

# Portland North Alternative Modes Project

Public Meeting  
Wednesday April 28, 2010

# Agenda

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- 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

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## 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)

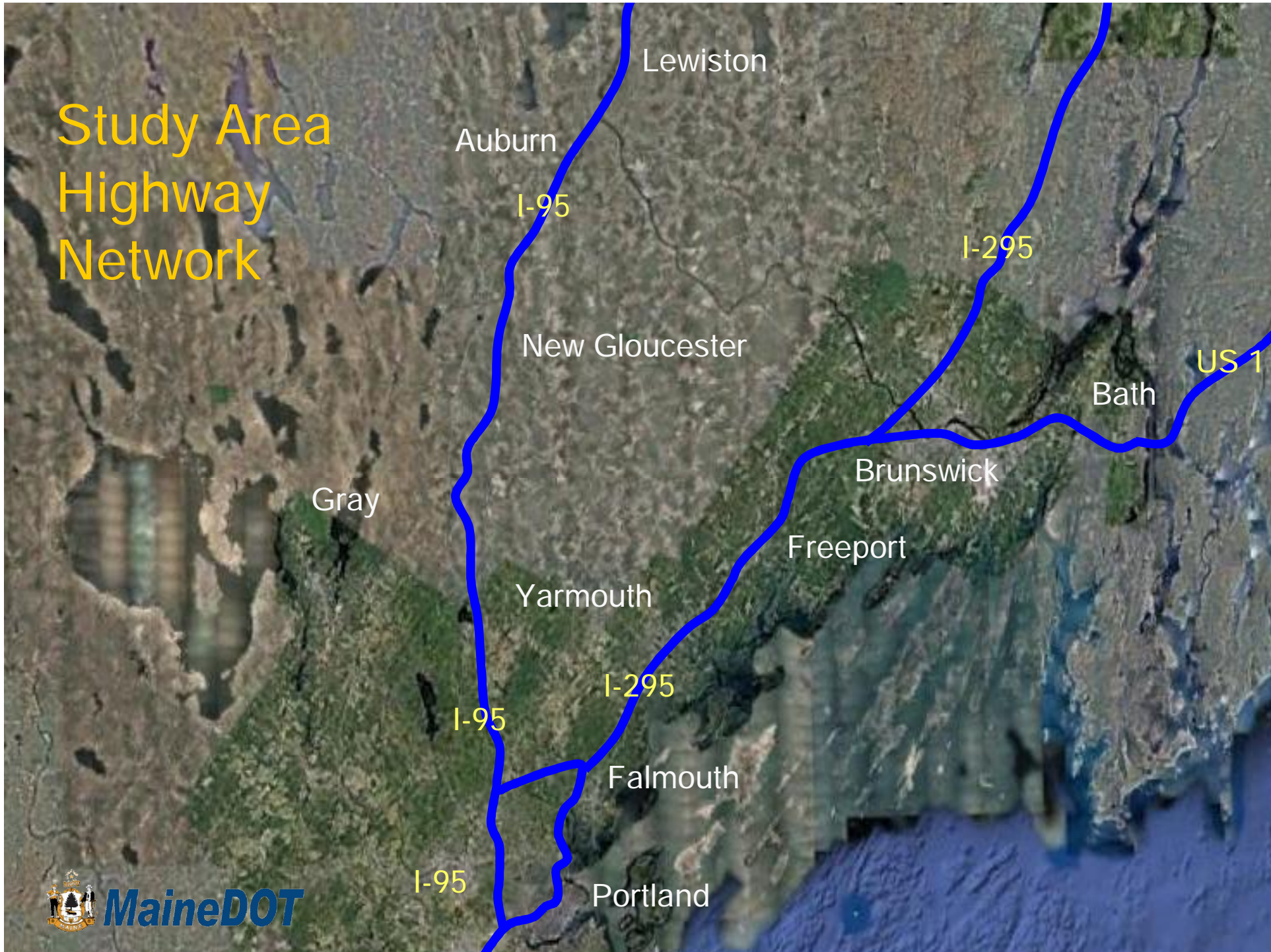
- Three route alternatives:

- 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)

# Study Area Highway Network





# Study Area Railroad Network

-  Pan AM
-  SLR
-  State of ME

Lewiston

Auburn

Lewiston

South Auburn (Exit 75)

Brunswick

Pineland West

Pineland East

Bath

Freeport

Yarmouth Junction

Cumberland

Yarmouth (Exit 15)

Falmouth (Exit 10)

West Falmouth (Exit 53)

Portland



**MaineDOT**



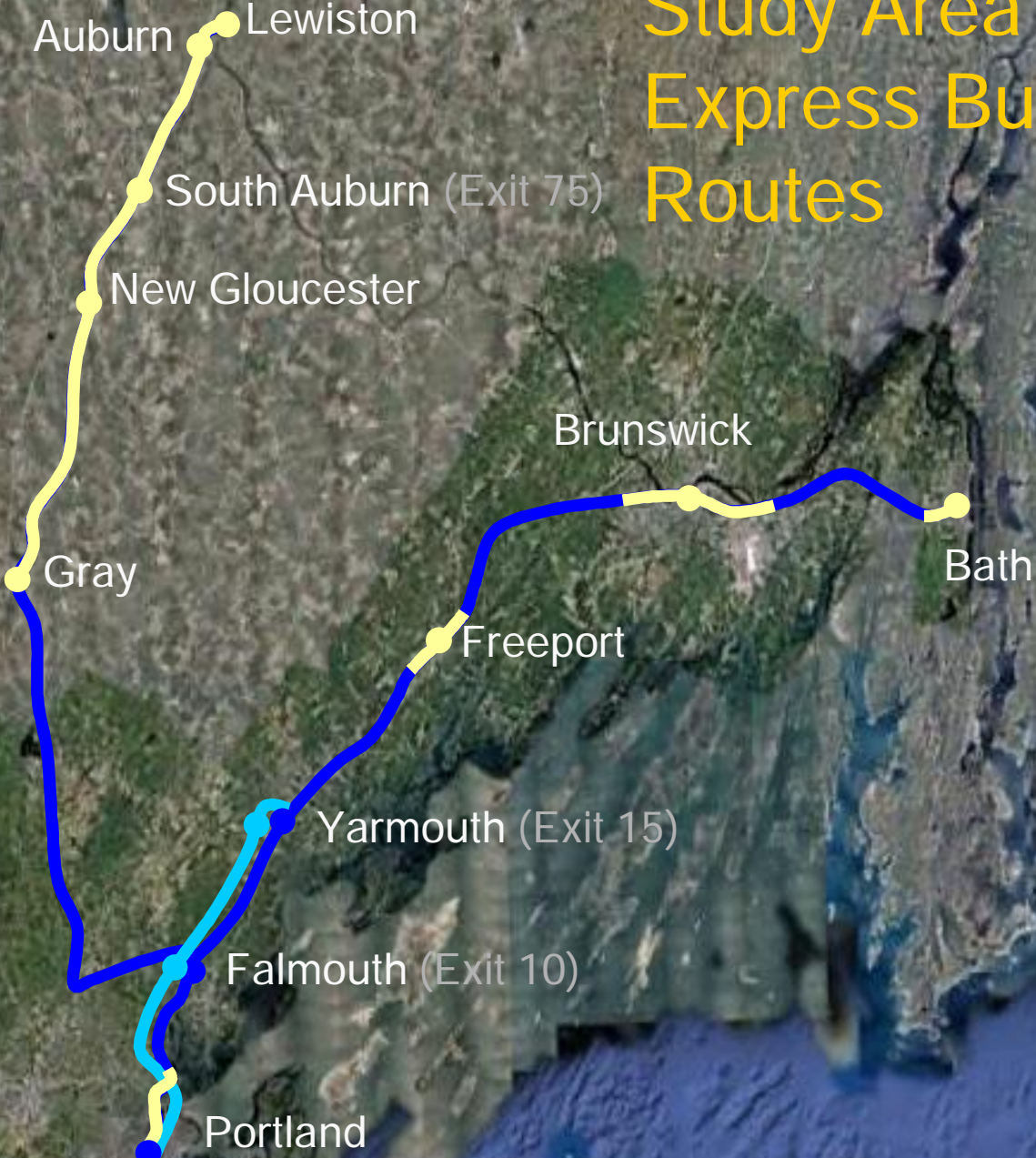
# Rail Options





# Study Area Express Bus Routes

- Bus-On-Shoulder
- Exclusive Bus ROW
- Bus in Mixed Traffic





# Express Bus



# How Often Service Would Operate

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- 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



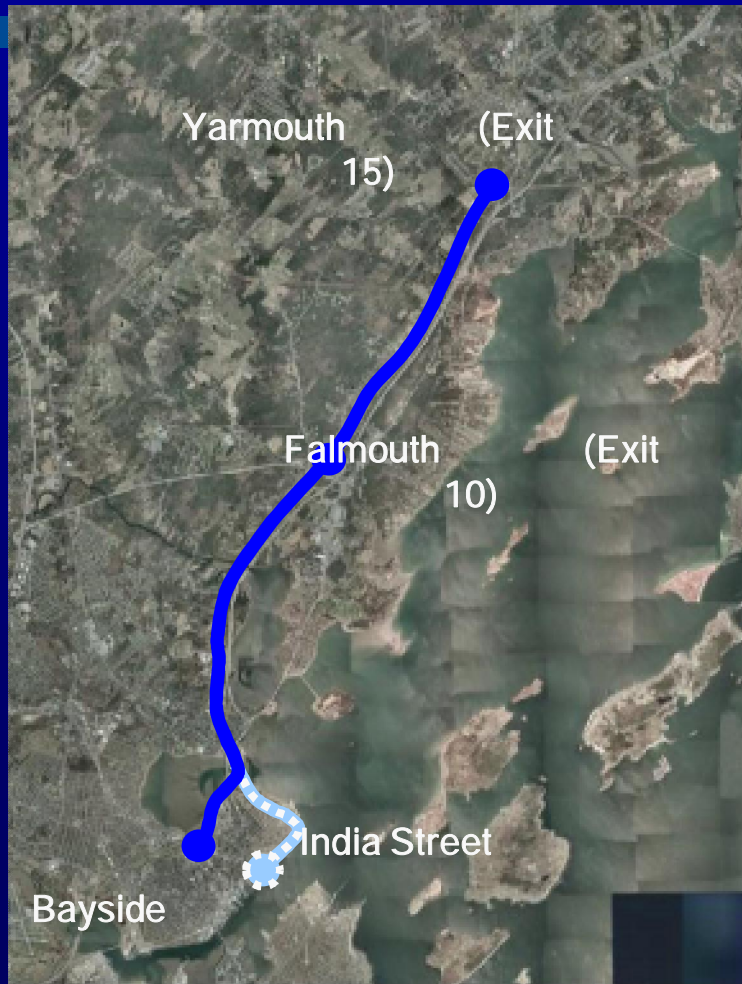
# Where Would it Leave You



# Yarmouth Rail Service

SLR

Pan Am





# Study Area Railroad Network

-  Pan AM
-  SLR
-  State of ME

Lewiston

Auburn

Lewiston

South Auburn (Exit 75)

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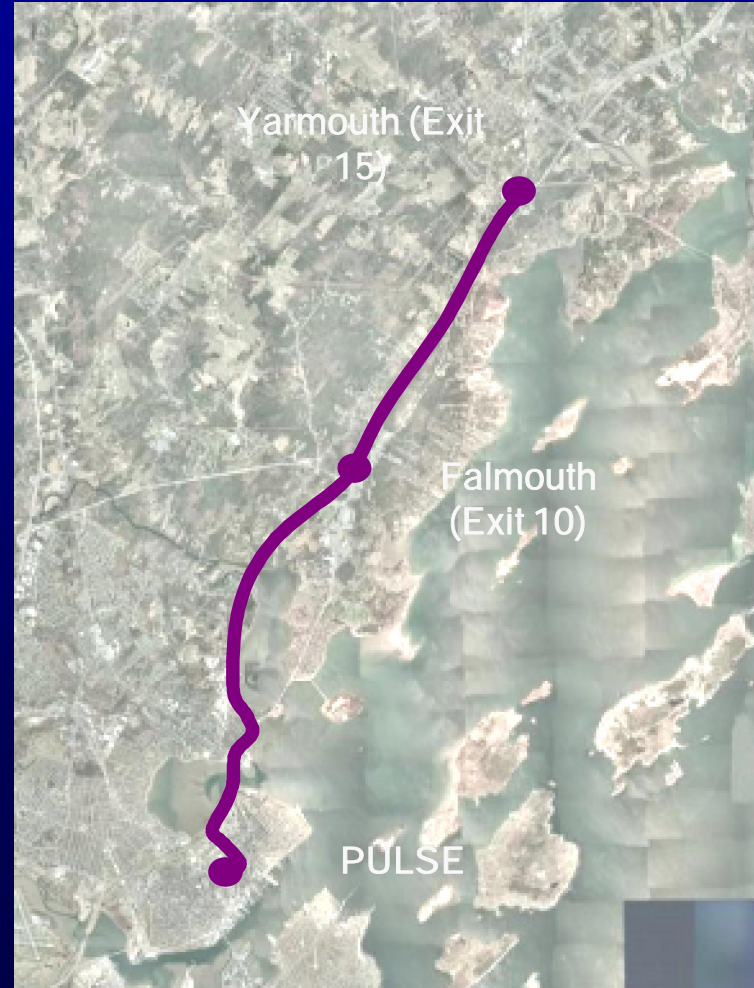
Portland



