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Metro | *Agenda*

Meeting: Joint Policy Advisory Committee on Transportation (JPACT)
Date: Thursday, Sept. 11, 2014
Time: 7:30 to 9 a.m.
Place: Metro Regional Center, Council Chamber

7:30 AM	**1.**		**CALL TO ORDER, DECLARATION OF A QUORUM & INTRODUCTIONS**	**Craig Dirksen, Chair**
7:32 AM	**2.**		**CITIZEN COMMUNICATIONS ON JPACT ITEMS**	
7:35 AM	**3.**		**UPDATES FROM THE CHAIR & COMMITTEE MEMBERS** • JPACT Finance Subcommittee • Rail~Volution 2014 Conference	**Craig Dirksen, Chair**
7:40 AM	**4.**	*	**Consideration of the Minutes for Aug. 14, 2014**	
	5.		**INFORMATION / DISCUSSION ITEMS**	
7:42 AM	5.1	*	Climate Smart Communities Scenarios Project: Discuss Draft Approach Evaluation Results, Estimated Costs and Draft Implementation Recommendations, and Identify Policy Topics to Prioritize for Discussion in Oct. and Nov. Prior to Making Recommendation to Council on Dec. 11 – INFORMATION/DISCUSSION	**Kim Ellis, Metro**
8:15 AM	5.2	*	Streetcar Evaluation Model: Provide an Overview of an FTA Funded Research Project to Develop a Model to Better Understand Economic Impacts of Streetcar Investments – INFORMATION/DISCUSSION	**Elissa Gertler, Metro** **Jamie Snook, Metro** **Eric Engstrom, City of Portland**
8:30 AM	5.3	*	Oregon Department of Transportation (ODOT) Region 1 Area Commission on Transportation (ACT) Review and Input on Options – INFORMATION/DISCUSSION	**Andy Cotugno, Metro**
9 AM	**6.**		**ADJOURN**	**Craig Dirksen, Chair**

Upcoming JPACT meetings:

- **October 9, 2014 –** Regular JPACT Meeting
- **November 7, 2014 –** Joint MPAC/JPACT Meeting 8 a.m. to 12 p.m. Noon
- **November 13, 2014 –** Regular JPACT Meeting

* Material included in the packet.
** Material will be distributed in advance of the meeting.

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2014 JPACT Work Program
9/4/2014

September 11, 2014 • Climate Smart Communities Scenarios Project: Discuss draft approach evaluation results, estimated costs and draft implementation recommendations, and identify policy topics to prioritize for discussion in October and November prior to making recommendation to Council on Dec. 11 – (Kim Ellis, 30 mins) Information/Discussion • Streetcar Evaluation Model: Provide an overview of an FTA Funded Research Project to develop a model to b better understand economic impacts of streetcar investments – INFORMATION/DISCUSSION • Oregon Department of Transportation (ODOT) Region 1 Area Commission on Transportation (ACT) Review and Input on Options FYI: A 45-day comment period is planned from Sept. 15 to Oct. 30 on the CSC draft approach and draft implementation recommendations 2014 Rail~Volution Sept. 21 – 24 in Minneapolis, MN	**October 9, 2014** • Climate Smart Communities Scenarios Project: Discuss draft Regional Framework Plan amendments and begin to discuss policy topics identified Sept. 11- discussion leading to joint meeting on Nov. 7th and recommendation on Dec. 11th • UPWP Amendment: Behavior-Based Freight Model (Chris Myers, 5 min)
November 7, 2014 Joint MPAC/JPACT Meeting (HOLD 8 a.m. to noon) • Climate Smart Communities Scenarios Project: Discuss public comments and potential refinements to draft approach and implementation recommendations - discussion and begin framing December 11 recommendation to Council	**November 13, 2014** • Climate Smart Communities Scenarios Project: Continue discussion on public comments, potential refinements and recommendation to Metro Council FYI: National League of Cities Congress of Cities and Exposition, Austin, TX, November 18 - 22
December 11, 2014 • Climate Smart Communities Scenarios Project: Recommendation to Metro Council on Council adoption of the preferred approach and implementation recommendations– Recommendation to the Metro Council requested Kaiser Permanente Healthcare Advocacy Kick-Off / Walking, Biking & Active Transportation	

Parking Lot:

- Regional Indicators briefing
- Presentation by the Oregon Trucking Association
- Oregon Resiliency Plan

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JOINT POLICY ADVISORY COMMITTEE ON TRANSPORTATION
Aug. 14, 2014
Metro Regional Center, Council Chamber

MEMBERS PRESENT	AFFILIATION
Jack Burkman	City of Vancouver
Carlotta Collette	Metro Council
Shirley Craddick	Metro Council
Nina DeConcini	Oregon Department of Environmental Quality
Craig Dirksen, Chair	Metro Council
Denny Doyle	City of Beaverton, representing Cities of Washington County
Donna Jordan	City of Lake Oswego, representing Cities of Clackamas Co.
Neil McFarlane	TriMet
Diane McKeel	Multnomah County
Steve Novick	City of Portland
Roy Rogers	Washington County
Paul Savas	Clackamas County
MEMBERS EXCUSED	AFFILIATION
Ed Barnes	Clark County
Shane Bemis	City of Gresham, representing Cities of Multnomah Co.
Jason Tell	Oregon Department of Transportation
Don Wagner	Washington Department of Transportation
Bill Wyatt	Port of Portland
ALTERNATES PRESENT	AFFILIATION
Lisa Barton-Mullins	City of Fairview, representing Cities of Multnomah Co.
Bart Gernhart	Washington Department of Transportation
Susie Lahsene	Port of Portland
Jeff Swanson	Clark County
Rian Windsheimer	Oregon Department of Transportation

STAFF: Beth Cohen, Andy Cotugno, Elissa Gertler, Alison R. Kean, Tom Kloster, Ted Leybold, Jill Schmidt, Randy Tucker, Nikolai Ursin, and John Williams.

1. CALL TO ORDER, DECLARATION OF A QUORUM & INTRODUCTIONS

Chair Craig Dirksen declared a quorum and called the meeting to order at 7:31 a.m.

2. CITIZEN COMMUNICATIONS ON JPACT ITEMS

There were none.

3. UPDATES FROM THE CHAIR & COMMITTEE MEMBERS

Chair Dirksen and committee members shared updates on the following items:

- Chair Dirksen thanked those who attended the T4America policy breakfast hosted in July to discuss how the Portland-metropolitan region can improve access to jobs.
- The JPACT Finance Subcommittee, convened by Chair Dirksen, will focus on the potential 2015 legislative transportation package. The first meeting will be held at 7:30 a.m. on Aug. 21 at Metro Regional Center.
- On July 10, JPACT recommended that Metro Council adopt the 2014 Regional Transportation Plan, 2015-2018 Metropolitan Transportation Improvement Program, and Regional Active Transportation Plan. Metro Council adopted the plans in July 2014.
- Metro will host a joint meeting with JPACT and Metro Policy Advisory Committee (MPAC) on Nov. 7 to discuss the Climate Smart Communities Scenarios Project draft approach, including potential refinements and recommendations to Metro Council.
- Councilor Shirley Craddick provided information on the 2014 Rail-Volution Conference Sept. 22-24 in Minneapolis, Minn.
- Councilor Carlotta Collette provided an update on the Oregon Department of Transportation (ODOT) Area Commission on Transportation (ACT) Task Force considering creation of an ACT for the Portland-Metropolitan region. She provided a chart with four proposed options for the composition of the ACT and stated that the commission formed will change the makeup of JPACT, but not necessarily as JPACT regularly meets. The Task Force will meet on Sept. 22 to discuss whether ODOT Region 1 should be represented by one or two ACTs.
- Mr. Paul Savas stated that the Clackamas County Coordinating Committee cancelled the Sept. 4 meeting due to the holiday earlier in the week.
- Mr. Rian Windsheimer updated members on the recruitment for an ODOT Region 1 Manager.
- Mr. Jack Burkman discussed his handout [Advisory Vote # 1] regarding Clark County Board of Commissioners consideration of Resolution 2014-07-27 for a toll-free East County Bridge. Ms. Susie Lahsene stated that Port of Portland has many concerns and questions that will be shared with the Clark County Board of Commissioners.
- Mr. Roy Rogers offered to share information regarding Washington County tax-break negotiations with interested members.
- Mr. Neil McFarlane stated that Orenco Park and Ride would be temporarily closed for construction beginning Aug. 31.
- Chair Dirksen recognized Washington County Commissioner Roy Rogers as the longest-serving County Commissioner continuing to serve in the State of Oregon. Commissioner Rogers was first elected to the Washington County Board of Commissioners and sworn into office in 1985.

4. <u>CONSENT AGENDA</u>

<u>MOTION</u>: Mr. Don Wagner (Or Denny Doyle) moved and Ms. Donna Jordan seconded to approve the Aug. 14 Consent Agenda, which consisted of:

- Consideration of the minutes for May 30, 2014; and
- Consideration of the minutes for July 10, 2014.

ACTION: With all in favor, the motion passed.

4 TRANSPORTATION FUNDING INITIATIVES

Chair Dirksen introduced Congressman Earl Blumenhauer and summarized regional conversations on establishing more stable transportation funding at the federal level and development of a state framework for investments in our transportation system.

Congressman Blumenhauer discussed the need for a federal commitment to transportation funding and argued that an increase in the gas-tax would begin to address current funding issues. He distributed an article from The Atlantic titled "Driving the Highway Trust Fund into the Ground," which challenges Congress to complete a long-term transportation funding plan. Congressman Blumenhauer shared his commitment to forming such a plan and stated that Congress should not adjourn until reaching a six-year framework for transportation funding.

Congressman Blumenhauer thanked the region for continuing to support Rail-Volution, a transportation summit that started in Portland, Oregon.

Member comments included:

Members discussed household investments in infrastructure relative to leisure spending and overall public perception of government spending. Members acknowledged public interest to know how funds will be distributed in advance of supporting tax increases and to see the results of infrastructure investments after implementation.

Mr. Burkman shared the state of Washington's experience with public feedback following an increased gas-tax.

Mr. McFarlane stated that Portland is not currently a leader in transportation planning since other regions are investing more aggressively in transportation. He urged JPACT committee members to consider opportunities for regional transportation initiatives.

Members discussed the relationship between jobs and transportation. Mr. Savas stated that the region needs to remain competitive as its unemployment rate increases.

5 ADJOURN

Chair Dirksen adjourned the meeting at 8:45 a.m.

Respectfully Submitted,

Jill Schmidt, Council Policy Assistant

ATTACHMENTS TO THE PUBLIC RECORD FOR THE MEETING OF AUG. 14, 2014

ITEM	DOCUMENT TYPE	DOC DATE	DOCUMENT DESCRIPTION	DOCUMENT NO.
3.0	Handout	N/A	ODOT Region 1 ACT Options	81414j-01
3.0	Handout	N/A	Advisory Vote #1; Toll-Free East County Bridge Advisory Vote	81414j -02
5.0	Handout	8/8/2014	"Driving the highway Trust Fund Into the Ground"	81414j -03

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Metro | *Memo*

DATE: September 3, 2014

TO: JPACT and interested parties

FROM: Kim Ellis, Principal Transportation Planner

SUBJECT: Climate Smart Communities Scenarios Project

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PURPOSE

This memo provides an overview of the results of the draft approach evaluation, estimated costs and draft implementation recommendations that will be subject to public review beginning Sept. 15. JPACT will be asked to identify policy topics to prioritize for discussion in October and November.

ACTION REQUESTED

JPACT members provide feedback to staff on the following questions:

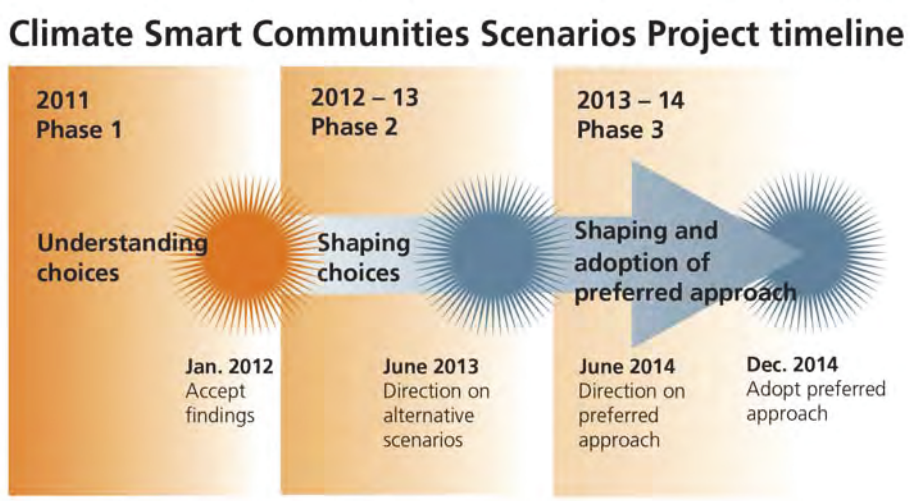
1. Do members have feedback or suggestions about the draft implementation recommendations (the draft toolbox of early actions or the draft performance monitoring and reporting approach)?
2. What policy topics would members like to discuss in October and November prior to making recommendation to Council on Dec. 10?

BACKGROUND

The Climate Smart Communities Scenarios Project was initiated in response to a mandate from the 2009 Oregon Legislature to reduce per capita greenhouse gas emissions from cars and small trucks by 20 percent below 2005 levels by 2035. The reduction is in addition to significantly greater reductions anticipated to occur from advancements in cleaner, low carbon fuels and more fuel efficient vehicle technologies.

The goal of the project is to engage community, business, public health and elected leaders in a discussion to shape a preferred approach that accommodates expected growth, meets the state mandate and supports local and regional plans for downtowns, main streets, corridors and employment areas.

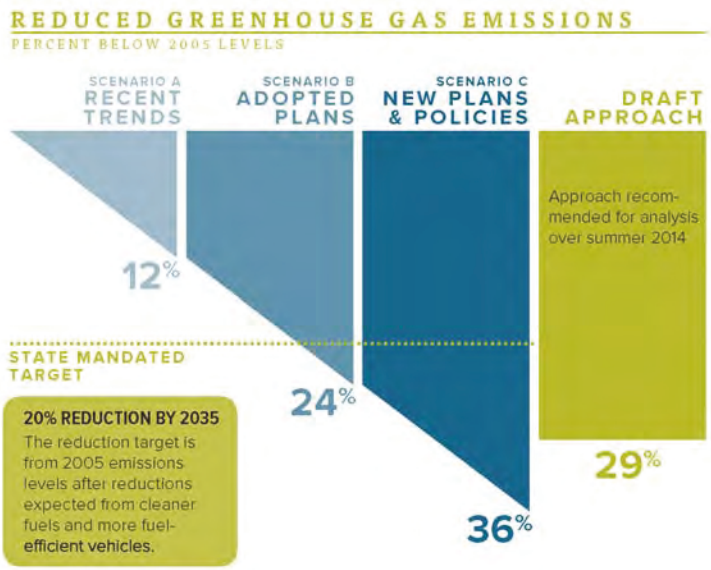
The project is nearing completion and continues to be on track to meet its legislative and administrative mandates. The Metro Council is required to select a preferred approach by the end of 2014. The project timeline is provided for reference.



On May 30, 2014, MPAC and the Joint Policy Advisory Committee on Transportation (JPACT) unanimously recommended a draft approach for testing **(Attachment 2)**. The approach assumes:

- state assumptions for advancements in cleaner, low carbon fuels and more fuel efficient vehicle technologies and private insurance paid by miles driven;
- the 2040 Growth Concept, adopted local land use and transportation plans (as of 2014), and the 2014 Regional Transportation Plan (RTP) financially constrained system of investments for transit capital, active transportation, and streets and highways;
- 2014 RTP state system of investments (full RTP) for transit service levels and capital related investments to support increased service levels; and
- additional investments beyond the full RTP to expand the use of technology to actively manage the transportation system and provide travel information and incentives to expand use of travel options in the region.

ESTIMATED GHG EMISSIONS REDUCTION OF DRAFT APPROACH



The results are in – we found good news. We can meet the target if we make the investments needed to build adopted local plans and visions. However, we will fall short if we continue investing at current levels.

The analysis found the draft approach achieves a 29 percent reduction in per capita greenhouse gas emissions. The region has identified an approach that does more than just meet the target. It also supports many other local, regional and state goals, including clean air and water, transportation choices, healthy and equitable communities, and a strong regional economy. Overall implementation of the draft approach is expected to provide significant public health, environmental, economic and community benefits **(Attachment 5)**.

ESTIMATED COST TO IMPLEMENT DRAFT APPROACH | The draft approach reflects local and regional investment priorities that address current and future transportation needs in the region, and relies the regionally agreed upon funding strategy adopted in the 2014 Regional Transportation Plan (RTP). **The total estimated cost of the draft Climate Smart Strategy is $24 billion over the next 20 years, about $5 billion more than the region identified in the financially constrained RTP and $5 billion less than the full RTP.**[1] The total cost to implement is estimated to be $945 million per year plus the cost to maintain and operate the road system. This is more than we currently spend on transportation, but as noted above, the benefits extend well beyond our transportation system.

It is important to note that while the funding gap between the draft approach and the 2014 RTP financially constrained system of investments is largely due to the increased level of transit service provided, the transit operations costs are expected to fall within the funding assumptions adopted in the full 2014 RTP, including the assumption of the equivalent of a 0.2 percent increase in TriMet's payroll tax. This increase falls within TriMet's statutory authority.

OVERVIEW OF DRAFT IMPLEMENTATION RECOMMENDATIONS

Staff and project partners prepared draft implementation recommendations that will be subject to a 45 day public comment period. The purpose of the public review is to provide an opportunity for further refinement of the draft approach and the policies and actions needed to support implementation and performance monitoring.

DRAFT REGIONAL FRAMEWORK PLAN AMENDMENTS OAR 660-044-0040(1) directs Metro to amend the Regional Framework Plan (RFP), including the 2040 Growth Concept to reflect the preferred approach adopted by the Metro Council. While no amendment to the 2040 Growth Concept is necessary because the draft approach assumes continued implementation of the 2040 Growth Concept and adopted local land use and transportation plans, refinements to RFP policy language are needed to reflect the key elements of the draft approach. Draft RFP amendments are under development.

DRAFT TOOLBOX OAR 660-044-0040(3)(c) and (f) direct Metro to identify the local and regional policies and strategies intended to achieve the required greenhouse gas emissions reduction and recommendations for state or federal policies and actions needed to support the approach adopted by the Metro Council. The region is stronger together and everyone will have a role in implementation. Local, regional, state and federal partnerships and legislative support will be needed to secure adequate funding for transportation investments and address other barriers to implementation.

Building on existing local, regional and state activities and priorities, the project partners have developed a toolbox of early actions with specific steps that can be taken in the next five years **(Attachment 3)**. This is a comprehensive menu of policy, program and funding actions that can be selected from and locally tailored to best support local plans and visions. Many actions are already being implemented to varying degrees across the region and demonstrate regional and local commitment to greenhouse gas emissions reduction. The actions will be considered for incorporation in the Regional Transportation Plan as part of the 2018 RTP update in addition to other medium and longer term actions identified during the update.

[1] Preliminary estimates to fund local and state road related operations, maintenance and preservation needs are $12 billion, and are in addition to the $24 billion; the estimates are subject to further refinement.

No functional plan amendments will be proposed for the Dec. 2014 action; however, Metro is required to review regional functional plans and amend as needed to implement the approach adopted by the Metro Council. Significant changes are not anticipated at this time given that the draft approach relies on adopted local and regional plans. The draft toolbox identifies the need to review the functional plans to: (1) identify if any changes are needed to implement the approach adopted by the Metro Council within one year of LCDC approval of Metro's Regional Framework Plan amendments, consistent with OAR 660-044-0045(1); and (2) identify any changes needed to implement the Regional Active Transportation Plan and regional parking policies as part of the 2018 RTP update. Review of functional plans will be conducted through a regional process with opportunities for local governments and others to shape and provide input.

DRAFT PERFORMANCE MONITORING AND REPORTING APPROACH | OAR 660-044-0040(3)(e) directs Metro to identify performance measures and targets to monitor and guide implementation of the preferred approach adopted by the Metro Council. The purpose of performance measures and targets is to enable Metro and area local governments to monitor and assess whether key elements for actions that make up the preferred approach are being implemented, and whether the preferred approach is achieving the expected outcomes. The proposed performance monitoring and reporting approach is summarized in **Attachment 4**. The approach relies on existing regional performance monitoring processes to the extent possible, including future RTP updates, Urban Growth Report updates and reporting in response to Oregon State Statutes ORS 197.301 and ORS 197.296.

The draft approach and related policies and actions are the result of a four year collaborative process informed by research, analysis, community engagement, and deliberation.

WHAT HAS CHANGED SINCE JPACT LAST CONSIDERED THIS ISSUE/ITEM?

- In June, the Metro Council directed staff to test the draft approach as unanimously recommended by the Metro Policy Advisory Committee (MPAC) and the Joint Policy Advisory Committee on Transportation (JPACT) on May 30.

- Staff **updated the project schedule** to expand the fall public comment period to be held from Sept. 15 to Oct. 30, 2014 and provide briefings at county level coordinating committees in advance of the joint MPAC and JPACT meeting planned for November 7. **(Attachments 1 and 2)** The project continues to be on track to meet its legislative and administrative mandates.

- On June 16, staff convened a technical workshop with the Metro Technical Advisory Committee (MTAC) and the Transportation Policy Alternatives Committee (TPAC) to develop modeling assumptions to reflect the May 30 MPAC and JPACT recommendation on the draft preferred approach to test. Staff **completed the evaluation in August and prepared materials that will be subject to further review during the 45-day public comment period.**

- On August 18, staff convened a technical workshop with MTAC and TPAC to report the evaluation results and seek input on the proposed public review materials, including the draft toolbox of early actions and the proposed performance monitoring approach. **(Attachments 3 and 4)**

- On August 29 and Sept. 4, respectively, TPAC and MTAC discussed the evaluation results and draft implementation recommendations. Comments and suggestions included:

    - We can meet the target by building local plans and visions; it is important to emphasize there is regional agreement to carry forward and implement adopted regional and local plans. Priority toolbox actions should include working together to secure adequate

funding for transportation investments and addressing other barriers to implementation.

- Given that the toolbox reflects a menu of actions that can be tailored locally to provide local control and flexibility, Metro sees recommended more policy discussion and direction on how the region and local governments can demonstrate their commitment to implementing the approach adopted by the Metro Council. Suggestions included development of a regional compact that highlights what the region agrees to work on together and adoption of local resolutions or other means to signal a commitment to work together and implement priority actions.

  MTAC recommended focusing future discussions on identifying the top ten toolbox actions that the region agrees to work on together, top ten actions the Metro Council is willing to commit to, and top ten actions local governments and special districts are willing to commit to, recognizing that local leaders can choose which actions are right for their communities, and will have the flexibility to decide how and when to implement them. MTAC's recommendation is consistent with TPAC's August 29 suggestions.

  The technical work group will assist Metro staff with drafting the top ten actions the region agrees to work on together to serve as a starting point for further discussion and refinement. Metro staff will work with the Metro Council to identify Council priority actions. Local, state and regional partners are encouraged to review the toolbox and identify actions they have already taken and any new actions they are willing to consider or commit to moving forward in 2015.

WHAT IS THE SCHEDULE FOR FUTURE CONSIDERATION OF ITEM?

See Attachment 1.

WHAT PACKET MATERIAL DO YOU PLAN TO INCLUDE ELECTRONICALLY?

Attachment 1. Climate Smart Communities 2014 Decision Milestones *(8/25/14)*

Attachment 2. Climate Smart Communities Project Update *(August 2014)*

Attachment 3. Climate Smart Communities Strategy Scoping – Draft Toolbox of possible early actions (2015-2020) *(8/20/14)*

Attachment 4. Climate Smart Strategy Scoping – Draft performance monitoring and reporting approach *(8/20/14)*

Attachment 5. Climate Smart Communities Strategy – Key Results ***(to be sent separately in a supplemental mailing)***

2014 DECISION MILESTONES

1. Receive Council direction on Draft Approach	June 19, 2014
2. Release Draft Approach for 45-day public comment period	September 15, 2014
3. Seek Council adoption of recommended preferred approach	December 18, 2014

EVENTS AND PRODUCTS TO ACTUALIZE DECISION MILESTONES

Milestone 1	**Council direction on draft approach to test**
Jan. - Feb. 2014	Metro Council, MPAC and JPACT confirm process & policy areas to discuss in 2014
	Conduct interviews with community and business leaders and elected officials
Feb. – March 2014	MPAC and JPACT discuss background information on policy areas
	Launch public opinion research (telephone survey) and on-line public comment tool
	Convene discussion groups to gather input on strategies to include in draft approach
	MTAC and TPAC help frame policy choices for MPAC and JPACT discussion
April 11	Joint MPAC/JPACT meeting to discuss policy choices
April 2014	Public engagement report prepared for policy advisory committees and Metro Council
	MTAC and TPAC provide input on elements of draft approach and make recommendation to MPAC and JPACT
May 30	Joint MPAC/JPACT meeting to recommend draft approach to test

Milestone 2	**Release draft approach and implementation recommendations for 45 day public comment period**
June – Sept. 2014	Staff evaluates draft preferred approach and develops implementation recommendations
	MTAC and TPAC provide input on draft approach evaluation results, estimated costs and implementation recommendations
	Brief local officials on draft approach and upcoming adoption process through quarterly updates and other means
Week of Aug. 25, 2014	Public notice published on upcoming public comment period

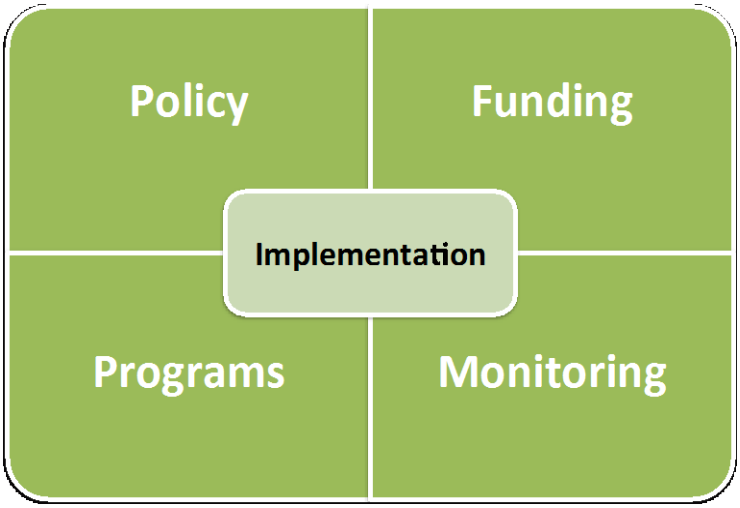
Sept. 2-11, 2014	Metro Council, MPAC and JPACT discussions on evaluation results, estimated costs and draft implementation recommendations
Sept. 15, 2014	**Release draft approach and implementation recommendations for 45 day public comment period**
	Send DLCD notice of initial evidentiary hearing
Milestone 3	**Seek Council adoption of recommended preferred approach**
Sept. – Oct. 2014	Brief local officials, TriMet, the Port of Portland and ODOT on the draft approach and upcoming adoption process through county-level coordinating committee meetings, quarterly updates, and other means
Sept. 25	Land Conservation and Development Commission briefing on draft approach and implementation recommendations
Sept. 26	TPAC discussion on draft approach and implementation recommendations
Oct. 7	Council discussion on draft approach and implementation recommendations *(if needed)*
Oct. 8	MPAC discussion on draft approach and implementation recommendations
Oct. 9	JPACT discussion on draft approach and implementation recommendations
Oct. 15	MTAC discussion on draft approach and implementation recommendations
Oct. 22	MPAC discussion on draft approach and implementation recommendations
Oct. 30	Public hearing (also first reading and initial evidentiary hearing)
Oct. 31	TPAC begins discussion of public comments and recommendation to JPACT
Nov. 4	Council discussion of public comments and prep for 11/7 MPAC/JPACT meeting
Nov. 7	MPAC/JPACT joint meeting to discuss potential refinements & recommendation to the Metro Council *(8am to noon, location TBD)*
Nov. 12	MPAC discussion on public comments, potential refinements & recommendation to the Metro Council
Nov. 13	JPACT discussion on public comments, potential refinements & recommendation to the Metro Council
Nov. 19	MTAC makes recommendation to MPAC on adoption of the preferred approach
Nov. 21	TPAC makes recommendation to JPACT on adoption of the preferred approach
Dec. 9	Council discussion of potential refinements being considered by MPAC and JPACT
Dec. 10	MPAC recommendation to the Metro Council on adoption of the preferred approach
Dec. 11	JPACT recommendation to the Metro Council on adoption of the preferred approach
Dec. 18, 2014	**Seek Metro Council adoption of recommended preferred approach** (2nd reading, public hearing and action)

Attachment 2

CLIMATE SMART COMMUNITIES SCENARIOS PROJECT
DRAFT APPROACH

August 2014

BACKGROUND | The 2009 Oregon Legislature required the Portland metropolitan region to reduce per capita greenhouse gas emissions from cars and small trucks by 20 percent below 2005 levels by 2035. The region has identified a draft approach that meets the target while also supporting many other state, regional and local goals, including clean air and water, transportation choices, healthy and equitable communities, and a strong regional economy.



KEY ELEMENTS OF THE DRAFT APPROACH RECOMMENDED BY MPAC, JPACT AND THE METRO COUNCIL

1. **Support Oregon's transition to cleaner, low carbon fuels, more fuel-efficient vehicles and private vehicle insurance paid by miles driven**
2. **Implement the 2040 Growth Concept and local adopted land use and transportation plans**
3. **Make transit more convenient, frequent, accessible and affordable**
4. **Use technology to actively manage the transportation system**
5. **Provide information and incentives to expand the use of travel options**
6. **Make biking and walking safe and convenient**
7. **Make streets and highways safe, reliable and connected**
8. **Manage parking to make efficient use of parking resources**
9. **Secure adequate funding for transportation investments**
10. **Demonstrate leadership on climate change**

WHAT'S NEXT

Metro staff completed an evaluation of the draft approach and is working with the regional advisory committees to identify potential actions for reducing greenhouse gas emissions that can be integrated with ongoing efforts to create great communities.

September Staff reports back results of the analysis and draft implementation recommendations to Metro Council and regional advisory committees

Fall Public and local government review of results, draft preferred approach and implementation recommendations

December 2014 MPAC and JPACT make recommendation to Metro Council on preferred approach

December 2014 Metro Council considers adoption of preferred approach

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

How can I participate?

The goal of the Climate Smart Communities Scenarios Project is to engage community, business and elected leaders in a discussion to shape a strategy for creating healthy and equitable communities and a strong economy while reducing greenhouse gas emissions. In addition to the public comment period from Sept. 15 to Oct. 30, 2014, there are other opportunities to provide input this fall and beyond.

Fall 2014

Provide comments

- Public comment period Sept. 15 to Oct. 30; beginning Sept. 15, an online public comment tool will be available at www.makeagreatplace.org

Attend regional advisory committee and Metro Council discussions

- Technical advisory committees
  - Transportation Policy Alternatives Committee – 9:30 a.m. Aug. 29, Sept. 26, Oct. 31, Nov. 21
  - Metro Technical Advisory Committee – 10 a.m. Sept. 3, Oct. 15, Nov. 19
- Policy advisory committees and the Metro Council
  - Joint Policy Advisory Committee on Transportation – 7:30 a.m. Sept. 11, Oct. 9, Nov. 7, Nov. 13, Dec. 11
  - Metro Policy Advisory Committee – 5 p.m. Sept. 10, Oct. 22, Nov. 7, Nov.12, Dec. 10
  - Metro Council – 2 p.m. Sept. 2, Oct. 30 (first read of ordinance), Nov. 4, Dec. 9, Dec. 18 (decision)

Attend county coordinating committee discussions

- Staff level
  - **Sept. 23** Clackamas Co. Transportation Advisory Committee
  - **Sept. 24** East Multnomah Co. Transportation Committee Technical Advisory Committee
  - **Sept. 25** Washington Co. Coordinating Committee Transportation Advisory Committee
- Policy level
  - **Oct. 2** C-4 Metro Subcommittee
  - **Oct. 6** East Multnomah Co. Transportation Committee
  - **Oct. 6** Washington Co. Coordinating Committee

Participate in issue-specific initiatives

- TriMet transit service enhancement planning process http://future.trimet.org
- Equity Strategy - Metro Equity Baseline Report to Metro Council 10/14, public engagement winter 2015 to shape Equity Action plan Spring/Summer 2015 www.oregonmetro.gov/equity
- Clinician Advocacy Training Workshop for health care professionals on Active Transportation at Metro on Dec. 11; contact Philip Wu, MD, at philwupdx@mac.com
- Oregon Transportation Forum – Non-profit membership organization facilitating discussions and action on multi-modal transportation initiatives, including legislative funding strategy http://oregontransportationforum.wordpress.com

2015 and beyond

Participate in future regional discussions on transportation needs and funding options

- Regional transportation funding coalition (proposed) – For updates, send email to RegionalTransportationPlan.rtp@oregonmetro.gov
- 2018 RTP Title VI/EJ work group (proposed) – For updates, send email to RegionalTransportationPlan.rtp@oregonmetro.gov

REGIONAL ADVISORY COMMITTEE REVIEW DRAFT

CLIMATE SMART COMMUNITIES STRATEGY SCOPING AND DRAFT TOOLBOX OF POSSIBLE EARLY ACTIONS (2015 2020)

BACKGROUND The 2009 Oregon Legislature required the Portland metropolitan region to reduce per capita greenhouse gas emissions from cars and small trucks by 20 percent below 2005 levels by 2035. The region has identified a comprehensive strategy that meets the target while also supporting many other state, regional and local goals, including clean air and water, transportation choices, healthy and equitable communities, and a strong regional economy. The strategy relies on ten policies and a toolbox of early actions that the State of Oregon, Metro, local governments, TriMet, the South Metro Area Rapid Transit (SMART) district and the Port of Portland can choose from as the state and region move forward together to begin implementation in a manner that builds on and advances adopted local and regional plans, social equity and leadership on climate change. The policies and actions are the result of a four-year collaborative process informed by research, analysis, community engagement, and deliberation and will be subject to public review from Sept. 15 to Oct. 30 before being considered by regional policy advisory committees and the Metro Council in December 2014.

HOW TO USE THE TOOLBOX The toolbox is a comprehensive set of policy, program and funding actions that are focused on specific steps that can be taken in the next five years. The non-binding actions build on existing local, regional and state activities and reflect a menu of actions that can be locally tailored. Local, state and regional partners are encouraged to review the toolbox and identify actions they have already taken and any new actions they are willing to consider or commit to moving forward in 2015. The actions will be considered for incorporation in the Regional Transportation Plan as part of the 2018 RTP update in addition to other medium and longer-term actions identified during the update.

