

Metro Council

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How can we maximize the return on public dollars invested in infrastructure?

National experts agree that providing infrastructure in urban settings and compact new development is generally less expensive per unit than in areas with more land-extensive development patterns. Case studies in five existing urban areas and twelve newly urbanizing areas in the region found while that public infrastructure capital costs vary depending on specific location and access to existing infrastructure, they generally reflect this national pattern.

In urbanizing areas, developments on relatively flat land and close to existing transportation facilities have the greatest return on investment. Transportation infrastructure is the most critical investment needed to accommodate rapid growth in newly urbanizing areas. In urban areas, civic amenities such as parking structures and transit can increase the cost of development significantly. However, both current and future residents benefit from these investments.

High levels of upfront investment are generally required to make urban redevelopment projects successful, while urbanizing developments can finance infrastructure in phases over many years. However, despite its higher initial costs, development in urban areas can be less expensive over time.

What can we do to address our infrastructure needs?

Once we in the region reach a common understanding of the challenges we face, the next step is to identify potential solutions to regional infrastructure needs.

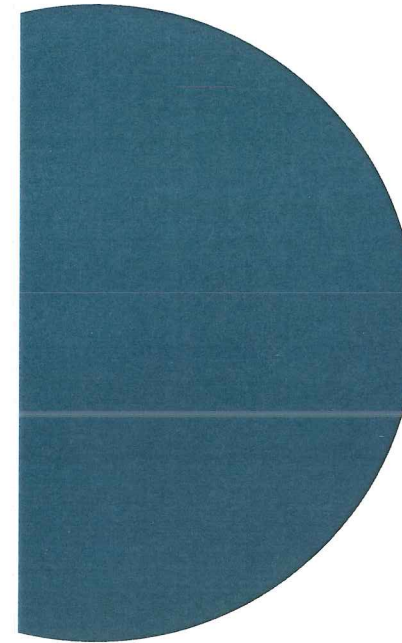
- **Funding:** We can support investment by working together to pay for the infrastructure we need at the local, community and regional levels, and to leverage federal and state investments to support our communities.
- **Efficiency:** We can look for ways to be more efficient about how we provide services to be fiscally responsible, conserve resources, and maximize the investments we currently have.
- **Innovation:** We can be more innovative in how we plan and design our basic services and the other infrastructure that creates vibrant communities.
- **Demand management:** We can better manage the demand, both from a conservation and land development perspective.

We will be much more successful in addressing our common challenges if we build partnerships and work collaboratively.

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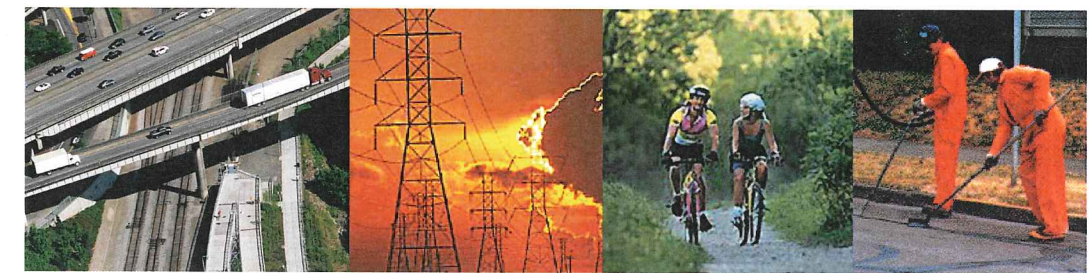


Challenges and Opportunities

- **Significant forecast population and employment growth**
- **Aging infrastructure and deferred maintenance**
- **Declining support from state and national governments**
- **Inadequate local financing tools**
- **Building infrastructure to create vibrant communities**
- **New infrastructure presents opportunity to increase sustainability**



Metro



May 28, 2008

PROJECT SUMMARY

Regional Infrastructure Analysis

The Portland metropolitan region is beloved by the people who live here and will continue to draw new residents with its vibrant communities, strong economy, and abundant public amenities and natural resources. However, our region faces a significant public infrastructure challenge that threatens our quality of life.

All forms of infrastructure – from the streets we use to get to work and school and the pipes that bring water and carry away waste, to our parks, schools, trails and open spaces that make our region a great place to live – require maintenance, upgrades and capacity expansion to support current and future residents. Our existing pipes and pavement are aging; many water and sewer pipes are over 100 years old. Within two decades, four of Multnomah County's six Willamette River bridges will be 100 years old. Our civic structures and open spaces lack an adequate, dedicated revenue base. Adding to the challenge is the need to accommodate projected growth of one million people over the next 30 years in the seven-county region.

What are some of the key infrastructure challenges we face?

Though the livability of our communities depends on reliable public services, the region's infrastructure systems are fraught with investment and maintenance shortfalls, uneven funding systems, and multi-layered jurisdictional patterns.

Some types of infrastructure are provided through rate-based funding systems, such as water, sewer, electricity and natural gas. Rate-funded services tend to enjoy more stable and predictable funding, but can face significant difficulties in obtaining large amounts of up-front capital needed to make major improvements or expand capacity. Non-rate based infrastructure providers generally suffer from a lack of significant and stable sources of funding for maintenance and operations, and experience varying degrees of

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Working to develop collaborative solutions to regional challenges



Infrastructure Analysis

In the fall of 2007, Metro initiated a regional infrastructure analysis by convening local and regional infrastructure providers through a series of forums and questionnaires, establishing an Infrastructure Advisory Committee (IAC), and retaining consultants to begin quantifying the region's infrastructure condition and needs. In addition, the IAC and Metro's consultants have begun identifying potential approaches to meeting the challenge through local and regional solutions.



