600 NE Grand Ave.
Portland, OR 97232-2736

Metro | *Agenda*

Meeting: Metro Council Work Session
Date: Tuesday, Oct. 23, 2012
Time: 9:30 a.m.
Place: Council Chamber

CALL TO ORDER AND ROLL CALL

9:30 AM	**1.**	**ADMINISTRATIVE/ CHIEF OPERATING OFFICER COMMUNICATIONS**	
9:45 AM	**2.**	**2011 HOUSEHOLD TRAVEL SURVEY – OVERVIEW AND FINDINGS – INFORMATION**	**Mike Hoglund, Metro** **Richard Walker, Metro**
10:25 AM	**3.**	**DEPARTMENT OF ENVIRONMENTAL QUALITY 2050 VISION FOR MATERIALS MANAGEMENT – INFORMATION / DISCUSSION**	**Andy Sloop, Metro**
10:45 AM	**4.**	**BREAK**	
10:50 AM	**5.**	**REGIONAL BROWNFIELDS SCOPING PROJECT FINAL REPORT – INFORMATION/DISCUSSION**	**Miranda Bateschell, Metro** **Seth Otto, Maul Foster & Alongi** **Jim Darling, Maul Foster & Alongi** **Lorelei Juntunen, EcoNW**
11:40 AM	**6.**	**COUNCIL BRIEFINGS/COMMUNICATION**	

ADJOURN

Agenda Item No. 2.0

2011 HOUSEHOLD TRAVEL SURVEY – OVERVIEW AND FINDINGS

Metro Council Work Session
Tuesday, Oct. 23, 2012
Metro, Council Chamber

METRO COUNCIL

Work Session Worksheet

Presentation Date: October 23, 2010 Time: 9:45 am Length: 40 minutes

Presentation Title: 2011 Household Travel Survey – Overview and Findings
Service, Office, or Center: Research Center
Presenters: Mike Hoglund (x1743), Richard Walker (x1765) – Metro Research Center.
Alternate contact – Resa Thomason, x1915

ISSUE & BACKGROUND

During spring and fall of 2011, Metro conducted the first in-depth study of local travel behavior since 1995. The survey gathered detailed information about households, persons, vehicles and daily trip-making. To ensure statewide and regional consistency of the data and information, the survey was developed by the Oregon Modeling Steering Committee, which represents ODOT and all Oregon and Southwest Washington metropolitan planning organizations (MPOs). The survey was administered throughout Oregon and Clark County during 2009-2011. The Metro survey included 11,000 persons residing in 4800 households in Multnomah, Washington, and Clackamas counties, and was administered in 2011.

The primary purpose of the survey is to provide data for maintaining and updating Metro's travel forecasting models and analytical methods. The analytics are used by local governments and transportation agencies for transportation system planning, corridor planning and project development.

As the metropolitan planning organization (MPO) for the urbanized area of the three-county Portland Metropolitan area, Metro is subject to the quadrennial federal United States Department of Transportation (USDOT) certification process. As part of that process the USDOT reviews the suitability of Metro's models for the purpose of long-range planning, analysis of major highway and transit investments, and air quality analysis. USDOT expects that the models are estimated, calibrated and validated using contemporary local data, including contemporary local travel behavior surveys.

At the same time, the survey provides a "snapshot" of current travel behavior in the region that can be of great interest to policy makers and planners, and can be used, in part, to evaluate the success of current plans and policies and perhaps suggest new policy directions. The work session presentation will include:

- A review of the 2011 Household Travel Demand survey including methods and costs.
- An overview of general information and findings from the survey.
- Information and background on the changing nature of household travel demand surveys.

OPTIONS AVAILABLE

NA

IMPLICATIONS AND SUGGESTIONS

Lessons learned from the 2011 Household Travel Demand Survey provides context and background for related surveys in the future. Staff will describe some of those implications.

QUESTION(S) PRESENTED FOR CONSIDERATION

Does Council have general questions regarding the purpose, approach and results of the survey?

Are there particular aspects of the survey where Council would like further discussion, particularly at the JPACT level?

LEGISLATION WOULD BE REQUIRED FOR COUNCIL ACTION
__Yes _X_No

DRAFT IS ATTACHED
___Yes __X_No

Agenda Item No. 3.0

DEPARTMENT OF ENVIRONMENTAL QUALITY 2050 VISION FOR MATERIALS MANAGEMENT

Metro Council Work Session
Tuesday, Oct. 23, 2012
Metro, Council Chamber

METRO COUNCIL

Work Session Worksheet

Presentation Date: October 23, 2012 Time: 10:25AM Length: 30 minutes

Presentation Title Department of Environmental Quality 2050 Vision for Materials Management

Service, Office, or Center: Sustainability Center

Presenters: Andy Sloop, Resource Conservation & Recycling, x1503

ISSUE & BACKGROUND

Per Oregon statutes, the Department of Environmental Quality (DEQ) is updating Oregon's *10-Year State Integrated Resource and Solid Waste Management Plan* (SWMP) which guides DEQ – and indirectly Metro's -- policies and programs relating to waste prevention, recycling, collection, processing, composting, energy recovery, incineration, and disposal.

In October 2011, DEQ convened a 24-person stakeholder workgroup to help develop the *2050 Vision and Framework for Action* (2050 Vision), which will serve as the update to the SWMP. Metro participated in this process, along with a diverse range of other organizations from government, the solid waste and recycling industry, environmental organizations, and other private-sector firms such as Intel, Skanska USA Building, and New Seasons Market.

The completed 2050 Vision describes a desired future where Oregonians live within the limits of our sustainable share of the world's natural resources while being part of a prosperous economy that allows us to live fulfilling lives. It then lays out a framework of high-level actions to move toward this vision.

The 2050 Vision is based on a materials management approach as opposed to a traditional waste management approach. Materials management includes *waste prevention* and *waste management*. More specifically, it identifies impacts, and actions to address those impacts, across the full life cycle of materials and products as they move through the economy – from raw material extraction, through manufacturing, transport, consumption, use, reuse, recycling, and disposal.

Managing materials holistically is important because consumption of the earth's resources is increasing rapidly, bringing significant impacts to Oregon residents, business, communities and the environment. Making, transporting, selling, and disposing of the products consumed in Oregon contributes 35-48% of Oregon's greenhouse gas emissions, which is comparable to the state's emissions from the direct consumption of electricity and fuels combined. Demand for materials causes other significant environmental impacts, too, including toxic chemicals in the air and water, damage to ecosystems, and unsustainable use of energy, water, and other natural resources.

The 2050 vision is important to Metro because it would validate, inform and push our region's own materials management efforts. It would have specific application to two major Metro initiatives: the Solid Waste Roadmap and the update of the Regional Solid Waste Management Plan (RSWMP) in 2018. The Oregon Environmental Quality Commission (EQC) will consider adopting the 2050 Vision on Dec. 5, 2012.

OPTIONS AVAILABLE

1. Support EQC adoption of the 2050 Vision
2. Oppose EQC adoption of the 2050 Vision
3. Do nothing

IMPLICATIONS AND SUGGESTIONS

The Sustainability Center supports the shift the 2050 Vision makes to a materials management approach. This is very much in line with Metro's RSWMP and Oregon's tradition of leading-edge environmental policies and practices. Staff believes this framework provides the structure and flexibility necessary to foster coordinated long-term investments and actions by the public and private sector stakeholders who are essential to realizing the 2050 Vision.

QUESTION(S) PRESENTED FOR CONSIDERATION

Should the Metro Council send a letter to the EQC supporting adoption of the 2050 Vision?

LEGISLATION WOULD BE REQUIRED FOR COUNCIL ACTION __Yes x No
DRAFT IS ATTACHED ___Yes ___No

CLICK HERE FOR FULL REPORT

Materials Management in Oregon

2050 Vision and Framework for Action

June 2012

DRAFT

DEQ
State of Oregon
Department of
Environmental
Quality

Executive Summary

Global demand for materials and products is increasing rapidly, bringing significant impacts to Oregon residents, businesses, communities, and the environment. Oregon law cites the need to conserve resources and energy and acknowledges limits in the environment's ability to absorb the impacts of increasing consumption. Oregon is recognized as a leader in conserving resources through recycling and proper management of wastes. Yet this focus on managing discards has limited potential to address the full impacts of materials and the challenges they present for Oregonians and the environment. To guide state policy and programs and to achieve the best environmental results at the lowest cost to society, DEQ convened a Workgroup to help develop this *2050 Vision and Framework for Action*.

What is Materials Management?

The **materials management** approach includes waste prevention and discard management, while seeking to reduce environmental impacts by managing materials through all stages of their life. It identifies impacts and actions to address those impacts across the full cycle of materials and products as they move through the economy—from raw material extraction to product design and manufacture, transport, consumption, use, reuse, recycling, and disposal.

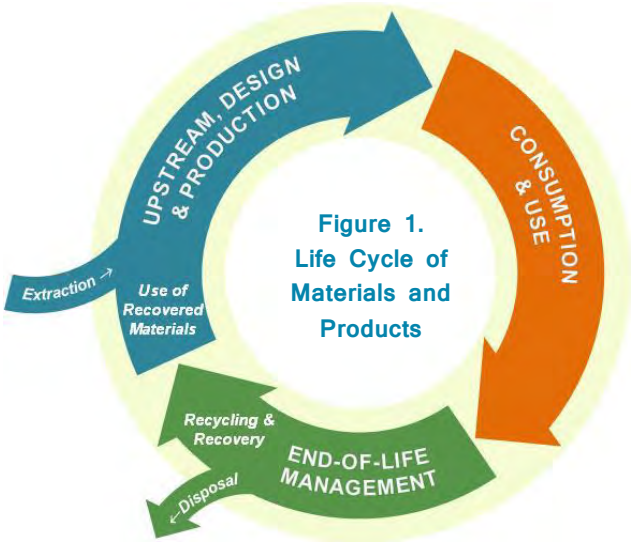

Figure 1. Life Cycle of Materials and Products

A more holistic materials management approach will help DEQ shape state policies in a changing world with new jobs, new opportunities, and new challenges.

DEQ
State of Oregon Department of Environmental Quality

Creating a Vision for Materials Management

In 2011, DEQ convened a **Workgroup** to help develop this long-term *Vision and Framework for Action*. DEQ applied the process of "backcasting"—starting with a future vision and then looking back to identify steps needed to achieve it. The resulting *2050 Vision and Framework for Action* also serves as an update to Oregon's *State Integrated Resource and Solid Waste Management Plan (1995-2005)*, which guides statewide policy.

The *2050 Vision* describes a desired future where Oregonians live within the limits of their sustainable share of the world's natural resources:

> ***Oregonians in 2050 produce and use materials responsibly***
> *conserving resources • protecting the environment • living well*

Materials and products—both made in Oregon and used in Oregon—support human health, wellbeing, and healthy, resilient environments and communities. Sustainable use of materials allows all people to enjoy a prosperous, clean economy and fulfilling lives, now and in the future.

This document envisions an Oregon in 2050 where:

- **Producers make products sustainably. Every option is a sustainable option.**
- **People live well and consume sustainably.**
- **Materials have the most useful life possible before and after discard.**

Oregonians in 2050 will produce and consume much differently than today. We will produce less waste and recover more materials in a smarter way.

Together, we will manage materials wisely, while strengthening economies at the local, regional, national, and global levels.

DEQ
State of Oregon
Department of
Environmental
Quality

Framework for Action

Taking action early in the life cycle—in design and production—offers the best opportunities to realize the *2050 Vision*. While producers shift to more sustainable actions, consumers also have important roles to play in the types of products they demand and how they use them. Effective management of materials at the end of their lives redirects resources back into productive use.

To help achieve the *2050 Vision* in Oregon, DEQ must take several different types of actions. The *Framework for Action* includes pathways to lead Oregon to desired outcomes, including the following:

- **Foundations**. This work will create infrastructure necessary to achieve the *2050 Vision*. Foundational work includes setting goals and measuring outcomes, supporting and performing research, and securing stable funding.
- **Policies and regulations**. DEQ will evaluate and develop policies and regulations that put Oregon on the path toward achieving the *2050 Vision*.
- **Collaboration and partnerships**. Coordination throughout the life cycle of materials and products will support innovative solutions. DEQ will collaborate with other state agencies, businesses, local governments, and nongovernmental organizations.
- **Education and information**. DEQ will share information it develops with partners for distribution to appropriate audiences.

This *2050 Vision and Framework for Action* document is available online at **www.deq.state.or.us/lq/sw/materialsmgmtplan.htm**.

DEQ
State of Oregon
Department of
Environmental
Quality

600 NE Grand Ave.
Portland, OR 97232-2736
www.oregonmetro.gov

Metro | *Making a great place*

October 23, 2012

Environmental Quality Commission
Oregon Department of Environmental Quality
811 SW 6th Avenue
Portland 97204-1390

Dear Commissioners,

On behalf of the Metro Council, I am writing to express Metro's support for your adoption of the *2050 Vision for Materials Management in Oregon* that Department of Environmental Quality (DEQ) staff have submitted for your consideration on December 5, 2012.

Metro participated in the stakeholder work group that helped develop the 2050 Vision and believes that the 2050 Vision's shift from a waste management approach to a materials management framework will provide critical guidance as the state and Metro region work towards a future that is economically and environmentally sustainable for all Oregonians. This shift is very much in line with Metro's Regional Solid Waste Management Plan and Oregon's tradition of leading-edge environmental policies and practices. Metro also believes that the 2050 Vision's Framework for Action provides both the structure and flexibility necessary to foster coordinated long-term investments and actions by the public and private sector stakeholders who are essential to realizing the 2050 Vision.

The Metro Council and staff look forward to working with DEQ and other partners to help realize the 2050 Vision.

Sincerely,

Tom Hughes
Metro Council President

DRAFT

Agenda Item No. 5.0

REGIONAL BROWNFIELDS SCOPING PROJECT FINAL REPORT

Metro Council Work Session
Tuesday, Oct. 23, 2012
Metro, Council Chamber

METRO COUNCIL

Work Session Worksheet

Presentation Date: October 23, 2012 Time: 10:50am Length: 50 minutes

Presentation Title: Regional Brownfields Scoping Project Final Report

Service, Office, or Center: Planning & Development Department

Presenters (include phone number/extension and alternative contact information):
Miranda Bateschell, Senior Planner, x 1817
Seth Otto and Jim Darling, Maul Foster & Alongi, 503 501 5230, sotto@maulfoster.com
Lorelei Juntunen, EcoNW, 503.222.6060, juntunen@econw.com

ISSUE & BACKGROUND

The project team *(Metro staff and consultant team in conjunction with the project's Technical Review Team[1])* has just completed the work outlined in the regional brownfields scoping project as set forth by a Metro Council budget amendment. **The goal of the Regional Brownfield Scoping project is** to understand the scale and impacts of contaminated, underutilized properties in the Portland metro region and assess a range of policy solutions to promote cleanup and redevelopment of these sites.

The final report provides critical, new information and potential solutions for local, regional, and state coalitions to implement. As designed, this information enables policy makers to engage in a regional discussion and craft a strategic action plan regarding brownfield redevelopment. Thus, this report marks the beginning, not the end, of this conversation. **At the work session, the team will share the key project findings and ask the Metro Council for initial engagement and program direction.**

The last time the brownfields scoping project was on the Metro Council work session agenda, the project team presented the Council with preliminary findings and received initial policy direction. The Council discussion, related to the impacts and challenges posed by brownfields in the region, guided the project's Technical Review Team to prioritize a set of policy options and tools that would best address the Council's concerns and desired outcomes.

At the upcoming work session, the project team will provide a brief reminder of the findings related to the scale and impacts of brownfields in the region; but primarily, the discussion will focus on the cost and benefit analysis for the prioritized policy options and tools. Metro staff will then be asking the **Metro Council to provide direction on which policy tools, if any, to pursue as next steps** over the next one-year and three-year time frames, and whether staff should prepare proposals, complete with budget and resource impacts, for moving forward on certain brownfields solutions.

OPTIONS AVAILABLE

A. No additional Metro investment in brownfield-focused efforts:

[1] Established specifically for this project and representing brownfield and community redevelopment expertise with representatives from: Business Oregon, DEQ, the Columbia Corridor Association, the cities of Portland and Tigard, PDC, and the private sector

- Utilize this information to improve other Metro Council policy and program decisions
- No increase in the rate of redevelopment of brownfields
- Certain brownfields will remain stuck indefinitely
- Provide local jurisdiction access to Metro's GIS file of DEQ databases (new resource)

Estimated cost: Minimal resources to update DEQ data quarterly

B. Direct staff to support policymakers' efforts to build a statewide coalition to enact one or more legislative changes:
   - Share report findings and build support with jurisdictions and constituents across the state
   - Research previous, related legislative proposals
   - Explore eligibility requirements
   - Draft legislation / legislative process

   Estimated cost: allocate 1FTE for 1.5-year duration (Dec 2012 – June 2014)

C. Direct staff to build capacity to establish a funding program to directly invest in brownfield redevelopment or one stop shop program
   - Identify most appropriate agency sponsor
   - Explore diverse revenue source options and eligibility requirements
   - Build support with jurisdictions and constituents
   - Establish funding streams and program structure

   Estimated cost: allocate 1 FTE for 3-year duration to set up program

IMPLICATIONS AND SUGGESTIONS

This is the first time exploring the scope of brownfields in the region and what regional solutions are needed to redevelop these sites. Thus, staff recommends the Metro Council (1) identify initial preferred policy options and (2) request specific input from MTAC and MPAC on those preferred options *(this report will be presented to MTAC on November 7 and MPAC on November 14).*

Metro staff would then follow-up in December to ask for the Metro Council's determination on (3) which policy options, if any, to pursue and (4) potential resource commitments for staff to pursue the selected policy tools *(through legislative changes (Option B above) and/or program development (Option C above).* Staff would then return to the Council with respective work proposals and more accurate budget impacts for moving these solutions forward.

Given the extent of brownfields in the region, and the complications these sites face in redevelopment, coupled with the region's desired outcomes for a healthy, vibrant, and economically viable place to live, staff recommends an increased investment in brownfields. Given the high cost of infrastructure and implications related to climate change, the need to use land efficiently is higher than ever before.

Based on staff's experience with Metro's Brownfields Recycling Program and the Brownfields Scoping Project, staff believes a diverse funding program (source of funds and type of expenditures) would be the most effective at spurring the redevelopment of brownfields, particularly those that are most complicated by contamination, but that have high regional significance. Staff acknowledges the resource and time commitment of such a program. Based on the report's ROI findings, pursuing state legislative changes related to land banking authority, tax credits, and/or tax abatements would also be an effective first step.

QUESTION(S) PRESENTED FOR CONSIDERATION

1. Should brownfield redevelopment be a priority for Metro?
2. If so, what policy objectives (e.g. industrial redevelopment, equity, transit-orient development) should be prioritized to address Metro's primary goals?
3. Based on these objectives, and the potential return on investment, what are the Metro Council's preferred policy options and tools?
4. Do you need additional information from local partners to decide between these policy options?

LEGISLATION WOULD BE REQUIRED FOR COUNCIL ACTION: NO

DRAFT
REGIONAL BROWNFIELD SCOPING PROJECT
FINAL REPORT

Prepared for
METRO
October 16, 2012
Project No. 0075.04.01

Prepared by
Maul Foster & Alongi, Inc.
2001 NW 19th Avenue, Suite 200
Portland, OR 97209

In Partnership with
ECONorthwest, LLC
Redevelopment Economics, LLC

MAUL
FOSTER
ALONGI

Purpose

The goal of the Regional Brownfield Scoping project is to understand the scale and impacts of contaminated, underutilized properties in the Portland Metropolitan region and assess a range of policy solutions to promote cleanup and redevelopment of these sites. A Technical Review Team of public and private sector representatives, with experience in brownfields and community development, brought a range of perspectives enhancing the analysis and conclusions of the project. This final report summarizes the key findings with more detailed information on the analysis, methodology, and additional results provided in the attached appendices.

Elements

- Brownfield Data Gap Analysis—estimation of potential brownfield properties in the Metro region based on research in targeted study areas
- Case Study Analysis—qualitative and quantitative research into real world example brownfield projects throughout Oregon to understand their characteristics, challenges, and keys to success
- Impact Assessment—estimate of the economic opportunity costs, environmental threats, and social impacts of brownfields in the region
- Policy Review—review of national best practices to promote brownfield cleanup and redevelopment as a foundation for assessment of tools that could be applied specifically to Oregon and the Metro region
- Public Benefit Forecast—estimation of the public benefits of implementing different policy tools and increasing the rate of brownfield cleanup and redevelopment

Key Findings

Scale of the Brownfield Problem

- It is estimated that there may be as many as 2,300 brownfield properties in the Metro region covering approximately 5,500 acres of land (defined as potentially contaminated and vacant/underutilized). This represents approximately 7% of all commercial, mixed use, and industrial zoned land within the UGB.

- Approximately 50% of the total reported and potential brownfields are in, or within 1,000 feet of, Title 3 or Title 13 sensitive environmental areas, such as wetlands and streams. Brownfields are also three times as likely to be located in a community designated as underserved by Metro's Equity Composite.

- The study identified four common types of brownfields defined by characteristics relating to location, historical use, and redevelopment potential (see Figure 9 on page 16).

Economic Impact of Brownfields

- Brownfields represent a lost opportunity for economic development as well as an environmental and public health concern.

- Under current land use regulations, redevelopment of the entire inventory of documented and suspected, potential brownfield properties could yield an upper bound limit of almost 71 million square feet of new development, which would generate approximately $324 million to $427 million in new property tax revenue.

- Full build-out of all the brownfields has the potential to produce up to approximately 138,000 new dwelling units and work space for approximately 69,000 more jobs, generating approximately $1.4 billion in additional wages.

- Redevelopment of brownfields is financially challenging. The cost of contamination can be a major barrier, but it is often overshadowed by real estate market challenges.

Policy Tools

- Select policy tools were prioritized from national best practices based on local challenges and potential effectiveness to spur brownfield cleanup and redevelopment. These have been categorized into three bundles: Create Tax Incentives, Build Capacity, and Streamline Regulatory Framework.

- Although each policy tool considered in this study showed a potential positive impact on the development feasibility of brownfield properties, catalyzing the redevelopment of a significant number of the brownfields will require multiple synergistic incentives.

- All policies can be designed through eligibility requirements to focus on specific areas or types of development that policy-makers may wish to promote.

- Policy tools that leverage private resources, such as a Remediation Tax Credit and Property Tax Abatement, potentially have a high financial return on investment.

- The Public Land Bank and Dedicated Brownfield Cleanup Fund can be powerful tools to target and support cleanup and redevelopment of key properties with significant potential regional impact.

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TABLES

ACKNOWLEDGEMENTS

Metro Regional Council

Tom Hughes, Council President

Shirley Craddick, District 1

Carlotta Collette, District 2

Carl Hosticka, District 3

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Metro Policy Advisory Committee

Metro Technical Advisory Committee

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Charlie Landmann

The goal of the Regional Brownfield Scoping Project is to understand the scale and impacts of contaminated, underutilized properties in the Portland Metropolitan area and assess a range of policy solutions to promote cleanup and redevelopment of these sites. The Metro Regional Council (Metro) established a Technical Review Team of public and private sector representatives with experience in brownfields to bring a range of perspectives to this effort. The project included five major elements:

- Brownfield Data Gap Analysis—estimation of potential brownfield properties in the Metro region based on research on targeted study areas
- Case Study Analysis—qualitative and quantitative research regarding real world example brownfield projects to understand their characteristics, challenges, and keys to success
- Impact Assessment—estimate of the economic opportunity costs, environmental threats, and social impacts of brownfields in the region
- Policy Review—review of national best practices to promote brownfield cleanup and redevelopment as a foundation for assessment of tools that could be applied specifically to Oregon and the Metro region
- Public Benefit Forecast—estimation of the public benefits of implementing different policy tools and increasing the rate of brownfield cleanup and redevelopment

This final report summarizes the findings of each of these tasks. More detailed information on the analysis methods and results are provided in appendices.

About Metro

Metro is the directly elected regional government that serves more than 1.5 million residents in Clackamas, Multnomah and Washington counties, and the 25 cities in the Portland, Oregon, metropolitan area. The Metro Council includes a council president elected region-wide and six councilors elected by district. Metro also has an auditor who is elected region-wide.

Metro's responsibilities include urban growth boundary management, long range land use and transportation planning, waste and recycling planning and management, and operating the Oregon Zoo, Oregon Convention Center, Portland Metropolitan Exposition Center and Portland Center for the Performing Arts.

This Regional Brownfield Scoping Project builds on previous brownfield studies in the Portland metropolitan region and aligns with broader land use and community development plans, including the 2040 Growth Concept. Previous planning and research efforts led by Metro, the cities and counties within its jurisdiction, the Port of Portland, and the Portland Development Commission (PDC) have been utilized in this current effort to efficiently and effectively conduct analysis of brownfield impacts and opportunities.

