

Portland North Small Starts Alternatives Analysis

Stakeholder Coordination Meeting
February 11, 2009

Agenda

- Introductions
- Project Update
- Presentation of Service Alternatives
- Project Modeling Report
- Next Steps
- Project Timeline
- Discussion

Project Update

- **Tasks Accomplished Since Last Meeting**
 - Development of Purpose and Need
 - Development of Preliminary Alternatives
 - Application and Development of Transportation Models
 - User Preference Surveys
 - Development of FTA Initiation Report

Overview of Alternatives

● Three service alternatives

- Yarmouth
- Brunswick (Bath)
- South Auburn (Lewiston)

● Three route alternatives:

- Saint Lawrence and Atlantic Railway (SLA)
- Pan Am Railway
- Express Bus

● Five Portland terminal alternatives:

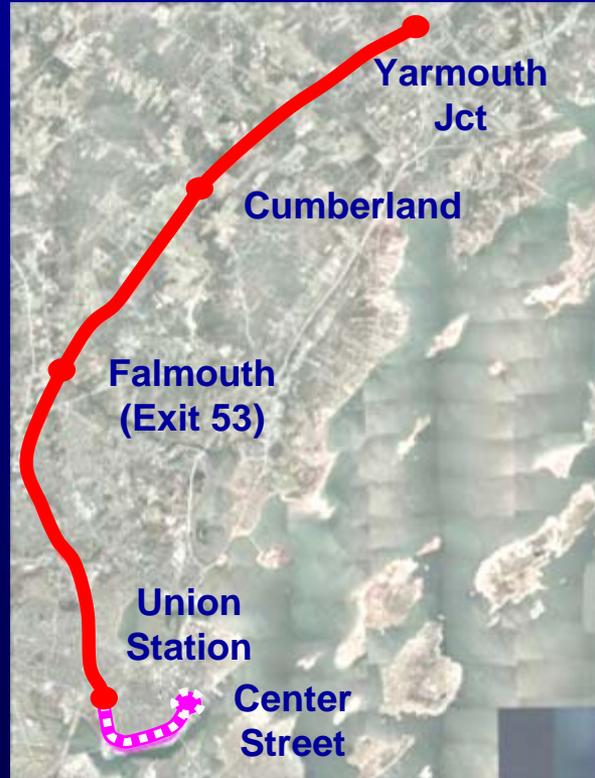
- Bayside (SLA)
- India Street (SLA)
- Union Station (Pan Am)
- Center Street (Pan Am)
- Monument Square (Express Bus)

Yarmouth Service

SLA



Pan Am

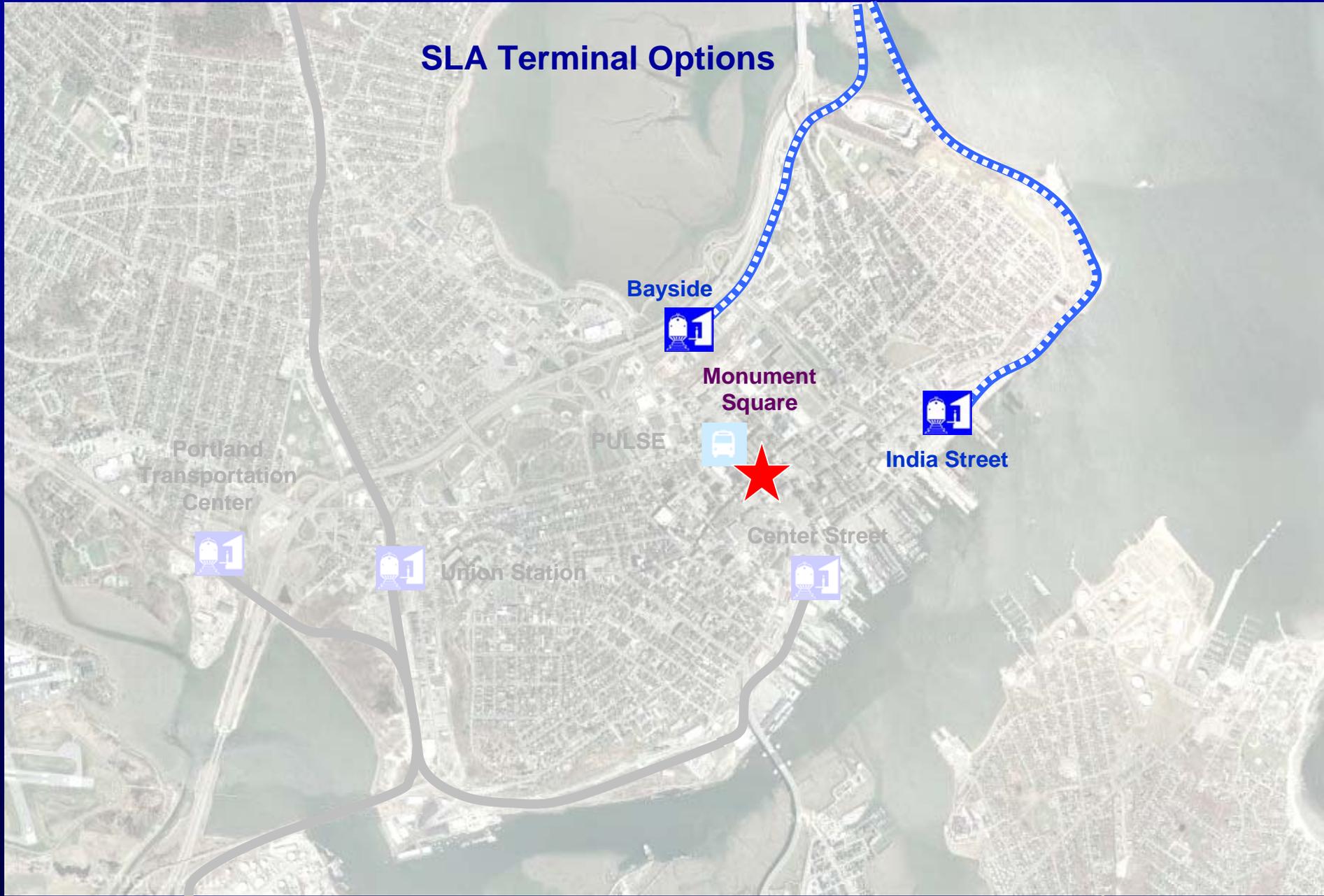


Express Bus





SLA Terminal Options



Bayside



Monument Square



India Street



Portland Transportation Center



Union Station

PULSE



Center Street



Pan Am Terminal Options



Bayside



Monument Square



India Street

PULSE



Center Street

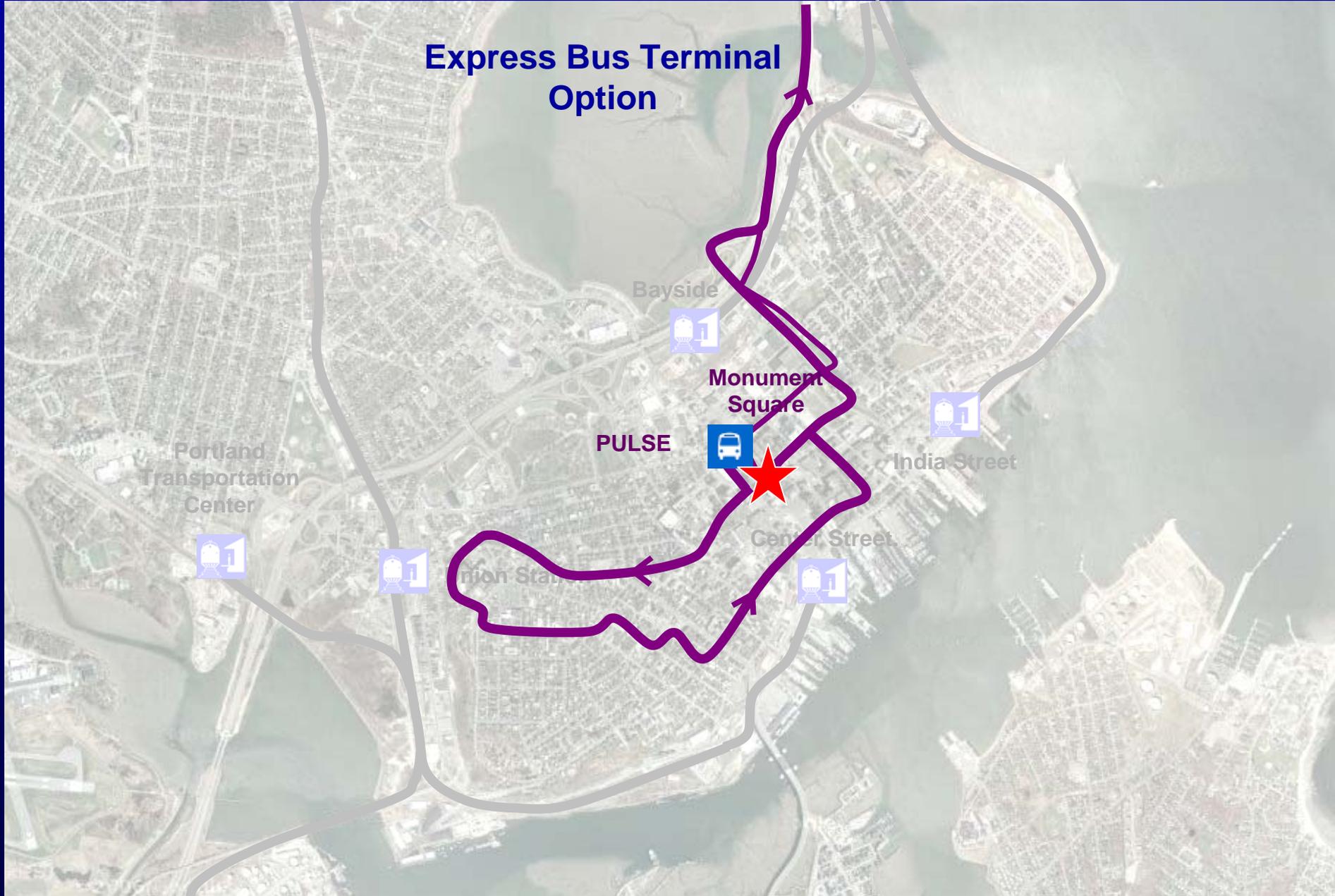
Portland Transportation Center



Union Station



Express Bus Terminal Option



Bayside

Monument Square

PULSE

India Street

Center Street

Union Station

Portland Transportation Center

Yarmouth Service Statistics

- 22 Roundtrips per Weekday
- Service Headways
 - 30 minute peak
 - 60 minute offpeak
- First trip arrives Portland: 6:45 AM
- Last trip departs Portland: 10:55 PM

SLA Service to Yarmouth

Stops

- Yarmouth
- Falmouth
- Portland (Bayside or India Street)

Yarmouth to Bayside: 17 minutes

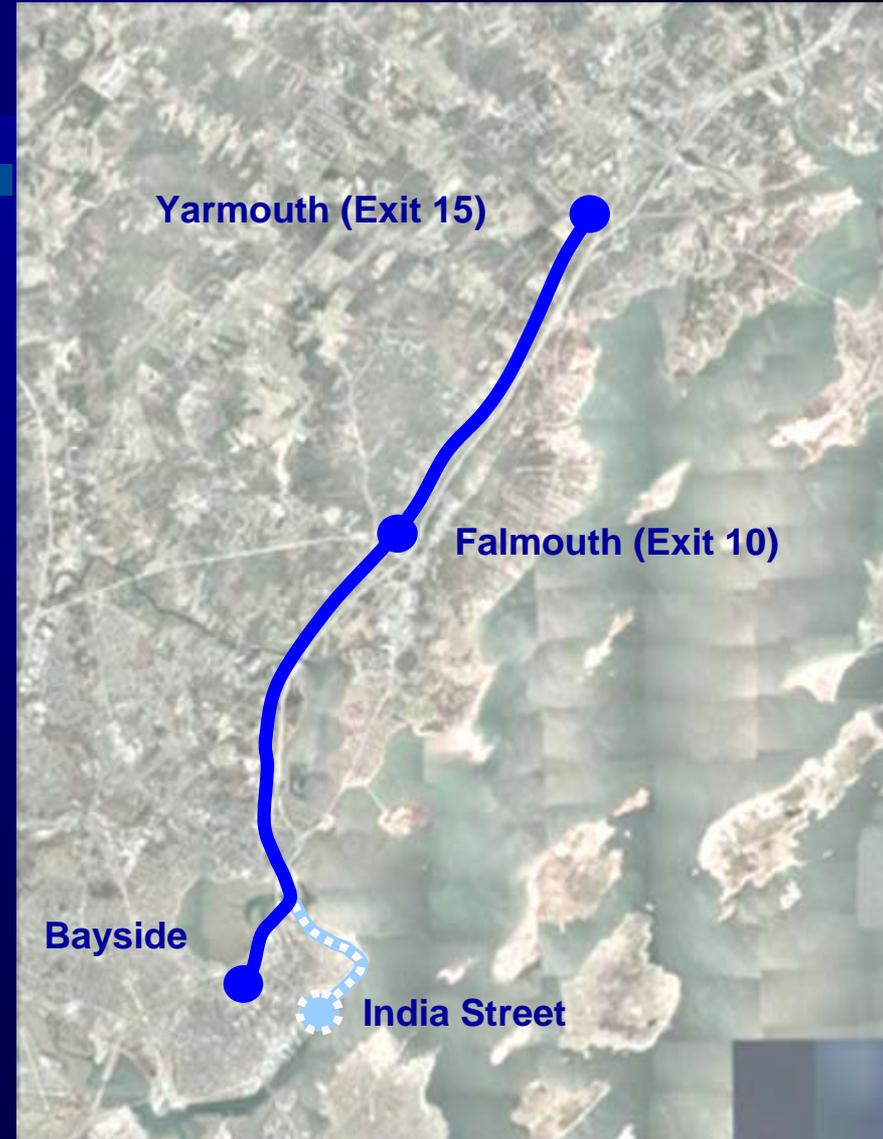
Yarmouth to India Street: 18 minutes

9.3 miles to Bayside

10.1 miles to India Street

Required Infrastructure Upgrades

- Reconstruct Union Branch
- Build new bridge over Back Cove
- Rebuild SLA Main



Pan Am Service to Yarmouth

Stops

- Yarmouth Jct
- Cumberland
- Falmouth
- Portland (Union Station or Center Street)

Yarmouth Jct to Union Station: 20 min
Yarmouth Jct to Center Street: 26 min

13.5 miles to Union Station
15.6 Miles to Center Street

Required Infrastructure Upgrades

- Upgrades to Pan Am Freight Main and Commercial Street



Express Bus Service to Yarmouth

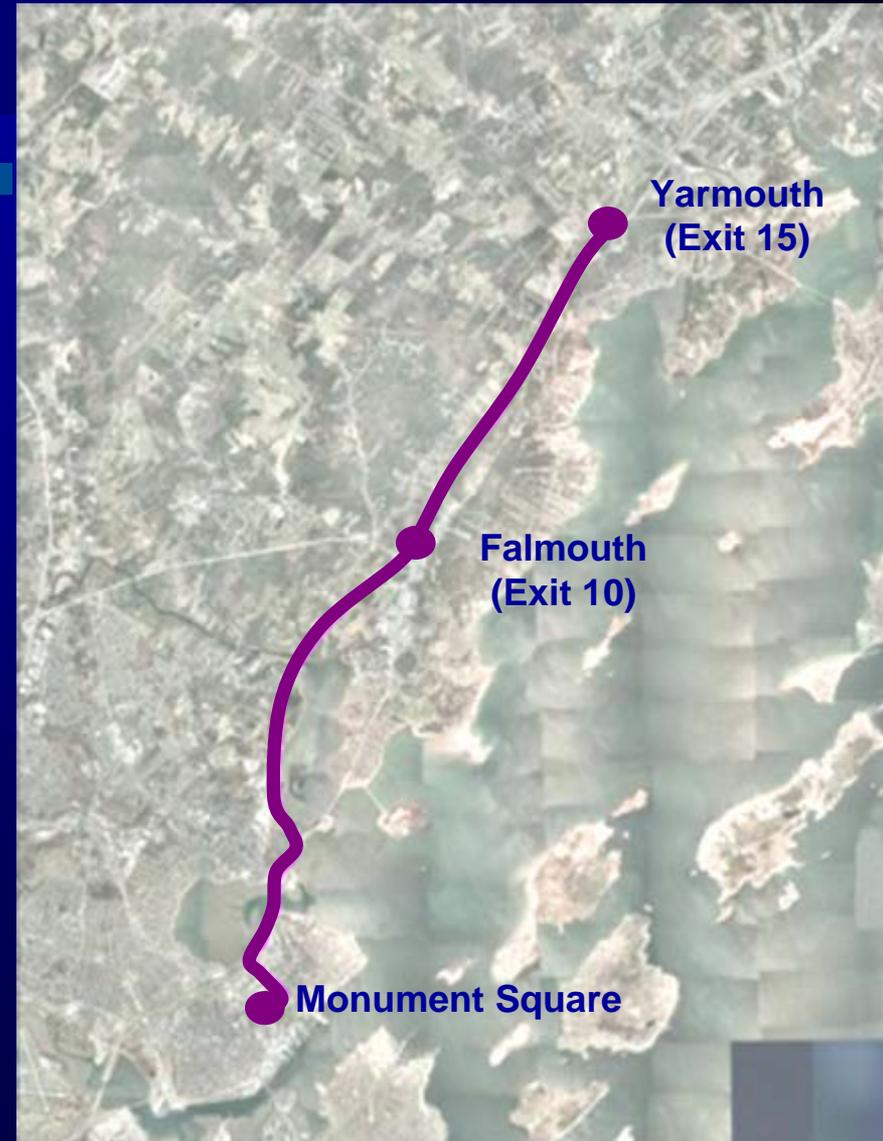
Stops

- Yarmouth
- Falmouth
- Monument Square

10.4 miles to Monument Square

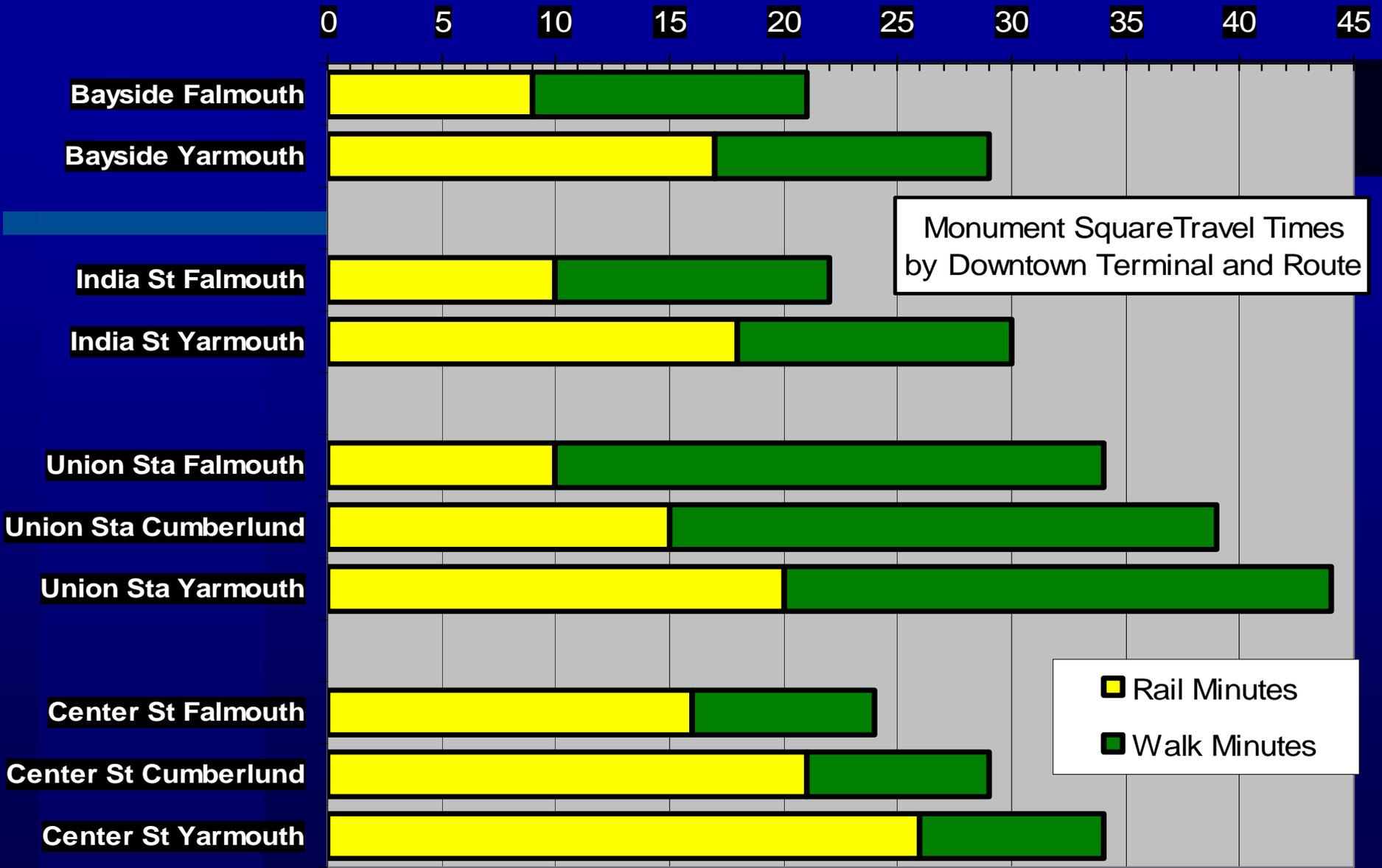
Operate on shoulders where available

Downtown Distribution loop



Yarmouth Travel Distances and Times

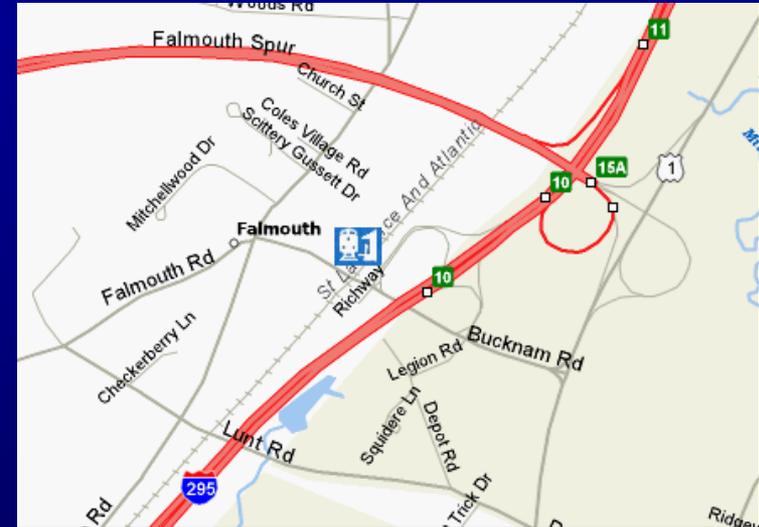
Route	Stop	Miles to Portland	Rail Minutes	Walk Minutes	Total Trip Time (minutes)
SLA Bayside	Falmouth (Exit 10)	4.5	9	12	21
	Yarmouth (Exit 15)	9.3	17	12	29
SLA India Street	Falmouth (Exit 10)	5.4	10	12	22
	Yarmouth (Exit 15)	10.1	18	12	30
Pan Am Union Station	Falmouth (Exit 53)	5.8	10	24	34
	Cumberland	9.4	15	24	39
	Yarmouth Jct	13.5	20	24	44
Pan Am Center Street	Falmouth (Exit 53)	7.9	16	8	24
	Cumberland	11.5	21	8	29
	Yarmouth Jct	15.6	26	8	34



