



# JPACT/MPAC MEETING AGENDA

Climate Smart Communities Scenarios Project

8 a.m. to noon, Friday, April 11

World Forestry Center

## Meeting outcomes:

- Members gain better understanding of policy areas under consideration
- Members are able to communicate issues fully to represented colleagues and local partners prior to the next joint meeting in May
- Members create a “snapshot” of relative priorities of the group through a straw poll
- Members commit to sharing information and collecting feedback to shape the final draft proposal in May

**7:30 a.m. Registration and light breakfast**

**8 a.m. Making the case for investing in great communities**

*Welcome and setting the stage for the day.*

MPAC Chair, West Linn Council President Jody Carson

JPACT Chair, Metro Councilor Craig Dirksen

**8:15 a.m. Overview of agenda and process for shaping preferred approach**

Sam Imperati, Facilitator, Oregon Consensus

**Overview of policy questions and discussion materials**

John Williams, Metro Deputy Planning Director

**8:35 a.m. Priorities, opportunities and challenges moving forward – what we heard from community leaders**

*A panel discussion of community leaders will share key themes and recommendations from recent stakeholder engagement and discussion groups, followed by a facilitated group discussion.*

Moderator: Jeanne Lawson, JLA Public Involvement

Panel members:

Linda Moholt, Tualatin Chamber of Commerce

Chris Hagerbaumer, Oregon Environmental Council

Steve White, Oregon Public Health Institute

Roberta Hunte, Portland State University

<b>9:25 a.m.</b>	<b>Priorities moving forward – what we heard from the public</b>	Adam Davis, DHM Research
	<i>A leading pollster shares key takeaways from recent telephone poll and focus groups.</i>	
<b>9:45 a.m.</b>	<b>Break</b>	
<b>10 a.m.</b>	<b>Small group discussions and straw poll to weigh in on the draft preferred approach</b>	Members and alternates
	<i>Members rotate in small groups to six stations to learn more about each investment area, discuss options for shaping the preferred approach and provide initial feedback through a straw poll at the end.</i>	
<b>11:40 a.m.</b>	<b>What we learned today</b>	Sam Imperati, Facilitator, Oregon Consensus
	<i>Review results of straw poll on the draft preferred approach.</i>	
<b>11:50 a.m.</b>	<b>Working together regionally – what’s next?</b>	JPACT Chair, Metro Councilor Craig Dirksen  MPAC Chair, West Linn Council President Jody Carson
	<i>Share observations from the morning’s discussion and review next steps for members to prepare for May 30 joint meeting.</i>	
<b>Noon</b>	<b>Adjourn</b>	

## Getting there, logistics and more info

The World Forestry Center is accessible by MAX at the Washington Park stop or TriMet bus #63. A parking pass will be provided for members and alternates who park in the Washington Park lot. Metro staff will meet you at the main parking lot entrance to provide you the pass or you can pick it up at the registration table. For staff or other meeting attendees, parking is available for purchase at the lot.

The meeting will be held in Cheatham Hall in the middle of the World Forestry Center campus. Follow directional signs to the meeting.

Both JPACT and MPAC members and alternates will be seated at discussion tables at the April 11 meeting. Audience seating will be provided for all other attendees.

[www.oregonmetro.gov/climatescenarios](http://www.oregonmetro.gov/climatescenarios)

For more information, call Valerie Cuevas at 503-797-1536.

**CLIMATE  
SMART**  
COMMUNITIES  
SCENARIOS PROJECT

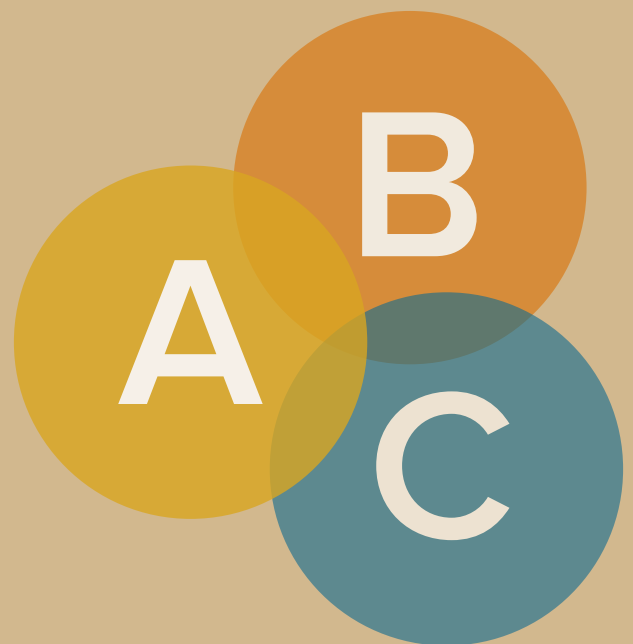


# SHAPING THE PREFERRED APPROACH

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**A DISCUSSION GUIDE FOR POLICYMAKERS**  
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PORTLAND METROPOLITAN REGION

APRIL 2014



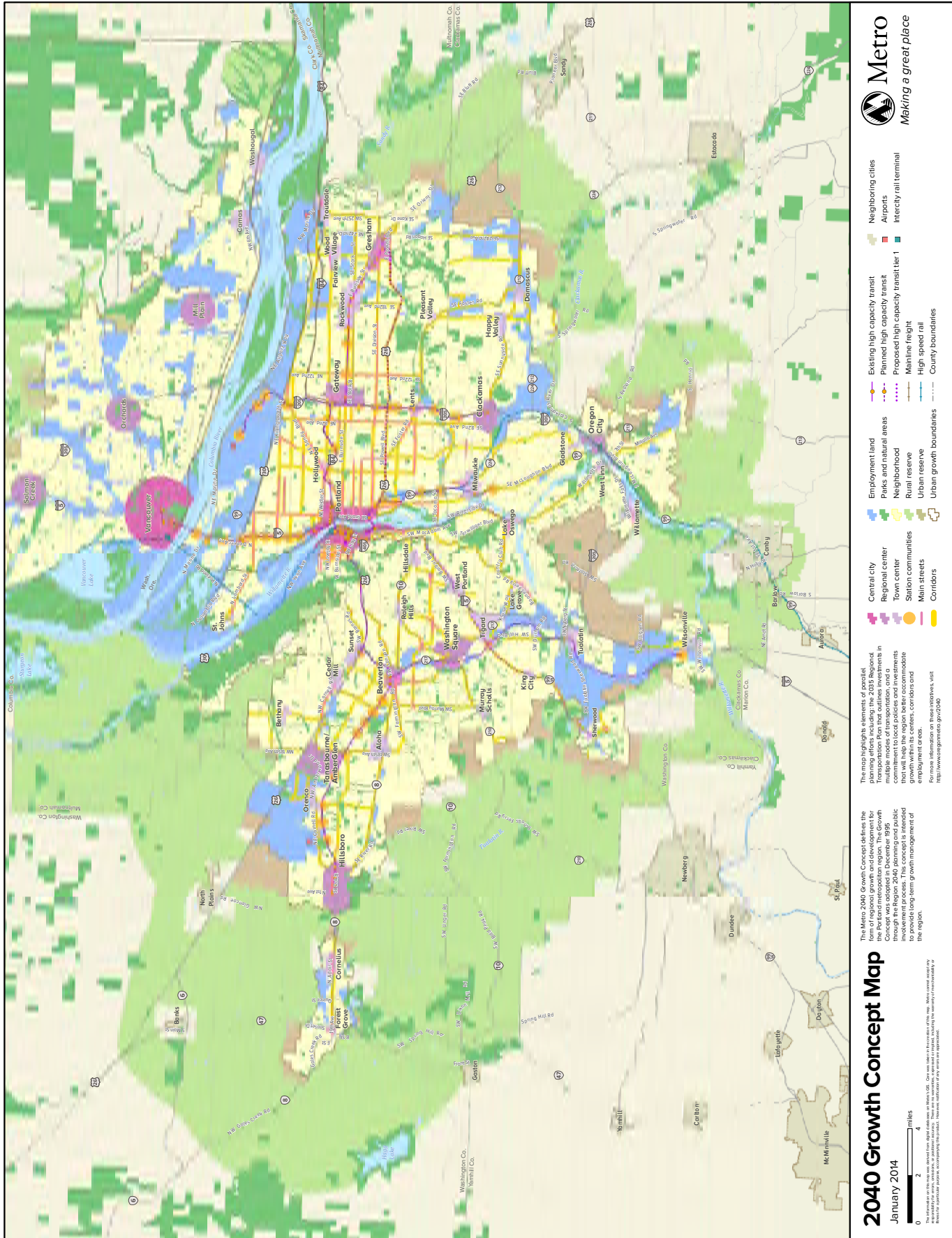
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# OUR SHARED VISION: THE 2040 GROWTH CONCEPT

An integrated land use and transportation vision for building healthy, equitable communities and a strong economy while reducing greenhouse gas emissions.



# INTRODUCTION

The Climate Smart Communities Scenarios Project was initiated in response to a state mandate to reduce per capita greenhouse gas emissions from cars and small trucks by 2035.

The goal of the project is to engage community, business, public health and elected leaders in a discussion to shape a preferred approach that supports local plans for downtowns, main streets and employment areas; protects farms, forestland, and natural areas; creates healthy, livable neighborhoods; increases travel options; and grows the regional economy while reducing greenhouse gas emissions from cars and small trucks.



## ABOUT THIS GUIDE

This discussion guide for policymakers is designed to help elected, business, and community leaders and residents better understand the challenges and choices facing the Portland metropolitan region. It will be used by members of the Metro Policy Advisory Committee (MPAC) and Joint Policy Advisory Committee on Transportation (JPACT) to help shape a preferred approach for the Metro Council to consider for adoption in December 2014.

This guide brings together the results of the analysis completed in late 2013 and background information on the choices facing policymakers as the Climate Smart Communities Scenarios Project moves forward to shape a preferred approach that supports the region's shared values and helps make local and regional plans a reality.

The desired outcome for this discussion guide is that together, cities, counties and regional partners will be prepared to decide which investments and actions from each scenario should be included in the preferred approach.

### What the future might look like in 2035

#### SCENARIO



#### Recent Trends

This scenario shows the results of implementing adopted land use and transportation plans to the extent possible with existing revenue.

#### SCENARIO



#### Adopted Plans

This scenario shows the results of successfully implementing adopted plans and achieving the current Regional Transportation Plan, which relies on increased revenue.

#### SCENARIO



#### New Plans and Policies

This scenario shows the results of pursuing new policies, more investment and new revenue sources to more fully achieve adopted and emerging plans.

The scenarios are tested for research purposes only and do not necessarily reflect current or future policy decisions of the Metro Council, MPAC or JPACT.



## DESIRED REGIONAL OUTCOMES

### ATTRIBUTES OF GREAT COMMUNITIES

The six desired outcomes for the region endorsed by the Metro Policy Advisory Committee and approved by the Metro Council:

#### **Vibrant communities**

People live and work in vibrant communities where their everyday needs are easily accessible.

#### **Economic prosperity**

Current and future residents benefit from the region's sustained economic competitiveness and prosperity.

#### **Safe and reliable transportation**

People have safe and reliable transportation choices that enhance their quality of life.

#### **Leadership on climate change**

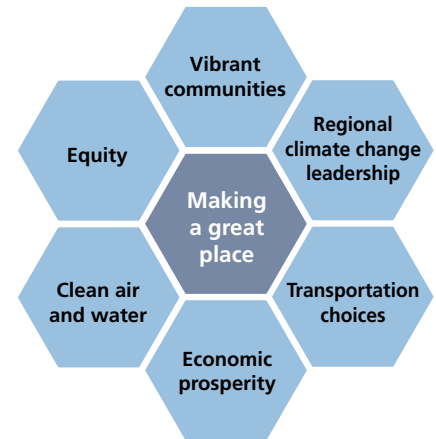
The region is a leader in minimizing contributions to global warming.

#### **Clean air and water**

Current and future generations enjoy clean air, clean water, and healthy ecosystems.

#### **Equity**

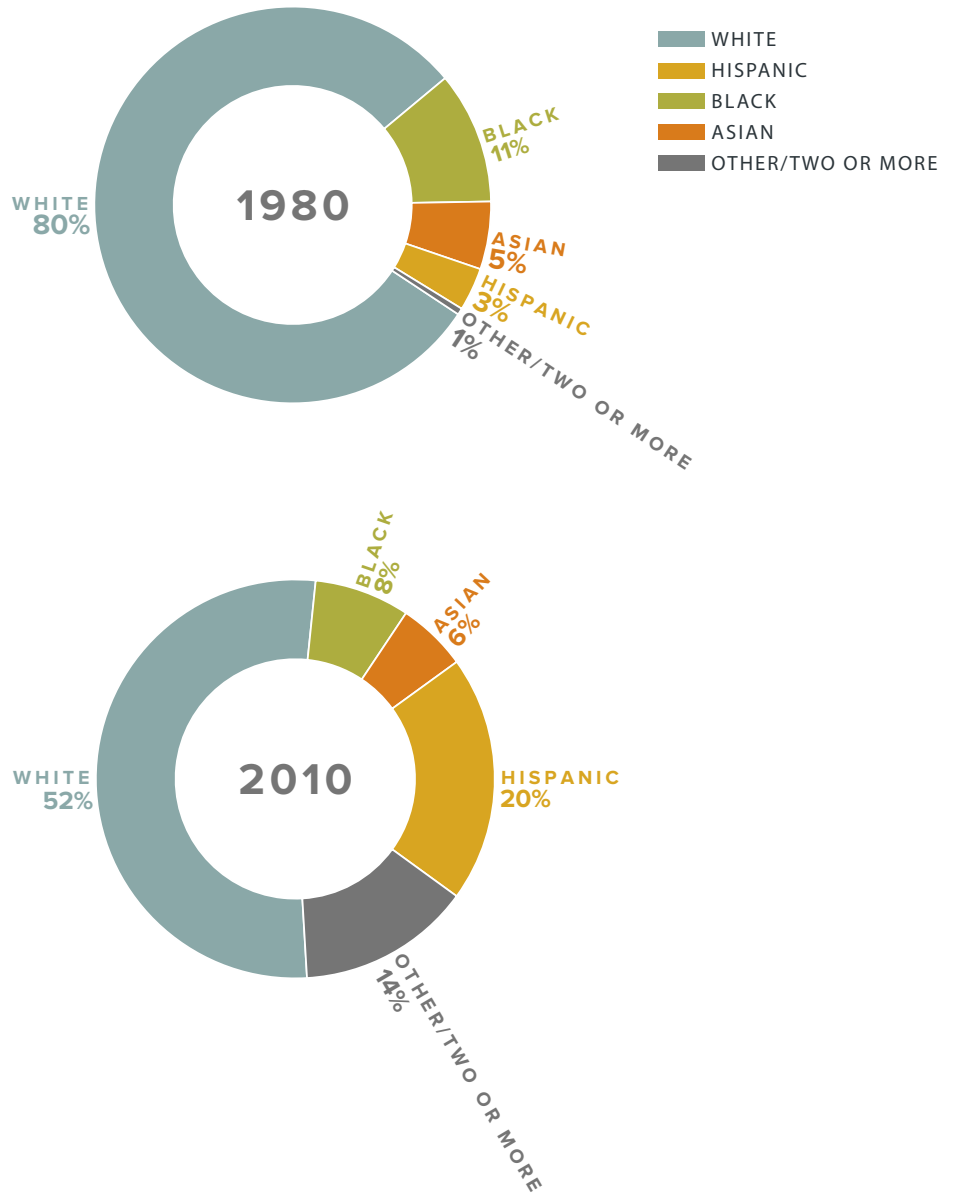
The benefits and burdens of growth and change are distributed equitably.





People of color are an increasingly significant percentage of the Portland metropolitan region's population. Areas with high poverty rates and people of color are located in all three of the region's counties – often in neighborhoods with limited transit access to family wage jobs and gaps in walking and bicycling networks.

### RACE AND ETHNICITY IN THE PORTLAND METROPOLITAN REGION



# REGIONAL CONTEXT

## OUR REGION IS CHANGING

The Portland metropolitan region is an extraordinary place to call home. Our region has unique communities with inviting neighborhoods, a diverse economy and a world-class transit system. The region is surrounded by stunning natural landscapes and criss-crossed with a network of parks, trails and wild places within a walk, bike ride or transit stop from home. Over the years, the communities of the Portland metropolitan region have taken a collaborative approach to planning that has helped make our region one of the most livable in the country.

Because of our dedication to planning and working together to make local and regional plans a reality, we have set a wise course for managing growth – but times are challenging. With a growing and increasingly diverse population and an economy that is still in recovery, residents of the region along with the rest of the nation have reset expectations for financial and job security.

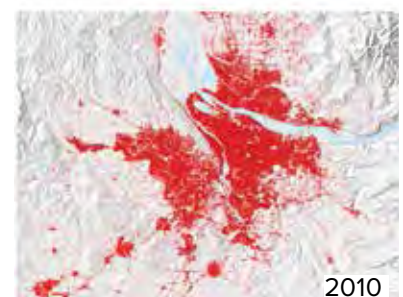
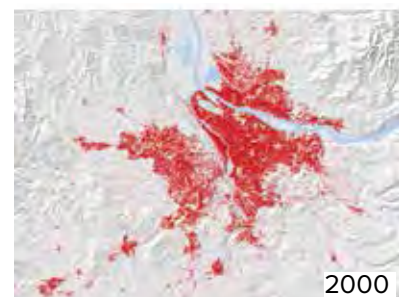
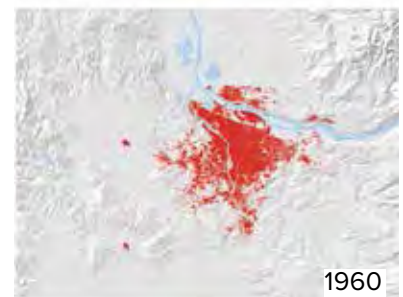
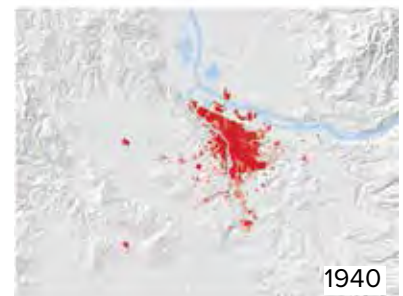
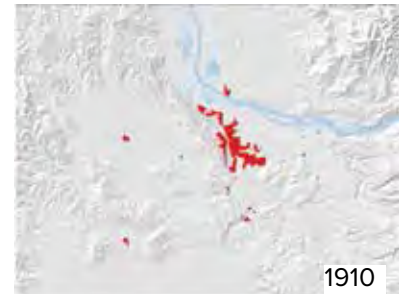
Aging infrastructure, rising energy costs, a changing climate, and global economic and political tensions demand new kinds of leadership, innovation and thoughtful deliberation and action to ensure our region remains a great place to live, work and play for everyone.

In collaboration with city, county, state, business and community leaders, Metro has researched how land use and transportation policies and investments can be leveraged to respond to these challenges.

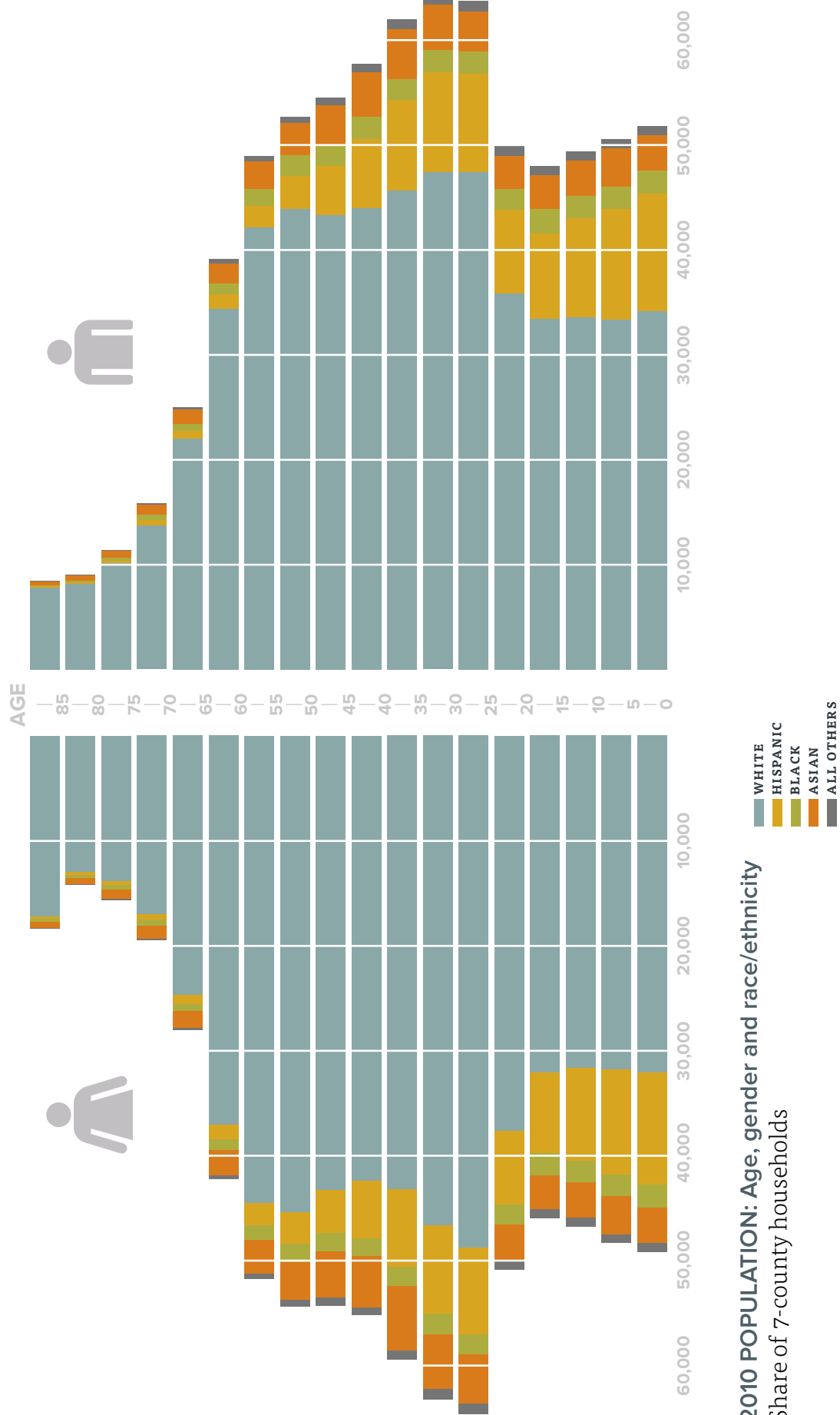
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The region expects to welcome nearly 500,000 new residents and more than 365,000 new jobs within the region's urban growth boundary by 2035.

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Source: 1910, 1940, 1960: Metro; Metropolitan Planning Commission; 2000, 2010: NOAA/CES/Portland



## INVESTING IN OUR COMMUNITIES

Oregon has been a leader among a handful of states in addressing climate change, with an ambitious goal to reduce greenhouse gas (GHG) emissions from all sources to 75 percent below 1990 levels by the year 2050. In 2009, the Oregon Legislature required the Portland metropolitan region to develop an approach to reduce per capita greenhouse gas emissions from cars and small trucks by 2035.

Because our community visions focus development and investment where it makes sense – in downtowns, main streets and employment areas – and support transportation options for getting to work, school, and destinations across the region, we already drive 20 percent fewer miles every day than residents of other regions of similar size.

While our existing local and regional plans for growth can get us to the 2035 target, we still have work to do to make those plans a reality.

We know that investing in quality infrastructure is essential to a functioning, vibrant economy and healthy, livable communities. Investment in infrastructure is also needed to reduce greenhouse gas emissions. Past experience and analysis indicate that investments in centers, corridors and employment areas are an effective means of attracting growth to these areas, supporting community visions and values, and reducing greenhouse gas emissions.

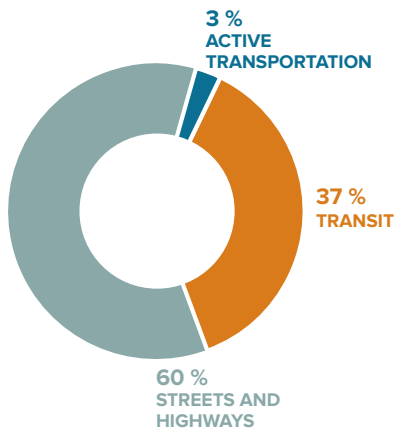
Investments can take the form of expanding transit service; building new sidewalks, bikeways or street connections; using technology to actively manage the transportation system; managing parking; providing travel option programs; expanding existing roads; and other tools. Removing barriers to more efficient use of land and existing infrastructure can also help communities achieve their vision for the future while reducing greenhouse gas emissions as called for by the state.



The Oregon Legislature has required the Portland region to reduce per capita greenhouse gas emissions from cars and small trucks by 2035.

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SHARE OF FEDERAL AND STATE CAPITAL INVESTMENTS IN THE PORTLAND METROPOLITAN REGION BY MODE (1995 – 2010)



AVERAGE ANNUAL AMOUNT OF STATE AND FEDERAL FUNDING SPENT ON CAPITAL INVESTMENTS IN THE PORTLAND METROPOLITAN REGION (1995 – 2010)

**\$10 million per year**  
active transportation

**\$141 million per year**  
transit

**\$225 million per year**  
streets and highway

Source: Metro 2010

## PAYING FOR NEEDED INVESTMENTS

Our nation is investing less in infrastructure today than at any time in our history. The Portland metropolitan region is falling behind on making the investments needed to support our growing population and achieve community visions. Research in 2008 estimated the cost of building needed public and private infrastructure to be \$27 to \$41 billion by 2035. Traditional funding sources are expected to cover only half that amount.

Funding for transportation investments comes from many sources, including the U.S. Congress, the Federal Highway Administration, the Federal Transit Administration, the Oregon Legislature, ODOT, Metro, cities, counties, TriMet, South Metro Region Rapid Transit (SMART), the Port of Portland and developers.

Transportation funding has long been primarily a state and federal obligation, financed largely through gas taxes and other user fees. The purchasing power of federal and state gas tax revenues is declining as individuals drive less and fuel efficiency increases. The effectiveness of this revenue source is further eroded because the gas tax is not indexed to inflation. These monies are also largely dedicated to streets and highway – primarily maintenance and preservation – and to a limited extent, system expansion.

We also need to complete gaps in our region’s transit, walking and biking networks to help expand affordable travel options, yet active transportation currently lacks a dedicated funding source. Expansion and operation of the transit system has relied heavily on payroll taxes for operations and competitive federal funding for high capacity transit. But the region’s demand for frequent and reliable transit service exceeds the capacity of the payroll tax to support it.

Until the 2009 passage of the Jobs and Transportation Act (House Bill 2001) raised the state gas tax in 2011 by six cents, this revenue source had not increased since 1993. Similarly, the federal gas tax has not increased since 1993. This failure of fundraising to keep pace with infrastructure needs has been particularly acute in Oregon, as most states have turned to increased sales tax levies to cope with the decrease in purchasing power of federal transportation funding. Lacking a sales tax or other tools, Oregon has focused on bonding strategies based on future revenue at the state level and therefore has not developed a long-term strategy.

As the region's economy and its labor and housing markets continue to recover from the Great Recession, resources remain limited for making the investments needed to support our growing communities. Diminished resources mean reduced ability to maintain, improve and expand existing transportation infrastructure.

As a result, the existing transportation system is incomplete, overburdened and underfunded. Because federal and state funding is not keeping pace with infrastructure operation and maintenance needs, a substantial share of funding for future regional transportation investments has shifted to local revenue sources. Local governments in the Portland metropolitan region (like others in Oregon) have turned to increased tax levies, road maintenance fees, system development charges and traffic impact fees in attempt to keep pace, although some communities have been more successful than others.

The adopted Regional Transportation Plan calls for stabilizing existing transportation revenue sources while securing new and innovative long-term sources of funding adequate to build, operate and maintain the regional transportation system for all modes of travel.



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At a time when local, state and federal resources needed to address our aging infrastructure are limited, we have a unique opportunity to find a better way to support our communities, attract new business, and grow the economy.

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The Climate Smart Communities Scenarios Project has shown that the same kinds of investments that can help address these infrastructure needs can also help achieve our greenhouse gas emissions reduction goals. These kinds of investments will also help communities grow in ways that will support local economies for decades to come. Working together, we can develop the local, regional, state and federal partnerships needed to invest in our communities and realize our plans.

## TODAY'S CHOICES SHAPE THE FUTURE

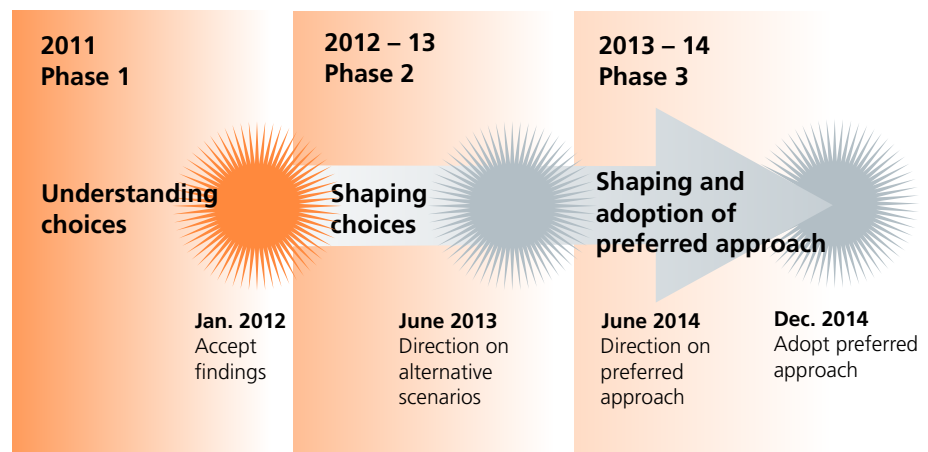
The region's charge from the state is to identify and adopt a preferred approach for meeting the target by December 2014. The choices we make today about how we live, work and get around will shape the future of the region for generations to come. The project is being completed in three phases – and has entered the third and final phase.

The first phase began in 2011 and concluded in early 2012. This phase consisted of testing strategies on a regional level to understand which strategies can most effectively help the region meet the state greenhouse gas emissions reduction mandate.

Most of the investments and actions under consideration are already being implemented to varying degrees across the region to realize community visions and other important economic, social and environmental goals.

As part of the first phase, Metro staff researched strategies used to reduce emissions in communities across the region, nation and around the world. This work resulted in a toolbox describing the range of potential strategies, their effectiveness at reducing emissions and other benefits they could bring to the region, if implemented.

### Climate Smart Communities Scenarios Project timeline





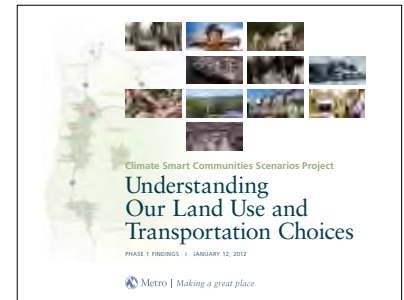
We found there are many ways to reduce emissions while creating healthy, more equitable communities and a vibrant regional economy, but no single solution will enable the region to meet the state’s target.

Investing in communities in ways that support local visions for the future will be key to reducing greenhouse gas emissions. Providing schools, services and shopping near where people live, improving bus and rail transit service, building new street connections, using technology to manage traffic flow, encouraging electric cars and providing safer routes for walking and biking all can help.

The second phase began in 2012 and concluded in October 2013. In this phase, Metro worked with community leaders to shape three approaches – or scenarios – and the criteria to be used to evaluate them. In the summer, 2013, Metro analyzed the three approaches to investing in locally adopted land use and transportation plans and policies.

The purpose of the analysis was to better understand the impact of those investments to inform the development of a preferred approach in 2014. Each scenario reflects choices about how and where the region invests to implement locally adopted plans and visions. They illustrate how different levels of leadership and investment could impact how the region grows over the next 25 years and how those investments might affect different aspects of livability for the region.

The results of the analysis were released in fall 2013.



### Three approaches that we evaluated in 2013

#### SCENARIO



#### Recent Trends

This scenario shows the results of implementing adopted land use and transportation plans to the extent possible with existing revenue.

#### SCENARIO



#### Adopted Plans

This scenario shows the results of successfully implementing adopted plans and achieving the current Regional Transportation Plan which relies on increased revenue.

#### SCENARIO



#### New Plans and Policies

This scenario shows the results of pursuing new policies, more investment and new revenue sources to more fully achieve adopted and emerging plans.

# WHAT WE'VE LEARNED SO FAR

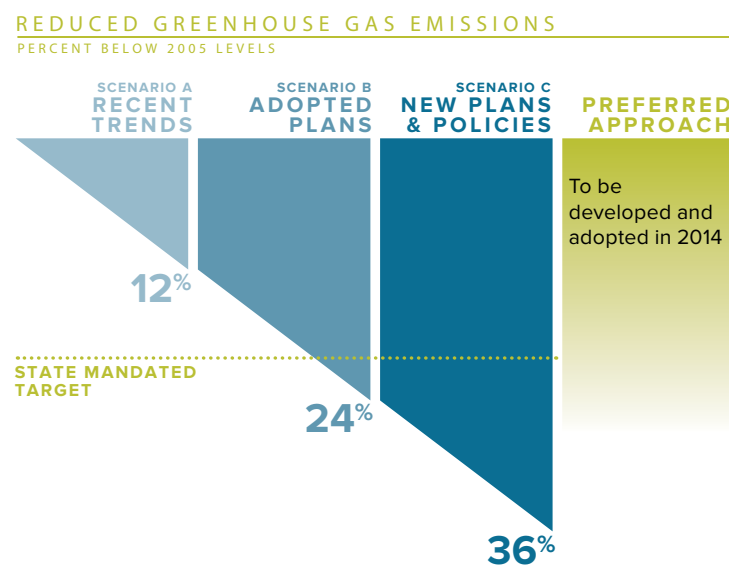
## WE FOUND GOOD NEWS

Our Phase 2 analysis indicates that adopted local and regional plans can meet the state target for reducing greenhouse gas emissions – if we make the investments and take the actions needed to implement those plans and make them a reality.

The analysis also identified potentially significant benefits that can be realized by implementing adopted plans (Scenario B) and new policies and plans (Scenario C), including cleaner air, improved public health and safety, reduced congestion and delay, and travel cost savings that come from driving shorter distances and using more fuel efficient vehicles.

The analysis showed that if we continue investing at our current levels (Scenario A) we will fall short of what has been asked of our region, as well as other outcomes we are working to achieve – healthy communities, clean air and water, reliable travel options, and a strong regional economy.

More results are provided in the “Supplemental Materials” section of this guide.



The reduction target is from 2005 emissions levels after reductions expected from cleaner fuels and more fuel-efficient vehicles.

## BUT THERE IS MORE WORK TO BE DONE

**We're all in this together** Local, regional, state and federal partnerships are needed to make the investments and take the actions needed to implement adopted local and regional plans and meet the state target. Our findings can help the region make the case for the increased investment and new partnerships that will be needed to implement the preferred approach the Metro Council considers for adoption in December 2014.

**Implementation goes hand in hand with community engagement and participation** We must continue working with community leaders to build capacity of organizations and their members to participate in ongoing local and regional planning and implementation efforts. This will help ensure ongoing, meaningful opportunities for participation of public health, social equity and environmental justice leaders and the communities they represent as we move forward to eliminate disparities.

**A transition to cleaner fuels and more fuel-efficient vehicles is essential** Oregon cannot achieve its greenhouse gas emissions reduction goals without the significant advancements in fleet and technology committed to by the state. It is critical for the Oregon Legislature and state commissions to prioritize investments and actions that will catalyze this transition to ensure assumptions used to set our region's emissions reduction target are realized.

**Prioritizing investments that achieve multiple goals in combination with more funding will help us get there** The greatest barrier to implementation is the lack of sufficient funding to make the investments needed for our local and regional plans to become a reality. More state funding is needed to leverage local and regional funding and assist future planning and implementation. With limited funding, it is even more important to prioritize investments that support, healthy, equitable communities and a strong economy, while reducing greenhouse gas emissions to create the future we want for the region.

But first, the Metro Council is asking cities, counties, regional partners and the public to weigh in on which investments and actions from each of the three scenarios should go forward into a preferred approach and how we should pay for the needed investments.



A one-size-fits-all approach won't meet the needs of our diverse communities. A combination of all of the investments and actions under consideration is needed to help us realize our shared vision for making this region a great place for generations to come.

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The Portland metropolitan region pioneered approaches to land use and transportation planning in the past, and is uniquely positioned to address the state climate goals – mainly because the region has solid, well-integrated transportation and land-use systems in place and a history of working together to address complex challenges at a regional scale.

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## MOVING FORWARD

In the 1990s, regional policy discussions centered on how and where the region should grow to protect the things that make this region a great place to live, work and play. Those discussions led to the adoption of the region’s long-range strategy, the 2040 Growth Concept. This strategy reflects shared community values and desired outcomes that continue to resonate today.

The preferred approach will not replace the 2040 Growth Concept nor be a stand-alone plan – instead it will be a set of recommended policies and actions for how the region moves forward to integrate reducing greenhouse gas emissions within ongoing efforts to create the future we want for our region.

### **THROUGH MAY 2014**

Policymakers weigh in on which investments and actions should be included in the region’s preferred approach

### **JUNE 2014**

The Metro Council is asked to provide direction to staff on the draft preferred approach

### **SUMMER 2014**

Evaluation of preferred approach and development of a near-term implementation plan

### **SEPTEMBER 2014**

Final public review of preferred approach

### **DECEMBER 2014**

Metro Council considers adoption of preferred approach

### **JANUARY 2015**

Submit adopted approach to Land Conservation and Development Commission for approval

## WHAT IS THE PREFERRED APPROACH?

The preferred approach will be a set of recommended policies and actions for how the region moves forward to integrate reducing greenhouse gas emissions with ongoing efforts to create the future we want for our region.

**LEGISLATION** The Metro Council will consider adoption of legislation signaling the region's commitment to the preferred approach through the ongoing implementation of the 2040 Growth Concept. The legislation will include:

**POLICIES** Regional Framework Plan (RFP) amendments

- Changes to refine existing RFP policies and/or add new policies to achieve the preferred approach.

**ACTIONS** Recommended actions

- Menu of investments and other tools needed to achieve preferred approach that can be tailored by each community to implement local visions.
- Near-term actions needed to implement and achieve preferred approach. This could include:
  - state and federal legislative agendas that request funding, policy changes or other tools needed to achieve preferred approach
  - identification of potential/likely funding mechanisms for key actions
  - direction to the 2018 Regional Transportation Plan update
  - direction to future growth management decisions
  - direction for functional plan amendments that guide local implementation, if needed.
- Monitoring and reporting system that builds on existing performance monitoring requirements per ORS 197.301 and updates to the Regional Transportation Plan.



Through this collaborative effort, we can identify how the region should work together to develop new kinds of leadership and the local, regional, state and federal partnerships needed to invest in communities to make local and regional plans a reality.

# POLICY QUESTIONS FOR 2014

## WHAT CHOICES HAVE BEEN MADE?

In February, the Metro Policy Advisory Committee and Joint Policy Advisory Committee on Transportation approved a path for moving forward with an eight-step process to shape and adopt a preferred approach in 2014. As recommended by MPAC and JPACT, the preferred approach will start with the plans cities, counties and the region have already adopted – from local zoning, capital improvement plans, and comprehensive, and transportation system plans to the 2040 Growth Concept and regional transportation plan – to create great communities and build a vibrant economy.

This includes managing the urban growth boundary through regular growth management cycles (currently every six years). In addition, MPAC and JPACT agreed to include assumptions for cleaner fuels and more fuel-efficient vehicles as defined by state agencies during the 2011 target-setting process. A third component they recommended be included in the preferred approach is the Statewide Transportation Strategy assumption for vehicle insurance paid by the miles driven.

### WHAT CHOICES HAVE BEEN MADE?

In January and February of 2014, MPAC, JPACT and the Metro Council agreed these elements should be included in the draft preferred approach as a starting point:

- Implement adopted regional and local plans**  
Implement the 2040 Growth Concept and local zoning, comprehensive and transportation plans and manage the urban growth boundary through regular growth management cycles.
- Transition to cleaner fuels and fuel-efficient vehicles**  
Rely on state fleet and technology assumptions used when setting our region's target.
- Promote vehicle insurance paid by the miles driven**  
Use state assumptions for pay-as-you-drive insurance.

## WHAT CHOICES DO WE STILL NEED TO MAKE?

Since January 2014, the Metro Council has engaged community and business leaders, local governments and the public on what mix of investments and actions best support their community's vision for healthy and equitable communities and a strong economy while reducing greenhouse gas emissions.

Through May 2014, policymakers will consider the results of the engagement activities and scenarios evaluation as they weigh in on these policy questions:

- 1. How much transit should we provide by 2035?**
- 2. How much should we use technology to actively manage the transportation system by 2035?**
- 3. How much should we expand the reach of travel information programs by 2035?**
- 4. How much of the planned active transportation network should we complete by 2035?**
- 5. How much of the planned street and highway network should we complete by 2035?**
- 6. How should local communities manage parking by 2035?**
- 7. How should we pay for our investment choices by 2035??**

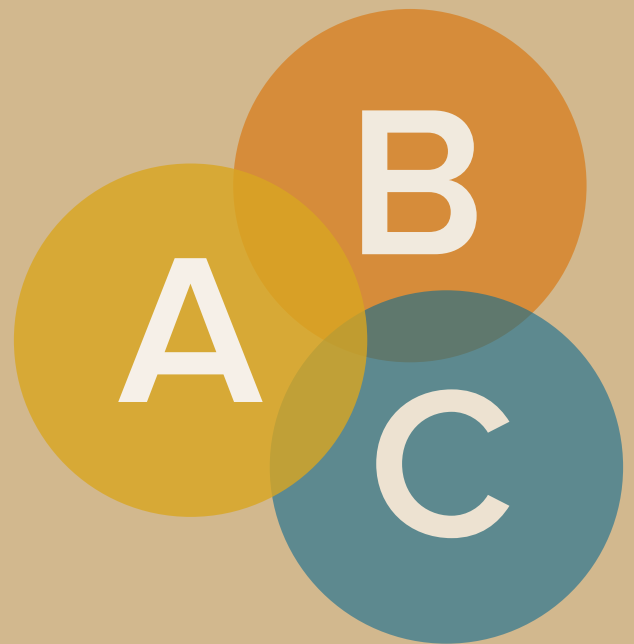






# POLICY AREAS

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# OVERVIEW OF POLICY AREAS

This section provides background information on the seven policy areas being considered by the region’s policymakers:

- Make transit more convenient, frequent, accessible and affordable
- Use technology to actively manage the transportation system
- Provide information and incentives to expand the use of travel options
- Make biking and walking more safe and convenient
- Make streets and highways more safe, reliable and connected
- Manage parking to make efficient use of parking resources
- Identify potential ways to pay for our investment choices

The first three pages include a description of the policy, its potential climate benefit, cost, implementation benefits and challenges, and a summary of the how the policy is implemented for each scenario. The last page of each description summarizes emerging themes and specific comments provided during project public engagement activities.

