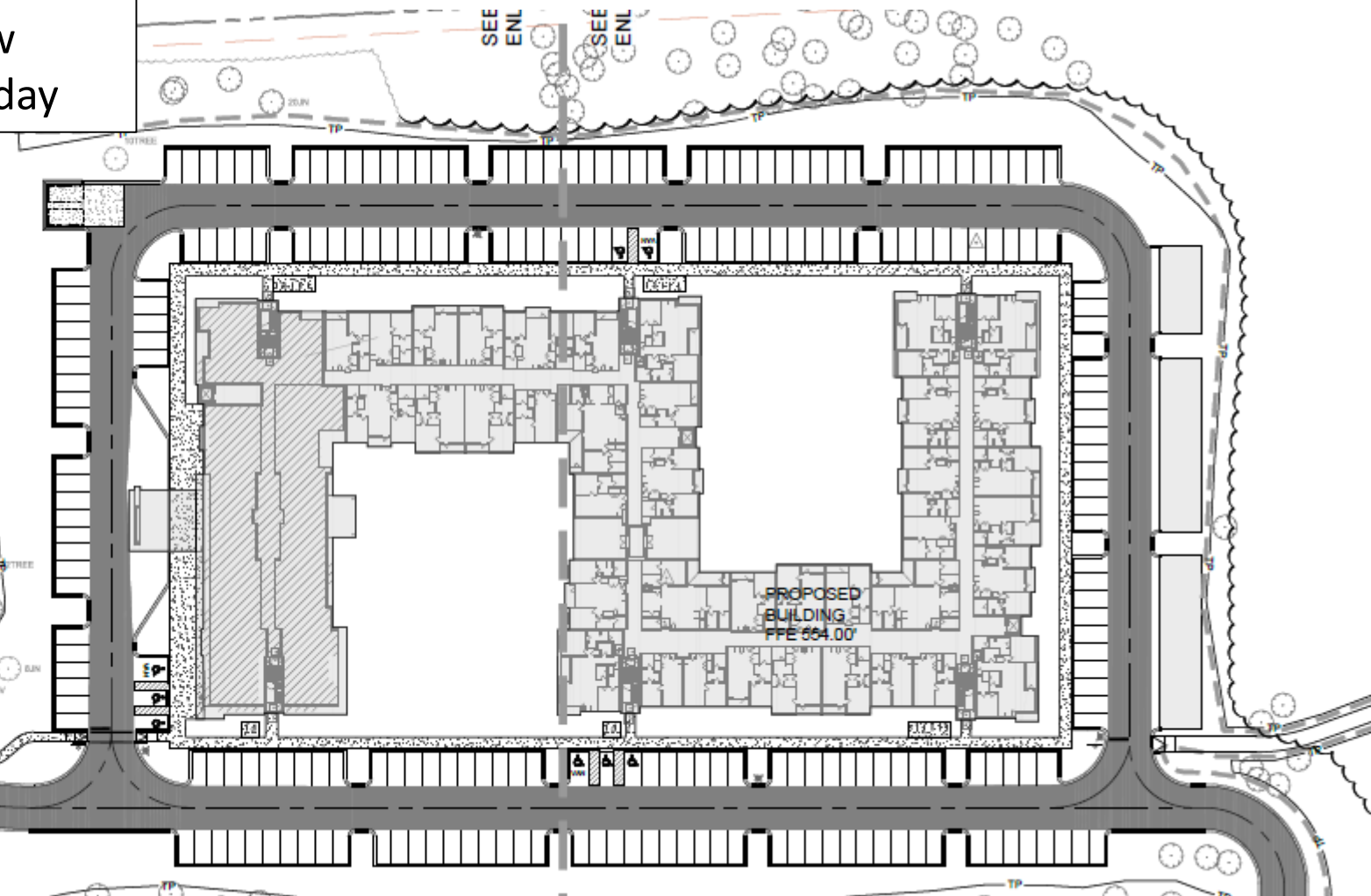
Application Submitted and Under Review

Total Trips Generated: 654 vehicle trips/day

Homestead Rd

Bike lane
Bridgepoint Developer
Project

10' multi-use path
Town Project



Intersection	Traffic Movement	Level of Service					
		2017 Existing Conditions			2020 Build Conditions		
		AM Peak Hour	Midday Peak Hour	PM Peak Hour	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Homestead Road and Seawell School Road	Overall Traffic Movement	B	A	A	B	A	B

LOS Worsens

Signalized

Weaver Dairy Rd

Unsignalized

LOS Worsens

LOS Remains the Same (C)

Signalized

Intersection	Traffic Movement	Level of Service					
		2017 Existing Conditions			2020 Build Conditions		
		AM Peak Hour	Midday Peak Hour	PM Peak Hour	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Homestead Road and Weaver Dairy Road Extension	Overall Traffic Movement	A	A	B	B	B	B