POLICY	TOOLBOX OF POSSIBLE EARLY ACTIONS (2015 2020)			
	WHAT CAN THE STATE DO?	WHAT CAN METRO DO?	WHAT CAN CITIES AND COUNTIES DO?	WHAT CAN TRIMET, SMART AND THE PORT OF PORTLAND DO?
1. Support Oregon's transition to cleaner, low carbon fuels, more fuel efficient vehicles and private vehicle insurance paid by miles driven	**Immediate (2015 16)** ☐ Reauthorize Oregon Clean Fuels Program ☐ Implement Oregon Zero Emission Vehicle Program and Multi-State Zero Emission Vehicle Action Plan in collaboration with California and other states ☐ Lead by example by increasing public electric vehicle fleet ☐ Continue to provide funding to Drive Oregon to advance electric mobility ☐ Work with insurance companies to offer and encourage private insurance paid by the miles driven **Near term (2017 20)** ☐ Provide consumer and business incentives to purchase new electric vehicles ☐ Expand communication efforts about the cost savings of driving more fuel-efficient vehicles ☐ Promote and provide information, funding and incentives to encourage the provision of electric vehicle charging stations and infrastructure in residences, work places and public places ☐ Encourage private fleets to purchase, lease or rent electric vehicles ☐ Develop model code for electric vehicle infrastructure and partnerships with businesses ☐ Continue to remove barriers to electric vehicle charging and fueling station installations ☐ Promote electric vehicle infrastructure planning and investment by public and private entities ☐ Provide clear and accurate signage to direct	**Immediate (2015 16)** ☐ Support reauthorization of the Oregon Clean Fuels Program through Legislative agenda, testimony, endorsement letters or similar means ☐ Support the Oregon Zero Emission Vehicle Program through Legislative agenda, testimony, endorsement letters or similar means **Near term (2017 20)** ☐ Lead by example by increasing public electric vehicle fleet ☐ Support state efforts to build public acceptance of private vehicle insurance paid by the miles driven ☐ Expand communication efforts about the cost savings of driving more fuel-efficient vehicles ☐ Partner with state agencies to hold regional planning workshops to educate local governments on electric vehicle opportunities ☐ Develop electric vehicle readiness strategy for region in partnership with local governments, state agencies, Drive Oregon, electric utilities, non-profits and others	**Immediate (2015 16)** ☐ Support reauthorization of the Oregon Clean Fuels Program through Legislative agenda, testimony, endorsement letters or similar means ☐ Support the Oregon Zero Emission Vehicle Program through Legislative agenda, testimony, endorsement letters or similar means **Near term (2017 20)** ☐ Lead by example by increasing public electric vehicle fleet ☐ Expand communication efforts about the cost savings of driving more fuel-efficient vehicles ☐ Pursue grant funding and partners to expand the growing network of electric vehicle fast charging stations ☐ Partner with local dealerships, Department of Energy (DOE) Clean Cities programs, non-profit organizations, businesses and others to incorporate electric vehicle outreach and education events for consumers in conjunction with such events as Earth Day celebrations, National Plug-In Day and the DOE/Drive Oregon Workplace Charging Challenge ☐ Adopt policies and update development codes to support private adoption of electric vehicles, such as streamlining permitting for alternative fueling stations, planning for access to charging stations, allowing charging stations in residences, work places and public places, and providing preferential parking for electric vehicles ☐ Update development codes and encourage new	**Immediate (2015 16)** ☐ Support reauthorization of the Oregon Clean Fuels Program through Legislative agenda, testimony, endorsement letters or similar means ☐ Support the Oregon Zero Emission Vehicle Program through Legislative agenda, testimony, endorsement letters or similar means **Near term (2017 20)** ☐ Provide electric vehicle charging stations in public places (e.g., park-and-rides, parking garages) ☐ Provide preferential parking for electric vehicles and vehicles using alternative fuels

POLICY	TOOLBOX OF POSSIBLE EARLY ACTIONS (2015-2020)			
	WHAT CAN THE STATE DO?	WHAT CAN METRO DO?	WHAT CAN CITIES AND COUNTIES DO?	WHAT CAN TRIMET, SMART AND THE PORT OF PORTLAND DO?
	electric vehicle users to charging and fueling stations and parking ☐ Expand communication efforts to promote electric vehicle tourism activities ☐ Continue participation in the Pacific Coast Collaborative, Western Climate Initiative, and West Coast Green Highway Initiative and partner with members of Energize Oregon coalition ☐ Track and report progress toward adopted state goals related to greenhouse gas emissions reductions and electric vehicle deployment ☐ Provide incentives and information to expand use of pay-as-you-drive insurance and report on progress		construction to include necessary infrastructure to support use of electric and alternative fuel vehicles	
2. Implement the 2040 Growth Concept and local adopted land use and transportation plans	**Immediate (2015-16)** ☐ Repeal the statewide ban on inclusionary zoning to allow local communities to customize a housing policy that meets the needs of their residents ☐ Reauthorize Oregon Brownfield Redevelopment Fund ☐ Support brownfield redevelopment-related legislative proposals ☐ Begin implementation of the Statewide Transportation Strategy Vision and short-term implementation plan to support regional and community visions **Near-term (2017-20)** ☐ Seek opportunities to leverage local, regional, state and federal funding to achieve local visions and the region's desired outcomes ☐ Provide increased funding and incentives to local governments, developers and non-profits to encourage brownfield redevelopment and transit-oriented development to help keep urban areas compact	**Immediate (2015-16)** ☐ Continue to implement policies and investments that align with regional and community visions to focus growth in designated centers, corridors and employment areas ☐ Support repealing ban on inclusionary zoning through Legislative agenda, testimony, endorsement letters or similar means ☐ Support reauthorization of Oregon Brownfield Redevelopment Fund through Legislative agenda, testimony, endorsement letters or similar means ☐ Continue to facilitate regional brownfield coalition to develop legislative proposals and increase resources available in the region for brownfield redevelopment ☐ Continue to maintain a compact urban growth boundary ☐ Review functional plans and amend as needed to implement Climate Smart Strategy **Near-term (2017-20)** ☐ Seek opportunities to leverage local, regional, state and federal funding to achieve local visions and the region's desired outcomes ☐ Expand on-going technical assistance and grant funding to local governments, developers and others to incorporate travel information and incentives, transportation system management and operations strategies, parking management approaches and transit-oriented development in local plans and projects ☐ Continue to convene regional brownfield coalition and strengthen regional brownfields program by providing increased funding and	**Immediate (2015-16)** ☐ Continue to implement policies and investments that align with community visions, focus growth in designated centers, corridors and employment areas ☐ Support repealing ban on inclusionary zoning through Legislative agenda, testimony, endorsement letters or similar means ☐ Support reauthorization of Oregon Brownfield Redevelopment Fund through Legislative agenda, testimony, endorsement letters or similar means ☐ Participate in regional brownfield coalition to develop legislative proposals and increase resources available in the region for brownfield redevelopment **Near-term (2017-20)** ☐ Pursue opportunities to locate higher-density residential development near activity centers such as parks and recreational facilities, commercial area, employment centers, and transit ☐ Locate new schools, services, shopping, and other health promoting resources and community destinations close to neighborhoods ☐ Seek opportunities to leverage local, regional, state and federal funding to achieve local visions and the region's desired outcomes ☐ Develop brownfield redevelopment plans and leverage local funding to seek state and federal funding and create partnerships that leverage the investment of private and non-profit developers ☐ Review air filtration system design guidance and	**Immediate (2015-16)** ☐ Continue to implement policies and investments that align with community visions, focus growth in designated centers, corridors and employment areas ☐ Support repealing ban on inclusionary zoning through Legislative agenda, testimony, endorsement letters or similar means ☐ Support reauthorization of Oregon Brownfield Redevelopment Fund through Legislative agenda, testimony, endorsement letters or similar means **Near-term (2017-20)** ☐ Seek opportunities to leverage local, regional (, state and federal funding to achieve local visions and the region's desired outcomes ☐ Share brownfield redevelopment expertise with local governments and expand leadership role in making brownfield sites development ready

POLICY	TOOLBOX OF POSSIBLE EARLY ACTIONS (2015-2020)			
	WHAT CAN THE STATE DO?	WHAT CAN METRO DO?	WHAT CAN CITIES AND COUNTIES DO?	WHAT CAN TRIMET, SMART AND THE PORT OF PORTLAND DO?
		technical assistance to local governments to leverage the investment of private and non-profit developers	incentives for new residential development along transit corridors and in designated growth areas	
3. Make transit more convenient, frequent, accessible and affordable	**Immediate (2015-16)** ☐ Begin update to Oregon Public Transportation Plan ☐ Increase state funding for transit service ☐ Maintain existing intercity passenger rail service and develop proposals for improvement of speed, frequency and reliability ☐ Provide technical assistance and funding to help establish local transit service **Near-term (2017-20)** ☐ Adopt Oregon Public Transportation Plan with funding strategy to implement ☐ Begin implementation of incremental improvements to intercity passenger rail service ☐ Make funding for access to transit a priority	**Immediate (2015-16)** • Build a diverse coalition that includes elected officials and community and business leaders at local, regional and state levels working together to: ○ Seek and advocate for new, dedicated funding mechanism(s) ○ Seek transit funding from Oregon Legislature ○ Consider local funding mechanism(s) for local and regional transit service ○ Support state efforts to consider carbon pricing ○ Fund reduced fare programs and service improvements for youth, older adults, people is disabilities and low-income families • Consider local funding mechanism(s) for local and regional transit service • Update High Capacity Transit System Plan in 2015 **Near-term (2017-20)** • Support reduced fares and service improvements for low-income families and individuals, youth, older adults and people with disabilities through testimony, endorsement letters or similar means • Make funding for access to transit a priority • Research and develop best practices that support equitable growth and development near transit without displacement and strategies that provide for the retention and creation of businesses and affordable housing near transit • Update Regional Transportation Plan by 2018	**Immediate (2015-16)** ☐ Support and/or participate in efforts to build transportation funding coalition ☐ Participate in development of TriMet Service Enhancement Plans (SEPs): ○ Provide more community to community transit connections ○ Identify community-based public and private shuttles that link to regional transit service ○ Link service enhancements to transit-supportive development, areas with communities of concern[1], and other locations with high ridership potential ○ Consider ridership demographics in service planning ☐ Consider local funding mechanism(s) for local and regional transit service **Near-term (2017-20)** ☐ Make funding for access to transit a priority ☐ Continue to complete gaps in pedestrian and bicycle access to transit ☐ Expand partnerships with transit agencies to implement capital improvements in frequent bus corridors (including dedicated bus lanes, stop/shelter improvements, and intersection priority treatments) to increase service performance ☐ Continue to implement policies and zoning that direct higher density, mixed-use zoning and development near transit ☐ Partner with transit providers and school districts to seek resources to support youth pass program and expanding reduced fare program to low-income families and individuals ☐ Support reduced fares and service improvements for low-income families and individuals, youth, older adults and people with disabilities through testimony, endorsement letters or similar means	**Immediate (2015-16)** ☐ Support and/or participate in efforts to build transportation funding coalition ☐ Expand transit payment options (e.g., electronic e-fare cards) to increase affordability, convenience and flexibility ☐ Seek state funding sources for transit and alternative local funding mechanisms ☐ Complete development of TriMet Service Enhancement Plans (SEPs): ○ Provide more community to community transit connections ○ Identify community-based public and private shuttles that link to regional transit service ○ Link service enhancements to transit-supportive development, areas with communities of concern, and other locations with potential high ridership potential ○ Consider ridership demographics in service planning ☐ Consider local funding mechanism(s) for local and regional transit service **Near-term (2017-20)** ☐ Expand partnerships with cities, counties and ODOT to implement capital improvements in frequent bus corridors (including dedicated bus lanes, stop/shelter improvements, and intersection priority treatments) to increase service performance ☐ Partner with local governments and school districts to seek resources to support youth pass program and expanding reduced fare program to low-income families and individuals ☐ Expand transit service to serve communities of concern, transit-supportive development and other potential high ridership locations, etc. ☐ Continue to improve and increase the availability of transit route and schedule information

[1] The 2014 Regional Transportation Plan defines communities of concern as people of color, people with limited English proficiency, people with low-income, older adults, and young people.

POLICY	TOOLBOX OF POSSIBLE EARLY ACTIONS (2015-2020)			
	WHAT CAN THE STATE DO?	WHAT CAN METRO DO?	WHAT CAN CITIES AND COUNTIES DO?	WHAT CAN TRIMET, SMART AND THE PORT OF PORTLAND DO?
4. Use technology to actively manage the transportation system	**Immediate (2015-16)** ☐ Integrate transportation system management and operations strategies into project development activities **Near-term (2017-20)** ☐ Expand deployment of intelligent transportation systems (ITS), including active traffic management, incident management and traveler information programs ☐ Partner with cities, counties and TriMet to expand deployment of transit signal priority along corridors with 15-minute or better transit service	**Immediate (2015-16)** ☐ Seek Metro Council/JPACT commitment to invest more in transportation system management and operations (TSMO) projects using regional flexible funds ☐ Advocate for increased state commitment to fund more investment using state funds **Near-term (2017-20)** ☐ Build capacity and strengthen interagency coordination ☐ Provide technical assistance and grant funding to support integrate transportation system management operations strategies in local plans, project development, and development review activities ☐ Update Regional TSMO Strategic Plan by 2018	**Immediate (2015-16)** ☐ Advocate for increased regional and state commitment to invest more in TSMO projects using regional and state funds **Near-term (2017-20)** ☐ Expand deployment of intelligent transportation systems (ITS), including active traffic management, incident management and travel information programs and coordinate with capital projects ☐ Partner with TriMet to expand deployment of transit signal priority along corridors with 15-minute or better transit service	**Near-term (2017-20)** ☐ Partner with cities, counties and ODOT to expand deployment of transit signal priority along corridors with 15-minute or better transit service
5. Provide information and incentives and expand the use of travel options	**Immediate (2015-16)** ☐ Adopt Statewide Transportation Options Plan with funding strategy to implement ☐ Deploy statewide eco-driving educational effort, including integration of eco-driving information in driver's education training courses, Oregon Driver's education manual and certification programs ☐ Review EcoRule to identify opportunities to improve effectiveness ☐ Increase state capacity and staffing to support on-going EcoRule implementation and monitoring ☐ Deploy video conferencing, virtual meeting technologies and other communication technologies to reduce business travel needs ☐ Partner with TriMet, SMART and media partners to link the Air Quality Index to transportation system information outlets **Near-term (2017-20)** ☐ Promote and provide information, recognition, funding and incentives to encourage commuter programs and individualized marketing to provide employers, employees and residents information and incentives to use travel options ☐ Integrate transportation demand management practices into planning, project development, and development review activities ☐ Establish a state vanpool strategy that addresses urban and rural transportation needs	**Immediate (2015-16)** ☐ Seek Metro Council/JPACT commitment to invest more regional flexible funds to expand direct services and funding provided to local partners (e.g., local governments, transportation management associations, and other non-profit organizations) to implement expanded education, recognition and outreach efforts in coordination with other capital investments ☐ Provide funding and partner with community-based organizations to develop culturally relevant information materials ☐ Develop best practices on how to integrate transportation demand management in local planning, project development, and development review activities ☐ Integrate transportation demand management practices into planning, project development ad development review activities **Near-term (2017-20)** ☐ Expand on-going technical assistance and grant funding to local governments, transportation management associations, business associations and other non-profit organizations to incorporate travel information and incentives in local planning and project development activities and at worksites ☐ Establish an on-going individualized marketing program that targets deployment in conjunction with capital investments being made in the	**Immediate (2015-16)** ☐ Advocate for increased state and regional funding to expand direct services provided to local partners (e.g., local governments, transportation management associations, and other non-profit organizations) to support expanded education, recognition and outreach efforts in coordination with other capital investments ☐ Host citywide and community events like Bike to Work Day and Sunday Parkways **Near-term (2017-20)** ☐ Integrate transportation demand management practices into planning, project development, and development review activities ☐ Provide incentives for new development over a specific trip generation threshold to provide travel information and incentives to support achievement of EcoRule and mode share targets adopted in local and regional plans ☐ Partner with businesses and/or business associations and transportation management associations to implement demand management programs in employment areas and centers served with active transportation options, 15-minute or better transit service, and parking management ☐ Expand local travel options program delivery through new coordinator positions and partnerships with business associations, transportation management associations, and	**Immediate (2015-16)** ☐ Expand employer program capacity and staffing to support expanded education, recognition and outreach efforts

POLICY	TOOLBOX OF POSSIBLE EARLY ACTIONS (2015-2020)			
	WHAT CAN THE STATE DO?	WHAT CAN METRO DO?	WHAT CAN CITIES AND COUNTIES DO?	WHAT CAN TRIMET, SMART AND THE PORT OF PORTLAND DO?
		region ☐ Begin update to Regional Travel Options Strategic Plan in 2018	other non-profit and community-based organizations	
6. Make biking and walking safe and convenient	**Immediate (2015-16)** ☐ Adopt Oregon Bicycle and Pedestrian Plan with funding strategy ☐ Adopt Vision Zero strategy ☐ Seek and advocate for new, dedicated funding mechanism(s) for active transportation projects ☐ Advocate for use of Connect Oregon funding for active transportation projects ☐ Review driver's education training materials and certification programs and make changes to increase awareness of bicycle and pedestrian safety ☐ Complete Region 1 Active Transportation Needs inventory ☐ Maintain commitment to funding Safe Routes to School programs statewide ☐ Fund Safe Routes to Transit programs ☐ Adopt a complete streets policy ☐ Partner with local governments to conduct site-specific evaluations from priority locations identified in the ODOT Pedestrian and Bicycle Safety Implementation Plan ☐ Improve bicycle and pedestrian crash data collection ☐ Support local and regional health impact assessments **Near-term (2017-20)** ☐ Continue to provide technical assistance and expand grant funding to support development and adoption of complete streets policies and designs ☐ Expand existing funding for active transportation investments	**Immediate (2015-16)** ☐ Adopt Vision Zero strategy ☐ Continue to fund construction of active transportation projects as called for in air quality transportation control measures ☐ Advocate for use of Connect Oregon funding for active transportation projects ☐ Build a diverse coalition that includes elected officials and community and business leaders at local, regional and state levels working together to: ○ Build local and state commitment to implement Active Transportation Plan and Safe Routes to Schools and Safe Routes to Transit programs ○ Seek and advocate for new, dedicated funding mechanism(s) ○ Advocate to maintain eligibility in federal formula programs (i.e., NHPP, STP, CMAQ) and discretionary programs (New Starts, Small Starts, TIFIA, TIGER) ☐ Seek opportunities to implement Regional Transportation Safety Plan recommendations in planning, project development and development review activities **Near-term (2017-20)** ☐ Provide technical assistance and planning grants to support development and adoption of complete streets policies ☐ Provide technical assistance and funding to support complete street designs in local planning and project development activities ☐ Review the regional transportation functional plan and make amendments needed to implement the Regional Active Transportation Plan ☐ Update and fully implement the Regional Transportation Safety Plan ☐ Update best practices in street design and complete streets, including: ○ develop a complete streets checklist ○ provide design guidance to minimize air pollution exposure for bicyclists and pedestrians	**Immediate (2015-16)** ☐ Adopt Vision Zero strategy ☐ Support and/or participate in efforts to build transportation funding coalition ☐ Advocate for use of Connect Oregon funding for active transportation projects ☐ Continue to leverage local funding with development for active transportation projects ☐ Seek opportunities to coordinate local investments with investments being made by special districts, park providers and other transportation providers ☐ Seek and advocate for new, dedicated funding mechanism(s) ☐ Seek opportunities to implement Regional Transportation Safety Plan recommendations in planning, project development and development review activities **Near-term (2017-20)** ☐ Develop and maintain a city/county-wide active transportation network of sidewalks, on- and off-street bikeways, and trails to provide connections between neighborhoods, schools, civic center/facilities, recreational facilities, transit centers, bus stops, employment areas and major activity centers ☐ Build infrastructure and urban design elements that facilitate and support bicycling and walking (e.g., completing gaps, crosswalks and other crossing treatments, wayfinding signs, bicycle parking, bicycle sharing programs, lighting, separated facilities) ☐ Invest to equitably complete active transportation network gaps in centers and along streets that provide access to transit stops, schools and other community destinations ☐ Link active transportation investments to providing transit and travel information and incentives ☐ Partner with ODOT to conduct site-specific evaluations from priority locations identified in the ODOT Pedestrian and Bicycle Safety Implementation Plan ☐ Expand Safe Routes to Schools programs to	**Immediate (2015-16)** ☐ Adopt Vision Zero strategy ☐ Support and/or participate in efforts to build transportation funding coalition ☐ Advocate for use of Connect Oregon funding for active transportation projects ☐ Complete Port of Portland 2014 Active Transportation Plan ☐ Seek grant funding to prepare a TriMet Bicycle Plan **Near-term (2017-20)** ☐ Invest in trails that increase equitable access to transit, services and community destinations

POLICY	TOOLBOX OF POSSIBLE EARLY ACTIONS (2015-2020)			
	WHAT CAN THE STATE DO?	WHAT CAN METRO DO?	WHAT CAN CITIES AND COUNTIES DO?	WHAT CAN TRIMET, SMART AND THE PORT OF PORTLAND DO?
			include high schools and Safe Routes to Transit ☐ Adopt "complete streets" policies and designs to support all users ☐ Establish local funding pool to leverage state and federal funds	
7. Make streets and highways safe, reliable and connected	**Immediate (2015-16)** ☐ Continue to maintain existing highway network ☐ Increase state gas tax (indexed to inflation and fuel efficiency) ☐ Update the Oregon Transportation Safety Action Plan ☐ Review driver's education training materials and certification programs and make changes to increase awareness of safety for all system users **Near-term (2017-20)** ☐ Work with Metro and local governments to consider alternative performance measures ☐ Integrate multi-modal designs in road improvement and maintenance projects to support all users	**Immediate (2015-16)** ☐ Build a diverse coalition that includes elected officials and community and business leaders at local, regional and state levels working together to: ○ Ensure adequate funding of local maintenance and support city and county efforts to fund maintenance and preservation needs locally ○ Support state and federal efforts to increase gas tax (indexed to inflation and fuel efficiency) ○ Support state and federal efforts to implement mileage-based road usage charge program ☐ Seek opportunities to implement Regional Transportation Safety Plan recommendations in planning, project development and development review activities **Near-term (2017-20)** ☐ Work with ODOT and local governments to consider alternative performance measures ☐ Provide technical assistance and grant funding to support integrated transportation system management operations strategies in local plans, projects and project development activities ☐ Update and fully implement Regional Transportation Safety Plan	**Immediate (2015-16)** ☐ Continue to maintain existing street network ☐ Support and/or participate in efforts to build transportation funding coalition ☐ Seek opportunities to implement Regional Transportation Safety Plan recommendations in planning, project development and development review activities **Near-term (2017-20)** ☐ Work with ODOT and Metro to consider alternative performance measures ☐ Support railroad grade separation projects in corridors to allow for longer trains and less delay/disruption to other users of the system ☐ Invest in making new and existing streets "complete" and connected to support all users ☐ Integrate multi-modal designs in road improvement and maintenance projects to support all users	**Near-term (2017-20)** ☐ Support and/or participate in efforts to build transportation funding coalition ☐ Support railroad grade separation projects in corridors to allow for longer trains and less delay/disruption to other users of the system
8. Manage parking to make efficient use of parking resources	**Immediate (2015-16)** ☐ Provide technical assistance and grant funding to support development of parking management plans at the local and regional level ☐ Distribute "Parking Made Easy" handbook and provide technical assistance, planning grants, model code language, education and outreach ☐ Increase safe, secure and convenient bicycle parking **Near-term (2017-20)** ☐ Provide preferential parking for electric vehicles, vehicles using alternative fuels and carpools ☐ Prepare inventory of state-owned public parking spaces and usage	**Immediate (2015-16)** ☐ Build a diverse coalition that includes elected officials and community and business leaders at local, regional and state levels working together to: ○ Discuss priced parking as a revenue source to help fund travel information and incentives programs, active transportation projects and transit service **Near-term (2017-20)** ☐ Expand on-going technical assistance to local governments, developers and others to incorporate parking management approaches in local plans and projects	**Immediate (2015-16)** ☐ Consider charging for parking in high usage areas served by 15-minute or better transit service and active transportation options **Near-term (2017-20)** ☐ Prepare community inventory of public parking spaces and usage ☐ Adopt shared and unbundled parking policies ☐ Require or provide development incentives for developers to separate parking from commercial space and residential units in lease and sale agreements ☐ Provide preferential parking for electric vehicles, vehicles using alternative fuels and carpools	**Near-term (2017-20)** ☐ Provide preferential parking for electric vehicles, vehicles using alternative fuels and carpools ☐ Increase safe, secure and convenient bicycle parking

POLICY	TOOLBOX OF POSSIBLE EARLY ACTIONS (2015-2020)			
	WHAT CAN THE STATE DO?	WHAT CAN METRO DO?	WHAT CAN CITIES AND COUNTIES DO?	WHAT CAN TRIMET, SMART AND THE PORT OF PORTLAND DO?
	☐ Provide monetary incentives such as parking cash-out and employer buy-back programs	☐ Pilot projects to develop model parking management plans and model ordinances for different development types ☐ Research and update regional parking policies to more comprehensively reflect the range of parking approaches available for different development types and to incorporate goals beyond customer access, such as linking parking approaches to the level of transit service and active transportation options provided ☐ Amend Title 6 of Regional Transportation Functional Plan to update regional parking map and reflect updated regional parking policies	☐ Require or provide development incentives for large employers to offer employees a parking cash-out option where the employee can choose a parking benefit, a transit pass or the cash equivalent of the benefit ☐ Increase safe, secure and convenient bicycle parking ☐ Reduce requirements for off-street parking and establish off-street parking supply maximums, as appropriate, enacting and adjusting policies to minimize spillover impacts in adjacent areas ☐ Prepare parking management plans tailored to 2040 centers served by high capacity transit (existing and planned)	
9. Secure adequate funding for transportation investments	**Immediate (2015-16)** ☐ Seek and advocate for new, dedicated funding mechanism(s) for active transportation and transit ☐ Research and consider carbon pricing models to generate new funding for clean energy, transit and active transportation, alleviating regressive impacts to businesses and communities of concern ☐ Increase state gas tax (indexed to inflation and fuel efficiency) ☐ Implement a mileage-based road usage charge program as called for in Senate Bill 810 **Near-term (2017-20)** ☐ Expand funding available for active transportation and transit investments ☐ Broaden implementation of the mileage-based road usage charge	**Immediate (2015-16)** ☐ Update research on regional infrastructure gaps and potential funding mechanisms to inform communication materials that support engagement activities and development of a funding strategy to meet current and future transportation needs ☐ Build a diverse coalition that includes elected officials and community and business leaders at local, regional and state levels working together to: ○ Seek and advocate for new, dedicated funding mechanism(s) for transit and active transportation ○ Seek transit and active transportation funding from Oregon Legislature ○ Consider local funding mechanism(s) for local and regional transit service ○ Support state efforts to research and consider carbon pricing models ○ Build local and state commitment to implement Active Transportation Plan, and Safe Routes to Schools (including high schools) and Safe Routes to Transit programs ○ Ensure adequate funding of local maintenance and safety needs and support city and county efforts to fund safety, maintenance and preservation needs locally ○ Support state and federal efforts to increase gas tax (indexed to inflation and fuel efficiency) ○ Support state and federal efforts to implement road usage charge program	**Immediate (2015-16)** ☐ Support and/or participate in efforts to build transportation funding coalition ☐ Support state efforts to implement a mileage-based road usage charge program ☐ Support state efforts to research and consider carbon pricing models ☐ Consider local funding mechanism(s) for local and regional transportation needs, including transit service and active transportation **Near-term (2017-20)** ☐ Work with local, regional and state partners, including elected officials and business and community leaders, to develop a funding strategy to meet current and future transportation needs	**Immediate (2015-16)** ☐ Support and/or participate in efforts to build transportation funding coalition ☐ Seek and advocate for new, dedicated funding mechanism(s) for active transportation and transit ☐ Support state efforts to research and consider carbon pricing models **Near-term (2017-20)** ☐ Work with local, regional and state partners, including elected officials and business and community leaders, to develop a funding strategy to meet current and future transportation needs

POLICY	TOOLBOX OF POSSIBLE EARLY ACTIONS (2015-2020)			
	WHAT CAN THE STATE DO?	WHAT CAN METRO DO?	WHAT CAN CITIES AND COUNTIES DO?	WHAT CAN TRIMET, SMART AND THE PORT OF PORTLAND DO?
		○ Discuss priced parking as a revenue source for travel information and incentives programs, active transportation projects and transit service		
10. Demonstrate leadership on climate change	**Near-term (2017-20)** ☐ Update statewide greenhouse gas emissions inventory and track progress toward adopted greenhouse gas emissions reduction goals ☐ Report on the potential greenhouse gas emissions impacts of policy, program and investment decisions	**Near-term (2017-20)** ☐ Update regional greenhouse gas emissions inventory and track progress toward adopted greenhouse gas emissions reduction target ☐ Report on the potential greenhouse gas emissions impacts of policy, program and investment decisions ☐ Encourage development and implementation of local climate action plans	**Near-term (2017-20)** ☐ Sign U.S. Mayor's Climate Protection Agreement ☐ Prepare and periodically update community-wide greenhouse gas emissions inventory ☐ Report on the potential greenhouse gas emissions impacts of policy, program and investment decisions ☐ Develop and implement local climate action plans	**Near-term (2017-20)** ☐ Prepare and periodically update greenhouse gas emissions inventory of transportation operations ☐ Report on the potential greenhouse gas emissions impacts of policy, program and investment decisions

OTHER ACTIONS PROPOSED FOR CONSIDERATION AS PART OF FUTURE EFFORTS TO IMPLEMENT CLIMATE SMART STRATEGY

WHAT CAN THE STATE DO?	WHAT CAN METRO DO?	WHAT CAN CITIES AND COUNTIES DO?	WHAT CAN TRIMET, SMART AND THE PORT OF PORTLAND DO?
☐ Develop and implement an action plan for ODOT'S Climate Change Adaptation Strategy Report ☐ Support local government and MPO planning for resilience, targeting natural hazards and climate change mitigation ☐ Periodically update Oregon Natural Hazard Mitigation Plan ☐ Expand urban tree canopy to support carbon sequestration and use green street designs that include tree plantings ☐ Pilot new pavement and hard surface materials proven to help reduce heat gain associated with infrastructure	☐ Assess potential risks and identify strategies to address potential climate impacts to transportation infrastructure and operations, including critical needs for emergency response and community access ☐ Expand urban tree canopy to support carbon sequestration and encourage green street designs that include tree plantings ☐ Partner with DEQ to convene a work group to identify regional actions during "moderate" and "unsafe for sensitive groups" air quality episodes	☐ Expand urban tree canopy to support carbon sequestration and use green street designs that include tree plantings ☐ Pilot new pavement and hard surface materials proven to help reduce heat gain associated with infrastructure	☐ Identify strategies to address potential climate impacts to transportation infrastructure and operations, including critical needs for emergency response and community access

DRAFT PERFORMANCE MONITORING AND REPORTING APPROACH

BACKGROUND The 2009 Oregon Legislature required the Portland metropolitan region to reduce per capita greenhouse gas emissions from cars and small trucks by 20 percent below 2005 levels by 2035. The region has identified an approach that meets the target while also substantially contributing to many other state, regional and local goals, including clean air and water, transportation choices, healthy and vibrant communities and a strong economy.

OAR 660-044 directs Metro to identify performance measures and targets to monitor and guide implementation of the preferred approach selected by the Metro Council. The purpose of performance measures and targets is to enable Metro and area local governments to monitor and assess whether key elements or actions that make up the preferred approach are being implemented, and whether the preferred approach is achieving the expected outcomes. The rule allows for reporting to occur as part of existing procedures for coordinated regional planning in the Portland metropolitan area.

PERFORMANCE MONITORING AND REPORTING APPROACH | Rely on existing regional performance monitoring and reporting processes to the extent possible, including future RTP updates, Urban Growth Report updates and reporting in response to Oregon State Statutes ORS 197.301 and ORS 197.296.

POLICY	HOW WILL PROGRESS BE MEASURED?	
	PERFORMANCE MEASURE	PERFORMANCE TARGET
1. Support Oregon's transition to cleaner, low carbon fuels, more fuel efficient vehicles and pay as you drive private vehicle insurance	a. Share of registered light duty vehicles in Oregon that are low emission and zero emission vehicles *(new)* b. Share of Oregon households using pay-as-you-drive private vehicle insurance *(new)*	a. By 2035, 8% of light duty vehicles are low emission or zero emission vehicles compared to 2010 *(new)* b. By 2035, 40% of households in the region have pay-as-you-drive private vehicle insurance compared to 2010 *(new)*
2. Implement the 2040 Growth Concept and local adopted land use and transportation plans	a. New residential units built through infill and redevelopment in the urban growth boundary *(existing)* b. New residential units built on vacant land in the urban growth boundary *(existing)* c. Acres of urban reserves added to the urban growth boundary *(existing)* d. Daily vehicle miles traveled per capita *(existing)*	a. No target identified b. No target identified c. No target identified d. By 2035, reduce daily vehicle miles traveled per capita by 10% compared to 2010 *(existing)*
3. Make transit more convenient, frequent, accessible and affordable	a. Transit mode share *(existing)* b. Transit service daily revenue hours *(new)*	a. By 2035, triple transit mode share compared to 2010 *(existing)* b. By 2035, increase daily revenue hours by 80% compared to 2010 service levels *(new)*
4. Use technology to actively manage the transportation system	a. Share of regional transportation system covered with transportation system management and operations (TSMO) strategies *(new)*	a. By 2035, TSMO strategies are deployed on all freeways and arterials in the region *(new)*
5. Provide information and incentives to expand the use of travel options	a. Households participating in individualized marketing programs *(existing)* b. Workforce participating in commuter programs *(existing)*	a. By 2035, 45% of households in the region participate in individualized marketing programs *(new)* b. By 2035, 30% of employees in the region participate in commuter programs *(new)*
6. Make biking and walking safe and convenient	a. Biking and walking mode shares *(existing)* b. Bike and pedestrian fatalities and severe injuries *(existing)* c. Active transportation network completion *(existing)*	a. By 2035, triple biking and walking mode shares compared to 2010 modeled mode shares *(existing)* b. By 2035, reduce the number of fatal and severe injury crashes for bicyclists and pedestrians by 50% compared to 2007-2011 average *(existing)* c. By 2035, increase by 50% the miles of sidewalk, bikeways and trails compared to the regional active transportation network in 2010 *(existing)*
7. Make streets and highways safe, reliable and connected	a. Motor vehicle fatalities and severe injuries *(existing)* b. Reliability measure TBD in 2018 RTP update *(new)*	a. By 2035, reduce the number of fatal and severe injury crashes for motor vehicle occupants by 50% compared to 2007-2011 average *(existing)* b. TBD in 2018 RTP update
8. Manage parking to make efficient use of parking resources	a. Parking measure TBD in 2018 RTP update *(new)*	a. TBD in 2018 RTP update
9. Secure adequate funding for transportation investments	a. Progress in addressing local, regional and state transportation funding gap *(new)*	a. TBD in 2018 RTP update
10. Demonstrate leadership on climate change	a. Changes in roadway greenhouse gas emissions per capita *(new)*	a. By 2035, reduce roadway greenhouse gas emissions per capita by 20 percent compared to 2005 levels *(new)*

STREETCAR CORRIDOR EVALUATION METHODS: ECONOMIC IMPACT ANALYSIS PREDICTIVE MODEL

FINAL PROJECT REPORT

PREPARED FOR:
METRO
DECEMBER, 2013

JOHNSON REID
LAND USE ECONOMICS

Angelo planning group

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I. EXECUTIVE SUMMARY

A. About this Project

This report is prepared as the main written component of the *Streetcar Evaluation Methods* project, funded by grant from the Federal Transit Administration (FTA) to Metro, the regional government of the Portland Metropolitan Area. Many local and regional partners have partnered with Metro in guiding and advising this effort. The main objective of this project is the development of a predictive computer-based model (Model) which projects the potential new economic development within a proposed streetcar transit corridor.[1]

This report describes the process undertaken to inform and build the Model, provides an overview of the Model's methodology, and discusses the results of test runs of the Model on four corridor types.

This report is accompanied by a *Technical Appendix* which describes the model in further detail and provides instructions for operating it.

B. Economic Development is Just One Consideration in Assessing Streetcar Service

The Model described here is designed to project economic development impacts, defined here as *real estate development activity* and the resulting number of new housing units, commercial space, and real market value in the proposed streetcar corridor.

Economic development, as measured by an increase in real estate development activity and property values, is just one policy consideration among many in deciding whether or not a streetcar line should be built. The recently updated guidance from the FTA for the New Starts and Small Starts

[1] For the purposes of this project a corridor is defined as ¼ mile from the centerline of the street being considered for the improvement.

transit grant programs[2] emphasizes that the FTA evaluates transit grant proposals on six distinct but inter-related measures:

1. Mobility Improvements
2. Economic Development Effects
3. Environmental Benefits
4. Cost Effectiveness
5. Land Use Benefits
6. Congestion Relief

As these categories attest, economic development is just one among many considerations in evaluating the benefits of a proposed streetcar line. Furthermore, while real estate development activity is a critical means of measuring economic development, there are multiple factors influencing that activity, including some that may not be quantifiable by this Model.

This Model is meant to address only the economic development criterion in evaluating streetcar service. If being used to inform an FTA grant application process, the quantitative results of this Model are meant to complement the required qualitative discussion as outlined in the "Economic Development Effects" section of the FTA New Starts and Small Starts policy guidance document. These outputs are also important to local developers, investors and decision makers.

C. Overview of the Economic Development Model

The Model designed during this process is an Excel-based model which uses inputs on existing conditions in a corridor to predict the magnitude of new development that could be expected over time as a result of a streetcar investment in that corridor.