## EXPLANATION OF THE CLIMATE BENEFIT RATINGS

In Phase 1 of the project, staff conducted a sensitivity analysis to better understand the greenhouse gas emissions reduction potential of individual policies. The information derived from the sensitivity analysis was used to develop a five-star rating system for communicating the relative climate benefits of different policies. The ratings represent the potential effects of individual policy areas in isolation and do not capture variations that may occur from synergies between multiple policies.

### Estimated reductions assumed in climate benefits ratings

less than 1%	★ ★ ★ ★ ★
1 – 2%	★ ★ ★ ★ ★
3 – 6%	★ ★ ★ ★ ★
7 – 15%	★ ★ ★ ★ ★
16 – 20%	★ ★ ★ ★ ★

**Source** Memo to TPAC and interested parties on Climate Smart Communities: Phase 1 Metropolitan GreenSTEP scenarios sensitivity analysis (June 21, 2012)

### EXPLANATION OF THE RELATIVE COST RATINGS

Like the relative climate benefit ratings, the cost ratings provide a quick reference for comparing the relative cost of investments between policy areas. The estimated cost of each policy area for each scenario is provided below.

The relative climate benefit and cost ratings are provided to simplify information presented for purposes of discussion.

### ESTIMATED COSTS FOR EACH SCENARIO BY POLICY AREA (2014\$)

	SCENARIO <b>A</b>	SCENARIO <b>B</b>	SCENARIO <b>C</b>
<b>Transit capital</b>	\$590 million	\$1.9 billion	\$5.1 billion
<b>Transit operations</b>	\$4.8 billion	\$5.3 billion	\$9.5 billion
<b>Technology</b>	\$113 million	\$135 million	\$193 million
<b>Information</b>	\$99 million	\$124 million	\$234 million
<b>Active transportation</b>	\$57 million	\$948 million	\$3.9 million
<b>Streets and highways capital<sup>1</sup></b>	\$162 million	\$8.8 billion	\$11.8 billion
<b>Parking</b>	n/a	n/a	n/a
<b>Total costs</b>	<b>\$6 billion</b>	<b>\$17 billion</b>	<b>\$31 billion</b>



RELATIVE CLIMATE BENEFIT



RELATIVE COST



## Make transit more convenient, frequent, accessible and affordable

There are four key ways to make transit service more convenient, frequent, accessible and affordable. The effectiveness of each will vary depending on the mix of nearby land uses, the number of people living and working in the area, and the extent to which travel information, marketing and technology are used.

**Frequency** Increasing the frequency of transit service in combination with transit signal priority and bus lanes makes transit faster and more convenient.

**System expansion** Providing new community and regional transit connections improves access to jobs and community services and makes it easier to complete some trips without multiple transfers.

**Transit access** Building safe and direct walking and biking routes and crossings that connect to stops makes transit more accessible and convenient.

**Fares** Providing reduced fares makes transit more affordable; effectiveness depends on the design of the fare system and the cost.

Transit is provided in the region by TriMet and South Metro Area Rapid Transit (SMART) in partnership with Metro, cities, counties, employers, business associations and non-profit organizations.

### BENEFITS

- improves access to jobs, the workforce, and goods and services, boosting business revenues
- creates jobs and saves consumers and employers money
- stimulates development, generating local and state revenue
- provides drivers an alternative to congested roadways and supports freight movements by taking cars off the road
- increases physical activity
- reduces air pollution and air toxics
- reduces risk of traffic fatalities and injuries

### CHALLENGES

- transit demand outpacing funding
- enhancing existing service while expanding coverage and frequency to growing areas
- reduced revenue and federal funding, leading to increased fares and service cuts
- preserving affordable housing options near transit
- ensuring safe and comfortable access to transit for pedestrians, cyclists and drivers
- transit-dependent populations locating in parts of the region that are harder to serve with transit

# How much transit should we provide by 2035?

## TRANSIT AT A GLANCE

	SCENARIO <b>A</b>	SCENARIO <b>B</b>	SCENARIO <b>C</b>
<b>Daily revenue hours</b>	5,600	6,200	11,200
<b>Service expansion</b> <i>(increase from 2010 level)</i>	14% increase	27% increase	129% increase
<b>Rush hour frequency</b>	10-minute service on 10 routes	10-minute service on 13 routes	10-minute service on 37 routes
<b>Off-peak frequency</b>	30-minute service on most routes	20-minute service on most routes	15 or 20-minute service on most routes
<b>New high capacity transit connections</b>	None	Planned connections completed, such as the extension to Vancouver, WA	All regional centers and more town centers served  Priority high capacity transit system plan and Southwest Corridor completed
<b>Other service enhancements</b>	Westside Express Service (WES) and Portland streetcar operate at 2010 frequencies	Same as Scenario A, plus more planned Portland streetcar connections completed	WES operates all day with 15-minute service  Locally-developed Service Enhancement Plans (SEPs) and the planned Portland Streetcar System Plan mostly completed
<b>Public and private shuttles</b>	Existing private shuttles continue to operate between large work sites and major transit stops	Additional major employers and some community-based organizations work with TriMet to operate shuttles	More major employers and some community-based organizations work with TriMet to operate shuttles
<b>Fares</b>	Reduced fares provided to youth, older adults and disabled persons	Same as Scenario A	Same as Scenario A, plus reduced fares provided to low-income families
<b>Estimated capital cost* (2014\$)</b>	<b>\$590 million</b>	<b>\$1.9 billion</b>	<b>\$5.1 billion</b>
<b>Estimated service operating costs** (2014\$)</b>	<b>\$4.8 billion</b>	<b>\$5.3 billion</b>	<b>\$9.5 billion</b>

\* Capital costs reflect HCT capital costs plus fleet replacement and expansion costs.

\*\* Operating costs for TriMet service were calculated by annualizing the daily revenue hours proposed for each scenario and applying TriMet's average operating cost per revenue hour, with cost by mode weighted by the proportion of service provided on each mode. SMART operating costs were calculated by assuming SMART's FY 11-12 annual operating costs are maintained through 2035.

(See Supplemental materials section, Phase 2: Transit Access at a Glance.)

## SCENARIO

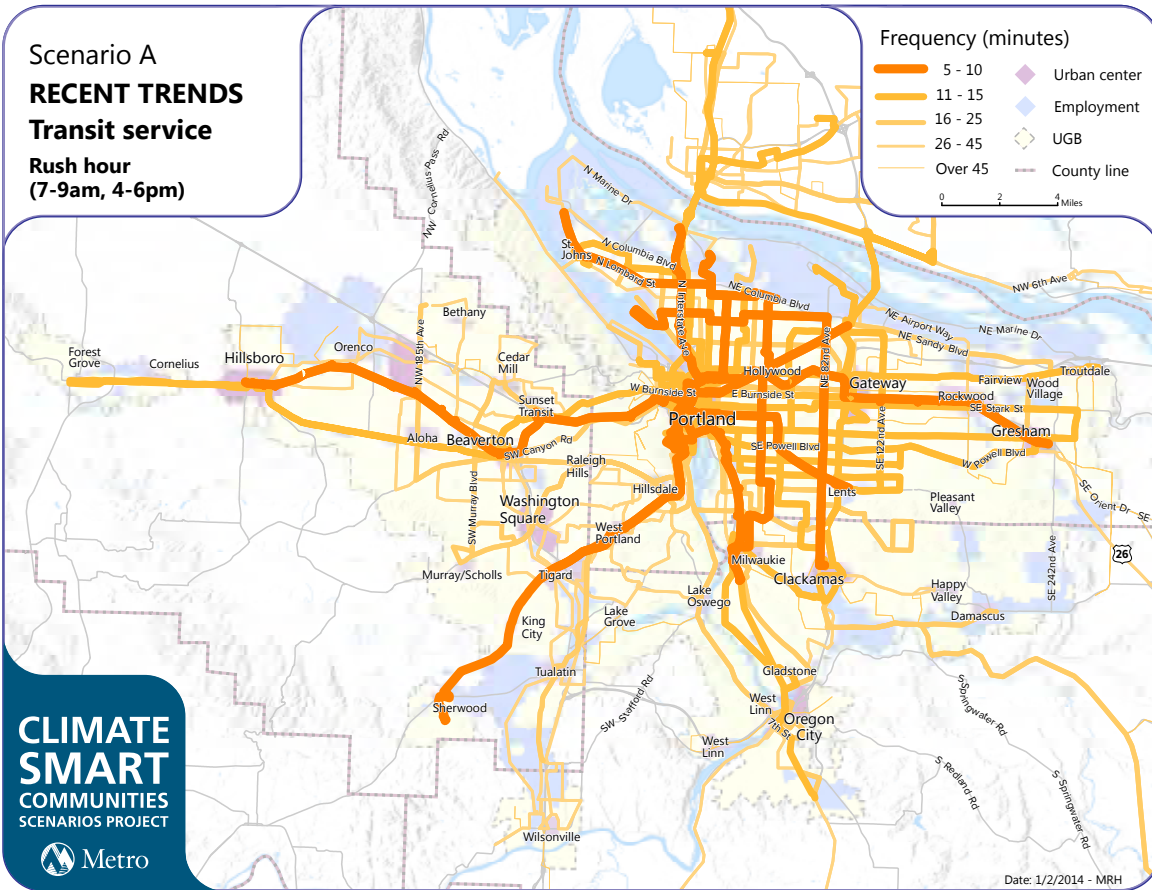


### Recent Trends

This scenario shows the results of implementing adopted land use and transportation plans to the extent possible with existing revenue.

**17% jobs**  
**24% households**  
**31% low-income households**

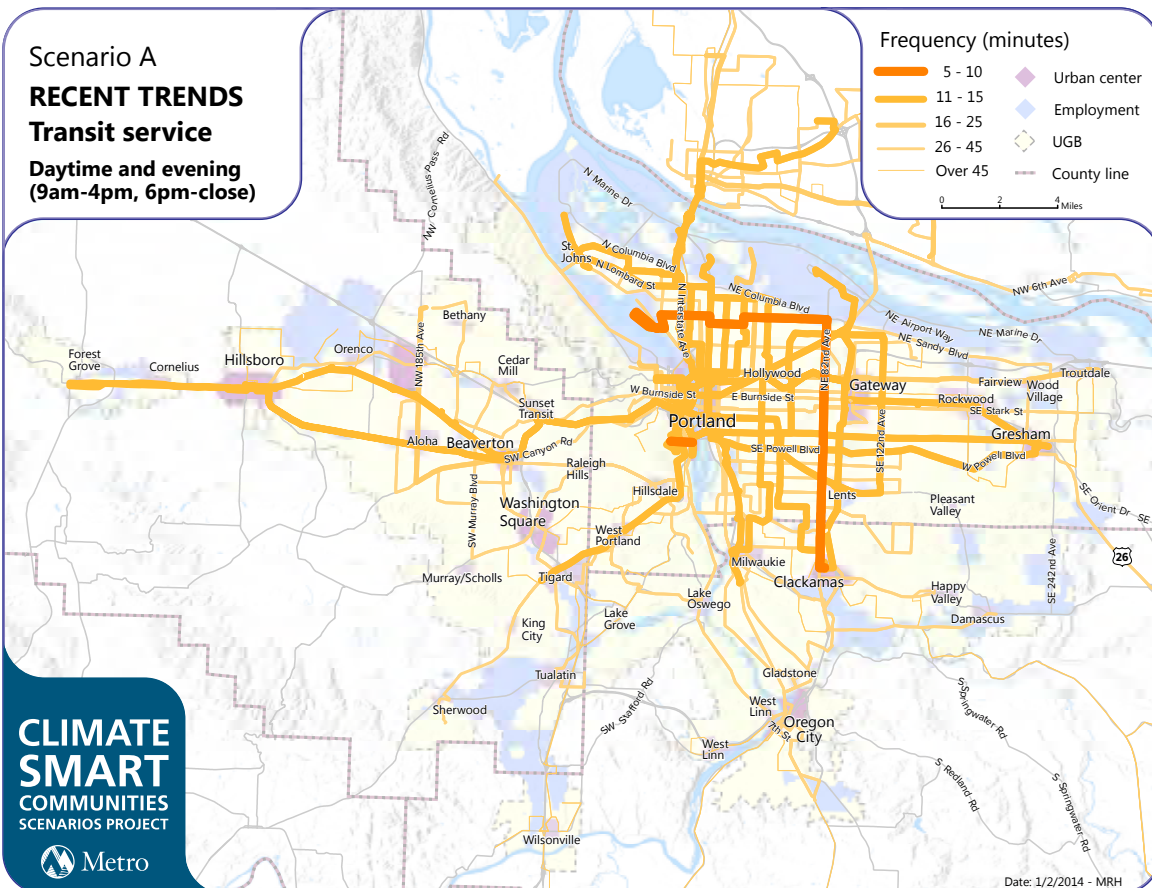
Estimated jobs and households within ¼-mile of 10-minute or better service by 2035



**CLIMATE SMART COMMUNITIES SCENARIOS PROJECT**  
Metro

**6% jobs**  
**4% households**  
**5% low-income households**

Estimated jobs and households within ¼-mile of 10-minute or better service by 2035



**CLIMATE SMART COMMUNITIES SCENARIOS PROJECT**  
Metro

**SCENARIO**

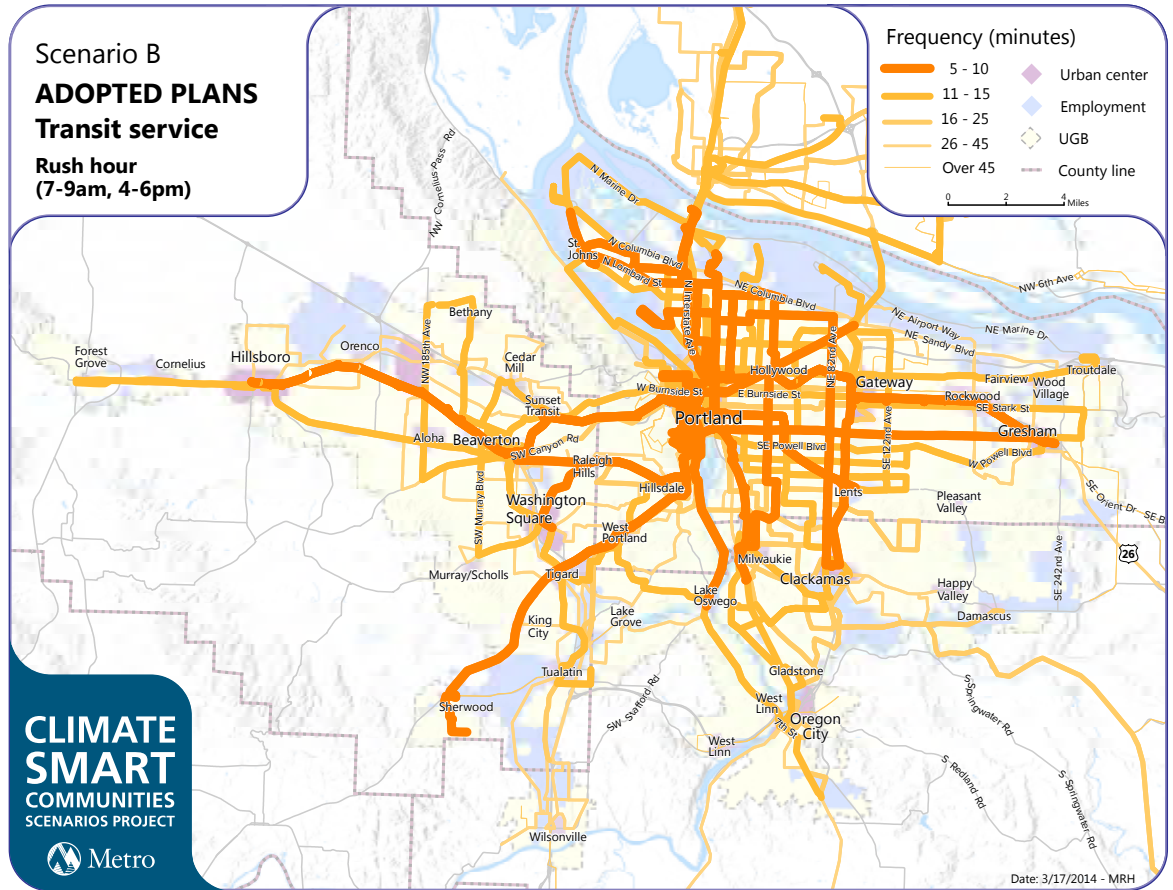
**B**

**Adopted Plans**

This scenario shows the results of successfully implementing adopted plans and achieving the current Regional Transportation Plan, which relies on increased revenue.

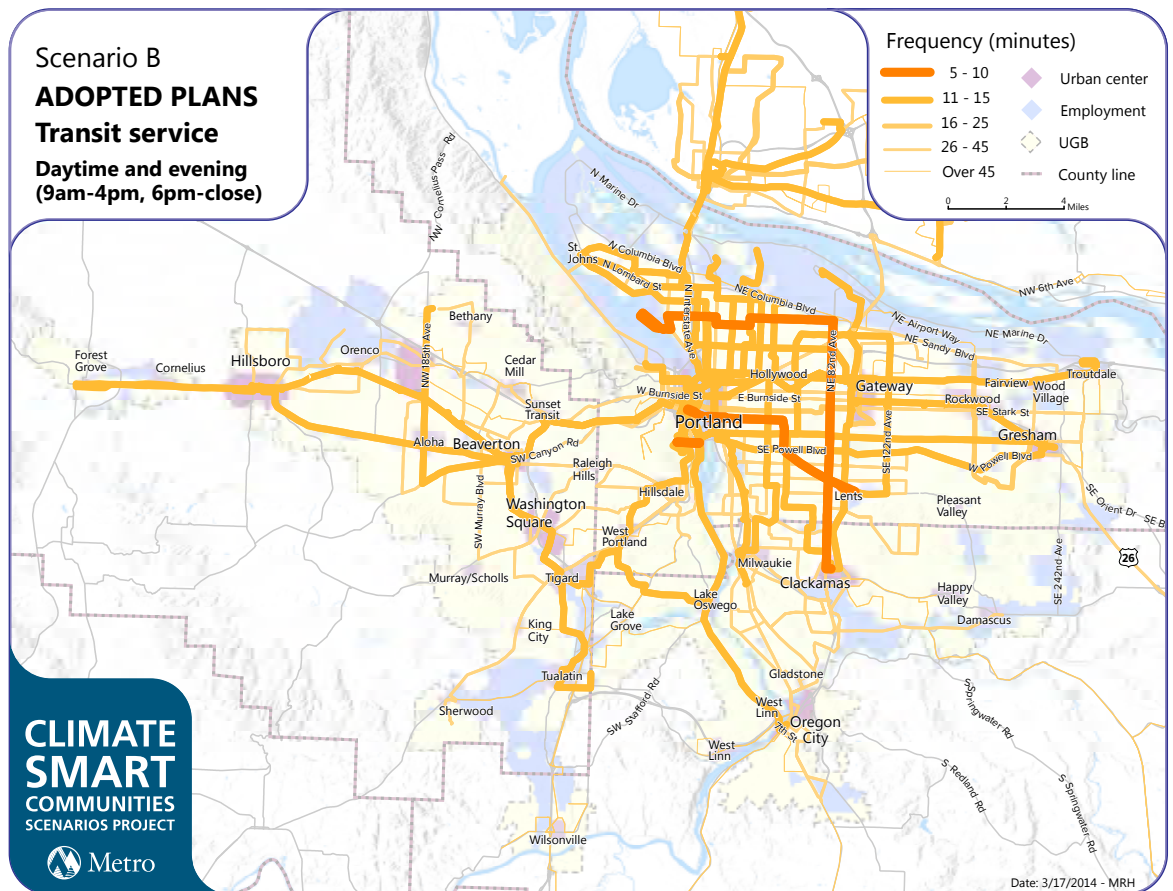
**36% jobs**  
**27% households**  
**34% low-income households**

Estimated jobs and households within ¼-mile of 10-minute or better service by 2035



**9% jobs**  
**4% households**  
**6% low-income households**

Estimated jobs and households within ¼-mile of 10-minute or better service by 2035





**Scenario C  
NEW PLANS &  
POLICIES  
Transit service  
Rush hour  
(7-9am, 4-6pm)**

**SCENARIO**

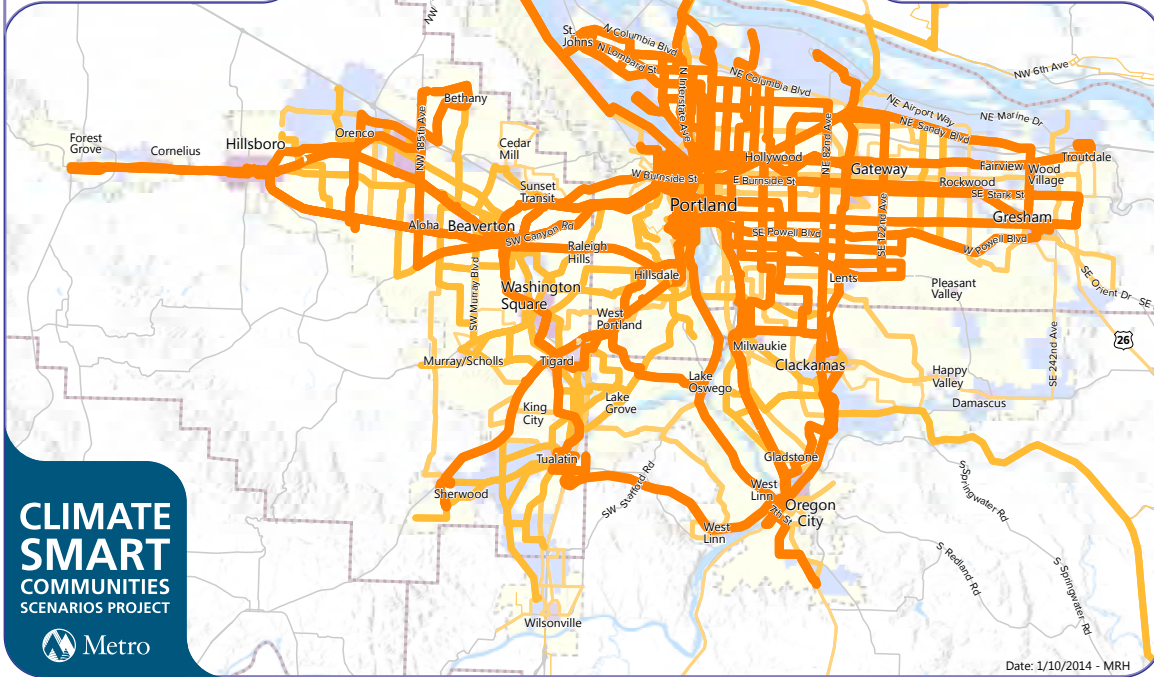
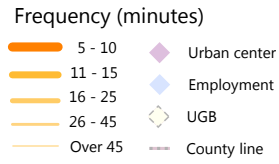


**New Plans  
and Policies**

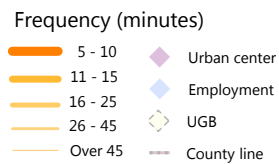
This scenario shows the results of pursuing new policies, more investment and new revenue sources to more fully achieve adopted and emerging plans.

**63% jobs  
32% households  
40% low-income  
households**

Estimated jobs and households within 1/4-mile of 10-minute or better service by 2035

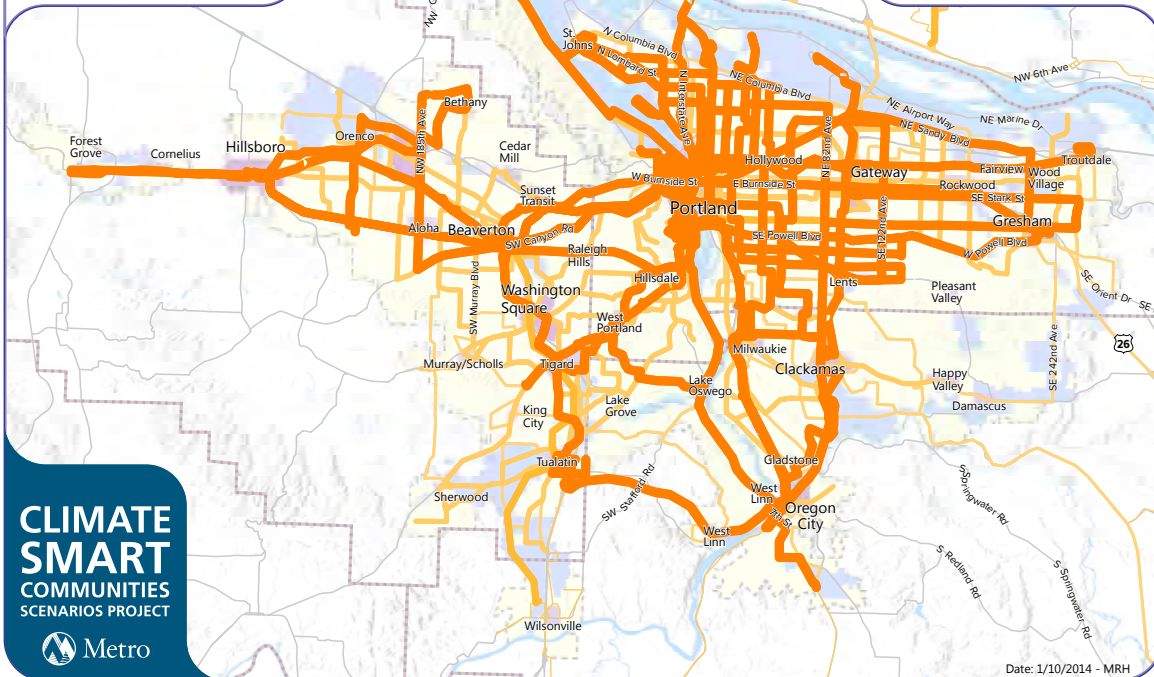


**Scenario C  
NEW PLANS &  
POLICIES  
Transit service  
Daytime and evening  
(9am-4pm, 6pm-close)**



**63% jobs  
20% households  
26% low-income  
households**

Estimated jobs and households within 1/4-mile of 10-minute or better service by 2035



# What people are saying

*Transit needs to be more frequent, affordable and connected to more places people want to go.*

*To increase the accessibility and affordability of public transit is just paramount.*

*I think we would have great results if we added more to the bus system...because the bus system is very efficient.*

# Emerging themes

- Transit was universally seen as the highest priority investment area because of its high potential to reduce emissions while improving access to jobs and services and supporting other community goals.
- The cost of transit must be kept affordable, particularly for people with disabilities, youth, older adults and those with limited incomes.
- Integration with land use, active transportation, information, technology and a well-connected street system will help transit be more convenient and accessible for more people.
- Important to seek creative local transit service options and partnerships that fit the needs of smaller communities, including shuttles to support crucial last-mile connections.
- Prioritize low-income communities for bus service improvements and ensure that affordable housing and transportation options remain after major transit investments are made in a community.
- More funding for transit is needed.

# Key takeaways to share with others

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RELATIVE CLIMATE BENEFIT



RELATIVE COST



## Use technology to actively manage the transportation system

Using technology to actively manage the Portland metropolitan region’s transportation system means using intelligent transportation systems (ITS) and services to reduce vehicle idling associated with delay, making walking and biking more safe and convenient, and helping improve the speed and reliability of transit. Nearly half of all congestion is caused by incidents and other factors that can be addressed using these strategies.

Local, regional and state agencies work together to implement technologies. Agreements between agencies guide sharing of data and technology, operating procedures for managing traffic, and the ongoing maintenance and enhancement of technology, data collection and monitoring systems.

**Arterial corridor management** includes advanced technology at each intersection to actively manage traffic flow. This may include coordinated or adaptive signal timing; advanced signal operations such as cameras, flashing yellow arrows, bike signals and pedestrian count down signs; and communication to a local traffic operations center and the centralized traffic signal system.

**Freeway corridor management** includes advanced technology to manage access to the freeways, detect traffic levels and weather conditions, provide information with variable message signs and variable speed limit signs, and deploying incident response patrols that quickly clear breakdowns, crashes and debris. These tools connect to a regional traffic operations center.

**Traveler information** includes using variable message and speed signs and 511 internet and phone services to provide travelers with up-to-date information regarding traffic and weather conditions, incidents, travel times, alternate routes, construction, or special events.

### BENEFITS

- provides near-term benefits
- reduces congestion and delay
- makes traveler experience more reliable
- saves public agencies, consumers and businesses time and money
- reduces air pollution and air toxics
- reduces risk of traffic fatalities and injuries

### CHALLENGES

- requires ongoing funding to maintain operations and monitoring systems
- requires significant cross-jurisdictional coordination
- workforce training gaps

# How much should we use technology to actively manage the transportation system by 2035?

## TECHNOLOGY AT A GLANCE

	SCENARIO <b>A</b>	SCENARIO <b>B</b>	SCENARIO <b>C</b>
<b>Advanced traffic signal operations</b>	Traffic signals on some major arterials	Traffic signals on many major arterials	All traffic signals are connected to a centralized system
<b>Transit signal priority</b>	Some bus routes with 10-minute service	All bus routes with 10-minute service	All bus routes with 10-minute service
<b>Freeway ramp meters</b>	Most urban interchanges	Same as Scenario A	All urban interchanges
<b>Freeway variable speed signs</b>	None	Deployed in most high incident locations	Deployed in all high incident locations
<b>Incident response patrols</b>	Some incident response patrols are deployed on area freeways	More incident response patrols are deployed on area freeways	Incident response patrols are deployed on area freeways and major arterials adjacent to freeways
<b>Estimated cost (2014\$)</b>	<b>\$113 million</b>	<b>\$135 million</b>	<b>\$193 million</b>

### SCENARIO



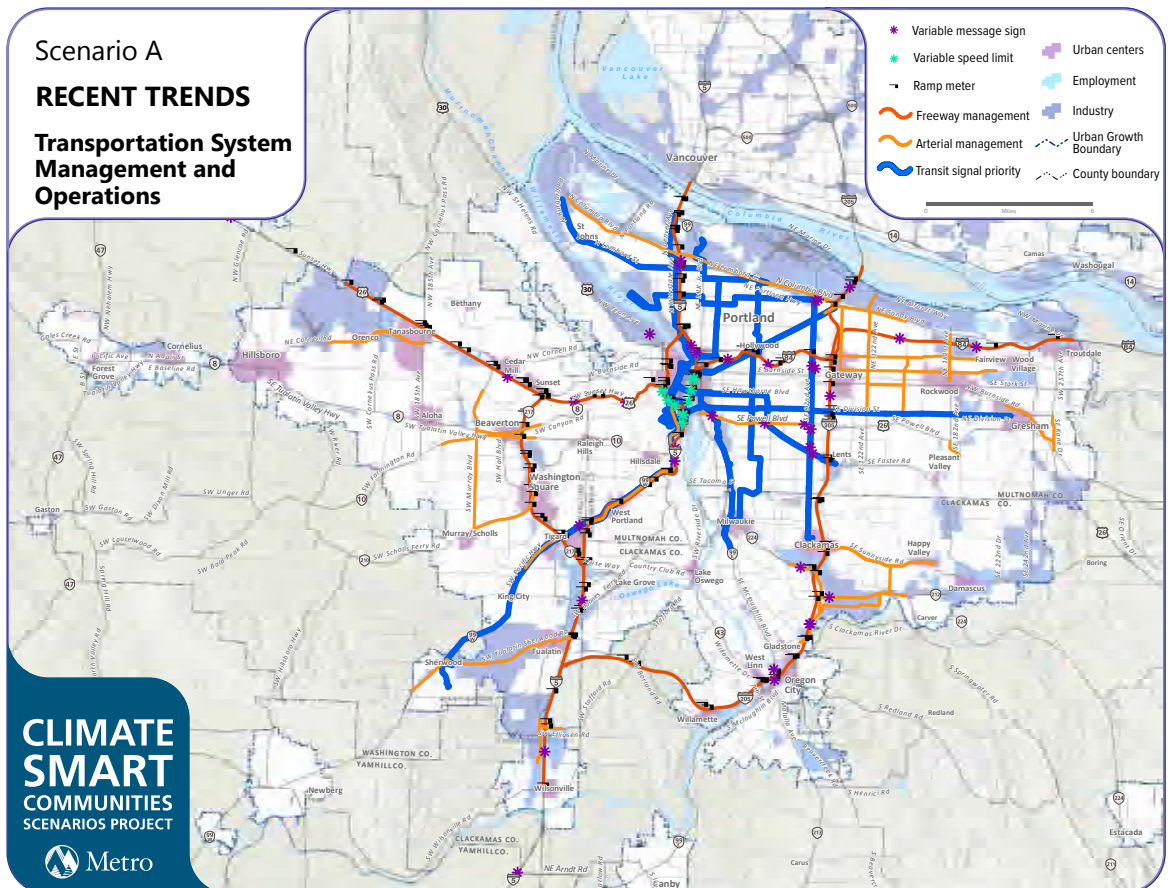
#### Recent Trends

This scenario shows the results of implementing adopted land use and transportation plans to the extent possible with existing revenue.

#### 10% on arterials and freeways

Estimated delay reduction by 2035

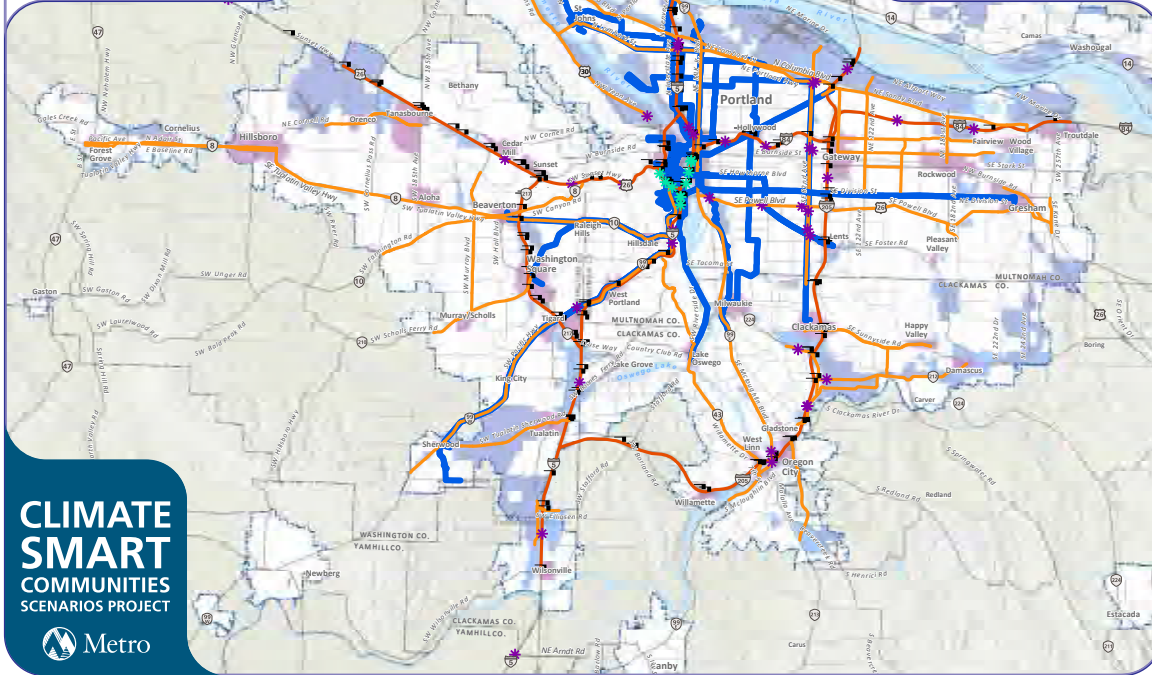
**Note** These maps are for research purposes only and do not reflect current or future policy decisions of the Metro Council, MPAC or JPACT.



Scenario B

**ADOPTED PLANS**

**Transportation System Management and Operations**



**CLIMATE SMART COMMUNITIES SCENARIOS PROJECT**



**SCENARIO**



**Adopted Plans**

This scenario shows the results of successfully implementing adopted plans and achieving the current Regional Transportation Plan, which relies on increased revenue.

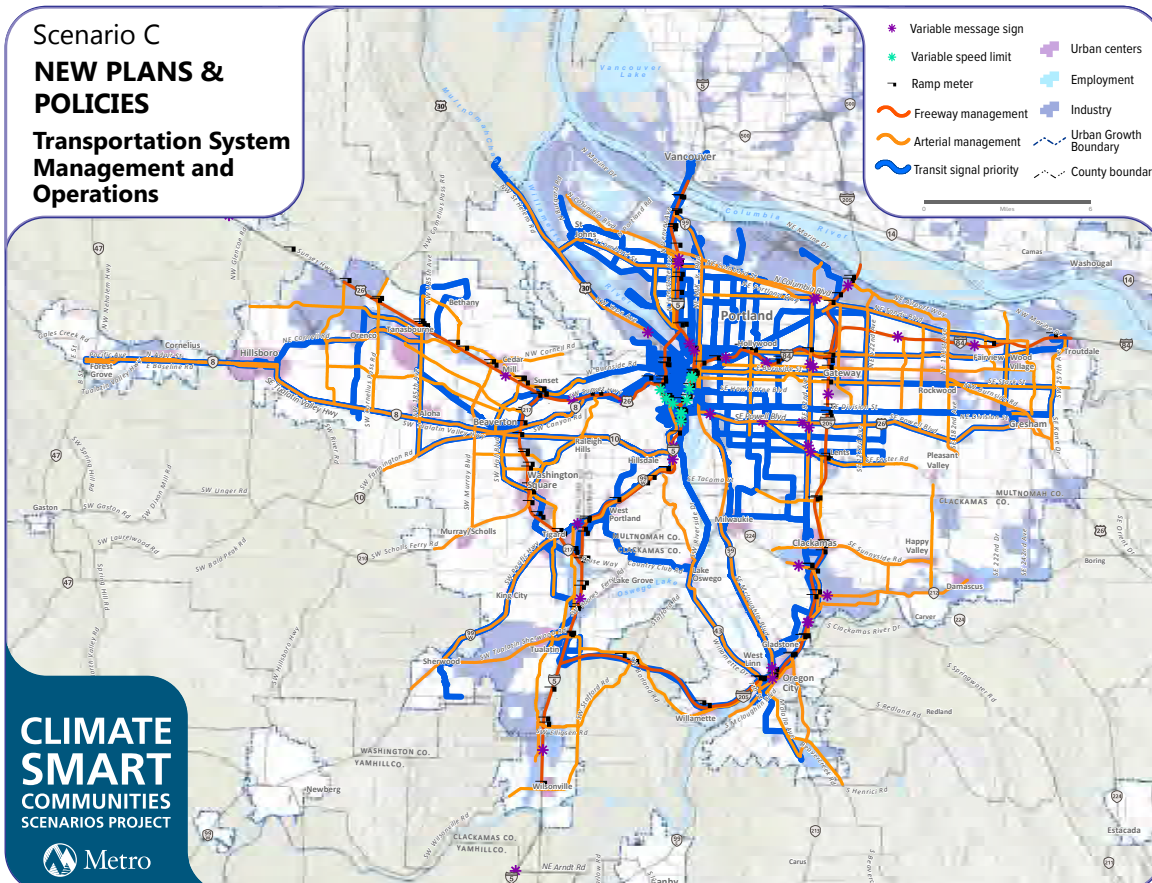
**20% on arterials and freeways**

Estimated delay reduction by 2035

Scenario C

**NEW PLANS & POLICIES**

**Transportation System Management and Operations**



**CLIMATE SMART COMMUNITIES SCENARIOS PROJECT**



**SCENARIO**



**New Plans and Policies**

This scenario shows the results of pursuing new policies, more investment and new revenue sources to more fully achieve adopted and emerging plans.

**35% on arterials and freeways**

Estimated delay reduction by 2035

## What people are saying

*Do as much as you can with technology before widening or building new roads to help save money.*

*Intelligent transportation systems help freight move more efficiently and reliably.*

*Drivers need to get the info about delays before they begin their trip.*

## Emerging themes

- This is a low-cost strategy with immediate benefits that support other capital investments and should be moved forward.
- When compared to traditional capital investments, such as new transit service, roads or additional lanes, these kinds of solutions offer high returns for a comparatively low cost, and can delay or remove the need for additional capital-intensive infrastructure.
- Reducing delay and increasing reliability of the freight network is critical for the health our regional economy.
- Provide comprehensive real-time traveler information to people and businesses before they begin their trip.

## Key takeaways to share with others

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RELATIVE CLIMATE BENEFIT



RELATIVE COST



## Provide information and incentives to expand use of travel options

Public awareness, education and travel options support tools are cost-effective ways to improve the efficiency of the existing transportation system through increased use of travel options such as walking, biking, carsharing, carpooling and taking transit. Local, regional and state agencies work together with businesses and non-profit organizations to implement programs in coordination with other capital investments. Metro coordinates partners' efforts, sets strategic direction, evaluates outcomes, and manages grant funding.

**Public awareness strategies** include promoting information about travel choices and teaching the public about eco-driving: maintaining vehicles to operate more efficiently and practicing driving habits that can help save time and money while reducing greenhouse emissions.

**Commuter programs** are employer-based outreach efforts that include (1) financial incentives, such as transit pass programs and offering cash instead of parking subsidies; (2) facilities and services, such as carpooling programs, bicycle parking, emergency rides home, and work- place competitions; and (3) flexible scheduling such as working from home or compressed work weeks.

**Individualized Marketing (IM)** is an outreach method that encourages individuals, families or employees interested in making changes in their travel choices to participate in a program. A combination of information and incentives is tailored to each person's or family's specific travel needs. IM can be part of a comprehensive commuter program.

**Travel options support tools** reduce barriers to travel options and support continued use with tools such as the *Drive Less. Connect.* online carpool matching; trip planning tools; wayfinding signage; bike racks; and carsharing.

### BENEFITS

- increases cost-effectiveness of capital investments in transportation
- saves public agencies, consumers and businesses time and money
- preserves road capacity
- reduces congestion and delay
- increases physical activity and reduces health care costs
- reduces air pollution and air toxics

### CHALLENGES

- program partners need ongoing tools and resources to increase outcomes
- factors such as families with children, long transit times, night and weekend work shifts not served by transit
- major gaps exist in walking and biking routes across the region
- consistent data collection to support performance measurement

# How much should we expand the reach of travel information programs by 2035?

## TRAVEL INFORMATION PROGRAMS AT A GLANCE

	SCENARIO <b>A</b>	SCENARIO <b>B</b>	SCENARIO <b>C</b>
<b>Individualized marketing participation</b>	30% of households	Same as Scenario A	60% of households participate  Same as Scenario B plus the addition of Safe Routes to school and equity-based campaigns
<b>Commuter program participation</b>	20% of employees reached (same as 2010)  Oregon Employee Commute Options (ECO) rules require work sites with more than 100 employees to have workplace programs	Same as Scenario A	40% of employees reached  ECO rules now include work sites with more than 50 employees
<b>Public awareness marketing campaign</b>	50% of public reached  Existing ongoing and short-term campaigns lead to more awareness of <i>DriveLess. Connect.</i>	Same as Scenario A plus added resources promote new travel tools, regional efforts and safety education	60% of public reached  Scenario B plus regionally specific campaigns dedicated to safety and underserved communities
<b>Eco-driving participation</b>	0% of households reached (same as 2010)  Statewide program is newly launched	30% of households reached	60% of households reached
<b>Provisions of travel options support tools</b>	2010 program funding levels allow for completion of several new wayfinding signage and bike rack projects	Same as Scenario A plus public-private partnerships to create new online, print and on-street travel tools	Same as Scenario B plus better public-private data integration and more resources for more support tools
<b>Estimated cost (2014\$)</b>	<b>\$99 million</b>	<b>\$124 million</b>	<b>\$234 million</b>

### SCENARIO



#### Recent Trends

This scenario shows the results of implementing adopted land use and transportation plans to the extent possible with existing revenue.

