February 2012

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The region's six desired outcomes

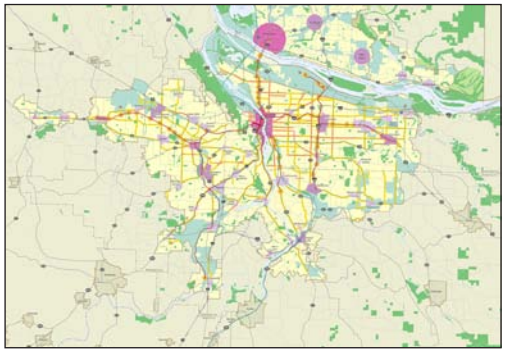
Climate Smart Communities Scenarios Project

Background

In 2007, the Oregon Legislature established statewide goals to reduce carbon emissions – calling for stopping increases in emissions by 2010, a 10 percent reduction below 1990 levels by 2020, and a 75 percent reduction below 1990 levels by 2050. The goals apply to all sectors, including energy production, buildings, solid waste and transportation.

In 2009, the Oregon Legislature passed House Bill 2001, directing the region to "develop two or more alternative land use and transportation scenarios" by January 2012 that are designed to reduce carbon emissions from cars, small trucks and SUVs. The legislation also mandates adoption of a preferred scenario after public review and consultation with local governments, and local government implementation through comprehensive plans and land use regulations that are consistent with the adopted regional scenario. The Climate Smart Communities Scenarios effort responds to these mandates and Senate Bill 1059, which provided further direction to scenario planning in the Portland metropolitan area and the other five metropolitan areas in Oregon.

Metro's Making the Greatest Place initiative resulted in a set of policies and investment decisions adopted in the fall of 2009 and throughout 2010. These policies and investments focused on six desired outcomes for a successful region, endorsed by the Metro Council and Metro Policy Advisory Committee in 2008: vibrant communities, economic prosperity, safe and reliable transportation, environmental leadership, clean air and water, and equity. Making the Greatest Place included the adoption of the 2035 Regional Transportation Plan and the designation of urban and rural reserves. Together these policies and actions provide the foundation for better integrating land use decisions with transportation investments to create prosperous and sustainable communities and to meet state climate goals.



The 2040 Growth Concept - the region's adopted growth management strategy

State response Oregon Sustainable Transportation Initiative

The Oregon Department of Transportation and the Department of Land Conservation and Development are leading the state response through the Oregon Sustainable Transportation Initiative. An integrated effort to reduce carbon emissions from transportation, the initiative will result in a statewide transportation strategy, toolkits and specific performance targets for the region to achieve.

Regional response Climate Smart Communities Scenarios Project

The Climate Smart Communities Scenarios effort will build on the state-level work and existing plans and efforts underway in the Portland metropolitan area. The project presents an opportunity to learn what will be required to meet the state carbon goals and how well the strategies support the region's desired outcomes.

A goal of this effort is to further advance implementation of the 2040 Growth Concept, local plans and the public and private investments needed to create jobs, build great communities and meet state climate goals. Addressing the climate change challenge will take collaboration, partnerships and focused policy and investment discussions and decisions by elected leaders, stakeholders and the public to identify equitable and effective solutions through strategies that create livable, prosperous and healthy communities.

Metro's policy and technical advisory committees will guide the project, leading to Metro Council adoption of a "preferred" land use and transportation strategy in 2014.

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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.