Homestead Road Project Map

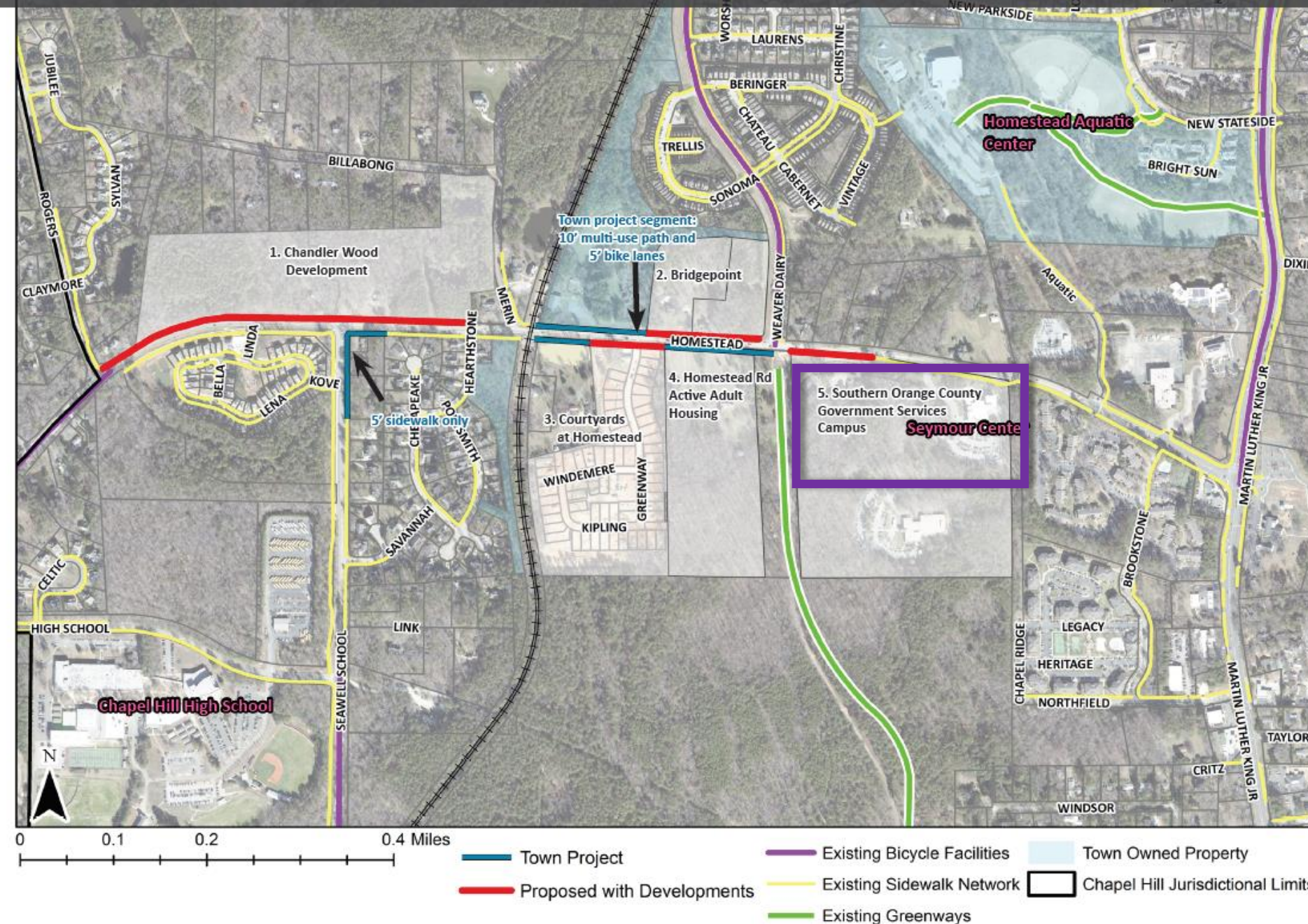
Southern Orange Co. Government Services Campus

Summary:

10' multi-use path

Traffic Impact Analysis, traffic signal, crosswalks, greenway connection to Carolina North, internal road improvements

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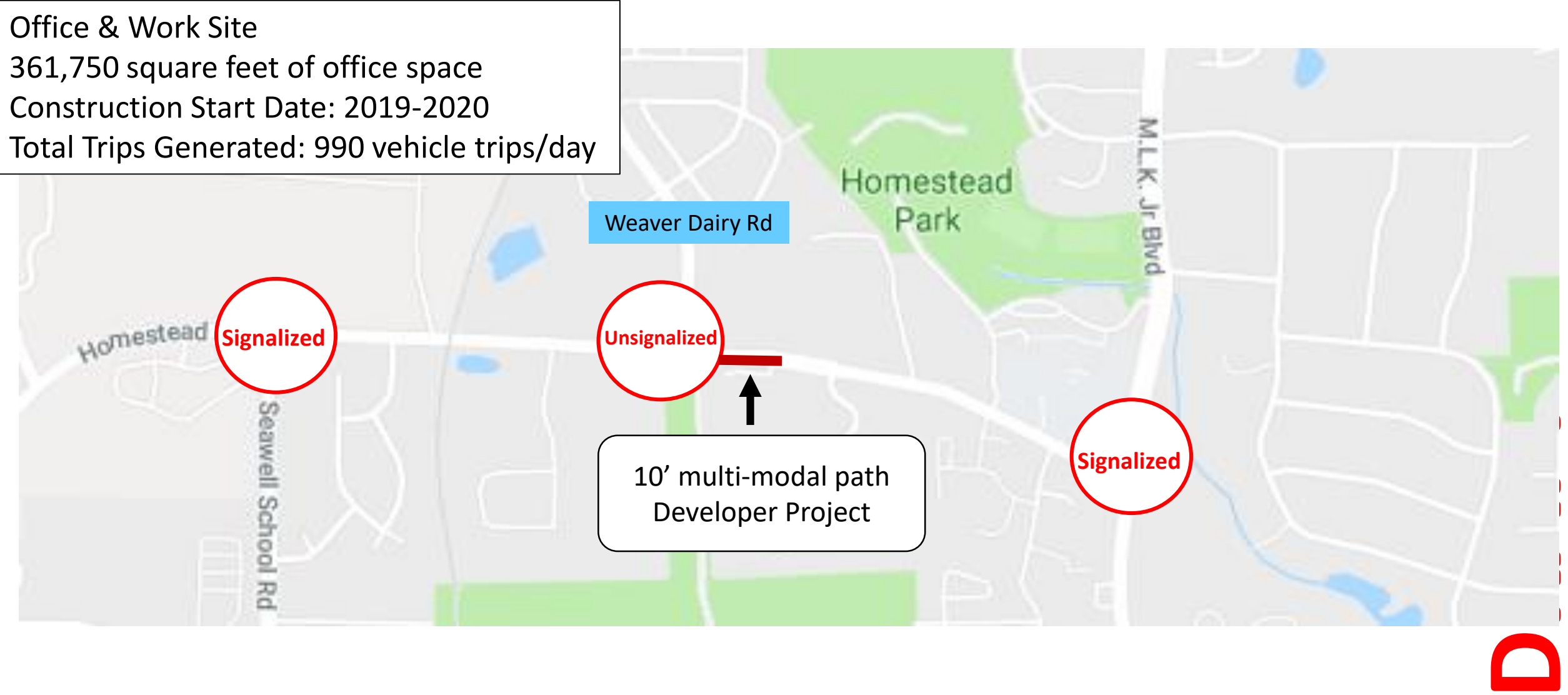
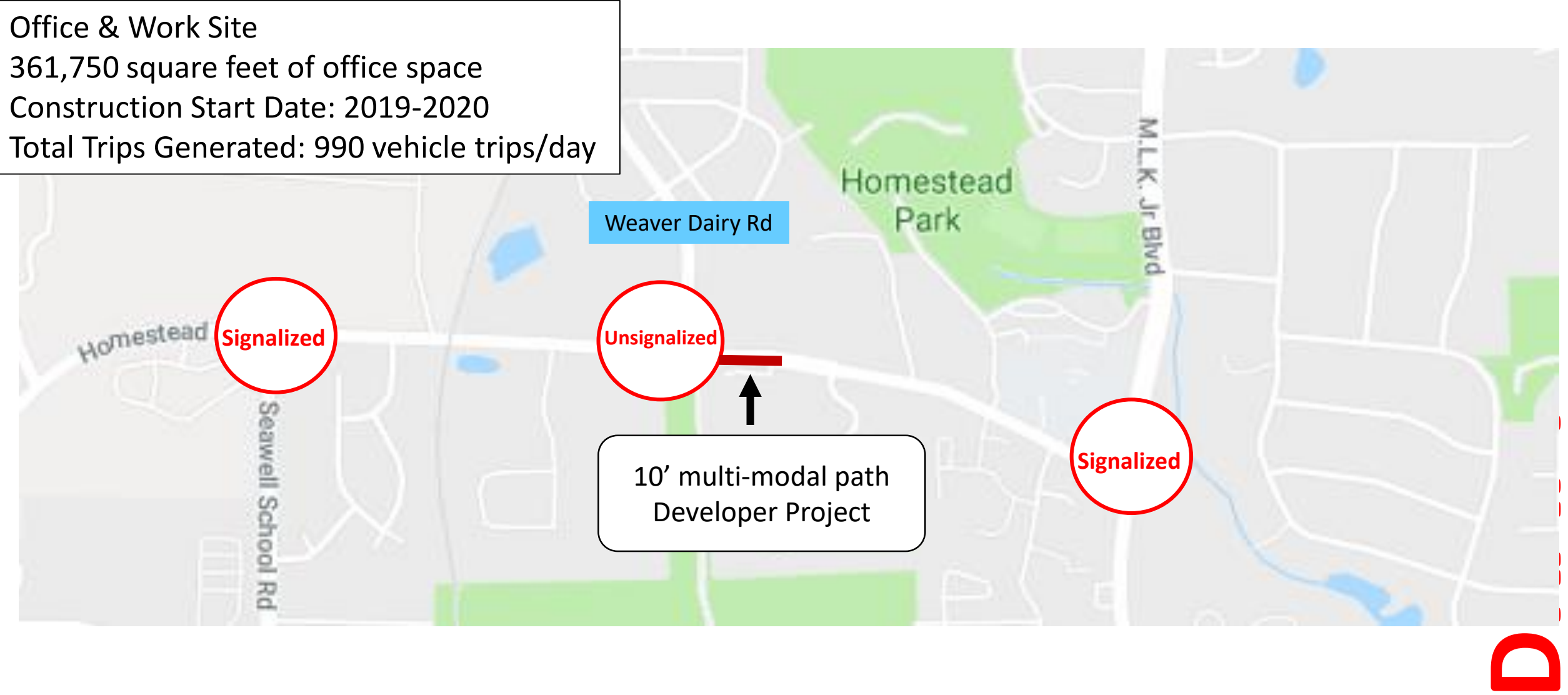


