

# Kittery Town-Wide Pedestrian & Bicycle Master Plan

---

Public Meeting

November 16, 2021



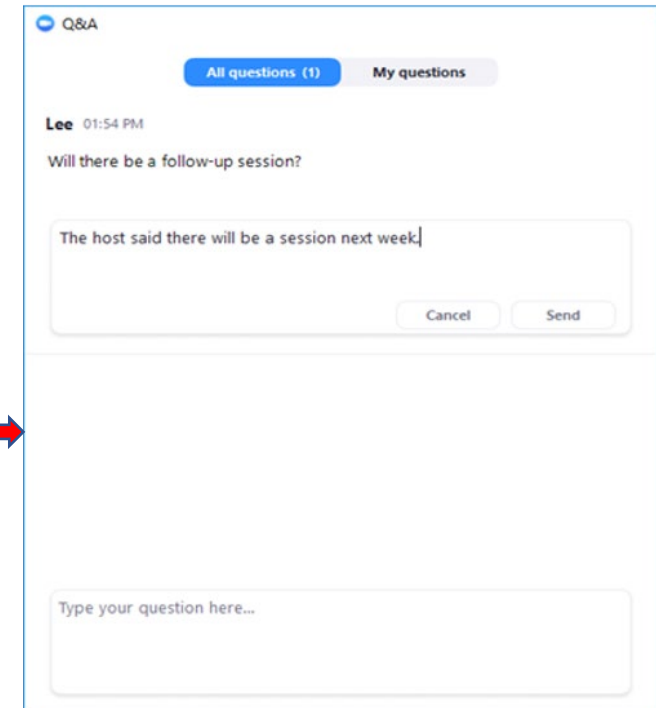
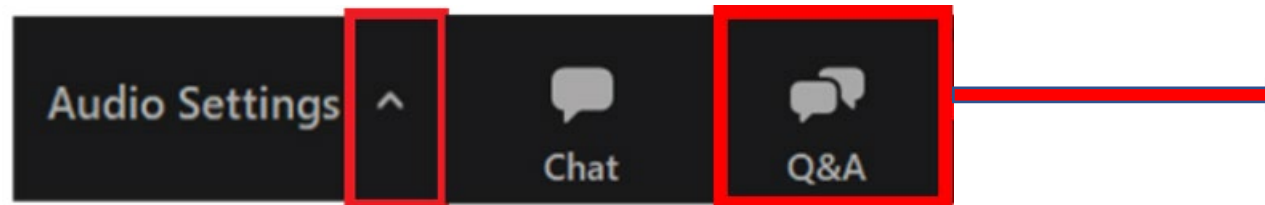
# Zoom Webinar Overview



- To communicate with the project team select the "Q&A" function
  - Technical support
  - Questions or comments throughout the presentation that will be addressed at the end of the presentation



- Check or change your audio settings:
  - Click the arrow upwards to change your speaker



# Agenda

---

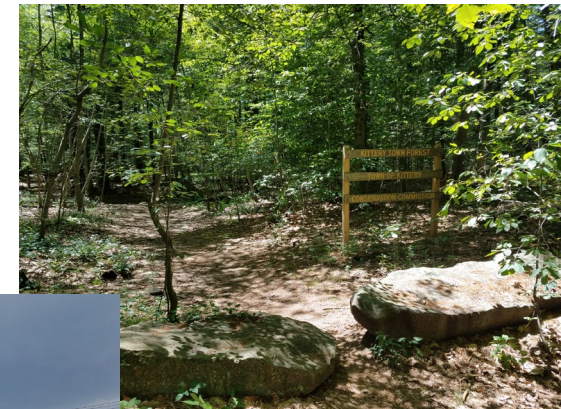
## INFORM DECISIONS

- Motivation & Process
- Background Data
  - Destinations
  - Ped-Bike Crashes, Existing Facilities & Activities
  - Automobile Volumes
- Toolbox & Strategies
- Intersection Concepts → Address Critical Pedestrian Barrier
- Corridor Concepts → Incremental Improvements for Cyclists
- Policy & Program Recommendations

---

## ADVANCE CONVERSATION

- Q&A



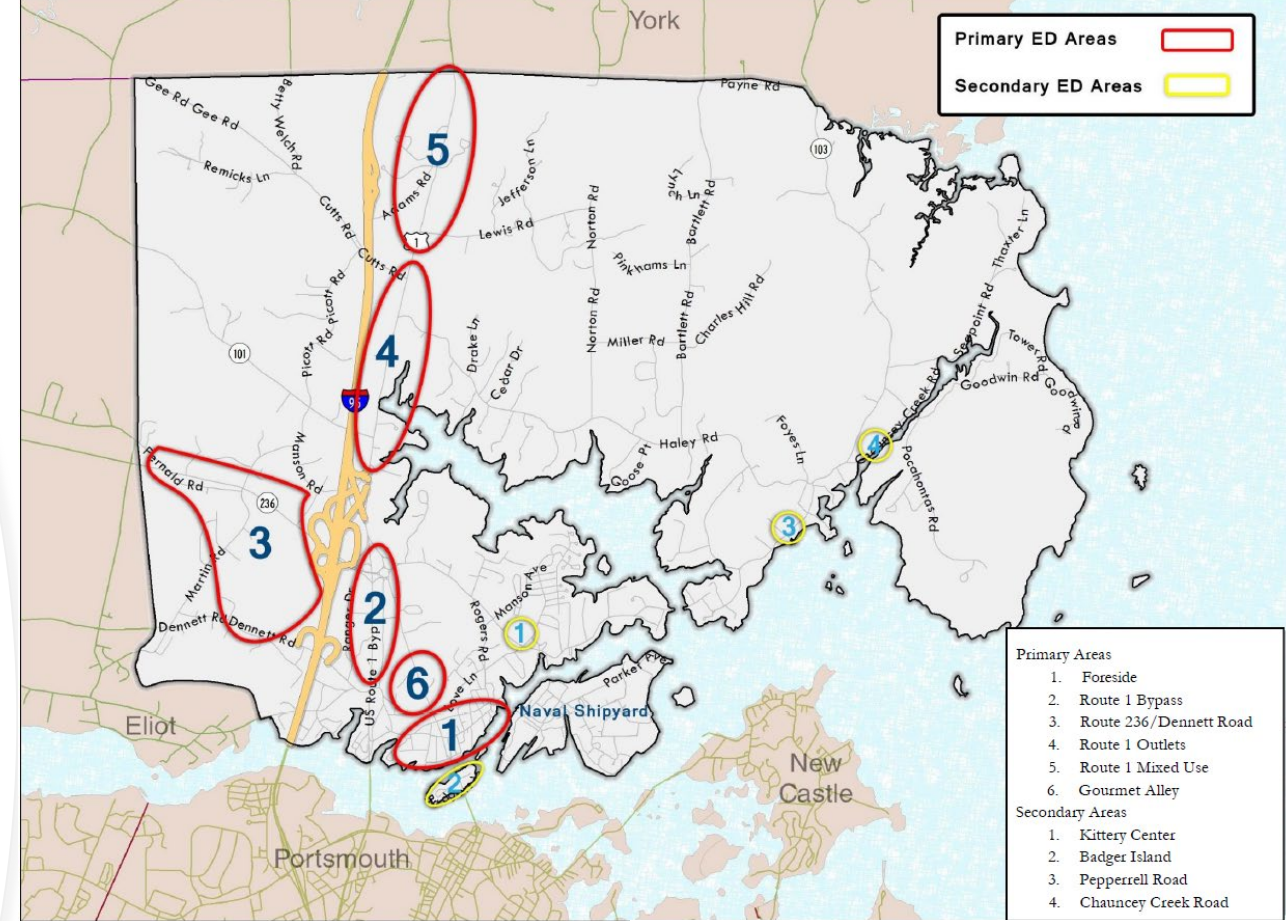






# Why Plan for People Walking and Biking?

- Meeting Basic Needs
- Provide Multi-faceted Benefits
  - Enhance safety for most vulnerable
  - Reduce reliance on autos
  - Promote health and wellness
- Leverage Existing Strengths
  - Scenic Route 103 offers connections to recreational sites of local, regional, and national interest
  - Multi-state East Coast Greenway + US Bike Route 1
- Complement Long-Term Objectives
  - Support economic development
  - Strategically orient future growth
  - Provide additional mobility options to / from PNSY
- Address State Complete Streets Policy
- Focus on highest, best need for sidewalks and bike lanes, in the same way that the Town prioritizes road maintenance



## CONGESTION COMPLICATIONS IN KITTERY

BY STEVE GERHARTZ

**AFTER AN STAY IN THE METROPOLITAN AREA**, where traffic congestion is legend, we visited to Maine to enjoy the quiet, slower pace, and scenic views. It was a great first experience and outdoor activities. We were looking forward to the beautiful part of the world.

Sometimes when out for a ride, I stop on the bridge on Route 236 as it crosses I-95 in Kittery. As I watch traffic crowd along, I can't help but think, "It's just like I-95." Kittery, often called "The Gateway to Maine," is gaining the dubious distinction of being one of the worst vehicle traffic congestion anywhere in New England, and it doesn't appear to be getting better anytime soon.

That's not good news for area bicyclists or pedestrians, many of whose routes will cross the bridge in a variety of weather conditions.

Over the past several months of the year, it's not uncommon to see day-long traffic backups for miles in both directions, pushing traffic hours in alternate routes like US-1, Route 236, and Route 103, the better of which winds

narrowly along the coast and is served by a large number of bike riders and even pedestrian in some sections.

The bulk of the estimated 17 million annual visitors to Maine both enter and exit the state via I-95 across the Penobscot River bridge, which is known for its very early stages of a three-phase, multi-million dollar rehabilitation project.

Adding to this congestion are the 8,000-plus (and growing!) daily commuters to the Portsmouth Naval Shipyard—which is in the town known as Kittery Foreside, and not, as the name suggests, in Portsmouth, New Hampshire.

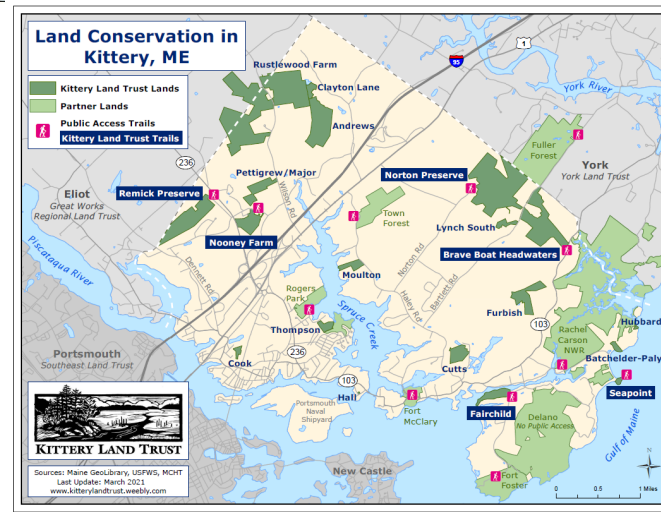
A recent study revealed that most of those 8,000 commuters are two-wheeled individuals on 20% or greater trucks, and they often arrive at the base two hours before their 7:30 a.m. shift just to find a parking space. When the shift ends at 3:30 p.m., the line of cars and trucks extends from one end of the two-shiplap gas as all the way to the Thruway Circle—nearly two miles away—where Route 236, US-1, and I-95 meet up.

Is there a way to reduce this congestion? Unfortunately, the current state of the local bike and pedestrian infrastructure does not easily lend itself to alternative transportation, and talks about improving mass transportation or introducing short-term bike lanes have gone nowhere.

Additionally, it seems that regional, state, and local planning agencies continue to give bike and pedestrian infrastructure and mass transportation improvements very low priority and very little funding, even though much is available.

Until there is more regional, state, and local planning agencies continue to give bike and pedestrian infrastructure and mass transportation improvements very low priority and very little funding, even though much is available.