SLA Route

Falmouth Station I-295 (Exit 10)

- Conveniently located near Junction of I-95 and I-295 at Falmouth Spur (Exit 10)
- Develop as Park-n-Ride Station





Exit 10 On/Off Ramps

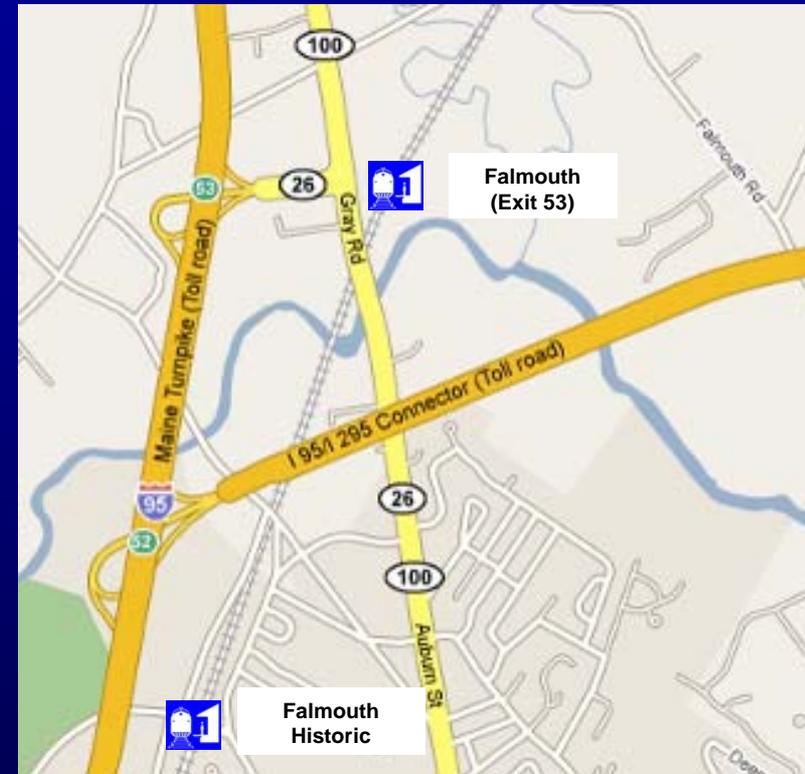
Bucknam Road

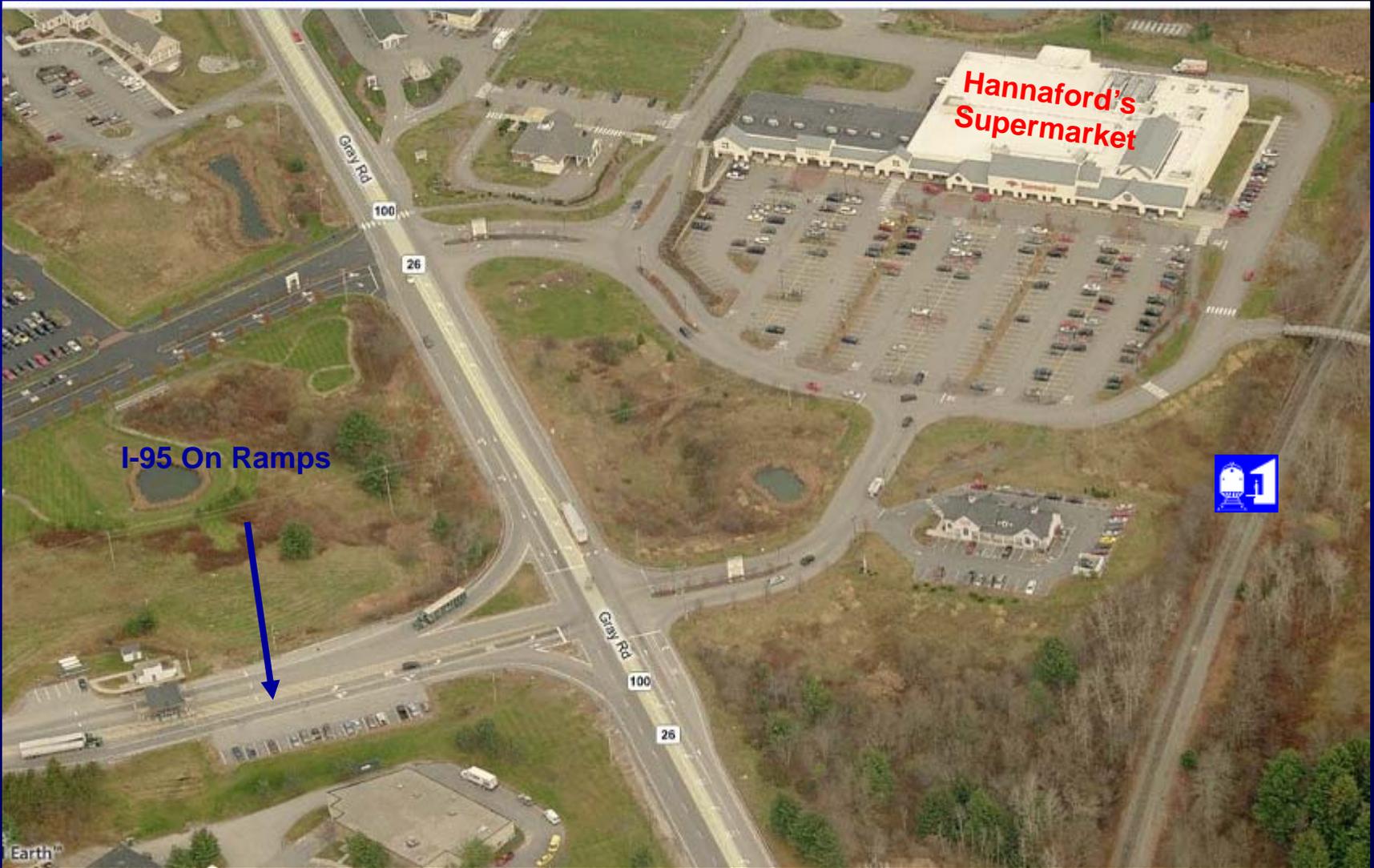
I-295

Pan Am Route

Falmouth Station I-95 (Exit 53)

- Nearby Shopping Center & Business Park
- Conveniently located of I-95 Exit 53





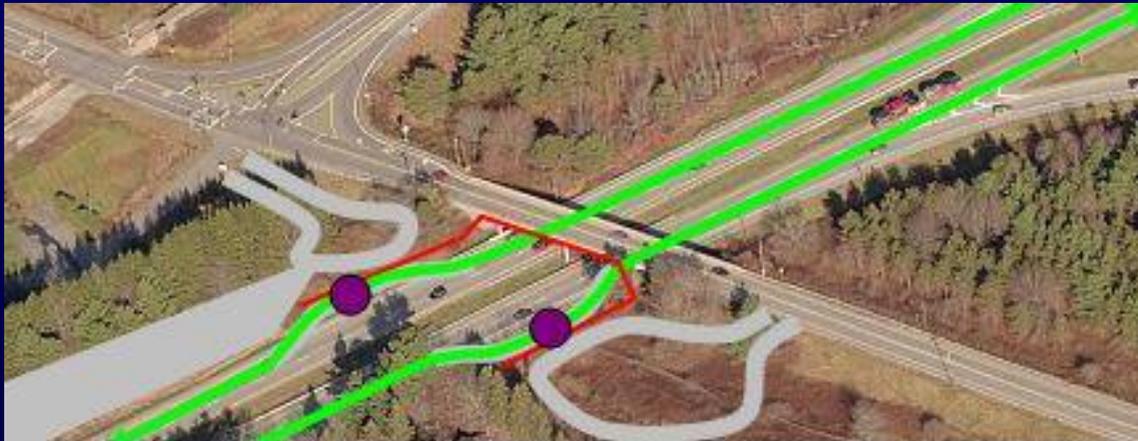
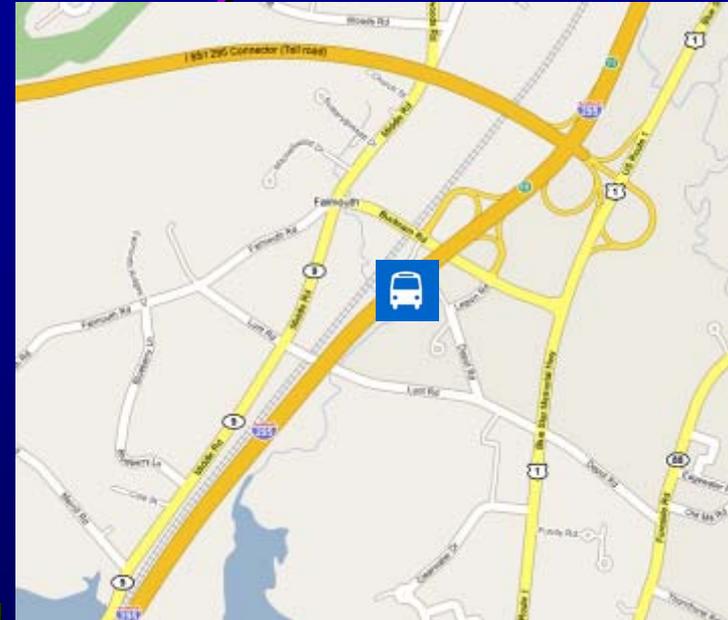
Hannaford's
Supermarket

I-95 On Ramps



Express Bus Falmouth I-295 (Exit 10)

- Conveniently located near Junction of I-95 and I-295 at Falmouth Spur
- Park-n-Ride Stop





I-295

Southbound Stop

Northbound Stop

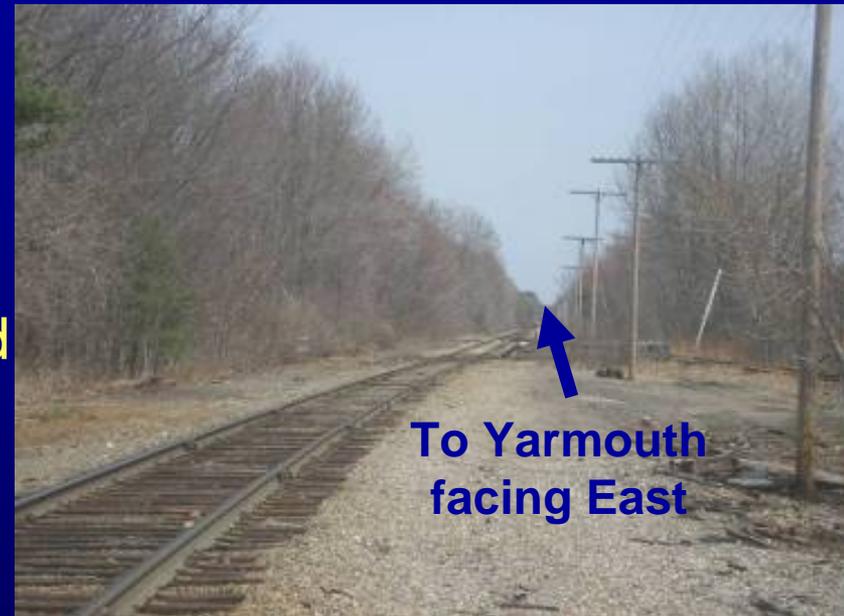
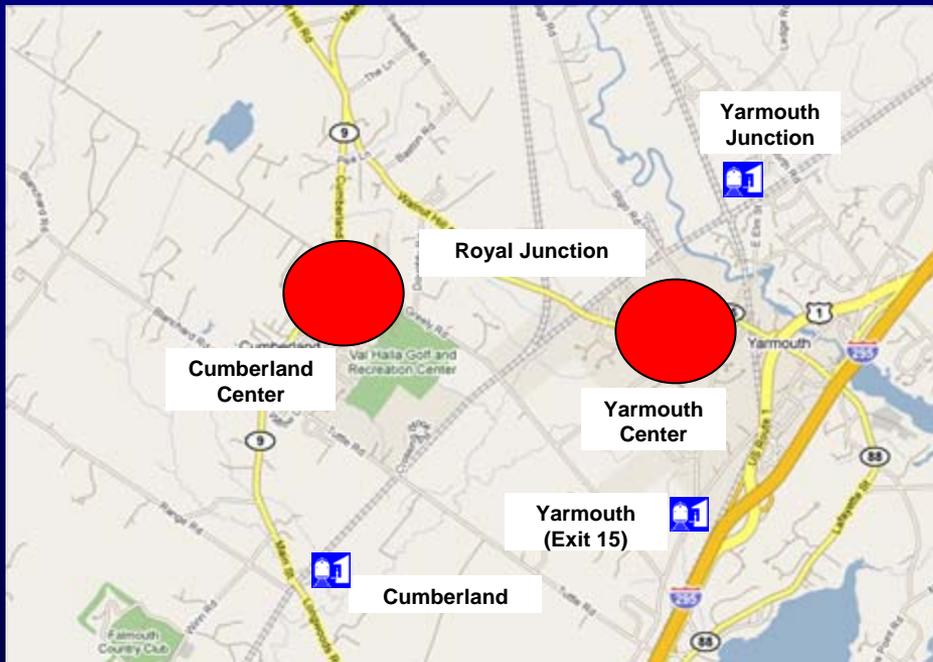
Exit 10 On/Off Ramps

Bucknam Road



Pan Am Route Cumberland Station

- Located on Route 9
- Cumberland Center is ~ 1.5 miles north
- Only Service Option to Cumberland

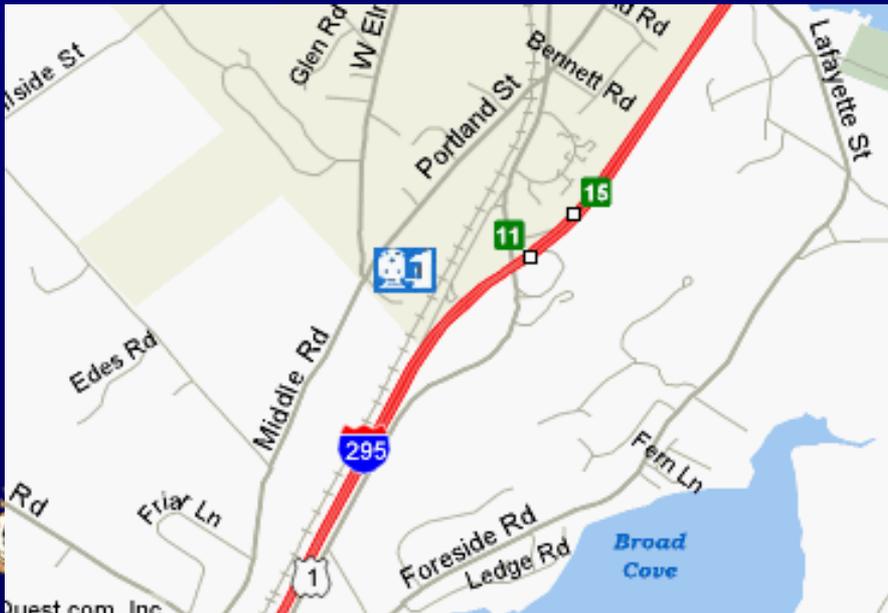




SLA Route

Yarmouth Station I-295 (Exit 15)

- Conveniently located off I-295 at Exit 15
- ~ 1 mile south of Yarmouth Center
- Station near MDOT property





Rte 1

I-295 Southbound On-Ramp

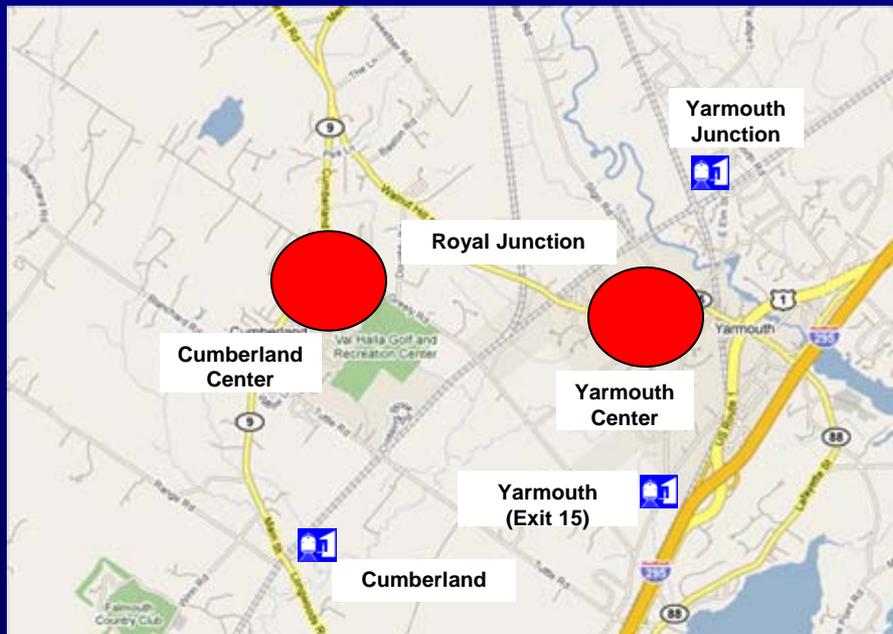
I-295



Pan Am Route

Yarmouth Jct Station

- ~ 1 mile north of downtown Yarmouth
- ~0.2 miles east of Yarmouth Junction
- Land for station development





Freeport and Brunswick



East Elm Street

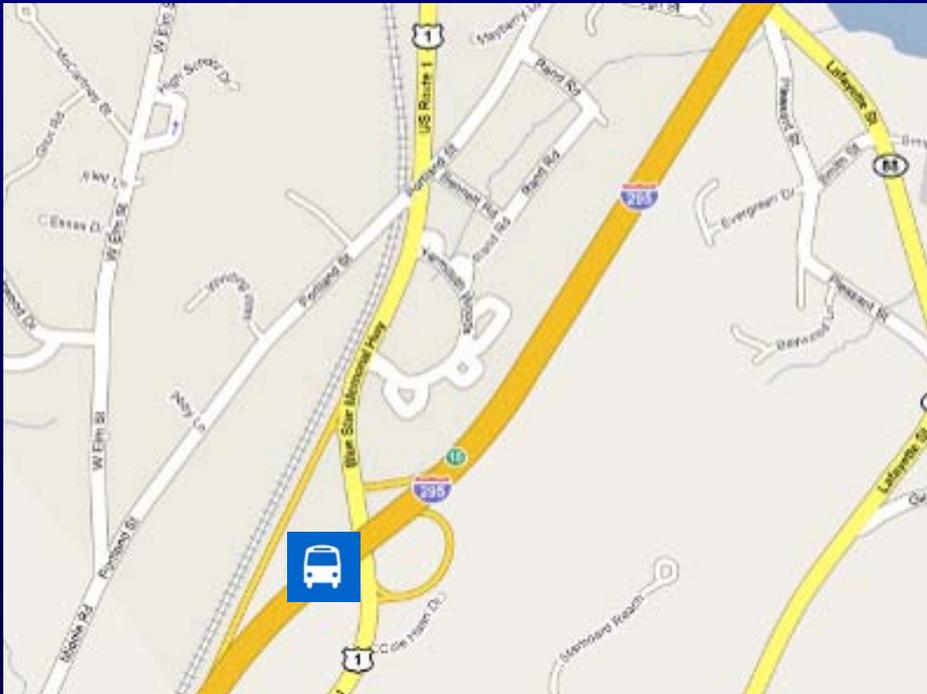
Yarmouth Jct

Yarmouth Center



Express Bus Yarmouth I-295 (Exit 15)