### SCENARIO



#### Adopted Plans

This scenario shows the results of successfully implementing adopted plans and achieving the current Regional Transportation Plan, which relies on increased revenue.

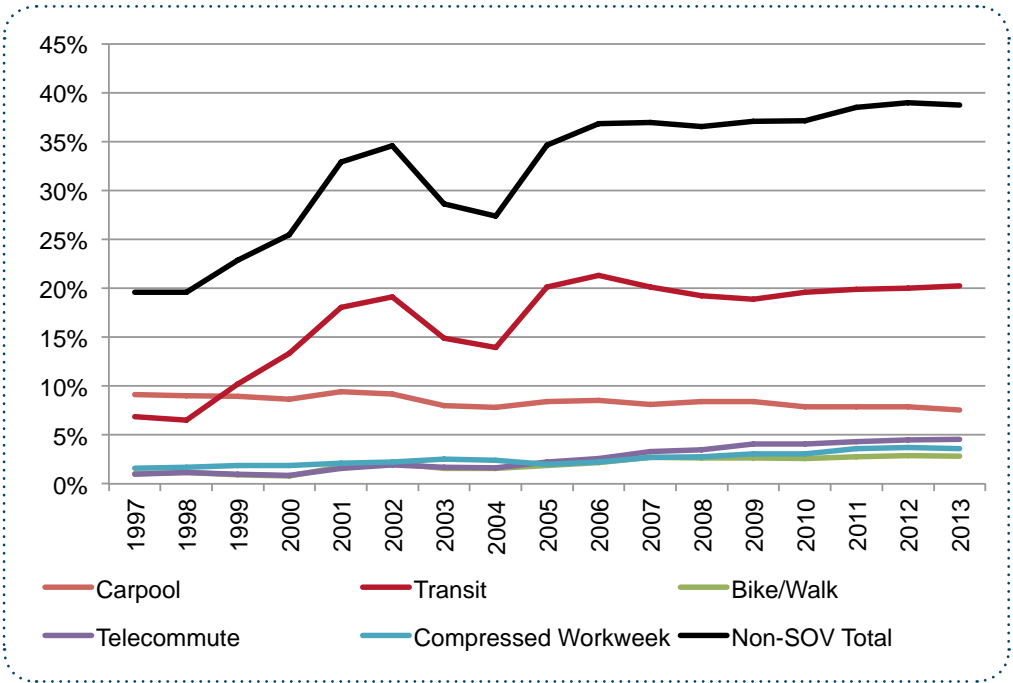
### SCENARIO



#### New Plans and Policies

This scenario shows the results of pursuing new policies, more investment and new revenue sources to more fully achieve adopted and emerging plans.





**EFFECTIVENESS OF EMPLOYER COMMUTER PROGRAMS (1997 - 2013)**

The TriMet, Wilsonville SMART and TMA employer outreach programs have made significant progress with reducing drive-alone trips. Since 1996, employee commute trips that used non drive-alone modes (transit, bicycling, walking, carpooling/vanpooling and telecommuting) rose from 20% to over 39% among participating employers.

**EFFECTIVENESS OF COMMUNITY AND NEIGHBORHOOD PROGRAMS**

Community outreach programs such as Portland Sunday Parkways and Wilsonville Sunday Streets encourage residents to use travel options by exploring their neighborhoods on foot and bike without motorized traffic. Sunday Parkways events have attracted 400,000 attendees since 2008 and the Wilsonville Sunday Streets event attracted more than 5,000 participants in 2012.

Other examples of valuable community outreach and educational programs include the Community Cycling Center’s program to reduce barriers to biking and Metro’s Vámonos program, both of which provide communities across the region with the skills and resources to become more active by walking, biking, and using transit for their transportation needs.

In 2004, the City of Portland launched the Interstate TravelSmart individualized marketing project in conjunction with the opening of the MAX Yellow Line. Households that received individualized marketing made nearly twice as many transit trips compared to a similar group of households that did not participate in the marketing campaign. In addition, transit use increased nearly 15 percent during the SmartTrips project along the MAX Green Line in 2010. Follow-up surveys show that household travel behavior is sustained for at least two years after a project has been completed.



# What people are saying

*Tailored and personalized marketing campaigns can be more individualized – making them more effective.*

*Success depends on the availability of transit and other options.*

*Work trips are only 30% of all trips – so we need to focus beyond work place campaigns.*

# Emerging themes

- Incentives need to be marketed through employers.
- Travel information needs to be leveraged electronically to take advantage of how many people prefer to access and receive information, such as smart phone apps, the internet and social media..
- Information and marketing campaigns should be culturally relevant, sensitive to different languages and cultures and respond to changing demographics in the region.
- Incentives and investment in end-of-trip facilities are important to encourage greater use of commute options among employees, such as secure bike parking, showers and changing rooms for employees.

# Key takeaways to share with others

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RELATIVE CLIMATE BENEFIT



RELATIVE COST



## Make biking and walking more convenient

Active transportation is human-powered travel that engages people in healthy physical activity while they go from place to place. Examples include walking, biking, pushing strollers, using wheelchairs or other mobility devices, skateboarding, and rollerblading. Active transportation is an essential component of public transportation because most of these trips begin and end with walking or biking.

Today, about 50 percent of the regional active transportation network is complete. Nearly 18 percent of all trips in the region are made by walking and biking, a higher share than many other places. Approximately 45 percent of all trips made by car in the region are less than three miles and 15 percent are less than one mile. With a complete active transportation network supported by education and incentives, many of the short trips made by car could be replaced by walking and biking. (See separate summary on providing information and incentives to expand use of travel options.)

For active travel, transitioning between modes is easy when sidewalks and bicycle routes are connected and complete, wayfinding is coordinated, and transit stops are connected by sidewalks and have shelters and places to sit. Biking to work and other places is supported when bicycles are accommodated on transit vehicles, safe and secure bicycle parking is available at transit shelters and community destinations, and adequate room is provided for walkers and bicyclists on shared pathways. Regional trails and transit function better when they are integrated with on-street walking and biking routes.

### BENEFITS

- increases access to jobs and services
- provides low-cost travel options
- supports economic development, local businesses and tourism
- increases physical activity and reduces health care costs
- reduces air pollution and air toxics
- reduces risk of traffic fatalities and injuries

### CHALLENGES

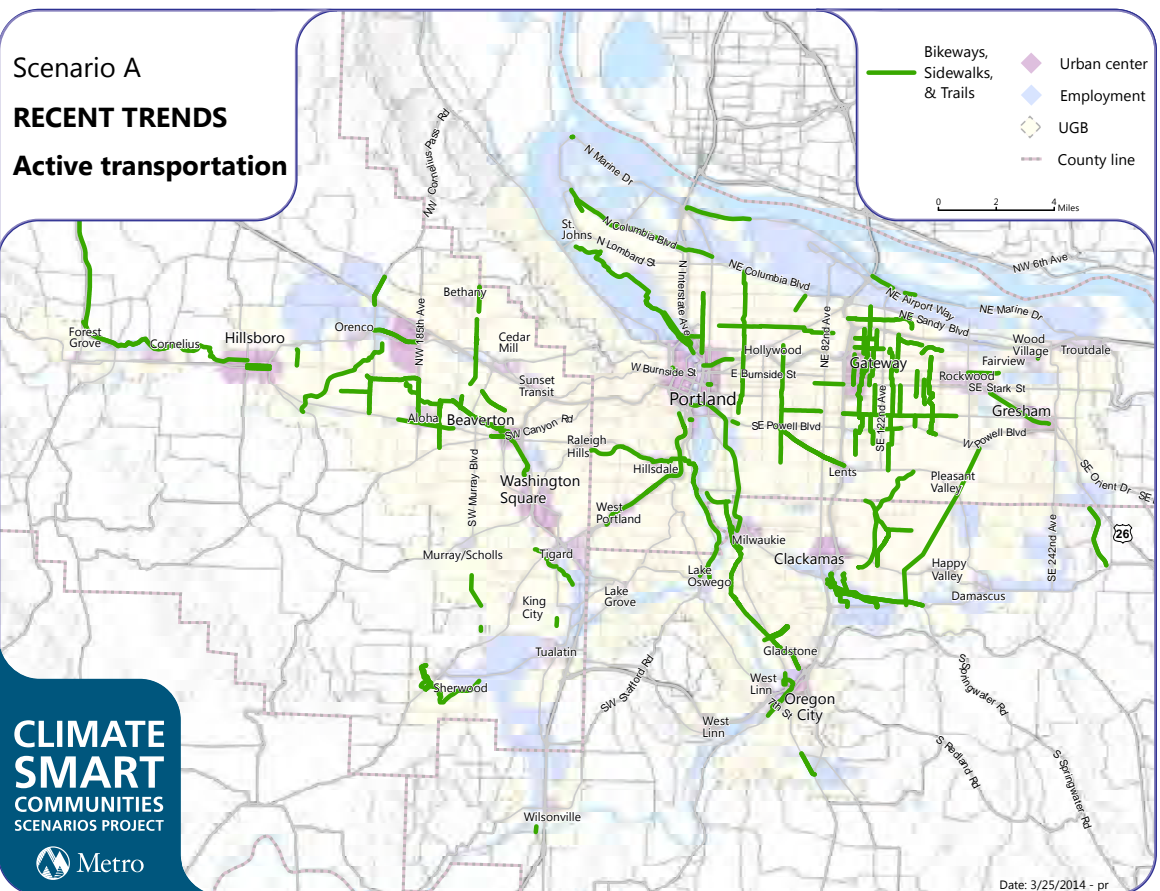
- major gaps exist in walking and biking routes across the region
- gaps in the active transportation network affect safety, convenience and access to transit
- many would like to walk or bike but feel unsafe
- many lack access to walking and biking routes
- limited dedicated funding is declining

# How much of the planned regional active transportation network should we complete by 2035?

## ACTIVE TRANSPORTATION AT A GLANCE

	SCENARIO <b>A</b>	SCENARIO <b>B</b>	SCENARIO <b>C</b>
<b>Completion of regional active transportation network</b>	Federally funded planning and capital projects reflecting existing funding are largely dedicated to transit and road investments	Same as Scenario A, plus planned off-street trails and on-street sidewalk and bikeway projects, such as bicycle lanes, cycle tracks, bicycle boulevards, sidewalks and crossing improvements included in financially constrained RTP	Same as Scenario B, plus full build-out of planned off-street trails, on-street sidewalk and bikeway projects, and improvements to existing facilities
<b>Trails</b>	38% completed	79% completed	100% completed
<b>Bikeways</b>	63% completed	84% completed	100% completed
<b>Sidewalks</b>	54% completed	62% completed	100% completed
<b>Estimated cost (2014\$)</b>	<b>\$57 million</b>	<b>\$948 million</b>	<b>\$3.9 billion</b>

### SCENARIO



### Recent Trends

This scenario shows the results of implementing adopted land use and transportation plans to the extent possible with existing revenue.

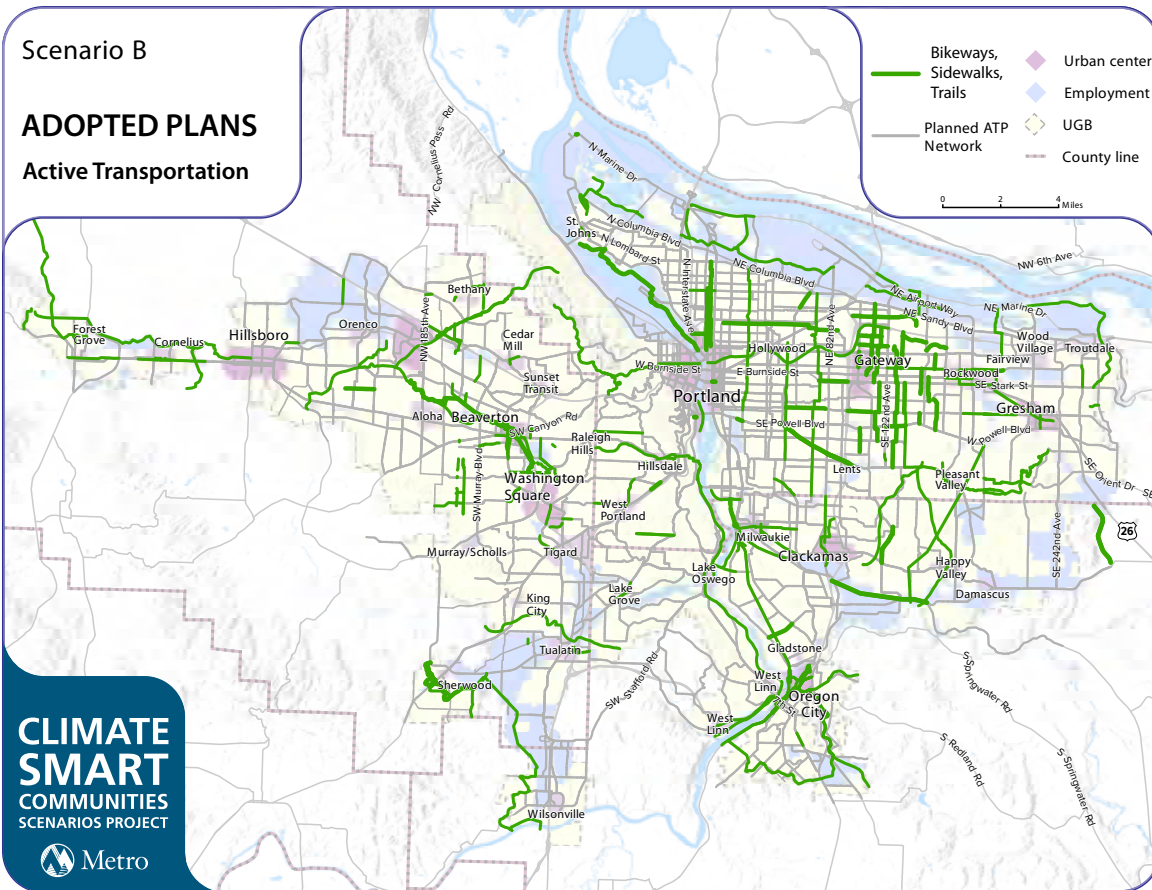
### 58

Estimated lives saved annually from increased physical activity by 2035

**Note** These maps are for research purposes only and do not reflect current or future policy decisions of the Metro Council, MPAC or JPACT.

Scenario B

**ADOPTED PLANS**  
Active Transportation



**CLIMATE SMART**  
COMMUNITIES  
SCENARIOS PROJECT



**SCENARIO**



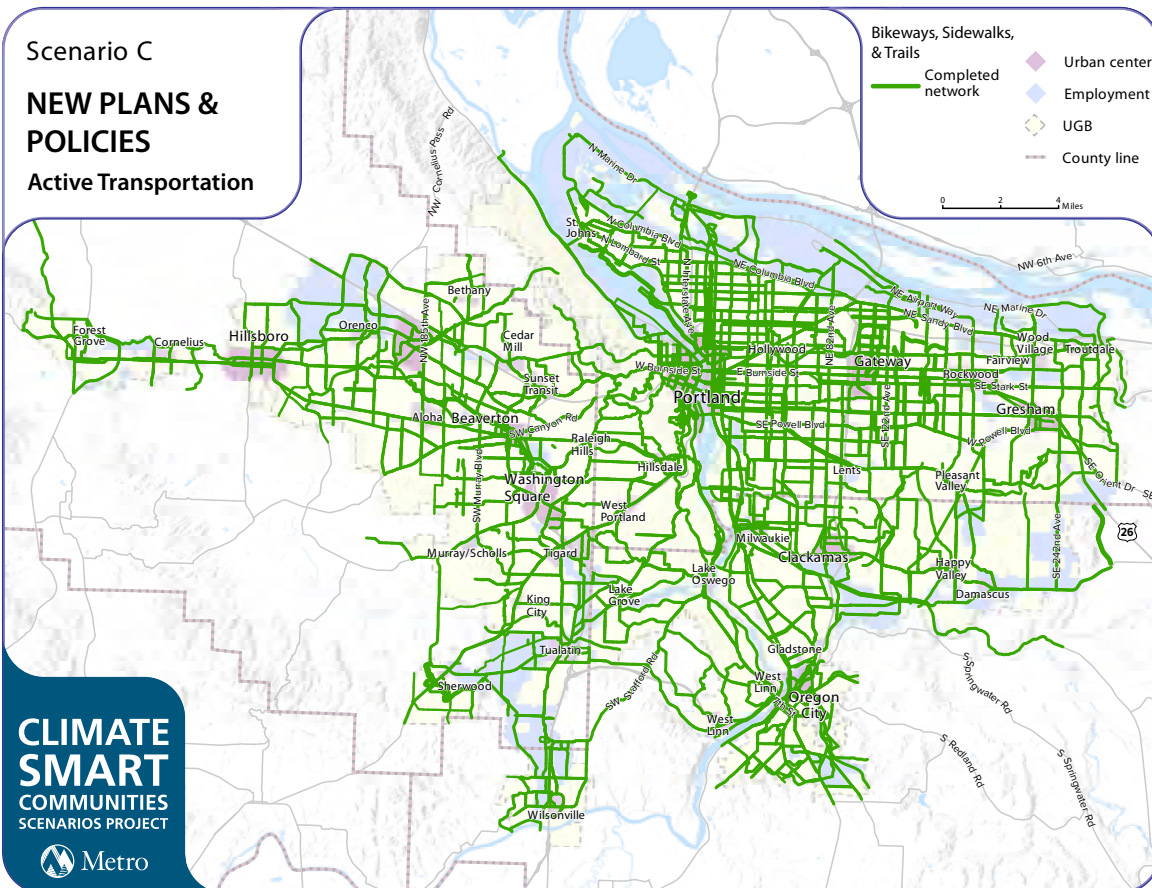
**Adopted Plans**

This scenario shows the results of successfully implementing adopted plans and achieving the current Regional Transportation Plan, which relies on increased revenue.

**89**  
Estimated lives saved annually from increased physical activity by 2035

Scenario C

**NEW PLANS & POLICIES**  
Active Transportation



**CLIMATE SMART**  
COMMUNITIES  
SCENARIOS PROJECT



**SCENARIO**



**New Plans and Policies**

This scenario shows the results of pursuing new policies, more investment and new revenue sources to more fully achieve adopted and emerging plans.

**116**  
Estimated lives saved annually from increased physical activity by 2035

## What people are saying

*Bike improvements should be strategic and provide convenient, efficient access to places people want to go.*

*Make the healthy choice, the easy choice.*

*Create integrated networks and complete streets to leverage existing funding.*

## Emerging themes

- A high priority for nearly all communities and interest groups because it provides many benefits, particularly improved public health and access.
- Investments should focus on completing gaps and making street crossings more safe.
- More dedicated, separate paths for biking are needed because some people will never feel safe biking in vehicle traffic.
- “Complete streets” should include green designs, such as bioswales and street trees as part of street design and can be part of a broader climate adaptation strategy.
- Demographics are changing – as youth and older adults choose to drive less, it is important to invest more in active transportation options that connect to transit and that link neighborhoods to services.
- A dedicated, stable funding source is needed.

## Key takeaways to share with others

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RELATIVE CLIMATE BENEFIT



RELATIVE COST



## Make streets and highways more safe, reliable and connected

Today, nearly 45 percent of all trips made by car in the region are less than three miles, and 15 percent are less than one mile. When road networks lack multiple routes serving the same destinations, short trips must use major travel corridors designed for freight and regional traffic, adding to congestion.

There are three key ways to make streets and highways more safe, reliable and connected to serve longer trips across the region on highways, shorter trips on arterial streets, and the shortest trips on local streets.

**Maintenance and efficient operation of the existing road system** Keeping the road system in good repair and using information and technology to manage travel demand and traffic flow help improve safety, and boost efficiency of the existing system. With limited funding, more effort is being made to maximize system operations prior to building new capacity in the region. (See separate summaries describing the use of technology and information.)

**Street connectivity** Building a well-connected network of complete streets includes new local and major street connections shortens trips, improves access to community and regional destinations, and helps preserve the capacity and function of highways in the region for freight and longer trips. These connections include designs that support walking and biking, and, in some areas, provide critical freight access between industrial areas, intermodal facilities and the interstate highway system.

**Network expansion** Adding lane miles to relieve congestion is an expensive approach, and will not solve congestion on its own. Targeted widening of streets and highways along with other strategies helps the region connect goods to market and support travel across the region.

### BENEFITS

- improves access to jobs, goods and services, boosting business revenue
- creates jobs and stimulates development, boosting the economy
- reduces delay, saving businesses time and money
- reduces risk of traffic fatalities and injuries
- reduces emergency response time

### CHALLENGES

- declining purchasing power of existing funding sources and growing maintenance backlog and construction costs
- may induce more traffic
- potential community impacts, such as displacement and noise
- concentration of air pollutants and air toxics in major travel corridors

# How much of the planned street and highway network should we complete by 2035?

## STREET AND HIGHWAYS AT A GLANCE

	SCENARIO <b>A</b>	SCENARIO <b>B</b>	SCENARIO <b>C</b>
<b>Arterials and freeways</b>	Maintain the existing system and complete committed projects	Same as Scenario A, plus complete financially constrained RTP projects such as <ul style="list-style-type: none"> <li>planned connections to further build out the regional street grid and improve access to industrial areas and freight facilities</li> <li>widening some major streets and freeways to address bottlenecks</li> </ul>	Same as Scenario B plus additional projects in the RTP  On-going regional traffic operations center monitoring and incident response patrols are deployed on area freeways and major arterials adjacent to freeways
<b>Maintenance</b>	Some maintenance backlogs grow	Fully meet maintenance and preservation needs	Same as Scenario B
<b>Estimated capital cost (2014\$)</b>	<b>\$162 million</b>	<b>\$8.8 billion</b>	<b>\$11.8 billion</b>

### SCENARIO

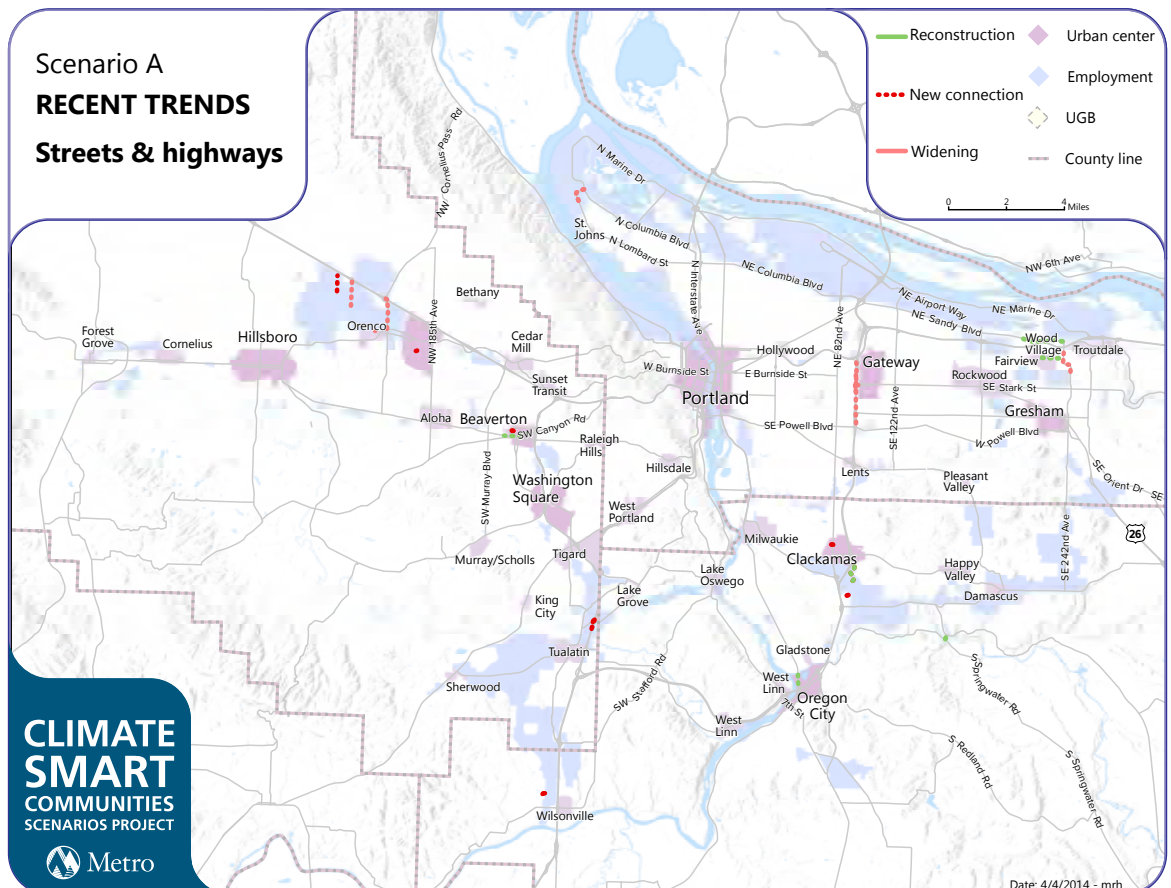


#### Recent Trends

This scenario shows the results of implementing adopted land use and transportation plans to the extent possible with existing revenue.

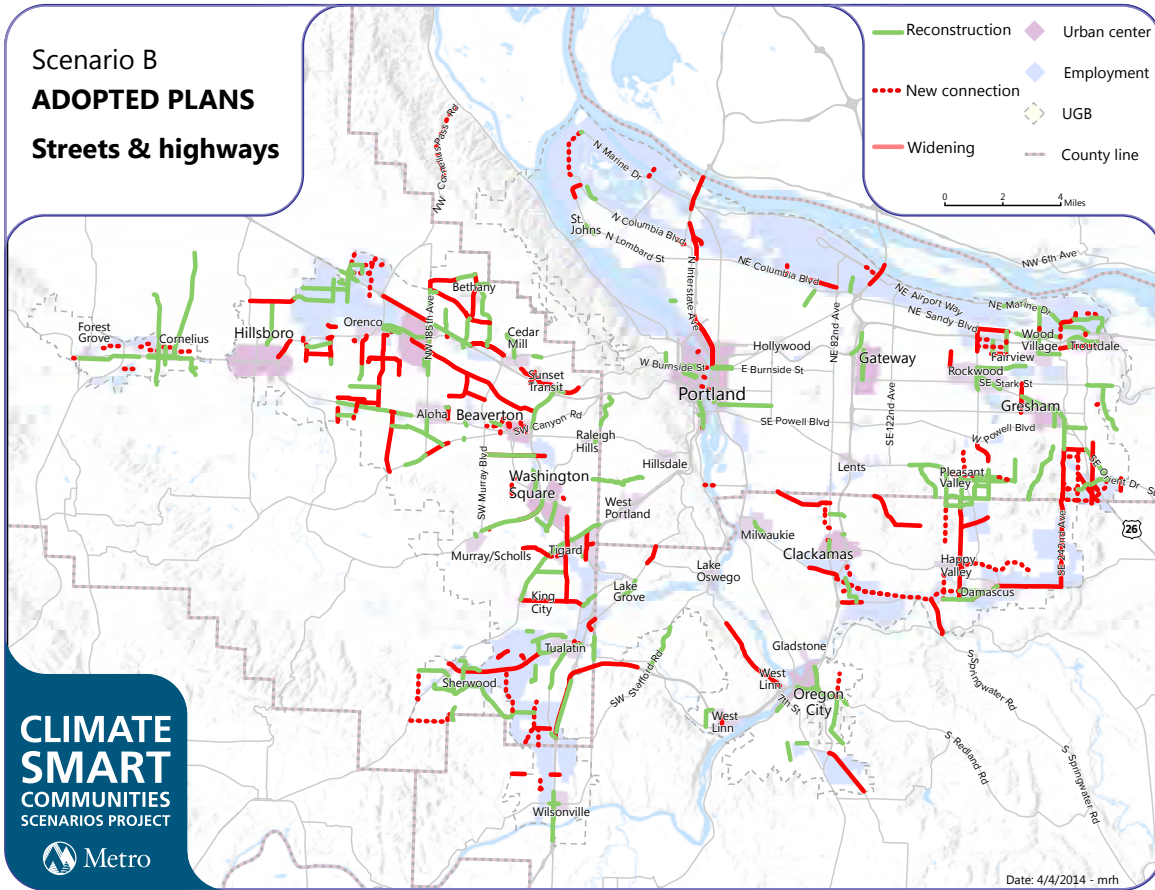
**9** Lane miles added by 2035

**Note** These maps are for research purposes only and do not reflect current or future policy decisions of the Metro Council, MPAC or JPACT.





Scenario B  
**ADOPTED PLANS**  
**Streets & highways**



**CLIMATE SMART COMMUNITIES SCENARIOS PROJECT**

**SCENARIO**

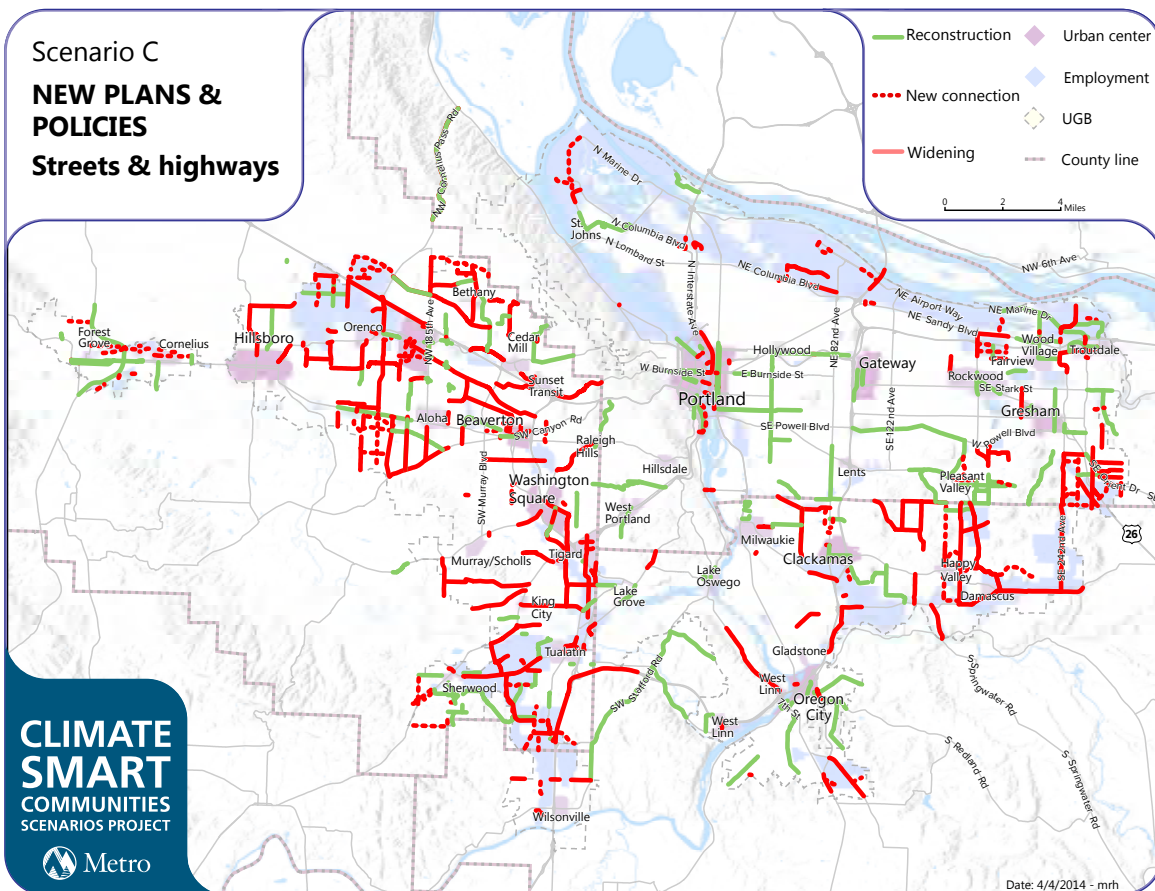


**Adopted Plans**

This scenario shows the results of successfully implementing adopted plans and achieving the current Regional Transportation Plan, which relies on increased revenue.

**81**  
 Lane miles added by 2035

Scenario C  
**NEW PLANS & POLICIES**  
**Streets & highways**



**CLIMATE SMART COMMUNITIES SCENARIOS PROJECT**

**SCENARIO**



**New Plans and Policies**

This scenario shows the results of pursuing new policies, more investment and new revenue sources to more fully achieve adopted and emerging plans.

**105**  
 Lane miles added by 2035

# What people are saying

*Street and highway improvements are needed to help move freight more efficiently to make the region more economically competitive.*

*Make road investments that improve access and efficiency for all users – bike, pedestrian, auto, transit and freight.*

*Investments in transit, walking and biking can help freight more efficiently because they help reduce the need to drive for some trips.*

# Emerging themes

- Keeping existing roads and highways in good condition is a higher priority than adding capacity or building new roads.
- Improved connectivity is a priority for suburban communities.
- Build a well-connected network of complete streets that prioritize safe and convenient pedestrian and bicycle access; respecting existing communities and the natural environment.
- Maximize system operations by implementing management strategies prior to building new motor vehicle capacity, where appropriate.

# Key takeaways to share with others

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RELATIVE CLIMATE BENEFIT



RELATIVE COST



## Manage parking to make efficient use of parking resources

Parking management refers to various policies and programs that result in more efficient use of parking resources. Parking management is implemented through city and county development codes. Managing parking works best when used in a complementary fashion with other strategies; it is less effective in areas where transit or bicycle and pedestrian infrastructure is lacking.

**Planning approaches** include conducting assessments of the parking supply to better understand needs. A typical urban parking space has an annualized cost of \$600 to \$1,200 to maintain, while structured parking construction costs averages \$15,000 per space.

**On-street parking approaches** include spaces that are timed, metered, designated for certain uses or have no restriction. Examples of these different approaches include charging long-term or short-term fees, limiting the length of time a vehicle can park, and designating on-street spaces for preferential parking for electric vehicles, carshare vehicles, carpools, vanpools, bikes, public use (events or café “Street Seats”) and freight truck loading/unloading areas.

**Off-street parking approaches** include providing spaces in designated areas, unbundling parking, preferential parking (for vehicles listed above), shared parking between land uses (for example, movie theater and business center), park-and-ride lots for transit and carpools/vanpools, parking garages in downtowns and other mixed-use areas that allow surface lots to develop as other uses.

### BENEFITS

- allows more land to be available for development, generating local and state revenue
- reduces costs to governments, businesses, developers and consumers
- fosters public-private partnerships that can result in improved streetscape for retail and visitors
- generates revenues where parking is priced
- reduces air pollution and air toxics

### CHALLENGES

- inadequate information for motorists on parking and availability
- inefficient use of existing parking resources
- parking spaces that are inconvenient to nearby residents and businesses
- scarce freight loading and unloading areas
- low parking turnover rate
- lack of sufficient parking
- parking oversupply, ongoing costs and the need to free up parking for customers

# How should local communities manage parking by 2035?

## PARKING MANAGEMENT AT A GLANCE

	SCENARIO <b>A</b>	SCENARIO <b>B</b>	SCENARIO <b>C</b>
<b>Parking management</b>	<p>Existing locally-adopted development codes remain the same as 2010</p> <p>Large employers offer preferential parking</p> <p>Free parking is available in most areas</p>	<p>Same as Scenario A plus communities expand the flexibility of development codes and develop parking plans for all downtown and centers served by high capacity transit as assumed in adopted RTP</p> <p>Parking facilities are sized and managed so spaces are frequently occupied, travelers have information on parking and travel options, and some businesses share parking</p> <p>Free and timed parking is available in many areas</p>	<p>Same as Scenario B plus communities expand the flexibility of development codes to support public-private partnerships in areas served by 10-minute transit service</p> <p>Medium-size employers offer preferential parking</p> <p>Local codes allow for unbundled parking</p> <p>Free and timed parking is available in some areas</p>

### SCENARIO



#### Scenario A

#### RECENT TRENDS Managing parking

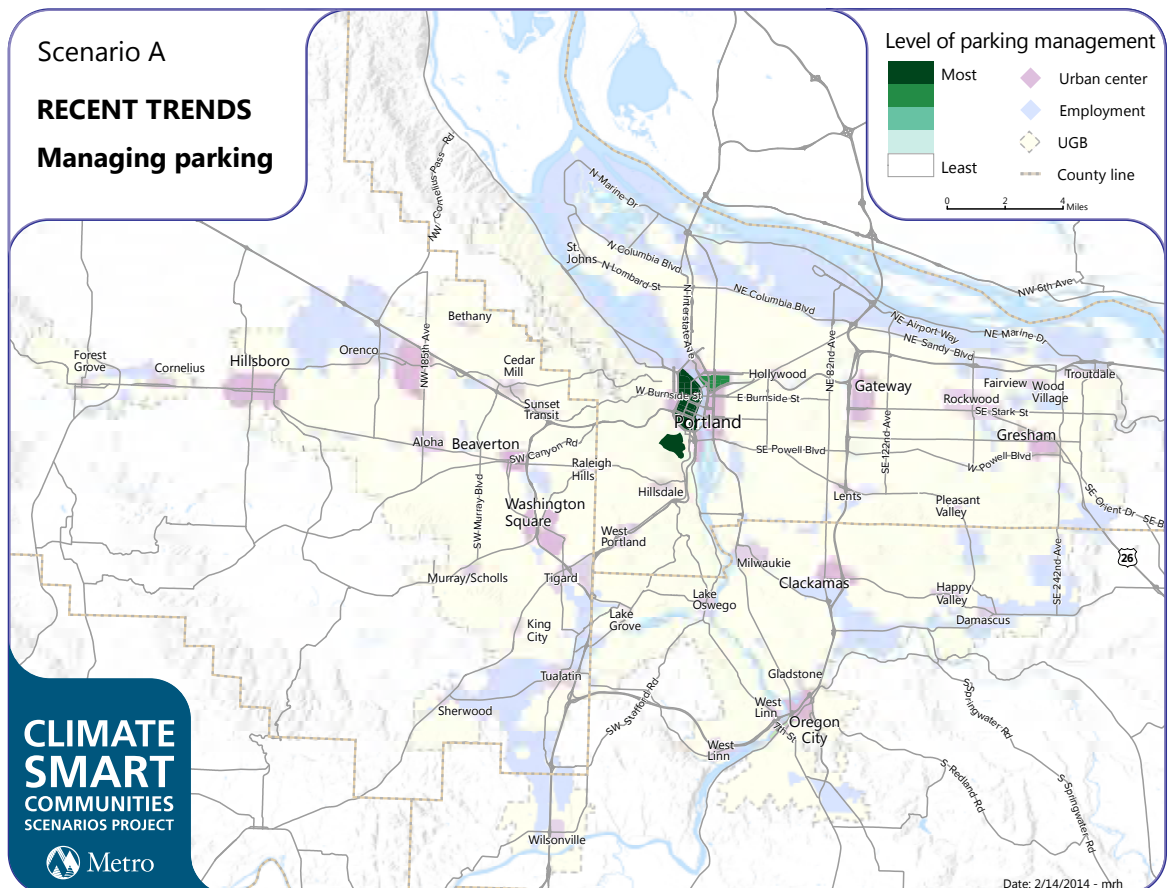
#### Recent Trends

This scenario shows the results of implementing adopted land use and transportation plans to the extent possible with existing revenue.

**13% work trips**  
**8% other trips**

Estimated share of trips to areas with actively managed parking

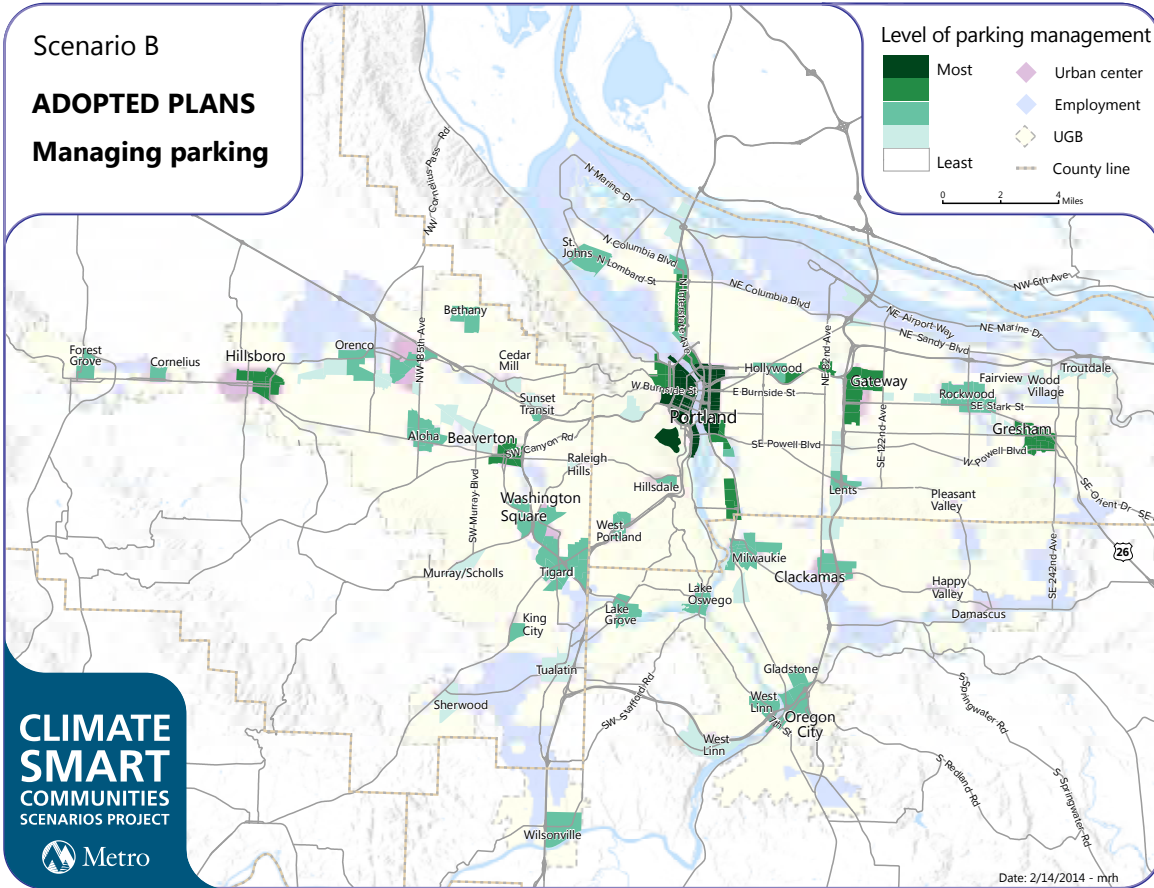
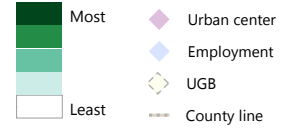
**Note** These maps are for research purposes only and do not reflect current or future policy decisions of the Metro Council, MPAC or JPACT.



