



**Conceptual Alternatives Meeting**  
**Lafayette Road/Middle Street**  
**Portsmouth, NH**

Presented By  
Jason DeGray, PE, PTOE  
Joseph Johnson, PE, PTOE  
Conor Semler, AICP



**February 12, 2015**



# Agenda:

- How did we get here?
- What have we heard?
- Conceptual Alternatives
- Public Input



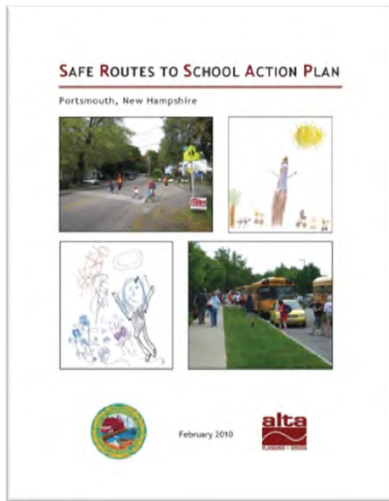


# How did we get here?

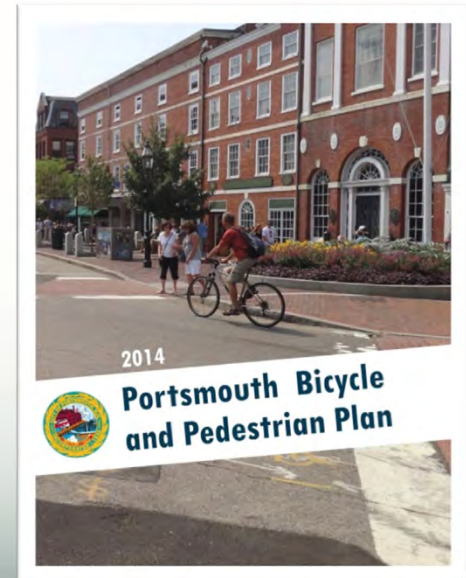


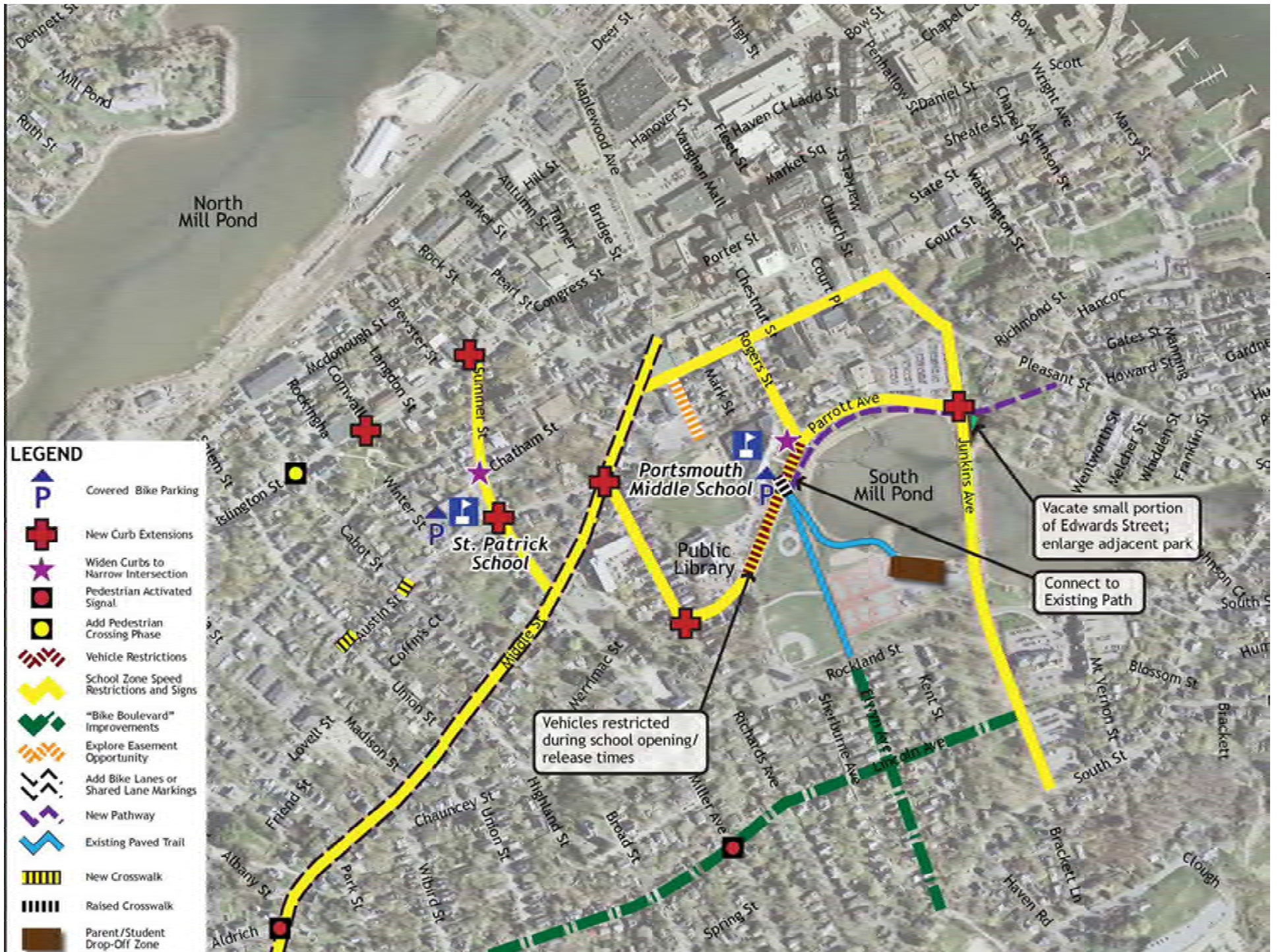
**“Walk Friendly Community Policy”**

**“Bicycle Friendly Community Policy”**



**“Complete Street Policy”**  
*Streets and roadways in the City of Portsmouth will be convenient, safe and accessible for all transportation users, including pedestrians, bicyclists, transit vehicles and riders, children, the elderly, and people with disabilities.*