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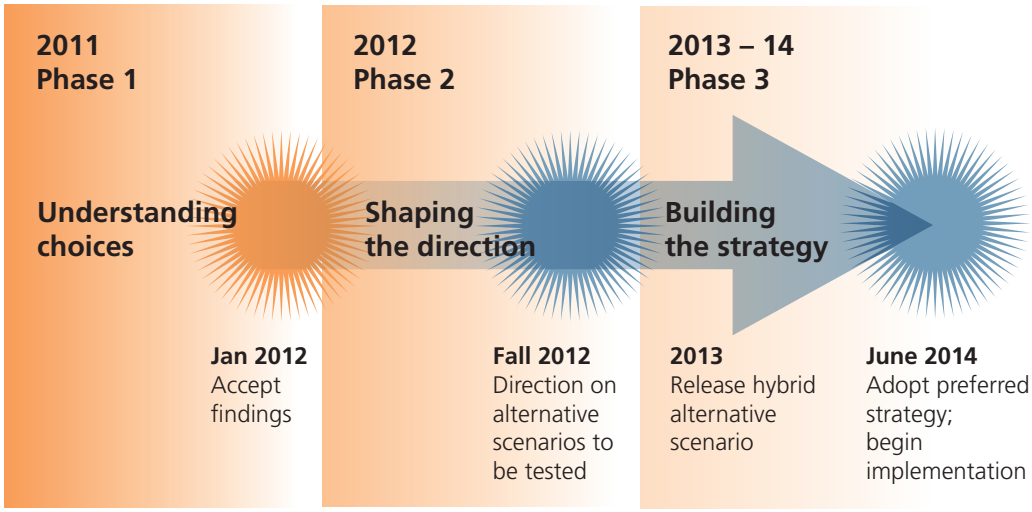
Climate smart communities scenarios project timeline



Phase 1
Understanding the choices

The first phase of regional-level scenario analysis will occur during summer 2011 and focus on learning what combinations of land use and transportation strategies are required to meet the state greenhouse gas emissions targets. Strategies will include transportation operational efficiencies that can ensure faster, more dependable business deliveries; more sidewalks and bicycle facilities; more mixed use and public transit-supportive development in centers and transit corridors; more public transit service; incentives to walk, bike and use public transit; and user-based fees.

Potential impacts and benefits will be weighed against the region's six desired outcomes. Findings and recommendations from the analysis were reported to Metro's policy committees in fall 2011 before being finalized for submittal to the Legislature in January 2012.

Phase 2
Shaping the direction

In 2012, the region will analyze more refined alternative regional-level scenarios that apply the lessons learned from Phase 1. This phase provides an opportunity to incorporate strategies and new policies that reflect community aspirations identified through local and regional planning efforts already underway in the region (e.g., SW Corridor Plan, East Metro Connections Plan, Portland Plan, and other local land use and transportation plan updates). By the end of 2012, Metro's policy committees will be asked to provide direction on alternative scenarios to be tested in 2013.

Phase 3
Building the strategy and implementation

The final project phase during 2013 and 2014 will lead to adoption of a "preferred" land use and transportation strategy. The analysis in this phase will be conducted using the region's most robust analytic tools and methods – the regional travel demand model, MetroScope and regional emissions model, MOVES. Additional scoping of this phase will occur in 2012 to better align this effort with mandated regional planning and growth management decisions.

This phase will identify needed changes to regional policies and functional plans, and include updates to the Regional Transportation Plan and region's growth management strategy. Implementation of approved changes to policies, investments, and other actions would begin in 2014 at the regional and local levels to realize the adopted strategy.

February 2012

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Climate Smart Communities

SCENARIOS PROJECT

Phase 1 Summary

Understanding Our Land Use and Transportation Choices

Making a great place

It is as much about jobs, livable neighborhoods and public health as it is about clean air.

Residents of the Portland metropolitan region value choice – where to live, how to get around, what kind of job to have. And we don't want to have to choose between things that are important to our way of life – things like clean air, good jobs, safe neighborhoods, vibrant downtowns, access to nature and cultural activities.

We are faced with many of the problems that others face around the nation and the world – an economic crisis, rising housing and transportation costs, lack of money for public structures, increasing congestion and air pollution. What sets us apart in this region is that we have followed a collective vision since 1995 – the 2040 Growth Concept – that has helped us to build communities with unique identities, save farms and forestland, develop public transit and biking and walking facilities, and work together to make the most of limited public and private dollars.