Recognizing that streetcar projects encompass more than merely tracks and streetcars, the Model is designed to consider a bundle of actions of the type that often accompany streetcar investments, including new stations and streetscape improvements, improvements

[2] "New and Small Starts Evaluation and Rating Process, Final Policy Guidance, August 2013", Federal Transit Administration, 2013

to walkability, and the addition – or attraction – of local amenities. Together this bundle is referred to here as "streetcar improvements" (see Section II of this report).

The Model uses development pro forma analysis[3] to project the highest incremental increase in property values based on uses that are feasible and permissible by zone. It allows the user to assess whether that increase would justify the redevelopment of individual parcels based on their current value. The projected increase in property values and development activity resulting from a streetcar investment can then be considered as part of a broader cost/benefit analysis for the investment.

To project the increase in value catalyzed by a streetcar investment, the Model is run twice to provide two separate projections:

1. First, a "baseline" projection of development assuming no new streetcar line; and
2. A second projection assuming that new streetcar improvements are built.

The results of the two scenarios are then compared to create an estimate of how much the streetcar might increase economic development activity over normal baseline predictions.

It is impossible to precisely quantify future activity in a broad real estate marketplace with thousands of different property owners, businesses, and other interests with differing levels of public involvement. Therefore, while this Model does provide specific quantified estimates, *it is more appropriate to see the results as a broader estimate of the relative magnitude of economic development* under the two scenarios.

More detail on the methodology used in the Model is included in Section III of this report.

D. General Findings

The following trends and relationships were identified through the process of developing this Model, including preliminary research, expert feedback, building the Model and performing test runs. These findings address where and how streetcar improvement may have the greatest impact on property values in a proposed corridor.

[3] In real estate, a pro forma is a document designed to estimate the performance of a property investment or new development by modeling the expected income and expenses of the property once operating. The pro forma provides an estimate of the expected performance and economic return on a prospective investment. The Model developed for this project uses a series of these prototypical pro forma worksheets for multiple land use and building types. This approach most closely simulates the decision-making process of real world developers, investors and lenders in judging when redevelopment is feasible and profitable in the proposed streetcar corridor.

- The Model tends to confirm available research and expert opinion indicating that streetcar improvements generally have a positive impact on the development potential in a corridor. The magnitude of that impact will vary based on the nature of the proposed corridor and the type of improvements proposed.

- Streetcar improvements can encourage greater development by increasing transit access, improving the pedestrian environment and supporting local amenities. These changes in turn can improve the marketing and pricing potential for new and existing real estate in the area. These favorable market fundamentals make the area more attractive for new development activity on the margin.

- Streetcar improvements will have the greatest marginal impact where they represent a larger improvement over existing conditions, such as significantly reducing transit headways, or significantly improving access, safety or attractiveness. Streetcar improvements will likely have a smaller relative impact on corridors that already feature strong transit service and walkability.

- The Model finds significant overlap between the parcels found to be "developable" under the baseline and streetcar scenarios. Streetcar improvements boost projected development results by increasing the likelihood of development on these parcels: for instance, turning a "somewhat likely to develop" parcel into a "most likely" parcel. In this way, streetcar improvements can help accelerate development in an area, hastening real estate activity that may otherwise happen at some indeterminate date in the future.

- One important role of streetcar investment is to focus the attention of developers, lenders, businesses and other interests on the corridor, helping to create "buzz." Streetcar improvements may enhance the marketability of nearby properties and improve perceptions of an area. Developers, lenders, residents, businesses and other users, tend to recognize and respond to this new investment and the sense that policy makers are committed to the area. For developers, this can reduce the perceived risk of investing in the area, improve borrowing potential, lower vacancy, and strengthen rent and pricing

levels. In a metro area with many potential development opportunities, major investments such as streetcar improvements can help direct development.

- The project team performed four test runs of the Model on four different corridor types in the Portland Metro area. In the test runs of the Model, there were few instances where proposed streetcar improvements actually changed the likely development forms in the corridor (triggering, for instance, a change from low-density development under the baseline scenario to mid-rise development in the streetcar scenario.) Instead, the increase in development comes mostly from higher likelihood that parcels will develop – albeit with the same predicted building form.

- The smaller the share of existing low-density zones in the area, the greater the redevelopment potential for transit-supportive density. Corridors where medium and higher-density zones extend into the surrounding neighborhoods have the greatest potential for meaningful redevelopment into a transit-oriented atmosphere. This is due in part to the fact that low density zones support less development in general. Additionally, built-out low-density neighborhoods a redeveloped housing unit is more likely to be replaced by another single unit - or at most a duplex – which has a lower marginal impact on increasing housing numbers.

- It is useful to divide the streetcar corridors into smaller segments for analysis, as market conditions are likely to change over corridors that exceed a mile in length. Corridors can be broken into distinct segments, with the Model run on each. Results can be compared, and then combined to judge the performance of the entire corridor.

- The Model produces quantified outputs of development activity measures: construction investment, new housing units, new commercial space, and new real market value. While the Model is designed to produce precise numerical outputs for each of these measures, it is impossible to accurately predict development activity with such precision over time.

  Therefore, **the results of this Model are best seen as an indicator of the estimated magnitude of impact from streetcar improvements.** For example, a conclusion that "Streetcar Scenario A may boost housing production by around 15%" is more accurate and defensible than one stating "the Streetcar Scenario will lead to an additional 437 units." The first provides useful reference for discussion, while the second is overly precise and thus highly likely to be proven incorrect.

- The results from this Model may best be presented in the form of a range. Because the Model allows calibration, it can be used to adjust assumptions and test results under different scenarios: "If the streetcar improvements achieve a rent increase of 5%, then the corridor may achieve X level of development. If the corridor sees a rent increase of 10%, it may achieve X+1 level of development." The Model allows for changes to the input assumptions of future zoning and level of streetcar improvements to test how such changes might impact development.

- The Model uses specific parcel-level data to generate quantified measures of predicted development activity, but it is important to remember that this Model is actually generating a broad study-area-wide estimate of development activity. **In no event should this Model be used to reach definitive conclusions about what will happen on any given parcel.** Any data provided that identifies parcels, be it in map or data base form, must specify that **it is making no firm predictions or guarantees on the eventual development or lack of development on specific properties.**

- Because the Model is an indicator of broader trends in the study area, it may actually provide a better approximation of development changes over a longer period of time. A five- or even ten-year period will be highly dependent on the current and near-term trends in the real estate development environment. A shift in the market soon after the Model is run could impact the development environment for years, changing the dynamics for a large share of the study period. A longer period of fifteen to twenty years will include more fluctuations in the market cycle. Market ups and downs are more likely to be averaged out, reducing the distorting impact of any one turn in the cycle.

E. Next Steps and Further Research

The process of developing and testing this Model revealed ample evidence that streetcar improvements are seen as positive amenities and can have a positive impact on the development environment. However, the exact size of this impact remains a topic for further investigation.

The Model will benefit from new research and data allowing finer calibration over time. In particular, the lack of published research specifically describing the impacts of a streetcar line on property values and/or rents represented a significant knowledge gap at the time of Model development.

It is hoped – and expected – that additional data (some of which will be collected by the application and calibration of this Model) will ultimately serve as the basis of a hedonic

regression analysis to attempt to quantify the impact of streetcar improvements on value and pricing, relative to other factors that impact real estate pricing. Further modeling of additional corridor types will increase understanding of streetcar impacts in different types of urban or suburban environments.

An additional research avenue would be application of the Model retroactively to an existing streetcar corridor to see how well it simulates the development that occurred there. This step would be helpful in further calibrating the model to real world conditions.

II. WHAT ARE STREETCAR IMPROVEMENTS?

The successful implementation of new streetcar service involves more than simply installing tracks on an existing street. In practice, the development of streetcar lines includes a number of linked physical improvements and actions, which are difficult to unbundle. These include streetscape improvements, changes in entitlements and other public actions to capitalize on the investment.

Since evaluating the marginal impact of specific components within this bundle is difficult, the Model is designed to address the bundled nature of streetcar improvements and related actions. These bundled investments are referred to collectively in this report as "streetcar improvements."

Depending on the goals and resources of the implementing jurisdiction, streetcar improvements may include:

Physical Improvements

- **Tracks & Vehicles:** The most basic component is simply the installation of tracks and the one or more streetcar vehicles which will operate on them.
- **Stops or Stations:** Improvements to provide functional stops for the streetcar may include elevated platforms, curb extensions, or more elaborate transit stations for the intersection of multiple lines or transit modes. Stops and stations may also include amenities such as lighting, shelters, signage, and plantings.
- **Streetscape Improvements:** In addition to improvements at the stops, a new streetcar line may include broader streetscape improvements and/or sidewalk reconstruction. Other improvements may include, but are not limited to: repair of aging sidewalks, wider sidewalks, curb cuts, new and/or broader planter strips, space for outdoor dining or other activities, bike racks, and new street trees.
- **Other Street Improvements:** Disruption of a street for streetcar installation creates an opportunity for broader redesign and/or re-marking of streets and intersections. Such improvements may include, but are not limited to: resurfacing and re-marking, redesign

of auto lanes, addition of bike lanes, new or better signalization, improved crosswalks, and medians.

Environmental Improvements

- **Mobility & Reduced Auto Dependence:** It is assumed that streetcar improvements will enhance transit service to some degree by adding a new travel option, increasing service times (reducing headways), and reducing auto dependence for residents, employees, customers and other users of the corridor. In some cases, the new streetcar line may include a better connection to a major destination district by crossing a barrier such as a freeway or waterway that previously blocked auto traffic.
- **Increased Amenities:** Beyond the benefits of the streetcar itself and the investment in physical public improvements, a successful streetcar will attract other amenities, including new businesses and activities, to take advantage of increased foot and transit traffic and an atmosphere of reinvestment and revitalization.
- **Marketability & Perceptions:** Streetcar improvements may enhance the marketability of nearby properties and improve perceptions of an area. Developers, lenders, residents and business owners tend to recognize and respond to this new investment and a sense that policy makers are committed to the area. For developers, this can reduce the perceived risk of investing in the area, improve borrowing potential, lower vacancy, and strengthen rent and pricing levels.
- **Complementary Public Policy:** To make the most of the public investment, streetcar improvements are generally accompanied by policy initiatives to help spur transit-oriented development and rehabilitation. These include goals for creating and investing in streetcar corridors, followed by zoning that permits and encourages those goals. Additional public steps can include master planning of the corridor and the creation of public financing tools such as fee waivers, entitlement bonus programs for TOD, or more direct subsidies. The greatest impact comes from well-funded programs such as urban renewal (or equivalent economic development funds) that allow direct public participation in land assembly, purchase of key sites, and public/private partnerships.

A city or local agency planning for a new streetcar may have an estimate of the scope and scale of planned improvements including some or all of the above components. Agencies preparing a New and Small Starts grant application may have this information prepared for inclusion in their application packet. In the absence of this information, agencies seeking to use the Model can estimate what physical public improvements would be built in conjunction with a new streetcar line, how it will improve mobility, whether new supportive public policies will be put in place and how generous those policies will be. Improvement in livability and marketability are integrated into the Model's calculations.

III. OVERVIEW OF MODEL METHODOLOGY

This section of the report discusses how an assumed package of streetcar improvements is applied to generate Model outputs.

A. General Approach

The Model is an Excel-based model which translates user inputs on existing and expected conditions in a corridor into an estimate of the magnitude of new development projected over the planning period. The following steps describe an application of the Model:

1. The user **inputs a range of indicators** on existing conditions in the area, as well as anticipated future conditions after streetcar improvements have been implemented.
2. The model **generates a "baseline scenario"** based on existing conditions.
3. The model **is re-run to generate a "streetcar scenario"** based on the anticipated conditions resulting from streetcar improvements.
4. The Model **produces projections of the anticipated amount of development** in the corridor under each scenario.
5. The Model provides a **comparison of the baseline vs. streetcar scenarios**. The difference represents how much additional development, if any, streetcar improvements may encourage.

A key component of this approach is the utilization of a "production" model, which is intended to mimic a developer's decision tree. As such, the Model solves for the "highest and best use" development form on the basis of predicted financial return.

To do this, the Model uses a pro forma based predictive model to generate predominant development profiles for the study area. This model evaluates highest and best use development forms under a range of assumptions, based on the implied residual property value[4] under each use. This allows a calculation of the likely predominant development form within the study area and subareas, based on market dynamics and zoning entitlements. It also establishes a residual property value for the area, which enables an evaluation of the extent to which existing properties can be expected to redevelop.

[4] "Residual Property Value" reflects the maximum supportable acquisition value of the property under an assumed development program (i.e. what the developer is willing to pay given the planned and permitted uses of the site). The permitted use that yields the highest Residual Property Value is considered the most attractive use in terms of financial return to the developer.

B. User Inputs

The major categories of user input in the Model are as follows:

- **Transit Service, Connectivity & Accessibility** – These inputs are intended to help answer the following questions:
  - What is the quality of the current transit service connectivity and accessibility within the corridor?
  - Will the streetcar project improve transit service and connectivity?
  - How will it change transit service and connectivity in the corridor?
- **Pedestrian Environment** – The assessment of the pedestrian environment takes into account attributes such as sidewalks, street trees, availability of services, and other elements that impact the pedestrian experience. These inputs are intended to help answer the following questions:
  - What is the current pedestrian environment like within the corridor?
  - Does the streetcar project include any pedestrian improvements?
  - How will those improvements change the pedestrian environment?
- **Public Policy** – These inputs are intended to help answer the following questions:
  - Are there public policies and/or funding tools available within the corridor to support streetcar? This would include urban renewal or other improvement districts.
  - Will changes to public policy be made as part of the streetcar project?
  - How will those changes affect availability of public tools in the corridor?
- **Zoning** – An assessment of existing zoning is included because of its relevancy to future development in the corridors, as follows:
  - Is zoning in the corridor supportive of streetcar in terms of permitted uses and development/design standards?
  - Will any changes to current zoning be needed as part of streetcar development?
- **Market Indicators** – Inputs on market pricing levels, financing terms, cost and vacancy assumptions:
  - What is the current strength and attractiveness of the market for new development?
  - Will the streetcar make development more likely by improving market fundamentals?
- **Study Area Parcels** – Information on all study area parcels by identifier (address or parcel i.d.), size, zoning, and estimated market value.

As described in Section II of this report, the development of streetcar lines and corridors typically includes a number of linked physical improvements and actions, which are difficult to unbundle. The result is that evaluating the marginal impact of specific components within the bundle is difficult.

In response to this challenge, the **Initial Input Screen** was developed to help capture this bundle of quantitative and qualitative factors that can accompany streetcar service and contribute to the impact on the development environment. For instance, a streetcar investment may include new streetscape improvements, new station areas, better pedestrian mobility, or increased business and service amenities in the neighborhood, all of which can have a synergistic effect in strengthening a real estate market.

Taken together, streetcar improvements affect specific levers that impact the feasibility of development in a corridor.

C. Streetcar Improvement Levers of Impact on Development

Key inputs to the Model are those that impact the revenues, costs, return parameters and site entitlements of a prospective (re)development project.

The Model is predicated on an assumption that streetcar improvements will substantively impact a number of variables that influence the perceived development environment, triggering a predictable response in the market. Figure 3.1 lists impacts commonly associated with streetcar improvements. Each of these is categorized by category, as well as color coded to denote general impact on the Model's predictive development component. Marginal shifts in assumptions about the variables are converted into changes in residual land values, and in some instances changes in development form.

The development variables used in the model can be broken into three primary categories that help determine final development form: **achievable pricing**, **cost to develop**, and **threshold returns**. Shifts in these inputs can alter associated patterns of

FIGURE 3.1: LEVERS OF IMPACT ON DEVELOPMENT

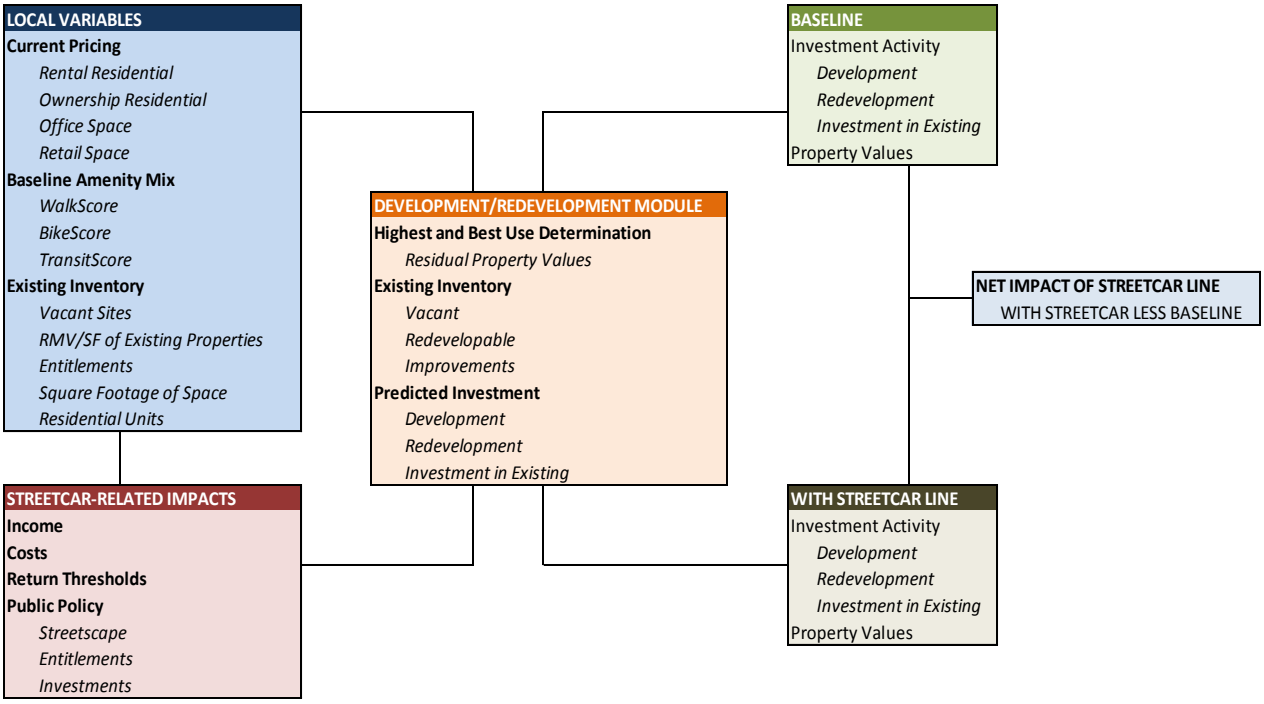
INCREASED ATTRACTIVENESS/MARKETABILITY TO TENANTS
Higher Achievable Pricing
Higher Absorption Rates
Lower Vacancy/Collection Losses
Less Tenant Turnover
INCREASED ATTRACTIVENESS TO INVESTORS
Lower Capitalization Rates/Return Thresholds
Greater Availability of Financing
IMPACT ON CONSTRUCTION COSTS
Reduced required parking ratios
Reduced Off-Site Improvements
RELATED PUBLIC SECTOR ACTIONS
Entitlement Changes
Related Streetscape Improvements
Active Efforts to Encourage Related Development
Grants/Loans/Financing Mechanisms
Property Disposition

REVENUE
COST
RETURN
ENTITLEMENTS

investment. In this model, streetcar improvements are assumed to impact some of these inputs, and therefore potentially alter investment and development patterns.

The following is a schematic of the model, followed by a discussion of the key components.

FIGURE 3.2: SCHEMATIC OF MODEL



D. Local Variables

Information on local variables is entered into the model to describe the existing characteristics of specific study areas. The variables to be collected include information on pricing, amenities and physical property characteristics at the parcel level. It is anticipated that model users will rely on local GIS or other mapping data and tax assessor data to collect data on physical conditions in the study area. Local economic development staff or real estate market professionals may be needed to provide data on market variables such as rents and construction costs.

FIGURE 3.3: CATEGORIES OF LOCAL VARIABLES

- **Pricing**

  Assumptions with respect to current pricing in the area, reflecting the estimated anticipated pricing for new product by category, need to be generated as an input. This includes per-square-foot rental rates for rental apartments, sales prices per square foot for ownership residential units, and net lease rates per square foot for office and retail space. In addition, assumptions need to be developed with respect to achievable pricing for parking spaces. **These variables should be set to reflect the achievable pricing that a developer would assume for a new construction project in the area being studied.**

  The current achievable pricing structure in an area is an important variable to consider in predicting the marginal impact of any changes in the development environment. It is a significant factor in determining the form of development as well as predicting residual property values in the district. While the pricing experience of new comparable projects can be a strong predictor of achievable pricing, in some markets there may be limited or no new product to establish a reliable price. Nonetheless, **an assumption of current achievable pricing in a study area will be necessary to run the model.**

Determination of this variable will be somewhat subjective, based on a few universally available data sources. Model users will likely need to consult the expert opinion of local brokers, realtors and other real estate professionals. This can be supplemented with readily available secondary data sources such as *CoStar* for commercial space, *Zillow* for residential pricing, local multiple listing service data and other third party data sources.

- **Physical Characteristics of Corridor Properties**
  As with pricing, the physical characteristics of prospective corridors will be a major factor in the predicted magnitude and character of redevelopment. The model incorporates an assessment of existing properties at the parcel level, for both improved and vacant sites. Parcel assessment inputs include the following:
    - The estimated Real Market Value (RMV) of Improved sites at the parcel level (This variable is used as a proxy for the market value of the site in and found in assessor records);
    - Parcel size/square feet; and
    - Current entitlements (zoning) by parcel.

  Within the model, the attributes of individual parcels are used to predict the likelihood of redevelopment, with properties that have a high current value of improvements being more challenging to redevelop. Zoning entitlements by parcel are used as a screen, which limits potential redevelopment scenarios to those allowed under the zoning.

- **Existing Amenity Mix**
  The existing amenity mix reflects the current level of amenity in the district, and is important to help predict the marginal impact of new streetcar investments on the local amenity base. The Model assumes that a streetcar investment will expand the local amenity base and increase marketability, but this impact will likely be less pronounced in areas that have a relatively high existing amenity base. Our hypothesis is that the marginal impact on marketability of a new amenity such as streetcar service would be reduced in areas that are already highly amenitized. The ability to input information on the current level of amenity in the area is included on the Initial Input Screen. This variable is included in recognition that it may have some explanatory power with respect to the results.

E. Streetcar Related Impacts

This component of the model summarizes the anticipated marginal impact associated with the streetcar investment, including impacts on income, costs and return parameters. The impact of the streetcar improvements assumed in the model are expressed in terms of a percentage shift

in income, costs and return thresholds. Incremental improvements to transit service, walkability, streetscape and other factors related to streetcar investment have a marginal impact on these variables. Assumptions with respect to marginal shifts attributable to the streetcar improvements are based on available studies and the input of real estate professionals with experience in streetcar corridors and transit oriented development. Evaluation of these types of impacts is ongoing, and more accurate information will help adjust these assumptions over time.

A hedonic study focusing specifically on the impact of streetcar on real estate pricing, costs and other market levers has not been identified in the literature and is beyond the scope of this project. In the future, a jurisdiction applying this model might seek to inform their variable assumptions with such a study, should it become available

FIGURE 3.4: CATEGORIES OF PROSPECTIVE IMPACTS FROM STREETCAR IMPROVEMENTS

STREETCAR-RELATED IMPACTS
Income
Costs
Return Thresholds
Public Policy

As part of its projection of streetcar-related impacts, the Model is capable of evaluating some policy-sensitive actions that may have a significant impact on future investment patterns. The primary policy input incorporated into the model is entitlements (zoning. range of allowable uses, allowable densities, etc.). To the extent that public policy mechanisms such as urban renewal, land assembly, fee waivers, property tax abatements, subordinated debt and/or other economic development tools are included as part of the streetcar bundle of actions, the impact of these interventions is addressed through associated shifts in income, costs and return thresholds on the Initial Input Screen.

F. Development/Redevelopment Module

The development/redevelopment module is intended to simulate the development decision tree, factoring in the impact of the key inputs on decisions to undertake development activity. The model is based on a series of simplified pro formas for 27 theoretical development programs that characterize the relationship between key variables, predicted development form and associated residual property values. The module generates a generalized determination of the "highest and best economic use" based on the theoretical development programs, as well as an associated residual property value associated

FIGURE 3.5: COMPONENTS OF THE DEVELOPMENT/ REDEVELOPMENT MODULE

DEVELOPMENT/REDEVELOPMENT MODULE
Highest and Best Use Determination
Residual Property Values
Existing Inventory
Vacant
Redevelopable
Improvements
Predicted Investment
Development
Redevelopment
Investment in Existing

with each program under both the baseline and streetcar scenarios. This information is reconciled with information on the existing inventory information and zoning, resulting in a predicted pattern of investment.

"Highest and Best Use"

The development/redevelopment module initially solves for a development solution that represents the highest and best use of the property under the assumptions used, as well as outputting an associated residual property value. **The highest and best *economic* use of the site is defined as the allowable land use program that yields the greatest return to the existing property, and the residual property value reflects the maximum acquisition value supported by that program under the assumptions used.** There may be additional considerations in determining the *overall* highest and best use of land from a community and planning perspective, but this Model focuses on the economic component which tends to be most relevant to private developers.

The highest and best use determination is based on the allowable use that has the highest indicated residual property value. The model currently incorporates a total of 27 theoretical development programs, but the number and nature of program options can be varied. An entitlement screen is necessary, since use types identified as having the greatest residual values may not be allowed under existing zoning. In the model, this is done using a matrix that evaluates whether or not the theoretical programs are allowable under the range of zoning codes in the study area. If the use is not allowed, the highest and best *allowed* use is determined.

The model allows for the testing of different zoning scenarios to see if changes to zoning entitlements may change the ultimate built environment by allowing uses which are currently prohibited.

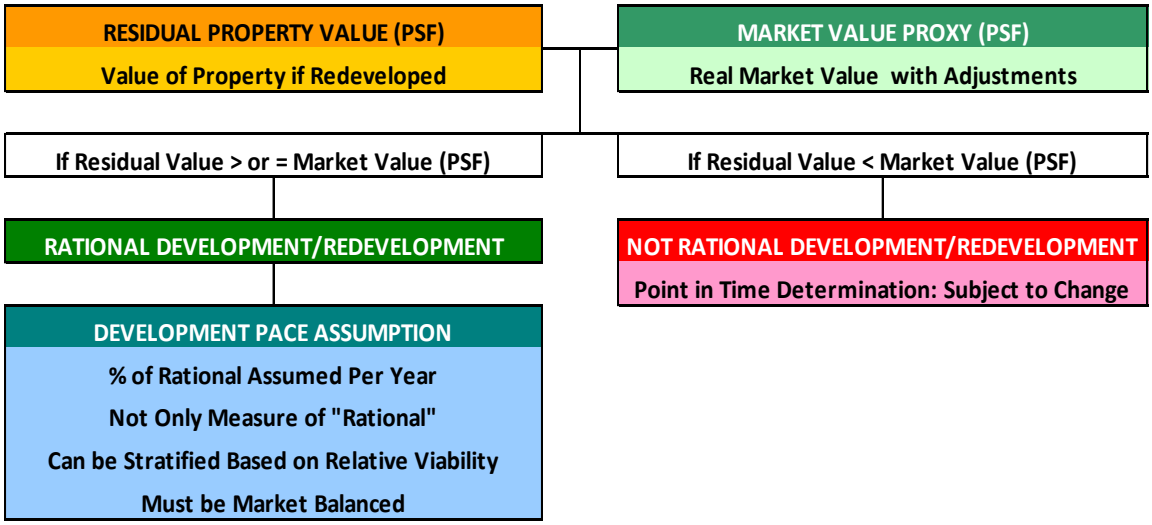
Threshold for Development

Development and redevelopment activity is predicted by the model **when the residual property value exceeds the property value under the existing use**. If the residual value is greater than or equal to the market value of the property, it is assumed to represent a "rational" development or redevelopment opportunity – i.e. a developer can purchase the property at current market value for anew intended purpose that places a greater value on the site (Figure 3.6).

While development and/or redevelopment is considered viable in these instances, it does not necessarily mean that it will occur within the study time frame. There are a number of additional factors that impact redevelopment, and the Model assumes that only a portion of opportunities identified as viable will be realized within the study horizon. The assumed rate of redevelopment should be based on historic trends in the study area, and is an input on the

Initial Input Screen. (This means looking at the amount of land area in the study area which has developed over the prior 10 to 20 year period, to come up with a realistic estimate of development rate. Permitting data or GIS data can provide indicators of historical development activity.)

FIGURE 3.6: COMPARISON OF RESIDUAL PROPERTY VALUE TO REAL MARKET VALUE (PER SQUARE FOOT)

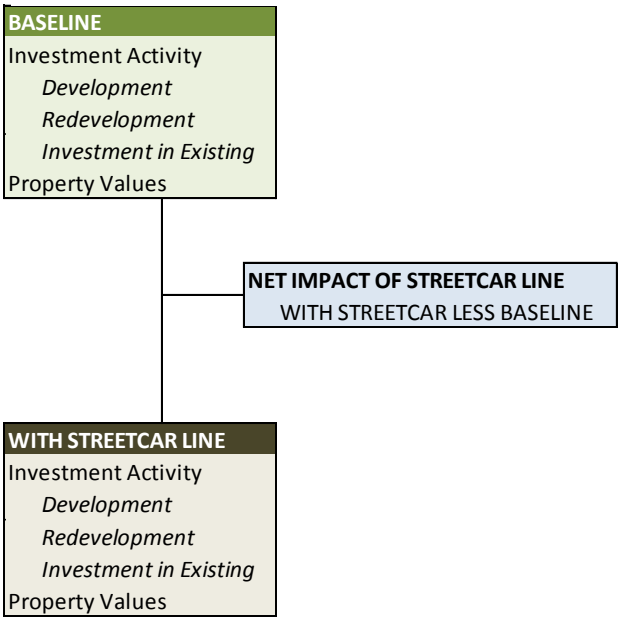


G. Measures of Development Impacts (Outputs)

The development/redevelopment module is run twice: first under baseline assumptions and subsequently with assumptions reflecting streetcar investments. Comparison of the two scenarios provides the basis for estimating the net impact of the proposed streetcar investments.

The net impacts associated with streetcar investments are broken down into multiple categories: 1) predicted levels of new development, 2) predicted levels of redevelopment, and 3) investment in existing structures. To determine the net impacts, the model solves for the differential between the

FIGURE 3.7: COMPARISON OF OUTPUTS BASELINE AND STREETCAR SCENARIOS



baseline scenario and the streetcar scenario. The units of measure include:

- The dollar value of construction and investment activity in physical improvements.
- Projected net change in real market value in the study area associated with new construction
- Net change in square footage of commercial space, as well as residential units in the study area.

The model does not address the direct, indirect or induced impact of the construction activity funded, nor the costs of ongoing operations of any streetcar lines.

H. Limitations and Assumptions

As with any model, this Model has limitations resulting from gaps in knowledge and data.

- First and foremost, it is impossible to precisely predict future development activity in a large study area given the multitude of property owners, individual investment decisions, real estate market cycles, general economic conditions and unforeseeable events. For this reason, **it is recommended that this Model be used to consider the *potential magnitude* of impacts in a proposed streetcar corridor, rather than the precise numerical results generated.** Individual results should be seen as an indicator of magnitude.

- The project team encountered various gaps in research which necessitated the use of assumptions where the literature or expert review was unable to provide more exact factors for use in the Model. In particular, hedonic regression analysis seeking to isolate and quantify the impact of streetcar specifically on real estate pricing, costs and other market levers was not identified in the existing literature at the time of Model development. Such a study was beyond the scope of this project to conduct. To help compensate for this deficiency, a collection of studies identifying such impacts in various environments around light rail lines and stations was used to form an assumption of the potential range of rent impacts from streetcar improvements. Data collection and more precise studies in the future will allow for calibration of the Model over time.

- The Model is designed to address the fact that streetcar improvements include a series of bundled actions, and evaluating the marginal impact of specific components within this bundle is difficult. Components include not only the streetcar line itself, but also streetscape improvements, changes in entitlements and other public actions and interventions to capitalize on the investment. The user must have at least a preliminary understanding of which components will accompany a proposed streetcar investment in a corridor.

- The Model uses specific parcel-level data to generate quantified measures of predicted development activity, but it is important to remember that this Model is actually generating a broad study-area-wide estimate of development activity. In no cases should this Model be used to reach definitive conclusions about what will happen on any given parcel. Any Model outputs that identify parcels, whether in map or database form, should specify that *it is making no firm predictions or guarantees on the eventual development or lack of development on specific properties.*

- This methodology assumes a base level of data availability on existing conditions, market factors, Walk Score and other third-party metrics, and parcel-level data. The methodology is designed to strike a balance between requiring information that should be available for most mid-sized cities, while not simplifying to the extent that the methodology is compromised.

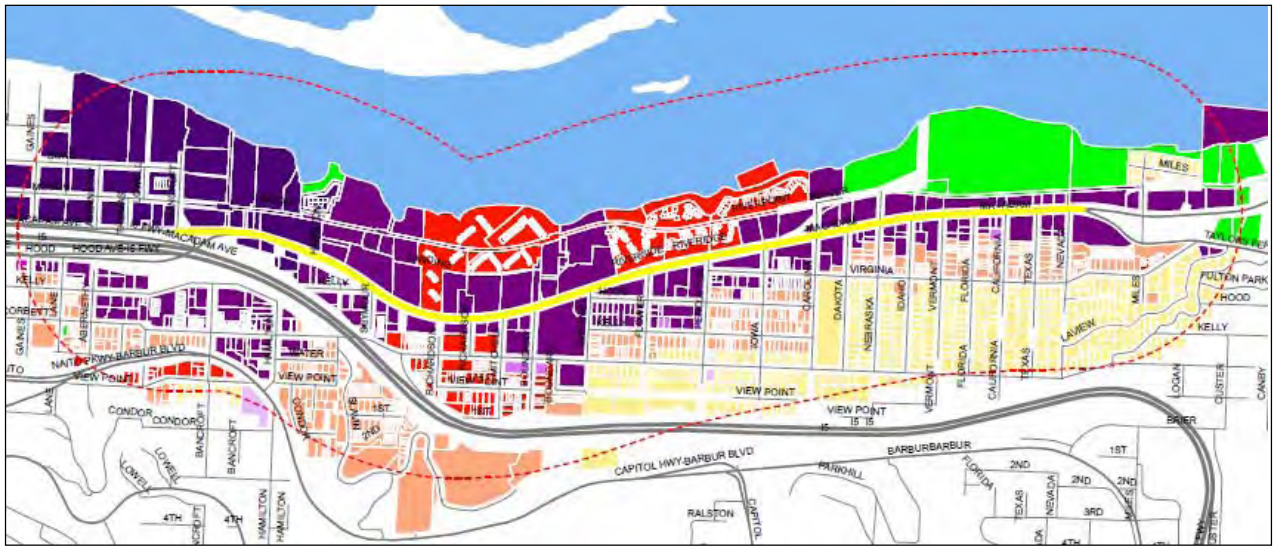
IV. TEST RUN OF MODEL

As part of this project, the project team performed test runs of the Model on four corridor types in the Portland metropolitan area. While specific corridors were used, the point of the exercise was not to make corridor-specific determinations at this time, but to apply the Model to representative corridor typologies, in order to test the Model and provide more universal insights. The four corridor types considered included:

- An auto-oriented commuter corridor as it enters the Central Business District
- A historical streetcar route in an inner neighborhood
- A classic auto-oriented retail strip on an urban highway route
- A new-urbanist planned community in a suburban community

The test runs of the Model were instrumental in learning how it works in practice, identifying trends among corridors and how they differ, and finding unforeseen bugs. A more detailed discussion of the test run results is presented in Appendix C.

FIGURE 4.1: EXAMPLE TEST CORRIDOR



Source: Angelo Planning Group, Metro RLIS

The general conclusions from these test runs of the Model are included in the General Findings section of this report. However, some of the findings which were more specific to these test runs are presented below.

General Conclusions from the Test Application

- The Model projected that streetcar improvements would increase the development potential in the test corridors, averaging 15% more investment and 20% more growth in property value than the baseline scenario.

- Streetcar improvements showed the greatest relative impact in the test corridor where these improvements had the most potential to improve transit service, sidewalks and crossings. In the test corridor that was already strongest in these areas, the additional marginal impact of streetcar improvements was projected to be less. Similarly, the planned new-urbanist community is already projected to have excellent walkability and amenities when developed; therefore the Model prediced that streetcar would provide a smaller relative improvement on these measures.