Infrastructure Advisory Committee Members

- Byron Estes**, Portland Development Commission
- Deane Funk**, Portland General Electric
- Marion Haynes**, Portland Business Alliance
- Ted Kyle**, Clackamas County Water Environmental Services
- Stephan Lashbrook**, City of Lake Oswego
- Lawrence Odell**, Washington County
- Pat Ribellia**, City of Hillsboro
- Alice Rouyer**, City of Gresham
- Ric Stephens**, Alpha Community Development
- Lorna Stickel**, Regional Water Providers Consortium
- Mike Wells**, Wells Development

success in gaining support for voter-approved bonds to fund capital improvements. These types of infrastructure include parks, open space, school facilities, civic structures and transportation facilities. Finally, jurisdictional boundaries for service providers tend to be haphazard, based more on historical happenstance than thoughtful design, making it hard to realize efficiencies through the coordination of service delivery or capital investments.

Metro's infrastructure analysis focuses on eight different types of infrastructure that are needed to make and sustain great communities. Some of the findings by type of infrastructure are outlined below:

Civic buildings, parking structures, public plazas – Capital funding for civic structures is often subject to voter support and must compete against other interests for scarce resources. Urban amenities such as plazas, streetscapes, and some civic structures – critical components of downtown redevelopment efforts – are often supported through urban renewal programs and public/private development agreements. No dedicated funding source for operations and maintenance exists for this type of infrastructure.

Energy – Based on current trends, the region would require two to three new 400MW power plants to supply adequate power in 2035. However, technological advances are likely to change the region's energy supply and infrastructure needs in unknown ways. Continued efforts to manage demand and reduce peak demand can reduce projected energy needs and produce savings. The most prominent challenge for energy providers is coordination with other service providers (transportation in particular) in the planning and installation of infrastructure.

Parks and Open Spaces – The availability and cost of land represent the most significant challenge for ensuring adequate parks and open spaces for a growing population. As urban communities increase in density, park space becomes both more necessary and more expensive. Given population projections, the region will likely need 5,000 acres of new urban park space and 8,000 acres of open space. While the region has had recent success in funding new acquisitions of parks and open spaces, funds for maintenance and operations are scarce.

Sewer/Stormwater – No reliable funding stream exists for construction and maintenance of sanitary sewer infrastructure. Increasing permitting requirements regarding treatment and discharge are resulting in significant new compliance costs. Because new infrastructure cannot be added incrementally in a cost-effective manner, communities face the significant challenge of securing upfront capital. Collaboration and consolidation may provide service and cost efficiencies, but are extremely challenging to realize. Stormwater facilities are most effective at a local (watershed) level, and existing systems have little to no excess capacity.

Schools – Some areas of the region have unused school facilities while an increasing population will bring new school-aged residents to newly urbanizing areas, creating a geographic mismatch between existing school capacity and new school capacity needs. As land values increase, siting schools on land near population centers becomes increasingly difficult, as traditional facility designs require significant amounts of property. Funding, dependent on local bond support, is inconsistent across the region and unreliable.

Transportation – Transportation costs represent the largest portion of unmet infrastructure needs. The current Regional Transportation Plan identifies a \$7 billion finance gap, which would be even higher if the full range of transportation costs to support great communities were identified. Three quarters of annual local transportation budgets are spent on maintenance. Local roads are funded through development fees, LIDs and other mechanisms, but there is no dedicated source of revenues for regional transportation systems.

Water – While significant conservation efforts have reduced per-capita demand, projected demand due to population growth will exceed regional supplies. Water sources exist, but source development and transmission of water to new users will be challenging. Upfront capital represents the largest hurdle to meeting new capacity demands.

Are our existing funding mechanisms sufficient?

Given current levels of service delivery, capital costs to accommodate population and job growth in the region through 2035 could run as high as \$40 billion. Traditional funding sources are expected to cover only about half of this amount. Total costs includes approximately \$10 billion for repairs and reconstruction that would likely be needed even if the region did not experience rapid population or employment growth as projected; these maintenance costs generally do not have an identified revenue source.

A common method to pay for infrastructure has been through system development charges (SDCs) assessed on new development. The use of SDC revenues, however, is limited to certain types of infrastructure and can only fund capital improvements. Charges in many jurisdictions have not kept pace with rising infrastructure costs.

Other causes of funding gaps vary across the region, and include:

- Declining funding from state and federal sources.
- Steady and reliable funding sources unavailable.
- Capital investment funds diverted to operating and/or maintenance costs.
- Funds diverted to unanticipated and/or emergency repairs.
- Rising construction costs.
- Low tax base for service providers due to small population size and/or low household incomes.
- Funding adjustments that require political action, rather than administrative rate increases.
- Lack of public acceptance and/or political will.

As communities in the region have endeavored to create vibrant places to live, work and play, a series of challenges have arisen, including slower than expected growth in designated centers and corridors, and little to no development in areas recently added to the urban growth boundary. Infrastructure costs have been cited as a major obstacle in both cases.



“Most of the water reservoirs in Portland are in poor condition, as are 43 percent of traffic lights... Hundreds of fire hydrants are almost a century old, including the one outside the iconic Portland Building.”

– The Oregonian, “Our Aging City,” Oct. 11, 2007