

Portland Metro Area Regional Infrastructure Analysis

Infrastructure Service Providers
Workshop #2

February 22, 2008

Workshop series

- Workshop 1 – project kickoff (10/19/2007)
 - Provide an overview, frame challenges and opportunities, prepare for data gathering
- Workshop 2 – scope of problem (today)
 - Review infrastructure needs and discuss subregional issues
- Workshop 3 – review strategies (spring)
 - Review strategies and potential solutions for meeting infrastructure needs

Topics

1. Overview
2. Issues Identification
3. Infrastructure Demand
4. Infrastructure Costs

Local needs

- Purpose: to provide a basic understanding of regional infrastructure needs, gaps and opportunities.
- Questionnaire sent to all city and county managers, special districts and separate infrastructure service providers.
- Metro has received 59 completed questionnaires out of a potential 127.

Service provider questionnaire

Preliminary findings:

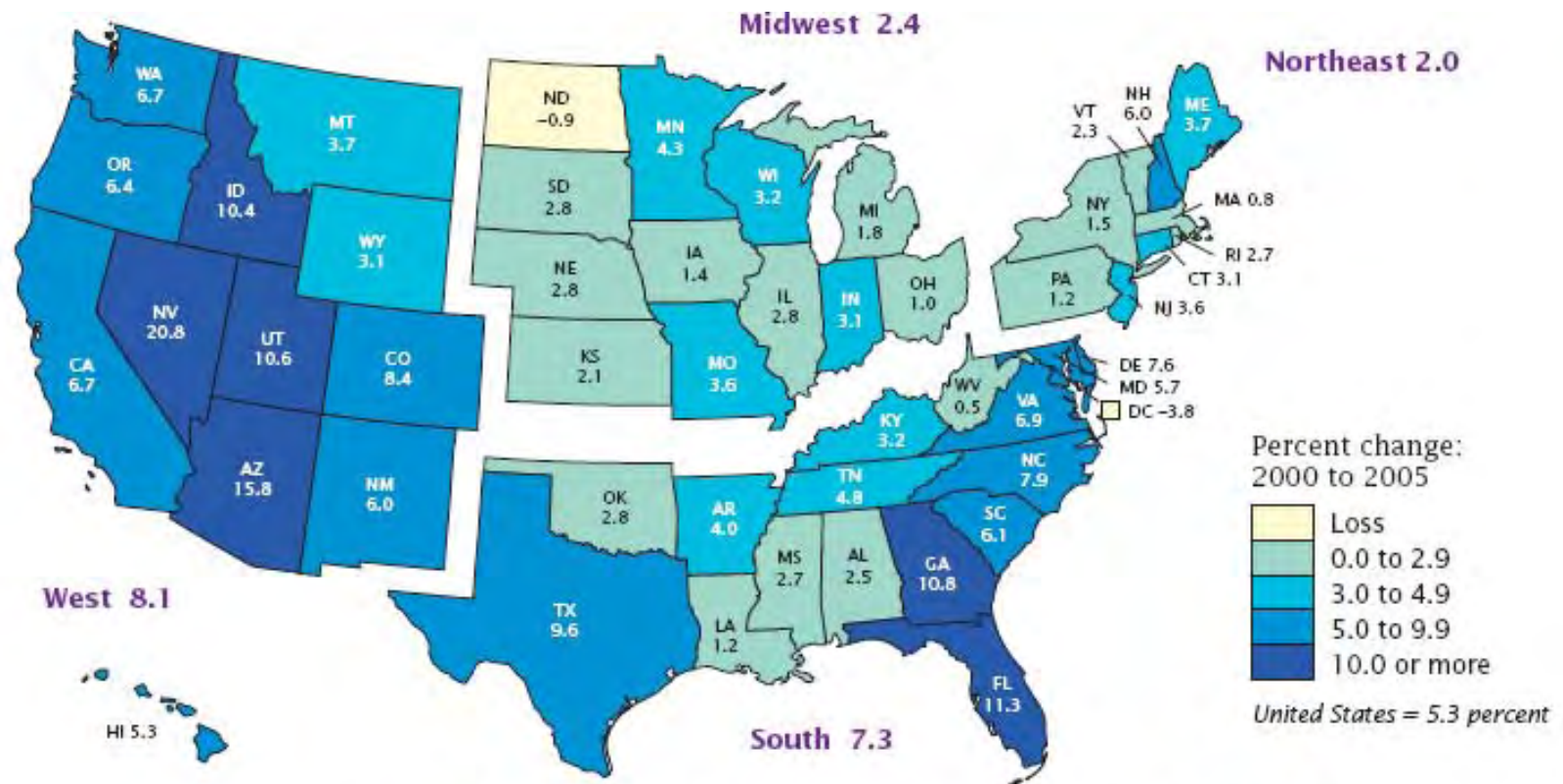
- There are commonalities, but challenges vary for different types of infrastructure.
- Few responses addressed the need for civic buildings and parks, which play an important role in supporting great communities.
- The politics of raising adequate funds is a common issue for all infrastructure types.

Service provider questionnaire

Preliminary findings:

- Funding challenges are especially significant for non-rate-paying infrastructure types (civic buildings, parks, transportation).
- Most service providers coordinate with adjacent service providers and see potential benefits from increased coordination and cooperation.

National context: U.S. population growth



Source: U.S. Census Bureau, Population Estimates Program, April 1, 2000, to July 1, 2005.

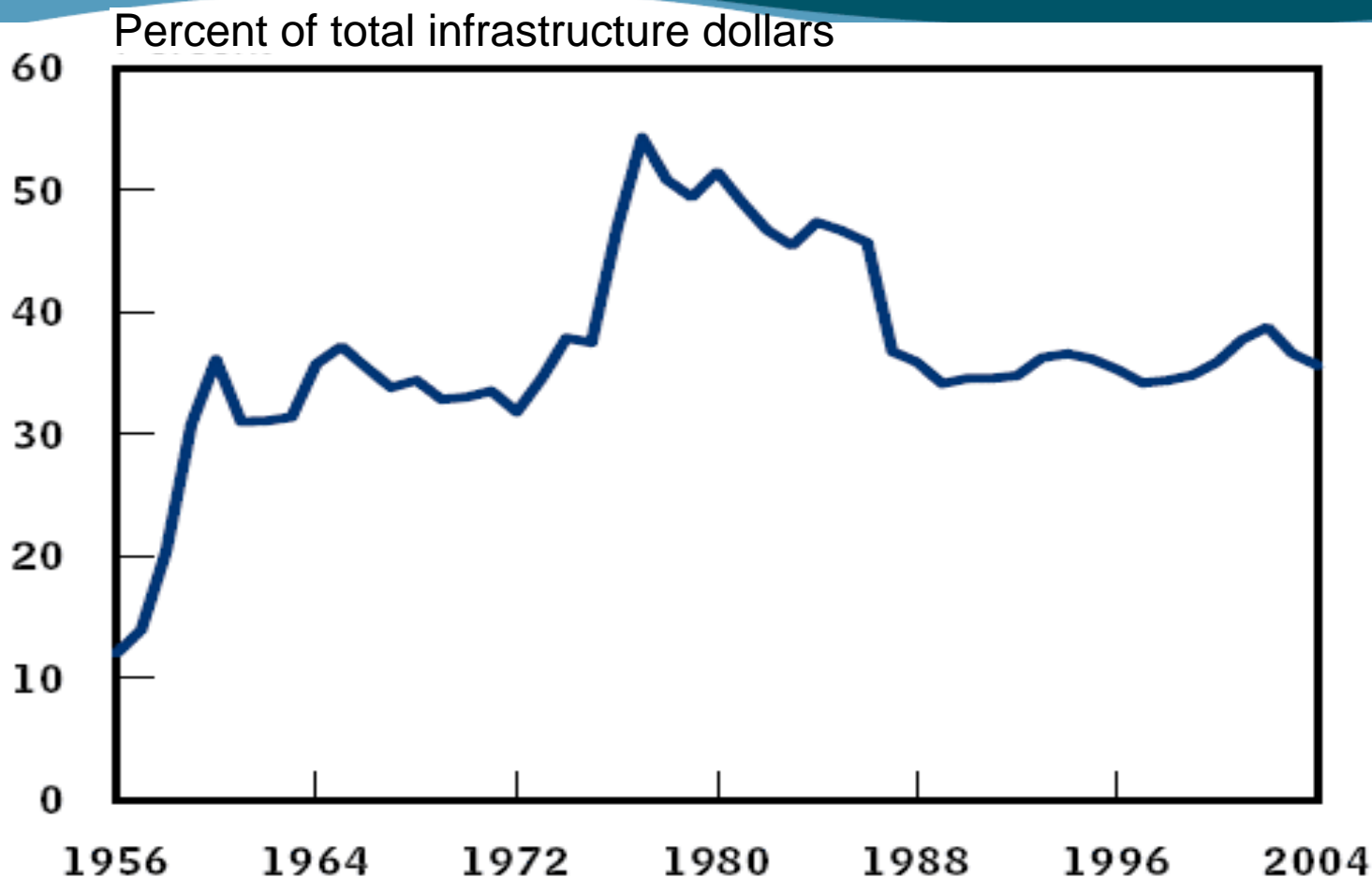
Western USA population growth continues to outpace the rest of the nation!