Office & Work Site
361,750 square feet of office space
Construction Start Date: 2019-2020
Total Trips Generated: 990 vehicle trips/day

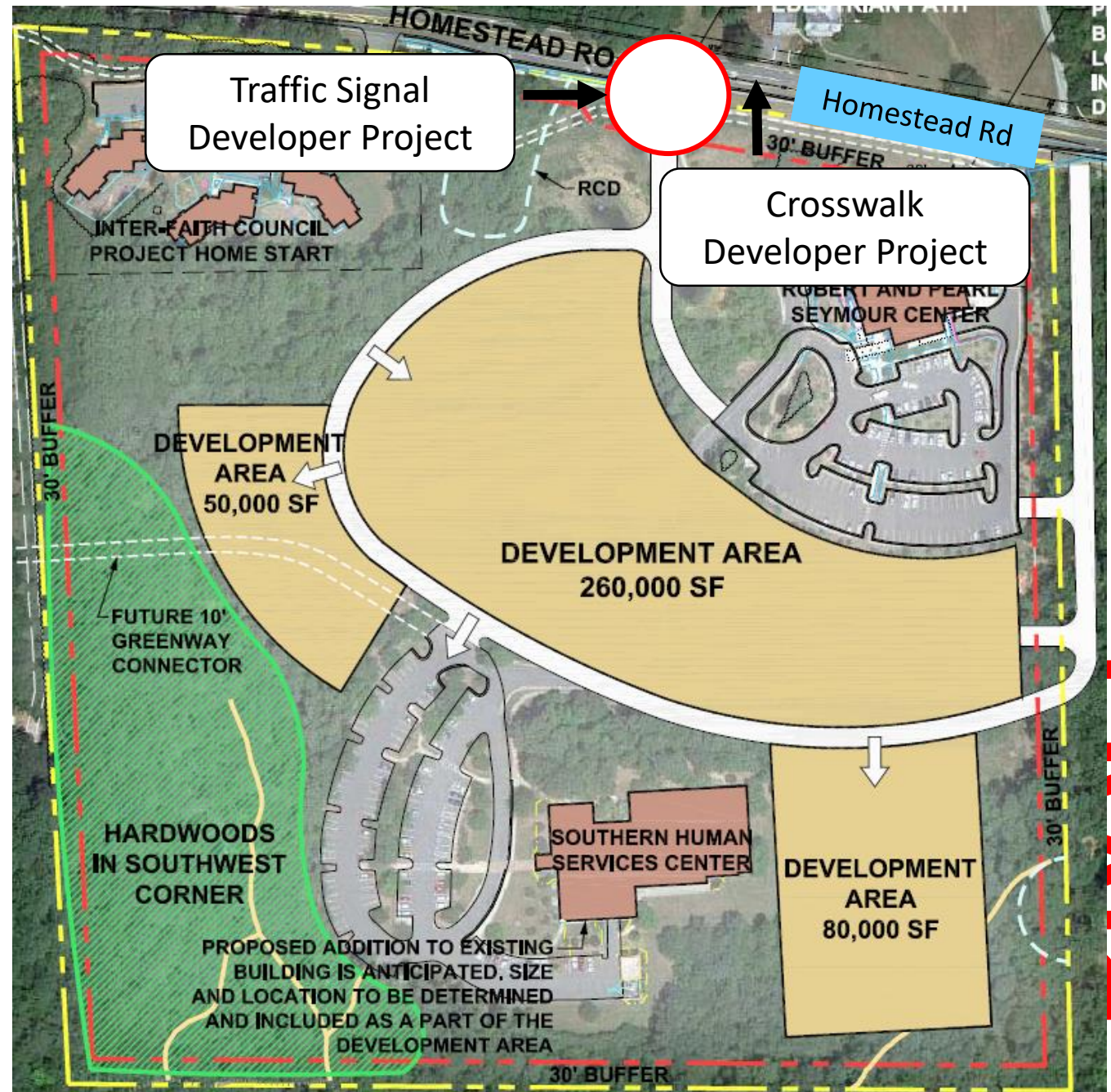
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Southern Orange Co. Government Services Campus site plan