**LEGEND**

-  Covered Bike Parking
-  New Curb Extensions
-  Widen Curbs to Narrow Intersection
-  Pedestrian Activated Signal
-  Add Pedestrian Crossing Phase
-  Vehicle Restrictions
-  School Zone Speed Restrictions and Signs
-  "Bike Boulevard" Improvements
-  Explore Easement Opportunity
-  Add Bike Lanes or Shared Lane Markings
-  New Pathway
-  Existing Paved Trail
-  New Crosswalk
-  Raised Crosswalk
-  Parent/Student Drop-Off Zone

Vacate small portion of Edwards Street; enlarge adjacent park

Connect to Existing Path

Vehicles restricted during school opening/release times

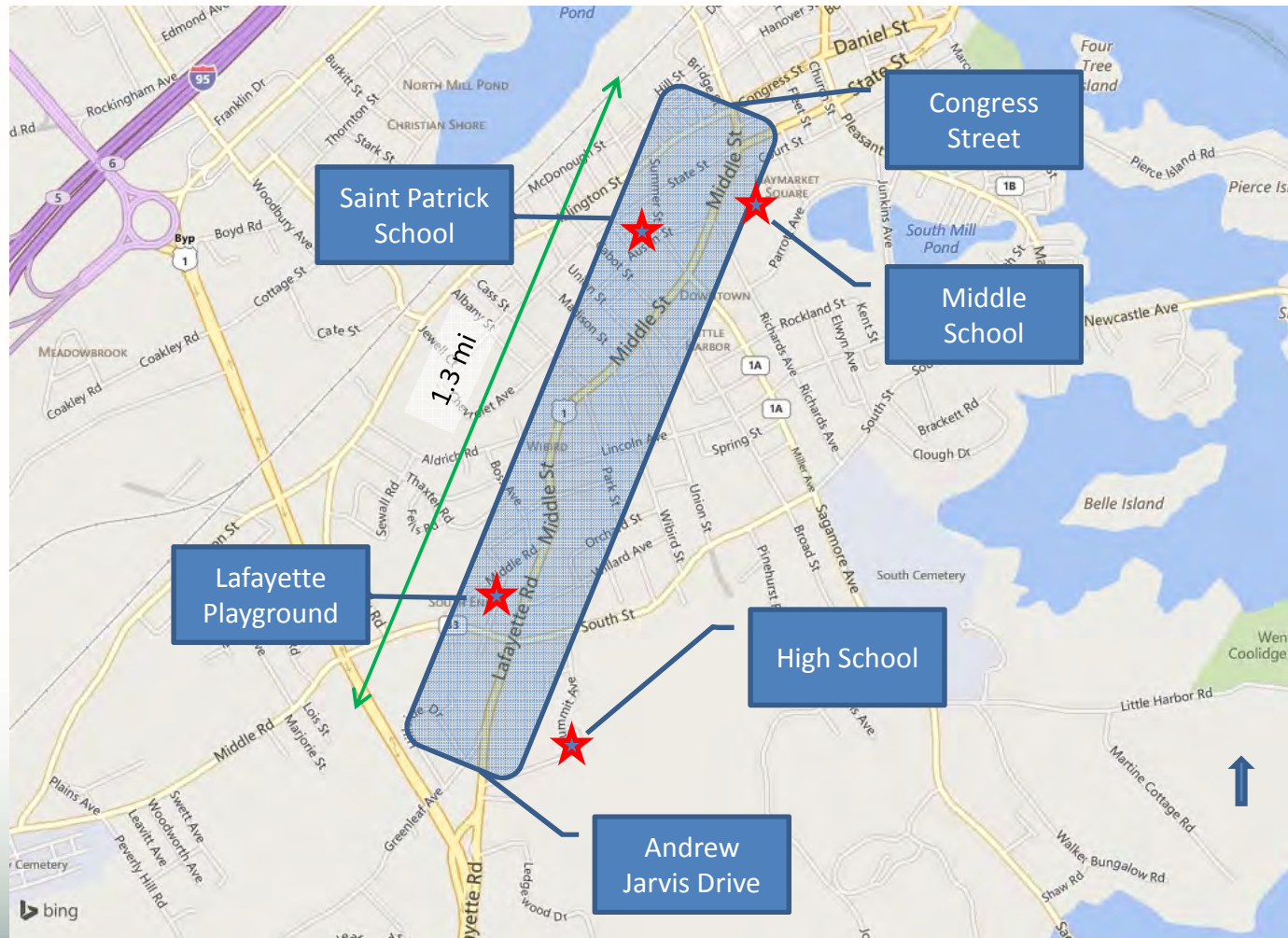


# A Project Emerges to...

- Improve Safety for Cyclists & Pedestrians
- Expand Connectivity
- Provide Bicycle Route Utilized by All Ages
- Enhance Pedestrian Crossings