U.S. growth and infrastructure needs

- The U.S. population is expected to increase by 33% by 2035* – that's **94 million more people** than there were in 2000.
- About **half** of the homes, office buildings, stores and factories needed in 20 years **don't exist today**.
- America's infrastructure **will cost \$1.6 trillion over next 5 years to repair**. Delayed investment increases cost by 12-20% annually.
- It takes **\$250 billion annually over next 50 years to ensure "good" infrastructure**. We now spend 40% of that amount.
- US government spent 2.4% of GDP on infrastructure in 2007. (China government spent 9.0% of GDP on infrastructure)
- * Metro area pop expected to increase 45%



Federal infrastructure grants and loan subsidies share of local & state capital spending



Federal funding share has been declining since 1975

Portland Metro region growth

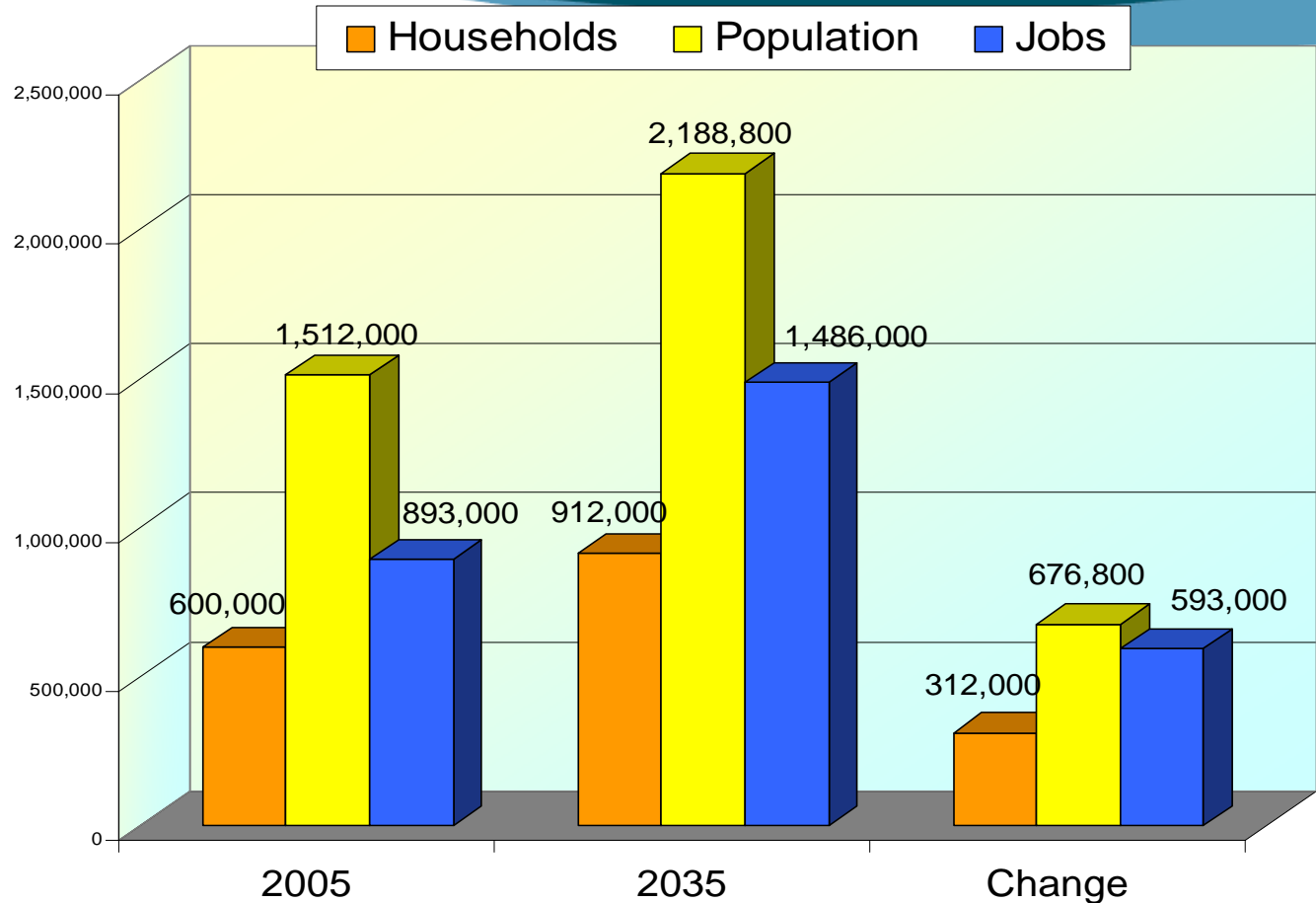
- Pacific NW is outpacing national growth rates (climate change could induce even more growth)
- Oregon is one of top three states for in-migration (*United Van Lines*).
- *About one-half of total growth is from natural increases and one half from in-migration.*
- Forecasted growth of over 1 million people in 7-county region by 2035.
- Tri-county Metro area expected to capture about 70% of the 7-county regional growth.



Metro tri-county area growth forecasts: 2005-2035

- Newly urbanizing areas are planned to accommodate about 25% of Metro area growth.

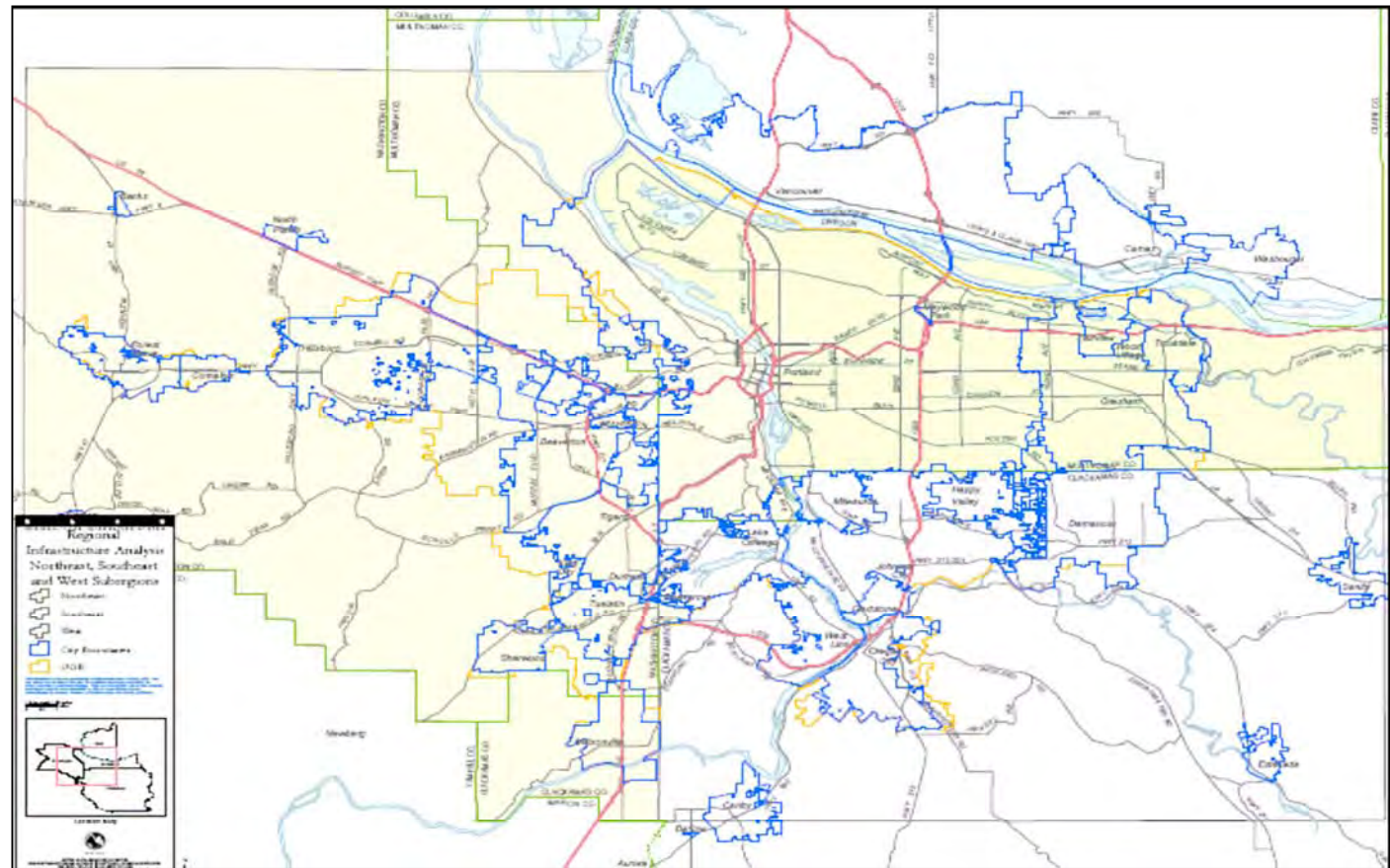
- Existing urban areas are expected to accommodate 75% of Metro area growth.



