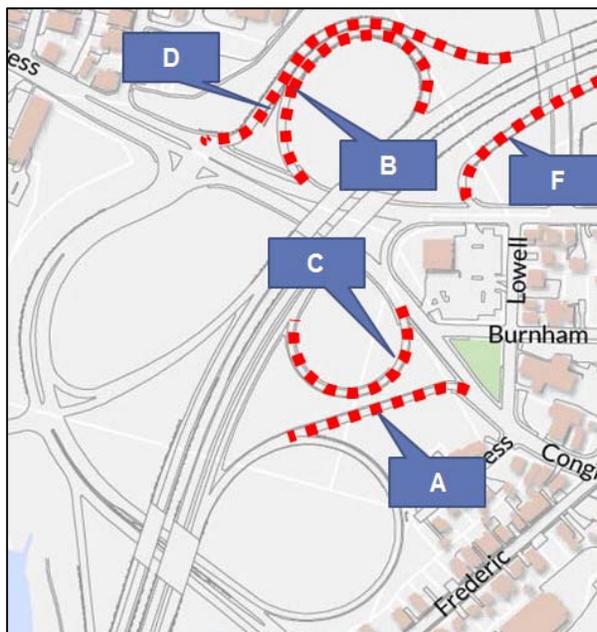


## Memorandum

To: PAC, Libbytown Traffic Circulation and Streetscape Study  
 From: Lucy Gibson, P.E.  
 Date: April 18, 2013  
 Re: Alternatives for Study Area

Four alternatives for the Libbytown study area are provided for your review, and will be discussed at the April 22 meeting. These alternatives originated from the workshop held in January, and have been refined and screened based on input from the Maine DOT, PACTS and the City of Portland. Several alternatives were eliminated due to safety or operational concerns.

The table below summarizes the alternatives, which are illustrated in the attached maps. Alternative 1 eliminates all five redundant ramps (A-B-C-D-F, to right), while Alternative 2 removes four of the ramps, and Ramp F remains. Alternatives 1a and 2a have Park Ave as a 2-way street, and Congress remains one-way. Alternatives 1b and 2b have both streets as two-way.



	<b>Interchange Configuration</b>	<b>a) Park-2 way Congress 1-way</b>	<b>b) Park-2 way Congress 2-way</b>
<b>Alternative 1</b>	<ul style="list-style-type: none"> <li>Close 5 ramps: A,B,C,D,F</li> <li>Directs all interstate traffic to Fore River Parkway Interchange</li> </ul>	<ul style="list-style-type: none"> <li>Park is major route into downtown</li> <li>Congress is major bicycle route</li> </ul>	<ul style="list-style-type: none"> <li>Both routes serve traffic</li> <li>Park is major bicycle route</li> <li>Congress provides on-street parking</li> </ul>
<b>Alternative 2</b>	<ul style="list-style-type: none"> <li>Close 4 ramps: A,B,C,D</li> <li>Eastbound access to Ramp F is provided</li> <li>Less traffic on Fore River Parkway Interchange than Alternative 1.</li> </ul>	<ul style="list-style-type: none"> <li>Congress 2-way between Marston and St. John, and provides on-street parking</li> <li>Park is traffic and bicycle route</li> </ul>	<ul style="list-style-type: none"> <li>Equal emphasis for traffic, bicycles and parking on Congress and Park</li> <li>Larger signal at Congress/Park/I-295 NB</li> </ul>

### Bicycle Facilities

The following photos show the types of bicycle facilities referenced in the accompanying maps.



### Analysis of Alternatives

These alternatives have been evaluated on a number of measures, some of which are summarized below.

**Travel Time Changes:** The closure of the ramps will, for some users, increase their travel time on their trip on I-295. The following table summarizes the increase of travel time and distance. Most travelers on the interstate are on longer distance trips, so these increases are small relative to their total travel time.

Ramp		Miles Existing	Miles Proposed	Min:Sec at 15 mph	Min:Sec at 25 mph
A	NB Exit to EB Congress	0.12	0.74	2:28	1:29
B	SB Entry from WB Park	0.61	0.47	-0:34	-0:20
C	NB Entry from EB Congress	0.28	0.77	1:57	1:11
D	SB Exit to WB Congress	0.25	0.52	1:05	0:39
F	NB Entry from Park	0.23	1.2	3:53	2:20

**Traffic Diversion:** There will likely be some diversion to other routes due to ramp closures. The following maps show the potential diversion for traffic using Ramp A to access the Maine Medical Center, using Veterans Bridge and St John or Valley Street. It is likely that much of Ramp A's traffic will use other routes.