So when the state directed the region to come up with a plan and actions to reduce greenhouse gas emissions to ensure clean air, we had a good start. It's not just about reducing carbon in the environment, but making sure that we all have choices of great communities in which to live, work and raise a family.

The Climate Smart Communities Scenarios Project is a collaborative effort between Metro and its city, county and state partners to create the kind of communities that residents want. It is as much about jobs, livable neighborhoods and public health as it is about clean air. The goal is to select a combination of land use and transportation strategies and investments that will keep our communities vibrant and prosperous, while also helping our region meet state targets to reduce greenhouse gas emissions from cars and small trucks.

Working together

The scenarios project is characterized first and foremost by collaboration and implementation of local community visions. Policymakers who serve on the region's Joint Policy Advisory Committee on Transportation (JPACT), the Metro Policy Advisory Committee (MPAC), and the Metro Council approved principles to guide the project. A technical work group composed of planning staff from cities, counties and other agencies worked closely with Metro staff throughout the research, modeling, and analytical stages of Phase 1.

What sets us apart

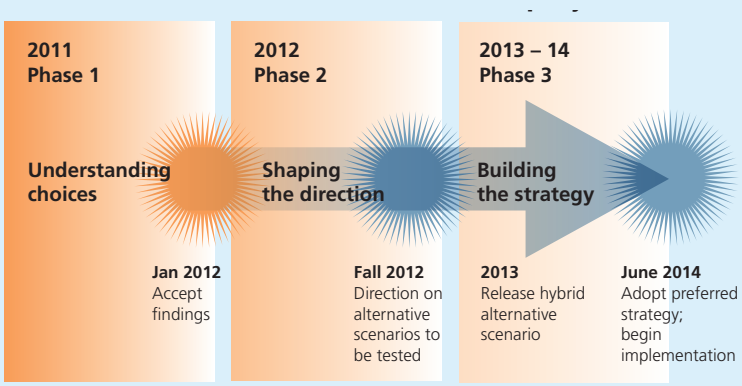
Residents in this region travel 20 percent fewer miles by car every day compared to other U.S. urban areas, annually saving:

2.9 million miles of driving

$1.1 billion in transportation costs

100 million travel hours

Portland's Green Dividend, 2007



The scenarios project is organized into three phases.

Phase 1 research concluded with an understanding of the region's land use and transportation options for reducing carbon emissions while advancing community goals.

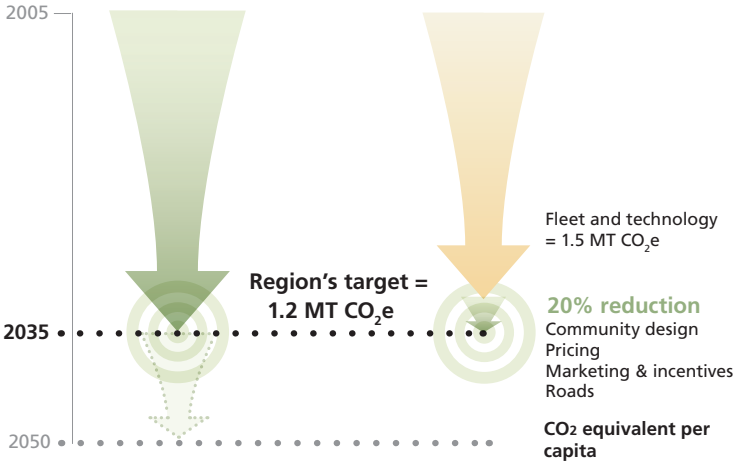
Phase 2 will engage local government, community and business leaders in identifying community visions and shaping scenarios to consider.

Phase 3 includes evaluation of three scenarios and public engagement. Implementation begins once the region adopts a preferred scenario.

Region's 2035 emissions reduction target

To assist the scenarios project, the Land Conservation and Development Commission established a 2005 baseline for the Portland metropolitan region: 4.05 metric tons annual, per capita roadway greenhouse gas emissions. (One metric ton CO_2 equals 112 gallons of gasoline.)