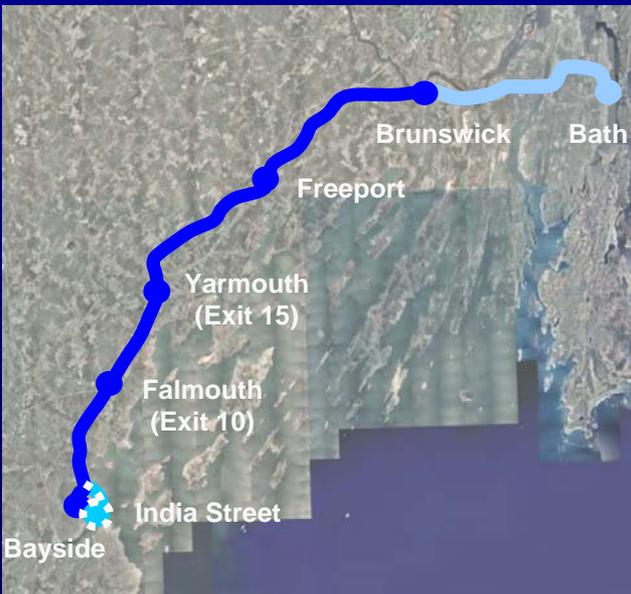
- Conveniently located off I-295 at Exit 15
- Park-n-Ride Stop
- Near MDOT property



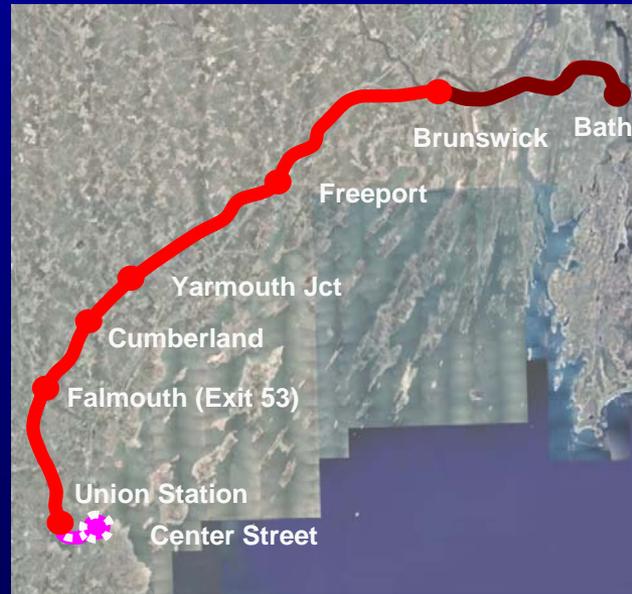


Brunswick Service

SLA



Pan Am



Express Bus



Brunswick Service Statistics

- 22 Roundtrips per Weekday
- Service Headways
 - 30 minute peak
 - 60 minute offpeak
- First trip arrives Portland: 6:45 AM
- Last trip departs Portland: 10:55 PM

SLA Service to Brunswick

Stops

- Brunswick
- Freeport
- Yarmouth
- Falmouth
- Portland (Bayside or India Street)

Brunswick to Bayside: 38 minutes

Brunswick to India Street: 40 minutes

25.6 miles to Bayside

26.4 miles to India Street

Required Infrastructure Upgrades

- Reconstruct Union Branch
- Build new bridge over Back Cove
- Rebuild SLA Main



Pan Am Service to Brunswick

Stops

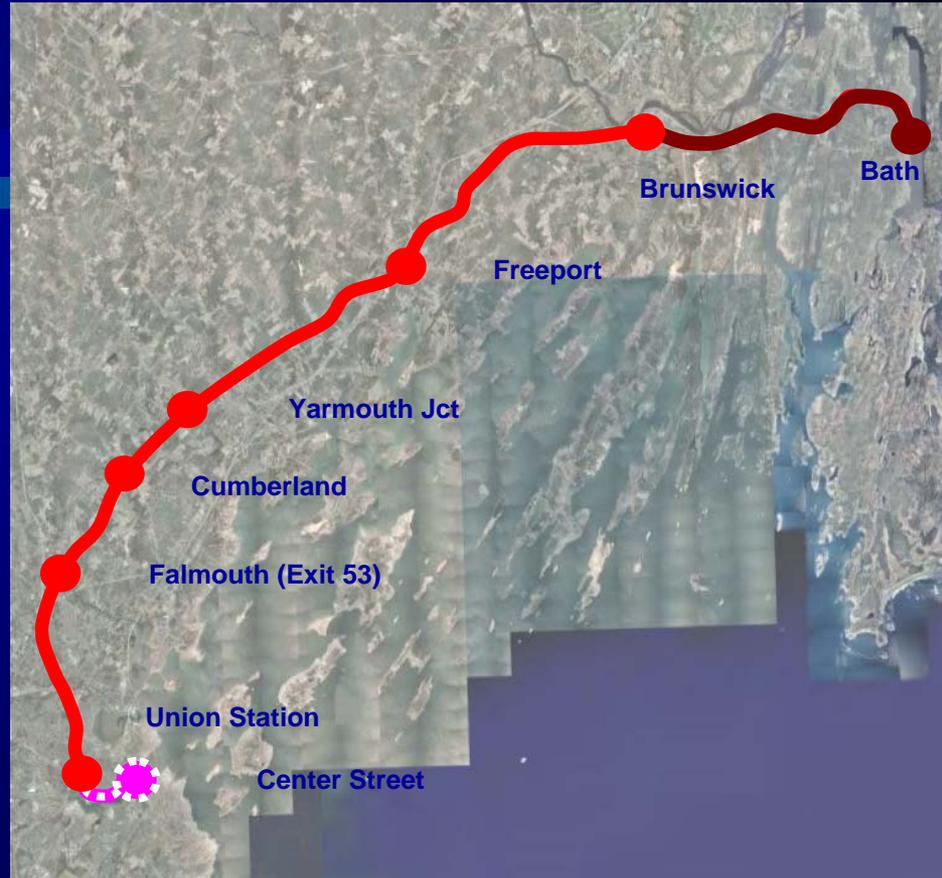
- Brunswick
- Freeport
- Yarmouth Jct
- Cumberland
- Falmouth
- Portland (Union Station or Center Street)

Brunswick to Union Station: 37 minutes
Brunswick to Center Street: 43 minutes

27.8 miles to Union Station
29.9 miles to Center Street

Required Infrastructure Upgrades

- Upgrades to Pan Am Freight Main and Commercial Street



Express Bus Service to Brunswick

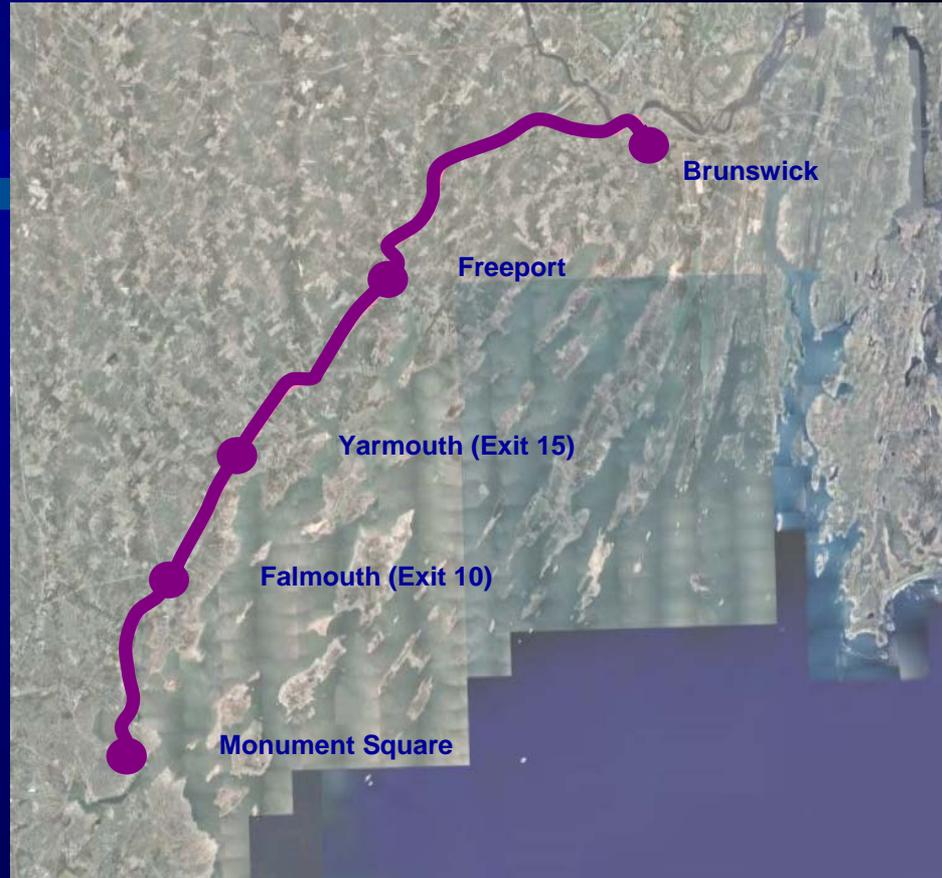
Stops

- Brunswick
- Freeport
- Yarmouth
- Falmouth
- Monument Square

28.4 miles to Monument Square

Operate on shoulders where available

Downtown Distribution loop

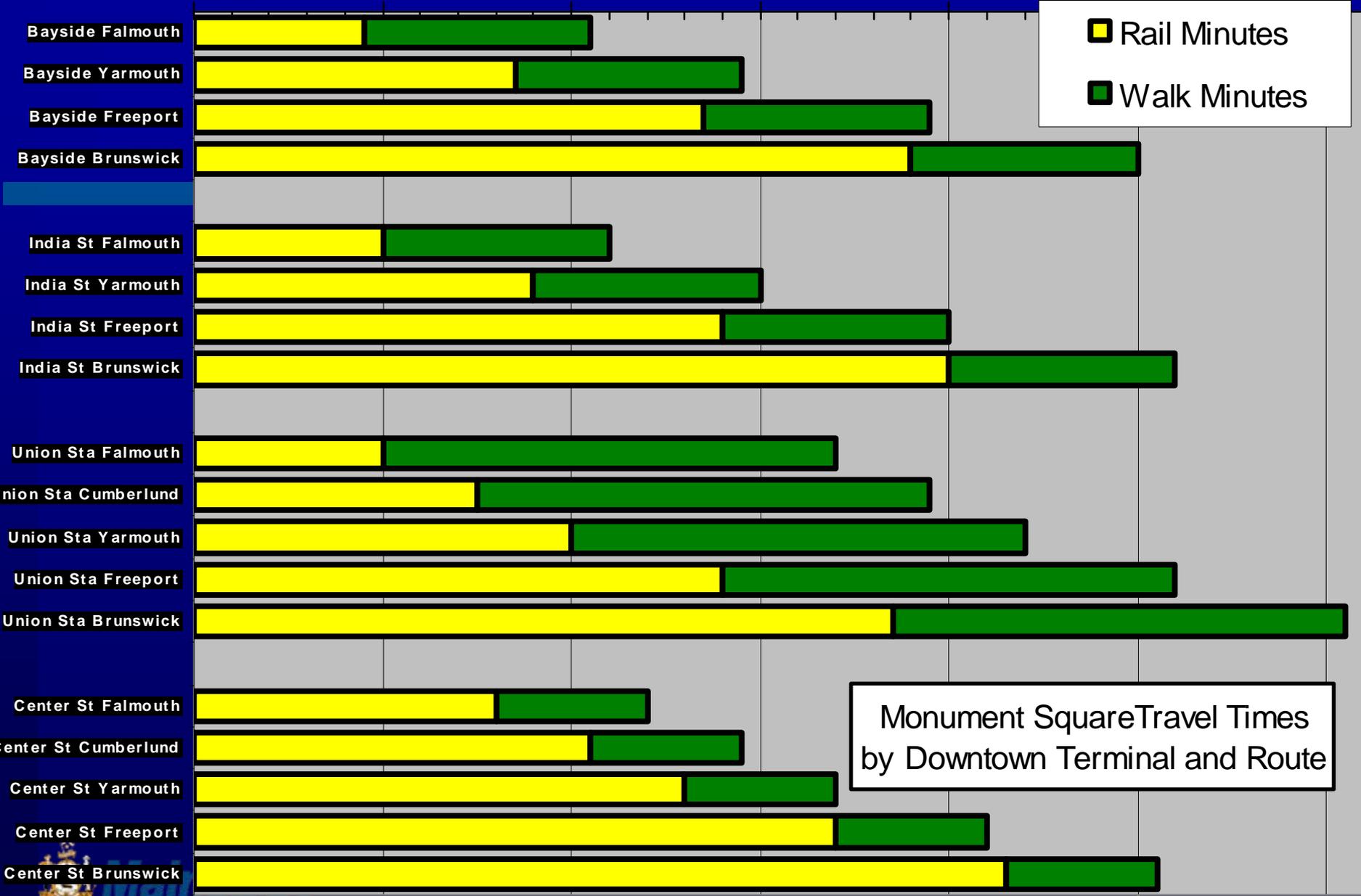


Brunswick Travel Distances and Times

Route	Stop	Miles to Portland	Rail Minutes	Walk Minutes	Total Trip Time (minutes)
SLA Bayside	Falmouth (Exit 10)	4.5	9	12	21
	Yarmouth (Exit 15)	9.3	17	12	29
	Freeport	17.2	27	12	39
	Brunswick	25.6	38	12	50
SLA India St	Falmouth (Exit 10)	5.4	10	12	22
	Yarmouth (Exit 15)	10.1	18	12	30
	Freeport	17.7	28	12	40
	Brunswick	26.4	40	12	52
Pan Am Union Station	Falmouth (Exit 53)	5.8	10	24	34
	Cumberland	9.4	15	24	39
	Yarmouth Jct	13.5	20	24	44
	Freeport	19.4	28	24	52
	Brunswick	27.8	37	24	61
Pan Am Center Street	Falmouth (Exit 53)	7.9	16	8	24
	Cumberland	11.5	21	8	29
	Yarmouth Jct	15.6	26	8	34
	Freeport	21.5	34	8	42
	Brunswick	29.9	43	8	51

0 10 20 30 40 50 60

■ Rail Minutes
■ Walk Minutes

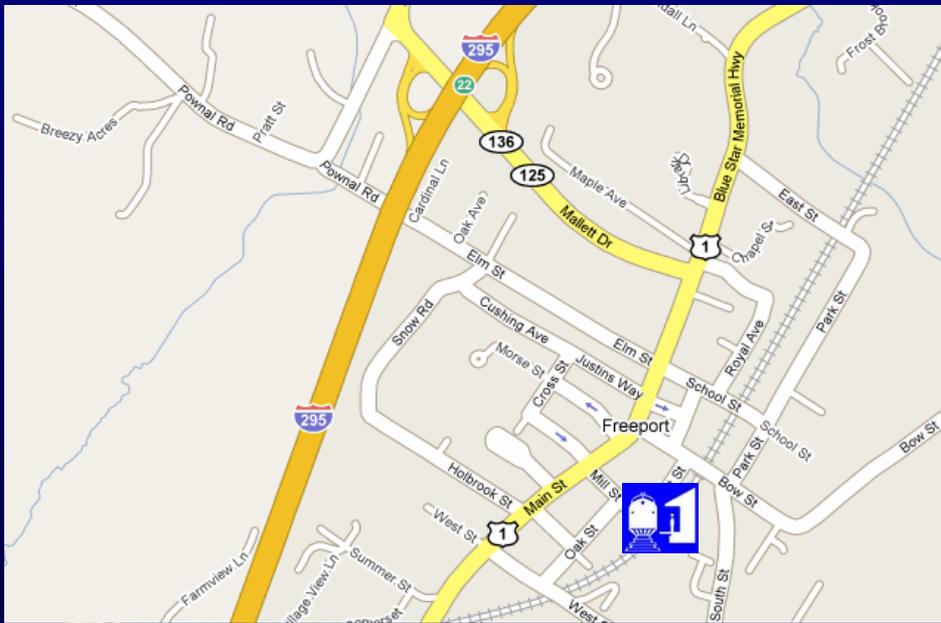


Monument Square Travel Times by Downtown Terminal and Route



SLA and Pan Am Freeport Station

- Downtown Freeport
 - Heart of retail district
 - Nearby Residential Areas
 - Will be built for Downeaster





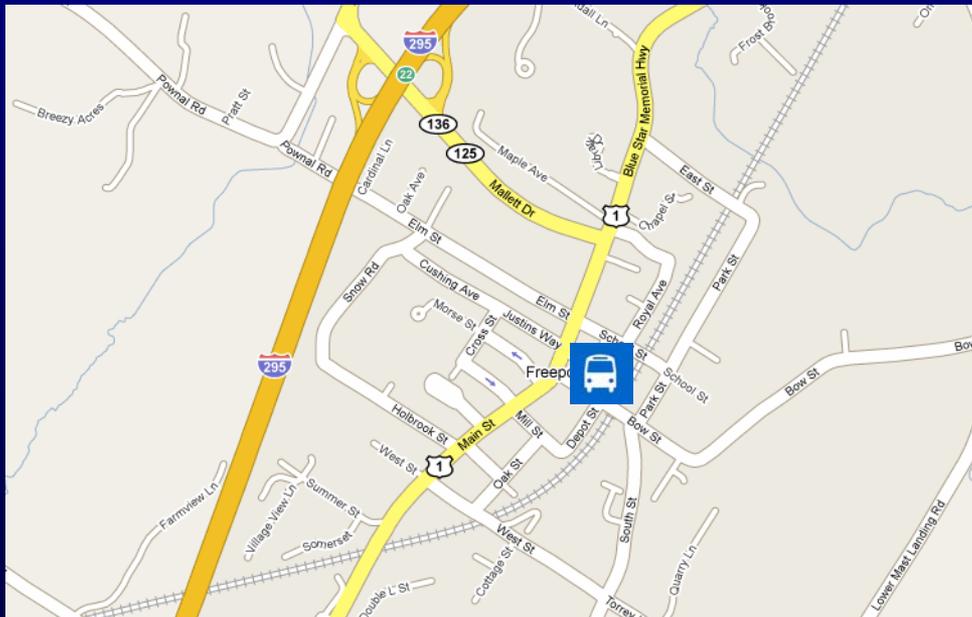
LL Bean

Route 1



Express Bus Freeport

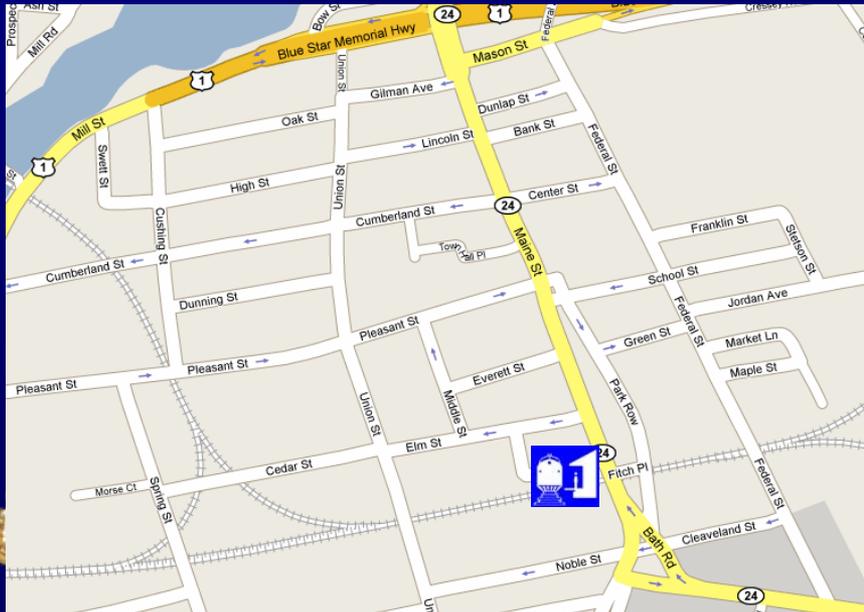
- Downtown Freeport
(on Bow Street)
 - Heart of retail district on Rte 1
 - Nearby Residential Areas

