Portland North
Alternative Modes Project

Public Meeting
Wednesday April 28, 2010
Agenda

- Introductions
- Progress Update
- Summary of Alternatives
- Ridership Projections
- Preliminary Costs
- Small Starts
- Amtrak Extension Feasibility Study
- Next Steps
- Questions
What We Have Accomplished

PHASE 1
- Developed Initial Range of Alternatives
- Met with Stakeholder groups and communities
- FTA coordination
- Alternative refinement
  - Alignment
  - Station
  - Cost
  - Ridership
- Screened from alternatives 30 to 6 (with terminus options)
What Is Underway Now

PHASE 2

- Refine data
  - Station locations
  - Station layouts
  - Rail and Road infrastructure
  - Economic
  - Environmental
  - Costs

- Stakeholder Coordination
- FTA coordination
- Screen range of alternatives to 1
Key Issues We’ve Heard

- Bus vs. Rail
- Highway Widening
- Cost
- Funding
- Evaluation Criteria
- Public Input
- Amtrak Service
- Schedule
What Would be Served

Three service alternatives
- Yarmouth
- Brunswick (Bath)
- South Auburn (Lewiston)

Three route alternatives:
- Saint Lawrence and Atlantic Railway (SLR)
- Pan Am Railway
- Highways (Bus)

Five Portland terminal alternatives:
- Bayside (SLR)
- India Street (SLR)
- Union Station (Pan Am)
- Center Street (Pan Am)
- Monument Square (Express Bus)
On the same base map show the two rail routes:

- Pan AM
- SLR
- State of ME
Rail Options
Study Area
Express Bus Routes

- South Auburn (Exit 75)
- Auburn
- Lewiston
- New Gloucester
- Gray
- Falmouth (Exit 10)
- Yarmouth (Exit 15)
- Freeport
- Portland
- Brunswick
- Bath

- Bus-On-Shoulder
- Exclusive Bus ROW
- Bus in Mixed Traffic
Express Bus
How Often Service Would Operate

- 22 Roundtrips per Weekday (Train/Bus)
- Service Headways
  - 30 minute peak
  - 60 minute off-peak
- First trip arrives Portland: 6:45 AM
- Last trip departs Portland: 10:55 PM
- Shuttle Bus Service in Portland from all but Center Street rail station
Where Would it Leave You
Yarmouth Rail Service

- Yarmouth Rail (SLR)
  - Yarmouth (Exit 15)
  - Falmouth (Exit 10)
  - Bayside
  - India Street

- Pan Am
  - Union Station
  - West Falmouth (Exit 53)
  - Senter Street
  - Cumberland
  - Yarmouth Jct
On the same base map show the two rail routes:

- Pan AM
- SLR

Study Area Railroad Network

Network:
- Portland
- Brunswick
- Bath
- Auburn
- Lewiston
- South Auburn (Exit 75)
- Freeport
- Cumberland
- West Falmouth (Exit 53)
- Yarmouth Junction
- Yarmouth (Exit 15)
- Falmouth (Exit 10)
- Pineland West
- Pineland East

State of ME
Yarmouth Express Bus Service

Exclusive ROW

Highway Shoulder Running

Yarmouth (Exit 15)

Falmouth (Exit 10)

PULSE

Yarmouth (Exit 15)

Falmouth (Exit 10)

PULSE
Bath Rail Service

SLR

Pan Am

MaineDOT

AECOM
On the same base map show the two rail routes:

- Pan AM: Portland to Lewiston via Auburn
- SLR: Lewiston to Brunswick via Yarmouth Junction

Other notable locations include:
- Pineland West and Pineland East
- Cumberland
- West Falmouth (Exit 53)
- Falmouth (Exit 10)
- South Auburn (Exit 75)
- Auburn
- Cumberland
- Yarmouth Junction
- Freeport
- Falmouth (Exit 10)
- Portland
- Bath

State of ME

Study Area Railroad Network
Bath Express Bus Service

Exclusive Bus ROW

Highway Shoulder Running
Lewiston Rail Service

SLR Pan Am
- Union Station Center Street
- West Falmouth (Exit 53)
- Cumberland
- Pineland West
- South Auburn (Exit 75)
- Auburn Intermodal
- Pineland East
- Yarmouth (Exit 15)
- Falmouth (Exit 10)
- Bayside
- India Street
- Auburn
- Lewiston
- West Falmouth (Exit 53)
- Union Station Center Street

