

Metro | Agenda

Meeting: Metro Council Work Session
Date: Tuesday, April 12, 2016
Time: 2:00 p.m.
Place: Metro Regional Center, Council Chamber

CALL TO ORDER AND ROLL CALL

- | | | |
|----------------|--|---|
| 2:00 PM | 1. CHIEF OPERATING OFFICER COMMUNICATION | |
| 2:10 PM | 2. ECONOMIC VALUE ATLAS | Elissa Gertler, Metro
Malu Wilkinson, Metro
Jeff Raker, Metro
Noah Siegel, Metro |
| 3:10 PM | 3. 2016-18 MULTI-CRITERION EVALUATION/ LEAST COST PLANNING TECHNICAL WORK PROGRAM | Jeff Frkonja, Metro
Kyle Hauger, Metro |
| 4:00 PM | 4. COUNCILOR LIASON UPDATES AND COUNCIL COMMUNICATION | |

ADJOURN

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ការគោរពសិទ្ធិពលរដ្ឋរបស់ ។ សំរាប់ព័ត៌មានអំពីកម្មវិធីសិទ្ធិពលរដ្ឋរបស់ Metro ឬដើម្បីទទួលបានក្បួនលំអររើសអើងសូមចូលទស្សនាការប្រកាស www.oregonmetro.gov/civilrights។ បើលោកអ្នកត្រូវការការបកប្រែភាសានៅពេលអង្គប្រជុំសាធារណៈ សូមទូរស័ព្ទមកលេខ 503-797-1890 (ម៉ោង 8 ព្រឹកដល់ម៉ោង 5 ល្ងាច ថ្ងៃធ្វើការ) ប្រាំពីរថ្ងៃ ថ្ងៃធ្វើការ មុនថ្ងៃប្រជុំដើម្បីអាចឲ្យគេសម្រួលតាមសំណើរបស់លោកអ្នក ។

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Agenda Item No. 2.0

ECONOMIC VALUE ATLAS

Metro Council Work Session
Tuesday, April 12, 2016
Metro Regional Center, Council Chamber

METRO COUNCIL

Work Session Worksheet

PRESENTATION DATE: 4/12/2016

LENGTH: 50-60 Minutes

PRESENTATION TITLE: Economic Value Atlas

DEPARTMENT: Planning & Development

PRESENTER(S):

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WORK SESSION PURPOSE & DESIRED OUTCOMES

- Purpose: Follow up on November work session to discuss progress on work plan and partnership development for Economic Value Atlas
- Outcome: Obtain feedback on the work plan and stakeholder engagement

TOPIC BACKGROUND & FRAMING THE WORK SESSION DISCUSSION

On November 3, 2015 staff provided Council with an overview of the focus of the Investment Areas Section of the Planning and Development Department, with an emphasis on expanding the focus beyond transit corridors to develop shared investment strategies with local partners in targeted areas in the region. Since then Metro has partnered with Clackamas County and Oregon City to apply for an EPA Brownfields Assessment grant (notice will be given to applicants in the summer) and staff have further developed a work plan to produce an Economic Value Atlas that will provide guidance and context for future work.

Investment Areas

As a reminder, investment areas are bigger than just one site. They typically involve multiple jurisdictions and are represented by diverse partners seeking to implement regional goals. Through focused work in an investment area, Metro can help create strong partnerships (city, county, private businesses, nonprofits, community organizations) to achieve desired outcomes using a variety of tools and programs that are beyond the capacity of any single entity. These partners can differ based on location and the ultimate outcome desired for a particular area. The key is flexibility, in both partnerships and resource allocation.

Thus far, investment areas have been identified as transit or mobility corridors through the Regional Transportation Plan (e.g., East Metro Connections Plan, Southwest Corridor, Powell-Division Corridor). Staff is looking to develop a framework to identify future investment areas that best achieve multiple objectives (economy, community, environmental) while also allowing for flexibility to be responsive to an area that is “ripe” for the type of attention Metro can bring by setting the table for partners to have a collaborative discussion on a shared investment strategy. One lens that can help identify future investment areas is a better understanding of the regional economy to begin to tie together major investment decisions with economic outcomes.

Connecting the Regional Economy

Better understanding the regional economy can help ensure that Metro directs investments and efforts to support regional economic development. Metro committed to developing a regional export atlas with an MTIP allocation programmed for 2012 to support the Regional Export Initiative. We’ve evolved that concept into developing an Economic Value Atlas which will be a data-

driven conversation with regional partners that can provide a common understanding of the region's traded sector or value-added economy. This Atlas will be a tool that can be used to help inform future investment decisions by defining outcomes to be achieved to support the economy across the region. It can also help define future investment areas, where regional attention can support local partners in defining and putting in place needed infrastructure, strategies, or policy changes to support economic outcomes.

Economic Value Atlas (EVA)

Federal transportation planning and programmatic requirements direct Metropolitan Planning Organizations (MPOs) to use a performance-based planning approach to ensure efficient investment of federal transportation funds, increase accountability and transparency, and improve investment decisions. Increasingly, policymakers are calling for measures of economic return-on-investment (ROI). An economic rationale is often referenced when investments are made in land use development and transportation, but this is often based on broad assumptions regarding outcomes from such investments or an isolated look at one component such as impacts on property values and associated tax revenue generation. A comprehensive assessment of economic performance is needed to evaluate whether a region's investments are responsive to changing economic and workforce conditions as well as setting a course to achieve targeted aspirations for economic inclusion, equity, and advancement.

Economic and workforce development serve a crucial role to the vitality of the Portland-Vancouver region and proactive steps are needed to secure the following outcomes:

- Competitive business productivity and efficiencies
- Inclusive economic opportunity and financial security.
- Vibrant, interconnected communities that attract and grow business and talent.
- Resilient asset and systems management.

The Economic Value Atlas will improve the region's understanding of investment impacts and help direct scarce public resources by aligning performance measures and implementation actions advanced by private sector and economic development professionals with public sector investments in infrastructure, policy development, and regulatory reforms to support regional goals. A project summary is attached.

The 2015-16 UPWP calls for a Metropolitan Export Atlas & Infrastructure Investment Action Plan to "improve the region's shared understanding of its traded sector economy as a means of informing policy and investment decisions related to multimodal freight infrastructure, workforce access, and site and district readiness." The Export Atlas was renamed to "Economic Value Atlas" to recognize a more representative spectrum of regional economic values that align with Metro and external economic and workforce development interests.

This effort supports our local partners in the implementation of Title 4 of the Urban Growth Management Functional Plan, which requires local jurisdictions to protect and provide infrastructure to industrial and employment areas and Title 6 to inform jurisdiction actions and investments to enhance Centers, Corridors, Station Communities or Main Streets. The EVA will incorporate input from key stakeholders (e.g. Greater Portland Inc., Work Systems Inc., counties, cities, Ports, community development organizations, and traded-sector companies) to define shared economic metrics that support:

- Identifying future investment areas and refined approaches to community investment by Metro's Investment Areas Division.
- Inform economic development criteria to be part of the Regional Transportation Plan (RTP), Regional Flexible Funding Allocation (RFFA), and Metropolitan Transportation Improvement Program (MTIP) project selection and decision-making processes.

- Updating and enhancing data integration and metrics to support implementation of Greater Portland 2020, GPI business development efforts, and other economic and workforce development evaluations and initiatives.
- Expanding opportunities for competitive funding such as federal and other grant resources (e.g. EDA Public Works and Economic Adjustment Assistance Program).
- Background research to support future multi-criteria analyses by Metro's Data Resource Center.

Metro, together with key partners and stakeholders, will begin by developing an Economic Value Atlas (EVA) that serves as a spatial representation of growth, decline and productivity levels of traded-sector industries and exports; workforce capacities and conditions of economic inclusion and exclusion; key assets and capacities for economic growth; and infrastructure system and supply chain access, connectivity and resilience. The EVA will provide a spatial understanding of the region's economy as well as the information to create a more robust data-based tool for estimating economic outcomes from public investments in transportation and other infrastructure investment scenarios.

The following progress has been made since staff last presented to the Metro Council in November 2015:

- Developed a draft work plan for the Economic Value Atlas along with early exploration of how this work can both build a common language around economic and workforce development as well as enhancing Metro's role in supporting such efforts in the long-term.
- Initiated internal discussions to ensure that the Economic Value Atlas is developed in a manner that supports future multi-criteria evaluation, potential adjustments to the scoring criteria as part of the MTIP and RFFA process, RTP updates, as well as the identification of future investment areas.
- Began a Listening Tour to discuss key constraints/opportunities and recommendations for priorities among partners with specific economic and workforce development interests.
- Reviewed peer MPO's approaches to economic development to explore best practices and identify opportunities for improved coordination with agency-wide planning activities.

Anticipated upcoming work tasks include:

- Additional informal outreach to key partners and participation in partner meetings/events.
- Presentation and discussion with Metro Advisory Committees.
- Contract consultant services.
- Complete peer review and research on pertinent data from relevant reports and plans.
- Convene EVA Task Force that will guide the project and coordination with relevant external advisory committees and leadership.

QUESTIONS FOR COUNCIL CONSIDERATION

- What questions does Council have regarding the Economic Value Atlas?
- How would Council advise us to communicate with key partners and stakeholders?
- How would Council like to be involved with communicating with key partners and stakeholders?

PACKET MATERIALS

- Would legislation be required for Council action Yes No
- If yes, is draft legislation attached? Yes No
- What other materials are you presenting today?
 - Economic Value Atlas (EVA) Project Summary and Work Plan

METRO ECONOMIC VALUE ATLAS (EVA) - DRAFT MARCH 2016

ECONOMIC VALUE ATLAS PROJECT SUMMARY

OUR VISION

A strong regional economy is an important component of the region's 2040 Vision and one of the Council's adopted outcomes of a successful region. Increasingly, policymakers are calling for measures of economic return-on-investment (ROI). An economic rationale is often referenced in regards to public investments in land use development and transportation, often based on broad assumptions regarding outcomes or an isolated look at a single component such as impacts on property values and associated tax revenue generation. A comprehensive assessment of economic performance will help reveal whether the region's investments are responsive to changing economic conditions and help set a course to achieve regional goals.

Economic and workforce development serve a crucial role in maintaining and enhancing the vitality of the Portland-Vancouver region. This effort to develop an Economic Value Atlas is an important step towards the following outcomes:

- Competitive business productivity and efficiencies,
- Inclusive economic opportunity and financial security,
- Vibrant, interconnected communities that attract and grow business and talent, and
- Resilient asset and systems management.

Metro and its partners in the region will be more effective in understanding investment impacts and directing limited public resources if performance measures and implementation actions advanced by private sector and economic development professionals are aligned with public sector investments in infrastructure, policy development, and regulatory reforms to support regional goals.

HOW DO WE ACTUALIZE THIS VISION?

To achieve these outcomes, the region needs to leverage and enhance existing economic and workforce strategies and build a shared understanding of specific economic conditions and needs across the region and its sub-markets. The Economic Value Atlas (EVA) and related products support the above outcomes by advancing on the following:

- Market assessment to paint a picture of the region's value economy, including data that evaluates the traded-sector economy, exports and supply chain conditions, and major employment and wage growth opportunities, as well as exploring datasets and indicators that will support sub-regional evaluations.
- Spatially mapping relative conditions and economic advantages among sub-regional geographies.
- Identifying where public and private resources can be directed to support key economic outcomes.
- A typology of sub-regional markets that will inform the delivery of prospective investments in infrastructure, land management/development, and other economic/workforce development actions.
- Align with and support local economic development plans and ambitions.

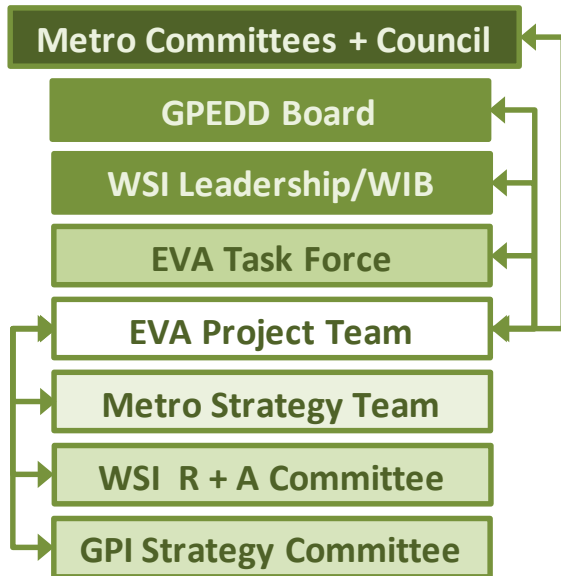
APPLICATIONS IN THE REGION

Findings from this work will inform important activities and policy development initiatives in the region:

- Refine approaches to community investment by Metro's Investment Areas Division.
- Updates to Metro's Regional Transportation Plan and related project evaluation criteria.
- Implementation and performance monitoring of Greater Portland 2020 and GPI business development.
- Local and regional efforts to secure federal grants and other financial resources in support of key projects.
- Background research to support future multi-criteria evaluation by Metro's Data Resource Center.

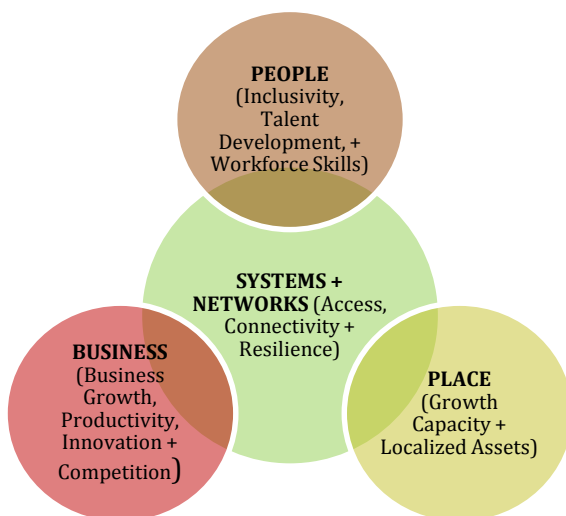
METRO ECONOMIC VALUE ATLAS (EVA) - DRAFT MARCH 2016

PROJECT FRAMEWORK + STRUCTURE



PROSPECTIVE ORGANIZATIONAL STRUCTURE

This chart represents a potential structure to ensure input and engagement of Metro Council and Committees as well as key economic and workforce development interests in the region. A task force will be formed to guide the development of the Economic Value Atlas and its prospective applications at Metro, Greater Portland, Inc. (GPI), Work Systems, Inc. (WSI), and other key economic and workforce development organizations in the region.



POTENTIAL EVALUATION FRAMEWORK

This graphic represents a potential framework to guide the development of the Economic Value Atlas. It draws from Greater Portland 2020's three core strategies (People, Business, Place) along with underlying system and network access, connectivity, and resilience needs.