Previous Portland Brownfield Studies

1988— Portland Brownfield Initiative

2004— Brownfield/Greenfield Development Cost Comparison Study

2007—National Brownfield Association Study

2009-2010— Portland Plan Economic Opportunities Analysis

ACRONYMS AND ABBREVIATIONS

BES	Bureau of Environmental Services, City of Portland
BPS	Bureau of Planning & Sustainability, City of Portland
CERCLA	Comprehensive Environmental Response, Compensation and Liabilities Act
DEQ	Department of Environmental Quality
EPA	Environmental Protection Agency
EZ	Enterprise Zone
OAR	Oregon Administrative Rule
ORS	Oregon Revised Statute
PDC	Portland Development Commission
PPA	Prospective Purchaser Agreement
RLIS	Regional Land Information System (Metro Data Resource Center)
SNAP	Small Nonprofit Accelerated Program Bond
STAMP	Site Technical Assistance for a Municipal Project, National Brownfield Association
TIF	Tax-Increment Financing
TRT	Technical Review Team
UGB	Urban Growth Boundary
ULI	Urban Land Institute
URA	Urban Renewal Area

1 INTRODUCTION

1.1 What is the Purpose of the Regional Brownfield Scoping Study?

Increasing the rate of redevelopment of underutilized and contaminated properties, known as 'brownfields', is critical to achieving the Portland metropolitan region's growth management and sustainable development vision. Growth management laws and market trends are both directing growth in the Portland metropolitan region into cities and older communities, where legacy contamination of soil and groundwater from historical activities create barriers to successful redevelopment. The costs and risks associated with environmental cleanup often deter potential developers and create a significant barrier to community revitalization and economic development. Remediation and redevelopment of our region's brownfield properties creates an opportunity to eliminate an environmental threat and, at the same time, create diverse housing options and job opportunities, promote infill development, increase walkability and accessibility, and improve quality of life.

The region has worked for years to develop the optimal policy framework that balances and synthesizes the legal liability to cleanup contamination and incentives to promote redevelopment of brownfields. The policy framework represents both regulatory programs, such as Prospective Purchaser Agreements to manage risk and uncertainty for potential developers of contaminated lands, and development incentives such as the Transit-Oriented Development Tax Exemption program.

This study points to the next generation of brownfield policy tools that can be implemented to move the region forward.

Study Question: How can brownfield redevelopment support sustainable development and growth management in the Metro region?

DRAFT

1.2 What are Brownfields?

According to the US EPA, the term "brownfield" means the real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Brownfield properties are characterized both by the potential presence of contamination and by their vacant or underutilized land use condition. Brownfield properties are found across the metropolitan region and include former gas stations and dry cleaners as well as larger industrial sites. To local communities, these properties are often blighted areas that detract from the quality of neighborhoods and pose potential threats to human and environmental health.

1.3 What Role do Brownfields Play in Growth Management?

Metro has established a vision for the future of the region in the 2040 Growth Concept. That vision establishes a framework for growth and development that:

- Encourages more efficient use of land in cities, main streets, and major transit corridors
- Protects natural areas and farmland
- Promotes access to transportation options
- Supports diverse housing opportunities

The 2040 Growth Concept is supported by six desired outcomes for communities throughout the region. The desired outcomes were developed by regional leaders and adopted by the Metro Council in 2010 with the goal of continuing to make the region a great place for its residents to live, work, and play (See Figure 1). Cleanup and redevelopment of brownfields aligns with each of these principles. The presence of vacant, environmentally contaminated sites limits the ability of the region to achieve these desired outcomes (See Table 1).

Figure 1. Metro Planning Principles

DRAFT

Table 1. Regional Desired Outcomes and Brownfield Redevelopment

REGIONAL VALUES	ROLE OF BROWNFIELD REDEVELOPMENT
Vibrant communities—People live, work and play in vibrant communities where their everyday needs are easily accessible.	Revitalizes blighted properties, providing amenities on previously vacant sites and transforming neighborhoods.
Economic prosperity—Current and future residents benefit from the region's sustained economic competitiveness and prosperity.	Creates opportunities for business development and job creation, especially in historically industrial areas, commercial hubs, and main street areas.
Safe and reliable transportation—People have safe and reliable transportation choices that enhance their quality of life.	Brownfield properties are often located in centers and corridors, which can provide multiple transportation options for new residents and workers at transit-oriented sites.
Leadership on climate change—The region is a leader in minimizing contributions to global warming.	Brownfields are typically infill development in urbanized areas, so adaptive reuse contributes to reduction of vehicle miles travelled and related greenhouse gas emissions.
Clean air and water—Current and future generations enjoy clean air, clean water and healthy ecosystems.	Cleanup addresses legacy environmental contamination and redevelopment of these sites reduces pressure for development in natural areas.
Equity—The benefits and burdens of growth and change are distributed equitably.	Brownfields are often located in underserved communities, so their cleanup and redevelopment increases social equity.

DRAFT

City of Portland and Metro Brownfield Studies

The City of Portland and Metro have undertaken complementary studies of brownfield economic impacts and policy. Both of these studies incorporate financial feasibility analysis of brownfield projects and review of potential policy changes to promote cleanup and redevelopment of these properties. The two studies have presented opportunities for synergy through capacity for detailed analysis and review by a number of stakeholder and policy makers. There are several important distinctions between the studies.

Geographic Scale: The Metro study incorporates the three county area, while the Portland study focuses on the city, enabling more detailed typologies and analyses of unique conditions in the City of Portland.

Focus of Economic Analysis: The broader scale of the Metro study requires a broader categorization of market areas and conditions.

Policy Objectives: As a regional growth management entity, the Metro study is concerned with a number of land use and community development goals, while the Portland study is more focused on economic development.

Ava Roasteria in Beaverton (left), and Oregon Museum of Science and industry in Portland (right) both are developed on former brownfield properties.

2 SCALE OF THE BROWNFIELD PROBLEM

2.1 How Many Brownfields are in the Metro Region?

In order to understand the impact that brownfields have on the region, it is important to understand how many there are and where they are located. The State Department of Environmental Quality (DEQ) maintains databases of known or potentially contaminated properties. While these databases provide a baseline of information, it is recognized that there are many contaminated properties that have not been reported as contaminated. Because there are real legal liability and financial concerns related to owning a property with known contamination, owners are often very reluctant to report potential concerns.

Methods

This project included an effort to estimate this 'shadow inventory' of suspected, unreported brownfields. The methodology of the study is summarized below and described in detail in Appendix A.

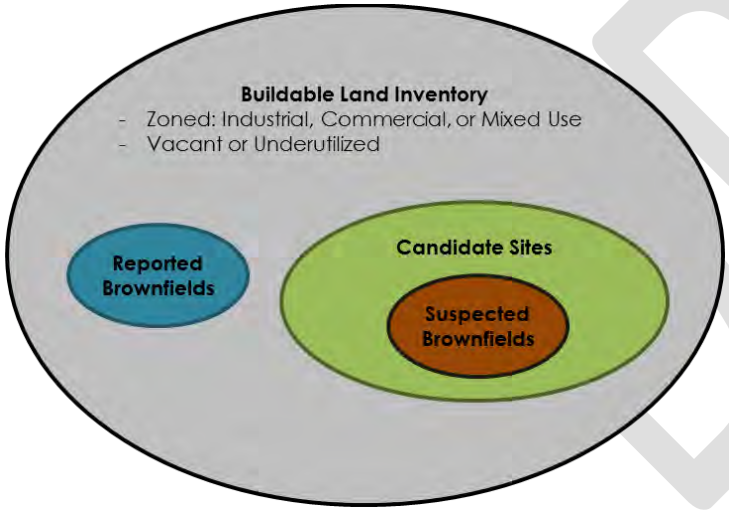

Figure. 2. Estimate of Potential Brownfields
(Circles not to scale)

1. Identify Candidate Sites Across the Region—Narrowed total population of parcels by removing properties on the DEQ database (already known or suspected to be contaminated), zoning (removed residential), and development status (focused on parcels identified in Buildable Lands Inventory as vacant or underutilized).

2. Define Study Areas—Seven study areas were selected to represent a range of land use types, design forms, and eras of development found in the region.

3. Conduct Historical Research—Reviewed historical business directories and aerial photographs to identify previous uses associated with hazardous materials.

4. Verify in the Field—Windshield surveys of properties to confirm conditions.

5. Extrapolation—Quantify percentage of candidate sites in the study areas that are suspected to be brownfields and apply those rates by development type and age throughout the region.

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6. Estimate Total Potential Brownfields: Add Suspected Brownfields to the number of reported sites in the DEQ database that are identified as vacant or underutilized.

Figure. 3. Comparison of Reported and Suspected Brownfields

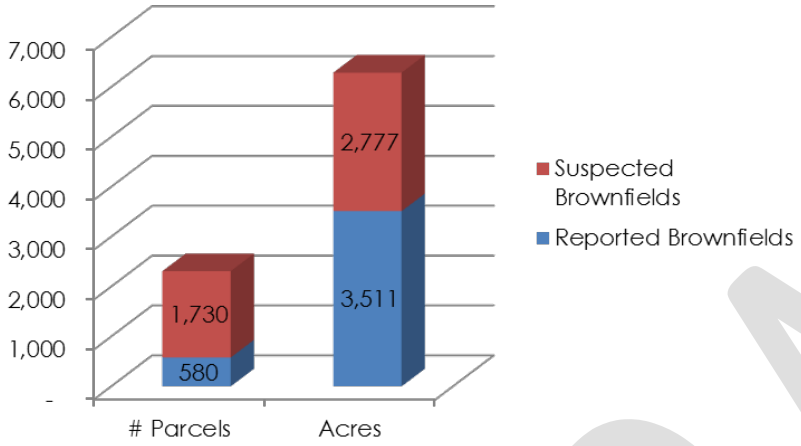
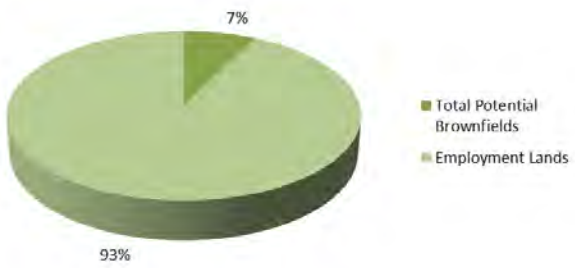


Figure. 4. Brownfields as Percentage of Commercial, Mixed Use, and Industrial Lands in UGB



Findings

It is estimated that there may be as many as 2,300 brownfield properties in the Metro region covering approximately 6,300 acres of land. Based on the DEQ database, there are approximately 580 reported brownfields in the Metro region representing 3,500 acres of land. These properties are listed by DEQ and have been identified in Metro's Buildable Land Inventory as vacant or underutilized. Additionally, there are potentially another 1,730 suspected, potential brownfield properties, representing approximately 2,777 acres of land.

Taken together this represents approximately 7% of all the acreage of commercial, mixed use, and industrial zoned land within the UGB.

It is noteworthy that the DEQ database already includes the majority of the brownfield land acreage, indicating that the large sites are known and it is the smaller sites, such as former gas stations and dry cleaners that are typically not already in the regulatory system. There is an important distinction between number of brownfield properties and total acreage. The large majority of brownfields are small properties (less than 2 acres), but these collectively represent only a small percentage of the total acreage. The larger sites dominate the acreage.

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2.2 Where are the Brownfields?

Brownfield properties are typically located in the older neighborhoods with a longer history of industrial and commercial uses. It is interesting to note that the reported sites in the DEQ database tend to be concentrated in the older parts of the Metropolitan area, near the Willamette River and Columbia Slough (See Figure 5). Many of the candidate sites that could be suspected brownfields are located in the more recently developed areas of the metropolitan region, typically along transportation corridors and in industrial and agricultural hubs (See Figure 6). Approximately 50% of the DEQ sites are in, or within 1,000 feet of, sensitive environmental areas, such as wetlands and streams, as designated by Title 3 and Title 13 of the region's Urban Growth Management Functional Plan. Brownfields are also highly likely to be located in a community designated as underserved by Metro's Equity Composite, an analysis which highlights areas that simultaneously have a high underserved population (non-white, elderly, low-income, non-English speaking, youth), a low density of essential services (food, essential retail, health, civic, financial/legal), and low proximity to non-auto transportation (conducted originally for the Regional Flexible Funding Allocation) (See Figure 7).

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Figure 5. Density of Sites in DEQ Databases

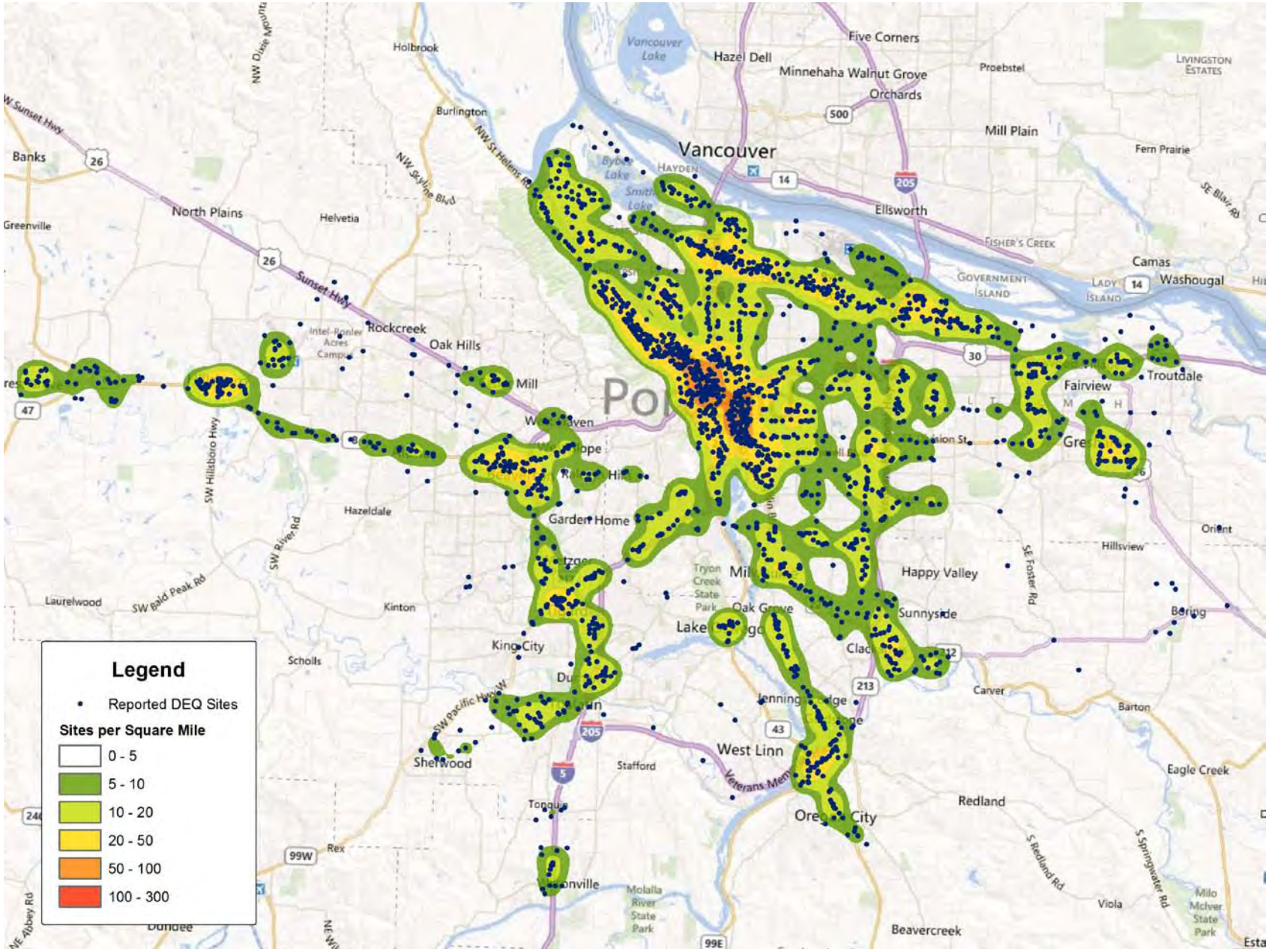


Figure 6. Density of Candidate Sites

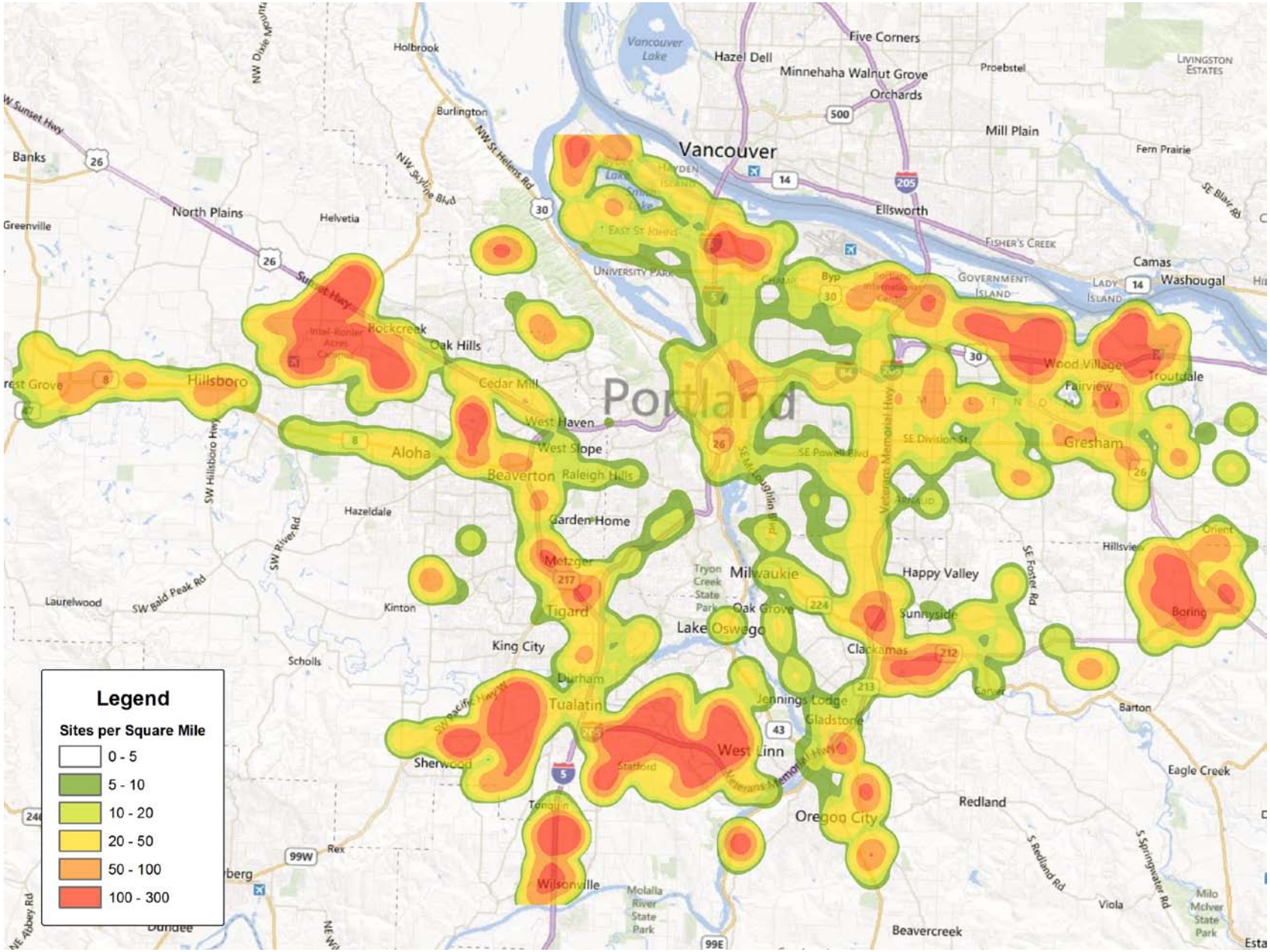
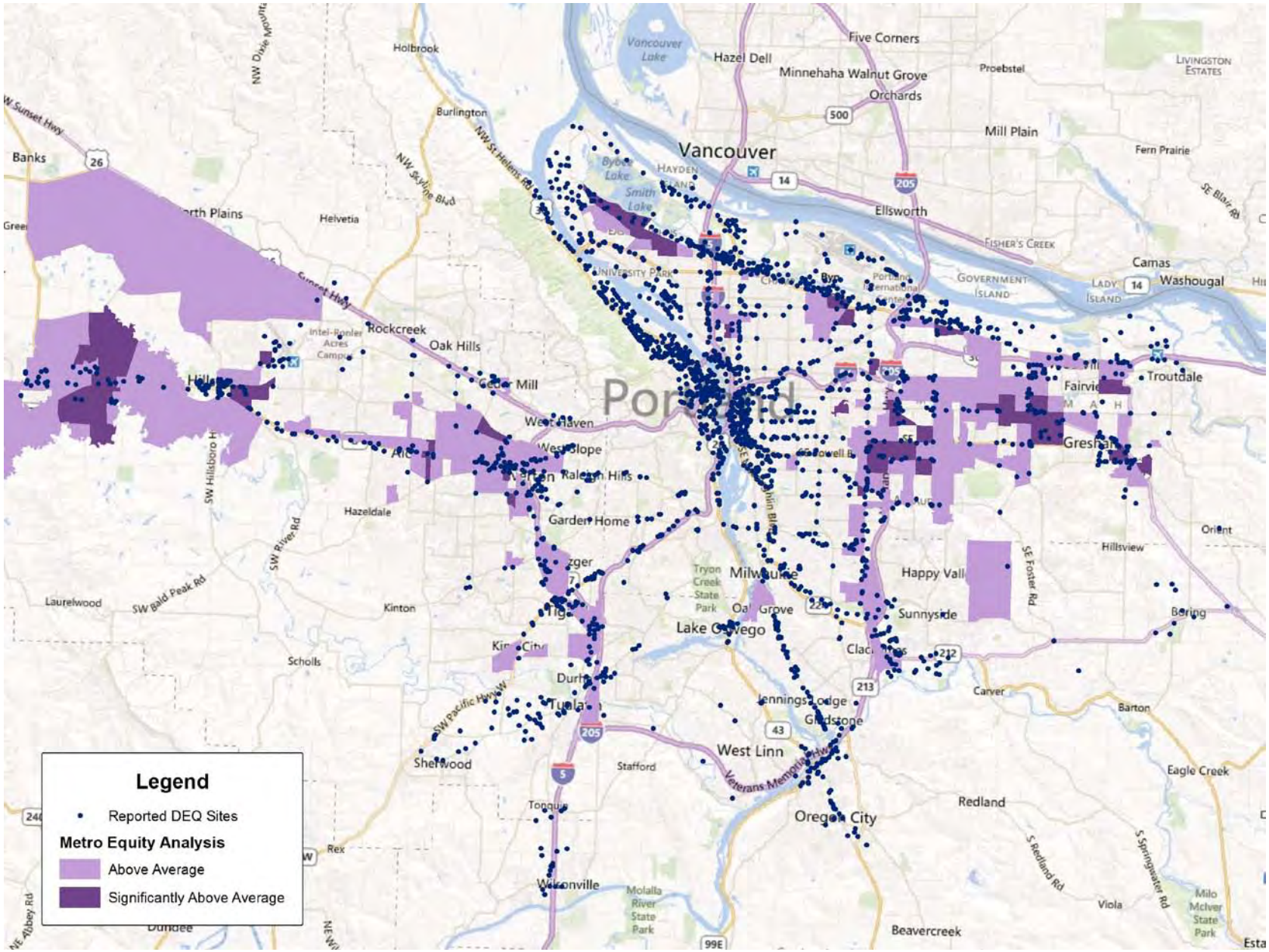


Figure 7. DEQ Reported Brownfield Sites and Communities with Higher Than Average Indices of Underserved Populations



2.3 What Types of Brownfields are in the Region?

Not all brownfield properties are the same. A system of typologies was developed for the Metro region that integrates historical and future uses, acknowledging that redevelopment impacts the potential value of the site and often drives the cleanup process and costs. Location of a site and land uses usually found in those locations are inextricably linked to typical redevelopment, market potential, and policy constraints, and thus, form the basis for a typology. Typologies are also characterized by the typical site acreage since the size of the site can affect development potential and cleanup costs. The typologies are described below and summarized in Figure 4.

Type 1—Small Commercial Sites. Common historical uses were gas stations, repair shops, and dry cleaners, characterized by small parcel size and located along highways, arterials, and in commercial centers, including main streets and small downtowns. These properties are commonly redeveloped for commercial, office, multi-family, and mixed uses. The small size of these sites can be a challenge to redevelopment, because they often cannot generate enough value to balance remediation costs. This typology represents approximately 80% of the number of brownfield properties the Metro region, but only 20% of the acreage. These types of sites are typically located in centers, corridors, and scattered in employment areas.

