Centre/South Streetscape and Transportation Action Plan

Citizens' Advisory Committee Meeting

The Agassiz School cafeteria

20 Child Street

Thursday, April 29, 2010

6:00-8:00 PM

Meeting Agenda

- Schedule Overview
- Bicycle Accommodations
- Parking Analysis
- Customer Survey
- Concept Design Areas
- Public Comment & Next Steps

Schedule Overview

CAC Meeting 1 – 7/15/09
>Introduction

CAC Meeting 2 – 9/30/09
>Vision Statement

CAC Meeting 3 – 11/23/09
>Streetscape Guidelines

CAC Meeting 4 – 12/16/09
>Initial design locations

CAC Meeting 5 – 1/28/10
>Concept Designs

CAC Meeting 6 – 3/23/2010
>Concept Designs

CAC Meetings 7 – 4/29/2010
>Bicycle Accommodations
>Parking Analysis
>Continued Design of Location

CAC Meeting 8 – 5/20/2010
>Progress Design of Locations

CAC Meeting 9 & 10
>Progress Design
>Final Design
>Final Report

Meeting Agenda

- Schedule Overview
- Bicycle Accommodations
- Parking Analysis
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Centre/South Bicycle Accommodations

- City Policy
- Overview of “State of the Practice”
- Regional Connections
- Contextual Analysis
- Concept Plans

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Bicycle Accommodations

City Policy

- Developed through Complete Streets Guidelines

"Exclusive bicycle facilities are the preferred facility type in Boston where feasible. On streets where an exclusive facility is not feasible, the appropriate shared facility design should be provided."

City of Boston Bike Goals

- Increase Bicycle Mode Share
- Provide Interconnected Facilities
- Improve Safety
- Redesign Streets to Provide Multi-modal Balance
- Increase Education and Enforcement Efforts

Bicycle Accommodations

"The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems."

- Ray LaHood, US DOT Director

Centre Street, Jamaica Plain

Centre/South Bicycle Accommodations

- City Policy
- Overview of “State of the Practice”
- Regional Connections
- Contextual Analysis
- Concept Plans

Bicycle Accommodations

State of the Practice

- Bike lane – a portion of a roadway that has been designated for preferential or exclusive use by bicyclists by pavement markings and, if used, signs.

Harvard Avenue, Allston/Brighton

Bicycle Accommodations

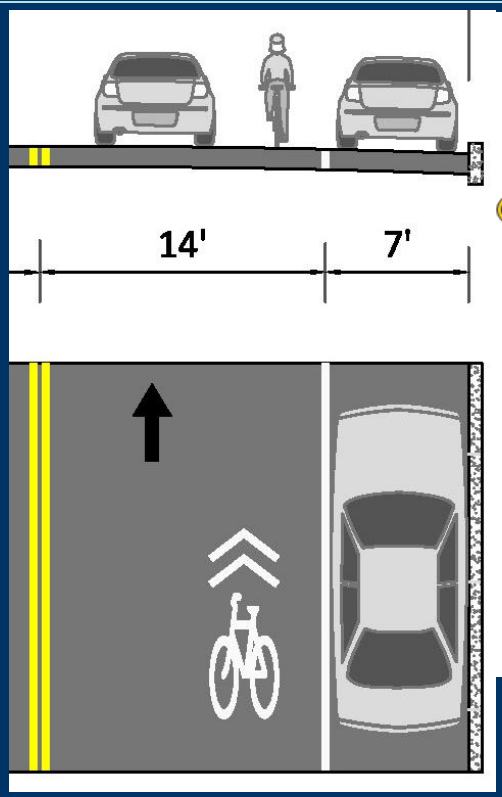
State of the Practice

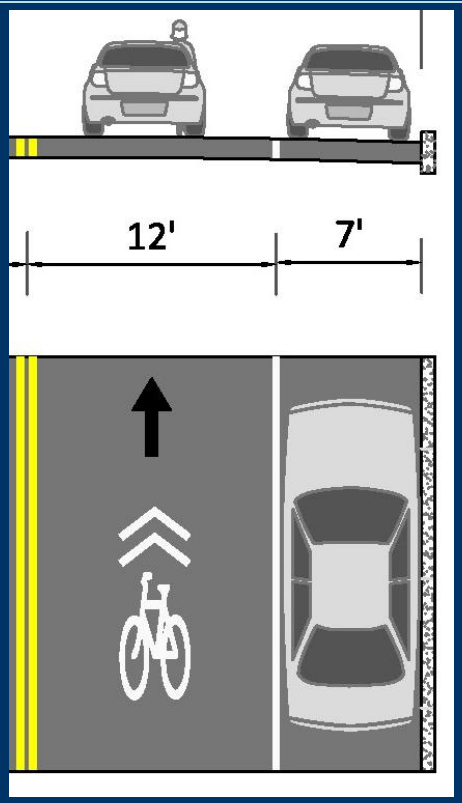
- Shared lane – any roadway where bicycles and motor vehicles operate on which no bicycle lane is designated.
- Shared lane marking – a pavement marking symbol that indicates an appropriate bicycle positioning in a shared lane.

Washington Street, Roslindale

Bicycle Accommodations

State of the Practice





Lanes > 13 feet

- Symbol positioned 11’ from curb
- Travel lanes wide enough to share

Lanes ≤ 13 feet

- Symbol positioned in center of travel lane
- Travel lanes are too narrow to share

Bicycle Accommodations

State of the Practice

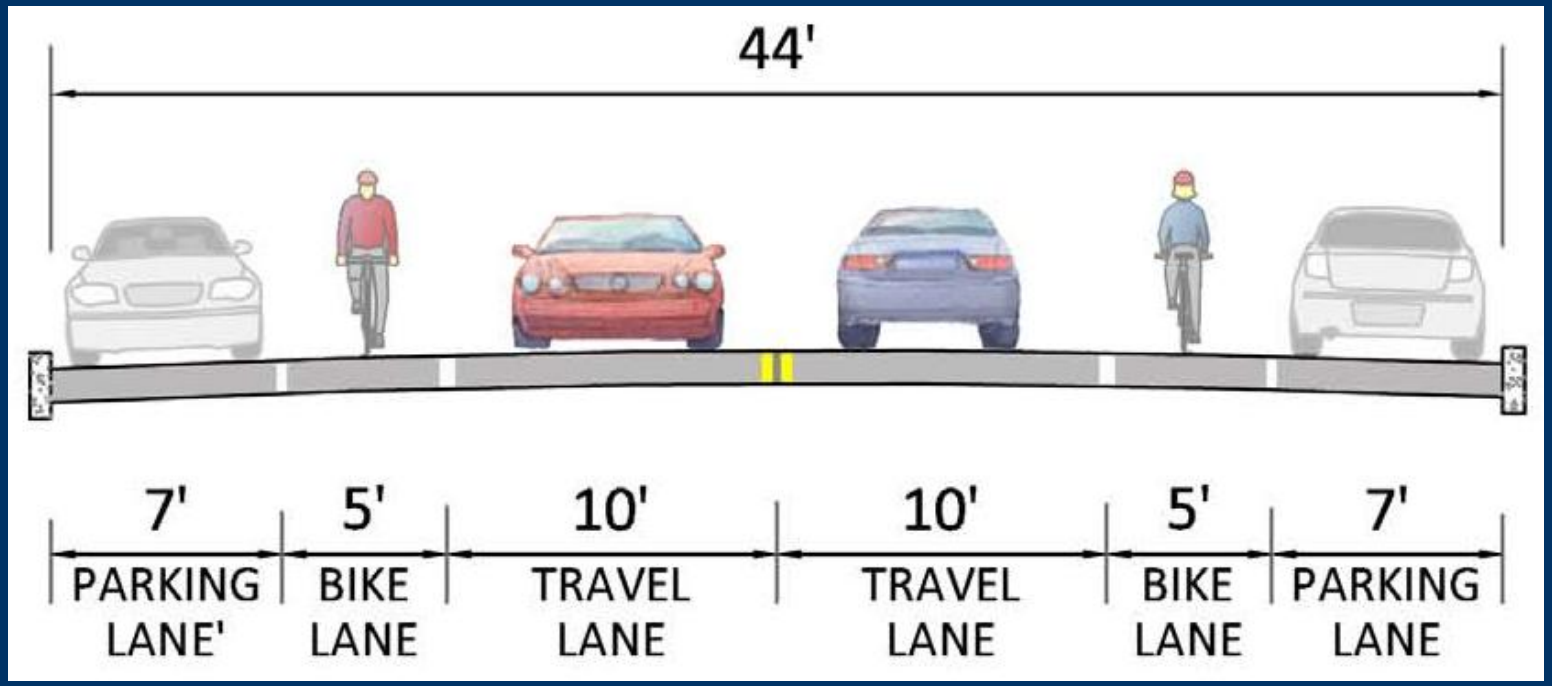
- Climbing lanes – faster moving downhill direction has shared lane markings and the slower moving uphill direction has bicycle lane

Stone Way, Seattle

Bicycle Accommodations

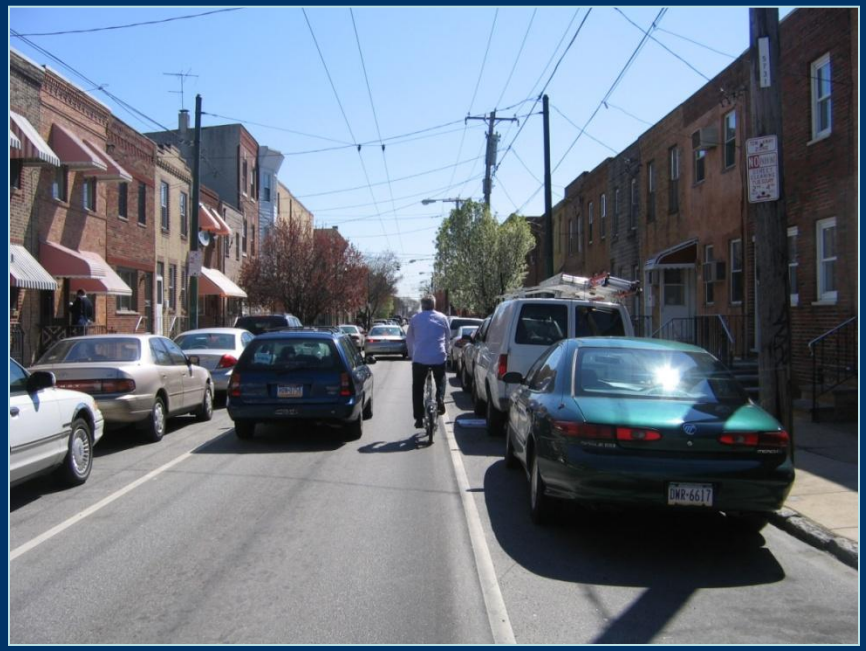
State of the Practice - *AASHTO Dimensions*

- 10’ minimum Travel Lane Widths
- 7’ minimum Parking Lane Widths
- 5’ minimum Bike Lane Width against parking



Bicycle Accommodations

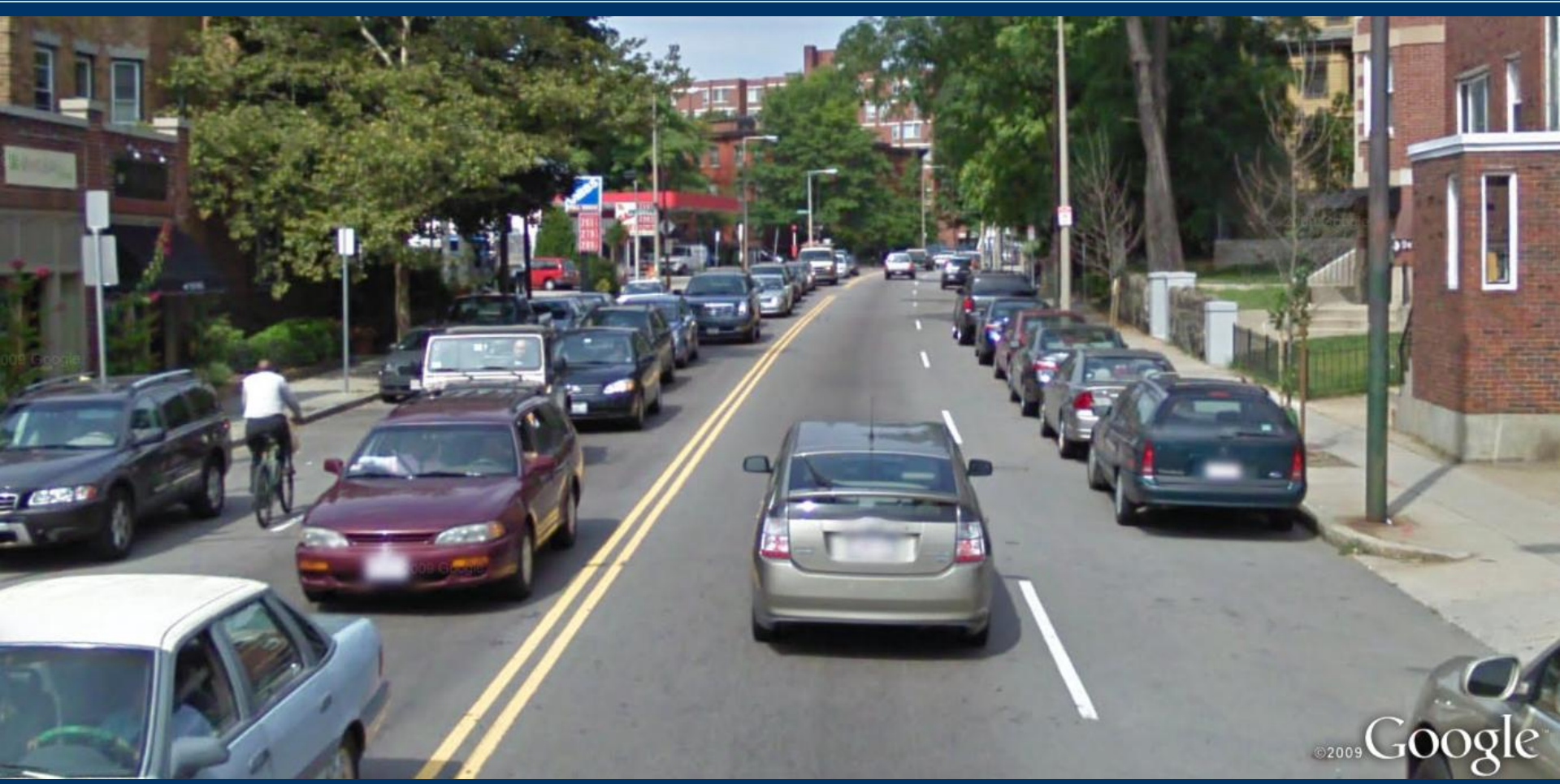
State of the Practice - No Facility



- Studies indicate upwards of 50% of cyclist ride within door zone on streets without bike facilities
- 85% of cyclists operate at speeds between 8-15 mph
- Dooring accounts for 5-12% of urban cycling crashes
- Motorists pass closer to cyclists on two lane roadways with higher volumes
- Motorists pass farther from cyclists on lower volume and multi-lane roadways

Operations Today

Operations Today



Shared Lanes vs. Bike Lanes

Common Elements

- Increase distance between cyclist and parked vehicles
- Increase motorists awareness of cyclists
  - (bike lanes may increase more than shared lane markings)
- Increase “sense of safety”
- Increase “sense of legitimacy”
- Decrease cyclist riding on adjacent sidewalks
- Decrease cyclist wrong-way riding on roadway