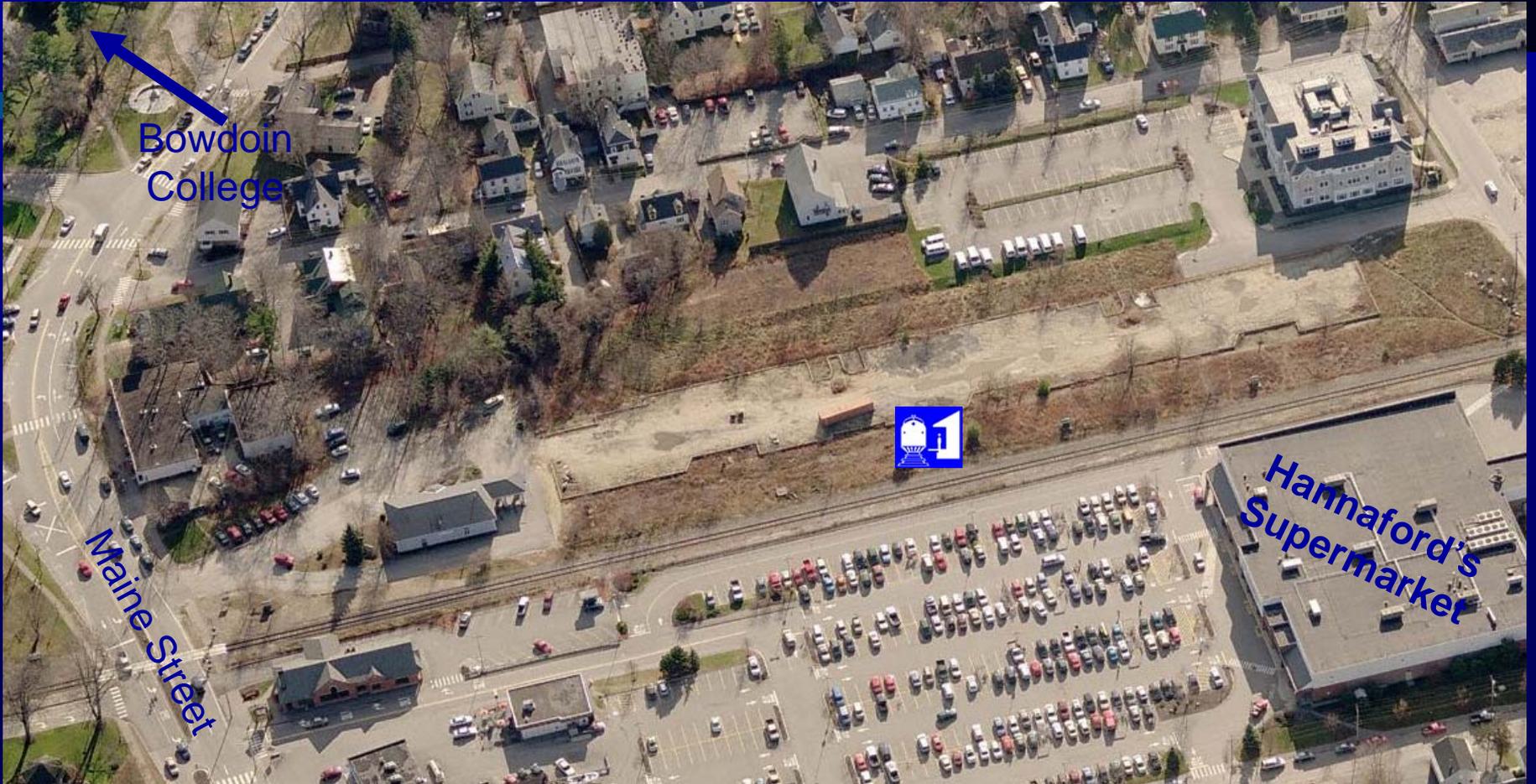




SLA and Pan Am Brunswick

- Located in downtown Brunswick
 - Retail district and shopping center
 - Bowdoin College
 - Will be built for Downeaster

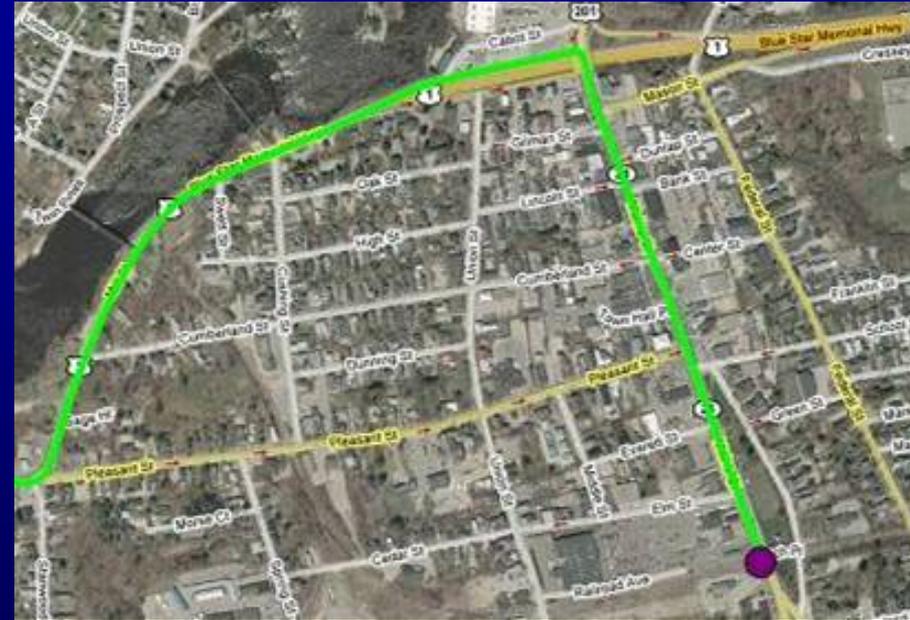
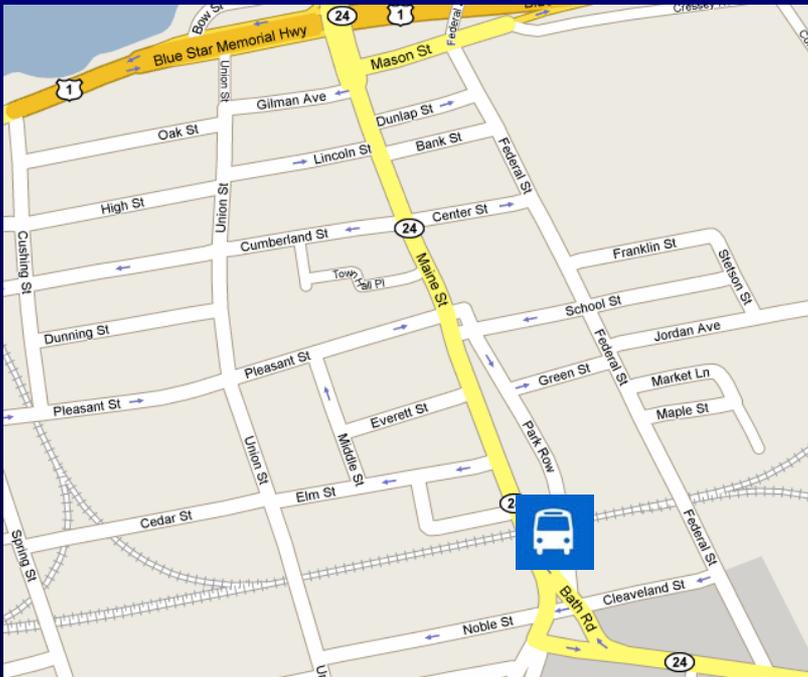


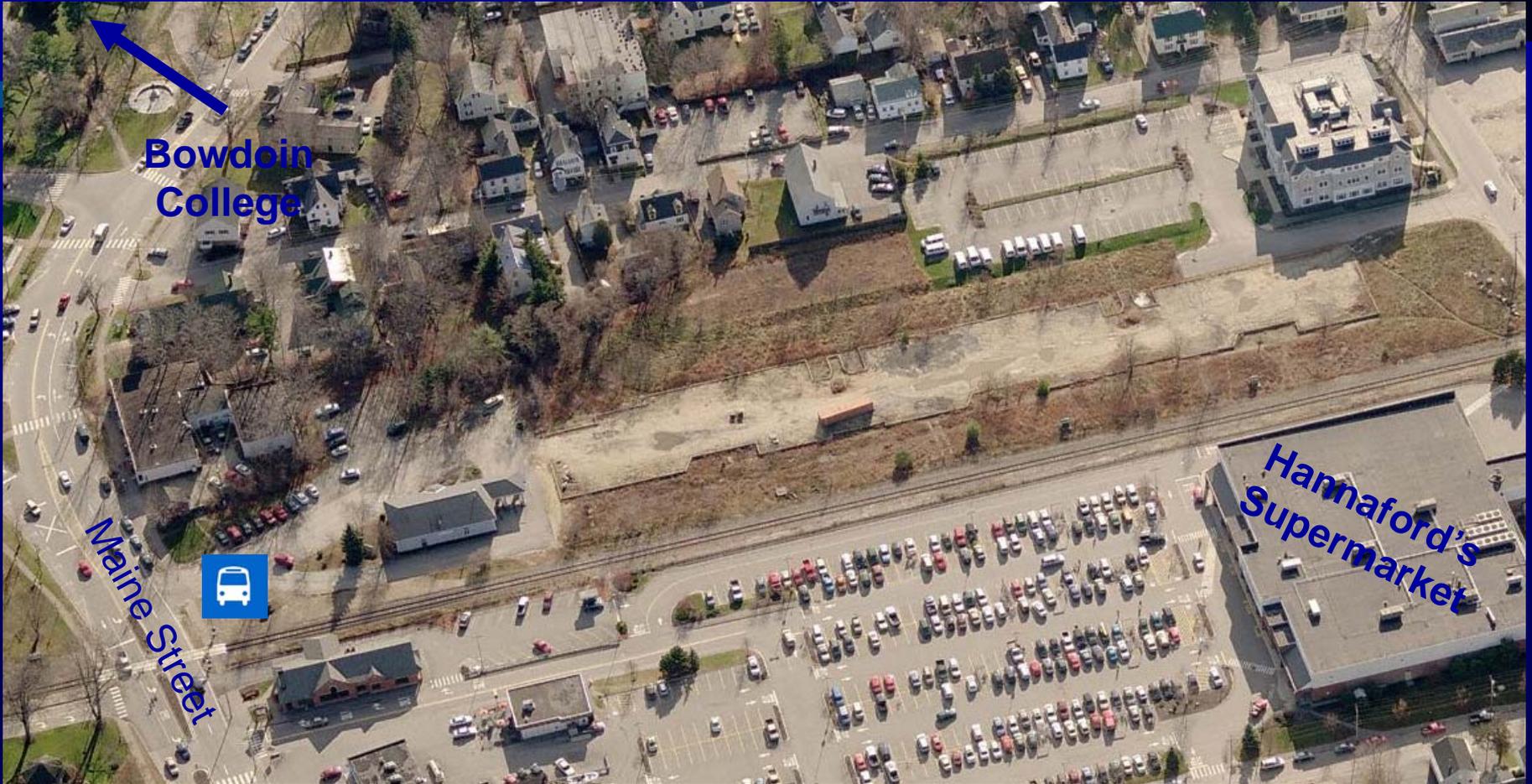




Express Bus Brunswick

- Stop in Downtown Brunswick
 - Retail district and shopping center
 - Bowdoin College
 - Residential Area





SLA and Pan Am Bath Station

- Downtown Bath
 - Convenient Rte 1 Access
- Commercial and Residential
- Near Bath Iron Works (BIW)
- Current MEC Station
- ~11 minutes east of Brunswick



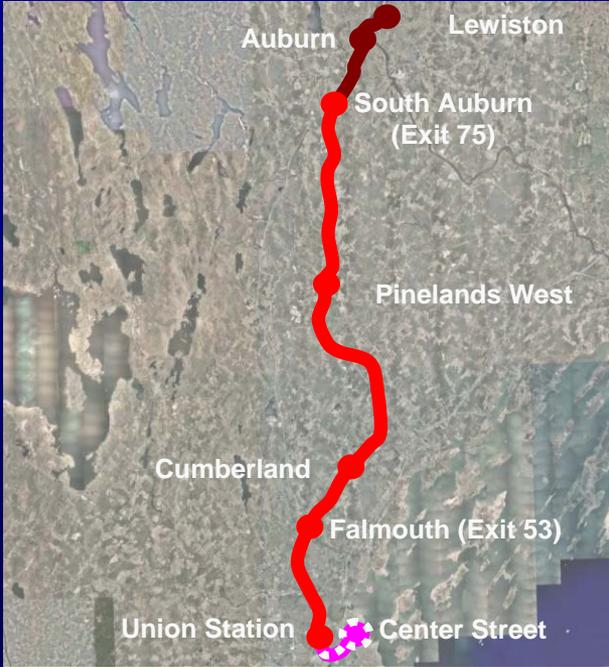


Auburn Service

SLA



Pan Am



Express Bus



Auburn Services

- 22 Roundtrips per Weekday
- Service Headways
 - 30 minute peak
 - 60 minute offpeak
- First trip arrives Portland : 6:45 AM
- Last trip departs Portland: 10:55 PM

SLA Service to Auburn Intermodal

Stops

- Auburn Intermodal
- **Pinelands East**
- Yarmouth
- Falmouth
- Portland (Bayside or India Street)

Auburn Int. to Bayside: 42 minutes

Auburn Int. to India Street: 43 minutes

27.9 miles to Bayside

28.7 miles to India Street

Required Infrastructure Upgrades

- Reconstruct Union Branch
- Build new bridge over Back Cove
- Rebuild SLA Main



Pan Am Service to South Auburn

Stops

- South Auburn
- **Pinelands West**
- Cumberland
- Falmouth
- Portland (Union Station or Center Street)

South Auburn to Union Station: 37 minutes
South Auburn to Center Street: 43 minutes

30.1 miles to Union Station
32.2 miles to Center Street

Required Infrastructure Upgrades

- Upgrades to Pan Am Freight Main and Commercial Street



Express Bus Service to South Auburn

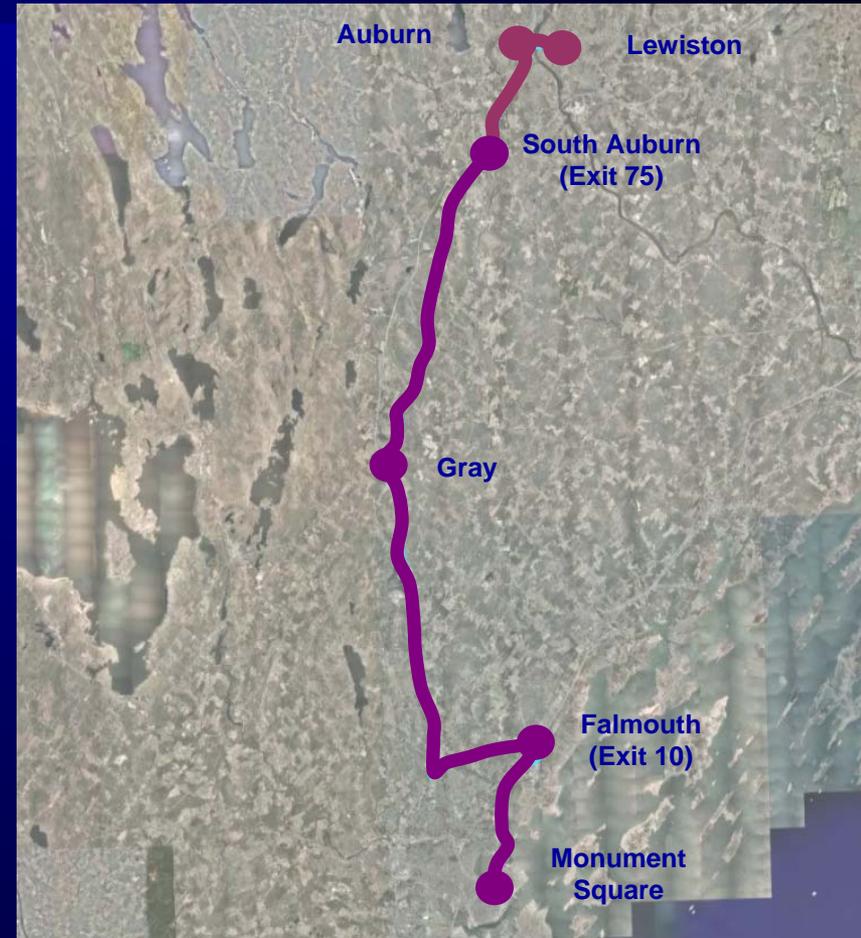
Stops

- South Auburn
- Gray
- Falmouth
- Monument Square

34.6 miles to Monument Square

Operate on shoulders where available

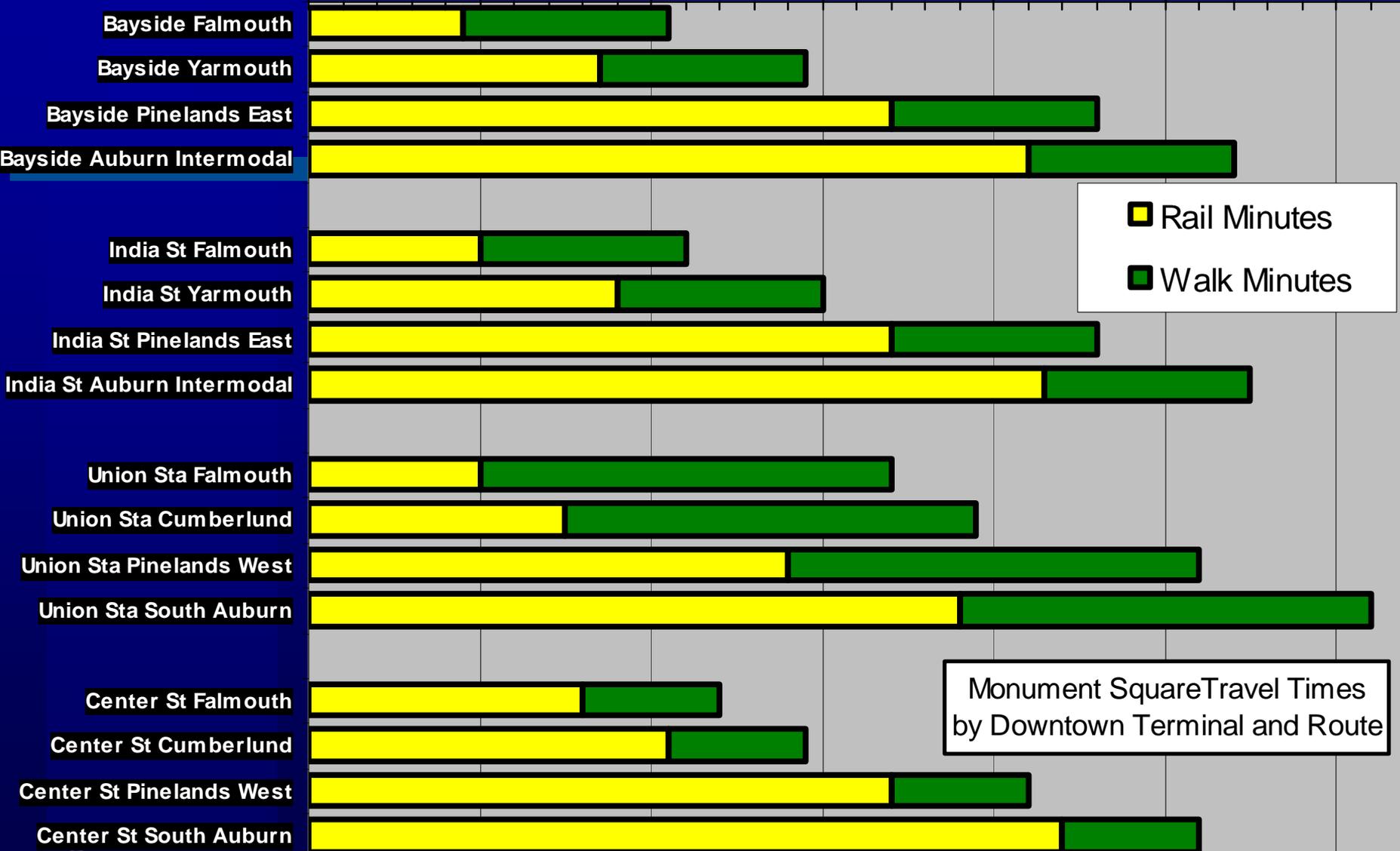
Downtown Distribution loop



Auburn Service Travel Distances and Times

Route	Stop	Miles to Portland	Rail Minutes	Walk Minutes	Total Trip Time (minutes)
SLA Bayside	Falmouth (Exit 10)	4.5	9	12	21
	Yarmouth (Exit 15)	9.3	17	12	29
	Pinelands East	23.6	34	12	46
	Auburn Intermodal	27.9	42	12	54
SLA India St	Falmouth (Exit 10)	5.4	10	12	22
	Yarmouth (Exit 15)	10.1	18	12	30
	Pinelands East	24.4	34	12	46
	Auburn Intermodal	28.7	43	12	55
Pan Am Union Station	Falmouth (Exit 53)	5.8	10	24	34
	Cumberland	9.4	15	24	39
	Pinelands West	20.9	28	24	52
	South Auburn (Exit 75)	30.1	38	24	62
Pan Am Center Street	Falmouth (Exit 53)	7.9	16	8	24
	Cumberland	11.5	21	8	29
	Pinelands West	23.0	34	8	42
	South Auburn (Exit 75)	32.2	44	8	52