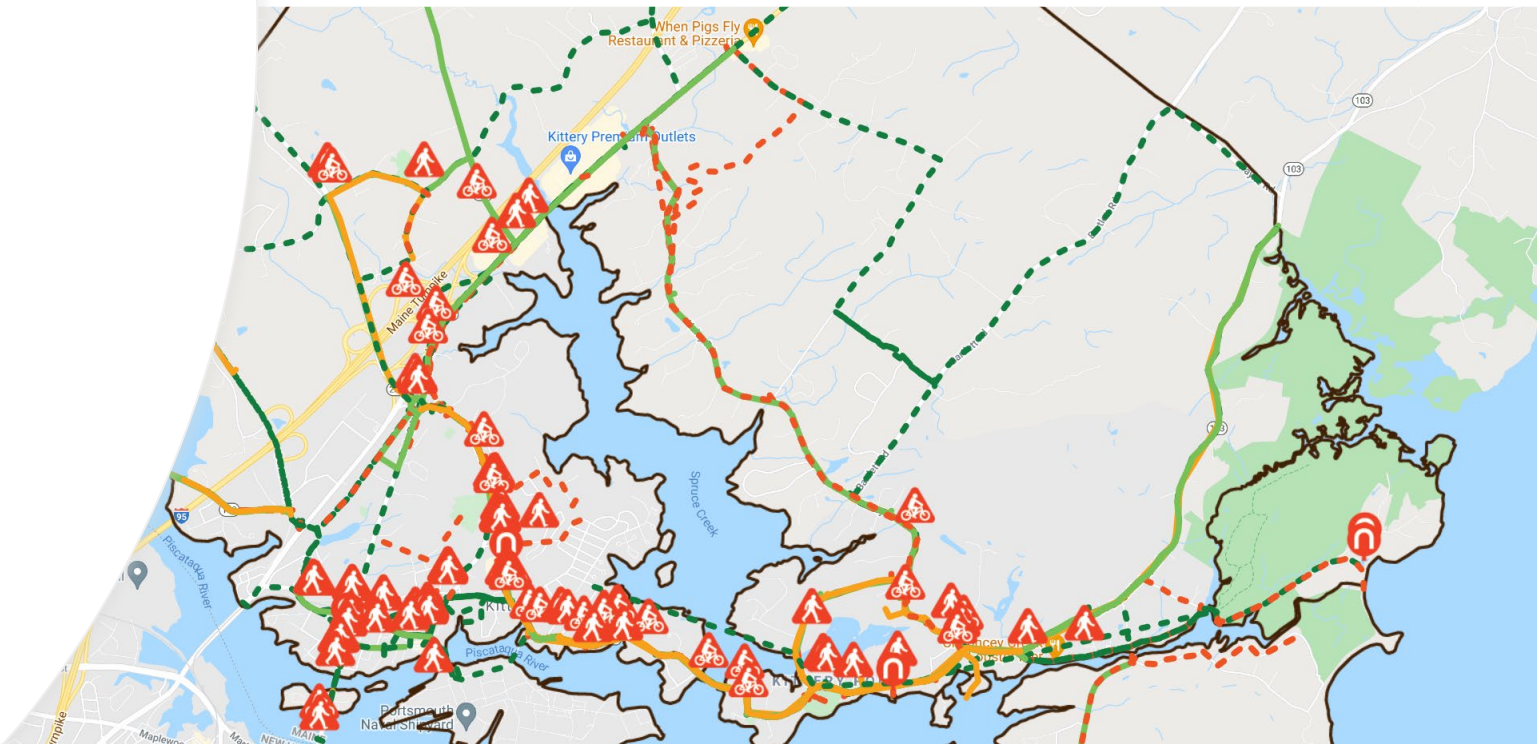
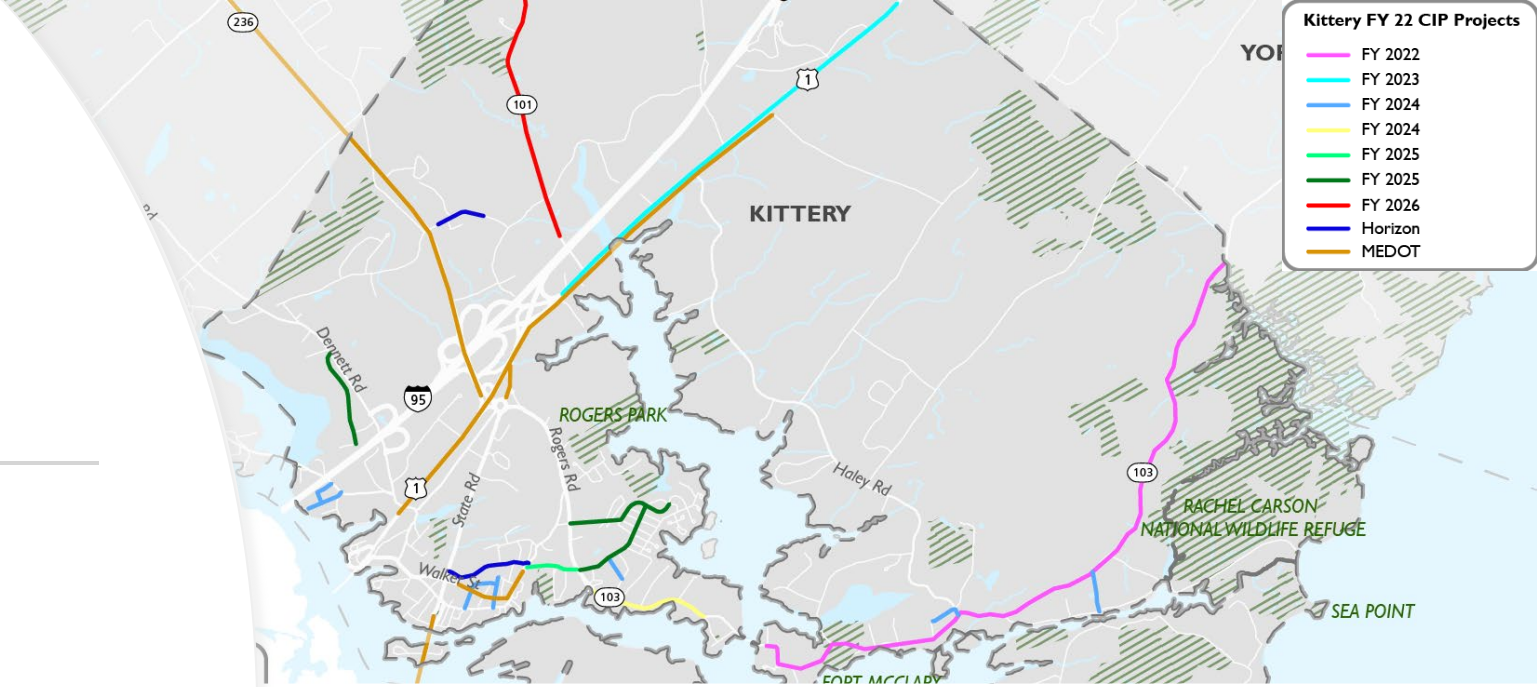
There are several ways to improve the situation in Kittery, and it's not too late to get started. If you would like to help solve this problem, please contact the Mayor's Office of Kittery or the Kittery Area Bicycle Riders (KABR), two local non-profit bike advocacy organizations. Ride safe!





# How Did We Get Here?

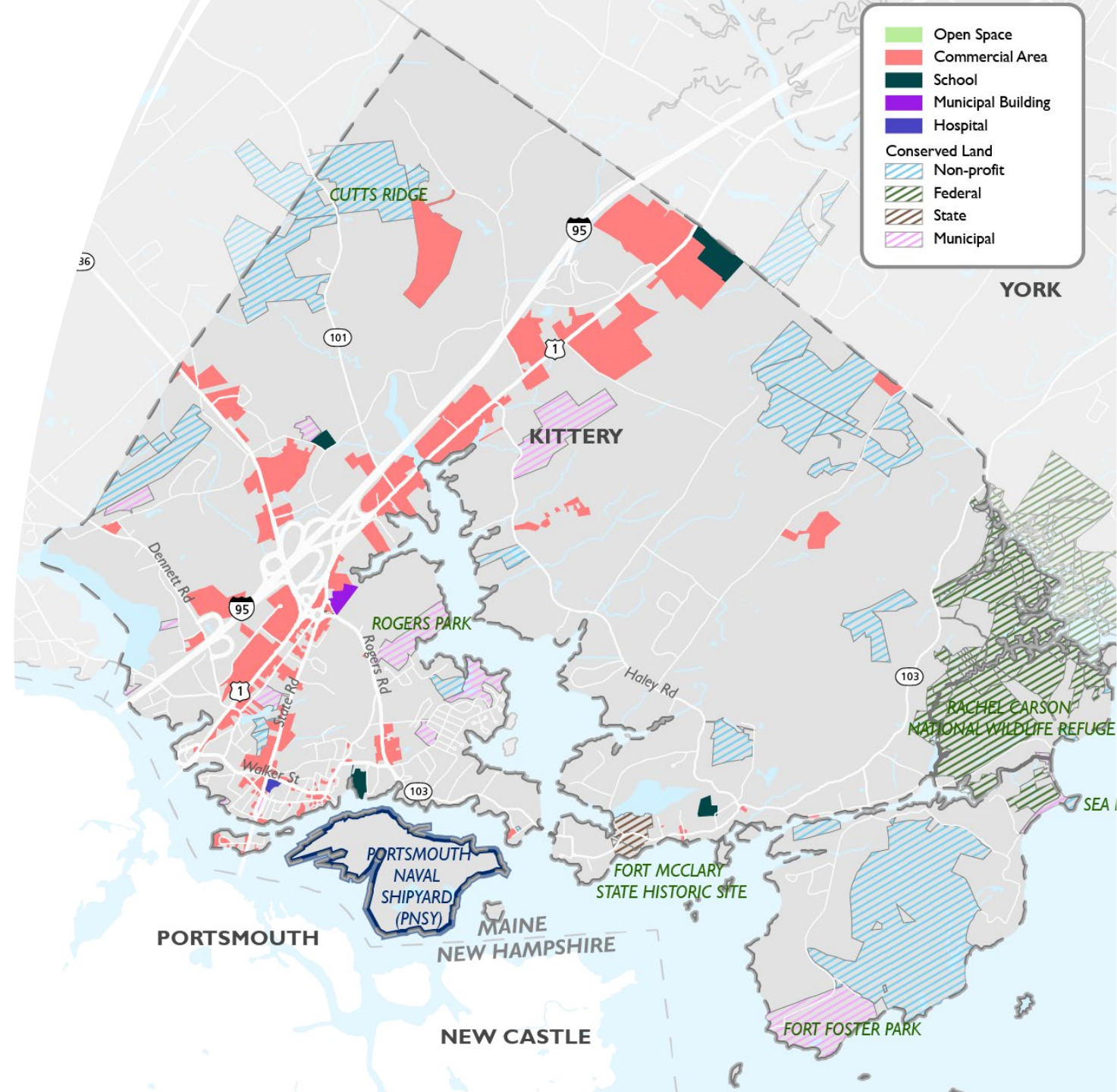
- Kick-Off with Steering Committee
  - Identified key network gaps + destinations
  - Helped target field efforts
  - 2 follow-up meetings at key milestones
  - Key stakeholders / decision-makers
- Review Previous Plans & Available Data
- Public Wikimap & Field Visits
  - Evaluate current conditions and deficiencies
  - 300+ comments related to walking and biking
- Review of MaineDOT Work Plan & Town Repaving Schedule
  - Identify potential synergies for ped-bike improvements as part of upcoming projects
- Focus on Near-Term, Incremental + Implementable Improvements
  - Potentially advanced through DPW
  - Piece-by-piece, segment-by-segment
  - Gap-filling to enhance comfort and safety





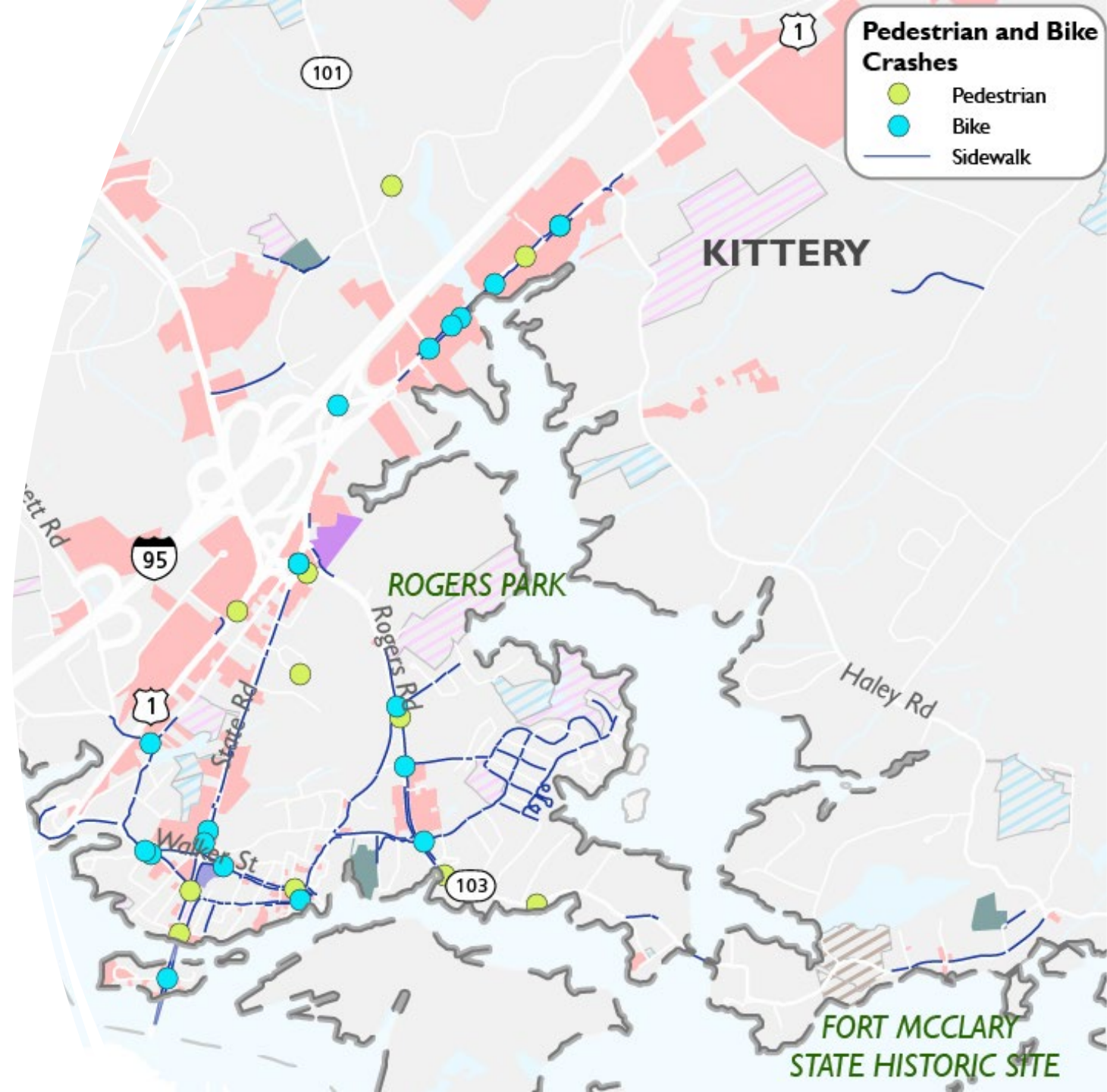
# Destination Mapping

- Institutional Uses
  - Schools
  - Hospital
  - Municipally-Owned
- Commercial Areas
- Recreational Facilities
- Open Space & Conservation
- PNSY (Regional Employment)