# Project Limits



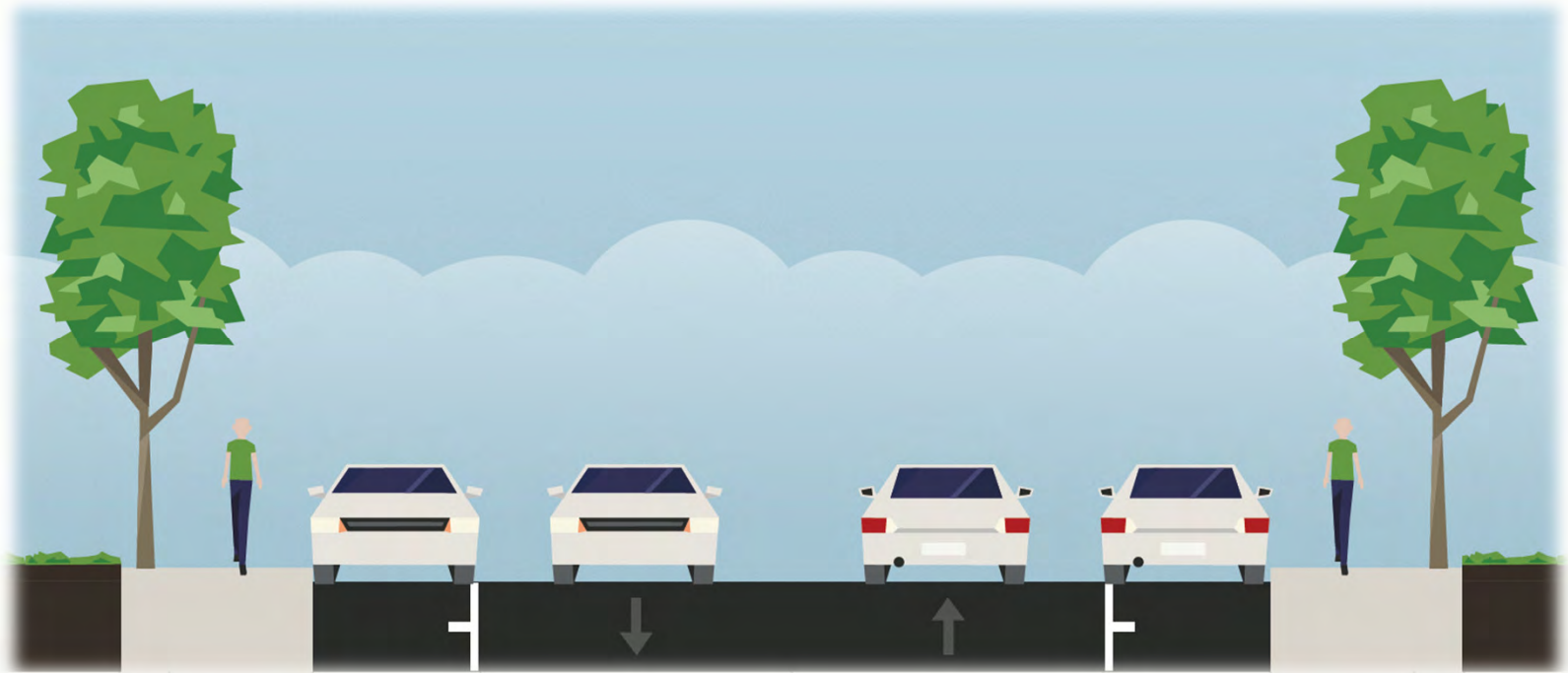


## What Exists:

- Cars...11,000 ADT
- Pedestrians
- Bicycles
- Residential & Commercial
- Schools & Civic
- Entry to Downtown
- On-Street Parking



# What Exists:





## What we heard from you:

- Met with School Officials – October 20, 2014
- Public Information Gathering Meeting – November 19, 2014
- Met with First Responders – January 20, 2015
- Portsmouth Parking & Traffic Safety Committee – February 12, 2015

## What we heard from you:

- Unsafe Pedestrian Environment
- Traffic speeds too high
- Streets too wide
- Parents are not comfortable with children riding on the street



## What we heard from you:

- Students Walk & Bike to School
- Pulling out of side streets is a challenge – Sight Distance
- Parking is informal
  - No Parking Here to Corner not enforced
  - Visibility Impacts
- Important Emergency Response Corridor

## Concept Goals:

- Provide a safe and desirable route for kids to and from schools and nearby destinations
- Calm traffic
- Shorten pedestrian crossings
- Narrow 'street'
- Formalize parking
- Maintain emergency response ability
- Incremental Steps



# Traditional Bike Lanes



## Description

- An exclusive lane for bicyclists designated with pavement markings and signage
- Located adjacent to motor vehicle travel lanes and flows in the same direction as motor vehicle traffic
- **Typical Dimensions:** Min. 5 feet. 6 foot min. preferred adjacent to parked vehicles; 4 ft. acceptable adjacent to curb in low speed environments

## Application

- Used on medium to low volume streets with traffic speeds of 40 mph or less

## Advantages/Disadvantages

- Provides separate travel lane for bicyclists
- Mixing zones may be required at intersections or bus stops
- Enforcement often required to keep motorists from parking or stopping in bike lanes

## Action Required

- Signs and markings, construction
- Estimated cost: \$20 - \$46K per mile retrofit (type varies); \$590K per mile to reconstruct and widen roadway to accommodate bike lanes