Scenario B

**ADOPTED PLANS**  
**Managing parking**

Level of parking management



**CLIMATE SMART COMMUNITIES**  
SCENARIOS PROJECT  
Metro

Date: 2/14/2014 - mjh

**SCENARIO**



**Adopted Plans**

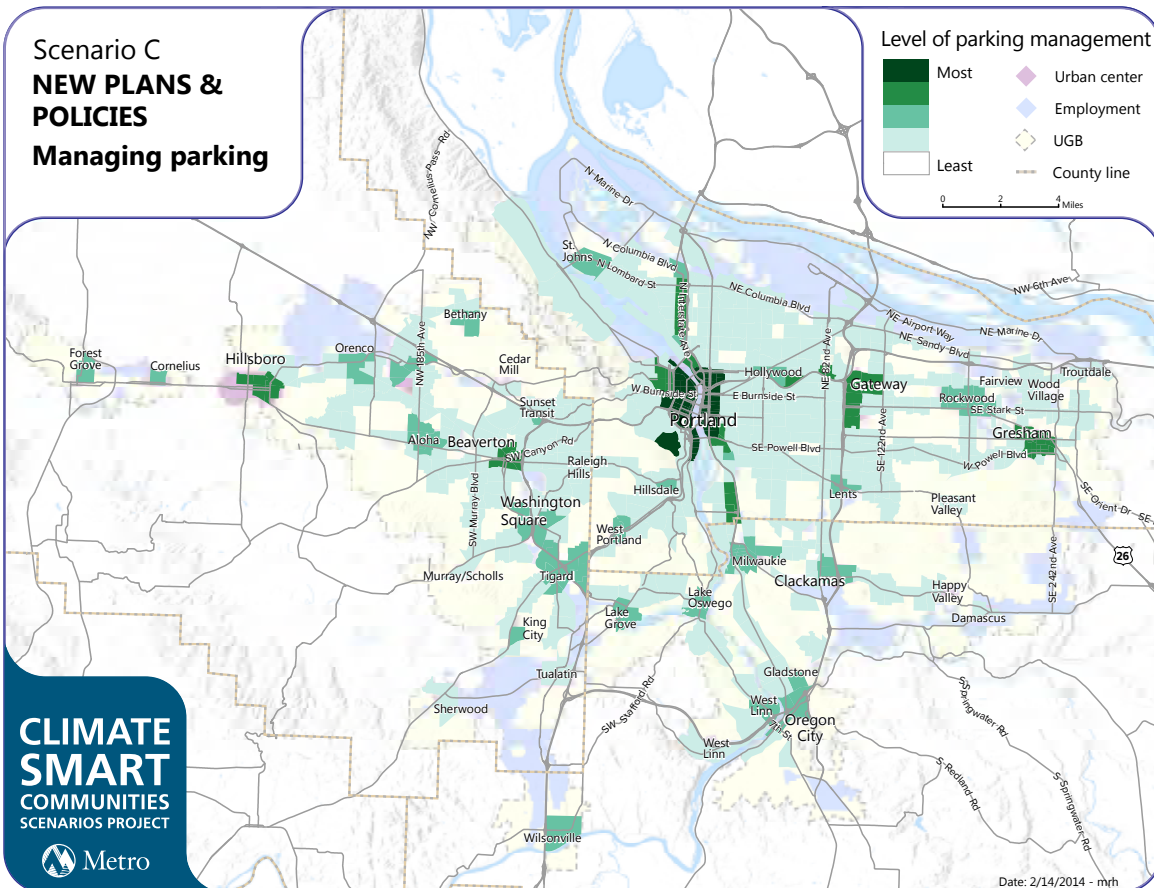
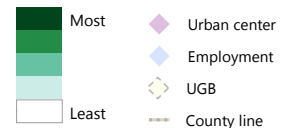
This scenario shows the results of successfully implementing adopted plans and achieving the current Regional Transportation Plan, which relies on increased revenue.

**30% work trips**  
**30% other trips**  
Estimated share of trips to areas with actively managed parking

Scenario C

**NEW PLANS & POLICIES**  
**Managing parking**

Level of parking management



**CLIMATE SMART COMMUNITIES**  
SCENARIOS PROJECT  
Metro

Date: 2/14/2014 - mjh

**SCENARIO**



**New Plans and Policies**

This scenario shows the results of pursuing new policies, more investment and new revenue sources to more fully achieve adopted and emerging plans.

**50% work trips**  
**50% other trips**  
Estimated share of trips to areas with actively managed parking





RELATIVE CLIMATE BENEFIT

N/A

RELATIVE COST

N/A

## Identify potential ways to pay for our investment choices

Transportation funding has long been primarily a federal and state responsibility, financed largely through gas taxes and other user fees. The purchasing power of federal and state gas tax revenues is declining as individuals drive less and fuel efficiency increases. The effectiveness of this revenue source is further eroded as the gas tax is not indexed to inflation.

Diminished resources mean reduced ability to expand, improve and maintain existing transportation infrastructure. Federal and state funding is not keeping pace with infrastructure operation and maintenance needs, so a substantial share of funding for future RTP investments has shifted to local revenue sources.

Local governments in Oregon have increasingly turned to tax levies, road maintenance fees, system development charges and traffic impact fees in attempt to keep pace, although some communities have been more successful than others. Expansion and operation of the transit system has relied heavily on payroll taxes and competitive federal funding for high capacity transit capital projects. But the region’s demand for frequent and reliable transit service exceeds the capacity of the payroll tax to support it.

The adopted Regional Transportation Plan calls for stabilizing existing transportation revenue sources while securing new and innovative long-term sources of funding adequate to build, operate and maintain the regional transportation system for all modes of travel.

### BENEFITS




- transforms community visions into reality
- improves access to jobs, goods and services, boosting business revenues
- creates jobs and stimulates development, boosting the regional economy
- reduces delay, saving businesses time and money
- reduces air pollution and air toxics
- reduces risk of traffic fatalities and injuries

### CHALLENGES

- declining purchasing power of existing funding sources due to inflation and improvement in fuel efficiency
- potential disproportionate impact of higher taxes and fees on drivers with limited travel options
- limited public support for higher fees and taxes
- patchwork of funding sources
- statutory or constitutional limitations on how different funding sources can be raised or used

# How should we pay for our investment choices by 2035?

## FUNDING MECHANISMS AT A GLANCE

	<b>SCENARIO</b>  <b>Recent Trends</b>	<b>SCENARIO</b>  <b>Adopted Plans</b>	<b>SCENARIO</b>  <b>New Plans and Policies</b>
<b>Overview of revenue sources</b>	Existing revenues at 2012 levels	Same as Scenario A, plus federal, state and local revenues assumed in the financially constrained RTP	Same as Scenario B, plus new user-based fees in place of the state gas tax
<b>Gas tax</b>	<p>Federal and state gas taxes are 18 cents and 30 cents per gallon, respectively</p> <p>Multnomah and Washington counties levy a per gallon gas tax and share revenue with the cities within their boundaries</p> <p>Four cities – Tigard, Milwaukie, Happy Valley and Cornelius – implement a gas tax that is predominately used for maintenance<sup>1</sup></p>	Same as Scenario A, plus the state gas tax increases by \$0.01 per year to cover growing operations, maintenance and preservation (OMP) costs at the state, regional and local level	Same as Scenario A, but state gas tax is replaced by a fee based on miles driven
<b>Mileage-based road use fee</b>	None	None	\$0.03 per mile (the equivalent of the Scenario B state gas tax assumption)
<b>Carbon fee</b>	None	None	\$50 per ton
<b>Other sources<sup>1</sup></b>	Other federal, state and local revenues at 2010 levels	Other federal, state and local revenues at financially constrained RTP levels	Other federal, state and local revenues at full RTP levels
<b>Potential revenues generated (2005\$)</b>	<b>\$4.7 billion</b>	<b>\$5.4 billion</b>	<b>\$12.7 billion</b>

<sup>1</sup>Not accounted for in potential revenues generated, but included in the Regional Transportation Plan financial assumptions

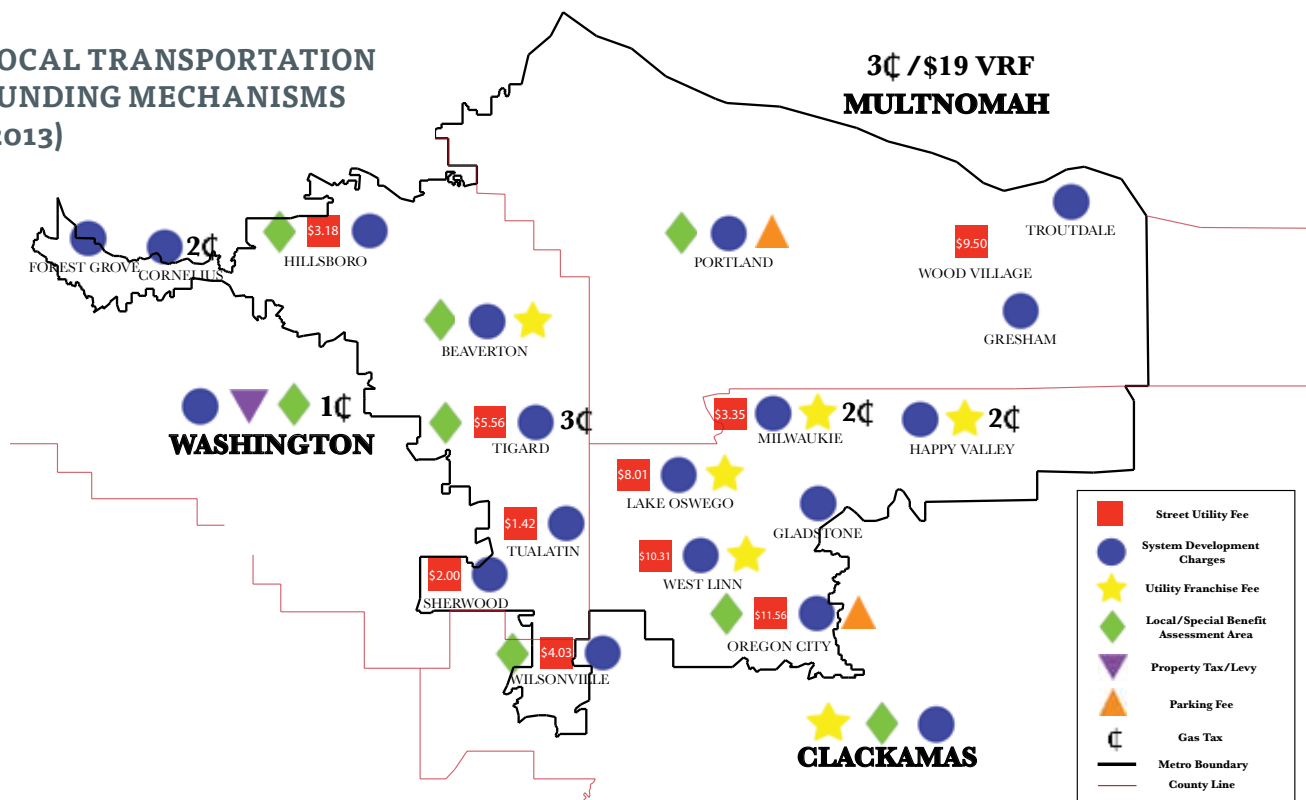


# FUNDING MECHANISMS ASSUMED IN 2014 REGIONAL TRANSPORTATION PLAN AND POTENTIAL NEW FUNDING MECHANISMS FOR CONSIDERATION

EXISTING FUNDING MECHANISM	SOURCE		
	Federal	State	Local
Federal Highway Trust Fund <sup>1</sup>	●		
Federal Transit Fund	●		
Gas tax	●	●	●
Vehicle fees (e.g. registration, licensing fees)		●	●
Heavy truck weight-mile fee		●	
Local portion of State Highway Trust Fund <sup>2</sup>			●
Development-based fees <sup>3</sup>			●
Payroll tax			●
Transit passenger fares			●
Special funds and levies <sup>4</sup>			●
Tolls (I-5 Columbia River Crossing)		●	
<b>POTENTIAL NEW FUNDING MECHANISM</b>			
Carbon fee	●	●	
Mileage-based road user fee	●	●	

<sup>1</sup>The Federal Highway Trust Fund includes federal gas tax receipts and other revenue.  
<sup>2</sup>The State Highway Trust Fund includes state gas tax receipts, vehicle fees and heavy truck weight-mile fees.  
<sup>3</sup>Development-based fees include system development charges, traffic impact fees, urban renewal districts and developer contributions.  
<sup>4</sup>Special funds and levies include tax levies (e.g. Washington County MSTIP), local improvement districts, vehicle parking fees, transportation utility fees and maintenance districts (e.g. Washington County Urban Road Maintenance District).

## LOCAL TRANSPORTATION FUNDING MECHANISMS (2013)



## What people are saying

*The gas tax is not a sustainable funding mechanism – alternatives are needed.*

*The greatest barrier to implementation is the lack of sufficient funding.*

*We should focus investments on how we want people to travel in 50 years.*

## Emerging themes

- User-based funding mechanisms had more support so the fees are directly connected to the service received.
- Prioritize limited funding on investments that achieve multiple goals.
- More state funding is needed to leverage local and regional funding.
- Implementation of fees should take into account the ability of people with limited incomes to afford and other options available.
- More funding should be dedicated to low carbon travel options; current statutes limit how some funding sources can be used.

## Key takeaways to share with others

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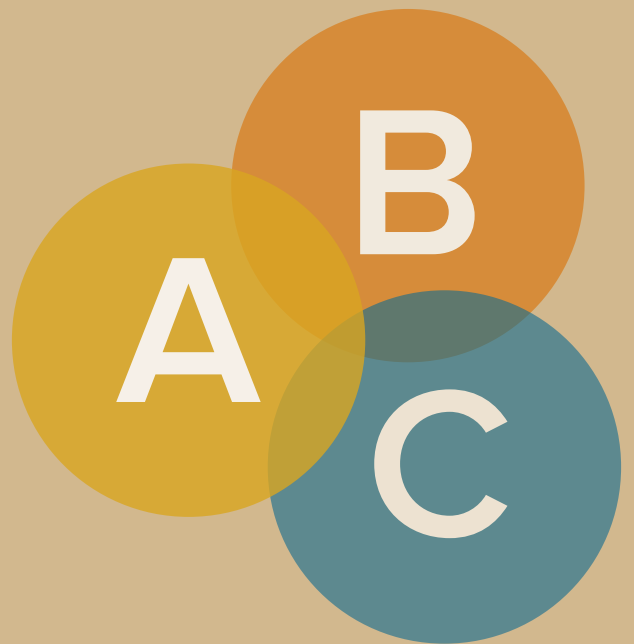
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# SUPPLEMENTAL INFORMATION

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# PHASE 2: SELECTED RESULTS AT A GLANCE

The scenarios tested are for research purposes only and do not necessarily reflect current or future policy decisions of the Metro Council, MPAC or JPACT.

## WHAT WE LEARNED ABOUT TRAVEL AND MOBILITY



### DAILY VEHICLE MILES TRAVELED

PER PERSON



### TIME SPENT IN TRAFFIC

% OF LIGHT VEHICLE TRAVEL TIME SPENT IN TRAFFIC



#### Discussion points:

- Adopted plans help reduce how far people drive and time spent in traffic.
- Adopted plans provide opportunities for more people living and working in centers and corridors, a more connected road system, using technology such as traffic signal timing, clearing incidents more quickly, more transit and walking, and biking all help the transportation system operate more efficiently which in turn helps save time spent in traffic.
- Adopted plans reduce the amount of time spent in traffic by 20 percent over recent trends.
- Reduced delay is expected to support goods movement, job creation and the region's economy.

### Discussion points:

- All scenarios improve health outcomes by improving air quality and increasing physical activity.
- Improving air quality and increasing the number of people who regularly exercise by choosing to bike and walk to community destinations can reduce chronic diseases and premature deaths, and lower health care costs.
- Adopted plans increase the level of physical activity over recent trends, saving nearly 90 lives annually by 2035.
- Adopted plans reduce air pollutants by at least 10 metric tons per day over recent trends; an important health benefit of greenhouse gas reduction.
- Reductions in per capita vehicle miles traveled improve traffic safety for drivers in all scenarios.
- Further investment can significantly improve these outcomes.

## WHAT WE LEARNED ABOUT PUBLIC HEALTH AND SAFETY



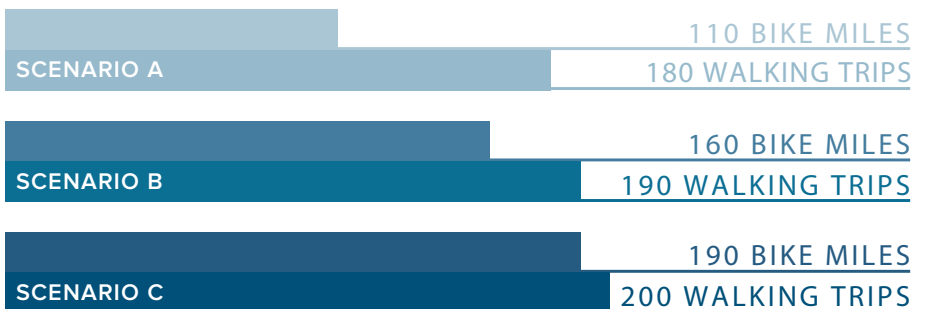
### AIR POLLUTANTS

METRIC TONS PER DAY



### PHYSICAL ACTIVITY IMPROVES HEALTH

PER PERSON PER YEAR



### LESS AIR POLLUTION, MORE PHYSICAL ACTIVITY & IMPROVED SAFETY HELP SAVE LIVES

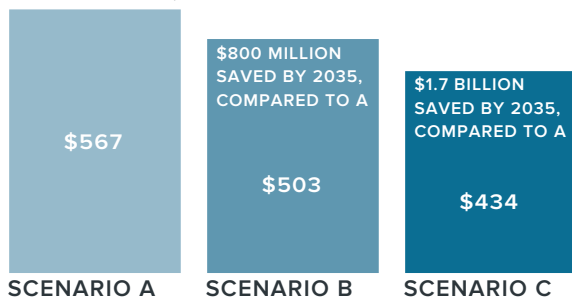
LIVES SAVED EACH YEAR BY 2035



## WHAT WE LEARNED ABOUT THE ECONOMY

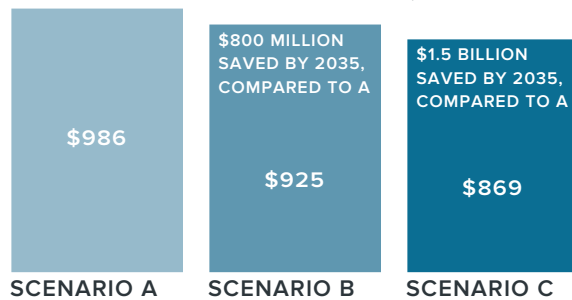
### **\$** OUR ECONOMY BENEFITS FROM REDUCED EMISSIONS

ANNUAL ENVIRONMENTAL COSTS IN 2035  
(MILLIONS, 2005\$)



### **\$** BUSINESSES AND OUR ECONOMY BENEFIT FROM REDUCED DELAY

ANNUAL FREIGHT TRUCK COSTS DUE TO DELAY IN 2035 (MILLIONS, 2005\$)



#### Discussion points:

- Adopted plans reduce the environmental costs associated with air pollution, vehicle fluids and severe storms, flooding and drought expected from climate change.
- Adopted plans reduce the amount of time freight trucks spend in traffic over recent trends.
- Freight truck travel cost savings can be passed on to businesses and consumers.
- Further investment can increase these savings from reduced emissions and delay.

**Discussion points:**

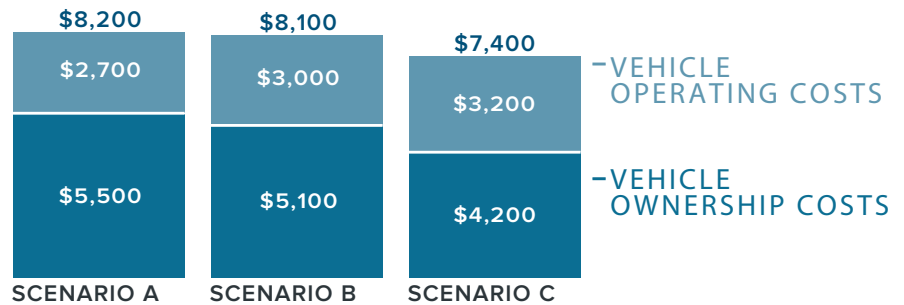
- Adopted plans can reduce the average annual vehicle ownership and operating costs over recent trends.
- Vehicle ownership costs decrease as households drive less and own fewer vehicles.
- Scenario C results in the lowest vehicle costs, which helps reduce the share of household income spent on vehicle travel for all households, including households with limited incomes.

## WHAT WE LEARNED ABOUT HOUSEHOLD COSTS



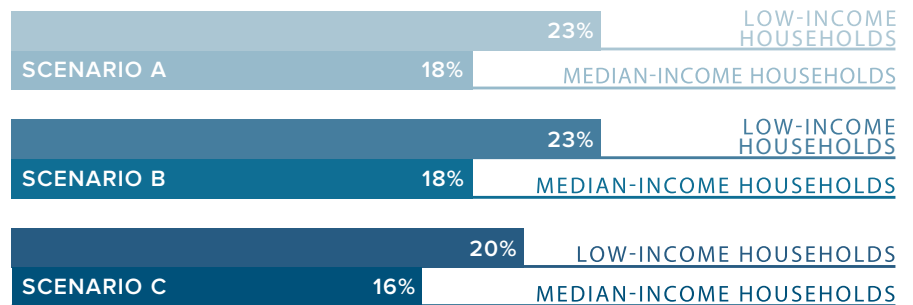
### OVERALL VEHICLE-RELATED TRAVEL COSTS DECREASE DUE TO LOWER OWNERSHIP COSTS

AVERAGE ANNUAL HOUSEHOLD VEHICLE OWNERSHIP & OPERATING COSTS



### LOWER VEHICLE COSTS HELP HOUSEHOLD BUDGETS

SHARE OF ANNUAL HOUSEHOLD INCOME SPENT ON VEHICLE TRAVEL





# PHASE 2: TRANSIT AT A GLANCE

## HOUSEHOLD ACCESS TO TRANSIT AT A GLANCE

Share of total households within ¼-mile of transit

SERVICE FREQUENCY	SCENARIO A		SCENARIO B		SCENARIO C	
	Rush hour	Daytime & evening	Rush hour	Daytime & evening	Rush hour	Daytime & evening
Every 10 minutes	24%	4%	27%	4%	32%	20%
11 - 15 minute service	20%	29%	21%	32%	17%	18%
16 - 25 minute service	9%	5%	8%	4%	9%	7%
More than 26 minute service	18%	28%	17%	28%	16%	26%
No fixed-route service	29%	34%	28%	32%	26%	29%

## LOW-INCOME HOUSEHOLD ACCESS TO TRANSIT AT A GLANCE

Share of low-income households\* within ¼-mile of transit

SERVICE FREQUENCY	SCENARIO A		SCENARIO B		SCENARIO C	
	Rush hour	Daytime & evening	Rush hour	Daytime & evening	Rush hour	Daytime & evening
Every 10 minutes	31%	5%	34%	6%	40%	26%
11 - 15 minute service	27%	39%	26%	42%	21%	23%
16 - 25 minute service	8%	5%	7%	5%	7%	7%
More than 26 minute service	16%	28%	15%	27%	14%	24%
No fixed-route service	19%	22%	18%	21%	17%	20%

\* \$24,999 per year or less

## JOB ACCESS TO TRANSIT AT A GLANCE

Share of jobs within ¼-mile of transit

SERVICE FREQUENCY	SCENARIO A		SCENARIO B		SCENARIO C	
	Rush hour	Daytime & evening	Rush hour	Daytime & evening	Rush hour	Daytime & evening
Every 10 minutes	17%	6%	36%	9%	63%	63%
11 - 15 minute service	34%	37%	28%	43%	14%	2%
16 - 25 minute service	19%	3%	5%	1%	4%	13%
More than 26 minute service	27%	32%	16%	28%	4%	7%
No fixed-route service	4%	22%	16%	20%	15%	15%

# PHASE 2: ASSUMPTIONS AT A GLANCE

March 30, 2014

## Phase 2: 2010 base year and alternative scenario inputs

The inputs are for research purposes only and do not represent current or future policy decisions of the Metro Council.

		2010	2035		
		Base Year Reflects existing conditions	Scenario A Recent trends	Scenario B Adopted plans	Scenario C New plans and policies
<b>Strategy</b>	Households in mixed use areas (percent)	26%	36%	37%	37%
	Urban growth boundary expansion (acres)	2010 UGB	28,000 acres	12,000 acres	12,000 acres
	Drive alone trips under 10 miles that shift to bike (percent)	9%	10%	15%	20%
	Transit service (daily revenue hours)	4,900	5,600	6,200 (RTP Financially Constrained)	11,200 (RTP State + more transit)
	Work/non-work trips in areas with parking management (percent)	13% / 8%	13% / 8%	30% / 30%	50% / 50%
<b>Pricing</b>	Pay-as-you-drive insurance (percent of households participating)	0%	20%	40%	100%
	Gas tax (cost per gallon 2005\$)	\$0.42	\$0.48	\$0.73	\$0.18
	Road user fee (cost per mile)	\$0	\$0	\$0	\$0.03
	Carbon emissions fee (cost per ton)	\$0	\$0	\$0	\$50

The inputs are for research purposes only and do not represent current or future policy decisions of the Metro Council.

**Strategy**

		<b>2010</b>	<b>2035</b>		
		<b>Base Year</b> Reflects existing conditions	<b>Scenario A</b> Recent trends	<b>Scenario B</b> Adopted plans	<b>Scenario C</b> New plans and policies
<b>Marketing and incentives</b>	Households participating in eco-driving (percent)	0%	0%	30%	60%
	Households participating in individualized marketing programs (percent)	9%	30%	30%	60%
	Workers participating in employer-based commuter programs (percent)	20%	20%	20%	40%
	Car-sharing in high density areas (participation rate)	One car share per 5000 vehicles	Twice the number of car share vehicles available	Same as Scenario A	Four times the number of car share vehicles available
	Car-sharing in medium density areas (participation rate)	One car share per 5000 vehicles	Same as today	Twice the number of car share vehicles	Same as Scenario B
<b>Roads</b>	Freeway and arterial expansion (lane miles added)	N/A	9 miles	81 miles (RTP Financially Constrained)	105 miles (RTP State)
	Delay reduced by traffic management strategies (percent)	10%	10%	20%	35%
<b>Fleet</b>	Fleet mix (percent)	auto: 57% light truck: 43%	auto: 71% light truck: 29%		
	Fleet turnover rate	10 years	8 years		
<b>Technology</b>	Fuel economy (miles per gallon)	auto: 29.2 mpg light truck: 20.9 mpg	auto: 68.5 mpg light truck: 47.7 mpg		
	Carbon intensity of fuels	90 g CO <sub>2</sub> e/megajoule	72 g CO <sub>2</sub> e/megajoule		
	Plug-in hybrid electric/all electric vehicles (percent)	auto: 0% / 1% light truck: 0% / 1%	auto: 8% / 26% light truck: 2% / 26%		

# GLOSSARY

**Car-sharing** A model similar to a car rental where a member user rents cars for short periods of time, often by the hour. Such programs are attractive to customers who make only occasional use of a vehicle, as well as others who would like occasional access to a vehicle of a different type than they use day-to-day. The organization renting the cars may be a commercial business or the users may be organized as a company, public agency, cooperative, or peer-to-peer. The Portland region has Zipcar – <http://www.zipcar.com/>

**Eco-driving** A combination of public education, in-vehicle technology and driving practices that result in more efficient vehicle operation and reduced fuel consumption and emissions. Examples of eco-driving practices include avoiding rapid starts and stops, matching driving speeds to synchronized traffic signals, and avoiding idling. Program are targeted to those without travel options and traveling longer distances.

**Employer-based commute programs** Work-based travel demand management programs that can include transportation coordinators, employer-subsidized transit pass programs, ride-matching, carpool and vanpool programs, telecommuting, compressed or flexible work weeks and bicycle parking and showers for bicycle commuters.

**Fleet mix** The percentage of vehicles classified as automobiles compared to the percentage classified as light trucks (weighing less than 10,000 lbs.); light trucks make up 43 percent of the light-duty fleet today.

**Fleet turnover** The rate of vehicle replacement or the turnover of older vehicles to newer vehicles; the current turnover rate in Oregon is 10 years.

**Greenhouse gas emissions** According to the Environmental Protection Agency, gases that trap heat in the atmosphere are called greenhouse gases emissions. Greenhouse gases that are created and emitted through human activities include carbon dioxide (emitted through the burning of fossil fuels), methane, nitrous oxide and fluorinated gases. For more information see [www.epa.gov/climatechange/emissions/index.html](http://www.epa.gov/climatechange/emissions/index.html).

**GreenSTEP** GreenSTEP is a new model developed to estimate GHG emissions at the individual household level. It estimates greenhouse gas emissions associated with vehicle ownership, vehicle travel, and fuel consumption, and is designed to operate in a way that allows it to show the potential effects of different policies and other factors on vehicle travel and emissions. Metropolitan GreenSTEP travel behavior estimates are made irrespective of housing choice or supply; the model only considers the demand forecast components – household size, income and age – and the policy areas considered in this analysis.

**House Bill 2001 (Oregon Jobs and Transportation Act)** Passed by the Legislature in 2009, this legislation provided specific directions to the Portland metropolitan area to undertake scenario planning and develop two or more land use and transportation scenarios by 2012 that accommodate planned population and employment growth while achieving the GHG emissions reduction targets approved by LCDC in May 2011. Then Metro, after public review and consultation with local governments, is to select a preferred scenario. Following selection of a preferred scenario, the local governments within the Metro jurisdiction are to amend their comprehensive plans and land use regulations to be consistent with the preferred scenario. For more information go to: <http://www.leg.state.or.us/09reg/measpdf/hb2000.dir/hb2001.en.pdf>.

**Individualized marketing** Travel demand management programs focused on individual households. IM programs involve individualized outreach to households that identify household travel needs and ways to meet those needs with less vehicle travel.

**Light vehicles** Vehicles weighing 10,000 pounds or less, and include cars, light trucks, sport utility vehicles, motorcycles and small delivery trucks.

**Low Carbon Fuel Standard** In 2009, the Oregon legislature authorized the Environmental Quality Commission to develop low carbon fuel standards (LCFS) for Oregon. Each type of transportation fuel (gasoline, diesel, natural gas, etc.) contains carbon in various amounts. When the fuel is burned, that carbon turns into carbon dioxide (CO<sub>2</sub>), which is a greenhouse gas. The goal is to reduce the average carbon intensity of Oregon's transportation fuels by 10 percent below 2010 levels by 2022 and applies to the entire mix of fuel available in Oregon. Carbon intensity refers to the emissions per unit of fuel; it is not a cap on total emissions or a limit on the amount of fuel that can be burned. The lower the carbon content of a fuel, the fewer greenhouse gas emissions it produces.

**Pay-as-you-drive insurance (PAYD)** This pricing strategy converts a portion of liability and collision insurance from dollars-per-year to cents-per-mile to charge insurance premiums based on the total amount of miles driven per vehicle on an annual basis and other important rating factors, such as the driver's safety record. If a vehicle is driven more, the crash risk consequently increases. PAYD insurance charges policyholders according to their crash risk.

**Oregon Sustainable Transportation Initiative (OSTI)** An integrated statewide effort to reduce GHG emissions from the transportation sector by integrating land use and transportation. Guided by stakeholder input, the initiative has built collaborative partnerships among local governments and the state's six Metropolitan Planning Organizations to help meet Oregon's goals to reduce GHG emissions. The effort includes five main areas: Statewide Transportation Strategy development, GHG emission reduction targets for metropolitan areas, land use and transportation scenario planning guidelines, tools that support MPOs and local governments and public outreach. For more information, go to [www.oregon.gov/odot/td/osti](http://www.oregon.gov/odot/td/osti)

**Scenario** A term that is used to describe a possible future, representing a hypothetical set of strategies or sequence of events.

**Scenario planning** A process that tests different actions and policies to see their affect on GHG emissions reduction and other quality of life indicators.

**Statewide Transportation Strategy** The strategy, as part of OSTI, will define a vision for Oregon to reduce its GHG emissions from transportation systems, vehicle and fuel technologies and urban form by 2050. Upon completion, the strategy will be adopted by the Oregon Transportation Commission. For more information go to: <http://www.oregon.gov/ODOT/TD/OSTI/STS.shtml>.

**System efficiency** Strategies that optimize the use of the existing transportation system, including traffic management, employer-based commute programs, individualized marketing and car-sharing.

**Traffic incident management** A coordinated process to detect, respond to, and remove traffic incidents from the roadway as safely and quickly as possible, reducing non-recurring roadway congestion.

**Traffic management** Strategies that improve transportation system operations and efficiency, including ramp metering, active traffic management, traffic signal coordination and real-time traveler information regarding traffic conditions, incidents, delays, travel times, alternate routes, weather conditions, construction, or special events.

**Metro Policy Advisory Committee (MPAC)**

Jody Carson, City of West Linn, MPAC Chair  
Pete Truax, City of Forest Grove, First Vice-Chair  
Tim Clark, City of Troutdale, Second Vice-Chair  
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Jerry Willey, City of Hillsboro  
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Craig Prosser, TriMet Board of Directors  
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Wilda Parks, Clackamas Co. Citizen  
Maxine Fitzpatrick, Multnomah Co. Citizen  
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Steve Stuart, Clark County  
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Kathryn Harrington, Metro Council  
Bob Stacey, Metro Council  
Ruth Adkins, Portland Public Schools  
Doug Neeley, City of Oregon City  
Denny Doyle, City of Beaverton  
Tom Imeson, Port of Portland  
Charlynn Newton, City of North Plains

*In Memoriam, William Wild, Oak Lodge Water District*

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This report contains information that is intended for research purposes only and does not necessarily reflect current or future policy decisions of the Metro Council, MPAC or JPACT.

The preparation of this report was financed in part by the Oregon Department of Transportation, U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration. The opinions, findings and conclusions expressed in this report are not necessarily those of the Oregon Department of Transportation, U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration.

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy.

**Metro Council President**

Tom Hughes

**Metro Council**

Shirley Craddick, District 1  
Carlotta Collette, District 2  
Craig Dirksen, District 3  
Kathryn Harrington, District 4  
Sam Chase, District 5  
Bob Stacey, District 6

**Auditor**

Suzanne Flynn



**Metro**

600 NE Grand Ave.  
Portland, OR 97232-2736  
503-797-1700  
503-797-1804 TDD  
503-797-1795 fax

For more information, visit  
[www.oregonmetro.gov/  
climatescenarios](http://www.oregonmetro.gov/climatescenarios)



Materials following this page were distributed at the meeting.

 **Metro** | *Comment form*

Name \_\_\_\_\_

Affiliation (if any)

*Policy comments*

What considerations or additional information would you like to provide on selection of a preferred approach?

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Other comments?

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*Event evaluation*

On a scale of 1 (poor) to 5 (excellent), please rate the following:

a. Meeting agenda and process

1                      2                      3                      4                      5

b. Facilitation

1                      2                      3                      4                      5

c. Materials

1                      2                      3                      4                      5

d. Venue

1                      2                      3                      4                      5

Please provide additional comments on the overall effectiveness of the meeting to help us plan for the May 30 meeting.

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Thank you

**CLIMATE  
SMART  
COMMUNITIES  
SCENARIOS PROJECT**



Metro



**What the future  
might look like  
in 2035**

Scenario

**A**

**Recent Trends**

This scenario shows the results of implementing adopted plans to the extent possible with existing revenue.

Scenario

**B**

**Adopted Plans**

This scenario shows the results of successfully implementing adopted land use and transportation plans and achieving the current RTP, which relies on increased revenue.

Scenario

**C**

**New Plans and Policies**

This scenario shows the results of pursuing new policies, more investment and new revenue sources to more fully achieve adopted and emerging plans.

# INVESTING IN GREAT COMMUNITIES

**The Climate Smart Communities Scenarios Project was initiated in response to a mandate from the 2009 Oregon Legislature to reduce per capita greenhouse gas emissions by 20 percent from cars and small trucks by 2035.**

There are many ways to reduce emissions while creating healthy, more equitable communities and a vibrant regional economy. Providing services and shopping near where people live, expanding transit service, encouraging electric cars and providing safer routes for walking and biking all can help.

The goal of the Climate Smart Communities Scenarios Project is to engage community, business, public health and elected leaders in a discussion with their communities to shape a preferred approach that meets the state mandate and supports local and regional plans for downtowns, main streets and employment areas.

To realize that goal, Metro evaluated three approaches – or scenarios – over the summer of 2013 to better understand how best to support community visions and reduce greenhouse gas emissions. The results will be used to frame the regional discussion about which investments and actions should be included in a preferred approach for the Metro Council to consider for adoption in December 2014.

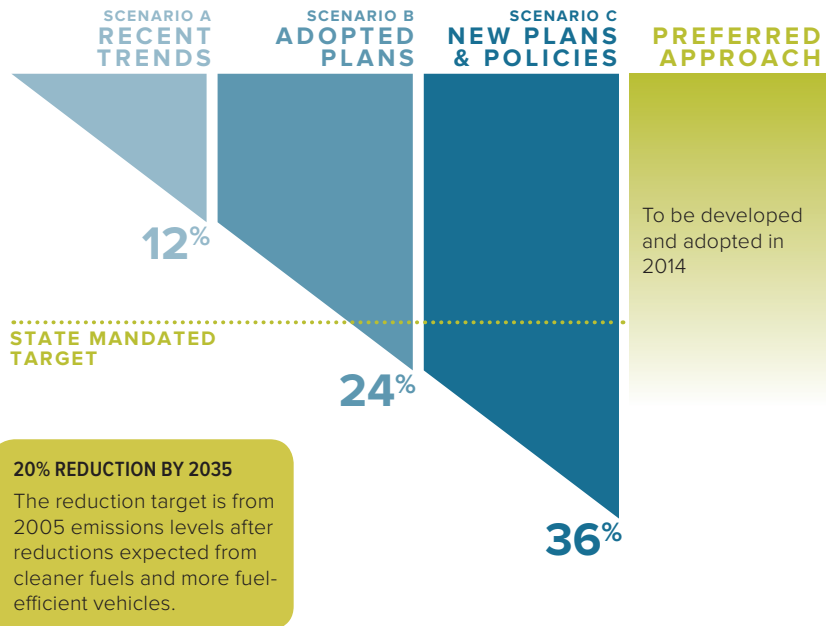
## WHAT HAVE WE LEARNED SO FAR?

### Adopted plans can meet the target

Our analysis indicates that adopted local and regional plans can meet our target for reducing greenhouse gas emissions – if we make the investments and take the actions needed to implement those plans.

**This is good news, but there is more work to be done.**

## REDUCED GREENHOUSE GAS EMISSIONS PERCENT BELOW 2005 LEVELS



INVESTMENTS AND ACTIONS THAT CREATE GREAT COMMUNITIES	RELATIVE CLIMATE BENEFIT
<b>WHERE WE LIVE AND WORK</b>	
Implement 2040 Growth Concept	★★★★★
Implement local zoning, comprehensive plans and transportation plans	★★★★★
Provide new schools, services, and shopping close to neighborhoods	★★★★★
Manage the urban growth boundary	★★★☆☆
<b>HOW WE GET AROUND</b>	
Maintain and make transit more convenient, frequent, accessible and affordable	★★★★★
Manage parking with a market-responsive approach	★★★★☆
Use technology and “smarter” roads to manage traffic flow and boost efficiency	★★★★☆
Provide information to expand use of low carbon travel options and fuel-efficient driving techniques	★★★★☆
Make walking and biking more safe and convenient with complete streets and trails	★★★☆☆
Maintain and make streets and highways more safe, reliable and connected	★★★☆☆
Expand access to car-sharing	★★★☆☆
<b>OUR HEALTH AND ENVIRONMENT</b>	
Transition to low emission vehicles and engines, including electric vehicles	★★★★★
Transition to cleaner and low carbon fuels	★★★★★
Achieve federal fuel economy standards	★★★★☆

## WHAT INVESTMENTS AND ACTIONS BEST SUPPORT YOUR COMMUNITY VISION?

### Each community is unique

Most of the investments and actions under consideration are already being implemented to varying degrees across the region to realize community visions and other important economic, social and environmental goals.

A one-size-fits-all preferred approach won't meet the needs of our diverse communities. A combination of investments and actions will help us realize our shared vision for making this region a great place for generations to come.



## WHAT DOES THIS MEAN FOR YOUR COMMUNITY?

### We're all in this together

Local, regional, state and federal partnerships are needed to make the investments and take the actions necessary to create great communities while reducing greenhouse gas emissions.

Working together, we can develop a shared strategy that may include a transportation legislative package for 2015.

RELATIVE COST	WHO HAS A ROLE?			
	FEDERAL	STATE	REGIONAL	LOCAL
\$\$\$			●	●
\$\$\$				●
\$\$\$				●
\$\$\$			●	
Up to \$\$\$	●	●	●	●
\$\$\$				●
\$\$\$	●	●	●	●
\$\$\$	●	●	●	●
\$\$\$	●	●	●	●
Up to \$\$\$	●	●	●	●
\$\$\$				●
\$\$\$	●	●	●	●
\$\$\$	●	●		
\$\$\$	●	●		



## About Metro

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy, and sustainable transportation and living choices for people and businesses in the region. Voters have asked Metro to help with the challenges and opportunities that affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to providing services, operating venues and making decisions about how the region grows. Metro works with communities to support a resilient economy, keep nature close by and respond to a changing climate. Together, we're making a great place, now and for generations to come.

Stay in touch with news, stories and things to do.

[www.oregonmetro.gov/connect](http://www.oregonmetro.gov/connect)

### Metro Council President

Tom Hughes

### Metro Council

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Kathryn Harrington, District 4  
Sam Chase, District 5  
Bob Stacey, District 6

### Auditor

Suzanne Flynn

## WHAT'S NEXT?

**January to May 2014** Community and business leaders, local governments and the public are asked to weigh in on which investments and actions should be included in the region's preferred approach

**June 2014** The Metro Council is asked to provide direction to staff on the draft preferred approach

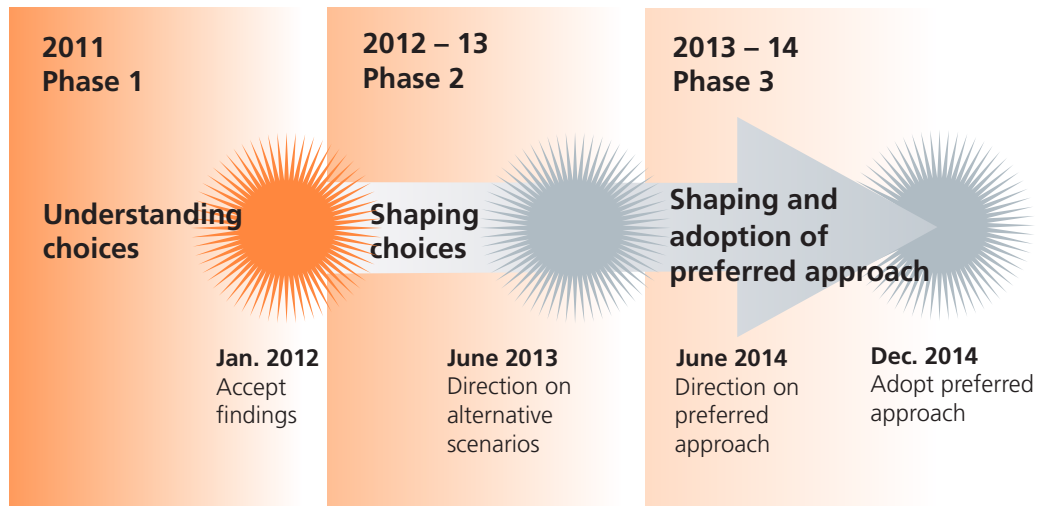
**Summer 2014** Evaluation of preferred approach

**September 2014** Final public review of preferred approach

**December 2014** Metro Council considers adoption of preferred approach

**January 2015** Submit adopted approach to Land Conservation and Development Commission for approval

## Climate Smart Communities Scenarios Project timeline



## WHERE CAN I FIND MORE INFORMATION?

[www.oregonmetro.gov/climatescenarios](http://www.oregonmetro.gov/climatescenarios)

Visit the project website to learn more about existing community efforts and their challenges, and to download other publications and reports.