# Safety and Crash Review

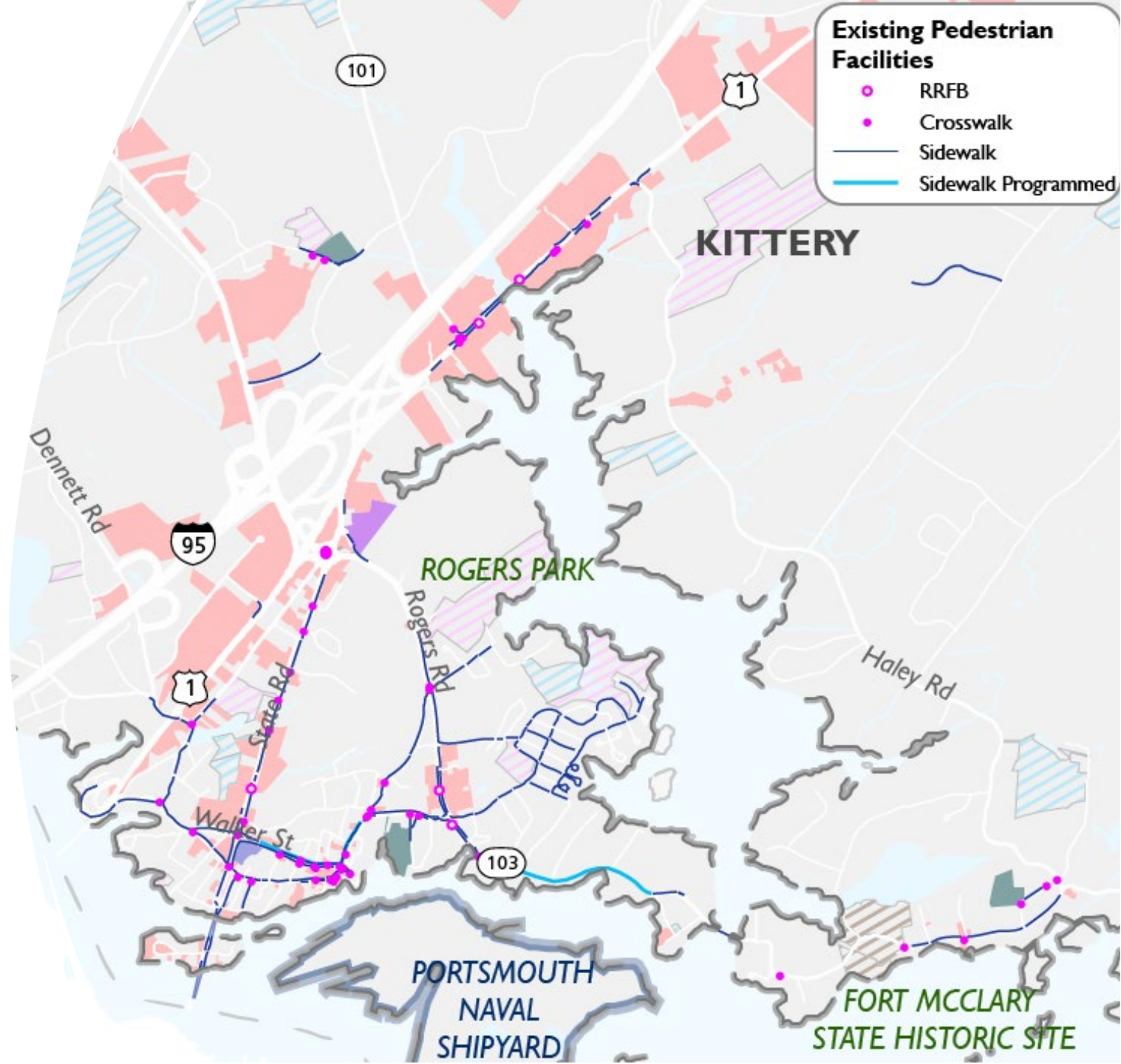
- 31 crashes involving those walking or biking in last 11 years (MaineDOT: 2010 – 2020)
  - 20 Bicyclist
  - 10 Pedestrian
- Low number does not indicate a lack of issues
- Perceived safety issues can limit willingness to walk / bike
- No way to measure close calls
- Memorial Circle changes
  - 2016 – 2017: 2 Crashes
  - > 2017: 0 Crashes





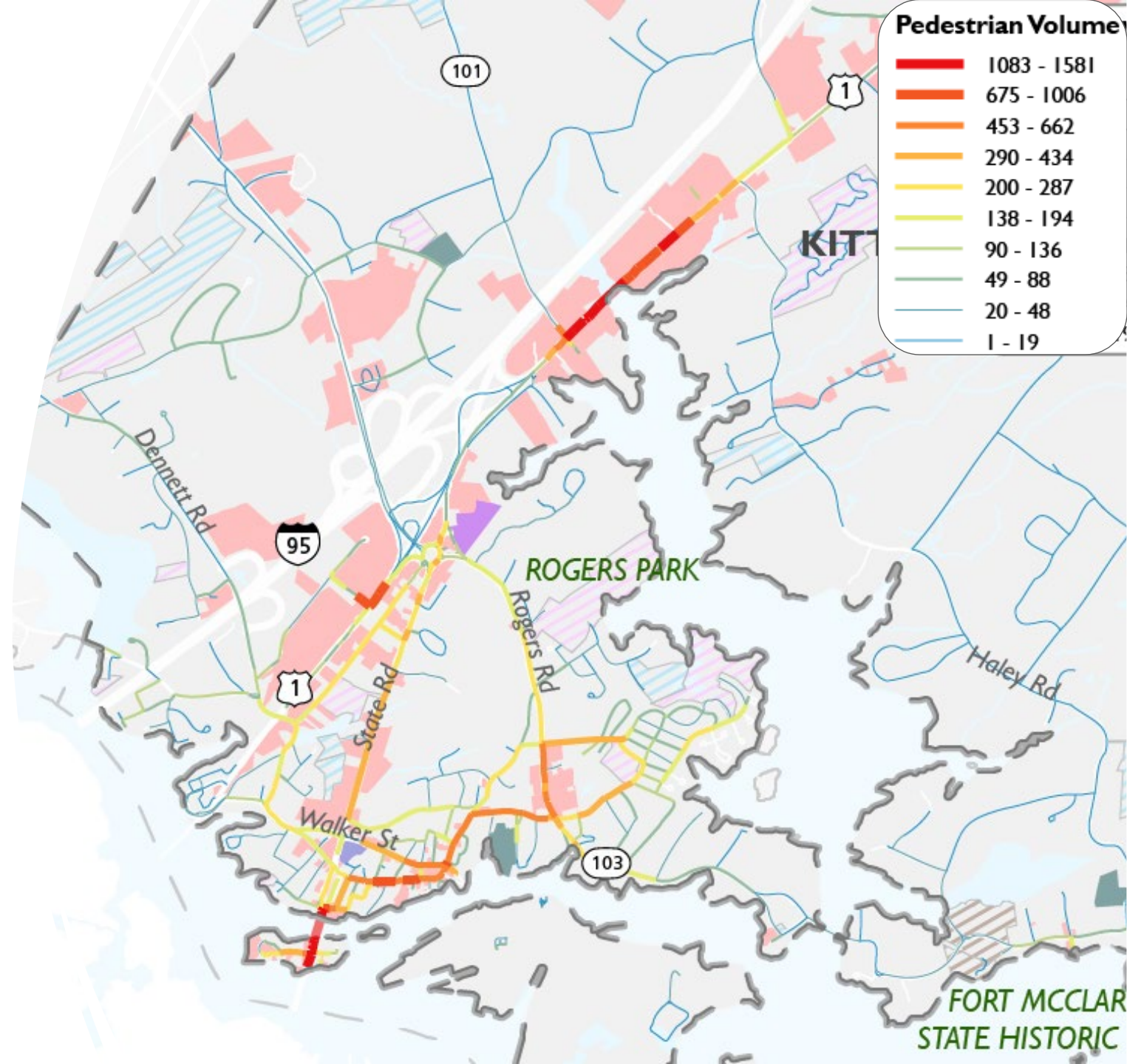
# Walking Facilities

- Existing Coverage Leads from Foreside, Elsewhere One-Sided Facilities Are Common
- Marked Crosswalks, Curb Ramps
- 5 Flashing Beacons Near Commercial Uses (US-1, Kittery Center, State Rd at Gourmet Alley)
- Programmed Sidewalks
  - MaineDOT – Walker–Wentworth from Loco Coco’s Tacos to Rte. 103 @ Rogers Rd
  - Town – Rte. 103 (Whipple Rd) WB from Wyman Ave to Old Ferry Ln (opposite water)
- Planned
  - Stevenson Rd from Route 236 to Shapleigh School (Safe Routes to School Application)



# Walking Volumes

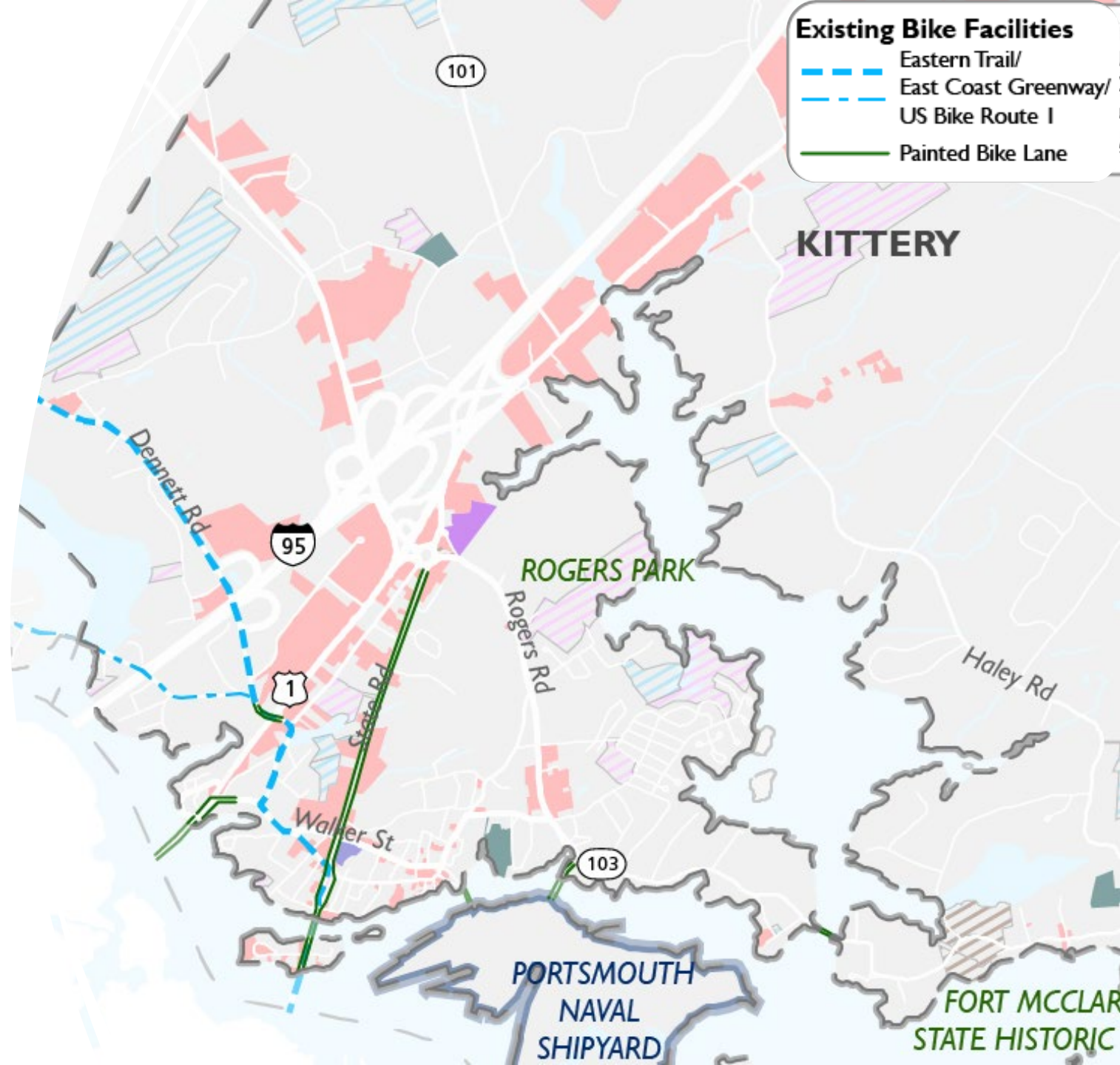
- StreetLight Data
  - Cell Phone Pings from Location Services Apps
- Foreside
  - US-1 Bridge to Badger's Island and Downtown Portsmouth
  - Government St
  - Wentworth
  - Shapleigh Rd (Kittery Center)
- Gourmet Alley
- US-1 Near Outlets





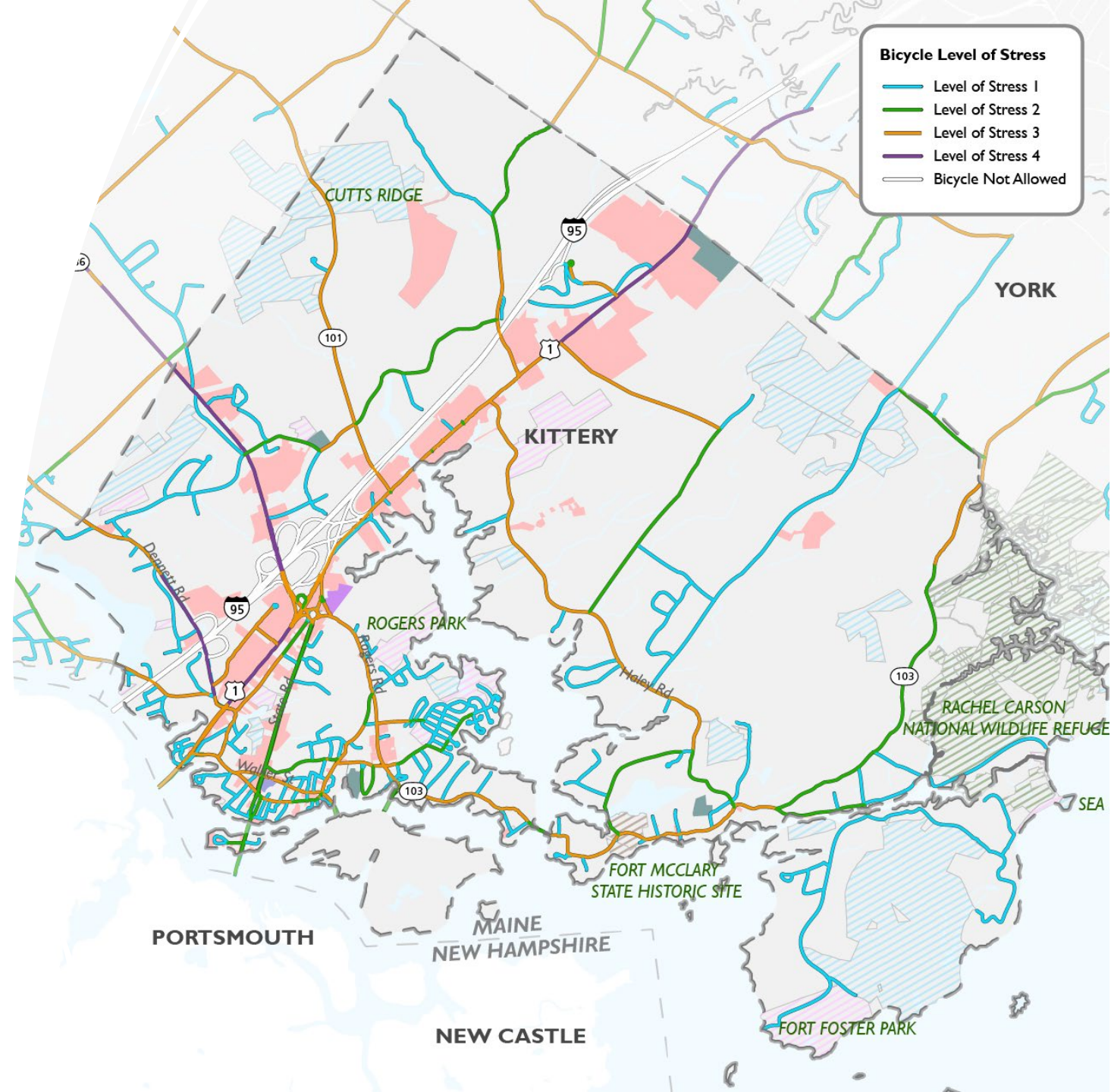
# Cycling Facilities

- Review of Aerials & Field Observations
- Strengths
  - Painted Bike Lanes on State Rd
  - Key Connections at Most Bridges Present
  - Gateway for Eastern Trail / East Coast Greenway / US Bike Route 1
- Demand Present, But No Facilities
  - Eastern Trail West of John Paul Jones
  - (Scenic Eastern) Route 103
  - Haley Rd