Type 2—Industrial Conversion Sites. These properties range in size and are historically found in areas that have transitioned from industrial to office, retail, and mixed use centers. Change of zoning and location often drives redevelopment of these properties. Sites in highly attractive, high density areas, such as the Pearl District often are redeveloped by the private sector. This type of brownfield faces greater financial challenges in areas with weaker real estate markets.

Type 3—Ongoing Industrial. These properties are located in areas with an industrial past that continues today, particularly through regulatory controls such as Metro's Title 4 requirements and local employment sanctuary overlays. The types of historical uses vary, but they share constraints on land value and future use that can be a challenge to redevelopment opportunities. These properties are typically large; while they only represent approximately 14% of the number of brownfield parcels, they encompass nearly 60% of the acreage.

Type 4—Rural Industry Sites. These properties are associated with rural natural resource extraction industries and agriculture. They are typically large and located on the edge of urban growth boundary, especially within urban and rural reserves. Structural economic changes can make these properties difficult to redevelop. There are relatively

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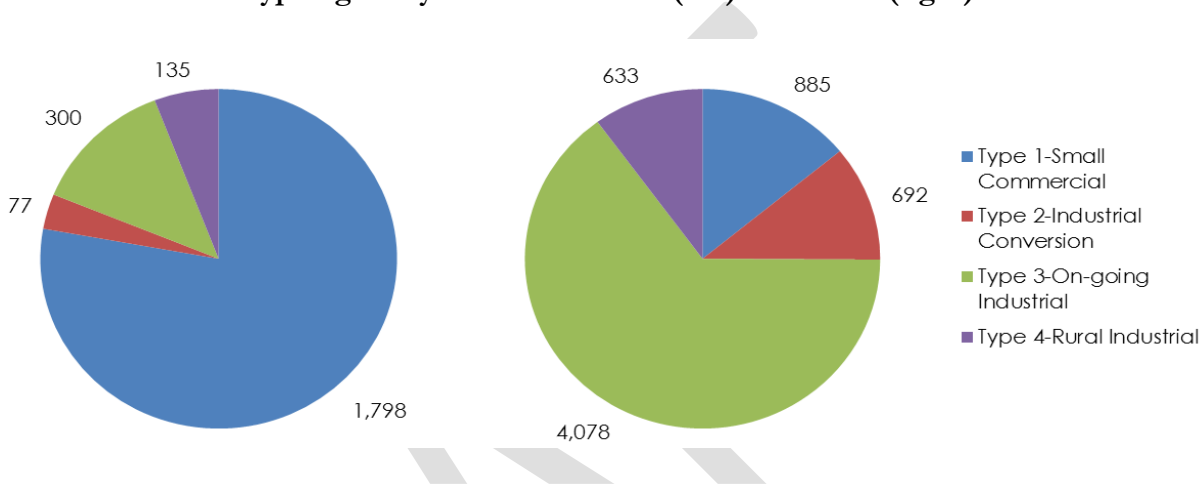
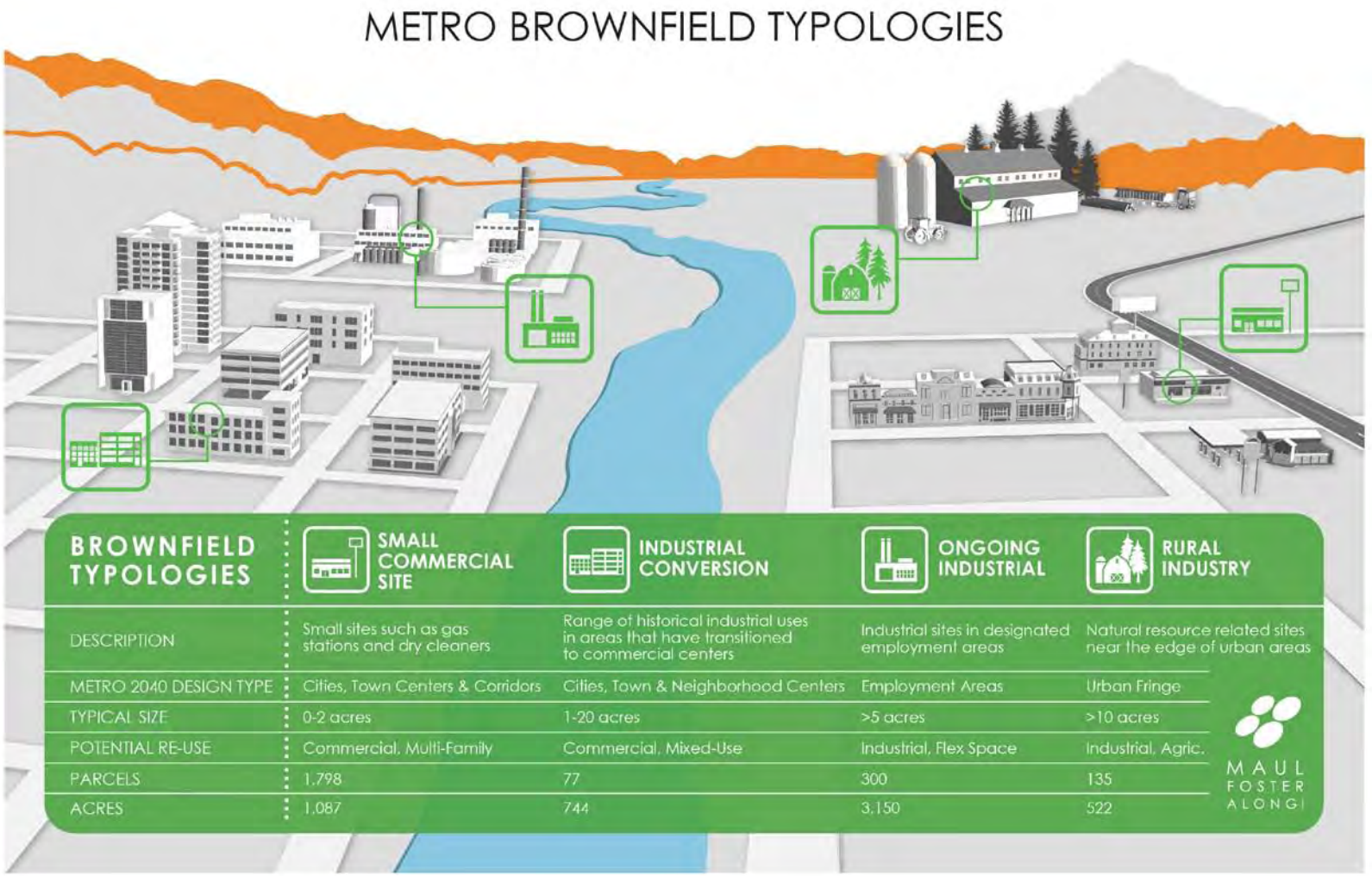
few of these types of brownfields in the Metro region and its urban reserves, but they individually can occupy large areas and can have significant regional impacts.

Figure 8. Brownfield Typologies By Number of Sites (left) and Acres (right).



Portland South Waterfront. On-going cleanup of the Zidell property in foreground with high rise buildings in the background captures the phases of transformation of this area from historically industrial land to a modern mixed use waterfront.

Figure 9 Metro Brownfield Typologies



2.4 What Role Does Brownfield Redevelopment Play in the Region?

2.4.1 Methods

Brownfields represent a lost opportunity for economic development as well as an environmental and public health concern. There are many ways that brownfield redevelopment can support economic growth; this analysis looks at a subset of quantifiable variables, based on a model that estimates the physical redevelopment potential. It roughly estimates the number of buildings, total square footage, and of mix of uses that might occupy the known and suspected brownfield properties in the Metro region. This approach provides a general characterization of the brownfield redevelopment market at the regional level. It is not intended to be accurate for any specific individual property, but rather to provide a regional average for redevelopment potential and the market barriers to achieving that potential. This methodology is briefly outlined below and described in greater detail in Appendix B.

1. Identify Prototypical Developments—For each of the suspected brownfield properties in the Study Areas, a prototypical development project was modeled using the Envision Tomorrow ™ software tool. This planning tool has been used in several other recent studies including the Community Investment Initiative and Metro's Climate Smart Communities report. A prototypical development was assigned based on applicable Metro zoning class and the market area (See Table 2). The planning software tool provides estimated building size, parking needs, and types of uses.

2. Estimate Property Value—For the industrial, commercial, and mixed use prototypes, low and high range lease rates were estimated based on the current Metro real estate market. Triple net annual rents were used to estimate a net present value based on a 7% capitalization rate. Single family home values were estimated based on a low and high range square foot basis. Low and high range values were used to characterize the breadth of the market represented by the different prototypes.

3. Estimate Potential Space for New Jobs in New Development—The number of employees and wages were based on specific type of use. The Oregon Employment Department provides estimates of employment density and average annual wages for different land use types. Since many of the potential brownfield properties have active uses on them, data was collected from the Oregon Employment Department Quarterly Census of Employment and Wages to subtract out existing jobs and wages to determine net new jobs and wages. It is important to note that these estimates should be considered as "space for potential new jobs." The estimates are based on typical densities of jobs per square foot and do not account for market trends, absorption rates, or multiplier effects.

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Table 2. Prototypical Developments

METRO ZONE CLASS	BUILDING PROTOTYPE
Commercial (Central Commercial, General Commercial, Office Commercial)	Low Density Commercial - 14,000 square feet of building / acre - Mix of Retail (70%) and Office Uses (30%)
Industrial Campus (IC)	Business Park - 14,000 square feet of building / acre - Mix of Industrial (75%), Retail (5%), and Office (20%)
Heavy Industrial (IH)	Heavy Industrial - 13,000 square feet of building / acre - Industrial (95%) and Retail (5%) Uses
Light Industrial (IL)	Light Industrial - 14,000 square feet of building / acre - Industrial (95%) and Retail (5%) Uses
Mixed Use Commercial & Residential (MUR1)	Suburban Single Family Residential - 18,000 square feet of building / acre
Mixed Use Commercial & Residential (MUR8)	Suburban Mixed Use - 47,000 square feet of building / acre - Mix of Residential (75%) and Retail Uses (25%)
Mixed Use Commercial & Residential (MUR9)	Neighborhood Mixed Use - 152,000 square feet of building / acre - Mix of Residential (80%) and Retail Uses (20%)
Mixed Use Commercial & Residential (MUR10)	Mid-Rise Mixed Use - 352,000 square feet of building / acre - Mix of Residential (80%), Retail (10%), and Office Uses (10%)
Rural Industrial (RI)	Heavy Industrial - 13,000 square feet of building / acre - Industrial (95%) and Retail (5%) Uses
Rural Residential or Future Urban (RRFU)	Suburban Single Family Residential - 18,000 square feet of building / acre

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4. Forecast Tax Revenues—Property tax revenues were estimated based on the use type, estimated market value, and changed property ratio, current property tax rates in Clackamas, Washington, and Multnomah County (applied as appropriate for location of parcels). Income tax revenues were forecasted based on averages wages applied to net new jobs attributed to the development types and the effective state tax rate of 5.6 percent. This represents the average rate paid by all Oregonians after accounting for deductions and credits. It should be noted that average wage rates for industrial jobs were particularly high based largely on the high number of information technology sector jobs in the Metro region.

Table 3. Average Annual Wages

EMPLOYMENT CLASS	AVERAGE ANNUAL WAGE
Office	$49,048
Retail	$23,301
Industrial	$73,117

Source: Oregon Employment Department

5. Extrapolate Findings—The findings for each development type were normalized on a per acre basis and applied across the inventory of known and suspected, potential brownfield properties in the Metro region.

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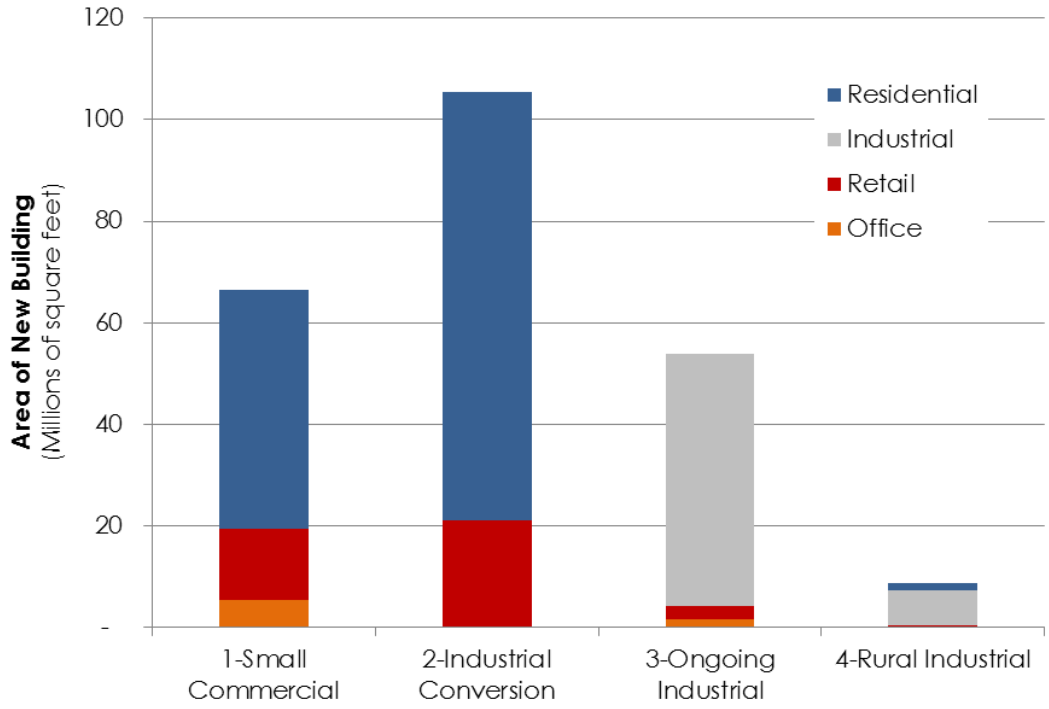
2.4.2 Results

2.4.2.1 Fiscal Impacts

It is important to note that this analysis has estimated an **upper bound** of potential lost development and revenues—the analysis estimates the potential value associated with all the sites.

Under current land use regulations, redevelopment of the entire inventory of documented and suspected, potential brownfield properties could yield almost 234 million square feet of new development (See Figure 10). Across typologies, the largest portion of the brownfield acres is most likely to support residential uses (43% of total building area) through mixed use development. Industrial uses are the second highest use type, representing 37% of the total building area.

Figure 10. Development Potential of Metro Reported and Suspected Brownfields.



Potential for New Employment Space

The level of development described above would create work space for approximately 69,000 additional jobs. Creation of that many net new jobs would generate approximately $3.3 billion in additional wages. The Ongoing Industrial typology sites are forecasted to generate the majority of wages (55%). This is due to the large land area represented by the typology and the assumption that industrial jobs pay a higher wage that the retail and office sectors. Further, growth in industrial jobs creates a stronger effect on the regional economy (a multiplier effect) than other types of jobs, because these jobs are more likely to create products that are sold outside of the region, bringing new dollars into the regional economy. In other words, industrial jobs are more likely to be traded sector, the focus of current regional economic development strategies. This potential development capacity could accommodate 18-59% of the forecasted 20 year employment land demand for the region (based on the low growth and high growth scenarios).[1]

Table 4. Employment Capacity

TYPOLOGY	NET NEW JOBS	% OF TOTAL NEW JOBS	NET NEW ANNUAL WAGES ($ Millions)	NET NEW ANNUAL PERSONAL INCOME TAX ($ Millions)	% OF TOTAL NET NEW ANNUAL INCOME TAX
1- Small Commercial	21,400	31 %	$720	$40	22 %
2- Industrial Conversion	16,900	24%	$390	$22	12 %
3- Ongoing Industrial	27,500	40 %	$1,930	$108	59 %
4- Rural Industry	3,300	5 %	$230	$13	7 %
Total	**69,100**	**100 %**	**$3,270**	**$183**	**100 %**

Note: The sites in Type 4-Rural Industry are largely outside the current Urban Growth Boundary and would not develop at the densities assumed in this analysis. The development analysis relied on Metro-wide zone classes, and assumed the development types that would occur if these areas were brought into the Urban Growth Boundary.

Source: ECONorthwest, 2012.

[1] Metro Urban Growth Report 2009-2030: Employment and Residential. January 2010.

Property Tax Revenue

Cleanup and redevelopment of brownfield sites drives an increase in assessed value that results in greater property tax revenues. It is forecasted that cleanup and redevelopment of all the reported and suspected brownfields in the metro region could generate approximately $324 million to $427 million in new property tax revenue. This revenue would be distributed across all taxing districts in the region. This would represent 13 to 17 % increase in property tax revenues in the three county region.

Table 5. Potential Increase in Annual Property Tax Revenues

TYPOLOGY	LOW ESTIMATE	HIGH ESTIMATE
1- Small Commercial	$104,277,000	$131,917,000
2- Industrial Conversion	$142,574,000	$174,682,000
3- Ongoing Industrial	$66,837,000	$104,061,000
4- Rural Industry	$10,578,000	$15,876,000
Total	**$324,266,000**	**$426,536,000**

Note: The sites in Type 4-Rural Industry are largely outside the current Urban Growth Boundary and would not develop at the densities assumed in this analysis. The development analysis relied on Metro-wide zone classes, and assumed the development types that would occur if these areas were brought into the Urban Growth Boundary. The analysis of property tax used a single property tax rate ($15 per $1,000 of assessed value) across the entire region.

Source: ECONorthwest, 2012.

Housing Units

As described above, much of the redevelopment that is likely to occur on brownfields involves mixed use buildings with multi-family housing. Full build out of all the reported and suspected brownfield properties is estimated to have the potential to accommodate up to 138,000 new dwelling units on brownfield sites. These housing units would be provided almost entirely within the Small Commercial and Industrial Conversion typologies, which assume a mix of housing and other uses in all redevelopment, with 44% and 55% of the total units respectively. It is important to note that the areas and brownfield typologies studied in this project do not include single family,

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residential-only redevelopment types. This housing type will develop in the region but is not likely to occur in centers, corridors, and employment areas, where brownfields are most likely to be found.

This dwelling unit potential far exceeds the number of additional housing units needed to meet the projected housing demand. According to Metro's Urban Growth Report, the area will need to accommodate an additional 32,200 to 38,800 new households over the next twenty years. This discrepancy means the redevelopment of even a quarter of all identified and suspected brownfields has the potential to satisfy the region's projected housing needs.

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2.4.2.2 Climate and Sustainability

Brownfield remediation and redevelopment can create a wide range of environmental and social benefits to the Metro area beyond the fiscal and development benefits. To begin to consider some of the additional benefits that may accrue in the region as a result of a targeted brownfield remediation strategy, this analysis reviews national research that estimated these indirect environmental and social benefits, and applies them to the Portland Metro region.

Automobile Greenhouse Gas Emissions

A recent US EPA study found that, on average, VMT and carbon dioxide (CO_2) emissions associated with brownfield redevelopment projects are 32 – 57 percent lower than typical greenfield, suburban development patterns.[2] Because the Portland metropolitan area has stronger growth controls than is typical across the country, only the lower end of the EPA estimates were used to estimate the potential VMT and CO_2 reductions related to redevelopment of brownfields. Applying these research findings to the inventory of potential brownfield sites in the Metro area suggests that redevelopment of 100 percent of the sites would reduce CO_2 by 127,000 metric tons annually, the equivalent of taking 30,000 cars off the road.

Protection of Rural Land and Open Space

As with other types of infill development, redevelopment of brownfield properties reduces pressure to build on undeveloped "greenfield" land, including open spaces and productive farmland in the urban and rural reserves that surround the Portland Metro area. One national study estimated that one acre of redeveloped brownfield property

[2] US Environmental Protection Agency, Air and Water Quality Impacts of Brownfields Redevelopment, September, 2011.

absorbs growth that would otherwise consume 4.5 acres of undeveloped land.[3] This comparison is driven largely by the higher density that urban infill development projects can achieve. Generalizing this national finding to the Metro inventory of 6,288 acres of potential brownfields would result in "saving" up to 28,296 acres of open space and rural land.

Infrastructure Cost Savings

Brownfield redevelopment is often able to take advantage of connections to existing infrastructure, rather than requiring the construction or expansion of roads, water, and sewer lines. A national research project completed by the Urban Land Institute (ULI) has quantified the connection between infrastructure costs and infill development, and can serve as a basis for estimating infrastructure savings attributable to brownfields redevelopment in the Portland area. [4] The report estimates a 45 to 50 percent savings for infill brownfield development over greenfield development.[5]

To begin to consider what infrastructure cost savings might be realized, this research applies the more conservative estimate of 50 percent savings to the Metro area, and finds that redevelopment of the full inventory of potential brownfields in Metro could save a maximum of $480 million in public infrastructure investment that would have otherwise been required to accommodate growth on greenfields.

Social Indicators

The benefit associated with cleanup and redevelopment of brownfields includes the protection of present and future public health, safety, and welfare. Oregon rules require consideration of existing and reasonably likely human health impact as a result of exposure to hazardous substances at these sites. Cleaning up properties to levels that are considered protective of human health, results in remedies that ensure that individual's health are not adversely affected, or that populations are not exposed to hazardous substances that could result in an increased risk of serious degenerative illness.

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[3] George Washington University, "Public Policies and Private Decisions Affecting the Redevelopment of Brownfields: An Analysis of Critical Factors, Relative Weights and Areal Differentials," 2001, http://www.gwu.edu/~eem/Brownfields/

4 James Frank, "The Costs of Alternative Development Patterns: A Review of Literature." Washington, DC. Urban Land Institute. 1989.

[5] For a more comprehensive analysis of the research on infrastructure costs within the brownfields vs. greenfields construct see: Evans Paull, "Infrastructure Costs, Brownfields vs. Greenfields," Excerpt, "Analysis of the Economic, Fiscal, And Environmental Impacts of the Massachusetts Brownfields Tax Credit Program," Redevelopment Economics, June, 2012. See: http://redevelopmenteconomics.com/yahoo_site_admin/assets/docs/Infrastructure_Costs_-_brownfields-greenfields_final2.213114938.pdf

Geospatial analysis of the existing DEQ sites database has shown that brownfield sites are highly likely to be located in a community designated as underserved by Metro's Equity Composite, an analysis which highlights areas that simultaneously have a high underserved population (non-white, elderly, low-income, non-English speaking, youth), a low density of essential services (food, essential retail, health, civic, financial/legal), and low proximity to non-auto transportation (conducted originally for the Regional Flexible Funding Allocation). There is no documented nexus between brownfields and underserved populations; however, the risk to human health presented by environmental contamination can clearly be seen as an additional challenge faced by underserved communities in the region.

Ecological Health

Approximately 50 percent of the DEQ sites are in, or within 1,000 feet of, sensitive environmental areas, such as wetlands and streams, as designated by Title 3 and Title 13 of the region's Urban Growth Management Functional Plan. Brownfield redevelopment may be of particular benefit to the environment for properties that are situated near areas of high ecological value (e.g., estuaries, rivers, and wetlands). The remediation of environmental contamination on brownfield properties can help protect ecological receptors, including threatened or endangered species, from the adverse impacts resulting from exposure to hazardous substances.

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3 CHALLENGES TO BROWNFIELD CLEANUP AND REDEVELOPMENT

Redevelopment of brownfield properties face the same challenges as standard real estate projects, including market conditions, financing, cost overruns, and timing. Additionally, brownfields face a suite of challenges related to cleanup of contamination. To understand these challenges, 30 real world brownfield projects were examined in detail as case studies (See Appendix C). Additionally, the Technical Review Team of public and private sector representatives shared their own experiences with these complex projects. The key challenges are summarized below and involve financial costs, risk and uncertainty, a disconnect between cleanup and redevelopment policies, and the environmental regulatory process. Potential policy solutions will need to address pre-development costs, uncertainty, and unclear or changing regulations.

- **Financial Capacity**—Like any other real estate project, redevelopment of a brownfield property needs to generate more value than cost to be financially feasible. The costs associated with assessment and remediation of contamination can be considerable. If the remediation and development costs exceed the property's redeveloped value, the project is not financially feasible. This financial issue is a fundamental challenge facing these properties. Development on unconstrained property is already difficult to finance in the current market, and this situation is further exacerbated by remediation costs which are incurred at the beginning of a project before any off-setting revenue is generated. These costs are difficult to finance so are often covered by owner or developer equity.

- **Risk and Uncertainty**—Every real estate development project carries risks associated with the market, construction budget, and schedules. Brownfields carry the additional risk associated with contamination and environmental liability. It is inherently difficult to fully characterize the extent of contamination underground, so there is always a level of uncertainty in a cleanup project. The unique strict joint and several liability regime for contaminated sites in federal and Oregon cleanup laws, places an owner or developer in the difficult position of being legally liable for the entire cost of cleanup even if they did not cause the contamination. Once a party in the chain of title, they become vulnerable to lawsuits or contribution claims for the contamination. This set of circumstances creates a high level of risk associated with brownfield properties. Even sites that achieve a determination of No Further Action (NFA) from DEQ are subject to potential re-openers that can draw a potentially liable party back into obligations to pay for and/or complete additional future remediation actions.