**Multimodal Level of Service:** The goal of this project is to improve safety, mobility and comfort for all users of the street network, so a multimodal level-of-service evaluation was conducted. The primary consideration for each mode is as follows:

- Pedestrians: Considers streetscape comfort (i.e. trees, buildings or parking), crosswalk frequency, delays at crosswalks, exposure to travel lanes when crossing.
- Bicycles: Considers traffic volumes, traffic speed and facility types: shared lane, bicycle lane, or separated facility (cycle track or shared use path).
- Transit: Considers the pedestrian environment, and the benefits of two-way streets in transit networks.
- Vehicles: Considers vehicle delay at intersections.

Level of service is reported on a scale of A through F, with A representing ideal conditions, and F representing challenging or uncomfortable environment. The table below summarizes the results of the pedestrian and bicycle analysis for key street segments within the study area. Fore River Parkway is not included, as there are no changes among the alternatives at this time, although the planned improvements will improve the conditions for pedestrians and bicyclists.

	Pedestrian LOS					Bicycle LOS				
	Existing	1A	1B	2A	2B	Existing	1A	1B	2A	2B
Outer Congress	E	C	C	C	C	F	E	E	E	E
Congress	E	B	C	B	C	F	B	C	D	C
Park	D	C	B	C	B	E	C	B	C	C

Transit level of service has not been analyzed, as no significant changes to transit services are proposed, but the alternatives that would best support transit are 1b and 2b. The two-way streets allow for transit routes to be bi-directional, and therefore more “legible” to the unfamiliar user. The following table shows intersection level of service, which is a measure of peak hour delay, for key intersections in the study area. These are also on a scale of A through F, and typically D is considered an acceptable level of service for peak hour conditions.

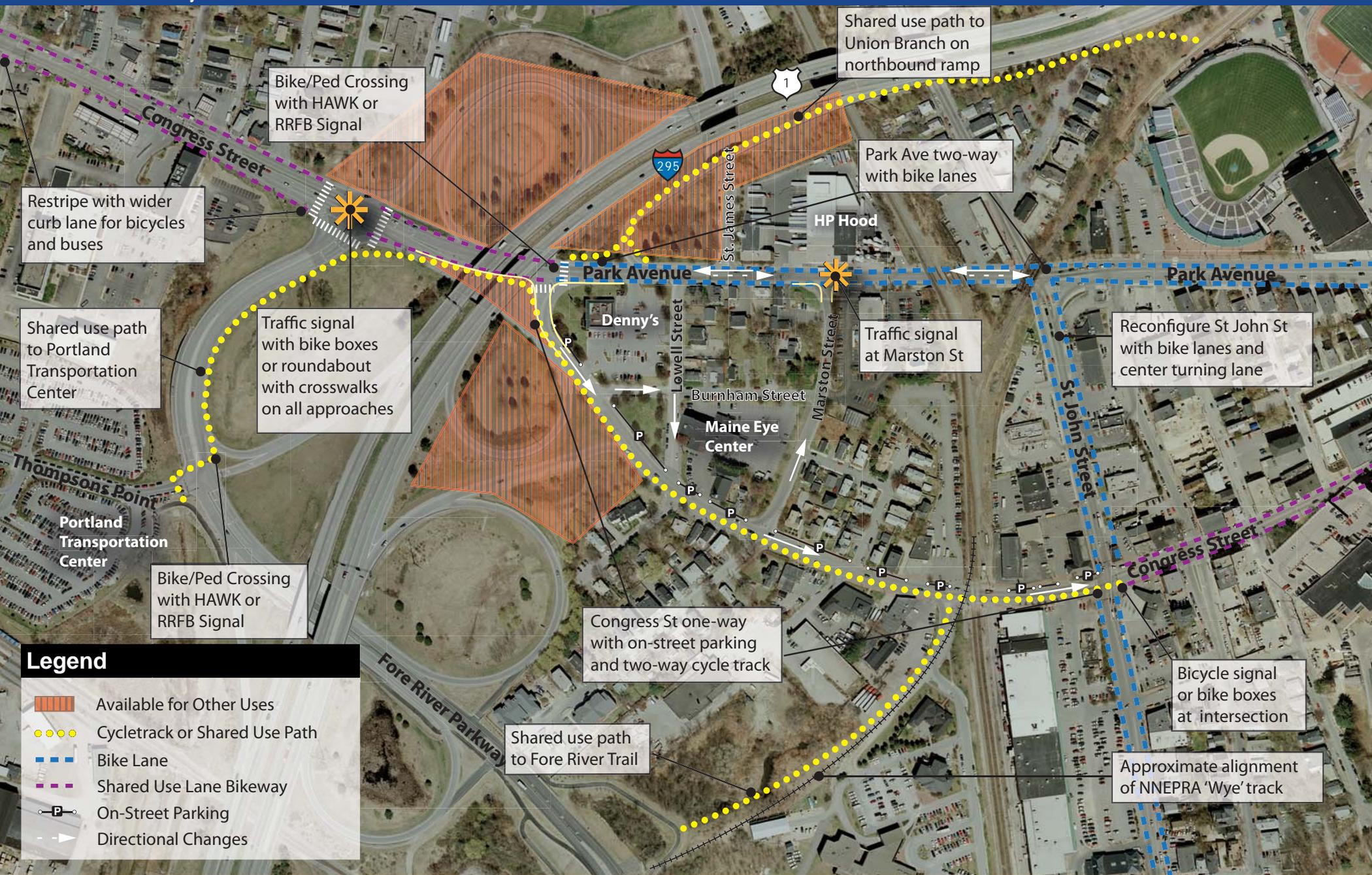
	Intersection LOS				
	Existing	1A	1B	2A	2B
Fore River Parkway/ Thompsons Point	B	D	D	C	C
Congress/ Fore River Parkway	C	C	C	C	C
Congress/St John	A	B	B	B	B
Park/St John	A	C	B	C	B