- In the test runs of the Model, there were few instances where proposed streetcar improvements actually changed the likely development forms in the corridor, triggering a change, for instance, from low-density development under the baseline scenario to mid-rise development in the streetcar scenario. Instead, the increase in development mostly comes from increasing the likelihood of development of parcels with the same building form.

- The smaller the share of existing low-density residential zones in the area, the greater the redevelopment potential for transit-supportive density. Corridors where medium and higher-density zones extend into the surrounding neighborhoods have the greatest potential for meaningful redevelopment into a transit-oriented atmosphere.

- As the Model outputs multiple measures of development, there are different ways to compare the projected "success" of streetcar improvements in different corridors. For example, based on public policy in a particular area, housing production may be the most important metric in one corridor, while in another, new taxable assessed value is considered most important.

There are many measures of streetcar success, including mobility, equity and land use considerations. As stated in the Executive Summary, this Model focuses on the economic development impacts only, but does not claim that these impacts are more or less important than other considerations. Moving forward, all of these general conclusions will be further examined by Model application and calibration.

V. LITERATURE & RESEARCH REVIEW

An essential early step in this project was the review of existing reports and studies from government, academic and other sources. The purpose of this review was to identify what data and conclusions were already available regarding the central relationships to be modeled in this project regarding the following questions:

- Is there any existing data demonstrating and/or quantifying the impact of streetcar improvements on real estate development in the streetcar corridor or station areas, including impact on rent and pricing levels, construction costs or lending terms?
- Is there existing research on the impacts of other types of rail and transit on real estate development?

A. Overview

TO JOHNSON REID's knowledge, only two studies have so far endeavored to document the impact of new streetcar lines on property development and values with quantitative research. Both studies are limited in scope, and do not attempt to isolate the effects of streetcar from other factors that may have affected property development and pricing along the corridors at the time. The literature on light-rail systems is considerably more extensive, and arguably provides a better basis for estimating likely benefits of new streetcar projects. Significant attention is therefore given to research on light-rail in this summary.

However, for the purpose of modeling impacts of new streetcar lines, studies focused on value premiums may be more useful than studies of changes in development. This is due to the different ways in which property values and development activity respond to market signals. Changes in value tend to affect both undeveloped and developed properties, and occur in small increments that can be observed in sales transactions. Compared to the development impact, the value impact can thus be measured more reliably, with greater precision, and more independently of local, non-transit factors. Secondarily, the value premium is a more crucial input when modeling the impacts of a new streetcar line, as increases in achievable pricing usually precede development decisions. The following review therefore focuses mainly on value premiums.

A total of 35 research publications were reviewed for this project. Emphasis was placed on recent studies that employ hedonic modeling, a technique that uses multiple regression to estimate the marginal value of individual benefits known to impact property values. Only the most relevant studies and findings are included in this summary. A comprehensive bibliography of reviewed literature is included at the end of this report.

B. Relevant Studies and Findings

STREETCAR STUDIES

- E.D. Hovee & Co. (2005) studied the impact of the original west side Portland Streetcar alignment on property development by comparing densities along the line before and after the alignment was committed. After the construction of the street car was announced in 1997, properties within one block of the line were shown to capture a large share of new development and significantly higher densities than areas further out. Impacts on pricing levels were not quantified.

  The study did not attempt to quantify the contributions of streetcar in isolation from urban renewal efforts or to make a judgment on the amount of development that would have taken place without streetcar. However, developer interviews referenced in the report indicate that the alignment decision was interpreted by developers as a guarantee of public-private commitment to the affected neighborhoods, and thus came to represent investments and amenities not directly related to streetcar.

- As part of a funding assessment for D.C. Surface Transit, Re-Connecting America conducted a case study of streetcar impacts in three cities (Brookings, 2009). The value impact, estimated by comparing changes in tax assessments for streetcar-adjacent properties to average city-wide changes, was found to be strong and positive in Seattle and Portland but negative in Tampa. No consistent pattern was observed regarding the relative effect on different property types. Tampa saw the greatest benefit for hotels and multifamily properties, whereas vacant land saw the greatest boost in Portland and Seattle. During the planning stage and early operation of the line, Portland also saw significant appreciation for commercial properties and sub-dividable single-family parcels, while multifamily properties saw greater relative appreciation after completion. As with the E.D. Hovee report, the authors did not attempt to distinguish the marginal impact of streetcar from the effects of other efforts.

- A recent study by the Institute for Transportation and Development Policy (ITPD, 2012) examined development in 21 different transit corridors including streetcar, light rail, bus rapid transit, and bus service. Out of the 21 corridors, two were streetcar corridors in Portland and Seattle. The study attempted to quantify the development return in the corridors, compared to the cost of constructing the transit improvements. The study identified other factors in the corridors that might have impacted development, such as the existing development potential, government support for TOD. The analysis determined qualitative rankings for these factors such as “weak, moderate, or strong”.

This study found no correlation between the type of transit and level of TOD investment. Instead, the most important factor in encouraging development was found to be the level of government investment in TOD. The second most important factor was the existing "development potential" of the corridor prior to transit improvements. The best performing categories were rated as having "emerging" or "strong" potential irrespective of the transit improvements. Those rated as having "limited" potential fared the worst in terms of development in the corridor after transit improvements.

LIGHT-RAIL STUDIES

Considerable resources have been committed to measure the impact of new light-rail lines on property values over the last three decades. Most researchers have followed a cross-sectional approach, measuring variations in property values at different distances to transit stations. Some have also employed a longitudinal approach, comparing changes in values over time inside and outside defined station areas.

Though estimated property value or rent premiums vary widely from city to city (and sometimes even within a city), the majority of studies find statistically significant value premiums for properties located around light-rail stations. A quantitative summary of hedonic studies conducted prior to the early 2000s has been provided in the form of a meta-analysis by Debrezion et al. (2007). Light-rail represented 16 out of the 57 sets of study results included in the analysis. The average value premium across the light-rail studies was 7.1% for properties located within a quarter mile of a station, and 2.7% per 250 meter closer a property was to a station. The authors observed wide differences in the results of the underlying studies, with estimates of the quarter-mile premium ranging from -7% to 30%.

The authors estimated the premium differential between commercial and residential properties through a meta-regression of the underlying study results (all transit forms). Within the quarter-mile radius, the commercial premium was found to be higher by 12.2 percentage points. However, per 250-meter increment, the residential premium was 2.3 percentage points higher than the commercial premium. As explained by the authors, the apparent inconsistency reflects that commercial properties have rent curves that are steep immediately around transit stations and flat further out, with the flat part dominating the calculation. The authors did not distinguish between retail and office properties, but research not included in the meta-study has shown that the rent curve for office properties need not be that steep.[5]

[5] Weinberger (2000) found rent premiums of 11% for office properties within ¼ mile and 6% for properties between ¼ and ½ mile of light-rail stations in Santa Clara County.

Debrezion et al.'s findings lead to premium estimates for light-rail presented in the table below. The estimates are based on the premium differentials calculated for all transit forms. Research by Cervero (2003) indicates that the differential might be considerably lower for light-rail than for commuter rail. Consequently, the estimates for residential and commercial premiums below should perhaps be pulled closer to the overall average. In addition, the estimates might need a downward adjustment. Debrezion et al. find that the lack of variables to account for access to highways and other transportation in some of the underlying studies inflates the overall estimates.[6]

FIGURE 5.1: META-REGRESSION RESULTS, LIGHT-RAIL PREMIUM ESTIMATES

	Premium within 1/4 mile of station	Premium per 250m closer to station
Overall	7.1%	2.7%
Residential	4.2%	3.2%
Commercial	16.4%	0.9%

SOURCE: Debrezion, et al., 2007, Johnson Reid

Recent research largely confirms the work by Debrezion et al. Many newer studies focus on residential properties alone, and present premium estimates in dollars per foot or meter. When converted to a quarter-mile radius, these premiums typically range between 2-6% (Cervero 2003; Garret 2004; McMillen and McDonald 2004; Hess/Almeida 2007; Goetz et al. 2010; Yan et al. 2012).

One recent study from Dublin, Ireland should be given special attention because of its potential relevance for streetcar. Not unlike Portland's MAX system, the Luas light-rail system in Dublin resembles streetcar in downtown stretches by making frequent stops and using at-grade tracks integrated with other street traffic. Mayor et al. (2008) distinguished central residential stretches of the line (Zone 2) from the more suburban (Zone 3), and found that homes within 500 meters (0.3 miles) of Zone 2 stations command a 6% premium, while the premium in the suburbs was 13.2%. The authors point out that affected districts had high level of congestion and inadequate transit service prior to the new line, something that likely widened the premiums. The study also revealed a greater willingness to walk than is usually seen in North America, which might also have bolstered the premiums.

[6] The authors do not provide average premiums for the studies that include such variables, but calculate the regression coefficient for including such variables, based on all transit forms. Applying this coefficient to light-rail, which may be misleading, indicates that the overall ¼-mile premium should be reduced from 7.1% to 3%.

OTHER FINDINGS

Existing research reveals no clear pattern for how proximity premiums are capitalized over time. But in general, single-family residential properties appear to have the most gradual appreciation, with a significant portion of the premiums developing after the line is completed. In one case, statistically significant premiums appeared four years after announcement of the line, and were still widening two years after completion (McMillen and McDonald 2004). Commercial properties often see capitalization concentrated around the construction phase. Multifamily properties generally occupy a middle ground between commercial and single-family properties.

The size of the impact radius around rail transit stations appears to be strongly correlated with service coverage. For light-rail, researchers generally find that the proximity premium disappears between a quarter of a mile and half mile of a station (Chen et al. 1998; Garrett 2004; Goetz et al. 2010).

Though demographic factors in many studies are shown to impact premiums, the direction of the impact is not consistent (e.g., Gatzlaff/Smith 1993, Kahn 2007, Hess/Almeida 2007). In their meta-study, Debrezion et al. found that the overall effect of including demographic variables was insignificant.

To our knowledge, no one has yet documented the impact of transit station proximity on investor return requirements. However, Pivo and Fisher (2008) found that "responsible properties" – properties that are either energy efficient, within half a mile of a rail transit station, or within an urban regeneration zone – had capitalization rates 0.45% below other properties.

C. Limitations and Gaps in Knowledge

The wide range of premium estimates in the research literature reveals that it is difficult, even with hedonic modeling, to estimate the market premium on transit proximity completely free from local and non-transit influences. One challenge with hedonic modeling is that it is dependent on the researcher's ability to correctly identify and reliably measure relevant variables. A number of factors, like congestion and attitudes to public transit, are difficult or costly to measure in practice. Moreover, hedonic modeling can only estimate the impact of variables that have significant variation within the collected data. Thus, a study area with a uniform, transit-reliant population would likely yield higher proximity premiums than other study areas. Significant resources are required to produce accurate estimates that can serve as reliable baseline predictions for new study areas.

Due to the lack of research on streetcar systems, baseline premium estimates for new lines must be deduced from research on light-rail. This process must take into account the differences between the two transit systems. But no formula or procedure for this translation process presents itself in the literature. Several studies, including Debrezion et al., indicate a correlation between service coverage and premiums, which would point to lower premiums for streetcar assuming it covers less area than a light rail system. However, streetcar may represent less dis-amenity in the form of noise, visual nuisance and perception of station-area crime, and may also have a positive impact by virtue of representing urban vitality and enhancing walkability. Estimating baseline streetcar premiums requires a subjective weighting of these factors.

D. Conclusions for Model Development and Application

Based on premium estimates from the most recent light-rail research and the meta-study by Debrezion et al. (with the above suggested adjustments), residential properties within a quarter mile of light-rail stations might be expected to capture value premiums of around 3-6%, and commercial properties might see premiums of twice the magnitude.

To translate these estimates into a streetcar context, for Model development purposes we assumed that for residential properties the reduced nuisance and added walkability/vitality benefits of the streetcar largely offset its narrower coverage and slower speeds. This assumption may not hold for commercial properties, for which passerby traffic (ridership) and accessibility (speed, coverage) are crucial determinants of pricing (cf. Cervero 2003). This leads us to a baseline premium estimate of 4% for residential properties and 6% for commercial properties within a quarter mile of streetcar stations.

In future applications, the Model should be adjusted to local conditions before applying the baseline estimate to a particular study area. Because part of the premium represents accessibility to the city center and other important nodes, and because the benefit of increased accessibility is greatest where the existing accessibility is the poorest, the estimated premiums should be adjusted to reflect a neighborhood's existing accessibility. Premiums should be reduced in neighborhoods with short walking distance to important nodes or with nearby access to alternative transportation modes that provide faster or more far-reaching service. And premiums should be increased in dense and congested areas where the opposite is the case. In the same way, premiums should be adjusted to reflect a proposed alignment's length and connectivity with other transit lines.

New research on the economic impacts of modern streetcar systems will continue to inform and improve upon our knowledge and modeling capabilities. Such research is highly welcome and could be invaluable to planners, decision-makers, and anyone involved in evaluating the feasibility of proposed investments. Especially helpful would be detailed hedonic analysis of the

impact of streetcar service specifically on property values and/or pricing levels, as well as spatial variables that can determine the impact radius and temporal components that can reveal causality.[7]

[7] When determining whether identified premiums are caused by a new transit line or whether the transit line was placed along a corridor that already enjoyed value premiums, streetcar systems are more prone to false cause fallacy than light-rail systems. Light-rail corridors will normally show a pattern of accessibility premiums around stations and nuisance discounts around tracks, which safely can be assumed to stem from the light-rail line. But streetcars have more frequent stops and cause less nuisance along its tracks, and also offer retailers along the line more even exposure. As a result, pricing will be more homogenous along the corridor, and studies without a temporal component may falsely attribute pre-existing premiums to the new line.

VI. PROFESSIONAL FOCUS GROUP AND TECHNICAL REVIEW

During the process of developing and testing the model, the project team sought feedback from local real estate experts and regional technical advisors who may be using the model. This section provides an overview of these efforts and summary of the takeaways from each.

A. Developer and Real Estate Professional Focus Group

A focus group of local developers and real estate professionals with experience around existing Portland Streetcar lines (and in other parts of the region) was convened to discuss how streetcar improvements impact the private market dynamics and decision-making process, which may result in new development in these corridors.

The discussion included five professionals of long experience in the area, representing development and lending perspectives. The following is a summary of the major takeaways from this conversation.

Summary of Discussion and Major Themes

- Participants tended to agree that streetcar is a positive amenity for real estate end users, but that measuring its effect is difficult. There was general acknowledgement that being located near rail transit could increase achievable rents for different types of space. This effect is caused by a group of inter-related factors which include the streetcar itself, but also includes the general location, livability, and amenities that accompany a streetcar line.
- One participant stated that there are three common elements of revived urban neighborhoods, regardless of the city: access to transit, services and walkable neighborhoods. The three are inter connected and rely on each other.
- Some think of the streetcar as an "extender" for pedestrians to travel a bit farther than they otherwise would. It is a local service, vs. the regional service of a light rail line. Its difference from bus transit is perception and socioeconomics. Another expressed that it is "an attraction," that doesn't serve a robust transit function, but is valuable for community marketing and tourism. Streetcar doesn't run all the time, and so people can't rely on it as primary transport 24-hours a day.
- There was agreement that location near rail service reduces parking needs, at least for residential buildings, which saves costs for developers.

- The group felt that the presence of a streetcar will generally not impact the thinking of lenders or the terms they offer, but it is a nice extra, and makes lenders more likely to consider somewhat reduced parking ratios.
- One developer stated that streetcar may be like green features in a building, in that it may not increase rents much, but will increase absorption and retention of tenants.
- There was discussion of the strength of location for streetcar, with emphasis on proximity to the Central City. Some expressed that even Portland's Eastside Loop was "ahead of the market". One participant emphasized keeping the streetcar tightly focused in the Central City. Many agreed that Macadam Avenue (a commuting corridor just outside and feeding into the Central City) would be a good candidate for streetcar service if coupled with zoning changes to allow increased density.
- Streetcar may be most successful where the real estate market is already strong or growing, or perhaps it can help bridge adjacent neighborhoods to those which are already strong. One question for policy makers is: how much are you asking developers to lead the market? Their willingness will vary according to the perceived risk.
- Another important factor is existing public support in a proposed corridor. Because many impacts of streetcar are intangible, community support vs. resistance will make a big difference in the predicted success of a new line.

Lessons for the Economic Development Model

The focus group discussion provided many good insights into how developers may perceive the addition of streetcar improvements. The group gave support to the basic perception that streetcar improvements are seen as a positive addition which should benefit rent levels and perhaps reduce parking requirements. There was little support for the idea that the presence of streetcar by itself would improve lending terms in the area, but agreement that general improvements to livability, walkability and pricing levels that can accompany streetcar may improve lending terms.

This group remained somewhat conservative in its assessment of the development prospects of different neighborhoods, signaling that neighborhoods with emerging or strong market fundamentals will still have the most support, while streetcar may not be enough to attract significant new investment to riskier areas. This is in keeping with some other research reviewed (see previous section of this report.)

The professional focus group informed various aspects of Model development. It supported the guiding assumption that streetcar is a positive amenity that can marginally improve the development environment. Streetcar can be expected to boost rent levels and perhaps reduce costs, particularly be decreasing parking needs on-site. In addition, the discussion supported

the idea that streetcar service is part of a larger bundle of improvements to transit, streetscape and livability which have synergistic effects on neighborhoods. This assumption underlies the design of the Model's Initial Input Screen which addresses some of these other factors.

B. Technical Advisory Committee

As the preliminary Model took shape, the project team gave a presentation to a Technical Advisory Committee (TAC) regarding the planned operation and methodology. The TAC was attended by representatives of local and regional governments and transit agency who bring technical expertise and may use the Model in practice.

After the presentation of the preliminary Model, the TAC engaged in discussion and asked questions regarding the methodology and functionality. The following is a summary of the major takeaways from this conversation.

Summary of Discussion and Major Themes

- Participants discussed the need to properly reflect differences in zoning entitlements and test different zoning scenarios. One particular focus was the need to accurately reflect the difference in parking requirements in transit-oriented zones, to get the full benefit of reduced parking requirements which save developer's costs and allow more leasable space to build on a site. The project team described the pro forma and zoning input sections of the Model to explain how zoning is addressed and how different development assumptions can be modeled.
- Participants asked if there was value added for master planning or other TOD-specific planning actions in conjunction with streetcar. This concern was ultimately addressed in the Model's Initial Input Screen by reflecting the positive impact of additional public policy steps on enhancing streetcar outcomes.
- Existing amenities will impact the marginal impact of streetcar improvements. If a corridor is loaded with amenities, and pricing is already relatively strong, the streetcar is likely to have a lower marginal impact then where it will help incent these amenities itself.
- There was some discussion of how to treat small parcels (such as 5,000 s.f. lots typical of single family development). Simply aggregating this square footage with larger parcels may overstate the development potential of small and fragmented parcels. This is handled two ways in the Model. For built-out low-density single-family zoned land, the development potential is judged to be negligible because few lots remain, and because redeveloped lots are generally replacing one home with one home, for no net gain of housing. For small lots on high-density zoned land, a function was added to the Model which assumes that a more restrained amount of development will happen on these parcels.
- Similarly, the TAC discussed the case of multiple developable sites adjacent to each other and whether the Model would reflect the enhanced development potential of such sites or treat them as distinct development opportunities. The project team explained that because the Model seeks to identify conditions over a large area, it assesses parcels in "bulk", and

such adjacent opportunities will be treated like other sites. Part of applying this model to a given real-world corridor is that the results must be "truth tested" afterwards by knowledgeable local users to identify if the developability of key sites has been correctly modeled. It is inherent in the model that special cases will be missed and must be reviewed.

- The group discussed the lack of hedonic analysis specifically on the impact of streetcar. It was agreed that such analysis would be valuable, and ways to best approximate it were discussed. No clear approach was identified short of doing a future hedonic analysis.
- One participant remarked that the Model could be run iteratively, with results given as a range. For instance, the results might say "if the streetcar improvements lead to a 3% increase in rents, you may get X development; if the improvements lead to a 10% increase in rents, you may get X development." This suggestion was not integrated directly into the model, but is one way of presenting results. The Initial Input Screen of the Model allows for directly entering different percentage impacts to pricing/rent and costs, to allow for testing this range of outcomes.
- There was discussion about modeling the demand side of development, and whether the Model assumes that streetcar improvements can generate new demand and development, or is it really helping to steer the location of existing demand within a city. The Model does not include a screen for market demand, and does assume that the streetcar is about steering the location of TOD within a city, which may be a legitimate public policy goal.

Lessons for the Economic Development Model

In contrast to the professional focus group, which identified larger themes, the TAC discussion was more narrowly focused on the preliminary methodology presented to the group. The discussion led to some adjustments to the Model, which are outlined in the points above.

VII. EXPERT PEER REVIEW

As the preliminary Model took shape, an in-depth description of the approach and methodology was submitted to three national experts who have done studies in this field to provide peer review. The reviewers were:

- **Keith Bartholomew, JD**
  Associate Dean, College of Architecture + Planning
  University of Utah

  Keith Bartholomew is an expert in a range of transportation and land use planning subjects relevant to this project. He has published many papers on transit and transit-oriented development, with particular focus on planning and modeling future transportation and build-out scenarios.

- **Robert Cervero, PhD**
  Friesen Chair of Urban Studies
  University of California Berkeley

  Dr. Cervero has decades of experience in teaching, consulting and publishing on transit and development. He authored or contributed multiple studies reviewed for this project. His books include *Transforming Cities with Transit* (World Bank, 2013), and *Developing Around Transit: Strategies and Solutions that Work* (ULI, 2004).

- **William Lee**
  Bill Lee Land Econ Consultants

  Bill Lee has provided real estate market analysis and economic development services for over 30 years to a full range of public and private clients. Prior to creating his own firm, he was the Managing Principal of Economics Research Associates (ERA) San Francisco and Executive Vice President of AECOM Economics. Bill Lee recently consulted on the economic impact analysis of the Downtown Los Angeles streetcar project.

Peer Reviewer's Charge

The selected peer reviewers were charged with assessing the proposed methodology of the Streetcar Evaluation model. Reviewers received detailed written documentation of the model, and not the model itself. Reviewers had access as needed to the consultant team to ask follow up questions during the evaluation period.

The reviewers provided written feedback, either positive or negative, regarding the appropriateness and efficacy of the methodology. The reviewers were instructed that written

feedback could be as brief or long as warranted, but should cover each of the reviewer's concerns in sufficient detail for the issue to be understood by the project team.

Peer Reviewer Response

The reviewers submitted written comments regarding the model. In general, the reviewers supported the theoretical underpinnings of the proposed pro-forma-based approach to modeling future development activity. They agreed that the lack of solid hedonic analysis to provide more precise measures of the impact of streetcar service was problematic.

The peer reviews raised many key points and questions regarding the methodology, which are outlined in the following tables, along with the project team's response. (The full written comments of the peer reviewers are included in the Appendices.)

FIGURE 7.1: KEITH BARTHOLOMEW, COMMENTS AND RESPONSES

Keith Bartholomew		Addressed in Model	Model Modified	Special Instructions	Out of Scope
Issue Raised	***Response***				
▪ ***Are market indicators averaged across the corridor? The model may need greater geographic differentiation.***	*This issue is one that can be highly relevant to the outcome. When utilizing the model, we would recommend that the geographic coverage is limited to market segments with somewhat homogeneous conditions. In some cases, this may require a corridor to be evaluated in several segments. Users will need to recognize when they have a corridor that includes submarkets with substantially different market parameters.*	X		X	
▪ ***There are possible problems with pricing and other variables if they are determinant of pricing. Need to be careful to not double count variables.***	*We recognize that a number of the variables are bundled into achievable pricing, as well as into other key factors such as capitalization rates. This is primarily an issue on projections of marginal shifts, and we have reduced the number of input variables to address the issue of double counting.*		X		
▪ ***Recommends a high/medium/ low scale for other measures such as amenities (Likert scale)***	*The model has been adjusted to allow for this type of input. It should be noted that while a Likert-type scale is commonly used, it does add an additional level of qualitative input, and a user should understand this and use the model to test sensitivities to these inputs.*		X		
▪ ***Deciding the adjustment factors relies solely on professional judgment. Recommends a mixed-method approach combining some quantitative and qualitative and professional judgment.***	*The model does rely substantially on professional judgment for the variables, reflecting the relative lack of reliable quantitative evidence of the hypothesized impacts. We have adjusted the model to limit the range of assumptions regarding issues such as pricing, capitalization rates and construction costs. As written, the model is capable of simple refinement as the quantification of key input variables improves through ongoing research.*		X		
▪ ***Their research has found that quantitative tends to overestimate impacts while qualitative tends to underestimate impacts***	*Similar to our response on the previous issue, the model recognizes that the research on these types of improvements is evolving and improving, and the model has been designed to allow for refinement as these variables are better understood. We have added an input sheet using Likert-type scale adjustments, which allows it to incorporate additional qualitative assessments.*		X		
▪ ***Existing zoning may be a limitation on possible development impacts. Need to allow for zoning to change with streetcar***	*The model does allow for the consideration of changes in zoning, which is part of the core model structure. This is done using a highly specific matrix of assumed zoning by parcel, which requires a substantial level of input by users.*	X		X	

FIGURE 7.2: BILL LEE, COMMENTS AND RESPONSES

Bill Lee		Addressed in Model	Model Modified	Special Instructions	Out of Scope
Issue Raised	***Response***				
▪ ***Confusion over whether the model is meant to cover multiple corridor scenarios.***	*Scenario testing with the model does require multiple runs. The primary measure of net impact is the delta between predicted marginal development activity from alternative runs of the model. This is relatively simple to do for most changes in variables, but can be time intensive for some types of zoning/entitlement shifts.*	X		X	
▪ ***Different corridor candidates will have different market response depending on current connectivity to CBD or existing streetcar line.***	*The model has been modified to include consideration of the existing transit profile, as well as connectivity to a broader system. The model now uses the "Transit Score" metric as a baseline, and adjusts impacts based on the marginal anticipated shift in this metric. The assumed marginal impacts on variables are now assumed to be greater if the improvement is linked to a system.*		X		
▪ ***Demographics and perceptions of crime can make rail service a negative in some areas. Portland is a relatively homogenous area, and this impact is likely less locally.***	*This is a difficult issue to measure, although we agree that it may have a substantial impact. The model does not have a direct input variable that can address a negative impact on pricing or other variables associated with this potential effect, but it can incorporate assumptions of negative impacts on the key variables. While not directly included in the input sheet for the model, potential impacts can be incorporated through relatively simple model manipulation.*			X	
▪ ***The model needs to account for market momentum and path of growth inputs.***	*We have refined the model to incorporate assumptions with respect to the baseline market trajectory, expressed through real anticipated increase in achievable pricing. This is now included in the input sheet.*		X		
▪ ***Model should account for rehab and renovation.***	*The model has been refined and expanded to incorporate projections of rehab/renovation activity. This is based on an assumed average annual rate of investment activity as a percentage of market value, and extrapolated to reflect the shift in market value between alternative scenarios.*		X		
▪ ***Rehabilitation may make redevelopment less feasible.***	*We recognize this likely outcome, and would recommend users run scenarios in discrete time increments, which will allow for interim investment and development that may potentially preclude later development.*			X	
▪ ***Need to account for adjacent parcels where the overall synergy is greater than the sum of its parts.***	*This is an excellent point, and will require inspection and adjustment of interim results by the user. Additional manipulation in the parcel data may also be done by users to recognize multiple parcels acting as a single economic unit, such as condominium units or multiple parcels in a single use or ownership.*			X	
▪ ***Don't go too far with zero or low parking solutions.***	*We recognize that these development forms typically consume on-street capacity, and need to be limited in their utilization. While we can recognize that this is a potential concern, the model cannot necessarily address this if entitlements allow, and it may require some level of manual override of results if the output appears unreasonable.*			X	

FIGURE 7.3: ROBERT CERVERO, COMMENTS AND RESPONSES

Robert Cervero		Addressed in Model	Model Modified	Special Instructions	Out of Scope
Issue Raised	*Response*				
▪ *The methodology seems strong on market factors, but weak on accounting for other benefits of streetcar expansion.*	*As designed, the model is intended to measure marginal projected changes in real property development activity a highly specific corridor that can be attributed to streetcar related investments. The model is designed to be additive to the overall evaluation of this type of investment, and not inclusive of all relevant variables that should be considered.*				X
▪ *Relies on fairly subjective input assumptions and expert knowledge, which could be vulnerable to political exigencies.*	*This is true. Our intent with the model is to make these assumptions as transparent as possible, with the expectation that more reliable quantitative measure will be incorporated as research in the area matures.*			X	X
▪ *Overlooks cross-property, multiple parcel opportunities.*	*As noted in the response to similar concerns from Bill Lee, the issue of assembly is not directly addressed. Manual manipulation of the parcel data to account for multiple parcel development can be done if desired, and may be a useful exercise for a user to undertake.*			X	
▪ *Have you addressed infill and added density, alongside existing uses?*	*The model does not currently account for infill and added density, such as accessory dwelling units. It does incorporate renovation/rehab investments, which can include some of this impact.*	X	X		
▪ *Have you addressed build-to-suit office space?*	*The underlying economics of the decision criteria for build-to-suit office space is effectively similar to that of speculative office space. While these decisions can vary based on highly specific firm decisions, decisions factors not included in model are not considered to be reliably predictable.*	X			
▪ *Other measures of amenities need to be considered as part of a bundle*	*Our methodology has been careful to define streetcar improvements as a bundled investment, which includes associated amenities such as streetscape. This was done largely as a result of available research, which has largely not addressed the discrete impact of specific associated investments.*	X			
▪ *The methodology needs a longitudinal element. How will development occur? Will it begin before the line is completed?*	*The model is designed to predict development activity over a defined time period. As developers build towards market conditions anticipated at product introduction, we would expect that developers will consider anticipated market conditions when initiating a project, and as a result would be expected to factor in their expectations of streetcar related improvements for projects initiated prior to completion of the improvements.*				X
▪ *What is the territorial reach of station areas?*	*The model is defining the territorial impact as ¼ mile.*	X			
▪ *Absent hedonic modeling, still need to include estimated impact of accessibility improvements*	*The model is designed to allow incorporation of better measures of impact as additional research is available. The model has been refined to incorporate marginal shifts in metrics such as Transit Score.*		X		
▪ *It is important to bundle impacts and consider synergies of streetcar with other public and private improvements*	*We acknowledge the bundled nature of impacts, and the model incorporates some inputs that are designed to reflect this.*	X	X		

APPENDIX A: TECHNICAL APPENDIX (MODEL WALKTHROUGH)

This section provides a walk-through of the Model to demonstrate its appearance, function, and major areas of input.

The major categories of user input in the Model are as follows:

- **Transit Service, Connectivity & Accessibility** - These inputs are intended to help answer the following questions:
  - What is the quality of the current transit service connectivity and accessibility within the corridor?
  - Will the streetcar project improve transit service and connectivity?
  - How will it change transit service and connectivity in the corridor?
- **Pedestrian Environment** – The assessment of the pedestrian environment takes into account attributes such as sidewalks, street trees, availability of services, and other elements that impact the pedestrian experience. These inputs are intended to help answer the following questions:
  - What is the current pedestrian environment like within the corridor?
  - Does the streetcar project include any pedestrian improvements?
  - How will those improvements change the pedestrian environment?
- **Public Policy** - These inputs are intended to help answer the following questions:
  - Are there public policies and/or funding tools available within the corridor to support streetcar? This would include urban renewal or other improvement districts.
  - Will changes to public policy be made as part of the streetcar project?
  - How will those changes affect availability of public tools in the corridor?
- **Zoning** - An assessment of existing zoning is included because of its relevancy to future development in the corridors, as follows:
  - Is zoning in the corridor supportive of streetcar in terms of permitted uses and development/design standards?
  - Will any changes to current zoning be needed as part of streetcar development?

- **Market Indicators** – Inputs on market pricing levels, financing terms, cost and vacancy assumptions:
  - What is the current strength and attractiveness of the market for new development?
  - Will the streetcar make development more likely by improving market fundamentals?
- **Study Area Parcels** – Information on all study area parcels by identifier (address or parcel i.d.), size, zoning, and estimated market value.

A. Initial Input Screen

The Model begins with an Initial Input Screen (see Figure A.1) where multiple categories of relevant information are entered. The Model uses these inputs to create a profile of current conditions in the given corridor and project future conditions with the assumed package of streetcar improvements. This information is used to inform subsequent steps in the Model.

As specific inputs are entered into the red-shaded cells on the Initial Input Screen, the magnitude of change between the existing and anticipated conditions is registered. The current conditions, and the expected future conditions after the implementation of streetcar, affect pricing, cost and other factors which directly impact development feasibility.

The following are the specific inputs as requested on the Initial Input Screen (not including market indicator inputs), followed by an explanation of how these inputs are scored.

Transit Service, Connectivity and Accessibility

1. **Quality of transit service**:
   - All transit service types currently available along corridor (bus, light rail, water taxi, etc).
   - Frequency of transit service using headways (in minutes) and weekend versus weekday service differences (if any).
   - Number of bus lines serving the corridor.
   - Any nearby regional service such as light rail or bus rapid transit.
2. **Average distance between stops:** measured in miles

3. **Accessibility to city center/employment center:** a yes/no measurement to assesses whether or not the future streetcar will create a new physical connection to a city center or employment center where one does not currently exist (for example: a new bridge, underpass or street connection).

FIGURE A.1: INITIAL INPUT SCREEN, TOP PORTION (EXAMPLE)
PREDICTIVE ECONOMIC DEVELOPMENT MODEL

PUBLIC INFRASTRUCTURE

TRANSIT AND ACCESSIBILITY

How is the current transit service in the corridor? Will the streetcar improve transit service and connectivity?
Will the streetcar improve accessibility to the city core or other major town center or employment center?

		Existing Conditions	Projected Conditions w/Streetcar	Impact on Development	NEGATIVE High	NEGATIVE Med	NEGATIVE Low	Neutral	POSITIVE Low	POSITIVE Med	POSITIVE High
1	Quality of Transit Service (scale 1-5)	2	4	*Med +*						■	
2	Average Distance Between Stops (scale 1-5)	5	5	*Neutral*				■			
3	Will the new streetcar line provide new or vastly improved access to a "Major Destination" district (Central Business District/Town Center/Major Employment Center) that does not exist currently through the traditional street and transit network? (For instance, will the new streetcar line travel above or beneath a previous physical barrier such as a freeway or waterway, to provide a faster/more direct route to the Destination district, whereas the current street system is encumbered by that barrier?) (scale 1-5)		No	*Neutral*				■			
4	Transit Score (if not available, leave blank)	65	77	*Med +*						■	
5	Connection to Existing Streetcar Network (Yes/No)		Yes	*Med +*						■	

PEDESTRIAN ENVIRONMENT

What is the current pedestrian environment in the corridor? Does the streetcar project include improvements to sidewalks and streetscape?
Are there services, shopping and other destinations to walk to?

		Existing Conditions	Projected Conditions w/Streetcar	Impact on Development	NEGATIVE High	NEGATIVE Med	NEGATIVE Low	Neutral	POSITIVE Low	POSITIVE Med	POSITIVE High
6	Quality of Sidewalk Network (scale 1-5)	3	4	*Low +*					■		
7	Quality of Pedestrian Experience (scale 1-5)	3	4	*Low +*					■		
8	Availability of Services (Walkscore)	66		*Low +*					■		

PUBLIC POLICY

Will the streetcar corridor have zoning, financial tools, and other public policy advantages over other similarly zoned corridor in the city?
Are specific changes to zoning and public policy planned as part of streetcar implementation?

		Existing Conditions	Projected Conditions w/Streetcar	Impact on Development	NEGATIVE High	NEGATIVE Med	NEGATIVE Low	Neutral	POSITIVE Low	POSITIVE Med	POSITIVE High
9	Public Tools Available (scale 1-5)	3	4	*Low +*					■		

Source: Johnson Reid LLC, Angelo Planning Group

4. **Transit Score:** measured from the center of the corridor segment, a proprietary algorithm based on the number of transit options in a given area. Where available,

Transit Score can be found on walkscore.com. If not available, leave the input blank; the model is designed to function without it.

5. **Connection to existing streetcar:** a yes/no measurement indicating whether or not the corridor being studied will connect to an existing streetcar line.