# Yarmouth Express Bus Service

Exclusive ROW

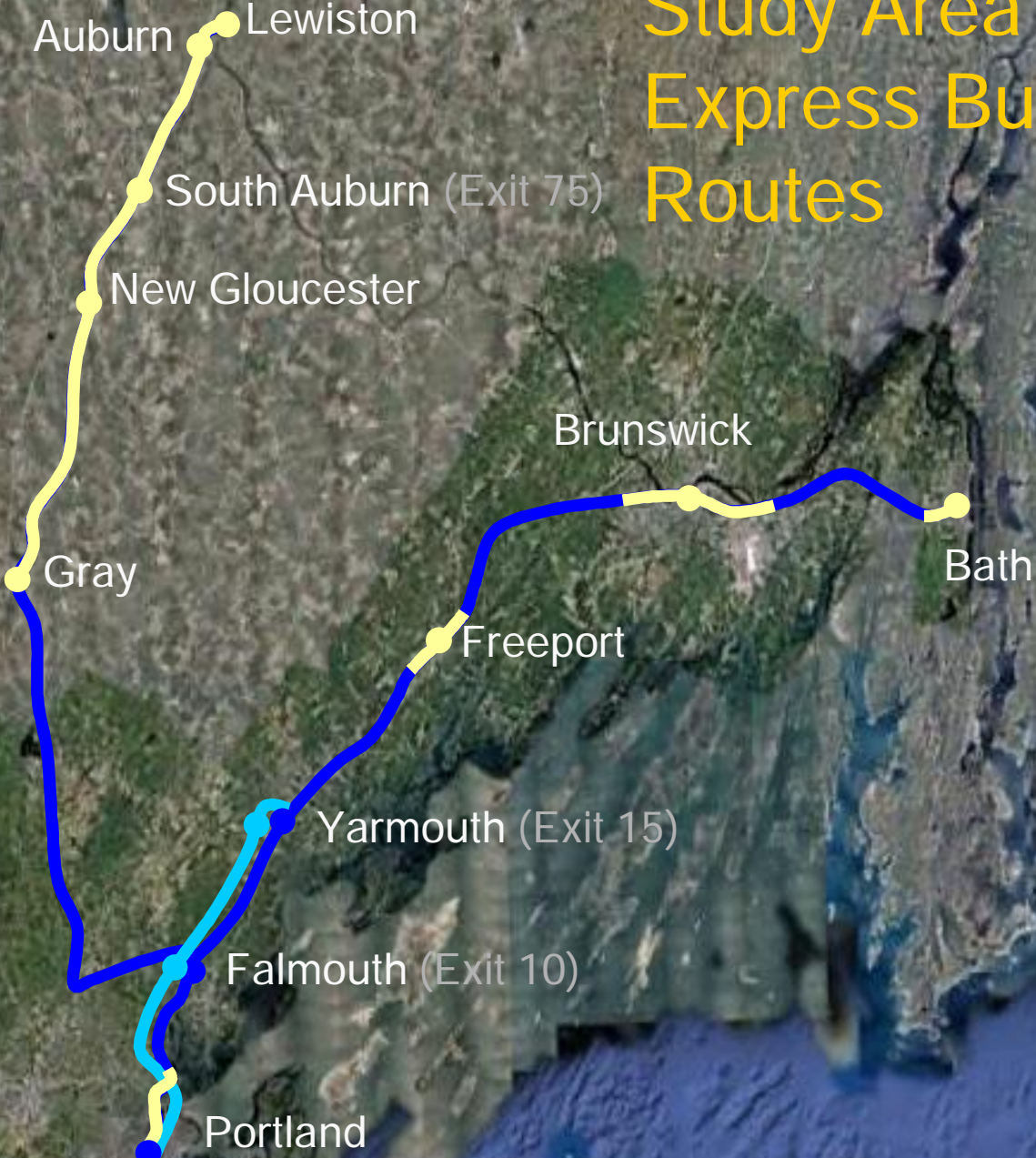
Highway Shoulder Running





# Study Area Express Bus Routes

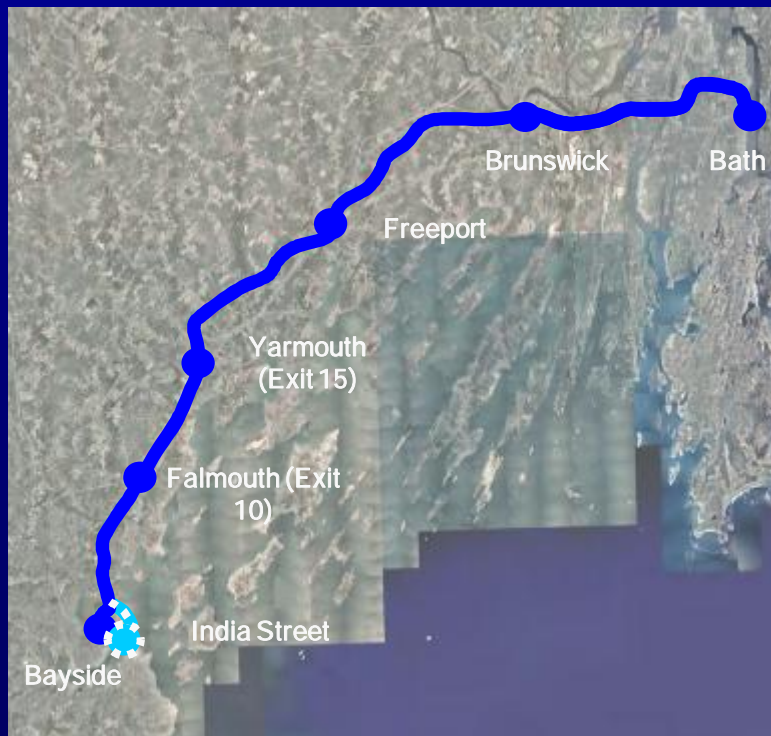
- Bus-On-Shoulder
- Exclusive Bus ROW
- Bus in Mixed Traffic



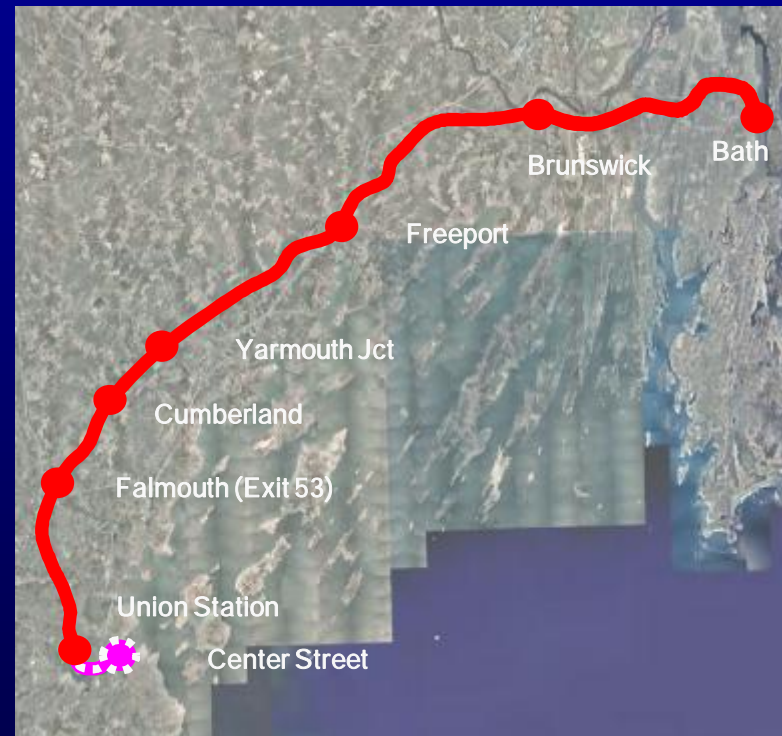


# Bath Rail Service

SLR



Pan Am





# Study Area Railroad Network

-  Pan AM
-  SLR
-  State of ME

Lewiston

Auburn

Lewiston

South Auburn (Exit 75)

Brunswick

Pineland East

Pineland West

Bath

Freeport

Yarmouth Junction

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West Falmouth (Exit 53)

Portland





# Bath Express Bus Service

## Exclusive Bus ROW



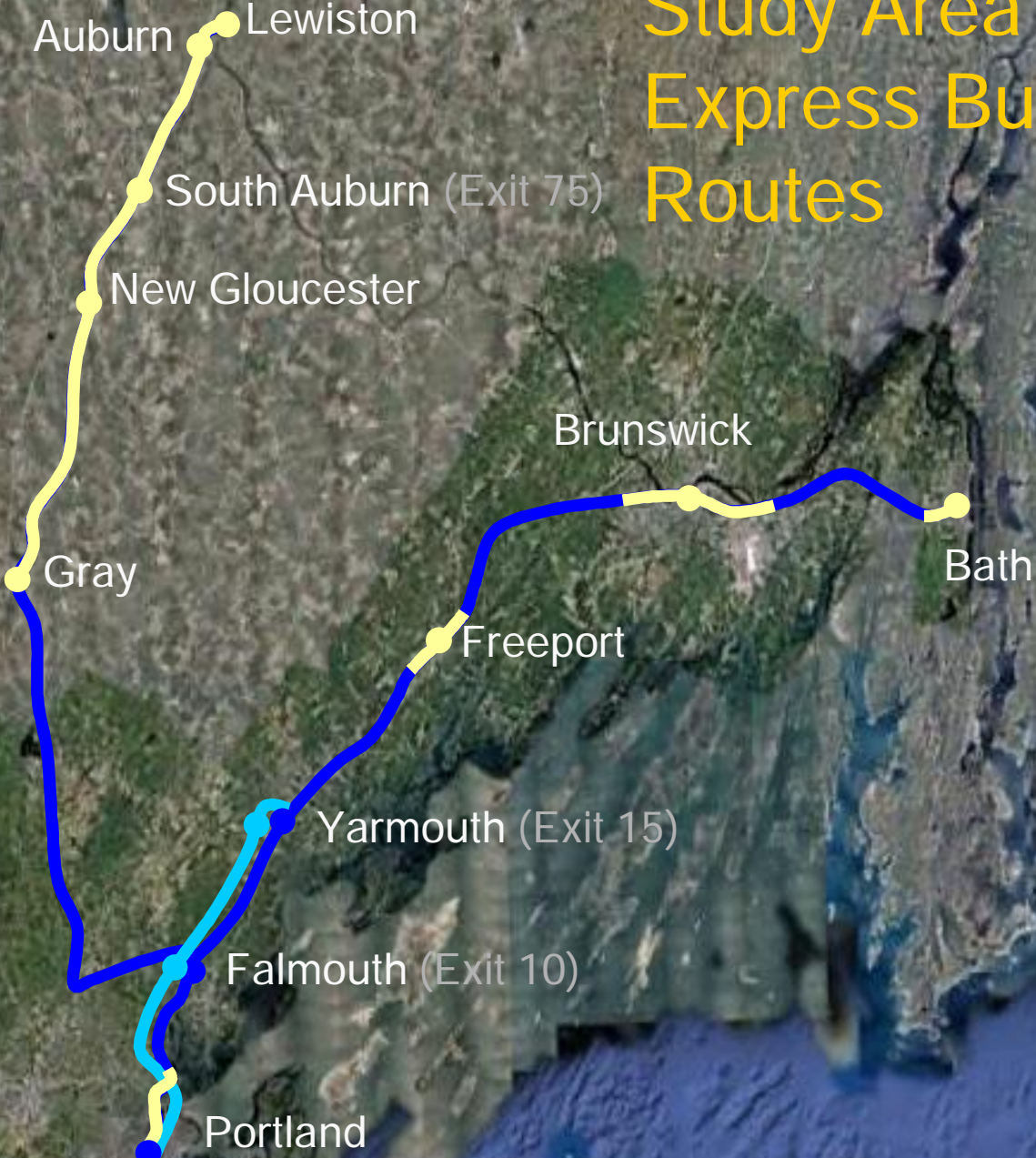
## Highway Shoulder Running





# Study Area Express Bus Routes

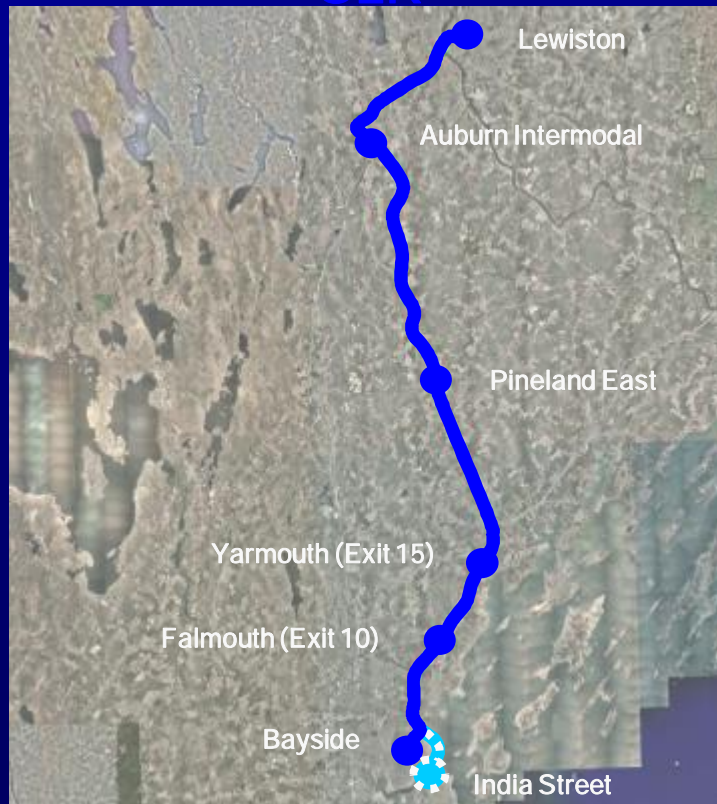
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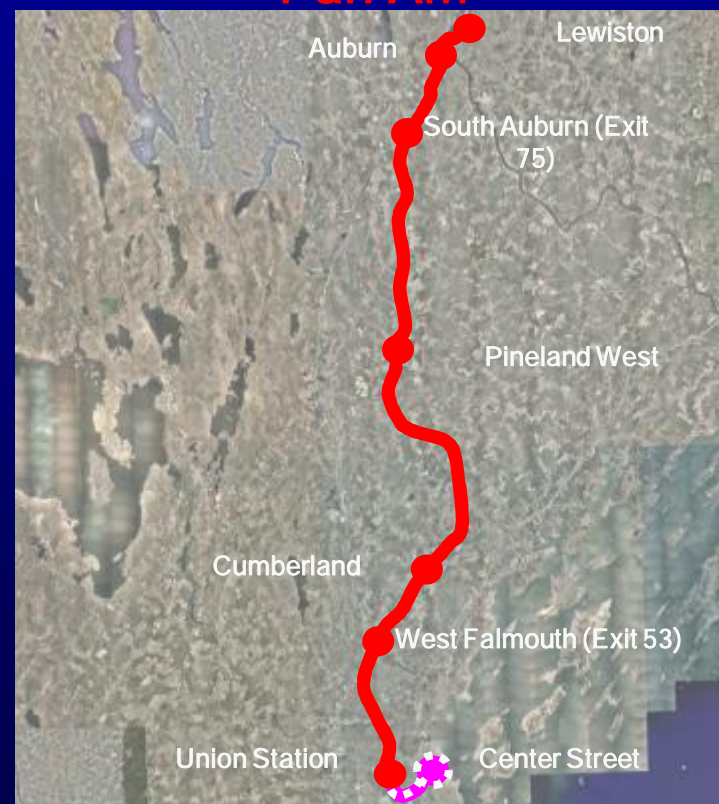