**Conclusions:**

- Bicycle and Pedestrian level of service improve significantly for all alternatives.
- Traffic level of service is slightly lower but acceptable for all major signalized intersections.
- Accessibility for motorists to locations within the study area is much higher in the two-way traffic alternatives (1b and 2b).
- The intersection of Fore River Parkway and Thompson’s Point is the critical intersection in the network for alternative 1a and 1b.

# Libbytown Traffic Circulation and Streetscape Study

PACTS and City of Portland



Bike/Ped Crossing with HAWK or RRFB Signal

Restripe with wider curb lane for bicycles and buses

Shared use path to Portland Transportation Center

Portland Transportation Center

Bike/Ped Crossing with HAWK or RRFB Signal

**Legend**

- Available for Other Uses
- Cycletrack or Shared Use Path
- Bike Lane
- Shared Use Lane Bikeway
- P On-Street Parking
- Directional Changes

Shared use path to Union Branch on northbound ramp

Park Ave two-way with bike lanes

Traffic signal at Marston St

Reconfigure St John St with bike lanes and center turning lane

Congress St one-way with on-street parking and two-way cycle track

Shared use path to Fore River Trail

Bicycle signal or bike boxes at intersection

Approximate alignment of NNEPRA 'Wye' track

## Alternative 1a

April 17, 2013

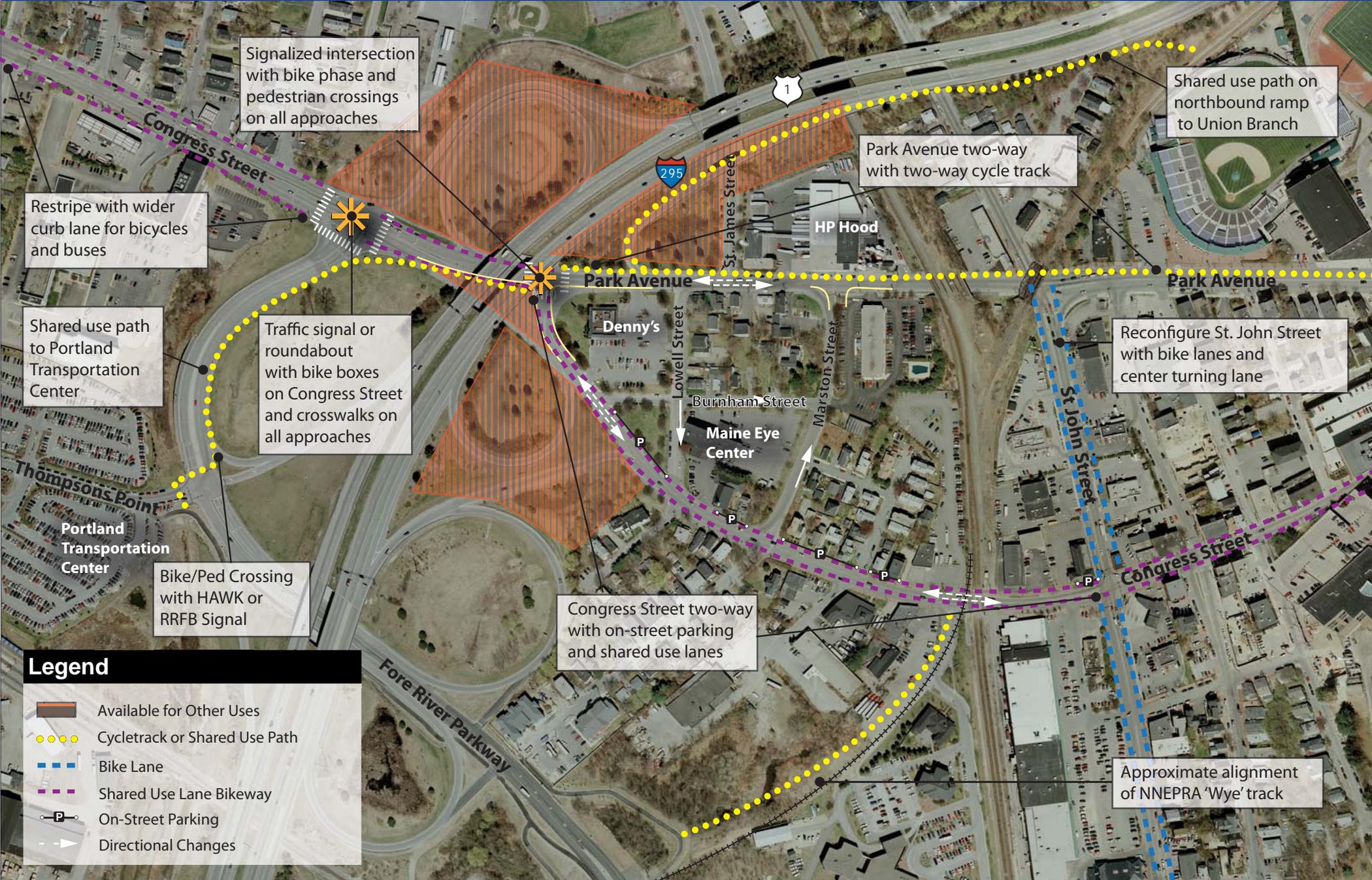
prepared by:



with: Ransom Consulting Engineers & Scientists  
tjd&a Landscape Architects and Planners  
Morris Communications  
Smart Mobility

# Libbytown Traffic Circulation and Streetscape Study

PACTS and City of Portland



## Alternative 1b

April 17, 2013

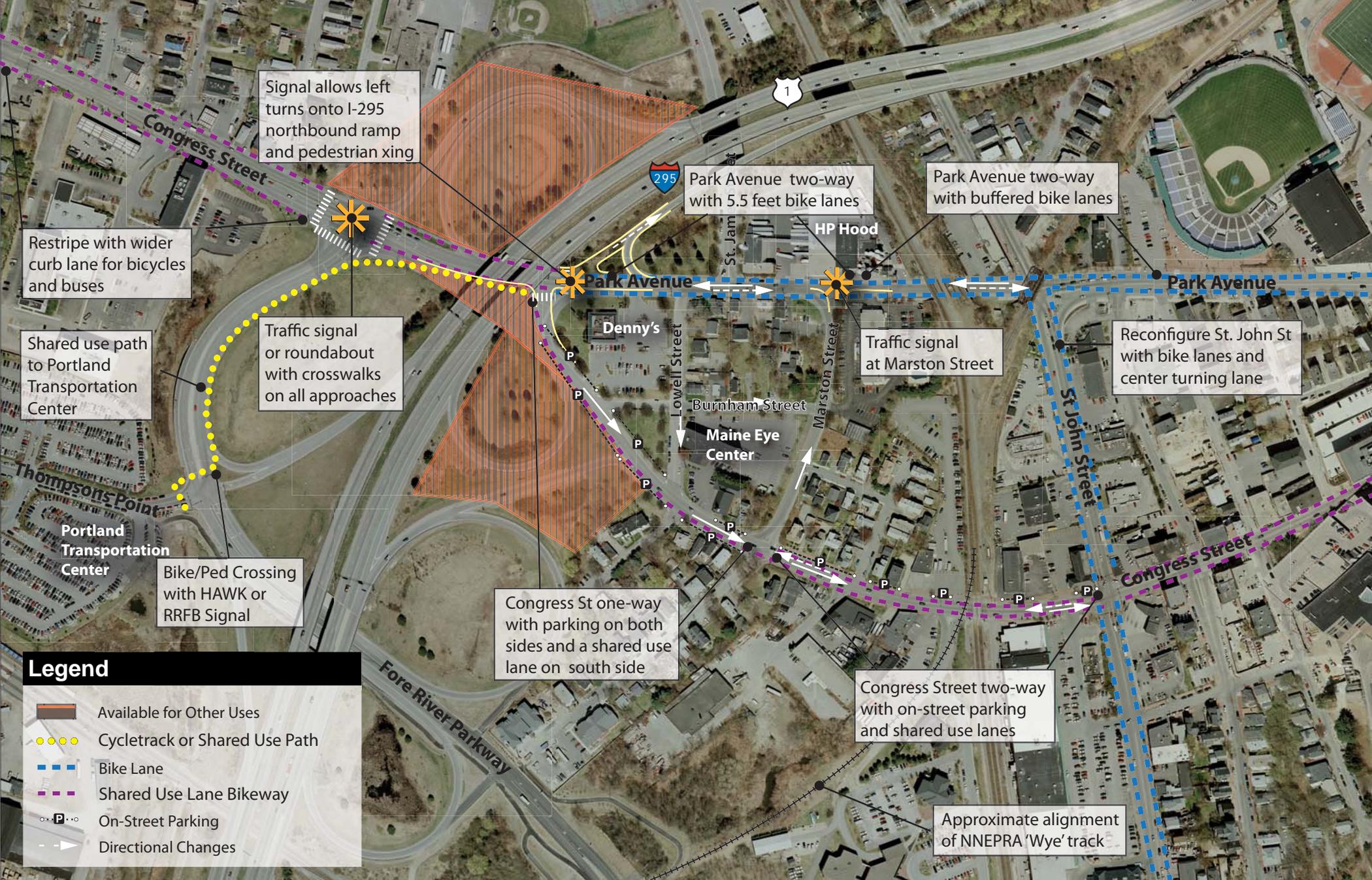
prepared by:



with: Ransom Consulting Engineers & Scientists  
 tj&a Landscape Architects and Planners  
 Morris Communications  
 Smart Mobility

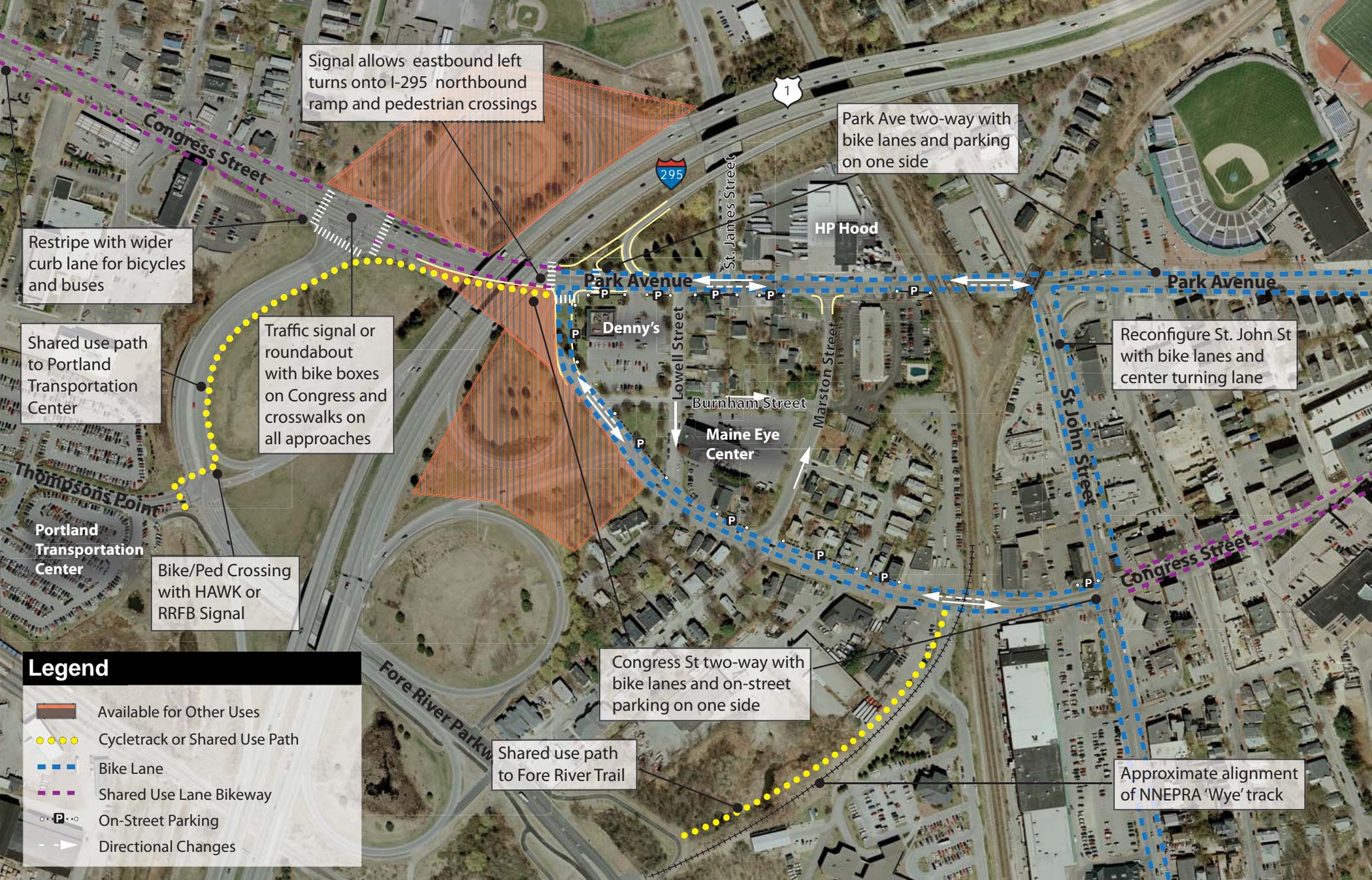
# Libbytown Traffic Circulation and Streetscape Study