0 10 20 30 40 50 60

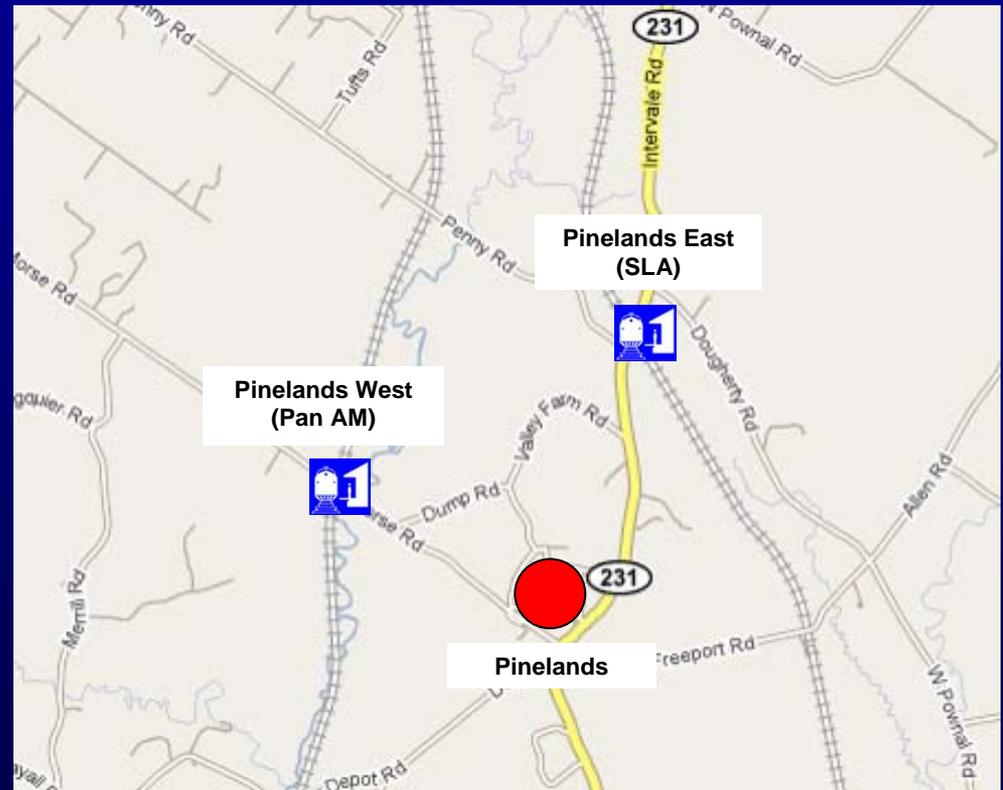


■ Rail Minutes
■ Walk Minutes

Monument Square Travel Times
by Downtown Terminal and Route

SLA Pinelands East Station

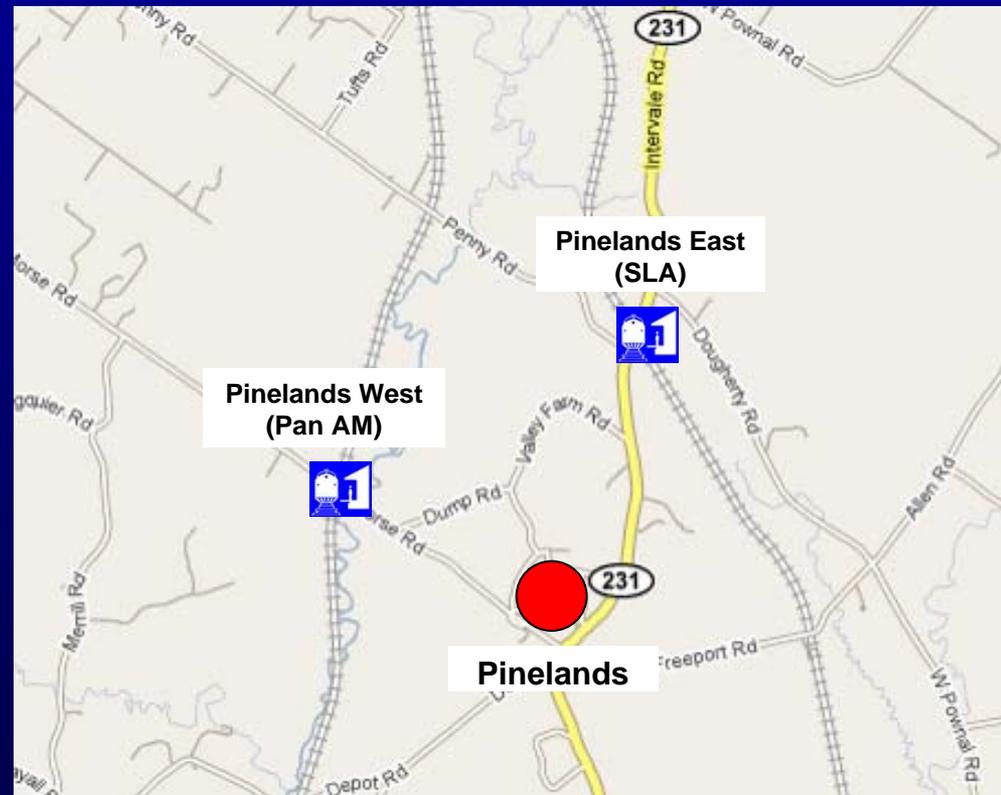
- Pinelands Complex
~ 1 mile west
- Located on Rt. 231
- Gray ~ 4.5 miles west
- Serve Pinelands

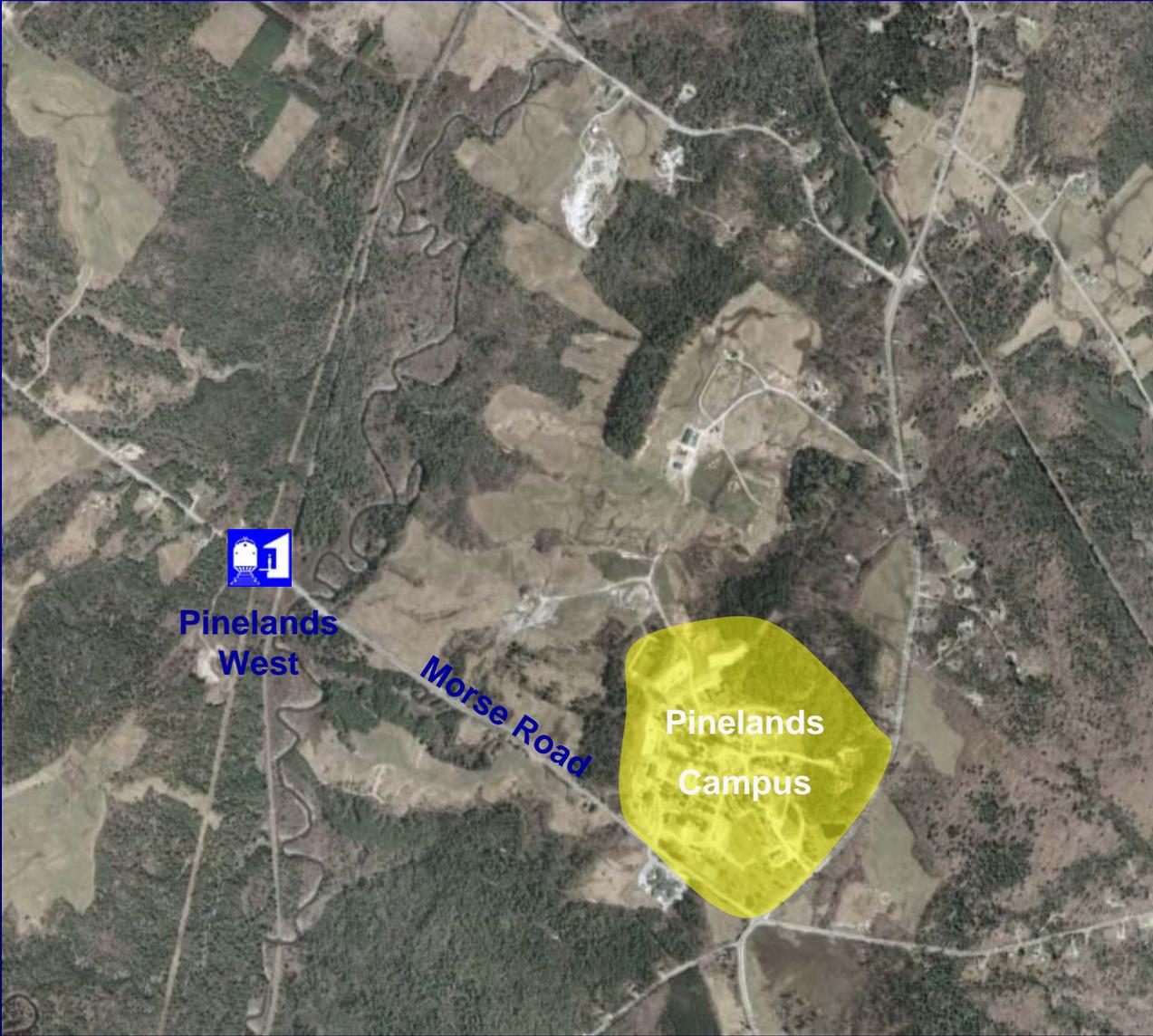




Pan Am Pinelands West Station

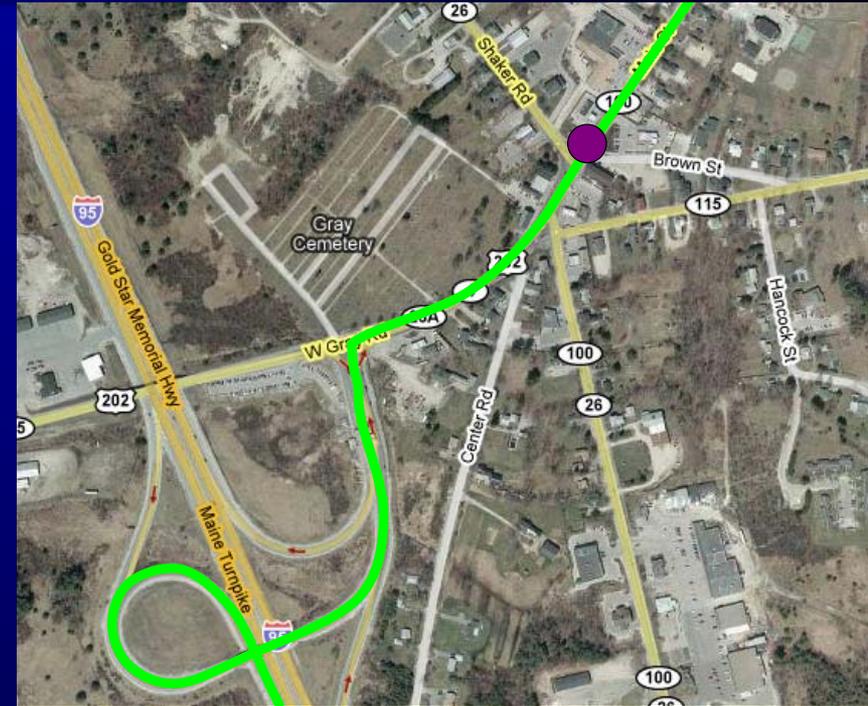
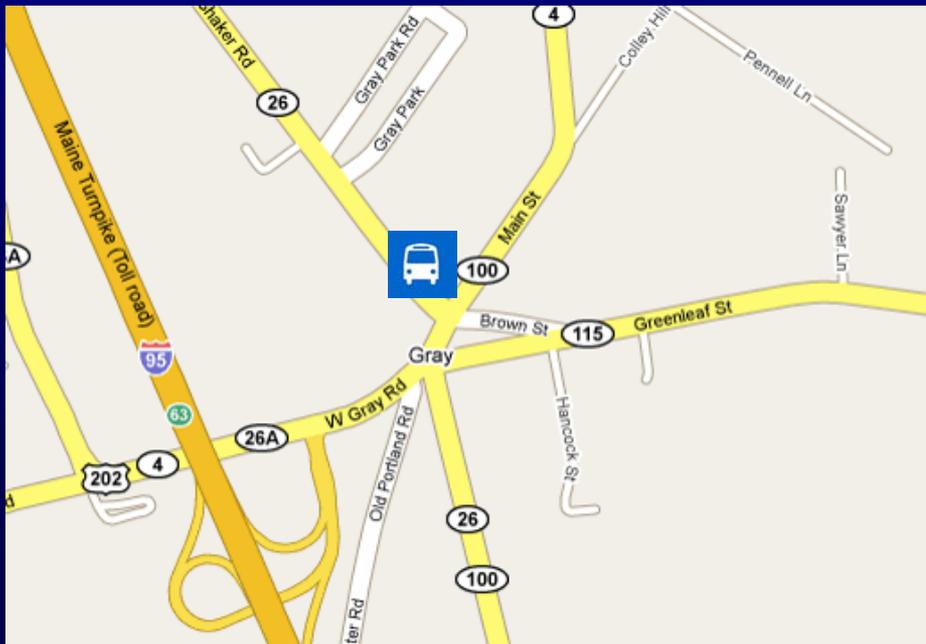
- Pinelands Farming Complex ~ 1 mile southeast
- Located on Morse Rd
- Gray ~ 3.5 miles west
- Serve Pinelands





Express Bus Gray

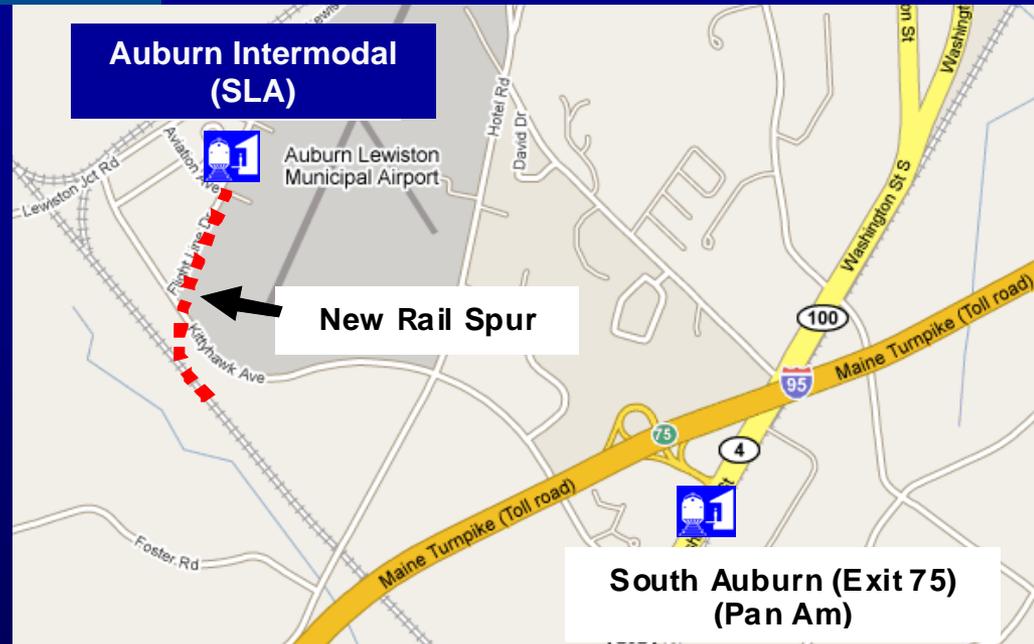
- Convenient I-95 access at Exit 63
- Located in downtown Gray
- Retail and Residential areas

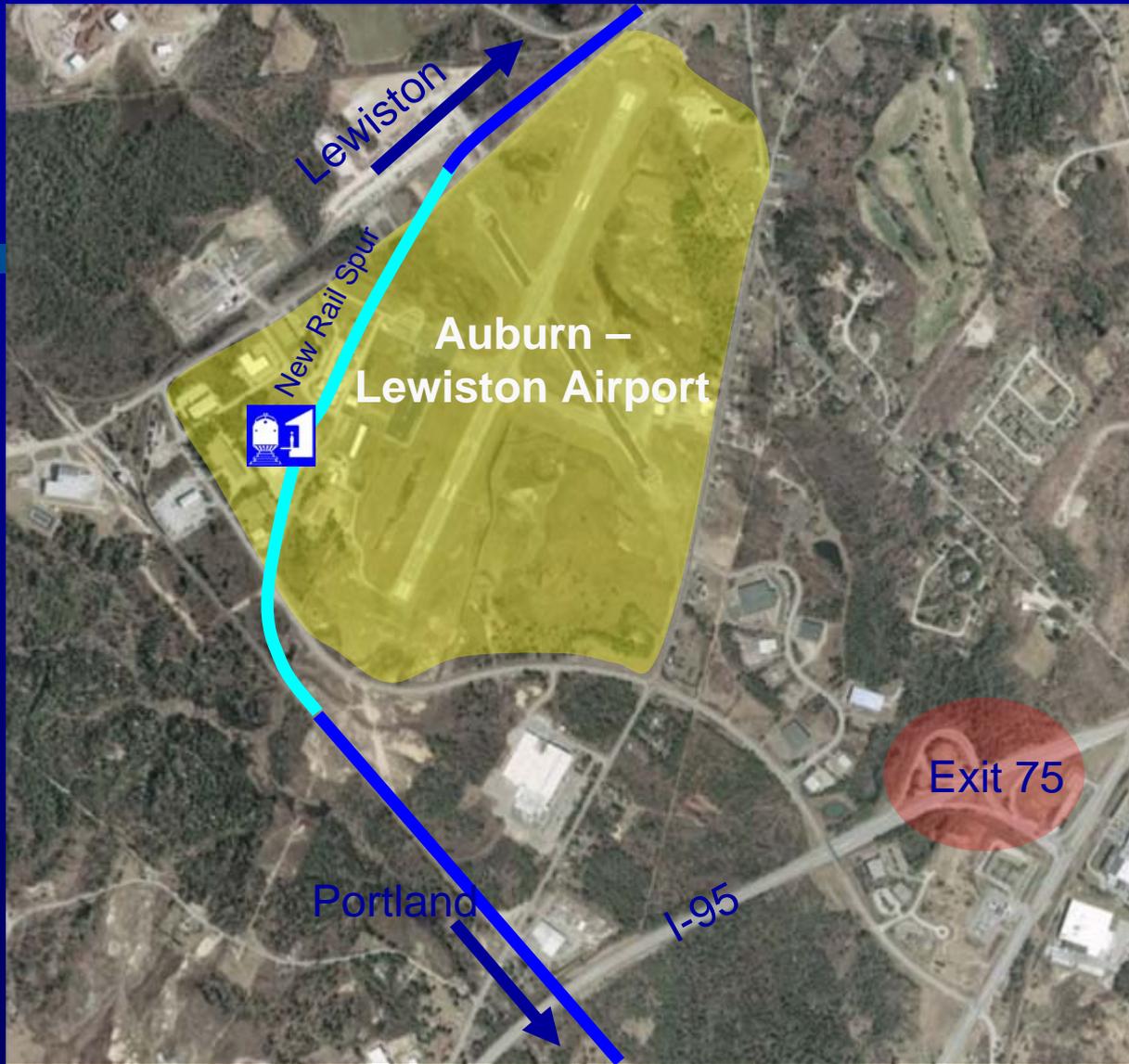




SLA Route Auburn Intermodal

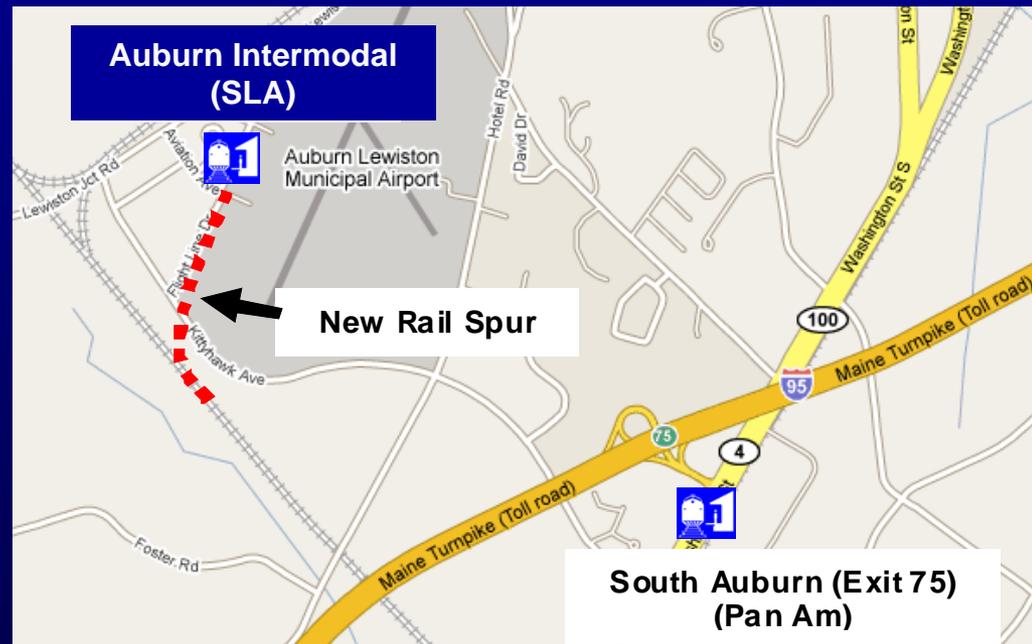
- At Lewiston-Auburn Regional Airport
- Commercial and Warehousing area
- ~ 1 mile off I-95 Exit 75
- Rail spur into airport





Pan Am South Auburn (Exit 75) Station

- Conveniently located at Park-n-Ride off of I-95
- Danville Junction ~1 mi. south
- ~ 1.5 mile south of L/A Airport
- Active railway





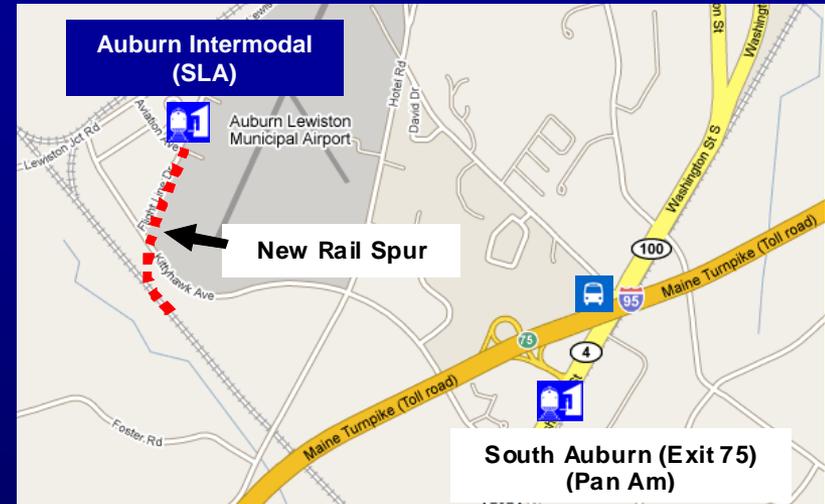
Interstate 95

Washington Street



Express Bus South Auburn (Exit 75) Station

- Conveniently located at off of I-95 Exit 75
- Existing Park and Ride
- ~ 1.5 mile south of L/A Airport