The 2035 target calls for no more than 1.2 metric tons annual per capita roadway emissions. State-provided assumptions on two policy areas, fleet (the type of cars in the region and their age) and technology (hybrid, electric and other carbon-reducing technologies), reduce the region's annual roadway greenhouse gas emissions to 1.5 metric tons per capita. Additional policy actions will be needed to reach the 2035 target.



Phase 1 snapshot

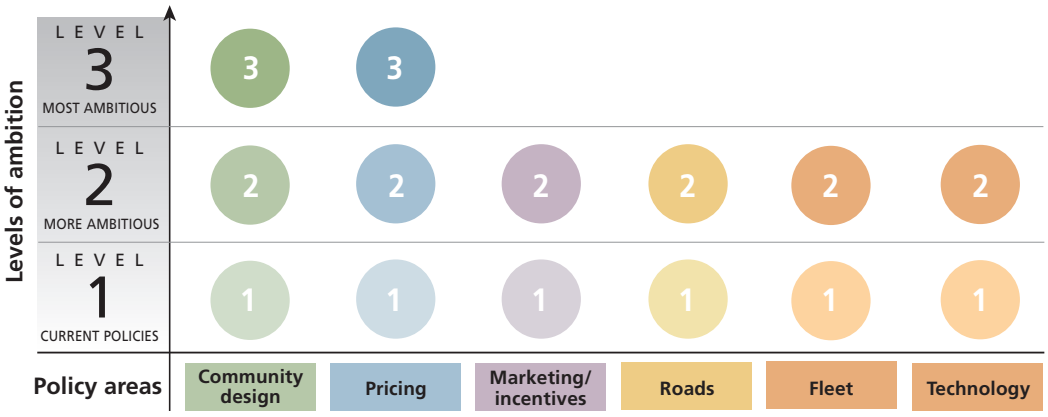
During Phase 1, Metro staff researched land use and transportation strategies that have been implemented in similar communities across the nation and around the world. This work resulted in a toolbox describing major strategy areas and potential results. The toolbox not only identifies successful strategies for providing practical choices to help people drive less, but also describes other community benefits as well.

Increased walking has a beneficial effect on public health and obesity rates. Properly designed shopping areas in combination with transportation choices can increase dollars spent at home while also taking cars off the road. Bike lane construction provides much needed jobs and an option for short outings, which are the majority of trips taken in the region.

Project staff also worked with ODOT and the technical work group to study six different policy areas: community design, pricing, marketing and incentives, roads, fleet, and technology. Each policy area included at least two levels of ambition, and in some cases three, resulting in 144 scenarios tested.

Phase 1: building blocks for regional scenarios

Testing combinations of plausible strategies



Family finance

One of the biggest household expenses for most families is transportation – second only to housing costs. According to AAA, if the average family drove even four fewer miles each day, they would save $854 a year.

Summary of Phase 1 results

1. Current local and regional plans and policies are ambitious and provide a strong foundation for meeting the region's greenhouse gas emissions reduction target.
2. The target is achievable but will take additional effort and new strategic actions.
3. Most of the strategies under consideration are already being implemented to varying degrees in the region to achieve the 2040 Growth Concept vision and other important economic, social and environmental goals.
4. A range of options can reduce greenhouse gas emissions; the best approach is a mix of strategies.
5. Community design and pricing play a key role in how much and how far people drive each day and provide significant GHG emissions reductions.
6. Fleet, technology and pricing strategies provide similar significant greenhouse gas emissions reductions but no single strategy is enough to meet the region's target.
7. Road management and marketing strategies improve system and vehicle efficiency and reduce vehicle travel to provide similar, but modest greenhouse gas emissions reductions.

Complete results from Phase 1 are compiled in the findings report, available at **www.oregonmetro.gov/climatescenarios**. JPACT, MPAC and the Metro Council accepted the Phase 1 Findings Report before it was submitted to the Oregon Legislature in January 2012.

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.