No data showing either facility reduces or increases dooring crashes

Shared Lanes vs. Bike Lanes

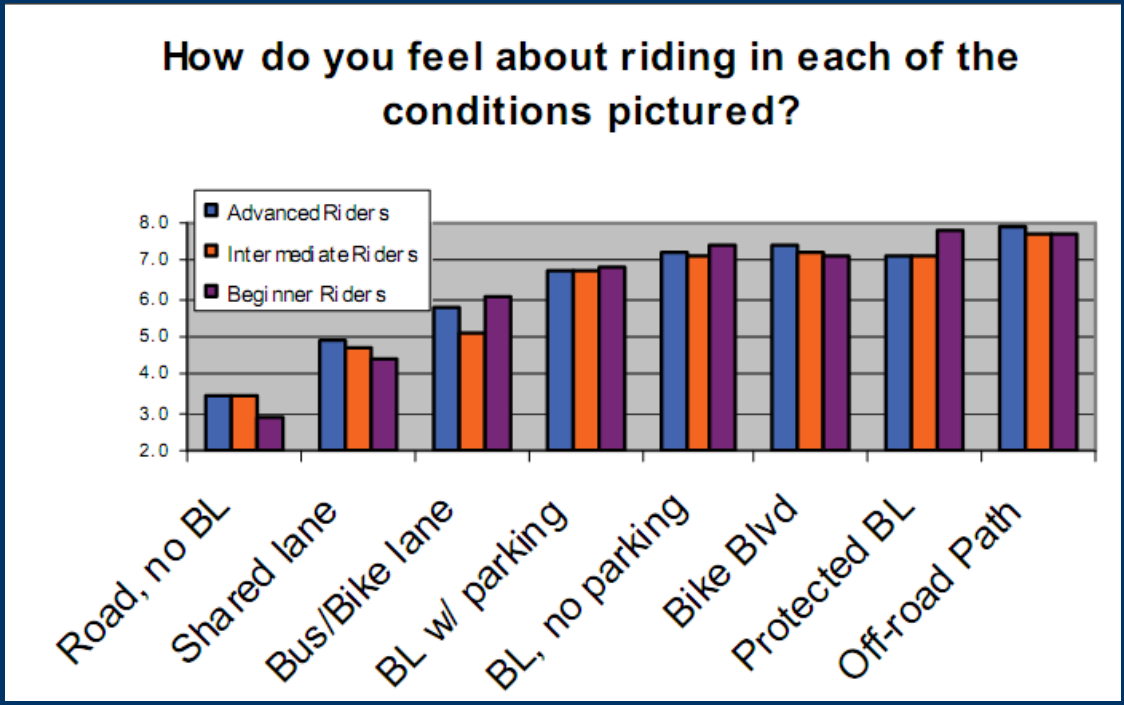
Differences

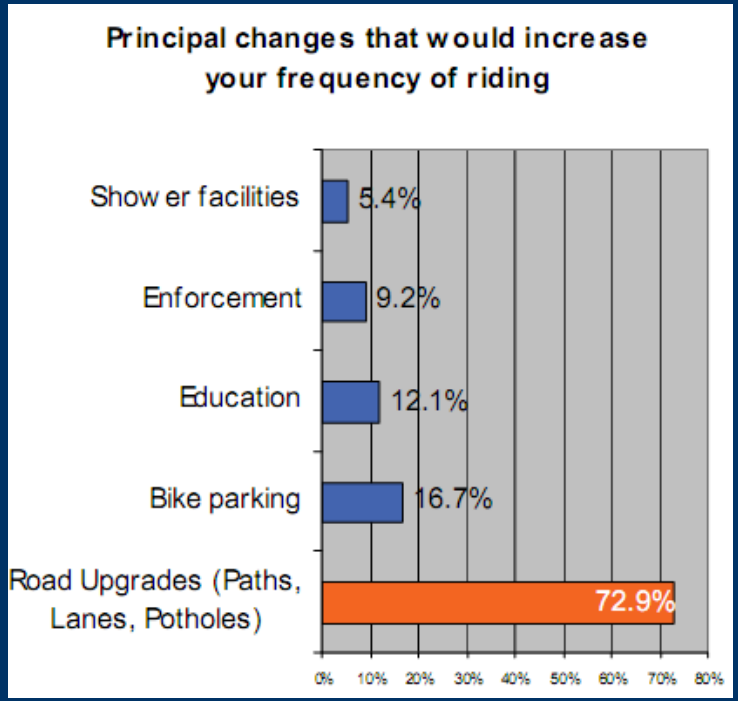
Bike Lanes

- Survey's consistently indicate a preference for bike lanes over wide lanes

Shared Lane Markings

- No data on preference or "quality of service" for streets with shared lane markings





Shared Lanes vs. Bike Lanes

Differences

Bike Lanes

- Survey's consistently indicate a preference for bike lanes over wide lanes
- continuous along entire route

Shared Lane Markings

- No data on preference or "quality of service" for streets with shared lane markings
- Intermittent facility

Shared Lanes vs. Bike Lanes

Differences

Bike Lanes

- Survey's consistently indicate a preference for bike lanes over wide lanes
- continuous along entire route
- decrease motorists passing distance to cyclists

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Shared Lanes vs. Bike Lanes

Differences

Bike Lanes

- Survey's consistently indicate a preference for bike lanes over wide lanes
- continuous along entire route
- decrease motorists passing distance to cyclists
- channelize traffic

Shared Lane Markings

- No data on preference or "quality of service" for streets with shared lane markings
- Intermittent facility
- Increase motorists passing distance to cyclists
- Do not channelize traffic

There are limited evaluations of shared lane markings on two-lane roadways – casual observations indicate they may not be as effective during periods of high traffic volume on two-lane roadways

Shared Lanes vs. Bike Lanes

Differences

Bike Lanes

- Survey's consistently indicate a preference for bike lanes over wide lanes
- continuous along entire route
- decrease motorists passing distance to cyclists
- channelize traffic
- May be located within door zone

Shared Lane Markings

- No data on preference or "quality of service" for streets with shared lane markings
- Intermittent facility
- Increase motorists passing distance to cyclists
- Do not channelize traffic
- Typically outside door zone

Shared Lanes vs. Bike Lanes

Differences

Bike Lanes

- Survey's consistently indicate a preference for bike lanes over wide lanes
- continuous along entire route
- decrease motorists passing distance to cyclists
- channelize traffic
- May be located within door zone
- Lane separates traffic by speed

Shared Lane Markings

- No data on preference or "quality of service" for streets with shared lane markings
- Intermittent facility
- Increase motorists passing distance to cyclists
- Do not channelize traffic
- Completely outside door zone
- Mixed speeds of traffic in lane

Shared Lanes vs. Bike Lanes

Differences

Bike Lanes

- Survey's consistently indicate a preference for bike lanes over wide lanes
- continuous along entire route
- decrease motorists passing distance to cyclists
- channelize traffic
- May be located within door zone
- Lane separates traffic by speed
- Identify conflict areas

Shared Lane Markings

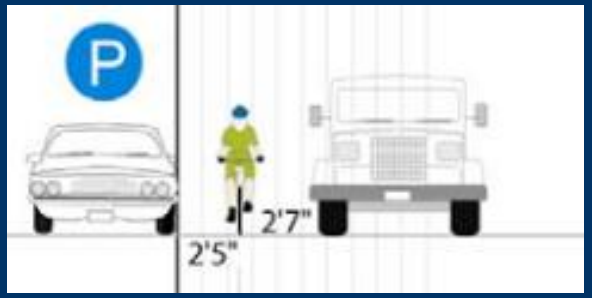
- No data on preference or "quality of service" for streets with shared lane markings
- Intermittent facility
- Increase motorists passing distance to cyclists
- Do not channelize traffic
- Completely outside door zone
- Mixed speeds of traffic in lane
- Do not identify conflict areas

Bicycle Accommodations

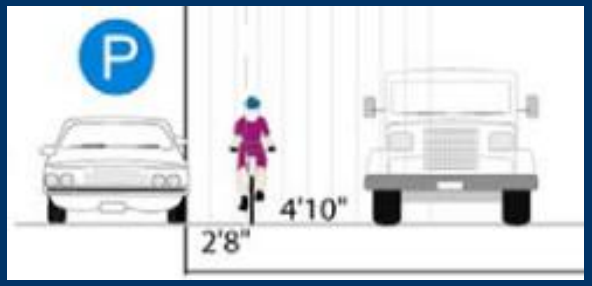
Comparative Cyclist Position

San Francisco Study
Shared Lane Marking

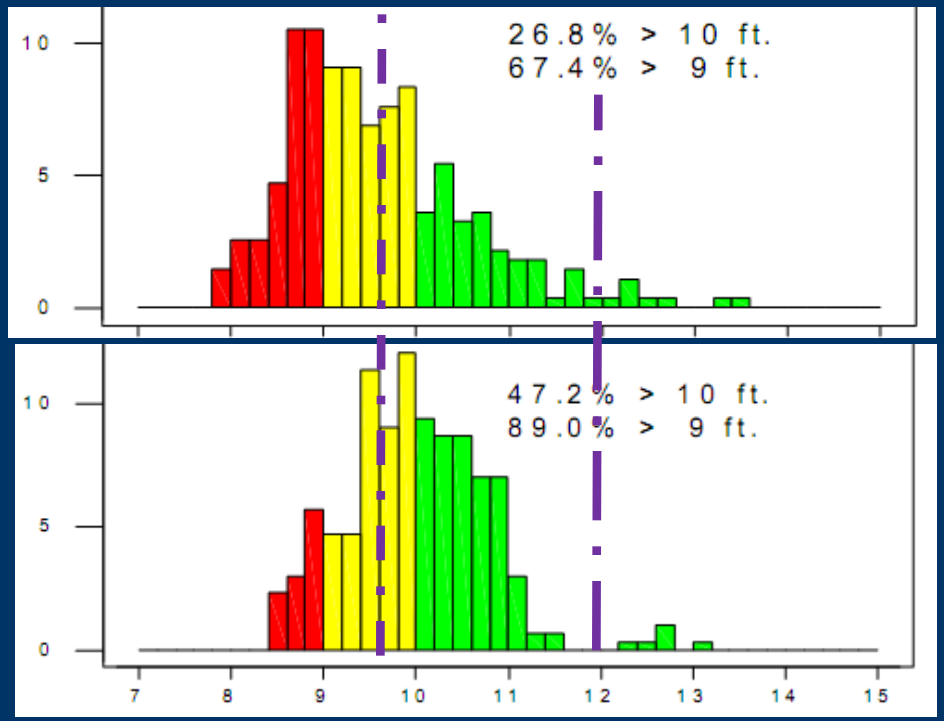
Baseline



After



Cambridge Hampshire St Study
Bicycle Lane



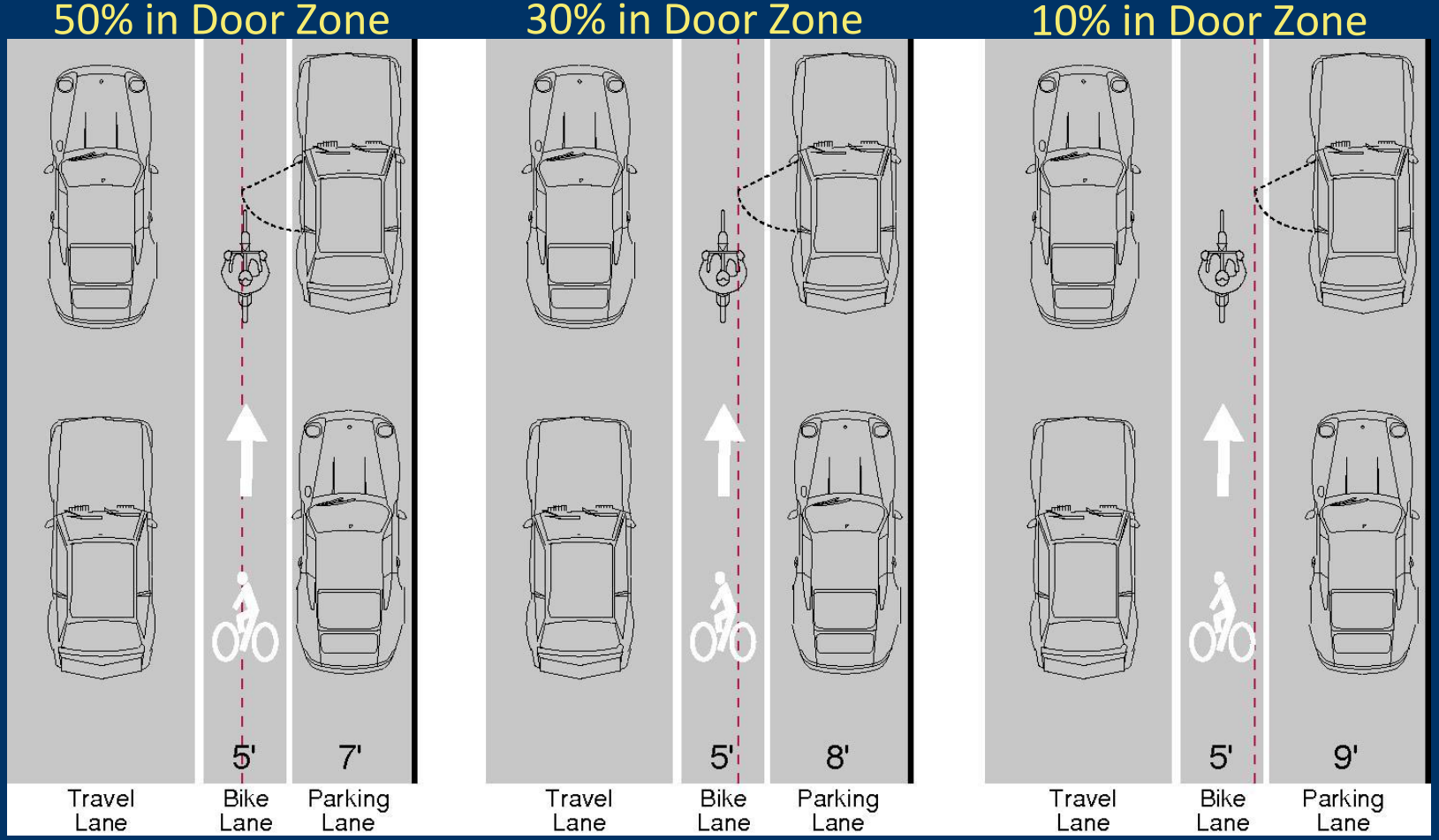
Comparison Based on Presence of Passing Vehicles

There are limited evaluations of shared lane markings on two-lane roadways – initial findings and observations indicate they may not be as effective during periods of high traffic volume on two-lane roadways.

Bicycle Accommodations

AASHTO Bike Lane and Door Zone

Red dashed line = 9.5’ from curb (85 percentile opened car doors)



MA General Law

"No person shall open a door on a motor vehicle unless it is reasonably safe to do so without interfering with the movement of other traffic, including bicyclists and pedestrians."