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While costs of remediation can be estimated and understood in a development deal, the long-term uncertainty inherent with cleanup liability is very difficult to quantify which creates a risk that many lenders will not incur. Nearly every development project involves some level of private financing, so if lenders are not comfortable with brownfield risk, the property will most likely fail to redevelop.

- **Disconnect between Cleanup and Redevelopment**—Cleanup and redevelopment are inextricably linked for brownfield properties. It can be a challenge to synchronize both the land use and environmental regulatory processes, which can lead to inefficiencies, higher costs, and conflicts. For example, parties often spend years conducting site assessment and the development of a remediation plan with DEQ. Once a final plan is approved by DEQ, the party seeks local development permits and local regulators may use their discretionary authority to require public access, setbacks, or buffers that significantly impact the remediation plan.

- **Regulatory Process**—Oregon conducted a major reform of its cleanup law and regulations in the mid-1990s to create a policy framework that is more flexible and responsive to brownfield needs. However, there continue to be circumstances in which projects face challenges often related to predictability, timing, and costs. There can be a serious disconnect between the timing pressures of the market and the regulatory response times required to process permits and decisions. The case studies' self-reported time to complete site assessment and cleanup varied from 1 to 23 years, with an average of 8.3 years and a median of 5.5 years (16 of 30 sites reporting). The median duration aligns well with analysis of the DEQ database of contaminated sites that indicates an average of 4.5 years to complete the cleanup process in the agency's Oregon Northwest region. It is noteworthy that many sites in the DEQ database do complete the cleanup process in less than 2 years. The duration of the cleanup process is driven by multiple factors, including the complexity of contamination at a site, DEQ's staff capacity, and the interest of the responsible party in moving the project forward.

Using the Market to Drive Cleanups

While the traditional approach to environmental cleanup is based on liability and enforcement, brownfield properties are typically remediated when there is a plan for redevelopment. This often involves an outside party, such as developer or new business, bringing capital to fund the cleanup. The incentive of financial gain drives the property owner and developer to expedite site assessment and cleanup to meet a market window of opportunity. In contrast, enforcement based cleanups are typically protracted as liable parties contest with regulators and each other over what actions are necessary and who should pay for them.

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3.1 How Large is the Brownfield Financial Gap?

The financial challenge faced by brownfield properties is one of the fundamental barriers faced by all sites. To better understand this challenge, the project team developed a model to examine the financial performance of prototypical brownfield development projects. Financial feasibility of a real estate project comes down to the bottom line of whether the value of the development exceeds the costs of bringing the product to market. For a brownfield, if the costs of land acquisition, construction, and remediation are greater than the redeveloped value of the property there is a financial gap and the property is considered "upside down." The financial analysis is summarized below and described in more detail in Appendix B.

Methods

The redeveloped value of the development prototypes was based on current market rents and land value associated with the different model projects and the size of the property as described in Section 2.4.1. The rents were multiplied by the leasable square feet for each building type then allowances were subtracted out for vacancies and management costs, yielding a stabilized net operating income. The net operating income was divided by a 7% capitalization rate -- a rough estimate of a market-normal, regional average rate -- to determine an estimated value for each parcel. For structures designed to be occupied by the owner (such as single family housing) a per-foot value for the property type was estimated. A low and high market value was estimated for each parcel.

Construction costs were also estimated for each prototype. Costs included "hard costs" for construction based on building unit costs per square feet for each use type and per parking space required. "Soft costs" were also included for architectural and engineering fees, permitting fees, along with a developer fee, and contingency. These hard and soft costs were based on typical industry standards.

Remediation costs are more challenging to estimate because they vary greatly between each site and cannot be estimated accurately without field investigation on specific parcels. To account for the costs of remediation, real world cleanup costs were collected from the case study research, published data from cleanup projects in Oregon and across the country. Based on this dataset of approximately 100 cleanup projects, low and high remediation costs per acre estimates were calculated.

- Low—$58,920/acre
- High—$695,639/acre

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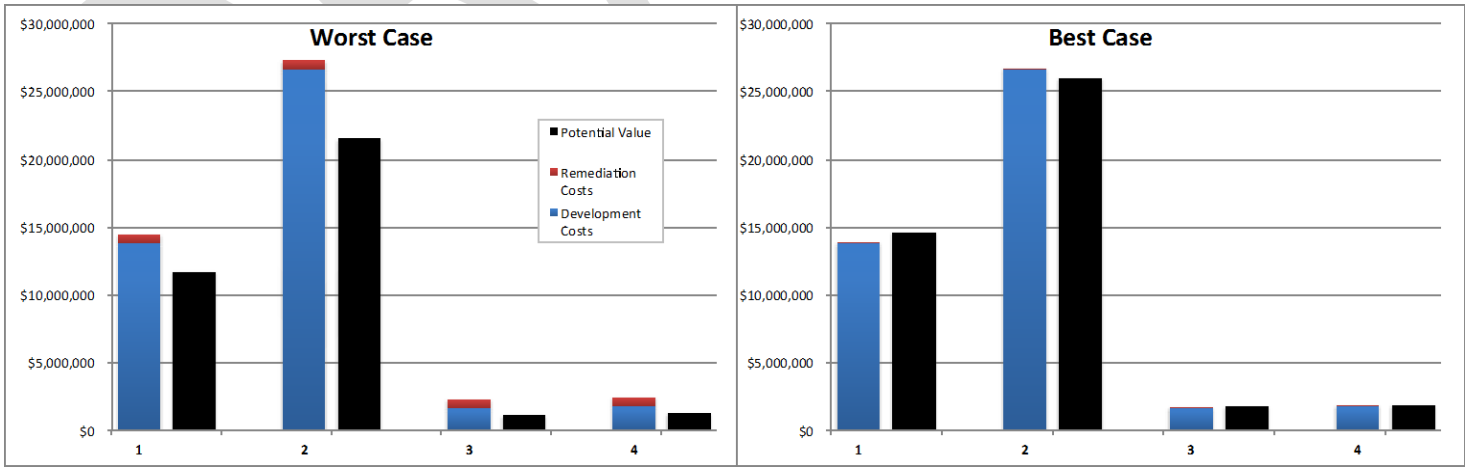
The financial feasibility of prototype projects was calculated both with and without remediation costs. To assess the range of financial feasibility based on market values and remediation costs, "worst case" and "best case "scenarios were evaluated. The "worst case" combined the high end of the brownfield cleanup costs with the low end of the achievable rent costs, and the "best case" scenario, combined low-end cleanup costs with high achievable rents

Results

Overall, the analysis showed that the majority of sites cost more to develop than the estimated market value even if remediation costs are not included. This is an indicator that the sites are not likely to redevelop without market intervention. Figure 11 shows the per-acre difference between market value and costs. The figure shows four data points for each typology:

- **Development Costs Only-Worst Case—**The per-acre difference between market value and development costs, with the 'low' rent assumption
- **Development Costs Only-Best Case—**The per-acre difference between market value and development costs, with the 'high' rent assumption
- **Plus Remediation Costs-Worst Case—**The per-acre difference between market value and development costs, including the 'high' cost of remediation, with the 'low' rent assumption
- **Plus Remediation Costs-Best Case—**The per-acre difference between market value and development costs, including the 'low' cost of remediation, with the 'high' rent assumption

Figure 11. Financial Feasibility by Brownfield Typology



The data show that, on average across all typologies, market rents affect the financial feasibility more than the cost of remediation. In the Small Commercial typology (Type 1), both 'worst' case scenarios are not financially feasible. But both 'best' case scenarios are feasible. The Industrial Conversion typology (Type 2) parcels have the most difficulty achieving financial feasibility, on a per-acre basis. The financial gap is large even if rents are high and there are no remediation costs. This finding is consistent with the observed redevelopment market: higher cost projects (such as higher-density mixed-use projects) will continue to be difficult to finance in areas with lower achievable rents outside of central Portland until those markets improve. In strong, close-in markets near downtown Portland, conversion of an industrial property to a higher value, higher density commercial or residential use could be the best path to feasibility. However, in outlying town centers and corridors that make up the majority of these parcels across the entire region, market challenges are hindering development of higher value product such as mixed use or office even when brownfields are not an issue.

The Ongoing Industrial (Type 3) and Rural Industrial (Type 4) typologies both show a small positive difference between market value and costs. The data show that the range of market rents affects the feasibility to a greater degree than the cost of brownfield remediation. However, more of the parcels are closer to the feasibility indicator mark where development costs are equal to market value than in the other typologies. In particular, even in the best-case scenarios, most redevelopment is barely feasible. This suggests that any changes in development factors--whether it is land costs, entitlement issues, achievable rents, or long-term financing terms—is more likely to have an overall effect on feasibility.

Figure 12 provides the same information by development type, per acre of redevelopment. Again, those development types that have the shortest bars – where all cases hover closest to the feasibility marker of $0 (development costs equal to market value)—are those development types that are most likely to have feasibility positively affected by an investment in brownfield remediation.

Those development types with the highest development costs (mid-rise mixed use, neighborhood mixed use) are the most strongly affected by overall market conditions. In these development types, remediation costs are a lower proportion of total development costs, and investment in remediation, on average, does not affect feasibility. Again, at the site level, this pattern may not hold. An individual site that has high remediation costs but has strong market fundamentals may become feasible if the remediation costs are removed. On average, however, these investments do not swing the needle. All other development types are more sensitive, and are more likely to be affected by investment in remediation.

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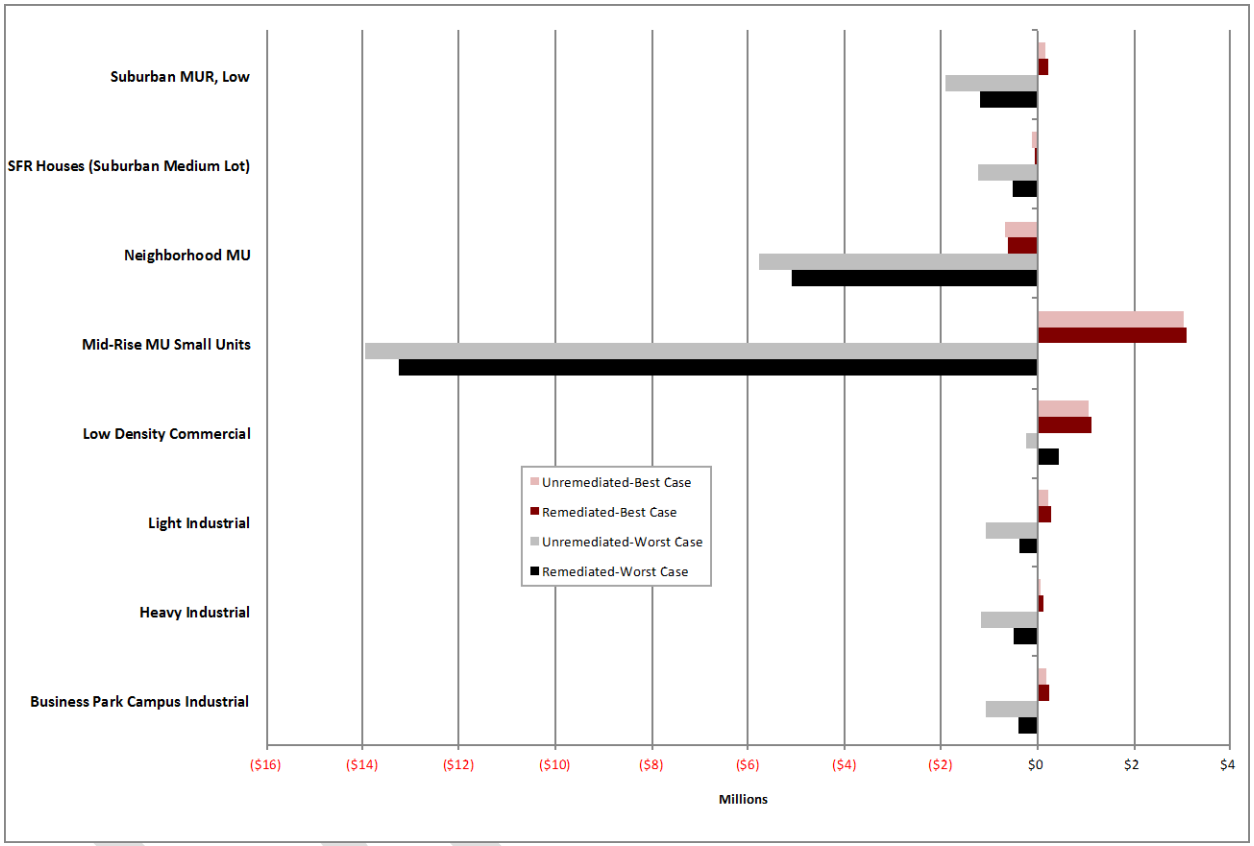
Figure 12. Market value minus development costs (with and without remediation) average per acre, by development type



Policy Implications

From a regional scale perspective, the financial barriers posed by contamination are overshadowed by market challenges. This situation is exaggerated for higher cost development products such as high density, mixed use projects. This indicates that **policies targeted at reducing the costs of remediation may not have a broad impact on improving the financial feasibility of brownfield redevelopment on their own. To promote redevelopment of brownfields, it is therefore important to combine financial incentives that support traditional infill development**, such as property tax abatements with remediation incentives. It is important to keep in mind that this financial analysis is generalized across the region and that financial incentives for cleanup may have an important impact on specific properties.

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4 POLICY TOOLS

Oregon and the Metro Region have a solid policy foundation for promoting urban infill development and for regulating cleanup of contamination, but there are continuing challenges to brownfield redevelopment (See Appendix D for detailed description of current policies and programs). There are a number of potential policy tools that could be adopted to address the challenges of brownfield cleanup and redevelopment. The Portland Metro region can look to policies that have proven effective for other states and local governments and improve existing policies and programs. This section presents a set of potential policy tools based on review of best practices nationwide, meetings of the Technical Review Team (TRT), input from local brownfield experts, and previous studies. The TRT includes a range of policy experts, technical professionals, public agency staff, and private sector professionals.

The policy tools were prioritized by the Technical Review Team, and through initial discussion with the Metro Council, Metro Policy Advisory Committee, and Metro Technical Advisory Committee. Prioritization was based on professional judgment on the potential impact and feasibility of implementation of the tools. The priority policies are organized in bundles of similar or mutually supportive tools: tax incentives, capacity building, and regulatory streamlining. Priority policy tools are briefly described below with other tools assessed in the study listed as "complementary tools" and described in detail in Appendix E.

Figure 12. Priority Policy Tool Bundles

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4.1 Create Tax Incentives

Like all real estate projects, brownfield redevelopments are driven by financials. A package of changes to existing tax policy could be implemented to improve the financial feasibility of brownfield projects. Tax incentives are an attractive financial incentive because they are predictable for the private sector and require relatively low administrative costs for the public sector. Three taxation policies are proposed: a remediation tax credit, a property tax abatement for redevelopment on brownfields, and reform of the existing property tax assessment for contaminated lands.

The public benefit of these incentives is that while they provide short-term subsidy of private investment, there is a higher long term return on investment through property and income taxes generated on land redeveloped into higher value uses.

Complementary Tools

- Tax Increment Financing Reform

Remediation Tax Credit would allow property owners and developers to decrease their business or personal income taxes by a percentage of the documented costs of conducting a cleanup. Limits could be set on the amount of credit available on an individual project or for all projects in a fiscal year to provide enough magnitude to stimulate redevelopment, while managing impacts on the state budget. Making the tax credits transferable would allow non-profit and public entities to use the tool.

P**roperty Tax Abatement** extends the existing incentives of Enterprise Zones to provide a property tax break for the initial years of a brownfield redevelopment project. Since brownfield projects require significant upfront costs for cleanup, the timing of this financial incentive is particularly useful. The duration of the abatement could vary to allow brownfields within an Enterprise Zone to receive a longer period than those outside.

Property Tax Assessment policy in Oregon is currently considered a disincentive to cleanup. The assessed value of contaminated land is reduced by the cost of the environmental liability, so little or no property tax is collected on many brownfields. While the value of property is certainly impaired by contamination, the tax assessment should include a time limit to encourage owners to address the problem. Coupling a sunset on the assessed value reduction with a tax credit on remediation would minimize financial impacts to property owners while promoting cleanup. It should be noted that anecdotally, the financial viability of some on-going businesses relies on the low property taxes the current policy provides and could be impacted if there was a change.

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4.2 Build Capacity

Local governments, development authorities, and port districts play a leading role in cleanup and redevelopment of brownfields. A set of policy tools could be adopted to increase the capacity of these public sector entities. These tools include establishing a land bank, creating a dedicated cleanup fund, and providing grants for integrated environmental assessment and redevelopment planning.

Complementary Tools

- Pooled Bonding
- Historical Insurance Recovery Support
- Community Investment Initiative
- Public Equity in Sites
- Pooled Environmental Insurance
- Brownfield Guidebook

The benefit of these tools is that they expand the role that public agencies can play in brownfield redevelopment. Many properties are so complex or challenging that they are not likely to redevelop without public leadership and investment.

Public Land Bank—Many local governments are reluctant to take title to contaminated properties because of concerns about legal liability and financial implications. A public land bank would create an entity with the resources and long-term perspective to acquire and reposition brownfield properties. The land bank would operate with a clear mission and long-term plan for community revitalization. It would have special powers, such as protection from environmental liability, authority to clear title, ability to issue bonds and use tax increment financing. The land bank would require initial capitalization to acquire a portfolio of properties and financial support for the initial years, but should achieve financial self-sufficiency in a period of 5 to 10 years. The land bank would provide a pathway for challenging properties to receive public support, without adding risk or liability to local governments, and reposition land so the private market can invest in redevelopment.

Dedicated Brownfield Cleanup Fund—There are multiple sources of funding at the state level to support cleanup and redevelopment of brownfields, but they are limited in their capacity. A dedicated revenue stream for cleanup could dramatically increase the ability of local governments or a land bank to revitalize properties. A cleanup account could be funded in several ways, such as through a federal Housing and Urban Development (HUD) Section 108 loan, a statewide bond measure, or a tax on potentially hazardous substances such as coal.

Integrated Planning and Site Assessment Grants—Existing brownfield funding programs focus exclusively on cleanup, but many of these projects are driven by market demand for redevelopment. The dedicated cleanup fund or other sources could be used to establish a grant program that is designed to address both the cleanup and redevelopment aspects of brownfields. Eligible grant activities could include market analysis, community involvement, and site planning in addition to assessment and cleanup of environmental contamination.

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4.3 Streamline Regulatory Framework

Cleanup and redevelopment of brownfield properties requires regulatory oversight by state and local governments under environmental and land use regulations. Meeting the multiple and potentially conflicting requirements of these different regulatory agencies can add significant time delay and costs that create barriers to redevelopment. There are opportunities to improve the regulatory process to provide greater efficiency and predictability while maintaining development standards and protecting the public interest.

Complementary Tools

- Model Purchase & Sale Agreement
- Universal Database
- Presumptive Standards
- Licensed Site Remediation Professional Program
- Federal Prospective Purchaser Agreements
- Superfund *De Minimis* Settlements

The benefit of these tools is that reduced development timelines also reduces costs. This added value can help offset the already additional cleanup costs, increasing the redevelopment potential of a property,

Regulatory Flexibility—To be financially feasible, brownfield redevelopment projects must generate enough value to offset the costs of cleanup on top of standard construction costs. However, as this analysis has shown, in many cases the projects do not generate the benefits to off-set costs. Increased flexibility in allowing broader land uses for underutilized sites could be considered if the cost of achieving a given use is an impediment to revitalization. While density bonuses are often considered as a regulatory incentive, it is important to note that the financial feasibility analysis indicated that higher density development on brownfields is market dependent. The greater costs of constructing multi-story projects is only feasible in locations that can demand high rents. Other regulatory flexibility concepts that could provide real value include reductions in parking requirements and expedited approvals.

One Stop Shop—Brownfield projects inherently involve multiple regulatory agencies, including state DEQ oversight of cleanup and local government permitting for development. The complex and sometimes conflicting requirements of different regulatory agencies can add real costs and time delays to projects. An inter-agency panel could be established for brownfield sites to coordinate permitting and connect projects to financial incentives.

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Policies that Metro Can Independently Implement

The policy tools researched for this project range from changes in federal agencies to local government ordinances. As a regional government, Metro has rather limited direct authority and powers. It can help influence policy at the federal, state and local level through various ways from advocacy to education. The following policy tools are those that could be directly implemented by Metro

- Integrated Planning and Site Assessment Grants – allocate budget to grants (or loans) that support planning and site assessment on properties and projects that advance a specific Metro goal.

- Historical Insurance Recovery Support – provide financial and/or logistical support to property owners in making claims on comprehensive general liability insurance policies that were in place when contamination occurred.

- Public Land Bank – allocate budget to a land bank to acquire the most challenging and/or strategic properties to advance a specific Metro goal.

- Brownfield Guidebook – develop a user-friendly manual for jurisdictional partners, property owners, community members, and prospective developers that provides a road map for the process of redeveloping a brownfield property. The guidebook would be the starting point and key reference for regulatory and financial tools for cleanup and redevelopment of brownfield properties.

- Build Market Demand – utilize existing Metro programs to provide indirect incentive and capacity for brownfields development through infrastructure and other improvements that help to build demand within the market. Expand on-going efforts to market properties to developers, businesses, and site selectors to expressly focus on brownfields.

4.4 Return on Public Investment

The consultant team completed a return on investment analysis to compare the relative impact of the priority policy tools. The analysis provides some context for relative comparison of the potential impacts of implementing the policy tools based on several quantifiable outcomes including job potential, tax revenues, and redeveloped acreage. These return on investment results are just one input into Metro's policy making process. There are many other important considerations that will influence implementation, such as legal considerations, attractiveness to the development market, and political viability.

Methods

The financial impact of the policies was analyzed using the pro formas for the prototypical developments (on page 15) and results from other states that have already implemented the policy tools. The value of financial incentives was included in the pro formas to assess whether it made prototypical developments become feasible. The analysis examined how many acres of brownfield property are likely to be redeveloped through application of the policy tool and the corresponding employment and tax revenue benefits associated with that redevelopment. A ten year period was used for the analysis with tax revenues estimated for one year (to conservatively account for absorption rate for bringing property to market). Because the policies have not yet been fully vetted, it is uncertain what eligibility criteria, geographic constraints, or other factors might affect their influence on redevelopment outcomes, and the results should be considered order of magnitude estimates. The findings are summarized below with more detail on methodology and results in Appendix F.

Key Findings

- No single policy incentive will likely be sufficient to catalyze redevelopment of all the brownfields.
- The tools that appear to have the greatest potential in terms of acres redeveloped are Property Tax Abatement and Dedicated Cleanup Fund with each accounting for over 800 acres of brownfield redevelopment, which represents only approximately 15% of the estimated total acreage of brownfields in the Metro region (See Table 5).
- Policy tools that leverage private resources, such as tax credit and tax abatement typically have a higher financial return on investment than those that rely more heavily on public funds to drive redevelopment, such as the Public Land Bank and Dedicated Brownfield Cleanup Fund (See Figure 12).
- The Public Land Bank and Dedicated Brownfield Cleanup Fund have the potential to be powerful tools to target and support properties that have greater remediation costs and financial feasibility challenges (such as Ongoing Industrial and Rural Industrial).

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- Remediation tax credits and property tax abatements tend to support projects that are close to financial feasibility which is predominantly the Small Commercial (Typology 1) and Industrial Conversion (Typology 2) sites.
- High density commercial and mixed use development types tend to drive higher tax revenue returns than industrial sites. This analysis does not account for the traded sector value or multiplier effects associated with industrial jobs. While high density commercial sites appear to provide high return on investment, they are also the most likely properties to be financially feasible and not require public support.
- There appears to be great potential for Regulatory Flexibility and the One Stop Shop for coordinated permitting to provide a large impact with relatively small public investment. This aligns with a common comment from the development community that certainty and expedited schedule in the regulatory process are of great value.
- The potential impact of property tax reform could not be measured since information is not readily available on how many or which properties are currently claiming a valuation reduction. Without a calculation of current lost tax revenue, it is impossible to project potential return by reversing this policy.