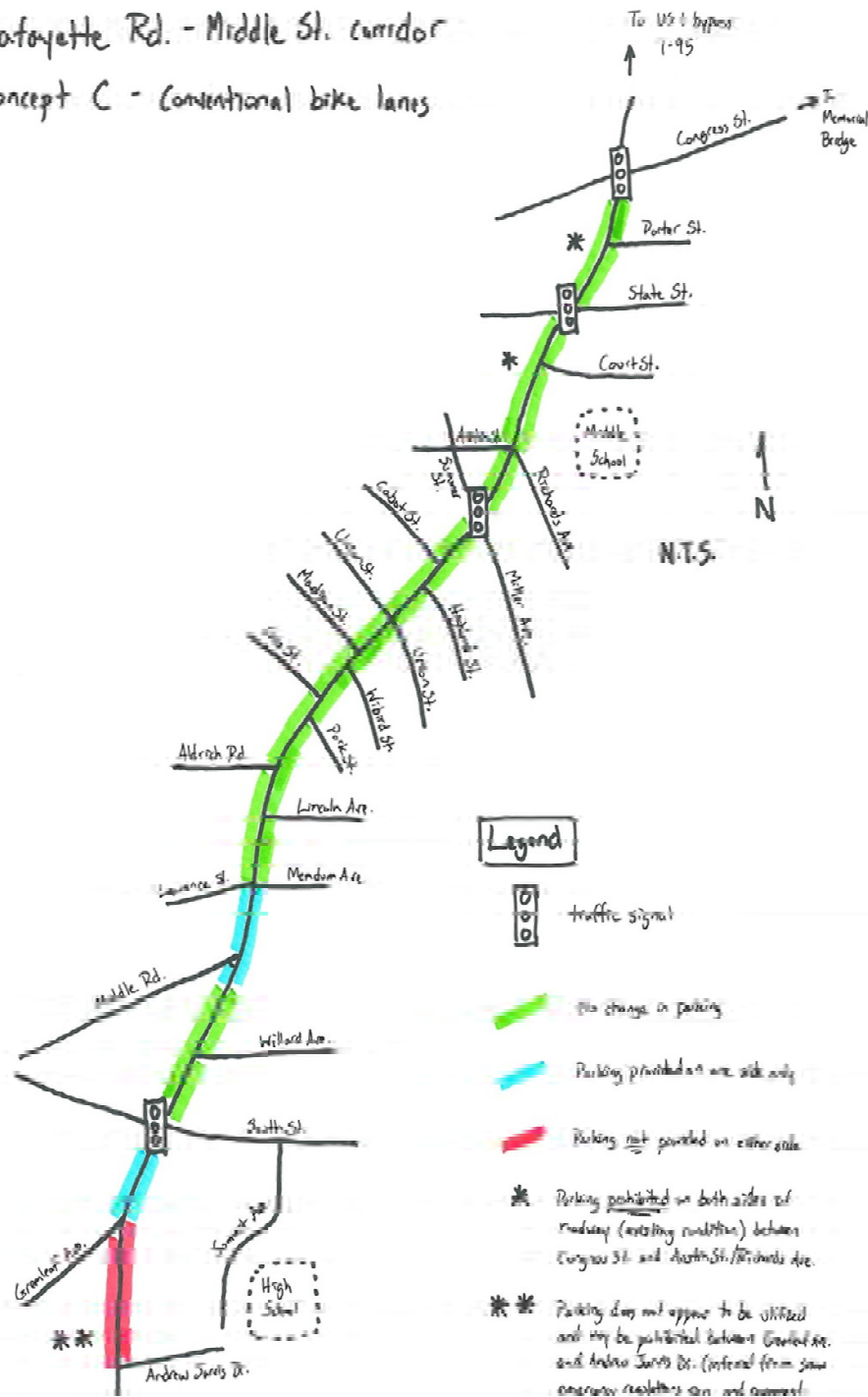
# Bike Lanes







Lafayette Rd. - Middle St. corridor  
 Concept C - Conventional bike lanes





# Protected Bike Lanes



photo: Paul Krueger



## Description

- A bicycle lane with additional lateral separation from other roadway users
- Buffer may be located between the bike lane and motor vehicle travel lane, parking, or both
- **Typical Dimensions:** Min. 6 ft. Includes 2 ft. buffer and 4 ft. lane

## Application

- Installed adjacent to high speed or high volume traffic
- Installed adjacent to high turnover parking