LOS

Intersection	Traffic Movement	Level of Service					
		2017 Existing Conditions			2020 Build Conditions		
		AM Peak Hour	Midday Peak Hour	PM Peak Hour	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Homestead Road and Seawell School Road	Overall Traffic Movement	B	A	A	C	A	B



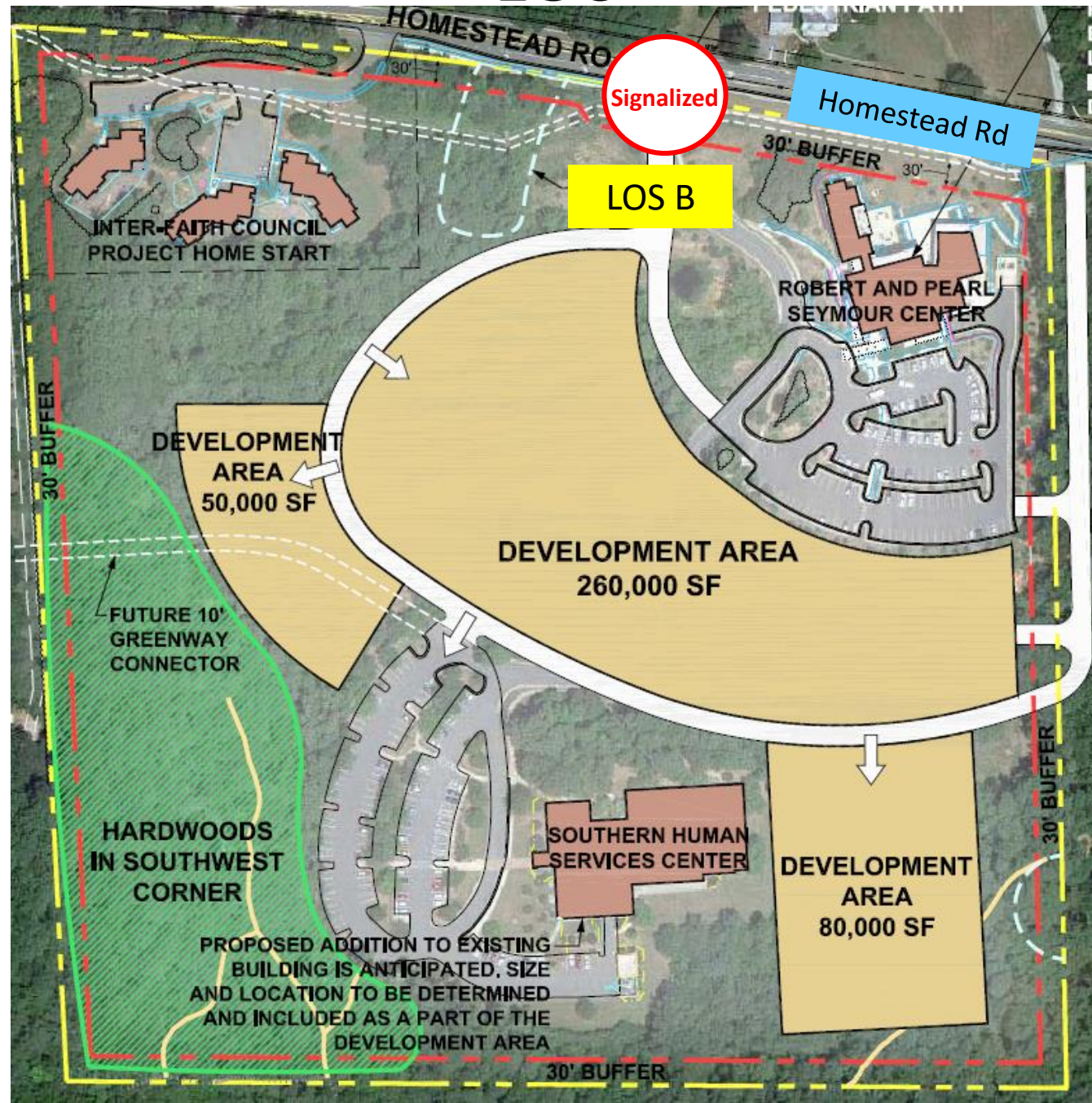
Intersection	Traffic Movement	Level of Service					
		2017 Existing Conditions			2020 Build Conditions		
		AM Peak Hour	Midday Peak Hour	PM Peak Hour	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Homestead Road and MLK Jr, Boulevard	Overall Traffic Movement	C	C	C	C	D	D



Intersection	Traffic Movement	Level of Service					
		2017 Existing Conditions			2020 Build Conditions		
		AM Peak Hour	Midday Peak Hour	PM Peak Hour	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Homestead Road and Weaver Dairy Road Extension	Overall Traffic Movement	A	A	B	B	B	C