Table 5. Policy Return on Investment Summary Results

POLICY TOOLS	ACRES REDEVELOPED	TOTAL AREA OF NEW BUILDING (Sq. Ft.)	NET NEW JOBS	DWELLING UNITS	ANNUAL TAX REVENUE ($)	
					PROPERTY TAX	PERSONAL INCOME TAX
Remediation Tax Credit	449	43,839,000	9,200	34,600	69,966,000	18,753,000
Property Tax Abatement	808	78,909,000	16,500	62,300	125,940,000	33,755,000
Dedicated Brownfield Cleanup Fund/Integrated Grants	833	32,728,000	8,700	19,900	51,945,000	24,169,000
Land Bank	195	4,116,000	1,600	1,700	6,809,000	5,195,000
Regulatory Flexibility/One Stop Shop	397	43,001,000	8,900	34,400	68,430,000	17,738,000

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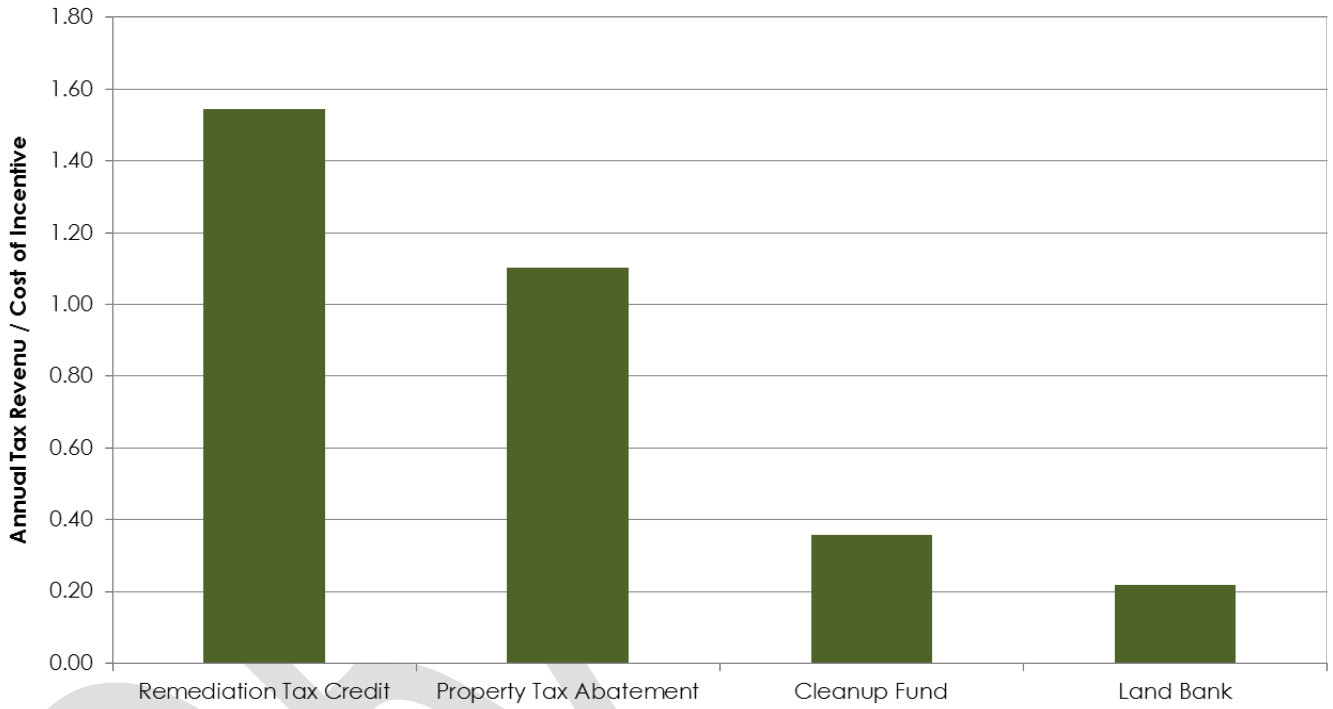
Figure 13. Policy Tax Revenue to Cost Ratio



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5 NEXT STEPS

5.1 Implementation Strategy

Implementation of the policy tools will require policy makers to decide which ones they consider to be the most important and to organize an effort to take necessary actions. A summary of the policy tools including the level of government at which they operate, type of policy action needed to implement them, timeframe for implementation, and recommendations for additional research is presented in Table 6.

Key considerations for an implementation strategy

- There is no silver bullet brownfield policy. A coordinated set of policy tools should be adopted that address multiple challenges and different types of brownfields.
- There is potential for synergy between policies. For example, the effectiveness of a Public Land Bank would be greatly enhanced by being able to access a Remediation Tax Credit and Dedicated Brownfield Cleanup Fund to offset the costs of addressing contamination and make the land bank financially stronger.
- All of the policy tools can and should be tailored to meet specific policy goals. For example, eligibility for remediation tax credits and tax abatements could be limited to specific geographic areas that need additional public support to achieve market viability, such as distressed communities or industrial areas.
- Eligibility requirements and administrative requirements of programs should be limited in complexity to create incentives that are attractive and easy for the private sector to access.
- ROI will be limited, and many sites will not see the benefit of these policy tools, if they are not eligible on properties with potentially responsible parties for contamination. Incentives can be re-directed to the new investor or developer.
- Policy tools that appear most likely to support cleanup and redevelopment of On-going Industrial brownfields (Type 3) are:
  - Public Land Bank
  - Remediation Tax Credit
  - Dedicated Brownfield Cleanup Fund

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- Policy tools that appear most likely to support cleanup and redevelopment of commercial and mixed use development types (Small Commercial-Type 1 and Industrial Conversion-Type 2 sites) are:
  - Remediation Tax Credit
  - Property Tax Abatement
  - Regulatory Flexibility
- These policy tools and their respective benefits are applicable statewide. Coordination of local governments and interested stakeholders, both within the Portland metropolitan area and across the state, will be important for successfully implementing state legislative and policy changes.

5.2 Further Research Needed

- Impact assessment—this effort included analysis of case study projects and found that there is little quantitative information collected on the job creation, tax revenue and other benefits of brownfield redevelopment projects. A more detailed study could compile in-depth information on a set of key indicators for brownfield projects.
- Public health risk—contaminated properties are potential public health risks. Human health risks of contaminated sites are conducted at a site level and information is lacking on regional impacts.
- Previous ROI analysis—previous public investments in brownfield redevelopment have not been studied to determine the impact or return of those investments. Understanding the local and potential ripple effects of these redevelopment projects could further magnify the likely results of future actions.
- Property value—brownfield properties can have diminished value because of contamination. Research in other areas has demonstrated a ripple effect that brownfields decrease value of surrounding properties as well. The property values of contaminated lands and surrounding areas could be studied to add to understanding of financial impact of brownfields on the region.

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Table 6 Metro Brownfield Policy Tools Matrix

TOOL	DESCRIPTION	LEVEL OF GOV.	POLICY ACTION	TERM	PREV. PROPOSED	FUTHER RESEARCH NEEDED
Bundle 1: Create Tax Incentives						
Tax Credit for Remediation	Consider expanding the use of tax incentives, such as income tax credits for dollars spent on site investigation and environmental cleanup.	State	Statutory Change	Long-term	Legislative	Eligibility requirements, magnitude of credit
Property Tax Abatement	Modify tax abatements associated with Enterprise Zones and urban infill programs to extend the duration of tax abatements in any area and make brownfield remediation for industrial development more viable.	State Policy Change; Local Implementation	Statutory Change	Long-term		Eligibility requirements
Reform Contaminated Property Tax Assessment	Modify tax assessment valuation rules to include time restrictions on the value reduction associated with a cleanup liability to discourage moth-balling	State	Constitutional, Statutory, and Administrative Rule Change	Long-term		Legal constraints
Complementary Tools						
TIF Reforms	Modify policy to make TIF a more effective tool for promoting brownfield cleanup and redevelopment. Use policy mechanisms to create better tie-ins between tax increment financing and brownfield projects to incentivize redevelopment.	State Policy Change; Local Implementation State	Statutory Revision	Long-term		Examine range of options

TOOL	DESCRIPTION	LEVEL OF GOV.	POLICY ACTION	TERM	PREV. PROPOSED	FUTHER RESEARCH NEEDED
Bundle 2: Build Capacity						
Public Land Bank	Establish a land bank to acquire contaminated properties, manage and finance cleanup and redevelopment, and sell property back into the private market.	State Legislation; implemented at State or Local level	Legislative	Mid-term/long-term		Identify most appropriate agency sponsor

Dedicated State Cleanup Tax	Establish a dedicated fund for cleanup and redevelopment of brownfields. The revenues or the fund should be generated from a source that has both a nexus with contamination and the potential to generate a substantial revenue stream.	State	Legislative	Mid-term/long-term		Explore revenue source options
Integrated Planning & Site Assessment Grants	Establish a publically funded Brownfield Integrated Planning Grant to conduct environmental assessments and support site-specific redevelopment strategies.	State or local	Legislative	Short-term/mid-term		Explore revenue source options
Complementary Tools						
Pooled Bonding	Allow localities to use bond proceeds to purchase a pool of general obligation bonds to fund cleanup projects (i.e. SNAP program).	State Legislation: Local Implementation	Statutory Revision	Short-term		Examine fiscal impacts
Historical Insurance Support	Provide technical support to assist work parties in making claims on historical insurance policies.	State or local	Program-matic Change	Short-term		Compare cost of contracting vs. in house service
Community Investment Initiative	Building on models being explored in Metro's Community Investment Initiative, create a new entity to combine public and private funds and foster unique joint venture opportunities.	Coordinated state and local	To be determined	Long-term	Report (2)	On-going policy development
Public Equity in Sites	Make it easier for public development organizations to provide gap financing for projects in exchange for securing an equity interest in the property.	State Legislation: Local Implementation	Legislative	Long-term		Research legal issues
Pooled Environmental Insurance	Establish a program that would decrease the transaction costs and reduce the cost of purchasing environmental insurance to covers risk.	State or local	Program-matic	Long-term	Report (2)	Explore concept with private market
Brownfield Guidebook	Provide more effective resources to educate land owners and prospective buyers about the cleanup and redevelopment process and the resources available to assist these projects.	State or local	Program-matic Change	Short-term	Report (1)	

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TOOL	DESCRIPTION	LEVEL OF GOV.	ACTION	TERM	PREV. PROPOSED	FUTHER RESEARCH NEEDED
Bundle 3: Streamline Regulatory Framework						
Regulatory Flexibility	Local governments could apply a zoning code overlay to contaminated sites or create a brownfield inventory list for priority sites that would allow developers and property owners to develop the site with greater regulatory flexibility.	Local	Policy Change	Short-term	Report (1)	Examine land use implications
One Stop Shop	Create a system for inter-agency coordination for permitting and funding brownfield projects.	State and local	Program-matic	Short-term	Report (1)	
Complementary Tools						
Model Purchase and Sale Agreement	Create a model agreement with indemnification language and distinctions between upland and in-water liabilities along with standard transfer issues such as due diligence period, timing of cleanup, warranties, and inspection period.	State or local	Program-matic	Short-term	Report (3)	
Model Prospective Purchaser Agreement	Review and update model language for legally binding Prospective Purchaser Agreements to streamline the process and encourage their use.	State	Program-matic	Short-term	Report (3)	
Universal Database	Create an open system to share environmental information across projects. This system could include analytical data on groundwater flow, contaminant concentrations, along with beneficial use determinations.	State	Program-matci	Short-term	Report (1)	
Formalize Presumptive Remedies and Standards	Establish guideline documents for simple cleanup sites with common redevelopment uses.	State	Program-matci	Short-term	Report (1)	Convene expert panel to review
CERCLA Prospective Purchaser Agreements	EPA provide Prospective Purchaser Agreements, jointly with Oregon DEQ to provide certainty and liability protection to innocent purchasers of contaminated properties under federal Superfund Law.	Federal	Program-matic	Long-term		EPA and DEQ discussions
CERCLA De Minimis Settlements	EPA provide expedited settlement agreements for owners of properties that likely cause minor impacts to the Harbor.	Federal	Program-matic	Long-term		Examine liability implications

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CLICK HERE FOR FULL REPORT

APPENDICES TO THE METRO REGIONAL BROWNFIELD SCOPING PROJECT

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Materials following this page were distributed at the meeting.

2011 Travel Behavior Survey

Where and how the region travels

RESEARCH CENTER, METRO

Mike Hoglund

Director

Richard Walker

Manager, Transportation Research & Modeling Services

October 23, 2012

Presentation overview

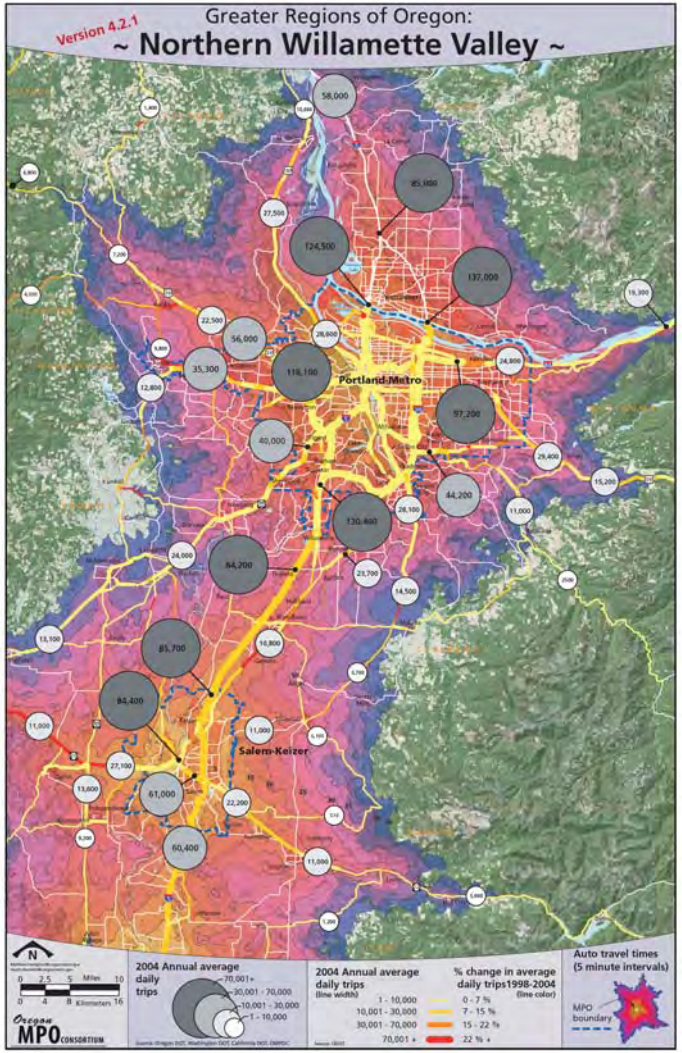
- Why this survey is important
- Background
- Some key trends
- Methodology
- Q & A

WHY the survey is important

- Provides core transportation information to make a great place
- Adds precision to analysis
- Collects sample data to develop travel models
- Gains in awareness of how travel behavior is changing
- Responds to federal planning guidelines 23 CFR 450.322(f)(1)

Oregon Household Activity Survey and ODOT survey

- All counties in Oregon plus Clark County required to do survey
- Travel sheds overlap
- More efficient in time, cost to coordinate effort



WHO was surveyed

- 6,450 households regionwide
    - 4,800 households in Multnomah, Clackamas, Washington counties
    - 1,650 households in Clark County

WHAT was asked

- Socio-economic information
- Travel information
  - Where people go (origins/destinations)
  - How people get there
  - What they do when they get there
  - How they link trips
  - Time of day when travel took place

WHEN the survey was conducted

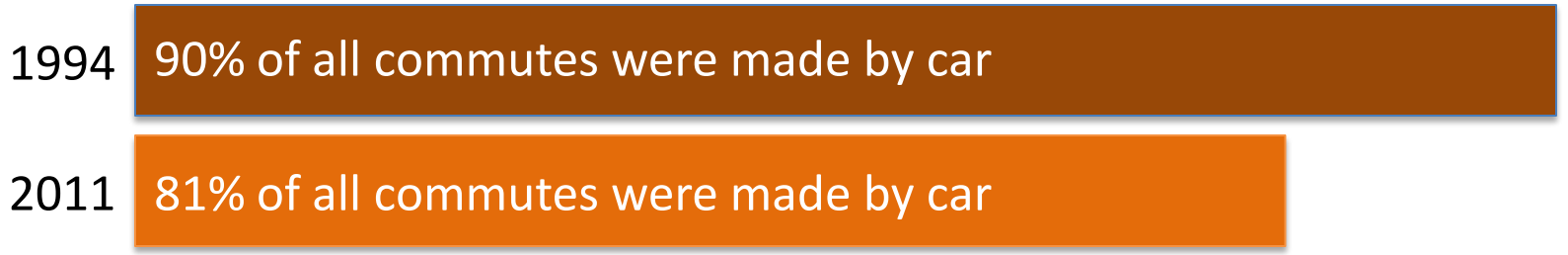
- Clark County conducted survey in 2009
- New survey initiated April 2011
- Second round in fall 2011
- Completed in December 2011
- Data delivered to Metro June 2012
- Last conducted in 1994

Some key findings

- Automobile use is declining and distances traveled are shortening
- Bike use is dramatically up in the Portland metropolitan region
- Transit use is up in the four county region
- Little change in walking (percentage-wise)

TRENDS in automobile travel

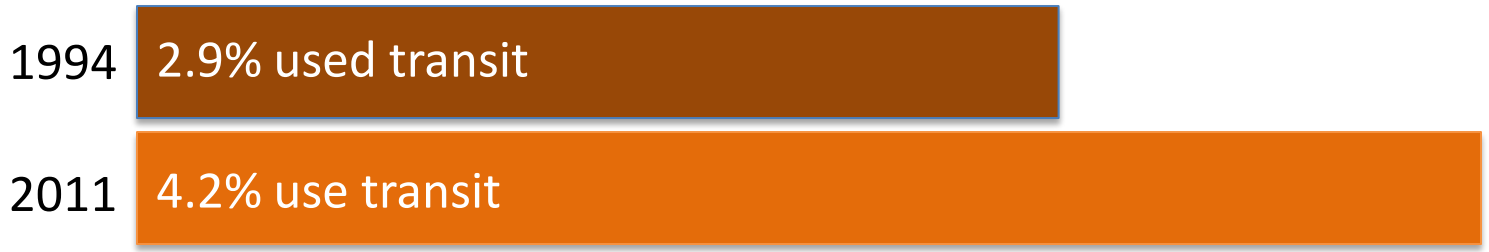
- Percent of commute trips made by automobile are down



- Average miles per trip are down to 4.4 miles – more than half a mile reduction
- Majority of carpools are two person from the same household (85%)

TRENDS in transit travel

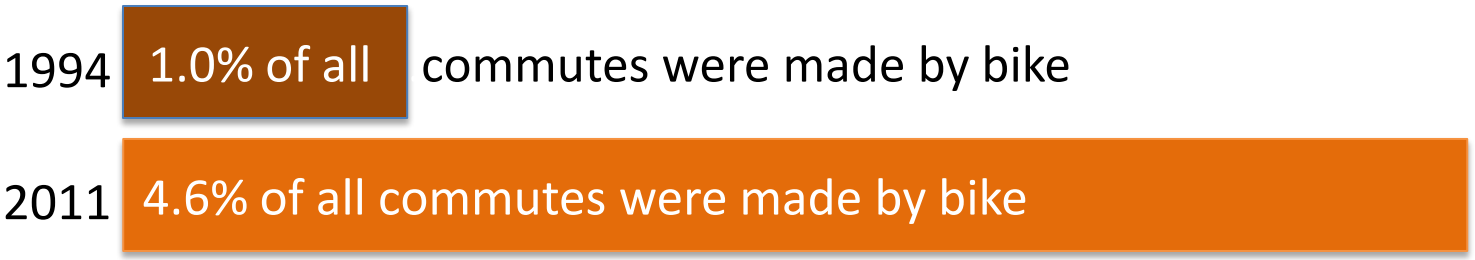
- For all trips, the percent of people using transit has increased almost 50%



- Nearly one half of all commute trips to downtown Portland are by transit (45%)

TRENDS in non-motorized travel

- Percent of commuter bike use more than quadrupled



- Bike use for all purpose has more than doubled since 1994 (1.1% to 2.8%)
- Percent of walkers held fairly constant over time (9% - all trips)

Survey methodology

HOW the survey was conducted

- Place survey – in contrast to activity survey techniques used in 1994
- Certain households were oversampled to gain statistically relevant information about a specific group

HOW survey data is used

- Ensure that travel models reflect decision process of travelers
- Create profile of daily travel characteristics for large scale spatial areas
- Compare travel characteristics between two points in time

How is data best used

- Less than 1% of region's households were surveyed
- Less than 1% is an appropriate size for developing models
- Sample best used for summarizing larger geographic areas

LESSON: Look for trends and stories in data, not numbers

We’re not done!

- Data will be used to update travel models
- Release reports with statistics for regional travel and select policy areas

Suggested enhancements

- Build a query tool to make the data more accessible
- Conduct specialized surveys more frequently on targeted areas of interest

Metro Council questions

- Questions regarding the purpose, approach and results of the survey?

- Is further discussion needed, particularly at the JPACT level?

For more information

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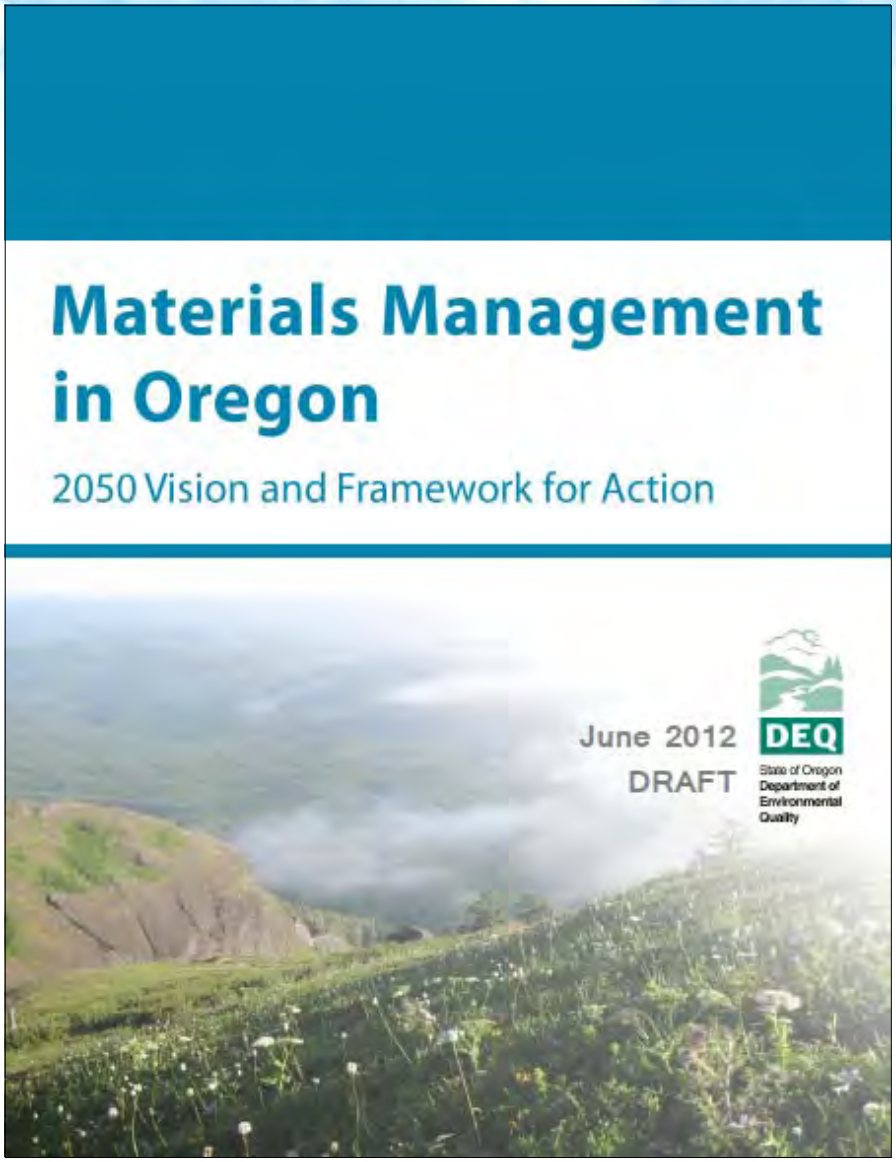
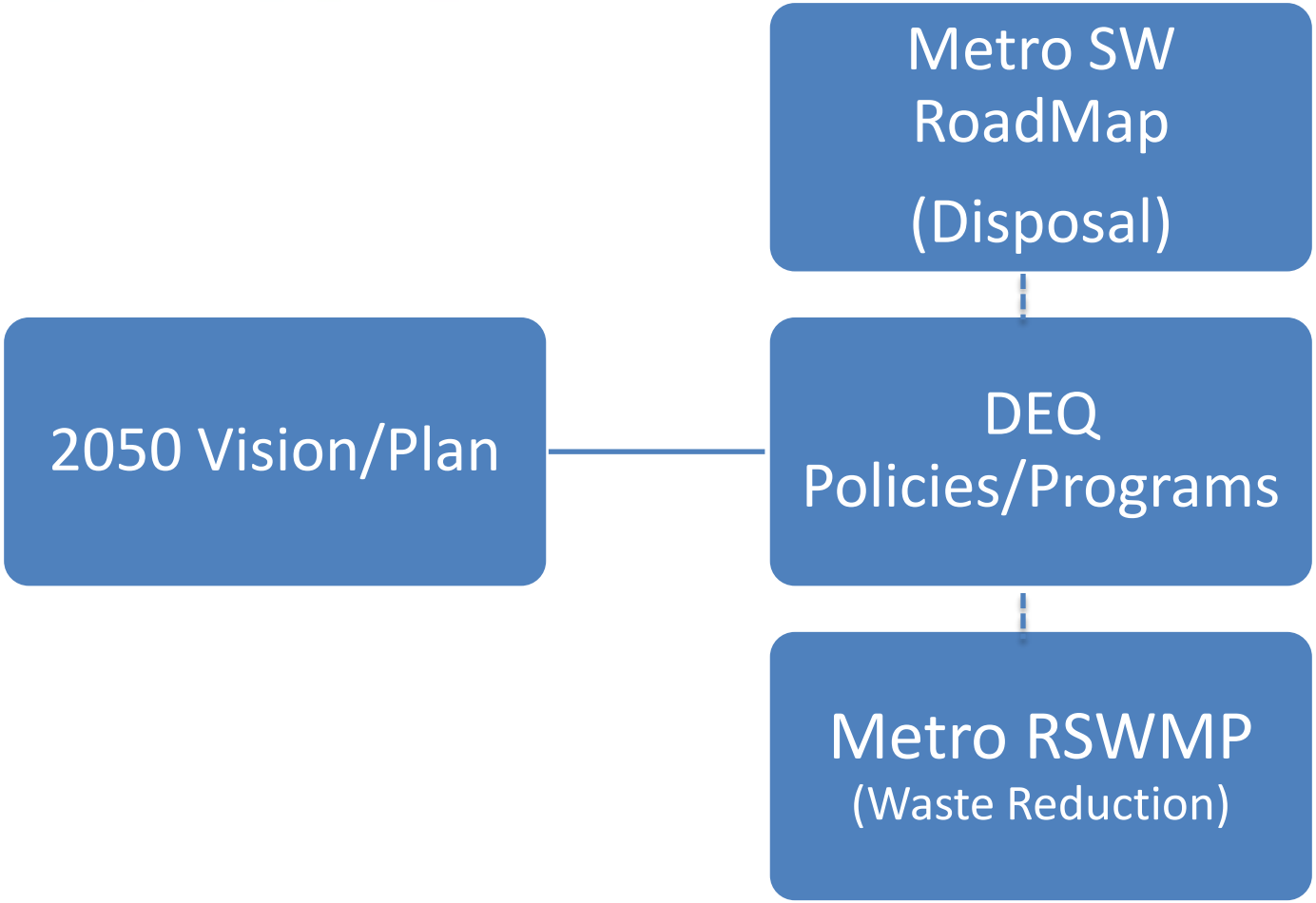

Materials Management in Oregon
2050 Vision and Framework for Action
June 2012
DRAFT
DEQ
State of Oregon
Department of
Environmental
Quality

Metro

Presentation Overview

- Why the 2050 Vision is important to Metro
- “Materials Management” vs “Waste Management”
- The 2050 Vision and Framework for Action
- Question: Should the Metro Council send a letter to the EQC supporting adoption of the 2050 Vision?