Chapter 90, Section 14. Precautions for safety of other travelers

Law in Effect as of April 15, 2009

Bicycle Accommodations

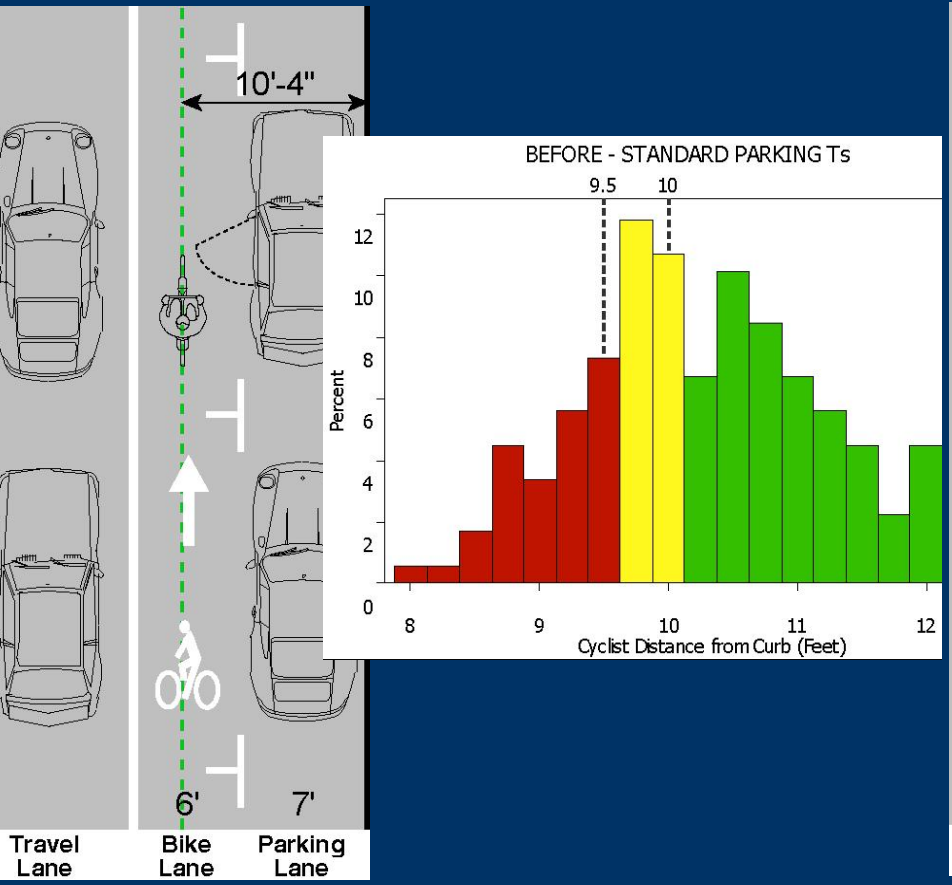
Door Zone "Dooring" Concerns

- Dooring Rates
  - 5.3% of all crashes in 1984 Boston Study
  - Up to 12% of all crashes in 2003 Toronto Study (actual crashes were 1997-1998)
  - No studies of bike lane installations or shared lane marking effects on dooring rates
- Potential Mitigations
  - Signs and education campaigns
  - Markings of door zone area

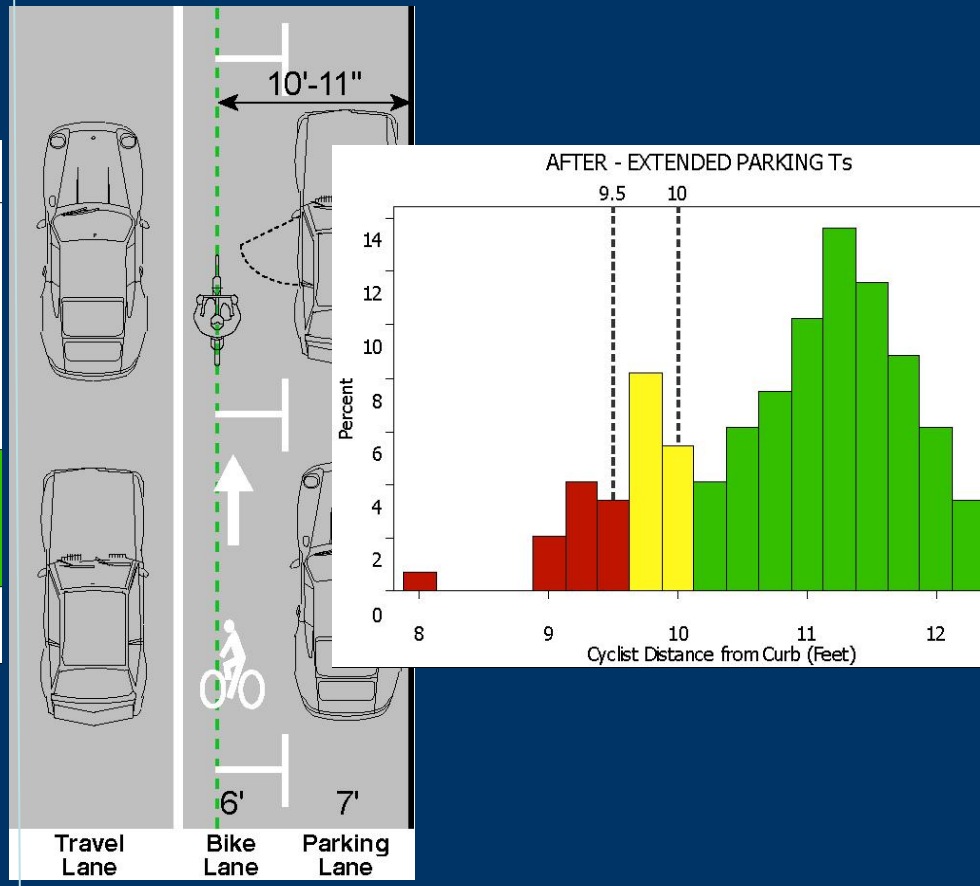
Bicycle Accommodations

San Francisco Experiment – Results

Before Tee - 24% in Door Zone

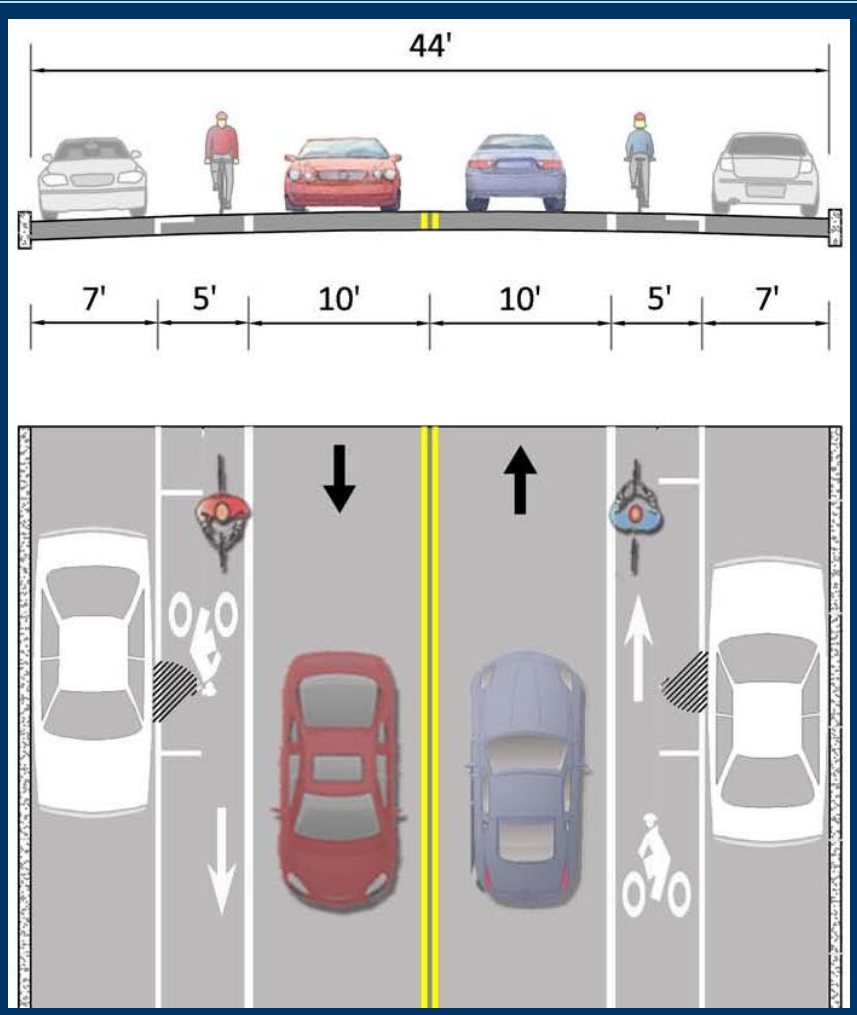


After Tee - 10% in Door Zone



Bicycle Accommodations

Commercial Areas – Door Zone Lines



Bicycle Accommodations

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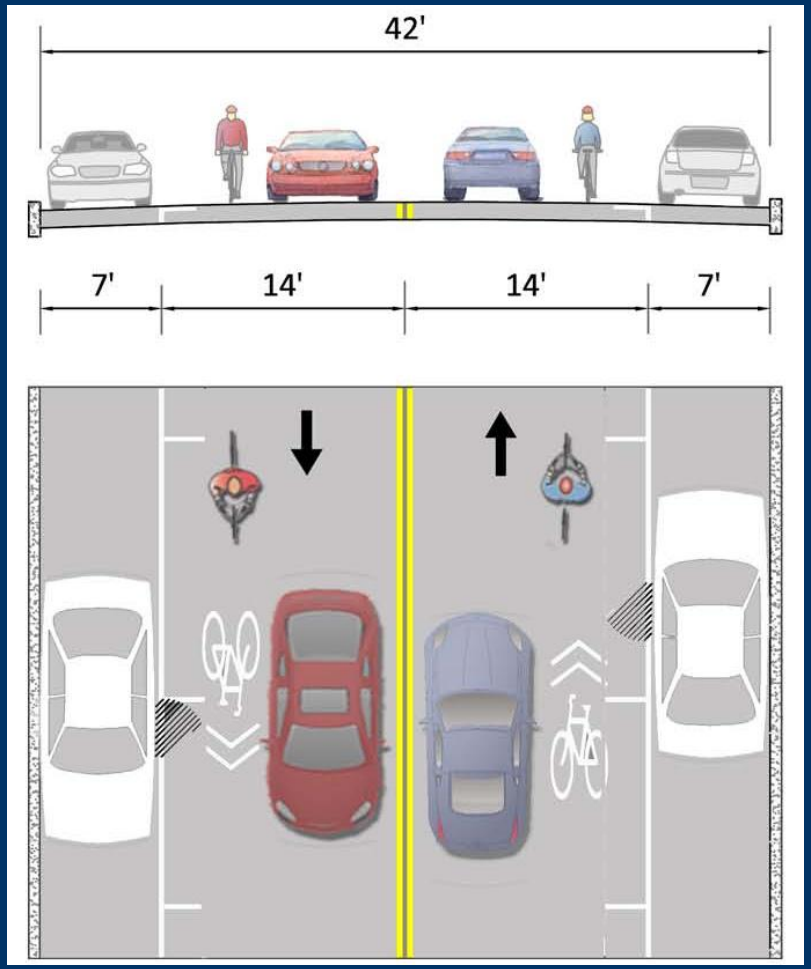

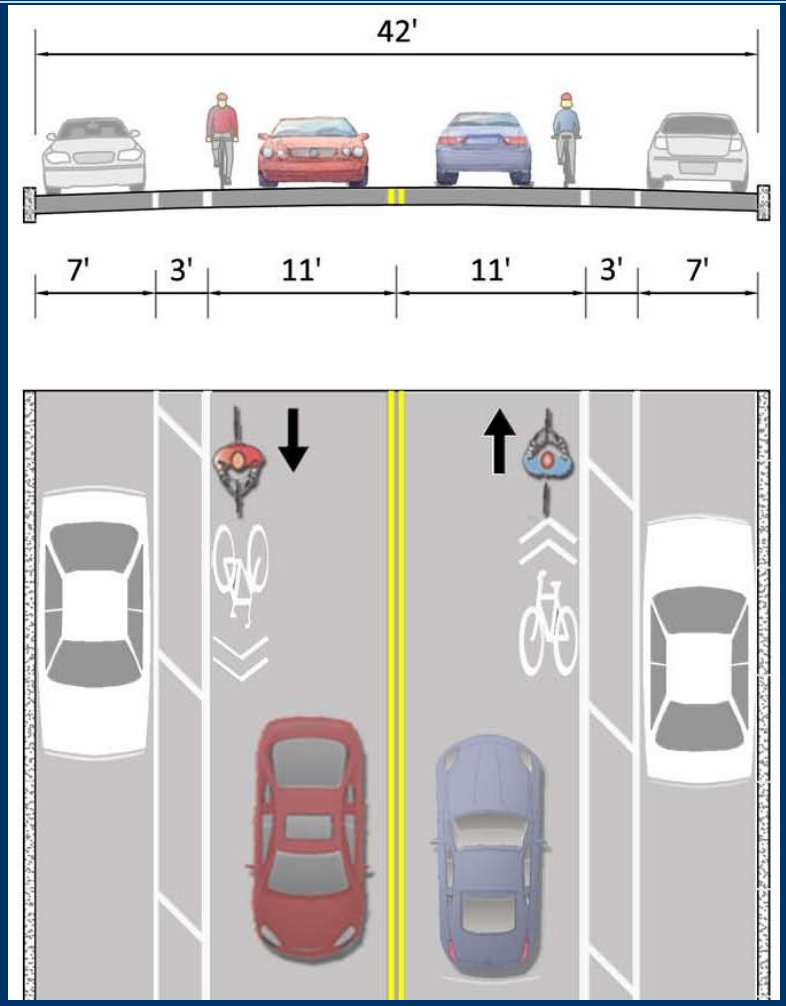

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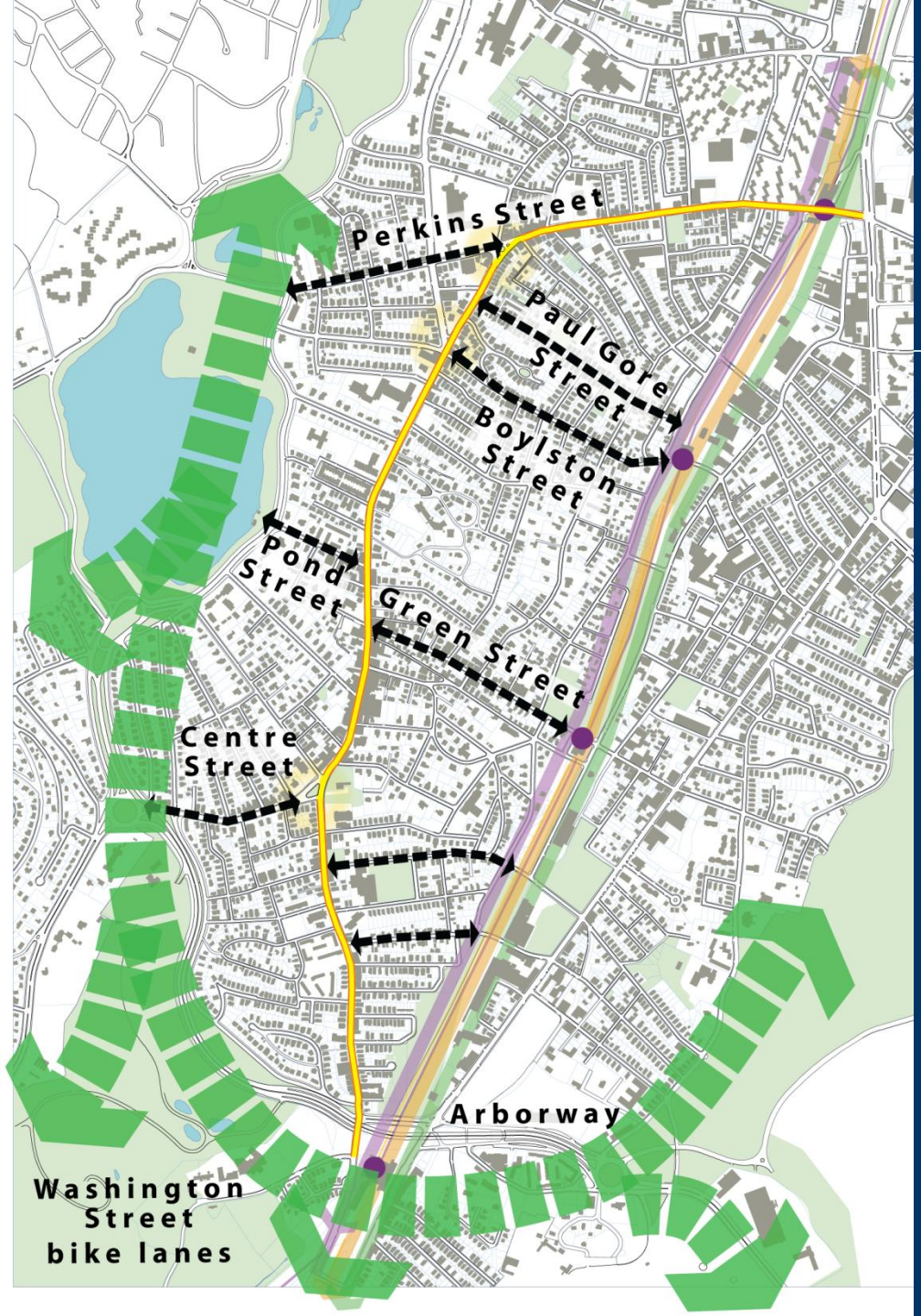
Regional Connections