D

LOS



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Homestead Road Project Map

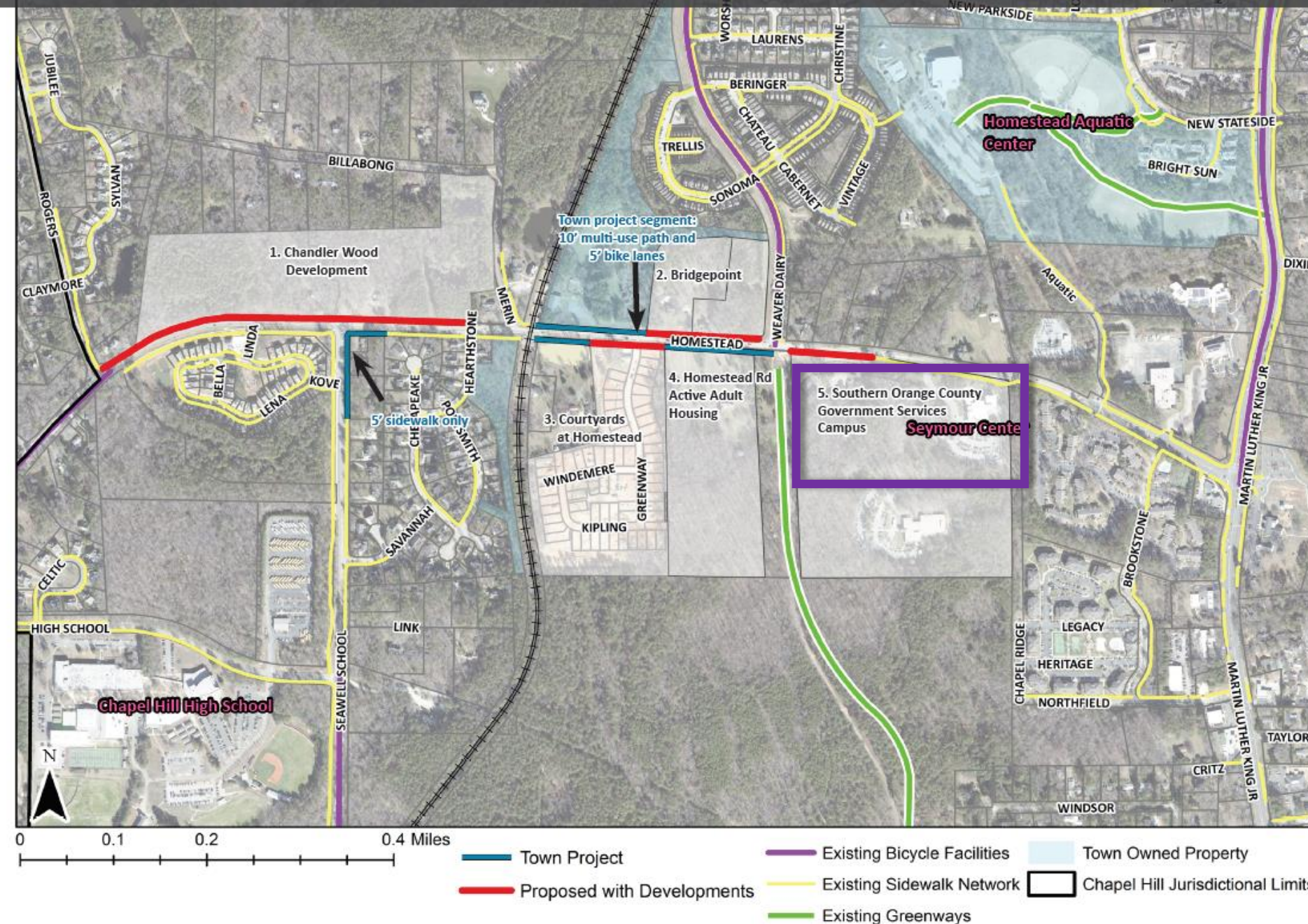
Southern Orange Co. Government Services Campus

Summary:

10' multi-use path

Traffic Impact Analysis, traffic signal, crosswalks, greenway connection to Carolina North, internal road improvements