PACTS and City of Portland



# Libbytown Traffic Circulation and Streetscape Study

PACTS and City of Portland

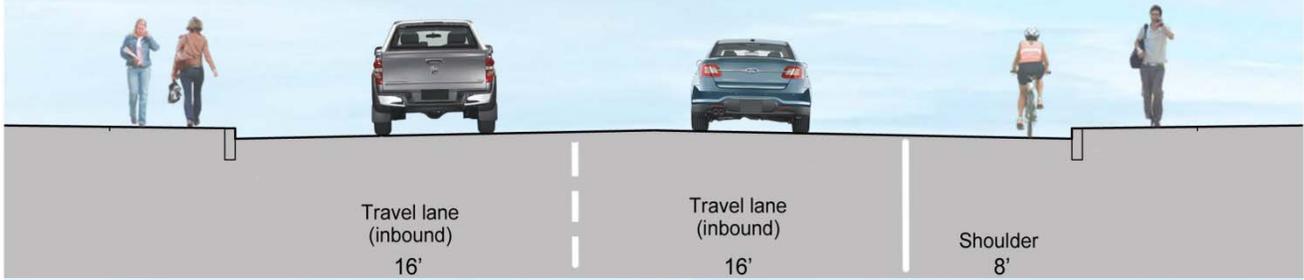


**Legend**

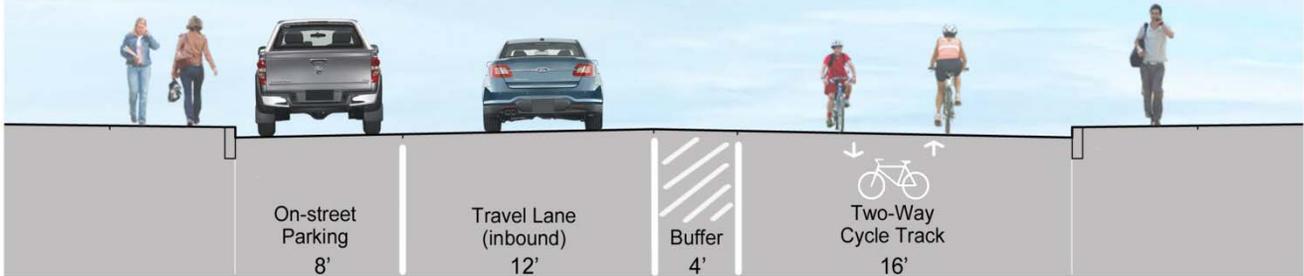
- Available for Other Uses
- Cycletrack or Shared Use Path
- Bike Lane
- Shared Use Lane Bikeway
- On-Street Parking
- Directional Changes