## Advantages/Disadvantages

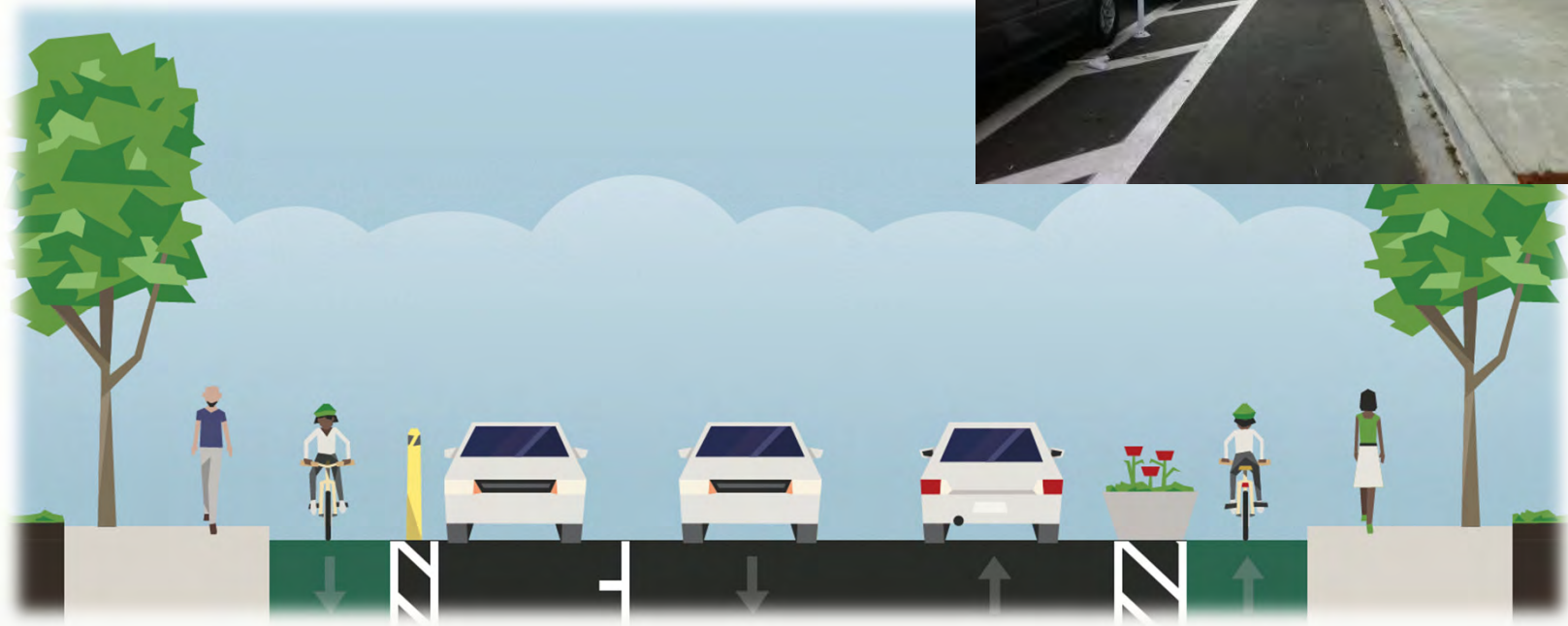
- Increases operating space and comfort for bicyclists
- Provides passing space for bicyclists
- Requires more space than standard bike lanes
- Requires installation and maintenance of more pavement markings than a standard bike lane
- Enforcement often required to keep motorists from parking or stopping in bike lanes

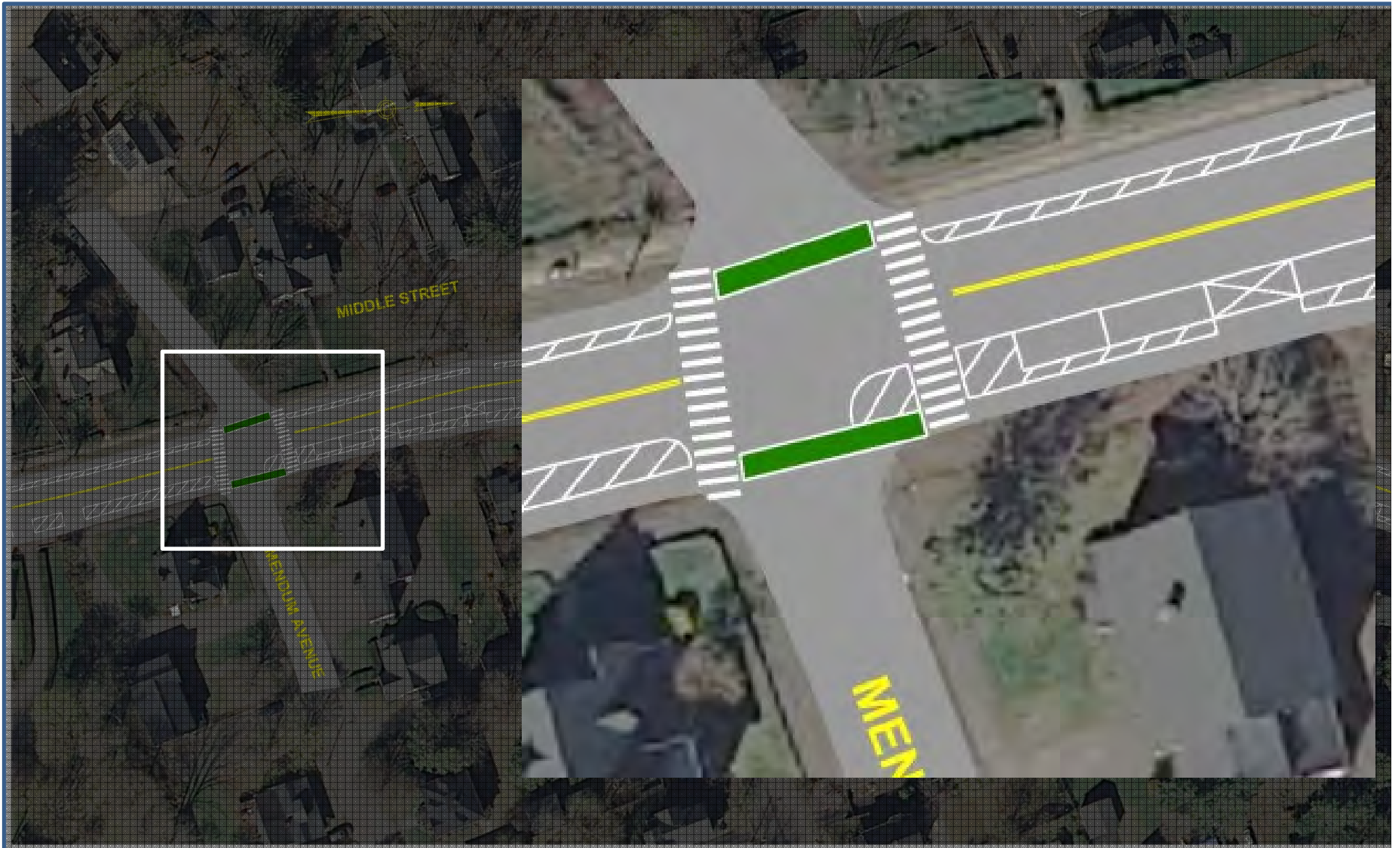
## Action Required

- Signs and markings
- Estimated cost: \$55K - 61K per mile (type varies)



