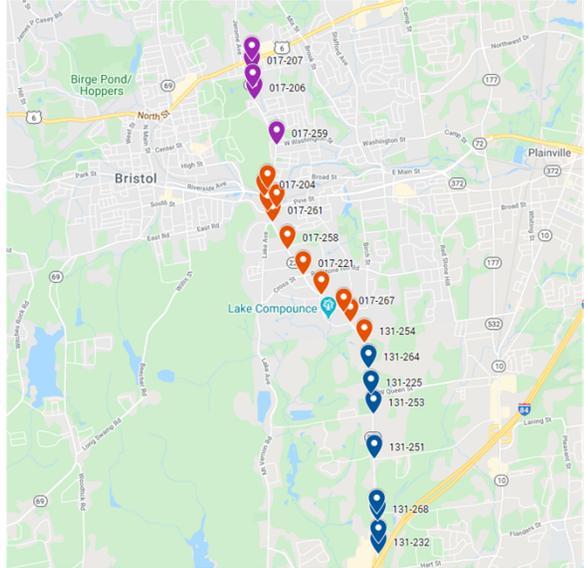




Bristol Public Works ROUTE 229 CORRIDOR STUDY



Employee owned. Client driven.

Connecticut | Maryland | Massachusetts | New Jersey | New York | North Carolina | Ohio | Pennsylvania | Rhode Island | Texas



Meeting Agenda

- **Introduction**
- **Project Background**
- **Proposed Improvements**
 - Northern Segment
 - Central Segment
 - Southern Segment
- **Discussion**
- **Action Items**



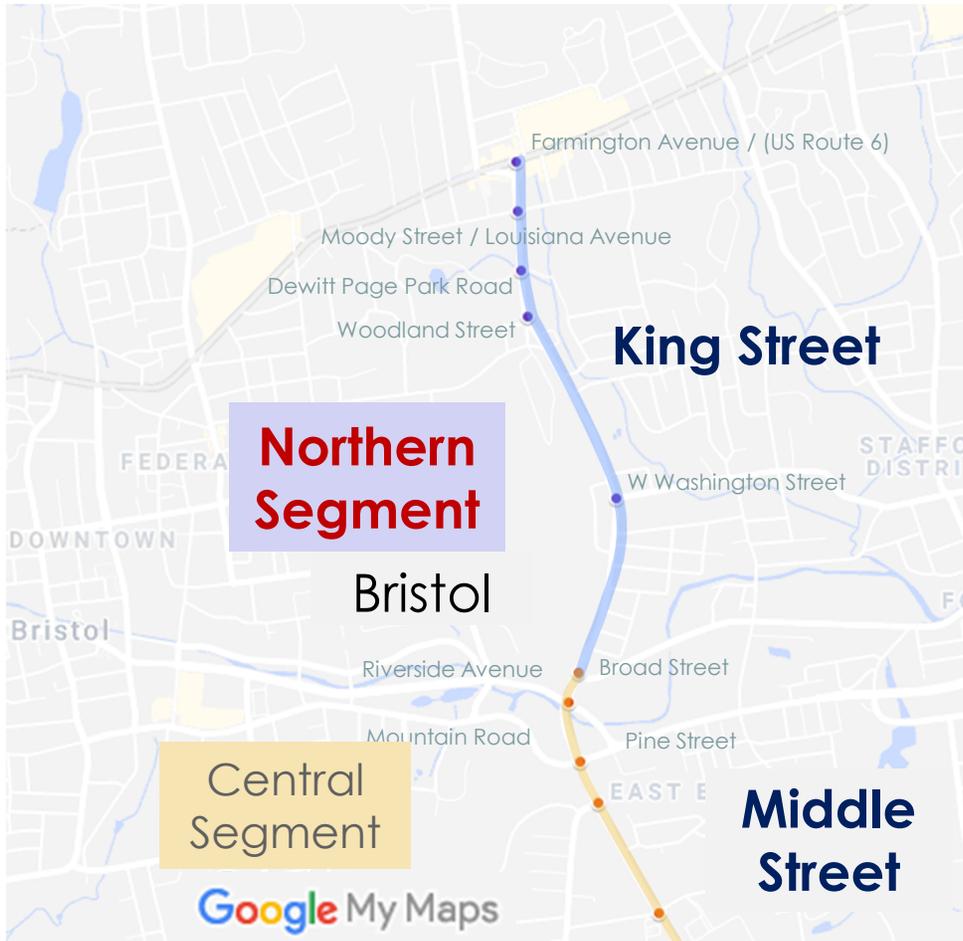
Introduction

- **Route 229 Corridor Study**
 - Evaluate safety, congestion, and transit/bike/ped mobility
 - Assess travel demand growth for a multi-modal corridor to service the future land use vision and recommendations
 - Provide spot improvements / propose countermeasures to improve safety and traffic flow



Scope / Deliverables

Project Improvements: Northern Segment



Northern Segment: School Zone

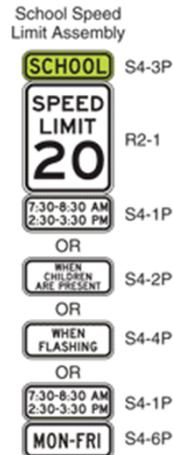
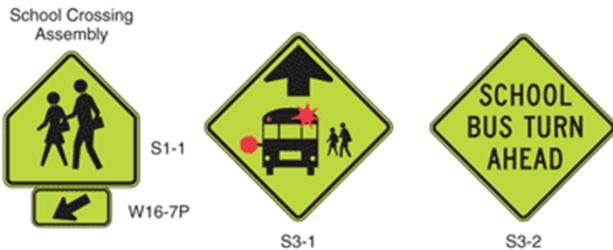
BEHS

- School Enrollment Boundary
 - Existing CT Route 229 Posted Speed Limit: 35mph
 - Proposed CT Route 229 Posted Speed Limit: 30mph
 - School Zone Posted Speed Limit: 25 mph

School Zone:

- CT Gen Stat § 14-212b (2012),
- Segment of CT Route 229 between Louisiana Avenue and Stonecrest Drive

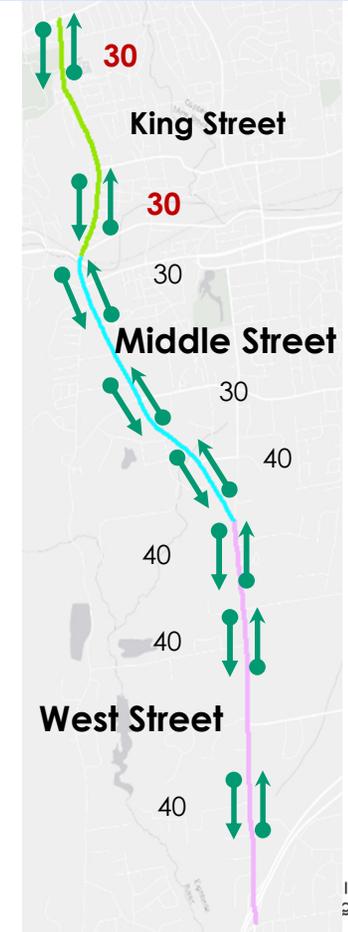
Signage:



Existing Posted Speed Limit



Proposed Speed Limit



Northern Segment: School Zone

- BEHS

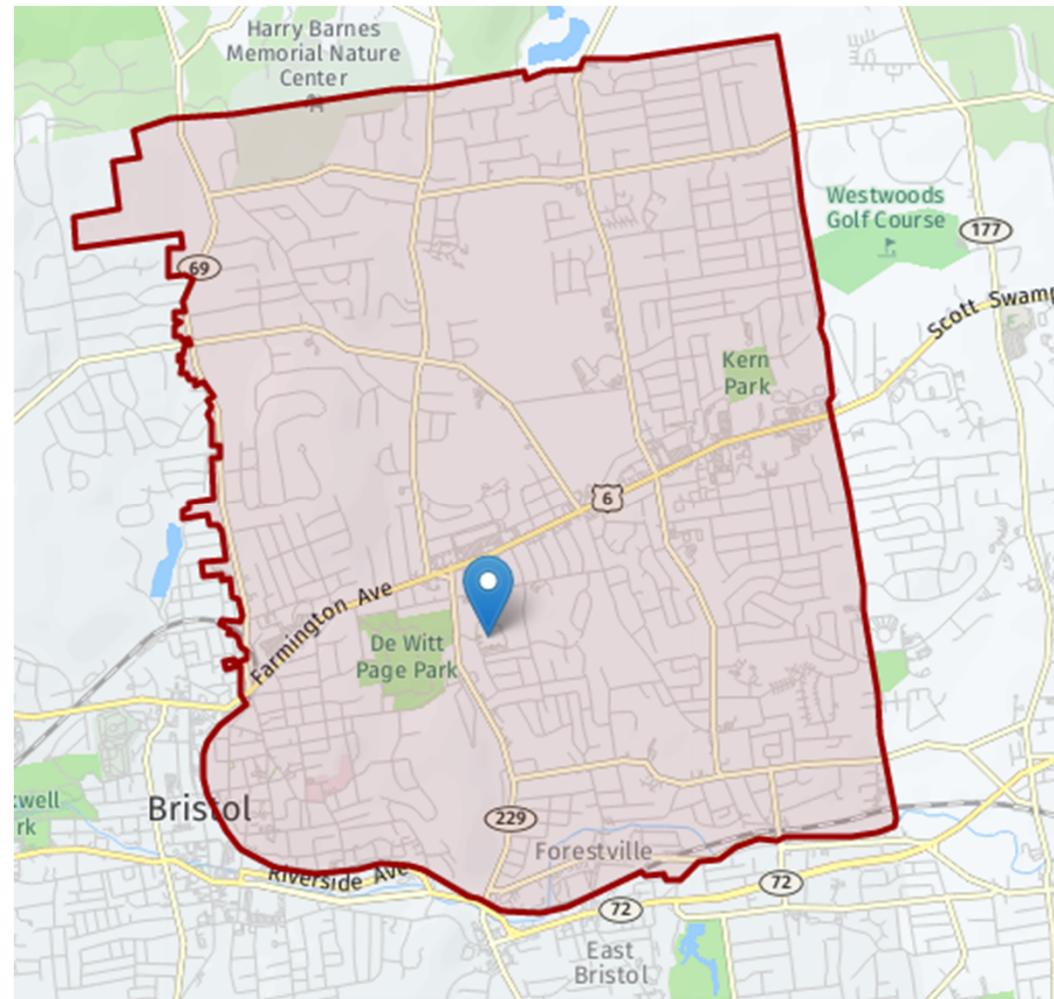
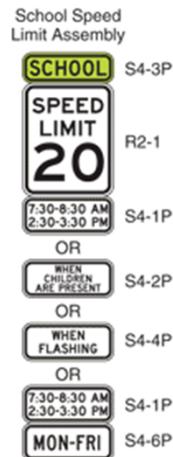
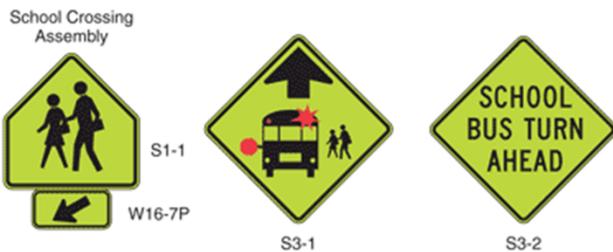
- School Enrollment Boundary

- Existing CT Route 229 Posted Speed Limit: 35mph
 - Proposed CT Route 229 Posted Speed Limit: 30mph
 - School Zone Posted Speed Limit: 25 mph

- School Zone:

- CT Gen Stat § 14-212b (2012),
 - Segment of CT Route 229 between Louisiana Avenue and Stonecrest Drive

- Signage:



Northern Segment: School Zone

- BEHS

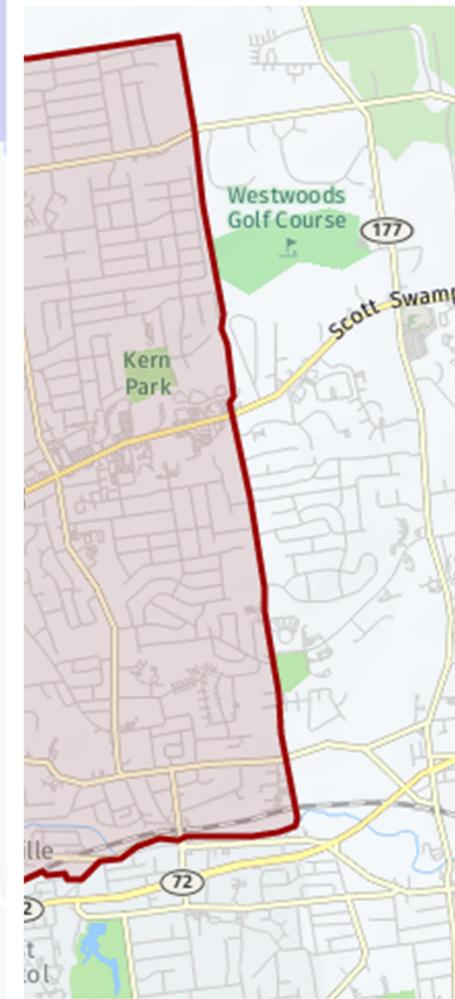
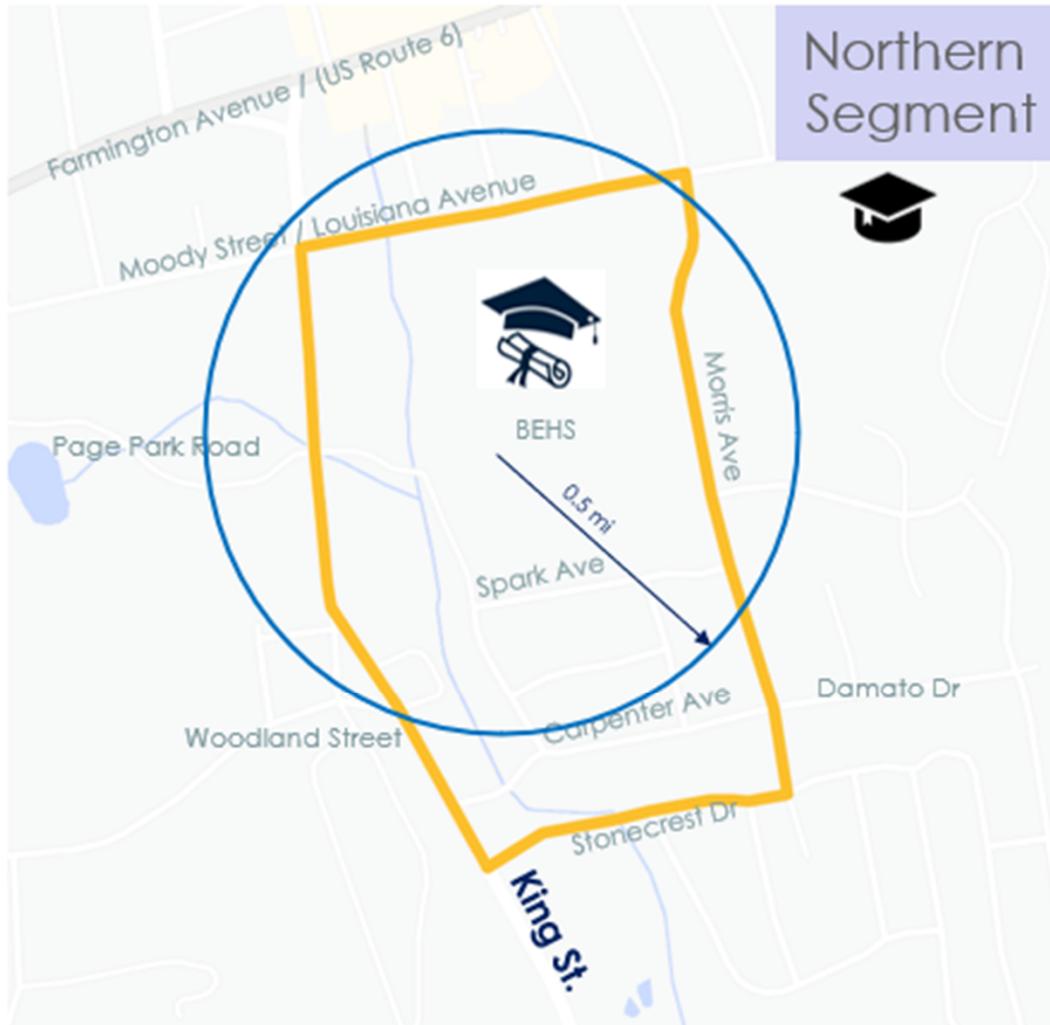
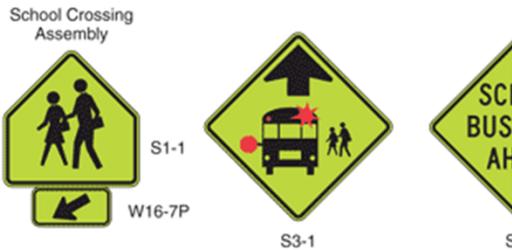
- School Enrollment

- Existing CT Route 229
 - Proposed CT Route 2
 - School Zone Posted

- School Zone:

- CT Gen Stat § 14-212
 - Segment of CT Route 229 between Moody Avenue and Stonecrest Avenue

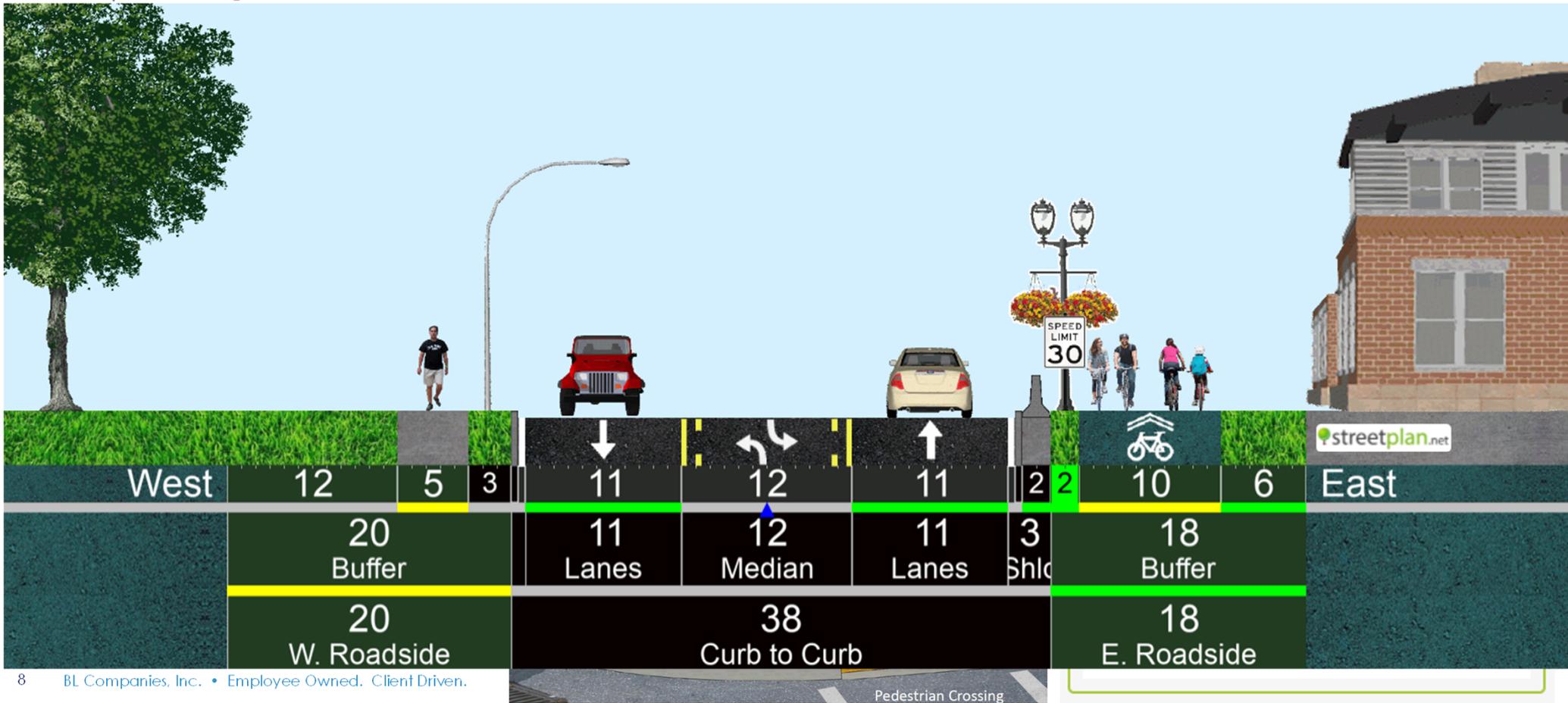
- Signage:



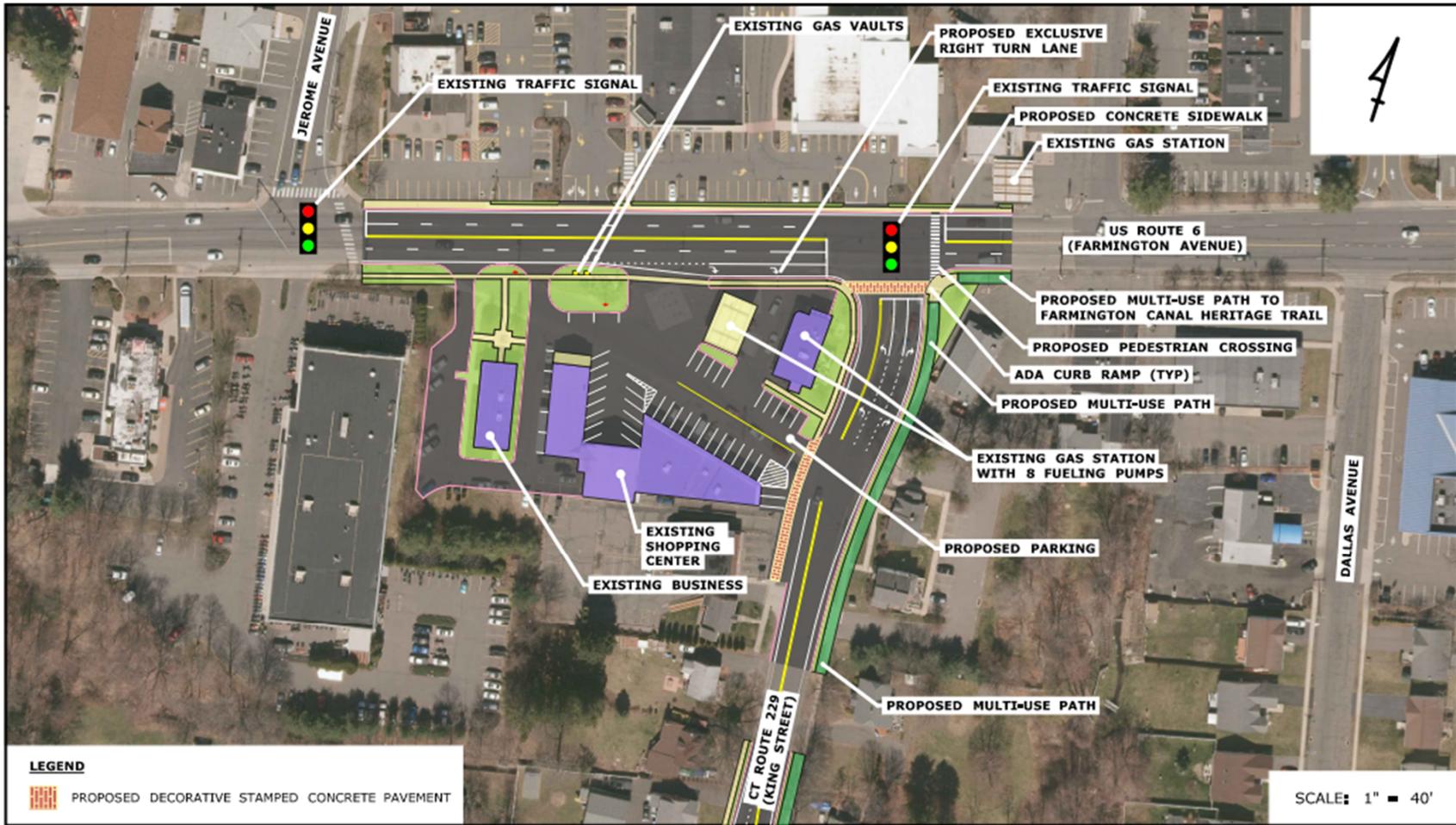
Typical Cross Section

Multi-Use Path

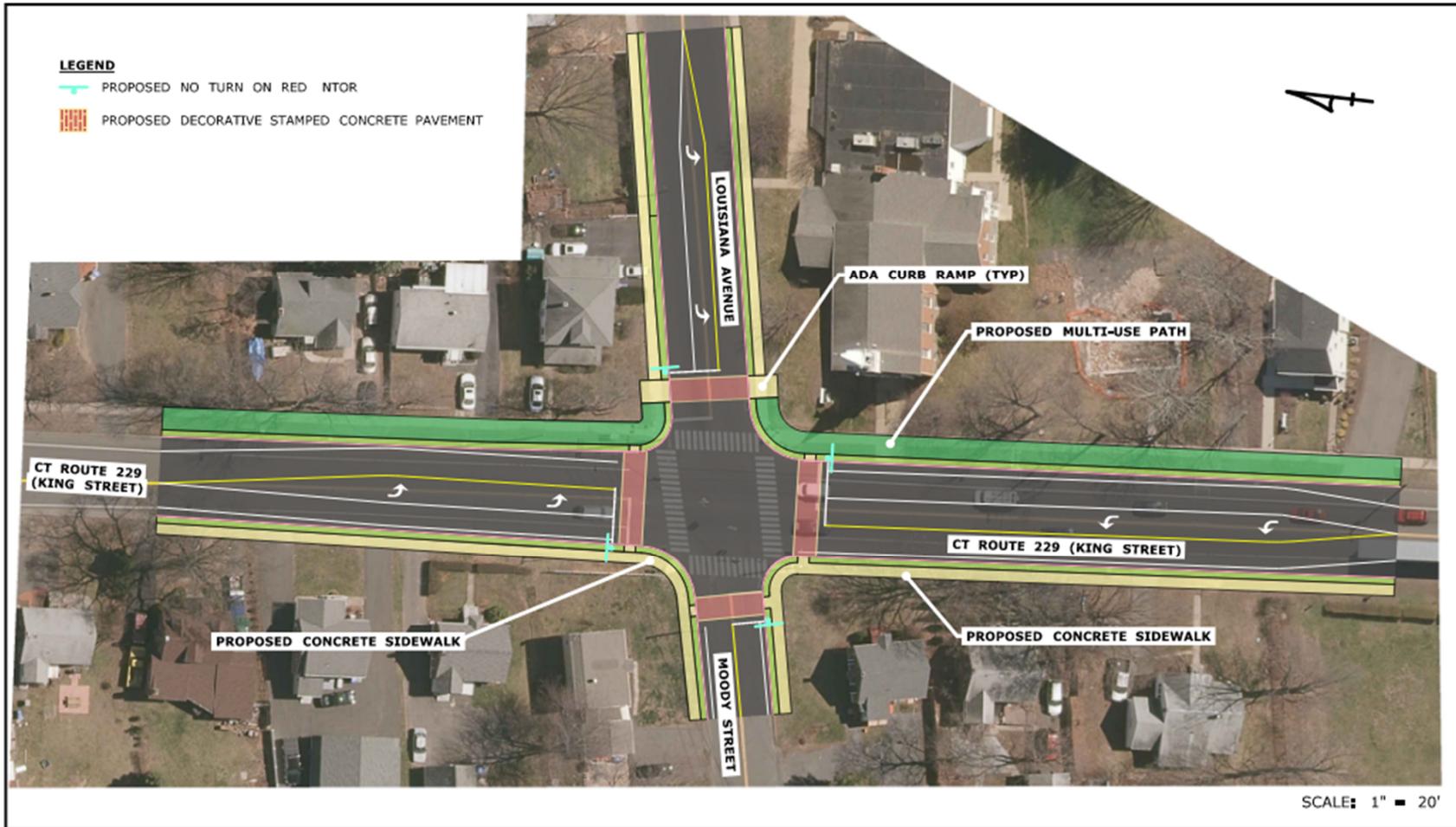
BEHS Proposed 1 King St - BEHS Right-of-Way 76' of 76'



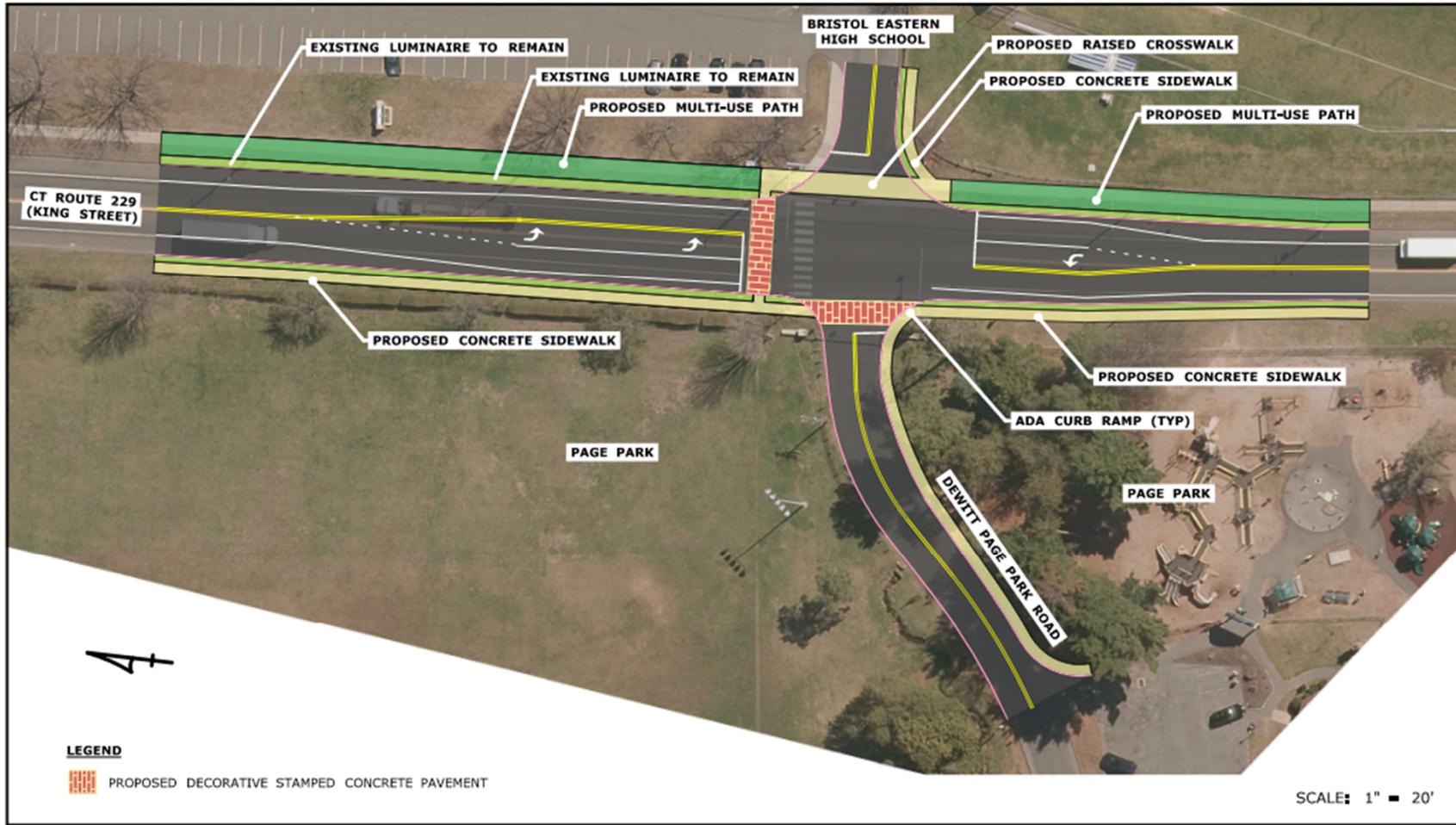
Northern Segment: US Route 6 @ CT Route 229



Northern Segment: Louisiana Ave/ Moody St @ CT Route 229



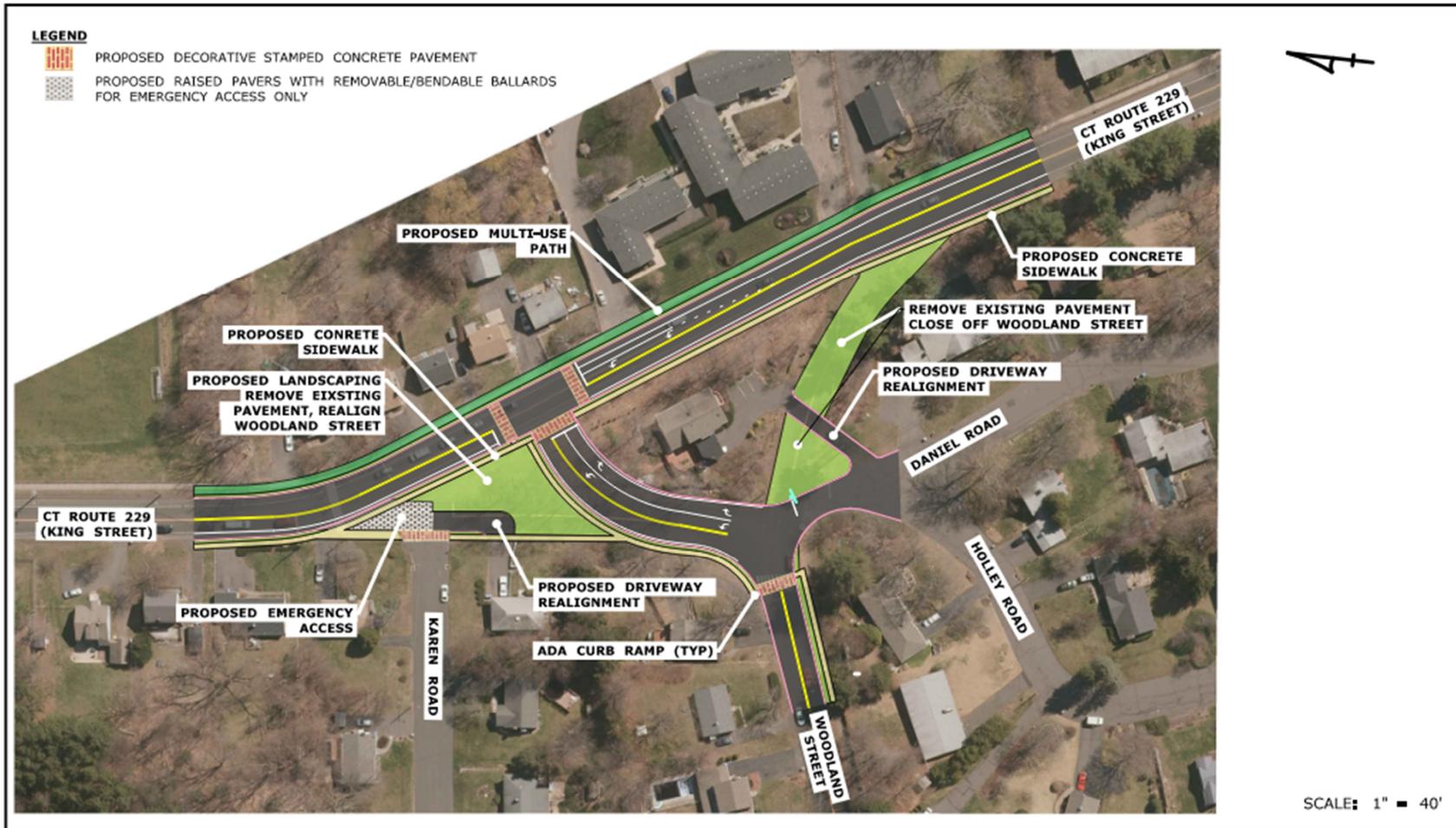
Northern Segment: Page Park / BEHS @ CT Route 229



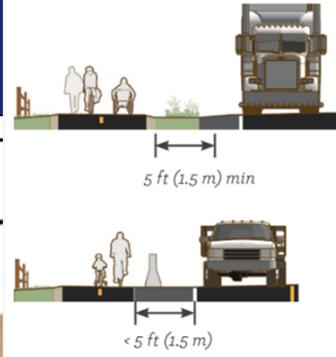
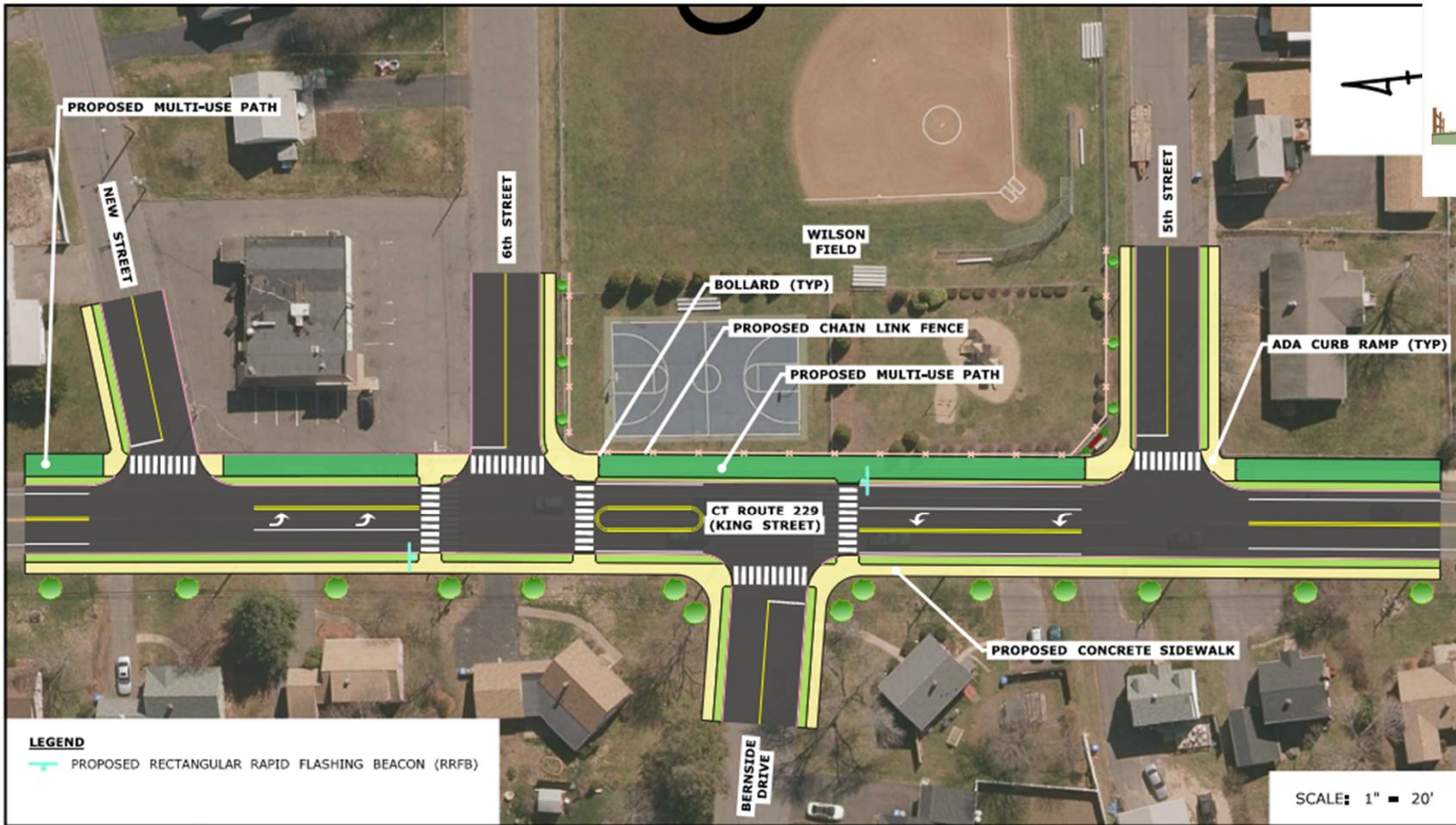
Northern Segment: Woodland St @ CT Route 229