# Congress Street Looking East (between Lowell and Marston)

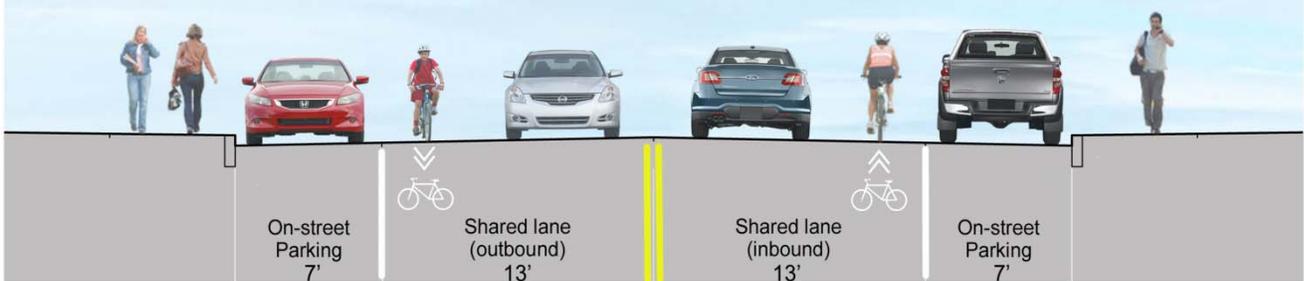
## Existing



## Alternative 1a



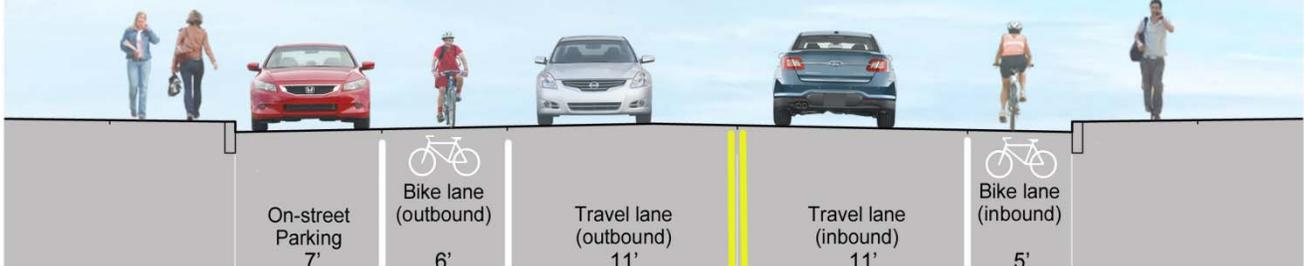
## Alternative 1b



## Alternative 2a

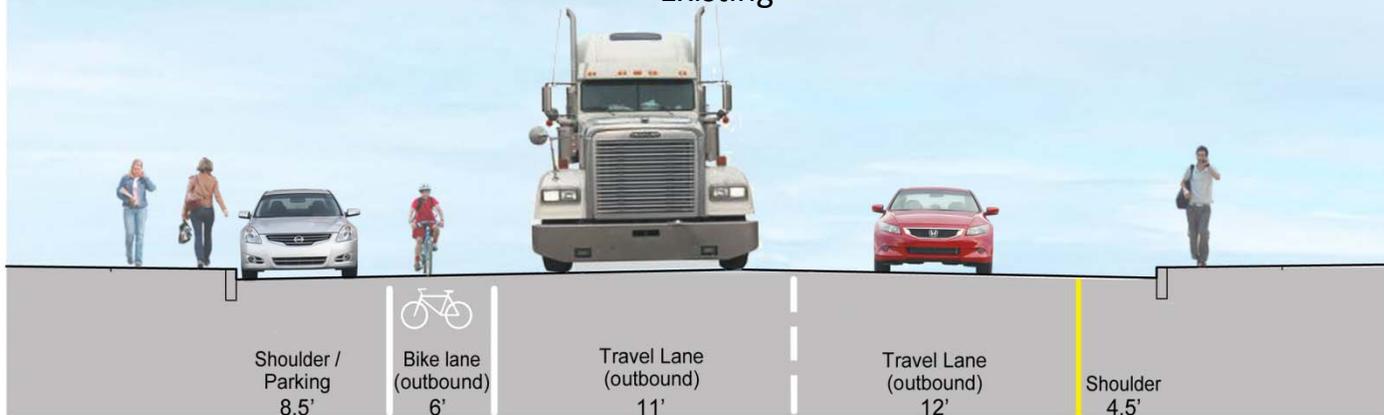


## Alternative 2b

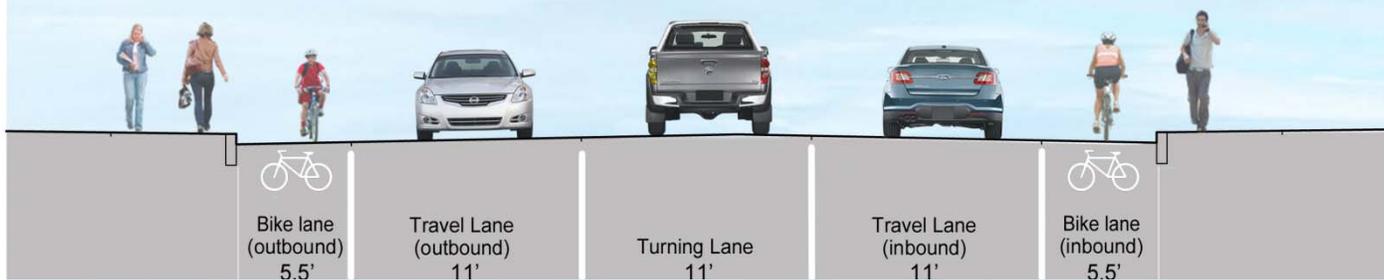