METRO ECONOMIC VALUE ATLAS (EVA) - DRAFT MARCH 2016

Metro Investment Areas Economic Strategy | work schedule

Economic Value Atlas (EVA)

PHASE 1		PHASE 2		PHASE 3
PROJECT START UP	PARTNER ENGAGEMENT + BACKGROUND RESEARCH	EARLY ANALYSIS + EXPERT INPUT	FINAL ANALYSIS + TOOL DEVELOPMENT	DELIVERY + IMPLEMENTATION
Fall 2015 – Spring 2016	Spring 2016 – Summer 2016	Summer 2016 – Fall 2016	Fall 2016 – Winter 2017	2017-2018
Early Partner Engagement + Listening Tour	Kick-Off Meeting of EVA Taskforce	Acquire Input on Market Scan, Methodology + Indicators	Build Draft EVA + Mapping Tools	Metro + GPI Committee Endorsement
Finalize Project Team + Organizational Structure	Establish EVA Methodology + Indicators	Early Spatial Mapping of Sub-Regional Geographies	Acquire Input on Draft EVA + Mapping Tools	Metro Council Review
Initiate Consultant-Led Market Assessment			Develop Final EVA + Mapping Tool	
Develop Budget + Work Plan				
Deliverables				
Listening Tour	Kick-Off Task Force Mtg.	Consultant Finalizes Market Assessment	Project + Strategy Team Produce Draft EVA + Maps	Metro + GPI/WSI Review
Metro Council Work Session Presentation	Task Force Reviews Draft Market Assessment	Metro + GPI/WSI Committees Review Market Scan + Analysis Methodology	TF Endorses Draft EVA + Early Mapping	Project + Strategy Team Form Implementation Plan
Project + Strategy Teams Form Budget + Work Plan	Project + Strategy Teams Produce Analysis Methods	External Engagement	Metro + GPI/WSI Committees Review Draft EVA + Maps	Application of Implementation Plan:
Consultant Initiates Market Assessment	TF Endorses Analysis Methodology:	Project + Strategy Team Form Final Indicators + Methods	External Engagement	<ul style="list-style-type: none"> Greater Portland 2020 + GPI Business Development Investment Areas 2018 RTP Update 2019-2020 RFFA LCP/MCE Framework
	<ul style="list-style-type: none"> Draft Indicators Data Acquisition Needs Analysis Methods + Mapping Tool 	TF Endorses Final Indicators + Methods	Strategy Team + TF Produce Final EVA + Mapping Tool	

Agenda Item No. 3.0

**2016-18 MULTI-CRITERION EVALUATION/LEAST COST
PLANNING TECHNICAL WORK PROGRAM**

Metro Council Work Session
Tuesday, April 12, 2016
Metro Regional Center, Council Chamber

METRO COUNCIL

Work Session Worksheet

PRESENTATION DATE: April 12th, 2016

LENGTH: 50 minutes

PRESENTATION TITLE: Multi-Criteria Evaluation (MCE) Development

DEPARTMENT: Research Center

PRESENTER(S): Jeff Frkonja, x1897, Jeff.Frkonja@oregonmetro.gov
Kyle Hauger, x1813, Kyle.Hauger@oregonmetro.gov

WORK SESSION PURPOSE & DESIRED OUTCOMES

Purpose:

This memo describes a work plan and robust cost estimate to develop a Multi-Criteria Evaluation (MCE) technical toolkit. An MCE toolkit would enhance Metro's transportation-related decision support capabilities by providing a thorough and quantitative means of assessing diverse benefits within a "triple bottom line" (economic, environmental, and social/equity) framework.

Outcome:

Obtain Council guidance for staff on how to proceed with MCE technical toolkit development.

TOPIC BACKGROUND & FRAMING THE WORK SESSION DISCUSSION

History

The Metro Council budgeted \$150,000 in FY15-16 for the Research Center (RC) to examine the potential development of a Least Cost Planning capability and thus provide Metro with enhanced transportation-related decision support tools. RC staff coordinated with Planning and Development (P&D) staff, assessed the state of the practice, and made preliminary recommendations to Council in November 2015. Staff recommendations included framing the technical toolkit in terms of Multi-Criteria Evaluation (MCE) techniques that explicitly include multiple values across a "triple bottom line" (environmental, social/equity, and economic). At that time Council expressed continued interest in the effort and requested that staff provide a more-detailed scope, schedule, and budget for further Council review. The RC hired a consulting team with experts in MCE, economics, and transportation analytics to craft a detailed work plan and cost estimate. This memo summarizes the latest staff recommendations based on the work planning done by the consultant team and RC staff in coordination with P&D staff. An additional \$150,000 for the MCE development is in the COO draft budget for the RC for FY16-17.

Recommended MCE Approach

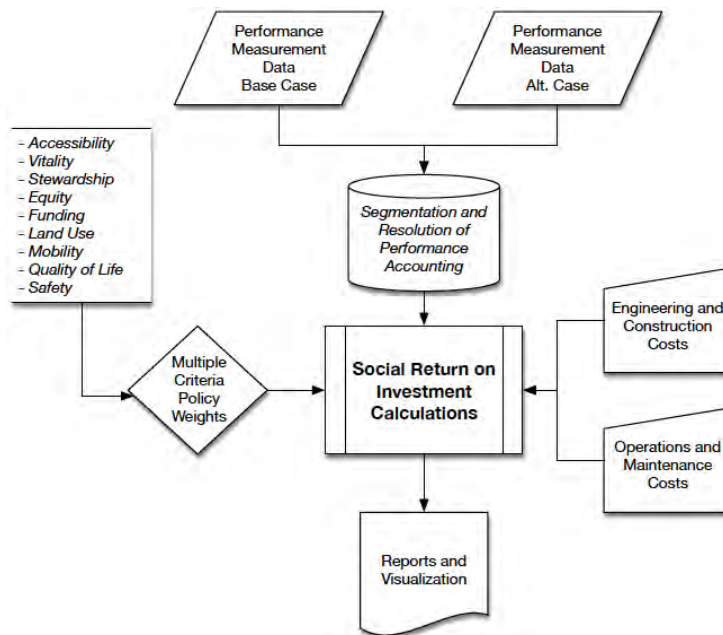
MCE would be applicable at all levels of Metro's transportation planning efforts from system-wide packages of projects and programs through corridor studies to individual major project evaluations. A Metro MCE toolkit would consider the variety of impacts to which Metro's travel demand model tools are sensitive, including an accounting of transit and bicycle investment outcomes. MCE would be designed to engage stakeholders in meaningful ways by considering both costs and user benefits in comparable terms. MCE would evaluate multiple environmental impacts (such as air, surface water, and noise impacts) and potential social benefits (such as

improved public health from increased use of active transportation) while at the same time being able to present stakeholders with an integrated “roll-up” comparison across multiple alternatives.

The conceptual elements of the recommended MCE toolkit appear in Figure 1 and include:

- Consideration of alternative scenario(s) relative to a “no action” scenario.
- Analysis of all effects of each alternative, including direct and indirect effects.
- Consistent weighting of all criteria by the decision-makers.
- Rendition of most criteria into monetary terms to ensure comparability (measures that cannot be monetized will be quantified or otherwise explicitly addressed in consistent ways).

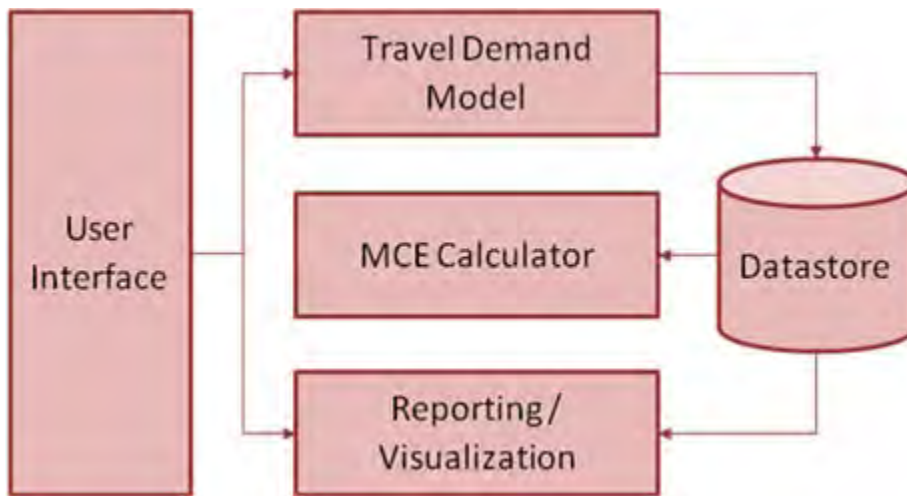
FIGURE 1 – MCE TOOLKIT CONCEPTUAL ELEMENTS



The MCE calculations in this model can be thought of as “Social Return on Investment” as represented by the center box in Figure 1. The calculator’s findings evaluate alternatives’ relative performance across the ‘triple bottom line’ by accounting for important social, environmental, and economic impacts. The “calculator” is built on benefit-cost analysis (BCA) principles and scales each criterion by decision-maker-set weights to ensure that findings reflect leaders’ priorities.

Figure 2 illustrates Metro’s proposed MCE software approach starting with the idea of leveraging Metro’s existing travel model tools. Metro’s current travel demand modeling tools operate at a level of geographic, mode, and market segmentation detail that provides a wealth of useful information for an MCE toolkit. A custom MCE toolkit will therefore harness Metro’s existing tool investments in order to produce triple-bottom-line findings relevant to the region’s planning needs. In addition the proposed toolkit will draw on related state-of-the-practice developments that incorporate the latest benefit-cost analysis (BCA) techniques plus visual reporting features that will help to communicate the analytic findings clearly to stakeholders.

FIGURE 2 – MCE TOOLKIT SOFTWARE COMPONENTS



WHAT METRO WOULD GET FROM INVESTING IN MCE TOOLS

Figure 3 compares proposed MCE measures to currently-operational RTP alternatives evaluation measures, grouped by triple-bottom-line categories. While traditional transportation metrics have addressed selected issues of safety, clean air, and VMT reduction targets MCE measurements will be designed to provide stakeholders with an even more comprehensive picture and to make disparate measures comparable in the same units of value: dollars. Key additional capabilities the MCE toolkit provides include comprehensively assessing questions of “who benefits” by providing summaries across different population groups (e.g. low-income travelers or travelers residing in areas with high minority populations) and explicitly accounting for the value that having multiple transportation choices provides to travelers

FIGURE 3 – MCE VS. EXISTING RTP METRICS

Triple-Bottom-Line Category	MCE Measures	RTP Metrics
Economic Vitality	<ul style="list-style-type: none"> • Travel time savings for all modes • Operating cost savings • Reliability savings • Auto ownership cost savings 	<ul style="list-style-type: none"> • Change in roadway system delay • Change in freight delay
Environmental Stewardship	<ul style="list-style-type: none"> • Emissions reduction benefits • Surface water management benefits • Noise mitigation benefits 	<ul style="list-style-type: none"> • Change in emissions amounts • Change in VMT • Mode Share targets for active transportation • Additions to basic infrastructure*
Social and Equity Values	<ul style="list-style-type: none"> • Value of having transportation choices • Safety benefits • Benefits by population group • Health savings from active transportation use 	<ul style="list-style-type: none"> • Affordability - combined cost of housing and transport* • Extrapolation of past safety/collision rates

** Existing metrics can still be computed as a means of helping to communicate how proposals affect stakeholders from their viewpoints*

In summary, the proposed MCE toolkit seeks to provide four overarching enhancements to Metro’s transportation decision support methods:

- Comprehensive treatment of important stakeholder and adopted Metro values;
- Ability to compare disparate criteria in common terms (dollars);
- Explicit weighting of all criteria to insure that decision-makers’ priority values properly shape the findings;
- Explicit and comparable equity-related findings.

HOW THE WORK PLAN WILL REALIZE THE GOAL OF HAVING MCE CAPABILITY

Overview & schedule

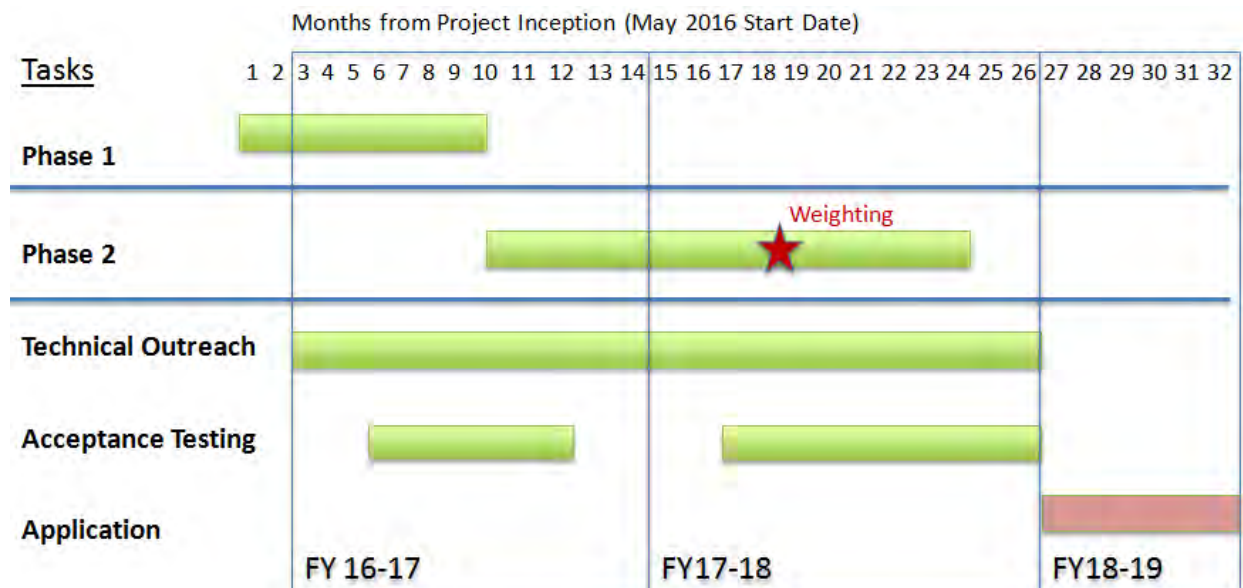
Figure 4 illustrates the MCE toolkit development timeline. The MCE tool will be developed in two phases. An optional treatment of indirect economic benefits could occur, if desired, in a later Phase 3. An underlying Technical Outreach task would run over the course of both phases to respond to technical stakeholder concerns and build cross-agency staff-level acceptance. In addition, MCE acceptance testing will be part of each phase. The tests will involve stakeholders to evaluate success and make appropriate adjustments as needed. The tests would be performed on the same scenarios for which Metro has existing measures (such as the 2014 RTP) to give staff and stakeholders a chance to “kick the tires” in low-risk ways.

Phase 1 would provide the ability to analyze most of the key monetized and non-monetized benefits, plus a detailed cost tracking capability. It would begin by borrowing work sponsored by the Federal Highway Administration on a BCA calculator and enhance that material with additional features to produce a Metro-specific MCE “social return” calculator. Phase 1 would also include a basic, prototypical results visualizer. At the completion of Phase 1 Metro will have a functional MCE toolkit, including documentation of methods and software plus a prototype visualization tool.

With most of the monetized and non-monetized benefits defined in Phase 1, Phase 2 work would enhance selected Phase 1 measures, add additional measures if needed, solicit appropriate decision-maker weighting for the criteria, and create a fully-featured, web-accessible MCE findings visualizer. At the completion of Phase 2, Metro will have a robust MCE toolkit informed by weighted criteria and a web-based visualization dashboard that enables easy scenario-to-scenario comparisons.

Once Metro and its technical stakeholders become comfortable with the MCE toolkit through the acceptance testing and technical outreach processes Metro could consider an optional Phase 3. Some regions have shown interest in examining indirect benefits such as long-term measures of job creation or changes in gross regional product. RC staff recommend waiting to address such concepts since they prompt methodological questions about whether indirect benefits measures double-count outcomes captured by direct benefits such as travel time savings.

FIGURE 4 – MCE PROJECT TIMELINE



Budget

The estimated Materials & Services (M&S) costs associated with the development of an MCE toolkit customized to the region’s existing tools and needs appears in Figure 5. That table breaks out the development costs by year of expenditure and assumes a Phase 1 inception date of May 2016. The cost estimate includes ongoing costs for consultant project management and finalization of the contractual work plan for developing the toolkit, plus a reasonable allowance for cost risk in Phase 2 (the most complex part of the project). The total estimated M&S costs for Phases 1 and 2, which would complete the MCE toolkit, weighting, and visualizer, is about \$361,000.

