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# Regional Infrastructure Analysis

September 11, 2008



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## **Purpose of the Analysis:**

- **Identify region's current and 2040 infrastructure needs**
- **Assess costs for a variety of infrastructure types**
- **Explore strategies and options**



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### **Vibrant communities require a range of infrastructure types:**

- ◆ **Pipes, pavement and wires:** transportation, transit, sewer, water, stormwater, and energy
- ◆ **Spaces and structures:** urban parks and greenspaces, parking, schools, civic buildings and facilities (including police and fire stations, libraries)



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## Infrastructure Finance

*We're investing less in infrastructure than at any time in our history."*

– Rep. Earl Blumenauer

- **Federal spending continuing a decades-long decline**
- **State investments declining**
- **Local revenues limited**



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## Findings:

- Significant deferred maintenance backlog
- Tens of billions in costs to expand capacity
- Existing funding mechanisms insufficient
- 30-year population growth estimate: one million more people



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# Regional Infrastructure Analysis

## Transportation:

- Largest single infrastructure expense
- 75 percent of existing budgets spent on maintenance and preservation
- Metro 2035 Regional Transportation Plan has a gap of \$7 billion





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## Water/Sewer:

- Rate system provides stable source for operations, but upfront capital is hard to obtain
- New treatment facilities and new sources of water needed
- Coordination of service, water reuse, and more compact development could reduce costs





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## Schools:

- Up to 225 new school facilities required by 2035
- Existing capacity and future demand not well aligned
- Cost of land and size of school facilities impacts siting
- Creative facility design, building reuse, and coordination would reduce facility cost estimates





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## Parks/Open Space/Civic Buildings:

- Urban park land increasingly important asset
- Region needs over 5,000 acres of new urban parks and over 8,000 acres of natural areas
- Urban amenities such as plazas and streetscapes support redevelopment
- Challenging to finance





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## Energy:

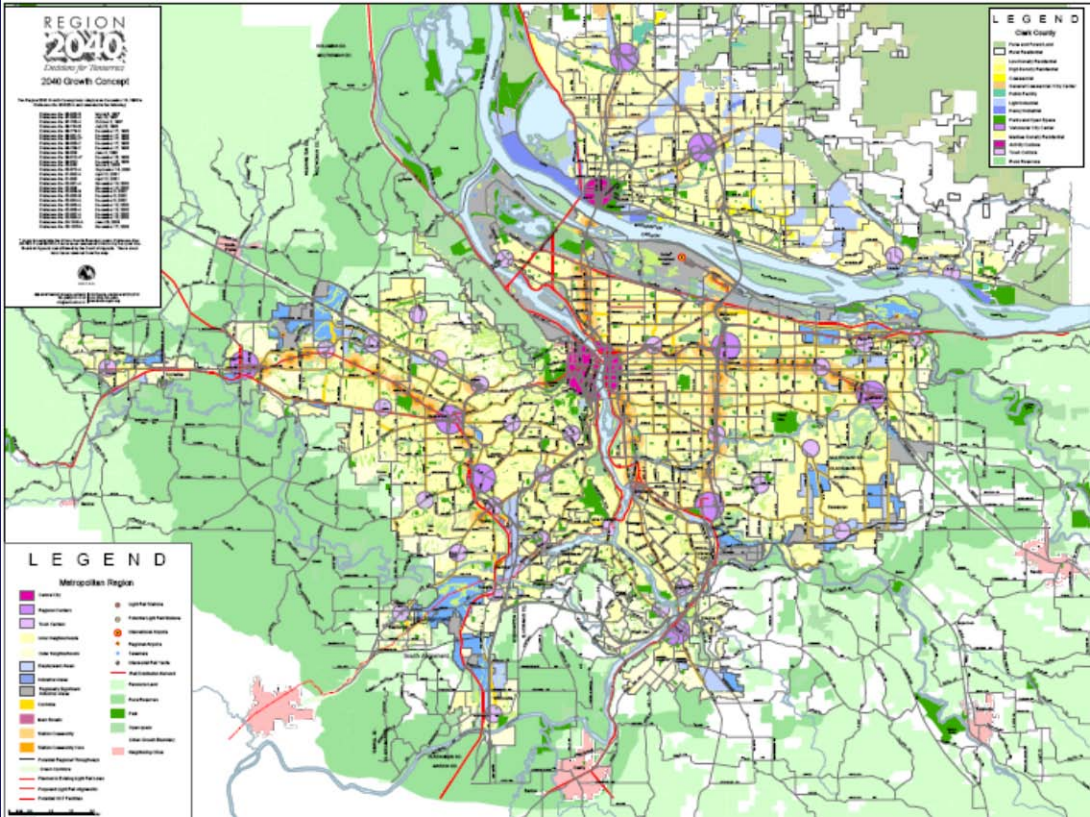
- Business as usual will require two to three new 400 MW power plants
- Demand management and pricing can help reduce peak demand
- Coordination with other service providers can increase efficiencies