# Park Street Looking East (between Marston and St. John)

## Existing



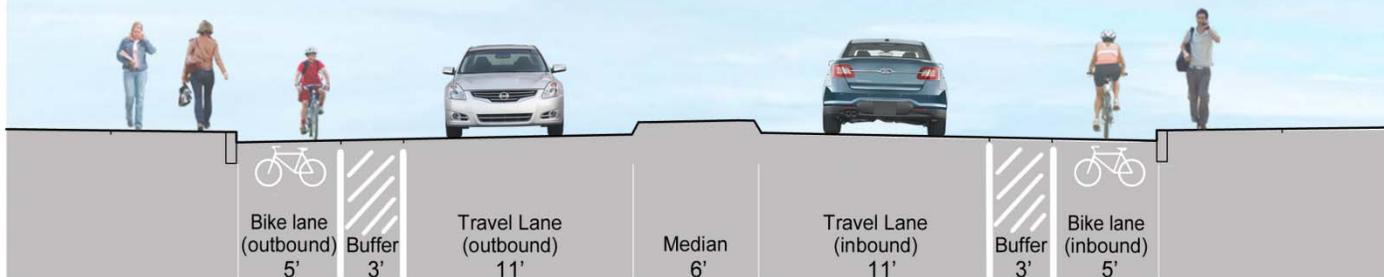
## Alternative 1a



## Alternative 1b



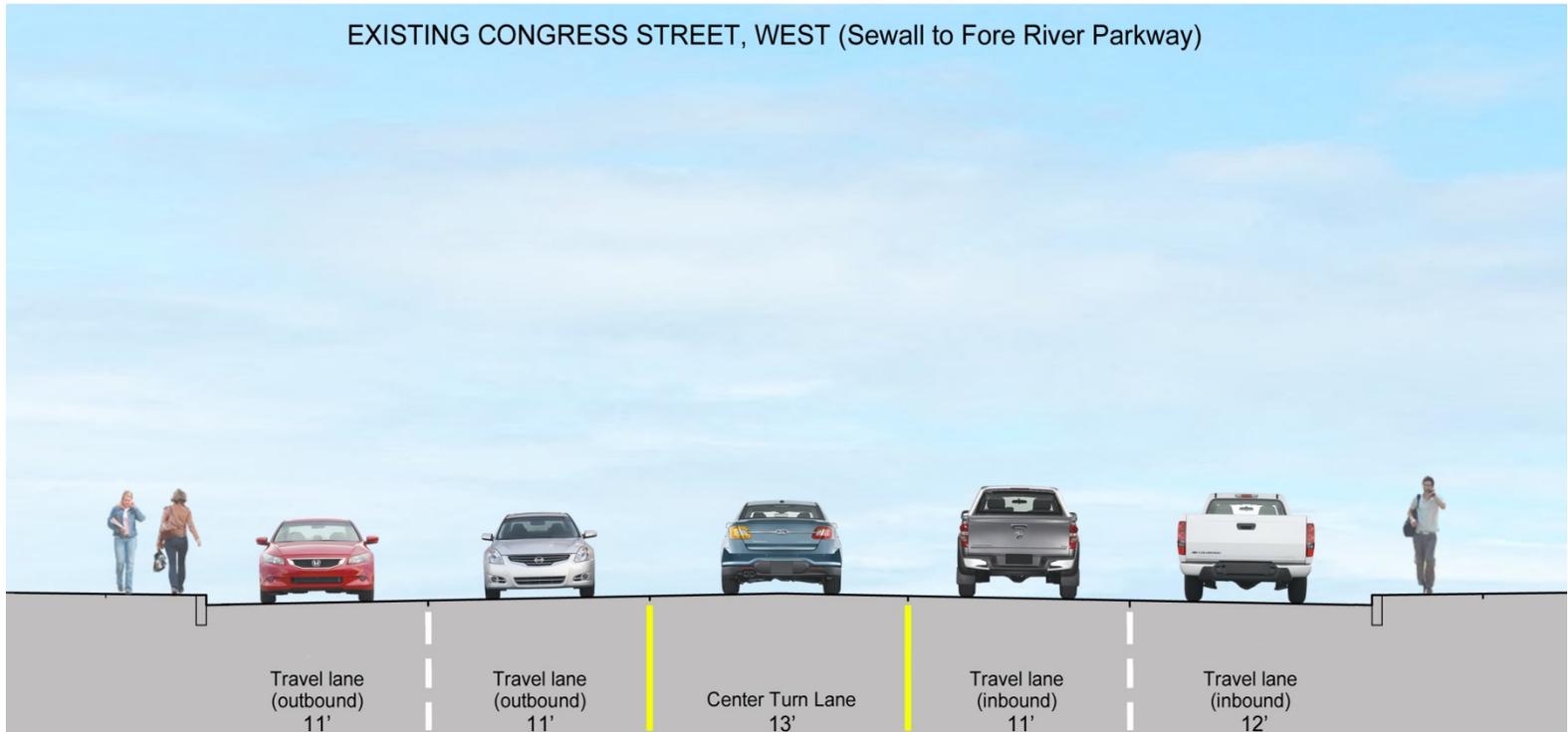
## Alternative 2a



## Alternative 2b



EXISTING CONGRESS STREET, WEST (Sewall to Fore River Parkway)



CONGRESS STREET, WEST (Sewall to Fore River Parkway)