For email updates, send a message to [climatescenarios@oregonmetro.gov](mailto:climatescenarios@oregonmetro.gov)

# MAKING A GREAT PLACE



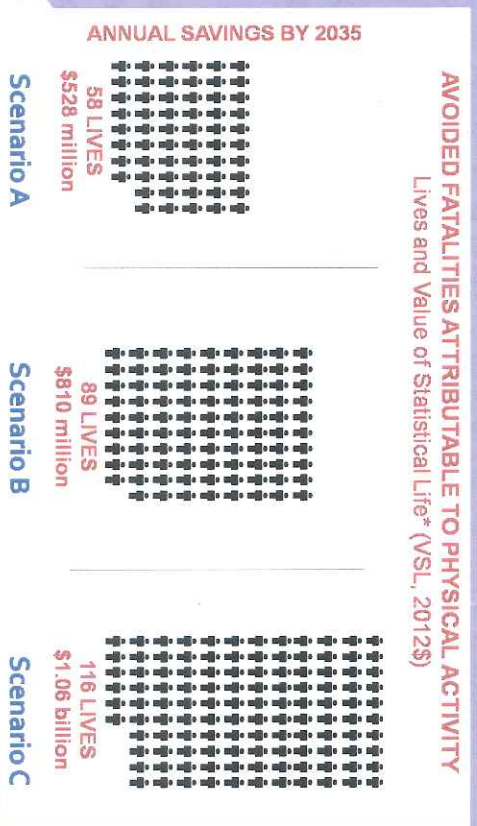
JAN. 29, 2014

# Community Climate Choices Health Impact Assessment-Key findings

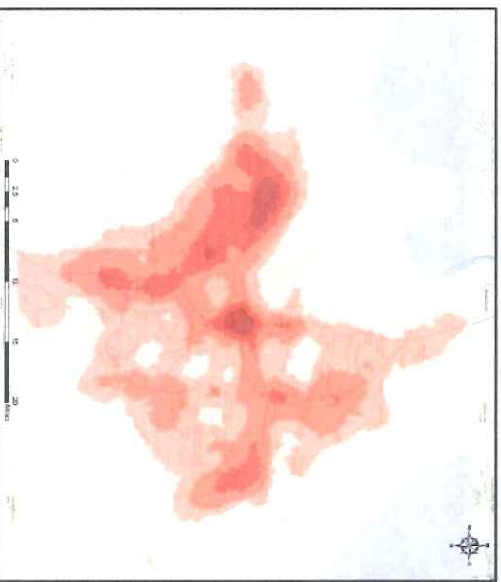
**ABSTRACT:** The Oregon Health Authority (OHA) collaborated with Metro on a health impact assessment (HIA) of the Climate Smart Communities Scenarios planning process. The HIA modeled expected impacts on three areas – physical activity, roadway-related injuries and fatalities, and exposure to air pollution – and addressed specific land-use strategies impact on health.

Physical inactivity leads to chronic diseases – like heart disease, stroke, diabetes – and associated premature death. **44% of adults do not meet the minimum recommendation of 150 minutes of moderate activity per week.**

**Research shows the built environment, transportation infrastructure, and other environmental factors strongly influence physical activity.** People who commute by walking, bicycling or public transit are more likely to meet physical activity recommendations and do twice as much total physical activity as those who commute by automobile.



Adopting a Preferred Scenario that meets or exceeds GHG targets will improve Portland's air quality. Reducing per capita VMT and phasing in cleaner fuels and technologies will result in reductions of small particulate matter (PM2.5), associated with **modest decreases in respiratory illness and heart disease.** Portland Air Toxics Solutions Project suggests additional health benefits should accrue from lower ambient ozone and air toxics concentrations, especially for those who live near freeways.



Air pollution emissions are highest within 500 yards of major roads.  
Source: <http://www.deq.state.or.us/air/toxics/pats.htm>

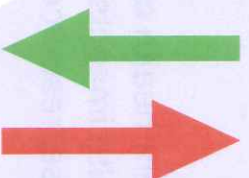
The scenarios improve health by decreasing air pollution.

air pollution

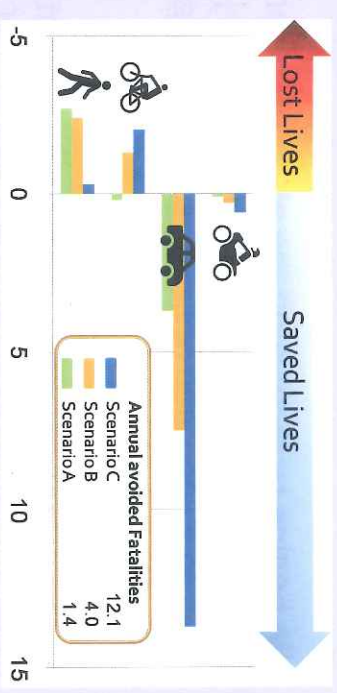
The scenarios improve health by increasing physical activity.

Physical activity

The scenarios provide a net improvement to traffic safety.



Motor vehicle crashes are the second leading cause of death in Oregon in 2009, and the leading cause of death for individuals between the ages of 5 and 24. Serious pedestrian and bicycle crashes – resulting in a fatality or incapacitating injury – accounted for 20% of all serious crashes in the region.



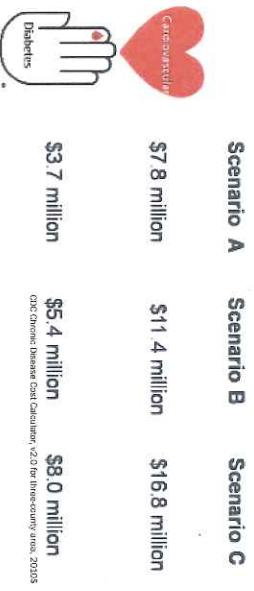
Traffic safety

**To protect and improve health throughout the region, we recommend the Preferred Scenario:**

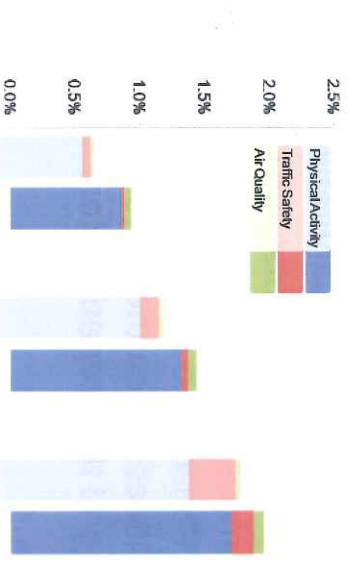
- 1) Maximize opportunities for active transportation for all communities
- 2) Prioritize the design and maintenance of non-automobile facilities
- 3) Maximize improvements in air quality, and
- 4) Link low-income and other vulnerable households to health-promoting resources

**Recommendations**

Annual Saving in Medicaid & Medicare Expenditures



% Reduction in Disease and Death



Sample estimated health care savings

OHA Chronic Disease Cost Calculator, '02-10 (for forecasting year, 2005)

## Community Climate Choices Health Impact Assessment-Methods

HIA is guided by practice standards established by the Society of Practitioners of Health Impact Assessment (SOPHIA). This HIA adheres to the HIA Minimum Elements established by the North American HIA Practice Standards Working Group ([www.hiasociety.org](http://www.hiasociety.org)). The HIA was supported by an advisory committee of volunteers from Metro's MTAC and TPAC committees as well as local nonprofits and universities. The project was funded by a grant from the Healthy Community Design Initiative at the National Center for Environmental Health in the Centers for Disease Control and Prevention.

HIA begins by assessing the state of the science for pathways of interest with in-depth literature reviews for land use strategies, physical activity, traffic safety, and air quality. This HIA reviewed more than 300 journal articles, scientific reports, and government guidance linking the built environment to health. Particular weight was given to systematic reviews, government guidance, and/or articles addressing sub-populations with vulnerabilities such as children, elders, and racial-ethnic minorities.

An important objective of HIA is documenting current health conditions. PHD used state and federal databases to characterize current prevalence and incidence rates. Information about costs associated with health impacts come from a combination of reports from partner state agencies and CDC's Chronic Disease Calculator, v2.0. <http://www.cdc.gov/chronicdisease/resources/calculator/>

Chronic conditions are a significant financial burden to households and taxpayers. While Oregon-specific cost data are sometimes difficult to calculate, the CDC provides a Chronic Disease Cost Calculator to estimate state-specific Medicaid (Oregon Health Plan), Medicare, and private insurance expenditures for the treated population in any given year. The tool estimates annual direct medical costs in 2010 dollars and does not include lost wages, reduced productivity or years lost to premature death. It does minimize double counting across categories by statistically controlling for deaths with more than one cause, also called comorbidity.

This report also aimed to understand the benefit of preventing a fatality. The US DOT defines the Value of a Statistical Life (VSL) is defined as the additional cost that individuals would be willing to bear for improvements in safety (that is, reductions in risks) that, in the aggregate, reduce the expected number of fatalities by one. This conventional terminology has often provoked misunderstanding on the part of both the public and decision-makers. What is involved is not the valuation of life as such, but the valuation of reductions in risks. In 2012 USDOT set the VSL at \$9.1 million/life, with a 1.7% annual increase. [http://www.dot.gov/sites/dot.gov/files/docs/VSL%20Guidance\\_2013.pdf](http://www.dot.gov/sites/dot.gov/files/docs/VSL%20Guidance_2013.pdf)

This HIA also quantitatively modeled health impacts using ITHIM for physical activity, traffic safety, and air quality as measured by PM2.5. ITHIM uses current and local burden of disease estimates and applies relative risks or measures of expected changes in exposure to estimate changes in mortality (deaths) and illness (as measured by disability adjusted life years or DALYs). ITHIM calculates mortality and illness for both baseline and each scenario (A, B, and C as defined by Metro in Phase 2); outputs are generally reported in the difference between baseline and scenario. Conceptually, baseline in ITHIM is the expected number of deaths and illness given the current rate of exposure for the expected population in 2035. Estimated impact is thus the difference between the expected outcome at baseline and the scenario. More information is available about ITHIM methodology in the CCC HIA Report.



# Executive Summary

## Community Climate Choices Health Impact Assessment

Climate change may pose serious risks to public health. Significant shifts in the climate are already happening. The Third National Climate Assessment found that as the climate continues to change, Oregon will likely experience more frequent heat waves and wildfires, an increase in asthma and other respiratory diseases, changes in disease patterns, and diminishing water quality and quantity [1]. Curbing climate change is a critical public health issue and national public health officials support efforts across the nation to reduce greenhouse gas (GHG) emissions.

The recommendations offered in this Community Climate Choices Health Impact Assessment (CCC HIA) will be considered during Phase 3 of Metro's Climate Smart Communities Scenarios (CSCS) Project, underway in the Portland, Oregon metropolitan region. The focus of the project is to understand and choose the best way to reduce GHG emissions through transportation and land use strategies. The CSCS Project seeks to reduce GHG emissions by reducing per capita vehicle miles traveled (VMT) for light duty-vehicles and by investing in technologies that reduce emissions.

## Community Climate Choices Health Impact Assessment Scope

Geography: Portland, Oregon metropolitan region within the Urban Growth Boundary

Timeline: 2010 (base year) to 2035 (horizon year)

Scenarios - adopted local and regional plans with:

A: existing revenues

B: increased revenues from existing sources

C: new plans, policies and revenue sources

Exposure pathways: physical activity, traffic safety, air quality, land use

Quantitative tool: Integrated Transportation Health Impact Model (ITHIM)

Other considerations: magnitude of health costs associated with health pathways, vulnerable populations.

Health Impact Assessment (HIA) is a way to consider how a policy or plan affects community health before the final decision is made. By providing objective, evidence-based information, HIA can increase positive health effects and mitigate unintended health impacts. The Public Health Division of Oregon Health Authority (PHD) conducted this assessment at Metro's request, with funds provided by the Center for Disease Control and Prevention's Healthy Community Design Initiative.

Investments in land use and transportation systems that reduce GHG emissions positively impact health by increasing physical activity, reducing traffic collisions and improving air quality. PHD and Metro agreed that the CCC HIA is necessary to better inform Metro and its partners in the selection of a final scenario by December 2014.

## Key findings

This analysis found that the strategies under consideration to reduce GHG emissions also result in important health benefits in all exposure pathways, including increased physical activity, fewer traffic injuries and less exposure to air pollutants. These changes are likely to reduce illness and death in the region.

Through a literature review including 348 peer-reviewed articles and government reports linking the built environment to health, PHD found most of the land use strategies under consideration for the CSCS Project promote health. Evidence shows that elements such as level of residential density, land use mix, the number of nearby community destinations and ease of street connectivity are effective at promoting active transportation. Scenario B and C subsections labeled 'Complete Streets and Active Transportations Investments' support healthy behaviors the most. These strategies include better street connections, safer street crossings, wider sidewalks, safer street crossings, improved bus stops, more bikeways, trails and on-street bicycle facilities, and more efficient operation of transit signals.

The literature also aligns with advisory members' equity concerns. Low-income households in search of affordable housing options may locate in neighborhoods that are not well-served by affordable transportation options and have fewer health-supportive amenities. This underscores the need to create and preserve affordable housing options in areas that are well-served by transit.

## Integrated Transport and Health Impact Model (ITHIM)

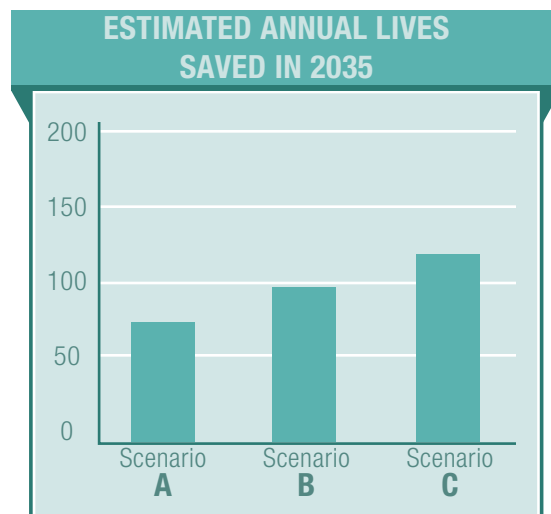
In addition to literature reviews for all pathways, PHD also used a quantitative model, ITHIM, to help understand the relative impact of each of three exposure pathways — physical activity, traffic safety and air pollution as measured by particulate matter (PM2.5) [2]. ITHIM uses relative risks and burden of disease to estimate avoided illnesses (as measured by disability adjusted life years) and deaths for nine conditions associated with physical activity, three conditions linked to PM2.5 exposure, and current traffic fatality rates. A clear limitation of ITHIM is it underestimates all health benefits by restricting calculations to certain pathways and diseases.

Results from ITHIM predict that strategies for reducing GHG emissions will promote health; health benefits occur in all exposure pathways for all scenarios. Scenario A levels of investment are expected to contribute to 64 avoided premature deaths annually. Scenarios B and C would result in 98 and 133 avoided premature deaths respectively. Every 12% decrease in GHG — the difference between each successive scenario — results in an approximate 0.65% decrease in illness among diseases studied.

## Physical activity

The most significant and attainable health benefit of active transportation is increased physical activity. Increased physical activity from active transportation could account for as much as 86–91% of avoided deaths and 69–84% of avoided illness resulting from implementing the CSCS project.

We can improve our region's health and reduce premature deaths by increasing the number of people who regularly walk or bike to the library, school, work, church or store. A safe and convenient transportation system provides individuals with the flexible and healthy options they need to routinely



choose more active modes of transportation. Prioritizing non-automobile users in the design and maintenance of streets increases the safety of all users and will facilitate walking, bicycling and use of public transit.

## Traffic safety

Reduced GHG emissions through lower per capita vehicle miles traveled (VMT) results in fewer overall traffic fatalities and injuries. Scenario A results in one avoided traffic fatality per year and decreases disabilities from serious injuries (measured by disability adjusted life years or DALYs) by 2.0%. Scenario C would help avoid 12 traffic fatalities and 12.5% of DALYs from serious injuries a year.

Due to the increase in miles covered in active transportation modes, ITHIM shows the absolute numbers of pedestrian and bicycle fatalities will rise even as the rate decreases due to population growth. While physical activity benefits outweigh the risks of active transportation, effort should be made to mitigate traffic hazards for pedestrians and cyclists through traffic calming, street design and mode separation. Efforts should also be made to capture the 53% of 'interested but concerned' individuals in the region who would like to bike, but are worried about safety issues.

## Air quality

Improved air quality is an important benefit of addressing GHG. Metro is targeting aggressive GHG emission reductions of 12, 24 and 36% for Scenarios A, B and C respectively. However, Metro's scenarios result in only modest PM2.5 reductions of 2.8, 3.2 and 3.6% due to population growth and reliance on fleet change and fuel technologies. ITHIM results predict a modest decrease in respiratory illness, heart disease cases associated with air pollution, and premature death of lung cancer patients from long-term PM2.5 exposure.

ITHIM only incorporates long-term exposure to PM2.5 and may underestimate health benefits associated with improved air quality. As suggested by the Portland Air Toxics Solutions Project, additional benefits may accrue from lower ambient ozone and air toxic concentrations.

There is no safe level of PM2.5 exposure and current average concentrations of ozone are above safe levels. Episodic PM2.5 (winter) and ozone (summer) events require regional solutions such as leading public efforts to change travel behavior in order to minimize health risk. Poor air quality can be localized and many vulnerable populations live near transportation corridors. Care should be taken to influence increased physical activity while minimizing exposure when designing active transportation facilities and adjoining transportation corridors.

## Recommendations

Climate change poses a risk to the future health of Oregonians. Proposed strategies to mitigate climate change will also increase health benefits associated with physical activity, traffic safety and improved air quality. Based upon the findings of this report and with the support of the CCC HIA Advisory Committee, PHD has developed a series of recommendations to preserve and promote healthy communities throughout the region.

By developing and implementing a preferred scenario that meets or surpasses the GHG emissions reduction target set by the Department of Land Conservation and Development, PHD anticipates an improvement in public health.

The majority of health benefits from the CSCS Project can be attributed to active transportation such as walking and biking to work, transit, school and community destinations. Based on this evidence, this HIA recommends that Metro maximize opportunities for active transportation for all communities by:

[continued on page 4]

The full report is available at: [www.healthoregon.org/hia](http://www.healthoregon.org/hia)

- Adopting and identifying stable funding for the design elements listed in the subsection ‘Complete Streets and Active Transportation Investments’ of Scenarios B and C: street connections, wider sidewalks, safer street crossings, improved bus stops, bikeways, transit signal priority, and on-street bicycle facilities and trails.
- Improving transit service miles to meet levels recommended in Scenario C.
- Using an equity analysis to plan and develop equal access to active transportation throughout the region.
- While the benefits of physical activity far outweigh the risks, active modes of transportation can lead to increased exposure to traffic injury and air pollution. In order to reduce the risk of increased exposure to traffic injury and air pollution for all road users, this HIA recommends that Metro prioritize the design and maintenance of non-automobile facilities by:
  - Including safety features for pedestrians and bicyclists, such as separation from motorized traffic, when possible. Prioritize non-automobile users in design and maintenance of streets.
  - Providing a parallel bicycle route one block removed from high-volume roads where feasible to reduce exposure to localized pollution while still maintaining access to community destinations.

Per capita VMT reduction is expected to modestly improve air quality as measured by many pollutants including air toxics, but temporal and localized air quality concerns remain. Due to temporal and spatial air quality concerns, this HIA recommends that Metro maximize overall improvements in air quality through actions such as:

- Aligning the CSCS preferred alternative to PATS goals. In collaboration with DEQ, determine how the preferred alternative helps meet Oregon’s adopted ambient benchmark concentrations.
- Reducing exposure by using zoning and incentives to improve indoor filtration systems in new buildings along transportation corridors.
- Convening a regional committee to further address episodic air quality events. Solutions should be season specific and could promote incentives for short-term, alternative commute arrangements.
- Finally, to improve health equity, this HIA recommends Metro ensure social and health goals are considered when prioritizing investments by:
  - Explicitly and transparently addressing how investment links low-income and other vulnerable households to health-promoting resources.



PUBLIC HEALTH DIVISION  
 Environmental Public Health  
 Center for Prevention and Health Promotion

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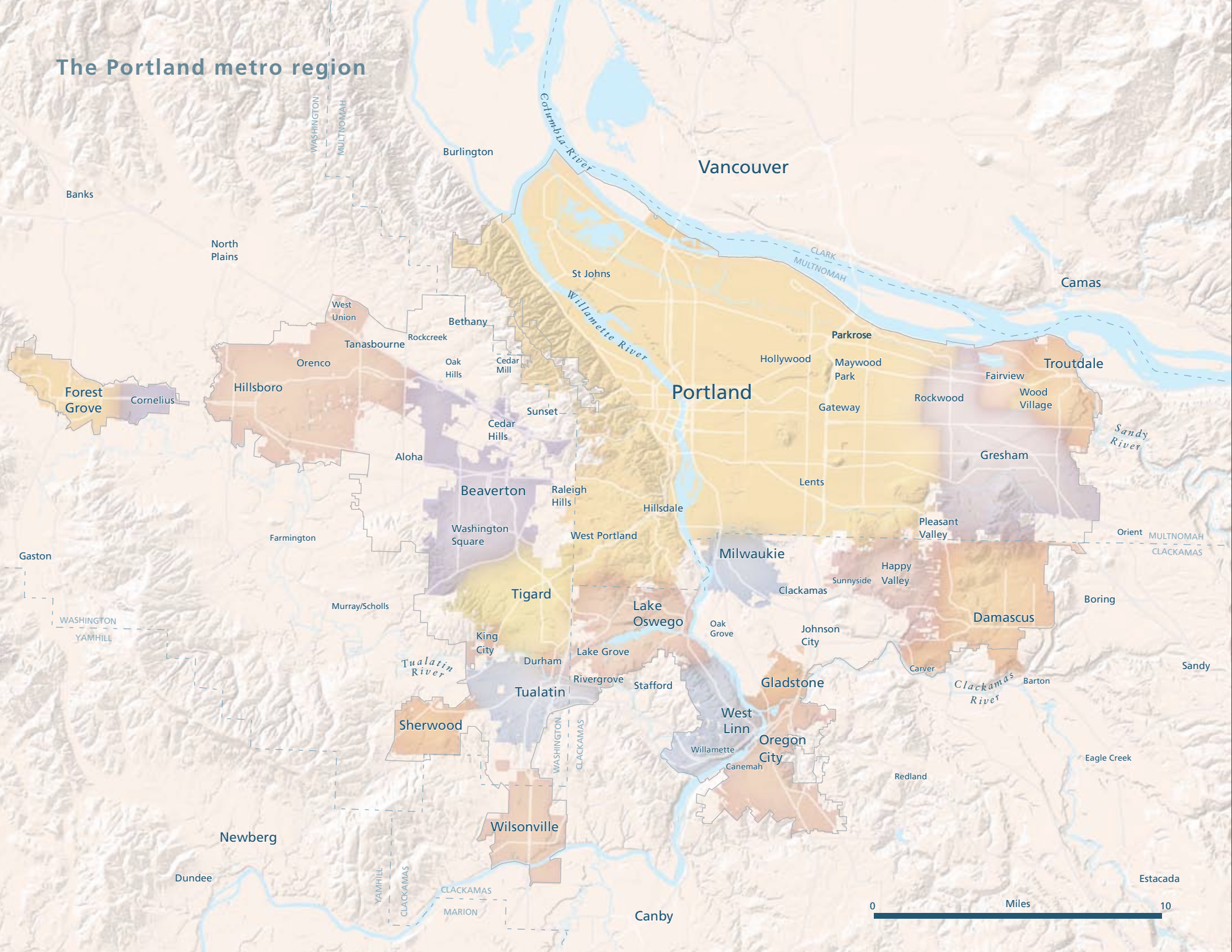


The Portland metro region

# Our Place in the World

Global challenges  
Regional strategies  
Homegrown solutions

# The Portland metro region



Banks

North Plains

Burlington

Vancouver

St Johns

Camas

West Union

Rockcreek

Bethany

Parkrose

Tanasbourne

Oak Hills

Hollywood

Maywood Park

Troutdale

Forest Grove

Cornelius

Hillsboro

Willamette River

Portland

Gateway

Rockwood

Fairview

Wood Village

Sandy River

Aloha

Beaverton

Raleigh Hills

Hillsdale

Lents

Gresham

Pleasant Valley

Orient

Gaston

Farmington

Murray/Scholls

Tigard

West Portland

Milwaukie

Clackamas

Sunnyside

Happy Valley

Boring

WASHINGTON  
YAMHILL

Lake Oswego

Oak Grove

Johnson City

Damascus

Sandy

King City

Durham

Lake Grove

Rivergrove

Stafford

Gladstone

Carver

Clackamas River

Barton

Sherwood

Tualatin

Washington

Clackamas

West Linn

Willamette

Canemah

Oregon City

Redland

Eagle Creek

Newberg

Wilsonville

Canby

Dundee

WASHINGTON  
YAMHILL  
CLACKAMAS

CLACKAMAS  
MARION

0 Miles 10

Estacada



# Our Place in the World

- 2 This treasured place
- 4 A legacy of stewardship
- 6 Urgent challenges
- 10 Aspirations and choices
  - 12 Downtowns and main streets
  - 16 Jobs and economic vitality
  - 18 Homes and neighborhoods
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  - 26 Nature in neighborhoods
  - 28 Farms, forests and natural areas
- 30 Homegrown solutions

Over the years, the diverse communities of the Portland metro region have taken a collaborative approach to planning that has helped to make our region one of the most livable in the country. We have set our region on a wise course – but times are changing. Climate change, rising energy costs, economic globalization, aging infrastructure, population growth and other urgent challenges demand thoughtful deliberation and action.

The following pages frame the challenges and choices that lay before us in the context of our history and our place. Wherever you live in the region, you have a stake in the future of this place and can be a part of the solution. Together we can make this the greatest place for generations to come.





# This Treasured Place

## What do you love?

When someone asks you why you live here, what do you say? Is it the nearness of a peaceful walk in Forest Park, a bike ride on Powell Butte or a berry picking outing in fields outside Hillsboro? The direct flights to Frankfurt, Tokyo and Mexico City? Perhaps what you love most is the thriving coffee shop or brew pub in your neighborhood. Or maybe it's the simple pleasure of strolling to a local park for a picnic with your family.

Chances are you love the Portland region – and choose to live here – for many reasons. Whether your roots are generations deep or newly planted, you are part of a community that treasures the nature around us, the neighborhoods and businesses that sustain us and our shared commitment to preserving our quality of life.

What are the elements that create “quality of life” in the Portland region? The natural environment is certainly the foundation upon which everything else is built. It supports the commerce that moves along the Columbia and Willamette rivers, the thriving network of farms that supply our tables and the recreational opportunities that draw us outside to play.

Over the decades, we've built upon this foundation, growing communities as diverse as Gresham and West Linn, Beaverton and Milwaukie, Cornelius and Portland. We've built roads, bridges, schools and parks. We've started businesses, created art, hosted conventions, preserved public land, invested in transit and made difficult choices along the way.

We've made this a place where we can make a living, raise a family, enjoy the outdoors and celebrate culture. So it's no wonder that more than 1.4 million of us make our home here – each a part of this place, and each with a responsibility to help preserve the things we love and chart a wise course for the future.







1,400,000 residents living within the urban growth boundary  
65,600 businesses  
33,229 acres of public parks and natural areas  
830 miles of rivers and streams  
25 cities  
3 counties  
1 region

## the Portland metro region



Opposite page, top: Swimmers at Oak Grove Beach on the Willamette River. Opposite page, bottom: Mary Howell pedals along the Clackamas River with the Gladstone streetcar bridge in distance, circa 1900. This page, above: Berry picking, circa 1920.

**We Oregonians are a contrary lot. The vast majority of those on the Oregon Trail in the mid-nineteenth century turned south to the California gold fields. A few headed north, marking the beginning of the state of Oregon as we know it now. They took the road less traveled...Oregon, in the words of its deeply missed laureate Terence O'Donnell, is a "time-deep land." The land itself and the history upon it are unique to Oregon. Considering all that we face today, how well we manage this land can continue to set us apart from, and put us ahead of, the crowd.**

— Chet Orloff, director emeritus, Oregon Historical Society



# A Legacy of Stewardship

## What part do you play?

It's easy to take for granted the things we love about living here. But it's important to understand that our quality of life exists because many people have worked together to plan ahead, make choices and invest in those choices.

We enjoy a legacy of visionaries – citizen leaders, business owners and elected officials – who recognized the importance of shaping Oregon and our region with intention and acted to make it happen. We can thank them for Oregon's public beaches, revolutionary land use planning and recycling legislation, networks of parks and natural areas, and urban growth boundaries that protect farmland. They've transformed freeways into parks, parking lots into neighborhoods and rails into trails.

The tradition continues today, carried forward by a new generation of leaders and voters who realize that we must maintain what we've inherited. They roll up their sleeves and pull ivy, plant street trees, serve on local planning commissions, renovate historic buildings and create business improvement districts. They vote to fund urban renewal, light rail lines and new libraries, parks and schools.

The results? Compact development inside our cities prevents sprawl and allows people to live close to the places where they work and play. An integrated transportation system provides travel options. A network of natural areas is protected for wildlife, people and clean water.

We've accomplished great things together. But maintaining our quality of life in the face of growth and emerging challenges is a dynamic process. It's a job that is never done. Whether you are a citizen, a neighborhood representative, the owner of the corner grocery store or the mayor of your city, the future of the region depends on your involvement.

If you've had a hand in making your neighborhood or community a better place, you are continuing our region's legacy of stewardship. You are helping to answer the question, "What kind of place shall we leave to our children?"



80

Eighty percent of metro area residents mention the environment when asked what they enjoy most about the quality of life in the region.

83

Eighty-three percent of metro area residents believe that land use regulations are an essential tool to protect the area's quality of life.

83

Eighty-three percent of metro area residents agree that maintaining the area's quality of life will bring jobs to the area.

## a high quality of life



**What a great state motto, “She flies with her own wings.” Translation? We march to the tune of a different drummer! Think about it: the beach bill, bottle bill, and land use planning. Remarkable, some would say visionary, pieces of the Oregon experience. And they didn’t just happen...These were carefully crafted elements, which set a direction for Oregon...Now, fast forward thirty plus years. Oregon has changed: new folks, new economies, new ways of doing things and thinking about things. But I believe the “old” Oregon is still here... People still want to be engaged. They want to be a part of something positive in and for Oregon.**

— Jack McGowan, former executive director, SOLV

Above top: Clam diggers on the beach in Gearhart. Above bottom: The Columbia Gorge and Rooster Rock, shown here in 1935, still remain a source of natural beauty today. Congress designated the gorge a National Scenic Area, the first in the nation, in 1986.

Americans constitute less than 5 percent of the world's population, but consume 26 percent of the world's energy.

# Urgent Challenges

## How do we respond?

This treasured place and the planet we inhabit face formidable challenges. How we respond to these challenges today will set the course for generations to come. Locally and globally, pressing issues require swift and creative solutions. Our decisions and actions will determine how and where we live and work, how we travel and what we eat, drink and breathe.

**Climate change** The planet is warming and we have less and less time to act. But our ability to respond will have unprecedented impact on our lives and our survival. As one of five states participating in the Western Climate Initiative, Oregon has signaled a long-term commitment to significantly reduce greenhouse gas emissions. This comprehensive regional effort aims to reduce greenhouse gas emissions by 15 percent below 2005 levels by 2020.

**Volatile energy costs** Fluctuating energy prices are also creating pressure to reduce our consumption of fossil fuel and make rapid changes and investments in our transportation system. Unpredictable costs are having a significant impact on household budgets and corporate bottom lines.

**Global marketplace** Despite a growing “buy local” movement, most of the products we buy come from someplace else. And many of the goods we produce in Oregon move on to markets in other states and countries. In today’s global economy, our region’s ability to move products to far-flung markets depends on an efficient transportation system. As a critical West Coast hub and global gateway, the Portland area must maintain well-functioning river ports, rail connections and highways.

**Deteriorating infrastructure** In the last decade, the federal government has invested less in infrastructure than ever before. While budgets are shrinking, aging roads and bridges are operating beyond capacity, and our transit systems lack funding to expand. Outdated state and federal transportation policies, remnants of an era of cheap oil and deep pockets, subsidize sprawl and induce congestion. Traditional approaches to financing transportation projects are not only failing to maintain existing infrastructure, they are wholly inadequate to build new systems to accommodate growth and keep our economy moving.



In the 1930s, Gilmore Oil Company claimed their Blu-Green gas could remove carbon and increase mileage.

# 10,000,000,000

Our region will need approximately \$10 billion over the next few decades to repair and rebuild our existing infrastructure. To meet the demands of anticipated growth in jobs and housing in the region through 2035, we will need as much as \$31 billion in additional funding.

# 500

In an average week, the greater Portland area gains more than 500 new residents. About half of the new residents anticipated in the region during the next 20 years will be born here.

# 60

More than 60 percent of households in the Portland region consist of just one or two people, according to the 2000 census.

## planning for our future



View of the Vancouver Line bridge at Oregon Slough.

**Population growth** The world's population is growing, and here at home our population is expanding rapidly. New forecasts show that within the next 25 years, the population of the Portland metro region and adjacent cities will increase from 1.4 million people to about 2.4 million. While this growth brings jobs and opportunity, it also creates new challenges.

**After years of warnings, the reality is settling in: there is an energy crisis. High gas prices, "peak oil" and a failure to invest adequately in new, clean energy technologies has started to affect every part of our lives. The question is no longer whether we should respond, but what choices we will make.**

— Congressman Earl Blumenauer, Oregon's 3rd District

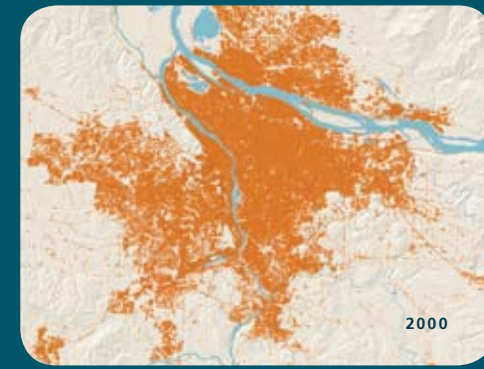
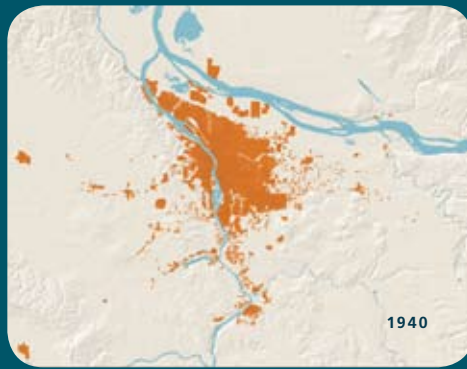
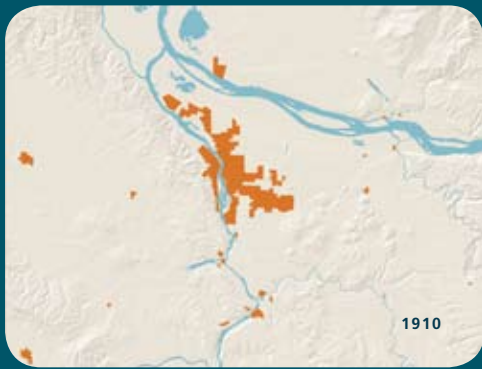


**Shifting demographics** As our population grows more diverse, as the Baby Boom generation ages and as we live and work longer, employment patterns, lifestyles and housing needs are changing. Increasing numbers of single-parent, childless and multifamily households have joined traditional nuclear families in our communities. As a result, the nature, location and price of housing needs to evolve to provide a broader range of options.

**Public health concerns** Inactive lifestyles are fueling an alarming increase in obesity in U.S. adults and children, and health experts are warning us about the resulting long-term health implications. At the same time, population growth puts added pressure on our air and water quality, which directly impact public health.

**What's next?** How do we make sense of all these challenges and set a new course for the future? How do we make regional choices that protect our quality of life at home and contribute to global solutions? It won't be easy. We must weigh competing needs, generate creative solutions, make difficult choices and invest in the solutions. Our success will shape the future of our neighborhoods, our economy and our environment.





# A million changes

Between 1968 and 2006, the Portland Metro region grew by one million residents.

The world looked very different at the start of that period with the median sale price of a single-family home only \$16,200 and the median household income at \$7,700. A loaf of bread cost 25 cents and gasoline was just 34 cents per gallon. In fact, an entire barrel of gasoline in 1968 cost only \$6.23.

Traffic congestion was not a problem in 1968. There was no rush hour traffic on the only two freeways in town: the Banfield Freeway and Interstate 5, which had opened two years prior with the completion of the Marquam Bridge. It would be another seven years before the Fremont Bridge was installed to complete I-405 and 12 years before the completion of I-205. Ninety percent of the funding for these projects came from the federal government.

TriMet didn't even exist in 1968, and a private bus company called Rose City Transit teetered on the edge of insolvency. In 1968, the local economy was dominated by forest products, transportation and public utilities. None of the top 10 largest employers in 1968 are among the top 10 largest employers today.

What did a million new residents do to the face of the region?

For starters, the built environment changed dramatically with vertical growth in the cities and outward growth in the suburbs. Gresham was even smaller than Hillsboro in 1968 with just under 9,000 residents. Lake Oswego had a population of 7,500 and Beaverton was 16,000. There were farms and open spaces between most communities and it was probably unthinkable to the residents of Hillsboro that one day there would be continuous urbanization between their city and Beaverton.

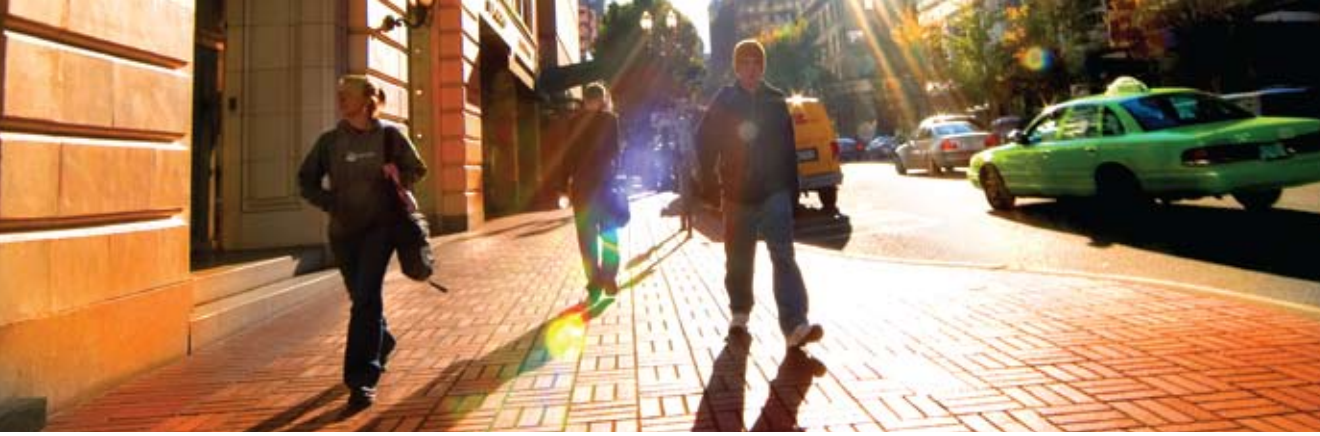
Since then, confronted by rapid growth, a generation of civic leaders demonstrated foresight by creating statewide land use planning laws, the urban growth boundary, Metro and TriMet. They built new roads and light rail lines, community colleges and hospitals. They created entirely new neighborhoods and cities, and they protected historic neighborhoods from destruction. They revitalized downtown Portland and adopted a long-range plan, the 2040 Growth Concept, to curb suburban sprawl.

Looking to the future rather than the past, one thing is clear: one million new residents will have a transformative impact on the region tomorrow just as it did yesterday. And it will require similar transformational leadership to overcome the challenges that lie ahead.

*Brian Newman, former Metro Councilor and Milwaukie City Councilor, shared this historic perspective of the region at the 2006 New Look Forum.*



Aerial photo shows long lines of vehicles that brought crowds of visitors to the grand opening of Somerset West in December 1963. Visitors toured five sample homes, part of a planned "satellite city" 10 miles west of Portland.



# Aspirations & Choices

## What are the trade-offs?

From the Columbia to the Clackamas, Mt. Hood to the coast range, neighborhood café to family farm, our surroundings offer daily inspiration to do the hard work to preserve what we love and build for the future.

With 1.4 million people and 65,000 businesses in 25 cities and three counties, we're a diverse urban and rural mix of varied needs and interests. Setting a course that serves the region requires that many citizens, governments, businesses and organizations work together. Thoughtful choices and coordinated action can foster economic vitality, preserve our natural resources and ensure that people and neighborhoods thrive.



In 1995, more than 19,000 people across the region worked together to create the 2040 Growth Concept, a long-range plan to guide growth for

the next half-century. This innovative blueprint for the future is based on a set of shared values: thriving neighborhoods and communities, abundant economic opportunity, clean air and water, access to nature, preservation of farms and forestland, and a sense of place.

The 2040 Growth Concept acknowledges population growth as a fact of life, but expresses the region's aspiration to incorporate growth within existing urban areas as much as possible and expand the urban growth boundary only when necessary. Implicit in the plan is the understanding that compact development is more sustainable, more livable and more fiscally responsible than low-density sprawl, and will reduce the region's carbon footprint.





People live and work in vibrant communities where they can choose to walk for pleasure and to meet their everyday needs.

Current and future residents benefit from the region's sustained economic competitiveness and prosperity.

People have safe and reliable transportation choices that enhance their quality of life.

The region is a leader in minimizing contributions to global warming.

Current and future generations enjoy clean air, clean water and healthy ecosystems.

The benefits and burdens of growth and change are distributed equitably.

## hallmarks of a successful region



Our region has already started to incorporate new growth in existing communities rather than sprawl outward. Virtually none of the land added to the metropolitan area through expansion of the urban growth boundary in the last decade has been developed, largely because of the lack of funding for new roads, water lines and sewers to serve these sites.