# Lewiston Rail Service

SLR



Pan Am





# Study Area Railroad Network

-  Pan AM
-  SLR
-  State of ME

Lewiston

Auburn

Lewiston

South Auburn (Exit 75)

Brunswick

Pineland West

Pineland East

Bath

Freeport

Yarmouth Junction

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Portland

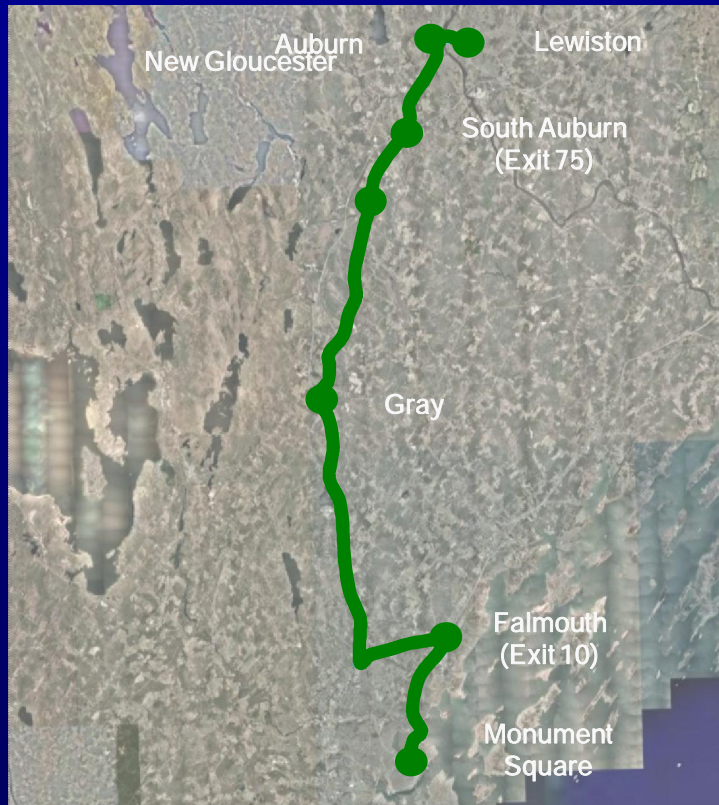


**MaineDOT**

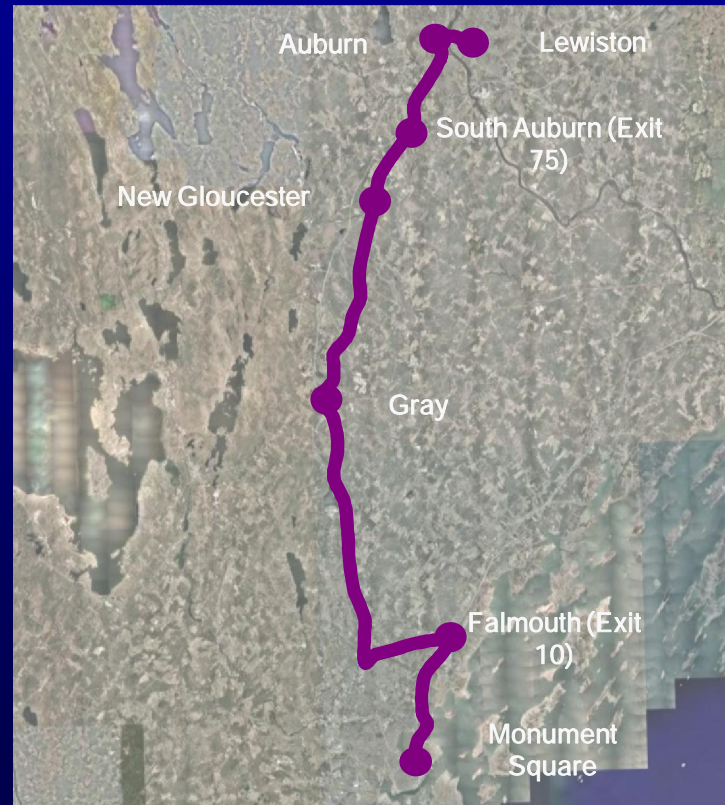


# Lewiston Express Bus Service

## Exclusive Bus ROW



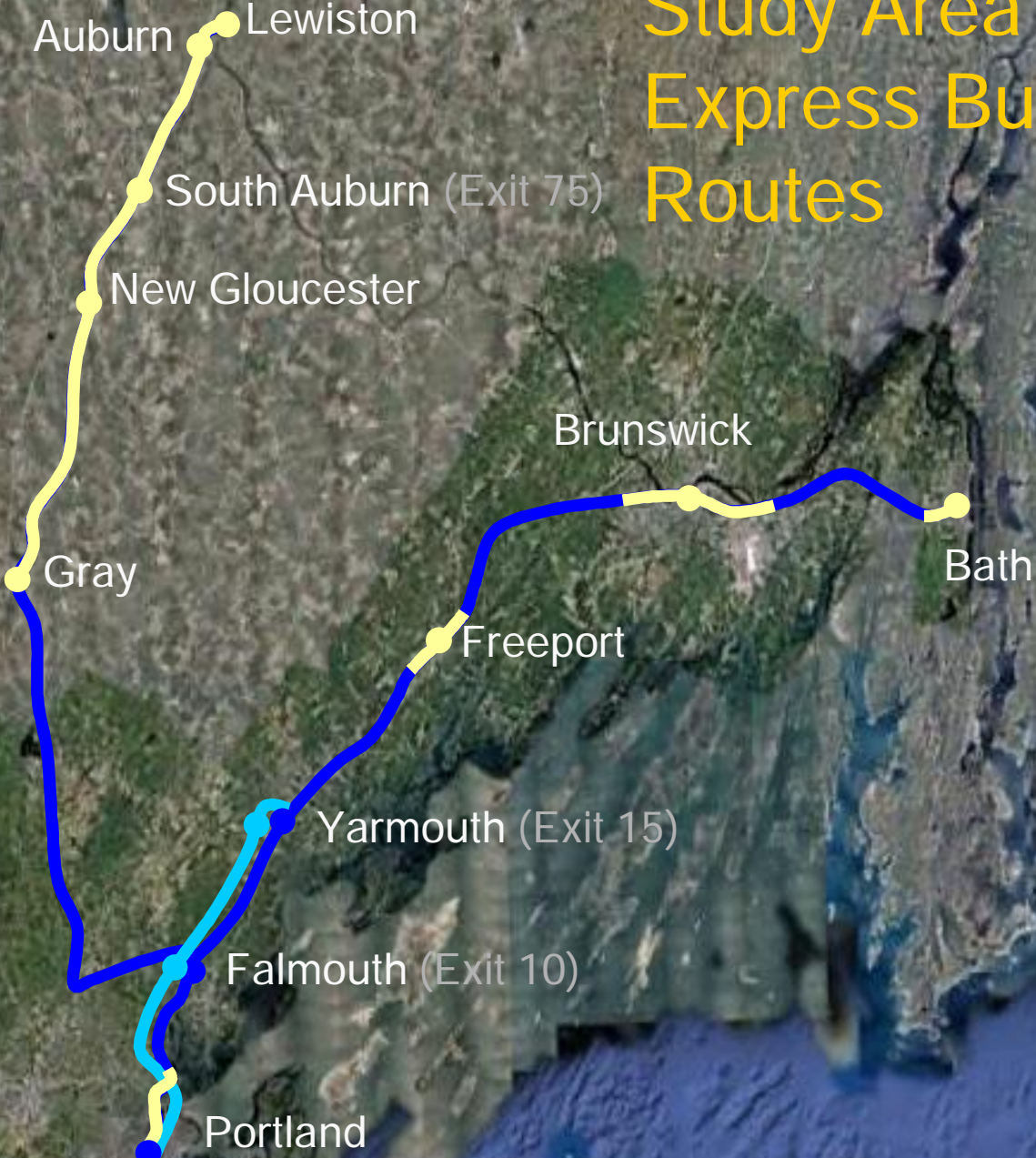
## Express Bus





# Study Area Express Bus Routes

- Bus-On-Shoulder
- Exclusive Bus ROW
- Bus in Mixed Traffic



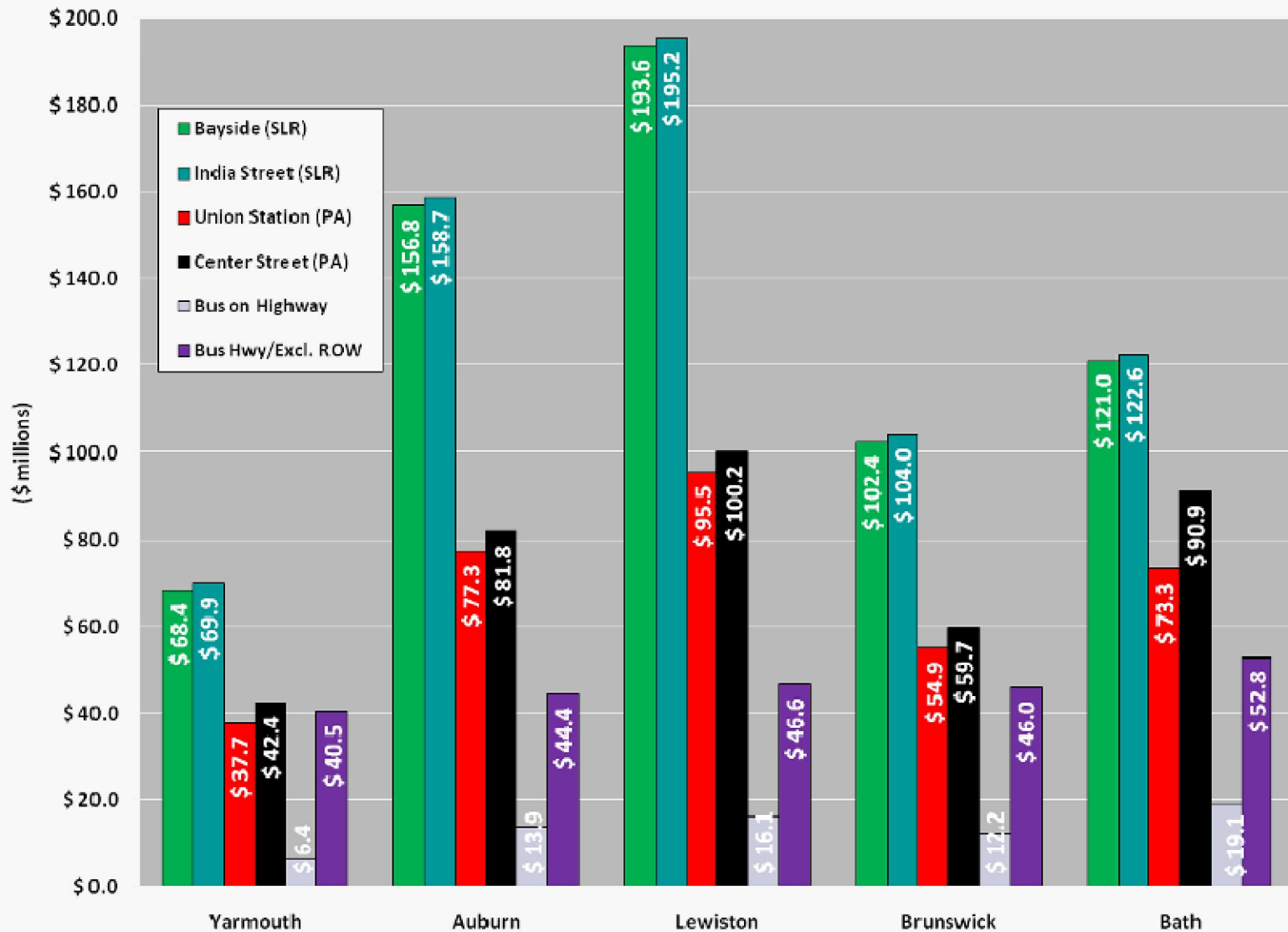
# Costs

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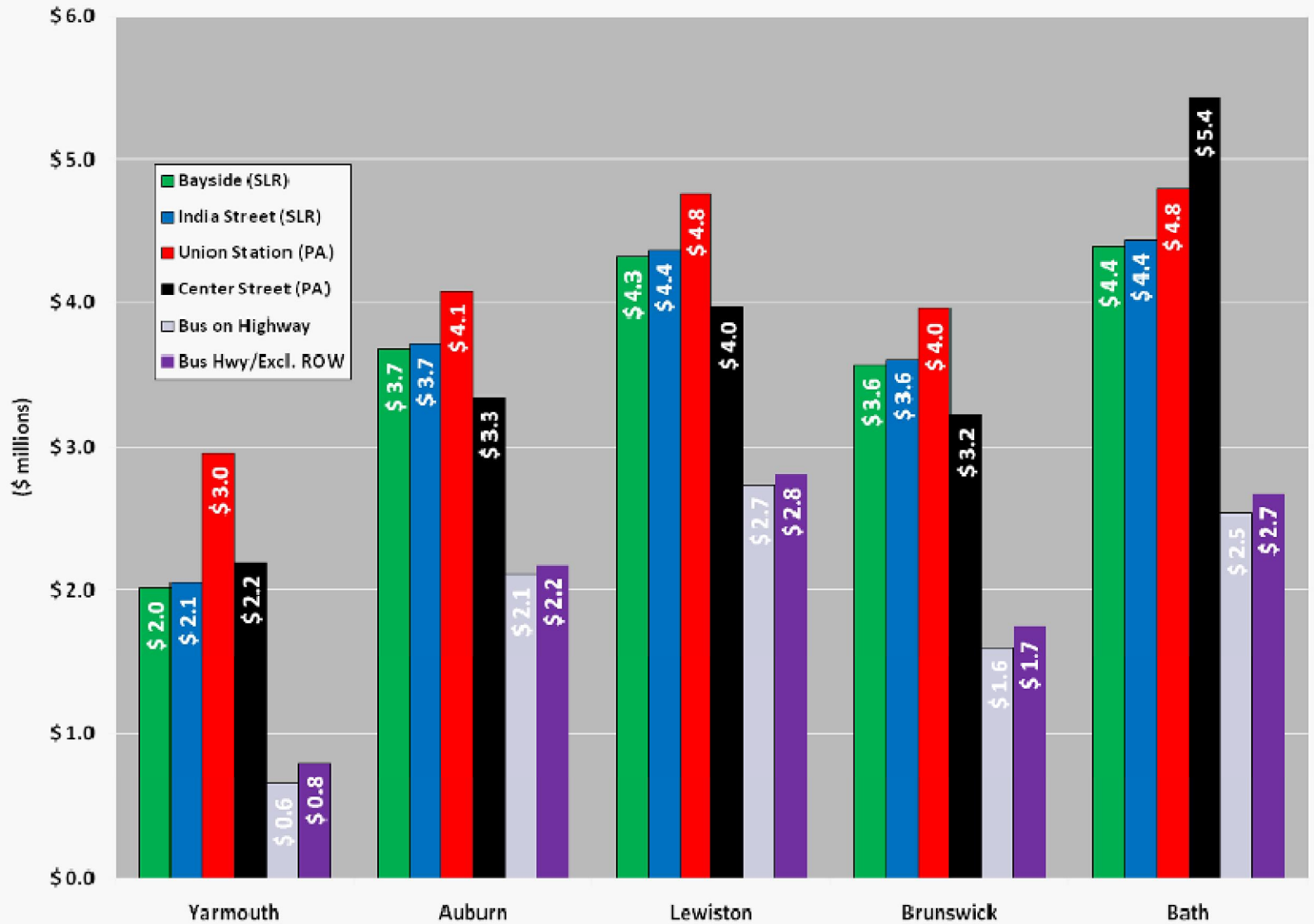
- **Capital**
  - **Track**
  - **Bridges**
  - **Train sets**
  - **Signals**
  - **Stations**
- **Operating**
  - **Management**
  - **Fuel**
  - **Maintenance**