## Return on Investment

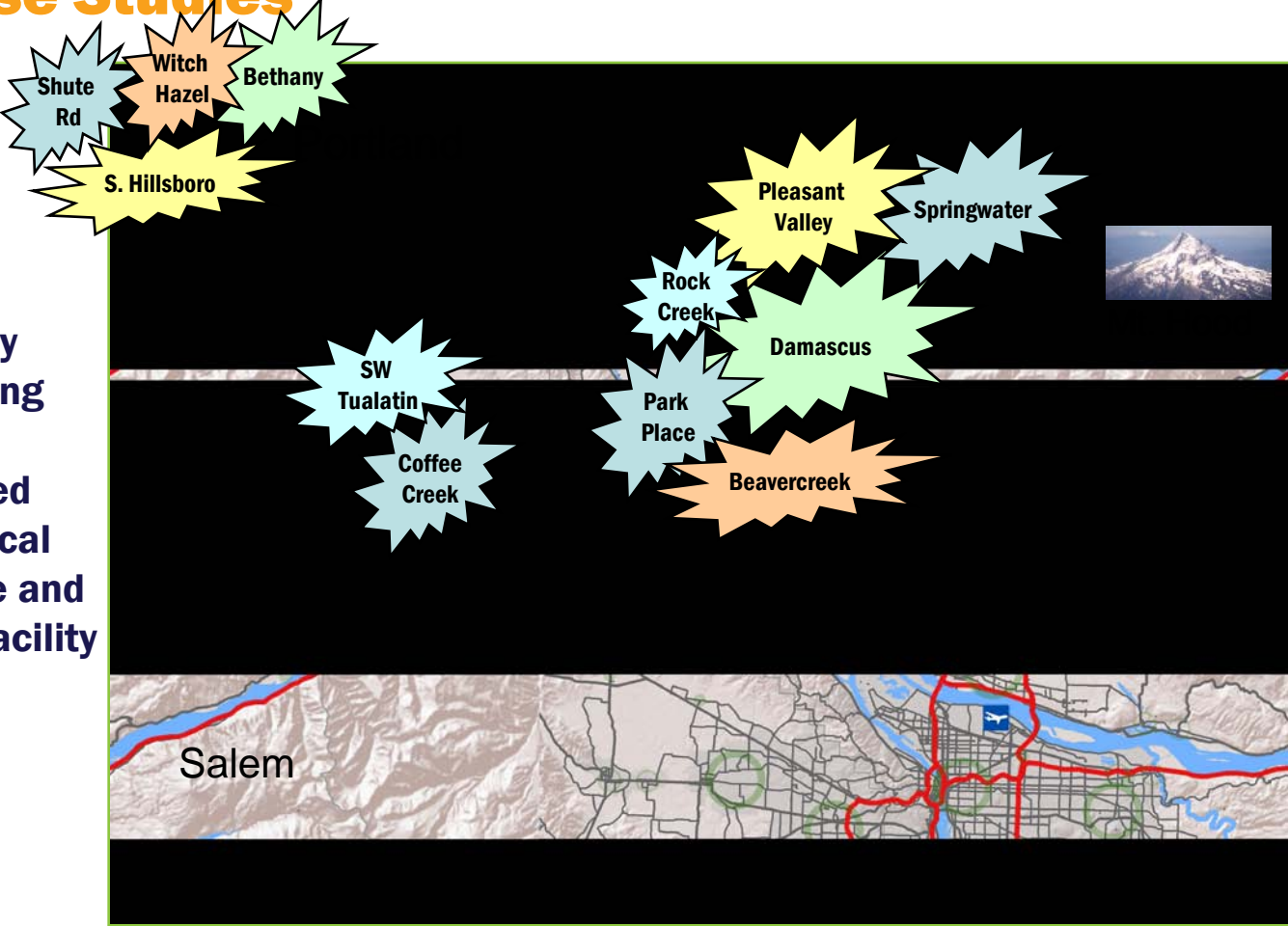
How can we invest in infrastructure to get the greatest return?