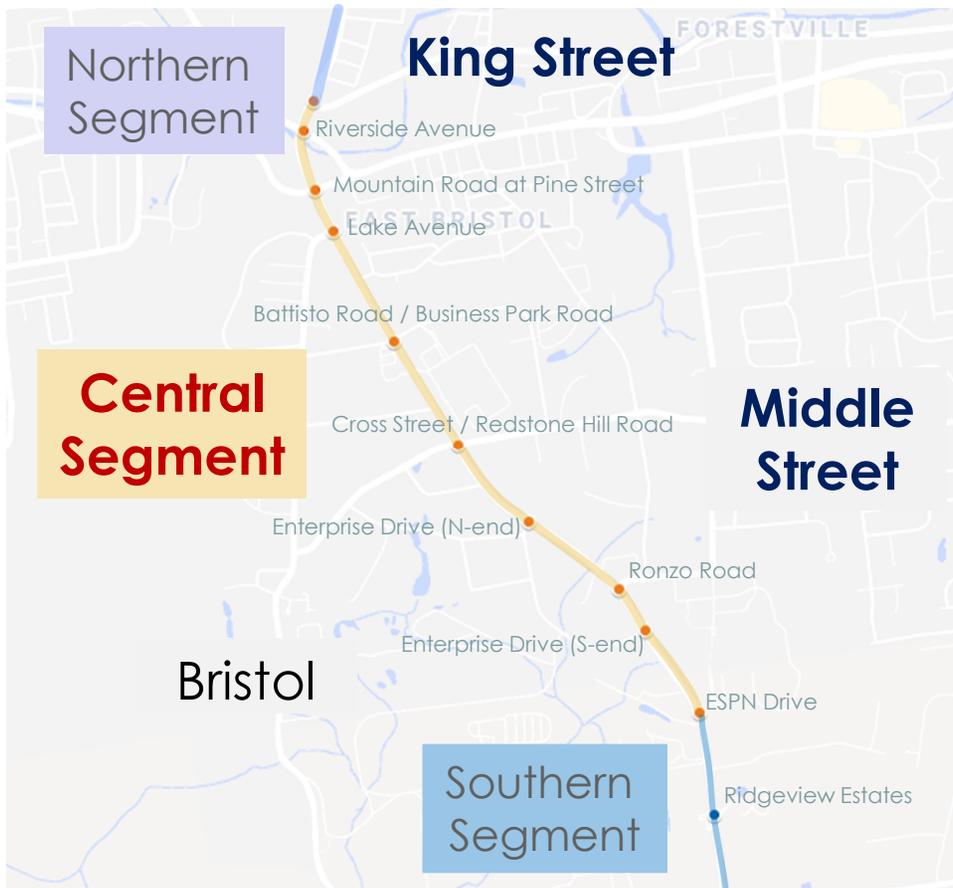
Northern Segment: Woodland St @ CT Route 229



Northern Segment: Wilson Park Area



Central Segment



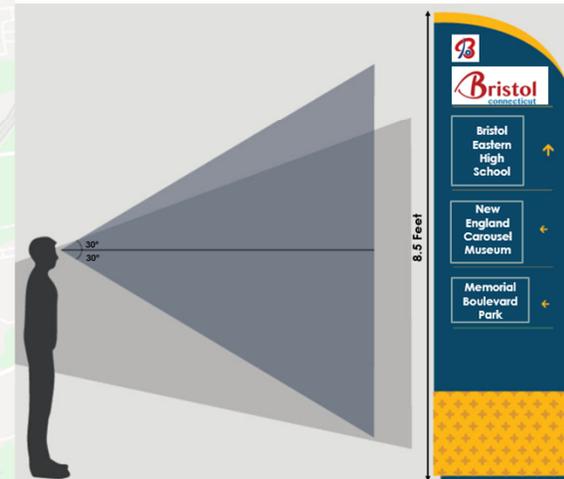
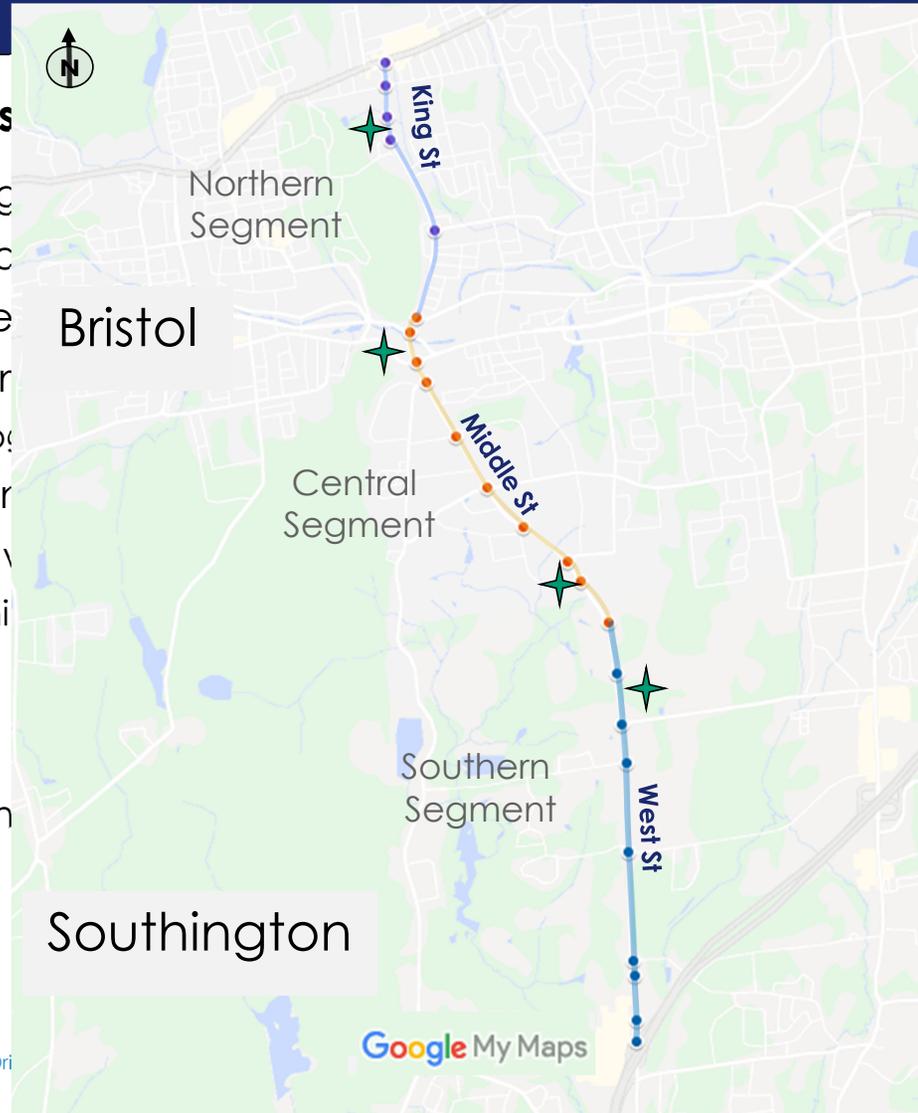
Gateway Sign

- **Design considerations**

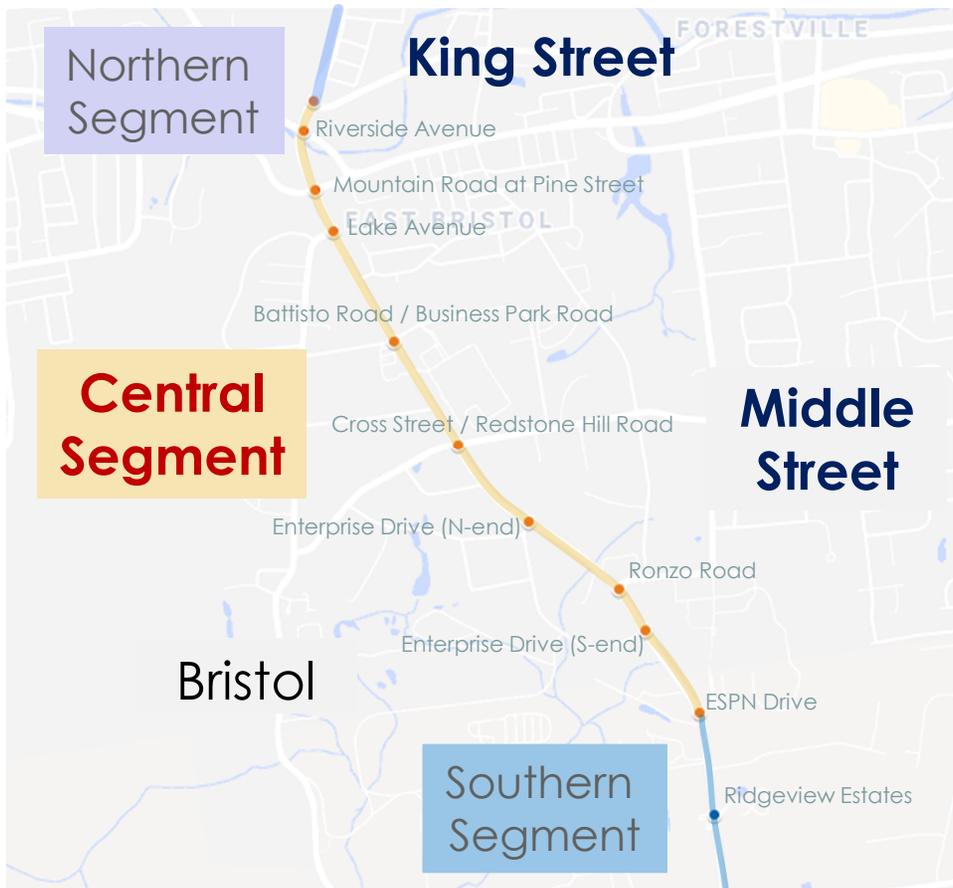
- Community branding
- The overall style, color
- Whom will the sign see
- Type of information in
 - ▶ Symbols/maps/pictor
- Placement- if the sign
- Other supplemental v
 - ▶ information kiosks, mi