## Capital Cost Summary (\$ millions)



## Summary of Annual Operating Costs (\$millions)



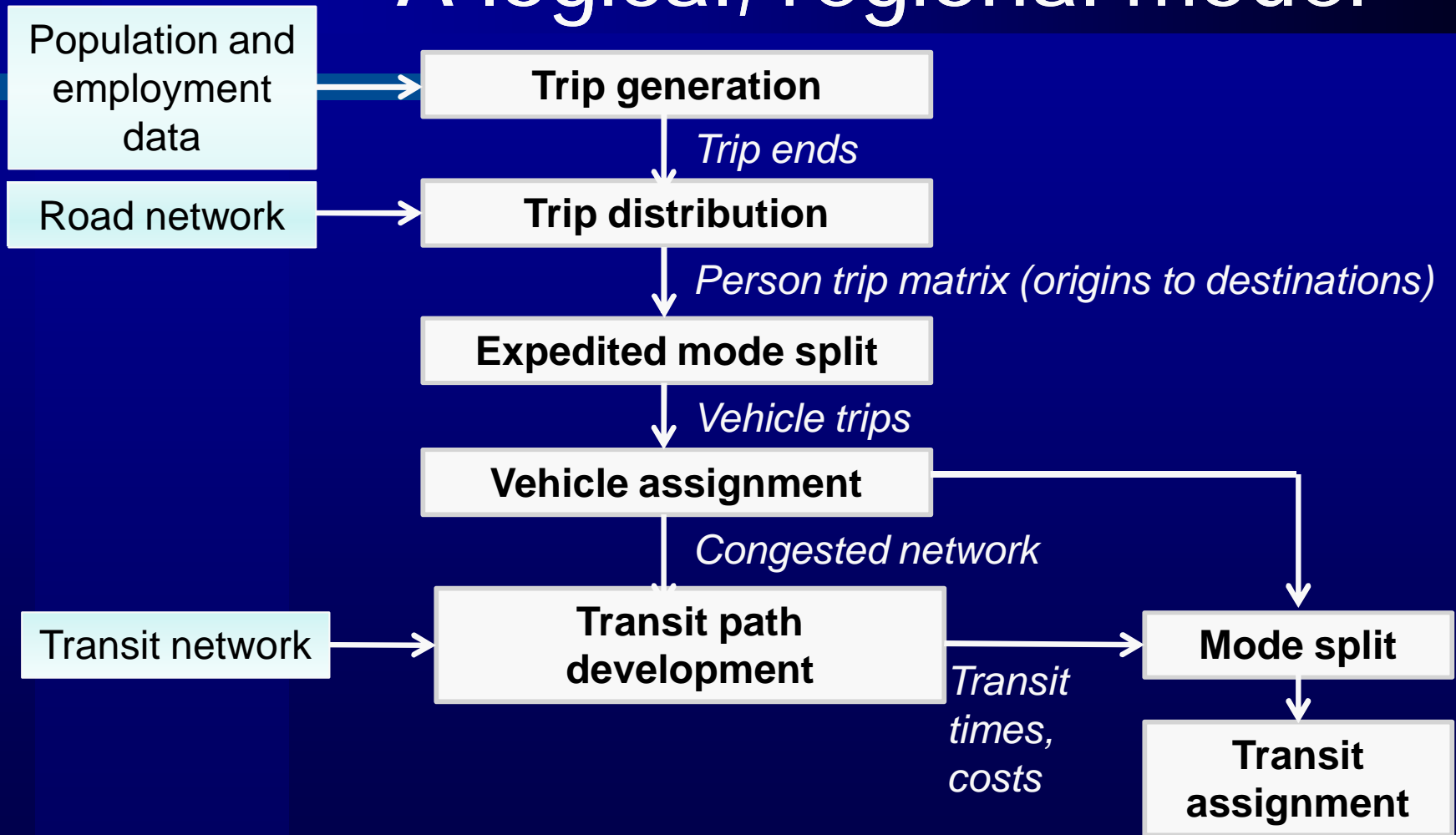


# Our Approach to Calculating Riders

*We methodically examine key questions:*

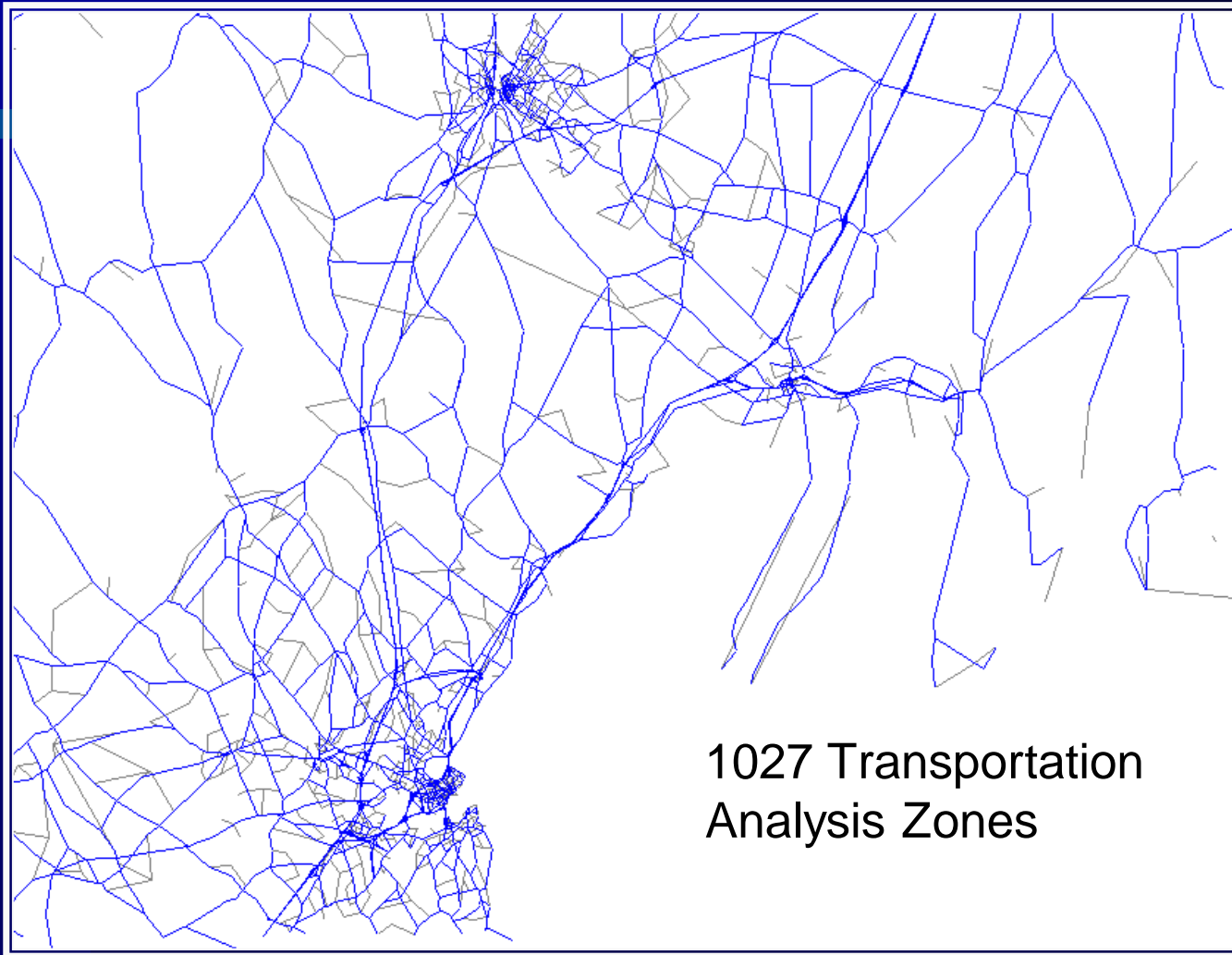
- For what purposes will people travel?
- Where would these trips begin?
- How many of these trips will people make?
- Where are the trips headed?
- What are the attributes of traveling by car or by transit that would affect mode choice?
- What would determine a motorist's choice of route?