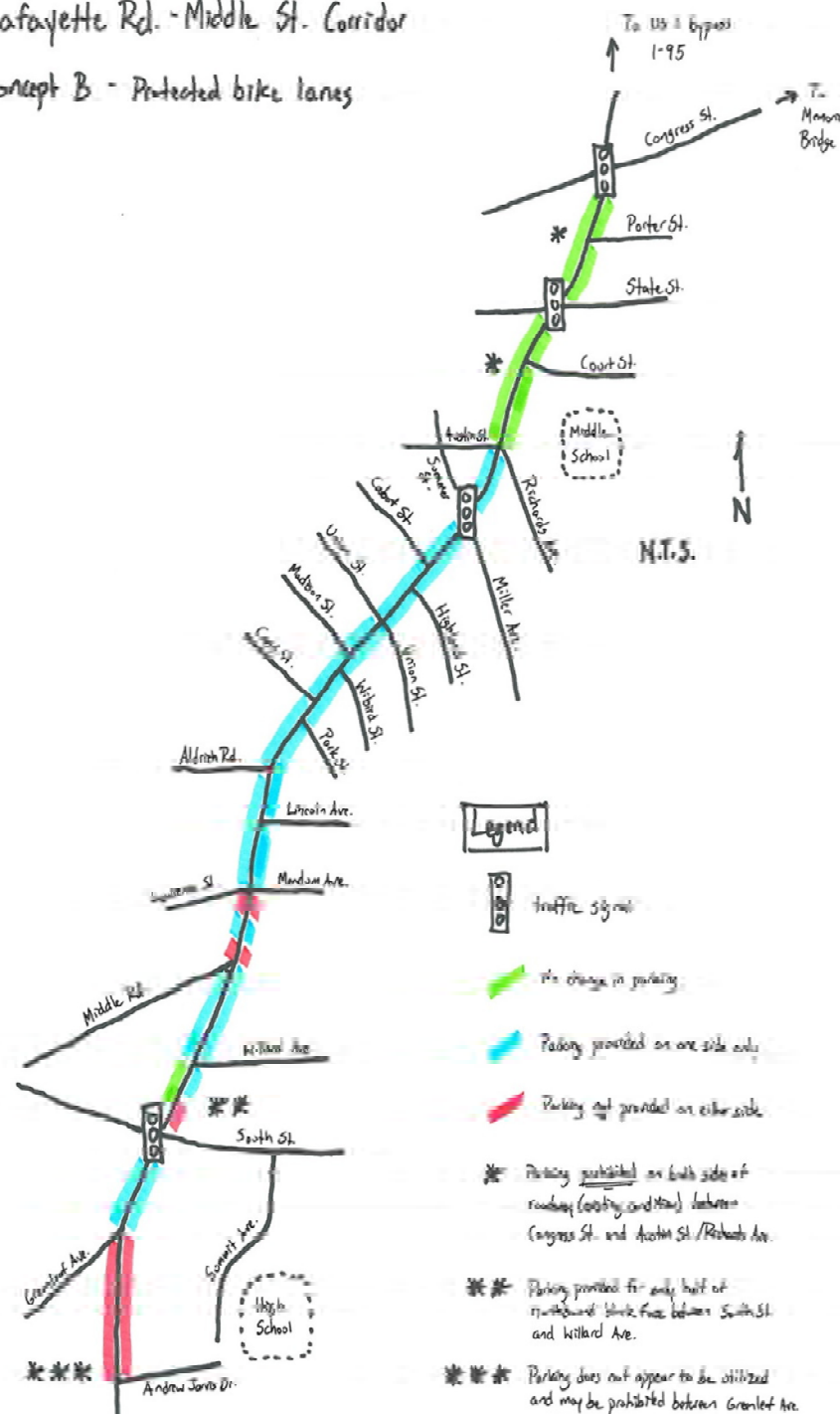
# Protected Bike Lanes







Lafayette Rd. - Middle St. Corridor  
 Concept B - Protected bike lanes





# Two-Way Cycle Track



## Description

- One- or two-way bicycle facility with vertical separation from motor vehicle traffic
- Vertical separation may be provided by parked motor vehicles, flexible bollards, plantings, or curbs
- May be located on a roadway or raised to, or just below, sidewalk level
- **Typical Dimensions:** 4-5 ft. wide travel lane plus minimum 3 ft. buffer from roadway

## Application

- Along roadways with high vehicular volumes, speeds, or complex traffic patterns
- Along primary roadway corridors providing access to high-demand destinations where high bicycle volumes are present or desired