Infrastructure demand analysis

Analysis is focusing on three sub-regions in the Metro area:

- Northeast
- Southeast
- West



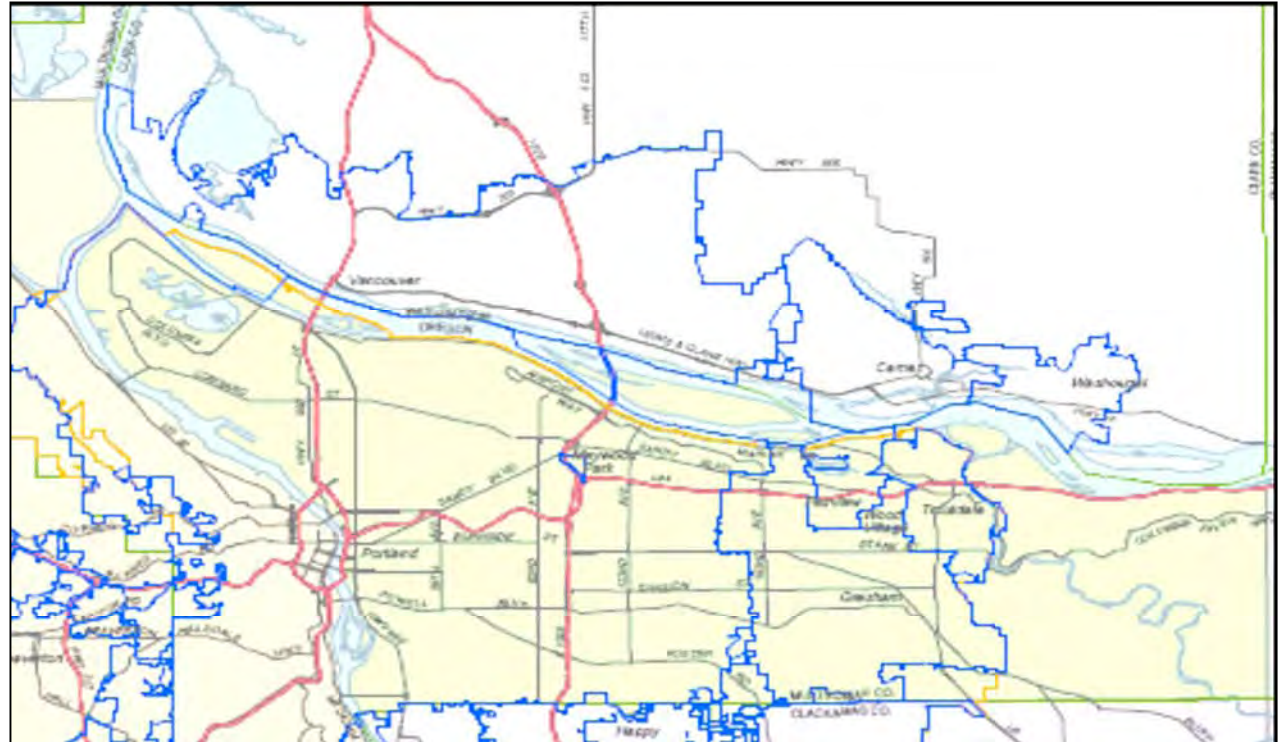
Northeast Subregion

Subregion

includes: Portland (east of Willamette River), Gresham, Fairview, Troutdale, Wood Village, and portions of unincorporated Multnomah & Clackamas Counties

29% of new jobs

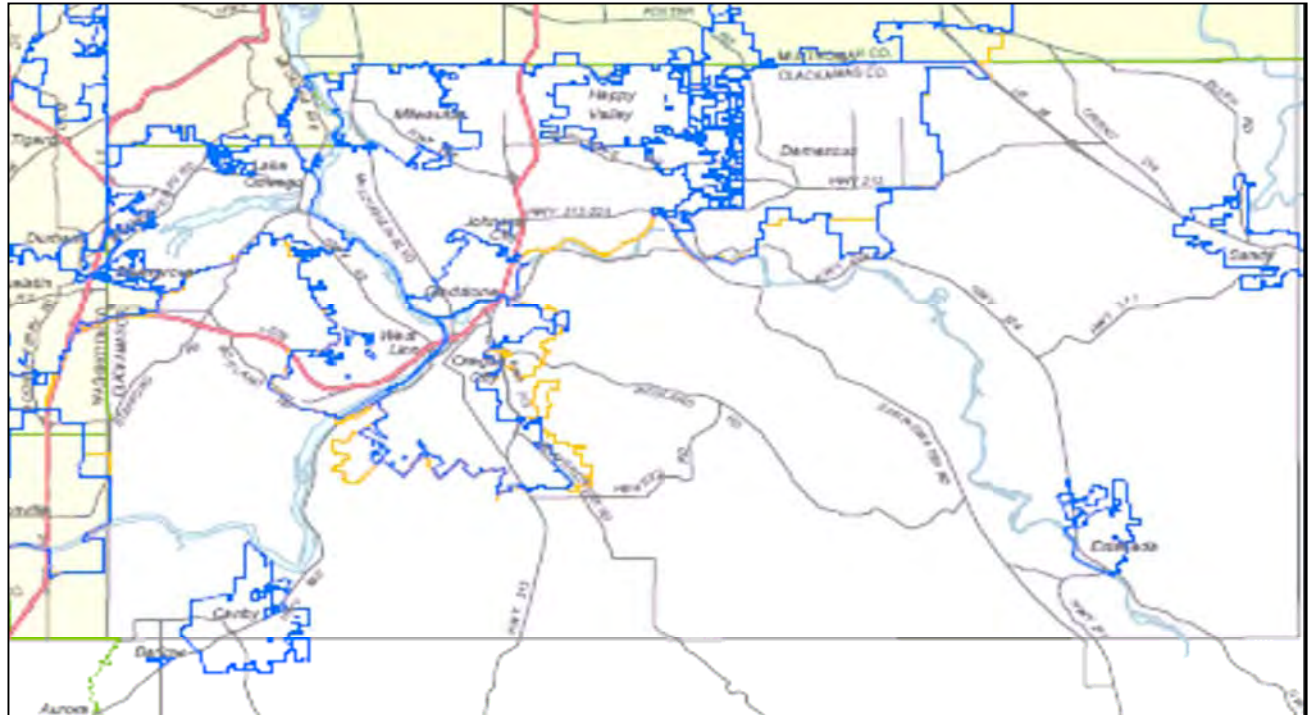
21% of new households



Southeast Subregion

Subregion

includes: Happy Valley, Damascus, Lake Oswego, West Linn, Milwaukie, Gladstone, Johnson City, Oregon City and portions of unincorporated Washington & Clackamas Counties