Pedestrian Environment

6. **Quality of sidewalk network:**
   - Sidewalk widths, measured in feet and averaged throughout corridor.
   - Completeness of sidewalk network (for example, are there areas where no sidewalk exists?). Can be assessed via site visit, local sidewalk inventories (if available), or via satellite imagery.
   - Condition, smoothness of sidewalk.
   - Presence of curb cuts at intersections to reduce crossing distance, expressed as a general observation from site visits.
   - Frequency of marked and/or signalized pedestrian crossings, both at intersections and mid-block, along corridor. Can typically be assessed using satellite imagery.
7. **Quality of pedestrian experience**
   - Presence of street trees, measured as average number of trees per block.
   - Posted speed limit.
   - Number of vehicle travel lanes along corridor.
   - Building orientation and placement, measured qualitatively during site visits to assess whether or not buildings are built to and oriented toward the sidewalk with obvious pedestrian entrances.
   - Presence of a landscaped buffer between the street and sidewalk.
8. **Availability of services (Walk Score™)**: measured at the center of the corridor segment being studied, Walk Score is a proprietary algorithm that measures the "walkability" of a location or neighborhood using the proximity to businesses, green space, civic locations, and other attractions. Information and data can be found at http://www.walkscore.com.

Public Policy

9. **Public Tools Available**: assessment of public funding and other tools available that will support streetcar development in the corridor. Examples include urban renewal, local improvement districts and waivers to system development charges. Review of existing zoning designation to determine if transit-oriented development types would be allowed under current regulations (densities, building heights, allowed uses, parking requirements, etc.)

Scoring

The following table (Figure A.2) provides guidance on how to score these initial inputs. Inputs scored on a scale of 1 to 5 represent a spectrum of conditions. The table provides definitions for scores of 1, 3 and 5. Scores of 2 and 4 represent gradations between these descriptions, based on the user's knowledge and expertise of the local corridor being studied.

FIGURE A.2: INITIAL INPUT SCREEN, SCORING

Input		Scale	Score			Data Sources
			1	3	5	
1	Quality of Transit Service	1 - 5	• No local transit service on planned streetcar corridor; or • Service with frequency of less than one transit visit per hour. • No access to a regional system such as light rail or bus rapid transit within 0.5 miles of main corridor street.	• Bus or equivalent transit mode on planned streetcar corridor. • One to two separate bus lines. • Service frequency of 15 to 30 minutes. • Bonus: Access to a regional system such as light rail or bus rapid transit within 0.5 miles of main corridor street.	• Bus or equivalent transit mode on planned streetcar corridor. • At least two separate bus lines. • Service frequency of no more than 15 minutes during rush hours. • Access to a regional system such as light rail or bus rapid transit within 0.5 miles of main corridor street.	Information from local transit agencies or city regarding transit service, frequency, and stop location.
2	Average Distance Between Stops/Stations	1 - 5	• No transit stops, or stops located more than 0.5 miles apart from each other along at least 75% of the main corridor street.	• Transit stops within 0.5 miles of each other along at least 75% of the main corridor street.	• Transit stops within .25 miles of each other along at least 75% of the main corridor street.	Local mapping sources, transit agency information, site visits, Google Maps

FIGURE A.2 (CONTINUED): INITIAL INPUT SCREEN, SCORING

Input		Scale	Score			Data Sources
			1	3	5	
3	Will the new streetcar line provide a new or vastly improved access to a "Major Destination" district (Central Business District/Town Center/Major Employment Center) that does not exist currently through the traditional street and transit network? (For instance, will the new streetcar line travel above or beneath a previous physical barrier such as a freeway or waterway, to provide a faster/more direct route to the Destination district, whereas the current street system is encumbered by that barrier?)	Yes/No	NA	NA	NA	Staff knowledge
4	Transit Score (if not available, leave blank)	Transit Score	Note: Measured at centroid of corridor segment being studied.			walkscore.com
5	Connection to Existing Streetcar Network. Will the proposed streetcar line connect to a current functioning streetcar system as an extension?	Yes/No	NA	NA	NA	Staff knowledge

FIGURE A.2 (CONTINUED): INITIAL INPUT SCREEN, SCORING

Input		Scale	Score			Data Sources
			1	3	5	
6	Quality of Sidewalk Network	1 - 5	• The main corridor street, and adjoining blocks, feature major discontinuity of the sidewalk system, with multiple segments of sidewalk missing and forcing users to detour or walk on unpaved area or the street (does not include sidewalks closed for repair). • Sidewalks are narrow and do not allow walkers and/or cyclists to comfortably or easily pass each other. • At least half of the sidewalks are in poor condition, with some combination of serious cracks, gaps, uneven surfaces, root damage. • Sidewalks lack curb cuts at intersections. • There are no marked or designated crossings of the main corridor street; or, crossings are located at least 0.5 miles apart. • Crossings are generally un-signalized.	• The main corridor street, and adjoining blocks, feature no more than two or three instances of discontinuity of the sidewalk system, such as missing sidewalks. • Sidewalks are generally wide enough for users to comfortably pass each other; at least six feet wide on the main corridor street. • No more than 25% of main corridor street features sidewalks that are in poor condition, with some combination of serious cracks, gaps, uneven surfaces, root damage. • Sidewalks feature curb cuts on at least 75% of intersections on main corridor street. • There are marked and designated crossings of the main corridor street generally located no more than 0.25 miles apart. • Signalized crossings are generally located no more than 0.25 miles apart.	• The main corridor street, and adjoining block, feature a continuous, finished sidewalk grid. • Sidewalks are generally wide enough for users to comfortably pass each other; at least eight feet wide on the main corridor street. • No more than 10% of main corridor street features sidewalks that are in poor condition, with some combination of serious cracks, gaps, uneven surfaces, root damage. • Sidewalks feature curb cuts on at least 90% of intersections on main corridor street. • There are marked and designated crossings of the main corridor street located no more than 0.25 miles apart. • Signalized crossings are located no more than 0.25 miles apart. • Crossings are generally within 500 feet of transit stops.	Local agencies may have a sidewalk inventory or other information to inform this input. Sidewalk width and quality can be assessed with site visits as well as aerial and "street view" imagery of Google Maps. Pedestrian crossings can be located and measured using site visits and Google Maps

FIGURE A.2 (CONTINUED): INITIAL INPUT SCREEN, SCORING

Input		Scale	Score			Data Sources
			1	3	5	
7	Quality of Pedestrian Experience	1 - 5	• The main corridor street features a posted speed limit of 40 mph or more. • The main corridor street features six or more lanes (including central or turning lane) • Buildings on the street have an auto-based orientation, with parking lots located between the sidewalk and the building. • Few or no buildings have a sidewalk-adjacent "storefront" character. • There are no street trees on most blocks of the main corridor street, or an average of no more than one per block. • The street trees that are present are young and/or provide poor coverage. • There is little other landscaping in a sidewalk planting strip or on adjacent private properties which improves the walking experience.	• The main corridor street features a posted speed limit between 31 and 40 mph. • The main corridor street features five lanes (including central or turning lane) • Buildings on the street are a fairly even mix of those which have an auto-based orientation, with parking lots located between the sidewalk and the building, and those with a sidewalk-adjacent "storefront" character. • There is an average of 1.5 to 2 street trees per block, most of which are mature and provide good canopy coverage when foliated. • There is other landscaping in the sidewalk planting strip or on adjacent private properties which improves the walking experience.	• The main corridor street features a posted speed limit of no more than 30 mph. • The main corridor street features four or fewer lanes (including central or turning lane) • It is more common for buildings to be sidewalk-adjacent or nearly so, than to be located behind parking lots. Direct access from the main corridor sidewalk to a residential or commercial building is common, and new buildings tend to be built this way. • There is an average of 2 street trees per block, most of which are mature and provide good canopy coverage when foliated. • There is other landscaping in the sidewalk planting strip or on adjacent private properties which improves the walking experience.	Travel lanes and speed limits can be counted using aerial imagery, local agency data, and site visits. Street tree locations and landscape buffers can be identified using aerial imagery on Google Maps and site visits. Building orientation can be assessed using aerial imagery and site visits.

FIGURE A.2 (CONTINUED): INITIAL INPUT SCREEN, SCORING

Input		Scale	Score			Data Sources
			1	3	5	
8	Availability of Services (Walk Score)	Walk Score	Note: Measured at centroid of corridor segment being studied.			walkscore.com
9	Public Tools Available	1 - 5	• There are no special zoning, incentive or financing programs for development in the proposed streetcar corridor which are not available in other similarly-zoned corridors in the city.	• The corridor has been zoned to facilitate transit-oriented development (TOD), such as with unique TOD zones, or overlay. • Such zoning might allow or require increased density, vertical mixed uses, reduced parking, and TOD design features such as street-orientation, and bike parking. • Small financial incentives are in place for qualified projects such as fee and SDC waivers, expedited permitting or other processing. • City may participate in one or two modest-scale public/private projects or land assembly actions.	• The corridor has been zoned to facilitate transit-oriented development (TOD), such as with unique TOD zones, or overlay. • Such zoning might allow or require increased density, vertical mixed uses, reduced parking, and TOD design features such as street-orientation, and bike parking. • Some master planning or other planning process has taken place which addresses in the detail the goal of improving the transit-orientation of the main corridor street. • Significant financial programs are in place such as Urban Renewal, Local Improvement District, or other economic development funding to participate in redevelopment in the corridor. (Above and beyond the cost of the streetcar improvements themselves.) • City may participate in multiple larger public/private projects. City may control key development sites in the corridor to guide development	• Local zoning code • Local economic development program information • Urban Renewal information

B. Initial Input Screen (Continued)

The lower section of the Initial Input Screen (Figure A.3 and A.4) allows the user to enter data on market dynamics in the corridor study area. The user may need to rely on local real estate expertise, or recent market studies, to find the requested market data.

FIGURE A.3: INITIAL INPUT SCREEN, BOTTOM PORTION (EXAMPLE)
PREDICTIVE ECONOMIC DEVELOPMENT MODEL

MARKET DYNAMICS

CURRENT MARKET PRICING (MARGINAL, ASSUMING NEW PRODUCT)			
10	Rental Residential	$2.10	Per Square Foot Per Month
11	Ownership Residential	$210	Per Square Foot
12	Office Space	$18.00	NNN (Triple Net Lease)
13	Retail Space	$18.00	NNN (Triple Net Lease)
14	Parking - Rental Residential	$75.00	Per Covered Secured Space per Month
15	Parking Price - Ownership	$15,000	Per Covered Secured Space
16	Parking - Office Space	$65.00	Per Covered Secured Space per Month
17	Average Annual Pricing Growth Trend (Residential-Rental)	2.0%	AAGR/Inflation Adjusted
18	Average Annual Pricing Growth Trend (Residential-Owner)	2.0%	AAGR/Inflation Adjusted
19	Average Annual Pricing Growth Trend (Office)	0.0%	AAGR/Inflation Adjusted
20	Average Annual Pricing Growth Trend (Retail)	0.0%	AAGR/Inflation Adjusted
OPERATING CHARACTERISTICS			
Structural Vacancy			
21	Rental Residential	5.0%	
22	Office	10.0%	
23	Retail	10.0%	
Operating Expenses			
24	Rental Residential	35.0%	
25	Office	5.0%	
26	Retail	5.0%	
FINANCIAL CHARACTERISTICS			
27	Rental Residential Cap Rate	6.50%	
28	Office Cap Rate	7.50%	
29	Retail Cap Rate	7.50%	
30	Ownership Residential, Return on Cost	20.00%	

Source: Johnson Reid LLC, Angelo Planning Group

The categories of input information are discussed below.

Achievable Pricing

Questions 10 – 16: These questions ask the user to input estimated achievable pricing levels for different land use types in the corridor, or segment of corridor, being studied. If it is possible for property managers to charge additional fees for parking in the area, that is reflected here as well.

These pricing estimates should represent the achievable pricing for *new real estate* in the study area, not the average of all real estate pricing. This is because new development or substantial renovation will charge pricing near the top of the achievable market, while many older and obsolete properties will pull down the average in the area. However, the assumptions of achievable pricing should reflect a realistic view of the quality of likely new development.

Recent Pricing Trends

Questions 17 – 20: These questions ask the user to indicate if pricing for any of these real estate uses has been exceeding or trailing inflation in recent years, and is expected to over the next 5 to 10 years. If rents have been exceeding inflation, this will be reflected in subsequent steps of the Model. Recent market analysis, rent data, or professional opinion might inform these answers. If this information is not available, these inputs may be left at "0%".

Operating Characteristics

Questions 21 – 26: These questions ask the user for inputs on standard operations for the different real estate types. These represent the levels of vacancy and expenses which might be considered normal across the market. They should represent the realistic anticipated operations of healthy new real estate, rather than the conditions in existing space, particularly if it is distressed.

Financial Characteristics

Questions 27 – 30: Financial characteristics have to do with the expected return that a developer/investor would expect from a new development project. This means "Cap Rate" for rental properties, and expected return for for-sale properties. These numbers vary due to market conditions and location and therefore professional expertise will likely be needed to determine the current "going rate" for these indicators.

Cap Rate (Capitalization Rate) = A measure of rate of return on investment real estate and is usually defined as Net Annual Income divided by Total Property Value. The higher the cap rate the greater the rate of return. In general, investors and lenders are willing to accept a lower cap rate in markets perceived to be less risky, and demand a higher return to invest in markets perceived as risky.

FIGURE A.4: INITIAL INPUT SCREEN, BOTTOM PORTION (CONTINUED)
PREDICTIVE ECONOMIC DEVELOPMENT MODEL

TIME PERIOD (YEARS)	10

Development Probability	RMV/Residual Category				
Time Period (Years)	<.75	.75-1.25	1.25-2.0	2.0-4.0	>4.0
5	5%	4%	2%	0%	0%
10	10%	7%	3%	0%	0%
15	23%	13%	7%	3%	0%
20	35%	19%	12%	5%	0%
50	60%	30%	20%	10%	0%

Annual Rehab/Renovation Factor:	1.5%

SITE EFFICIENCY ADJUSTMENT	
Reduction Factor (% Realized Density):	75.0%
Minimum Efficient Site Size (sf):	8,000

Source: Johnson Reid LLC, Angelo Planning Group

The final section of the Initial Input Screen allows the user to set some assumptions for the study period and development levels in the study area.

Time Period: Set the time period of the study over which the user would like to test the impacts of streetcar. The Model assumes for the "Streetcar Scenario" that the streetcar improvements

are in place at the starting point, so the time period represents the development period after the introduction of streetcar.

Development Probability: In subsequent steps (described below), the Model determines the likelihood of development parcel by parcel. While some significant subset of the study area may be found to be "likely to (re)develop", in reality, not all of these parcels will develop in the study time period. Development in an area does not take place all at once, but in a procession of parcels.

To adjust for this reality, the Development Probability table allows for the adjustment of probabilities. The user can set the probabilities in the 10-year time frame, and the other time period adjust automatically based on the 10-year assumption.

As described below, the "RMV/Residual Category" is a measurement of the "redevelopability" of a site. Those with the lowest RMV/Residual Ratio are most likely to redevelop (the "<.75" category), while those with a higher ratio are less likely, or unlikely to redevelop. In general, an RMV/Residual Ratio of greater than 1.0 means that the property under its current use is as valuable or more valuable than under the proposed new use, and therefore unlikely to develop. (RMV/Residual Ratio is discussed in more detail below.)

The inputs to this table should be based on historic development patterns if possible. This means looking at the amount of land area in the study area which has developed over the prior 10 to 20 year period, to come up with a realistic estimate of development rate. Permitting data or GIS data can provide indicators of historical development activity. In the example above (Figure 7.3), if the study area has shown redevelopment of 7% of its land area in 10 years, the development probability in this table should reflect roughly an average of 7% across the three lowest RMV/Residual Ratio categories. Those in the lowest category have a development probability somewhat higher than the area-wide average.

The user must endeavor to set these levels at realistic real-world levels. In some cases, historical development in the study area may be very modest, with streetcar development expected to increase development activity. In that case, the user may set a somewhat higher rate of development probability over the study period, however this increased rate should be set conservatively.

Annual Rehab/Renovation Factor: This represents the amount of rehab of existing properties that takes place in the study area. This is important because not all investment in the streetcar corridor will take the place of new development. In a successful corridor, there will be reinvestment and reuse of existing properties.

This factor represents = value of annual rehab/renovation permits as a percentage of total Real Market Value. Permitting data can help determine the assumption used here. This factor may be based on activity in the study area itself, but a city-wide or representative sample area can be substituted as well.

Site Efficiency Adjustment: This adjustment helps to model the reality that smaller sites are more difficult to develop to the density level of larger sites. This is largely due to the needs for circulation/parking, setbacks, and common areas which consume proportionately more of a small site, than a larger site which has greater efficiency of scale. These inputs will rely on user judgment of the nature and zoning of smaller sites in the study area and what barriers they face to efficient use.

C. Development Adjustment Factors

The inputs into the Initial Input Screen shown above feed into subsequent steps in the model. The first set of inputs (Questions 1 -9) help to determine the marginal impact to rents, costs and return factors from streetcar improvements. These represent the changes to these factors in the subsequent pro-forma analysis between the Baseline and Streetcar Scenarios. For example in Figure A.5, Streetcar Improvements are expected to increase rent potential by 6%.

FIGURE A.5: LEVERS OF IMPACT FROM STREETCAR AND RELATED IMPROVEMENTS

	Office	*Retail*	*Residential*	*Mixed use*
Achievable Pricing/ Rents:	6%	6%	6%	
Construction Costs:	-3%	-3%	-3%	-3%
Operating Costs:	-2%	-2%	-2%	-2%
Cap Rates:	-6%	-6%	-6%	-6%

Source: Johnson Reid LLC

D. Prototype Development Pro Formas

Following the Initial Input Screen, is a set of pro forma screens, reflecting a range of development types. Each development type is a combination of land use (i.e. office) and building type (i.e. mid-rise). There are a total of 27 of these combinations.

The full list of development types in the standard Model is shown below. Individual users can add or modify different development programs as needed.

FIGURE A.6: PROTOTYPICAL DEVELOPMENT PRO FORMAS

Land Use Category/ Building Form	Parking Form
OFFICE	
office high rise	several floors of structured parking
office mid/struc	one basement parking level
office mid/podium	parking under podium
office mid surf + struc 2	integrated pkg struc
office mid surf + struc 1	struc pkg outside bldg footprint
office mid/surf	all surface parking
office low rise	all surface parking
RETAIL	
mid rise dept. store	struc pkg outside bldg footprint
retail low rise	all surface parking
MIXED USE RESID./COMM.	
MU res/ret high rise	integrated pkg struc
MU res/ret mid/struc 2	integrated pkg struc
MU res/ret mid/struc 1	separate pkg struc
MU res/ret mid/surf	surface parking
MU res/ret type v/podium	some under-podium parking
MU res/ret 3-story wood w/surf SM	surface parking
MU res/ret 3-story wood w/surf LG	surface parking
RENTAL RESIDENTIAL	
residential high rise	integrated pkg struc
residential mid/struc 2	integrated pkg struc
type v/podium	some under-podium parking
2-story wood w/surf	Surface Parking
3-story wood townhome	surface parking
3-story wood Zero Park	No Parking
OWNERSHIP RESIDENTIAL	
residential high rise	integrated pkg struc
residential mid/struc 2	integrated pkg struc
type v/podium	some under-podium parking
2-story wood w/surf	Surface Parking
3-story wood townhome	surface parking

Source: Johnson Reid LLC

Figure A.7 shows the Pro Forma worksheet for the Office types, as an example. Most of the information on this worksheet is designed to translate between corridors and locations. Needed inputs are highlighted in Red, and include average construction costs for different land use types in the market, and structured parking costs.

FIGURE A.7: OFFICE PRO FORMA SHEET (EXAMPLE)

PREDICTIVE ECONOMIC DEVELOPMENT MODEL

		office high rise	office mid/struc	office mid/podium	office mid surf + struc 2	office mid surf + struc 1	office mid/surf	office low rise
PROGRAM	**Property Assumptions**							
	Site Size (SF)	20,000	13,000	10,000	25,000	20,000	20,000	10,000
	Bldg Footprint	19,000	12,000	9,500	8,500	7,500	3,500	4,000
	Stories	8	5	2	4	3	3	1
	FAR	10.45	6.46	2.85	2.04	1.50	0.53	0.40
	Building Square Feet	152,000	60,000	19,000	34,000	22,500	10,500	4,000
	Efficiency	85%	85%	85%	85%	85%	85%	90%
	Leasable Area	129,200	51,000	16,150	28,900	19,125	8,925	3,600
	Parking Ratio/000 SF	1.0	1.0	2.0	2.0	3.0	3.0	3.0
	Parking Spaces	129	51	32	57	57	26	10
	Parking SF/Space - Surface	350	350	350	350	350	350	350
	Parking SF/Space - Structure	425	425	375	425	375	425	425
	Parking Spaces - Surface	-	-	-	14	29	26	10
	Parking Spaces - Structure	129	51	32	43	29	-	-
	Structured Parking %	100%	100%	100%	75%	50%	0%	0%
	Structured Parking Stories	3	2	1	2	1	0	0
	% of Struc Pkg in Bldg FP	100%	100%	100%	0%	0%	0%	0%
	Base Construction Cost/SF	$185	$175	$140	$140	$140	$140	$130
	Adjustment Factor	0%	0%	0%	0%	0%	0%	0%
	Construction Cost/SF	$185	$175	$140	$140	$140	$140	$130
	Base Parking Costs/Space	$35,000	$30,000	$18,000	$35,000	$30,000	$0	$0
	Adjustment Factor	0%	0%	0%	0%	0%	0%	0%
	Structured Parking Cost/Space	$35,000	$30,000	$18,000	$35,000	$30,000	$0	$0
OPERATING ASSUMPTIONS	**Income Assumptions**							
	Base Income/Sf/Yr.	$18.00	$18.00	$18.00	$18.00	$18.00	$18.00	$18.00
	Adjustment Factor	0%	0%	0%	0%	0%	0%	0%
	Achievable Pricing	$18.00	$18.00	$18.00	$18.00	$18.00	$18.00	$18.00
	Parking Charges/Space/Mo	$65	$65	$65	$65	$65	$65	$65
	Expense Assumptions							
	Vacancy/Collection Loss	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
	Base Operating Expenses	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
	Adjustment Factor	0%	0%	0%	0%	0%	0%	0%
	Operating Expenses	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
	Reserve & Replacement	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Valuation Assumptions							
	Base Capitalization Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
	Adjustment Factor	0%	0%	0%	0%	0%	0%	0%
	Capitalization Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%

Source: Johnson Reid LLC

FIGURE A.8: OFFICE PRO FORMA SHEET (EXAMPLE) (CONTINUED)

SUPPORTABLE PROPERTY VALUE								
Cost								
Cost/Construct w/o prkg.	$28,120,000	$10,500,000	$2,660,000	$4,760,000	$3,150,000	$1,470,000	$520,000
Total Parking Costs	$4,515,000	$1,530,000	$576,000	$1,496,250	$855,000	$0	$0
Estimated Project Cost	$32,635,000	$12,030,000	$3,236,000	$6,256,250	$4,005,000	$1,470,000	$520,000
Income							
Annual Base Income	$2,325,600	$918,000	$290,700	$520,200	$344,250	$160,650	$64,800
Annual Parking	$100,620	$39,780	$24,960	$33,345	$22,230	$0	$0
Gross Annual Income	$2,426,220	$957,780	$315,660	$553,545	$366,480	$160,650	$64,800
Less: Vacancy & CL	$242,622	$95,778	$31,566	$55,355	$36,648	$16,065	$6,480
Effective Gross Income	$2,183,598	$862,002	$284,094	$498,191	$329,832	$144,585	$58,320
Less Expenses:							
Operating Expenses	$109,180	$43,100	$14,205	$24,910	$16,492	$7,229	$2,916
Reserve & Replacement	$65,508	$25,860	$8,523	$14,946	$9,895	$4,338	$1,750
Annual NOI	$2,008,910	$793,042	$261,366	$458,335	$303,445	$133,018	$53,654
Property Valuation							
Return on Cost	6.16%	6.59%	8.08%	7.33%	7.58%	9.05%	10.32%
Threshold Return on Cost	8.63%	8.63%	8.63%	8.63%	8.63%	8.63%	8.63%
Residual Property Value	($9,343,288)	($2,835,312)	($205,664)	($942,218)	($486,792)	$72,240	$102,080
RPV/SF	**($467.16)**	**($218.10)**	**($20.57)**	**($37.69)**	**($24.34)**	**$3.61**	**$10.21**

Source: Johnson Reid LLC

Figure A.8 shows the bottom of the example Pro Forma worksheet. The worksheet ends in a calculation of "Residual Property Value" (RPV), and RPV/Square Foot. Under the approach used in this Model, the RPV is a key determinate of the developability of a given parcel, and therefore this is a calculation is central to the functioning of the model.

Residual Property Value (RPV) reflects the maximum supportable acquisition value of the property, under the assumed development program (i.e. what the developer is willing to pay given the economic performance of the proposed use). The permitted use that yields the highest Residual Property Value is considered the most attractive use in terms of financial return to the developer.

- In the example above the "low rise office" development program has the highest estimated RPV/SF, at $10.21. Among office uses, it is the most valuable use.
- The lowest RPV/SF is estimated for "high rise office" at -$467.16. This means that to make this use feasible to the developer, he/she would require a subsidy of at least $467 per square foot. In other words, in this location at this time, high rise construction is

widely expensive relative to the actual rent levels that the developer could hope to achieve.

- The current rent levels justify low-rise construction, or perhaps mid-rise construction with surface parking. Denser types of office uses currently represent a money-losing (infeasible) proposition.

Remaining Prototypical Development Programs

The Pro Forma worksheet for office programs is provided above as an example. An equivalent worksheet is provided for each of the remaining categories: Retail, Mixed Use, Rental Residential, and Ownership Residential.

E. Zoning Screen

Following the Pro Forma worksheets, is the Zoning Screen, in which the user describes the individual zones found in the corridor study area, and details which uses are permitted in each zone. Not every use is allowed in every zone. If the use with the highest RPV/SF ratio is not permitted, the "highest and best use" in that zone will be the use with the highest ratio that *is* permitted.

Figure A.9 on the following page shows a truncated example of the Zoning Screen worksheet. Zoning types are inputted by row in the left hand section. (The section in the middle updates automatically).

The section on the right shows the Office uses used in the previous example (Figures A.7 and A.8). The calculated RPV/SF is shown along the type, under each of the Office development types. The table below, bounded by a red line, is where the user indicates if a given development form is permitted or not permitted. This is indicated with a simple "1" for permitted, and "0" for not permitted.

Conditional Uses: The Model uses a simple permitted/not permitted standard for the zoning screen. Many of these building types may be allowed as a "conditional use", "limited use", or

other gradation of allowance. For the sake of this table, the knowledgeable local user should determine the impact of the Conditional Use provisions for a given development type. Does the Conditional Use represent a small impediment, or does it make the development type unlikely to actually occur in the real world. In general, Johnson Reid recommends erring on the site of listing uses which may occur as permitted, even if there are some conditions.

Figure A.9 is a truncated view of the Zoning Screen worksheet. In the Model, this worksheet extends to the right, where the other prototypical development types are found, and the zoning permissions are inputted for them in the same manner.

Based on what is permitted or not permitted in a given zone, the permitted use with the highest RPV/SF is identified and listed automatically in the central box. This is the identified highest and best use from an economic return perspective for parcels in that zone.

FIGURE A.9: ZONING SCREEN (TRUNCATED)
PREDICTIVE ECONOMIC DEVELOPMENT MODEL

				Office						
				($467.16)	($218.10)	($20.57)	($37.69)	($24.34)	$3.61	$10.21
CODE	Code Description	Residual	Use Description	office high rise	office mid/struc	office mid/podium	office mid surf + struc 2	office mid surf + struc 1	office mid/surf	office low rise
RH	High Density Residential	$136.26	residential mid/struc 2	0	0	0	0	0	0	0
R1	Residential 1,000	$71.49	3-story wood townhome	0	0	0	0	0	0	0
R2	Residential 2,000	$71.49	3-story wood townhome	0	0	0	0	0	0	0
R5	Residential 5,000	$0.00	N/A	0	0	0	0	0	0	0
CS	Storefront Commercial	$193.98	3-story wood Zero Park	0	0	0	0	1	1	1
CN1	Neighborhood Commercial 1	$71.49	3-story wood townhome	0	0	0	0	0	0	1
CX	Central Commercial	$103.55	MU res/ret mid/surf	1	1	1	1	1	1	1
CG	General Commercial	$103.55	MU res/ret mid/surf	0	0	0	1	1	1	1
OS	Open Space	$0.00	N/A	0	0	0	0	0	0	0
CO2	Office Commercial 2	$71.49	3-story wood townhome	0	0	0	0	0	1	1
CM	Mixed Commercial/Residential	$193.98	3-story wood Zero Park	0	0	0	1	1	1	1

Source: Johnson Reid LLC

F. Redevelopment Screen

Following the Zoning Screen, is the Redevelopment Screen (Figure A.11). This worksheet allows the user to enter data on individual parcels within the study area. The Real Market Value (RMV) per square foot of each parcel is compared to the Residual Property Value (RPV) per square foot of the highest and best economic use for the appropriate zoning code (from the Zoning Screen worksheet). The comparison of RMV to RPV is completed automatically, generating a RMV/Residual ratio.

The parcel data is inputted as a list of parcels in the four left-hand columns. (The parcel list in Figure A.11 is shortened for presentation; an actual study area will likely have parcels numbering in the thousands). The necessary fields of data for each parcel are:

- Tax lot or Parcel I.D.
- Zoning Code (must match the Codes included in the Zoning Screen sheet)
- Estimate of Real Market Value (RMV)
- Square Footage (SF)

It is the hope and intention that most cities of sufficient size to be considering undertaking a streetcar project will have access to this type of data through some combination of local and tax assessor database or GIS data.

After the parcel data is inputted in the left-hand columns, the remainder of the worksheet should calculate automatically. The box in the center of the worksheet (right side in the truncated example in Figure A.11) breaks the parcels into categories of RMV/Residual ratio, and tallies the number of parcels in each category. The categories are as follows:

FIGURE A.10: RMV/RESIDUAL CATEGORIES

RMV/Residual Category	Likelihood of Redevelopment
<.75	Most likely to redevelop
.75-1.25	Somewhat likely
1.25-2.0	May redevelop
2.0-4.0	Unlikely
>4.0	Highly Unlikely

The Residual Property Value represents the estimated value that a developer would pay for a parcel under the proposed use. Therefore, if the Real Market Value of the parcel is at or below the Residual level, it is a more likely target for redevelopment. If the RMV is higher than the Residual value, then the site is assumed to be more expensive than its value as a development site (i.e. the Residual), and therefore a less likely development opportunity.

FIGURE A.11: REDEVELOPMENT SCREEN (TRUNCATED)

PREDICTIVE ECONOMIC DEVELOPMENT MODEL

							RMV/Residual Category				
Parcel	Code	RMV	SF	RMV/SF	Residual	RMV/Residual	<.75	.75-1.25	1.25-2.0	2.0-4.0	>4.0
R140915820	R2	$255,990	1,810	$141	$71.49	1.98	0	0	1	0	0
R649782930	R2	$281,480	4,839	$58	$71.49	0.81	0	1	0	0	0
R669102900	R2	$763,290	15,201	$50	$71.49	0.70	1	0	0	0	0
R669102850	R2	$30,000	5,250	$6	$71.49	0.08	1	0	0	0	0
R669102800	R2	$538,570	5,250	$103	$71.49	1.43	0	0	1	0	0
R669102820	R2	$218,510	4,491	$49	$71.49	0.68	1	0	0	0	0
R669102830	R2	$287,830	4,691	$61	$71.49	0.86	0	1	0	0	0
R669102840	R2	$309,390	8,796	$35	$71.49	0.49	1	0	0	0	0
R825802300	R2	$249,100	3,527	$71	$71.49	0.99	0	1	0	0	0
R825802680	R2	$227,270	4,018	$57	$71.49	0.79	0	1	0	0	0
R825802700	R2	$302,650	3,524	$86	$71.49	1.20	0	1	0	0	0
R825802780	R2	$8,000	3,767	$2	$71.49	0.03	1	0	0	0	0
R825803080	R2	$8,000	4,510	$2	$71.49	0.02	1	0	0	0	0
R825804590	R2	$107,730	17,567	$6	$71.49	0.09	1	0	0	0	0
R991150330	R2	$13,000	4,536	$3	$71.49	0.04	1	0	0	0	0
R175800200	R2	$275,040	8,767	$31	$71.49	0.44	1	0	0	0	0
R175800150	R2	$254,710	2,972	$86	$71.49	1.20	0	1	0	0	0
R175800100	R2	$262,250	2,972	$88	$71.49	1.23	0	1	0	0	0
R175800050	R2	$277,340	3,990	$70	$71.49	0.97	0	1	0	0	0
R669103100	R2	$311,070	8,490	$37	$71.49	0.51	1	0	0	0	0
R669103070	R2	$446,420	12,736	$35	$71.49	0.49	1	0	0	0	0
R991150270	R5	$3,369,660	168,569	$20	$0.00	10.00	0	0	0	0	1
R991150600	R2	$15,860	7,035	$2	$71.49	0.03	1	0	0	0	0
R825804520	R2	$201,190	7,736	$26	$71.49	0.36	1	0	0	0	0
R825804510	R2	$3,000	1,559	$2	$71.49	0.03	1	0	0	0	0
R649865010	R2	$320,960	2,209	$145	$71.49	2.03	0	0	0	1	0
R649865020	R2	$320,960	2,312	$139	$71.49	1.94	0	0	1	0	0
R991150580	R2	$250,330	4,096	$61	$71.49	0.86	0	1	0	0	0
R991151210	R2	$529,000	8,075	$66	$71.49	0.92	0	1	0	0	0
TOTALS		$10,438,600	333,292				14	10	3	1	1

Source: Johnson Reid LLC

Below the box of RMV/Residual categories (Figure A.11), there are also tallies of the land in each category by number of sites, square footage, acreage, and real market value (see Figure A.12). Finally, a tally is produced of the RMV of sites which the model assumes will develop/redevelop in the study time frame. (This is based on the Development Probability entered on the Initial Input Screen.) These tallies are used on the following screen to produce the Model's outputted estimates of development activity.

FIGURE A.12: REDEVELOPMENT SCREEN (CONTINUED)
PREDICTIVE ECONOMIC DEVELOPMENT MODEL

	SITES					
	RMV/Residual Category					
ZONING	<.75	.75-1.25	1.25-2.0	2.0-4.0	>4.0	Total
RH	28	3	25	15	31	102
R1	19	27	30	36	235	347
R2	38	56	74	49	37	254
R5	0	0	0	0	15	15
CS	53	22	17	27	18	137
CN1	0	0	0	0	0	0
CX	36	5	2	1	17	61
CG	1	1	0	0	0	2
OS	0	0	0	0	0	0
CO2	0	0	1	0	0	1
CM	2	0	0	0	1	3
TOTAL	177	114	149	128	354	922

	SQUARE FEET OF LAND					
	RMV/Residual Category					
ZONING	<.75	.75-1.25	1.25-2.0	2.0-4.0	>4.0	Total
TOTAL	3,535,482	800,390	706,762	193,951	1,401,680	6,638,265

	ACREAGE					
	RMV/Residual Category					
ZONING	<.75	.75-1.25	1.25-2.0	2.0-4.0	>4.0	Total
TOTAL	81	18	16	4	32	152

	CURRENT RMV/$000s					
	RMV/Residual Category					
ZONING	<.75	.75-1.25	1.25-2.0	2.0-4.0	>4.0	Total
TOTAL	$147,498.3	$74,588.7	$90,140.3	$43,045.1	$296,743.6	$652,015.9

	CURRENT RMV ($000s)/Assumed Dev/Redev					
	RMV/Residual Category					
ZONING	<.75	.75-1.25	1.25-2.0	2.0-4.0	>4.0	Total
TOTAL	$14,749.8	$5,221.2	$2,704.2	$0.0	$0.0	$22,675.2

Source: Johnson Reid LLC

G. Development Activity Output

The following screen (Figure A.13) shows the estimate of development activity resulting from the example presented above. This is the Model's output, resulting from the information entered in the screens shown thus far. This screen updates automatically from previous screens and doesn't require further user input.