In spite of these trends, rapid population growth and other challenges make it necessary to revisit how we are implementing our vision, make course corrections, and find new strategies and resources to create the future we want for ourselves and our children. Together, we must answer some pivotal questions:

**What are our highest priorities?**

**How do we weigh the trade-offs between competing values?**

**How do we square our vision of the future with the realities we face today?**



To respond effectively, we must understand the building blocks of our communities and the key components of our region's long-range plan. We must also reflect on what's working and what's not working today and the underlying dynamics that will affect our future. The pages that follow describe the aspirations set forth in the 2040 Growth Concept, examine our collective successes and challenges in implementing this shared vision to date, and highlight potential strategies that can help us build a thriving and livable region.





# Aspirations & Choices

## Downtowns and main streets

**Aspirations** Promoting quality infill development in downtowns, on main streets and along key transportation corridors is an effective way to accommodate growth within our existing communities.

Successful downtowns, centers and main streets are authentic, dynamic, walkable places that have a concentration of businesses, shops and entertainment, strong transit service and easy access to



Broadway in downtown Portland, circa 1925.

major transportation corridors. They combine offices, retail and housing with quality streetscapes, parks and plazas, fountains or other amenities.

Like downtowns and main streets, transportation corridors offer a mix of businesses, activities and attractions. They typically have excellent transit service and are often characterized by existing low-density commercial properties that can be revitalized by infill redevelopment.

Station areas along light rail lines are also ideal locations for mixed-use, transit-oriented development. Generally, station communities are hubs of commercial and residential development concentrated within easy walking distance of a light rail station.

Centers, main streets, corridors and station areas can be developed at varying scales and intensities based on the wishes of the community and the



population or market area served. Higher-density development can be carefully designed to complement the character of the existing community and blend harmoniously with adjacent neighborhoods, parks and natural areas.

**The regional efforts to develop and implement the principles of the 2040 plan have been amazing. The active participation in its development and the results in our greatly improved downtowns, communities and neighborhoods have made this effort an outstanding success. Now we have the opportunity to build on these accomplishments far into the future.**

—Judie Hammerstad, mayor of Lake Oswego

**Realities** Malls, big box stores and strip commercial developments have proliferated over the years, changing retail patterns in our communities and weakening many once-thriving downtowns and main streets. Cities across the region are working to revitalize their historic commercial districts, which remain the iconic centers of their communities.

The success of recent mixed-use projects and downtown developments from Gresham to Lake Oswego to Hillsboro, as well as inner-city Portland, demonstrates that many people want to live in compact, urban neighborhoods. This local and

3 to 18

Values of homes within walking distance of urban amenities such as specialty grocers, cinema cafés and bookstores have been shown to be 3 to 18 percent higher than average.

31,000

In 2003, there were 31,000 acres of vacant, buildable land within the urban growth boundary, a combined area roughly 70 times the size of downtown Portland.

33

In a nation-wide study, compact communities were shown to reduce average driving by as much as 33 percent.

## thriving, compact communities

**Downtown Hillsboro has great bones and an authenticity that you can't recreate from scratch, and it's still the civic center of the community. In revitalizing downtown, we've focused on arts, culture and entertainment as a major thrust to create a sense of place. The renovated Venetian Theater and the Walters Cultural Arts Center are among the places that draw people to Hillsboro rather than some generic place. And our Civic Center and Pacific University, located downtown on light rail, contribute to the rich mix of uses that create vitality.**

— John Southgate, economic development director, City of Hillsboro



The Venetian Theater, shown in this 1956 photo, was once a popular attraction on Main Street in Hillsboro. Later renovated and renamed the Town Theater following a fire, the cinema was eventually closed in 1996 and remained vacant for a decade. The theater and an adjacent building have recently been renovated into a theater, bistro and wine bar (far left) and are a key component in the city's strategy to use arts and culture to draw new life and activity downtown.



# Aspirations & Choices



national trend is rooted in a desire for a strong sense of community and easy access to amenities such as grocery stores, coffee shops, restaurants, specialty retail and other services.

Despite the growing popularity of urban lifestyles, infill development and mixed-use building projects can be challenging. This is especially true in suburban areas where local development codes, policies and incentives may not support compact development patterns. While higher-density and mixed-use infill developments will reduce public costs and create

added value in the long run, they can be more expensive to build than traditional projects. Elevators, underground parking and structural components of multi-story, mixed-use buildings can significantly increase design and construction costs. Redeveloping older buildings to accommodate new uses requires upgrading them to meet current codes and standards, which is also costly.

Attracting enough successful businesses to reinvigorate downtowns and main streets is an added challenge in this age of internet shopping and big box

**Milwaukie Sunday Farmers Market has been a gathering place for residents of Milwaukie and surrounding neighborhoods for the past 10 years. Every Sunday between May and October, the streets are alive with customers carrying bags of local produce, plants and garden crafts fresh from the market. Our farmers market has become the centerpiece to a revived downtown and will continue to be an energetic force in Milwaukie, inspiring more business and commerce along our changing Main Street.**

— Brendan Eiswerth, manager, Milwaukie Farmers Market



retail. In a commercial district that is not a known “destination” that draws clientele from a wide area, it’s a stretch for many small businesses to pay the higher rents associated with newly constructed or renovated buildings. This is particularly true if the surrounding neighborhoods are not sufficiently dense to create a solid base of local customers. As a result of these barriers and chicken-and-egg dilemmas, many downtowns and main streets throughout the region are only just beginning to turn the corner and have not yet developed to their full potential after years of stagnation and decline.



### Strategies

- Increase public investment in downtowns, on main streets and along transportation corridors
- Pursue public-private partnerships
- Develop new financial incentives and tax abatements
- Increase building height limits and reduce or remove other development barriers
- Streamline permitting and project approval

You look at the West Coast in post-World War II: it was go out and buy your car, get the top down, get out on the freeway and let her rip. I think that’s pretty much a dead model...you get up in the morning, you go out in the garage, you get in the car by yourself, you back out, you listen to the radio, you pull into another garage or an office park – it’s a solitary experience. But the thing I see in the Pearl again and again, almost anywhere downtown, is that you’re always late for meetings because you’re always bumping into somebody. That social interaction is what people are looking for. People are looking to feel that they belong as part of something bigger than themselves.

— Mark Edlen, principal, Gerding Edlen Development Company



Above: Auto-oriented retail along Southeast 82nd and King Road in 1967.  
Left top: Commercial district and streetcar along Southeast Belmont at 34th, circa 1908. Left bottom: Women board the trolley bus in Hollywood’s thriving shopping district, 1941.





# Aspirations & Choices

## Jobs and economic vitality

**Aspirations** Smart land use policies and public investments in transportation and other infrastructure create the underlying conditions for a prosperous and resilient economy. The Portland metropolitan area's worldwide reputation for livability attracts talented people and private investments that infuse our communities with energy and help us all thrive.

The region is the cornerstone of Oregon's economy, and the region's businesses generate a majority of the state's economic activity. Located at the confluence of major waterways, highways and rail lines,

the region is a key distribution hub for domestic commerce and a gateway for international trade, providing access to markets for businesses statewide. The Portland International Airport provides important linkages for tourism and business travel.

To foster continued economic growth in the region, land that is most suitable for employment and industrial development is reserved for those uses and is protected from encroachment by incompatible types of development. Complementary businesses and industries are clustered to create efficiencies and synergies. Employment and

industrial areas are distributed in communities throughout the region to help balance the number and wage level of jobs in each area with the availability and cost of housing for employees.

**Realities** The Portland metropolitan area's economic growth relies heavily on highly mobile traded-sector businesses. These companies can choose to locate or expand here or elsewhere,

**There were many reasons to come to Oregon...the facility itself is perfect for our needs, the State of Oregon supports us with property and business energy tax credits, and we will find highly skilled workers in the area. Also attractive were vendors and suppliers who are familiar with the silicon industry, existing initiatives in Oregon that support a green work environment, and an excellent public transportation system.**

— Boris Klebensberger, COO of SolarWorld Group and president of SolarWorld Industries



40

Of the 100,000 new Portland-area jobs expected in the next five years, more than 40 percent are projected to be in the professional, financial and information service sectors.

844,000,000

Failure to invest adequately in transportation improvements that relieve congestion will result in potential economic losses valued at \$844 million annually by 2025.

38.4

The Portland metropolitan region encompasses less than 5 percent but is home to 38.4 percent of the state's population and nearly half of its jobs.

2

Additional regional transportation investment would generate an economic benefit of at least \$2 for each \$1 spent.

## expanding access and opportunities



depending on how the region supports their needs for land, infrastructure, labor, supplies and access to markets. This heightens the importance of ensuring that the region's land use and transportation systems provide a solid foundation for economic opportunity.

The region is highly dependent on a smoothly functioning transportation network. However, investment in planned transportation projects has failed to keep pace with population and freight traffic growth. The result is congestion that is expected to increase, which will threaten the region's economic vitality.

A supply of suitable sites for regionally significant employment and industrial uses is designated in cities across the region with regulations that protect them and allow for designation of new areas. Though land has been specifically set aside for industrial uses, industrial development has been constrained by conflicts between state land use laws, business needs and the different desires of individual communities. Even when land is available, serving these areas with roads, sewers, schools and other facilities is a costly process and may not occur in the necessary time frame to attract business.

**In today's world of global competition, the reliability and speed of this region's transportation system is the determining factor for business expansion and job creation. More than one in five jobs in Oregon are trade and transportation dependent. Oregon must invest in a strong transportation system, particularly infrastructure that supports the movement of freight, to maintain our business competitiveness and quality of life. Without a strong transportation system that has the capacity to move people and goods quickly and efficiently, our economy will suffer.**

— Bill Wyatt, executive director, Port of Portland

### Strategies

- Integrate institutions and other large employers in downtowns and corridors
- Improve workforce access to industrial and employment areas
- Upgrade access between intermodal terminals, industrial areas, commercial centers and the interstate system
- Expand use of traffic monitoring tools such as web-based real-time traffic reporting programs that help truckers and other motorists avoid delays



Opposite page: Ships and wharves along the waterfront in downtown Portland, circa 1900. This page, above: Tektronix, Inc., shown here in October 1954, was one of many new businesses seeking good sites that moved into the Tualatin Valley in the 1950s, shifting the economic base of an area that had once been primarily agricultural land.



# Aspirations & Choices

## Homes and neighborhoods

**Aspirations** Planning for resilient, prosperous and vibrant communities is not about narrow, prescriptive formulas but about fostering distinctive places with an array of housing options to meet many needs. The region’s long-range plan seeks to preserve and enhance the unique assets of our neighborhoods, towns and cities and support a wide range of lifestyles.

Providing a range of housing choices for people of all incomes, household sizes and stages of life is a key component of livability and a regional priority. Smaller, more

affordable units of housing within walking distance of transit, retail areas and medical facilities are ideal for many senior citizens who may have decreasing incomes and mobility options but who want to remain in their communities close to family, friends and the lifestyle they enjoy. Affordable housing located close to jobs, schools, shopping, transportation and other services is ideal for younger people just starting careers and families, improving their quality of life and reducing their cost of living.

**Realities** Existing residential neighborhoods are not specifically targeted to accept new development under the region’s long range plan, but many neighborhoods are experiencing development of a

**There is a critical shortage of affordable housing in the Portland metro area, impacting close to 40 percent of the population. Meeting this need is essential if we want healthy, diverse and inclusive communities. Safe, decent affordable housing provides the platform for families and individuals to thrive, to perform well at school and work, and to invest in the health of the larger community. An adequate stock of well-priced and well-designed homes should be our highest infrastructure priority – this is the essential building block for strong communities.**

— Sheila Greenlaw-Fink, executive director, Community Partners for Affordable Housing

greater range of housing types due to market-driven infill development projects allowed under existing local zoning regulations.

In some communities, poorly designed infill projects have undermined support for efficient development and have created apprehension about new building

types or multi-family projects in existing neighborhoods. However, many well-executed infill projects have transformed neighborhoods, added new vitality, and enhanced the value of neighboring properties.

There is an acute need for increased housing choices for families and individuals of modest means.





264

Between 1990 and 2007, the median price of a single-family residence in the tri-county area increased 264 percent while the median household income for the greater Portland metropolitan area rose only 206 percent during the same period.

62

Sixty-two percent of households in the tri-county Portland metropolitan area own their own home.

27

The average household in the region spent 27 percent of their monthly income on housing and 14 percent on transportation in 2006.

111,000

Since 2000, the Portland region has built more than 111,000 new dwellings, of which 69 percent were single-family residences and 31 percent were multi-family units.

## diverse and affordable housing choices



**Some people want to live in the suburbs and feel strongly that their quality of life, their American dream, is a house and a yard and a fence...Others want to live in a vital city where they're a regular at the coffee shop down the street. It's not that one is better than the other, but it is a fact that within this region, you can choose either, and that's what we're trying to achieve – not that everyone chooses the same, but that people can find what they want.**

— Ethan Seltzer, director, Toulon School of Urban Studies and Planning, Portland State University

Changing demographics, such as decreasing household size and the region's growing elderly population, point to the need for more varied and affordable housing. Gentrification in the central parts of the region has increased housing prices, forcing lower-income households to move away from the city center. These locations are often farther from their jobs and not as well served by transit and other services, increasing household transportation costs for those who can least afford it.

As the region grows, demand for new housing of all types will increase. Decisions about where and how much to expand the urban growth boundary to accommodate new residents could have major effects on home prices, neighborhood densities, the range of available housing choices, infrastructure costs and housing demand outside the region in neighboring communities.

### Strategies

- Improve affordable housing policies and incentives
- Integrate affordable housing into market rate residential projects
- Construct affordable housing near jobs, services and transit

Opposite page, left to right: Early residence in Forest Grove. View of early Oregon City neighborhoods, circa 1925. Mid-century residences in east Beaverton. Aerial view of Southwest Portland neighborhoods near Canyon Road, 1947.



# Aspirations & Choices

## Community infrastructure

**Aspirations** To be successful and healthy – with thriving downtowns and neighborhoods, economic opportunities, clean air and clean water – our region must be supported by robust infrastructure. Great communities are served by transportation networks, energy, water, stormwater systems and sewers, plus civic buildings, parking structures, schools, libraries, public plazas, parks and trails.

Community investments that improve public infrastructure and build new facilities provide both quantitative and qualitative returns, including higher tax revenues, improved housing choices, more economic opportunity and more livable communities. Public investments in infrastructure improve individual lives and the quality of life of cities and neighborhoods. Public investment makes private investment possible and profitable, which ultimately builds strong communities.

**Realities** Despite widespread recognition that sound infrastructure is critical to maintaining and enhancing regional economic growth and quality of life, current approaches to the planning, development and financing of critical community support systems are not working. Currently, the region has multiple service districts for water and sanitary sewers, and a lack of coordination between these many entities results in missed opportunities to achieve efficiencies.

Local and regional leaders have identified inadequate infrastructure funding as a key challenge



confronting communities across the region. As a result of insufficient funding, many cities and service providers have neglected and postponed maintenance of existing facilities. Approximately \$10 billion is needed over the next two decades to repair and rebuild our existing infrastructure. In order to accommodate employment and housing growth in the three-county Portland metropolitan area through 2035, as much as \$31 billion may be needed to build additional public and private facilities. Traditional funding sources would cover only about half that amount.

Development impact fees, gas taxes and other revenue sources are not keeping pace with rising infrastructure costs, and voter-approved tax limitations and other ballot initiatives have crippled the ability of communities to fund these services. Rate-funded services tend to enjoy more stable and predictable funding, but obtaining large amounts of up-front capital

for major improvements or capacity expansion can be difficult. Unless we identify new funding sources, the region will be unable to upgrade and replace deteriorating infrastructure systems and provide services to new urban areas.



27

Since 1965, government spending on transportation, sewers and water systems has declined from 38 cents to 27 cents for every dollar spent on private residential construction.

8,000

Based on population projections, the region will likely need 5,000 acres of new urban parks and 8,000 additional acres of open space by 2035.

Oregon ranks last in total auto taxes collected compared with other Western states (Arizona, California, Idaho, Montana, Nevada, Washington and Utah).

## public assets and investments

### Strategies

- Identify new funding sources for infrastructure investments
- Promote compact development patterns that focus new development in areas already served by existing infrastructure and facilities
- Explore public-private partnerships
- Consider a regional approach to coordinating basic infrastructure
- Explore demand-management and public education strategies to manage consumption and improve resource conservation
- Use a return-on-investment analysis when making public investment decisions
- Facilitate implementation of emerging technologies that increase the efficiency and sustainability of infrastructure systems



**Existing funding mechanisms are broken but there is great potential for innovation, creative solutions and ideas that reflect Oregon’s values. Talk to your elected officials, your business and community leaders, your colleagues and neighbors. We are at the forefront of a revolution that transports us 50 years forward – where future generations will reflect on and benefit from our willingness today to connect our needs with our values, and to put our money where our mouth is in meeting the needs of our changing communities.**

— Lynn Peterson, chair, Clackamas County



A crowd of more than 200 people attended the July 26, 1966 dedication of two newly created parks in Portland’s South Auditorium urban renewal area. The parks, between SW College and Mill streets and 2nd and 3rd avenues completed the first phase of the South Auditorium Urban Renewal Project, begun in 1958 and completed in 1974.



# Aspirations & Choices

## Transportation

**Aspirations** Transportation shapes our communities and our daily lives, allowing us to reach our jobs and recreation, access goods and services, and meet daily needs. An integrated approach to transportation and land use planning promotes compact communities served by a robust transportation network that moves people and products efficiently.

The regional transportation plan establishes policies for all types of travel – motor vehicles, transit, walking and bicycling – as well as the movement of goods and freight by many means. Strategic plans for transportation system

management, high-capacity transit and regional freight movement guide future investments and strategies to keep people and commodities moving throughout the region. Together, these coordinated efforts provide for mobility and accessibility in a way that saves tax dollars, supports our economy, promotes public health and safety, protects air and water quality and enhances our quality of life.

Streets, sidewalks and trails are key components of the region’s transportation network and are essential public spaces that enhance quality of life in our



**Decisions about where and when we make transit investments are some of the most important decisions facing our community today. Our choices will influence land development, travel patterns, the economy, public health and our very quality of life.**

— Fred Hansen, executive director, TriMet



Far left: In the early 1900s, streetcar service ran from downtown Portland to Troutdale, Estacada, Forest Grove and Oregon City. Left: The advent of the automobile led to more dispersed urban development patterns.

70

More than 70 percent of the region's residents live within 1/4 mile of public transit.

34

Transportation activities are the second largest source of greenhouse gases in the state, accounting for approximately 34 percent of the state's carbon dioxide emissions.

20

Congestion on our region's freeways increased 20 percent between 2000 and 2005.

9,200,000

9.2 million rides by bus and MAX were taken during July 2008, a 13.3 percent increase over July 2007.

## integrated networks and travel options



neighborhoods, towns and cities. Innovative approaches to street design help to reduce negative environmental impacts of paved surfaces that increase runoff to rivers and streams.

**Realities** The region has successfully implemented policies to expand transportation choices and reduce dependence on the automobile as the only way to travel. Through a combination of land use planning and a strong regional transit network, the Portland region is fighting long

commutes and traffic congestion more successfully than comparable urban areas and the region has reduced the number of vehicle miles traveled per person in recent years.

Air quality has also improved dramatically. In the 1960s, the region had 180 days of air quality violations every year, but today we average zero annual violations. In the Portland metro region, savings from shorter commutes may contribute as much as \$2.6 billion of consumer purchasing power into the regional economy each

**When we walk out our front door, we should be able to choose a travel mode that suits our destination, our mood and our budget. A bike commute to downtown may become a bus ride in the early winter hours. Hauling seven boxes to the Rebuilding Center requires a car. Having transportation options make us feel smart and green and thrifty. Public investment in transit, sidewalks and bike lanes in our city centers or providing access to parks and open spaces knits people into a community.**

— Karen Frost, executive director, Westside Transportation Alliance

year. Greenhouse gas emissions in the city of Portland have remained virtually flat since 1990. And between 1990 and 2000, regional transit ridership grew at twice the rate of population growth.

However, more work is needed. Growth has brought opportunity and prosperity to the region, but it has also brought growing pains. Uncertain energy supplies and the rising price of petroleum products affect transportation project costs and household transportation expenses. Increasing costs will make travel more difficult for those of modest means and make it imperative that our transportation system provides affordable transportation choices across the region. Expanded transit service

will also be necessary to reduce the region's impact on climate change and improve air quality. Current transportation activities are the second largest source of greenhouse gases in Oregon. The I-5 corridor and the Pacific Northwest have unacceptable levels of benzene and other toxic pollutants.





We must consider economic globalization as we maintain and expand our transportation systems. Freight transportation needs are expected to more than double the quantity of goods that will travel to and through the region, and Oregon's economy will depend on a transportation system commensurate with our pivotal role as a gateway for commerce and tourism.

Federal and state transportation funding has not kept pace with needs. Oregon relies heavily on gas taxes (24 cents/gallon) and weight-mile fees on heavy trucks to fund road maintenance and expansion. The state last increased the gas tax in 1993. The federal highway trust fund is teetering on the edge of insolvency and state and local government purchasing power is steadily declining due

to inflation and rising material costs. The region's infrastructure is deteriorating and requires more maintenance than ever before. Although maintenance consumes most funds, a backlog of projects is growing rapidly. Current sources of transit funding are not enough to support system expansions needed to serve the region's rapidly growing ridership.

### Strategies

- Integrate land use and transportation more rigorously
- Upgrade the efficiency and safety of existing transportation system
- Improve connectivity between modes
- Expand transportation choices in more areas of the region
- Identify new funding mechanisms and public-private partnerships
- Incorporate sustainability and green design features in transportation networks



Fred T. Merrill proprietor of bicycle shops in Portland, Seattle, Tacoma and Spokane, sold more than 50,000 bicycles during the bicycle boom of the 1890s. He served on the Portland City Council from 1899-1905 and ran unsuccessfully for mayor on the "keep Portland wide open" ticket. (Photo, circa 1893)



28

Overall bicycle use in the city of Portland increased by 28 percent in 2008. This is the biggest single-year increase since the city began counting cyclists in the early 1990s.

2.94

For every \$1 invested in developing trails, there is an equivalent medical benefit of \$2.94 related to their use.

3.4

In the Portland metropolitan region, 3.4 percent of residents walked to work and 1.7 percent bicycled to work in 2006.

## linking communities and nature

# Trails and greenways

**Aspirations** Regional trails and greenways enhance our communities by linking neighborhoods and schools to parks, employment, shopping and other parts of our daily lives. Greenways serve as key walking and cycling corridors for people and habitat corridors for wildlife, helping people to stay healthy and connect with nature and each other.

From the Willamette Greenway to the Springwater Corridor, trails and greenways vary widely and meet a range of needs. Some, like the I-205 Corridor Trail, support bike commuters. Others provide access to natural areas.

When complete, a 930-mile regional network of trails and greenways will put more than one million residents and 34 of the region's 43 downtown areas within one-half mile of a trail. This will help to achieve a regional goal of 20 percent non-motorized travel by 2038.

**Realities** The growing popularity of outdoor recreation activities, such as walking and running, cycling, skateboarding and wildlife observation, has increased the need for quality regional trails. Higher gas prices and road congestion have motivated more people to walk or bike rather than driving their cars. Greenways are a key component of a complete network of walking and cycling corridors that reduce energy consumption and contributions to climate change.

When originally conceived 100 years ago, Portland's trail system was going to be 40 miles long, circling the city and linking public parks. Since then, park providers, cities and citizens have worked to establish a regional network of trails that link parks to local communities and other area attractions. This broad effort aspires to connect local trails in a 930-mile network throughout the region. To date, 180 miles of these trails have

**What we really want to do is think about trail development in the bigger picture of transportation...We know that when people use public transportation, they tend to be more physically active. So the more you can connect trails to public transportation, the more you're providing that opportunity...This is potentially going to be a major public health tool to encourage people to get physical activity into their daily lives.**

— Philip Wu, MD, clinical pediatric lead, Kaiser Permanente, and member, Blue Ribbon Committee for Trails

been constructed. As development occurs and land prices rise, it will become increasingly costly or difficult to reclaim the region's natural corridors for use as trails and greenways. Completion of the regional trails and greenway system will require cooperation between jurisdictions and accelerated investment.

### Strategies

- Increase the current annual \$5 million investment in regional greenways (20 cents per month per resident)

- Continue development of the regional Connecting Green Alliance, a consortium of citizens, advocacy groups, government, nonprofits and businesses, with a focus on creating an integrated parks and trails system throughout the region
- Act on recommendations of the Blue Ribbon Committee on Trails, a regional advisory group which assessed the regional trails system



# Aspirations & Choices

## Nature in neighborhoods

**Aspirations** As the region focuses new development in existing urban areas, public investment in parks and natural areas helps ensure that communities remain livable. Access to public open spaces – from ball fields to forests to rocky buttes – is a key priority for all communities within the region as our population grows.

Beyond traditional parks and open spaces, innovative approaches to building communities help keep ecosystems healthy and cities and neighborhoods green. Nature-friendly development practices look beyond the walls of buildings and focus on land development and site design that

mimic nature’s processes, reducing the impact of development on wildlife and adjacent natural resources. Integrating nature and habitats with development enriches communities with the beauty of plants, wildlife and greenspaces, while preserving clean water and healthy ecosystems.



Bathers at Oswego Lake, 1923.

**Much of America has caught “green fever” around recycling, water and energy conservation, and reducing carbon footprints. Yet, it is important to remember that sustainability also means designing our houses and buildings to embrace nature so that people will want to live here. Not just today, but in a hundred years. We need to build cities according to our need for nature and reverse the trend of pushing the natural environment yet farther away from our doorstep.**

— Jim Winkler, president, Winkler Development Corp.



**Realities** Regional funds are invested in parks and natural area acquisitions, grassroots community projects, and ecological restoration of neighborhoods, natural areas and backyards. Citizens of all ages and backgrounds are working to restore and enhance wildlife habitat in their communities for this generation and for the future.

The region is a leader in green design, and developments that integrate nature and habitat-friendly practices demonstrate the viability of these approaches. Cities in the region have removed code and policy barriers to implementing habitat friendly development practices. However,

further steps are needed to fully encourage restorative design practices in all types of development.

The need to provide for housing and jobs through infill development of vacant urban lands will test our current strategies to improve watershed health and maintain access to nature. Land availability and cost are the most significant barriers to ensuring adequate parks and open spaces for a growing population. As density increases in urban communities, park space becomes more necessary and more expensive. While we’ve been successful in funding new parks and open spaces, funding





64

Sixty-four percent of metro area residents live within 1/4 mile of a public park, greenspace or regional trail. Ninety-seven percent of Boston's children live within 1/4 mile of a park.

53

Approximately 53 percent of the region's park land and 60 percent of land within 50 feet of streams and wetlands are deforested.

10

About 10 percent of the region's floodplains are developed, substantially degrading ground and stream water quality.

## integrating habitats and greenspaces



**The City of Gresham and the entire Portland metro area is blessed with a spectacular natural setting. We find ourselves living within a breathtaking array of rivers, wetlands, stream corridors and forested hillsides. The successful integration of people and development within this natural setting is what has set us apart from many other regions of the country...To the extent that we continue this tradition of wise stewardship of resources, we will ensure that future generations enjoy the same quality of life, and appreciation for the natural bounty around us.**

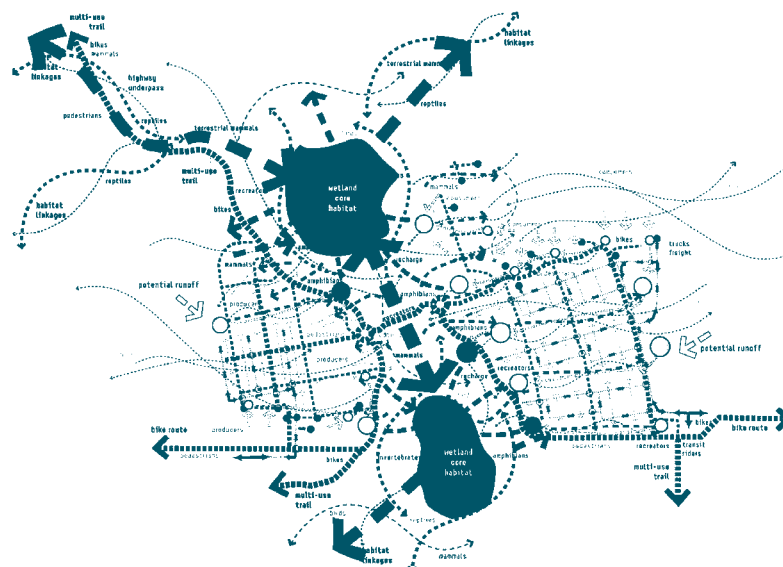
*— Mike Abbate, urban design and planning director, City of Gresham*

for maintenance and operations is scarce. Park providers around the region have identified more than 100 projects to be prioritized for regional funding.

A region-wide reporting system that monitors the health of area watersheds every two years through the year 2015 will assess our success in protecting water quality and natural areas for fish, wildlife and people. Published as the State of the Watersheds Report, this monitoring effort reports the conservation efforts of cities and counties, watershed councils, nonprofits, citizens and other natural resource organizations.

### Strategies

- Adapt local building codes to encourage and facilitate nature-friendly design practices
- Pursue public-private partnerships to fund habitat restoration projects
- Increase assistance and incentives for green building and integrated, nature-friendly design
- Continue developing the regional Connecting Green Alliance, a consortium of citizens, advocacy groups, government, nonprofits and businesses, with a focus on creating an integrated parks and trails system throughout the region





# Aspirations & Choices

## Farms, forests and natural areas

**Aspirations** The Portland region is known for its clean water, clean air, outdoor recreation and an abundance of green. Lush farm fields, mountains and dense forests border our towns and cities, and clear rivers and streams flow through our rural and urban landscapes.

The region's farms, forests and natural areas are protected from urban growth and development. Farms prosper at the region's edge producing food for tables both local and far away, as well as plants, shrubs and trees for landscapes across the country. Key natural areas are preserved to safeguard water quality, protect

fish and wildlife habitat and ensure public access to nature for future generations.

**Realities** Oregon is recognized for its success in protecting farmland from urban development. Until recently, the region has provided for growth by expanding its urban growth boundary into areas that are not high-quality farmland. However, recent boundary expansions have included substantial farmland acreage.

Some farmlands adjacent to existing urban areas may be well suited for future development. Often flat farmland may be less expensive to serve with urban

**I could sell my land and retire very comfortably, but I want to keep farming and to be a sustainable farm growing food for the citizens of Damascus. So we're working with the city to come up with a template for other communities to follow for incorporating a profitable farm into the city.**

— *Larry Thompson, Damascus farmer*

services and develop at urban densities than other property.

A coalition of regional leaders is currently crafting a new system of urban and rural reserves that will help to clarify which lands are most valuable for long-term agriculture and which lands may eventually be developed for urban uses. This system will be a better tool for permanently protecting valuable natural resources while

providing for eventual urban development in areas that can make the best use of existing infrastructure and support the creation of great neighborhoods and communities.

The region's fish and wildlife habitat protection plan integrates the conservation and economic goals of the region's communities. Voters have passed two bond measures empowering the region to purchase and protect natural areas. The region has identified 27 target areas for acquiring natural areas and trails to safeguard water quality, protect fish and wildlife habitat and ensure access to nature for future citizens. More than 8,100 acres of natural areas have



Far left: Hillsboro farm fields, 1911.

20

Nearly 20 percent of the state's prime farmland is located in Clackamas, Multnomah and Washington counties.

76

Seventy-six percent of metro area residents believe that farm and forest lands should be preserved because of the contribution they make to our economy.

78

Seventy-eight percent of metro area residents identify the protection of rivers and streams as the top planning priority over the next ten years.

## preserving valued resources



been preserved through funding approved by voters in 1995, and thousands more will be protected through a \$227 million bond measure passed in 2006.

### Strategies

- Create a thoughtful compact pattern of future urban expansion within a system of functional farms, forests and natural areas
- Encourage community support for local farms and farmers

- Explore and expand redevelopment opportunities within existing communities
- Reach regional concurrence on the scale and configuration of urban and rural reserves
- Reward private landowners who restore and steward ecologically significant rural lands
- Expand natural area acquisition through future bond measures and partnerships

The Tualatin River was once a regional recreation destination for swimming, boating and fishing. After years of abuse it became the most polluted river in Oregon. While much has been accomplished to ensure the health of the river in our community, we are losing ground. The time to act is now. Tualatin Riverkeepers envision a Tualatin River with clean water for drinking, recreation and fish and wildlife habitat, where balance between human development and natural resources protection is restored, and where there is a shared community value that clean water and wildlife habitat are fundamental for health and will not be compromised.

— Monica Smiley, executive director, Tualatin Riverkeepers

120 T. P. A. POCKET GUIDE.

Portland & Vancouver Electric Ry.		
Leave Portland:		Leave Vancouver:
*8 15	12 30	6 0
7 00	1 00	6 30
7 40	1 30	7 00
8 20	2 00	7 30
9 00	2 30	8 00
9 40	3 00	8 30
10 20	3 30	9 00
11 00	4 00	9 30
11 30	4 30	10 00
12 00	5 00	10 30
	5 30	11 00
	6 00	11 30
	6 30	12 00
	7 00	12 30

Aug. 23, 1911

\*Daily except Sunday. †Runs as local on Union Avenue.  
On third Monday each month last Ferry for vehicles and animals leaves Vancouver at 7:20 p. m. and on other Mondays at 9:30 p. m.

Portland Railway Light & Power Co.  
O. W. P. Div.  
Oregon City  
Aug. 23, 1911

Oregon City cars leave Portland at 4:30 a. m. and from 6:30 a. m. every thirty minutes to and including 11:30 p. m. Leave Oregon City at 5:45 a. m., and every 30 minutes from 6:15 a. m. to and including 11:05 p. m. Additional cars leave Oregon City at 11:35 p. m., 12:04 and 1:05 a. m. for Golf Jct. only.

**The best TROUT FISHING in Oregon is at ESTACADA, on the Clackamas River, where Dolly Varden, Rainbow and other varieties are caught.**

Take the O. W. P. cars at First and Alder streets in Portland.  
Bi-hourly service. Hourly on Sundays.  
Special rate for Sundays, 75 cents round trip.

Your  
\$1  
UNIQ  
300 Stark  
W  
SHULD  
Commer  
Careful  
Albany  
Ashland  
Astoria  
Boston  
Chicago  
Denver  
Eugene  
Lewiston  
Minneapolis  
New York  
No night  
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Singapore  
10c: For  
India, 20c



# Homegrown Solutions

## What will be your legacy?

Residents of the Portland area enjoy an enviable quality of life that can be attributed in no small measure to our stubborn belief in the importance of thinking ahead and working together. Distinctive cities, diverse neighborhoods, thriving enterprises, productive farmlands and flourishing natural areas comprise the physical, social and economic fabric of our region. They are interwoven and interdependent, giving our treasured place its unique character.

Across the nation and around the world, others admire our region's path-breaking approach to planning for the future. The Portland metropolitan area is recognized as a leader in sustainable development and civic innovation. Yet despite decades of progress, our region still faces the same grave challenges and pitfalls that threaten other communities. Crumbling infrastructure and aging population, shifting demographics and sedentary lifestyles, soaring energy costs and shrinking glaciers – we cannot afford to ignore the realities of our time. It's crucial that we continue to rethink, adapt and innovate. Invent and create. Retool and reinvest.

We have dreams, ambitions and plans. Yet strong regional, local and individual leadership today

is necessary to realize our collective aspirations. Leadership and partnerships have been essential to our past success and will be critical if we are to surmount the myriad challenges we face.

If we build on our region's long tradition of wise stewardship, we can cultivate a brighter future while addressing the pressing issues of our time. We can invest in our communities, revitalize downtowns and main streets, build parks and neighborhoods, and develop employment areas and industries connected by an affordable and sustainable transportation system. We can ensure that nearby farms and forests continue to grow essential food and valuable resources. We can protect natural areas that provide clean water, clean air and native wildlife habitat – the places that keep us grounded, healthy and whole.

For better or for worse, we are building our future day by day. We can strengthen and preserve our region's assets for future generations. We can cultivate homegrown solutions to the problems in our path. It's up to all of us. What will be your legacy?



Portland Mayor Joseph Carson rallied with thousands of students in front of City Hall to support two voter initiatives to clean up the Willamette River in November, 1938. Several days after the rally, Portland voters passed a city initiative to finance a new sewer system through increased water rates and federal funds.



## Want to be part of the solution?

You can help cultivate a thriving future for our region. Learn about upcoming public forums and policy decisions. Find out how your community is planning for the future. Discover the actions you can take in your daily life to renew rather than deplete the planet's resources. To learn what you can do to help make the Portland metropolitan area the greatest place for generations to come, visit [www.oregonmetro.gov](http://www.oregonmetro.gov).



**I say it's time we talked about growth...We should all be pro-growth. Not in the sense that we want miles of strip malls, developments and traffic jams..."Pro-growth" does not have to be synonymous with short-sighted and misguided development. Let's change the definition so "pro-growth" characterizes community action that protects our shared vision.**

— *Michael Jones, City Councilor, West Linn*



Far left: First constructed in 1915, Oregon City's municipal elevator was funded by a \$12,000 bond measure. Left: After 40 years of service Oregon City's municipal elevator was replaced with a new model in 1952.

**A cynic once grumbled, "All man has learned from the past is that he has learned nothing from the past." Will the next generation say the same? Will bitter hindsight be their lot? Or can they rise up to enjoy the fruits of our foresight? It is still within our hands to set an example for all to follow.**

— *Tom McCall, governor of Oregon, 1972*

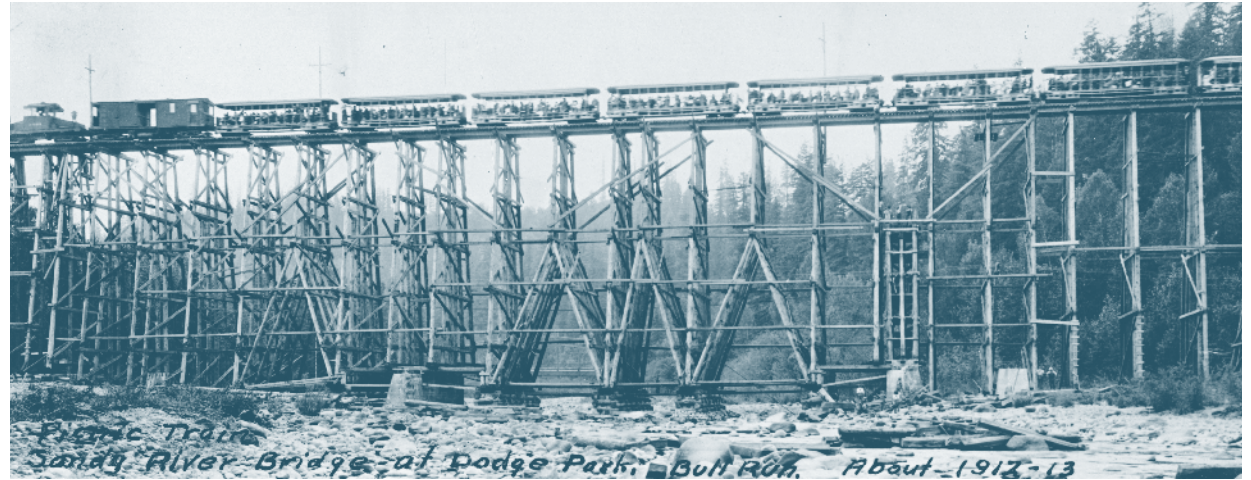
Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy.

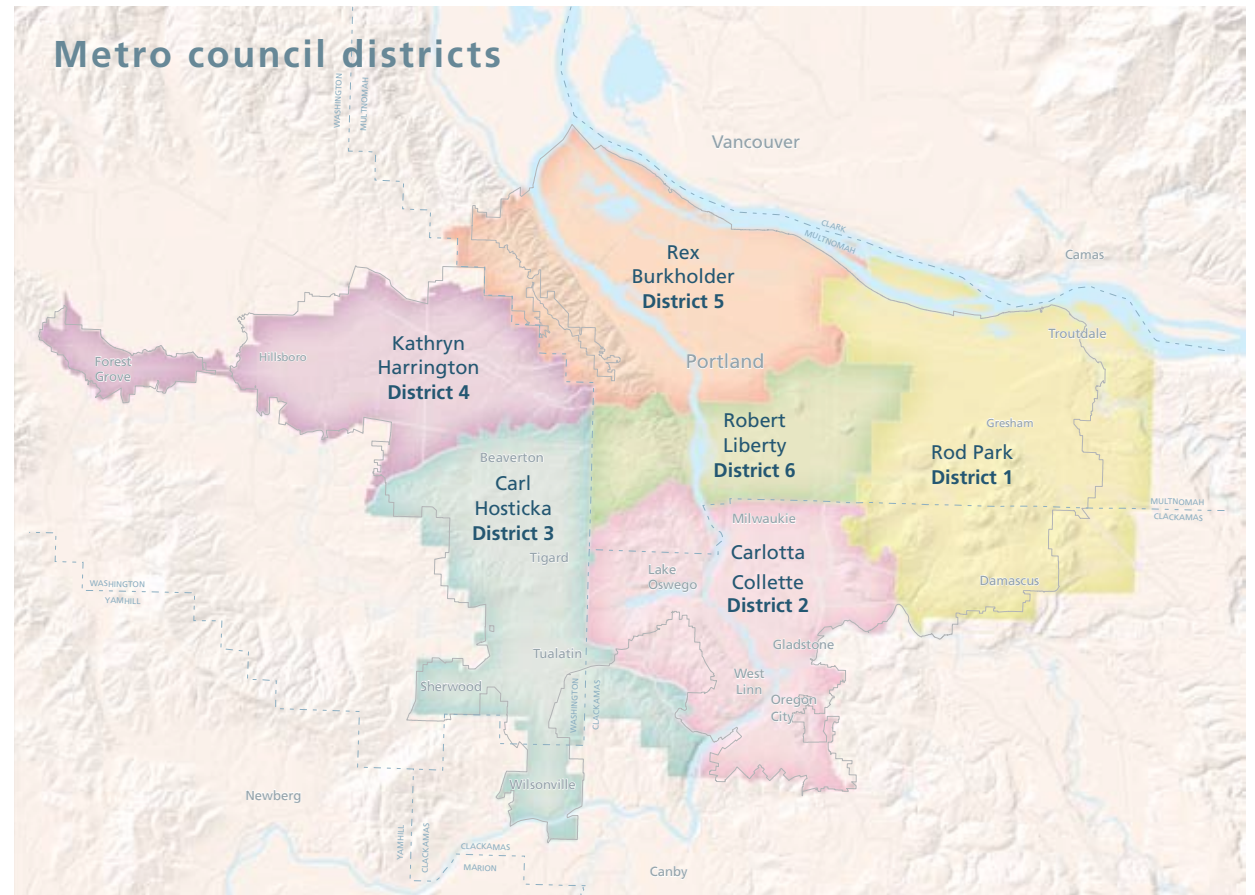
### Your Metro representatives

*Metro Council President*  
David Bragdon

*Metro Councilors*  
Rod Park, District 1  
Carlotta Collette, District 2  
Carl Hosticka, District 3  
Kathryn Harrington, District 4  
Rex Burkholder, District 5  
Robert Liberty, District 6  
Auditor—Suzanne Flynn



*Picnic Train  
Sandy River Bridge at Dodge Park, Bull Run. About 1912-13*  
The bull Run picnic train crosses the Sandy River trestle with a full load of passengers, circa 1912.