# A logical, regional model



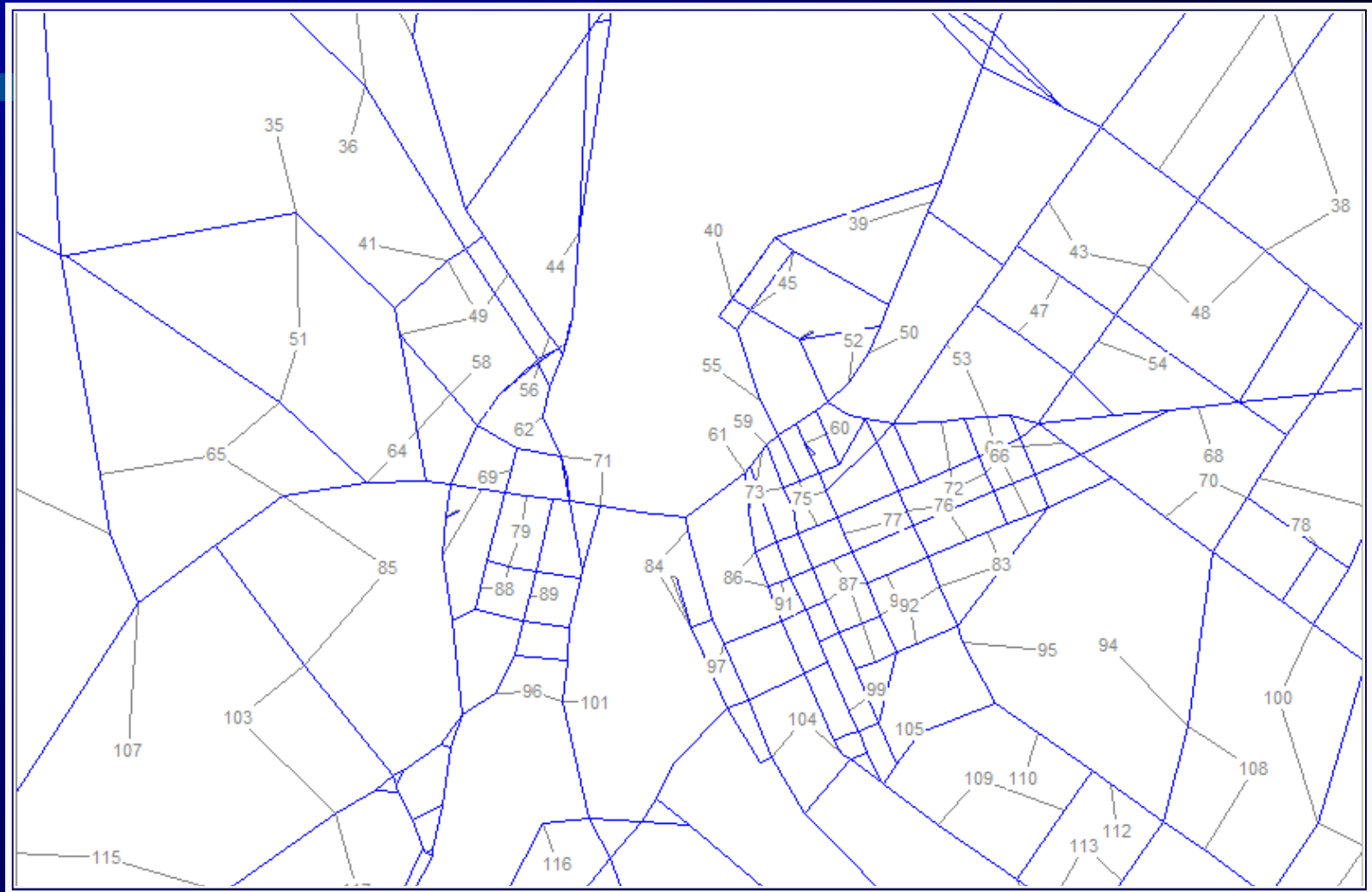


# The Modeled Region



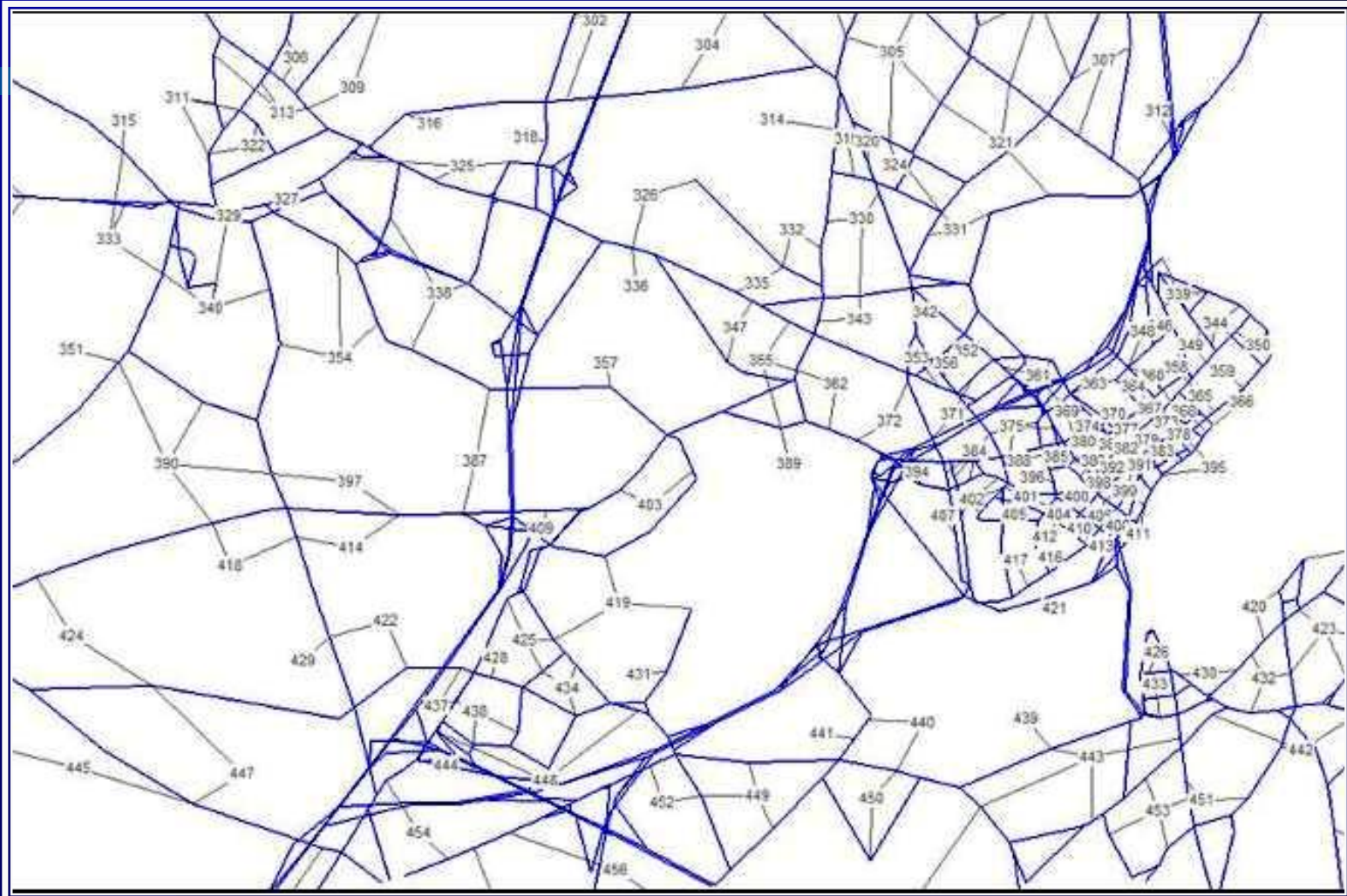
1027 Transportation  
Analysis Zones

# Lewiston / Auburn

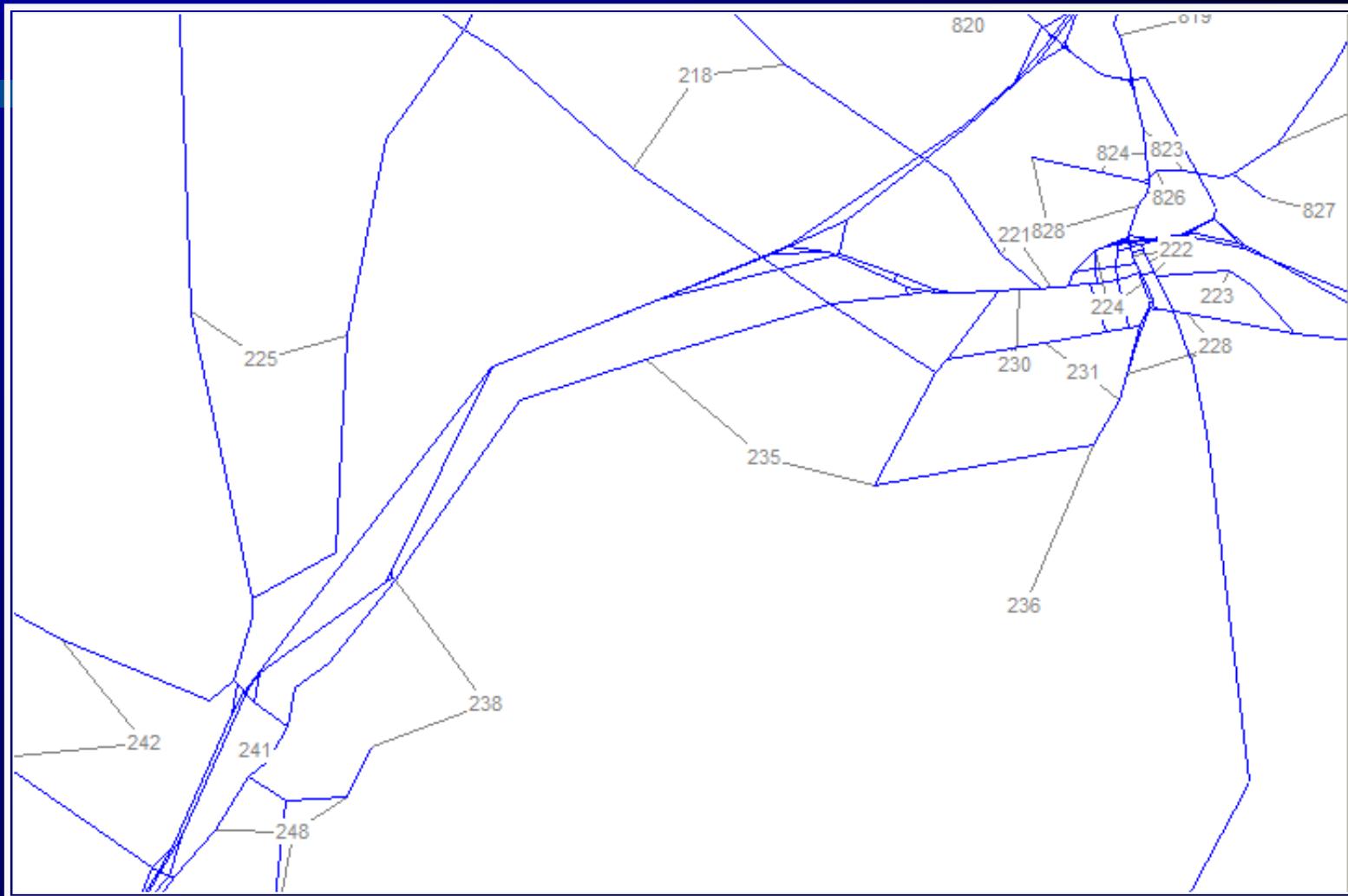




# Portland



# Brunswick and Freeport





*How well does model represent flows?*

# Vehicle volumes (screenlines)

screenline	Average daily traffic	model	% difference
North of Saco	137,225	137,545	0.23
East of Gorham	82,730	72,289	-12.62
North of Portland	75,220	59,049	-21.50
South of Yarmouth	80,122	88,701	10.71
South of Auburn	49,345	53,781	8.99
SE of Lewiston	22,968	31,776	38.35
South of Freeport	87,365	91,261	4.46
all screenlines	534,975	534,402	-0.11

*How well does model represent flows?*

# Travel times (minutes)

	<i>model</i>	<i>observed times</i>	
	AM peak 3 hrs	leave 6:15	leave 7:35
from Lewiston (Oak & Bates) to Portland (Franklin & Marginal Way)	49.8	46	49
	AM peak 3 hrs	leave 6:00	leave 7:58
from Bath (Rt 1 & Washington St) to Portland (Franklin & Marginal Way)	45.3	37	34
	AM peak 3 hrs	Zoom schedule	
from Saco P&R to Congress & Bramhall	22.9	20 to 23	



*How well does model represent flows?*

# ZOOM Turnpike Express Boardings

*Daily boardings in either direction*

	<u>model</u>	<u>observed</u>
Biddeford P&R	82	85
Saco P&R	80	75
Bramhall & Congress	33	29
High & Congress	82	25
Monument Square	36	98
USM	11	8
Total	<u>324</u>	<u>320</u>

# Key Factors Affecting Behavior

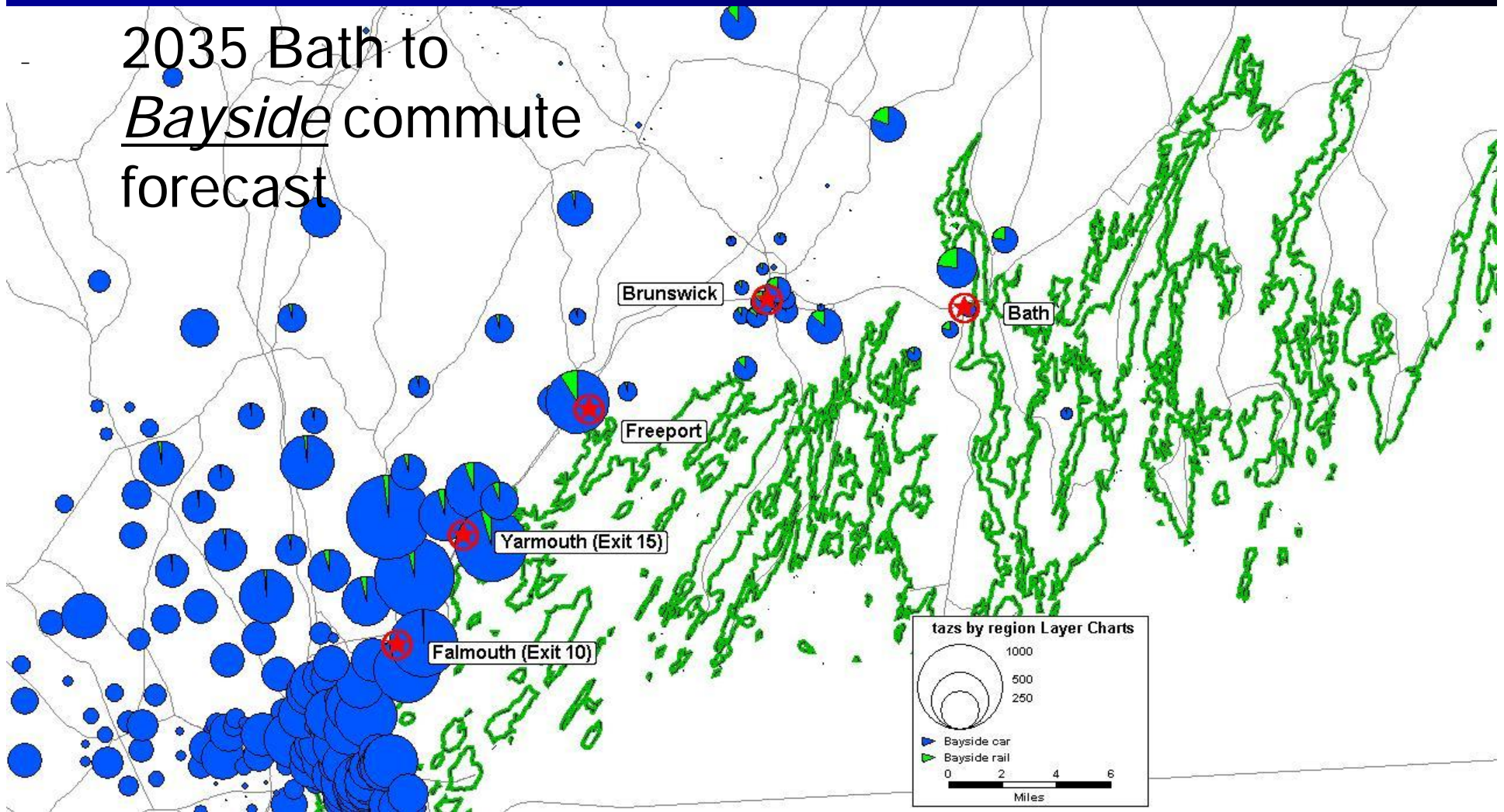
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- Not just comparison of auto vs. transit in-vehicle times
  - wait time, need for a transfer, fare, and time to/from stations also matter
- Increasing, non-linear penalty for walks over 10 minutes
- Direct service preferable to local bus connection
- 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