Interstate 95

Washington Street



SLA and Pan Am Auburn Station

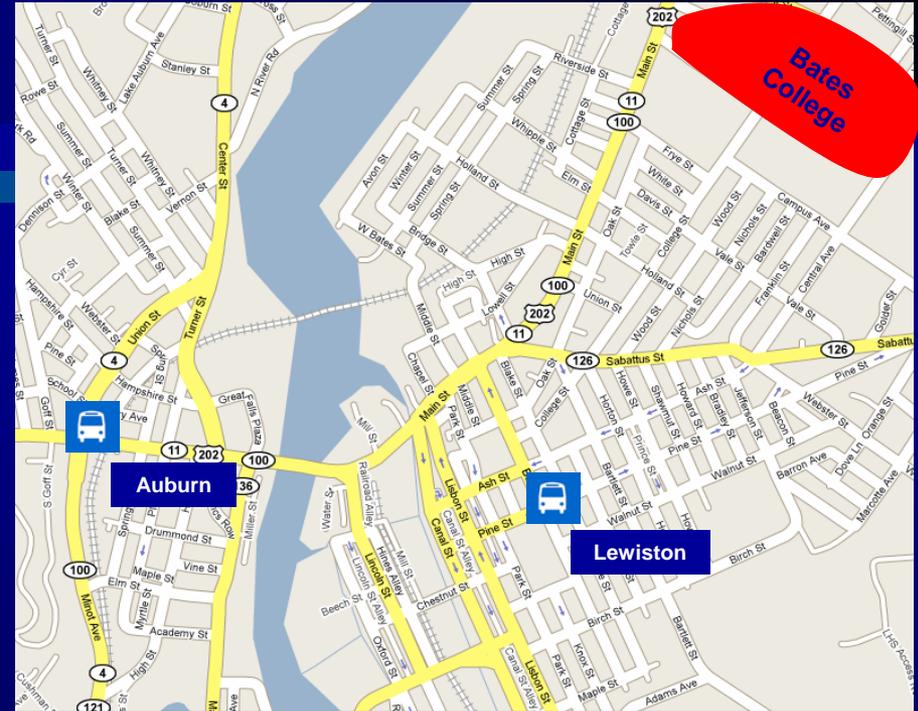
- Located in downtown Auburn near intersection of Rte 4 and Court St
- Residential and commercial areas in vicinity of station
- ~6 Minutes north of South Auburn





Express Bus Auburn Stop

- Downtown Auburn near intersection of Rt. 4 and Court St
- Residential and commercial areas in vicinity of station
- ~ 7 Minutes north of South Auburn





Rte 4

Portland

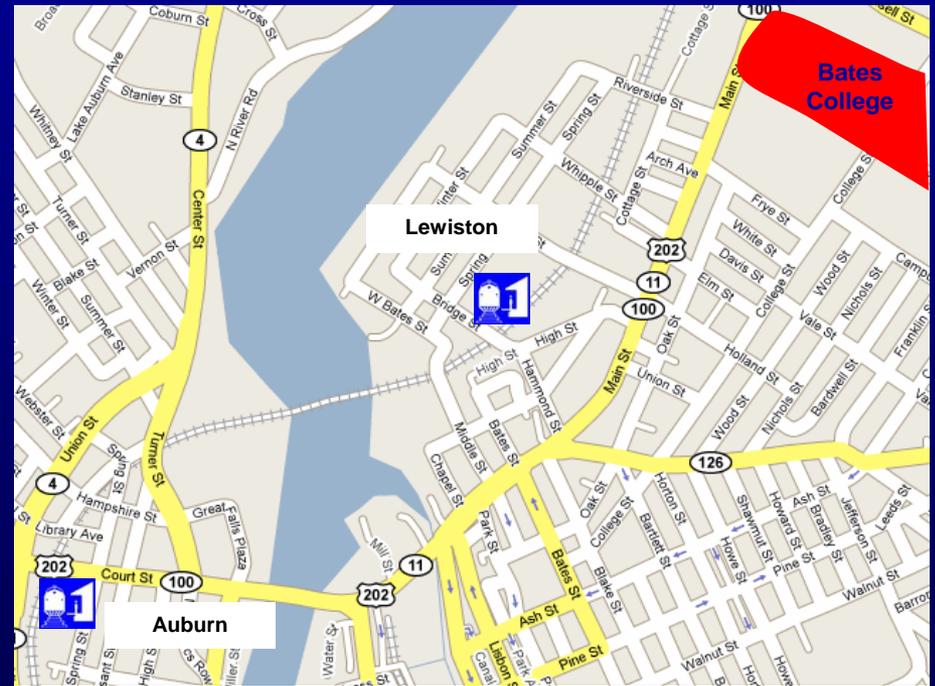
Court Street Rte 202

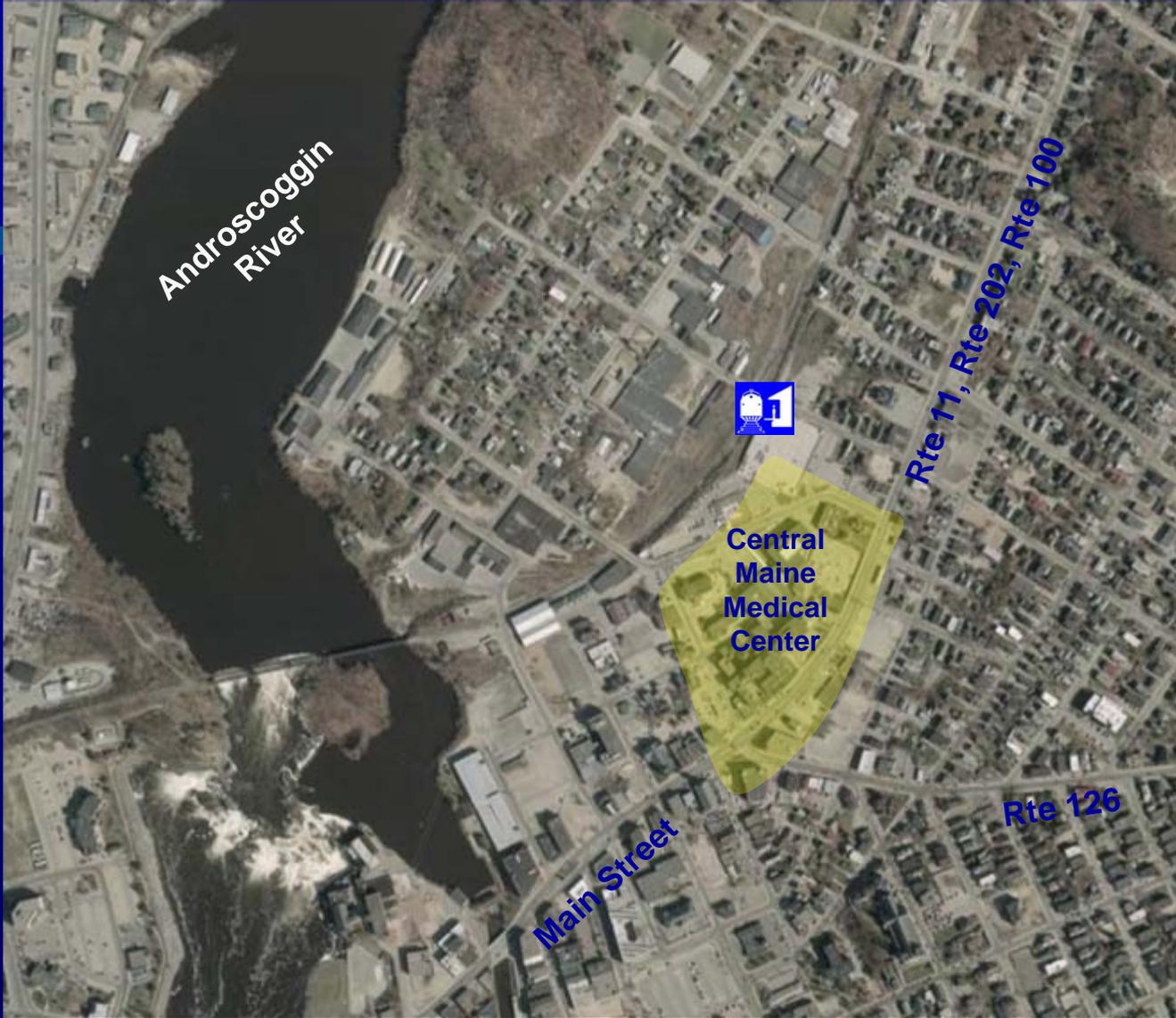


Lewiston

SLA and Pan Am Lewiston Station

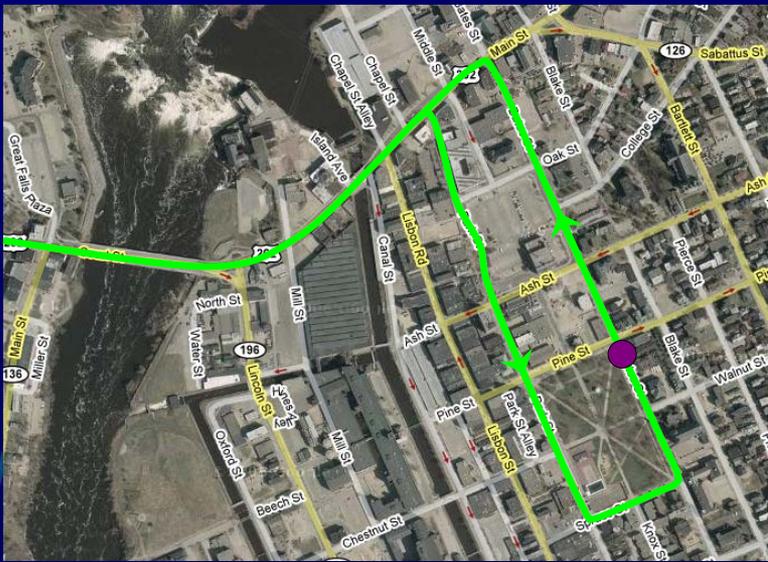
- Located in downtown near Central Maine Medical Center
- Residential and commercial areas in vicinity of station
- ~ 8 minutes north of South Auburn

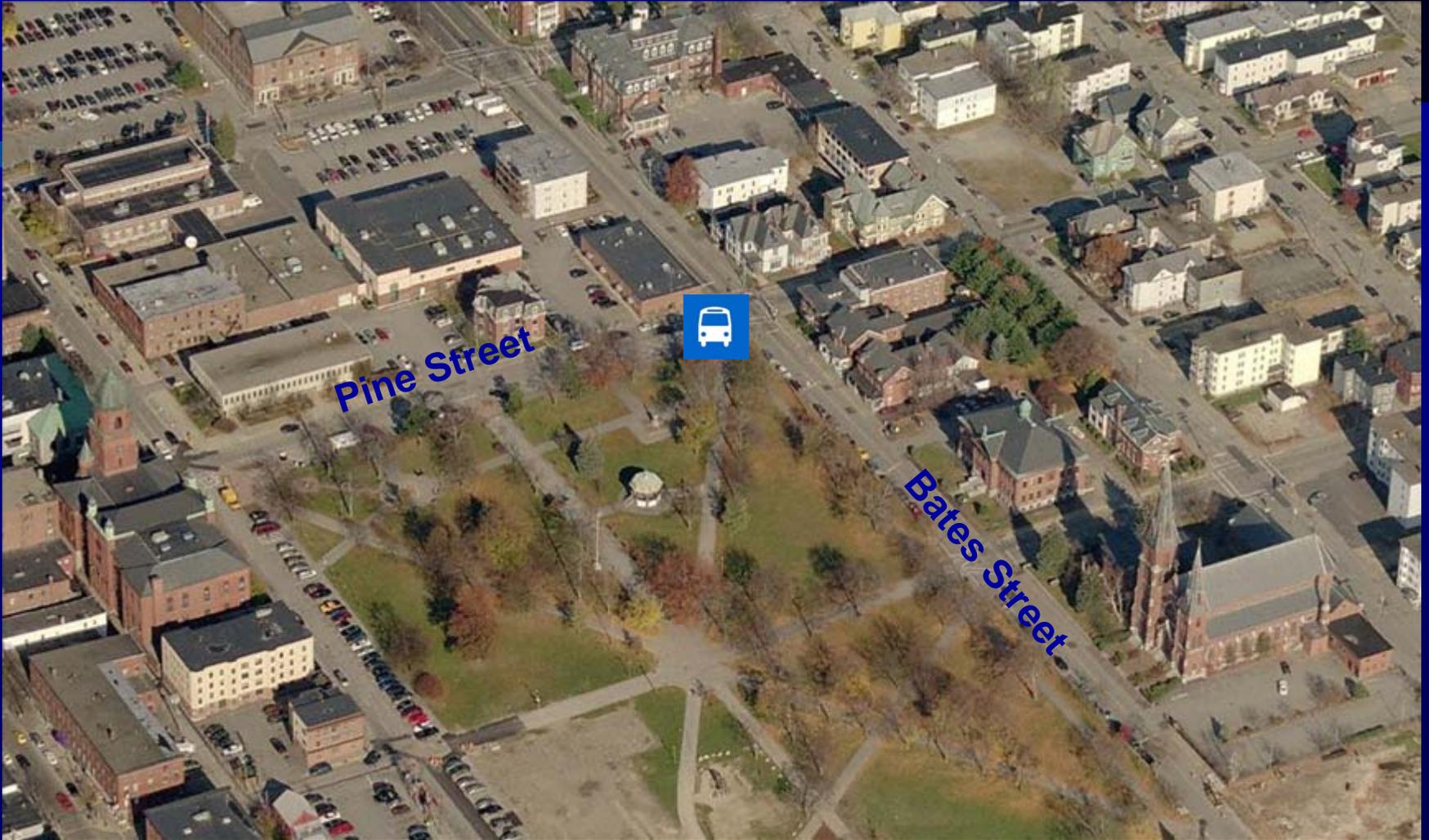




Express Bus Lewiston

- Downtown Lewiston near Bates and Park Streets
- Residential and commercial areas in vicinity of stop
- ~10 minutes north of South Auburn





Pine Street



Bates Street

Overview of Alternatives

- Three service alternatives
 - Yarmouth
 - Brunswick (Bath)
 - South Auburn (Lewiston)
- Three route alternatives:
 - Saint Lawrence and Atlantic Railway (SLA)
 - Pan Am Railway
 - Express Bus
- Five Portland terminal alternatives:
 - Bayside (SLA)
 - India Street (SLA)
 - Union Station (Pan Am)
 - Center Street (Pan Am)
 - Monument Square (Express Bus)



Portland
Transportation
Center



Union Station

PULSE



Monument
Square



Center Street



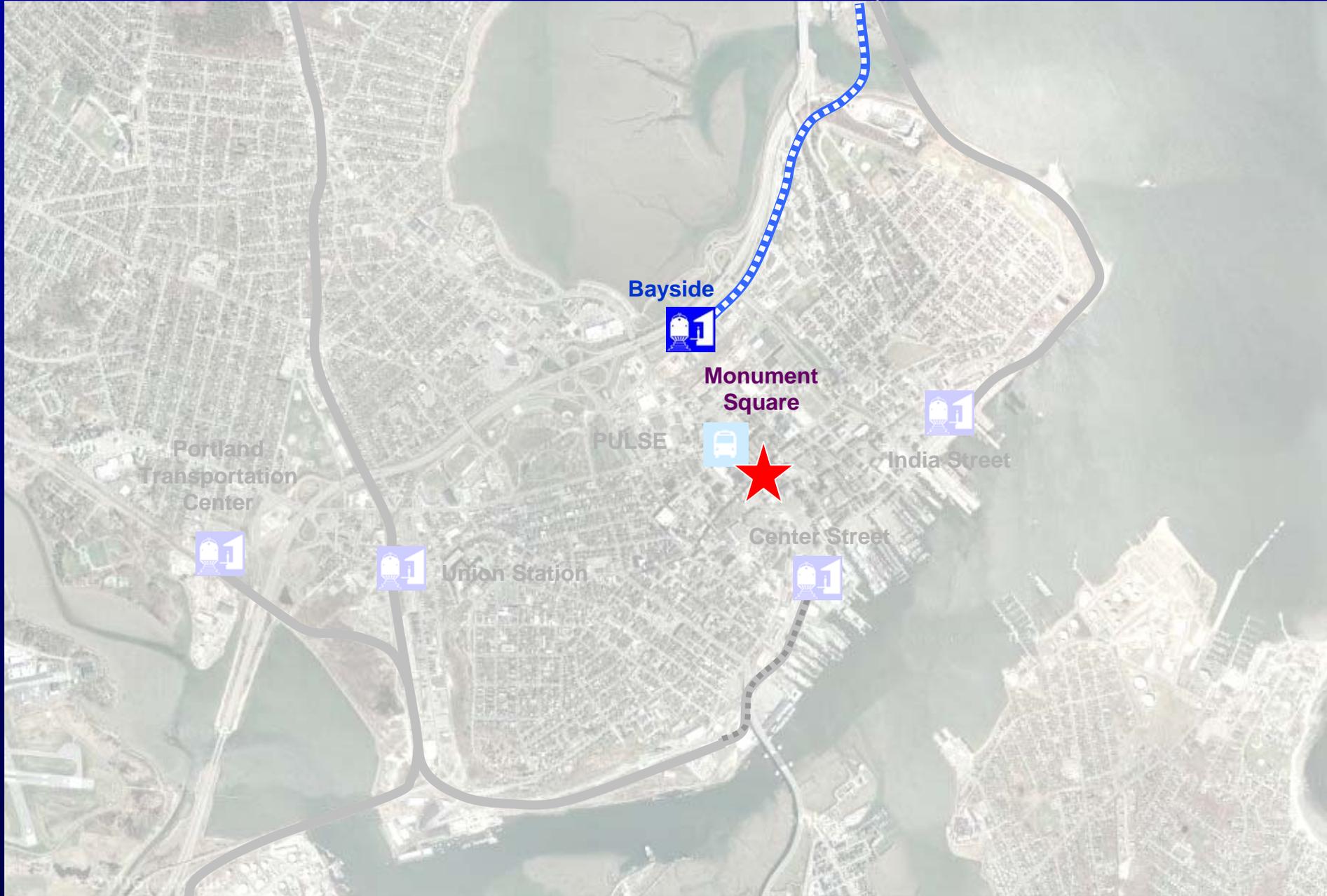
Bayside



India Street



-  Publicly Owned
-  Pan Am
-  Track to Rebuild



Bayside



Monument Square



India Street



Center Street



Union Station



Portland Transportation Center



PULSE

Bayside Station



Current Site Activity:

- Miss Portland Diner
- Bayside Village Apartments

Miles to Monument Sq.: 0.6

Walk Minutes to Monument Sq.: 12

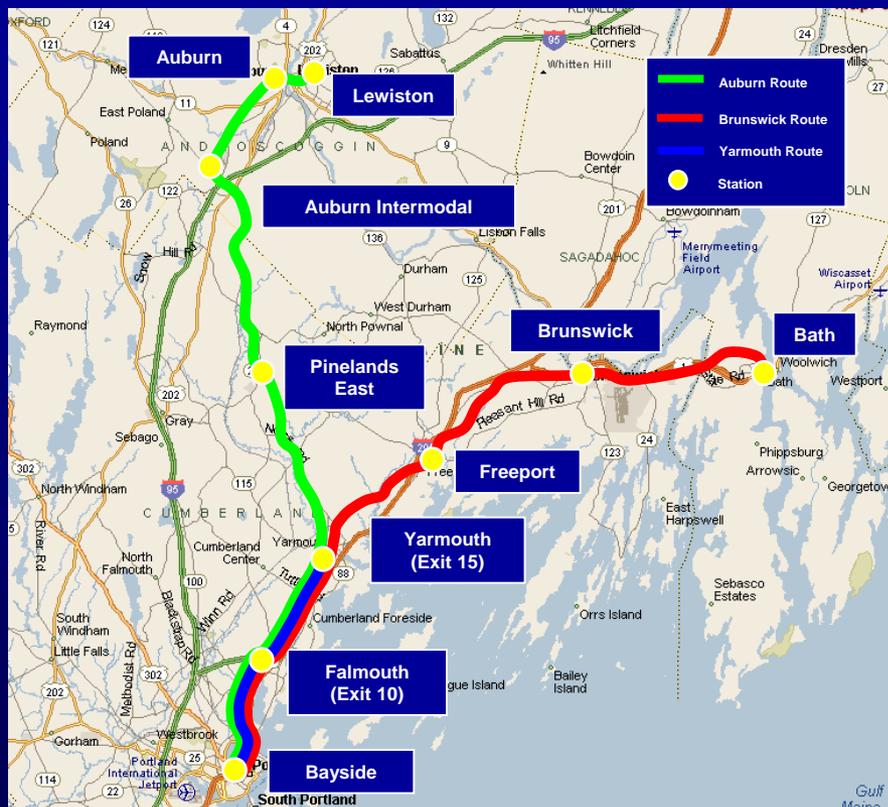
Line Ownership:

- State of Maine (partial)
- City of Portland

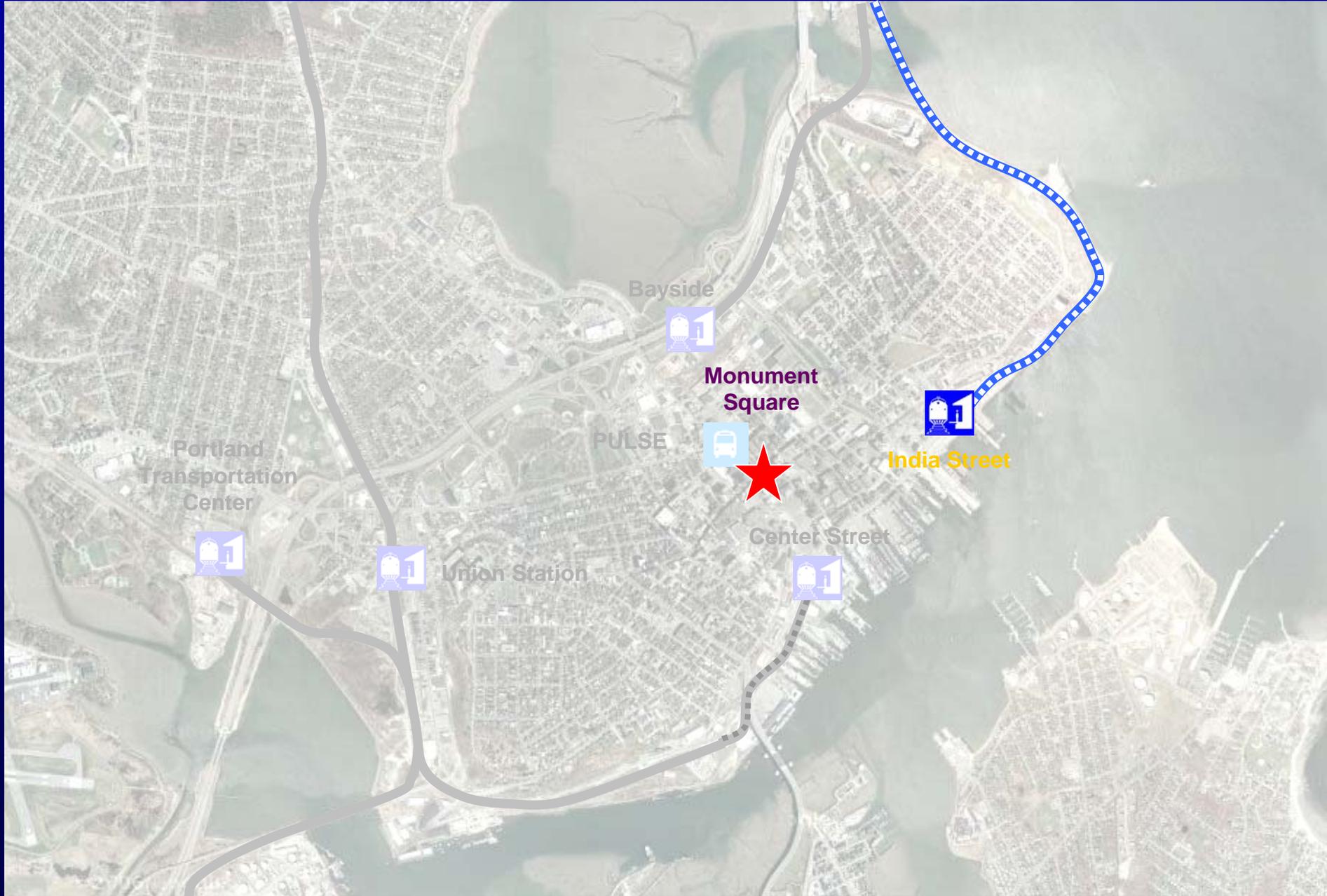
Possible Routes:

- Yarmouth
- Brunswick / Bath
- Auburn Intermodal

Bayside Station



Route	Station	Rail Miles to Portland	Rail Minutes to Portland	Walking Minutes to Monument Square	Total Trip Time
Yarmouth	Falmouth (Exit 10)	4.5	9	12	21
	Yarmouth (Exit 15)	9.3	17	12	29
Brunswick/Bath	Freeport	17.2	27	12	39
	Brunswick	25.6	38	12	50
	Bath	34.4	49	12	61
Auburn	Pinelands East	23.6	34	12	46
	Auburn Intermodal	27.9	42	12	54



Bayside



Monument Square



India Street

PULSE



Center Street

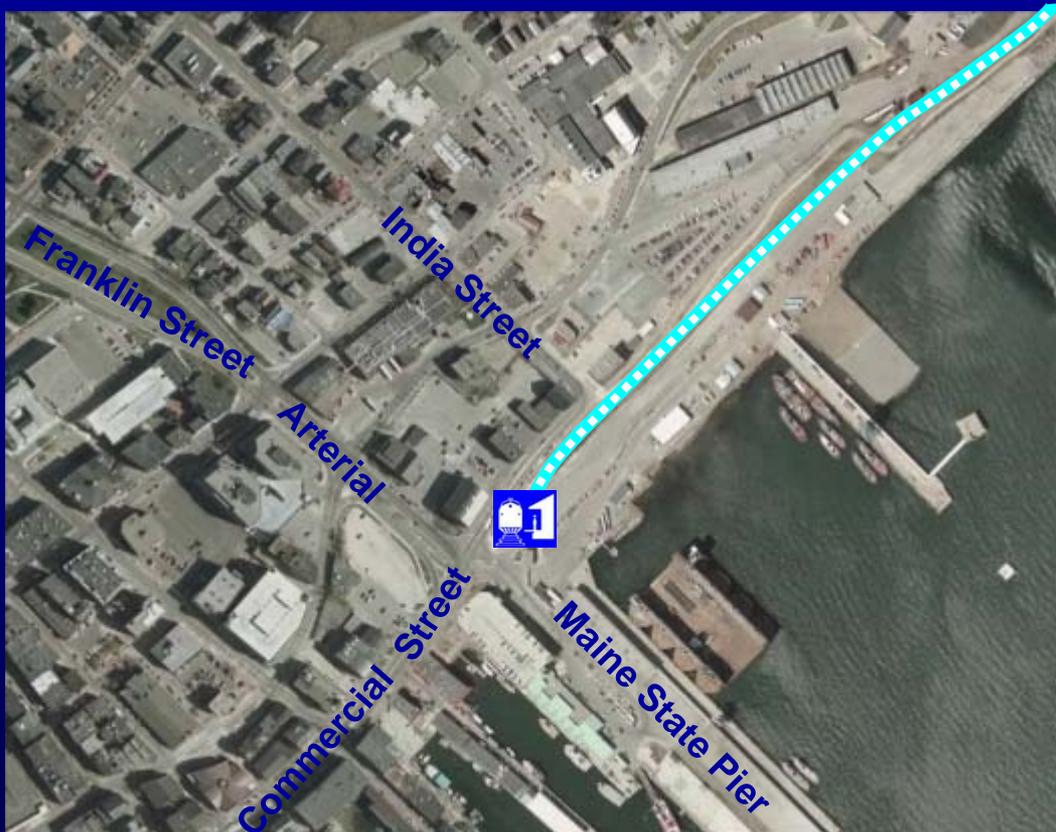


Portland Transportation Center



Union Station

India Street Terminal



Current Site Activity: Maine State Pier

Miles to Monument Sq.: 0.6

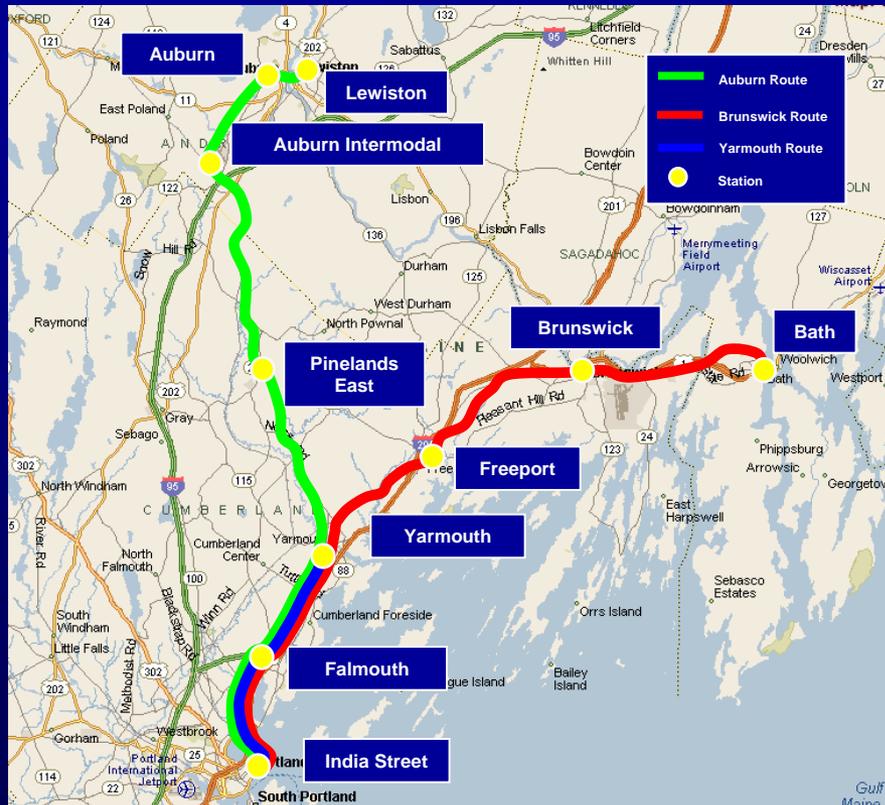
Walk Minutes to Monument Sq.: 12

Line Ownership: Public

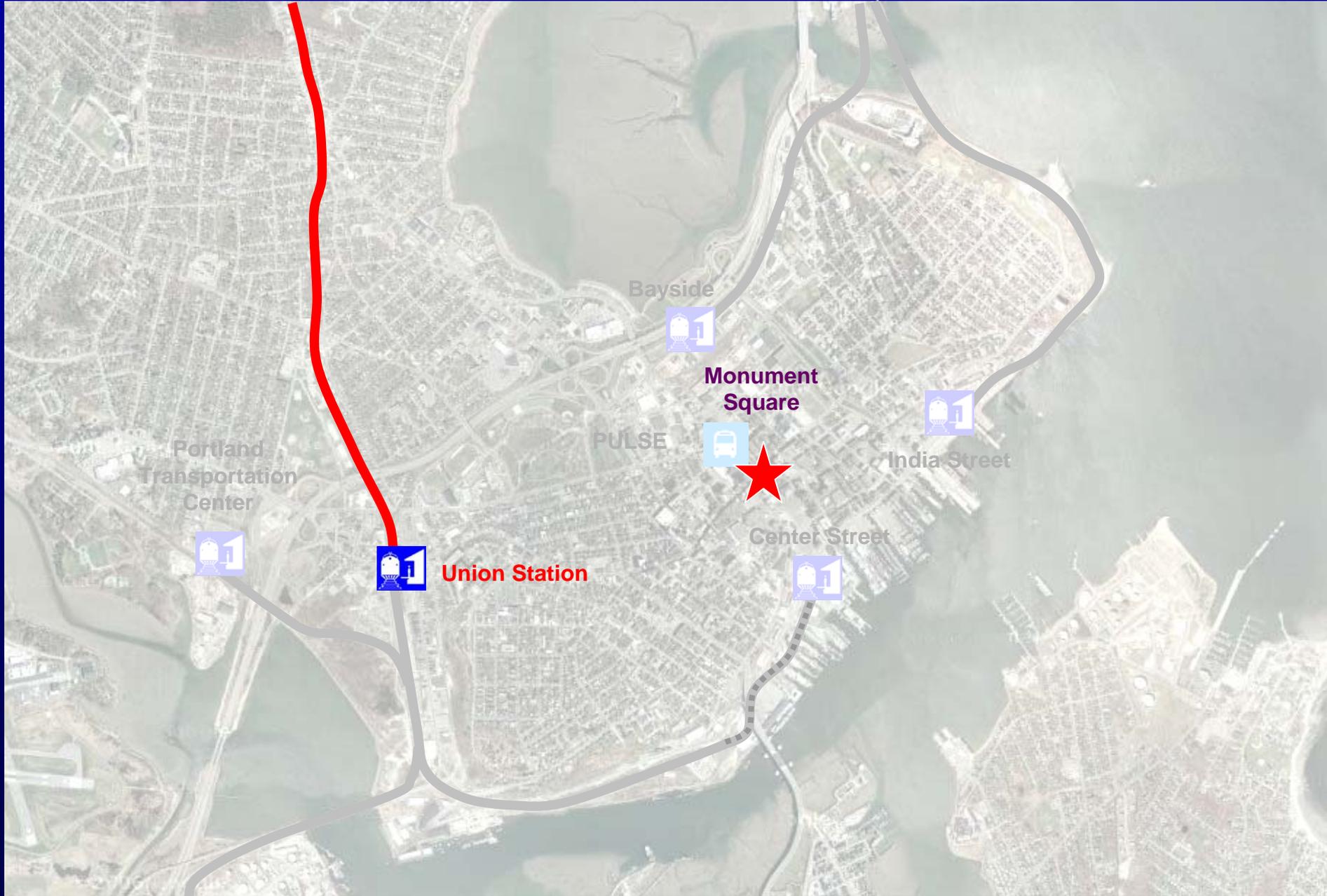
Possible Routes:

- Yarmouth
- Brunswick / Bath
- Auburn Intermodal

India Street Terminal



Route	Station	Rail Miles to Portland	Rail Minutes to Portland	Walking Minutes to Monument Square	Total Trip Time
Yarmouth	Falmouth (Exit 10)	5.4	10	12	22
	Yarmouth (Exit 15)	10.1	18	12	30
Brunswick/Bath	Freeport	17.7	28	12	40
	Brunswick	26.4	40	12	52
	Bath	35.2	51	12	63
Auburn	Pinelands East	24.4	34	12	46
	Auburn Intermodal	28.7	43	12	55



Bayside



Monument Square



India Street



Center Street



Union Station



Portland Transportation Center



PULSE

Portland Union Station



Current Site Activity: Shopping Center

Miles to Monument Sq.: 1.2

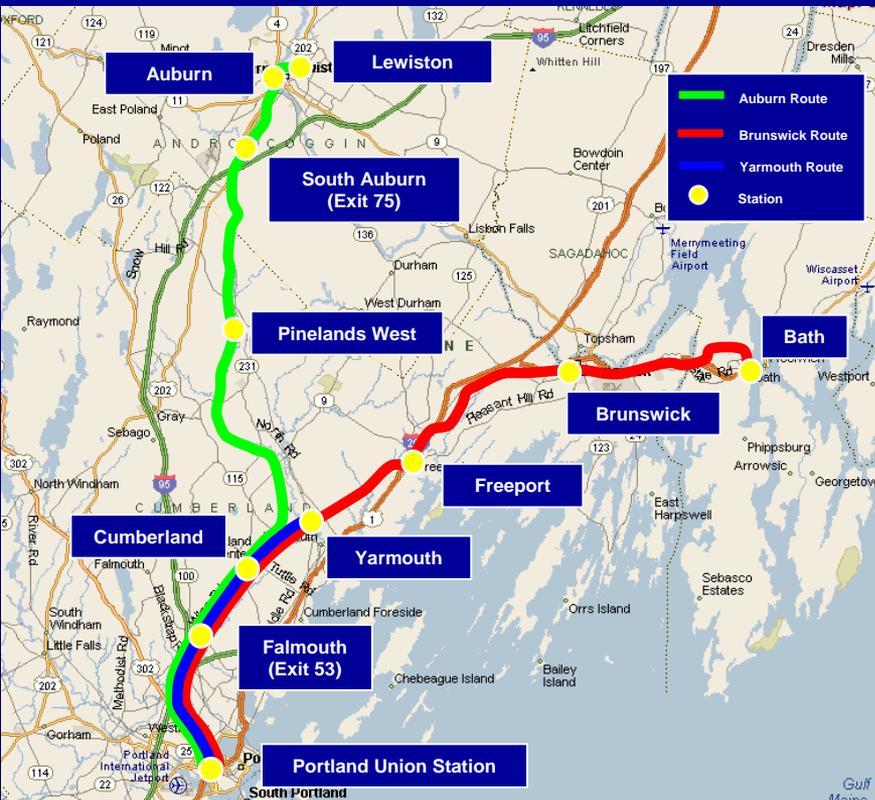
Walk Minutes to Monument Sq.: 24

Line Ownership: Pan Am

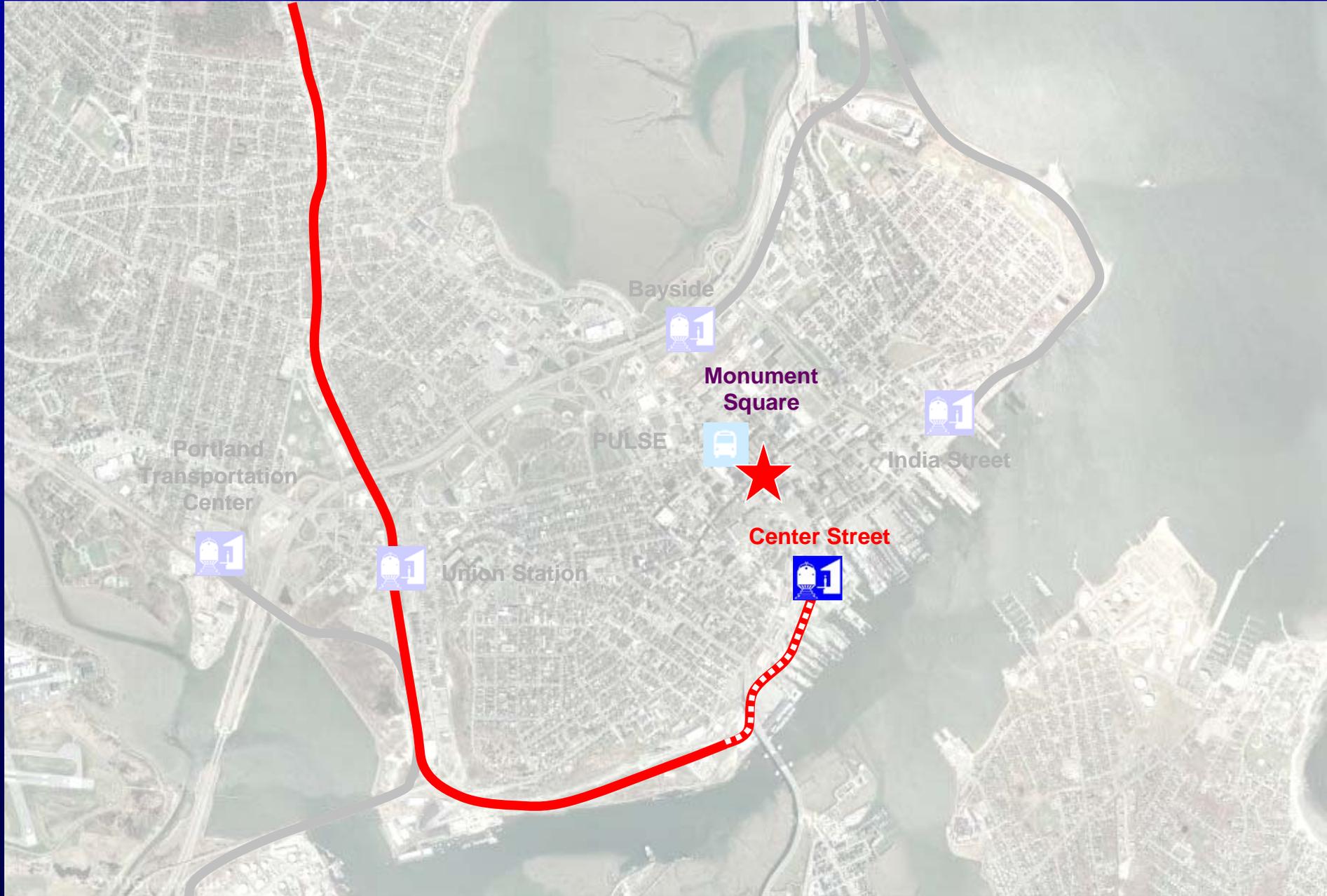
Possible Routes:

- Yarmouth
- Brunswick / Bath
- Lewiston / Auburn

Portland Union Station



Route	Station	Rail Miles to Portland	Rail Minutes to Portland	Walking Minutes to Monument Square	Total Trip Time
Yarmouth	Falmouth (Exit 53)	5.8	10	24	34
	Cumberland	9.4	15	24	39
	Yarmouth	13.5	20	24	44
Brunswick/Bath	Freeport	19.4	28	24	52
	Brunswick	27.8	37	24	61
	Bath	36.6	48	24	72
Lewiston / Auburn	Pinelands West	20.9	28	24	52
	S. Auburn (Exit 75)	30.1	38	24	62
	Auburn	34.7	44	24	68
	Lewiston	35.1	46	24	70