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Page 10: Miles Hochstein, Bruce Forster, Metro, Metro

Page 11: Bruce Forster, Bruce Forster, Bruce Forster, Miles Hochstein

Page 12: Metro, OrHi bb00413, Metro

Page 13: E.J. Baeza (courtesy of The Venetian Theater), OrHi 87309

Page 14: Metro, Map OrHi 85401

Page 15: Map OrHi 85401, Metro, OrHi ba012820, OrHi 54271, OrHi 62931

Page 16: Miles Hochstein, OrHi 43989, Metro, Bruce Forster

Page 17: Miles Hochstein, OrHi 76876

Page 18: Metro, OrHi 51357, OrHi 51416, OrHi 29336, OrHi 100185

Page 19: Metro, Miles Hochstein, Bruce Forster

Page 20: Metro, Metro, Jerome Hart, Metro

Page 21: Metro, Metro, OrHi bb004132

Page 22: Metro, OrHi 10205, OrHi gi10421, Miles Hochstein

Page 23: Metro, Metro

Page 24: Map OrHi 85401, Metro, OrHi 103592

Page 25: Metro

Page 26: Metro, OrHi 86046, Jim Cruce, Metro

Page 27: Metro, Metro

Page 28: Bruce Forster, OrHi 15273, Bruce Forster

Page 29: Bruce Forster, Bruce Forster, OrHi 52855

Page 30: Bruce Forster, OrHi cn001253

Page 31: Metro, OrHi 54006, OrHi 9478

Page 32: OrHi 24327, Map Metro

Back outside cover: Metro, Miles Hochstein, Jerome Hart, Bruce Forster

## Data sources

Data sources listed in order of appearance on page.

Page 3: Metro. Economic and Land Use Forecasting, Regional Data Book; Metro Research Center. Environmental Systems Research Institute. (2008); Metro Research Center. Regional Land Information System.(2008)

Page 5: All statistics: Davis, Hibbitt & Midghall, Inc. "Regional Attitudes Toward Population Growth and Land Use Issues." Survey completed for Metro. (February 2006)

Page 6: Solar Energy International. Energy consumption. "American Almanac."

Page 7: Metro. "Regional Infrastructure Analysis." (July 2008); Metro Research Center. "Economic and Land Use Forecasting."; U.S. Census Bureau

Page 13: Johnson Gardner, LLC. "An Assessment of the Marginal Impact of Urban Amenities on Residential Pricing." (June 2007); Metro Research Center. "Regional Land Information System."; Urban Land Institute. Reid Ewing et al. "Growing Cooler: The Evidence on Urban Development and Climate Change." (October 2008)

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Page 21: Metro. "So What Have We Learned From the Base Case." (2002); Metro. "Regional Infrastructure Analysis." (July 2008); Oregon Department of Transportation (2006)

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Page 25: City of Portland Office of Transportation (November 2008); Guijing Wang, PhD, Caroline A. Macera, PhD, Barbara Scudder-Soucie, Med, Tom Schmid, PhD, Michael Pratt, MD, MPH, David Buchner, MD, MPH. "Cost-Benefit Analysis of Physical Activity Using Bike/ Pedestrian Trails." Health Promotion Practice. April 2005 Vol. 6, No. 2, 174-179; U.S. Department of Commerce. "American Community Survey." (2006);

Page 27: Metro. "Performance Measures Report." (2003), Trust for Public Land "No Place to Play." (2004) Available at [http://www.tpl.org/content\\_documents/no\\_place\\_to\\_play.pdf](http://www.tpl.org/content_documents/no_place_to_play.pdf); Metro. Goal 5 (Title 13) Environmental, Social, Economic and Energy (ESEE) analysis; Metro. "State of the Watersheds Monitoring Report." (December 2006)

Page 29: Oregon Department of Agriculture. "Identification and Assessment of the Long-Term Commercial Viability of Metro Region Agricultural Lands." (January 2007); Davis, Hibbitt & Midghall, Inc. "Regional Attitudes Toward Population Growth and Land Use Issues." Survey completed for Metro. (February 2006); Davis, Hibbitt & Midghall, Inc. "Regional Attitudes Toward Population Growth and Land Use Issues." Survey completed for Metro. (February 2006)





**Metro region cities**

- Beaverton
- Cornelius
- Damascus
- Durham
- Fairview
- Forest Grove
- Gladstone
- Gresham
- Happy Valley
- Hillsboro
- Johnson City
- King City
- Lake Oswego
- Maywood Park
- Milwaukie
- Oregon City
- Portland
- Rivergrove
- Sherwood
- Tigard
- Troutdale
- Tualatin
- West Linn
- Wilsonville
- Wood Village

**Metro region counties**

- Clackamas County
- Multnomah County
- Washington County







[www.oregonmetro.gov/climatescenarios](http://www.oregonmetro.gov/climatescenarios)

**Climate Smart Communities Scenarios Project**

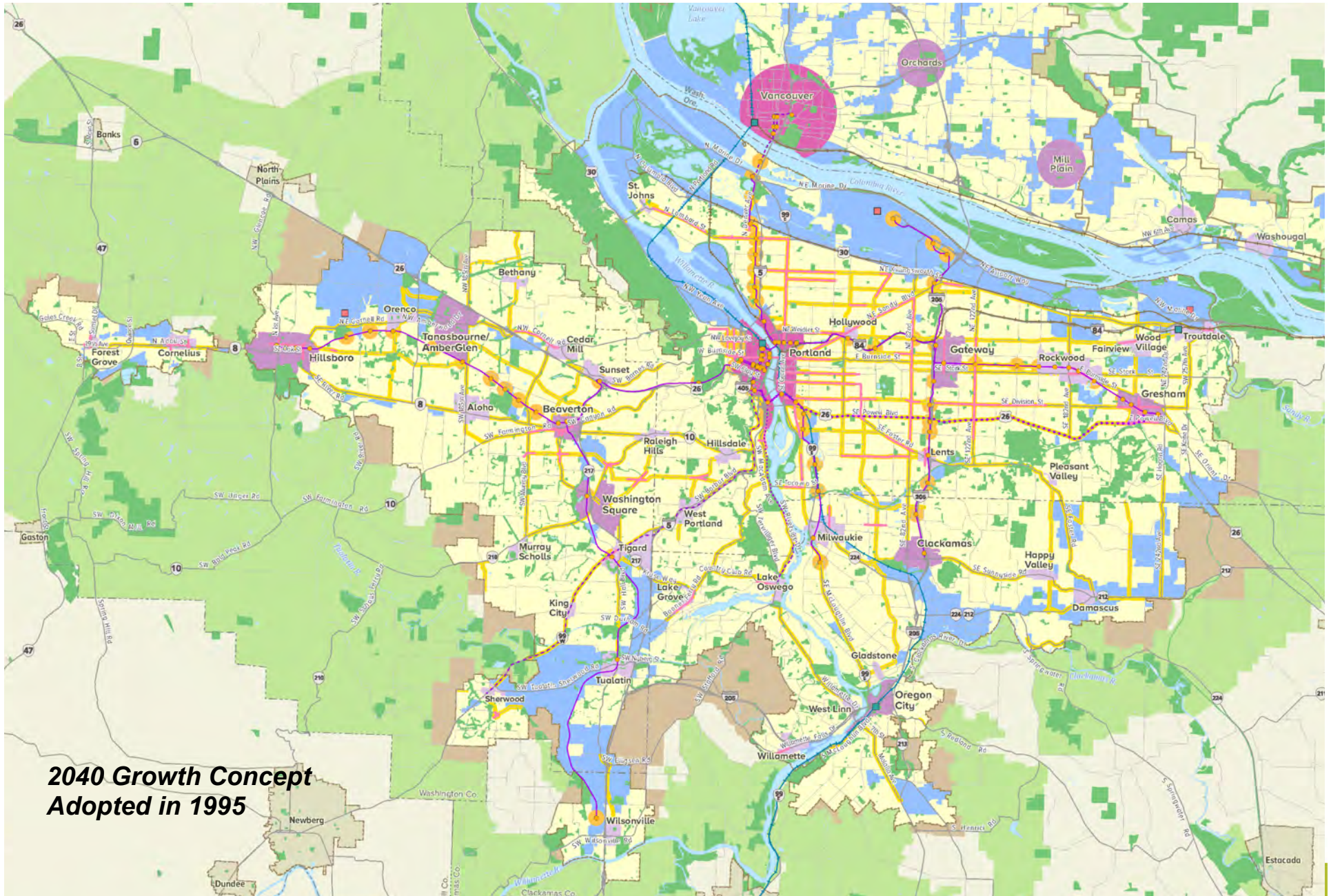
# **Shaping the preferred approach**

**JPACT and MPAC joint meeting**

**April 11, 2014**



Metro | *Making a great place*



**2040 Growth Concept  
Adopted in 1995**

A map of the Portland metropolitan area in Oregon, showing urban growth boundaries (UGBs) in various colors (orange, yellow, purple, blue) and county boundaries (dashed lines). Major cities like Vancouver, Portland, Beaverton, Hillsboro, and Wilsonville are labeled. The map includes geographical features like the Willamette River, Clackamas River, and various lakes. A legend in the bottom left corner identifies UGB and county boundaries. A scale bar in the bottom right shows 0 to 10 miles. The Metro logo is also present in the bottom left. The text 'OVERVIEW OF PROCESS, RESULTS AND POLICY QUESTIONS' is overlaid in large, bold, black letters across the center of the map.

# OVERVIEW OF PROCESS, RESULTS AND POLICY QUESTIONS

# Building toward six desired outcomes



**Vibrant  
communities**



**Equity**



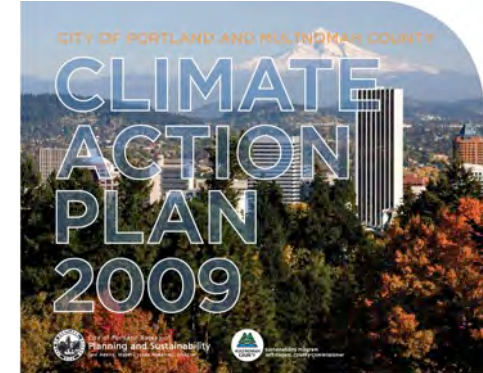
**Economic  
prosperity**



**Transportation  
choices**



**Clean air & water**



**Climate  
leadership**

# Where we've been & where we are headed

## PHASES 1 & 2

**Understand Choices**  
2011-2012

**Shape Choices**  
Jan.-Oct. 2013

## PHASE 3

**Shape Preferred**  
Nov. 2013-June 2014

**Adopt Preferred**  
Sept.-Dec. 2014



**WE ARE HERE**

# What the future might look like in 2035

A

## RECENT TRENDS

This scenario shows the results of implementing adopted land use and transportation plans to the extent possible with existing revenue.

B

## ADOPTED PLANS

This scenario shows the results of successfully implementing adopted land use and transportation plans and achieving the current RTP, which relies on increased revenue.

C

## NEW PLANS & POLICIES

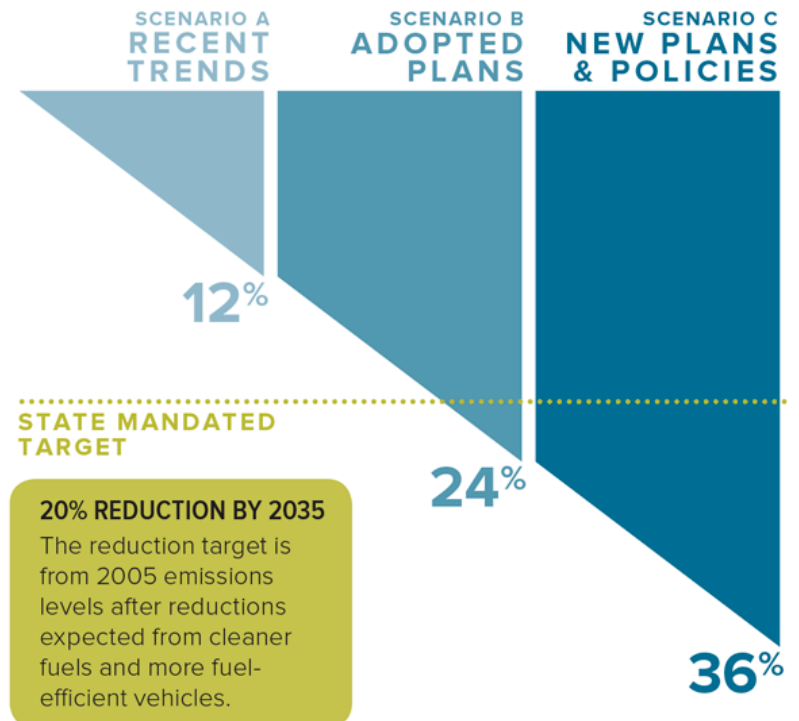
This scenario shows the results of pursuing new policies, more investment and new revenue sources to more fully achieve adopted and emerging plans.

*Scenarios approved for testing by Metro advisory committees and the Metro Council in May and June 2013*

# We found good news

- Adopted plans meet the target - *if we can make the investments needed*
- Significant community, economic and environmental benefits can be realized
- We will fall short if we continue investing at current levels

## REDUCED GREENHOUSE GAS EMISSIONS PERCENT BELOW 2005 LEVELS



See pages 53-57 of the discussion guide

# Benefits grow with more investment

- Investment helps address congestion
- Less air pollution, more physical activity and improved safety save lives
- Reduced emissions benefit the environment
- Businesses and our economy benefit from reduced delay
- Lower vehicle travel costs help household budgets



**See pages 53-57 of the discussion guide**



# Choices you made in February

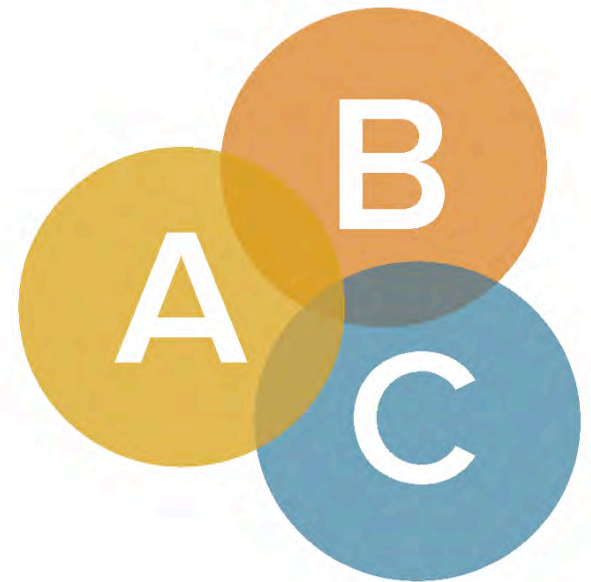
- ☑ Carry forward and implement adopted regional and local plans
- ☑ Use state assumptions for transition to cleaner fuels and fuel-efficient vehicles
- ☑ Use state assumptions for vehicle insurance paid by the miles driven



# Choices to make on May 30...

To realize our shared vision for healthy and equitable communities and a strong economy while reducing greenhouse gas emissions...

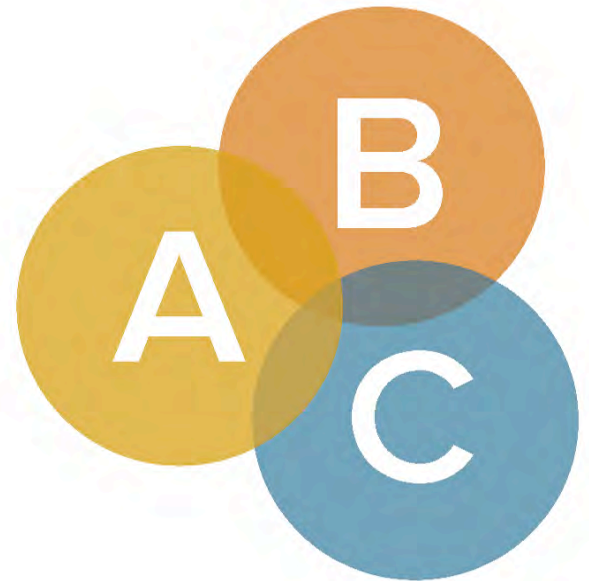
- ❑ How much **transit** should we provide by 2035?
- ❑ How much should we use **technology** to manage the system by 2035?
- ❑ How much should we expand the reach of **travel information** by 2035?



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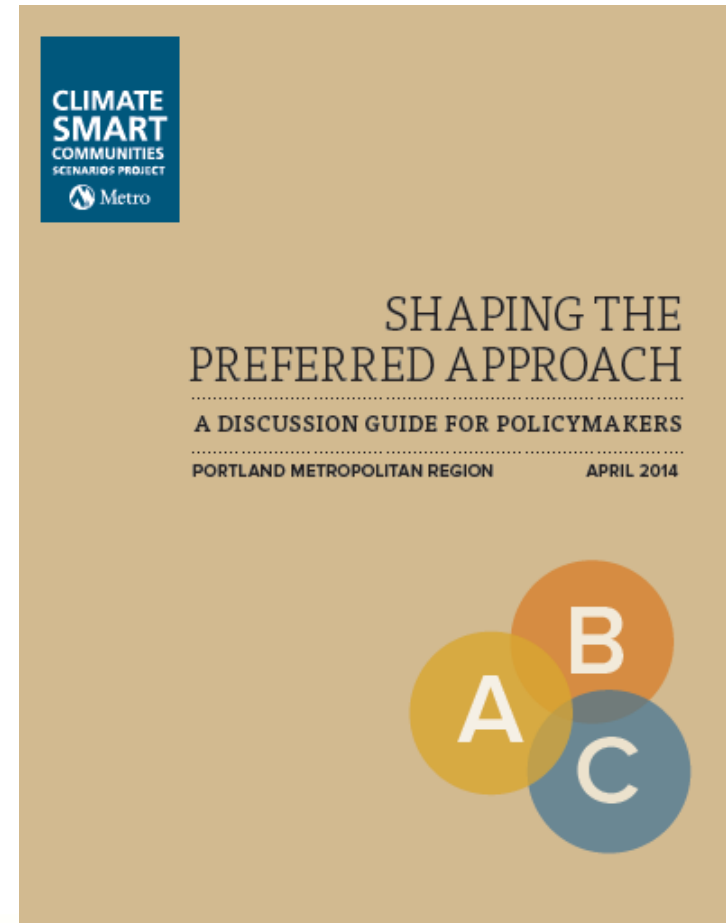
## ...Choices to make on May 30

- How much of the planned **active transportation** network should we complete by 2035?
- How much of the planned **street and highway** network should we complete by 2035?
- How should local communities manage **parking** by 2035?



# Using the discussion guide

- Regional context and what we learned so far (*pp. 7 – 16*)
- Policy questions for 2014 (*pp. 18-19*)
- Overview of policy areas (*pp. 21-48*)
- Supplemental information (*pp. 53-60*)



# WHAT WE HEARD FROM THE PUBLIC AND COMMUNITY LEADERS

# Shaping the preferred approach SMALL GROUP DISCUSSIONS AND STRAW POLL

# Understanding the ratings

## RELATIVE CLIMATE BENEFITS



Transit



Parking



Active transportation



Information and incentives



Technology and “smart” transportation



Streets and highways

## RELATIVE COST

Up to \$\$\$

\$\$\$

\$\$\$

\$\$\$


\$\$\$

Up to \$\$\$

See pages 21 and 22 of the discussion guide

# Weighing in on the policy areas

	<b>A</b>	More than A	Less than B	<b>B</b>	More than B	Less than C	<b>C</b>



## **STRAW POLL PURPOSE**

1. Get a sense of where you are today – non-binding, but important
2. Provide something for you share with regional coordinating committees
3. TPAC and MTAC will use to shape options for consideration on May 30



# Overview of each policy area



## RELATIVE CLIMATE BENEFIT



## RELATIVE COST

\$\$\$

## Make transit more convenient, frequent, accessible and affordable

There are four key ways to make transit service more convenient, frequent, accessible and affordable. The effectiveness of each will vary depending on a mix of nearby land uses, the number of people living and working in the area, and the extent to which travel information, marketing and technology are used.

**Frequency** Increasing the frequency of transit service in combination with transit signal priority and bus lanes makes transit faster and more reliable.

**System expansion** Providing new community and regional transit connections improves access to jobs and community services and makes it easier to complete some trips without multiple transfers.

**Transit access** Building safe and direct walking and biking routes to transit stops makes transit more accessible and convenient.

**Fares** Providing reduced fares makes transit more affordable; effectiveness depends on the design of the fare system and the cost.

Transit is provided in the region by TriMet and South Metro Area Rapid Transit (SMART) in partnership with Metro, cities, counties, employers, business associations and non-profit organizations.

## BENEFITS

- improves access to jobs, the workforce, and goods and services, boosting business revenues
- creates jobs and saves consumers and employers money
- stimulates development, generating local and state revenue
- provides drivers an alternative to congested roadways and supports freight movements by taking cars off the road
- increases physical activity
- reduces air pollution and air toxics
- reduces risk of traffic fatalities and injuries

## CHALLENGES

- transit demand outpacing funding
- enhancing existing service while expanding coverage and frequency to growing areas
- reduced revenue and federal funding, leading to increased fares and service cuts
- preserving affordable housing options near transit
- ensuring safe and comfortable access to transit for pedestrians, cyclists and drivers
- transit-dependent populations locating in parts of the region that are harder to serve with transit

See pages 23-48 of the discussion guide

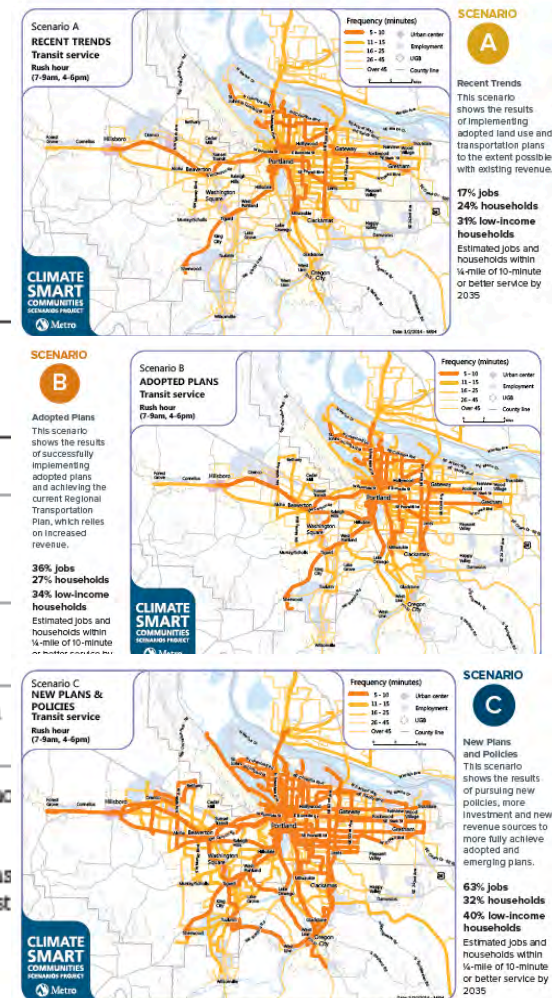
# Overview of what we tested

## How much transit should we provide by 2035?

### TRANSIT AT A GLANCE

	SCENARIO <b>A</b>	SCENARIO <b>B</b>	SCENARIO <b>C</b>
Daily revenue hours	5,600	6,200	11,200
Service expansion (increase from 2010 level)	14% increase	27% increase	129% increase
Rush hour frequency	10-minute service on 10 routes	10-minute service on 13 routes	10-minute service on 37 routes
Off-peak frequency	30-minute service on most routes	20-minute service on most routes	15 or 20-minute service on most routes
New high capacity transit connections	None	Planned connections completed, such as the extension to Vancouver, WA	All regional centers and metro town centers served  Priority high capacity transit system plan and Southwest Corridor completed

See pages 23-48 of the discussion guide



# What we heard & emerging themes

## What people are saying

Transit needs to be more frequent, affordable and connected to more places people want to go.

To increase the accessibility and affordability of public transit is just paramount.

I think we would have great results if we added more to the bus system... because the bus system is very efficient.

## Key takeaways to share with others

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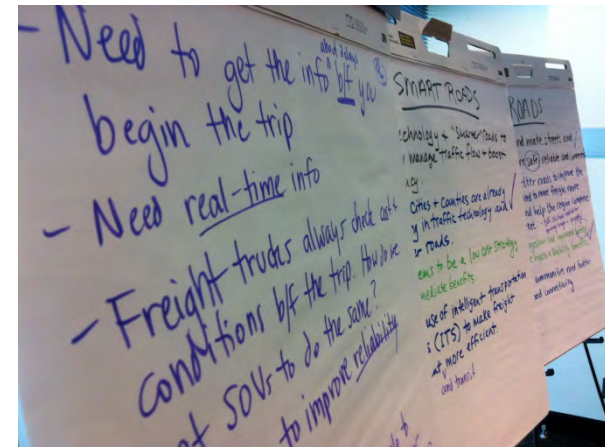
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## Emerging themes

- Transit was universally seen as the highest priority investment area because of its high potential to reduce emissions while improving access to jobs and services and supporting other community goals.
- The cost of transit must be kept affordable, particularly for people with disabilities, youth, older adults and those with limited incomes.
- Integration with land use, active transportation, information, technology and a well-connected street system will help transit be more convenient and accessible for more people.
- Important to seek creative local transit service options and partnerships that fit the needs of smaller communities, including shuttles to support crucial last-mile connections.
- Prioritize low-income communities for bus service improvements and ensure that affordable housing and transportation options remain after major transit investments are made in a community.
- More funding for transit is needed.



See pages 23-48 of the discussion guide

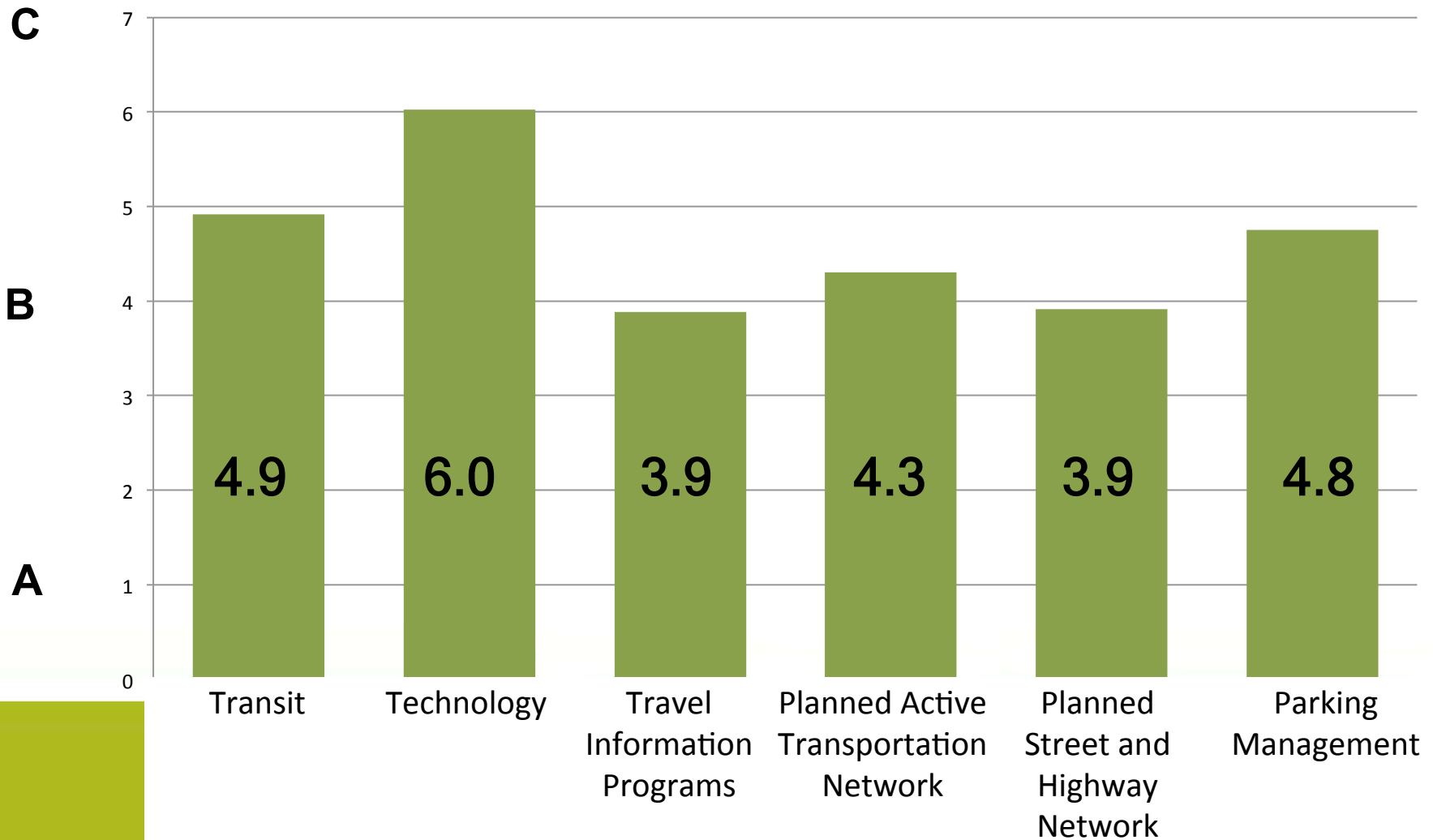




# SMALL GROUP REPORT OUT

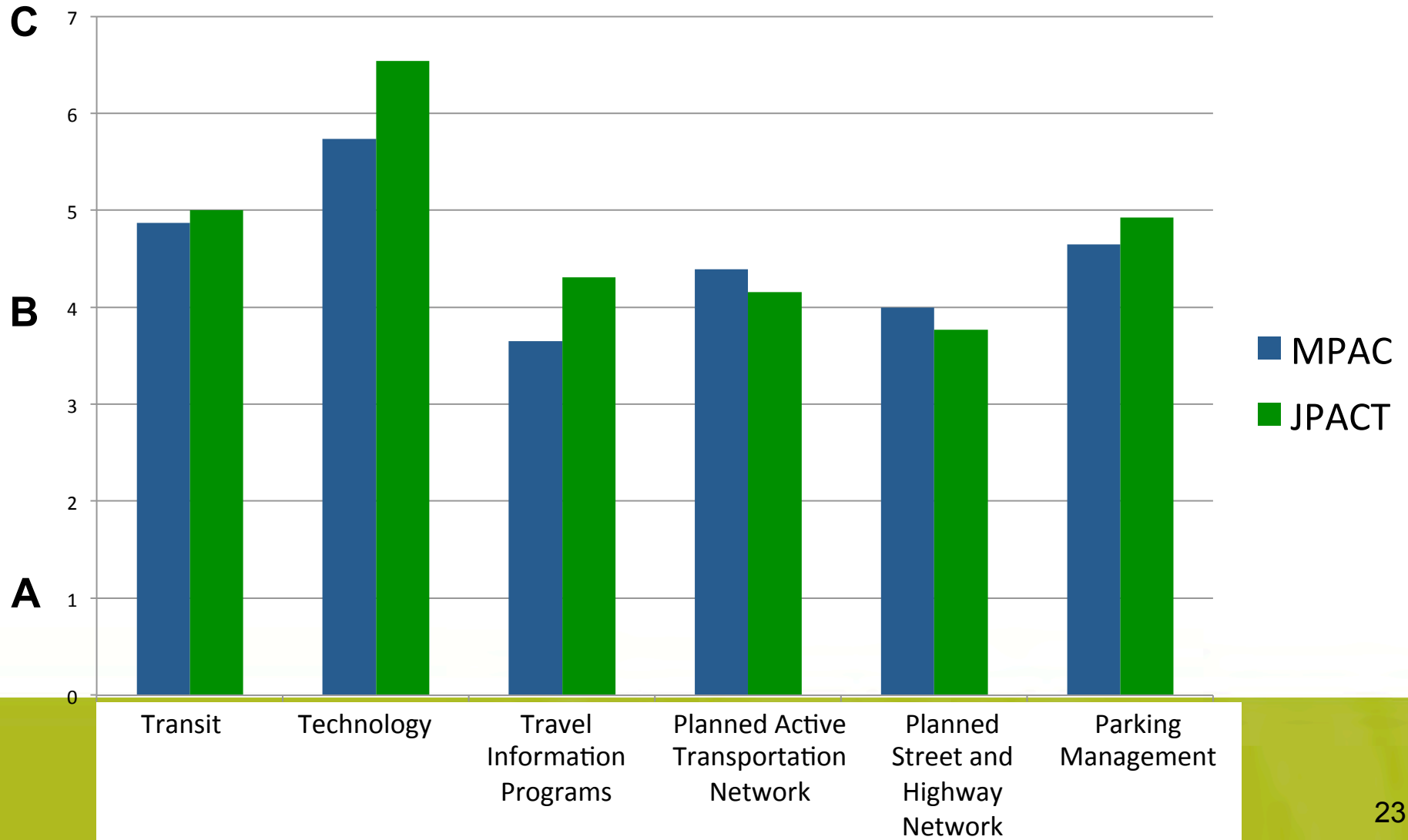
# Preferences for Scenarios A, B, C And In-Between Scenarios

Averages of all respondents (mean):



# Preferences for Scenarios A, B, C And In-Between Scenarios

Averages for MPAC and JPACT separately:







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# Immediate next steps

**WEEK OF APRIL 14**

Report results of meeting

**MAY 1-5**

Members report to county coordinating committees

**MAY**

TPAC and MTAC shape options for consideration on May 30

**MAY 30**

JPACT and MPAC rec'd on draft preferred approach and begin funding discussion

**JUNE 19**

Council direction on draft preferred approach

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# Final steps in 2014

**JUNE – AUGUST**

Staff evaluates draft preferred & develops implementation rec'ds

**SEPTEMBER 5**

Report back results and begin 45-day public comment period

**SEPT. – DEC.**

Public review of draft preferred approach & final adoption



# General Opinions and Preferences to Reduce Vehicle Emissions

Prepared For:  
MPAC and JPACT  
March 2014

# Methodology

- **Telephone survey of 600 residents**
  - 200 each in Multnomah, Clackamas, Washington
- Conducted March 20-23, 2014
- Margin of error between +/- 2.4% and +/- 4.0%
  
- **3 focus groups – 22 total participants**
- Randomly selected from Tri-County
- Conducted February 22, 2014

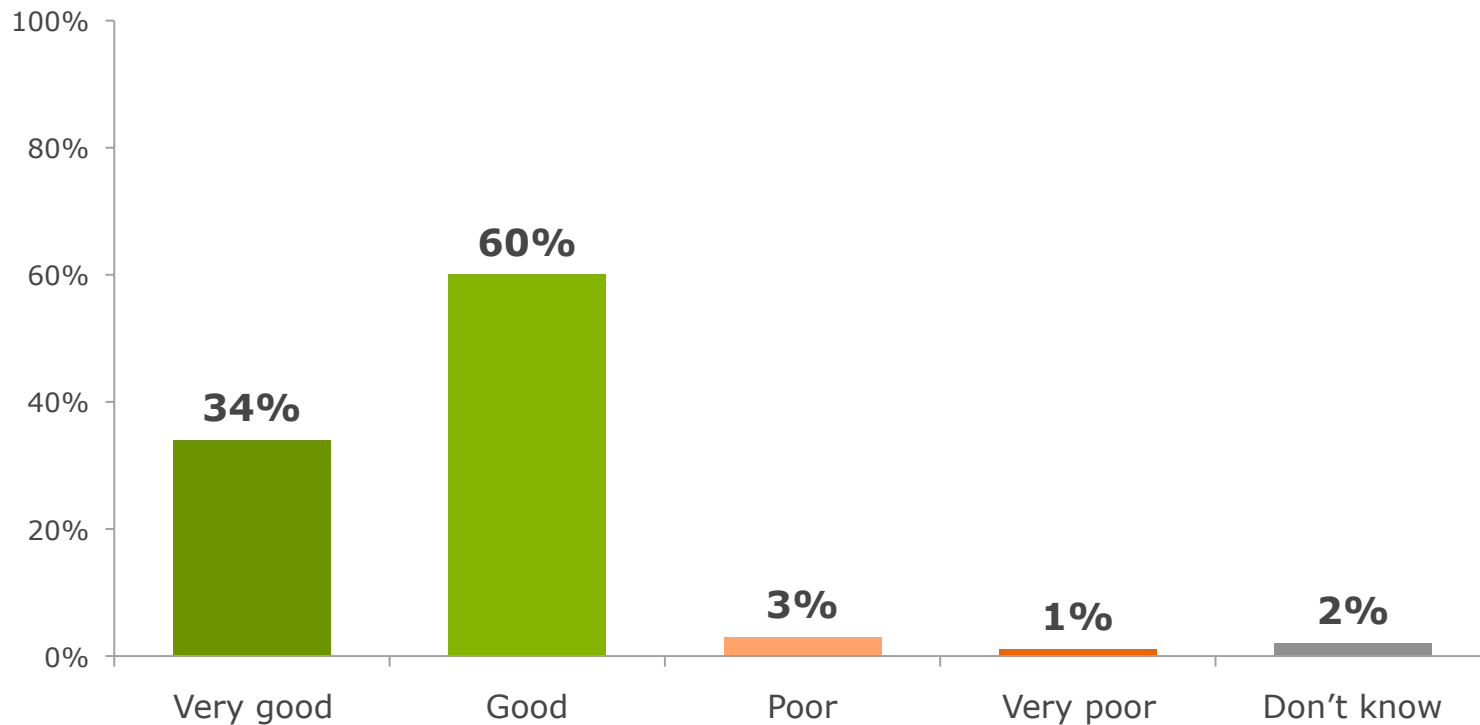
# Demographic Comparison

	Census	Survey
Clackamas	23%	23%
Multnomah	46%	46%
Washington	31%	31%
<b>Age</b>		
18-34	32%	32%
35-54	38%	38%
55+	30%	30%
<b>Gender</b>		
Male	49%	48%
Female	51%	52%

# Key Findings

**Over 90% rate the quality of life in the Portland Metropolitan region as very good or good.**

**94% very good/good**  
**Quality of life in the Portland Metropolitan Region**



## **Top-of-mind issues local officials could address to improve the quality of life in the region include:**

- **Education quality**
- **Jobs/unemployment**
- **Funding for education**
- **Road maintenance**

*(open-ended comments from residents)*



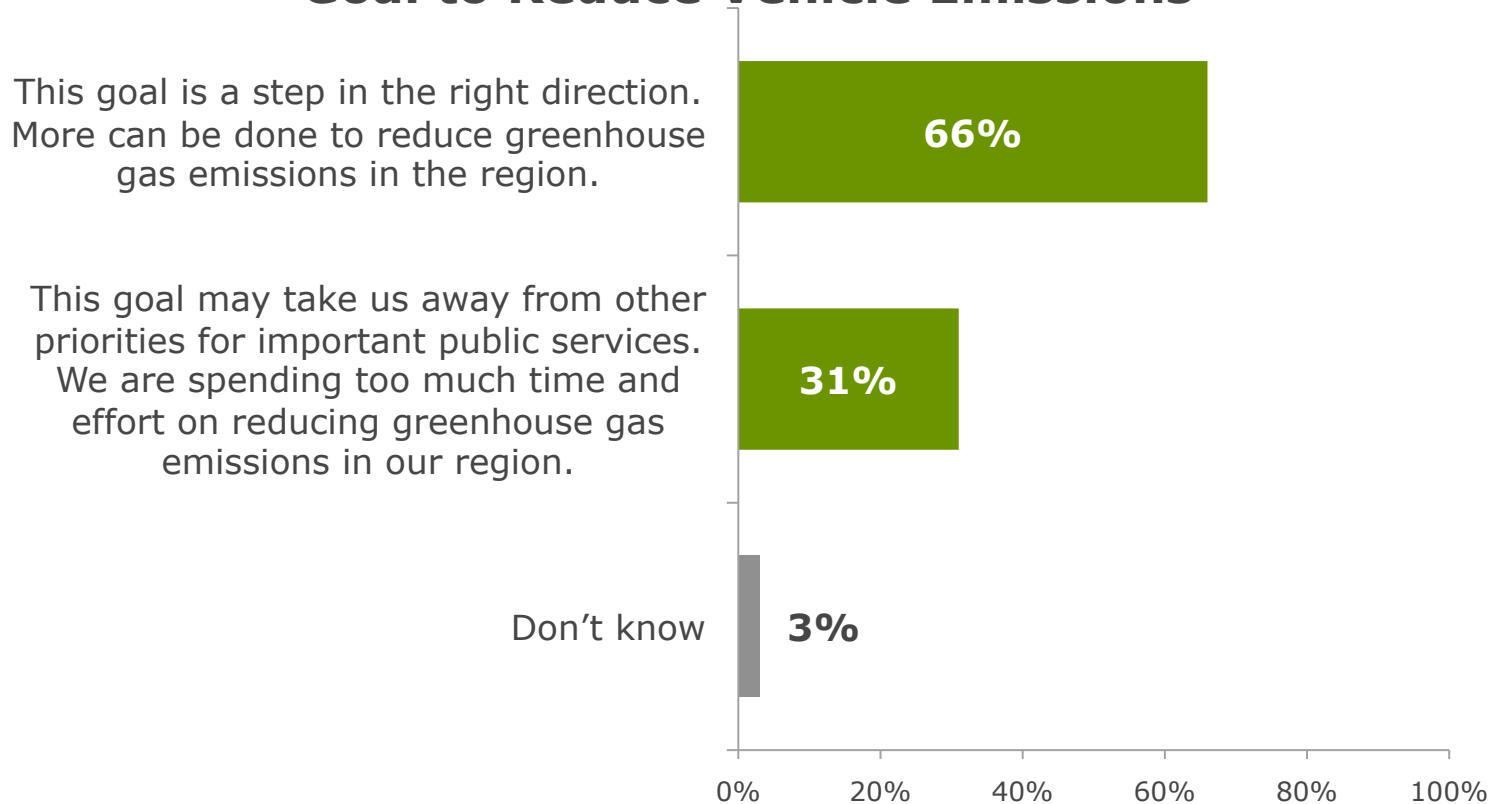
# Issues related to the goal of reducing vehicle emissions include maintenance, transit, and environmental improvement.