Existing FY15-16 and proposed FY16-17 budgeted MCE funding totals \$300,000 (mostly M&S) of which about \$20,000 total (\$10,000 of which is M&S) has been spent to conduct the state-of-the-practice review and produce the detailed budget, scope, and schedule summarized in this memo. Completing development work through Phase 2 would thus need about \$81,000 additional M&S funding in the FY17-18 budget. In addition to M&S, RC staff would spend approximately \$25,000 per fiscal year during development phases and about \$14,000 per fiscal year in ongoing maintenance after development is complete. These Personal Services (PS) amounts do not require additional FTE or additional funding. Note that this budget does *not* include expenditure for Planning and RC staff to apply the toolkit to an actual decision process.

FIGURE 5 – MCE PROJECT MATERIALS & SERVICES BUDGET

Phase	Through June 2016	Through June 2017	Through June 2018	Total
PM & Outreach	\$15,000	\$ 25,000	\$ 20,000	\$ 60,000
1	\$ 10,000	\$ 89,950	\$ -	\$ 99,950
2	\$ -	\$ 120,500	\$ 80,500	\$ 201,000
Total	\$ 25,000	\$ 235,450	\$ 100,500	\$ 360,950

Application Readiness

As mentioned above, outreach to general stakeholders as a part of a specific MCE application is *not* a part of this technical development effort and budget. Given that technical development and technical outreach will take about two years from project inception it would be realistic to expect that it could take longer for Metro’s MCE toolkit to become accepted as part of transportation planning practice in the region. Potential applications that might fit such a time frame include the 2022 RTP Update, future corridor and investment area plans; and Regional Flexible Funds Allocation or Metropolitan Transportation Improvement Program Package work in the year 2022 to 2024 range.

QUESTIONS FOR COUNCIL CONSIDERATION

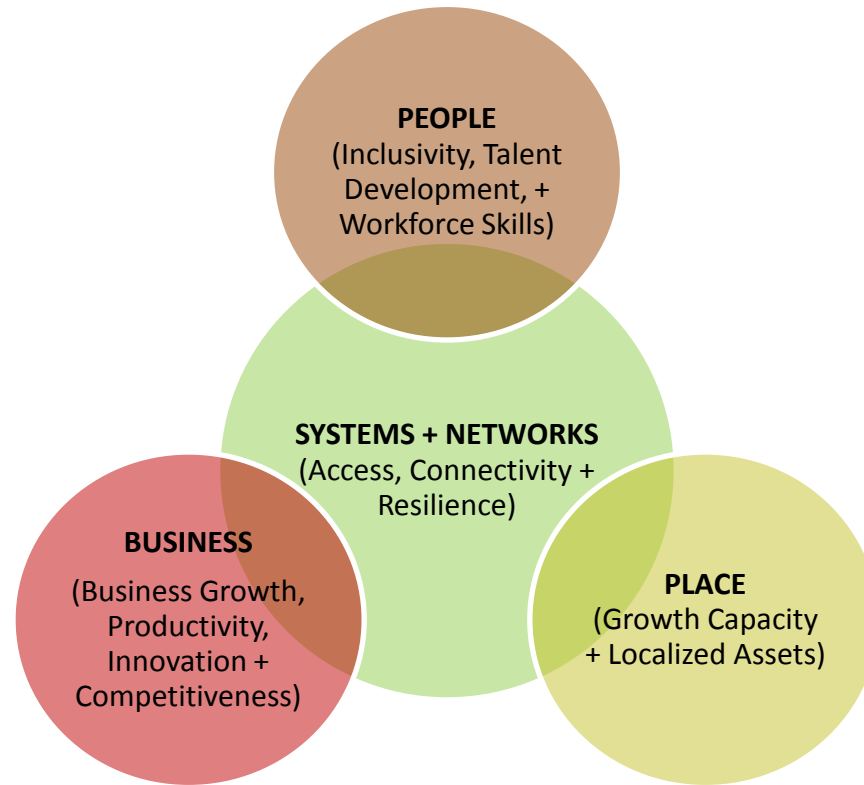
- Does the Council have any questions for staff?
- What are the Council's thoughts on how to proceed with the MCE technical development work?

PACKET MATERIALS

- Would legislation be required for Council action: **NO**
- If yes, is draft legislation attached? **N/A**
- What other materials are you presenting today? **NONE**

Materials following this page were distributed at the meeting.

ECONOMIC VALUE ATLAS



Metro Council Work Session – April 12th, 2016

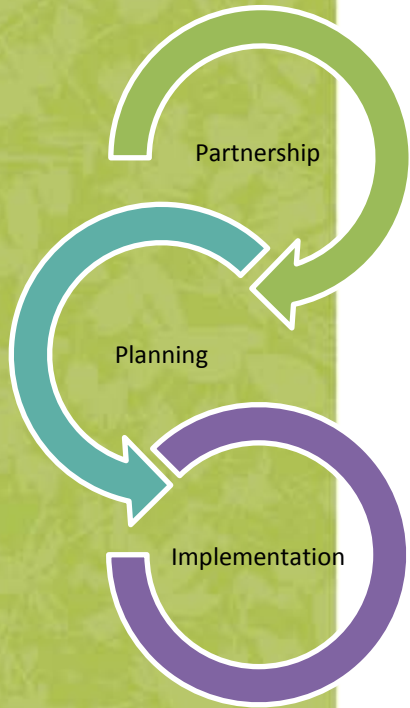
Jeffrey W. Raker - Investment Areas Project Analyst

jeffrey.raker@oregonmetro.gov



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Metro Investment Areas: 2040 Economic Action Planning



- **Historic emphasis on transit corridors**
- **New focus on advancing economic development**
- **Land readiness and brownfields reuse to support job creation**
- **Partnering with communities**
- **Aligning strategies and resources to future investment areas**

Enhancing Investment Areas

- Opportunities to secure new partnerships and investment capacity
- Build an economic rationale and a strategic approach for investments
- Define constraints for economic opportunity and an inclusive economy
- Informed by economic and workforce conditions across the region

Potential resources to align in investment areas

- **Metro**
 - Transportation investments
 - Land use planning and investment
 - Systems investments
 - Data and information
- **Partner Investment**
 - Business development
 - Marketing and communications
 - Industry and market analysis
 - ROI assessments
 - Other infrastructure

Econ. Development Primer

EDA Definition:

“create the conditions for economic growth and improved quality of life by expanding the capacity of individuals, firms, and communities to maximize the use of their talents and skills to support innovation, lower transaction costs, and responsibly produce and trade valuable goods and services”.

ECONOMIC VALUE ATLAS: Background

State + Regional ED Guidance

- **Statewide - Goal 9** – Establish economic development policies + analysis: economic patterns, potential, strength + deficiency
- **2040 Growth Concept Policy:** A healthy economy that generates jobs and business opportunities.
- **Framework + Functional Plans:**
 - 1.4 – Employment Choices + Opportunities
 - 1.5 – Economic Vitality
 - 2.1 – Sustain Economic Competitiveness + Prosperity
 - Title 4– Industrial + Employment Areas
- **Regional Transportation Plan:**
 - **Goal 2 - Sustain Economic Competitiveness + Prosperity -** Infrastructure/services support region’s well-being + a diverse, innovative, sustainable + growing regional + state economy.
 - Goal 8 – Ensure Equity – distribution + target populations
 - Goal 9 – Ensure Fiscal Stewardship – Best ROI
 - Economic + Equity Targets

Summary of Region's Goals For Economic Development

1. Strengthen the **resilience, adaptability, + vitality** of the economy.
2. **Connect** people to jobs, products/services, + education/training through strategic investments in infrastructure + development.
3. Increase workforce **housing options + affordability**.
4. **Educate + train** residents for family-wage jobs at local businesses.
5. **Support local small businesses + generate new business activity**.
6. Generate + invest revenue to **secure the most efficient delivery of public facilities, infrastructure, and services**.
7. **Attract people + businesses** to visit and invest in our communities.
8. Pursue a **just and equitable distribution of benefits + burdens** of economic growth.

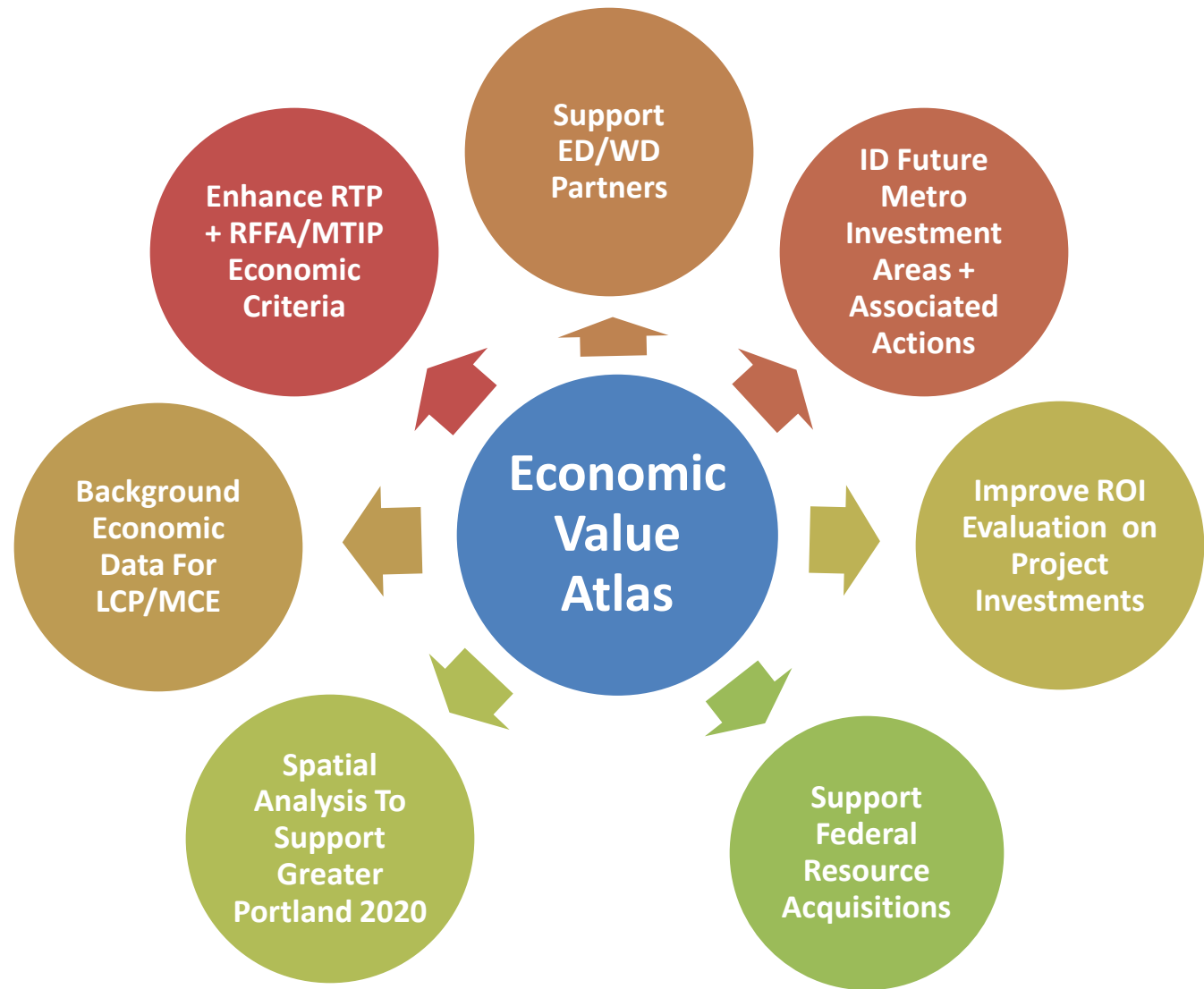
ECONOMIC VALUE ATLAS: Background

What Is Still needed?

- Proactive **Metro approach/program for economic development** that reinforces partner activities
- Robust **alignment of economic development with transportation + land use planning**
- **Spatial evaluation of conditions + opportunities** – particularly for localized markets + global supply chain connections
- **Better methods to assess ROI** of existing Investment Areas + prospective investments
- **Expert Input to clarify what the data we have tells us + how to act on it** – particularly in support of values + priorities for the regional economy