# Bike LTS Map

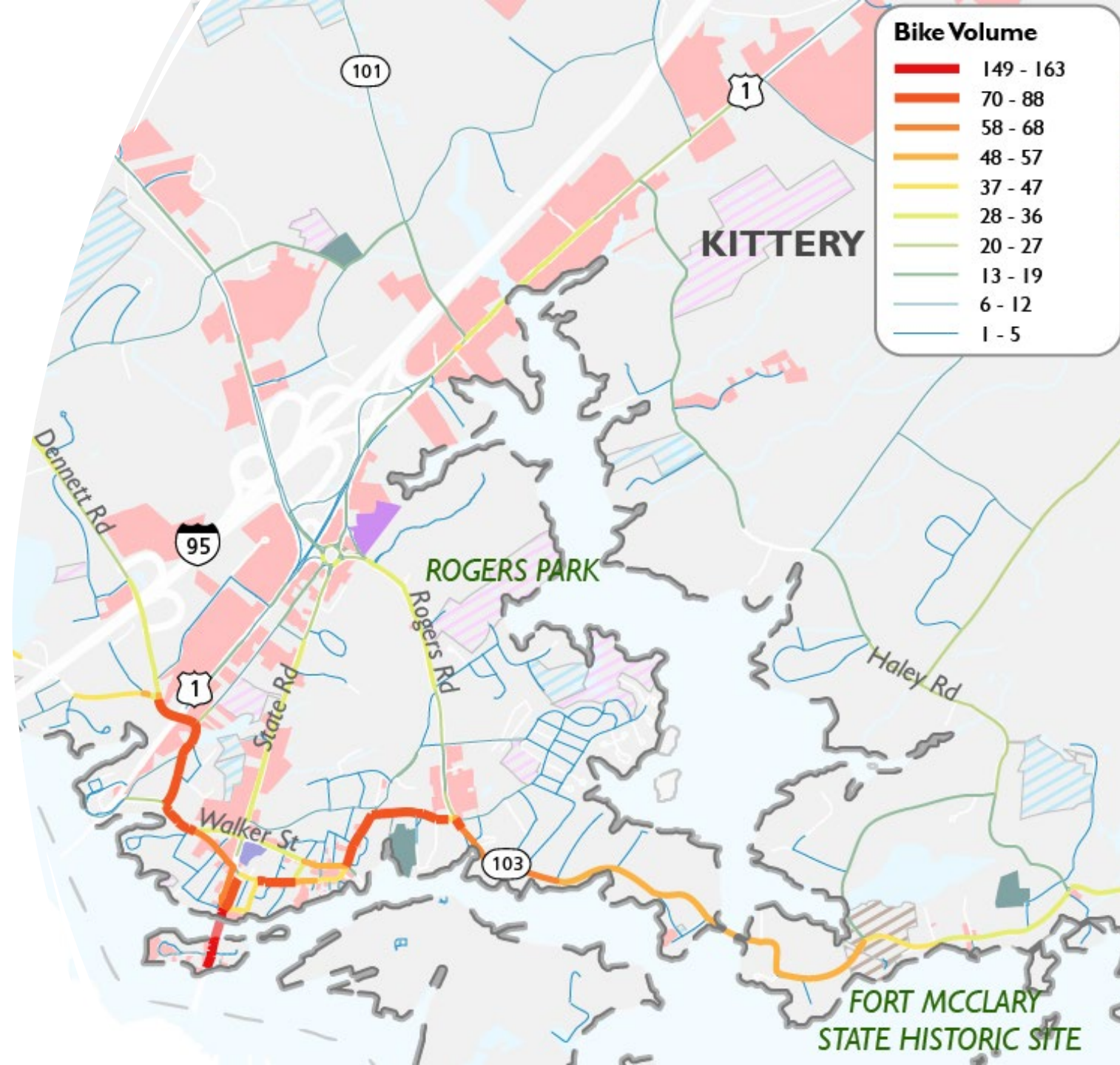
- LTS = Level of Traffic Stress
- Lower number indicates appropriate for a wider variety of users and range of abilities
  - Blue = Local roads with volumes + speeds low enough to be considered comfortable for All Ages and Abilities
  - Purple = Suitable only for most experienced cyclists (in ideal conditions)
- Used to identify potential route choices
- Long-term efforts focus on incrementally improving the most stressful segments





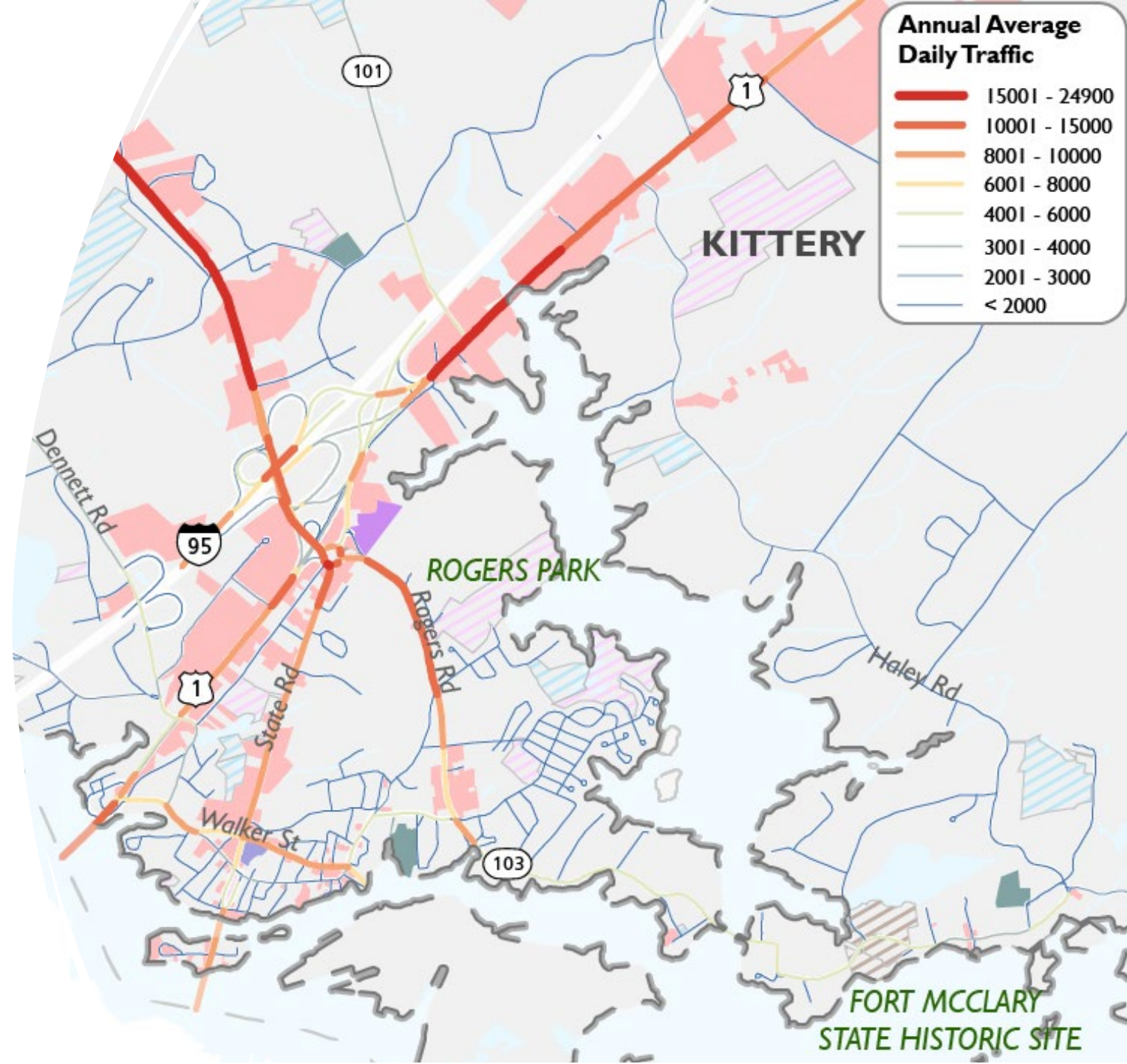
# Cycling Volumes

- Same Data Source (StreetLight)
- In / Out of Foreside
- Scenic Eastern Route 103 Leads to Numerous Recreational Destinations
- Eastern Trail Prominent towards US-1 Bypass Bridge



# Automobile Volumes

- MaineDOT Data
  - Annual Average Daily Traffic
- No One-Size-Fits-All Approach
  - Auto Volume & Speed = Key Inputs
- US-1 and Route 236
- Rogers Rd and Memorial Circle



## CONGESTION COMPLICATIONS IN KITTERY

BY STEVE GERHARTZ

Intersections along the coast are in jeopardy by a large number of lake riders and even pedestrians in some sections. The bulk of the estimated 27 million annual visitors to Maine both enter and exit the state via I-95 across the Penobscot River Bridge, which is now in the very early stages of a three-phase, multi-million dollar rehabilitation project. Adding to this congestion are the 8,000-plus (and growing) daily commuters to the Forts-on-the-Northern-Shore—which is in the streets known as Kittery Foreville, and not, as the name suggests, in Portsmouth, New Hampshire.



# Focus Today

---

## CONCEPTUAL APPROACH / THEMES

- Potential Changes to Cartway Widths (No Widening)
- Work to Optimize Existing Space to Address Needs of All Users
- Visualize What Corridor Could Be if Different Strategies Were Applied



**TOOLBOX**





# Signage and Striping

LOW COST METHODS  
OF INCREASING  
PEDESTRIAN AND  
BICYCLIST SAFETY



# New Crosswalks

- Stripe new, or re-stripe existing, crosswalks with “High Visibility” or “Continental” style striping.
- Provide additional signage to make crosswalks more visible to motor vehicles.





# Shared Lane Markings - “Sharrows”



Shared Lane Markings alone do not increase safety of bicyclists

Useful for increasing driver awareness and expectancy of bicyclists along very constrained facilities

As a coastal Town colonized in the mid-17<sup>th</sup> century, Kittery contains many constrained roadways





# Bike Lanes





# Intersection Concepts

- John Paul Jones Park
  - Government St
  - US-1 Bridge
- Shapleigh @ Buckley / Manson
- Whipple @ Wentworth / Rogers
- Walker @ Main
- Rte. 103 (Whipple) @ Route 236 (Shapleigh) @ Woodlawn

	Add ped crossing		New raised ped crossing
	Accessible facility		New ped crossing
	Bike lane		Accessible facility
	Sharrow		New bike lane
	Add signal		New curb extension
	Turning vehicles yield to pedestrians		Welcoming sign
	Pedestrian Ahead Sign		Jersey Barriers
	Yield to Pedestrians Sign		New flex post
			Bike Parking



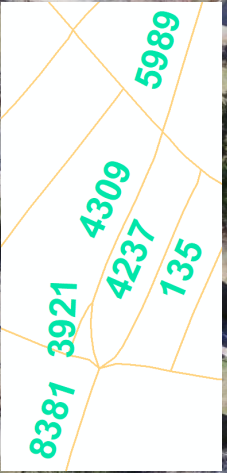
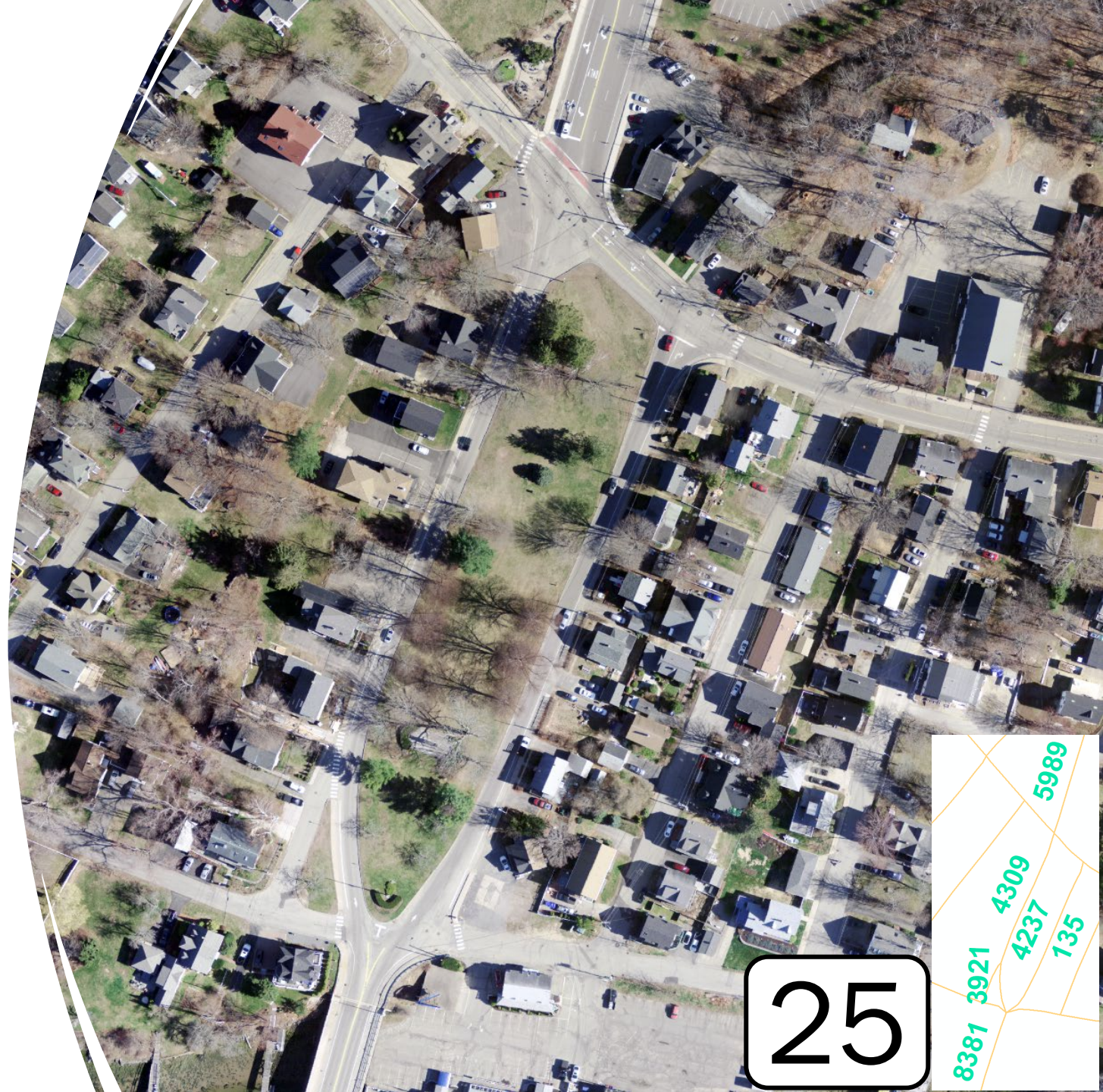