Portland
Transportation
Center



Union Station

PULSE

Bayside



Monument
Square



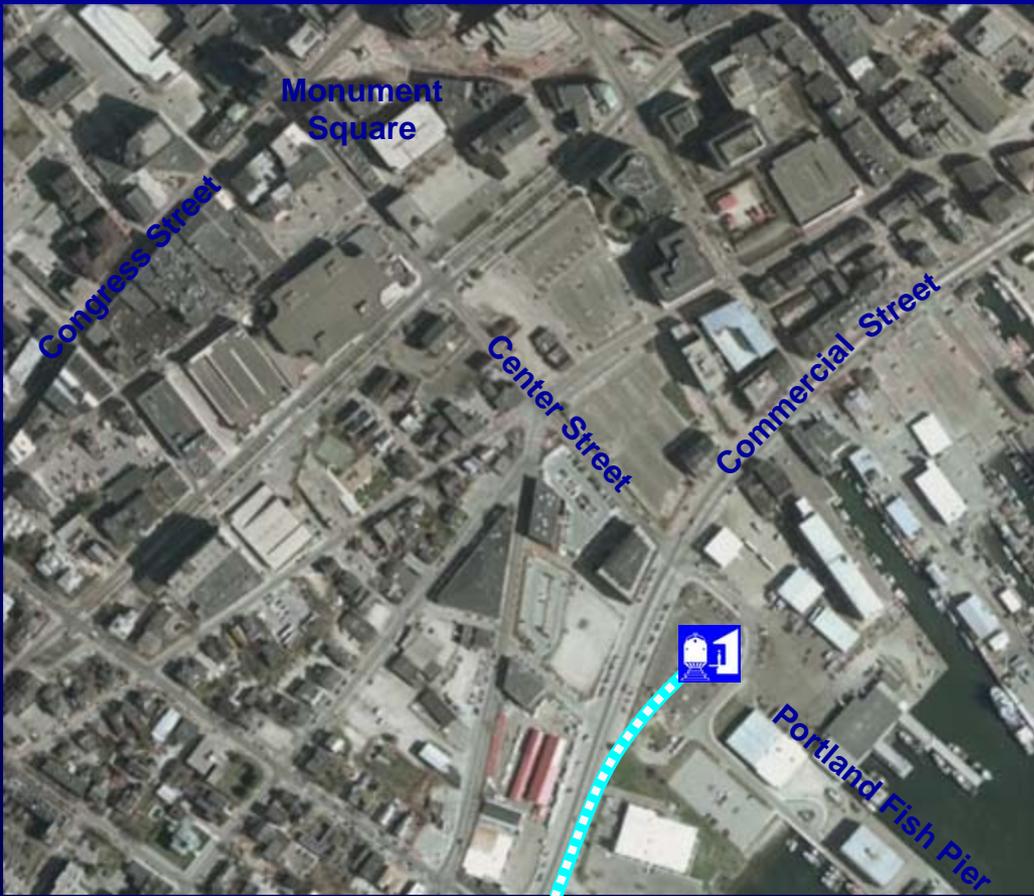
Center Street



India Street



Center Street Terminal



Current Site Activity: Portland Fish Exchange

Miles to Monument Sq.: 0.4

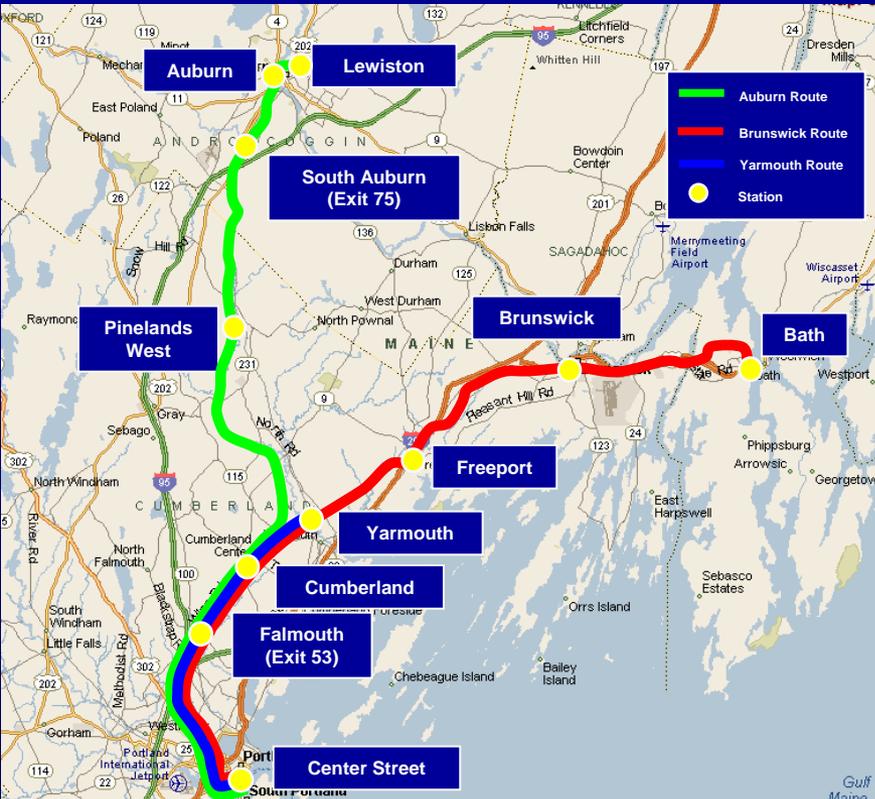
Walk Minutes to Monument Sq.: 8

Line Ownership: Pan Am

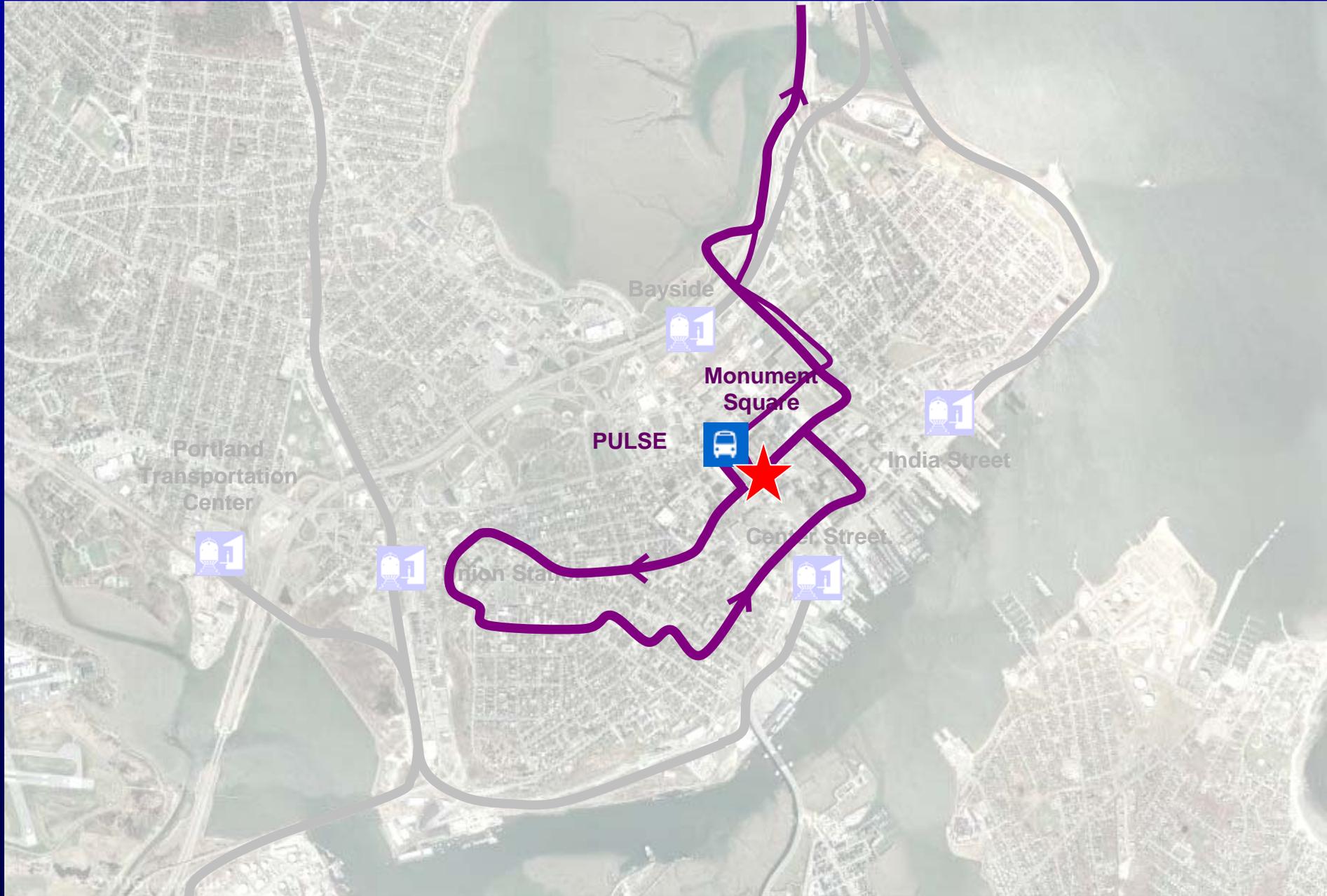
Possible Routes:

- Yarmouth
- Brunswick / Bath
- Lewiston / Auburn

Center Street Terminal



Route	Station	Rail Miles to Portland	Rail Minutes to Portland	Walking Minutes to Monument Square	Total Trip Time
Yarmouth	Falmouth (Exit 53)	7.9	16	8	24
	Cumberland	11.5	21	8	29
	Yarmouth	15.6	26	8	34
Brunswick/Bath	Freeport	21.5	34	8	42
	Brunswick	29.9	43	8	51
	Bath	38.7	54	8	62
Lewiston / Auburn	Pinelands West	23.0	34	8	42
	S. Auburn (Exit 75)	32.2	44	8	52
	Auburn	36.8	50	8	58
	Lewiston	37.2	52	8	60



Bayside



Monument Square

PULSE



India Street



Portland Transportation Center



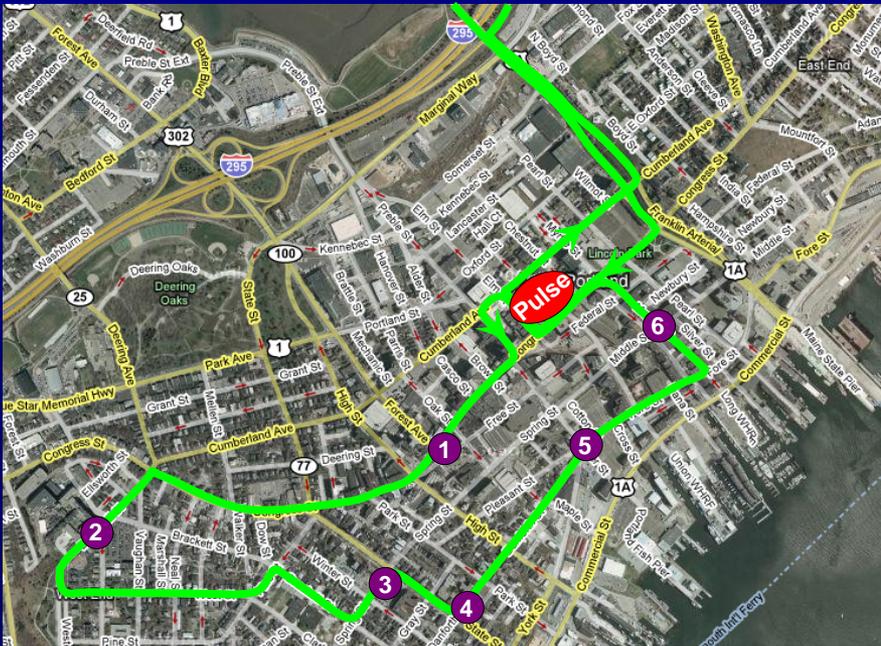
Union Station

Center Street



Monument Square

- Monument Square
 - 0.2 miles from Portland Pulse
- ## Downtown Distribution



A comparable route:

Shore Line East Commuter Railroad



- Eastern Connecticut coast
 - 33 mile line, 6 stations
 - 7 peak direction trips each day
 - New Haven is primary city served
 - 25% more downtown employment than Portland
 - “Q” bridge bottleneck similar to Tukeys Bridge

Shore Line East Ridership

- *Ridership over 1000 each way per day!*
 - This includes connections on Metro North
 - About half of SLE riders going to New York, Stamford, and other points west
- 582 AM riders are heading to New Haven
- 6.4% mode share of total corridor commuters
- State Street Station--one of two NH rail stops-- is two blocks from the center of town, less than 10 min walk (no hills) to Yale and hospitals

Another comparable route:

ZOOM Turnpike Express Bus

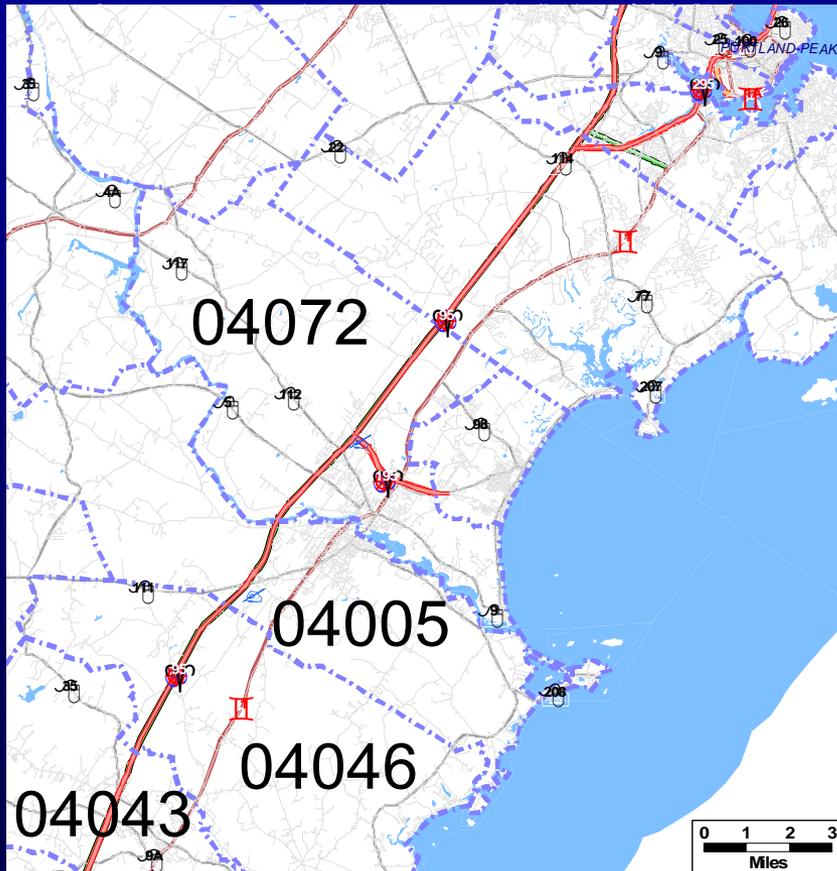


- Biddeford and Saco to 4 stops in Portland
- 6 peak direction trips each day
- 160 riders each way

Who rides the ZOOM bus?

- Trip purpose: 95% commuting
- Access method: 74% drive alone to P&R
- Egress method: 92% walk
 - 62% walk 5 min or less
- Time on ZOOM: 54% one year or less
- Mainers? 75% lived in Maine most or all of their lives
- Prefer rail? 87% would stick with bus

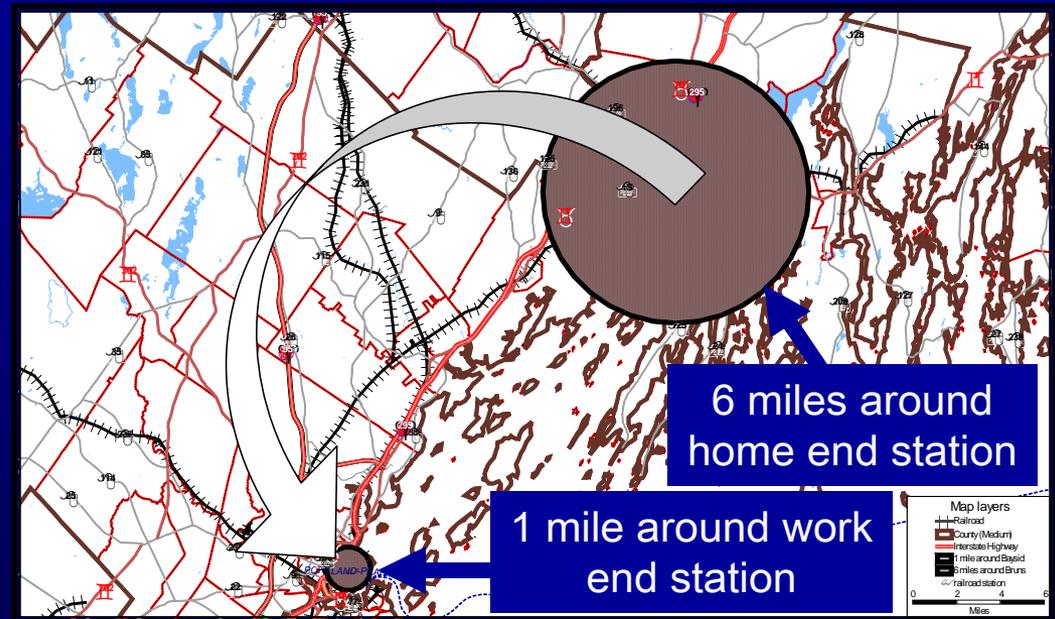
ZOOM share of Portland CBD commutes



Saco (04072)	4.3%
Biddeford (04005)	16.2%
Kennebunkport (04046)	8.6%
Kennebunk (04043)	2.7%

Aggregate Rail Ridership Forecasting Model

- Developed by FTA
- Simplified tool
 - based primarily on commuter flows
 - secondarily on service characteristics
- Calibrated to other new commuter railroads



Aggregate Rail Ridership Forecasting Model

	Brunswick branch only	Auburn branch only	Both branches together
Commuter flows			
High income	8,743	7,347	11,066
Medium income	7,925	7,202	10,575
Low income	2,228	2,690	3,142
Total flows	18,896	17,239	24,783
Est. ridership (daily)			
base pk only service	565	540	856
with SLE adjustment	701	670	1,062

A non-commuter group: Freeport visitors

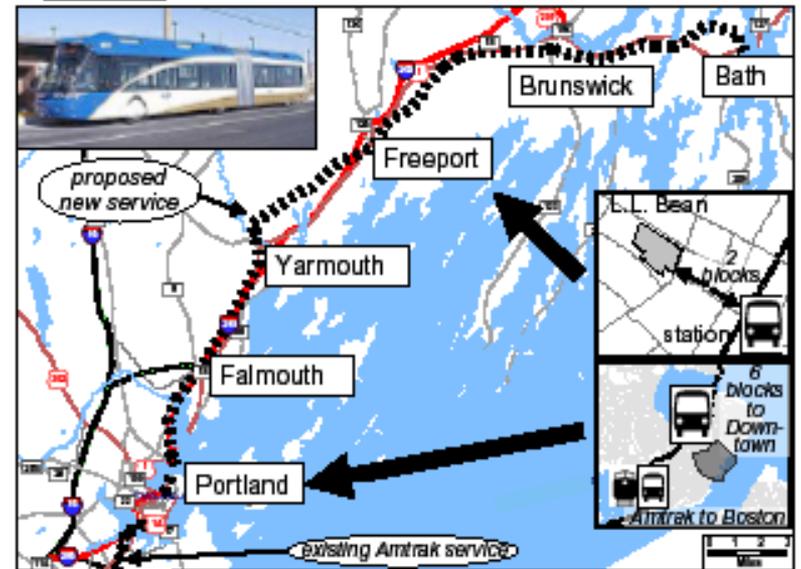
- 50,000 + visitors on some summer days
- rail stop is 2 blocks from LL Bean, heart of retail district
- currently not served by transit



Freeport visitor survey

- 3 weekdays in August
- 439 respondents
- tested rail and BRT, with and without Downeaster extension

Option 2—Bus Rapid Transit (BRT) service



- Bus Rapid Transit service would run every 45 minutes between downtown Portland and Bath with stops in Freeport and elsewhere as shown above.
- Service would operate from 7 AM to 10 PM.
- The BRT would operate in a separate lane around key traffic bottlenecks—travel time from Portland to Freeport would be 28 minutes
- In Portland, the BRT would stop at a station near downtown and then continue to the Amtrak station for connecting service to Boston.
- Round trip adult fares between: Portland and Freeport \$10.50
Brunswick and Freeport \$6.50
- Reservations would not be required

Freeport findings

- 89% live outside the corridor
- 85% making “complex” trips--Freeport on the way to or from someplace else.
- Mode share (% of visitors) using Portland North

	without Downeaster extension	with Downeaster extension
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Portland North alternative		
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Rail—Bayside only	4.18	2.53
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BRT—Bayside only	2.98	0.77
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BRT—Bayside & Amtrak conn.	4.25	1.75
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Summary of Ridership Findings

- Shore Line East: 1164 daily boardings in corridor (6.4% mode share)
- ZOOM bus: 320 daily boardings (4-16% mode share at towns served)
- ARRF model (3.5 to 4.3% mode share)
 - Brunswick line 565 to 701
 - Auburn line 540 to 670
 - both lines 856 to 1,062
- Freeport visitors (seasonal) up to 1,000 based on level of service, Downeaster

Next step—refined regional model

- combined AVCOG, GPCOG, MaineDOT models
- detailed land use in Freeport, Brunswick, Bath
- refined approaches for highway speeds, tolls, time-of-day, and seasonal travel
- new mode choice routine for non-local travel
 - account for trade-offs of comfort, image and reliability of rail, vs. nimbleness of bus
 - calibration based on ZOOM bus, experiences elsewhere and new local survey data
 - separate formulas by trip purpose, traveler income

Next Steps

- FTA Coordination
 - Alternatives
 - Criteria
 - Modeling
- Tier 1 Alternatives Evaluation – Fatal Flaw
- Selection of Alternatives for Phase 2 Evaluation
- Phase 2 Evaluation
 - Further Development of Alternatives

Schedule

- Fatal Flaw Analysis (April 2009)
- Refined Alternatives (July 2009)
- Detailed Costs, Impacts, Ridership (August 2009)
- Selection of Preferred Alternative (January 2010)
- Small Starts Analysis (March 2010)

Discussion