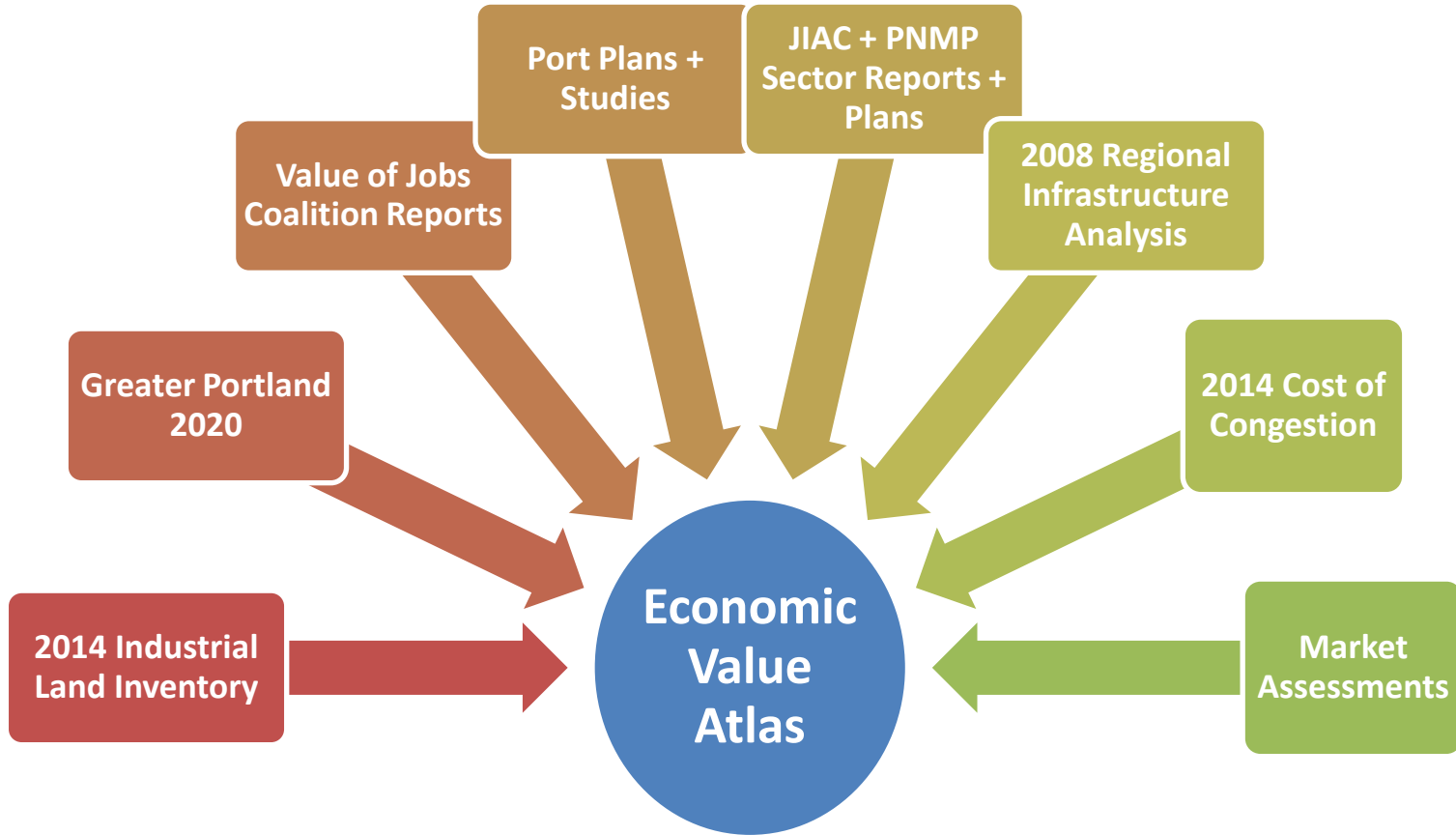
ECONOMIC VALUE ATLAS: Outputs

Targets of Econ Value Atlas



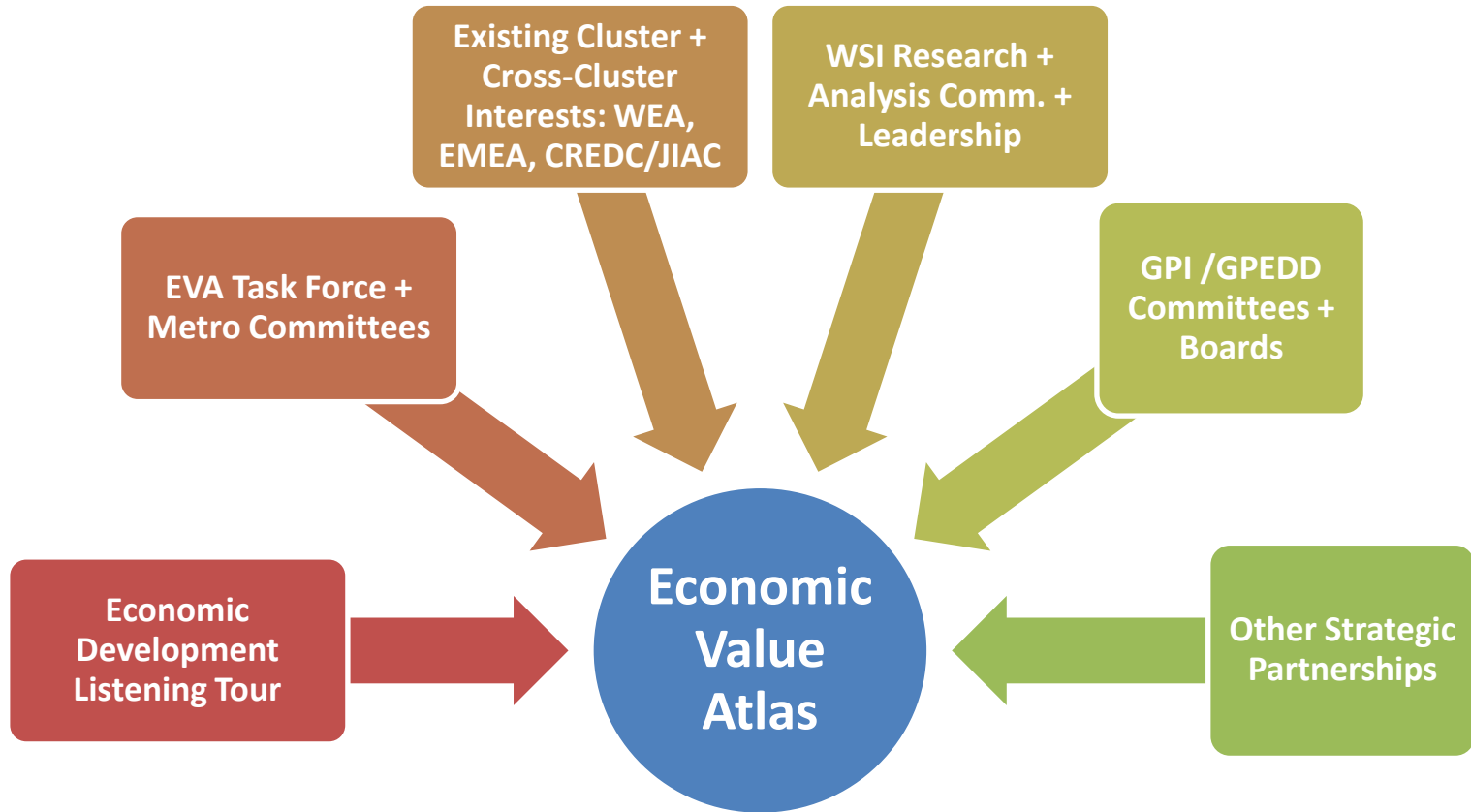
Relevant Reports + Studies

ECONOMIC VALUE ATLAS: Inputs



Stakeholder Engagement

ECONOMIC VALUE ATLAS: Inputs



ECONOMIC VALUE ATLAS: Key Phases

PHASE 1 – Engagement + Partner Development

[SPRING-SUMMER 2016]

- Economic Development Listening Tour
- Coordination with Key ED/WD Partners
- Establish Task Force
- Secure Consultant

PHASE 2 – Regional Economic Analysis (EVA)

[FALL-WINTER 2016]

- Consultant-Led Market Assessment
- Coalesce + Establish Key Economic + Workforce Indicators
- Spatial Mapping of Conditions In Local Areas
- ROI Assessment on Existing Investments?

PHASE 3A – EVA Guidance On Metro Plans + Initiatives

[2017-2018]

- Use EVA to ID Future Investment Areas
- Integrate Findings Into 2018 RTP Update + MTIP
- Integrate metrics/criteria into 2019-2020 RFFA
- Integrate analyses/findings into LCP/MCE Framework

PHASE 3B – EVA Guidance on External Policy + Actions

[2017-2018]

- ID + advance ED/WD policy options at city + county level?
- Establish and/or Inform existing legislative agendas?
- Support Cluster and Cross-Sector Task Forces

PHASE 4A – Advance Prospective Action Plans

[2018-2019]

- Support Cluster-Specific Initiatives
- Support Cross-Sector Initiatives
- Opportunistic Grant + Resource Allocation

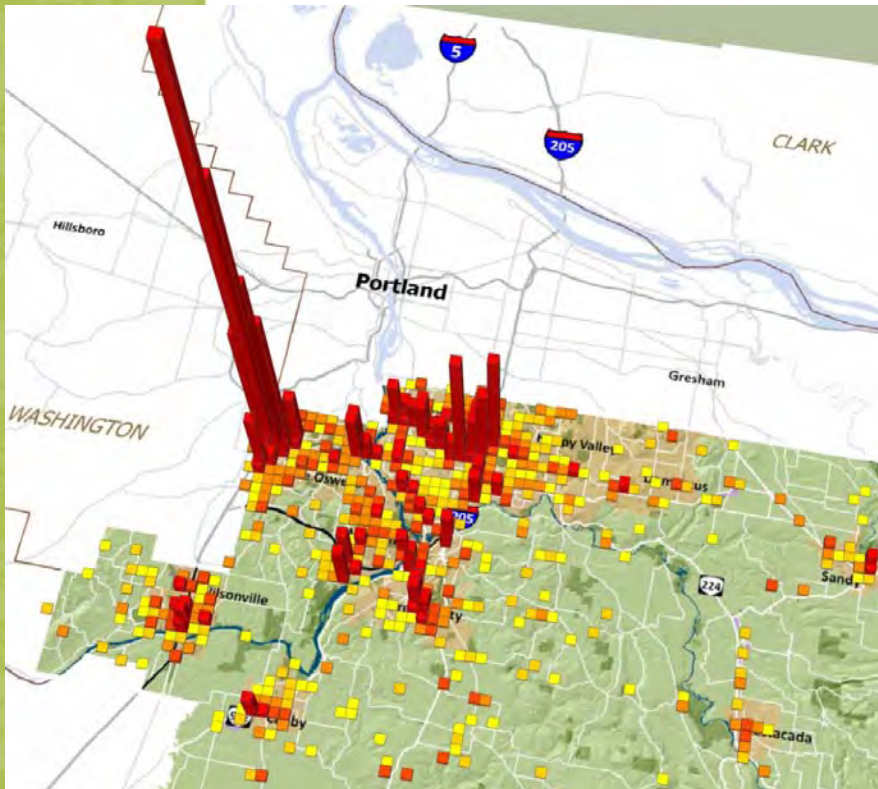
PHASE 4B – Build Ongoing Metro Role in ED/WD?

[2018-2019]

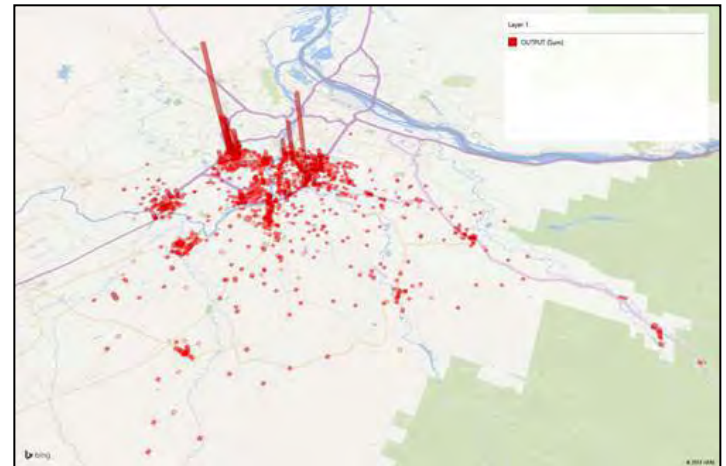
- Increase ED/WD representation on Metro committees?
- Explore other alignments between Metro and ED/WD organizations?