16% of new jobs

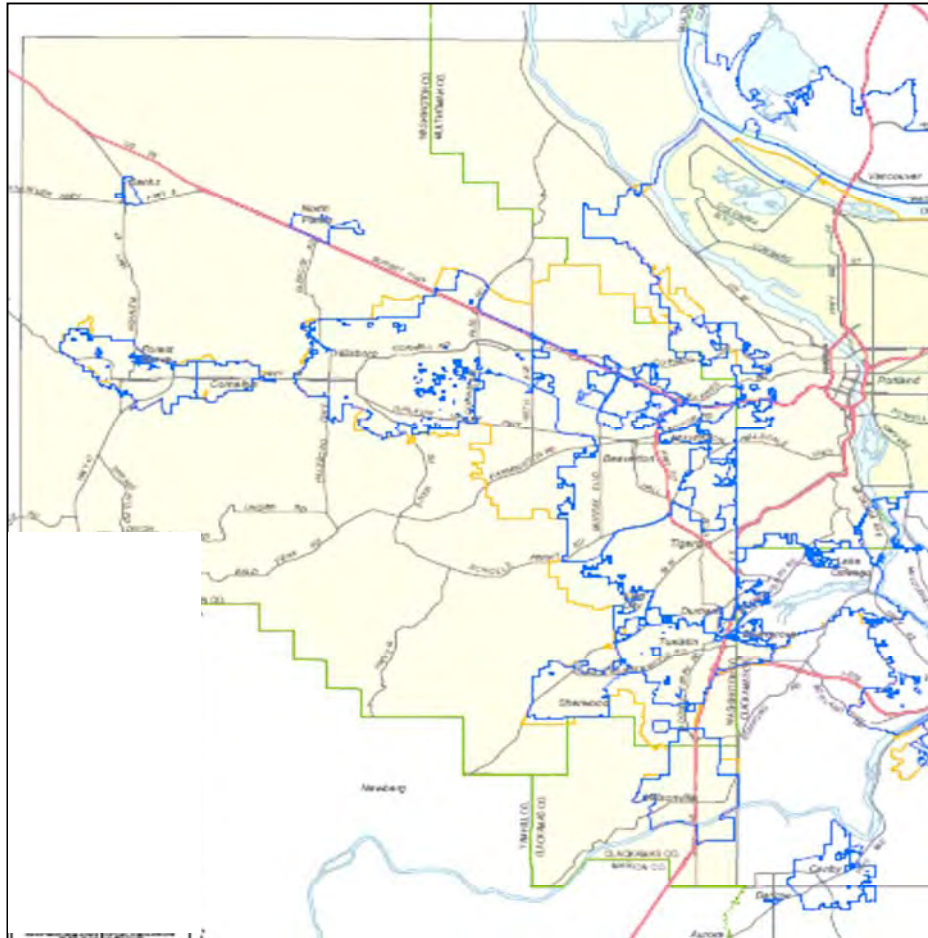
34% of new households

West Subregion

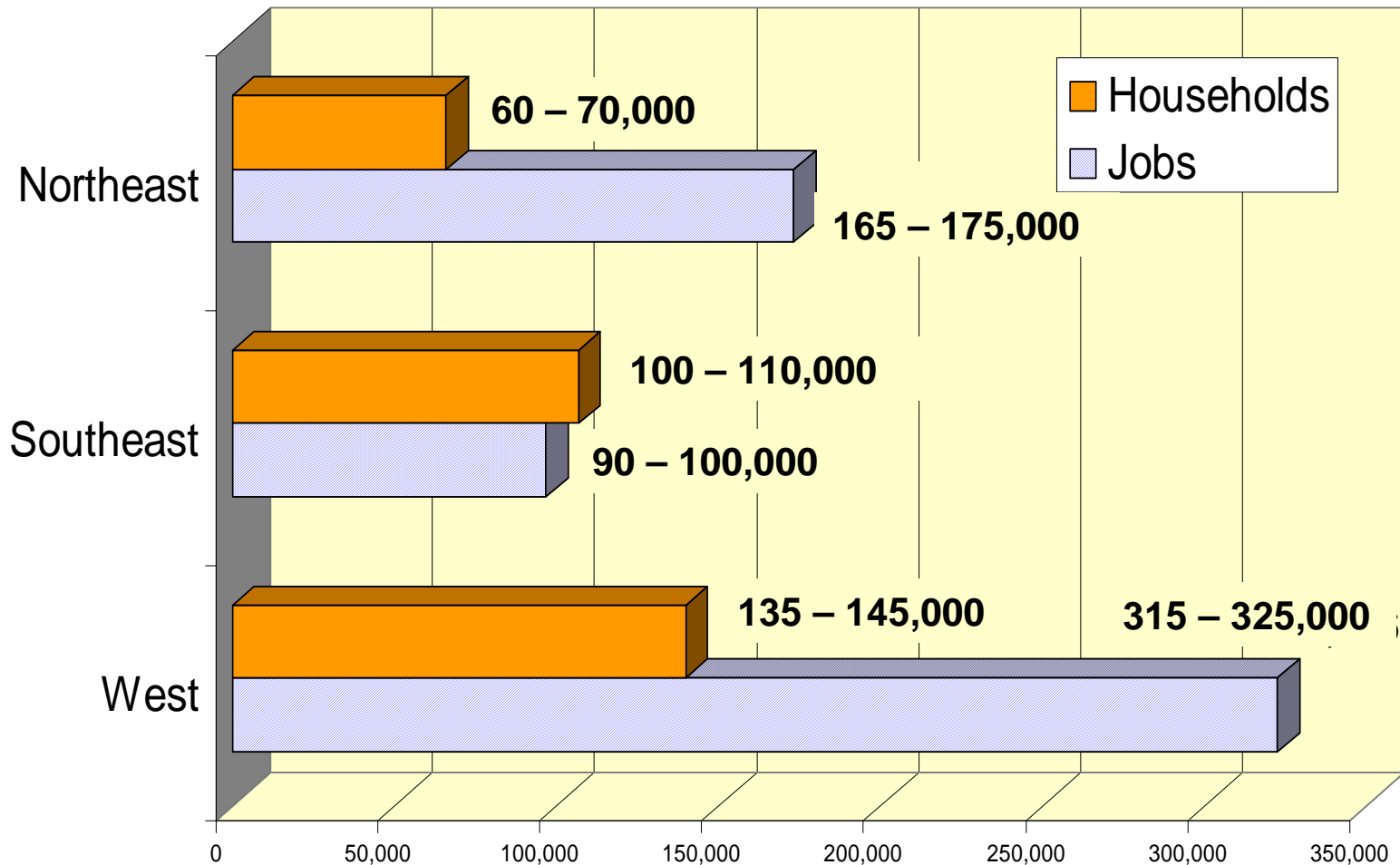
Subregion includes:
Portland (part), Tigard,
Tualatin, Sherwood,
Wilsonville, King City,
Beaverton, Durham,
Hillsboro, Forest
Grove, Cornelius, and
portions of
unincorporated
Washington County

55% of new jobs

**45% of new
households**

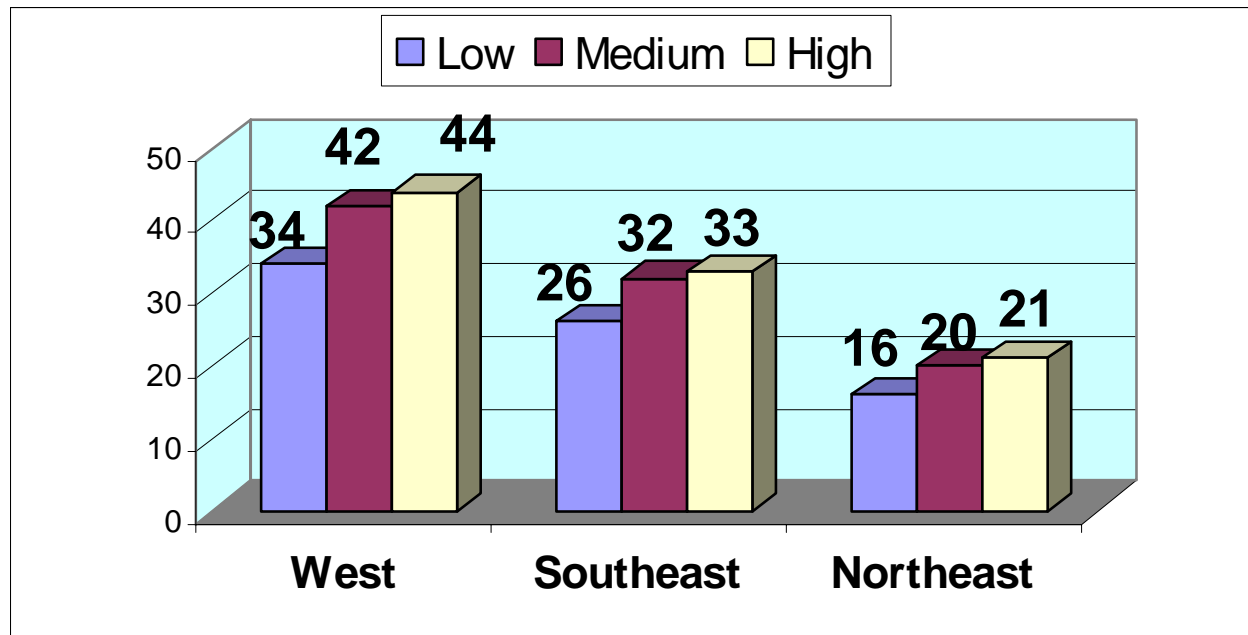


Metro area subregional growth forecasts: 2005-2035



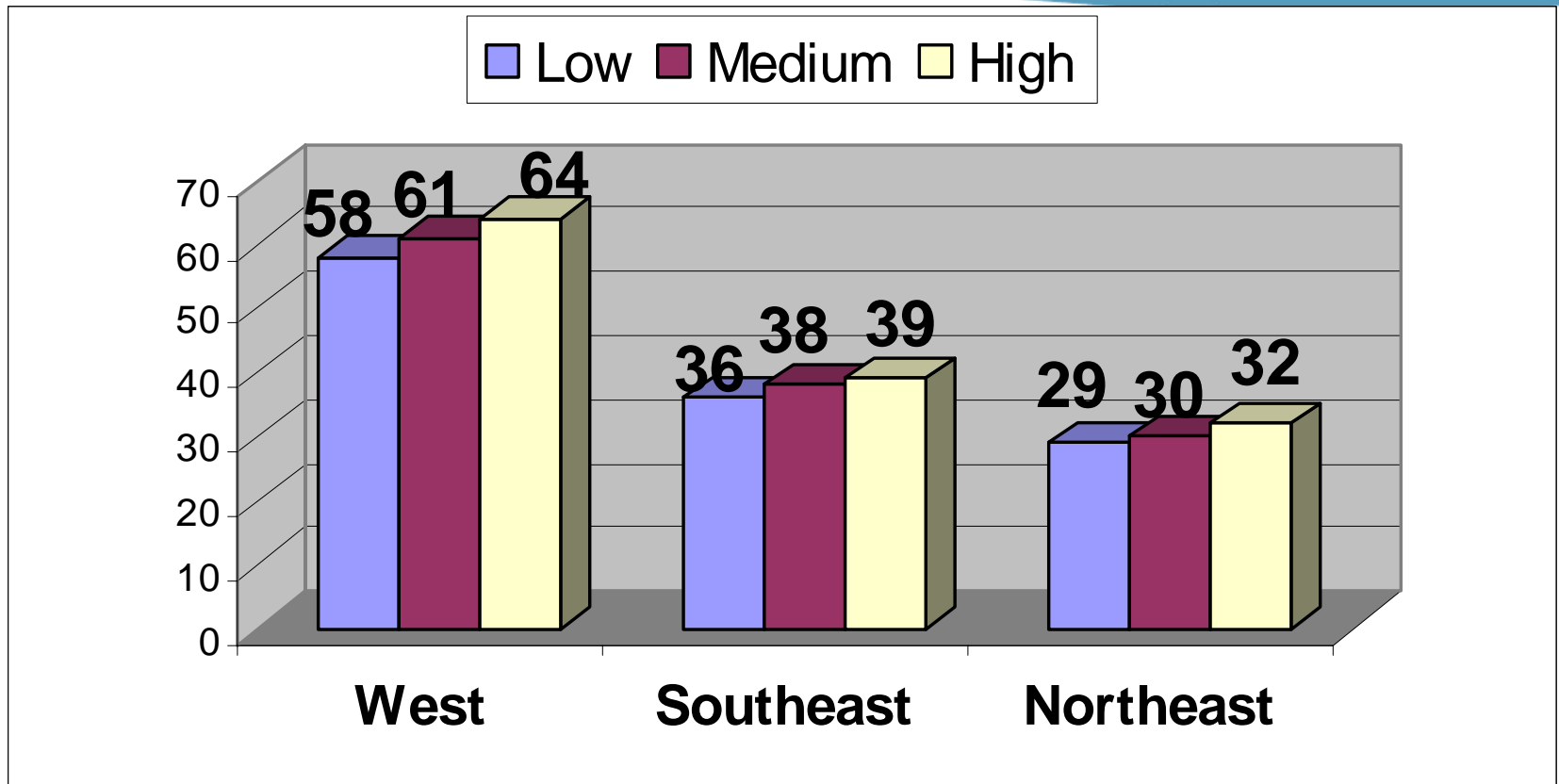
Additional water demand forecast

Metro subregions, 2035 (Avg. daily demand in MGD)