- **Locations:**

- South of ESPN Drive
- South of West Queen
- Woodland Road
- Trident area

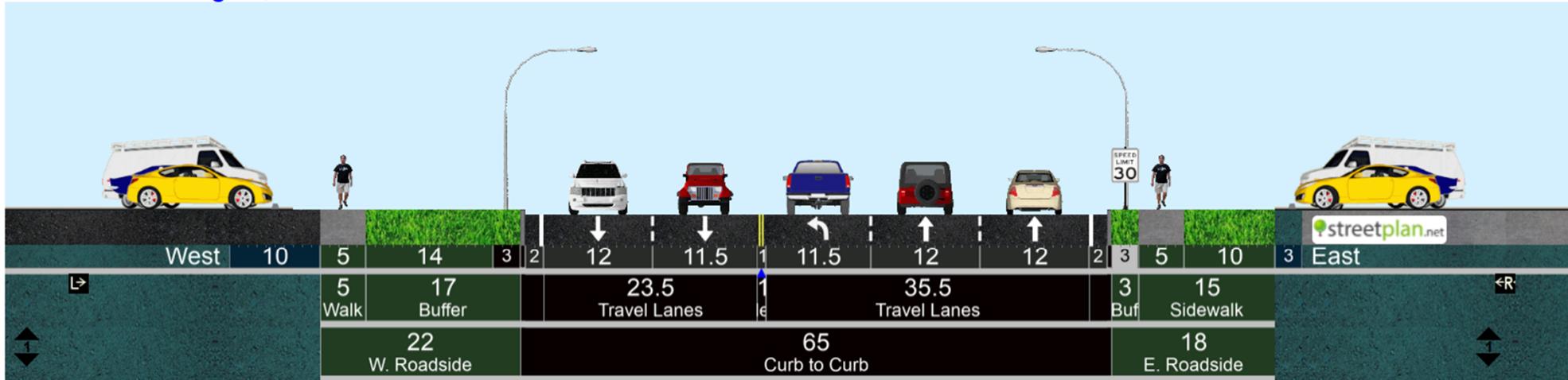


Central Segment

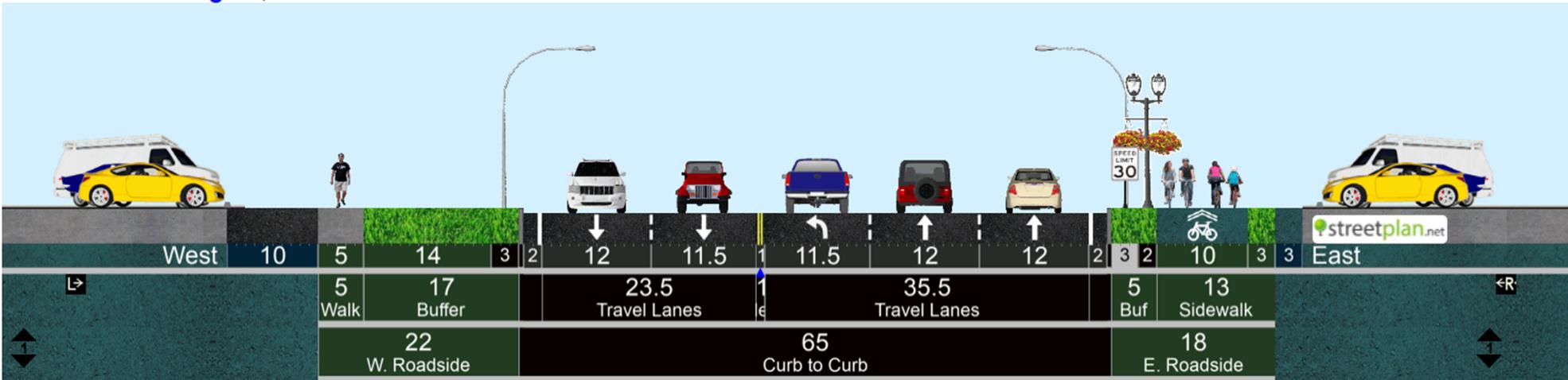


TYPICAL CROSS SECTION – North of Lake Avenue

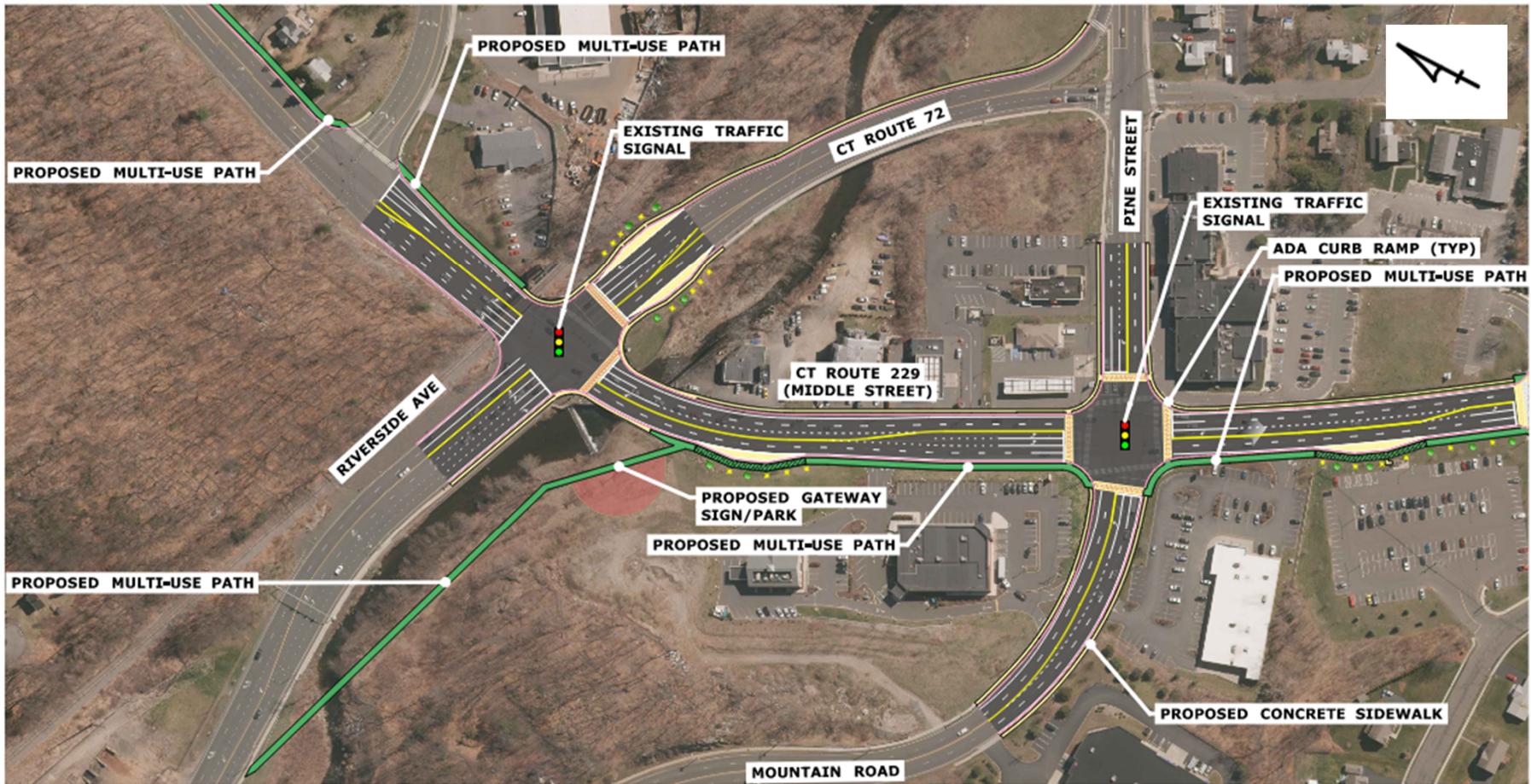
3 West St -Existing Proposed 3 West St - Planning Right-of-Way 105' of 105' Share ▼



3 West St -Existing Proposed 1 Middle St - S of Lake Av. Right-of-Way 105' of 105'



Central Segment: Trident



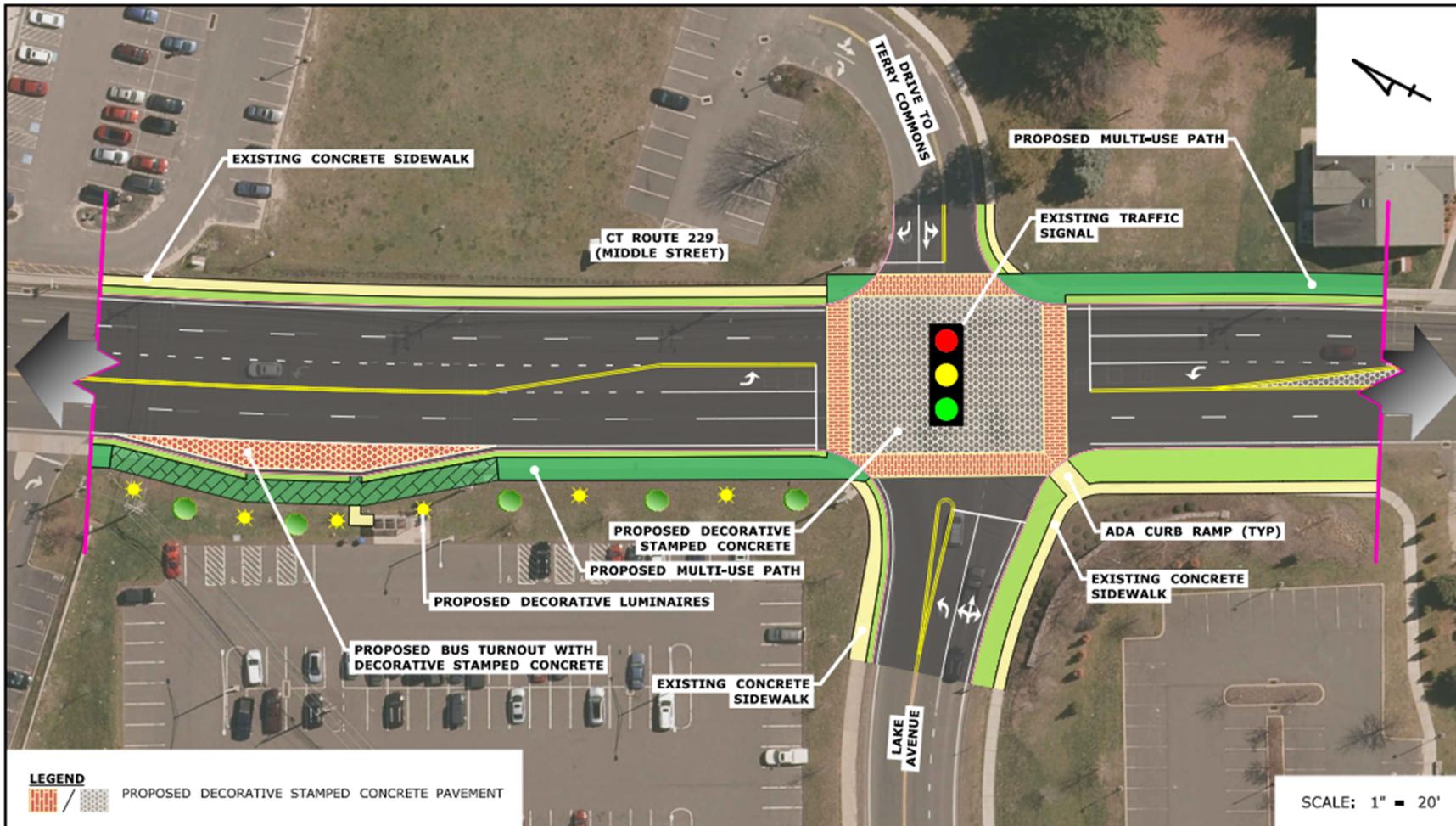
LEGEND



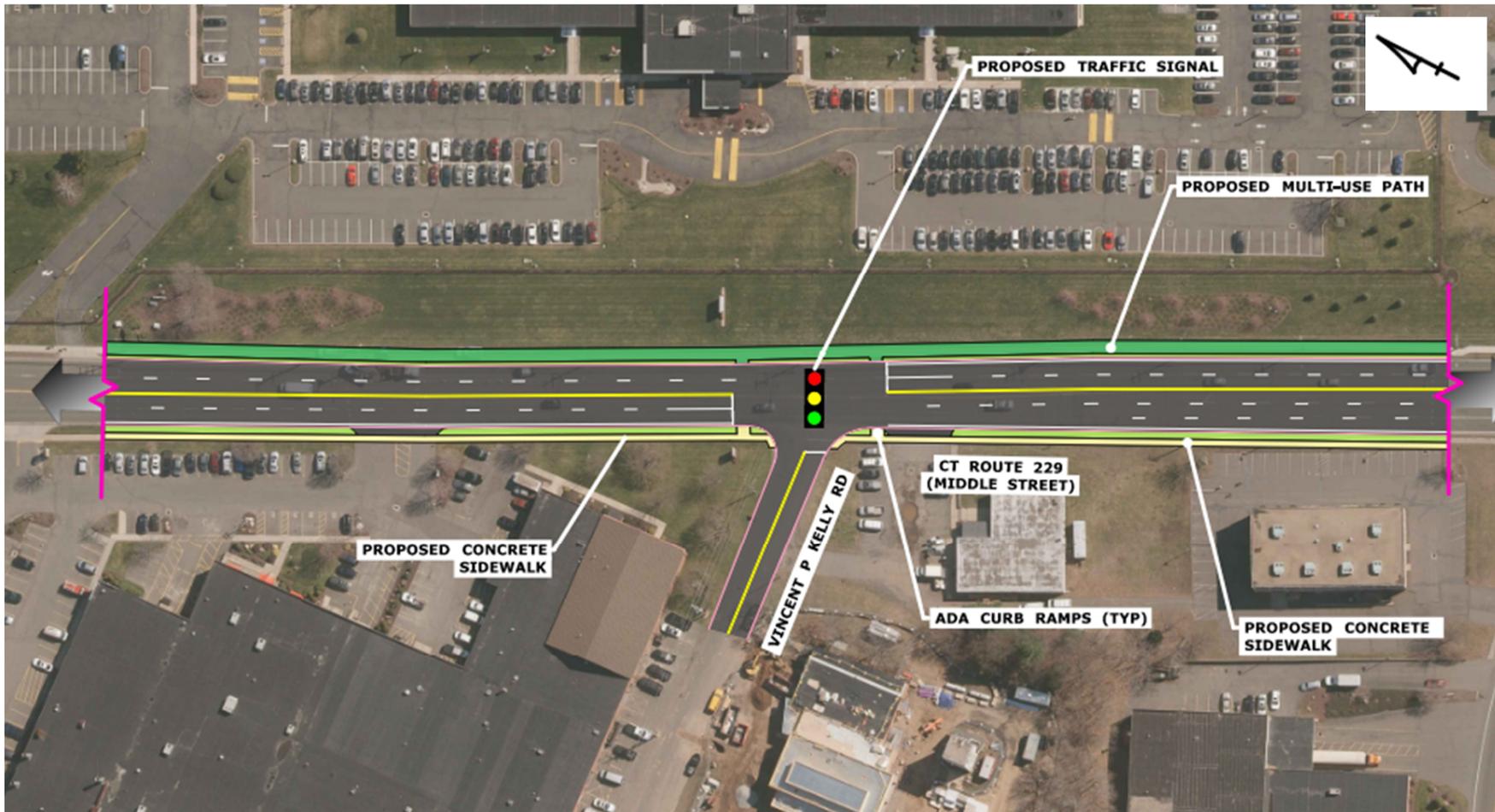
PROPOSED DECORATIVE STAMPED CONCRETE PAVEMENT

SCALE: 1" = 80'