- Southwest Corridor
- Emerald Necklace
- Neighborhood Routing
- Connection Points must be enhanced
  - Pond Street
  - Green Street
  - Perkins Street
  - Boylston Street

Potential Bicycle Connections

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Potential Bike Routes

Neighborhood streets often provide connections to, but not alternative bicycle routes for Centre Street

Centre/South Bicycle Accommodations

- City Policy
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Short Term vs. Long Term

SHORT TERM

- What can be implemented now
- Facilities per street width
- Review of other factors
  - Topography
  - Continuity
  - Parking turnover

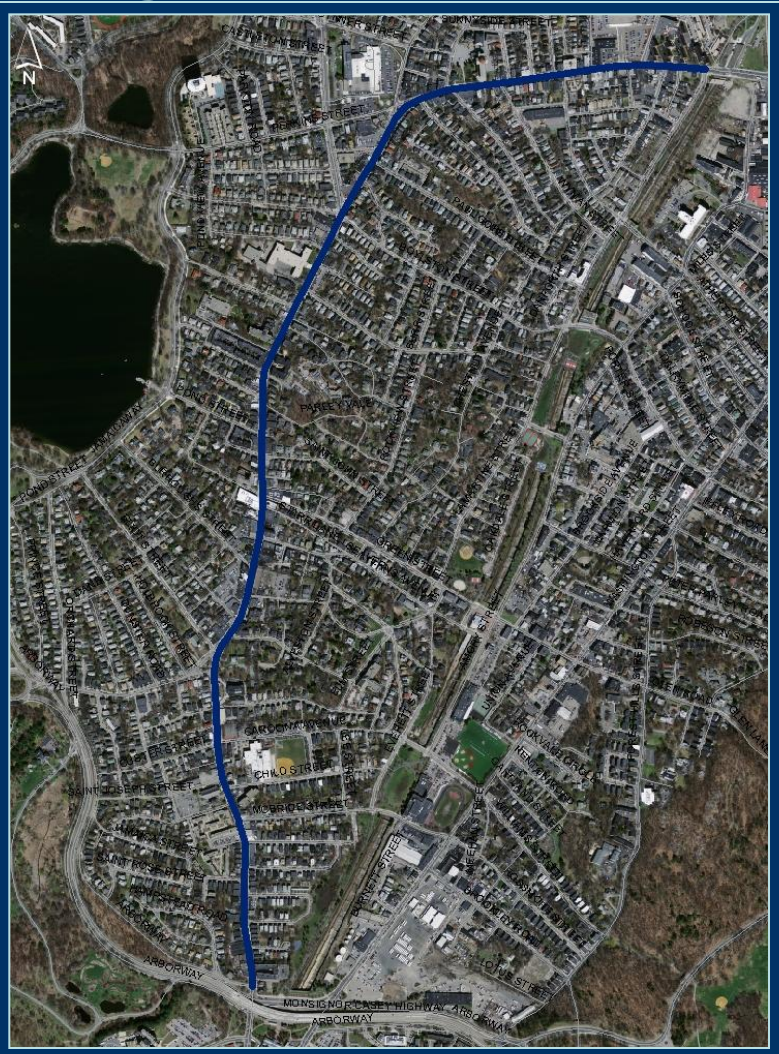
LONG TERM

- Upgrading bicycle accommodations
- Eliminate parking?
- Moving curb
- Widened sidewalk?
- Bicycle lanes?
- Requires significant community discussion

Bicycle Accommodations

Contextual Analysis

- Land Use
- Curb to Curb Widths
- Slope/Topography
- Parking Turnover
- Customer Survey
- Other factors
  - Continuity
  - Roadway Curvature
  - Bus Interaction



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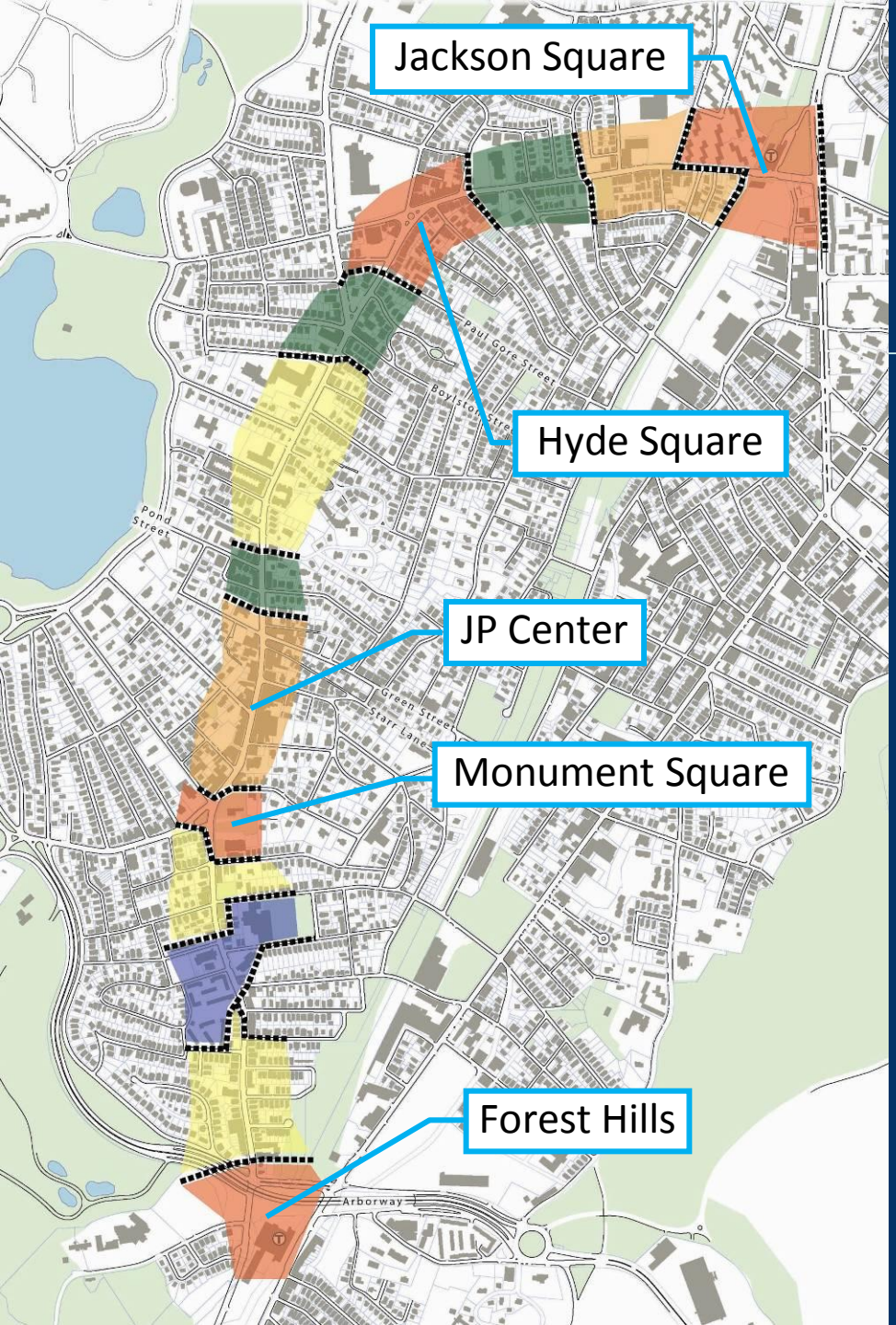
Land Use



- Commercial
- Transition
- Residential
- Institutional

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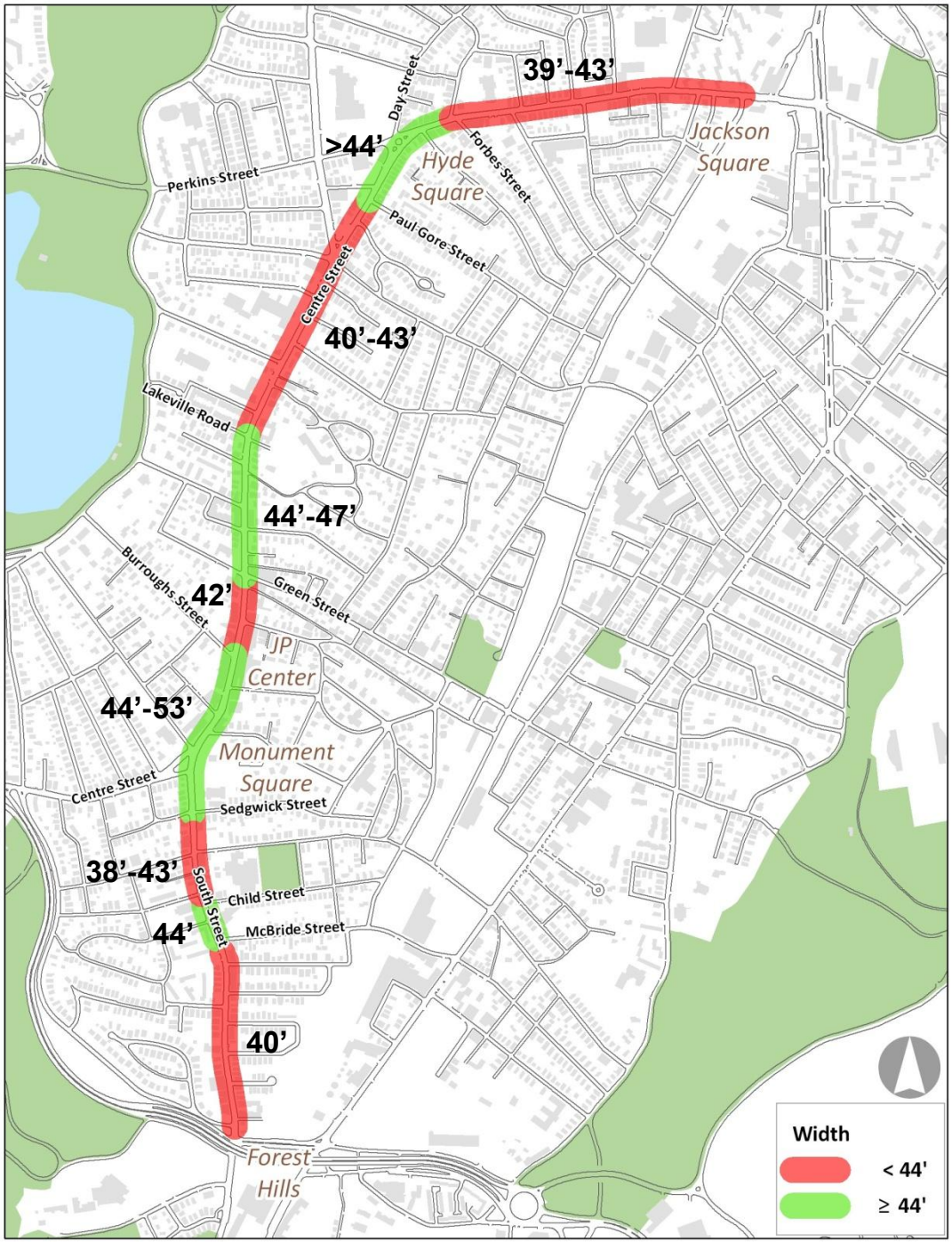
Curb to Curb Widths



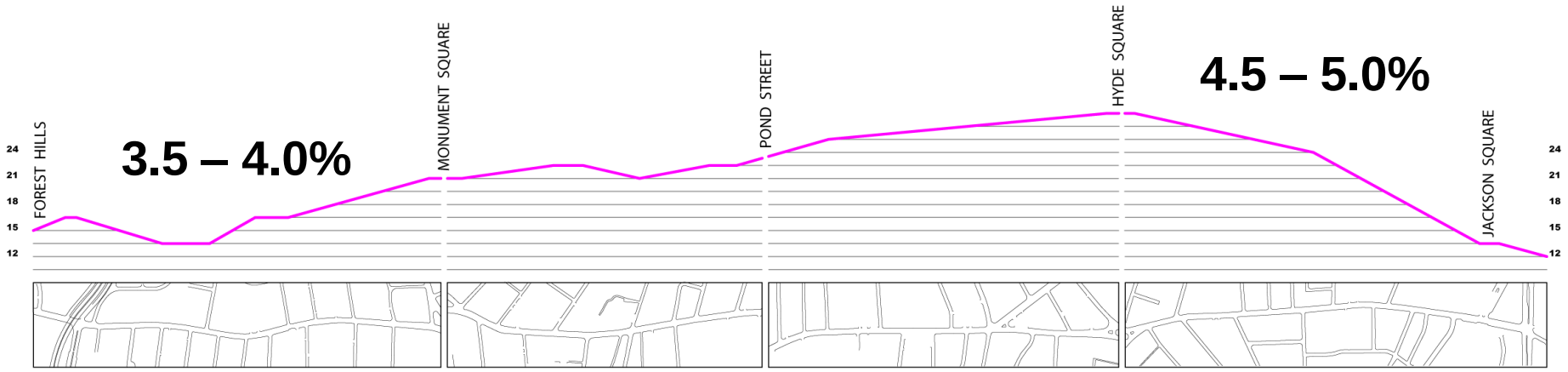
- Street width varies
  - Curb-to-curb: 38’- 53’
  - Right-of-way: 53’- 62’
- Bike lanes possible for roadway widths ≥ 44’
- Shared lane markings or climbing lanes for roadway widths < 44’