Figure A.13 shows the predicted development output for the "Baseline Scenario" of the hypothetical corridor which has been shown in the previous examples in this section.

- The table in the upper left shows the square footage of land area in each RMV/Residual ratio category (from the Redevelopment Screen).
- This total area is multiplied by the Development Probability (from the Initial Input Screen).
- This produces the table just below, which is the bulk estimate of developable lands in the corridor study area. In this example, the "< 0.75" category is multiplied by 10%. The categories where RMV/Residual is greater than 2.0 are determined to have low likelihood of redevelopment, so 0% of the land area in those categories pass through this screen.
- The determination of predicted development land area by zone is then compared to the highest and best economic use in those zones (from the Zoning Screen) to estimate the amount of **construction investment**, **housing units** and **commercial space** resulting from that development.
- Finally, the change in **Real Market Value** is calculated both from new development, and renovation/reinvestment in existing properties.

Figure A.13 shows the predicted development output for the "Baseline Scenario" of the hypothetical corridor which has been shown in the previous examples in this section. This example resulted in a Baseline Scenario forecast of:

- $72.2 million in new construction investment

- 621 new housing units
- 21,500 square feet of commercial space
- $217.3 million in new Real Market Value

(As discussed in the conclusions of this report, the outputs are inherently more precise then can realistically be forecasted. They are best viewed as an indicator of the potential overall magnitude of development activity, rather than a prediction that the corridor will achieve exactly 620 units, or $72 million in construction investment.)

This is an example of the Baseline Scenario outputs. The next steps in the model are to produce similar outputs for the Streetcar Scenario, then compare the two sets of results to judge what additional impact the streetcar improvements are predicted to have.

FIGURE A.13: PREDICTED DEVELOPMENT ACTIVITY (OUTPUT SCREEN)

PREDICTIVE ECONOMIC DEVELOPMENT MODEL

	SQUARE FEET OF LAND (Scale Adjusted)					
	RMV/Residual Category					
ZONING	<.75	.75-1.25	1.25-2.0	2.0-4.0	>4.0	Total
RH	221,627	14,218	22,048	7,000	82,844	347,738
R1	292,148	146,785	233,037	32,024	614,341	1,318,336
R2	639,309	220,637	175,027	61,129	111,340	1,207,443
R5	0	0	0	0	282,236	282,236
CS	736,484	76,757	9,211	10,364	33,985	866,801
CN1	0	0	0	0	0	0
CX	1,519,850	215,062	194,034	46,595	206,871	2,182,413
CG	12,514	39,842	0	0	0	52,357
OS	0	0	0	0	0	0
CO2	0	0	2,925	0	0	2,925
CM	21,679	0	0	0	5,262	26,941
TOTAL	3,443,612	713,303	636,282	157,112	1,336,879	6,287,189
Dev Probabili	10%	7%	3%	0%	0%	6%

	LAND DEVELOPED/REDEVELOPED (SF)					
	RMV/Residual Category					
ZONING	<.75	.75-1.25	1.25-2.0	2.0-4.0	>4.0	Total
RH	22,163	995	661	0	0	23,819
R1	29,215	10,275	6,991	0	0	46,481
R2	63,931	15,445	5,251	0	0	84,626
R5	0	0	0	0	0	0
CS	73,648	5,373	276	0	0	79,298
CN1	0	0	0	0	0	0
CX	151,985	15,054	5,821	0	0	172,860
CG	1,251	2,789	0	0	0	4,040
OS	0	0	0	0	0	0
CO2	0	0	88	0	0	88
CM	2,168	0	0	0	0	2,168
TOTAL	344,361	49,931	19,088	0	0	413,381

	Predicted Development Yield			RMV/		Net
Predicted Predominant	Construction	Residential	Commercial	Dev. or	Current	Change in
Development Form	Investment	Units	Space	Redev.	RMV	RMV
residential mid/struc 2	$14,625,157	80	0	$20,551,520	$1,828,776	$18,722,744
3-story wood townhome	$3,625,511	27	0	$7,990,451	$2,825,265	$5,165,186
3-story wood townhome	$6,600,856	50	0	$14,547,967	$4,055,286	$10,492,681
N/A	$0	0	0	$0	$0	$0
3-story wood Zero Park	$21,102,527	229	0	$41,957,599	$5,862,776	$36,094,823
3-story wood townhome	$0	0	0	$0	$0	$0
MU res/ret mid/surf	$25,068,217	224	21,054	$51,561,072	$7,604,201	$43,956,871
MU res/ret mid/surf	$585,938	5	492	$1,205,175	$341,383	$863,792
N/A	$0	0	0	$0	$0	$0
3-story wood townhome	$6,845	0	0	$15,086	$10,853	$4,233
3-story wood Zero Park	$576,909	6	0	$1,147,054	$146,702	$1,000,352
TOTAL	**$72,191,961**	**621**	**21,547**	**$138,975,923**	**$22,675,241**	**$116,300,683**
TOTAL/REHAB/RENOVATION						**$101,034,870**
OVERALL TOTAL						**$217,335,553**

Source: Johnson Reid LLC

H. Streetcar Scenario

The Model is designed so that the inputs described in the previous steps automatically generates the Streetcar Scenario subsequently to the Baseline Scenario. The Streetcar Scenario essentially follows the same steps, however the inputs used in the pro forma analysis for such factors as rent levels and costs factors are changed, based on the estimated Development Adjustment Factors which were derived on the Initial Input Screen.

In other words, the Streetcar Scenario models the impact of increased rent potential and lower costs from things such as reduced parking requirements on the same building types included in the Baseline Model.

The adjusted development factors can generally have two impacts:

1) Increase the Residual levels (i.e. the amount developers can pay for land) and therefore increase the amount of land in the lower RMV/Residual ratio categories. More land in these lower ratio categories means more is deemed likely to develop.
2) In some cases, where the real estate market in the corridor is already on the margin between lower density development and supporting a more dense form of development, the adjusted development factors may be sufficient to "push" the feasible development type to a denser, taller development type. (For instance, the higher rent level may now support mid-rise development where only low-rise was possible before.) This will only happen where the market is already near this threshold.

In the average tested corridor, the first type of impact is likely to be responsible for the majority of the difference between the Baseline and Streetcar scenarios. (This is discussed further in the conclusions of this report.)

Potential Adjustments to Streetcar Scenario

While the Model is designed to hold most factors constant between the Baseline and Streetcar scenarios, in order to allow the most direct comparison, the user does have the potential to

make changes to the Prototype Development Pro Forma worksheets, or the Zoning Screen worksheet if the user desires.

The user may wish to change the Zoning Screen if it is anticipated that the proposed streetcar program will be accompanied by zoning amendments which will change was is permitted or not permitted in the area. In other words, the zoning entitlements will change between the Baseline and Streetcar scenarios.

It is less clear why a user would want to change the Prototype Development Pro Forma worksheets between the scenarios, but the flexibility is there to do so. Such changes should be well considered and limited to realistically anticipated changes that would occur between the two scenarios.

Streetcar Scenario Outputs

The Model produces a Development Activity Output screen for the Streetcar Scenario that matches that of the Baseline Scenario (see Figure A.13). The two scenarios are then compared to determine the net gain from streetcar improvements (see below).

I. Reconciliation Baseline and Streetcar Scenarios

The final step in the Model is to compare the outputs of the Baseline and Streetcar Scenarios. This is done automatically. Figure A.14 presents the comparison of results from the hypothetical corridor Modeled in the examples above. In this example, the streetcar improvements are judged to have a positive impact on all indicators, increasing investment, production of housing and commercial space, and resulting change in Real Market Value.

FIGURE A.14: RECONCILIATION OF BASELINE AND STREETCAR SCENARIOS
PREDICTIVE ECONOMIC DEVELOPMENT MODEL

BASELINE					
		Predicted Development Yield			Net
ZONING	Predicted Predominant Development Form	Construction Investment	Residential Units	Commercial Space	Change in RMV
RH	residential mid/struc 2	$14,625,157	80	0	$18,722,744
R1	3-story wood townhome	$3,625,511	27	0	$5,165,186
R2	3-story wood townhome	$6,600,856	50	0	$10,492,681
R5	N/A	$0	0	0	$0
CS	3-story wood Zero Park	$21,102,527	229	0	$36,094,823
CN1	3-story wood townhome	$0	0	0	$0
CX	MU res/ret high rise	$25,068,217	224	21,054	$43,956,871
CG	MU res/ret mid/surf	$585,938	5	492	$863,792
OS	N/A	$0	0	0	$0
CO2	3-story wood townhome	$6,845	0	0	$4,233
CM	3-story wood Zero Park	$576,909	6	0	$1,000,352
	TOTAL/NEW CONSTRUCTION	**$72,191,961**	**621**	**21,547**	**$116,300,683**
	TOTAL/REHAB/RENOVATION	**$101,034,870**			**$101,034,870**
	OVERALL TOTAL	**$173,226,831**			**$217,335,553**

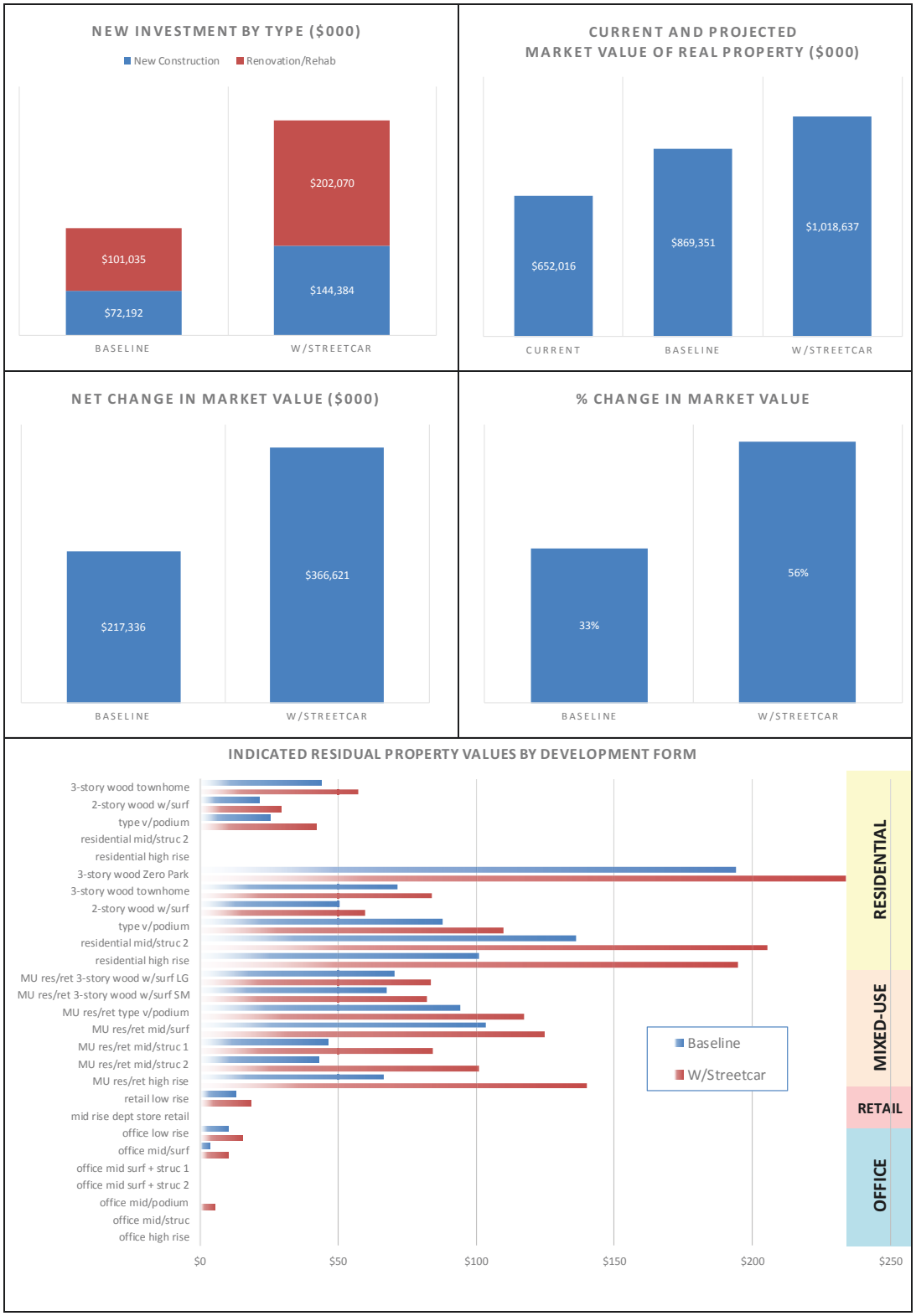
WITH STREETCAR IMPROVEMENTS					
		Predicted Development Yield			Net
ZONING	Predicted Predominant Development Form	Construction Investment	Residential Units	Commercial Space	Change in RMV
RH	residential mid/struc 2	$15,070,361	85	0	$22,537,186
R1	3-story wood townhome	$3,657,731	28	0	$6,378,431
R2	3-story wood townhome	$6,790,648	53	0	$12,784,372
R5	N/A	$0	0	0	$0
CS	3-story wood Zero Park	$20,756,753	232	0	$42,150,323
CN1	3-story wood townhome	$0	0	0	$0
CX	MU res/ret high rise	$126,847,814	725	34,027	$173,552,903
CG	MU res/ret mid/surf	$737,130	6	638	$1,218,106
OS	N/A	$0	0	0	$0
CO2	3-story wood townhome	$15,506	0	0	$14,622
CM	3-story wood Zero Park	$560,083	6	0	$1,157,020
	TOTAL/NEW CONSTRUCTION	**$174,436,027**	**1,135**	**34,665**	**$259,792,963**
	TOTAL/REHAB/RENOVATION	**$106,827,704**			**$106,827,704**
	OVERALL TOTAL	**$281,263,731**			**$366,620,667**

NET DIFFERENTIAL	$108,036,900	514	13,118	$149,285,114

Source: Johnson Reid LLC

The final worksheet in the Model presents the comparison of the scenarios in graphic form (Figure A.15).

FIGURE A.15: RECONCILIATION OF SCENARIOS (GRAPHICS)
PREDICTIVE ECONOMIC DEVELOPMENT MODEL



J. Truth Testing of Results

The Model produces various assumptions about the developability of various parcels. The results for both the Baseline and Streetcar Scenarios should be mapped (if possible), and "truth tested" by users knowledgeable about the test corridor. There is no substitute for local knowledge in assessing the accuracy of results.

The Model does not generate mapped results. To generate map, a user with technical expertise in GIS software will be required to copy the list of parcel records from the Redevelopment Screen, along with the "RMV/Residual ratio category" to which the parcels have been assigned, and import into the GIS software.

Because this Model assesses parcels in bulk, it is likely to produce erroneous or otherwise unexpected results for some parcels. Depending on the time/effort the user wants to expend, it will be less important to consider every small parcel in the study area, however larger parcels will have a greater impact on the results and should be reviewed. Local planning professionals should have an idea of the condition of important sites, and of any development plans already in process which should be reflected.

Some situations which might arise:

- A public park, school or other large site is identified as a development site.
- A large site with known development interest is not registering as a likely site.
- Local expertise otherwise concludes a site is likely to redevelop, despite relatively high real market value.
- Individual parcel records have flawed data (such as when the real market value of two adjacent sites under common ownership is applied to only one site, and other is shown to have a RMV of zero.)

For sites that are important or large enough to skew the overall magnitude of the development findings, the user can correct these flaws by finding the individual parcel in the Redevelopment Screen worksheet and making manual changes to ensure that it is indicating the proper level of developability.

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To: JPACT
From: Andy Cotugno, Metro Policy Advisor
Re.: Options for establishing an ODOT Region 1 Area Commission on Transportation (ACT)
Date: September 2, 2014

At the April 10, 2014 JPACT meeting, Steve Bryant (Oregon Solutions) presented his findings and recommendations from the report "Transportation Policy, Communication, and Coordination Assessment Report (January 29, 2014)." Following that presentation, the Governor's office convened an ODOT Region 1 ACT Task Force to develop recommendations to the Oregon Transportation Commission for formation of one or more Area Commission(s) on Transportation (ACTs) or ACT-like structures. The Task Force has met twice (May 5 and June 16) and directed the project technical advisory committee to develop some model options for evaluation by the Task Force. The Task Force is scheduled to meet again September 22, 2014 to discuss the evaluation of the options. In preparation for that discussion, Task Force members have been asked to consult with their colleagues and share feedback on:

- the advantages and disadvantages of each alternative from your perspective,
- any indication you may have about your preference and why, and
- any input you may have on characteristics of each option that should be incorporated.

At the August 14, 2014 JPACT meeting a copy of the ACT options was provided (attached is a descriptive matrix and set of maps for the options). **At the September 11, 2014 JPACT meeting it is requested that JPACT provide the Task Force with their feedback on the questions posed above.**

A generalized description of the ACT options is as follows:

Option 1A – Establish a single ACT encompassing the full ODOT Region 1 territory. Two variations on this option are to include Hood River County in the Lower John Day ACT rather than the Region 1 ACT and include western Washington County in the Region 1 ACT rather than the Northwest ACT as currently configured.

Option 1B – This is a variation on the single ACT approach but with the boundary extended to encompass the "commute-shed" around the Metro region. This would extend beyond the current boundary of ODOT Region 1 and include Woodburn, Newberg and Scappoose.

Option 2A – This is a 2 ACT option that would establish an ACT around the geography of Metro and JPACT with a second ACT encompassing the balance of ODOT Region 1.

Option 2B – This is a 2 ACT option that is organized around functional transportation issues rather than the ODOT Region 1 boundary. In addition to a Metro/JPACT ACT, there would be a second ACT organized around the Mt. Hood Loop (I-84, US 26, Hwy 35). The balance of the ODOT Region 1 geography would merge with the adjacent ACT based upon their common interest in transportation issues. This would entail merging southern Clackamas County with the Mid-Willamette Valley ACT and leaving western Washington County as part of the Northwest ACT.

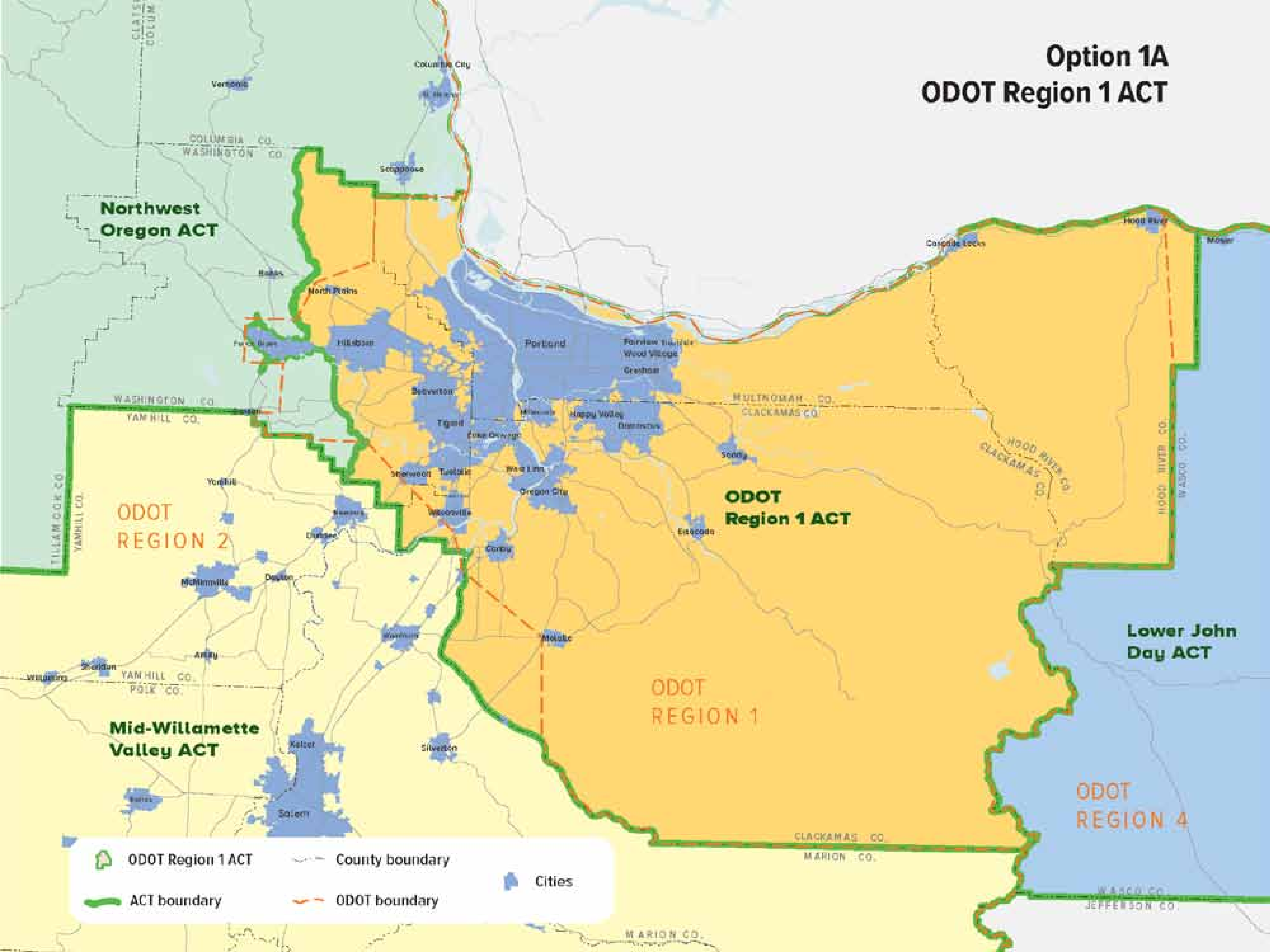
Status Quo – If the region fails to develop a recommendation on the formation of an ACT, ODOT has indicated they would continue to operate with an "ACT-like" structure and use the STIP Project Selection Committee in lieu of an ACT.

ODOT Region 1 – ACT Options

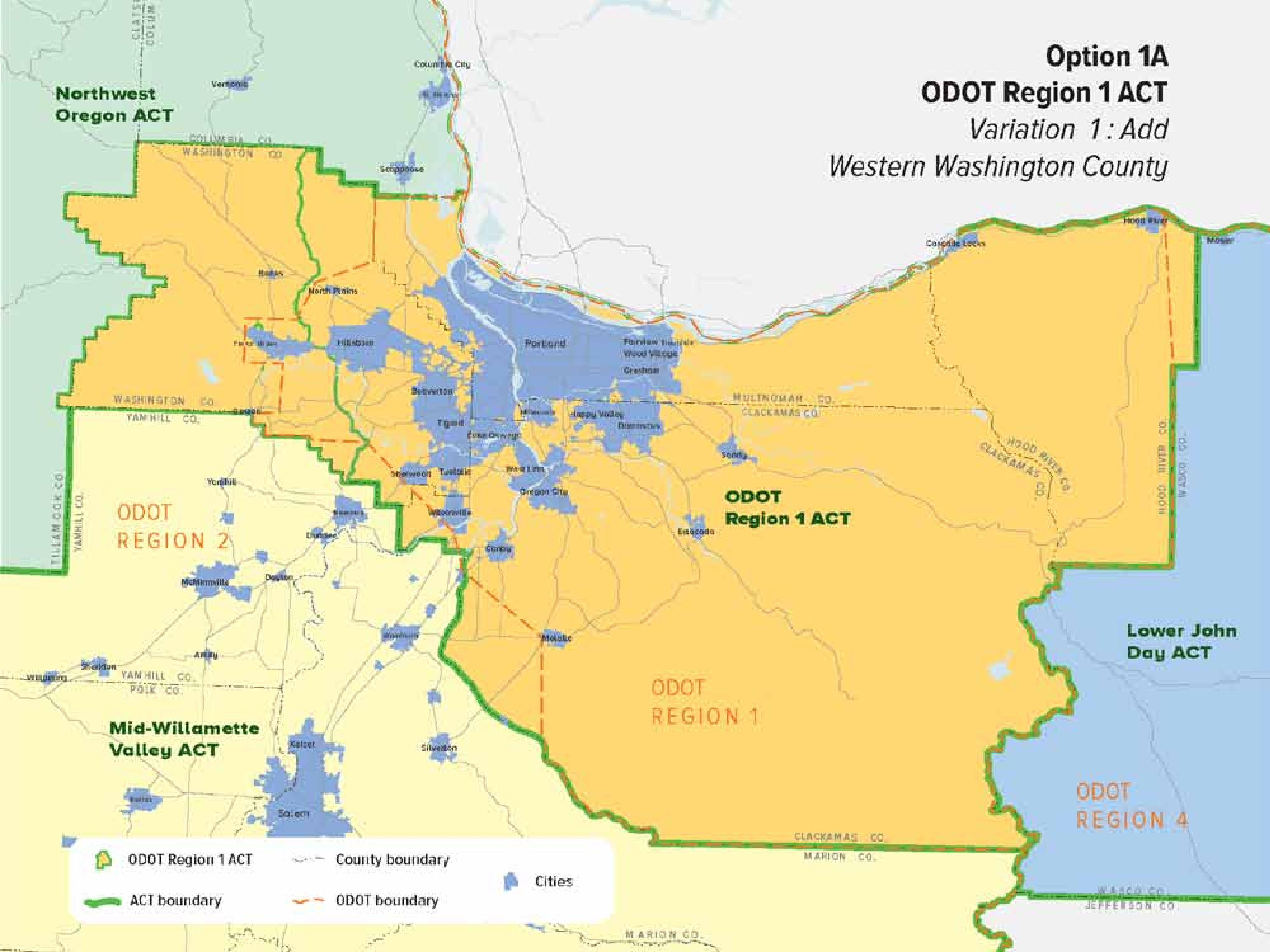
	OPTION 1A **1 ACT** **4-County**	**OPTION 1B** **1 ACT** **Metro area "Commute Shed"**	**OPTION 2A** **2 ACTs**	**OPTION 2B** **2 ACTs** **"Communities of Interest"**	**ACT-like structures (Enhancement of current process)**
Geography	All of ODOT Region 1	To capture commuting patterns, this "Commute-Shed" ACT boundary would be expanded beyond ODOT Region 1 to include the next city in the commute-shed (i.e. Hood River and Hood River County; Sandy, Estacada, Molalla and the rest or rural Clackamas County; Woodburn; Newberg; Gaston, Banks and North Plains and the rest of rural Washington County; Scappoose) and would be transferred from their current ACT.	ACT 1: Metro/JPACT (including NW Multnomah County) ACT 2: non-MPO balance of Region 1 (plus the transfer of Western Washington from the NWACT into this Region 1 Non-MPO ACT)	ACT 1: Metro/JPACT (Including NW Mult. Co) ACT 2: Mt. Hood Loop focused on I-84, US 26 and Hwy 35 (includes east Multnomah County, Sandy and Estacada) Western Washington Counties stays in NWACT. Southern Clackamas County joins Mid-Willamette Valley ACT. (Includes Molalla)	ODOT Region 1 STIP Project Selection Committee continues to operate for Enhance project prioritization.
Primary Advantages	A single ACT provides a single forum to set priorities. Dialogue between jurisdictions and stakeholders inside vs. outside Metro is facilitated. Provides for a unified voice for the entire Region to the OTC. Builds greater understanding of various economic development issues, projects and needs of the different areas throughout Region 1 Replaces and builds on the efforts of the Region 1 STIP Project Selection Committee which was largely considered a success. The existing MPO function and responsibilities for JPACT would be unchanged.	A single ACT provides a single forum to set priorities. A common understanding of the transportation needs within each neighboring city and along the route connecting to the Metro region. Would help facilitate the coordination of multi-modal urban transportation needs between Metro and neighboring communities. Dialogue between jurisdictions and stakeholders inside vs. outside Metro is facilitated. Provides for a unified voice for the entire Region to the OTC. Builds greater understanding of various economic development issues, projects and needs of the different areas throughout Region 1 The existing MPO function and responsibilities for JPACT would be unchanged.	May avoid membership challenges associated with merging urban and rural areas within Region 1. Two committees may provide for more membership opportunities and allow for unique interests, such as the Forest Service and BLM, to participate in ACT.. Provides direct voice to Oregon Transportation Commission for each ACT on other issues. Ability to spend more time and focus on local needs. The existing MPO function and responsibilities for JPACT would be unchanged.	Connects communities of interest by providing venues for: • coordination of multi-modal urban transportation • Transportation needs around the Mt. Hood Loop by jurisdictions and stakeholders adjacent to the Loop. • Coordination of transportation needs associated with routes to the Coast (US 26 and Hwy 8) with the other jurisdictions dealing with these routes. • Coordination of transportation needs along the Hwy 211 and Hwy 213 corridors with other Mid-Willamette Valley jurisdictions dealing with these routes. The existing MPO function and responsibilities for JPACT would be unchanged.	Provides a single forum to set STIP priorities. Dialogue between jurisdictions and stakeholders inside vs. outside Metro could be facilitated if the membership is revised and the Committee takes on a broader role than STIP project prioritization. Builds on, rather than duplicates, the County Coordinating Committee structure. Meets on an as-needed basis. The existing MPO function and responsibilities for JPACT would be unchanged.
Primary Disadvantages	It is possible that either the size of the ACT will be too large to effectively prioritize projects or too small to allow for extensive direct stakeholder representation. The region may be too complex for this model.	Communities outside the MPO, and in other ODOT Regions, may not see the value in this approach. In addition, the other affected ACTs might not agree to the required boundary adjustments.	Would require a "Super ACT" prioritization process, or other undetermined means to unify recommendations to the OTC.	Would require a "Super ACT" prioritization process or other undetermined means to unify recommendations to the OTC.	Does not provide a forum for additional ACT functions like Connect Oregon prioritization, modal plan review, etc.

ODOT Region 1 – ACT Options

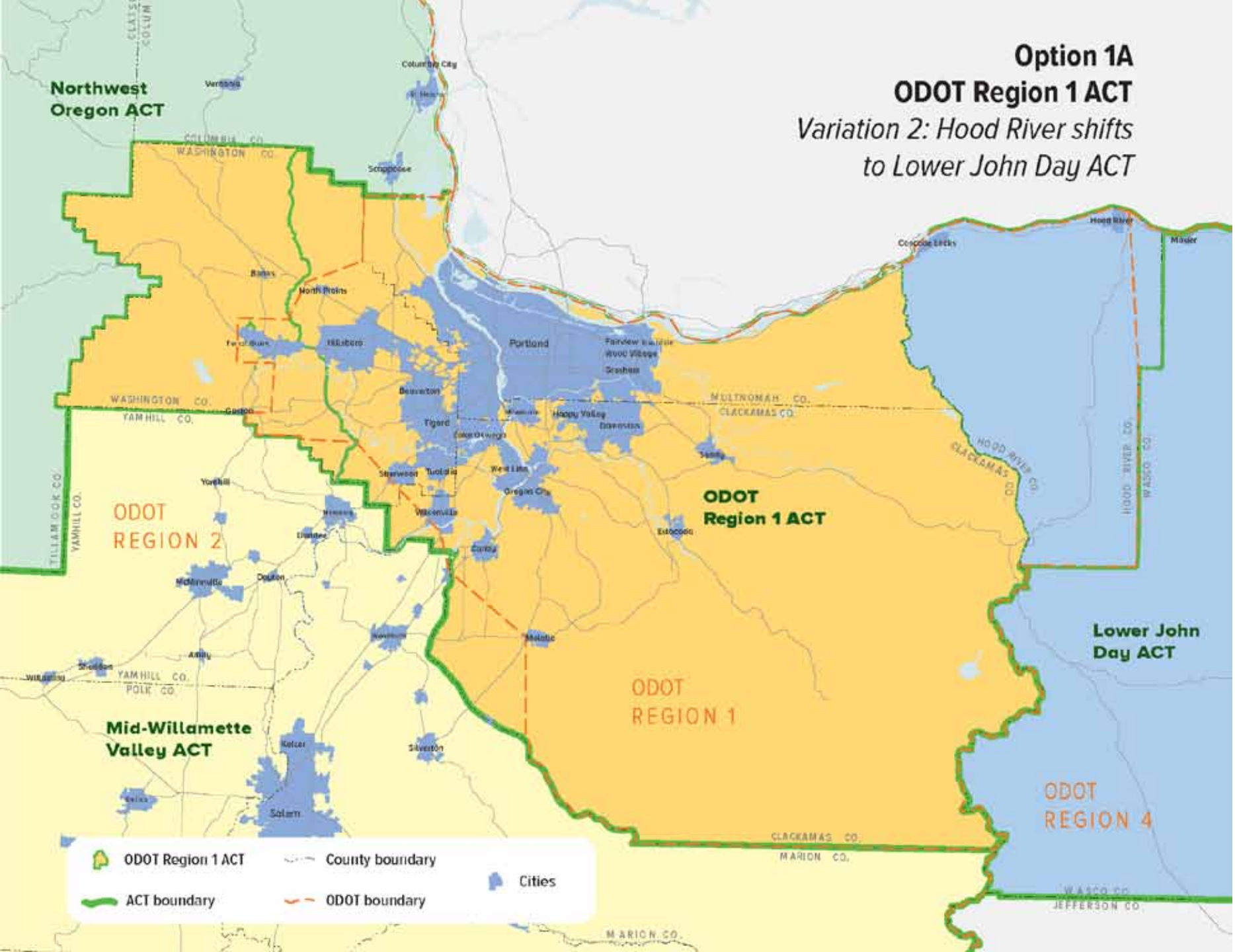
Primary Disadvantages (continued)	If ACT membership is proportional to population the ACT will either be very large or leave rural areas feeling potentially under represented given that 89% of people in Region 1 live within the MPO boundary. Distance and capacity limitations may make it more difficult for some rural stakeholders to participate effectively.	If ACT membership is proportional to population the ACT will either be very large or leave rural areas feeling potentially under represented given that 89% of people in Region 1 live within the MPO boundary. Distance and capacity limitations may make it more difficult for some rural stakeholders to participate effectively.	Segregates the Region into areas unconnected by transportation challenges and opportunities rather than encouraging dialogue between urban and rural communities. For example, Banks would be in an ACT with Hood River rather than Hillsboro. 2 ACTs involve more meetings.	Segregates the Region into communities of interest rather than encouraging dialogue between urban and rural communities. 2 ACTs involve more meetings. It is not certain that the existing Mid-Willamette Valley ACT is interested in adding new areas .	
Membership	Jurisdictions and stakeholders throughout the 4-County area. Presumably, membership would include a strong overlap with JPACT.	Each neighbor city should be represented and significant interests along the route connecting between neighbor cities and Metro. Presumably, membership would include a strong overlap with JPACT.	ACT 1: Metro area representation could start with JPACT or STIP Project Selection Committee members within the MPO. ACT 2: elected officials and stakeholders throughout ODOT Region 1 outside Metro	ACT 1: Metro area representation could start with JPACT or STIP Project Selection Committee members within the MPO. ACT 2: Cities and Counties along the Mt. Hood Loop plus stakeholders reliant upon the Loop.	STIP Project Selection Committee membership: 4 appointments per County plus ODOT Regional Manager, JPACT Chair. City of Portland, TriMet, Port of Portland
How is the STIP funding allocated?	A single 4-County priority list is established.	A single 4-County priority list is established.	Two separate priority lists would be reconciled by a meeting of representatives of the two ACTS together (as a Super-ACT).	Two separate priority lists would be reconciled by a meeting of representatives of the two ACTs together (as a Super-ACT). Western Washington County would participate in NWACT and Southern Clackamas County would be part of the Mid-Willamette ACT.	A single 4-County priority list is established.
Coordination and Communication	The County Coordinating Committees and JPACT would establish formal relationships with the ACT and would assume increased responsibilities for seeking consensus on their respective regional priorities for consideration by the ACT. Hood River County would establish a similar coordinating structure.	Woodburn, Newberg and Scappoose would transfer to this “Commute-Shed” ACT and would need to establish coordination mechanisms with their current ACT. Western Washington county would be part of the new “Commute-Shed” ACT The County Coordinating Committees and JPACT would establish formal relationships with the ACT and would assume increased responsibilities for seeking consensus on their respective regional priorities for consideration by the ACT. Hood River County would establish a similar coordinating structure.	The relationship between the ACT and JPACT as the MPO would be formalized. The county Coordinating Committees would establish formal relationships with ACT 2 and would assume increased responsibilities for seeking consensus on their respective rural priorities for consideration by ACT 2. Hood River County would establish a similar coordinating structure.	The County Coordinating Committees and JPACT would establish formal relationships with the ACT and would assume increased responsibilities for seeking consensus on their respective regional priorities for consideration by the ACT. Hood River County would establish a similar coordinating structure.	County Coordinating Committees and/or JPACT may request to have input on non-STIP items before the OTC.
Variations	Western Washington County could be in or out of ODOT Region 1 ACT Hood River County could align with the Lower John Day ACT	Woodburn, Newberg and Scappoose could remain in their current ACT and a mechanism to coordinate with the Region 1 ACT would need to be established.		Canby could be in the Metro Portland ACT rather than Mid-Willamette Valley ACT	Western Washington County could be in or out of STIP Project Selection Committee