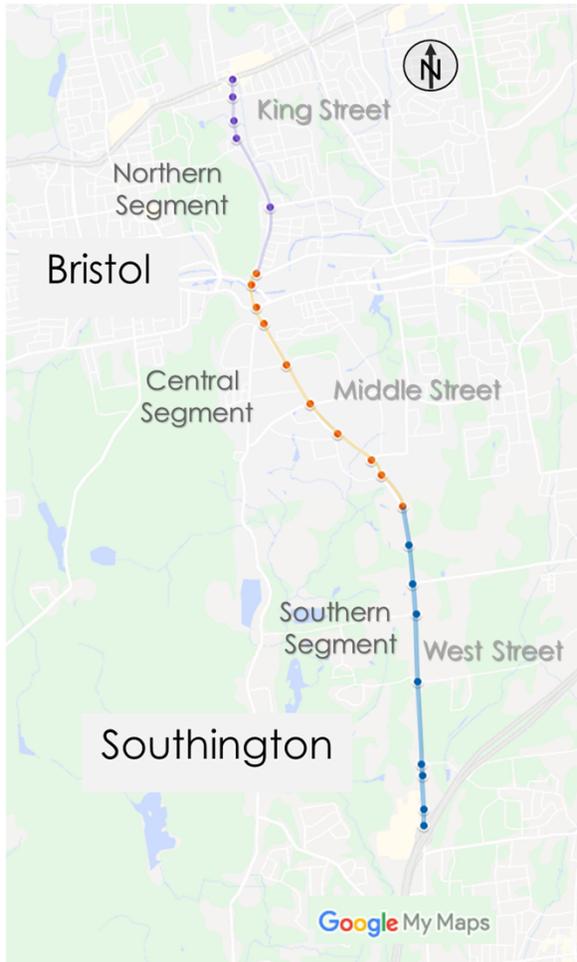
Central Segment: Lake Avenue @ CT Route 229



Central Segment: Vincent P. Kelly Road @ CT Route 229



Multimodal Accommodations



Transit



Preliminary Traffic Data: Transit



CTfastrak Route 102

- The average weekday daily ridership in 2019 totaled 1,294 boardings and alightings.
- Three percent (3%) of daily trips board and alight within 0.5 miles of CT Route 229.

Express Route 502

- The average weekday daily ridership in 2019 totaled 210 boardings and alightings.
- Three percent (3%) of daily trips board and alight within 0.5 miles of CT Route 229.

Local 541 Bristol

- Known as “Tunxis Community College”
- The average weekday daily ridership in 2019 totaled 270 boardings and alightings.
- The nearby bus stops account for approximately twenty percent (20%) of average weekday daily bus ridership.



CROSS SECTIONS

Transit Need Index

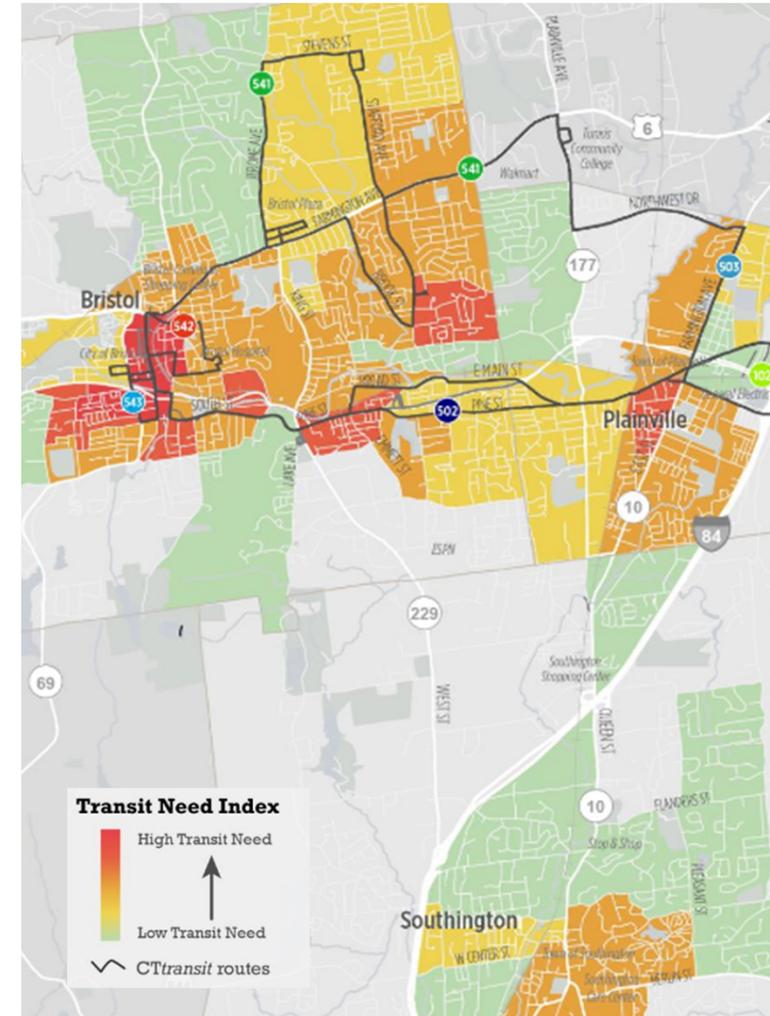
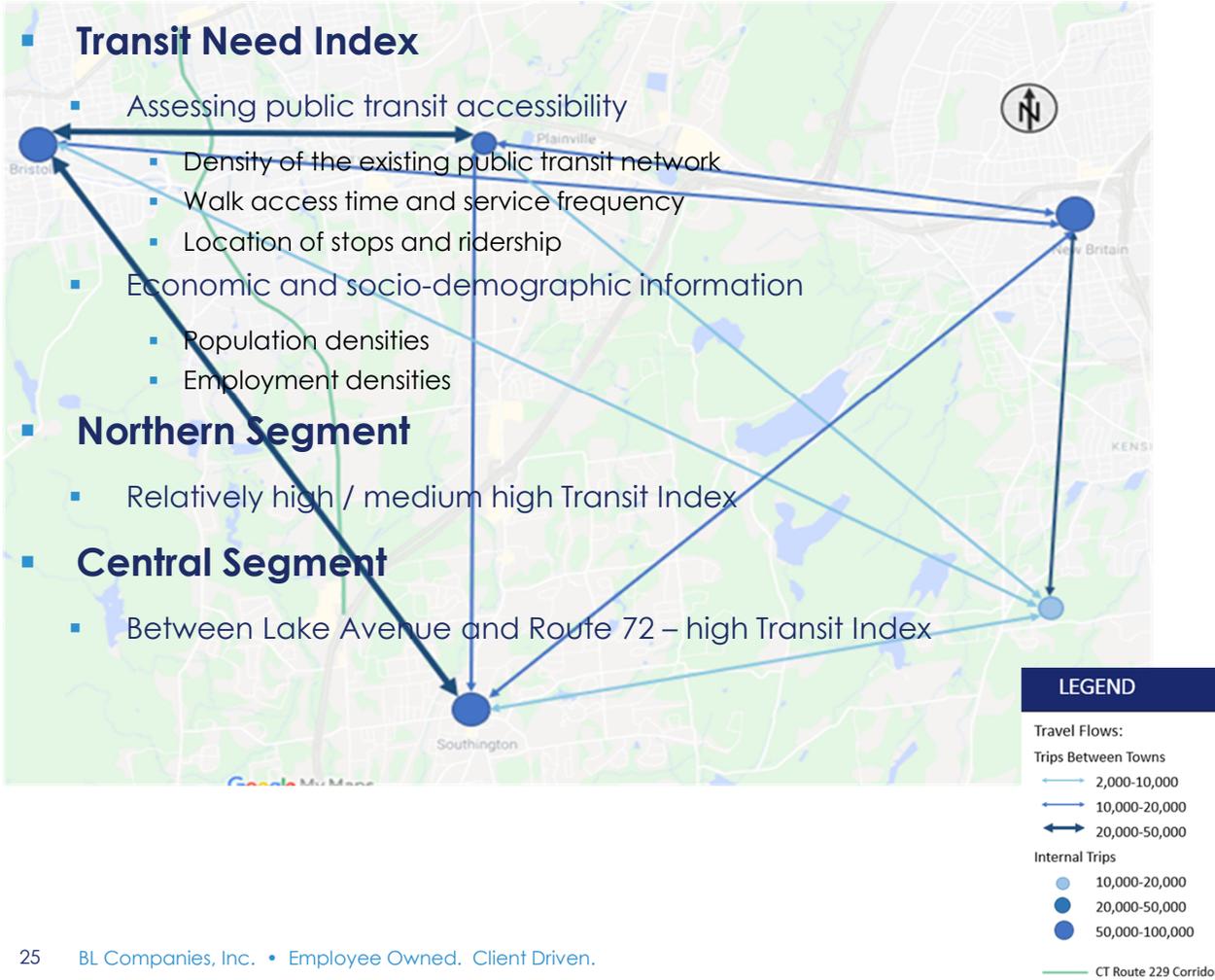
- Assessing public transit accessibility
 - Density of the existing public transit network
 - Walk access time and service frequency
 - Location of stops and ridership
- Economic and socio-demographic information
 - Population densities
 - Employment densities