## Case Studies

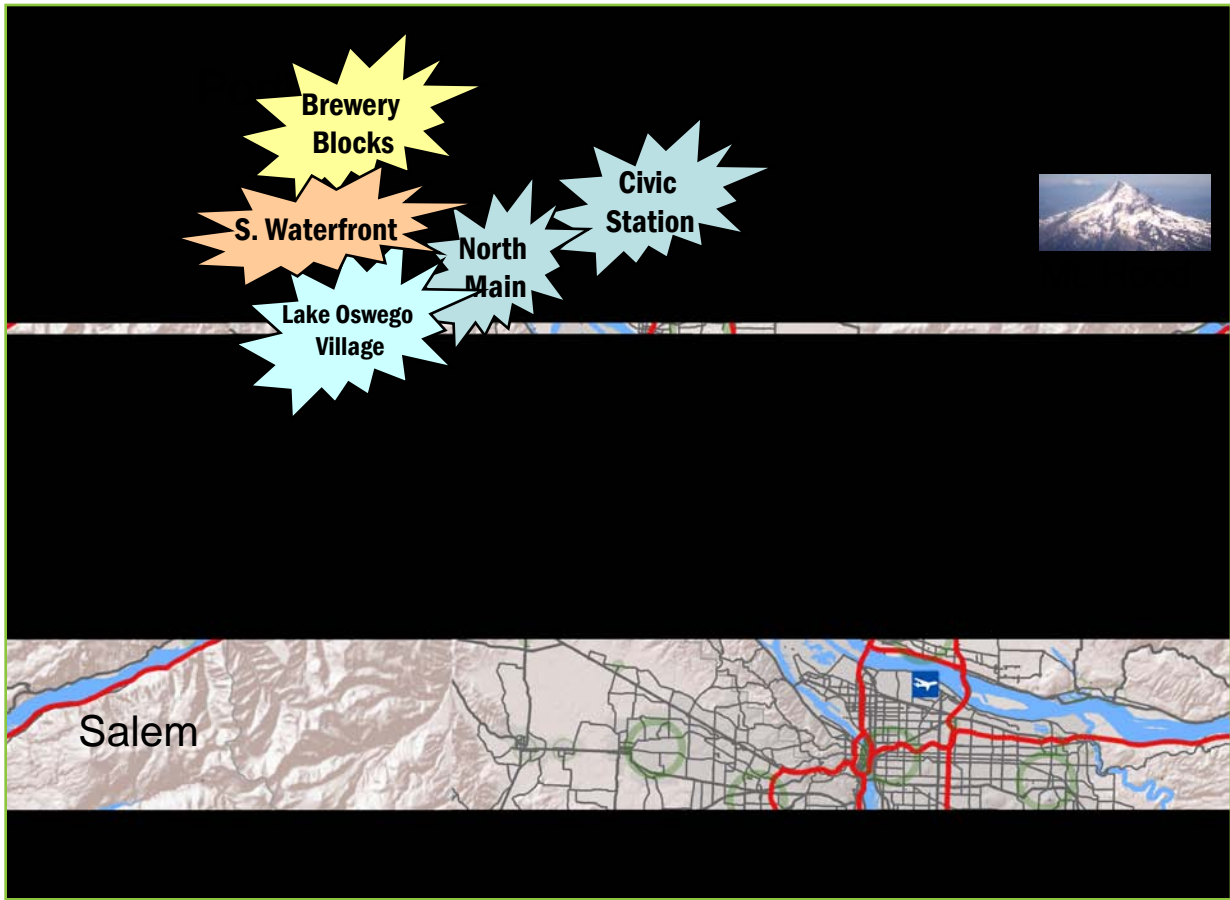
**12 newly urbanizing areas evaluated using local land use and public facility plans.**





## Case Studies

Five urban areas evaluated using locally adopted land use and public facility plans or completed projects.





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## Analyzing infrastructure costs

### Equivalent Dwelling Unit (EDU)



= one household  
(2.5 residents)