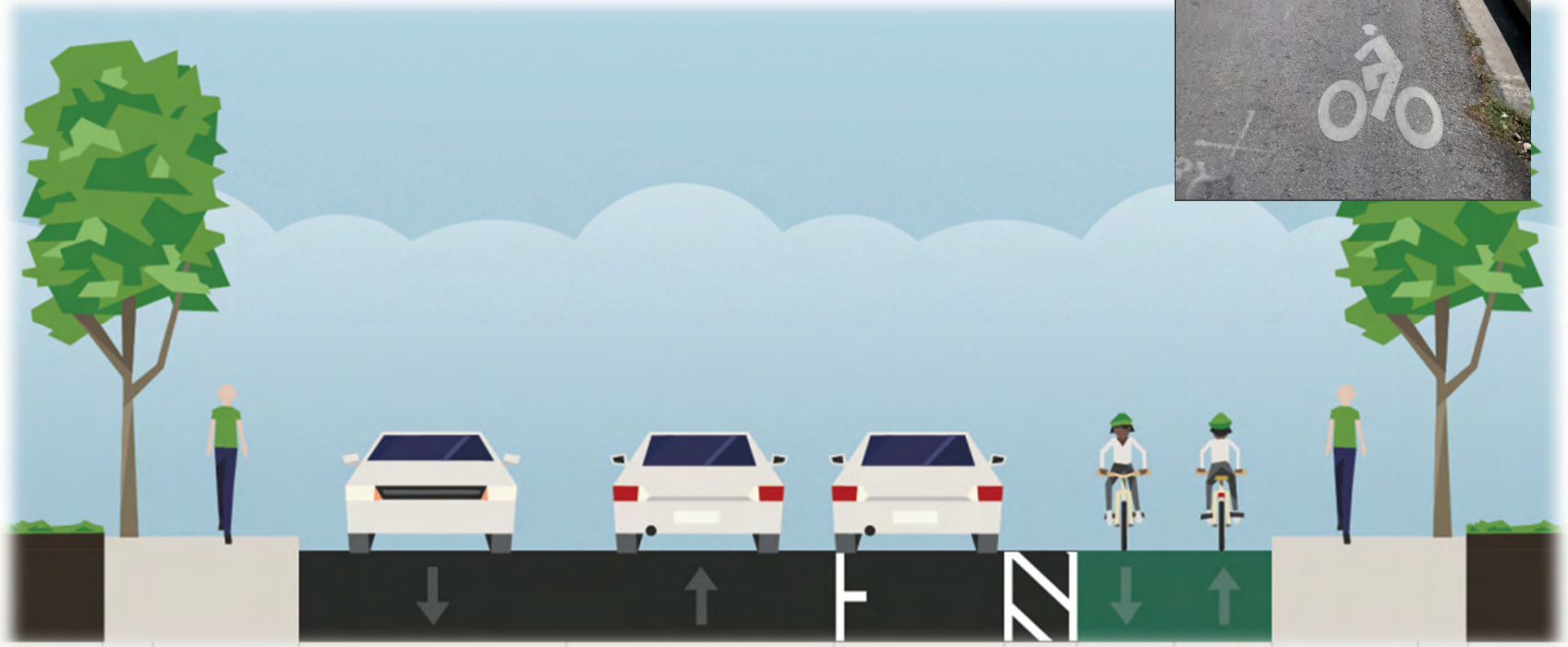
## Advantages/Disadvantages

- Provides comfort for bicyclists and motorists
- Specialized intersection treatments may be required to accommodate bicyclists
- Separation of bicyclists and pedestrians may require specialized design treatments
- Potential parking restrictions due to sight lines