# John Paul Jones Park

---

## ISSUES

- No Pedestrian Connections to Town-Owned Open Space
- Acts as Gateway for Eastern Trail, Primary Ped-Bike Interface with Portsmouth
- Wide Radii and Excess Pavement at NW & SE Corners





# John Paul Jones Park

## CONCEPT DESIGN

- New Crossings into Park at Both Ends, Short Crossing Distances
- Raised Crossings along NB Entries Emphasize Pedestrian Presence
- Enhanced, Legible Bike Transitions to Foreside, E. Trail, and State Rd
- Long-Term
  - Consider Opportunities for Enhanced / Expanded Bicycle Infrastructure





# Shapleigh @ Buckley Way / Manson Ave

---

## ISSUES

- Wikimap Top Pederstrian Problem Spot
- No East-West Crossing
- Lack of Sidewalks on West Side (Buckley) and SB Side of 236
- Blinking Half-Signal at Top of Hill





# Shapleigh @ Buckley Way / Manson Ave

---

## CONCEPT DESIGN

- New East-West Crossing Leverages Existing Sidewalks
- NE & SE Corners Enlarged to Reduce Turning Speeds
- Buffered Pedestrian Lane to Fill One-Block Segment SB to Walgreen's
- Long-Term
  - 1-block Extension along Buckley Way (WB) to Better Connect Manson Ave Communities with Rogers Rd Corridor & Points West
  - Traffic Signal Would Require a Warrant and Capacity Analysis



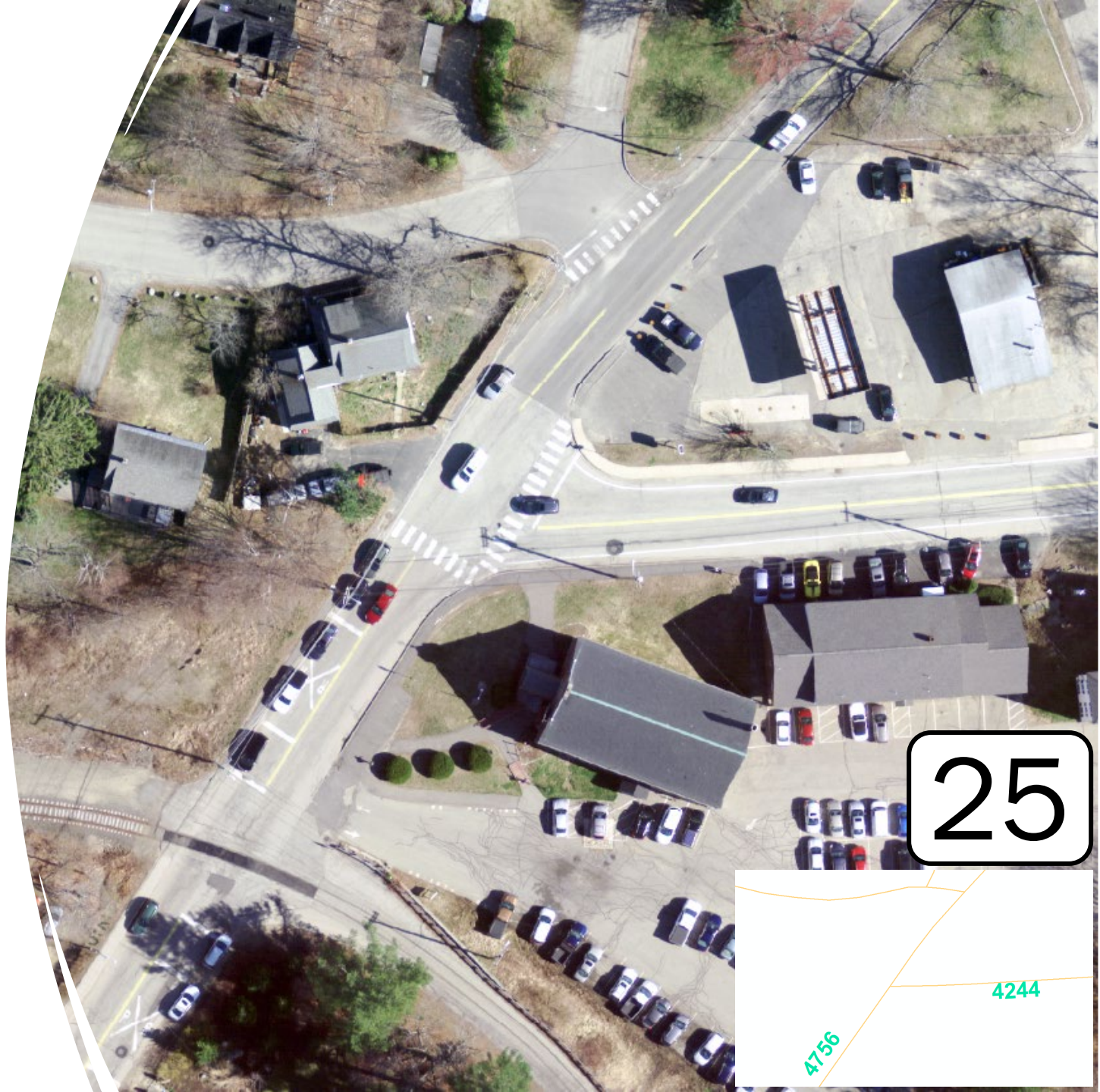


# Whipple @ Wentworth / Rogers

---

## ISSUES

- High Vehicle Speeds + Distraction
- Limited Crossing Confidence
- Difficult Geometry
  - Heavy Skew at 103
  - Offset from Love Ln
- Wide Radius (SE Corner) Leads to Free-Flowing EB Rights
- Gap-Seeking SB Lefts, Often Looking to Right Up Rogers Rd





# Whipple @ Wentworth / Rogers

---

## CONCEPT DESIGN

- Limit Speeds by Shifting Auto Approaches from South and East
- Eastern Median
  - Provides Pedestrian Refuge
  - Enhances Visual Communication (Tee Up)
- Southern Median
  - Pinchpoint Limits NB Entry Speeds While Appealing to Current Approach Geometry
- New Northern Leg Provides More Direct Crossings to / from Love Ln





# Main @ Walker

---

## ISSUES

- Wikimap Ped. Problem Spot
- ~1/8 mi to Marked Crossings
- No Crosswalk over Main St to Reach Bus Stop Just to West (WB)
- Upcoming MEDOT Resurfacing Project Addresses Other Spots
  - Loco Coco's Sidewalk Gap
  - Upcoming Signal Improvements at Walker @ Wentworth





# Main @ Walker

## CONCEPT DESIGN

- Gateway Treatment at Transition between Foreside and State Rd
- Suite of Priority Treatments
  - 2 Curb Extensions
  - New North-South Crossing
  - Advance Warning Signage in All Directions
- MaineDOT Assists
  - Re-build Existing / Install New Ramps
  - New WB Sidewalk to Bus Stop
  - New East-West Crossing to Bus Stop
- Long-Term
  - Consider Raised Crossing
  - Formalize Extensions with Curbing

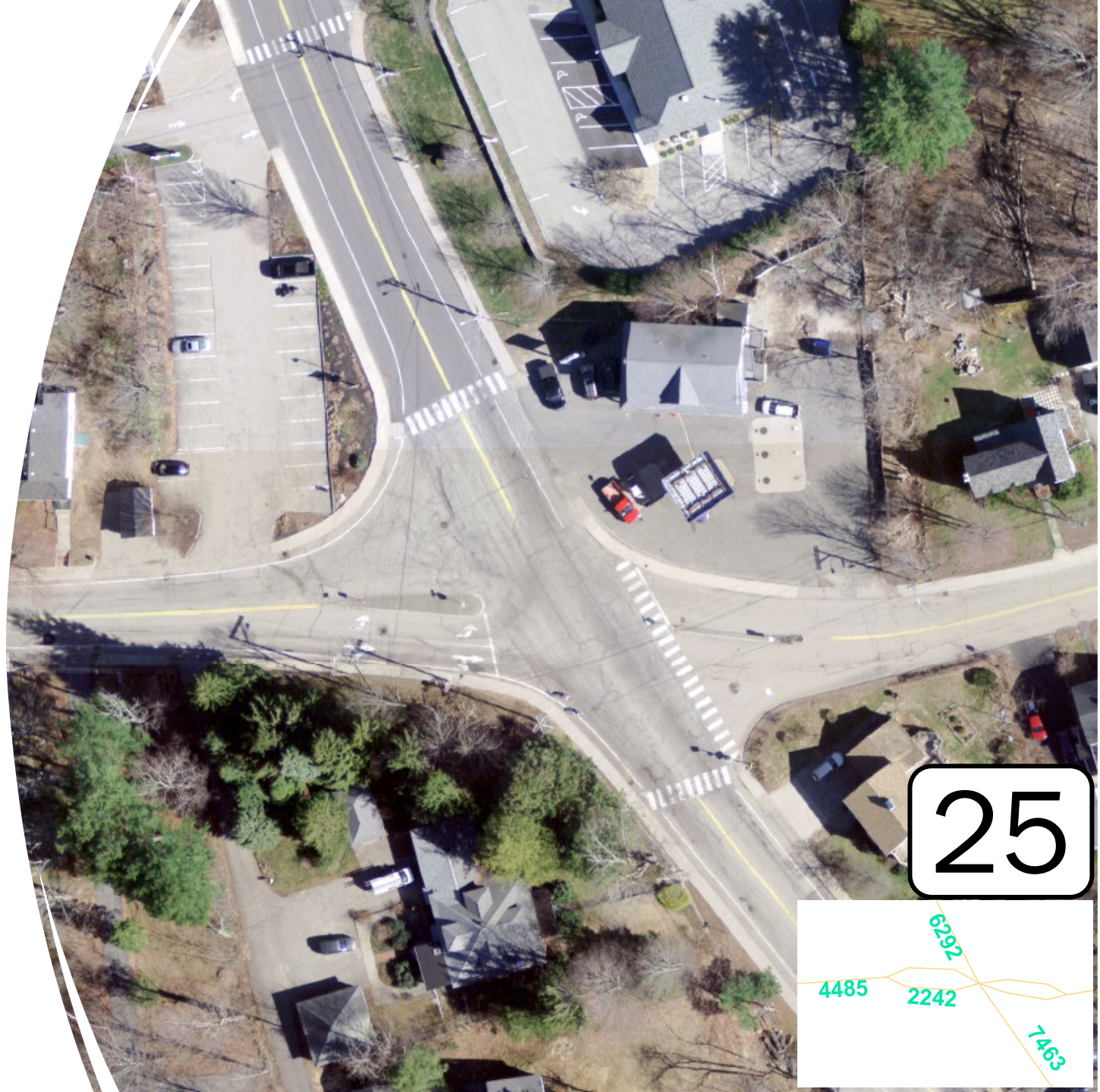




# Whipple (103) @ Shapleigh (236) @ Woodlawn

## ISSUES

- Critical Eastern Gateway
  - Adjacent Community Facilities and Recreational Destinations
  - PNSY Gate 2
- Wide (East) or Challenging (South) Pedestrian Crossings
- Sweeping NW Corner Contributes to High-Speed Turns
- Difficult WB Lefts for Cyclists coming from Gate 2 or 103 East
- More Robust Control Recommended in Town's Comprehensive Plan





# Whipple (103) @ Shapleigh (236) @ Woodlawn

## CONCEPT DESIGN

- Reclaim Pavement to Reduce Crossing Distances
- Refuge on Eastern Leg
- Southern Leg Comes Up to Mitigate Visibility Concerns
- Left-Turns for Bikes More Legible
- Long-Term
  - Traffic Signal Would Require a Warrant and Capacity Analysis