= five jobs

**One EDU**

**One household has about the same amount of infrastructure demand as 5 jobs.**



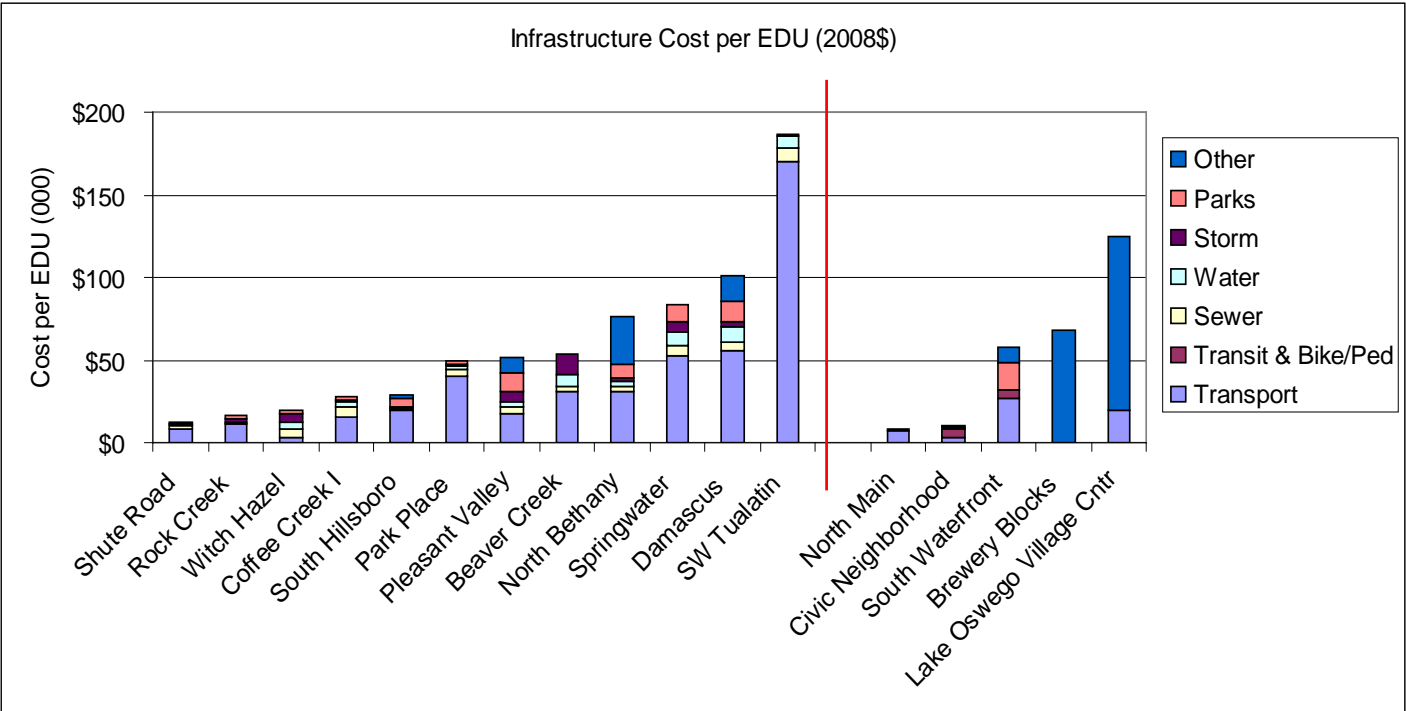
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### Newly urbanizing and urban area costs

- Wide variation from project to project
- Average capital cost per EDU
  - ◆ Newly urbanizing areas: \$75K
  - ◆ Urban redevelopment areas: \$51K
- Removing high cost outlier:
  - ◆ Newly urbanizing areas: \$72K
  - ◆ Urban redevelopment areas: \$31K
- Regional costs are not included
  - ◆ Higher commute distances in newly developing areas increase costs further