Auburn Lewiston
- Bayside
- India Street
- Yarmouth (Exit 15)
- Falmouth (Exit 10)
- Pineland East
- Auburn Intermodal
- Lewiston

MaineDOT
AECOM
On the same base map show the two rail routes:

- Portland to Lewiston via Pineland West, Pineland East, Yarmouth Junction, Cumberland, Falmouth (Exit 10), Lewiston
- Brunswick to Bath via Pan AM, SLR, South Auburn (Exit 75), Freeport, Yarmouth (Exit 15), Falmouth (Exit 10), Portland
Lewiston Express Bus Service

Exclusive Bus ROW

Express Bus

MaineDOT

Auburn
New Gloucester
South Auburn (Exit 75)
Gray
Falmouth (Exit 10)
Monument Square
Auburn
Lewiston
New Gloucester
South Auburn (Exit 75)
Gray
Falmouth (Exit 10)
Monument Square
Costs

- **Capital**
  - Track
  - Bridges
  - Train sets
  - Signals
  - Stations

- **Operating**
  - Management
  - Fuel
  - Maintenance
Summary of Annual Operating Costs ($millions)

- Yarmouth: $2.0, $3.0
- Auburn: $2.1, $3.7
- Lewiston: $2.2, $4.1
- Brunswick: $2.7, $3.6
- Bath: $2.5, $4.8
Our Approach to Calculating Riders

We methodically examine key questions:

- For what purposes will people travel?
- Where would these trips begin?
- How many of these trips will people make?
- Where are the trips headed?
- What are the attributes of traveling by car or by transit that would affect mode choice?
- What would determine a motorist’s choice of route?
A logical, regional model

- Trip generation
  - Trip ends
- Trip distribution
  - Person trip matrix (origins to destinations)
- Expedited mode split
  - Vehicle trips
- Vehicle assignment
  - Congested network
- Transit path development
- Mode split
  - Transit times, costs
- Transit assignment
  - Transit boardings

Population and employment data
Road network
Transit network
The Modeled Region

1027 Transportation Analysis Zones
Lewiston / Auburn
Brunswick and Freeport
### How well does model represent flows?

#### Vehicle volumes (screenlines)

<table>
<thead>
<tr>
<th>screenline</th>
<th>Average daily traffic</th>
<th>model</th>
<th>% difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>North of Saco</td>
<td>137,225</td>
<td>137,545</td>
<td>0.23</td>
</tr>
<tr>
<td>East of Gorham</td>
<td>82,730</td>
<td>72,289</td>
<td>-12.62</td>
</tr>
<tr>
<td>North of Portland</td>
<td>75,220</td>
<td>59,049</td>
<td>-21.50</td>
</tr>
<tr>
<td>South of Yarmouth</td>
<td>80,122</td>
<td>88,701</td>
<td>10.71</td>
</tr>
<tr>
<td>South of Auburn</td>
<td>49,345</td>
<td>53,781</td>
<td>8.99</td>
</tr>
<tr>
<td>SE of Lewiston</td>
<td>22,968</td>
<td>31,776</td>
<td>38.35</td>
</tr>
<tr>
<td>South of Freeport</td>
<td>87,365</td>
<td>91,261</td>
<td>4.46</td>
</tr>
<tr>
<td>all screenlines</td>
<td>534,975</td>
<td>534,402</td>
<td>-0.11</td>
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</tbody>
</table>
## How well does model represent flows?

### Travel times (minutes)

<table>
<thead>
<tr>
<th>Origin/Destination</th>
<th>Model</th>
<th>Observed Times</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AM peak</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>from Lewiston (Oak &amp; Bates) to Portland (Franklin &amp; Marginal Way)</strong></td>
<td>49.8</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>6:15</td>
<td>7:35</td>
</tr>
<tr>
<td><strong>from Bath (Rt 1 &amp; Washington St) to Portland (Franklin &amp; Marginal Way)</strong></td>
<td>45.3</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>6:00</td>
<td>7:58</td>
</tr>
<tr>
<td><strong>from Saco P&amp;R to Congress &amp; Bramhall</strong></td>
<td>22.9</td>
<td>20 to 23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zoom schedule</td>
</tr>
</tbody>
</table>
How well does model represent flows?