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Moving forward

Policy questions to be addressed

- What actions are currently underway to address the livability of local communities? How are those actions consistent with the actions identified by the climate scenarios project? What kinds of investment or support do communities need to fully realize their vision for the future?
- How do we ensure the region's approach is inclusive and equitable, reflecting the diverse needs and interests of all communities, particularly among households of modest income or people of color?
- How do we ensure the regional strategy provides greater economic opportunity for everyone, creating jobs and boosting economic development and competitiveness?
- Which strategies are most cost effective and efficient? Which strategies are easiest to implement both technically and politically? How do we overcome obstacles to the most effective actions that are difficult or expensive to implement?
- What are the benefits and impacts to the region's goals?

Phase 1 was about understanding choice at the regional level. Phase 2 shifts to understanding local community plans and exploring how and where different strategies could be applied to provide local and individual choice as the region meets carbon reduction targets.

Learn more Visit www.oregonmetro.gov/climatescenarios.

Stay connected Sign up to receive periodic updates about the scenarios project at www.oregonmetro.gov/connect.

Communicate Share ideas or suggestions with your local elected officials and your Metro Councilor.

Opt In Voice your opinion by signing up for Metro's online opinion panel at www.optinpanel.org. Upcoming survey topics will include the scenarios project.

CLICK HERE FOR FULL REPORT

Climate Smart Communities Scenarios Project

Understanding Our Land Use and Transportation Choices

PHASE 1 FINDINGS | JANUARY 12, 2012

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Climate Smart Communities: Scenarios Project

Strategy Toolbox

for the Portland metropolitan region

Review of the latest research on greenhouse gas emissions reduction strategies and the benefits they bring to the region

October 2011

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Spring 2010

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Metro provides planning, policy making, and services to preserve and enhance the region's quality of life. Our regional vision for Making the Greatest Place, based on values established by residents in the 2040 Growth Concept, includes:

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

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.

ENVIRONMENTAL LEADERSHIP
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.

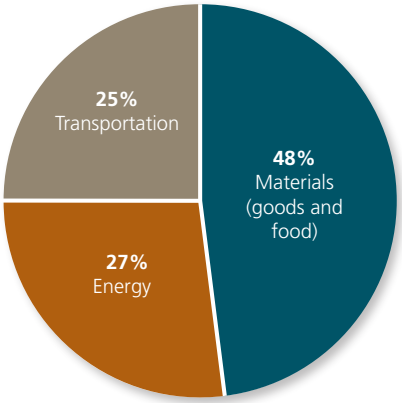
EQUITY
The benefits and burdens of growth and change are distributed equitably.

A snapshot of the greenhouse gas inventory for the Portland metropolitan region

Residents and businesses in the Portland metropolitan region are responsible for an estimated 31 million metric tons of greenhouse gas (GHG) emissions annually.

In 2010 Metro completed a greenhouse gas inventory for the region. The emissions inventory was intended to establish a snapshot of the carbon footprint of the region in order to focus planning efforts to achieve long-term greenhouse gas emissions reductions.

Major sources of metropolitan area greenhouse gas emissions



This analysis of greenhouse gases groups major emission sources by systems that represent multiple parts of the economy that work together to fulfill a particular need. Various economic sectors interact to meet our demand for transportation, energy, goods and food. Each of these systems presents opportunities for prevention and strategies to reduce GHG emissions.

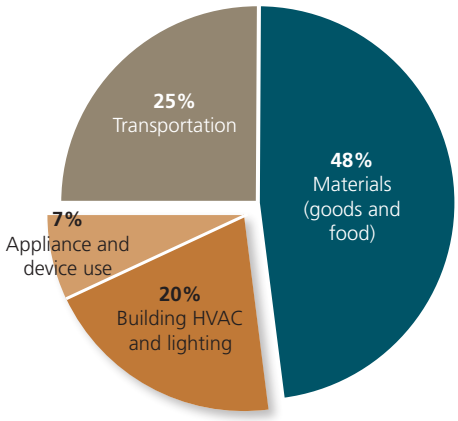
ENERGY: Consumption of electricity and natural gas

Energy used in buildings is the source of 27 percent of the region's greenhouse gas emissions.