Why 2050 Vision matters to Metro



“Materials Management” vs “Waste Management”

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A lot can happen in 38 years

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The Concise Vision

Oregonians in 2050 produce and use materials responsibly, conserving resources, protecting the environment, living well.

Framework for Action

- Not detailed implementation plan
- Start prioritizing actions in January
- DEQ will reevaluate regularly

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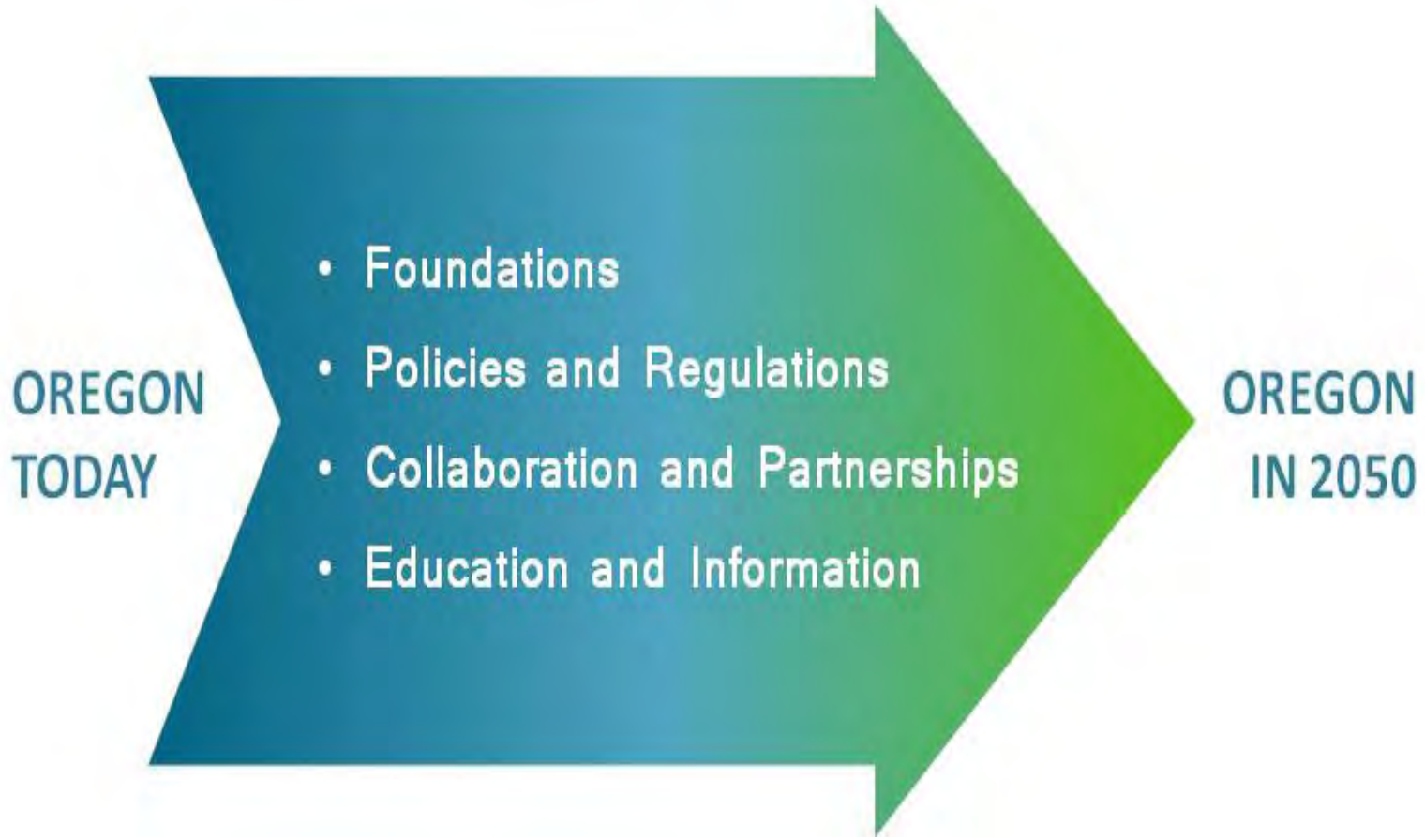
OREGON TODAY
• Foundations
• Policies and Regulations
• Collaboration and Partnerships
• Education and Information
OREGON IN 2050

Metro

Framework for Action

Building foundations for materials management

- Research
- DEQ program funding
- Information-sharing and collaboration
- Goals and measurement
- Prioritizing actions
- Internalizing environmental costs

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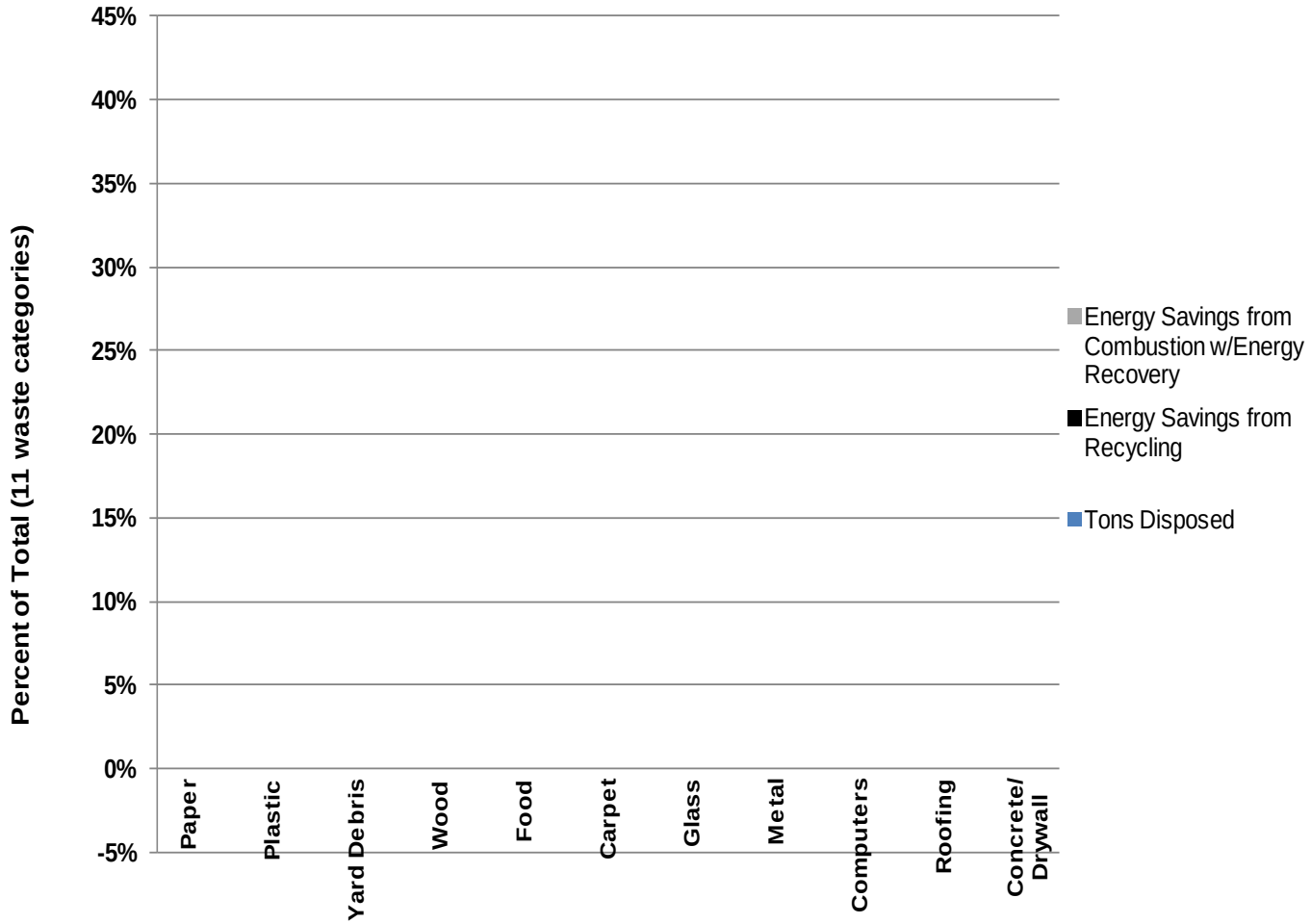
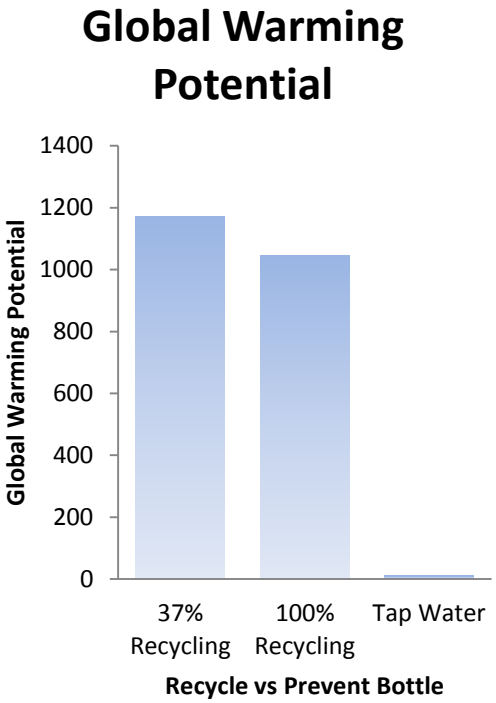
Sample Research Action

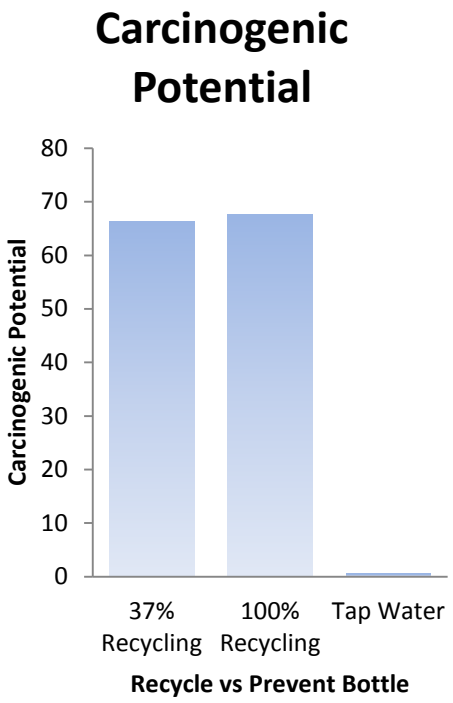
Disposed waste by energy savings opportunity



Sample Research Action

Product impacts: Recycling vs Prevention





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Next Steps

- **Dec. 2013:** EQC Hearing
- **Jan. – June 2013:** Prioritize Actions
- **July 2013 – 2018:** Phase 1 Actions
- **2019 – 2029:** Phase 2 Actions

Metro Council Question

Should the Metro Council send a letter to the EQC supporting adoption of the 2050 Vision?

Questions?

METRO BROWNFIELD SCOPING PROJECT

Metro Council

Return on Investment & Executive Summary

October 23, 2012

MAUL FOSTER ALONGI

Agenda

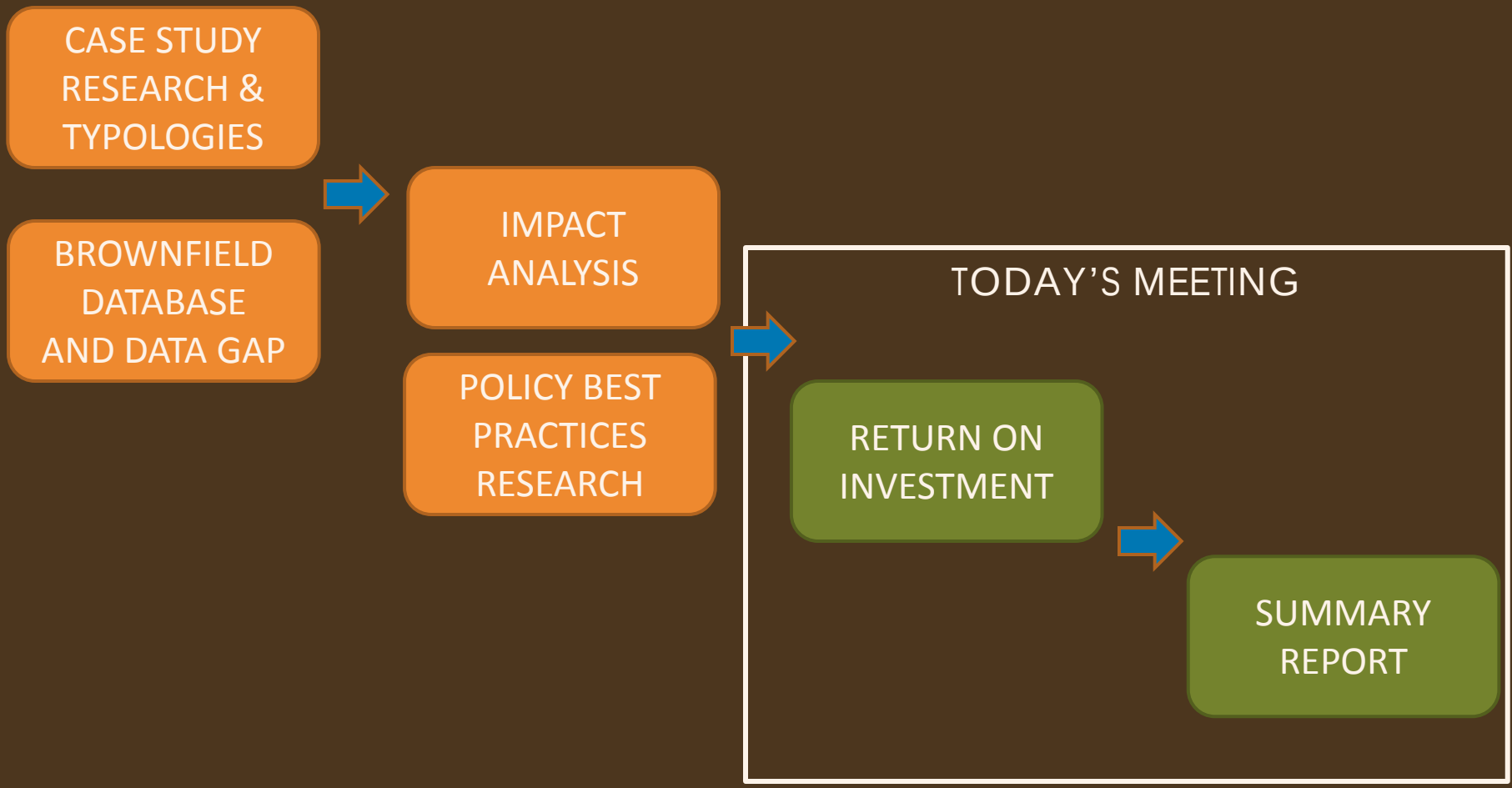
- Overview of work program
- Summary of key findings
- Review Return on Investment Analysis
- Discuss policy options

Purpose and key questions

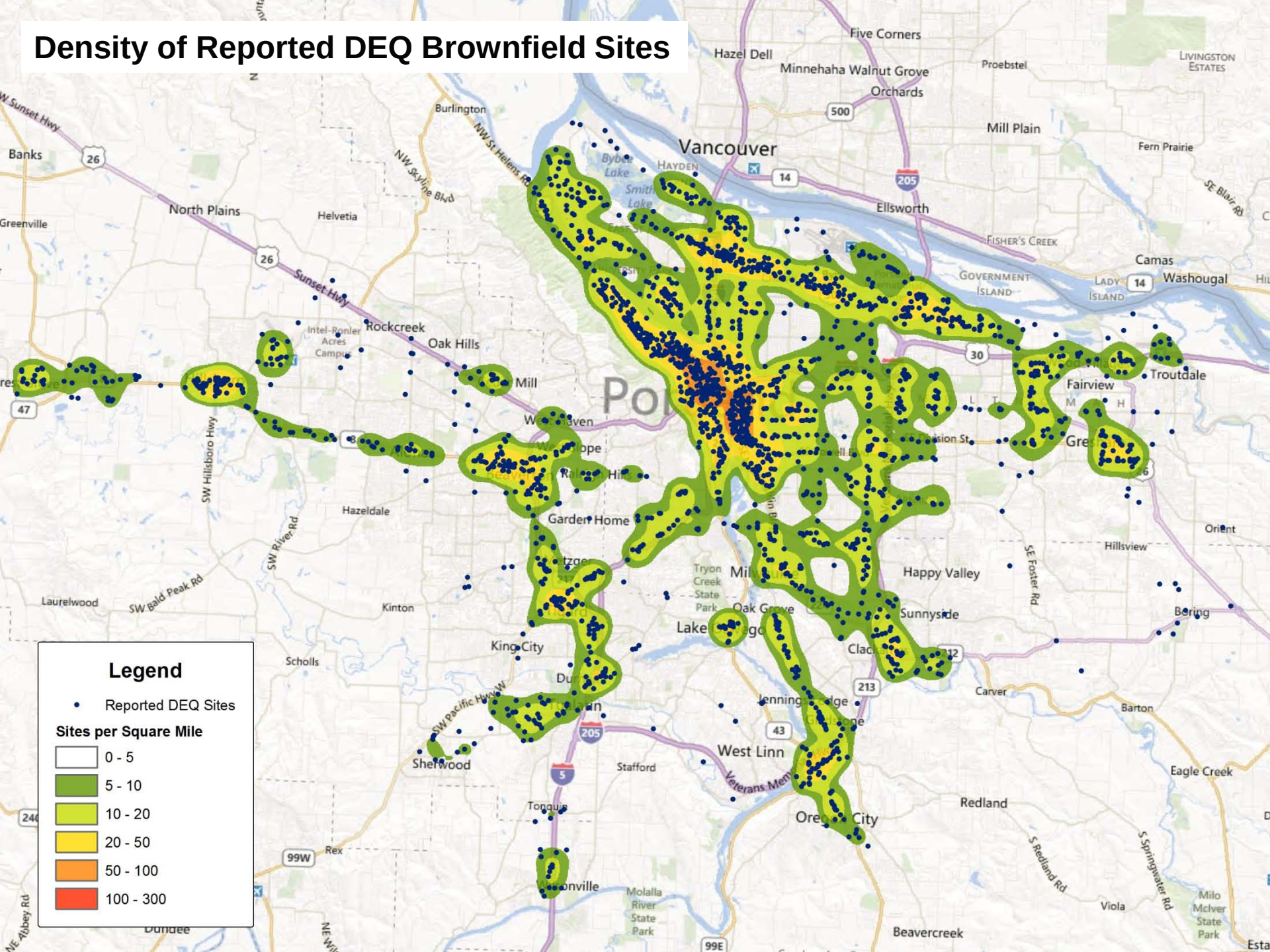
Understand the scale and impacts of brownfields in the region and the possible solutions to redeveloping these sites.

- How many brownfields?
- What is the range of costs to clean up?
- What are the benefits of remediation?
- What are the implications for growth management policy?
- What tools can be applied to address the challenge?