Bicycle Accommodations

Slope/Topography

CENTRE-SOUTH STREET CORRIDOR

EXAGGERATED TOPOGRAPHY



Bicycle Accommodations

Other Factors

- Continuity
- Roadway Curvature
- Bus Interaction

Centre/South Bicycle Accommodations

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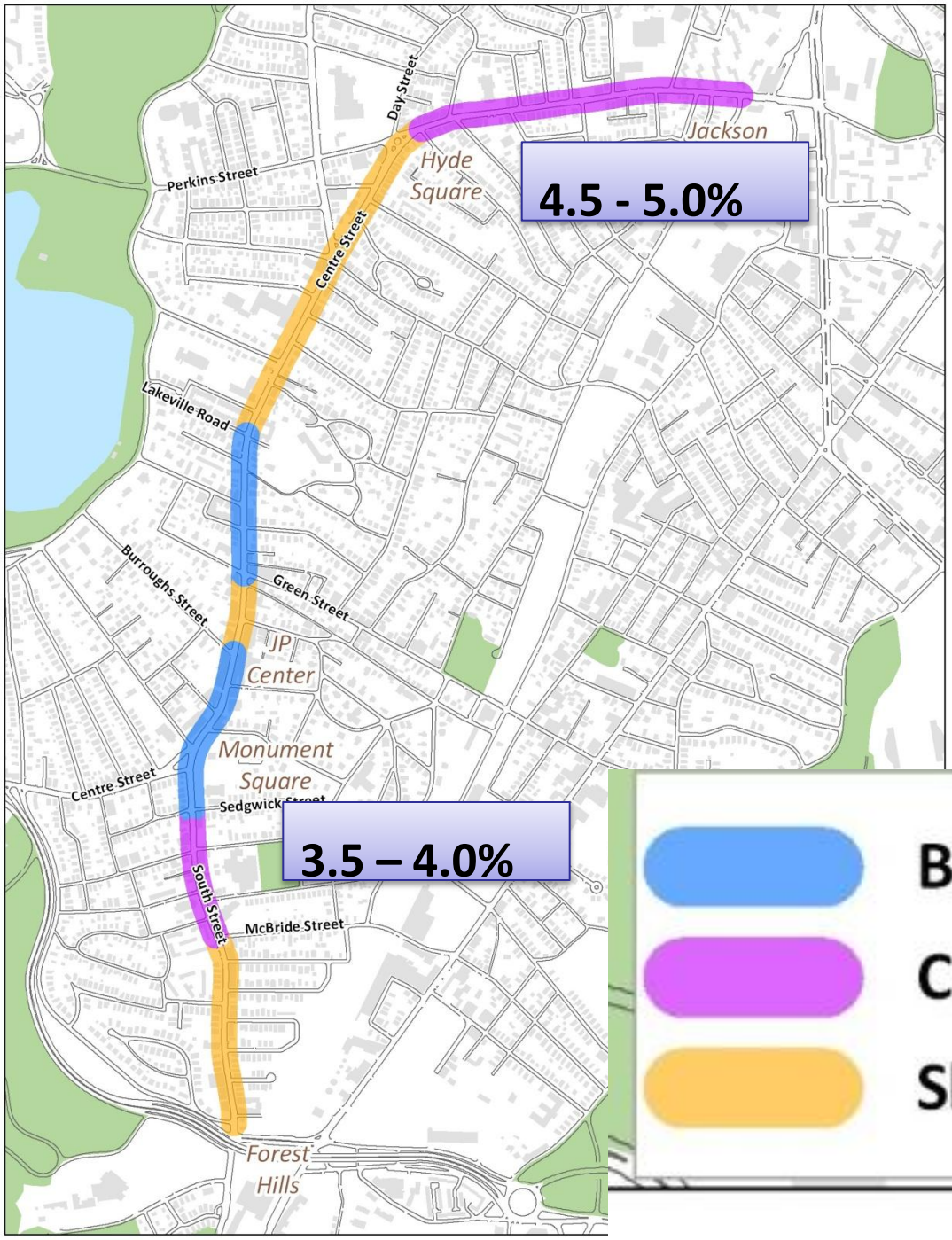
Bicycle Facility Recommendation

- Short term bike facilities
- No parking removal



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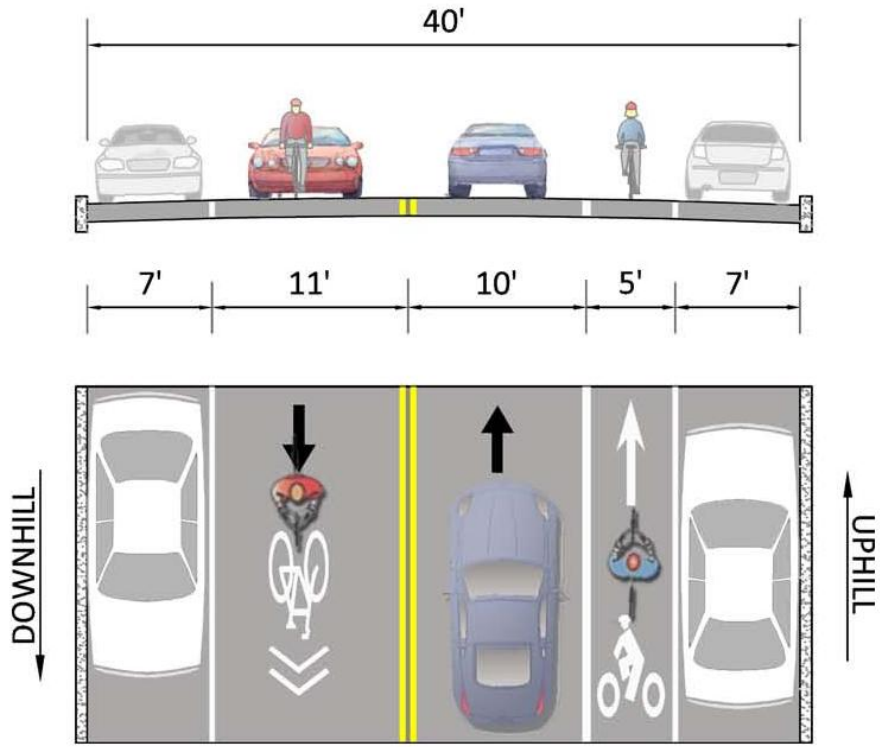
Climbing Lane



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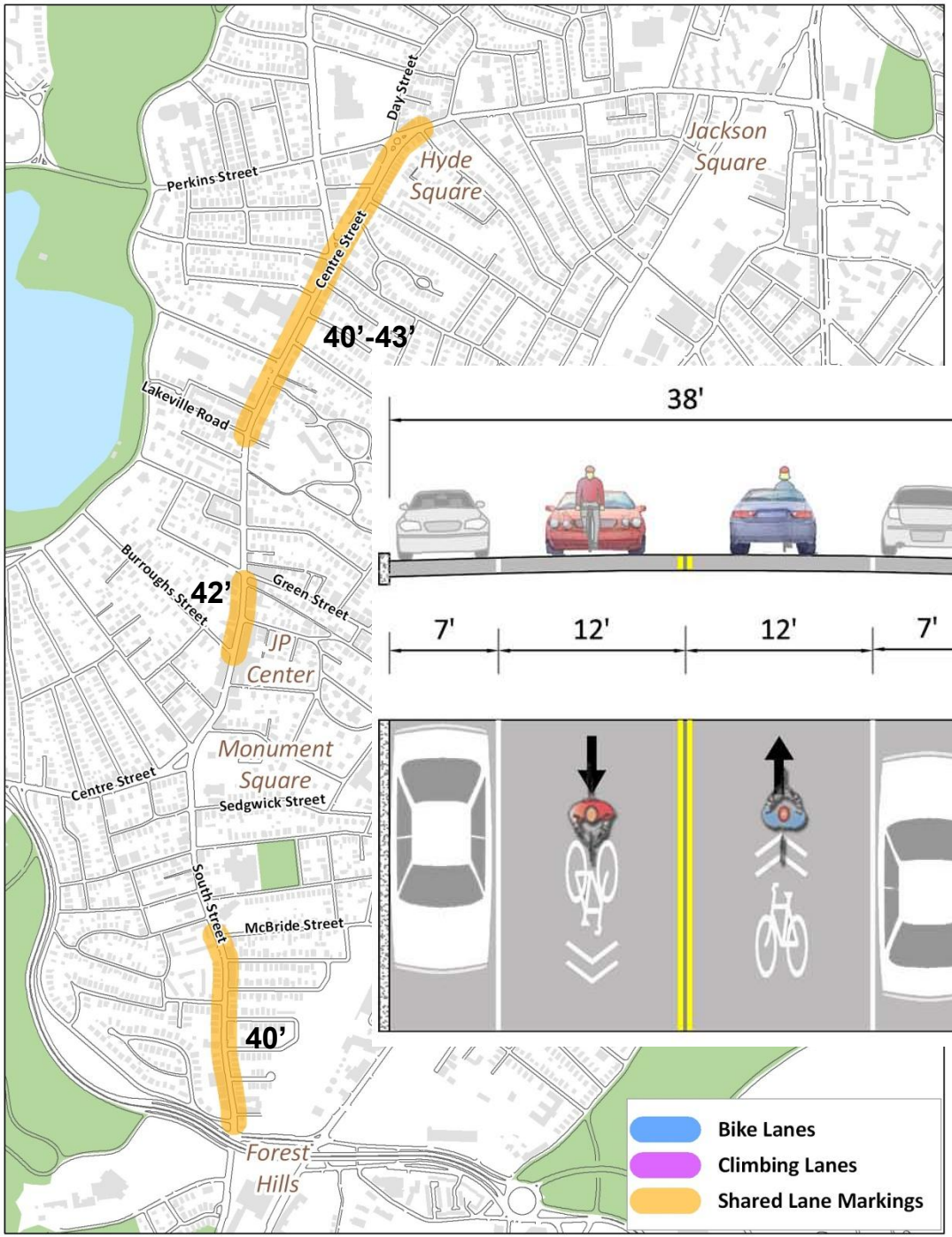
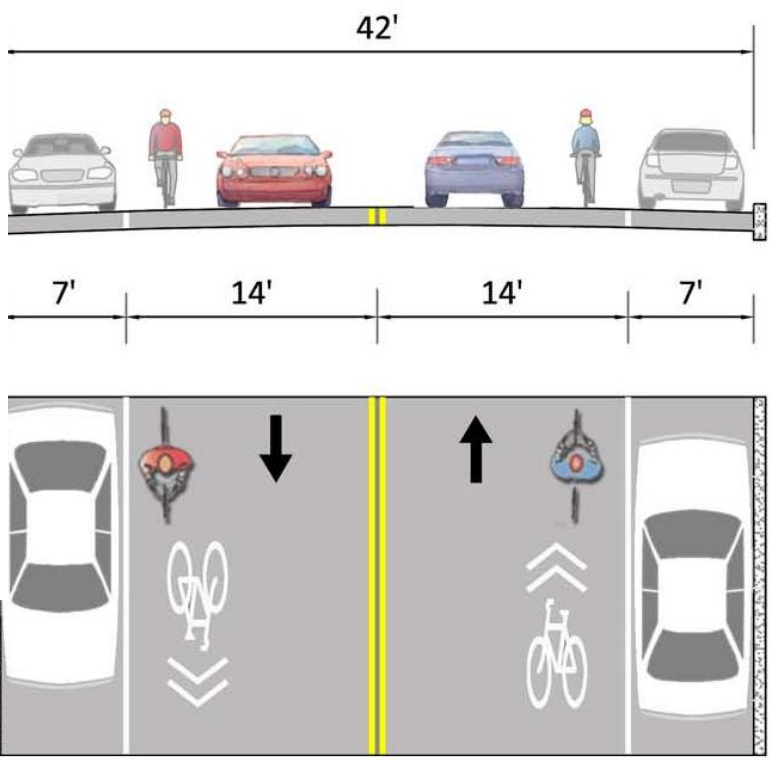
Shared Lane Markings





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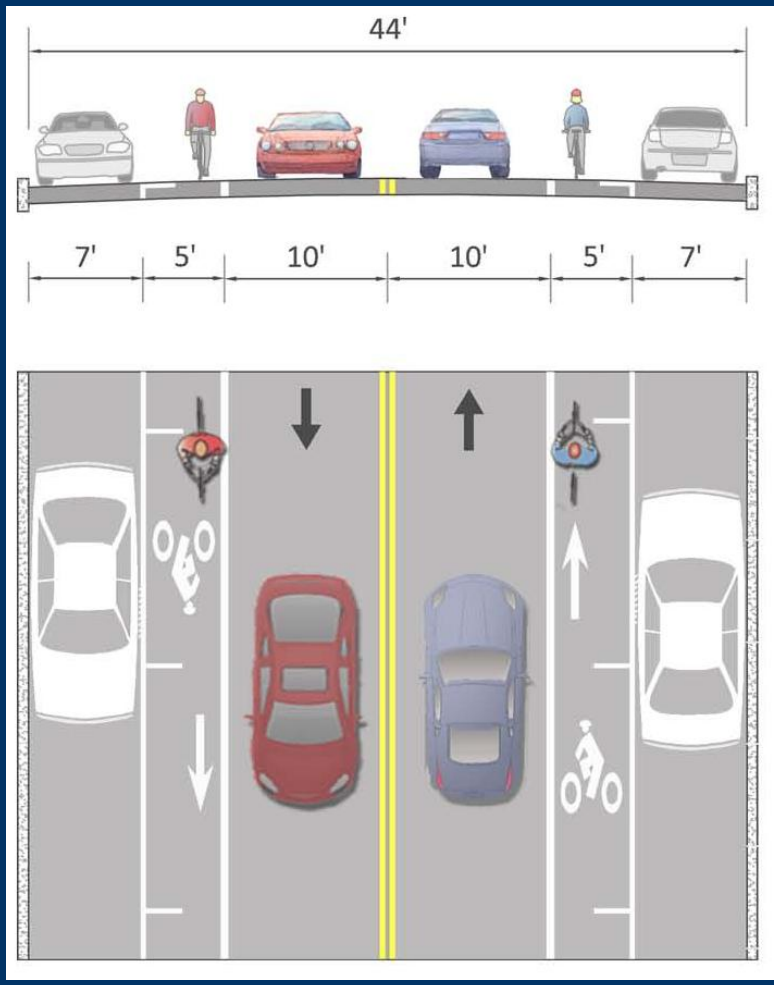
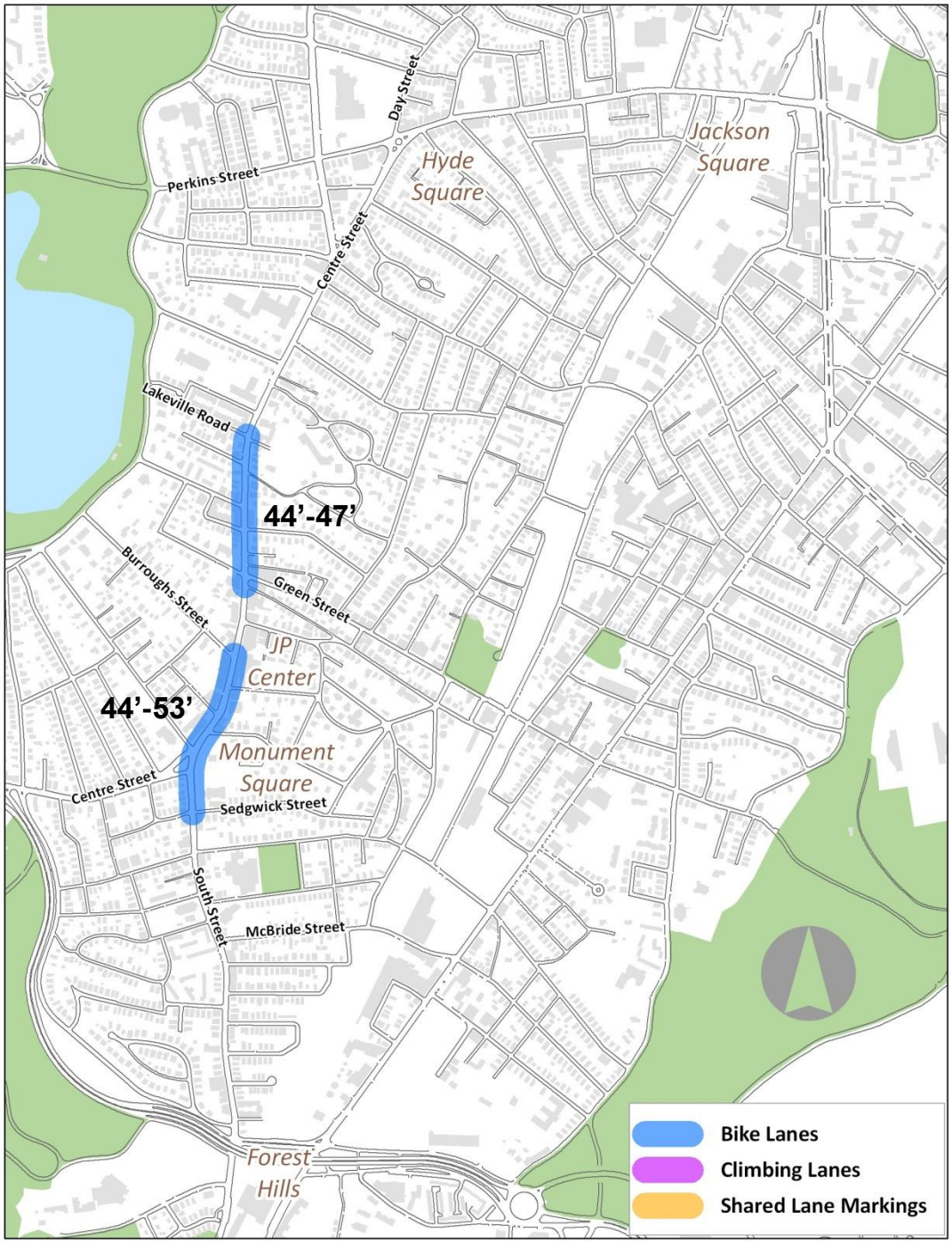
Bike Lanes