**ZOOM Turnpike Express Boardings**

*Daily boardings in either direction*

<table>
<thead>
<tr>
<th>Location</th>
<th>Model</th>
<th>Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biddeford P&amp;R</td>
<td>82</td>
<td>85</td>
</tr>
<tr>
<td>Saco P&amp;R</td>
<td>80</td>
<td>75</td>
</tr>
<tr>
<td>Bramhall &amp; Congress</td>
<td>33</td>
<td>29</td>
</tr>
<tr>
<td>High &amp; Congress</td>
<td>82</td>
<td>25</td>
</tr>
<tr>
<td>Monument Square</td>
<td>36</td>
<td>98</td>
</tr>
<tr>
<td>USM</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>324</strong></td>
<td><strong>320</strong></td>
</tr>
</tbody>
</table>
Key Factors Affecting Behavior

- Not just comparison of auto vs. transit in-vehicle times
  - wait time, need for a transfer, fare, and time to/from stations also matter
- Increasing, non-linear penalty for walks over 10 minutes
- Direct service preferable to local bus connection
- Travelers “don’t drive backwards” to a park & ride
- “let someone else drive” more important with increasing distance
- No modeled preference for rail compared to bus
Mode Shares to Central Portland

2035 Bath to Bayside commute forecast
Mode Shares to Central Portland

2035 Bath to Center Street commute forecast
Mode Shares to Central Portland

2035 Lewiston to Center Street commute forecast
Mode Shares to Central Portland

2035 Lewiston to Bayside commute forecast
Forecasting to 2035

Trip origins of commuters to Portland

Commute trips to Central Portland

- CTPP adj
- Model base year
- Model 2035
Portland-bound Commuters (2035)

Pineland to Lewiston: 1627 commuters to Central Portland

Freeport to Brunswick: 3252 commuters to Central Portland
Forecasting to 2035

Changing work trip destinations

2005 and Projected 2035 Total Employment

- Central Portland
- Rest of Portland
- Westbrook
- S. Portland
- Falmouth/Foreside
- Other near towns
- Yarmouth/Cumberland
- Freeport
- Brunswick
- Topsham
- Bath
- Saco/Biddeford
- Southern Maine
- Lewiston/Auburn

2005
2035
Ridership Observations

- Model reveals a sensible pattern by station
- Center Street service has highest ridership for each starting point
- Two key reasons for this:
  - Two stops in Portland, short walk to business centers
  - Line stops at Cumberland Center, not served by SLR or bus options
- Portland is attraction end for at least 79 percent of trips (99 percent for alignments only to Yarmouth)
Capital Cost Summary ($ millions)

- **Bayside (SLR)**
- **India Street (SLR)**
- **Union Station (PA)**
- **Center Street (PA)**
- **Bus on Highway**
- **Bus Hwy/Excl. ROW**

### Yarmouth
- Bayside (SLR): $68.4
- India Street (SLR): $42.4
- Union Station (PA): $3.9
- Center Street (PA): $3.9
- Bus on Highway: $4.4
- Bus Hwy/Excl. ROW: $4.4

### Auburn
- Bayside (SLR): $158.7
- India Street (SLR): $158.7
- Union Station (PA): $95.5
- Center Street (PA): $95.5
- Bus on Highway: $95.5
- Bus Hwy/Excl. ROW: $95.5

### Lewiston
- Bayside (SLR): $193.6
- India Street (SLR): $193.6
- Union Station (PA): $100.2
- Center Street (PA): $100.2
- Bus on Highway: $100.2
- Bus Hwy/Excl. ROW: $100.2

### Brunswick
- Bayside (SLR): $121.0
- India Street (SLR): $121.0
- Union Station (PA): $59.7
- Center Street (PA): $59.7
- Bus on Highway: $59.7
- Bus Hwy/Excl. ROW: $59.7

### Bath
- Bayside (SLR): $52.8
- India Street (SLR): $52.8
- Union Station (PA): $90.9
- Center Street (PA): $90.9
- Bus on Highway: $90.9
- Bus Hwy/Excl. ROW: $90.9

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2035 Commute Trips

- **Bayside (SLR)**
- **India Street (SLR)**
- **Union Station (PA)**
- **Center Street (PA)**
- **Bus on Highway**
- **Bus Hwy/Excl. ROW**

### Yarmouth
- Bayside (SLR): 339
- India Street (SLR): 524
- Union Station (PA): 601
- Center Street (PA): 601
- Bus on Highway: 601
- Bus Hwy/Excl. ROW: 601