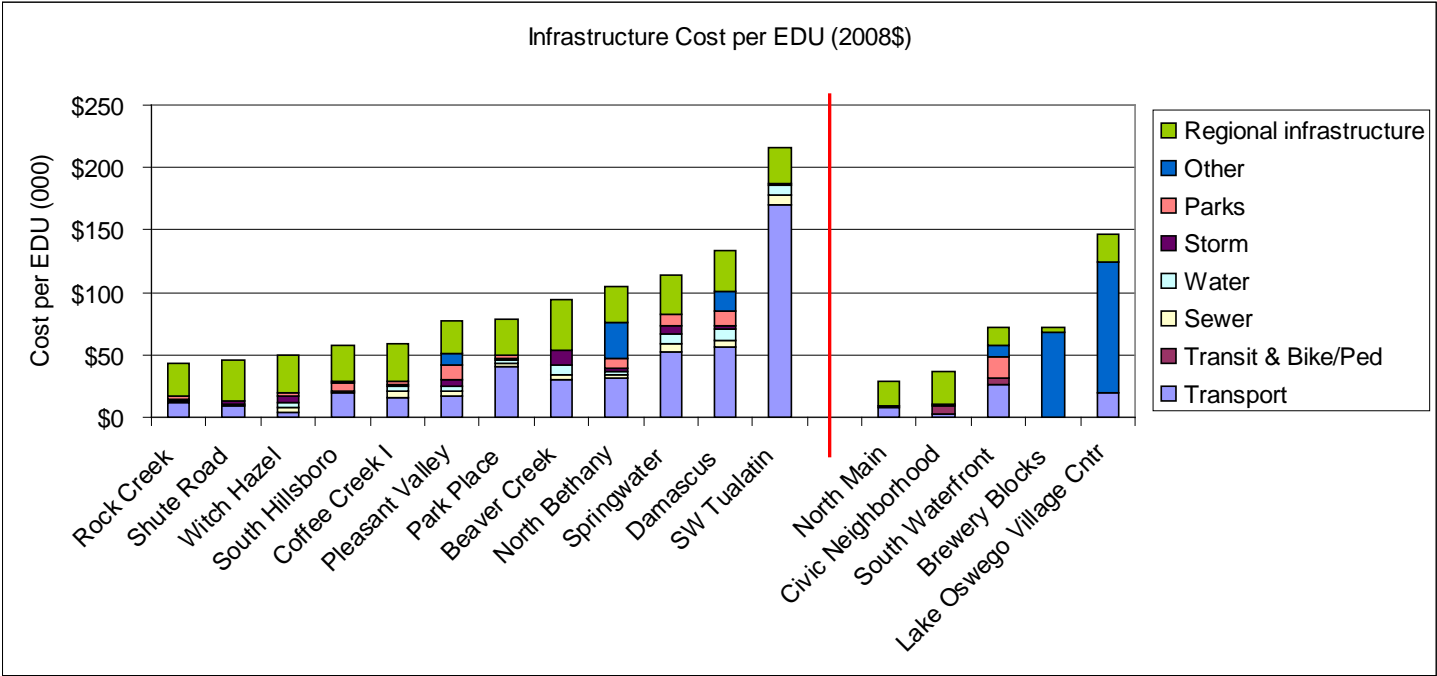


## Local/Community Infrastructure Cost Per EDU





## Total Costs: Regional & Local/Community Costs Per EDU





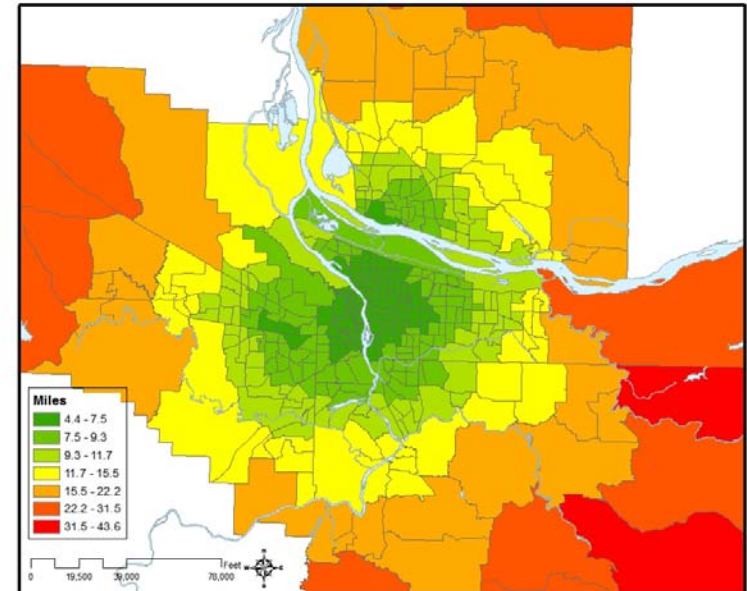
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## Regional Costs

**An estimate of costs for regional projects:**

- **Transit (10%)**
- **Roads, bridges (66%)**
- **Marine, air (5%)**
- **Public facilities (17%)**

Average commute distance by census tract in 2035



**Regional transportation costs are assigned to census tracts using average commute distance.**

**Port and public facility costs are assigned on a flat per EDU basis.**



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## Cannot Afford Business As Usual

- Expanding services to urbanizing areas increasingly difficult and costly
- Most growth will occur in existing communities
- Investments will directly impact community livability
- Focus of future infrastructure work:
  - Supporting new investment strategies
  - Efficiency & innovation in service delivery
  - Exploring demand management strategies





## Next steps

- **Ongoing regional public engagement process**
- **Upcoming “Framing Choices” events**
  - Urban/Rural Reserves
  - 2035 Regional Transportation Plan
  - Urban Growth Report
- **Ideas for Revenue Task Force**
  - Infrastructure finance
  - Removing restrictions on local finance
  - Supporting local and regional solutions