Appliance and device use includes emissions resulting from the electricity and fuel used by washing clothes, cooking, refrigeration and the use of office equipment, computers and other appliances, as well as the industrial emissions associated with extracting and processing the associated fossil fuels.

Building HVAC and lighting includes the emissions resulting from heating, cooling, ventilation and lighting residential and commercial buildings, as well as industrial emissions associated with extracting and processing the associated fossil fuels.

Metropolitan area greenhouse gas emissions with energy split



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People places. Open spaces.

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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.

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TRANSPORTATION: Passenger transport and local freight

Transportation is responsible for about 25 percent of the region's greenhouse gas emissions. These emissions come mainly from on-road vehicles and air travel, with small shares from rail, marine and transit sources.

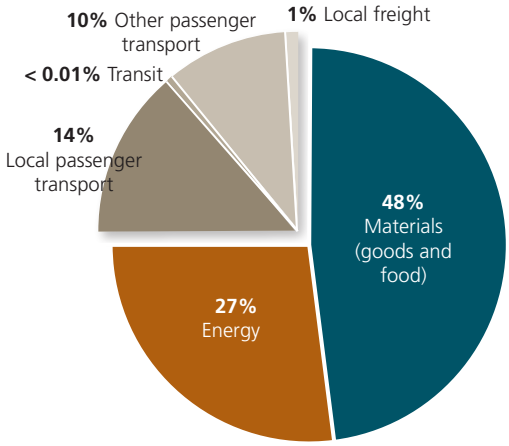
Local freight represents emissions from in-region movement of vehicles weighing more than 10,000 pounds.

Other passenger transport represents long-distance passenger travel, including emissions from aircraft, inter-city rail, inter-city buses, cars and light trucks making long-distance trips crossing the urban growth boundary.

Transit refers to emissions from electricity consumption for the operation of light rail, and diesel and biodiesel consumption for the operation of buses.

Local passenger transport includes emissions from all travel of cars and light trucks throughout the region.

Metropolitan area greenhouse gas emissions with transportation split

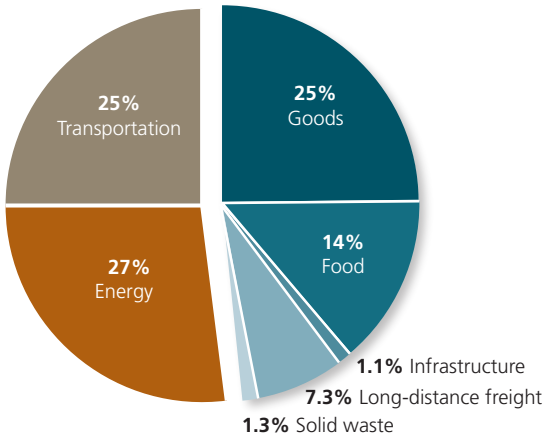


MATERIALS: Consumption of goods and food

Nearly 48 percent of our region's greenhouse gas emissions are estimated to come from the consumption of goods and food by residents and businesses in the Portland metropolitan area.

The materials section of the pie chart represents regional emissions related to resource extraction (e.g., mining, forestry and agriculture), manufacture, distribution and disposal of goods and food for final use and consumption by homes and businesses.

Metropolitan area greenhouse gas emissions with materials split



Provision of goods represents emissions associated with production and processing of the goods and services we use on a daily basis.

Provision of food represents emissions associated with production and processing of the food we consume on a daily basis.

Infrastructure represents the manufacture, distribution and installation of materials into the built environment.

Long distance freight represents the movement of goods and food from remote production sites to the metropolitan area.

Solid waste represents the disposal of goods and food, including the collection and landfill process.

For additional details, contact Mike Hoglund at Mike.Hoglund@oregonmetro.gov.
Good Company performed this analysis, in partnership with Metro staff.