Clackamas Economic Landscape Report

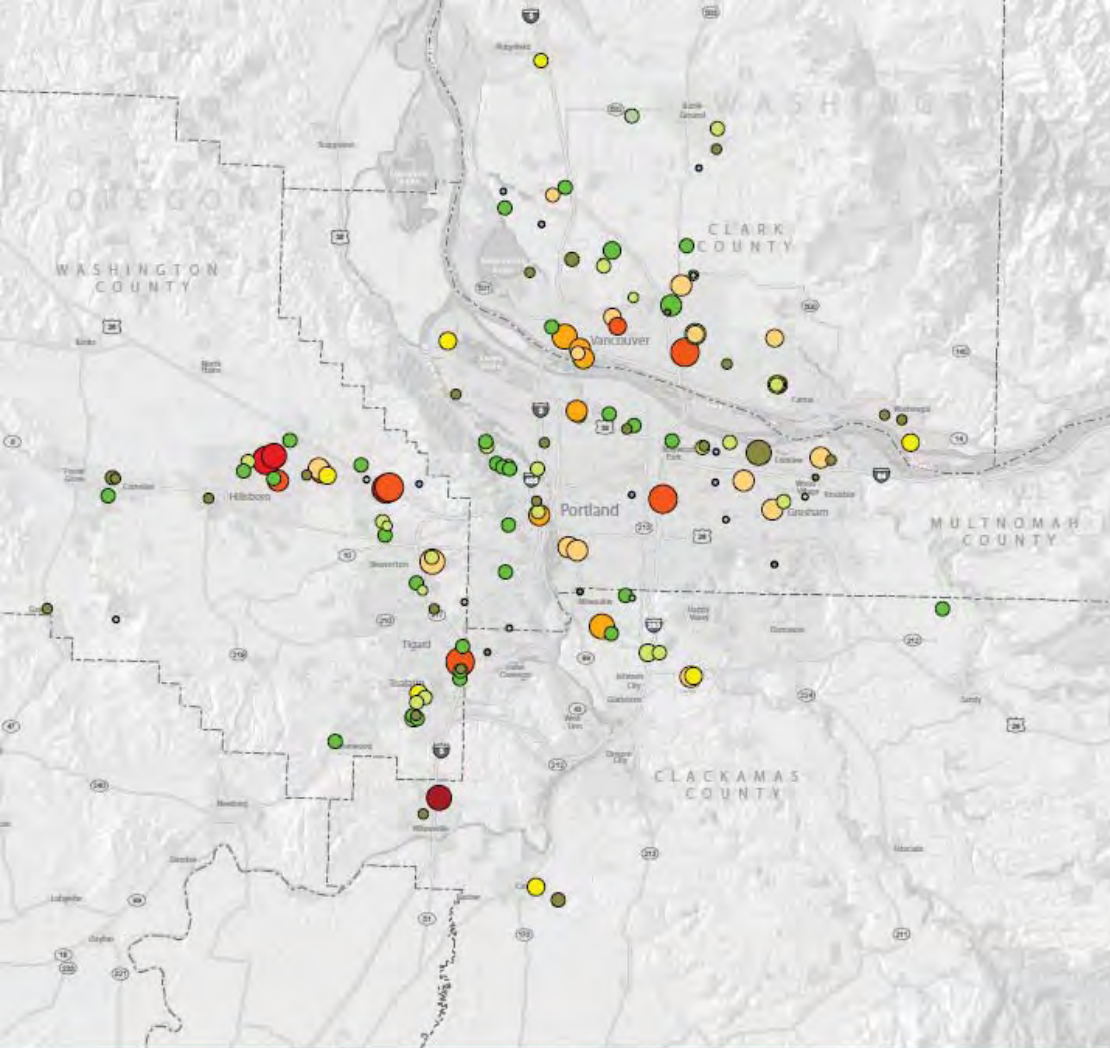
CLUSTER MAPPING



MAPPING OUTPUTS



JIAC/CREDC Aerospace + Defense Cluster Map



Portland Regional Aerospace & Defense Companies

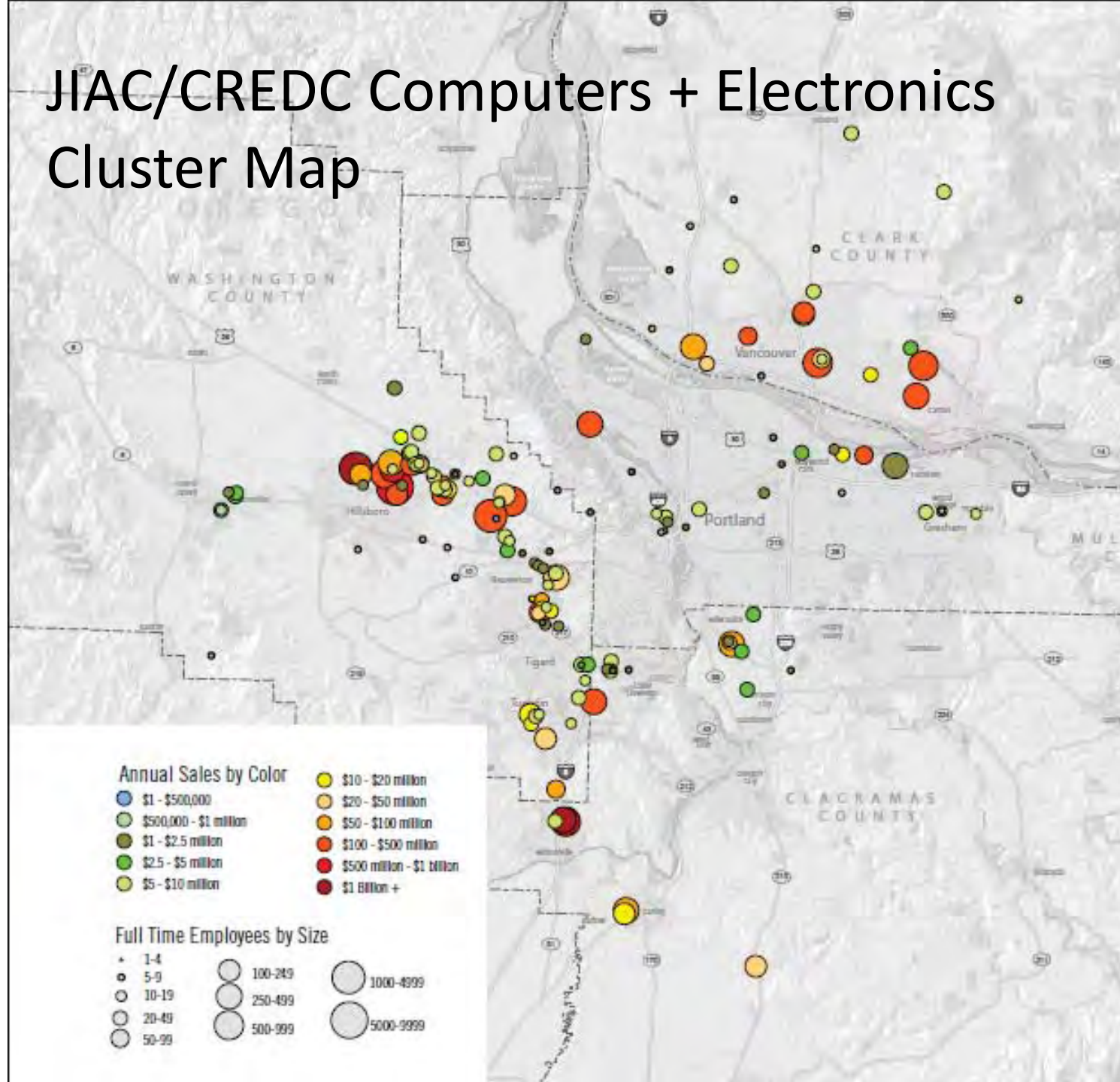
Annual Sales by Color



Full Time Employees by Size



JIAC/CREDC Computers + Electronics Cluster Map



JIAC/CREDC Metals + Machinery Manufacturing Cluster Map

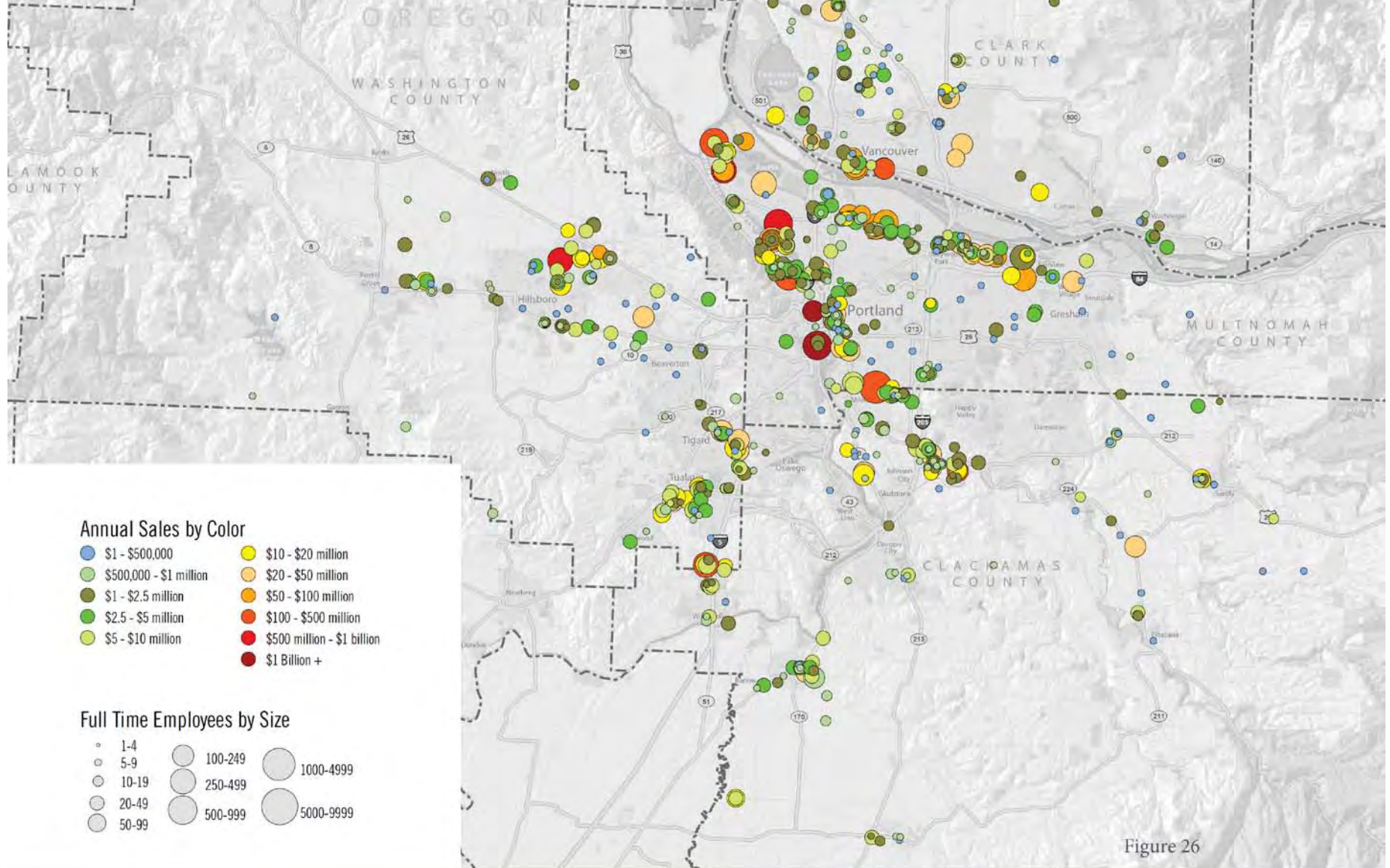
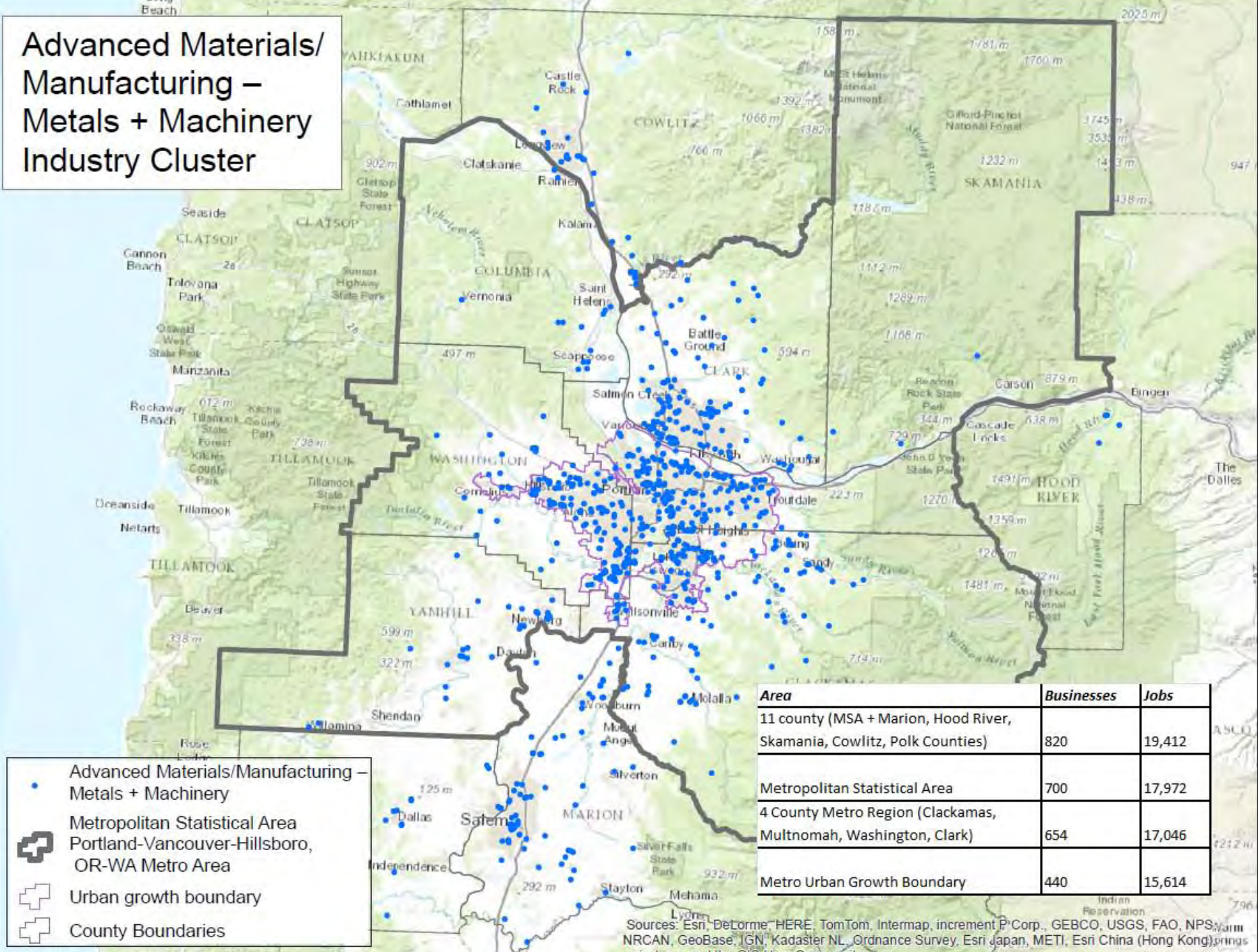


Figure 26

Advanced Materials/ Manufacturing – Metals + Machinery Industry Cluster



- Advanced Materials/Manufacturing – Metals + Machinery
- Metropolitan Statistical Area
Portland-Vancouver-Hillsboro,
OR-WA Metro Area
- Urban growth boundary
- County Boundaries

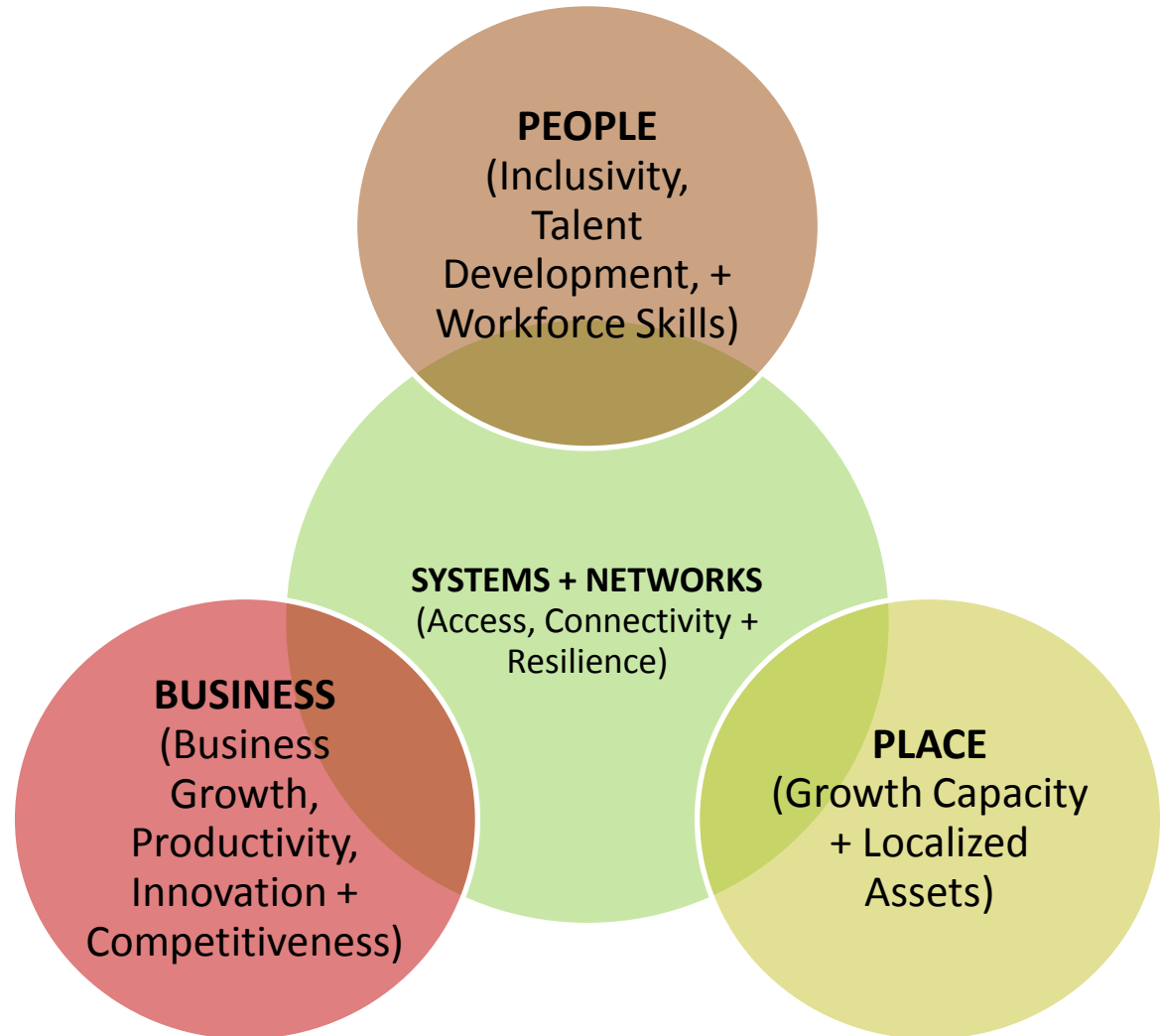
Area	Businesses	Jobs
11 county (MSA + Marion, Hood River, Skamania, Cowlitz, Polk Counties)	820	19,412
Metropolitan Statistical Area	700	17,972
4 County Metro Region (Clackamas, Multnomah, Washington, Clark)	654	17,046
Metro Urban Growth Boundary	440	15,614

Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, and the GIS User Community

ECONOMIC VALUE

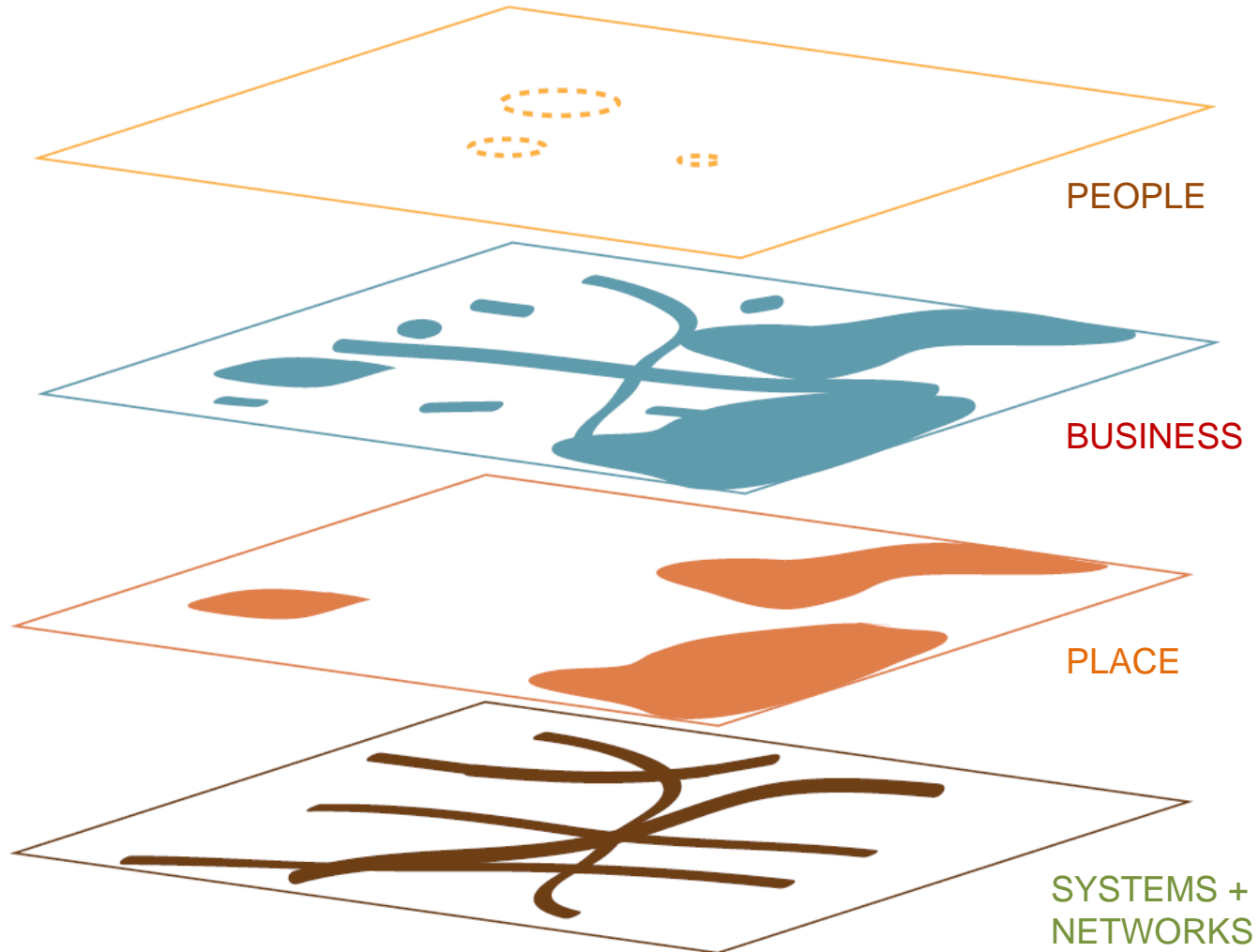
ATLAS: Analysis

Economic Value Lenses?