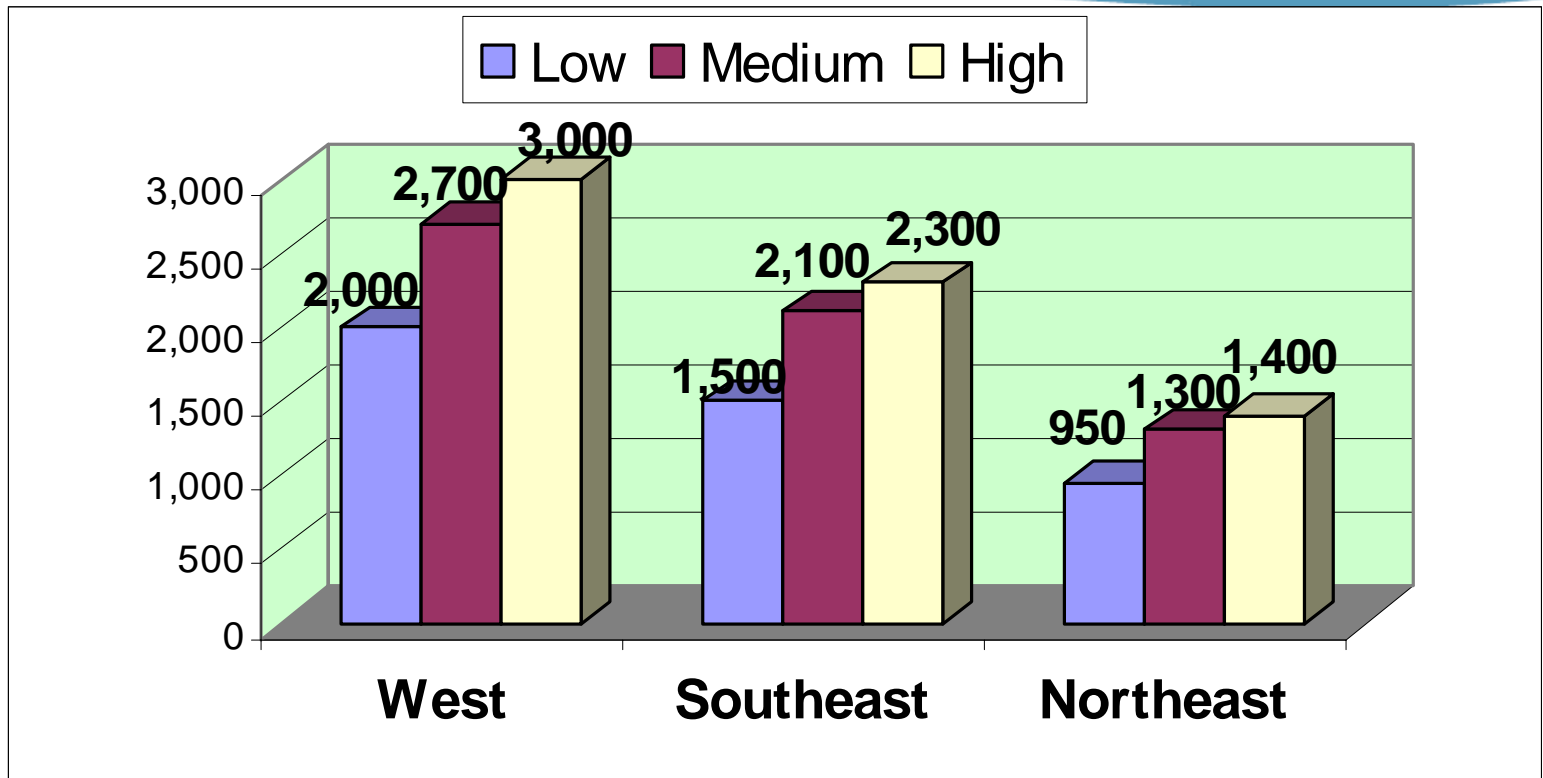
Peak Demand may likely be 2.5 x greater than average demand

Additional wastewater demand forecast Metro subregions, 2035 (peak dry weather flow at plant in MGD)



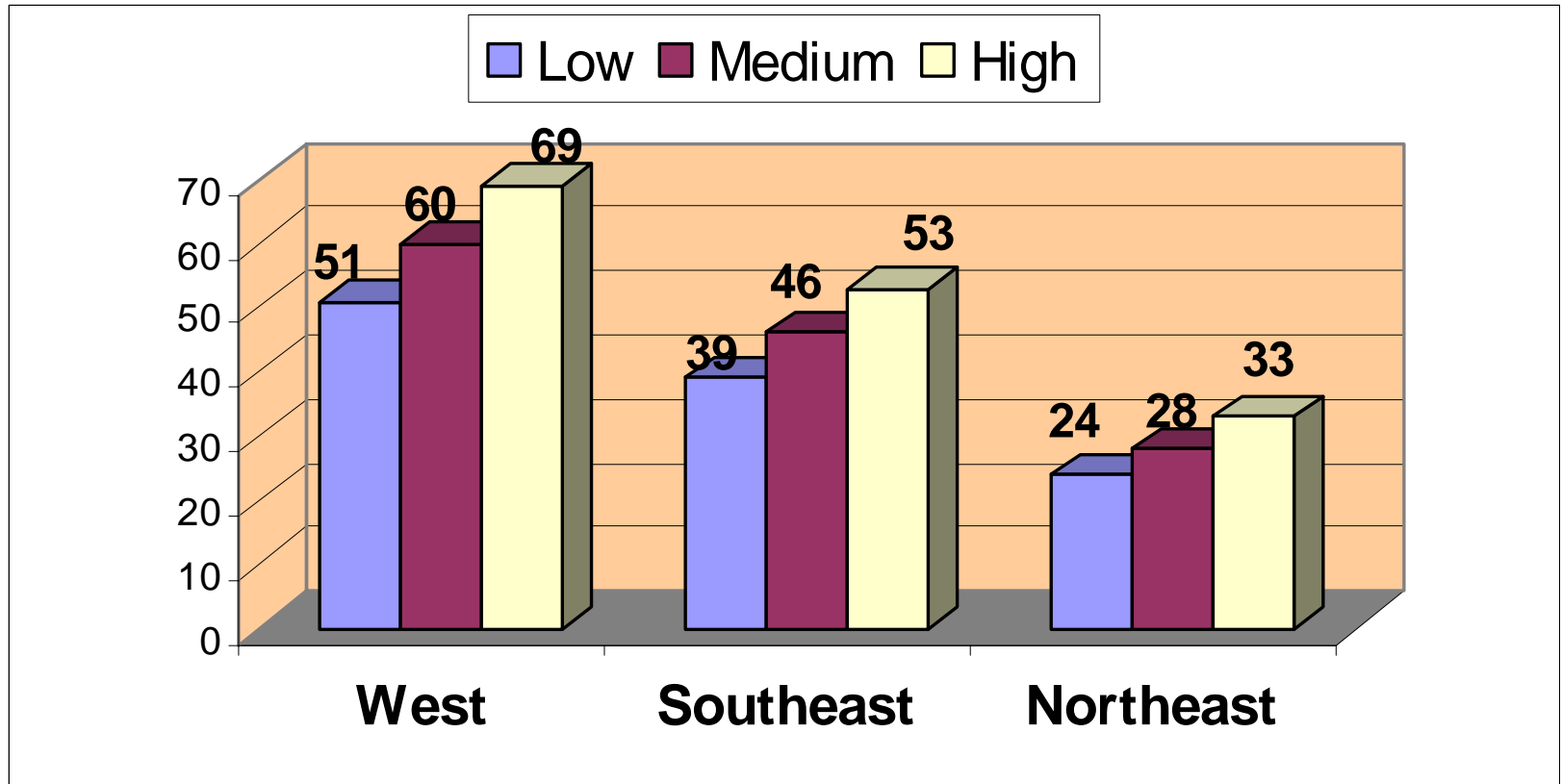
**Peak wet weather demand may likely be 3-4
times more than dry weather demand**

Additional active parks demand forecast Metro subregions, 2035 (acres)