**What are the two most important things you would like your local government officials to do that would improve the quality of life in the region?**

<b>Response Category</b>	<b>N=600</b>
Education quality	10%
Jobs/unemployment	10%
Funding for education	9%
<b>Road maintenance</b>	<b>9%</b>
Less taxes	8%
Help the poor/homeless	7%
<b>Improve transit</b>	<b>7%</b>
Eliminate wasteful spending	5%
<b>Environmental improvement</b>	<b>4%</b>
All other responses	3% or less
None/nothing	6%
Don't know	14%

# A majority feel the goal to reduce vehicle emissions is a step in the right direction.

## Goal to Reduce Vehicle Emissions



# Ways that Portland Region can meet its obligation to reduce tailpipe emissions (Focus Groups)

***Transit accessibility, coverage and frequency and fuel efficient vehicles were common themes.***

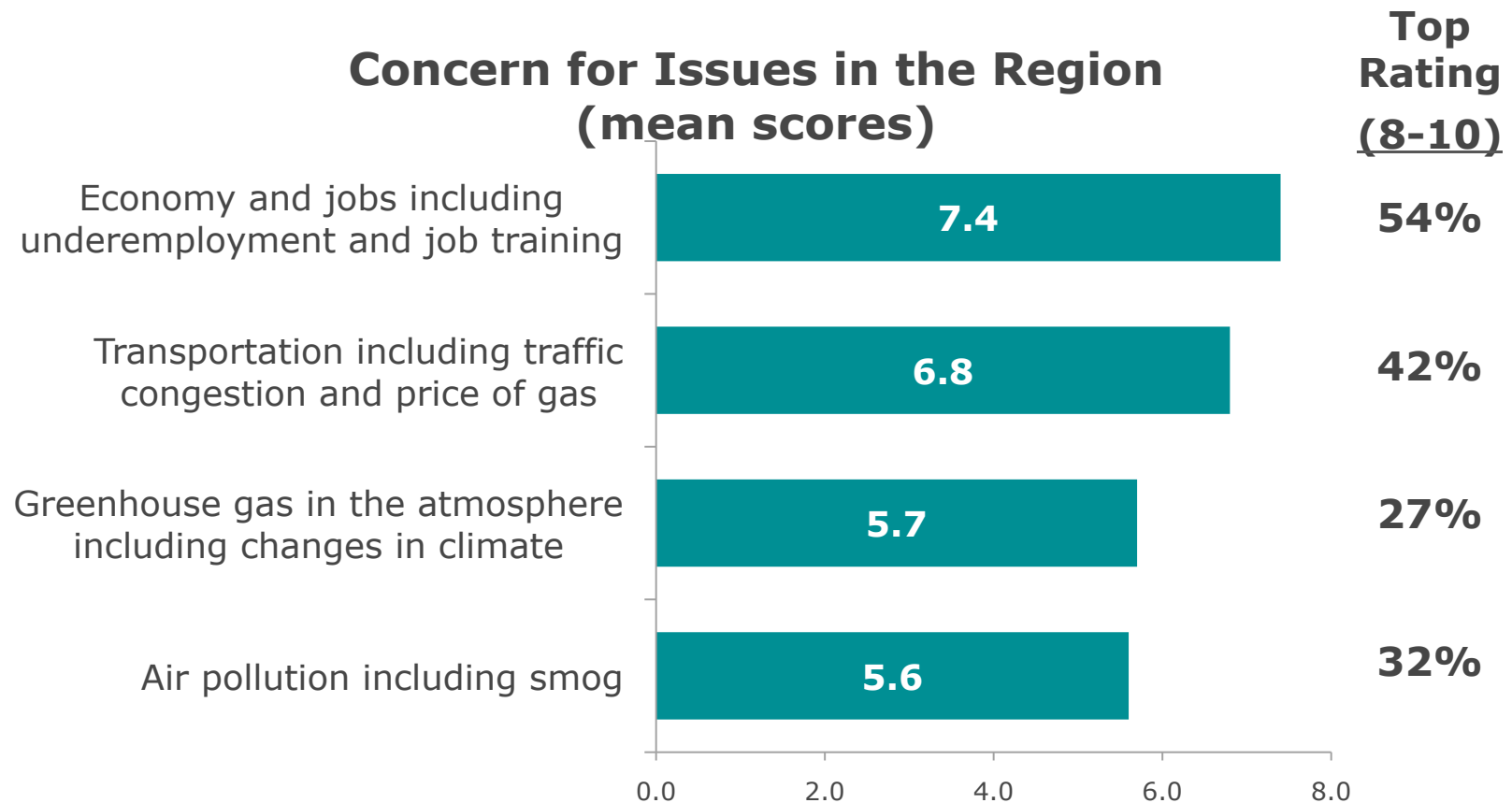
*"Where I live, the bus only runs once an hour. So, if they improved the transit and maybe put in more, then it will open up jobs." - Clackamas*

*"I think we would have great results if we went and added more to the bus system...because the bus system is very efficient." – Multnomah*

*If electric vehicles were made more viable and easier to obtain, I think a lot more people would use them." – Washington*

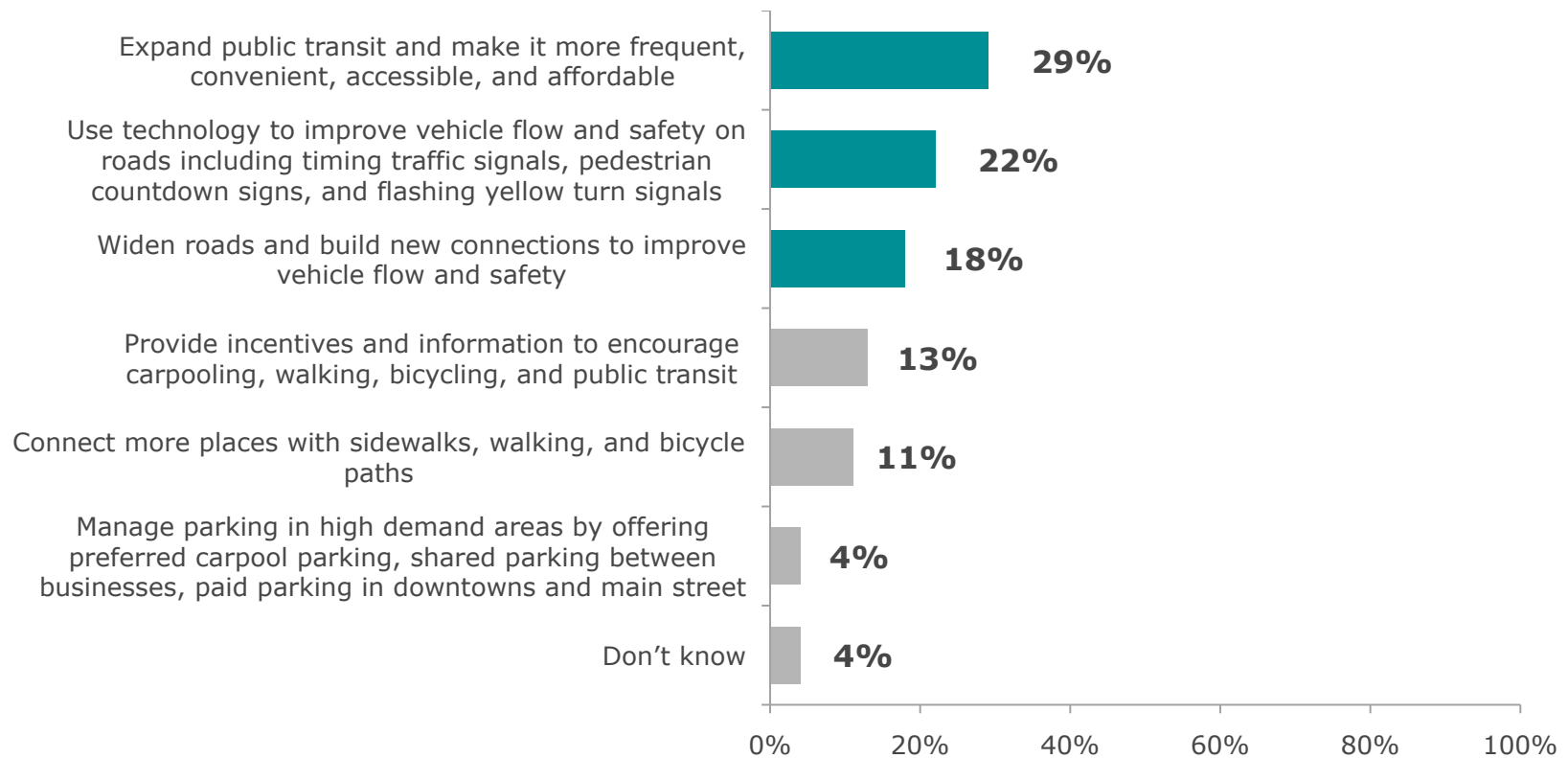
*"The state and city police vehicle should be electric or hybrid." – Multnomah*

**There is greater concern in the region for transportation generally than there is for greenhouse gas or air pollution.**



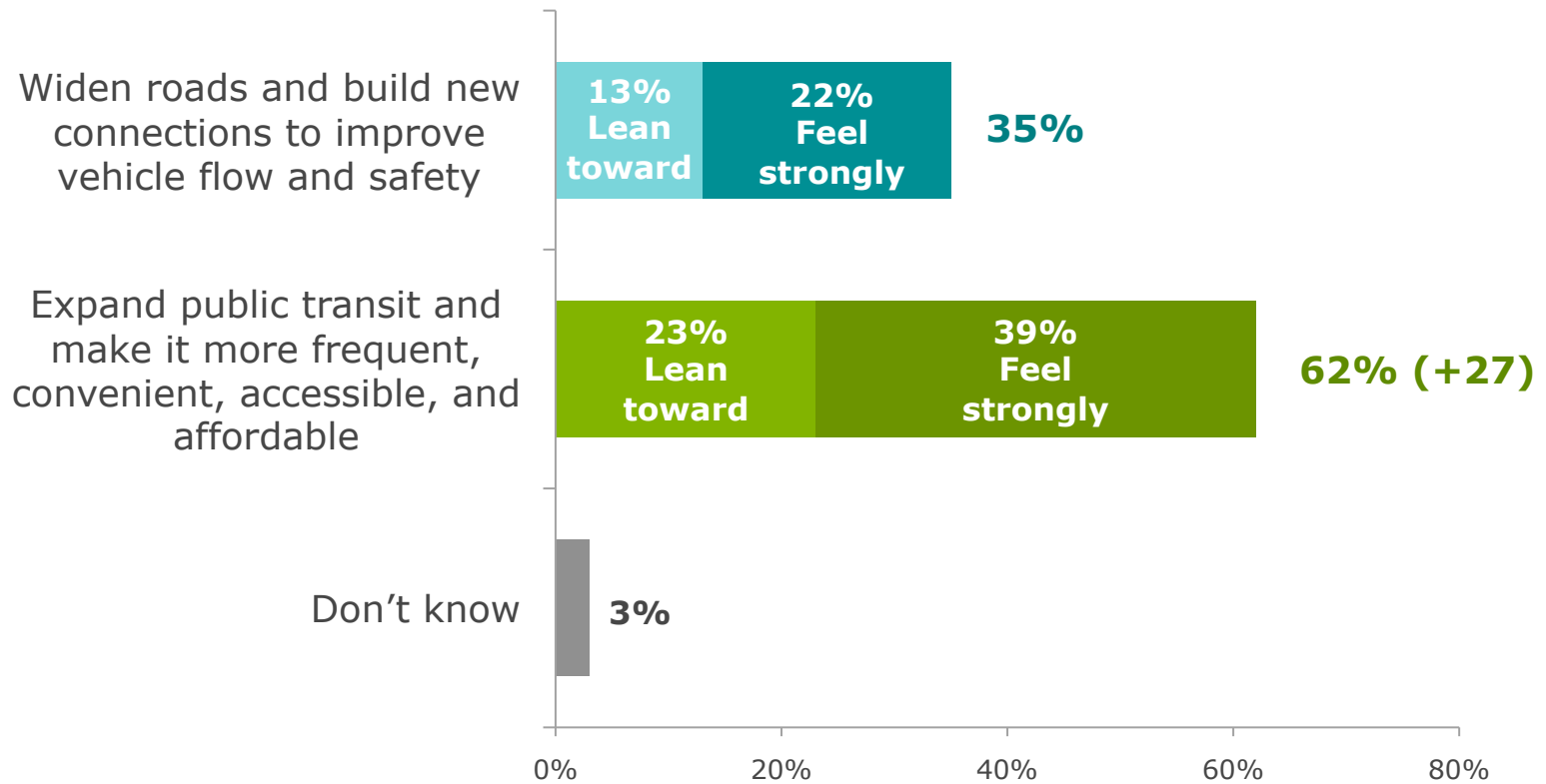
**With the goal of making the region a great place to live, both public transit and road maintenance are top transportation priorities.**

### **Goal With the Most Impact on Making the Region a Great Place to Live for You and Your Family**



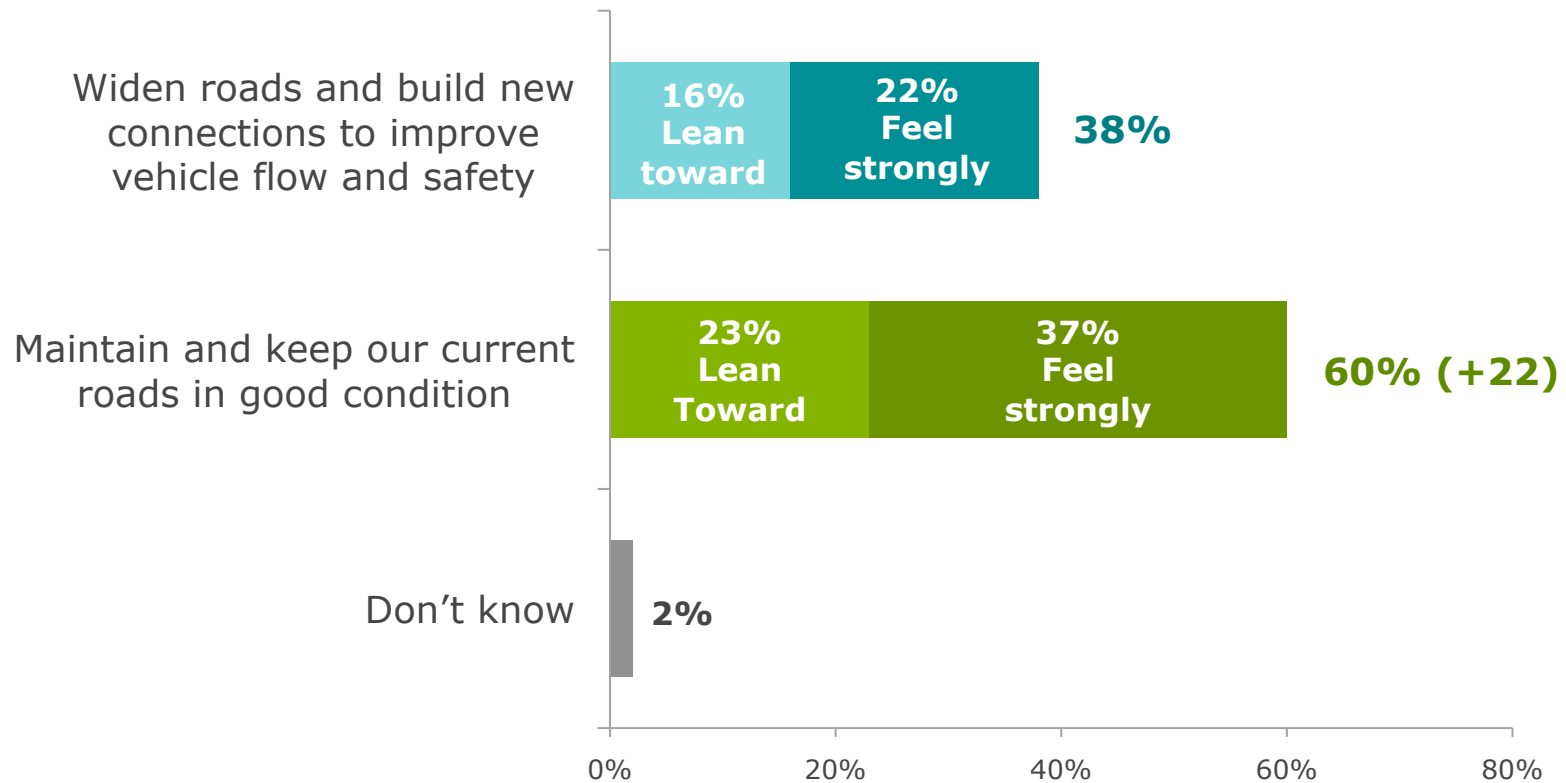
**Expanding public transit and making it more frequent, convenient, accessible, and affordable is preferred over widening roads and building new connections.**

### Strategy Preference



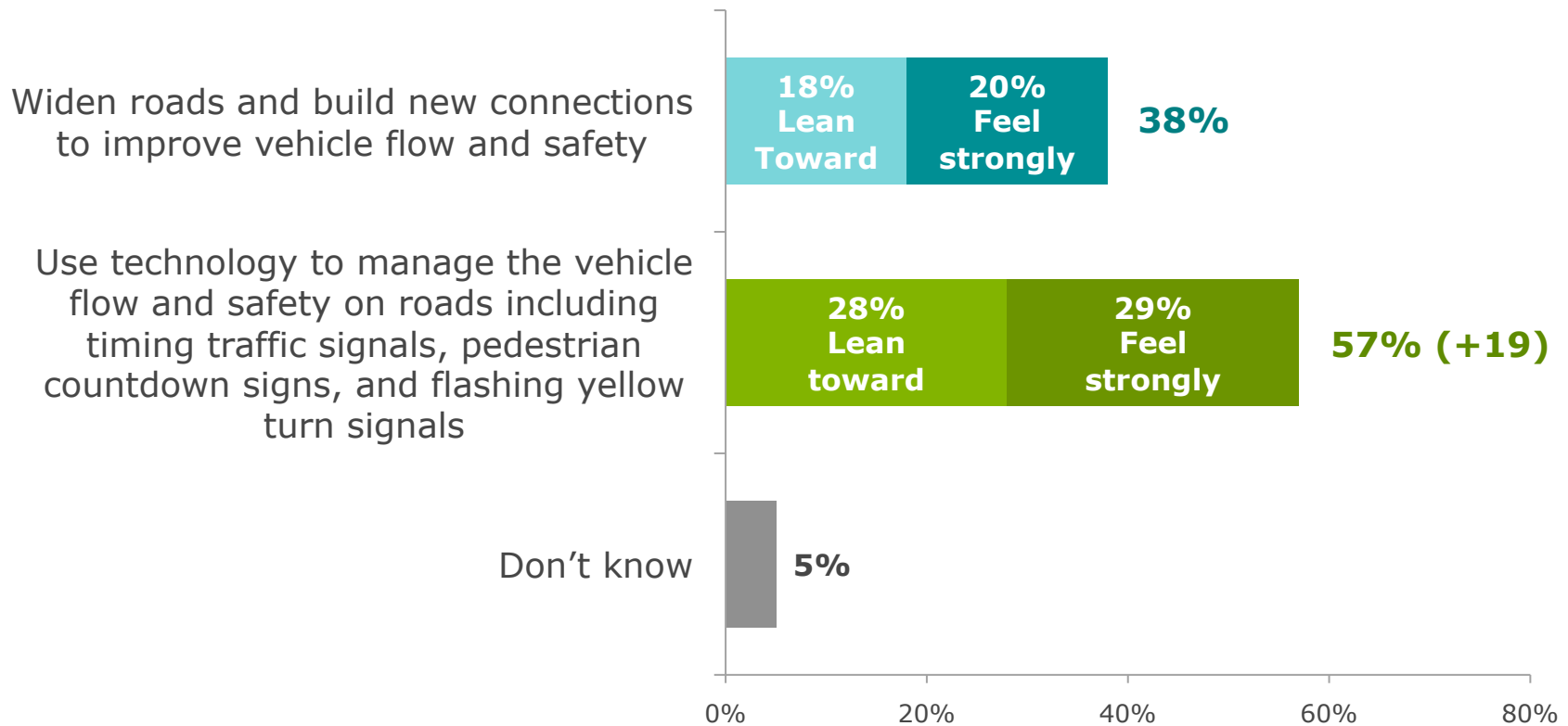
# Maintaining and keeping our current roads in good condition is preferred over widening roads and building new connections.

## Strategy Preference



# Using technology to improve vehicle flow and safety is preferred over widening roads and building new connections.

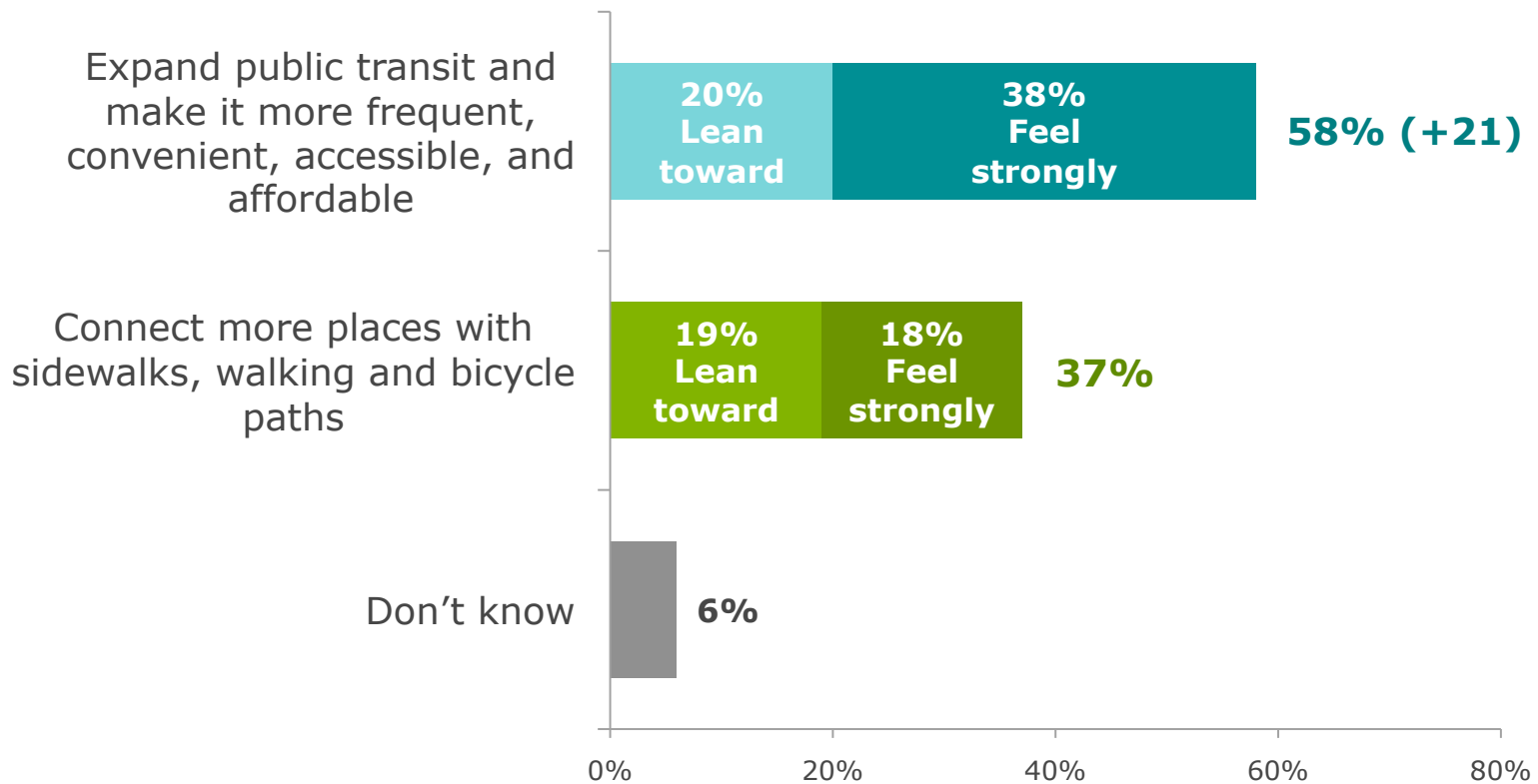
## Strategy Preference





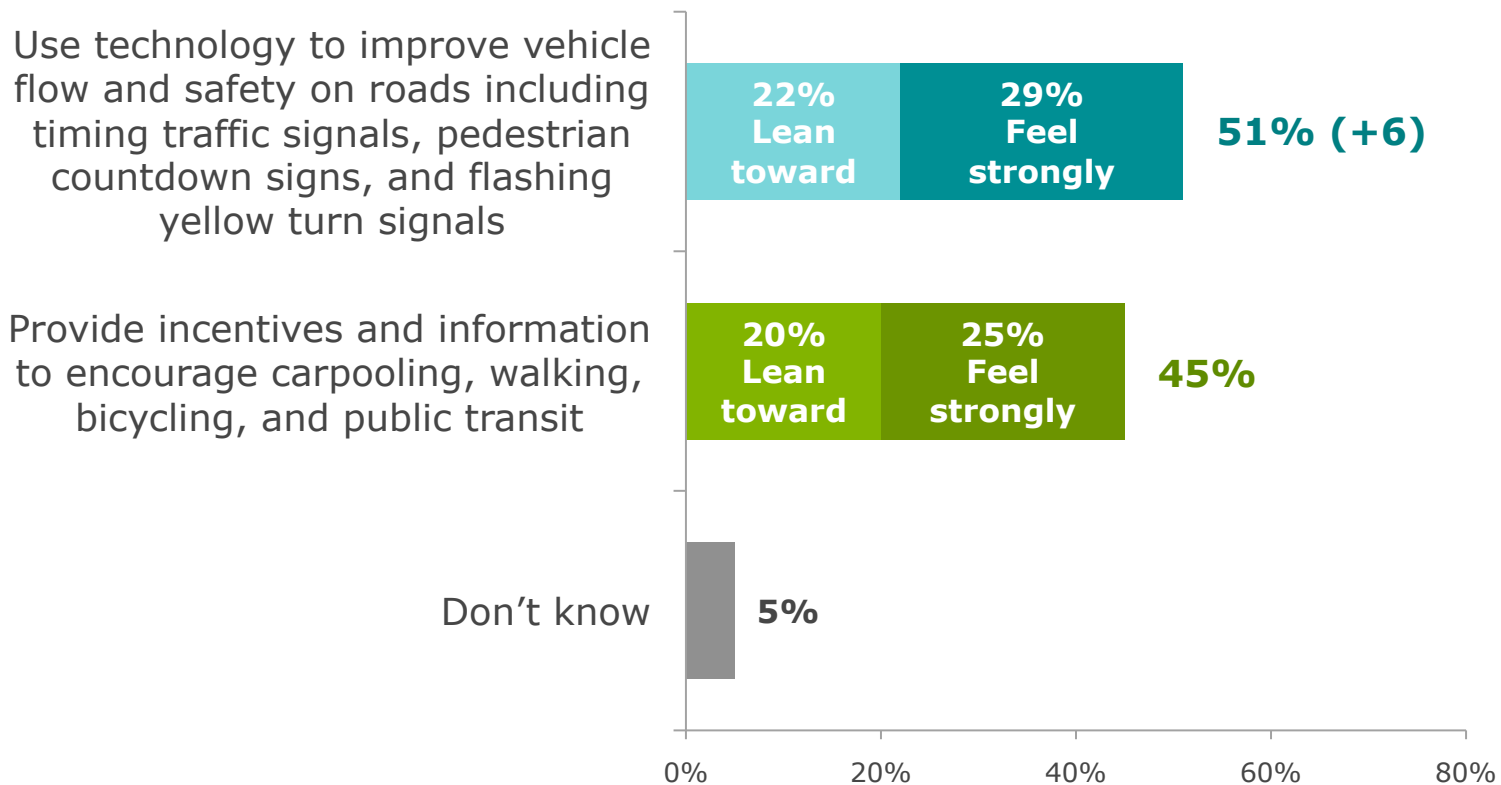
**Expanding public transit and making it more frequent, convenient, accessible, and affordable is preferred over connecting more places with sidewalks, walking, and bicycle paths.**

### Strategy Preference



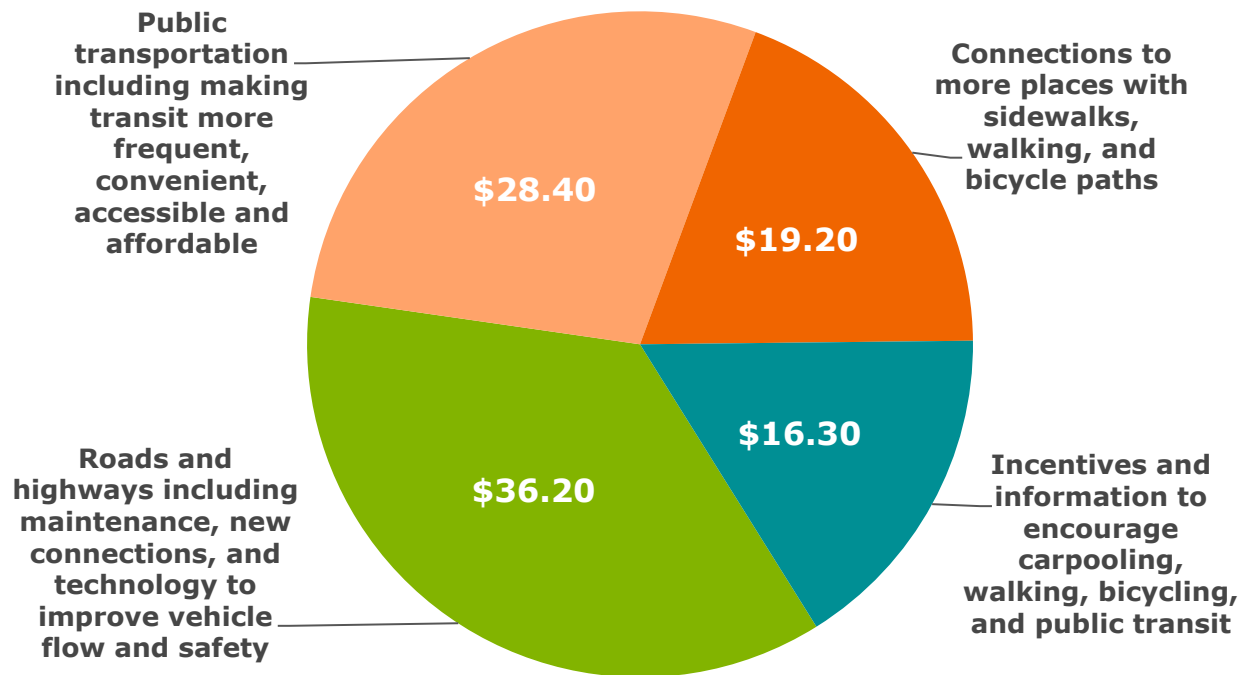
**Residents are generally split over technology to improve vehicle flow and safety and incentives and information to encourage carpooling, walking, bicycling, and public transit.**

### Strategy Preference



**Residents give higher priority for roads and public transportation when asked to allocate \$100 of existing funds across 4 transportation strategies.**

### **Allocation of Existing Funds**



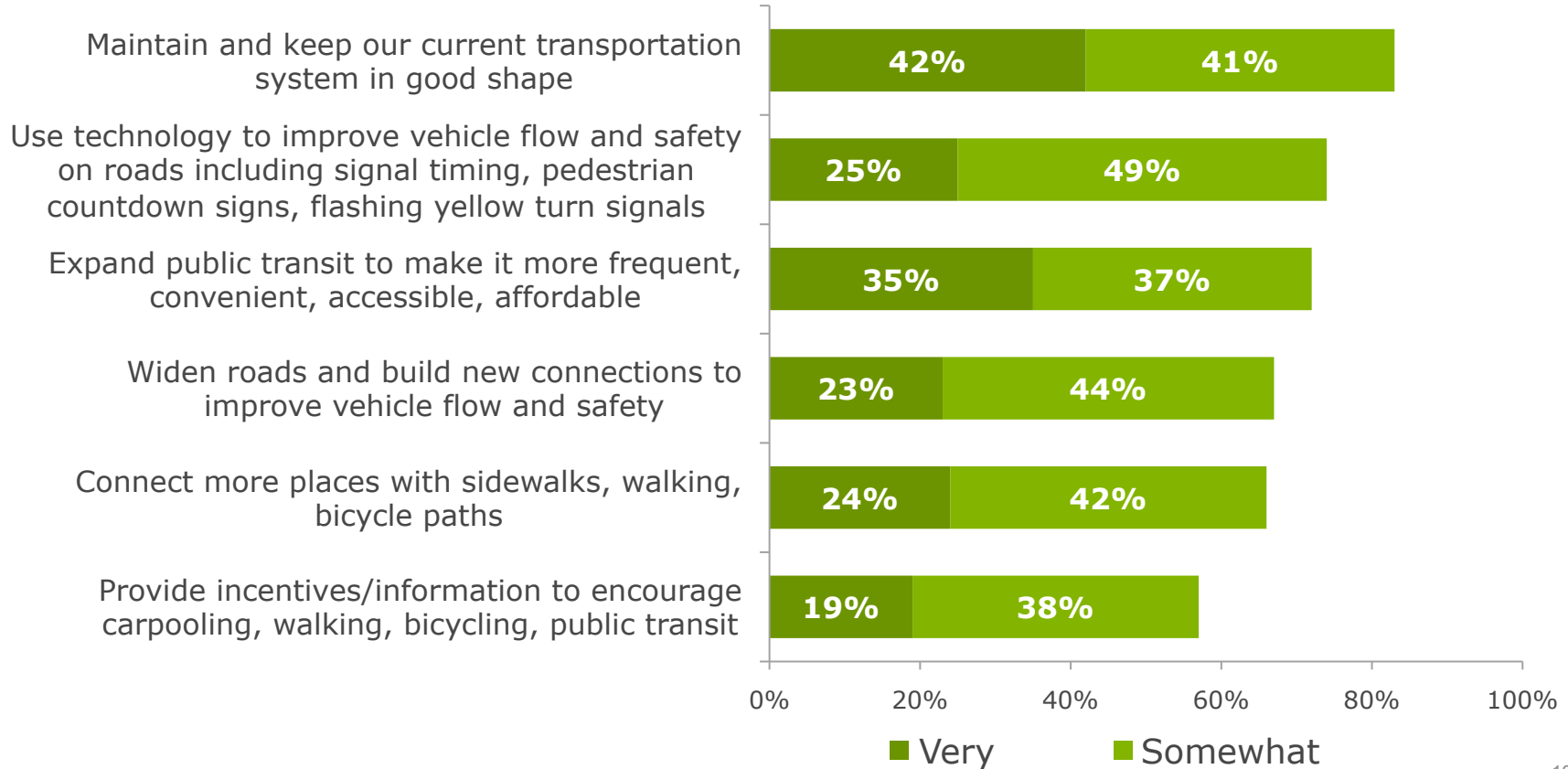
# Similar priorities were seen in the focus groups.

## Allocation of Funds with Goal of Making the Portland Region a Great Place to Live (relative rank).

	Multnomah	Washington	Clackamas
<b>Maintain and make transit more convenient, frequent, accessible and affordable</b>	<b>1</b>	<b>2</b>	<b>1</b>
<b>Use technology and “smarter” roads to manage traffic flow and boost efficiency</b>	<b>2</b>	<b>1</b>	<b>4</b>
<b>Provide information to expand use of low carbon travel options and fuel-efficient driving techniques</b>	<b>4</b>	<b>3</b>	<b>2</b>
<b>Connect more places with sidewalks, pedestrian paths and separated bike paths</b>	<b>3</b>	<b>4</b>	<b>3</b>

# Residents are most willing to pay additional taxes or fees to fund road maintenance and expand public transit.

## Willingness to Fund with Additional Taxes and Fees



# Final Message to Metro

## *(Focus Group)*

*"If you make public transit easier and 'smarter,' I think it would help a lot of people and make emissions go down greatly. If it didn't take me an hour and a half to go a 30 min distance, I would be more for the idea." – Washington*

*"I really think that they need to buckle down and say, 'Look it has to be done, whether the people like it or not'... The people of southern Oregon and the people of eastern Oregon are going to benefit from the long-term effect of getting these things under control." - Clackamas*

*"I think looking outside of just transportation can help achieve the goal of lower emissions. If there are reasons for people to stay home, walk, or bike somewhere, or if people feel safe doing so, they make that choice. More convenient shopping/dining/entertainment options would help." – Multnomah*

*"I think they need to put a lot of thought, or more thought and consideration, into the impact on the growing community in the future, the decisions that they make today." - Washington*



**Adam Davis**

[adavis@dhmresearch.com](mailto:adavis@dhmresearch.com)

[www.dhmresearch.com](http://www.dhmresearch.com)

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## Climate Smart Communities Scenarios Project

# Community Choices Feedback – *What Community Leaders are Saying*

**JLA Public Involvement**

**April 11, 2014**



Metro | *Making a great place*



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# 33 Interviews and 2 Community Conversations – Range of Community Leaders

- Elected Officials
- Equity
- Business and Economy
- Environment and Land Use
- Public Health
- Transportation

## **Purpose:**

Build understanding of communities' and organizations' priorities and how they are reflected in their plans and visions.



**KEY THEMES – *Commonalities  
among all stakeholders***



# What will this look like on the ground?

*“Need to do an assessment of the health and economic impacts on low-income communities.”*

*“Don’t impede economic development priorities or penalize businesses and industries that have limitations in what they can do to curb emissions.”*

# Mix of housing near jobs & transit



# Focus on community improvement

*“Better transit means less pollution, cleaner air, improved health, greater social cohesion, and better access to jobs.”*

*“Street and highway investments are what will improve the economy and access to family-wage jobs.”*



# **KEY THEMES – *Elected Officials***

# Flexibility and Local Control



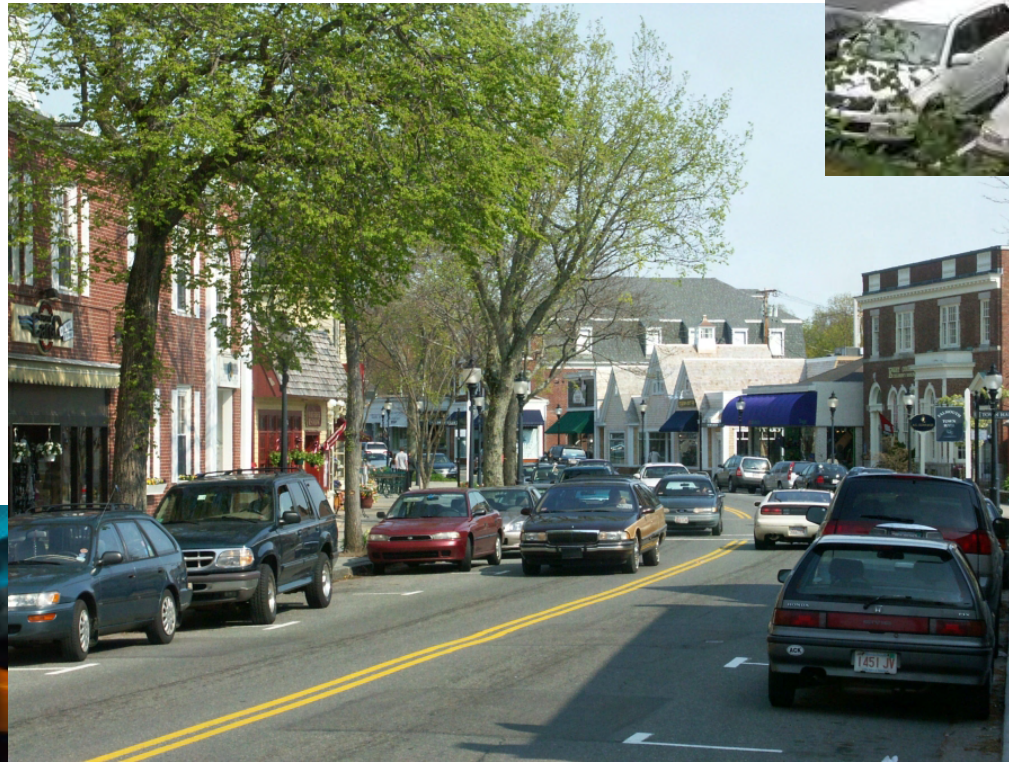
*“The investments should not be ‘one size fits all.’ Give cities the flexibility to choose from a menu of options that fit their unique needs.”*

# Transit and Roads – *Regional connectivity and jobs access*

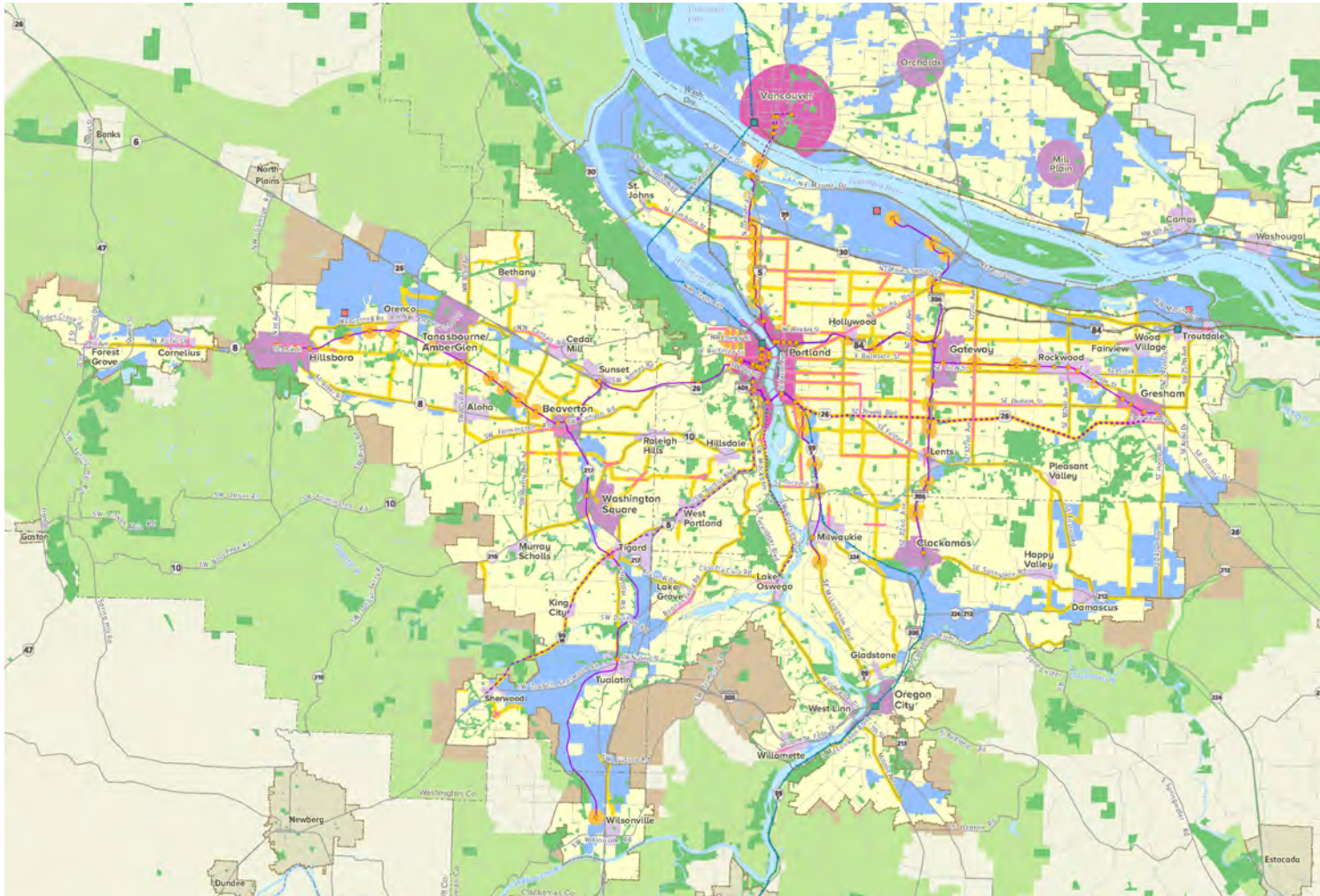




# Parking – *Different Needs in Different Communities*



# Benefit the whole region



**2040 Growth Concept  
Adopted in 1995**

## For more information



- Read all stakeholder and public input reports:  
[www.oregonmetro.gov/climatescenarios](http://www.oregonmetro.gov/climatescenarios)