Northern Segment

- Relatively high / medium high Transit Index

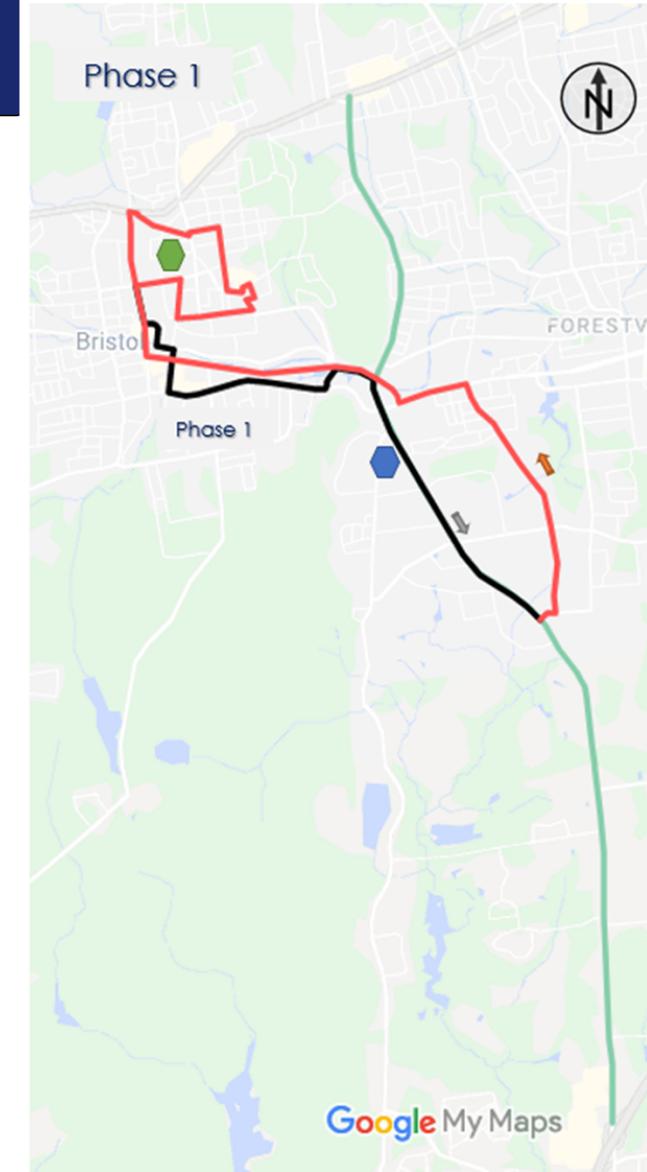
Central Segment

- Between Lake Avenue and Route 72 – high Transit Index



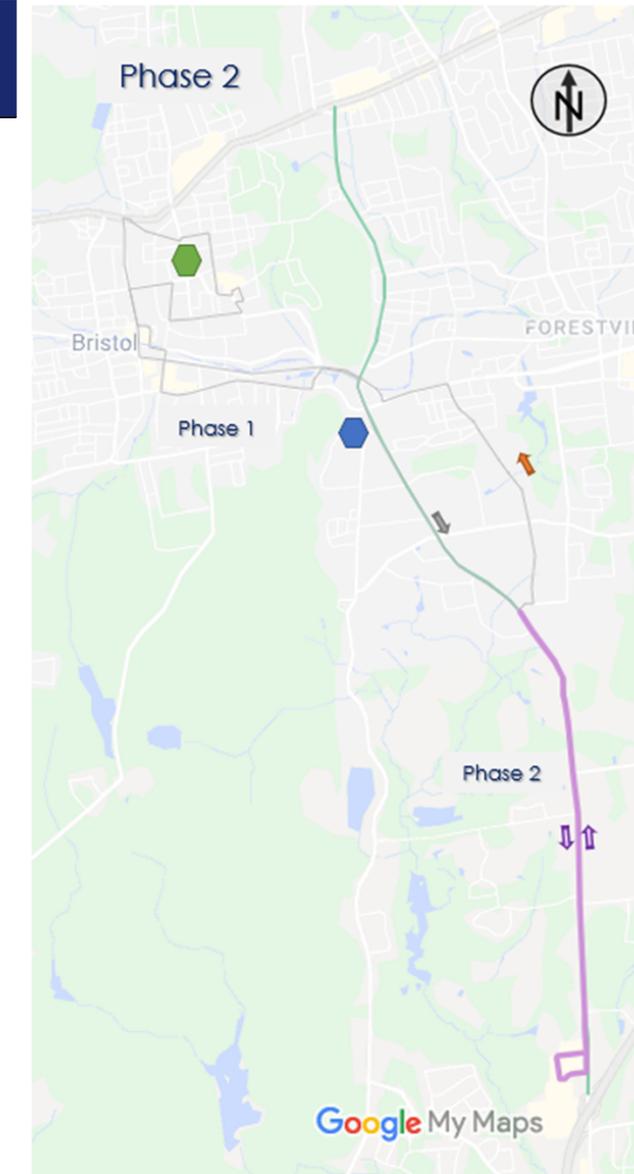
Proposed Route 542 - Phase 1

- **Local NEW Route 542** - Phase 1 services:
 - JF Kennedy Apartments
 - Gaylord Towers
 - City Hall / Downtown Bristol
 - Bristol Hospital
 - Riverview Apartments
 - Trident Commercial Area
 - Lake Avenue Park-and-Ride
 - Redstone Commons
 - Enterprise Drive Commercial Park
 - Bristol Business Park
 - ESPN



Proposed Route 542 - Phase 2

- **Local NEW Route 542** – Phase 2 services:
 - ESPN
 - Courtyard Marriott
 - UConn Health Southington
 - Executive Blvd Shopping Center



Bus Stop Amenities

- **Bus Stop Locations**
 - Convenient, Comfortable, and Safe Locations
 - Visible and Easily Identifiable
 - Real-time Information on Available Services
 - Pedestrian and Bicycle Access
 - Integration with Surrounding Development
 - Amenities that Make the Wait Comfortable
- **Bus Shelters Amenities**
 - Landing pad
 - Shelter with wait area and benches
 - Arrival /Departure Variable Sign Information
 - Bike Racks / Lockers
 - Lighting
 - Charging Station / WiFi
 - Recycling / Waste Bins
 - Water Fountain
 - Sidewalk / Landscaping



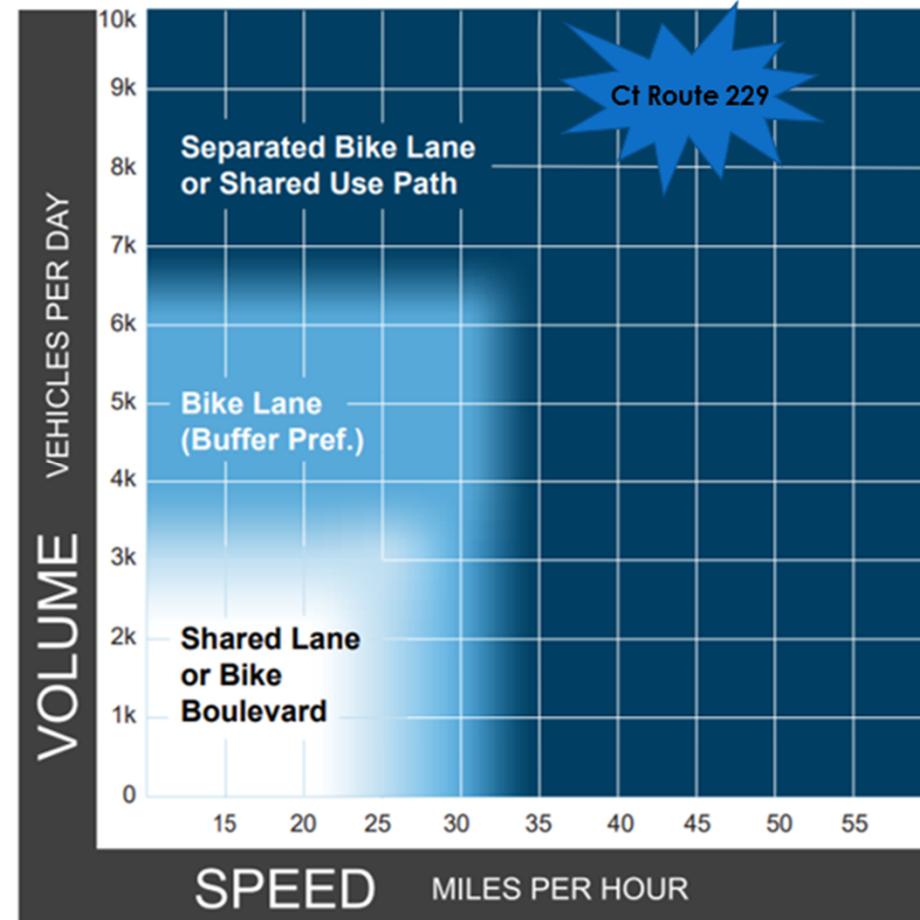
Pedestrian / Bike



Multi-Use Path Design Standards

CT Route 229 Conditions

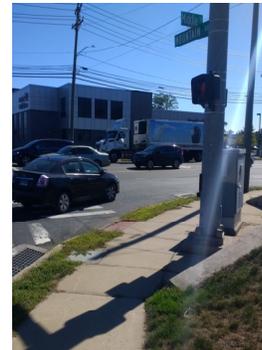
- Travel speeds 40-50mph
- ADTs:
 - ▶ Northern segment: 15,000
 - ▶ Central segment: 18,000
 - ▶ Southern Segment: 21,000



FHWA Bikeway Selection Guide

ADA / PROWAG Compliance

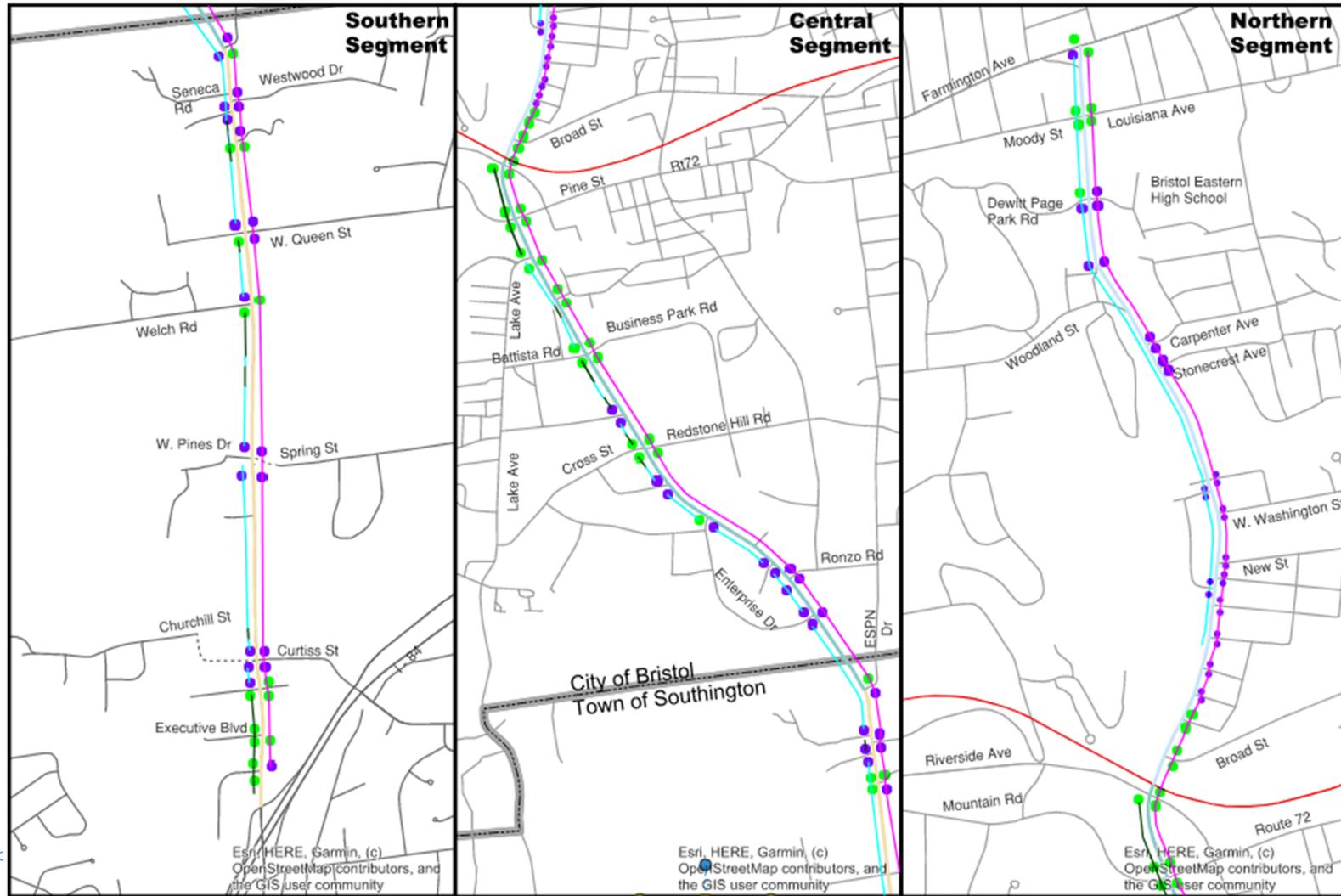
- **Sidewalks:**
 - width and condition
 - surface type
 - curb & snow shelf presence
 - ramps and flares
 - detectable warning panels (Truncated Domes)
 - obstructions along sidewalk & continuity
- **Placement of pedestrian push buttons**
- **Slopes for pedestrian paths**



Proposed Crosswalks

Legend

- Segment**
- Northern Segment
 - Central Segment
 - Southern Segment
- Other Features:**
- Town Boundary
 - Proposed Handicap Ramp
 - Existing Handicap Ramp
 - Proposed Sidewalk
 - Proposed Multi-Path
 - Existing Sidewalk
 - CT Rail
 - CT Roads



Proposed Crosswalks

Legend

Segment

— Northern Segment

— Central Segment

— Southern Segment

▭ Town Boundary

● Proposed Pedestrian Push Button

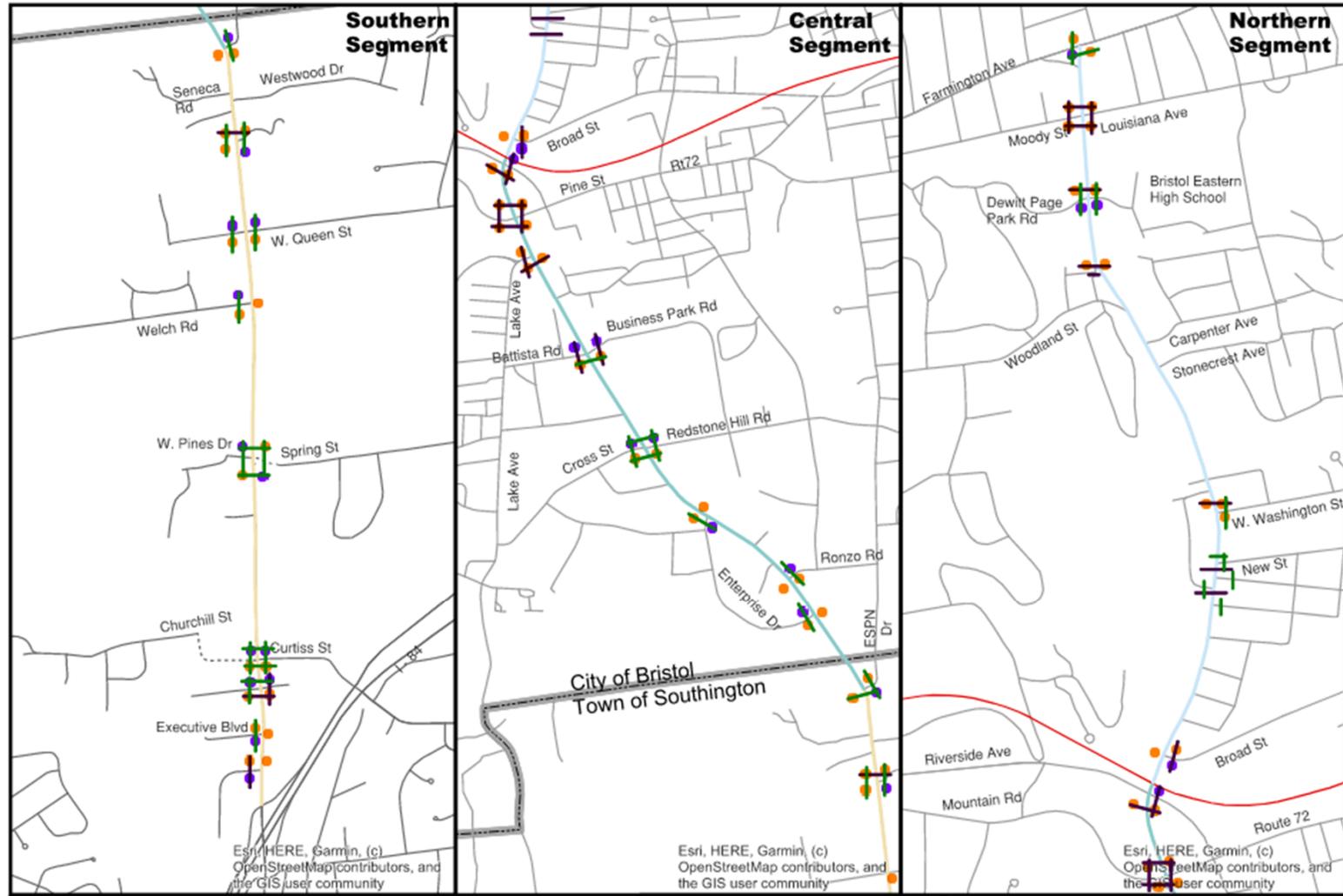
● Pedestrian Push Button

— Proposed Crosswalk

— Crosswalk

— CT Rail

— CT Roads



Summary of Proposed additional Pedestrian Facilities

	Norther Segment (King Street)	Central Segment (Middle Street)	Southern Segment (West Street)
Crosswalk	11	9	17
Ramp	30	24	21
Push Button	15	21	13