ECONOMIC VALUE
ATLAS: Analysis

Alignment of Economic Development Lenses



- 1 -
Map of Economic Conditions



- 2 -
Map of Economic Performance In Local Areas



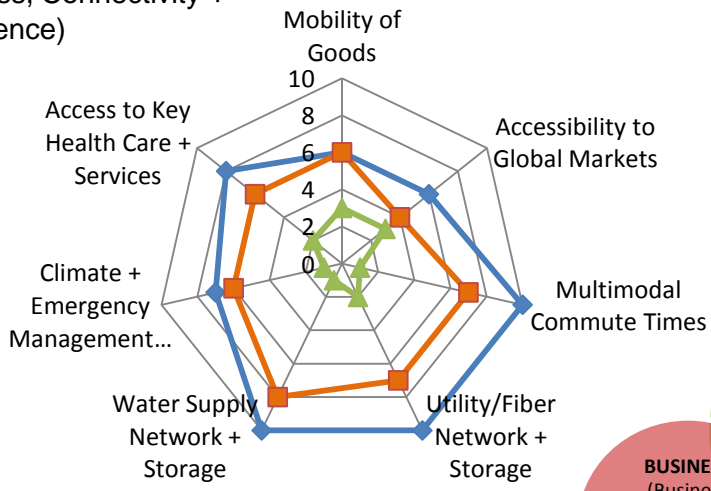
- 3 -
Refine Investment Area Strategies + Project Evaluation



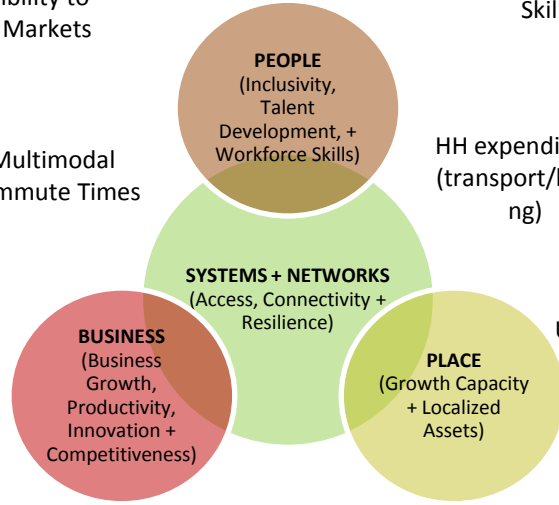
- 4 -
Decision-Support Tool Development

SYSTEMS + NETWORKS

(Access, Connectivity + Resilience)

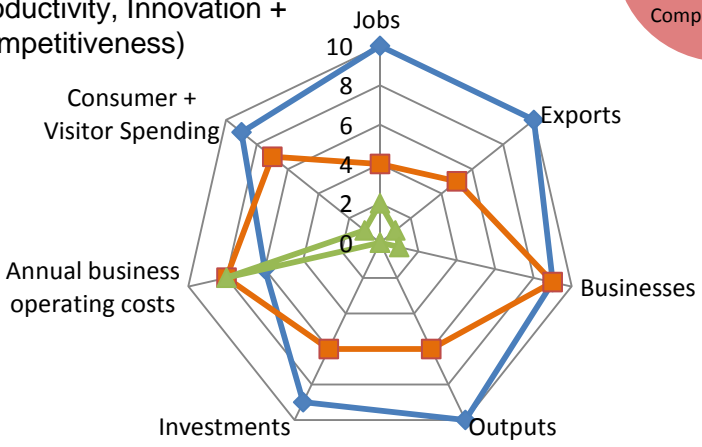


High Performing
Opportunity Areas
Constrained



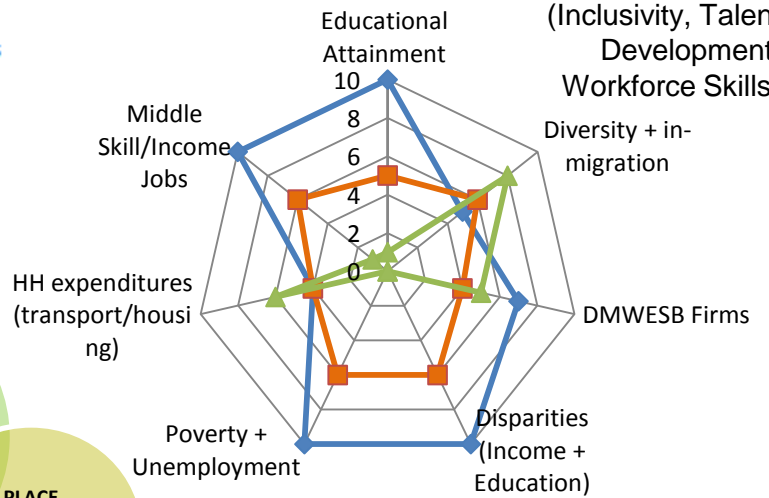
BUSINESS

(Business Growth, Productivity, Innovation + Competitiveness)



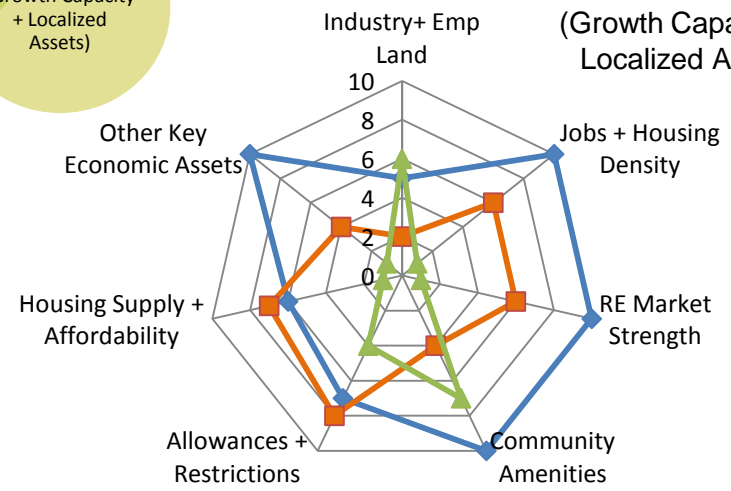
PEOPLE

(Inclusivity, Talent Development, Workforce Skills)



PLACE

(Growth Capacity + Localized Assets)



State of the Centers Context Tool: Tracts

Esri Business Analyst | Data Inclusion | ContextTool

https://gis.oregonmetro.gov/cistool/

Metro Context Tool - State of the Centers

Model Controls

Choose weights to re-run the model.

- Bicycle Access 2
- People per Acre 1
- Transit Access 5
- Urban Living Infra. 4
- Sidewalk Density 3
- Access to Parks 5
- Block Size 3

Feature Fill: [Color Picker]

Map Tips

Grid Layer [Color Picker]

Basemap

- Metro Basemap
- 2009 Air Photo

41005021000
Score: 35

ID	Bike Access*2	People/Acre	Transit Access*5	Urban Living Infra.*4	Sidewalk Density*3	Park Access*5	Block Size*3	Sum	CompositeScore
41051004500	3.36	2.35	1.74	1.64	3.33	3.95	2.92	19.29	46
41051004601	4.42	1.39	1.33	1.07	1.98	4.75	2.16	17.1	39
41051004602	4.24	1.63	1.77	1.03	3.02	4.42	3.03	19.14	46
41051004700	4.59	3.16	1.99	2.43	4.68	4.83	3.86	25.54	68
41051004800	5	4	3.17	3.98	5	4.76	4.15	30.06	86
41051004900	4.59	3.9	3	3.15	4.99	4.65	4.78	28.56	80

Record: << < 0 > >> Records (0 out of 323 Selected) Options...

Graph

Chart Type: Radar Show Mean Line

41005021000 [Visfire Trial Edition](#)

Export Graph

Discussions Discussions not available on https://gis.oregonmetro.gov/

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ECONOMIC VALUE ATLAS: Key Phases

PHASE 1 – Engagement + Partner Development

[SPRING-SUMMER 2016]

- Economic Development Listening Tour
- Coordination with Key ED/WD Partners
- Establish Task Force
- Secure Consultant

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[2017-2018]

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PHASE 3B – EVA Guidance on External Policy + Actions

[2017-2018]

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- Support Cluster and Cross-Sector Task Forces

PHASE 4A – Advance Prospective Action Plans

[2018-2019]

- Support Cluster-Specific Initiatives
- Support Cross-Sector Initiatives
- Opportunistic Grant + Resource Allocation

PHASE 4B – Build Ongoing Metro Role in ED/WD?

[2018-2019]

- Increase ED/WD representation on Metro committees?
- Explore other alignments between Metro and ED/WD organizations?

ECONOMIC VALUE

ATLAS: Q + A

QUESTIONS + DISCUSSION

- **Is Council supportive of the potential applications of the Economic Value Atlas as described?**
- **Are there specific opportunities we are missing, internal to Metro or with external partners?**
- **Does the Council have advice on important strategic partners and how to best align with them?**

Building a Metro Multi-Criterion Evaluation Toolkit

(aka Least Cost Planning)

Recommended Work Plan

Metro Council Work Session

April 12, 2016

Jeff Frkonja, Research Center Director

Kyle Hauger, Senior Modeler

Version 8



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A vertical green sidebar on the left side of the slide. It features a faint, light-colored network diagram with nodes, arrows, and dashed lines, suggesting a process or flow. The text on the slide is positioned to the right of this sidebar.

Agenda

Steps to date

Proposed work plan

Discussion

Purpose: Today's Question

- Should staff proceed with next steps for developing a Multi-Criterion Evaluation toolkit to inform Metro transportation decision-making?

Objective

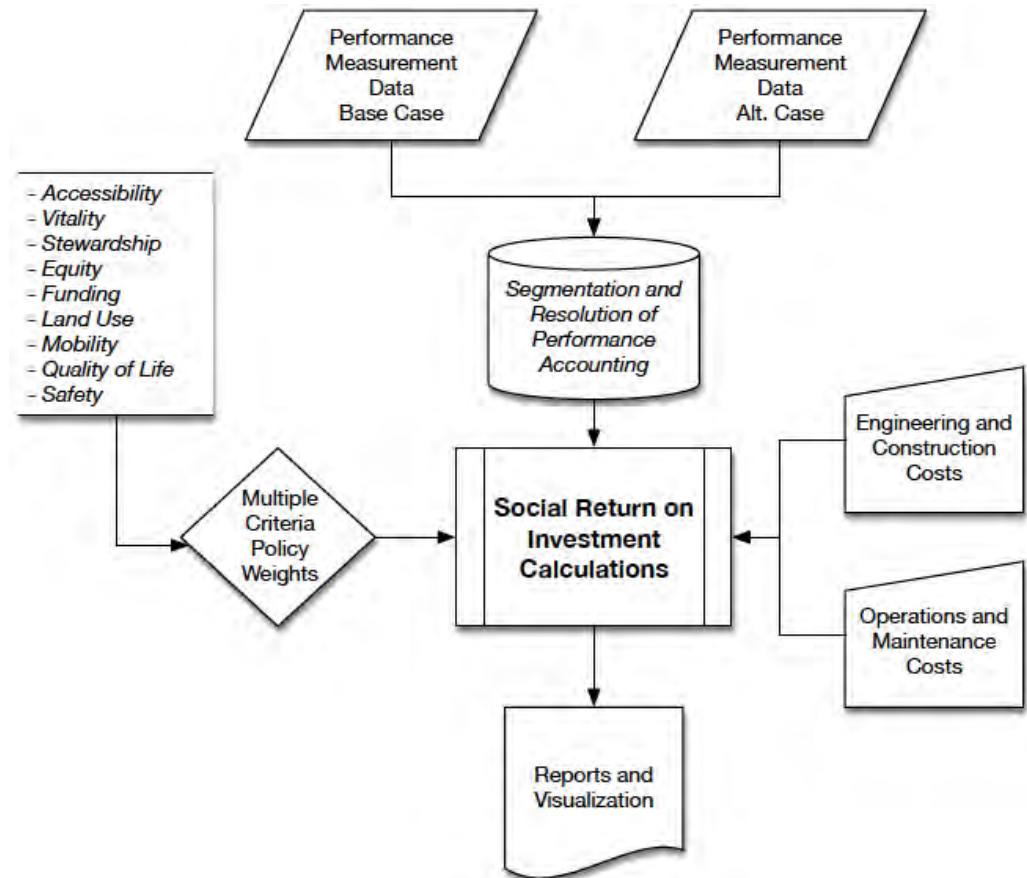
- Enhance Metro's transportation decision-support methods
 - *More-comprehensive criteria*
 - *More comparability between criteria*
 - *Explicit criteria priorities (weights)*
 - *More-explicit equity analysis*

Status

- Council Budgeted Initial LCP work this FY
- Preliminary staff recommendations at 11/10/15 Work Session
- Consultant team budget & scope today
- Proceed with RFP to do development work?

What Metro Gets: Toolkit Design

- “Social Return on Investment” Calculator*
- To extent possible, build all criteria evaluation into one ‘calculator’



* From Triple Bottom Line viewpoint: includes economic, environmental, and social/equity dimensions



Metro | Making a great place

What Metro Gets: Criteria

Existing RTP Metrics Compared to Proposed MCE 'Calculator' Metrics

Triple-Bottom-Line Category	RTP Metrics	MCE Measures
Economic Vitality	<ul style="list-style-type: none">• Change in roadway system delay• Change in freight delay	<ul style="list-style-type: none">• Travel time savings for all modes• Operating cost savings• Reliability savings• Auto ownership cost savings
Environmental Stewardship	<ul style="list-style-type: none">• Change in emissions• Change in VMT• Mode Share targets for active transportation• Additions to basic infrastructure*	<ul style="list-style-type: none">• Emissions reduction benefits• Surface water management benefits• Noise mitigation benefits
Social and Equity Values	<ul style="list-style-type: none">• Affordability - combined cost of housing and transport*• Extrapolation of past safety/collision rates	<ul style="list-style-type: none">• Safety benefits• Benefits by population group• Health savings from active transportation use• Value of having transportation choices

** Existing metrics can still be computed as a means of helping to communicate how proposals affect stakeholders from their viewpoints*

What Metro Gets: Features

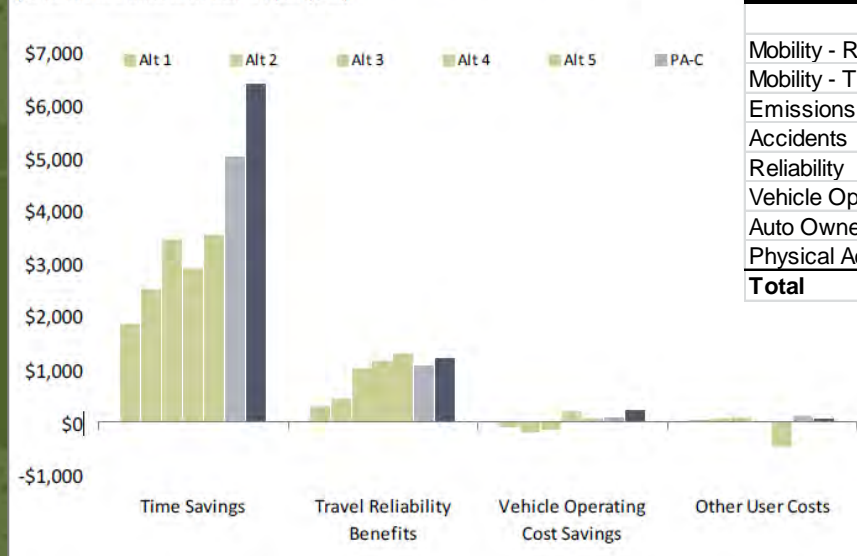
Potential Advantages of the Proposed MCE Toolkit

- More triple bottom line criteria “coverage”
- Most criteria made comparable in dollar terms
- Explicit criteria weights
- Explicit information on who benefits for equity analysis

What Metro Gets: Visuals

Proposed MCE 'Visualizer'

Annual Mobility Benefits by Type Relative to 2040 Baseline
(benefits in millions of dollars per year)



Build Scenarios Relative to Baseline (No-Build) Scenario		
Description		
Build Scenario	RC	Hypothetical
Number of years	58	58
Summary		
Lifecycle Benefits	\$53,752,288,102	\$63,884,869,250
Lifecycle Costs	\$29,153,987,133	\$42,546,985,120
Net Present Value	\$24,598,300,969	\$24,598,300,969
Benefit / Cost Ratio	1.84	1.50
Internal Rate of Return (%)	10.8%	7.2%
Total Lifecycle Benefits by Category for Build Scenarios Relative to Baseline		
	Scenario:	
	RC	Hypothetical
Mobility - Residents	\$33,936,027,894	\$25,611,958,902
Mobility - Trucks / Commercial	\$9,143,327,429	\$6,337,078,938
Emissions	-\$394,015,321	\$2,729,979,286
Accidents	\$1,523,838,864	\$1,987,327,688
Reliability	\$478,016,975	\$678,056,799
Vehicle Operating	\$6,337,078,938	\$23,408,823,856
Auto Ownership	\$2,729,979,286	\$3,123,173,814
Physical Activity	-\$1,965,964	\$8,469,967
Total	\$53,752,288,102	\$63,884,869,250

How do we get there?