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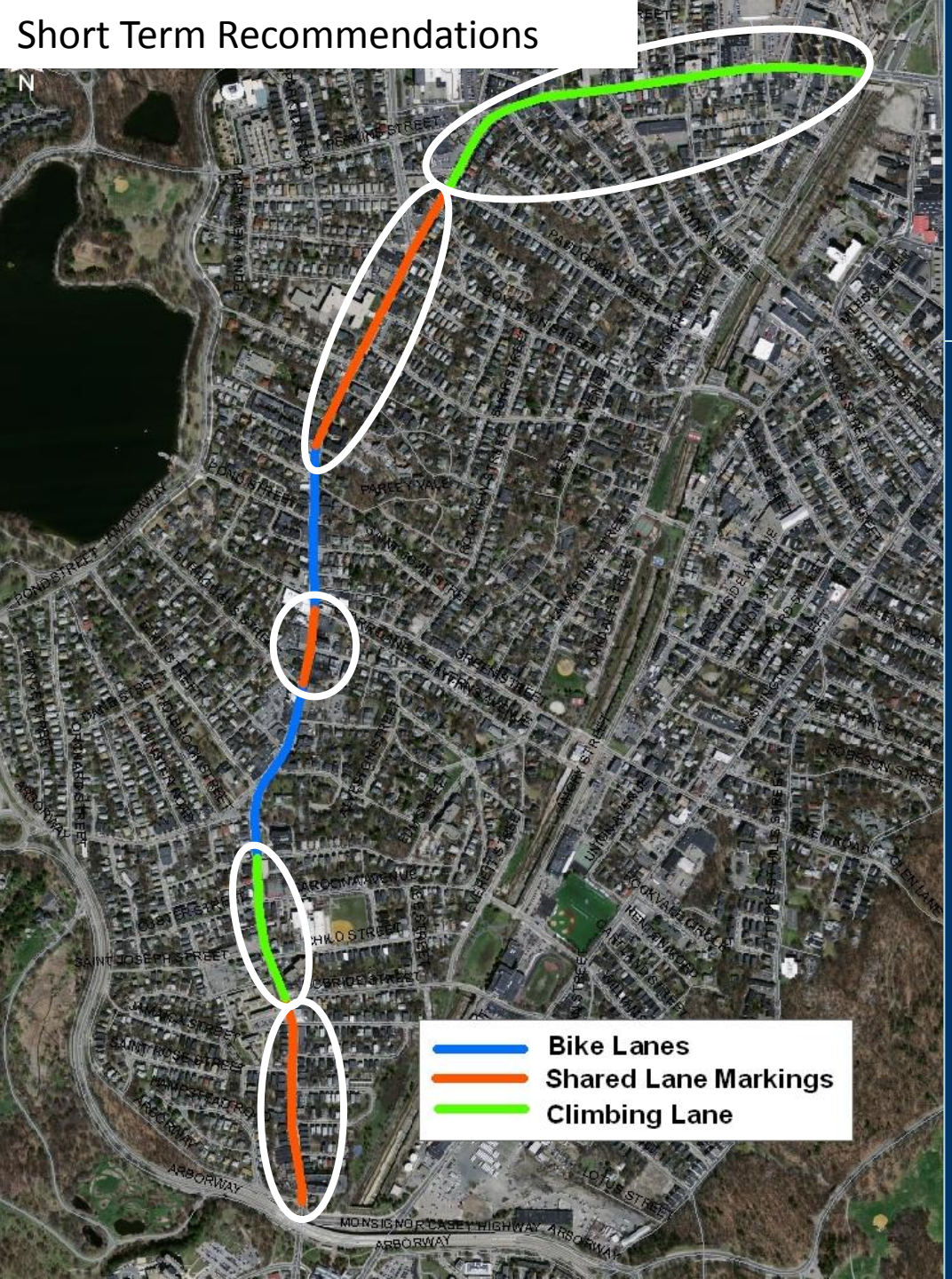
Short Term Recommendations



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Bicycle Facility Options

Areas for Potential Upgrade

Long term considerations

- Land Use
- Parking turnover
- Surveys
- Community Input

Vision Statement

1. Build upon the corridor's identity to create a 21st century street with a Jamaica Plain character
   - Create an environment and infrastructure that encourages people to choose car-free transportation
   - Support a vibrant local business community
   - Encourage a sense of community responsibility and pride of ownership in the streetscape

Vision Statement

2. Create a place for all uses and users
   - Provide additional resources to support high bicycling interest and activity with a safe, convenient bicycling environment
   - Develop a pedestrian friendly corridor with a focus on pedestrian nodes and continuous sidewalk paths
   - Factor in the operational needs of businesses and business functions

Vision Statement

3. Reinforce the Centre/South corridors as the local & regional center at Jamaica Plain
   - Create gateway to and on the corridor
   - Integrate connections to and management of side streets

Pedestrians, bicyclists, and automobiles need to share the public realm, balancing the needs of all.

Great Streets Criteria

1. Space to walk with some leisure
2. Physical comfort
3. Definition
4. Qualities that engage the eye
5. Transparency
6. Complementarity
7. Maintenance
8. Quality of Design and construction

Complete Streets benefits

- Valencia Street, Mission District (San Francisco)
  - Narrowed travel lanes to slow down cars and accommodate other users
  - Nearly 40 percent of merchants reported increased sales
  - 60 percent reported more area residents shopping locally due to reduced travel time and convenience
  - Overall, two-thirds of respondents indicated the increased levels of pedestrian and bicycling activity and other street changes improved business and sales
- Barracks Row (Washington, DC)
  - After design improvements, which included new patterned sidewalks, more efficient public parking, and new traffic signals, Barracks Row attracted 44 new businesses and 200 new jobs
  - Economic activity on this three-quarter mile strip (measured by sales, employees, and number of pedestrians) has more than tripled since the inception of the project

SOURCE: National Complete Streets Coalition (www.completestreets.org)

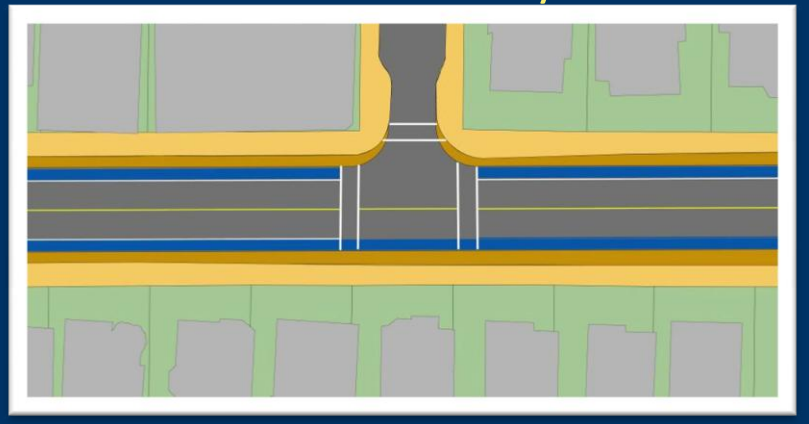
Long Term Alternatives

Bicycle Lanes

Intermittent Widening

Wider Sidewalks

Wider Sidewalks & Bicycle Lanes



Meeting Agenda

- Schedule Overview
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Parking Analysis

Overview

- Weekday parking occupancy & turnover observed hourly between 8am and 9pm
- BTD vehicle equipped with license plate recognition technology captured parked vehicles' location

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Parking Study Corridor

- Centre & South Streets from Forest Hills to Jackson Square
- On-street spaces
- Off-street municipal lots

Parking Analysis

Methods and Terms

- **Parking occupancy –** percent of total spaces filled at a given time
- **Parking turnover rate** – average number of times a new car fills a space during study period
- **Parking duration –** average length of stay of parked car

Based on observed data

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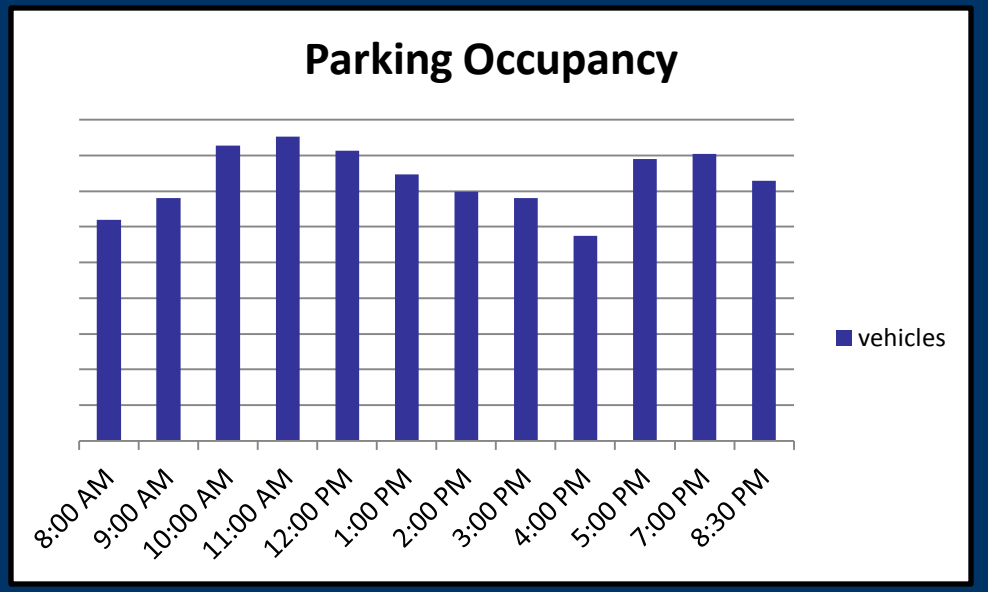
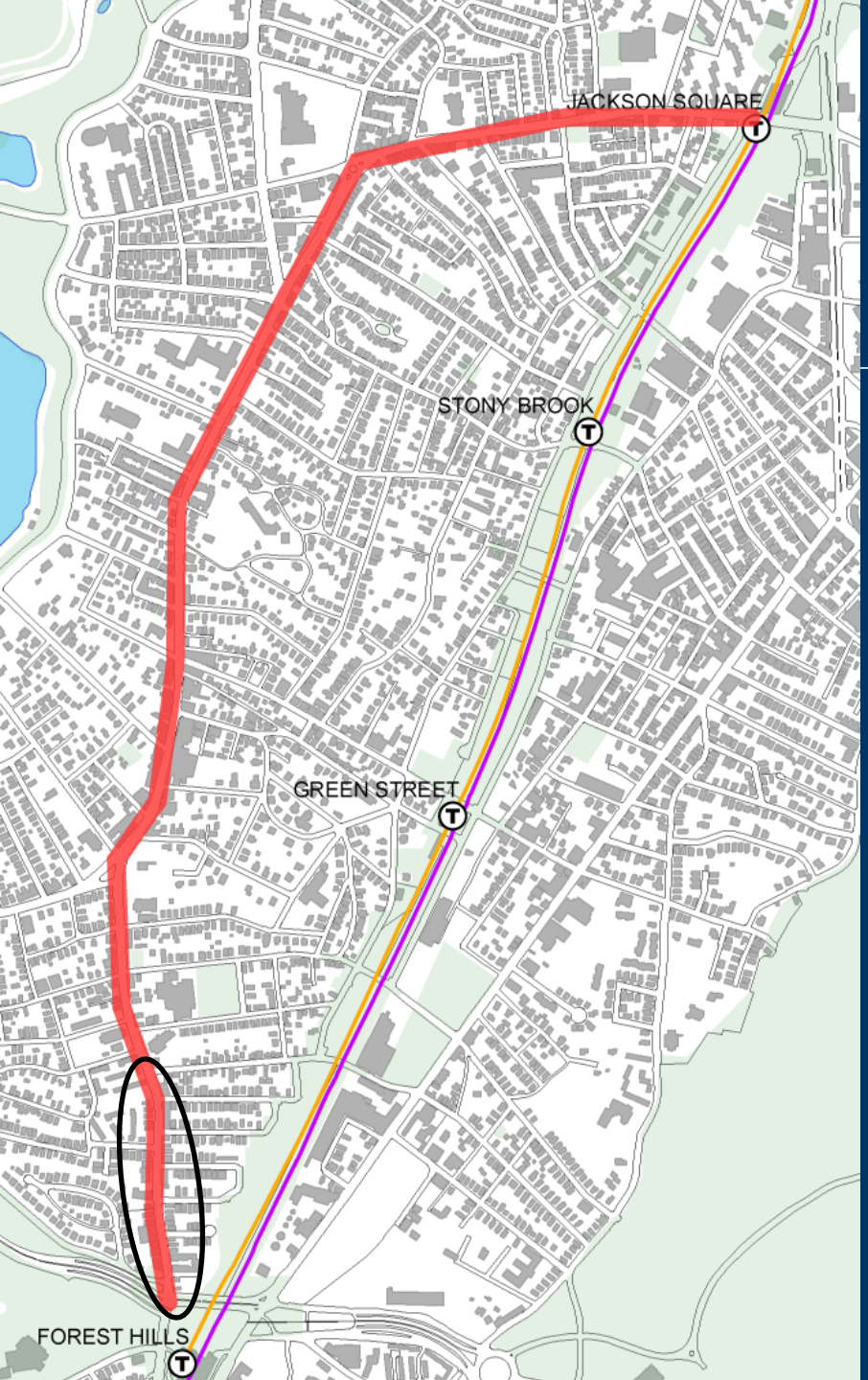
Corridor-wide Parking Analysis