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Other Projects

Chapel Hill High School
Expansion

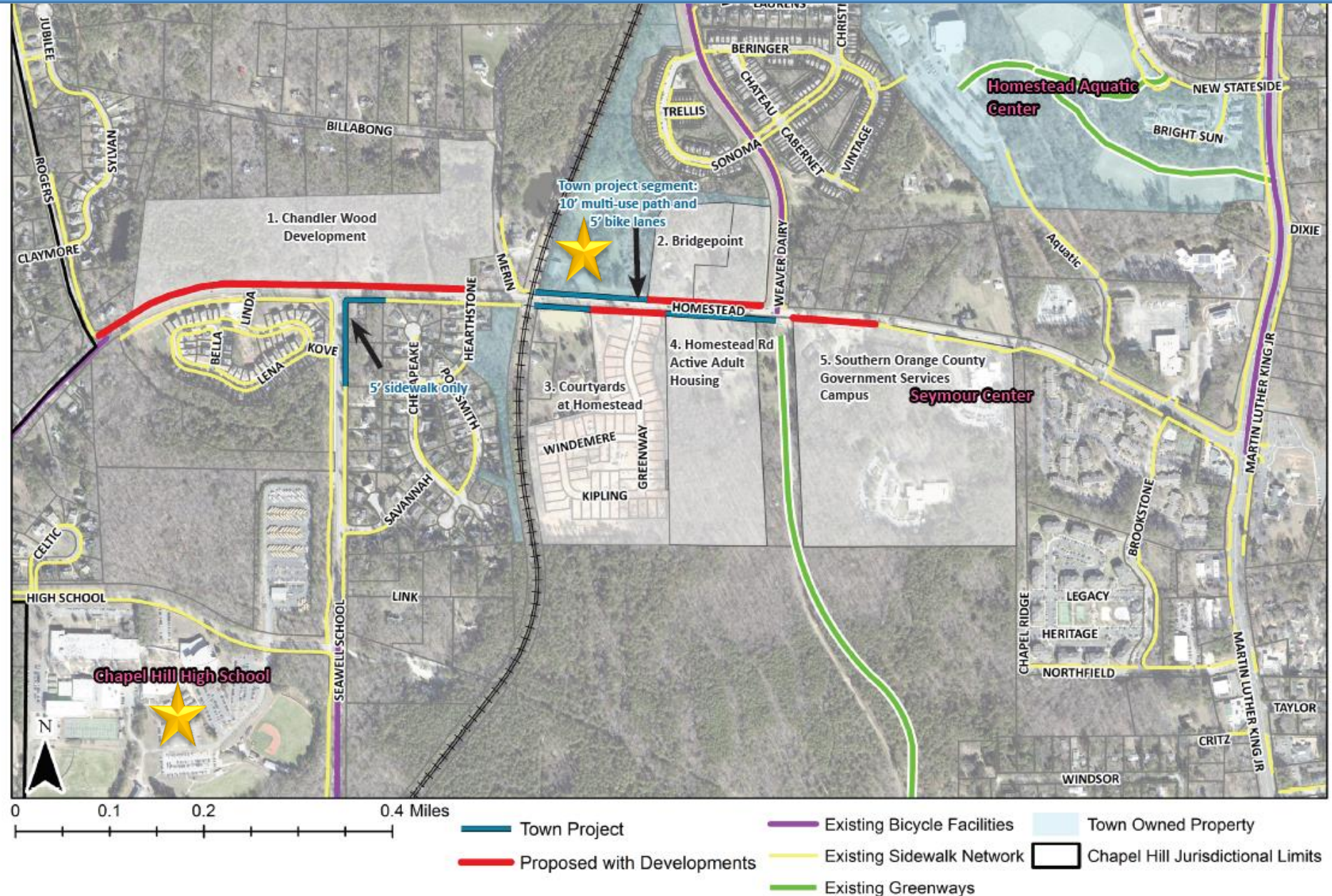
Net added trips

AM: 124

PM: 61

Proposed Affordable
Housing Development
(concept plan)
Estimated 150 units

Number of trips could
be similar to Active
Adult Housing

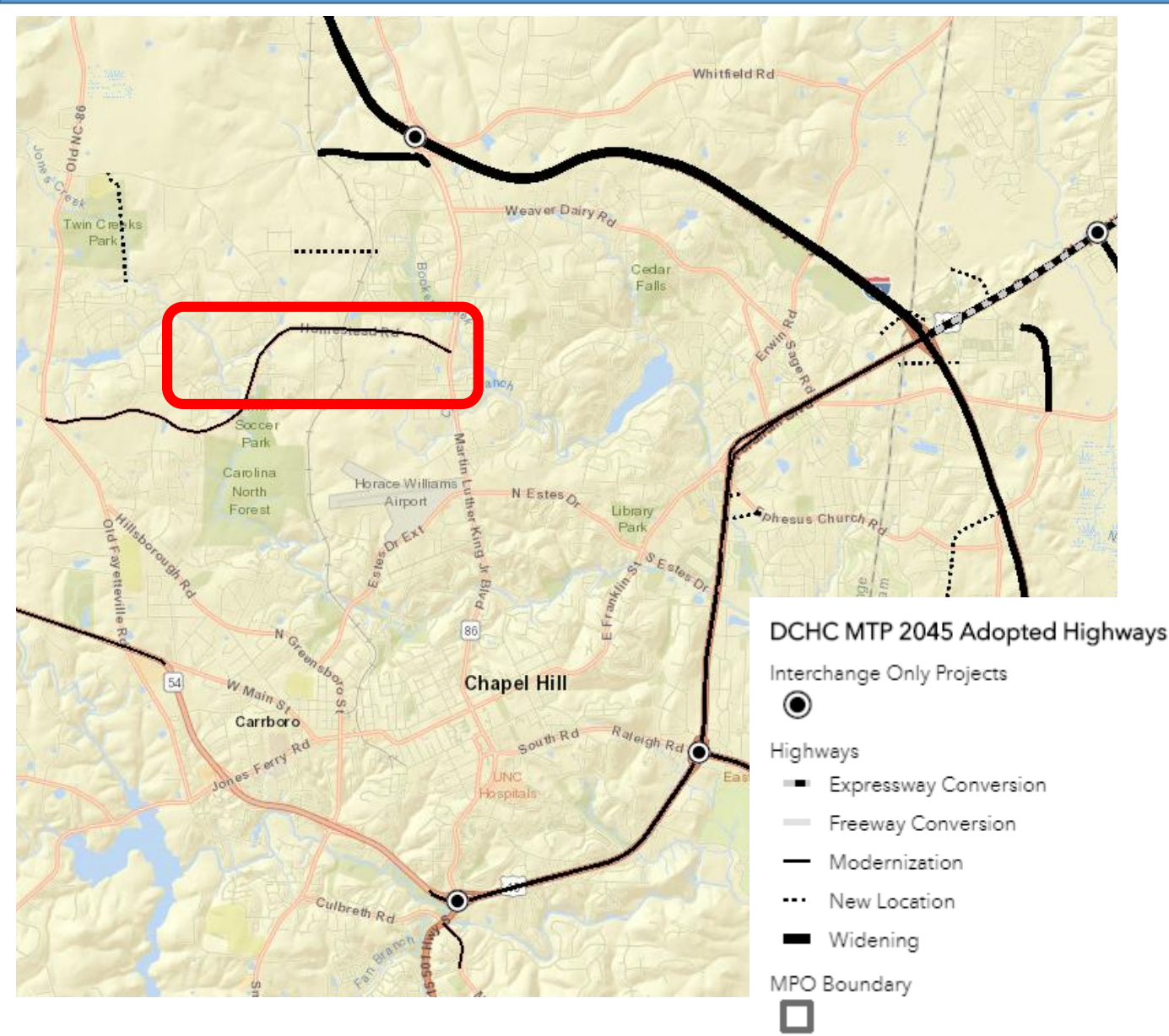


4. Planned transportation facilities

Key Takeaways



2045 Metropolitan Transportation Plan



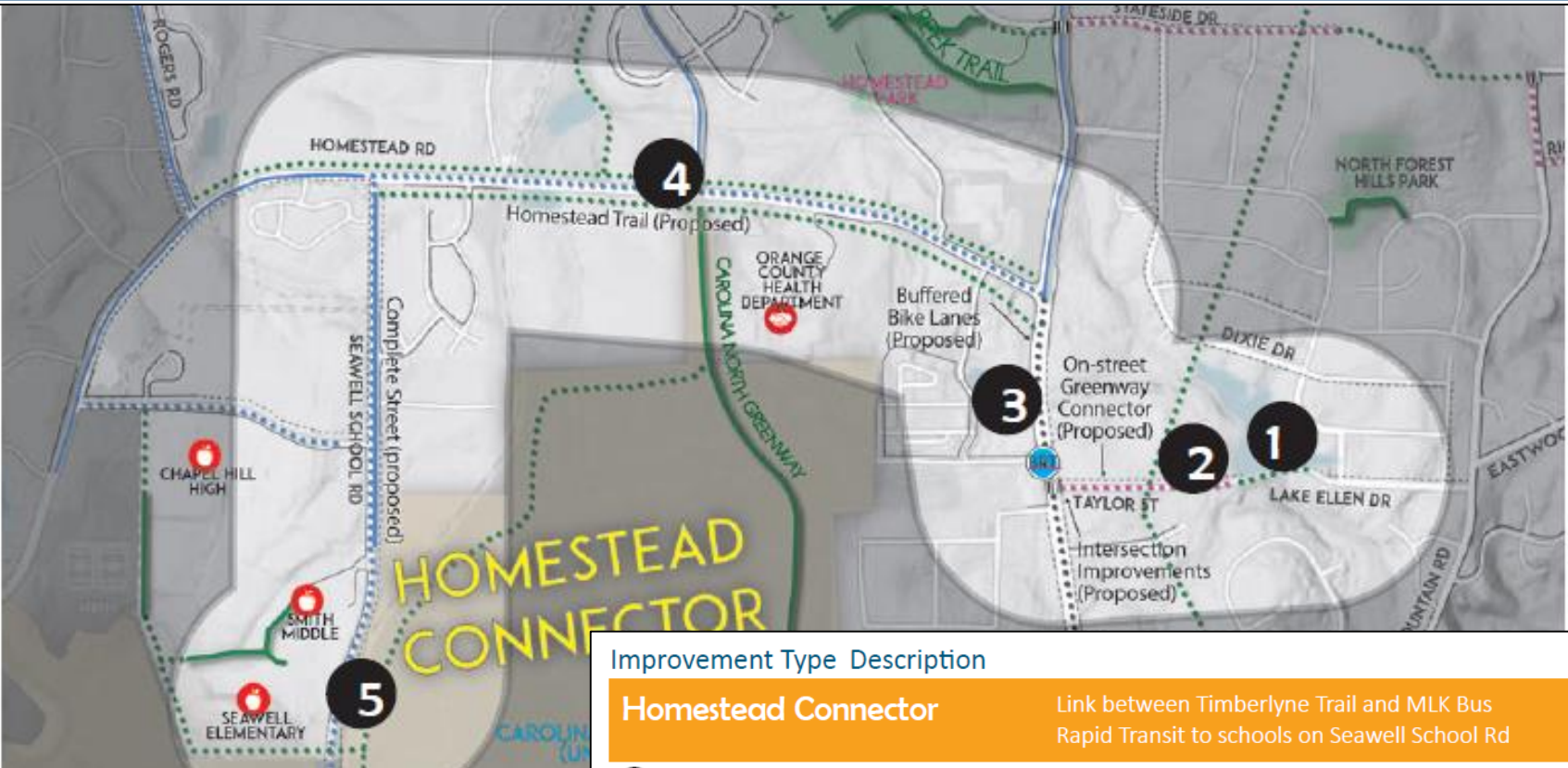
The Durham-Chapel Hill- Carrboro Metropolitan Planning Organization (DCHC MPO) identified Homestead Road for future roadway modernization in the 2045 Metropolitan Transportation Plan.

There is no project scope or budget at this time, but typically modernization means future intersection improvements such as turn lanes and traffic control devices and bicycle, pedestrian and transit facilities.

Homestead Road is not planned for roadway widening by the Town, DCHC MPO, or NCDOT, outside of the improvements associated with private development.

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Mobility and Connectivity Plan



Mobility Plan recommends multi-use path and bike lanes along Homestead Rd

	EXISTING	PROPOSED	