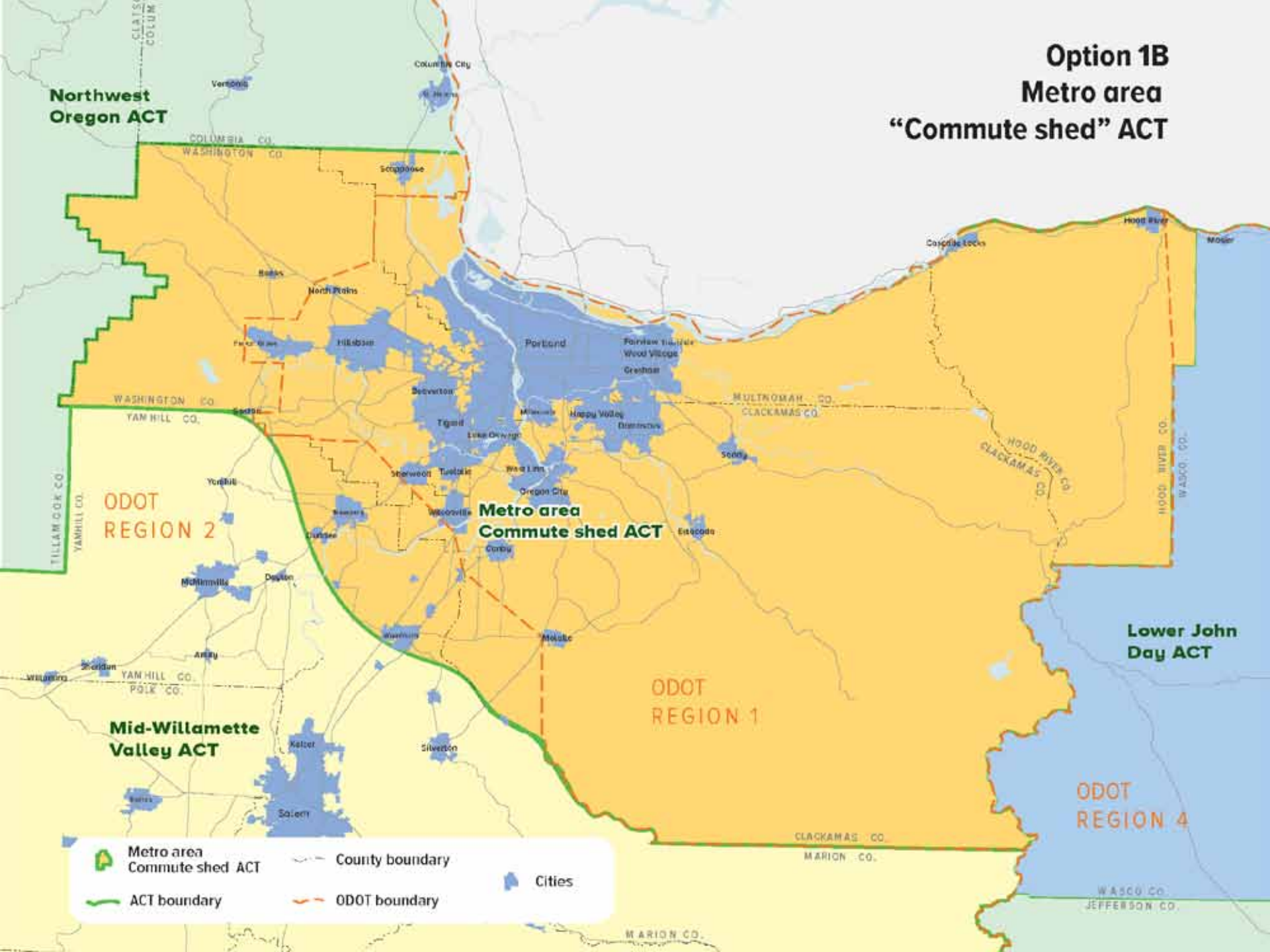


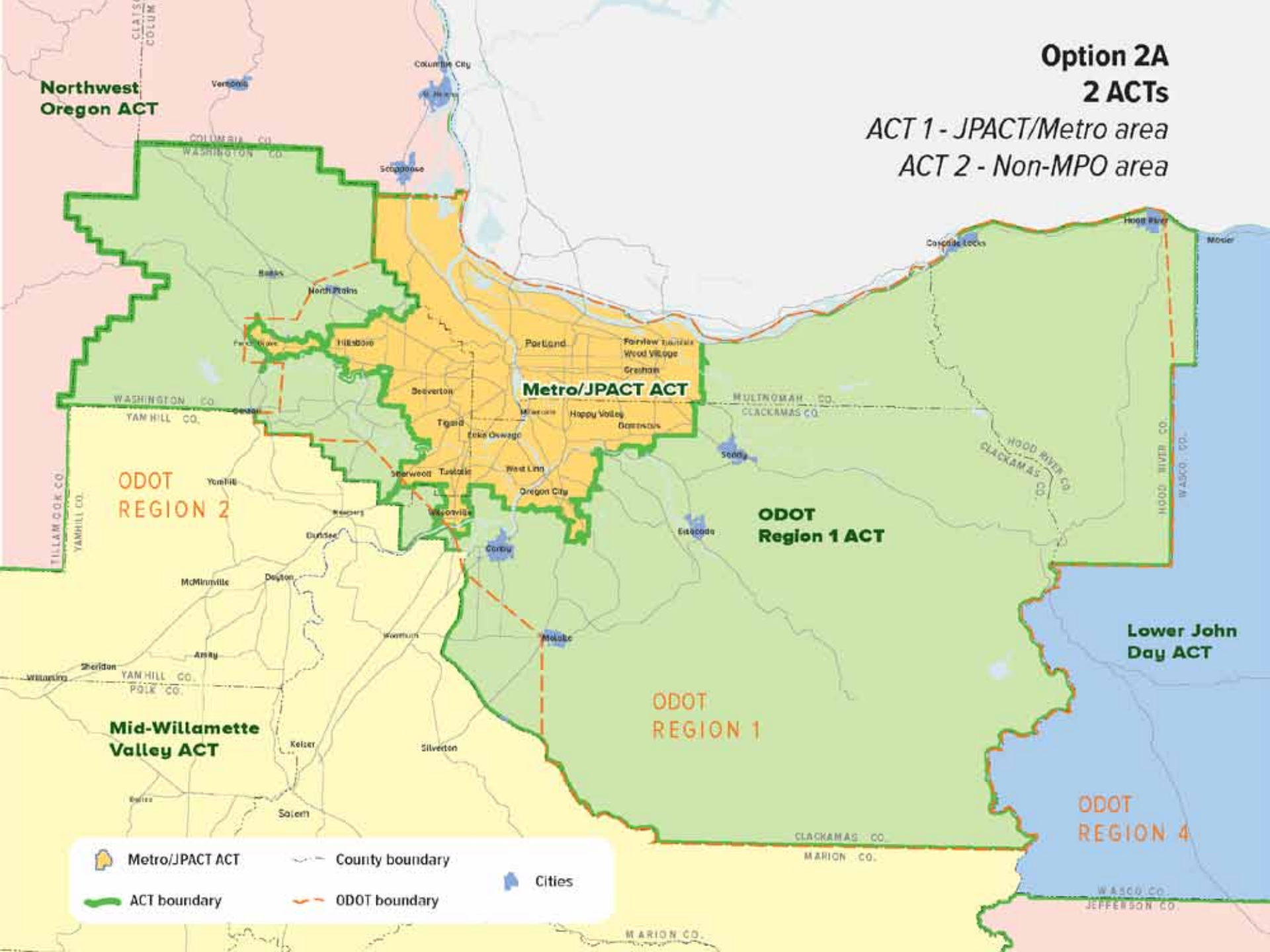
Option 1A
ODOT Region 1 ACT
Northwest Oregon ACT
ODOT Region 1 ACT
Mid-Willamette Valley ACT
Lower John Day ACT
ODOT REGION 1
ODOT REGION 2
ODOT REGION 4
COLUMBIA CO.
WASHINGTON CO.
YAMHILL CO.
MULTNOMAH CO.
CLACKAMAS CO.
HOOD RIVER CO.
WASCO CO.
MARION CO.
POLK CO.
TILLAMOOK CO.
JEFFERSON CO.
Columbia City
Scappoose
North Plains
Hillsboro
Portland
Fairview
Wood Village
Gresham
Beaverton
Happy Valley
Tigard
Lake Oswego
Sherwood
Tualatin
West Linn
Oregon City
Wilsonville
Sandy
Estacada
Canby
Molalla
Cascade Locks
Hood River
Mosier
Newberg
Dundee
Dayton
McMinnville
Sheridan
Amity
Keizer
Salem
Silverton
ODOT Region 1 ACT
County boundary
Cities
ACT boundary
ODOT boundary

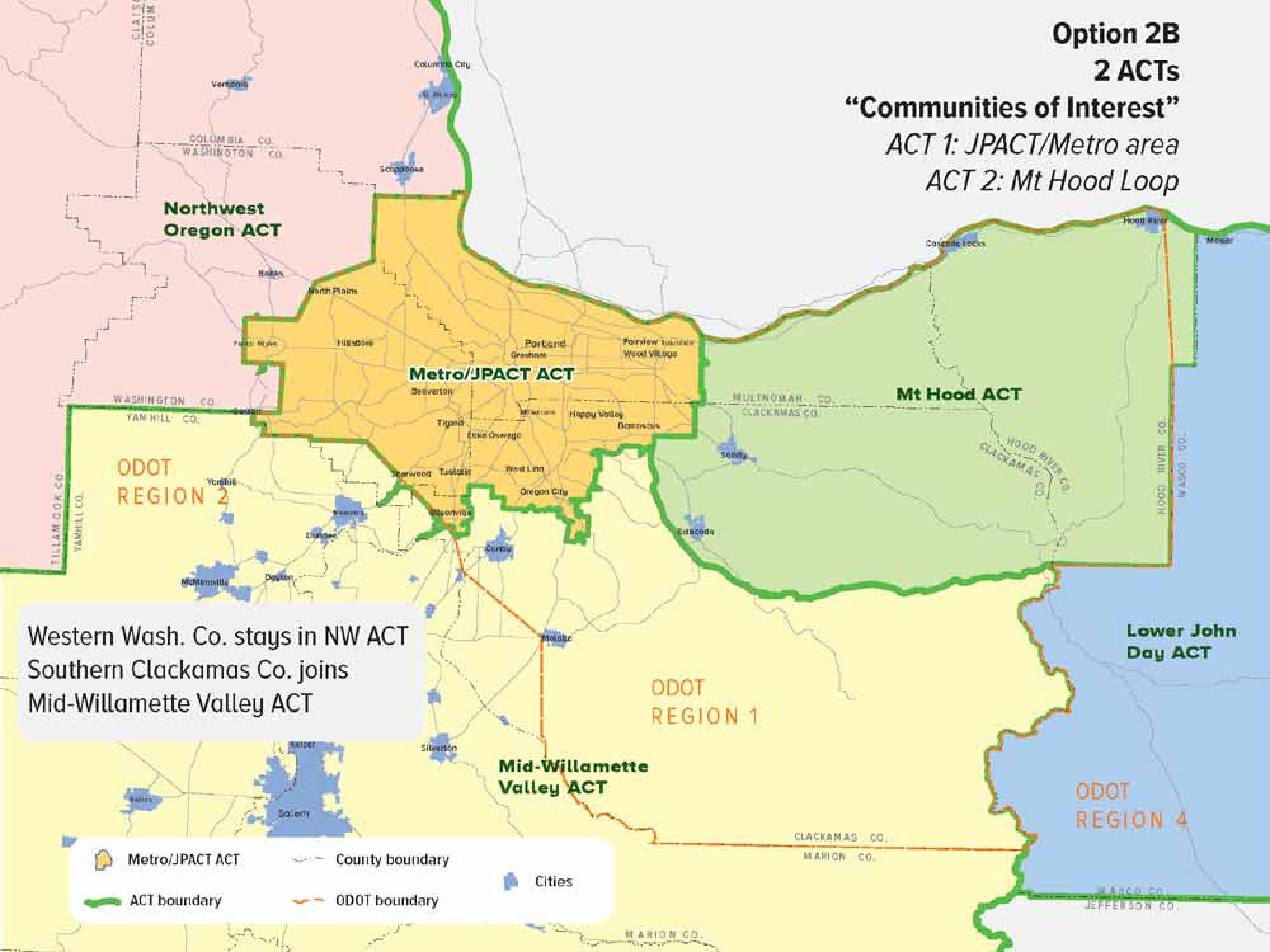


Option 1A
ODOT Region 1 ACT
Variation 1: Add
Western Washington County
Northwest Oregon ACT
ODOT REGION 2
Mid-Willamette Valley ACT
ODOT Region 1 ACT
ODOT REGION 1
Lower John Day ACT
ODOT REGION 4
Portland
Hillsboro
Beaverton
Tigard
Sherwood
Tualatin
Gresham
Happy Valley
Oregon City
West Linn
Canby
Sandy
Estacada
Molalla
Silverton
Keizer
Salem
McMinnville
Dayton
Amity
Sheridan
North Plains
Scappoose
Cascade Locks
Hood River
Mosier
Wilsonville
Lake Oswego
COLUMBIA CO.
WASHINGTON CO.
YAMHILL CO.
MULTNOMAH CO.
CLACKAMAS CO.
HOOD RIVER CO.
WASCO CO.
POLK CO.
MARION CO.
JEFFERSON CO.
TILLAMOOK CO.
ODOT Region 1 ACT
County boundary
Cities
ACT boundary
ODOT boundary


Option 1A
ODOT Region 1 ACT
Variation 2: Hood River shifts to Lower John Day ACT
Northwest Oregon ACT
ODOT REGION 2
ODOT Region 1 ACT
ODOT REGION 1
Lower John Day ACT
ODOT REGION 4
Mid-Willamette Valley ACT
Portland
Salem
ODOT Region 1 ACT
ACT boundary
County boundary
ODOT boundary
Cities


Option 1B
Metro area
"Commute shed" ACT
Northwest
Oregon ACT
Metro area
Commute shed ACT
ODOT
REGION 2
ODOT
REGION 1
ODOT
REGION 4
Lower John
Day ACT
Mid-Willamette
Valley ACT
Portland
Salem
Metro area
Commute shed ACT
ACT boundary
County boundary
ODOT boundary
Cities


Option 2A
2 ACTs
ACT 1 - JPACT/Metro area
ACT 2 - Non-MPO area
Northwest Oregon ACT
Metro/JPACT ACT
ODOT REGION 2
ODOT Region 1 ACT
ODOT REGION 1
Lower John Day ACT
Mid-Willamette Valley ACT
ODOT REGION 4
Portland
Beaverton
Hillsboro
Tigard
Tualatin
Lake Oswego
West Linn
Oregon City
Gresham
Troutdale
Sandy
Estacada
McMinnville
Dayton
Newberg
Dundee
Yamhill
Carlton
Sheridan
Willamina
Amity
Dallas
Monmouth
Independence
Silverton
Keizer
Salem
Molalla
Canby
Scappoose
Columbia City
Vernonia
North Plains
Banks
Cornelius
Forest Grove
Fairview
Wood Village
Happy Valley
Damascus
Milwaukie
Cascade Locks
Hood River
Mosier
WASHINGTON CO.
COLUMBIA CO.
MULTNOMAH CO.
CLACKAMAS CO.
YAMHILL CO.
POLK CO.
MARION CO.
TILLAMOOK CO.
HOOD RIVER CO.
WASCO CO.
JEFFERSON CO.
Metro/JPACT ACT
ACT boundary
County boundary
ODOT boundary
Cities

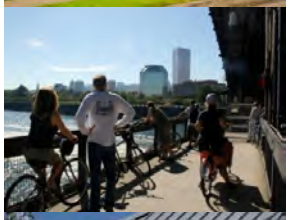


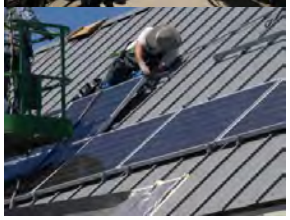
Option 2B
2 ACTs
"Communities of Interest"
ACT 1: JPACT/Metro area
ACT 2: Mt Hood Loop
Northwest Oregon ACT
Metro/JPACT ACT
Mt Hood ACT
Lower John Day ACT
Mid-Willamette Valley ACT
ODOT REGION 2
ODOT REGION 1
ODOT REGION 4
Western Wash. Co. stays in NW ACT
Southern Clackamas Co. joins
Mid-Willamette Valley ACT
Portland
Beaverton
Hillsboro
Tigard
Happy Valley
Lake Oswego
West Linn
Oregon City
Sherwood
Tualatin
Wilsonville
Sandy
Estacada
Hood River
Cascade Locks
Scappoose
Canby
Molalla
Silverton
Salem
Keizer
McMinnville
Newberg
Dundee
Dayton
Yamhill
North Plains
Gresham
Fairview
Wood Village
Damascus
Columbia City
COLUMBIA CO.
WASHINGTON CO.
YAMHILL CO.
MULTNOMAH CO.
CLACKAMAS CO.
HOOD RIVER CO.
WASCO CO.
MARION CO.
JEFFERSON CO.
Metro/JPACT ACT
County boundary
Cities
ACT boundary
ODOT boundary

Materials following this page were distributed at the meeting.

CLIMATE SMART COMMUNITIES SCENARIOS PROJECT

Metro





SAVE THE DATE

Joint JPACT/MPAC meeting

8 a.m. to noon, Friday, Nov. 7, 2014
World Forestry Center, Cheatham Hall

The 2009 Oregon Legislature has required the Portland metropolitan region to develop a preferred approach for reducing per capita greenhouse gas emissions from cars and small trucks by 2035.

Working together, community, business and elected leaders are shaping a strategy that meets the state mandate while creating healthy and equitable communities and a strong economy.

After a four-year collaborative process informed by research, analysis, community engagement and deliberation, a draft approach to meeting the state mandate for reducing greenhouse gas emissions was recommended for testing by Metro's policy advisory committees on May 30, 2014.

The results of the evaluation are in and the news is good. The draft approach can meet the state target while supporting many other state, regional and local goals, including clean air and water, transportation choices, healthy and equitable communities, and a strong regional economy.

This fall, advisory committees are receiving the results and will engage in discussion in the months to come to finalize recommendations to the Metro Council in December.

From **Sept. 15 to Oct. 30**, the public will have an opportunity to weigh in on the draft approach and draft implementation recommendations during a public comment period.

On **Nov. 7, MPAC and JPACT members will meet together** to review public feedback on the draft approach and implementation recommendations, and begin shaping a final recommendation to the Metro Council who will consider adoption on Dec. 18.

For more information on the Climate Smart Communities Scenarios Project, visit www.oregonmetro.gov/climatescenarios. For information on the joint meeting, contact Laura Dawson-Bodner at 503-797-1750.

CLIMATE SMART COMMUNITIES SCENARIOS PROJECT

Metro

KEY RESULTS

The Climate Smart Communities Scenarios Project responds to a state mandate to reduce greenhouse gas emissions from cars and small trucks by 2035. Working together, community, business and elected leaders are shaping a strategy that meets the goal while creating healthy and equitable communities and a strong economy. On May 30, 2014, Metro's policy advisory committees unanimously recommended a draft approach for testing that relies on policies and investments that have already been identified as priorities in communities across the region. **The results are in and the news is good.**

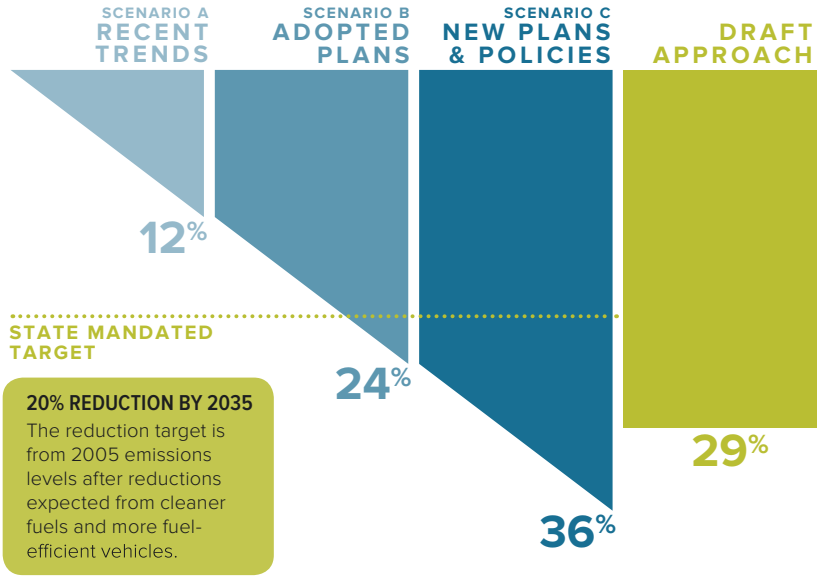
WHAT DID WE LEARN?

We can meet the 2035 target if we make the investments needed to build the plans and visions that have already been adopted by communities and the region. However, we will fall short if we continue investing at current levels.

The region has identified a draft approach that does more than just meet the target. It supports many other local, regional and state goals, including clean air and water, transportation choices, healthy and equitable communities, and a strong regional economy.

WHAT KEY POLICIES ARE INCLUDED IN THE DRAFT APPROACH?

- Implement adopted plans
- Make transit convenient, frequent, accessible and affordable
- Make biking and walking safe and convenient
- Make streets and highways safe, reliable and connected
- Use technology to actively manage the transportation system
- Provide information and incentives to expand the use of travel options
- Manage parking to make efficient use of land and parking spaces



After a four-year collaborative process informed by research, analysis, community engagement and deliberation, the region has identified a draft approach that achieves a 29 percent reduction in per capita greenhouse gas emissions and supports the plans and visions that have already been adopted by communities and the region.

oregonmetro.gov/climatescenarios

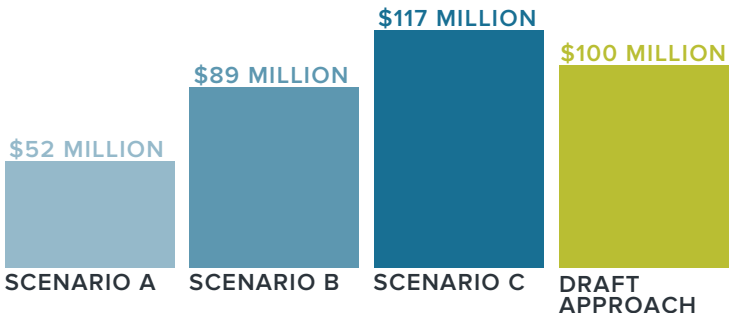
WHAT ARE THE PUBLIC HEALTH AND ECONOMIC BENEFITS?

By 2035, the draft approach can help people live healthier lives and save businesses and households money through benefits like:

- Reduced air pollution and increased physical activity can help **reduce illness and save lives**.
- Reducing the number of miles driven results in **fewer traffic fatalities and severe injuries**.
- Less air pollution and run-off of vehicle fluids means **fewer environmental costs**. This helps save money that can be spent on other priorities.
- Spending less time in traffic and reduced delay on the system **saves businesses money, supports job creation**, and promotes the efficient movement of goods and a strong regional economy.
- **Households save money** by driving more fuel-efficient vehicles fewer miles and walking, biking and using transit more.
- Reducing the share of household expenditures for vehicle travel **helps household budgets** and allows people to spend money on other priorities; this is particularly important for households of modest means.

OUR ECONOMY BENEFITS FROM IMPROVED PUBLIC HEALTH

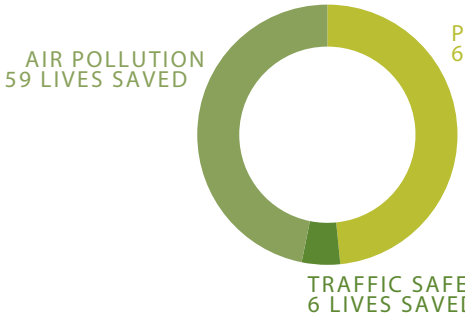
ANNUAL HEALTHCARE COST SAVINGS FROM REDUCED ILLNESS (MILLIONS, 2010$)



In 2010, our region spent $5-6 billion on healthcare costs related to illness alone. The region can save $100 million per year from implementing the draft approach.

MORE PHYSICAL ACTIVITY AND LESS AIR POLLUTION PROVIDE MOST HEALTH BENEFITS

LIVES SAVED EACH YEAR BY 2035

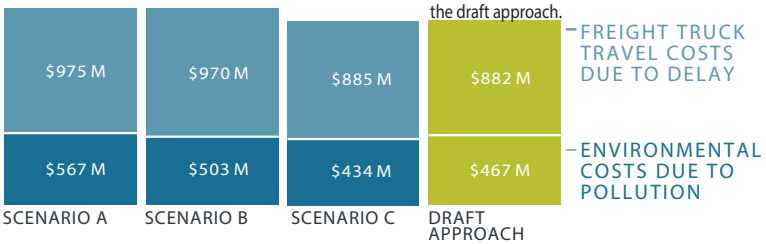


By 2035, the region can save more than $1 billion per year from the lives saved each year by implementing the draft approach.

OUR ECONOMY BENEFITS FROM REDUCED EMISSIONS AND DELAY

ANNUAL COSTS IN 2035 (MILLIONS, 2005$)

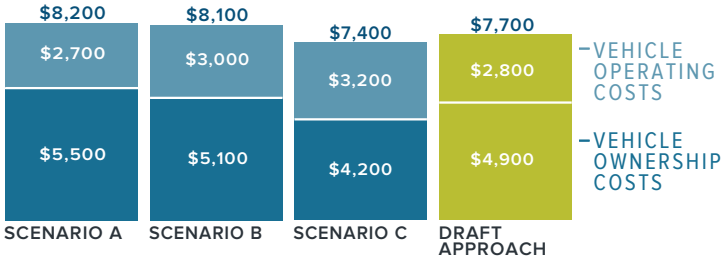
The region can expect to save $2.5 billion by 2035, compared to A, by implementing the draft approach.



Cumulative savings calculated on an annual basis.

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

AVERAGE ANNUAL HOUSEHOLD VEHICLE OWNERSHIP & OPERATING COSTS IN 2005$



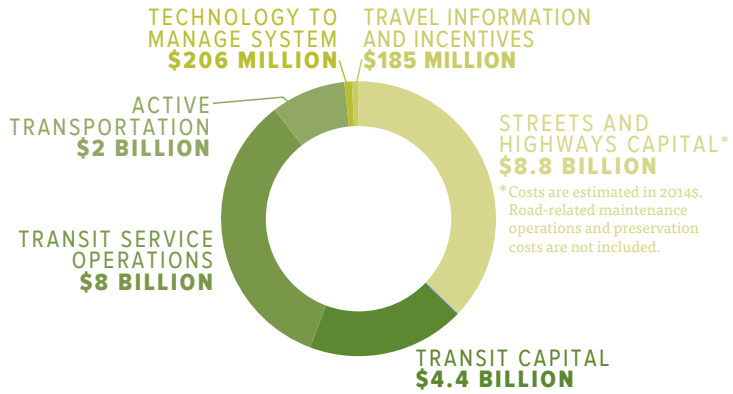
WHAT IS THE RETURN ON INVESTMENT?

Local and regional plans and visions are supported. The draft approach reflects local and regional investment priorities adopted in the 2014 Regional Transportation Plan (RTP) to address current and future transportation needs in the region. At $24 billion over 25 years, the overall cost of the draft approach is less than the full 2014 RTP ($29 billion), but about $5 billion more than the financially constrained 2014 RTP ($19 billion).*

More transportation options are available. As shown in the chart to the right, investment levels assumed in the draft approach are similar to those in the adopted financially constrained RTP, with the exception of increased investment in transit capital and operations region-wide. Analysis shows the high potential of these investments to reduce greenhouse gas emissions while improving access to jobs and services and supporting other community goals.

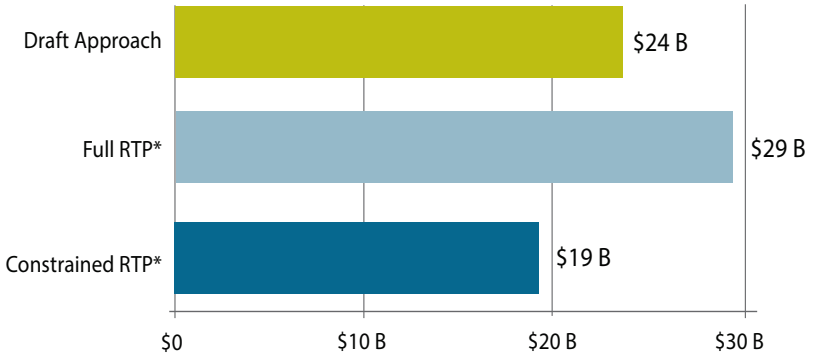
Households and businesses experience multiple benefits. The cost to implement the draft approach is estimated to be $945 million per year, plus an estimated $480 million per year needed to maintain and operate our road system. While this is about $630 million more than we currently spend as a region, analysis shows multiple benefits and a significant return on investment. In the long run, the draft approach can help people live healthier lives and save households and businesses money.

$ HOW MUCH WOULD WE NEED TO INVEST BY 2035?

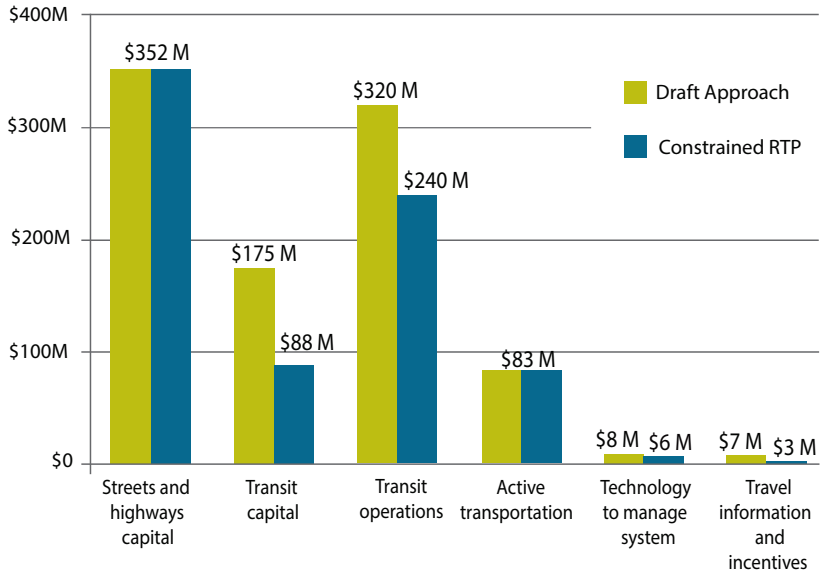


Investment costs are in 2014$. The total cost does not include road-related operations, maintenance and preservation (OMP) costs. Preliminary estimates for local and state road-related OMP needs are $12 billion through 2035.

ESTIMATED COSTS OF DRAFT APPROACH AND 2014 RTP (BILLIONS, 2014$)



ANNUAL COST OF IMPLEMENTATION THROUGH 2035 (MILLIONS, 2014$)



* The financially constrained 2014 RTP refers to the priority investments that can be funded with existing and anticipated new revenues identified by federal, state and local governments. The full 2014 RTP refers to all of the investments that have been identified to meet current and future regional transportation needs in the region. It assumes additional funding beyond currently anticipated revenues.

HOW DO WE MOVE FORWARD?

We're stronger together. Local, regional, state and federal partnerships and legislative support are needed to secure adequate funding for transportation investments and address other barriers to implementation.

Building on existing local, regional and statewide activities and priorities, the project partners have developed a draft toolbox of actions with specific steps that can be taken in the next five years. This is a menu of actions that can be locally tailored to best support local, regional and state plans and visions. Reaching the state target can best be achieved by engaging community and business leaders as part of ongoing local and regional planning and implementation efforts.

WHAT CAN LOCAL, REGIONAL AND STATE PARTNERS DO?

Everyone has a role. Local, regional and state partners are encouraged to review the draft toolbox to identify actions they have already taken and prioritize any new actions they are willing to consider or commit to as we move into 2015.

WHAT'S NEXT?

The Metro Policy Advisory Committee and the Joint Policy Advisory Committee on Transportation are working to finalize their recommendation to the Metro Council on the draft approach and draft implementation recommendations.

September 2014 Staff reports results of the analysis and draft implementation recommendations to the Metro Council and regional advisory committees

Sept. 15 to Oct. 30 Public comment period on draft approach and draft implementation recommendations

Nov. 7 MPAC and JPACT meet to discuss public comments and shape recommendation to the Metro Council

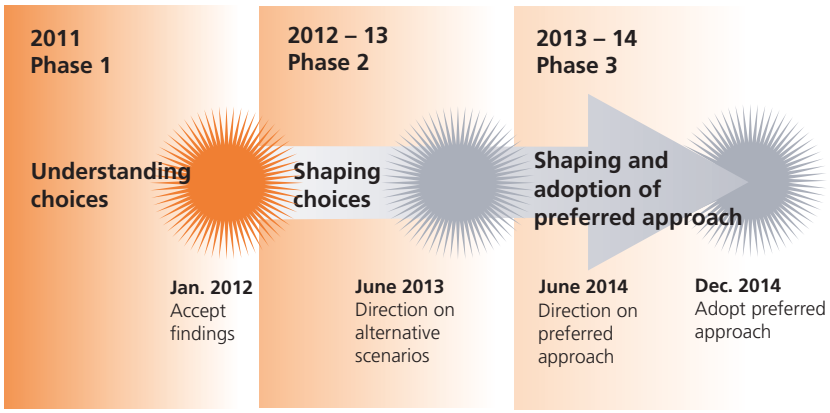
December 2014 MPAC and JPACT make recommendation to Metro Council

December 2014 Metro Council considers adoption of preferred approach

January 2015 Metro submits adopted approach to Land Conservation and Development Commission for approval

2015 and beyond Ongoing implementation and monitoring

Climate Smart Communities Scenarios Project timeline



WHERE CAN I FIND MORE INFORMATION?

The draft toolbox and other publications and reports can be found at **oregonmetro.gov/climatescenarios**.

For email updates, send a message to **climatescenarios@oregonmetro.gov.**

Metro

Sept. 9, 2014

CLIMATE SMART COMMUNITIES SCENARIOS PROJECT

www.oregonmetro.gov/climatescenarios

Climate Smart Communities Scenarios Project

Draft Climate Smart Approach

September 11, 2014

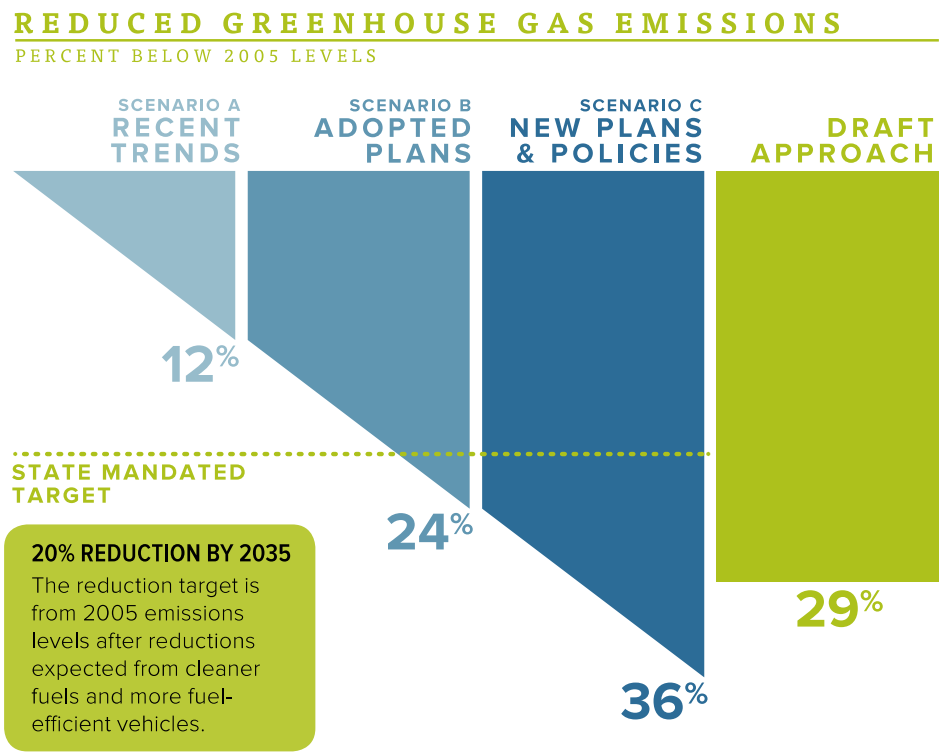
Metro | *Making a great place*

Purpose of today's discussion

1. Review key results
2. Introduce draft implementation recommendations to be released for public review from Sept. 15 to Oct. 30
   - Draft Regional Framework Plan amendments (*under development)*
   - Draft toolbox of possible actions (non-binding)
   - Draft performance monitoring approach
3. Ask members to identify policy topics to prioritize for discussion in Oct. and Nov.