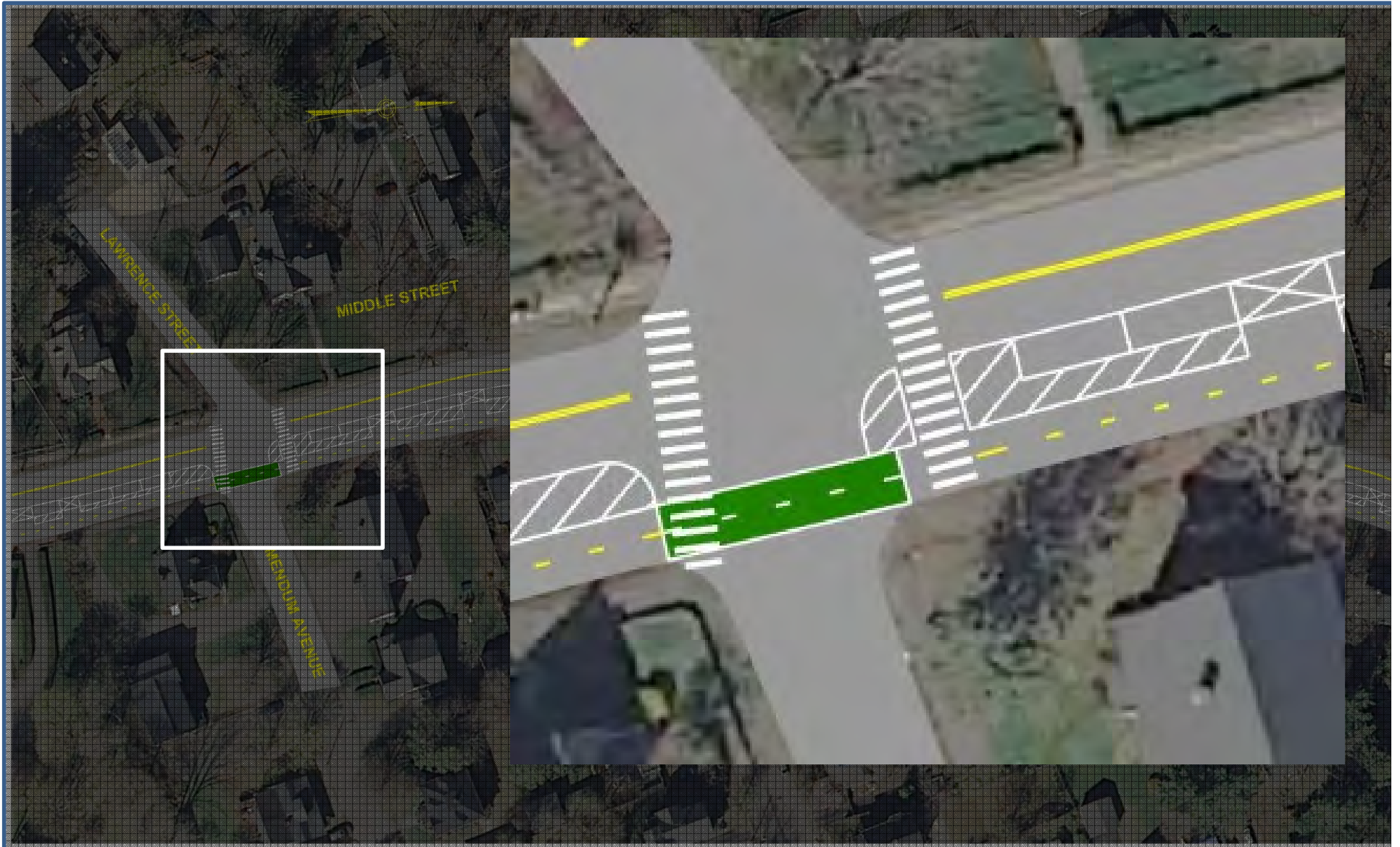
## Action Required

- Construction or signs, markings, and signals depending on level of implementation
- Estimated cost: \$127K-153K per mile for retrofit; \$710K per mile for construction

# Two-Way Cycle Track



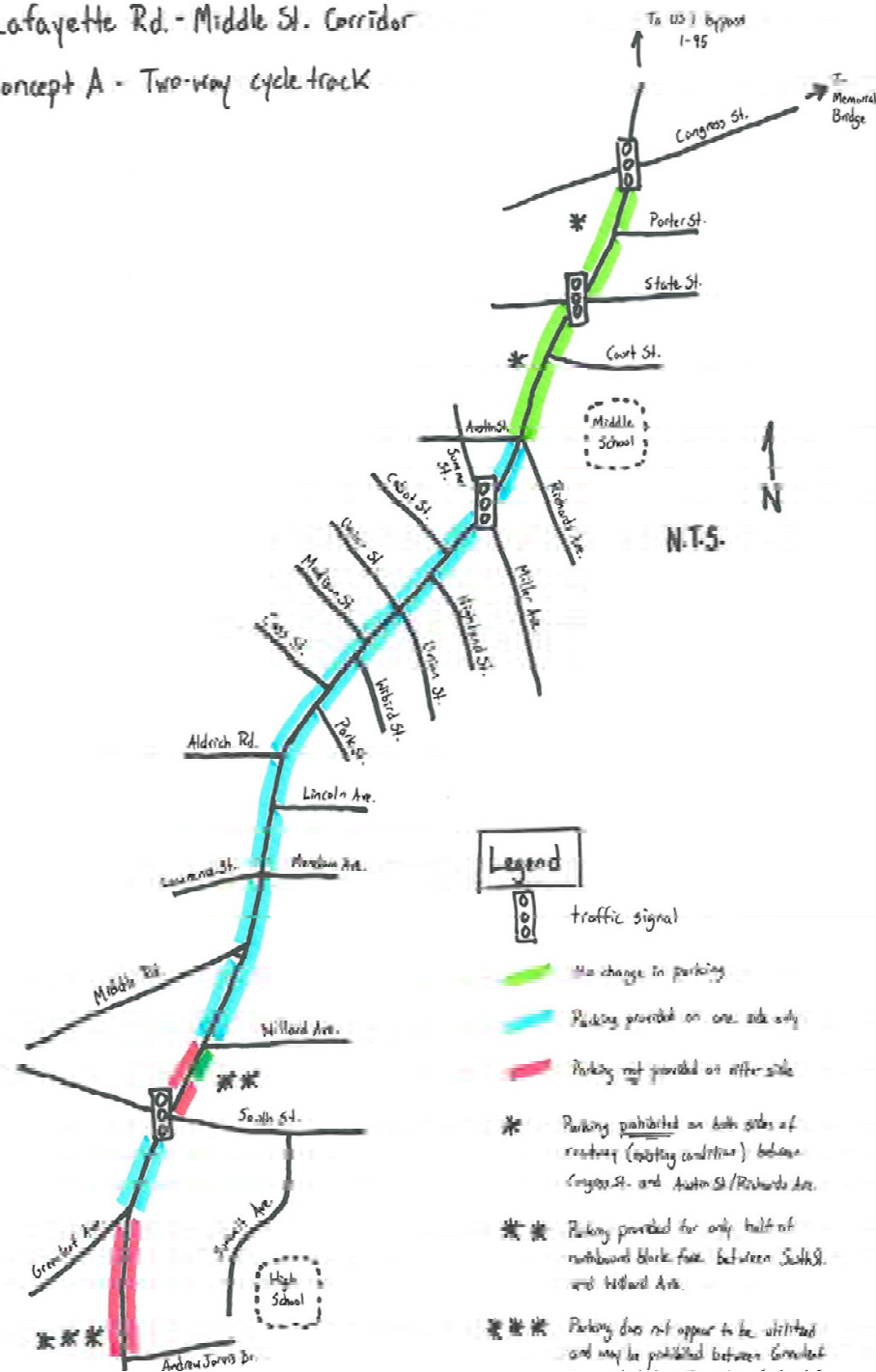
























# Lafayette Rd. - Middle St. Corridor

## Concept A - Two-way cycle track



# Summary of Alternatives

	Two-Way Cycle Track	Protected Bike Lanes	Traditional Bike Lanes
Traffic Calming			
Pedestrian Safety			
Bicycle Safety			
Traffic Safety			
Mode Shift			
Parking Supply			



Questions?