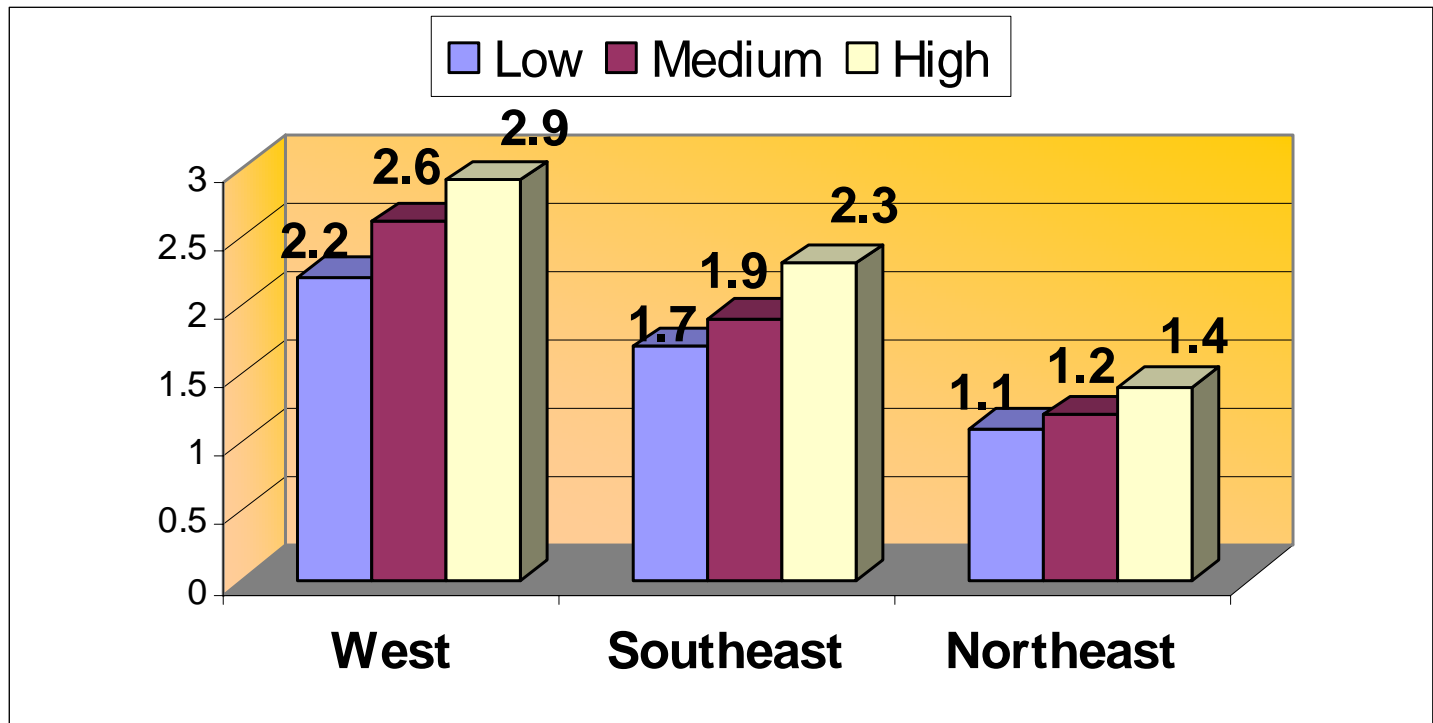
Assume about 1.3 x more land need for open space

Additional K-12 school demand Metro subregions, 2035 forecast



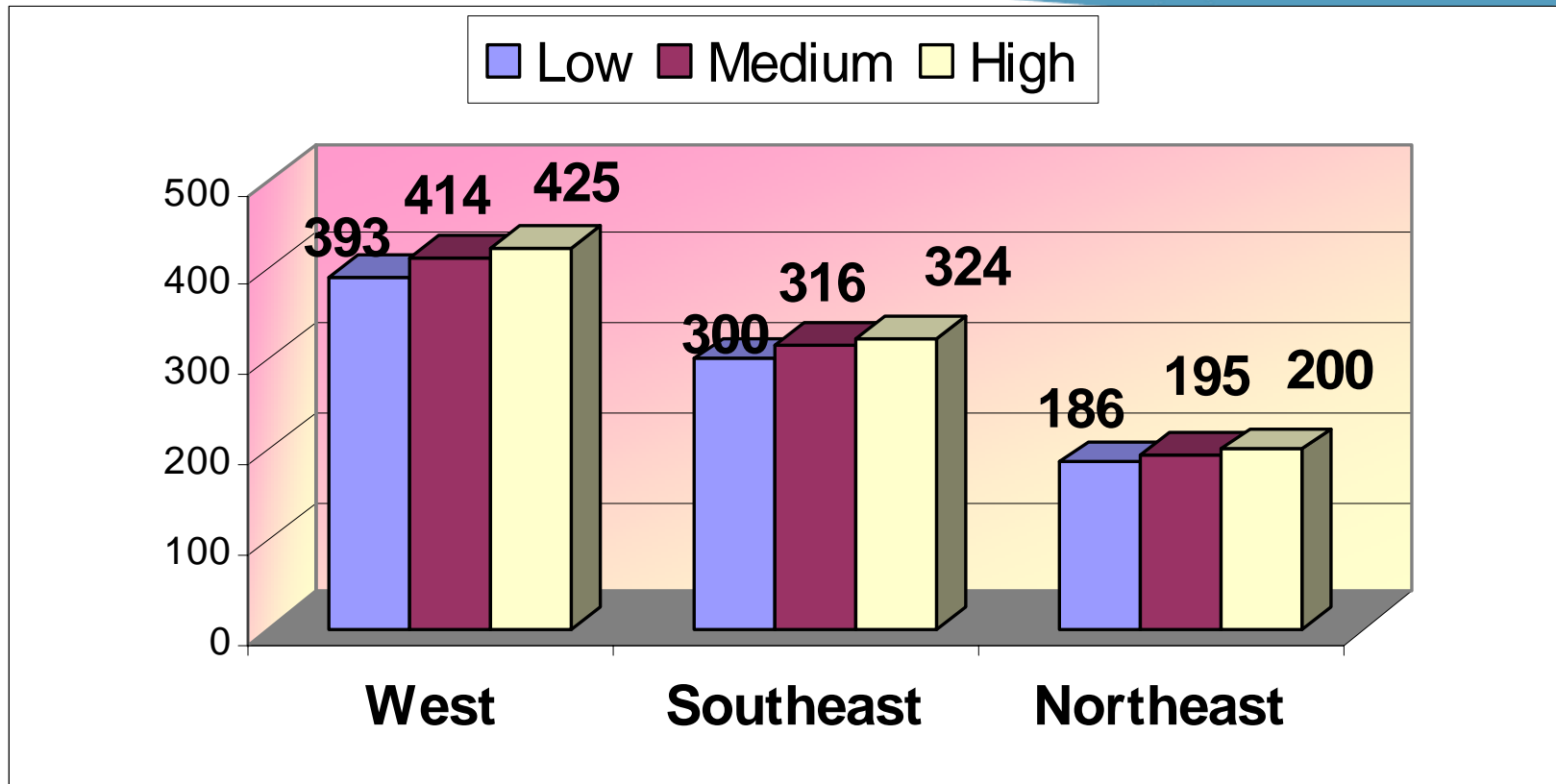
Additional public facilities demand Metro subregions, 2035 forecast

(million square feet)



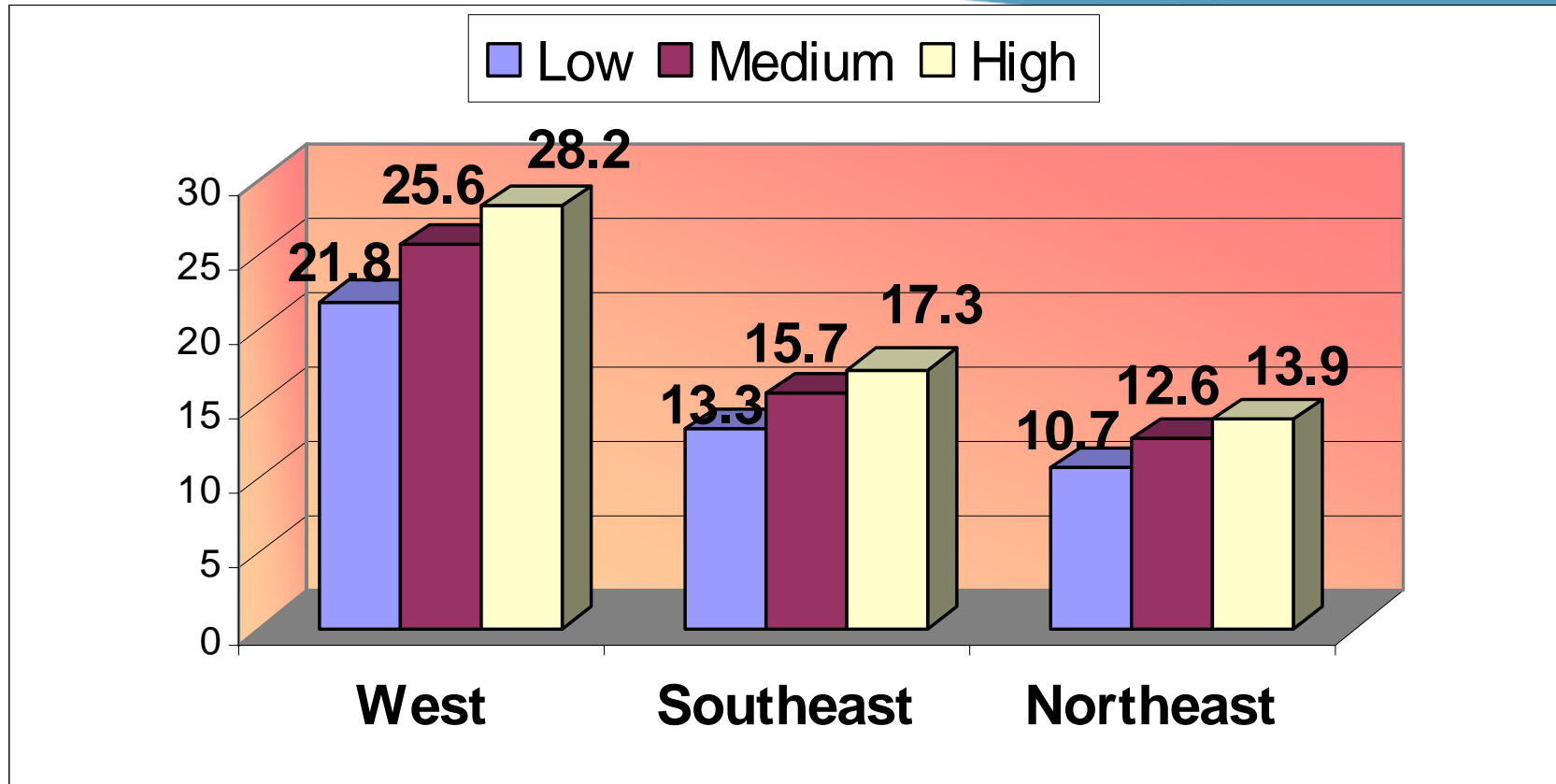
Includes administrative space, libraries, civic centers, community meeting facilities, and related amenities