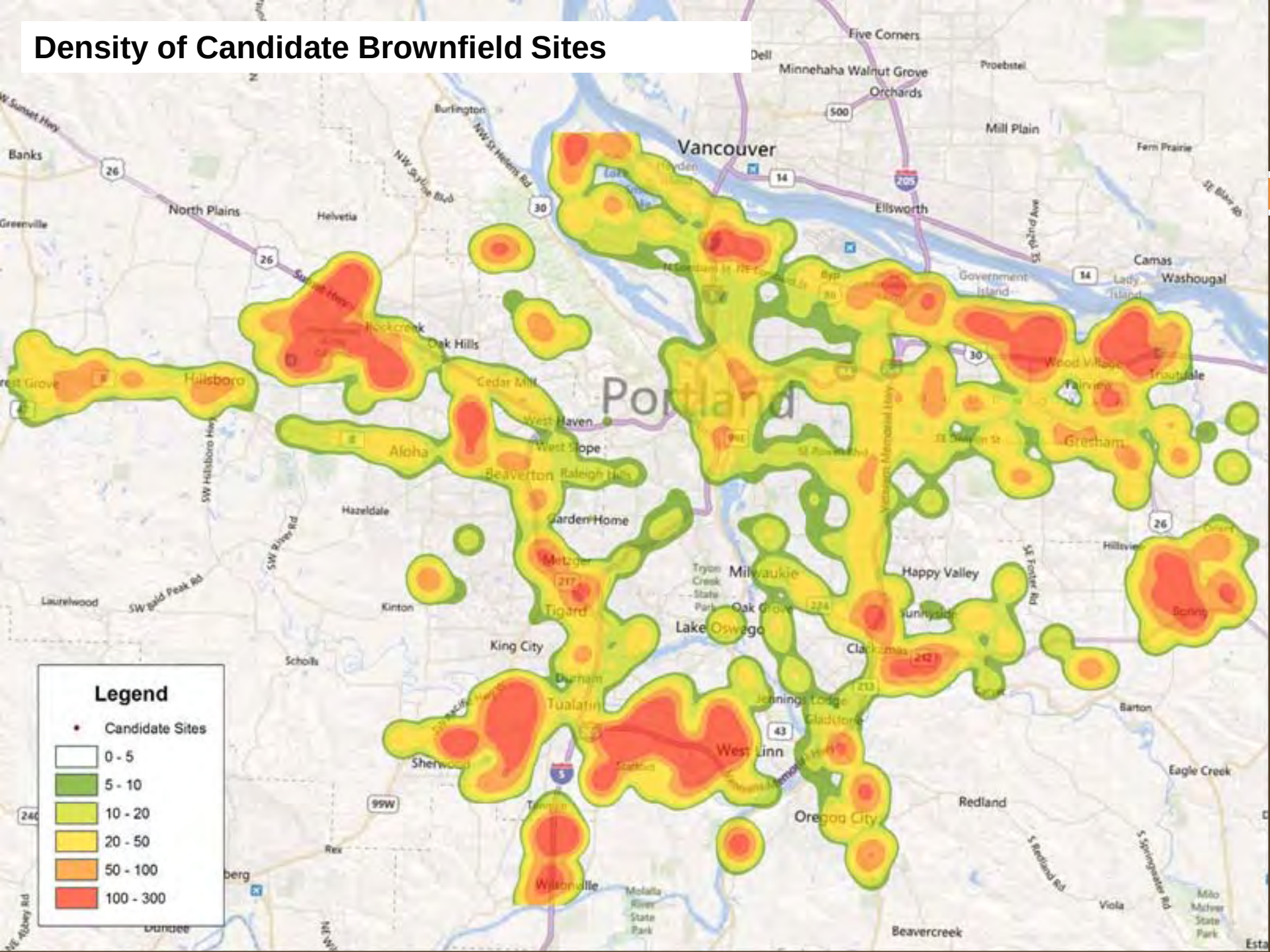
Work Program



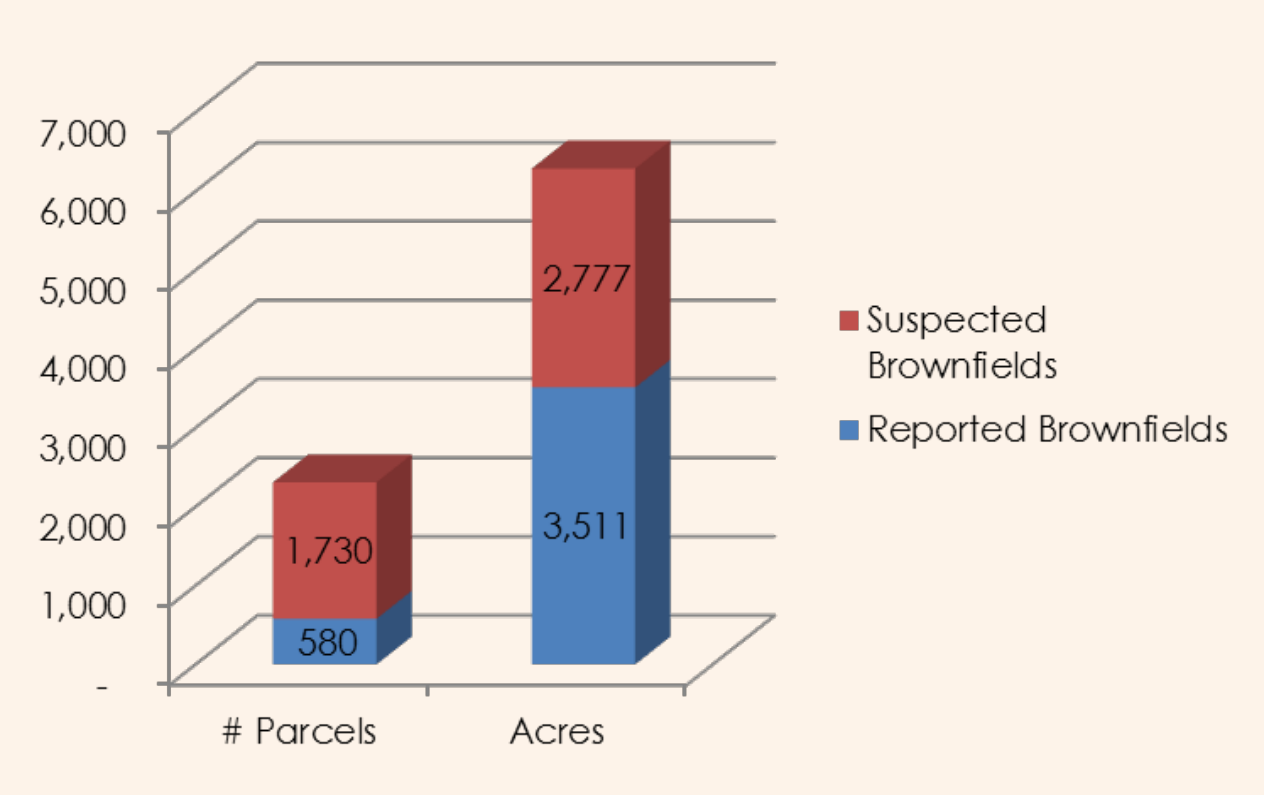
Density of Reported DEQ Brownfield Sites



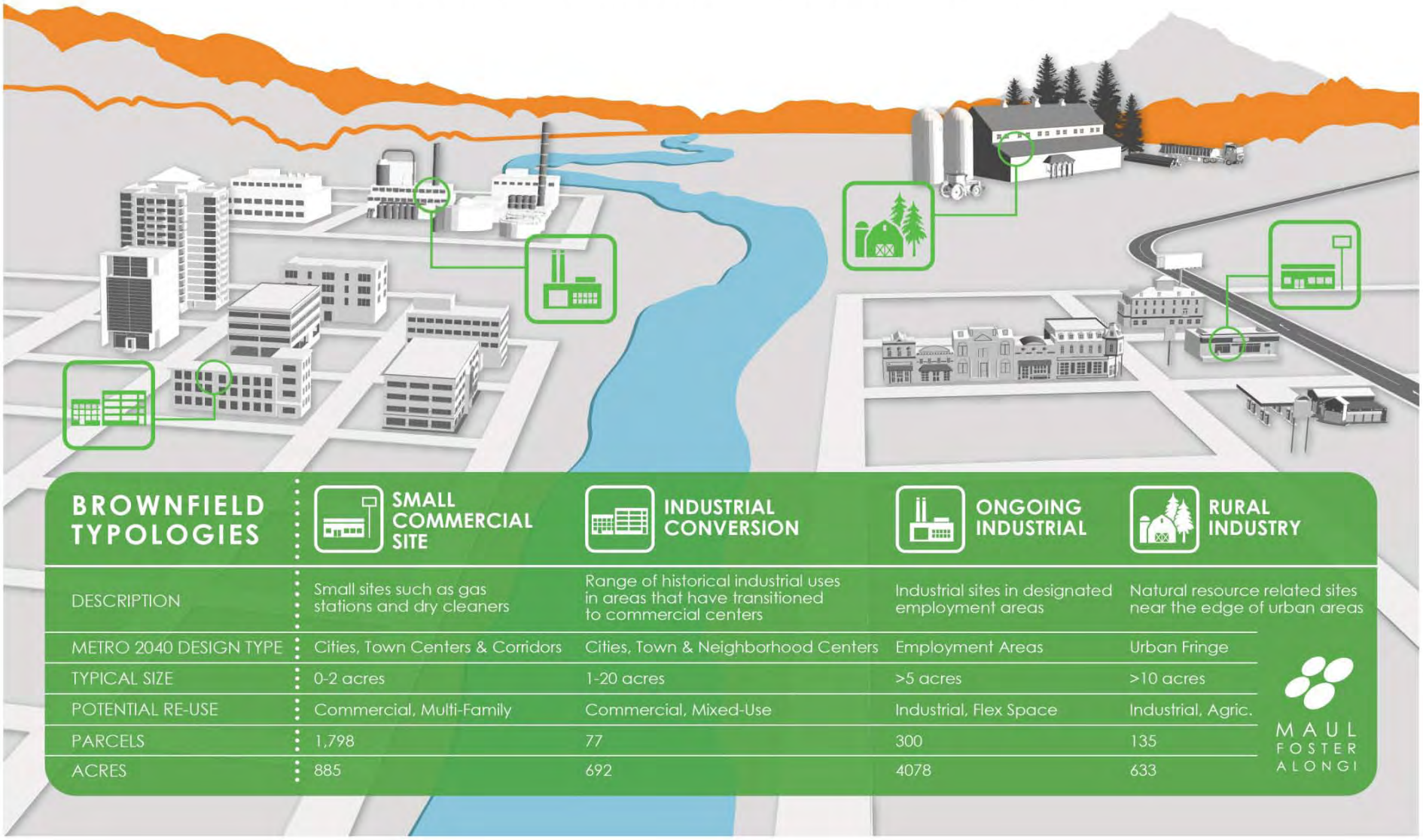
Density of Candidate Brownfield Sites



Total Brownfields



METRO BROWNFIELD TYPOLOGIES

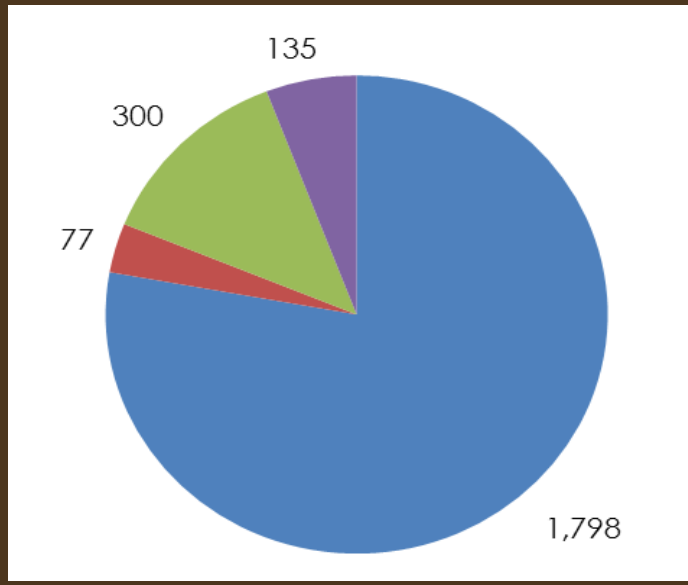


BROWNFIELD TYPOLOGIES	SMALL COMMERCIAL SITE	INDUSTRIAL CONVERSION	ONGOING INDUSTRIAL	RURAL INDUSTRY
DESCRIPTION	Small sites such as gas stations and dry cleaners	Range of historical industrial uses in areas that have transitioned to commercial centers	Industrial sites in designated employment areas	Natural resource related sites near the edge of urban areas
METRO 2040 DESIGN TYPE	Cities, Town Centers & Corridors	Cities, Town & Neighborhood Centers	Employment Areas	Urban Fringe
TYPICAL SIZE	0-2 acres	1-20 acres	>5 acres	>10 acres
POTENTIAL RE-USE	Commercial, Multi-Family	Commercial, Mixed-Use	Industrial, Flex Space	Industrial, Agric.
PARCELS	1,798	77	300	135
ACRES	885	692	4078	633