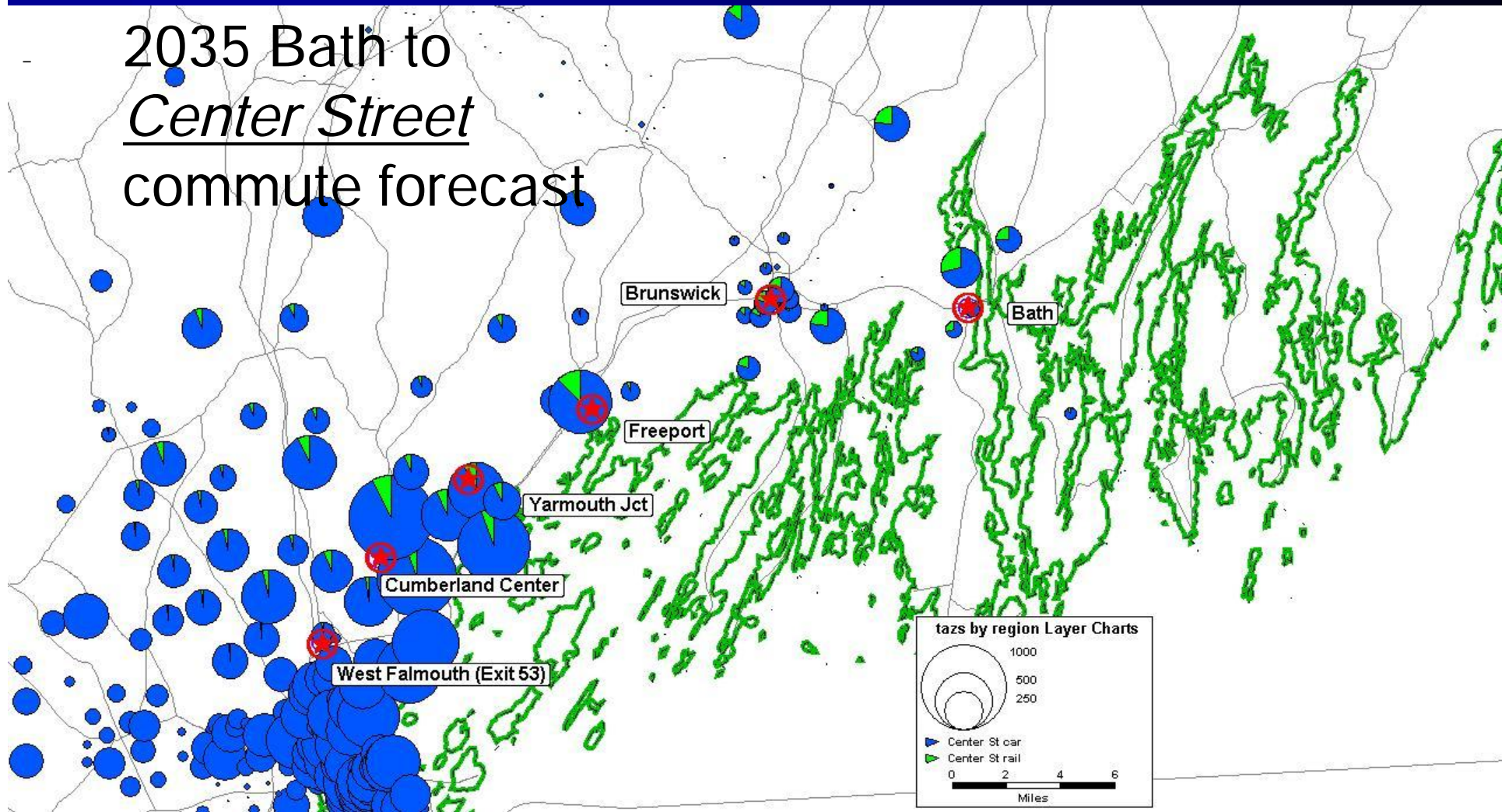
# Mode Shares to Central Portland

2035 Bath to  
*Bayside* commute  
forecast



# Mode Shares to Central Portland

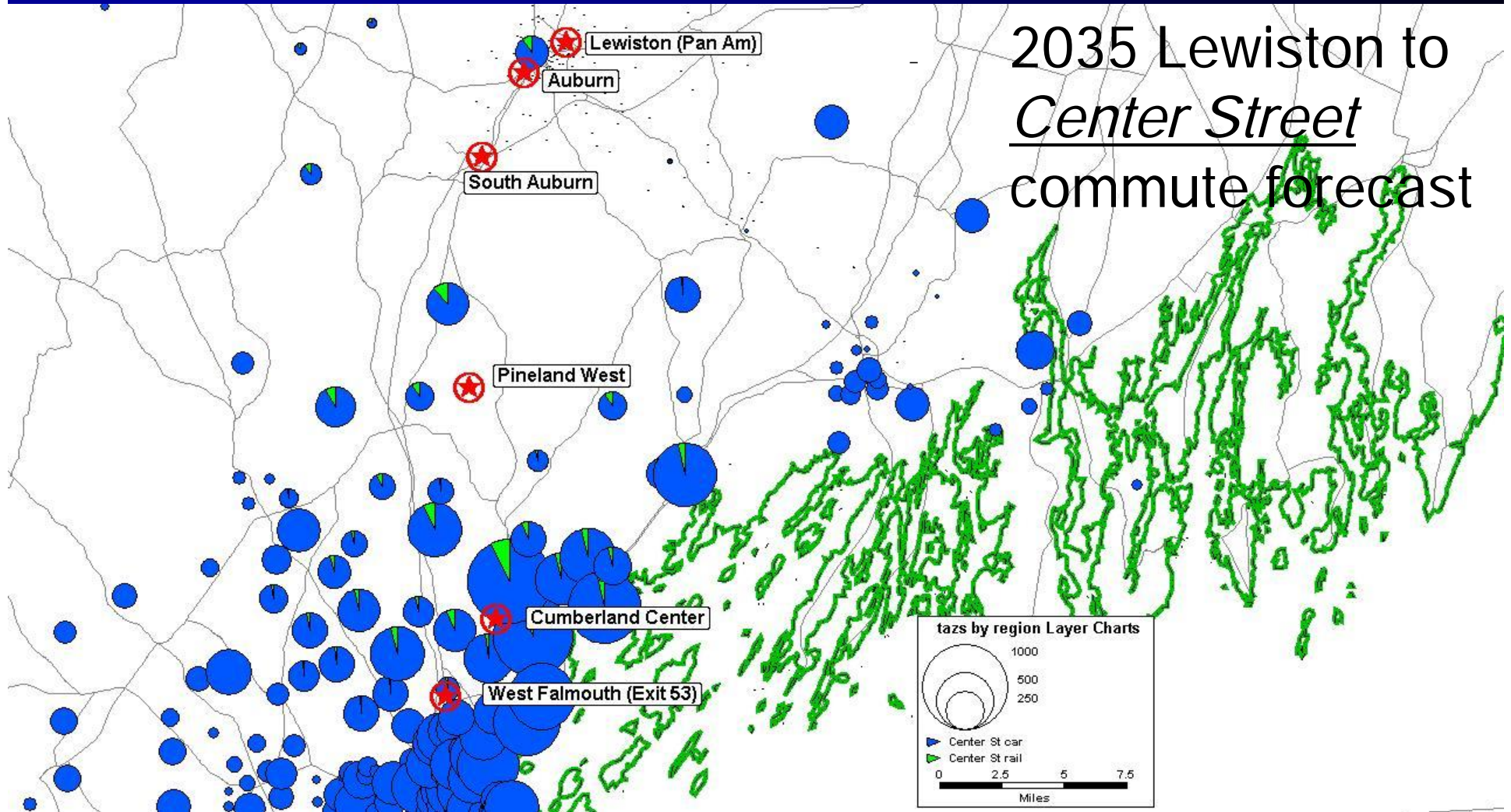
2035 Bath to  
Center Street  
commute forecast





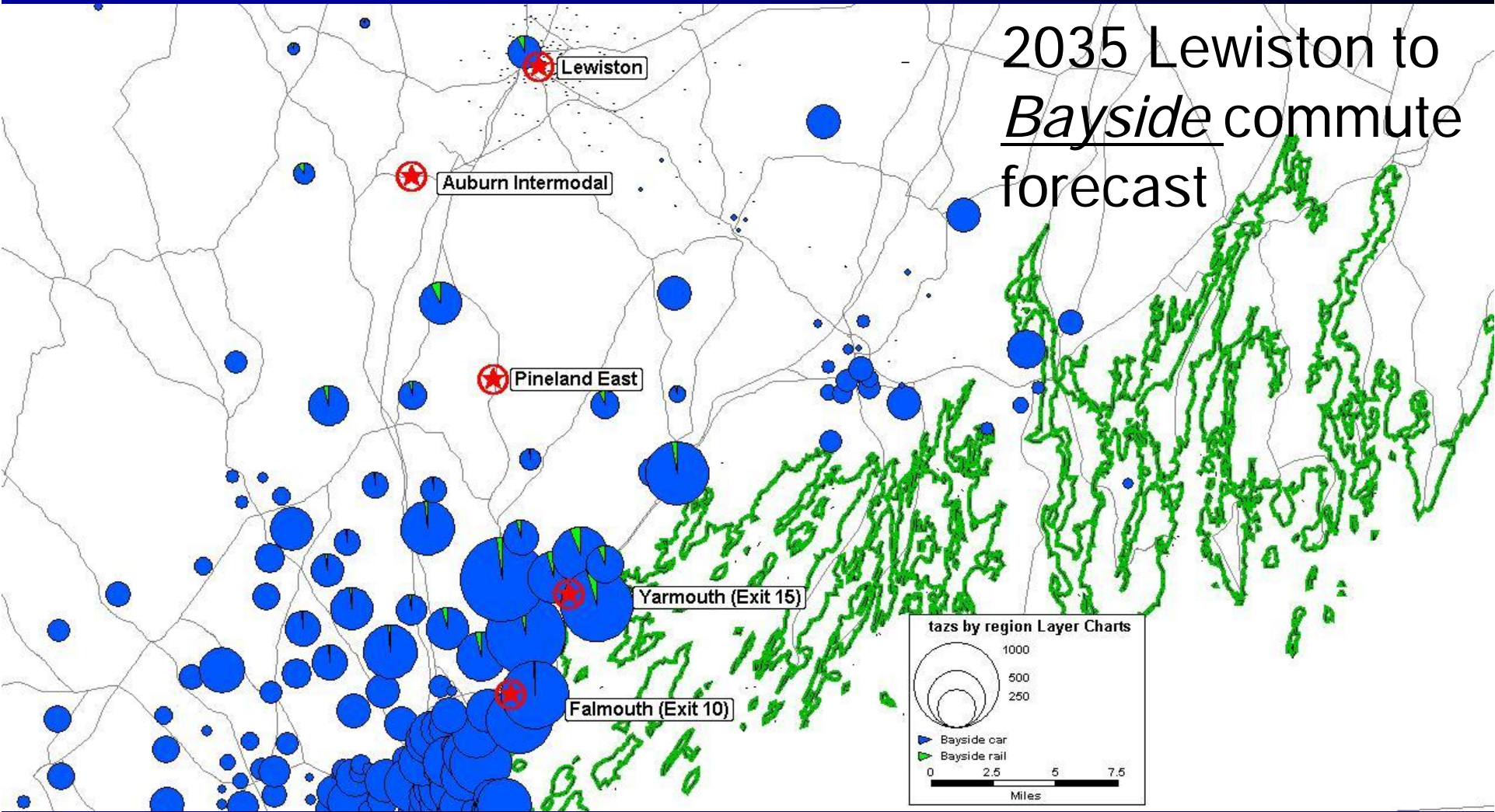
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2035 Lewiston to  
Center Street  
commute forecast