Additional power demand Metro subregions, 2035 forecast *(annual megawatts)*

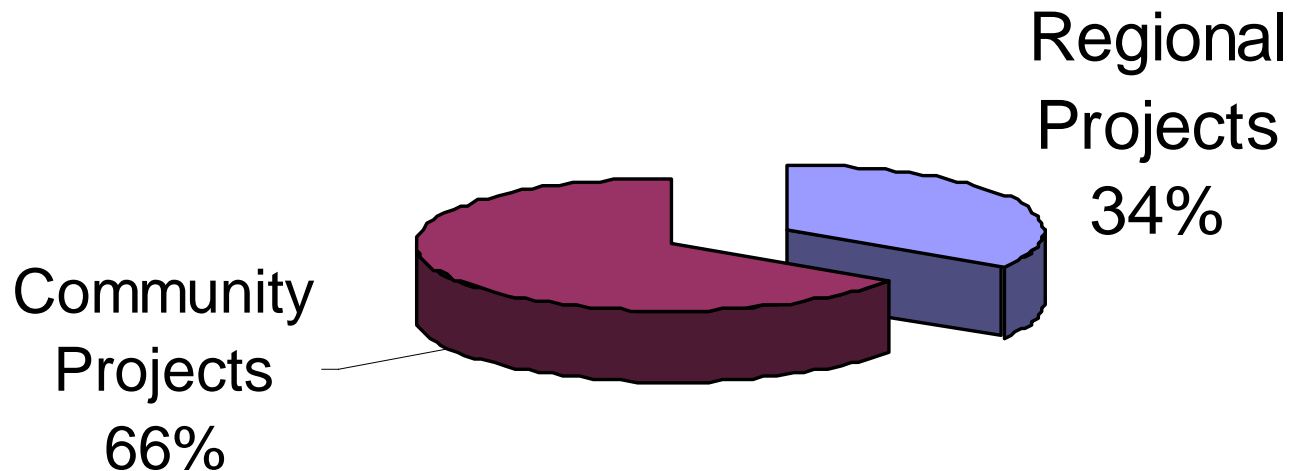


Additional natural gas demand Metro subregions, 2035 forecast

(annual billion cubic feet)



Additional transportation capital cost Metro subregion, 2035 RTP



Financially constrained RTP includes about \$9 billion in capital projects/activities by 2035.

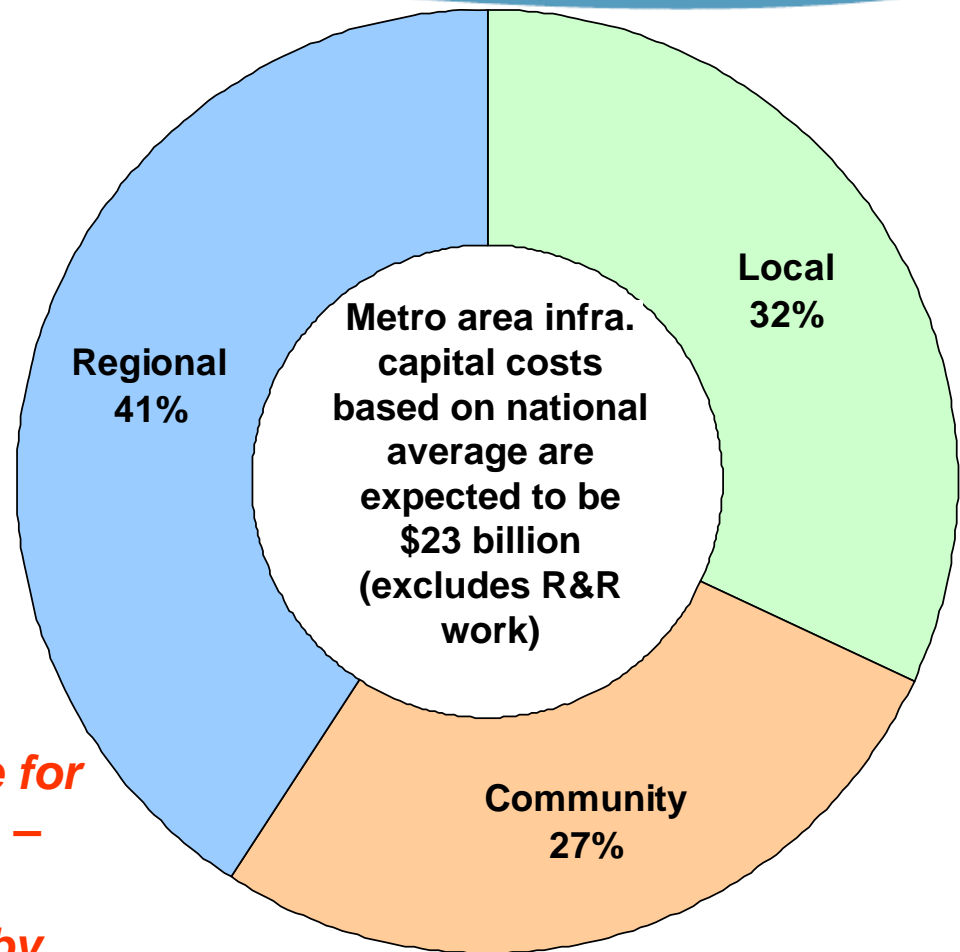
Subregional allocation of funding generally matches growth forecasts.

Infrastructure categories & costs – findings based on national data

There are three categories of infrastructure:

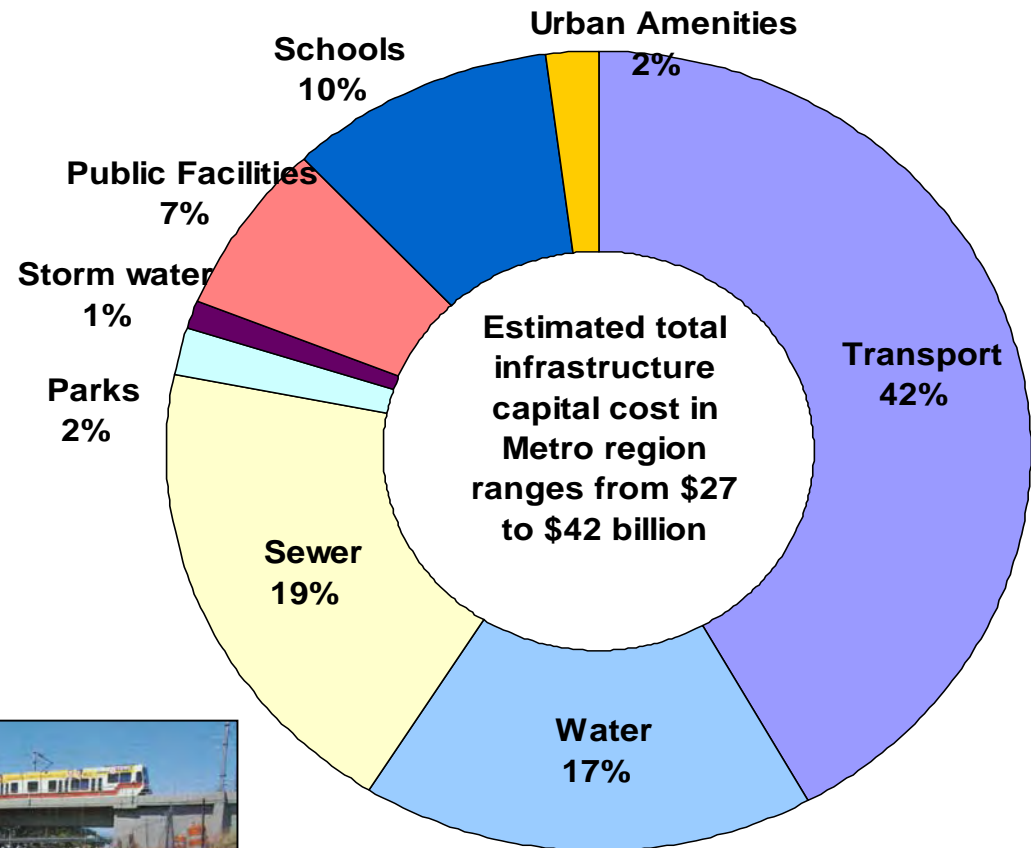
1. **Local** (water, sewer, storm drains, local transport & parks)
2. **Community** (water & sewer mains & treatment, storm collection, collector/arterial transport, safety, parks & schools)
3. **Regional** (transit, bridges, state/interstate, marine, air, etc.)