Recommended MCE Development

Building blocks

What would we start from?

How would work be staged and funded?



Proposed Building Blocks

- **New FHWA Benefit-Cost Analysis calculator**
- Methodological know-how from:
 - Peer MPOs
 - Oregon DOT (Mosaic, etc.)
 - FHWA (USDOT Guidance, BCA methodology)
- Standard open-source code libraries and data standards

Proposed Two-Phase Staging

- Phase 1: Focus on criteria calculation
 - Most criteria included in 'calculator'
 - Prototype 'visualizer'
- Phase 2: Add weights better visualization
 - Enhance 'calculator'
 - Fully-featured, web-accessible 'visualizer'
 - Weight the criteria (Council & JPACT)
- Underlying work:
 - Technical outreach
 - Acceptance testing

Proposed Deployment Strategy

- “Soft rollout” via the Acceptance Testing & Technical Outreach
 - Test internally, in parallel with existing measurements
 - Let staff “kick the tires” informally
 - Lead with technical outreach (including external staff) to build momentum for a full application

Future Option

Possible Phase 3: Indirect Economic Benefits

- Changes in future employment
- Changes in gross regional product
- Notes:
 - ***Staff recommends progressing with Economic Value Atlas **before** deciding what to do with additional economic measures***
 - Measuring indirect benefits raised method questions
 - Might best be done through one-off, consultant-supported analyses

Estimated MCE Development Costs

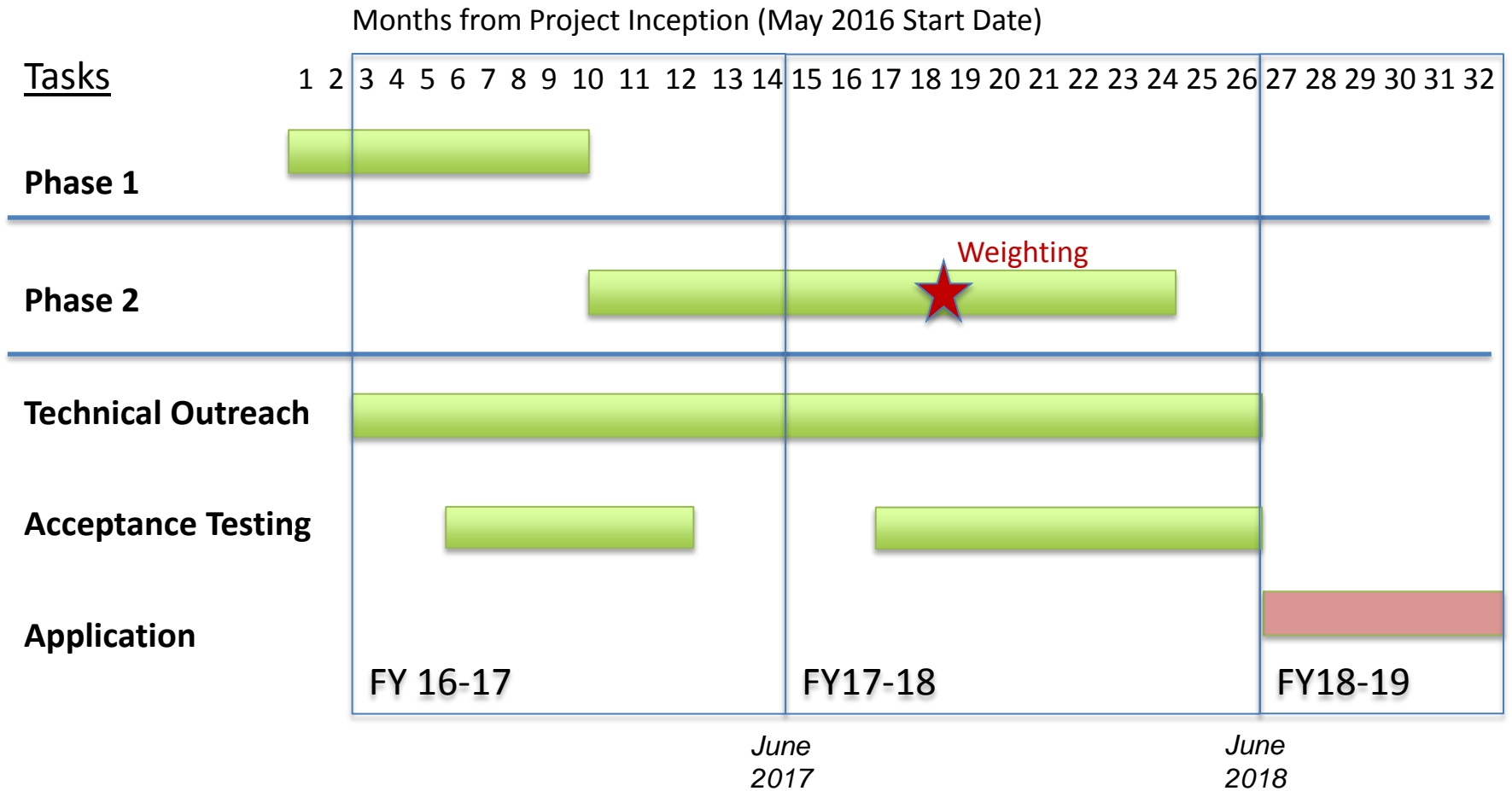
M&S Costs (Consultant)

Phase	Total
1	\$ 115,000
2	\$ 246,000
Total	\$ 361,000

** With "PM & Outreach" costs allocated to their respective phases*

MCE Development Schedule

MCE Proposed Project Timeline



* Applications might begin in Summer 2018

Estimated MCE Development Funding by FY

FY15-16: \$150,000 existing

FY16-17: \$150,000 proposed

Expended: \$20,000

*FY17-18: \$81,000 future need**

** About half of the November 2015 preliminary estimate*

Estimated MCE Development Costs

Staff Costs

Travel Model Integration: About \$25,000

Yearly Maintenance: About \$14,000/yr

* *Figures above **EXCLUDE** planning and applications efforts*

MCE Application Costs

*Figures in previous slides **EXCLUDE** planning and technical applications efforts*

RC will coordinate with Planning & Development staff & Council on potential applications

Discussion

- Questions?
- Should staff proceed with next steps for developing a Multi-Criterion Evaluation toolkit to inform Metro transportation decision-making?

Extra slides follow



Status

MCE/LCP recap:

- A structured transportation planning ***process*** that provides ***decision support information*** to the decision-makers
- ***Includes benefit-cost analysis (BCA)***
- ***Originally*** developed by power utilities ***examine capital investments versus conservation programs***
- A large body of ***theoretical, ethical, and practical developments already exist***

What MCE tool would measure

In Phase 1:

- Emissions benefits (air quality)
- Surface water benefits (water quality)
- Noise benefits
- Option value of increasing/decreasing travel options
- Travel time savings benefits
- Reliability benefits
- Vehicle operating costs (including fuel consumption) benefits
- Vehicle ownership cost benefits
- Physical activity/health benefits
- Safety benefits
- *Distributional (equity) summaries of above, to extent possible*

What MCE tool would measure

Added in Phase 2:

- Accessibility benefits
- Upgrades to Phase 1 measures (e.g. enhanced environmental benefits measures)
- Funding source benefits, if appropriate (e.g. federal vs. local expenditures)

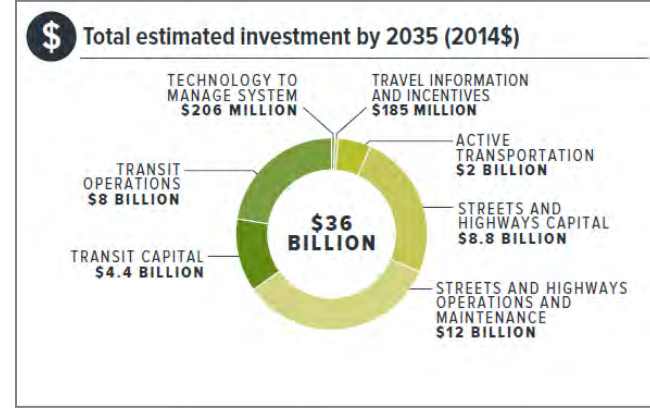
Comparison: “Rollup”

SANDAG--BCA “scorecard” with costs and benefits

Metro—Climate Smart Strategies cost data (see previous slides for other metrics)

Build Scenarios Relative to Baseline (No-Build) Scenario		
Description		
Build Scenario	RC	Hypothetical
Number of years	58	58
Summary		
Lifecycle Benefits	\$53,752,288,102	\$63,884,869,250
Lifecycle Costs	\$29,153,987,133	\$42,546,985,120
Net Present Value	\$24,598,300,969	\$24,598,300,969
Benefit / Cost Ratio	1.84	1.50
Internal Rate of Return (%)	10.8%	7.2%

Total Lifecycle Benefits by Category for Build Scenarios Relative to Baseline		
Scenario:	RC	Hypothetical
Mobility - Residents	\$33,936,027,894	\$25,611,958,902
Mobility - Trucks / Commercial	\$9,143,327,429	\$6,337,078,938
Emissions	-\$394,015,321	\$2,729,979,286
Accidents	\$1,523,838,864	\$1,987,327,688
Reliability	\$478,016,975	\$678,056,799
Vehicle Operating	\$6,337,078,938	\$23,408,823,856
Auto Ownership	\$2,729,979,286	\$3,123,173,814
Physical Activity	-\$1,965,964	\$8,469,967
Total	\$53,752,288,102	\$63,884,869,250



Economic
 Economic
 Environmental
 Health/Safety
 Economic
 Economic
 Economic
 Health/Safety

Sources: Author’s archive of draft work done by RSG, Inc. for San Diego Association of Governments; *Climate Smart Strategy for the Portland metropolitan region*. Oregon Metro. 2014.



Metro | Making a great place

Comparison: Equity Evaluations (Social leg)

PSRC--Per-trip benefits to population group

Metro 2014 RTP—average combined cost of housing and transportation

Per Worktrip Benefits by Income (Change from 2040 Baseline):
Reduced Travel Time, Unreliability, Vehicle Operating Costs and Other User Costs



EQUITY		
<p>Affordability – By 2040, reduce the average household combined cost of housing and transportation by 25 percent compared to 2010.</p>	<p>In 2010, the average household in the Portland region spent about 43.9 percent of its income on housing and transportation.</p> <p>In 2040 it is estimated that the average household in the region will spend about 51% on housing and transportation.</p>	<p>The region does not meet the target. However, the cost of transportation as a percentage of total household income holds steady from 2010 (13.7%) to 2040 (13.6%).</p>
<p>Access to daily needs – By 2040, increase by 50 percent the number of essential destinations accessible within 30 minutes by bicycling and public transit for low-income, minority, senior and disabled populations compared to 2005.</p>	<p>Data under development</p>	<p>The methodology for establishing a base line for this target is being developed.</p>

Sources:

- Transportation 2040 Final Environmental Impact Statement, Appendix D. Puget Sound Regional Council. 2010.
- Regional Transportation Plan. Oregon Metro. 2014.

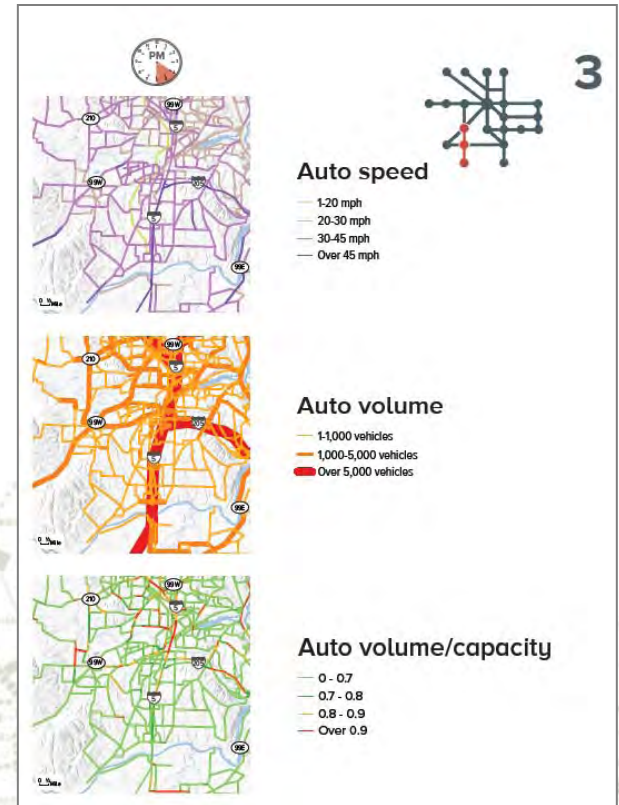
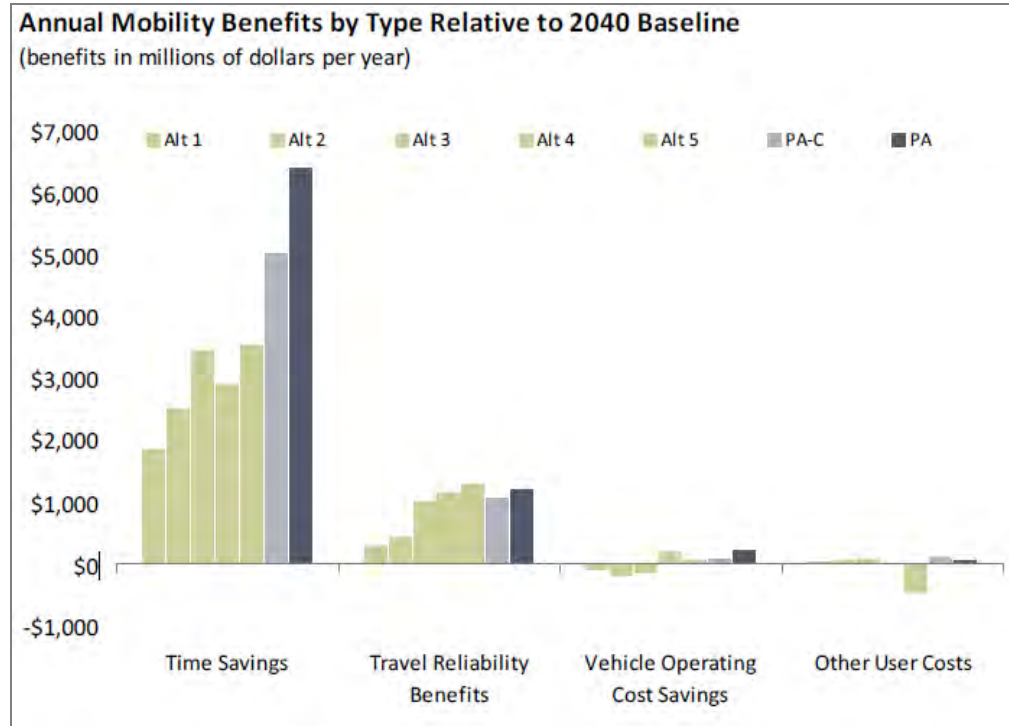