BICYCLE			Shared Lane Markings
			On-Street Greenway Connector
			Bicycle Lane
			Bicycle Climbing Lane
			Buffered Bicycle Lane
MULTI-USE			Protected Bike Lane/Cycle Track
			Park Path/Greenway (ADA Upgrade)
			Greenway/Multi-Use Path
WALK			Unpaved Greenway
			Overpass
			Underpass
			Crossing Improvement
			Sidewalk

Improvement Type Description		Total Length
Homestead Connector		2.78 miles 11% Complete
1	Multi-Use Path Greenway connecting Lake Ellen Dr and Taylor St	0.08 mile
2	On-Street Greenway Connector Bicycle marking, wayfinding, and sidewalk on Taylor St between Lake Ellen Dr and Martin Luther King Jr Blvd	0.26 mile
3	Buffered Bike Lanes and Sidewalk Gap Buffered bike lanes on Martin Luther King, Jr. Blvd between Taylor St and Homestead Rd. Sidewalk gap between Taylor St and Homestead Rd (See Complete Street Project on Martin Luther King Jr Blvd)	0.27 mile
4	Homestead Trail Multi-use path along Homestead Rd between MLK Jr Blvd and Seawell School Rd	1.37 miles
5	Bicycle Lanes and Sidewalk Complete bike lanes and sidewalk on both sides of Seawell School Rd from Homestead Rd to Seawell Elem. School (Portions complete)	0.80 mile

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Chapel Hill Transit Short Range Transit Plan