Largest costs are for regional facilities – which are not typically funded by cities or developers!



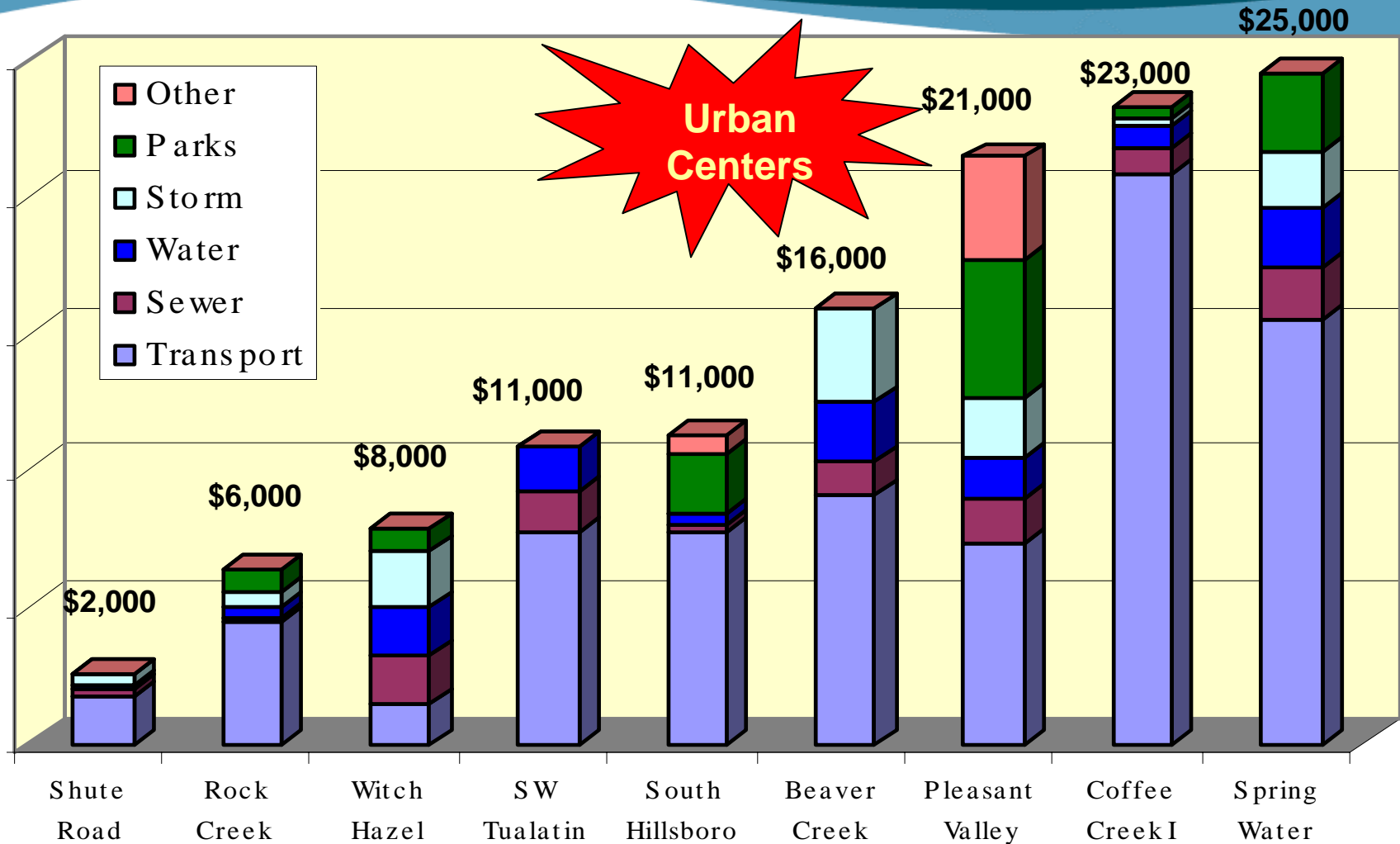
Infrastructure costs – draft findings based on review of local and regional plans and CIPs

- FCS GROUP estimates total infrastructure capital cost in Metro region ranges from \$27 to \$42 billion (includes major R&R work)
- Costs higher than national average. (e.g., our region is still urbanizing, topography, regulations, useful life, etc.)

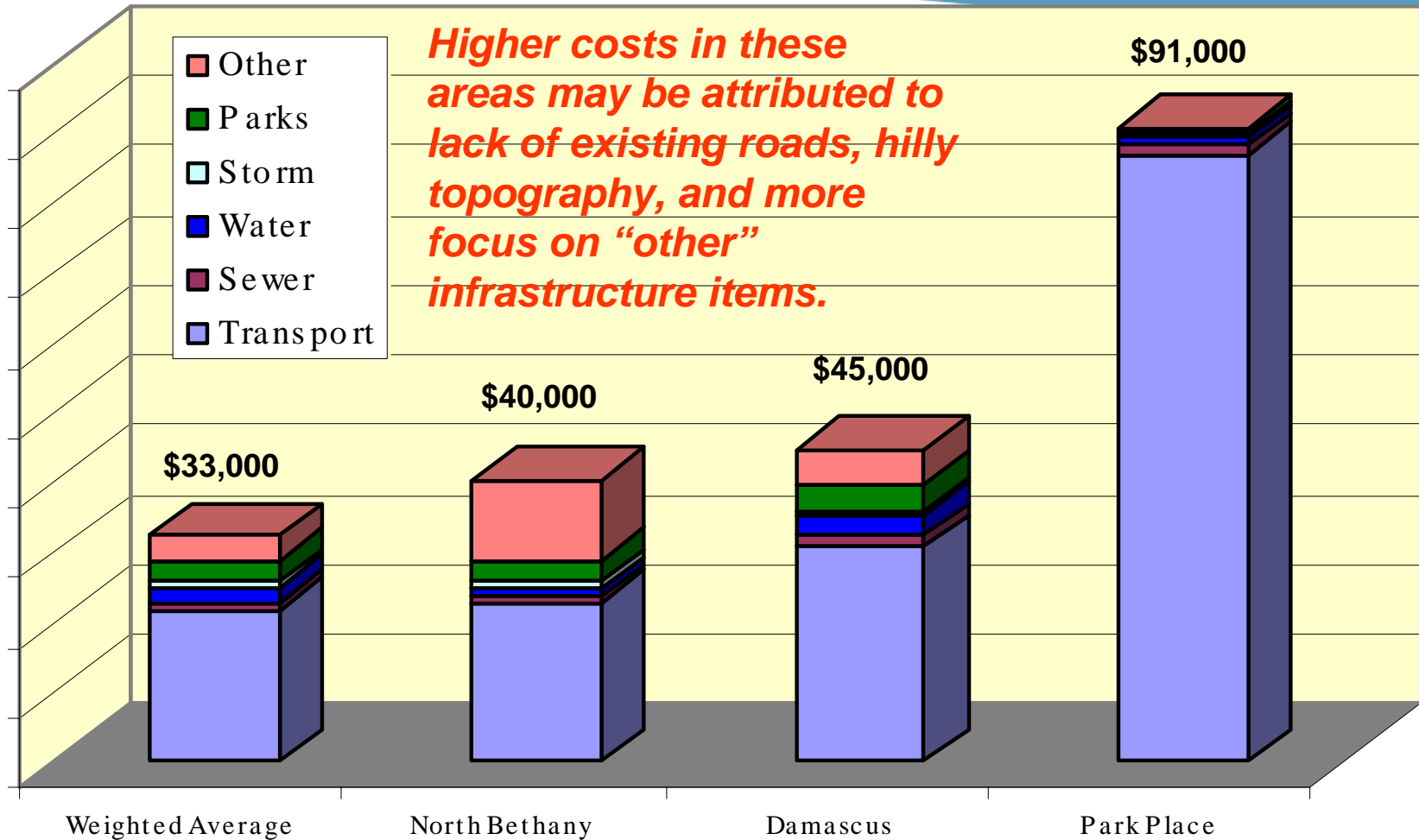


Urbanizing areas with below-average infrastructure costs (per peak pop)

“Other” includes schools, police, fire, libraries, affordable housing, etc.



Urbanizing areas with above-average infrastructure costs (per peak pop)



Comparative costs

- National literature review of infrastructure costs for various development patterns.
- Providing infrastructure in urban settings and new compact development is generally less expensive per unit of development than in areas with fragmented development patterns.
- Research is continuing on local case studies.

How will we use all of this information on infrastructure costs?

- Next step is to identify solutions and strategies
 - ensure the right infrastructure is in place to support great communities
 - achieve the region's 2040 goals
- Better understanding projected infrastructure demand and the cost to meet it will help policy makers consider how to maximize the public's infrastructure investments by targeting areas with the highest return on investment

Small group discussions

- Thank you in advance for your participation!