Metro | Making a great place

Comparison: Mobility Evaluation (part of economic leg)

PSRC--detailed & total mobility benefits

Mobility Corridor Atlas--selected corridor travel times



Sources:

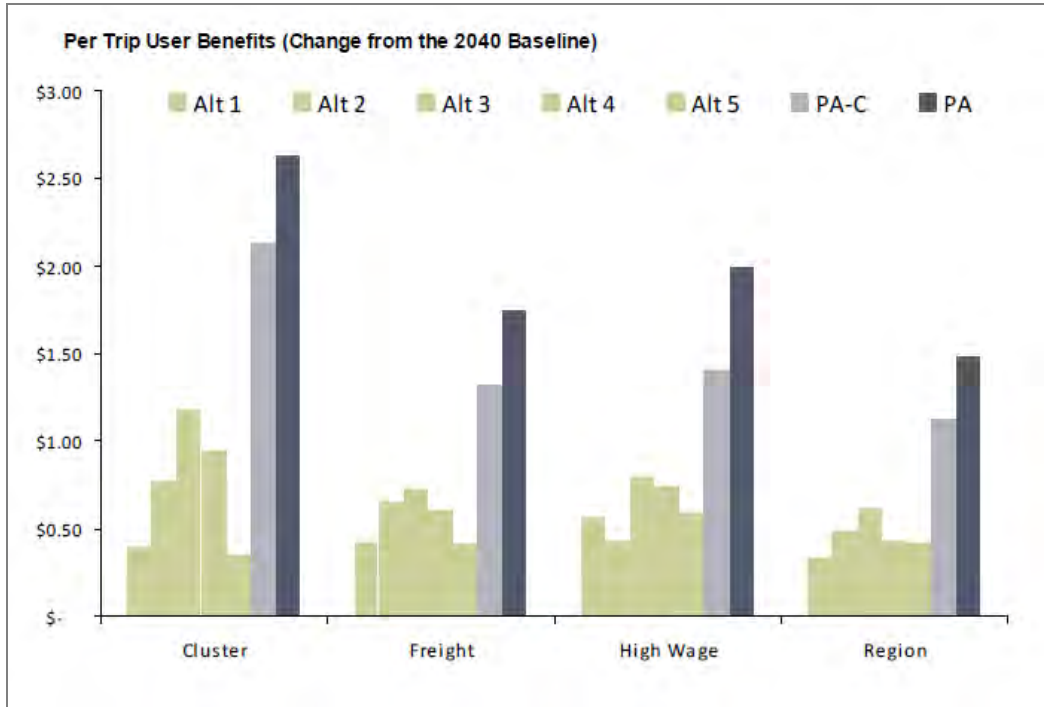
- Transportation 2040 Final Environmental Impact Statement, Appendix D. Puget Sound Regional Council. 2010.
- Metro Mobility Corridors Atlas -- <http://www.oregonmetro.gov/mobility-corridors-atlas>



Metro | Making a great place

Comparison: Economic Evaluation

PSRC--specific & total user benefits to “cluster” industry, freight, and high-wage locations
 Greenstep--total truck travel costs



Sources:

- Transportation 2040 Final Environmental Impact Statement, Appendix D. Puget Sound Regional Council. 2010.
- Climate Smart Strategy for the Portland metropolitan region. Oregon Metro. 2014.

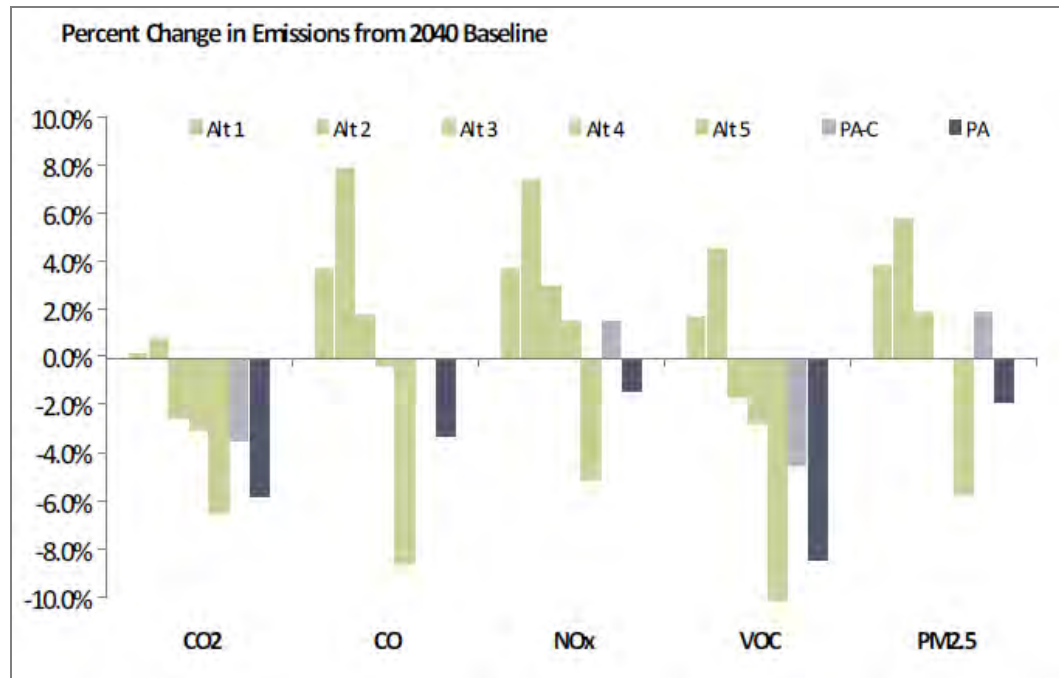


Metro | Making a great place

Comparison: Environmental Evaluation

PSRC--Change in value by pollutant

Greenstep—Total environmental cost of pollutants



ANNUAL ENVIRONMENTAL AND FREIGHT TRUCK TRAVEL COSTS BY 2035 (MILLIONS, 2005\$)



Sources:

- Transportation 2040 Final Environmental Impact Statement, Appendix D. Puget Sound Regional Council. 2010.
- Climate Smart Strategy for the Portland metropolitan region. Oregon Metro. 2014.



Metro | Making a great place

What advantages did LCP/MCE supply to our peer agencies relative to current Metro capability?

- *“Apples-to-apples” comparison**
- *Costs explicitly treated in value comparisons*
- *“Rolls things up” (aggregates disparate findings into one “score” region-wide)*
- *Enables information reporting at geographic subareas and by population segments*
- *More robust evaluations of:*
 - *Equity*
 - *Health & Safety*
 - *Reliability*

* Acknowledging that current techniques may still require separate treatment of some criteria



TUALATIN RIVER GREENWAY BICYCLE AND PEDESTRIAN SHARED USE PATH

Grand Opening and Ribbon Cutting Ceremony

April 9, 2016 at Barngrover Way

Across from the Tualatin Public Library



Schedule of Events

- 8:00 am The Times Trail Trekker 5K Run/Walk**
Meet at Barngrover Way
- 9:00-11:30 am Arbor Week Tree Planting**
Meet at Nyberg Woods shopping center east of Best Buy
- 12:00 pm Commemorative Heritage Tree Planting**
Meet at Barngrover Way
- 1:00-1:30 pm Grand Opening and Ribbon Cutting Ceremony**
Welcome
Dennis Wells, Tualatin Park Advisory Committee (TPARK) Chair
Introductions, Comments, and Dedication of Yvonne Addington Overlook
Mayor Lou Ogden
Comments
Matt Garrett, Director, Oregon Department of Transportation
Drum Performance
The Confederated Tribes of the Grand Ronde
Ribbon Cutting Ceremony
- 1:30-3:30 pm Family Scavenger Hunt and Craft Activities**
Meet at Barngrover Way
- 2:00- 3:00 pm A Walk Through Geologic Time Interpretive Walks**
& **2:15- 3:00 pm** Meet at Barngrover Way
- 2:30-3:30 pm Bird Walk with Naturalist**
Meet at Barngrover Way
- 2:30-3:30 pm Terra Tempo Ice Age Safari and Missoula Floods**
Meet at Tualatin Public Library

Tualatin

geographic name

Tu·a·la·tin |

\ tü-'ä-lə-ten\

: city NW Oregon. A nice place to live, work, and play.

Pop 26,590

River

noun | riv·er | \ 'ri-vər\

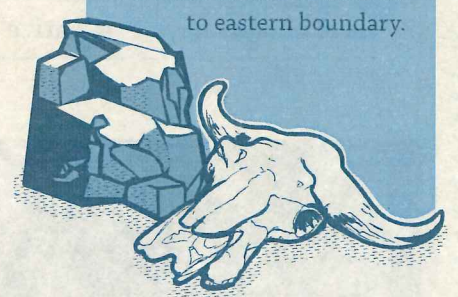
: a large natural flow of water that crosses an area of land and goes into an ocean, a lake, etc. The 80-mile-long Tualatin River meanders slowly from the Coast Range to the Willamette River.

Greenway

noun | green·way |

\ 'grēn-'wā\

a corridor of undeveloped land to preserve the scenic value of the Tualatin River, enhance water and air quality, provide fish and wildlife habitat, and enable recreational and commuter use from Tualatin's western to eastern boundary.



An educational journey for the whole family!

Free commemorative bandanas for everyone attending.

For more information visit www.tualatinoregon.gov/recreation. Or call 503-691-3061

CITY OF TUALATIN

The Tualatin River Greenway Trail

is a ¾ mile long bicycle and pedestrian facility that promotes active, healthy living while connecting people with nature. The trail meanders through stately trees, provides beautiful views of the Tualatin River, skirts the edge of a bird-filled wetland, and crosses under Interstate 5. The trail provides a safe bike and pedestrian alternative to driving while improving connectivity between residential and commercial areas with public facilities, such as parks and the library. The trail promotes safety by enabling a safe and interesting alternative to crossing over Interstate 5 at the Nyberg Street bridge.

The trail fills a gap in a 4.7 mile segment of the Tualatin River Greenway that is located on the north and south sides of the Tualatin River while running through the cities of Tualatin, Durham, and Tigard. The trail connects four major parks and crosses the Tualatin River at the Ki-a-Kuts Bicycle and Pedestrian Bridge at the north end of Tualatin Community Park. New wayfinding signs guide people to and along the trail.

Nature conservation is an important benefit of this project. More than two acres along the south bank of the Tualatin River have had invasive non-native

plant species removed and were replanted with trees and shrubs to improve water quality, fish and wildlife habitat, soil conservation, air quality, and natural beauty.

The Tualatin City Council named a peaceful, tree-lined overlook along the trail at the edge of the Tualatin River after Yvonne Addington in honor of her contributions to the

mission and purposes of parks and recreation in the City of Tualatin. Yvonne served as Tualatin's first City Administrator between 1969 and 1982 and continues to serve through her passionate and effective volunteerism with the City of Tualatin, Tualatin Historical Society, and other public and private organizations.

Educational interpretive elements along the path enable people to experience a walk through geologic time while discovering, exploring, and learning about the last Ice Age Missoula Floods, Pleistocene megafauna of the Willamette and Tualatin valleys, the emergence of Paleo-Indians, transportation improvements of early settlers, and how land uses transform over time.

This trail project has received an Excellence in Sustainability Award for Green Infrastructure from the American Planning Association in April 2016.

This award honors green infrastructure projects that utilize sustainable principles in planning, implementation or preservation, and operations.



Tualatin River Greenway Bicycle and Pedestrian Shared Use Path

SW Barngrover Way to SW Nyberg Lane

April, 2016
 Cardno
 PORTLAND
 Tualatin, Oregon

FUN FACTS ABOUT THIS TRAIL

- The new trail segment is ¾ of a mile long
- Each step between Barngrover Way and I-5 represents 25 years in geologic time
- The boardwalk decking is made out of 100% recycled plastic
- The boardwalk decking has 67,602 screws
- The trail features 5 overlooks and 9 benches
- The trail features 2+ acres of nature conservation with 3,765 trees and shrubs
- 1,700 pounds of seeded glass was used within the concrete to represent the end of the last Ice Age
- 160 foot crossing under I-5



FUN FACTS ABOUT THIS TRAIL

- 33 years ago (1983) Parks and Recreation Master Plan started planning for this trail
- 23 years ago (1993) the City acquired the land north of Forest Rim Apartments
- 9 years ago (2007) the City acquired land rights north of Nyberg Woods shopping center
- 2 years ago (2014) the City acquired land rights north of Nyberg Rivers shopping center
- 1 year ago (2015) the City acquired land rights under I-5
- Trail opened officially for public use on February 23, 2016



Partners and Funding

- State of Oregon, *ConnectOregon* V Program \$1,585,800
- Washington County, Major Streets Transportation Improvements Program (MSTIP) \$750,000
- CenterCal Properties, LLC \$600,000
- Metro Parks and Natural Areas \$123,860
- Washington County Visitors Association \$86,000
- Oregon Public Health Institute, HEAL Cities Program \$3,200
- Tandem Property Management LLC In-kind construction access and staging
- Tualatin Arts Advisory Committee \$5,625
- City of Tualatin, Park System Development Fees \$700,870

The total cost was approximately \$3,862,000

Design and Construction

Concrete on grade with recycled plastic lumber boardwalks

- Design by Cardno
- Interpretive elements by Alta Planning + Design and Sea Reach LTD
- Construction by Brown Contracting Inc.



Tualatin River Greenway Activities in the Month of April

April 9, 10:30 am- 12:00 pm

Nature on the Tualatin River, Wildlife from the Paddler's

Perspective by Tualatin Riverkeepers at Tualatin Heritage Center

April 15, 11:00 am- 12:00 pm

Active Adult Trail Walk at Juanita Pohl Center

April 16, 9:00 am

Tualatin River Greenway Geocaching Challenge Kick-Off
Tualatin Public Library

April 17, 2:00- 3:00 pm

Audubon Society Raptor Walk
Meet at Tualatin Public Library lobby

April 21, 7:00- 8:00 pm

Where Giant Mammals Roamed
By David Ellingson at Tualatin Heritage Center

April 23, 1:00- 4:00 pm (drop in)

Casting Fossils by Mike Full at Tualatin Public Library (in partnership with Tualatin Historical Society)

April 23, 3:00- 4:00 pm

Make a Fossil Cast! (craft activity)
Tualatin Public Library

April 28, 5:30 pm

Tualatin Discovery Run
Meet at Roadrunner Sports
discoveryrun.eventbrite.com

April 30, 2:00 pm

Tualatin's First People by David Lewis, Tualatin Public Library (in partnership with Tualatin Historical Society)

Activities Throughout April on Your Own...

Scavenger Hunt

Pick up brochure and claim prizes at Tualatin Public Library!

Tualatin River Greenway Geocaching Challenge

After completing, pick up geocoin at Tualatin Public Library. For more information and to register: www.geocaching.com.