# Corridor Concepts

---

## ROUTE 103

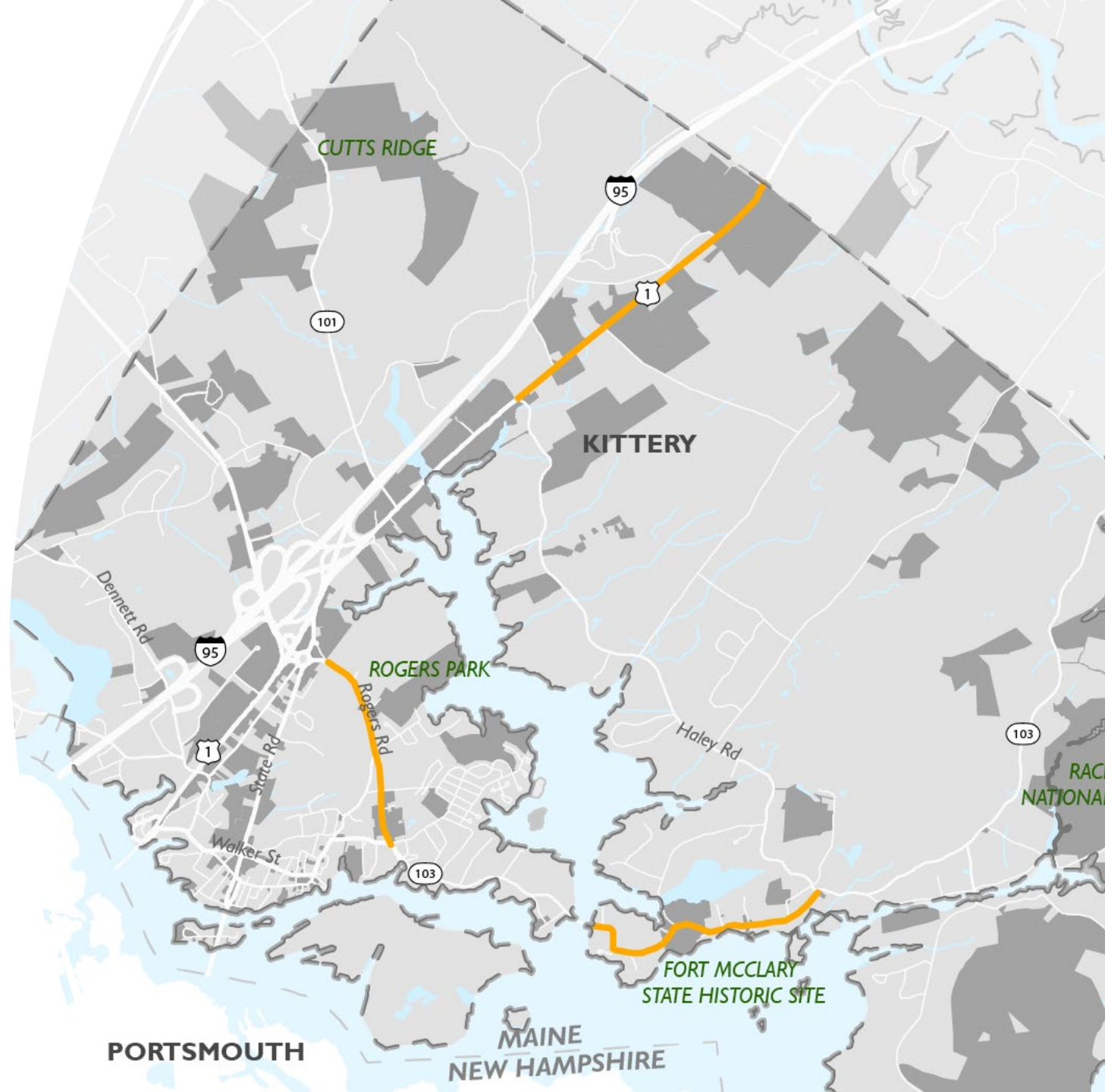
- Coleman Ave – Haley Rd (sidewalks recently improved)
- KP Bridge – Coleman Ave (no planned work, no sidewalks)

## ROUTE 236

- South: Whipple Rd to Buckley Way / Manson Ave (sidewalks mostly present, wide buffers)
- Central: Buckley Way / Manson Ave to Goodsoe Rd (NB sidewalks, pinchpoint followed by buffers)
- North: Goodsoe Rd to Shepard's Cove Rd (no sidewalks)

## US-1 – NORTH OF OUTLETS

- North of Haley Rd to Lewis Rd
- Lewis Rd to York Town Line

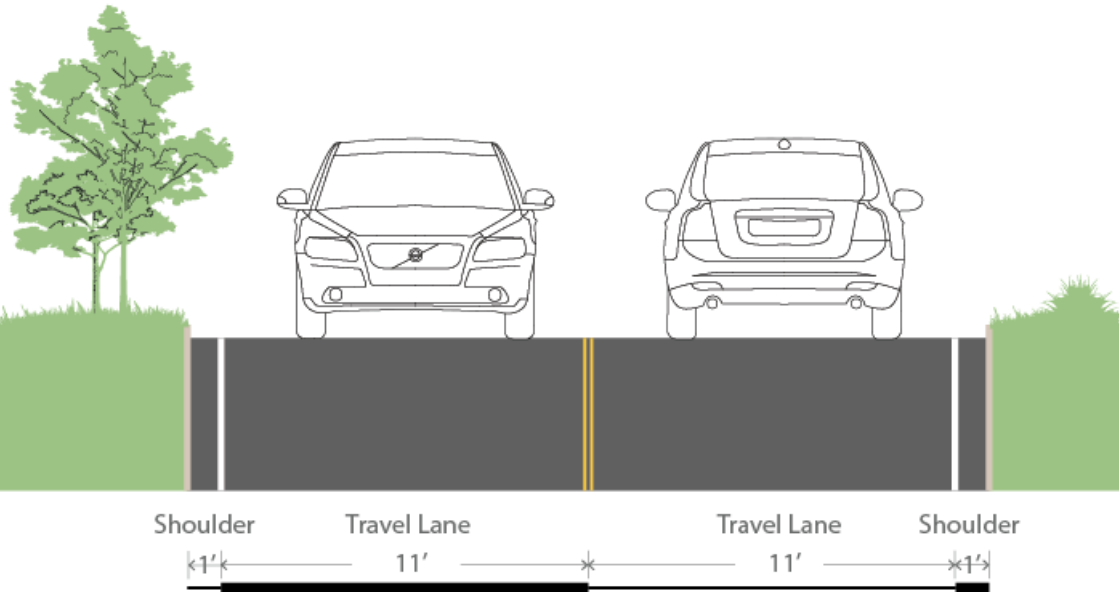




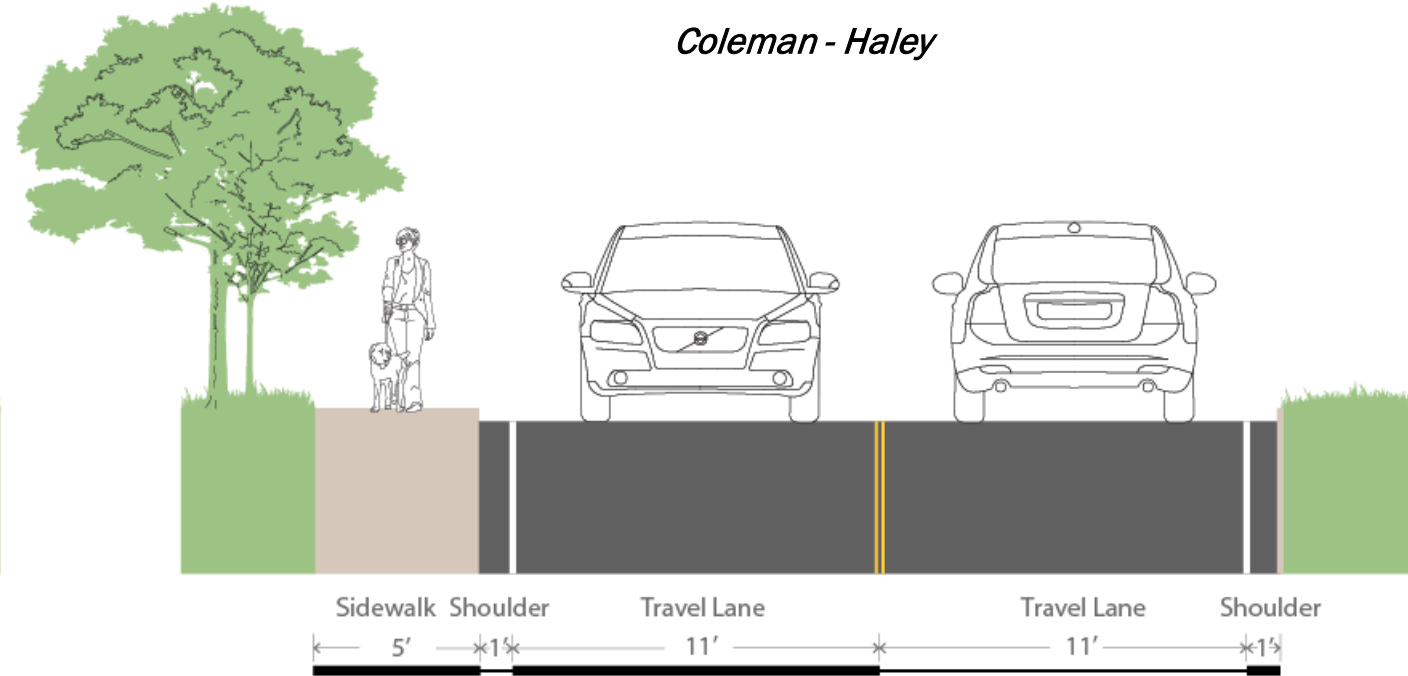
# Route 103: KP Bridge – Haley ISSUES

- Strong concentration of trip generators, ample existing demand
  - KP Bridge – Coleman: Fort McClary, Lady Pepperrell House
  - Coleman – Haley: Mitchell Primary School, Pepperrell Cove
  - Further East along Scenic Route 103: Numerous recreational + ecological destinations
- Narrow cartway width (~24') with sight challenges at 2 curves near bridge
- Sidewalks begin east of Fort McClary → ROW further west likely years out
- Minimal shoulders → little breathing room for cyclists (LTS 3)

*KP Bridge - Coleman*



*Coleman - Haley*



~4.3 – 4.7K

25

~2.8 – 2.9K (4.0K)



## Route 103: KP Bridge – Haley CONCEPTS

- Do our best to improve the condition for those who use it with what's available
- Install “super greenback sharrows” in the middle of the lane to emphasize sharing of the roadway
- Reducing speeds by applying a series of speed management devices
- Reinforce driver expectation of cyclists via targeted signage at key locations
  - High-visibility notices near two curves
  - Additional radar feedback signs
- Speed Cushions help emergency vehicle access

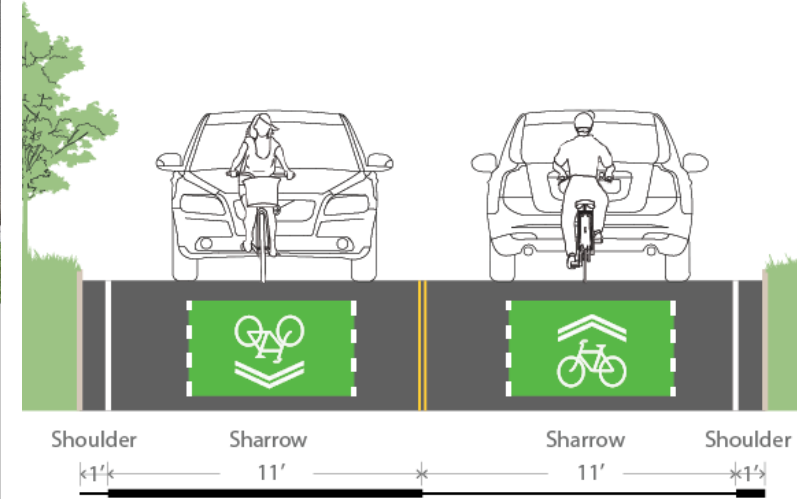
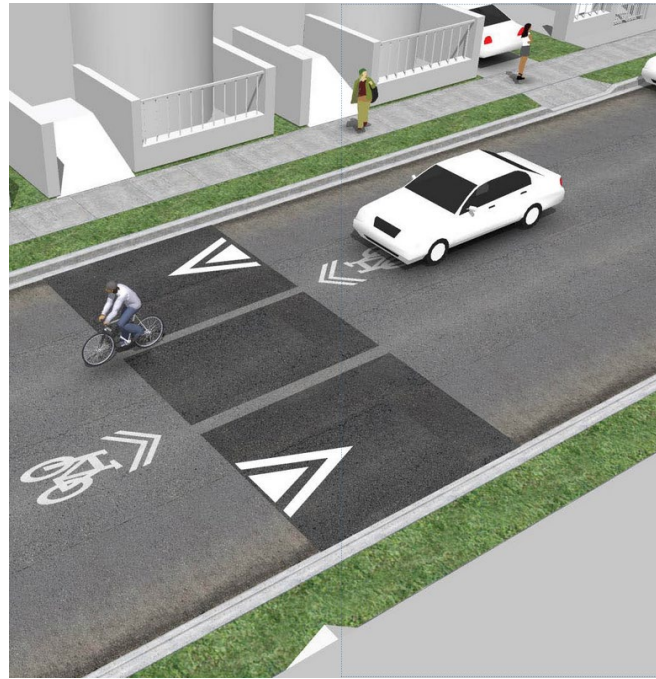
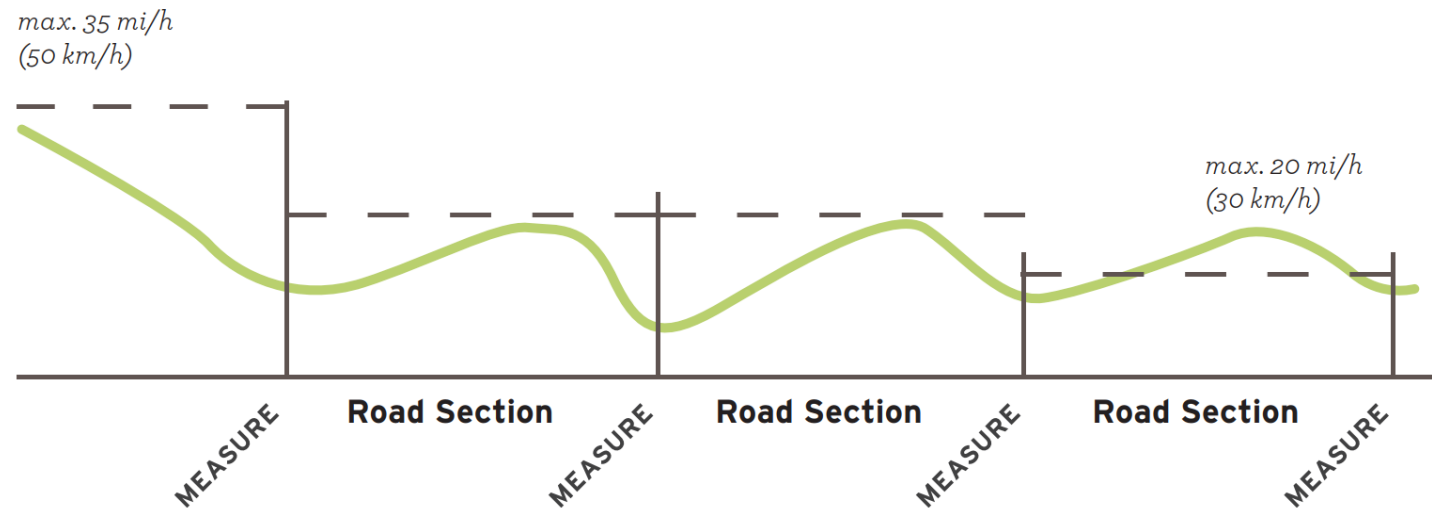