- Turnover rate: 3.7
- Avg. Duration: 1.86 hrs

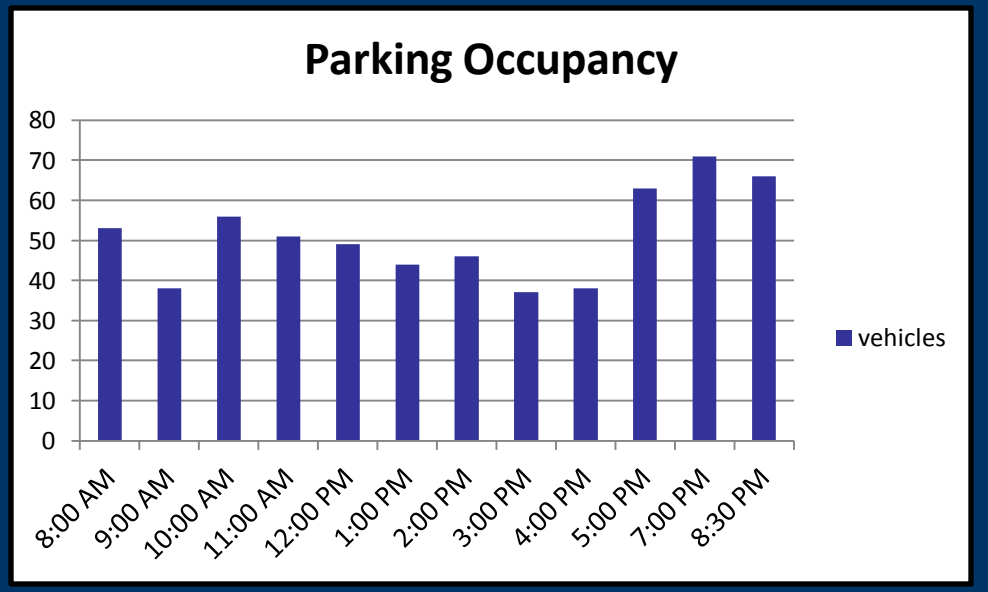


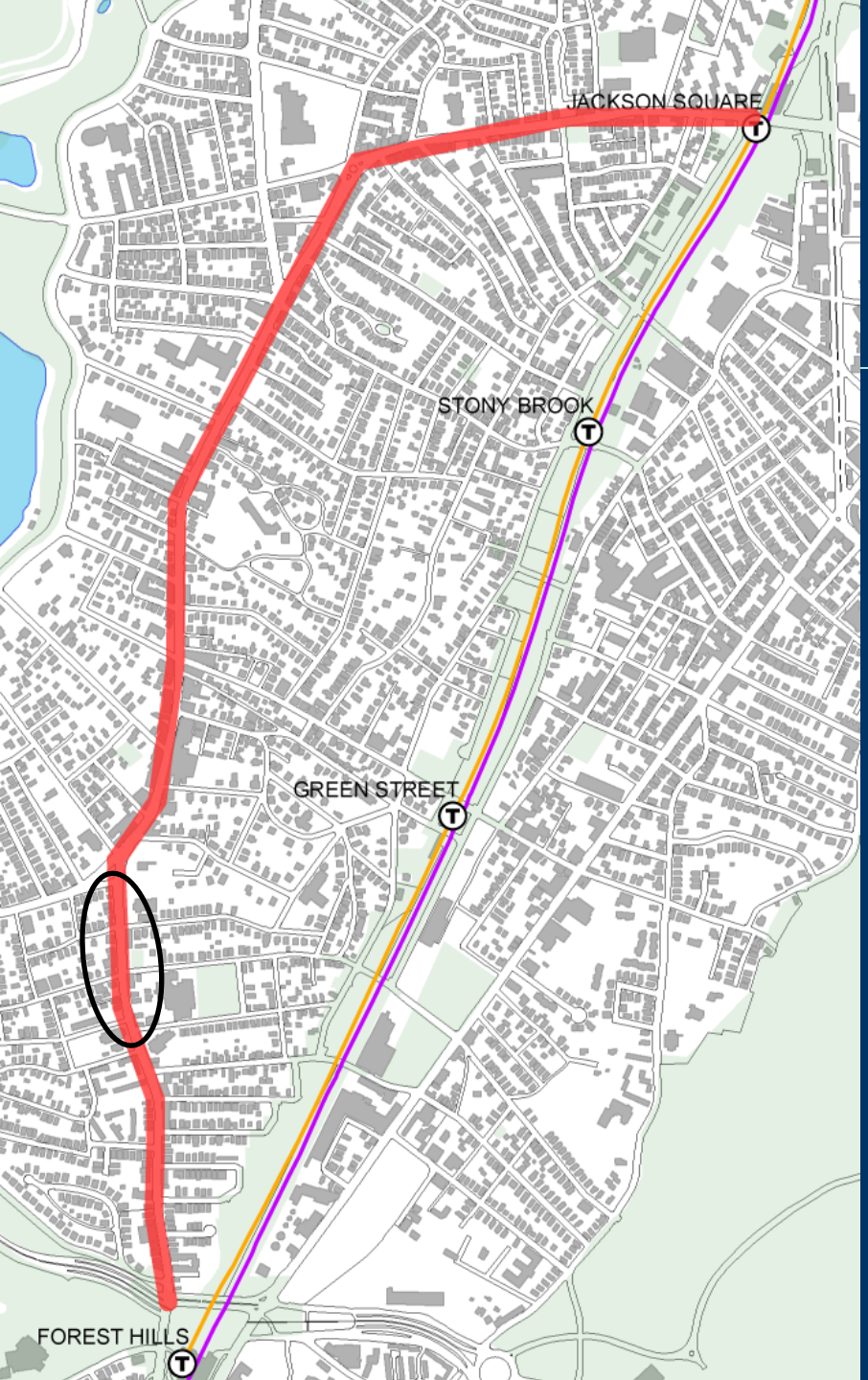


Jamaica Plain
Centre/South Street
Transportation Action Plan

St. Mark Street to McBride Street

- Turnover rate: 3.65
- Avg. duration: 2.04 hrs

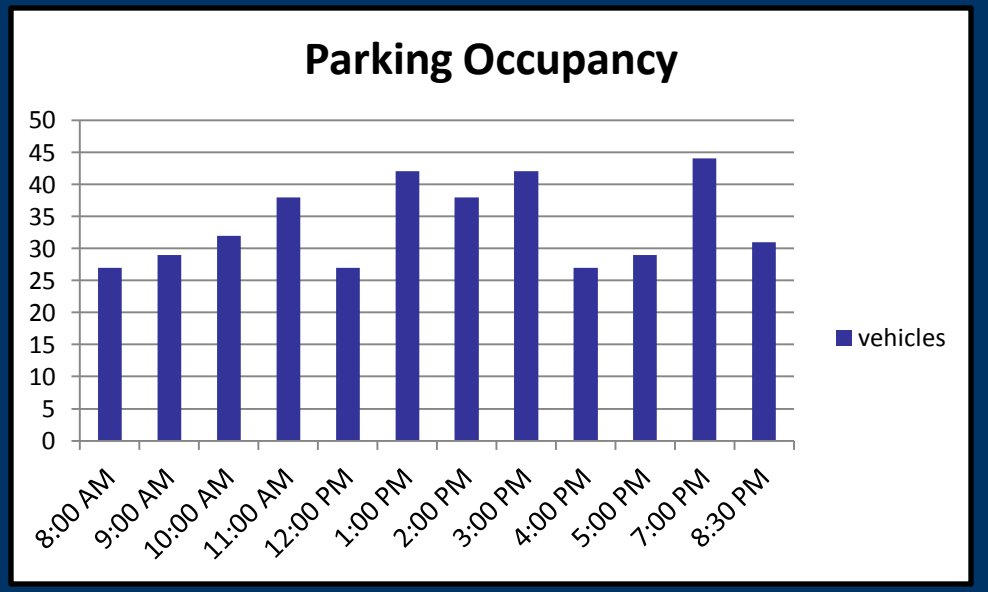


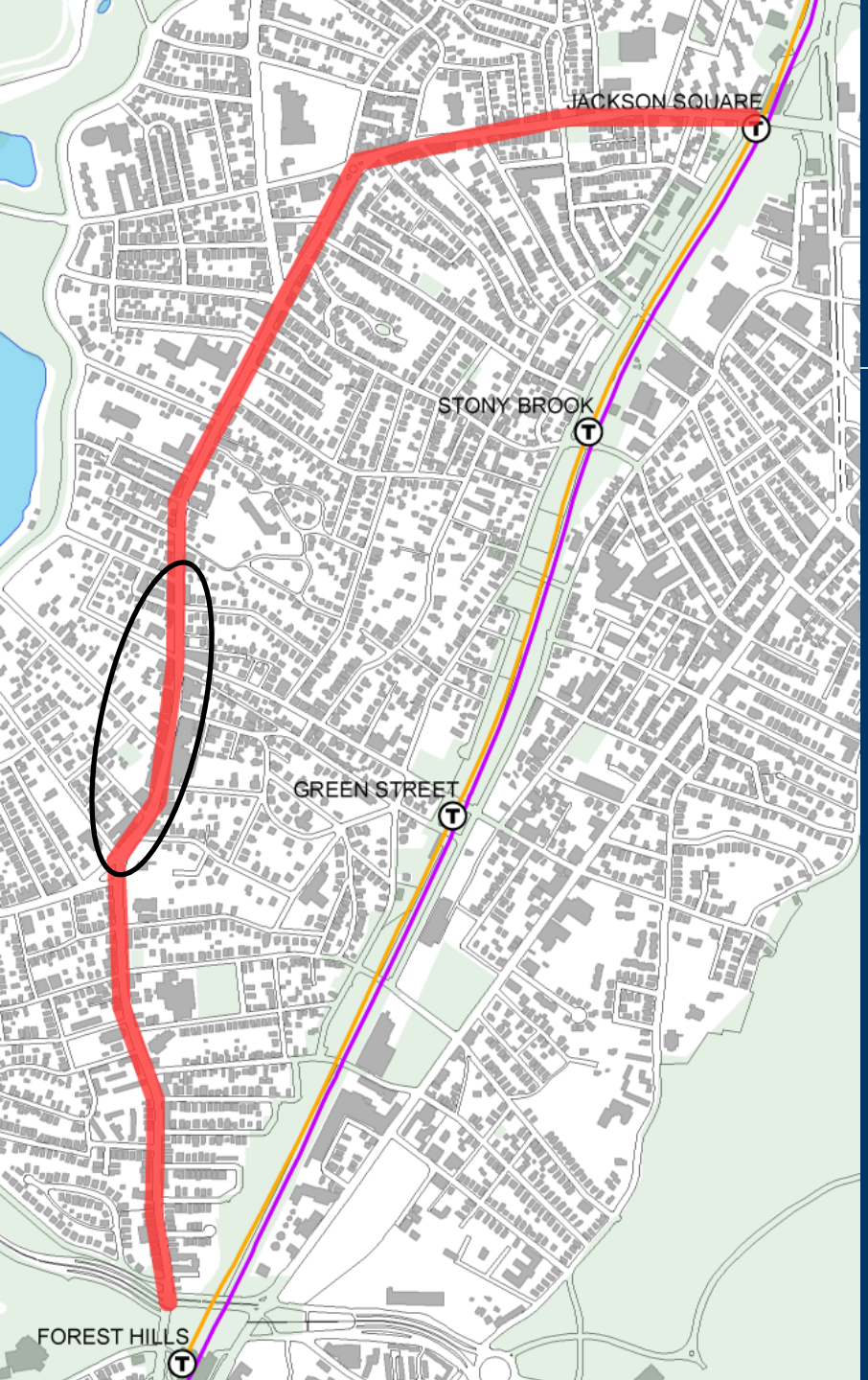


Jamaica Plain
Centre/South Street
Transportation Action Plan

McBride Street to Monument Square

- Turnover rate: 3.3
- Avg Duration: 2.11 hrs

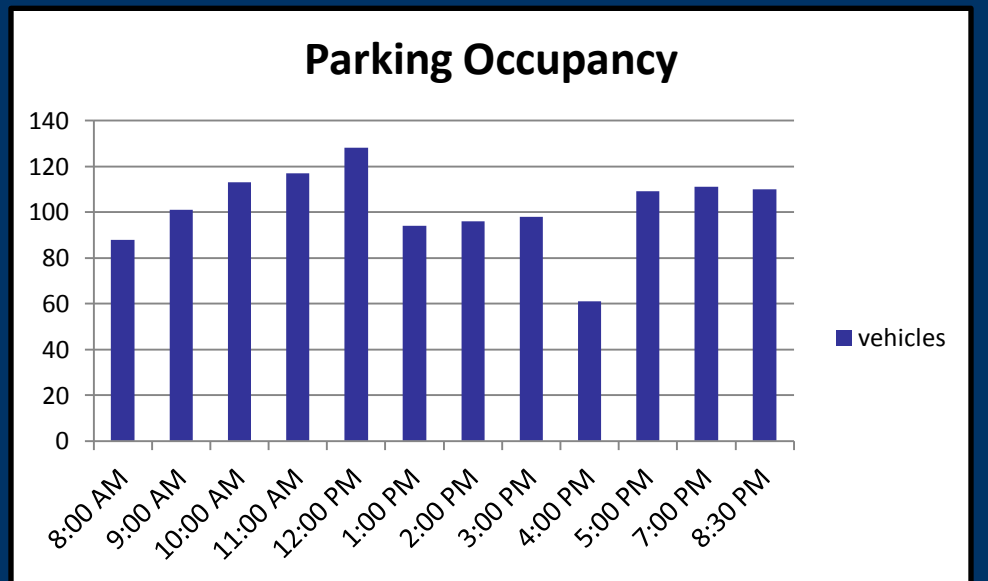


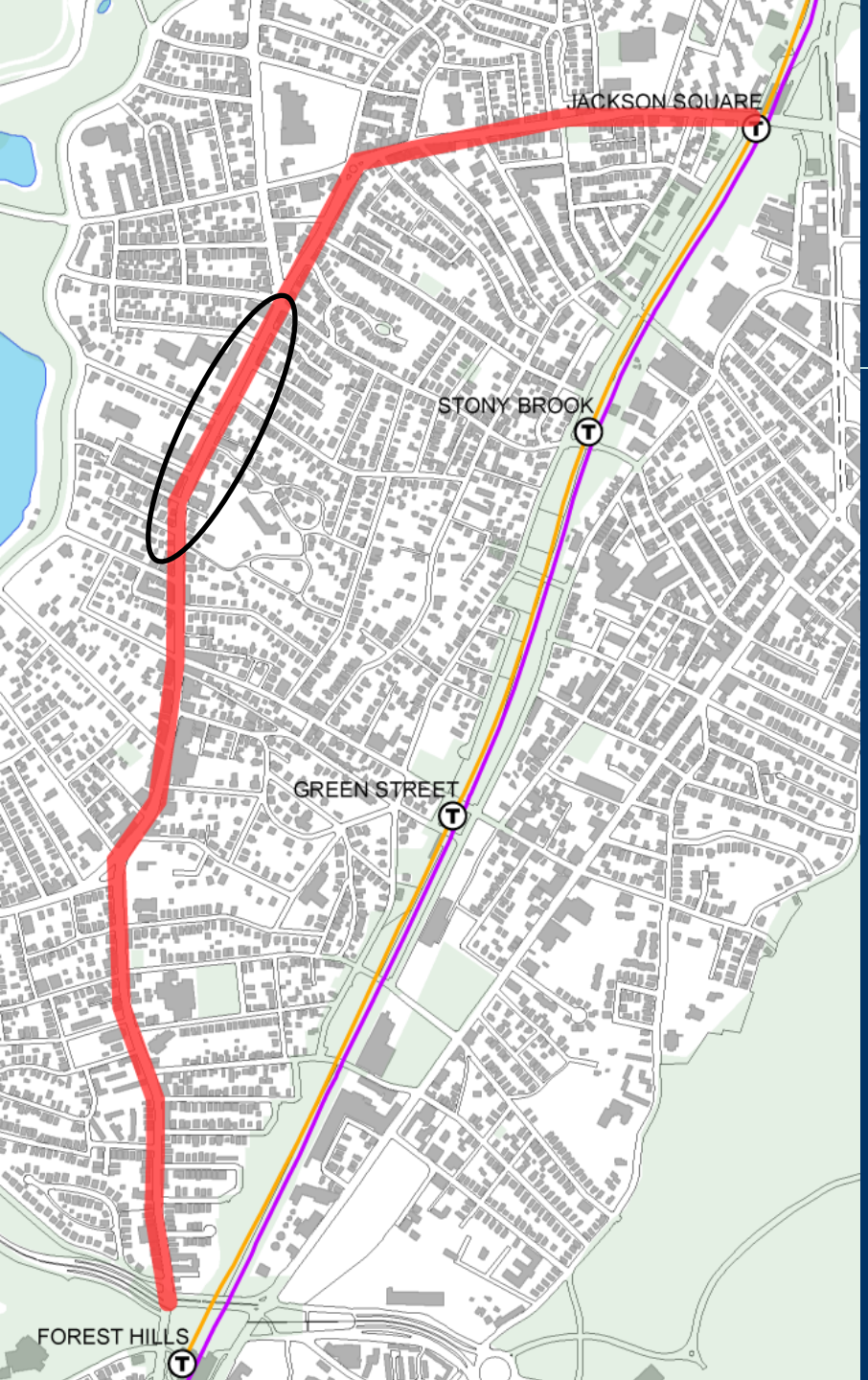


Jamaica Plain
Centre/South Street
Transportation Action Plan

Monument Square to Pond Street

- Turnover rate: 3.55
- Avg duration: 1.49 hrs
  - 80% park < 1 hr
  - 10% park > 3 hrs