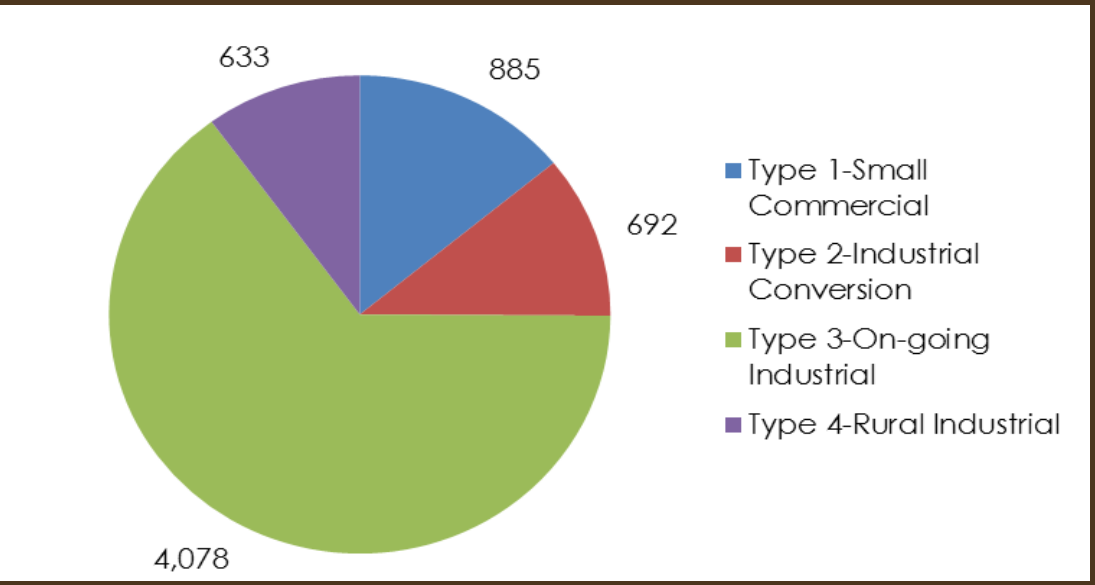
MAUL FOSTER ALONGI

Total Brownfields by Typology

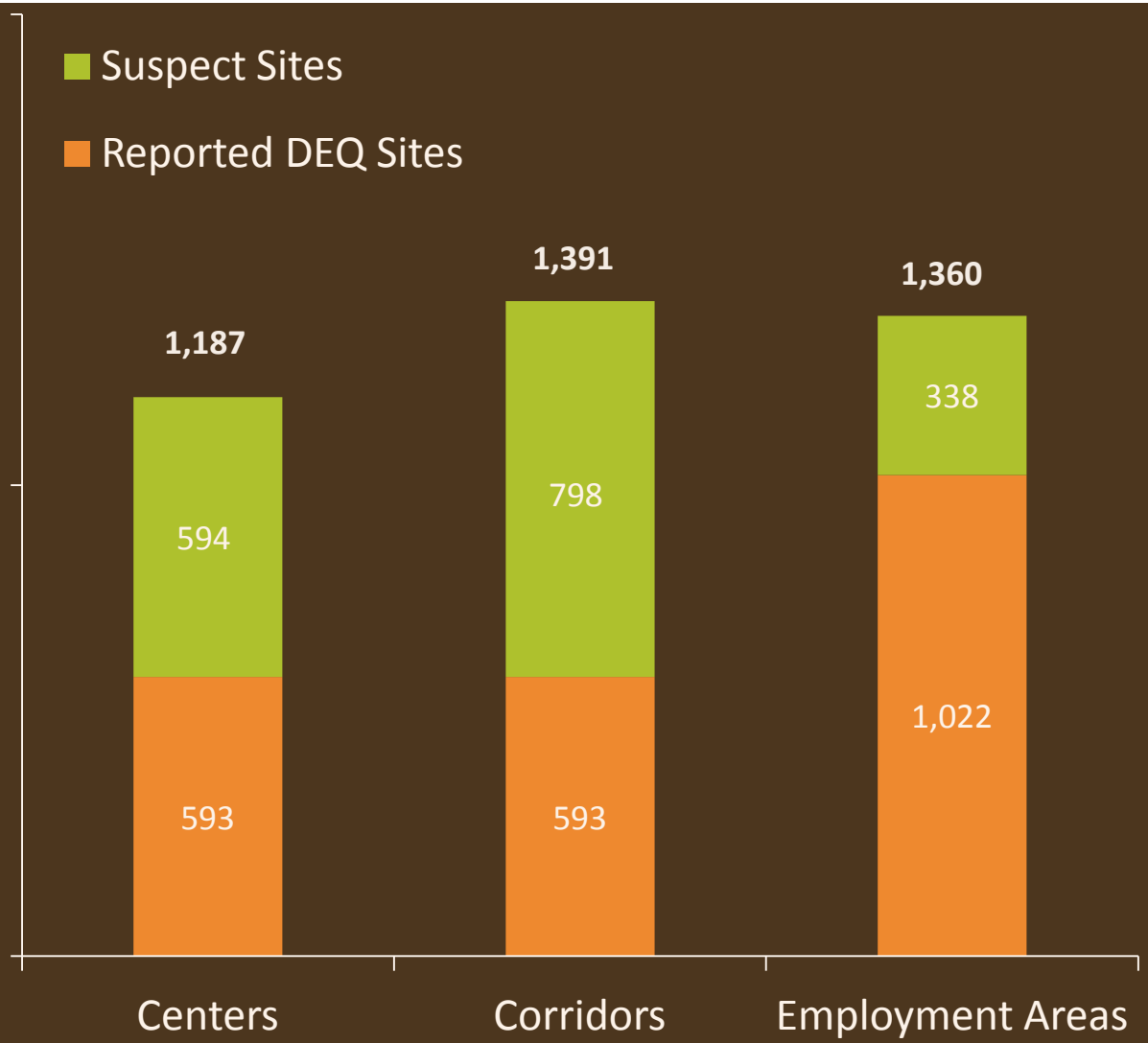
Sites



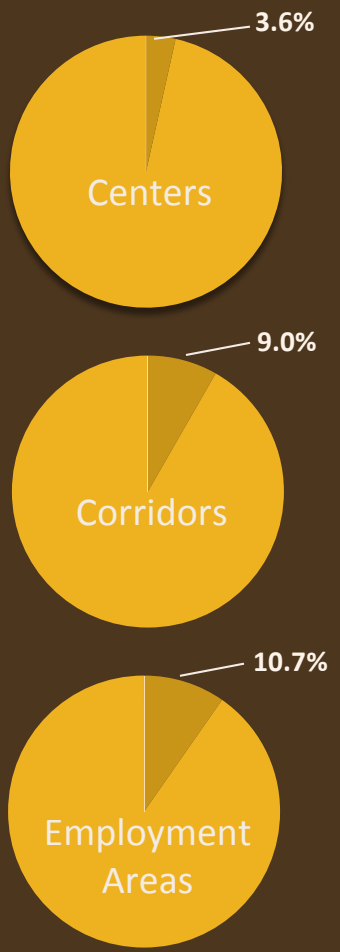
Acres



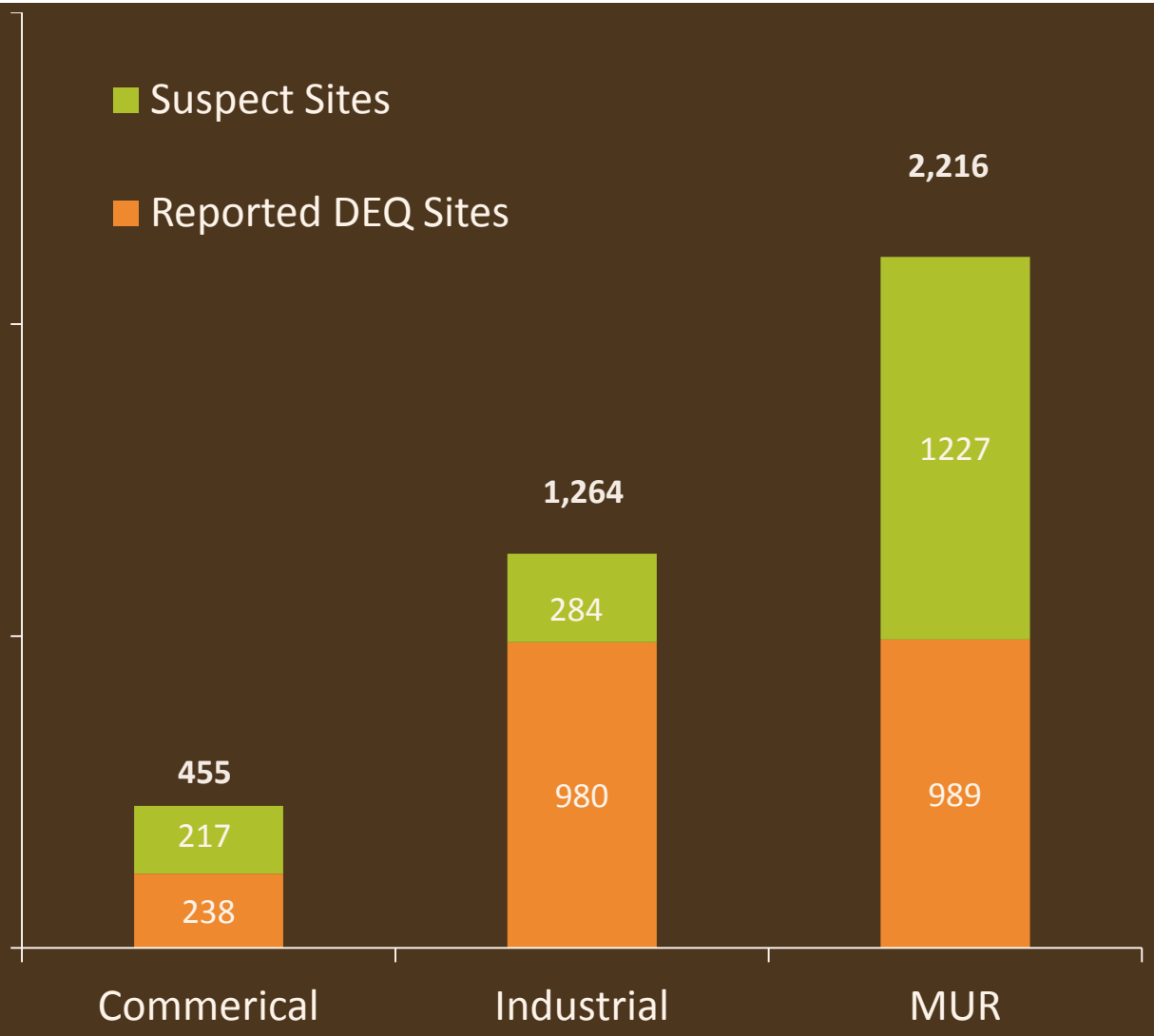
Brownfields in 2040 Design Types

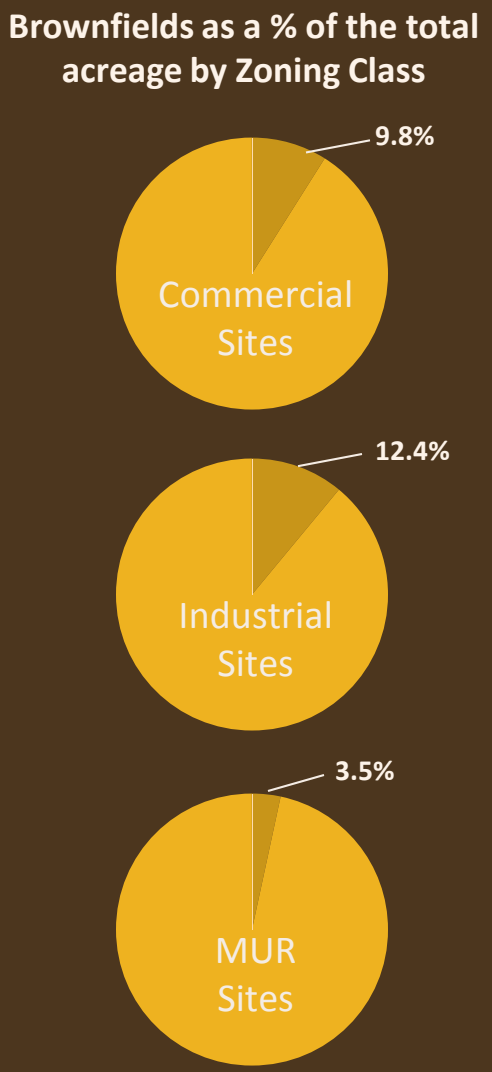


Brownfields as a % of the total acreage by Design Type

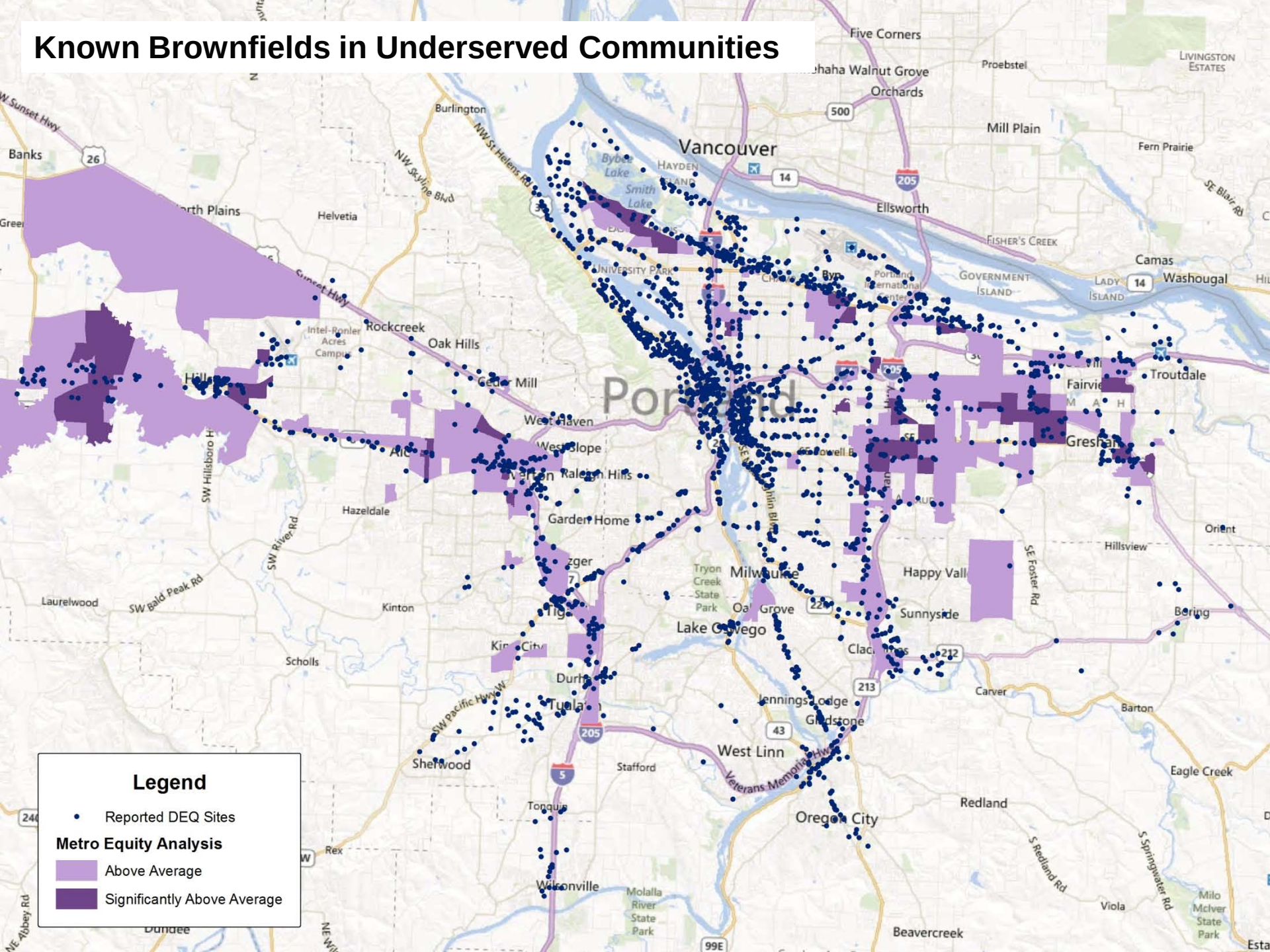


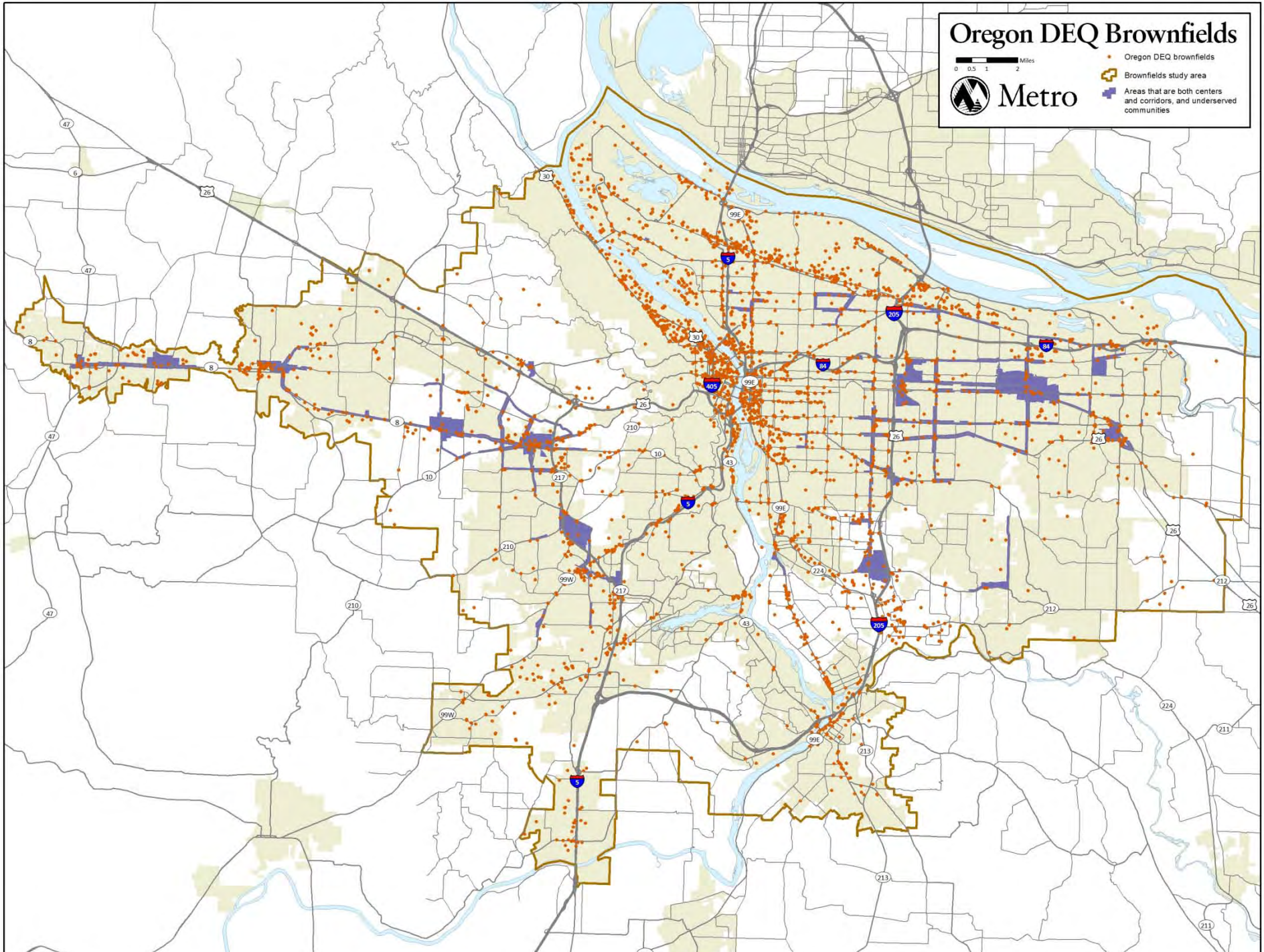
Brownfields by General Zoning Class





Known Brownfields in Underserved Communities




Oregon DEQ Brownfields
Miles
0 0.5 1 2
Metro
Oregon DEQ brownfields
Brownfields study area
Areas that are both centers and corridors, and underserved communities

Primary Challenges

- Financial costs
- Risk and uncertainty
- Disconnect between cleanup & redevelopment
- Regulatory process

Policy Tools

Create Tax Incentives

- Remediation Tax Credit
- Property Tax Abatement
- Contaminated Property Tax Assessment Reform

Build Capacity

- Public Land Bank
- Dedicated Brownfield Fund
- Integrated Planning and Site Assessment Grants

Streamline Regulatory Framework

- Land Use Regulatory Flexibility
- One Stop Shop

Tax Incentives

- Remediation Tax Credits - property owners and developers decrease their business or personal income taxes by a percentage of the documented costs of conducting a cleanup
- Property Tax Abatement- extends the existing incentives of Enterprise Zones to provide a property tax break for the initial years of a brownfield redevelopment project.
- Contaminated Property Tax Assessment Reform – place limit on the value reduction allowed for costs of environmental liability

Capacity Building

- Public Land Bank - creates a public entity with the resources and long-term perspective to acquire and reposition brownfield properties

- Dedicated Brownfield Cleanup Fund— A dedicated revenue stream for cleanup could dramatically increase the ability of local governments or a land bank to revitalize properties.

- Integrated Planning and Site Assessment Grants— Existing brownfield funding programs focus exclusively on cleanup, but many of these projects are driven by market demand for redevelopment.

Regulatory Streamlining

- Regulatory Flexibility— Increased flexibility in allowing broader land uses for underutilized sites could be considered if the cost of achieving a given use is an impediment to revitalization.

- One Stop Shop— An inter-agency panel could be established for brownfield sites to coordinate permitting and connect projects to financial incentives.

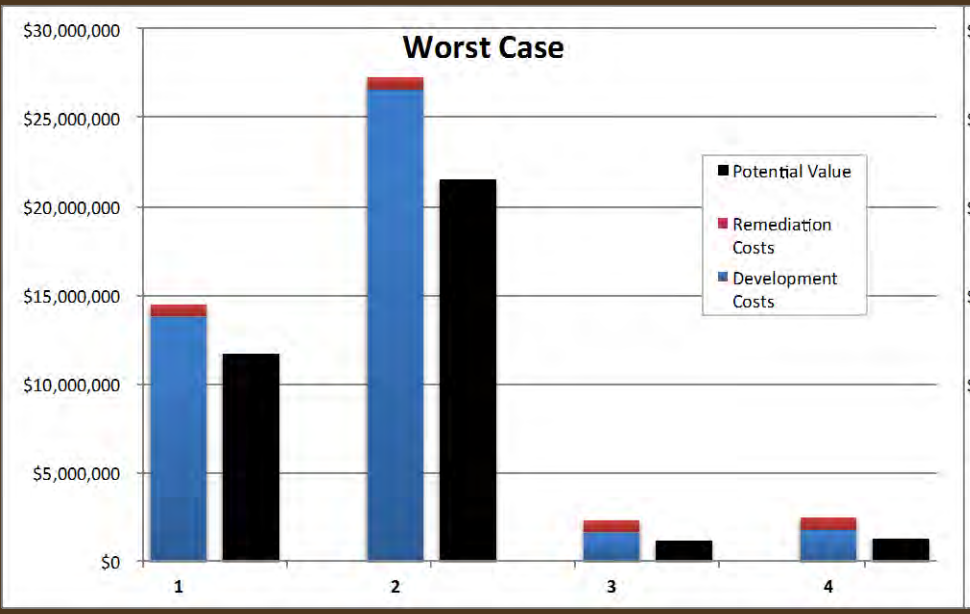
ROI Purpose

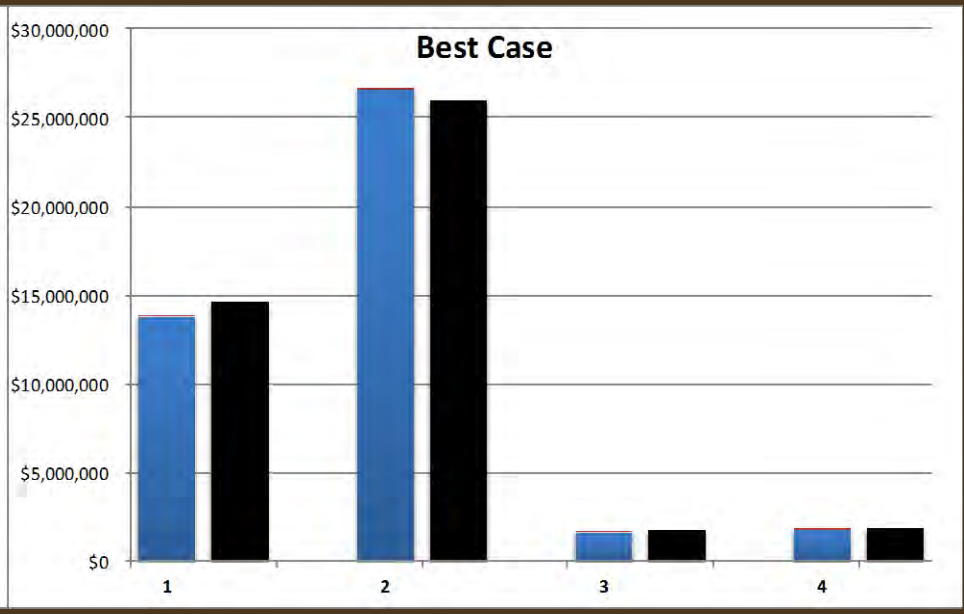
- Which policy tools provide the greatest return
  - Acres of redeveloped brownfields
  - Square feet of new development
  - Space for new jobs
  - Space for new housing units
  - Increased property tax and income tax revenue

Current Feasibility

Typology	Upside down	Close to tipping point	Already feasible	Sum by Typology
1	3%	54%	44%	100%
2	0%	100%	0%	100%
3	33%	67%	0%	100%
4	100%	0%	0%	100%
Total	**24%**	**47%**	**29%**	**100%**

Per-acre Financial Gap





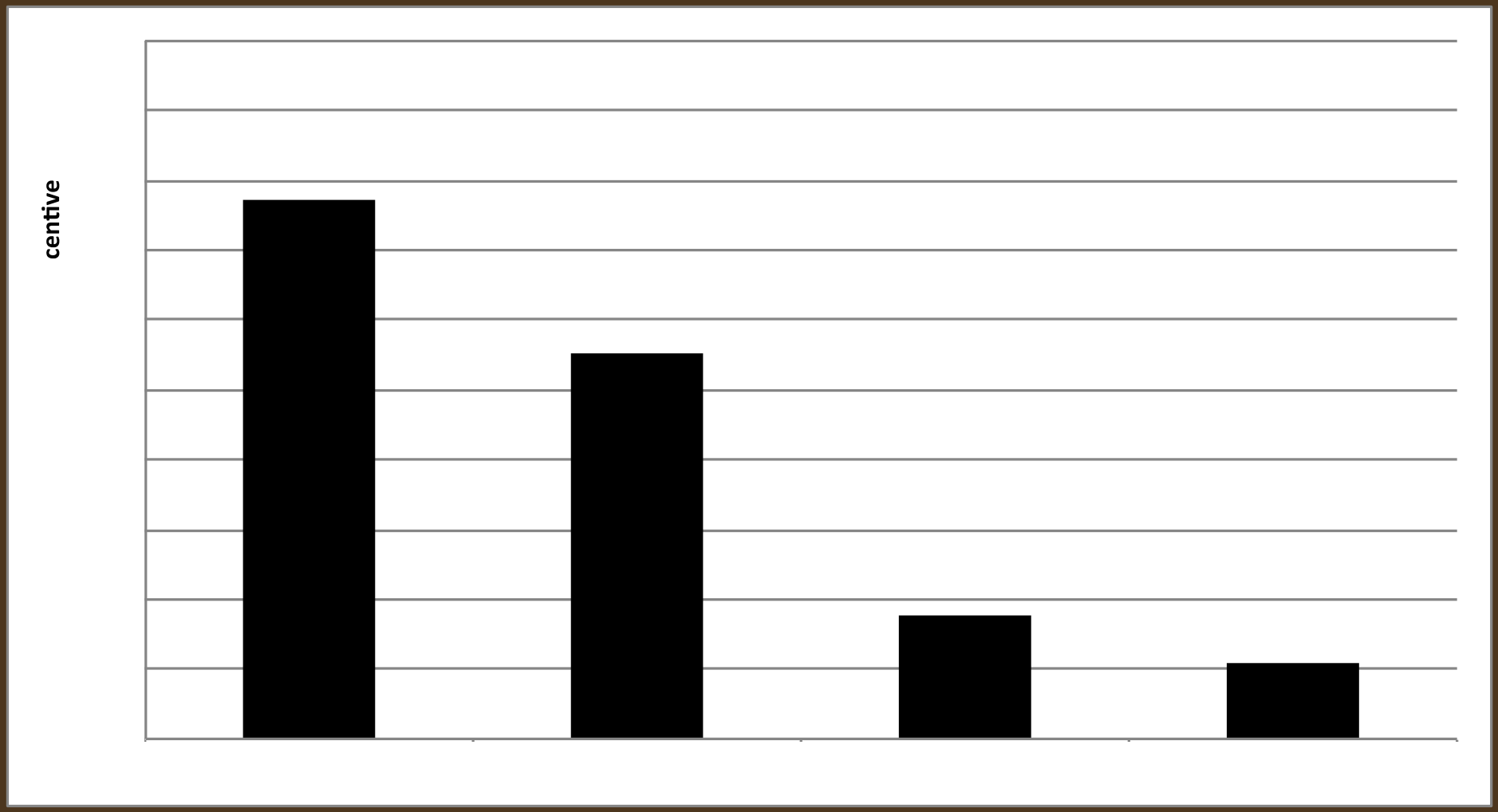
ROI – Results

POLICY TOOLS	ACRES REDEV-ELOPED	TOTAL AREA OF NEW BUILDING (Sq. Ft.)	NET NEW JOBS	DWELLING UNITS	ANNUAL TAX REVENUE ($)	
					PROPERTY TAX	PERSONAL INCOME TAX
Remediation Tax Credit	450	43,839,000	9,200	34,600	69,966,000	18,753,000
Property Tax Abatement	800	78,909,000	16,500	62,300	125,940,000	33,755,000
Dedicated Brownfield Cleanup Fund/ Integrated Grants	830	32,728,000	8,700	19,900	51,945,000	24,169,000
Land Bank	200	4,116,000	1,600	1,700	6,809,000	5,195,000
Regulatory Flexibility/One Stop Shop	400	43,001,000	8,900	34,400	68,430,000	17,738,000

ROI – Results

					Annual Tax Revenue/$m	
	Acres/$m	Total SF/$m	New Jobs/$m	Dwelling Units/$m	Property Tax	Personal Income Tax
Remediation Tax Credit	7.8	763,500	160	600	$1,218,500	$326,600
Property Tax Abatement	5.6	544,500	110	430	$869,000	$232,900
Cleanup Fund/ Integrated Grants	3.9	153,500	40	90	$243,600	$113,300
Land Bank	3.5	74,800	30	30	$123,800	$94,500

ROI – Annual Tax Revenue / Cost



ROI – Implications

- No single policy incentive will likely be sufficient to catalyze redevelopment of all the brownfields
- Policies that leverage private resources typically have higher financial ROI
  - Property Tax Abatement
  - Remediation Tax Credit
- Direct public investments have the potential to target and support challenged properties
  - Land Bank
  - Dedicated Brownfield Cleanup Fund / Integrated Planning & Assessment Grants
- Tax incentives tend to support projects that are close to financial feasibility (Type 1, Type 2)
- Regulatory streamlining can provide a large impact with relatively small public investment

Implementation

- All policies can be targeted
- Synergy between policies
- Tax Incentives require statutory changes
- Land Bank requires state enabling legislation and seed fund
- Public grant programs require legislation and funding sources
- Regulatory streamlining requires programmatic resource commitment and local policy changes

Discussion

- Should brownfield redevelopment be a priority for Metro?
- If so, what policy objectives should be prioritized to address Metro's primary goals?
- Based on these objectives, and the potential return on investment, what are the Metro Council's preferred policy options and tools?
- Do you need additional information from local partners to decide between these policy options?

Metro | *Research Center*

TRANSPORTATION RESEARCH & MODELING SERVICES

Summary of 2011 Travel Activity Survey Results

SURVEY CHARACTERISTICS

Survey completed 2011

- Last survey record – December 2011
- Data delivered to Metro – May/June 2012

Why so long since last survey (1994)?

- Transit mall construction/MAX Green line completion
- Difficulty in securing funding
- Coordination with other state MPOS and ODOT

How is survey data used?

- Ensure that travel model reflects the correct value system of the travelers (elasticities between variables – time v. cost v. demographics v. urban form)
- Create large scale snapshot of travel characteristics. Not possible to report characteristics at fine grain geographies due to constrained sample size (see below).

Number of households

- Multnomah/Clackamas/Washington counties – appx 4800 households
- Clark county – appx 1650 households
- Less than 1% sampling rate

Sampling method

- Choice based methods – certain types of households and modes were oversampled in order to gain statistically relevant information about the specific group

Data capture techniques – place survey v. activity survey

- Activity survey (1994) – listed all personal activities of the day – eating, home maintenance, work (in home or not), etc. Question stream: "What did you do next? Where did that activity take place?" Solicited detail led to fatigue and non-reported information. "Time use" surveys were in vogue then.
- Place survey (2011) – focus on places – Question stream: "Where did you go next? What did you do when you went to that place?" This technique is more intuitive and direct – leads to more complete reporting.
- Visual mapping utilized when data captured – survey questioner could "see" the place location on a map – leads to more trip chain continuity and accurate placement of places

Confidentiality

- The information captured is sensitive
- Safeguards are in place to preserve confidentiality

PERSON TRIP MAKING

How many trips are made from households per day?

9.2 trips per HH per day

Note: 2011 v. 1994 rates appear comparable, given the variance in survey methodologies.

What influences trip making?

HH size

- 1 person hh – 3.3 trips per day
- 2 person hh – 6.2
- 3 person hh – 11.4
- 4 person hh – 17.5
- 5 person hh – 22.8
- G.T. 5 persons per hh – 26.8

Income

- L.T $35K – 6.9 trips per day
- $35K to $75K – 8.7
- G.T. $75K – 11.6

Number of children

- 0 children – 5.6
- 1 child – 14.0
- 2 children – 17.4
- G.T 2 children – 25.0

Household vehicles

- 0 veh – 5.3
- 1 veh – 6.5
- 2 veh – 10.9
- 3 veh – 11.9
- G.T. 3 veh – 12.1

CROSS-COLUMBIA RIVER TRAVEL PATTERNS

Who uses the Columbia River bridges?

	2011
Pct of Clark County travelers to Clackamas, Multnomah, or Washington counties:	17.9%
Pct of Clackamas, Multnomah, or Washington County travelers to Clark county:	2.0%

AUTO

How has regional mode share for persons in autos changed?

	1994	2011
Commuter	90.0%	80.9% (820,000)
All	87.3%	83.7% (5,730,000)

How has mode share for persons in autos going to the CBD changed?

	1994	2011
Commuter	58.4%	43.9% (30,000)
All	56.3%	46.0% (120,000)

Who forms carpools?

	2011
Intra-household members	85%
Non-household members	15%

How big are carpools?

	2011
2 persons	67%
3 persons	22%
4 persons	8%
5+ persons	3%

Has VMT per driver changed since 1994?

1994	2011
21.1	17.1

Has VMT per HH changed since 1994?

1994	2011
30.9	22.7

Has average trip length (miles) changed?

1994	2011
5.1	4.4

TRANSIT

How has regional transit mode share changed?

	1994	2011
Commuter	5.6%	10.9% (110,000)
All	2.9%	4.2% (290,000)

How has transit mode share to the CBD changed?

	1994	2011
Commuter	33.6%	44.5% (30,000)
All	14.4%	21.4% (60,000)

How does transit mode share vary by place of residence?

	1994	2011
Portland CBD	15.9%	16.2%
Portland Central City (excl CBD)	10.0%	22.0%*
Portland: outside CC, E. of river to I-205	6.0%	6.0%
Portland: outside CC, W. of river	3.1%	6.1%**
Oregon suburbs	2.0%	4.2%
Clark County	1.0%	1.4%

* Why big increase? More LRT service to Lloyd Center, Goose Hollow; transit Center at Rose Quarter; streetcar to NW/SW Portland.

** Why increase? WS LRT, improved bus service.

Does vehicle ownership affect transit mode share?

	1994	2011
0 car HH	34.8%	31.3%*
1 car HH	4.5%	7.0%
3 car HH	1.5%	2.2%

*Why decrease? Car share programs and diversion to bike are possibilities. Difference could be potentially due to survey noise.

How does transit mode share vary by household income?

	2011
L.T. $25,000	9.0%
$25,000 to $75,000	4.4%
G.T. $75,000	2.3%

How does transit modes share vary by age?

	1994	2011
0 to 14	1.1%	2.1%
15 to 24	4.9%	9.5%
25 to 34	4.2%	8.2%
35 to 44	2.3%	5.3%
45 to 54	2.9%	4.0%
55 to 64	3.7%	3.5%
G.T. 64	2.1%	3.3%

NON-MOTORIZED TRAVEL

How has the walk and bike mode share for the region changed?

		1994	2011
Commuter	Walk	3.3%	3.7% (approximately 40,000 trips per day)
	Bike	1.0%	4.6% (50,000)
All	Walk	8.7%	9.2% (630,000)
	Bike	1.1%	2.8% (190,000)

How has the walk and bike mode share to and within the CBD changed?

		1994	2011
Commuter	Walk	6.4%	3.9%*
	Bike	1.6%	7.7%
All	Walk	27.4%	26.9%
	Bike	1.9%	5.8%

*Why decrease? Potentially due to switch to bike use – provides more flexibility in tours; significant transit investment – streetcar, LRT, etc.

How does walk and bike mode share vary by place of residence?

Walk	1994	2011
Portland CBD	39.5%	47.0%
Portland Central City (excl CBD)	35.6%	22.7%*
Portland: outside CC, E. of river to I-205	11.7%	16.2%
Portland: outside CC, W. of river	14.6%	10.5%**
Oregon suburbs	6.4%	7.7%
Clark County	6.9%	4.7%

Bike	1994	2011
Portland CBD	1.8%	2.5%
Portland Central City (excl CBD)	2.8%	13.0%***
Portland: outside CC, E. of river to I-205	2.0%	8.1%
Portland: outside CC, W. of river	1.3%	2.0%
Oregon suburbs	0.7%	1.5%
Clark County	1.1%	1.0%

*Why decrease? Potentially due to better transit and bike infrastructure; significant increase between cross river travel between CBD and Lloyd District (non-walk movement) is also a factor.

** Why decrease? Potentially due to more disperse development; better transit service is a factor.

*** Why big increase? Potentially due to bike infrastructure investments; people matching housing location with lifestyle choices.

Is bike ownership significant?

	2011
Pct of adults in Clack., Mult., Wash. owning a bike	28.5%

NEXT STEPS

- Use survey data to update travel models
- Prepare a report of regional travel behavior statistics
- Prepare a report of travel behavior statistics for several subareas
- Begin long term planning for small "focused topic" surveys