Figure 5-2. Managing travel behavior through speed management techniques

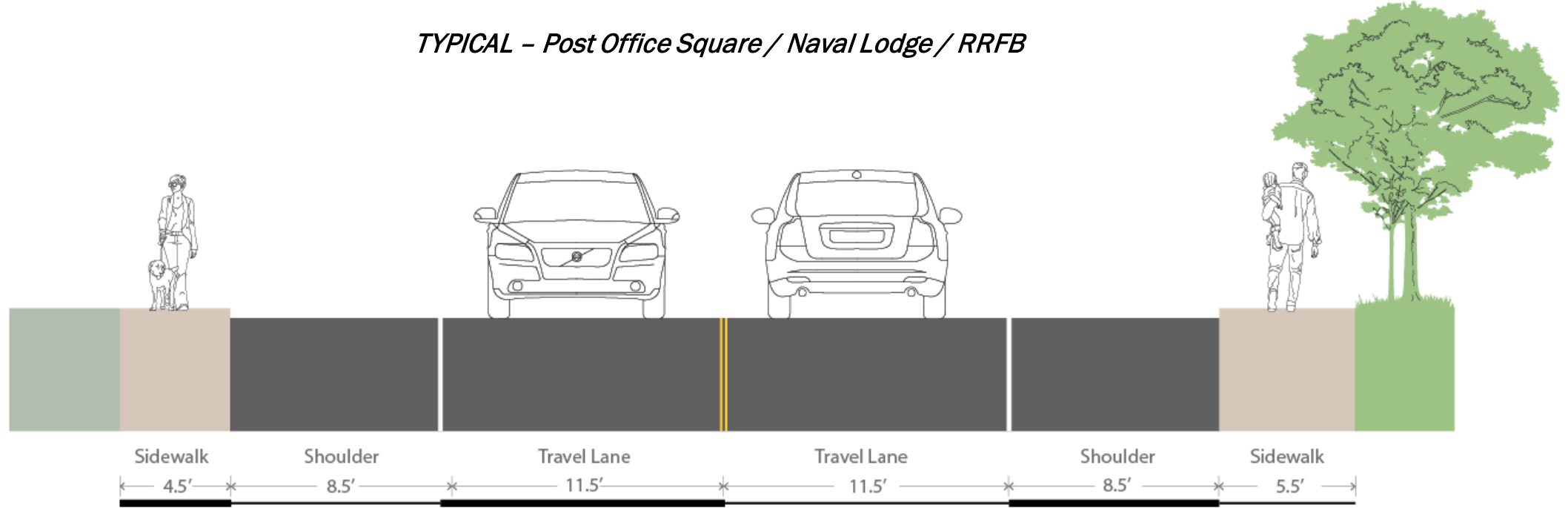




# Route 236: Shapleigh Rte. 103 – Buckley ISSUES

- ~38-42' cartway width + 10' of sidewalks
- Sidewalks on both sides up from Route 103 to Walgreen's
  - High pedestrian traffic
- SB Sidewalks missing 1-block segment to Buckley Way / Manson Ave
- No formal bike facilities (LTS 3), but ample striped shoulders exist

*TYPICAL – Post Office Square / Naval Lodge / RRFB*



25

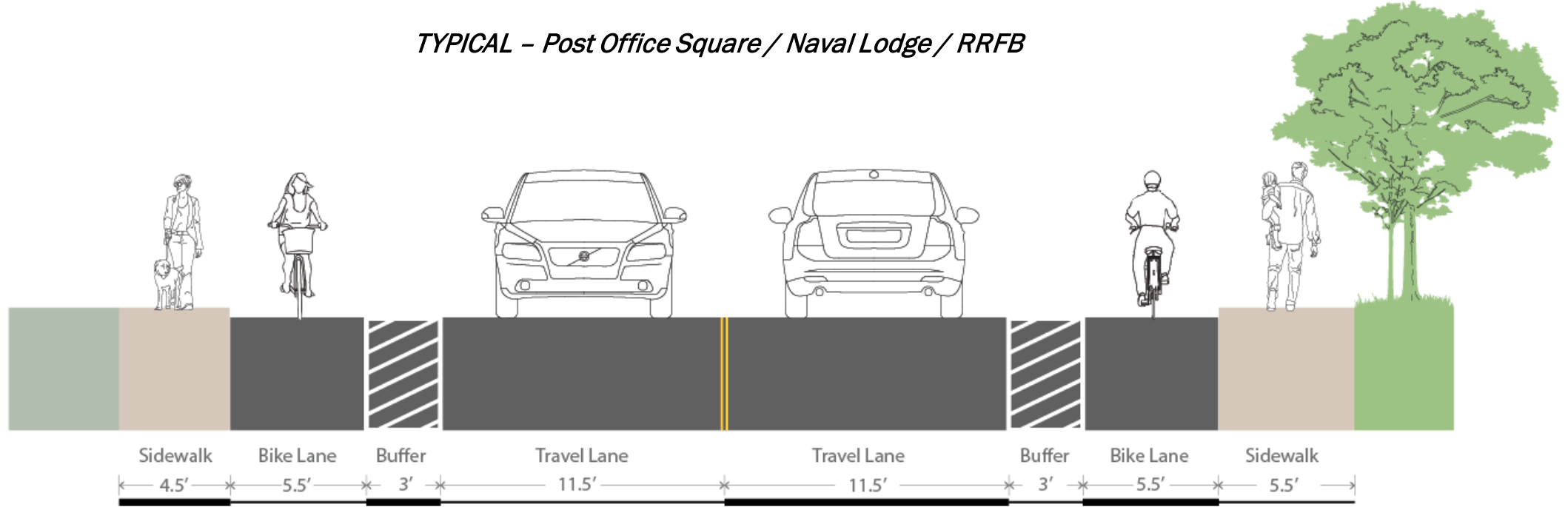
~6.3 – 6.5K



# Route 236: Shapleigh Rte. 103 – Buckley CONCEPTS

- Designate shoulder as buffered bike lane to improve comfort (7.5 - 8.5')
- Maintain consistent lane width (11.5') between Rte. 103 and Community Center (Goodsoe Rd)
- Close 1-block sidewalk gap by dropping SB buffered bike lane (downhill sharrow) and creating buffered pedestrian lane (10')

*TYPICAL – Post Office Square / Naval Lodge / RRFB*



25

~6.3 – 6.5K



# Route 236: Central Buckley – Goodsoe ISSUES & CONCEPTS

- 31 - 34' paved area, plus continuous NB sidewalks
- Autos up 1.2K past Buckley, again by 1.6K at Rogers Rd Split
- Limited paved area from Buckley Way to just before Rogers Rd Split
  - Super greenback sharrows + signage
- Shoulders begin near Split, continue towards Community Center

*TYPICAL – South of Goodsoe Rd (Ball Fields)*

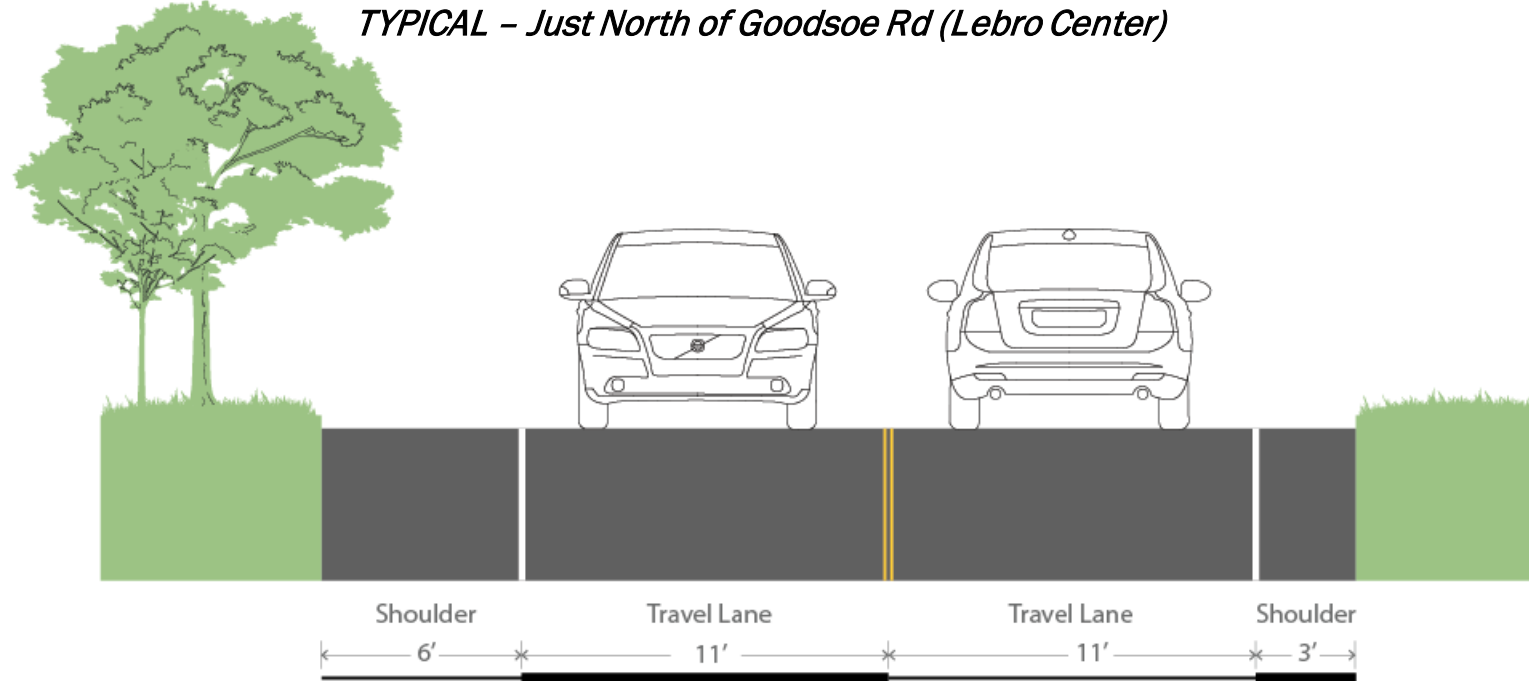


25 ~7.7 – 9.0K



# Route 236: Rogers Goodsoe – Shepard's ISSUES

- Key network gap with highly variable section widths
- No sidewalks north of Community Center until Shepard's Cove
- Regional auto demand (~8.0 of 9.9K headed to / from Circle)
- Limited comfort for cyclists (LTS 3)
- Severe cartway width constraints in two areas – north of Meetinghouse Village (SB retaining wall) and south of Shepard's Cove (NB utility pole)



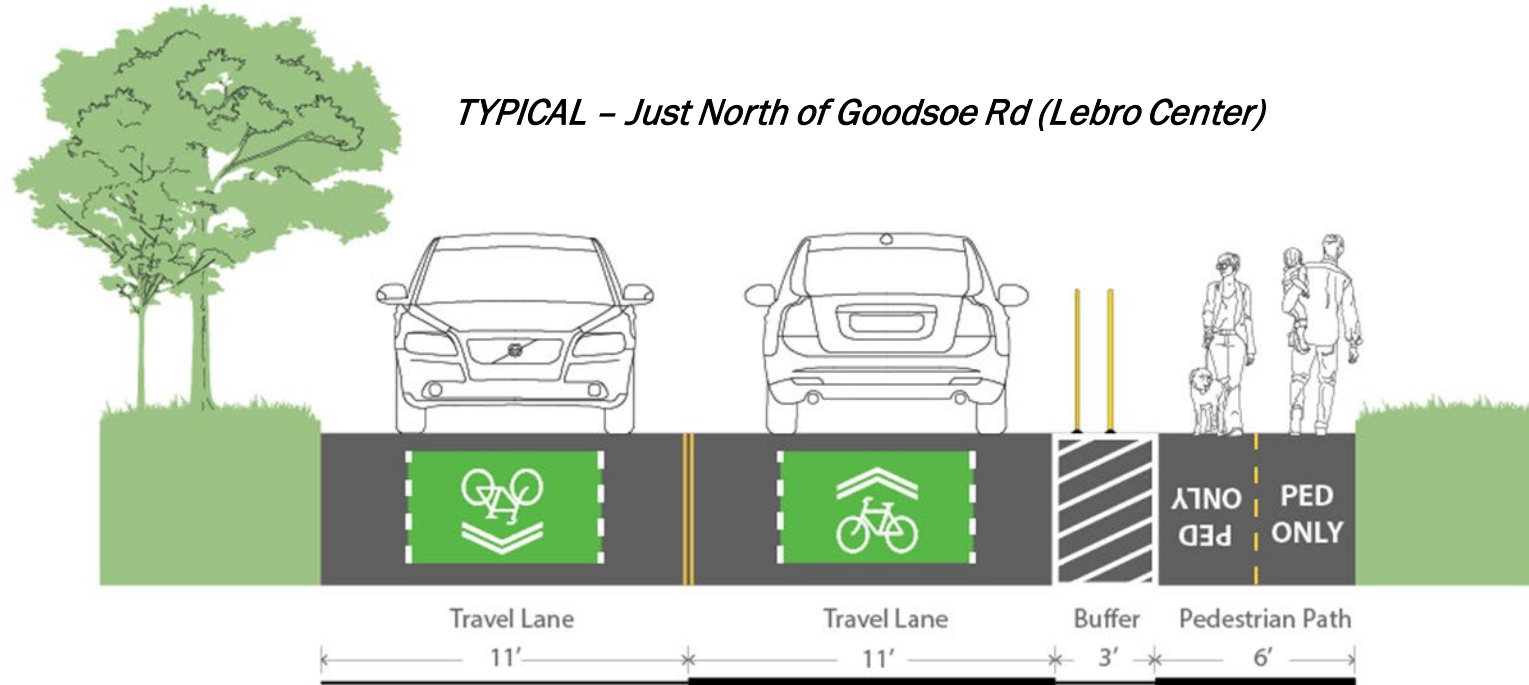
25 ~9.9 – 10.0K

# Route 236: Rogers Goodsoe – Shepard's CONCEPTS

- Facilitate near-term demand with buffered NB pedestrian lane that meets Shepard's Cove sidewalks, lanes narrow to 11' and cyclists receive super sharrows
  - Could also consider using Jersey barriers (next slide) instead of flex-posts
- Adequate walking area typically available; pavement maintenance may be needed at two pinchpoints near Meetinghouse Village and just south of Shepard's Cove Rd

## LONG-TERM

- Develop sidewalks and accommodate painted bike lane in one direction, sharrow in opposite OR create walking-biking facility (NB) between Town Hall and Comm. Center