Build, Analyze & Compare Traffic Scenarios

- **Scenarios:**

- EXISTING Conditions
- NO BUILD Conditions
- BUILD Conditions
- BUILD with Improvements Conditions

- **Periods:**

- Morning Peak Hour
- Midday Peak Hour
- Evening Peak Hour

- **Purpose:**

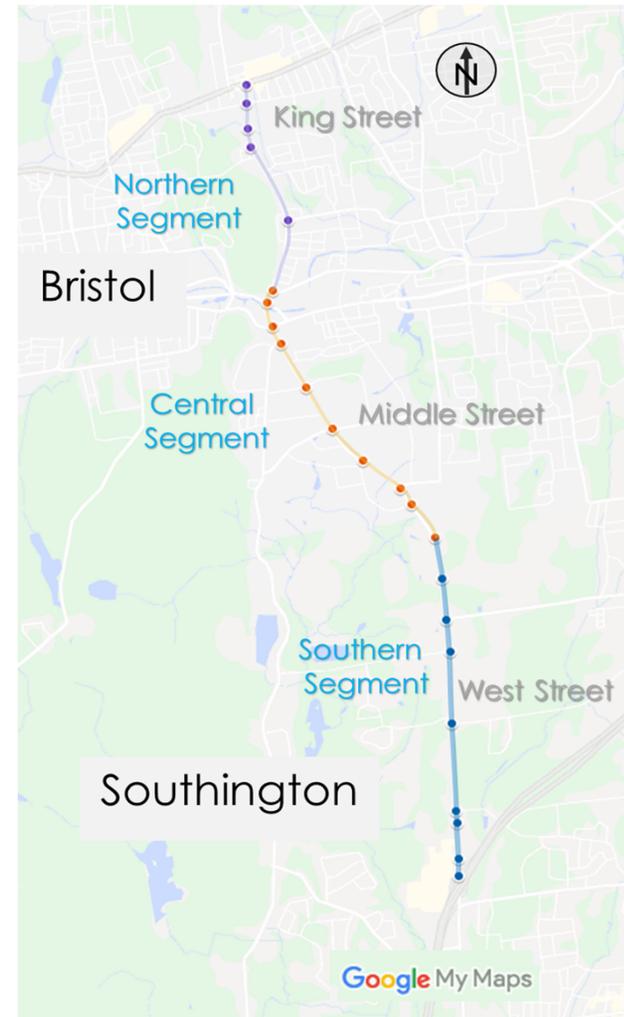
- To determine impact, if any, of land development on the adjacent roadway network
- Recommend mitigation, if needed (Build Imp Scenario)



Level of Service	Average Control Delay of Intersection	
	SIGNALIZED (seconds per vehicle)	UNSIGNALIZED (seconds per vehicle)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

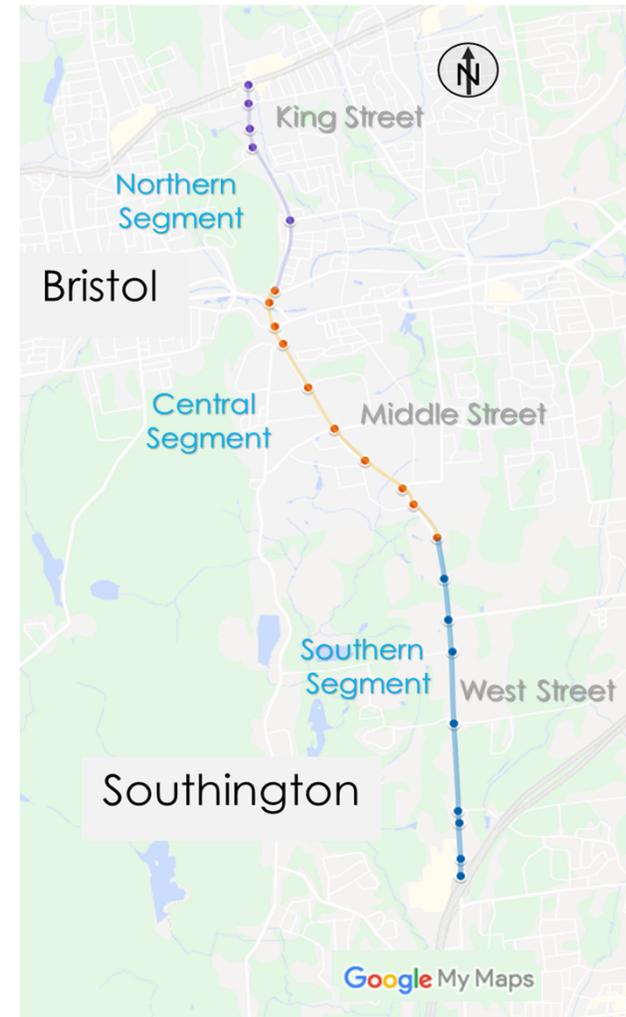
Traffic Operations of the Corridor - AM

		Existing	No Build	Build	Build Improved
Location / Level of Service (LOS)					
King Street	at Farmington Avenue / US6	B	B	B	B
	at Moody Street / Louisiana Avenue	A	B	B	B
	at Page Park Road / High School	A	A	A	A
	at Woodland Street	A	A	A	A
	at West Washington Street	C	C	D	C
	at Broad Street	A	A	A	A
Middle Street	at Riverside Avenue / Relocated Route 72	C	C	D	D
	at Mountain Road / Pine St	F	F	F	D
	at Lake Avenue / Terry Commons Driveway	B	C	C	B
	at Battista Road / Business Park Drive	B	B	C	B
	at Cross Street / Redstone Hill Road	B	B	C	C
	at Enterprise Drive North	A	A	A	A
	at Driveway / Ronzo Road	B	B	B	B
	at Enterprise Drive South	A	A	C	C
	at ESPN Drive	A	A	B	B
West Street	at Private Drive / Ridgeview Estates	A	A	F	B
	at West Queen Street	D	E	F	D
	at Welch Road	D	E	F	B
	at Spring Street	A	A	C	B
	at Curtiss Street	A	B	F	D
	at Corporate Drive / Centrion Plaza Drive	B	C	E	D
	at Executive Boulevard North	A	A	B	A
	at Executive Boulevard South	B	B	D	A
	at I-84 WB On Ramp / I-84 WB Off Ramp	A	A	B	C



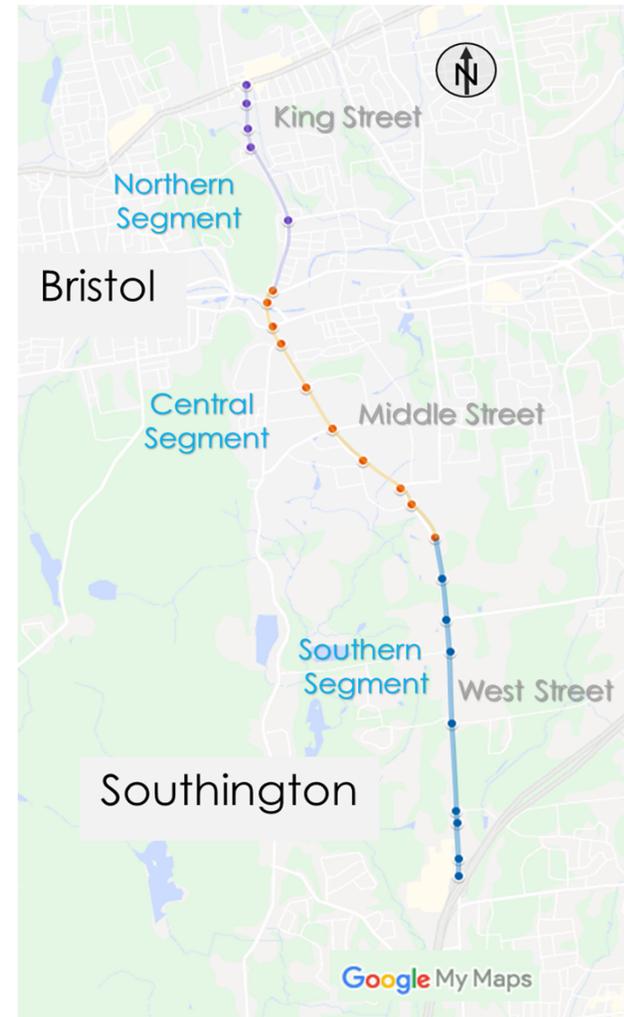
Traffic Operations of the Corridor - MD

		Existing	No Build	Build	Build Improved
Location / Level of Service (LOS)					
King Street	at Farmington Avenue / US6	B	B	C	C
	at Moody Street/ Louisiana Avenue	B	B	C	B
	at Page Park Road/ High School	A	A	A	A
	at Woodland Street	A	A	A	B
	at West Washington Street	B	C	D	C
	at Broad Street	B	B	B	A
Middle Street	at Riverside Avenue/ Relocated Route 72	C	C	D	C
	at Mountain Road/ Pine St	D	E	F	E
	at Lake Avenue/ Terry Commons Driveway	B	B	B	B
	at Battista Road/ Business Park Drive	A	A	B	C
	at Cross Street/ Redstone Hill Road	B	B	D	D
	at Enterprise Drive North	A	A	A	A
	at Driveway/ Ronzo Road	A	B	D	D
	at Enterprise Drive South	A	A	A	A
	at ESPN Drive	A	A	C	C
West Street	at Private Drive/ Ridgeview Estates	A	A	F	B
	at West Queen Street	C	D	F	F
	at Welch Road	B	C	F	C
	at Spring Street	A	A	B	B
	at Curtiss Street	A	A	F	D
	at Corporate Drive/ Centrion Plaza Drive	A	A	D	A
	at Executive Boulevard North	A	A	A	A
	at Executive Boulevard South	B	B	C	A
	at I-84 WB On Ramp/ I-84 WB Off Ramp	A	A	C	C



Traffic Operations of the Corridor - PM

		Existing	No Build	Build	Build Improved
Location / Level of Service (LOS)					
King Street	at Farmington Avenue / US6	C	C	D	D
	at Moody Street/ Louisiana Avenue	B	C	D	C
	at Page Park Road/ High School	A	A	A	A
	at Woodland Street	A	B	E	C
	at West Washington Street	D	D	F	E
	at Broad Street	B	B	C	B
Middle Street	at Riverside Avenue/ Relocated Route 72	E	F	F	D
	at Mountain Road/ Pine St	F	F	F	D
	at Lake Avenue/ Terry Commons Driveway	C	C	C	B
	at Battista Road/ Business Park Drive	B	B	C	C
	at Cross Street/ Redstone Hill Road	B	C	F	C
	at Enterprise Drive North	A	A	D	C
	at Driveway/ Ronzo Road	B	B	F	C
	at Enterprise Drive South	A	A	B	B
	at ESPN Drive	B	B	F	B
West Street	at Private Drive/ Ridgeview Estates	B	B	F	B
	at West Queen Street	D	E	F	F
	at Welch Road	E	F	F	C
	at Spring Street	A	A	C	C
	at Curtiss Street	E	F	F	B
	at Corporate Drive/ Centrion Plaza Drive	A	B	D	B
	at Executive Boulevard North	A	B	B	B
	at Executive Boulevard South	B	B	D	B
	at I-84 WB On Ramp/ I-84 WB Off Ramp	B	B	C	C



Next Steps:

WRAP UP:

- **Post the Report on website**
 - 30-day comment period
- **Incorporate revisions**
- **Finalize**



Thank You for your time!



Any Questions?