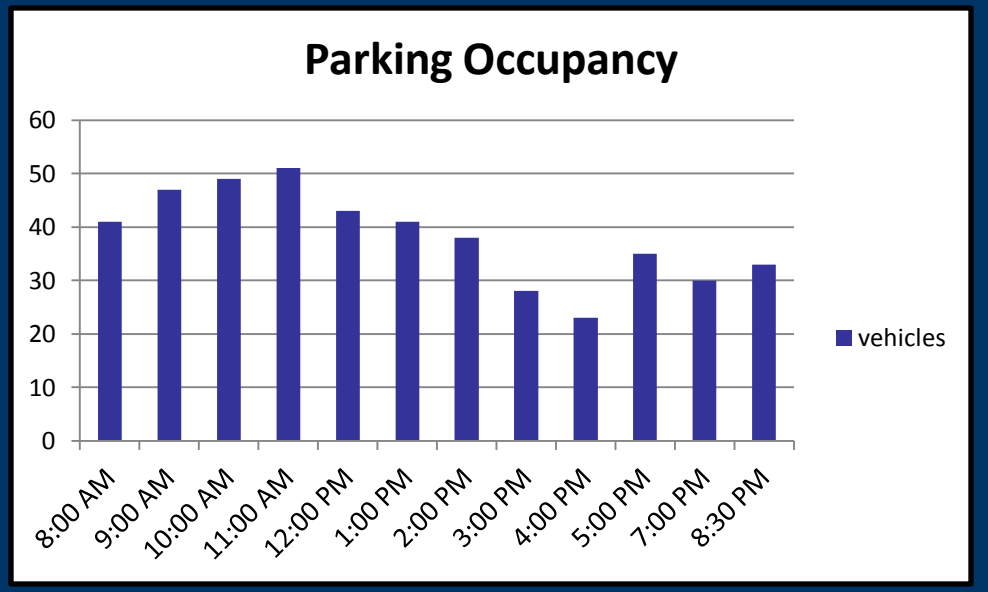


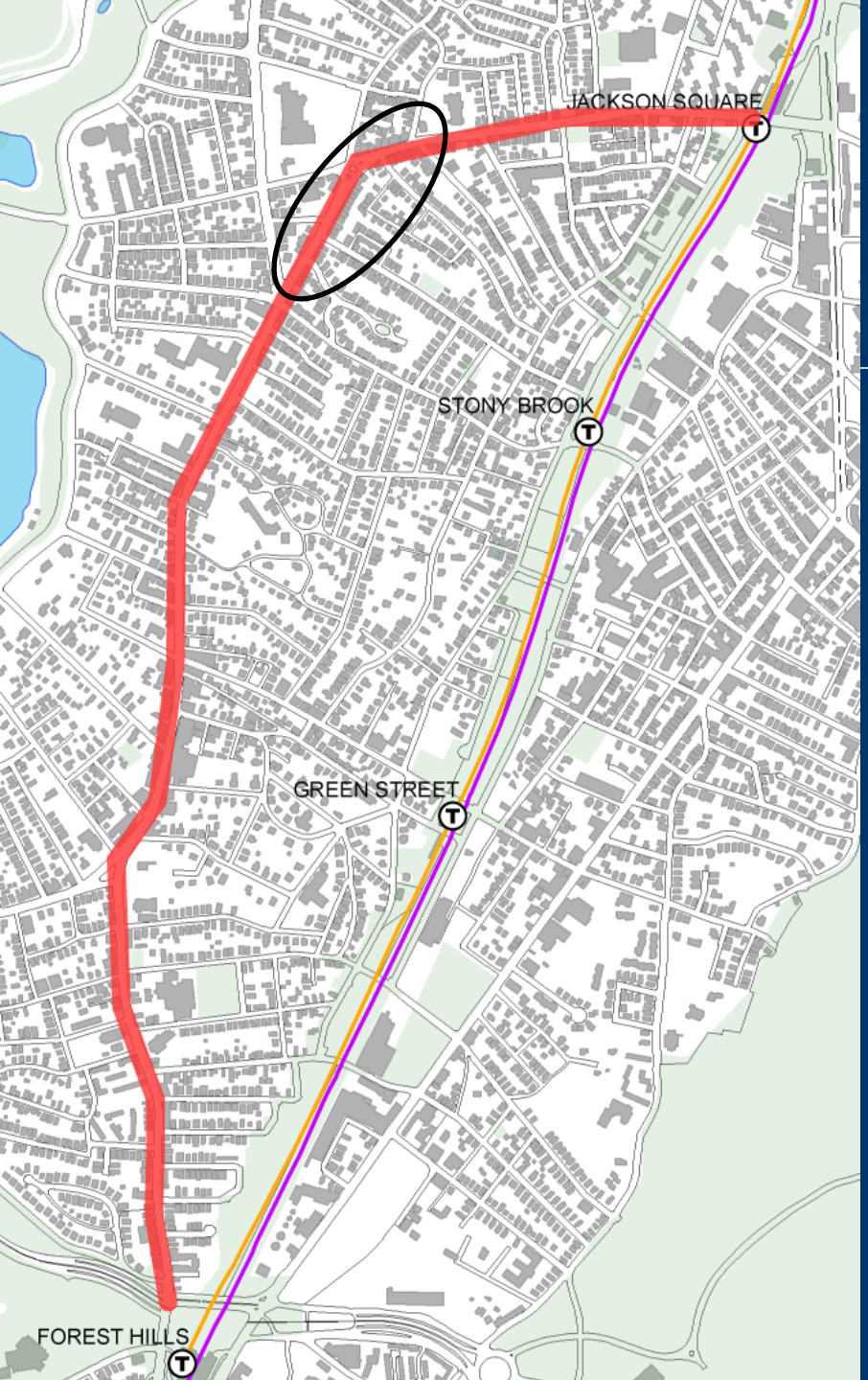


Jamaica Plain
Centre/South Street
Transportation Action Plan

Pond Street to Moraine Street

- Turnover rate: 4.55
- Avg. Duration: 2.25 hrs

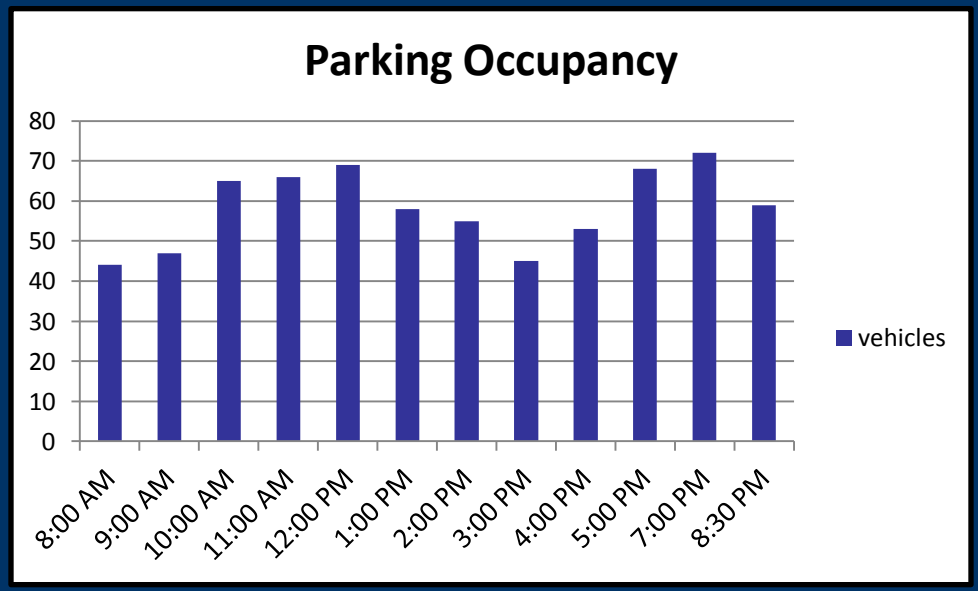




Jamaica Plain
Centre/South Street
Transportation Action Plan

Moraine Street to Forbes Street

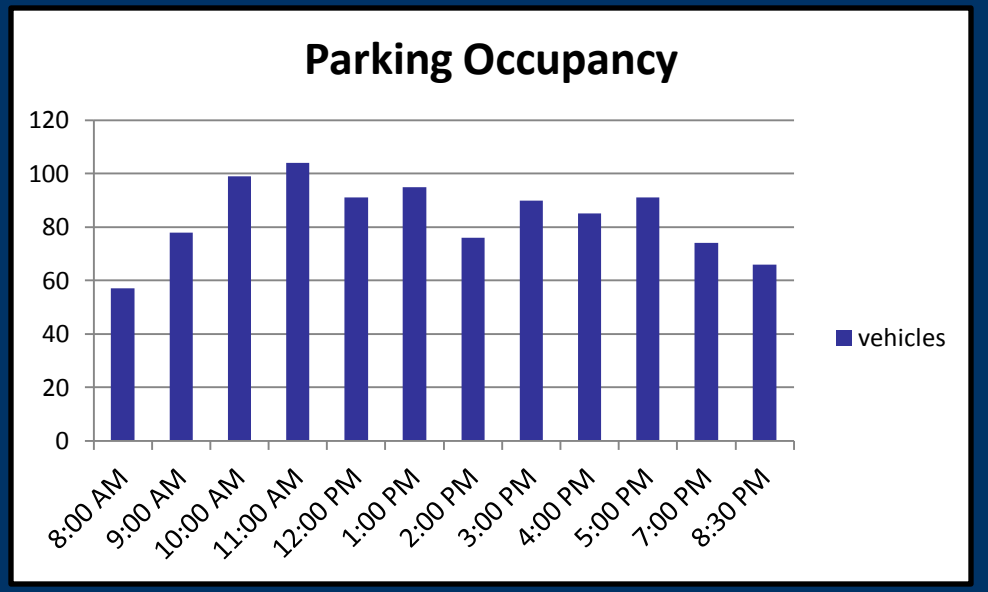
- Turnover rate: 3.77
- Avg. duration: 1.87 hours
  - 85% park < 2 hrs
  - 15% park > 6 hrs



Jamaica Plain
Centre/South Street
Transportation Action Plan

Forbes Street to Jackson Square

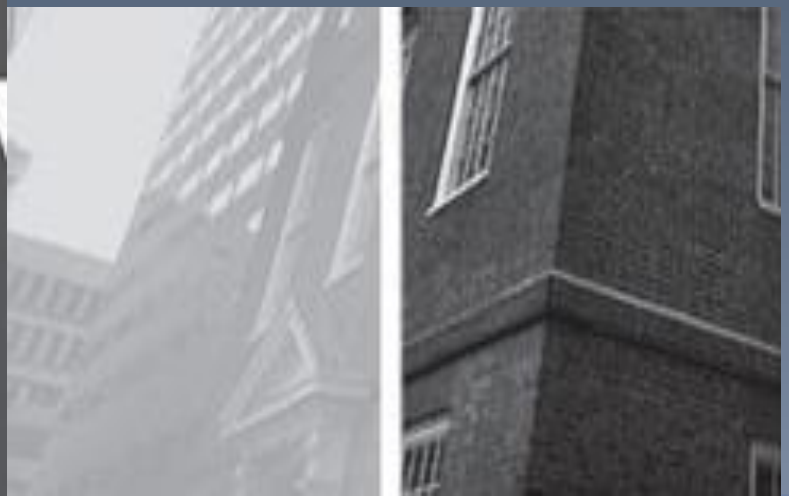
- Turnover rate: 3.61
- Avg. duration: 1.81 hours



Meeting Agenda

- Schedule Overview
- Bicycle Accommodations
- Parking Analysis
- Customer Survey
- Concept Design Areas
- Public Comment & Next Steps

Preliminary Data Overview: Jamaica Plain Centre/South Street Survey



Mark Melnik
Deputy Director for Research
Boston Redevelopment Authority

Context

- Purpose is to answer four main questions:
  - What are people doing on Centre/South Street?
  - How did they get to Centre/South Street?
  - What factors influenced their transportation choice?
  - What factors might change their typical transportation choice?

Demographics

- Majority of Respondents:
  - Between 25 and 49 years of age (60.8%)
  - Female (58.8%)
  - Residents of Jamaica Plain (76.3%)

Residence	Frequency	Percent
Jamaica Plain	74	76.3
Hyde Square	16	16.5
Monument	5	5.2
Jackson Square	14	14.4
South Street	6	6.2
Forest Hills	4	4.1
Other	29	29.9
Boston	16	16.5
Brookline	1	1.0
Newton	0	0.0
Cambridge	0	0.0
Another city/town	6	6.2

Comparison of Transportation

Mode of Transportation

Mode	Frequency	Percent
Bike	6	6.1
Bus	14	14.3
Car	22	22.4
Walking	47	48.0
Train	5	5.1
Zipcar	1	1.0

Travel Between Destinations

Mode	Frequency	Percent
Bike	8	9.9
Bus	10	12.3
Car	5	6.2
Walking	62	76.5
Train	3	3.7

Of those driving, 76.2% park on the street and 23.8% park in lots

Strategies to Encourage Walking

Strategy	Frequency	Percent of Respondent
More Pleasant Sidewalk Experience	34	23.3
More Comfortable Sidewalks	25	17.1
Better Connections Across Streets	25	17.1
More Places to Sit and Relax	25	17.1
Nothing – Unlikely to Walk More	26	17.8
Other	11	7.5

Note: Respondents were allowed to choose multiple responses

Strategies to Encourage Biking

Strategy	Frequency	Percent of Respondent
More Places to Park Bikes	18	18.6
More Bike Lanes	31	32.0
A Bike Share System	13	13.4
More Bikers on the Road	9	9.3
Greater Respect for Bikers	24	24.7
Nothing – Unlikely to Bike More	56	57.7
Other	12	12.4

Note: Respondents were allowed to choose multiple responses

Strategies to Encourage Public Transit Usage

Bus/Subway Usage	Frequency	Percent of Respondent
Better Reliability	34	35.1
Less Crowding	17	17.5
More Convenient Location	17	17.5
Lower Cost	17	17.5
Nothing – Unlikely to Use Transit More	22	22.7
Other	9	9.3

Note: Respondents were allowed to choose multiple responses

Strategies to Encourage Time Spent in the Area

Time Spent in the Area	Frequency	Percent of Respondent
Informal Music	35	36.1
Weekly Farmer's Market	50	51.5
Seasonal Events	48	49.5
Outdoor Concerts	42	43.3
Educational Programs	22	22.7
Other	9	9.3

Note: Respondents were allowed to choose multiple responses