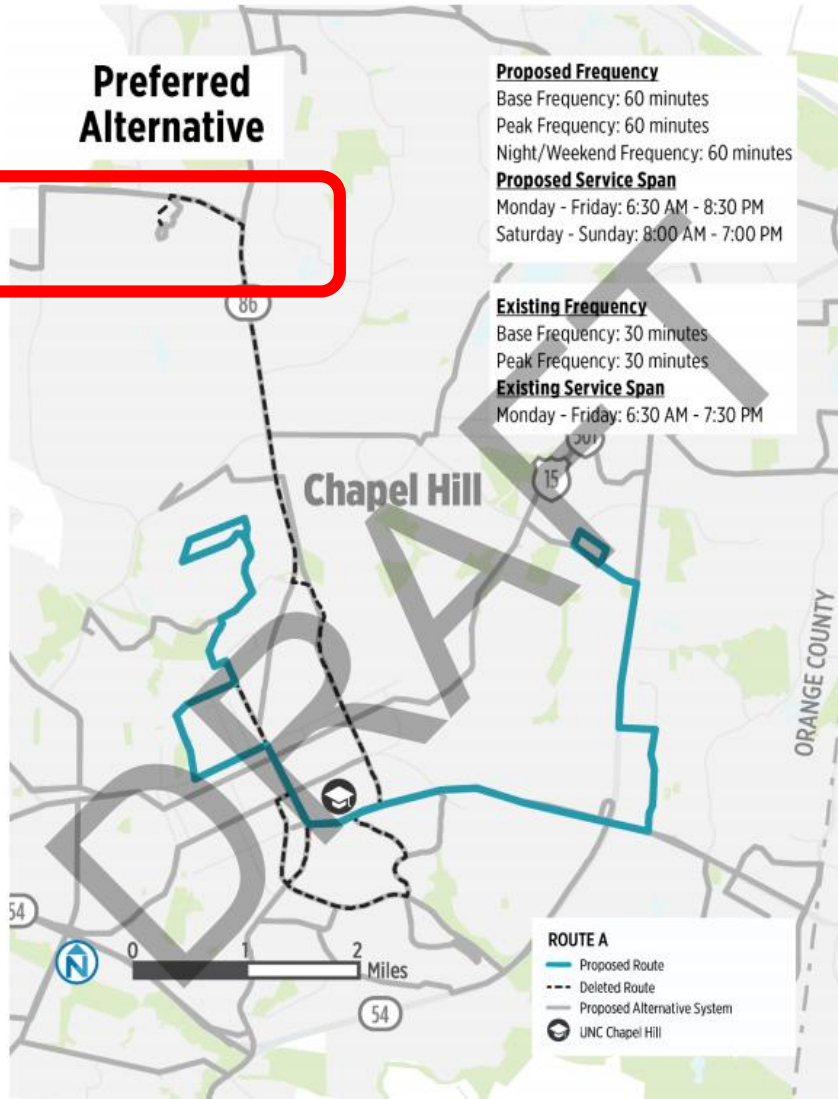
SHORT RANGE TRANSIT PLAN | PREFERRED ALTERNATIVE
Chapel Hill Transit

Route A

Preferred Alternative

Proposed Frequency
Base Frequency: 60 minutes
Peak Frequency: 60 minutes
Night/Weekend Frequency: 60 minutes
Proposed Service Span
Monday - Friday: 6:30 AM - 8:30 PM
Saturday - Sunday: 8:00 AM - 7:00 PM

Existing Frequency
Base Frequency: 30 minutes
Peak Frequency: 30 minutes
Existing Service Span
Monday - Friday: 6:30 AM - 7:30 PM



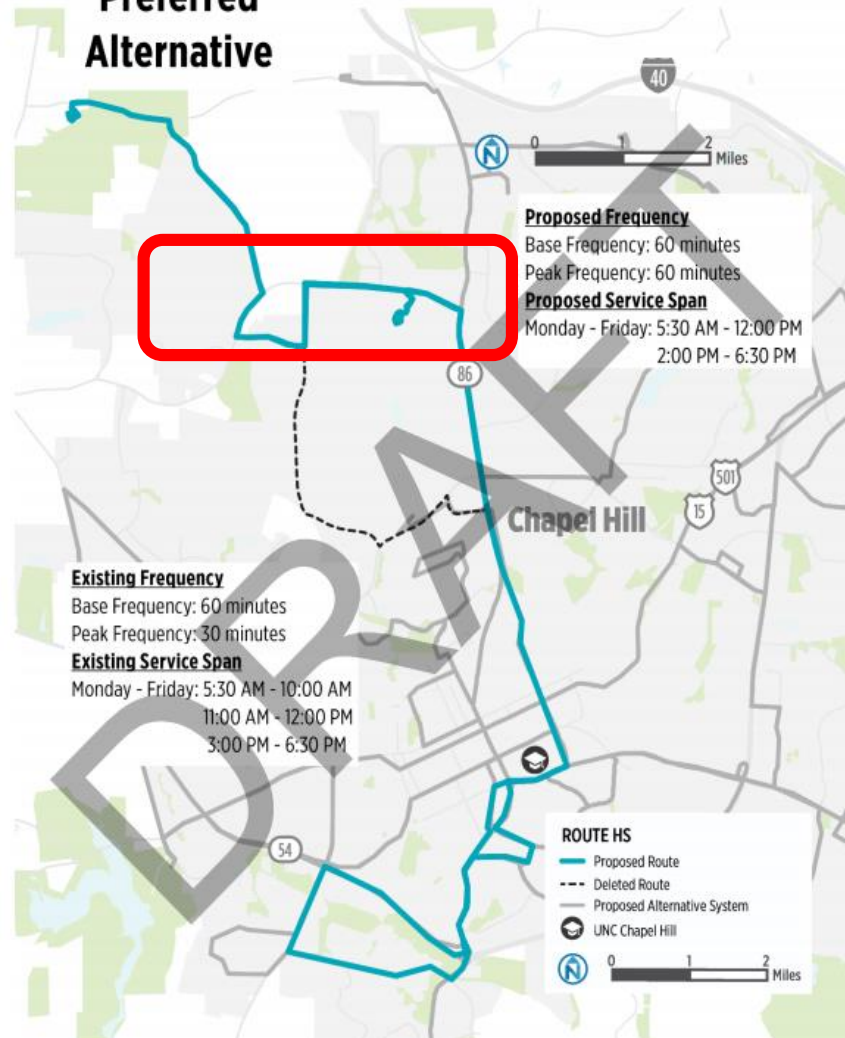
SHORT RANGE TRANSIT PLAN | PREFERRED ALTERNATIVE
Chapel Hill Transit

Route HS

Preferred Alternative

Proposed Frequency
Base Frequency: 60 minutes
Peak Frequency: 60 minutes
Proposed Service Span
Monday - Friday: 5:30 AM - 12:00 PM
2:00 PM - 6:30 PM

Existing Frequency
Base Frequency: 60 minutes
Peak Frequency: 30 minutes
Existing Service Span
Monday - Friday: 5:30 AM - 10:00 AM
11:00 AM - 12:00 PM
3:00 PM - 6:30 PM



Preferred Option recommends removing Route A service to Homestead

Expands service on Route HS

Reduces frequency from 30 min to 60 min

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Key takeaways

- Roadway
 - Existing and Future Traffic Volumes can be accommodated with planned operational improvements (turn lanes, signal timing, sidewalk, bike lanes)
- Bike/Ped
 - Ongoing projects will help with mobility and safety issues
 - There are some gaps
- Transit
 - Service levels are changing but coverage is expanding