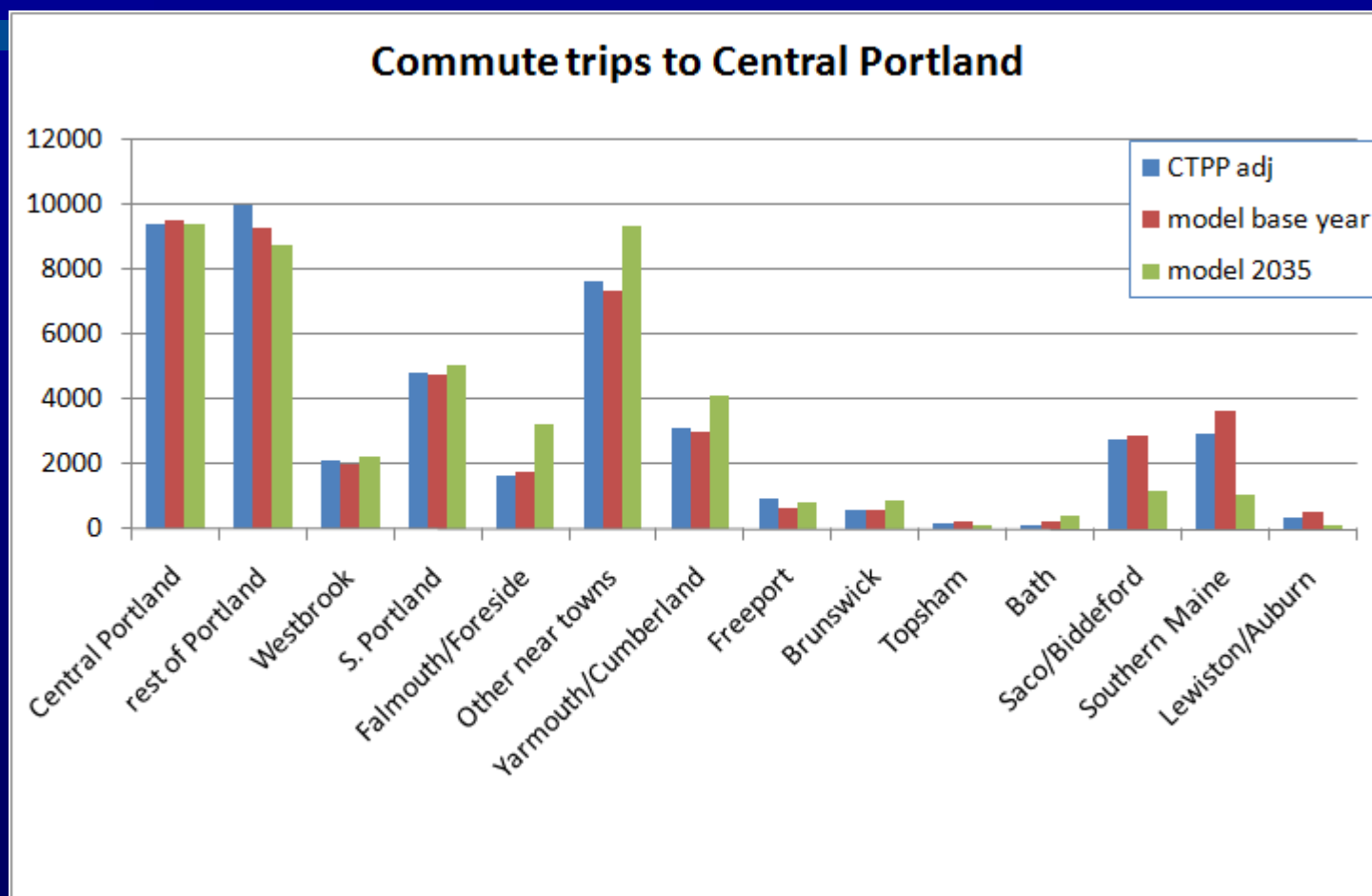


# Mode Shares to Central Portland



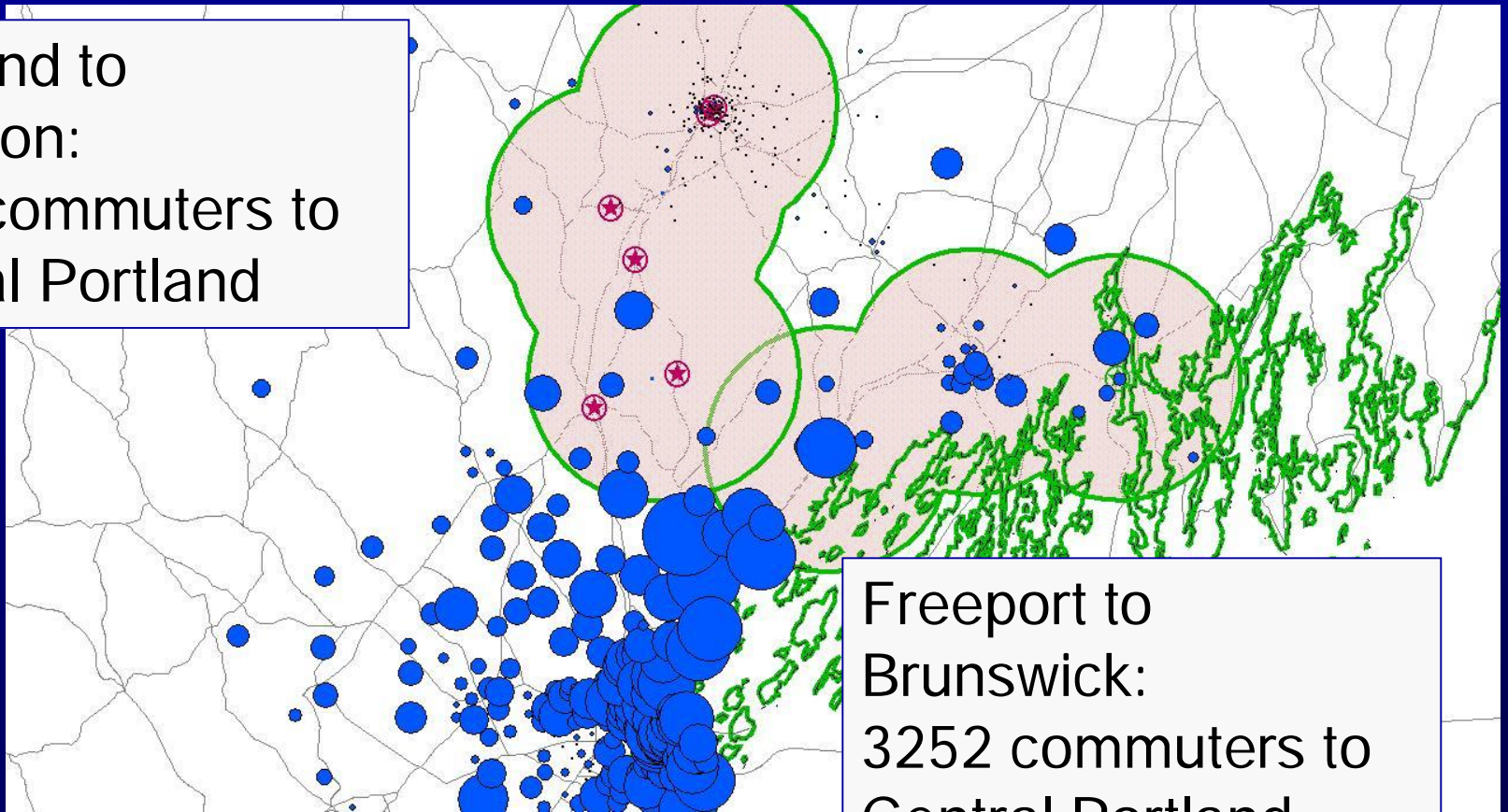
Forecasting to 2035

# Trip origins of commuters to Portland



# Portland-bound Commuters (2035)

Pineland to  
Lewiston:  
1627 commuters to  
Central Portland

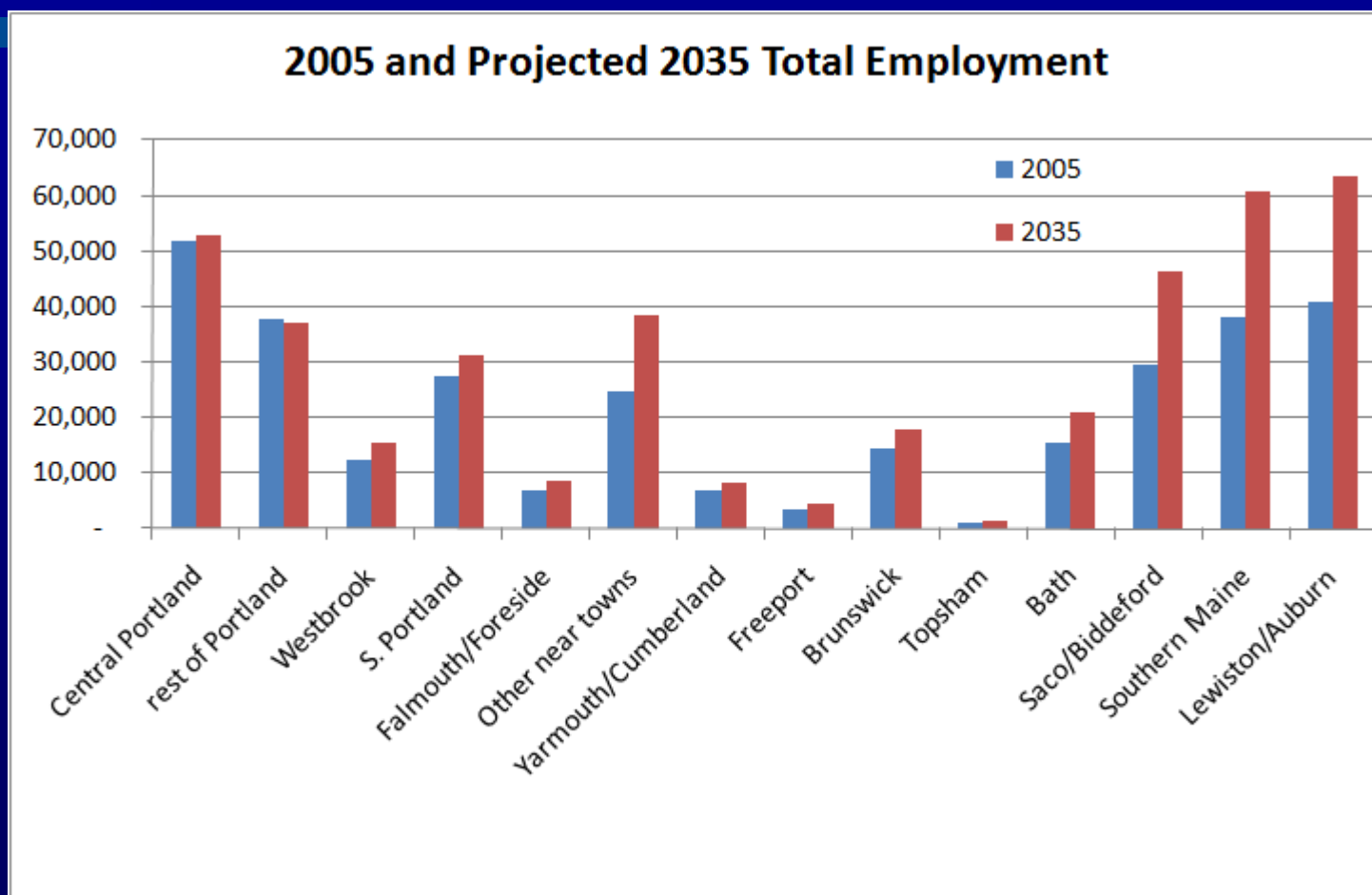


Freeport to  
Brunswick:  
3252 commuters to  
Central Portland

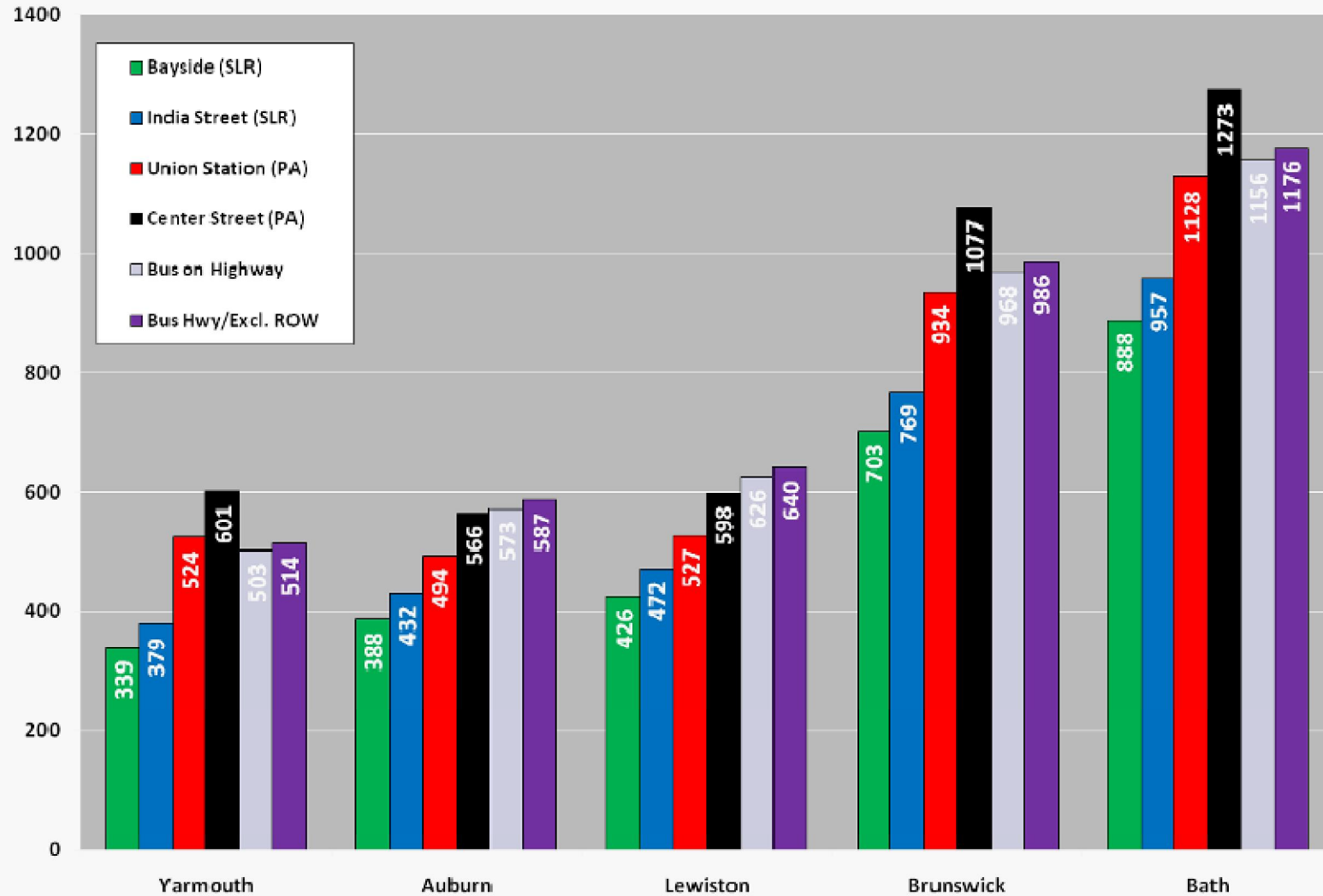


Forecasting to 2035

# Changing work trip destinations



## 2035 Commute Trips



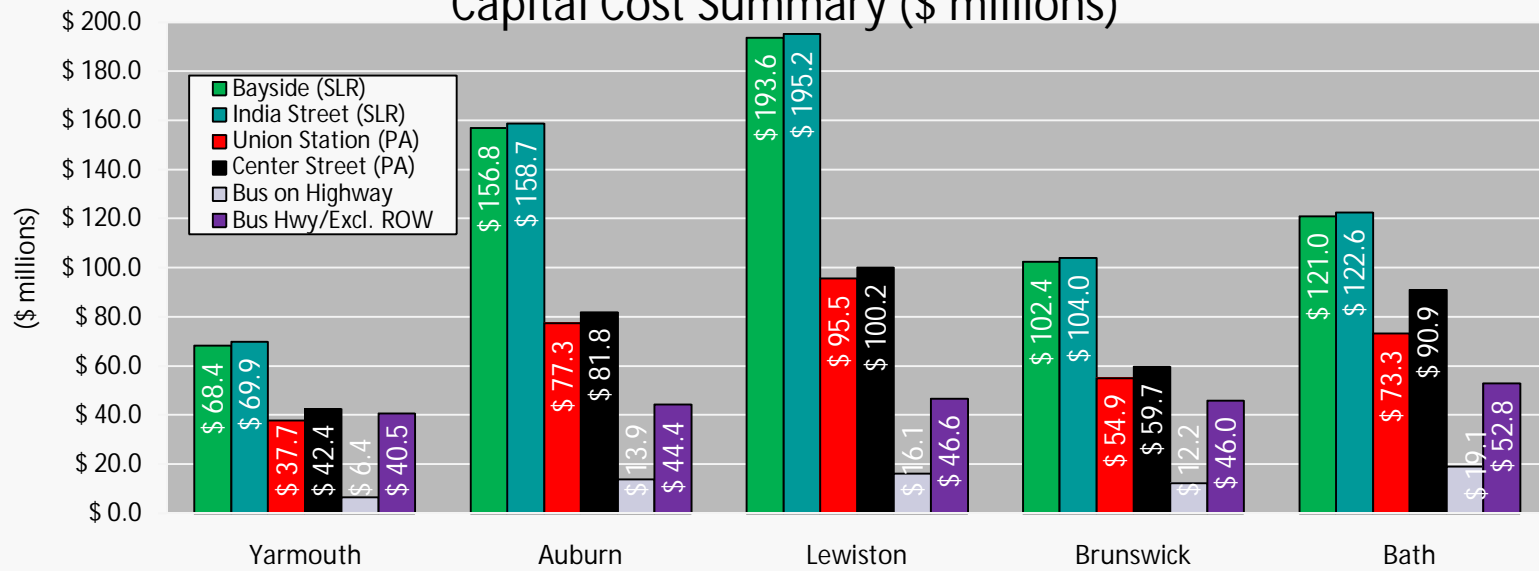
# Ridership Observations

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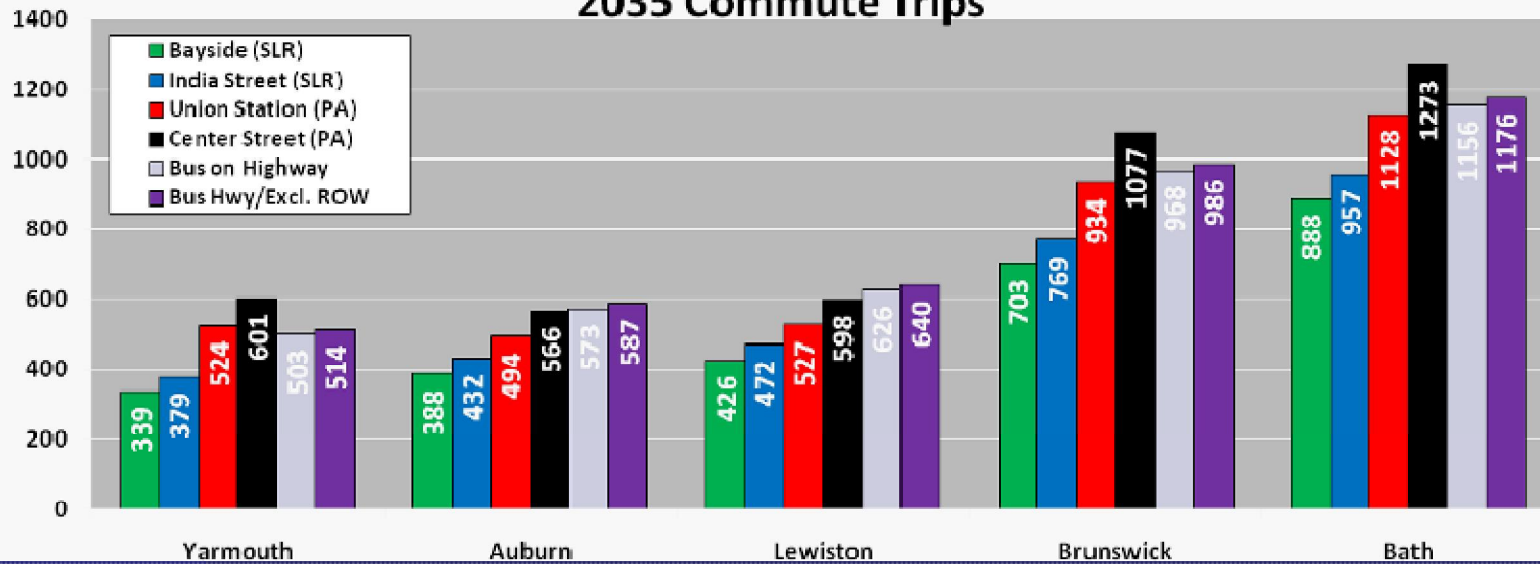
- Model reveals a sensible pattern by station
- Center Street service has highest ridership for each starting point
- Two key reasons for this:
  - Two stops in Portland, short walk to business centers
  - Line stops at Cumberland Center, not served by SLR or bus options
- Portland is attraction end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