### Auburn
- Bayside (SLR): 432
- India Street (SLR): 494
- Union Station (PA): 566
- Center Street (PA): 566
- Bus on Highway: 566
- Bus Hwy/Excl. ROW: 566

### Lewiston
- Bayside (SLR): 426
- India Street (SLR): 472
- Union Station (PA): 527
- Center Street (PA): 527
- Bus on Highway: 527
- Bus Hwy/Excl. ROW: 527

### Brunswick
- Bayside (SLR): 769
- India Street (SLR): 769
- Union Station (PA): 946
- Center Street (PA): 946
- Bus on Highway: 946
- Bus Hwy/Excl. ROW: 946

### Bath
- Bayside (SLR): 1273
- India Street (SLR): 1273
- Union Station (PA): 1128
- Center Street (PA): 1128
- Bus on Highway: 1128
- Bus Hwy/Excl. ROW: 1128
Phase 2 Alternatives

- **Rail:**
  - Pan Am to Yarmouth
  - Pan Am to Auburn/Lewiston
  - Pan Am to Brunswick/Bath

- **Bus:**
  - Portland to Yarmouth on Highway and Shoulder
  - Portland to Auburn/Lewiston on Highway and Shoulder
  - Portland to Brunswick/Bath on Highway and Shoulder
Small Starts Parameters

- Capital costs associated with new fixed guideway systems, extensions, and bus corridor improvements
- Requests under $75 million and total project costs must be under $250 million
- In addition, Small Starts eligible if:
  - (a) meet the definition of a fixed guideway for at least 50% of the project length in the peak period
  - (b) be a new fixed guideway project, or
– (c) be new corridor-based bus project with all of the following minimum elements:

- Substantial transit stations
- Traffic signal priority/pre-emption, to the extent, if any, that there are traffic signals on the corridor
- Low-floor vehicles or level boarding
- Branding of the proposed service
- 10 minute peak/15 minute off peak headways or better while operating at least 14 hours per weekday
What Has Been Funded (FY10)

- $174 Million for 16 projects
- Maximum grant $54.5 Million
Geographic and Modal Distribution

- Flagstaff, AZ, Mountain Links BRT
- Livermore, CA, Livermore-Amador Route 10 BRT
- Los Angeles, CA, Metro Rapid Bus System Gap Closure
- Los Angeles, CA, Wilshire Boulevard Bus-Only Lane
- San Bernardino, CA, E Street Corridor BRT
- San Diego, CA, Mid-City Rapid
- San Joaquin, CA, Metro Express - Airport Way Corridor BRT Project
- Fort Collins, CO, Mason Corridor BRT
- Roaring Fork Valley, CO, BRT Project
- Kansas City, MO, Troost Corridor BRT
- Austin, TX, Metro Rapid BRT
- King County, WA, Bellevue - Redmond BRT
- King County, WA, Pacific Highway South BRT
- Riverside, CA, Perris Valley Line Medium
- Monterey, CA, Monterey Bay Rapid Transit
- Fitchburg, MA, Commuter Rail Improvements
FTA Critical Success Factors

Overall Project Rating

- Project Justification Criteria
- Local Financial Commitment
- Cost Effectiveness
- Land Use
- Other Factors – Economic Development
FTA Small Starts Evaluation Criteria

- Cost Effectiveness (which is a combined measure of annual travel time savings and annualized cost)
- Total Cost compared to State and Local Financial Capacity
  - Capital cost (including highway or rail improvements including railroad bridge costs)
  - Operations and Maintenance (O&M) costs
- Transportation Measures (which would be roughly proportional to vehicular emissions)
  - Level of Service
  - Total System Vehicle Miles Traveled
  - Total System Vehicle Hours Traveled
- Land Use
  - Existing Land Use Patterns
  - Transit supportive plans and policies
  - Performance and impact of these policies
- Economic Development
Amtrak Extension Feasibility Study

- **Scope of Work**
  - **Modes**
    - Intercity Rail for Portland to Auburn/Lewiston
    - Intercity Rail from Portland to Montreal
    - Bus service from Auburn/Lewiston to Brunswick and Portland
  - **Elements**
    - Schedule
    - Costs (capital and operating)
    - Ridership
What Happens Next

- Public Meeting in Brunswick (May)
- Finalize Phase 2 (June)
- Provide recommendation for Small Starts (June)
- Final Report (July)
- Initiate Small Starts application (July)
- Initiate Amtrak Study (May)
Questions?