25

~9.0 – 10.0K

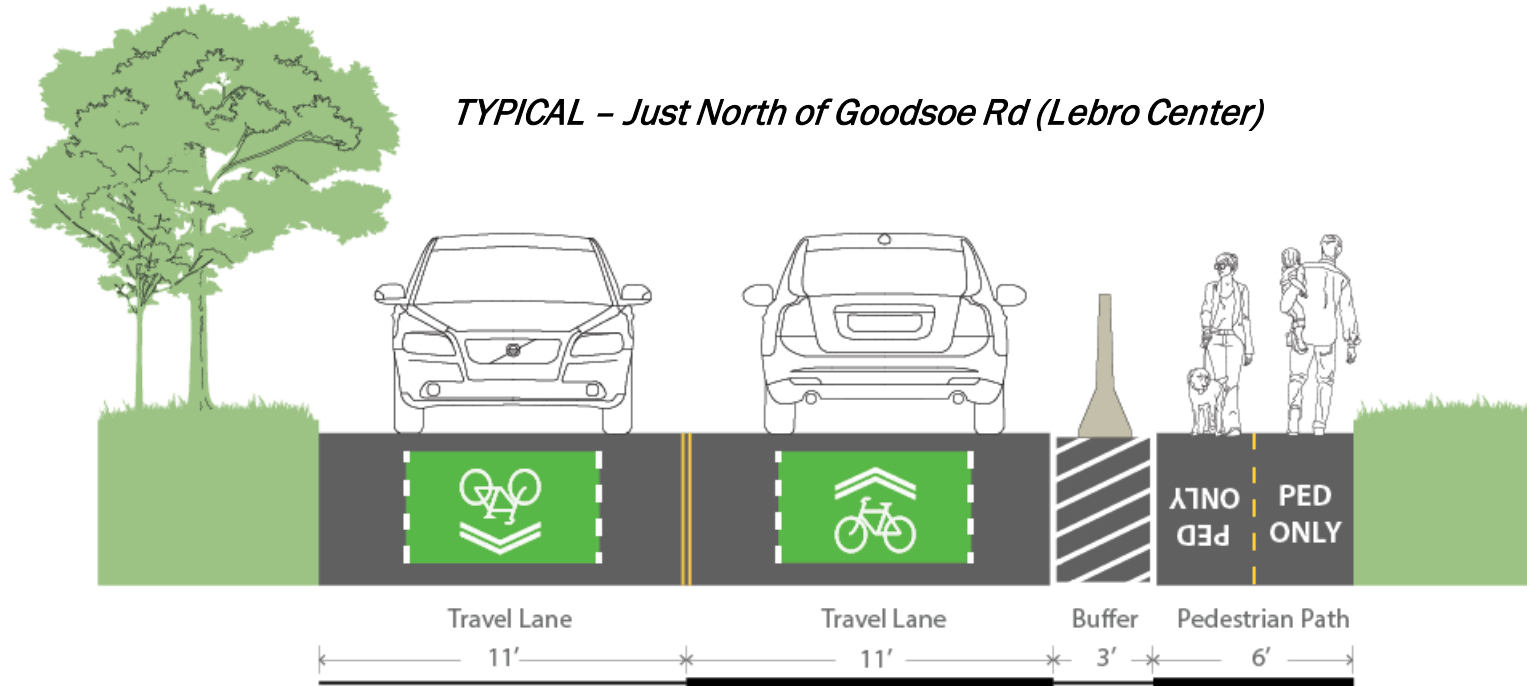


# Route 236: Rogers Goodsoe – Shepard's CONCEPTS

- Facilitate near-term demand with buffered NB pedestrian lane that meets Shepard's Cove sidewalks, lanes narrow to 11' and cyclists receive super sharrow
  - Could also consider using Jersey barriers instead of flex-posts (last slide)
- Adequate walking area typically available; pavement maintenance may be needed at two pinchpoints near Meetinghouse Village and just south of Shepard's Cove Rd

## LONG-TERM

- Develop sidewalks and accommodate painted bike lane in one direction, sharrow in opposite OR create walking-biking facility (NB) between Town Hall and Comm. Center

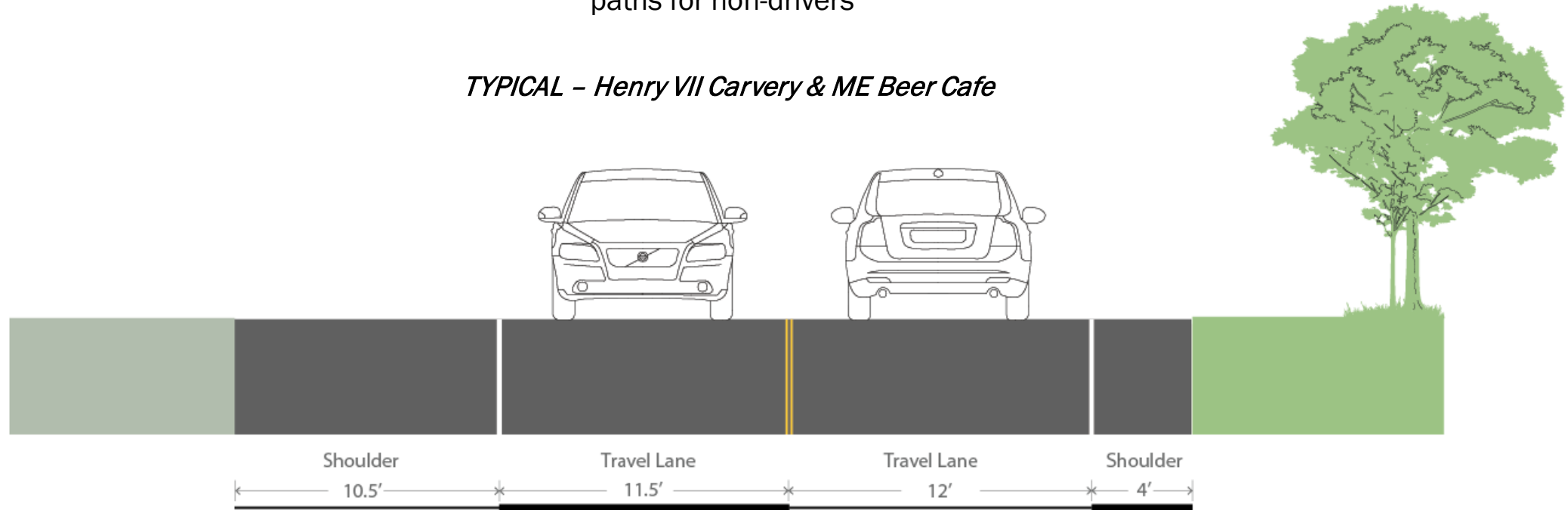


25 ~9.0 – 10.0K

# US-1: Haley – Lewis ISSUES

- North of Haley, speed limit increases by 10 mph (35 mph) and two-lane section begins (33.5 – 40')
- No sidewalks (north of Dunkin'), minimal definition of shoulder / lane edge (particularly north of Cutts Rd)
- Well-tread desire paths in both directions alongside under-used paved or gravel areas
- South of Lewis Rd, US-1 operates near the edge of LTS 3
- Large intersections at Haley, Cutts and Lewis Rd lack marked crossings to define travel paths for non-drivers

*TYPICAL – Henry VII Carvery & ME Beer Cafe*



35

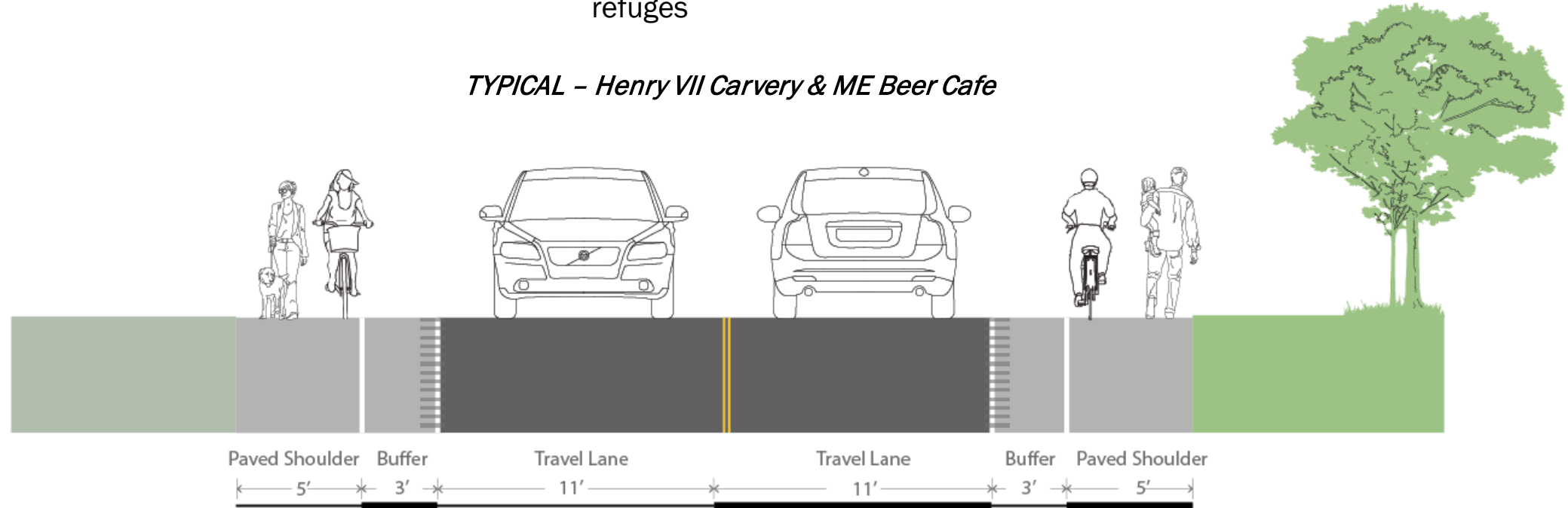
~9.1 – 9.3K



# US-1: Haley – Lewis CONCEPTS

- Formalize existing pavement to enhance separation from motor vehicles
- Perform traffic study to consider speed limit reduction to 25 mph
- Most constrained just north of Cutts Rd @ Sunoco / Misto! (4' Shoulder + 1.5' Buffer), but additional space necessary may be available within ROW (gravel area does not align with adjacent properties)
- Intersections at Cutts and Lewis Rd provide minimum (5.5') or better (6 - 7') shoulder width on both sides
- Dead-ends of left turns (striped medians) lanes could be converted to pedestrian refuges

*TYPICAL – Henry VII Carvery & ME Beer Cafe*

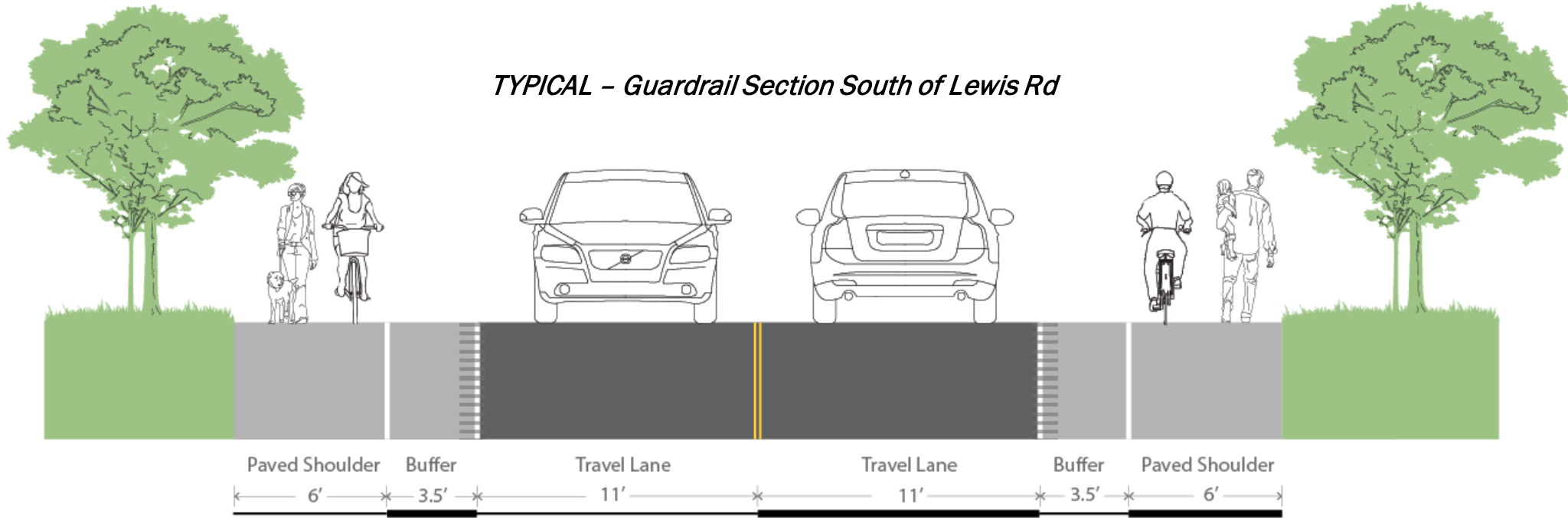


35

~9.1 – 9.3K

# US-1: Lewis – York CONCEPTS

- North of Lewis, speeds increase (45-50 mph) and volumes drop (1K)
- Implement similar section
- Perform traffic study to consider speed limit reduction to 25 mph (uniform)
- Leverage paved area to increase breathing room by  $\geq 1.5'$  both ways
- Improves one of Town's few LTS 4 segments + external connection



45 –  
50

~8.2 – 8.3K



# US-1: Outlets THOUGHTS

- Feedback from nearly every source indicated a strong near- or long-term desire to improve walking and biking connections between US-1 Outlets and adjacent areas
- Re-orienting US-1 to support long-term redevelopment requires substantially more than upcoming repaving allows
- Given the number of constraints (e.g., ROW, traffic, environmental, etc.), a capital investment of this scale would require a collective discussion and study between MEDOT and the Town
  - Create a safe transition at / near Wilson Rd to facilitate two-way bike-ped traffic further south
  - Develop connections into Circle, preferably via Ox Point Dr / Adams Dr given speeds on US-1 & US-1A ramps and need for two-way bike-ped flows



25 ~ 10.6 - 14.5K



# Policy Efforts

---

- **Education** - Continue current efforts but increase scale and targeted reach, integration into school curriculum, partner with community groups, provide trainings
- **Encouragement** – Bike or Walk Friendly Community, promote town bike-ped access and ongoing improvements, work with neighboring communities
- **Enforcement** - Work with community to strategically implement a Pedestrian Safety Program and other campaigns
- **Equity** – Continue to reinforce needs of both pedestrians and cyclists, implement a shifting scale for fines





# Next Steps

---

- Consider what you've heard and read in the Draft Report
  - Will be posted on the Town website
- Submit comments via the project e-mail by Thursday, December 2<sup>nd</sup> at Noon  
[info@kitterypedbikestudy.com](mailto:info@kitterypedbikestudy.com)
- Final meeting with Steering Committee in early December
- Final Report available by mid-December