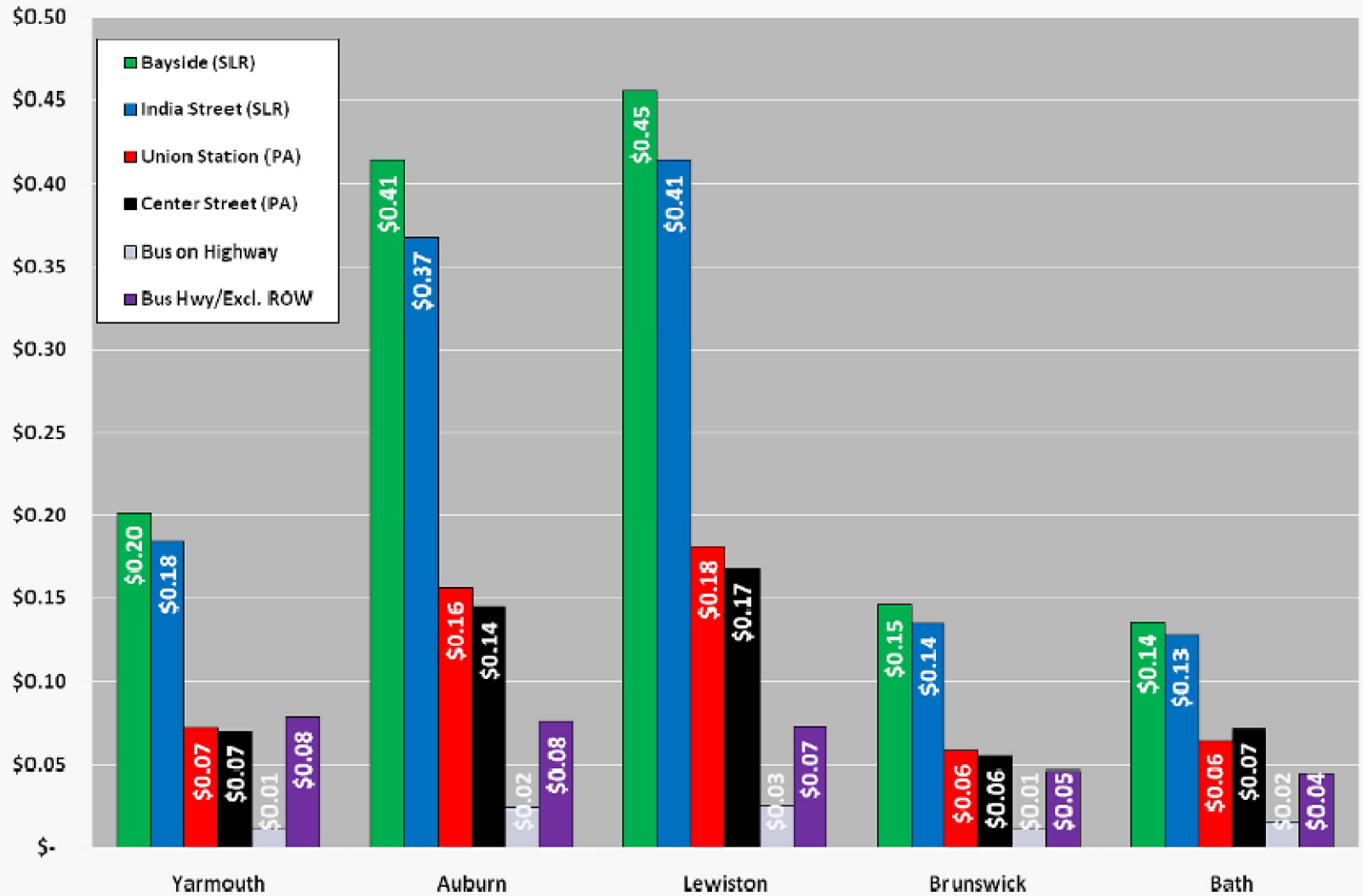
## Capital Cost Summary (\$ millions)



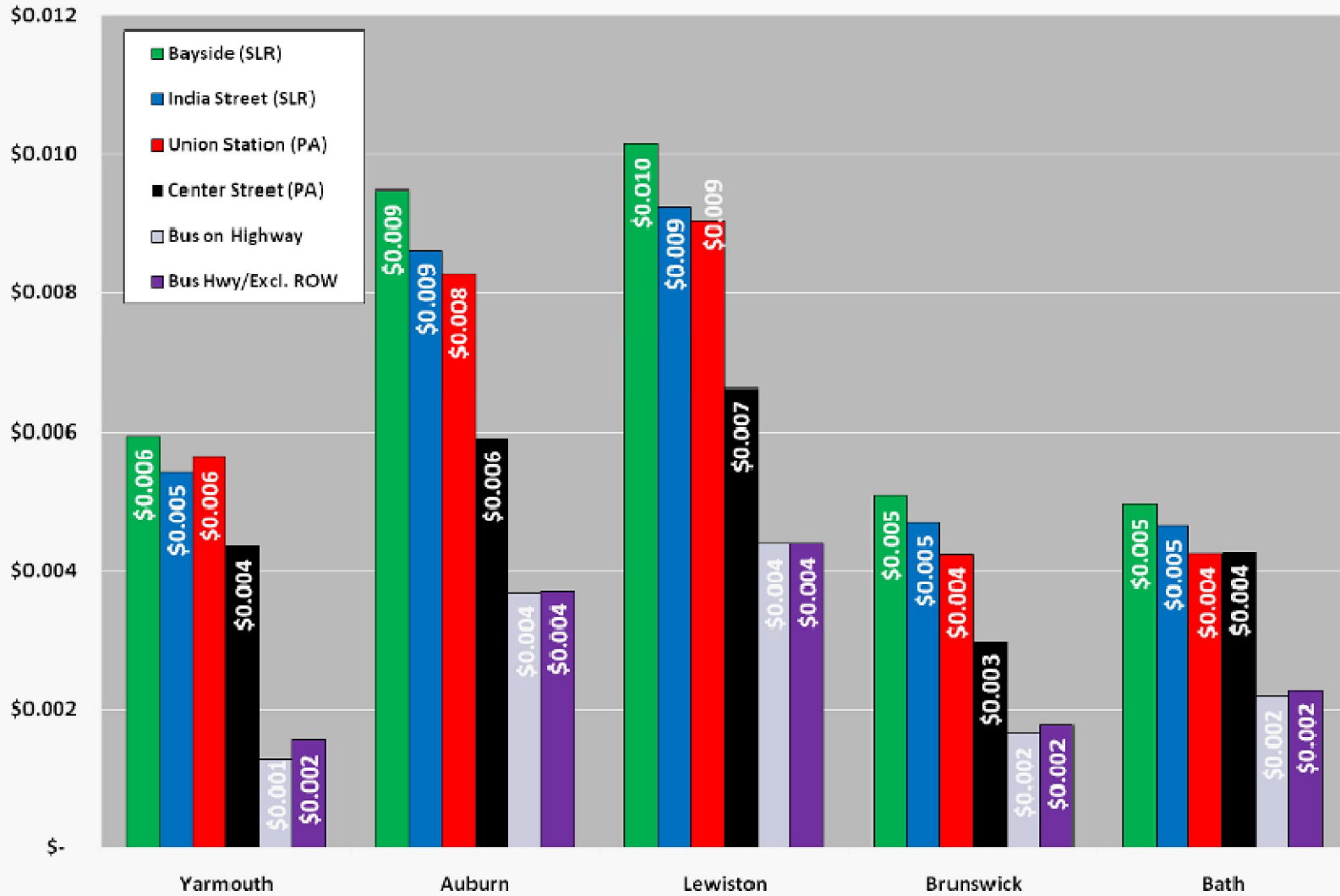
## 2035 Commute Trips



## Capital Cost per 2035 Commute Trip



## Operating Cost per 2035 Commute Trip





# Phase 2 Alternatives

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- 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

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- 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

# Small Starts (cont.)

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- (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)

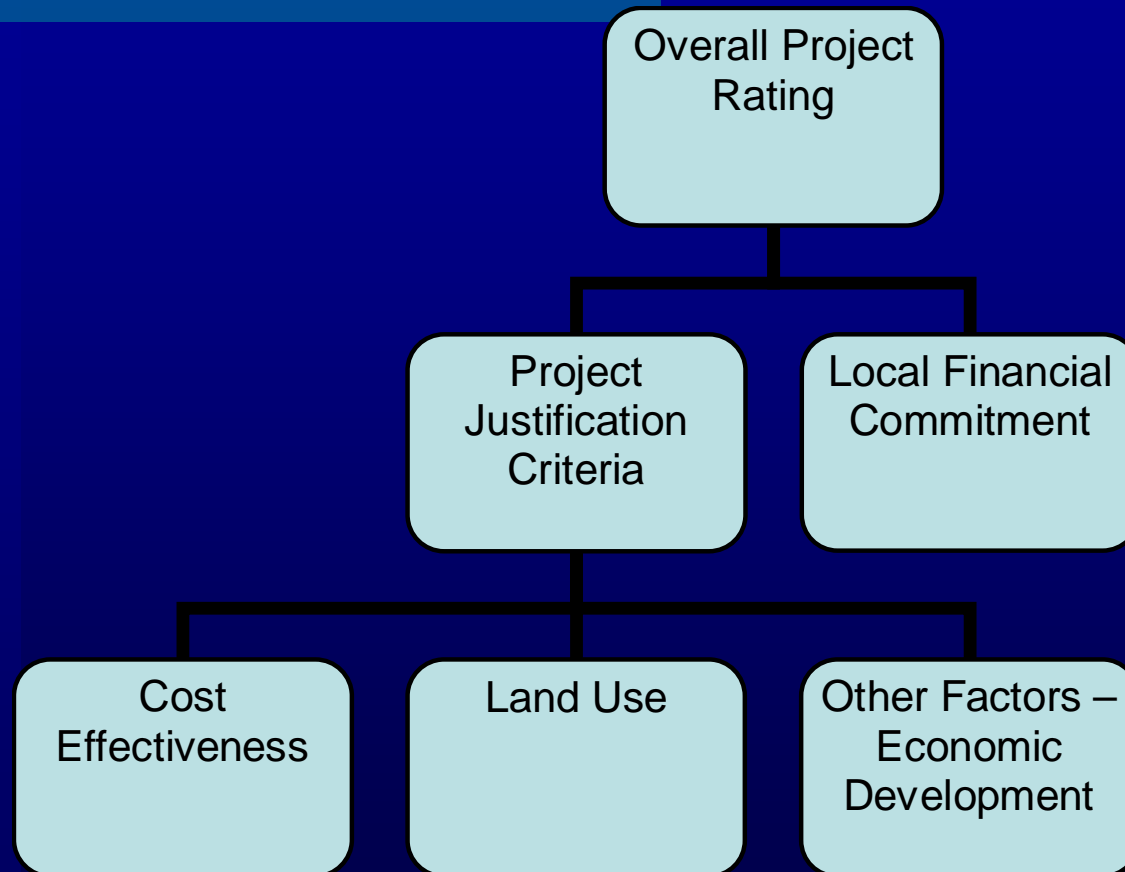
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- \$174 Million for 16 projects
- Maximum grant \$54.5 Million

# 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





# 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

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- 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?

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