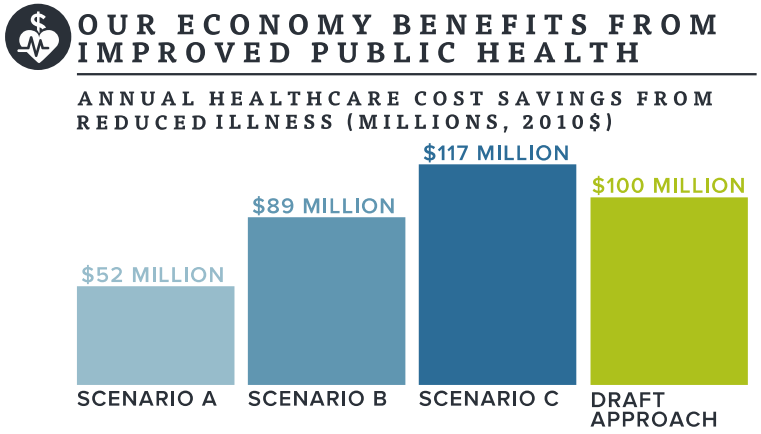
The results are in and the news is good

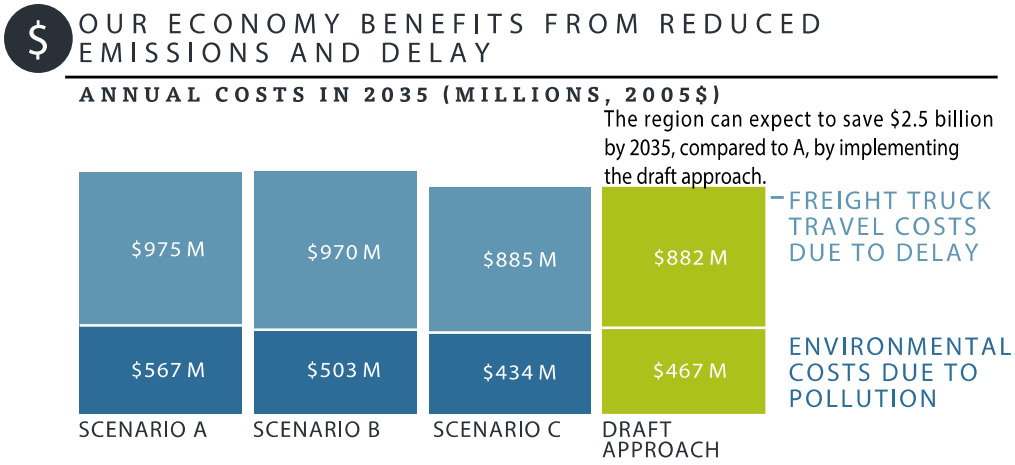
- We can meet the target - *if we make the investments needed to build adopted plans and visions*
- We will fall short if we continue investing at current levels
- Significant public health, economic and environmental benefits are realized

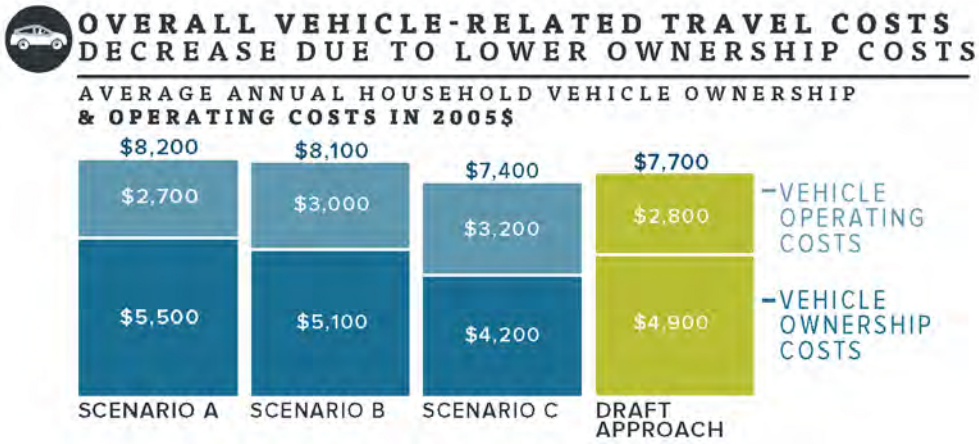


Source: GreenSTEP

What is the return on investment?

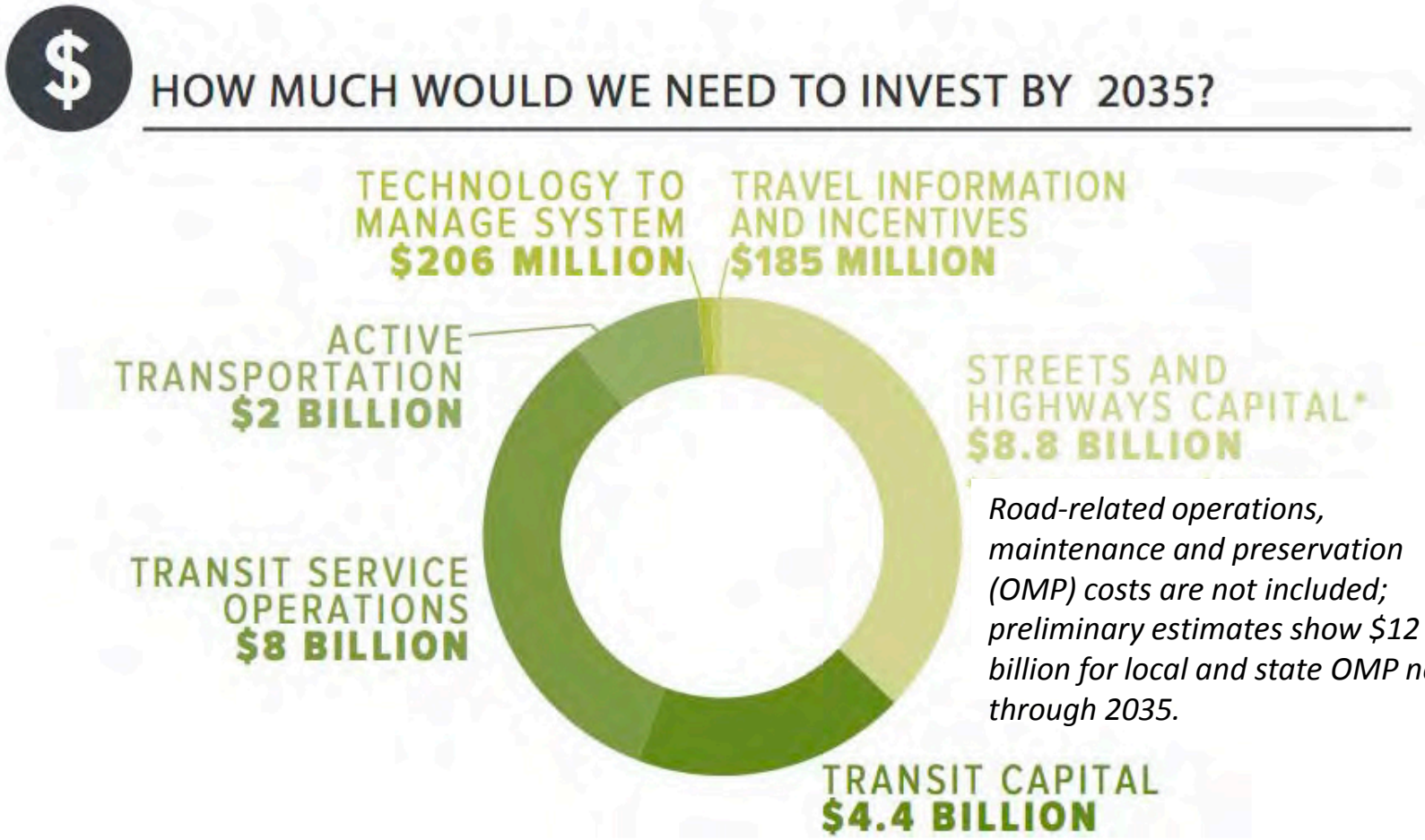






Source: GreenSTEP and ITHIM

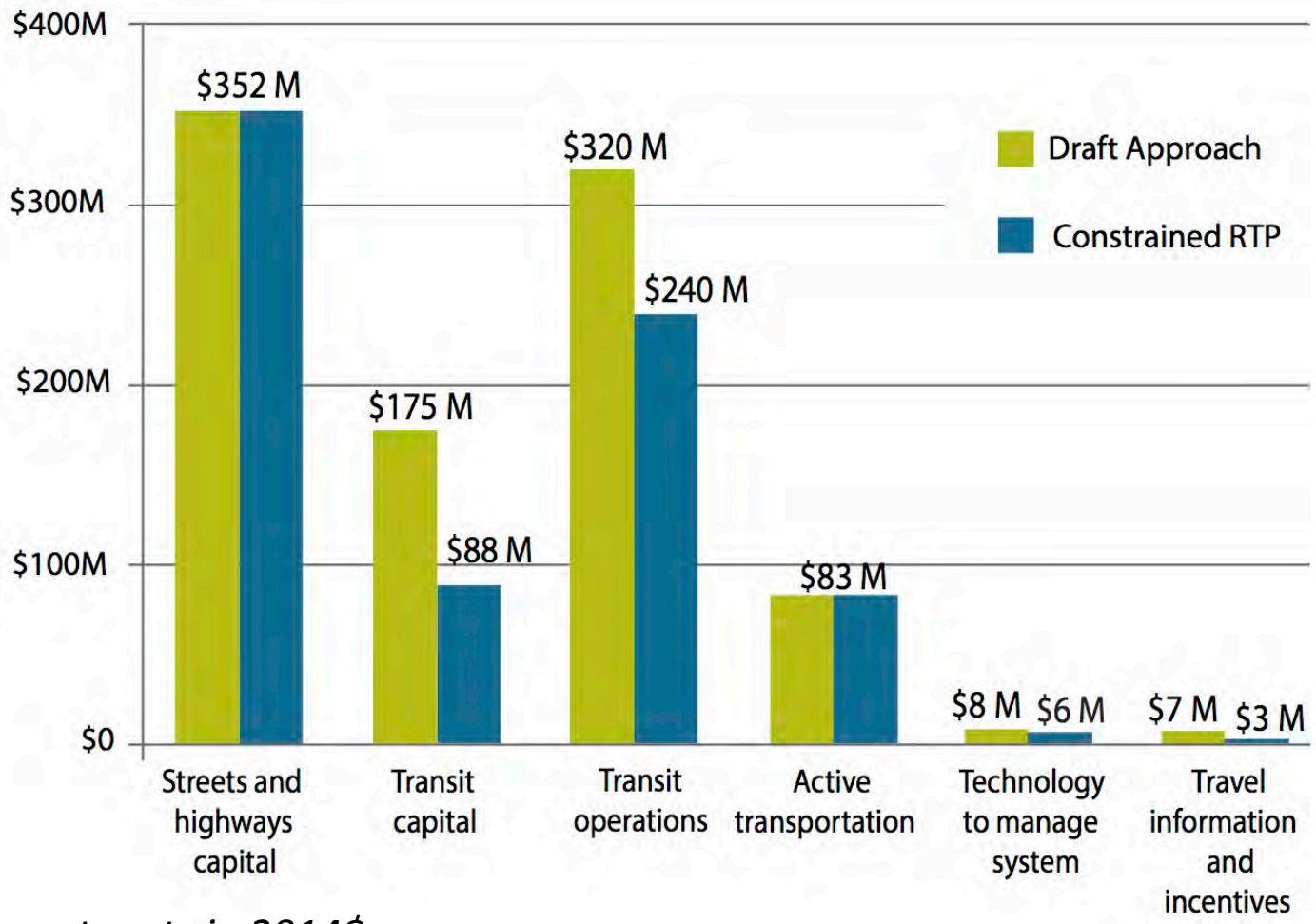
How much do we need to invest by 2035?



Road-related operations, maintenance and preservation (OMP) costs are not included; preliminary estimates show $12 billion for local and state OMP needs through 2035.

Investment costs in 2014$

How much do we need to invest per year?



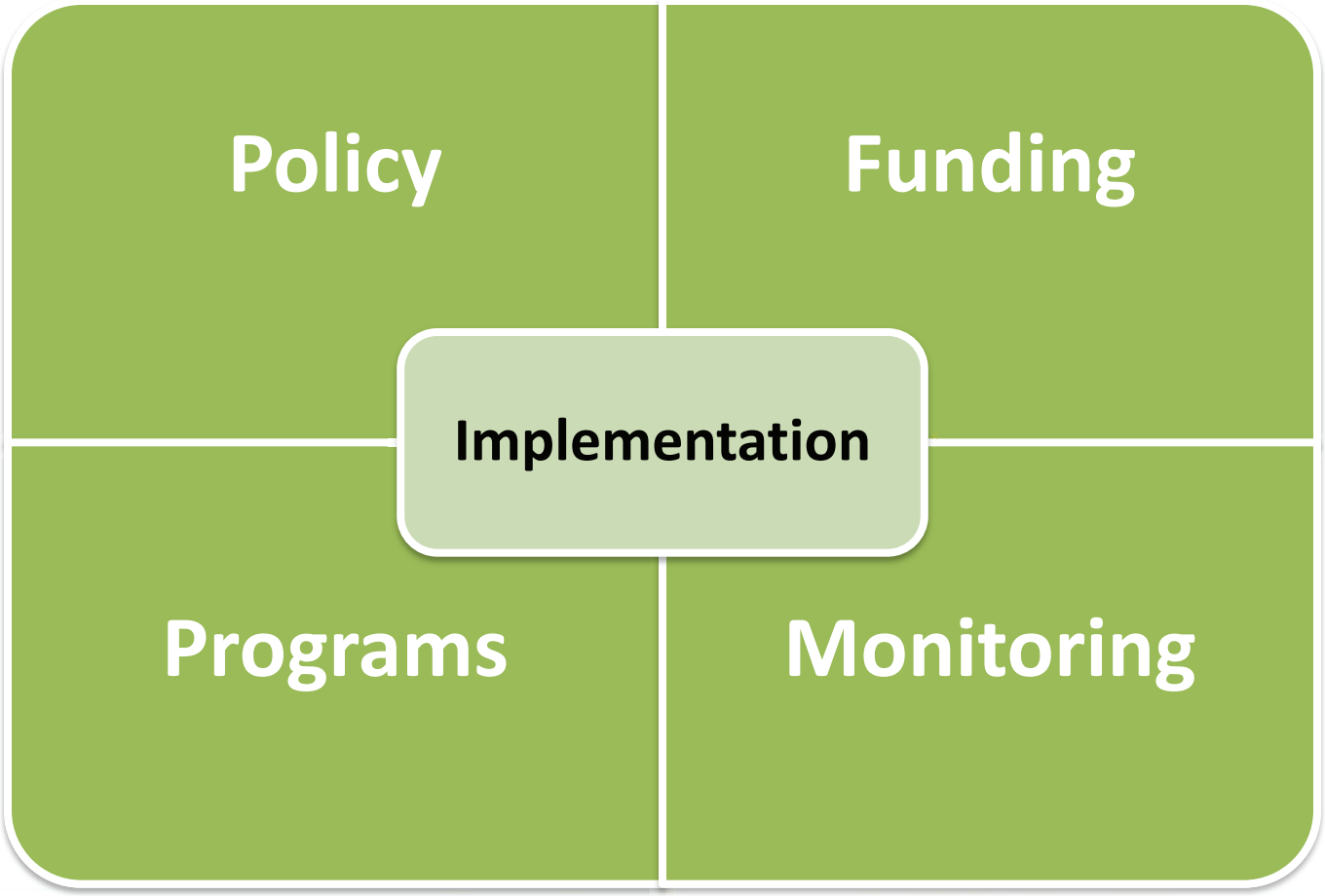
Investment costs in 2014$

Draft Climate Smart Approach

WHERE CAN WE GO FROM HERE?

Draft Climate Smart Approach

What will it take?



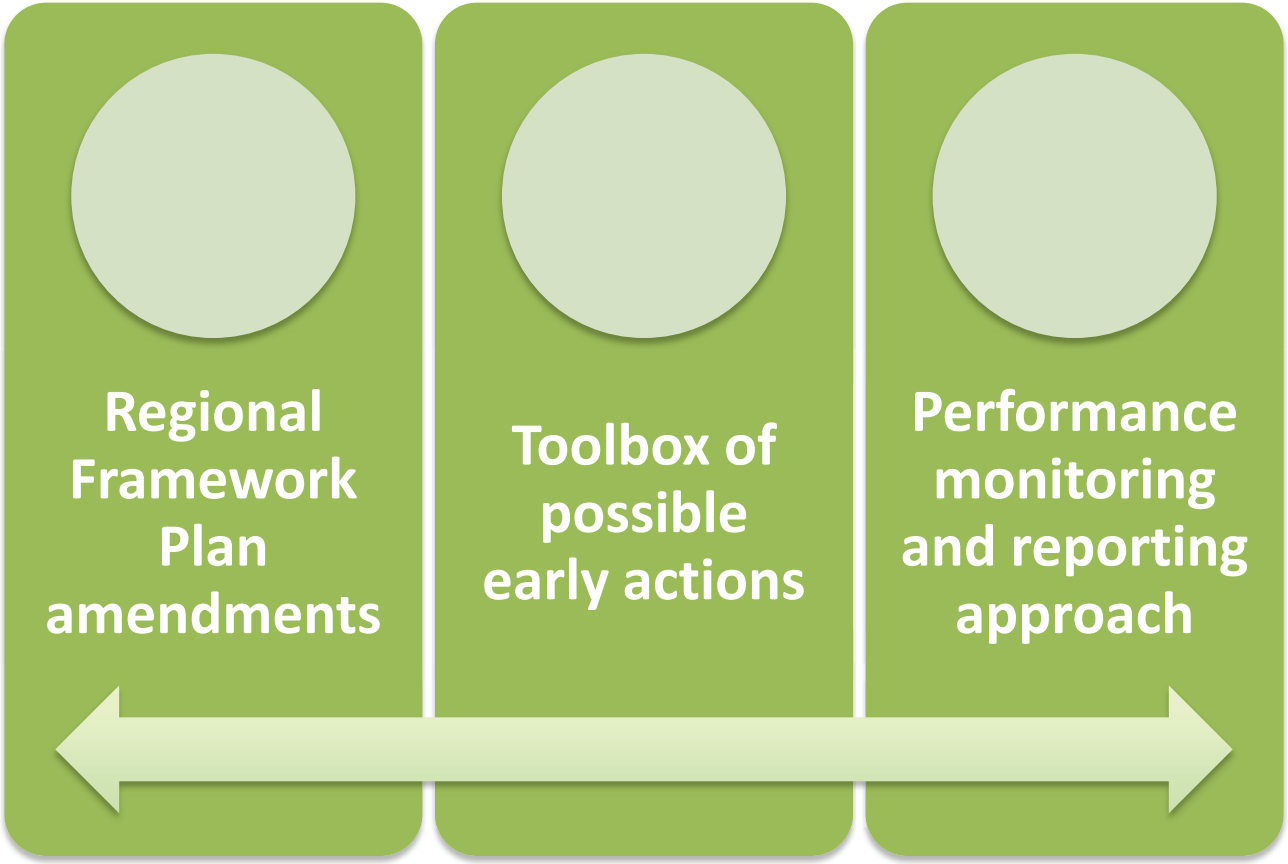
Principles to guide our path forward

1. Build on existing efforts and aspirations
2. Focus on outcomes and seek strategies with multiple benefits
3. Advance social equity through collaboration and implementation
4. Be bold and innovative, yet grounded
5. Prioritize equitable, cost-effective and achievable actions
6. Provide incentives and flexibility
7. Build partnerships and capacity
8. Initiate a coordinated strategy to secure adequate funding
9. Monitor progress and update approach as needed

The six desired outcomes for the region, endorsed by MPAC and approved by the Metro Council in 2010.

Draft Climate Smart Approach

Implementation recommendations



What is the toolbox of early actions?

1. Legislative changes
2. Policy changes
3. Partnerships and coalition building
4. Technical assistance and grant funding
5. Education and awareness
6. Planning and design
7. Transportation investments
8. Research

What is the performance monitoring approach?

1. Rely on existing performance monitoring processes, including:
   - Regional Transportation Plan updates every four years
   - Urban Growth Report updates every five years
   - LCDC report every two years in response to Oregon State Statutes ORS 197.301 and ORS 197.296
2. Report on existing measures and targets

Final steps in 2014

SEPT. – OCT.	Report back results to advisory committees and stakeholders
SEPT. 15 – OCT. 30	Public review of draft preferred approach
OCT. 30	Council public hearing
NOV. - DEC.	Advisory committees discuss implementation recommendations and public comments to shape recommendation to the Metro Council
NOV. 7	Joint MPAC and JPACT meeting
DEC. 10 & 11	MPAC and JPACT make recommendation to the Metro Council
DEC. 18	Final action by Council

Topics recommended by MPAC

- **Develop short list of high return toolbox actions for consideration on Nov. 7**

  While the menu of actions is comprehensive, it would be helpful for staff to identify which actions provide the greatest return on investment.

- **Define what the region's commitment could look like to ensure we're all doing our parts for consideration on Nov. 7**

  Given the voluntary nature of the toolbox, it would be helpful if staff identified options for how we'll agree to move forward together and report back to each other on implementation.

Streetcar Corridor Economic Impact Predictive Model

JPACT

September 11, 2014

Metro | *Making a great place*

What is the streetcar predictive model?

An analytical tool to predict real estate development that would be stimulated by streetcar and related investments.

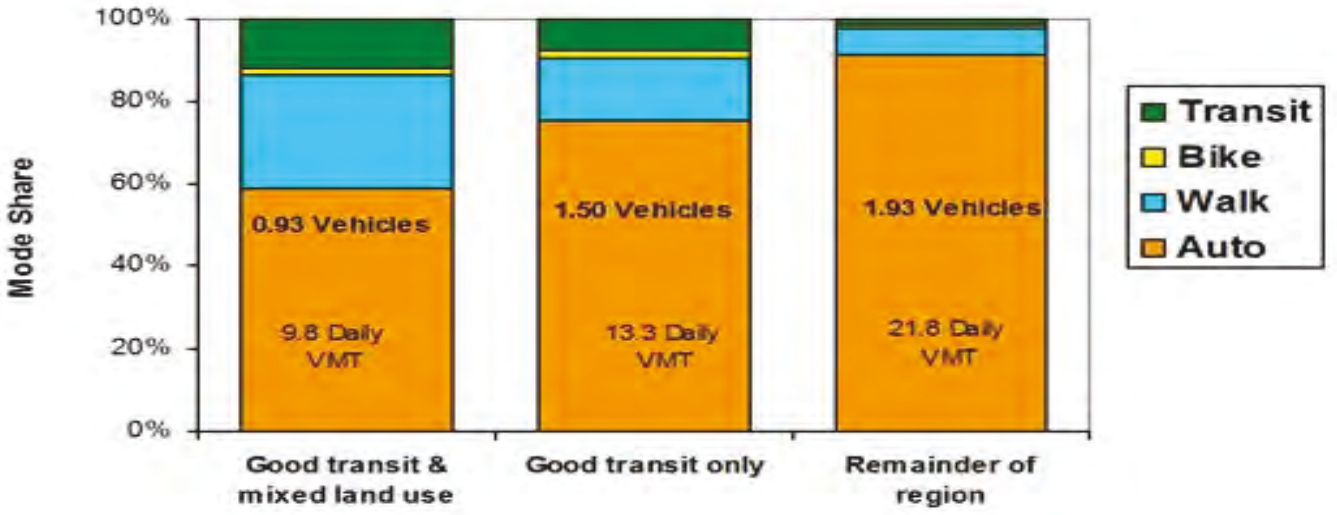
Why do we need the model?

- Existing research/analysis is limited
- Inform decision making processes

Land use influences travel behavior

People take transit, walk and bike more when land uses offer:

- Good design
- Higher density
- Continuity
- Smaller block size
- Mixed uses



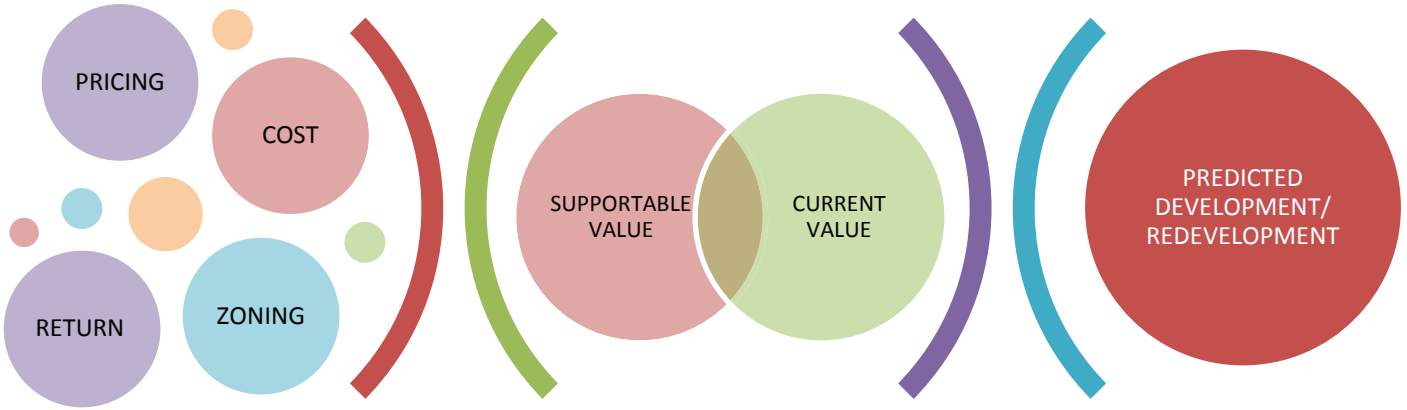
Case studies illustrate success

Research on cause and effect is limited

How the model works…

- Calculates development feasibility
- Compares with and without streetcar improvements

How the model works…



RESIDUAL PROPERTY VALUE MODULE

LIKELIHOOD OF DEVELOPMENT MODULE

PREDICTED MAGNITUDE AND FORM OF DEVELPOMENT

User inputs…

PREDICTIVE ECONOMIC DEVELOPMENT MODEL

PUBLIC INFRASTRUCTURE

TRANSIT AND ACCESSIBILITY

How is the current transit service in the corridor? Will the streetcar improve transit service and connectivity?
Will the streetcar improve accessibility to the city core or other major town center or employment center?

		Existing Conditions	Projected Conditions w/Streetcar	Impact on Development	NEGATIVE High	NEGATIVE Med	NEGATIVE Low	Neutral	POSITIVE Low	POSITIVE Med	POSITIVE High
1	Quality of Transit Service (scale 1-5)	2	3	Low +							
2	Average Distance Between Stops (scale 1-5)	5	5	Neutral							
3	Will the new streetcar line provide new or vastly improved access to a "Major Destination" district (Central Business District/Town Center/Major Employment Center) that does not exist currently through the traditional street and transit network? (For instance, will the new streetcar line travel above or beneath a previous physical barrier such as a freeway or waterway, to provide a faster/more direct route to the Destination district, whereas the current street system is encumbered by that barrier?) (scale 1-5)		No	Neutral							
4	Transit Score (if not available, leave blank)	65	71	Low +							
5	Connection to Existing Streetcar Network (Yes/No)		Yes	Med +							

PEDESTRIAN ENVIRONMENT

What is the current pedestrian environment in the corridor? Does the streetcar project include improvements to sidewalks and streetscape?
Are there services, shopping and other destinations to walk to?

		Existing Conditions	Projected Conditions w/Streetcar	Impact on Development	NEGATIVE High	NEGATIVE Med	NEGATIVE Low	Neutral	POSITIVE Low	POSITIVE Med	POSITIVE High
6	Quality of Sidewalk Network (scale 1-5)	3	4	Low +							
7	Quality of Pedestrian Experience (scale 1-5)	3	4	Low +							
8	Availability of Services (Walkscore)	66		Low +							

PUBLIC POLICY

Will the streetcar corridor have zoning, financial tools, and other public policy advantages over other similarly zoned corridor in the city?
Are specific changes to zoning and public policy planned as part of streetcar implementation?

		Existing Conditions	Projected Conditions w/Streetcar	Impact on Development	NEGATIVE High	NEGATIVE Med	NEGATIVE Low	Neutral	POSITIVE Low	POSITIVE Med	POSITIVE High
9	Public Tools Available (scale 1-5)	3	4	Low +							

Source: Johnson Reid LLC, Angelo Planning Group

Peer review

Keith Bartholomew, JD

Associate Dean , College of Architecture and Planning

University of Utah

Robert Cervero, PhD

Friesen Chair of urban Studies

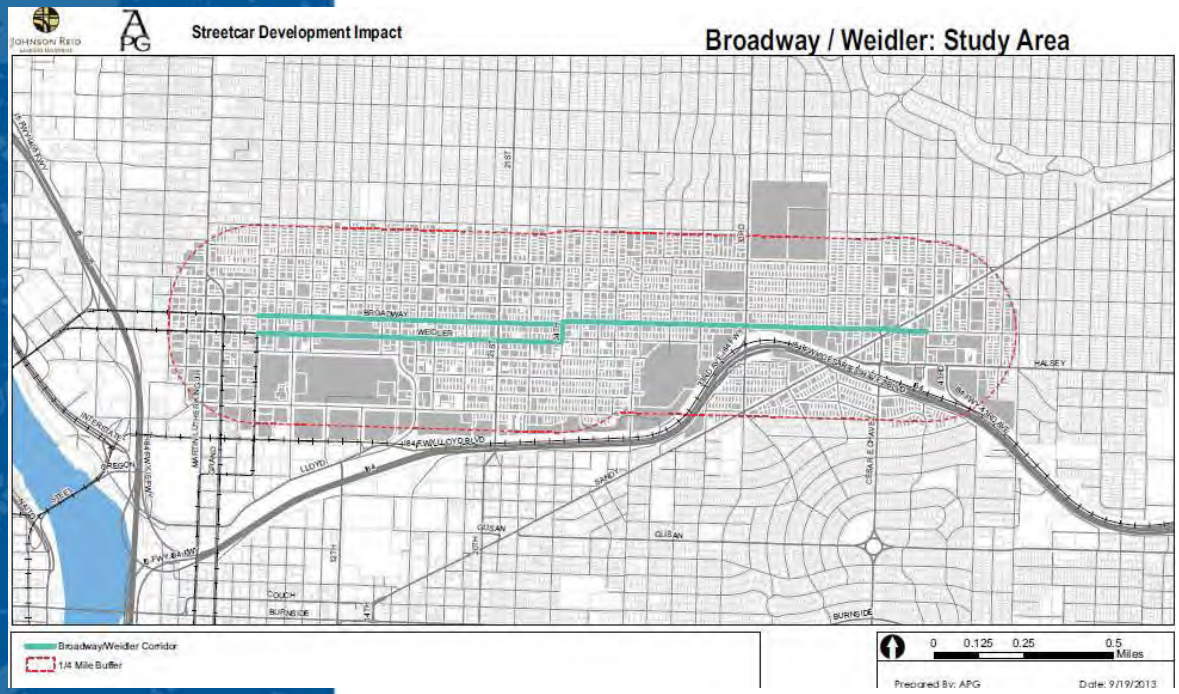
University of California Berkeley

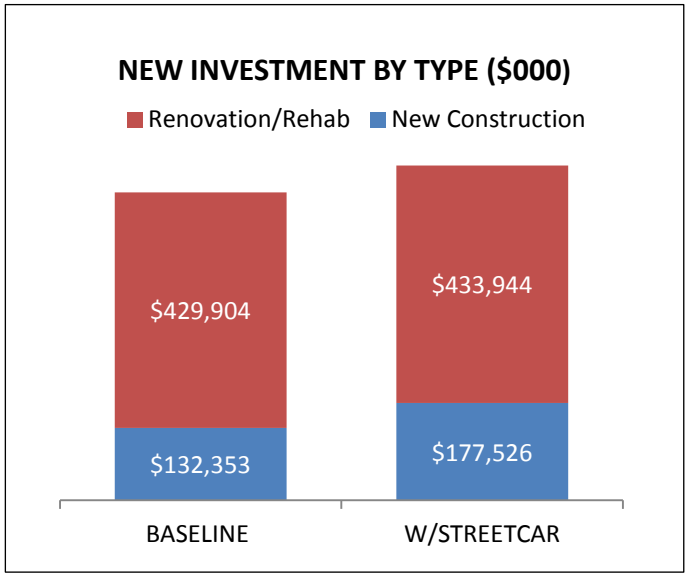
William Lee

Bill Lee Land Econ Consultants

NE Broadway Corridor

The model predicts:
30% increase in housing units
45% increase in commercial space





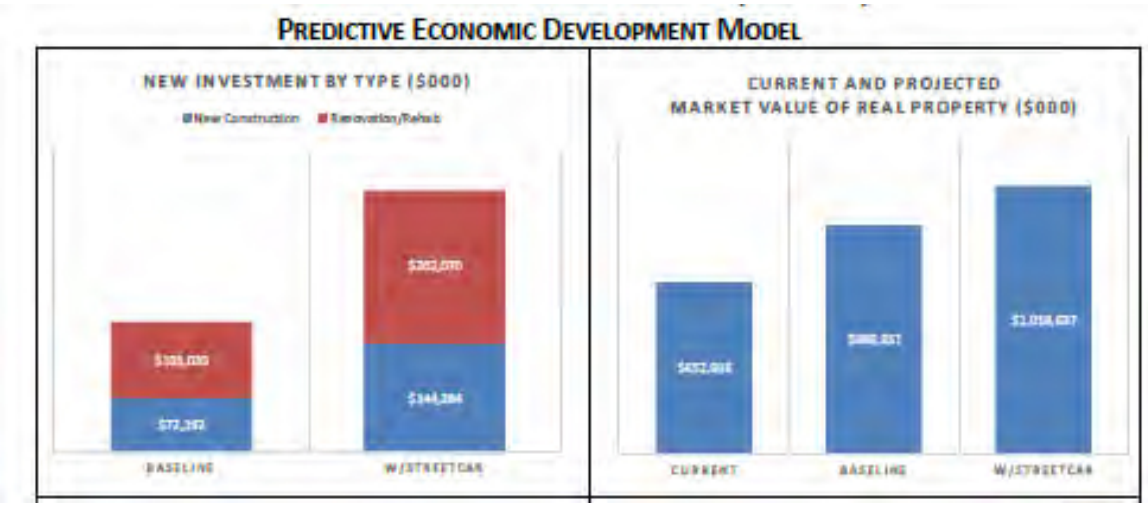
What does it take to run the model?

MARKET DYNAMICS

CURRENT MARKET PRICING (MARGINAL, ASSUMING NEW PRODUCT)			
10	Rental Residential	$2.10	Per Square Foot Per Month
11	Ownership Residential	$210	Per Square Foot
12	Office Space	$18.00	NNN (Triple Net Lease)
13	Retail Space	$18.00	NNN (Triple Net Lease)
14	Parking - Rental Residential	$75.00	Per Covered Secured Space per Month
15	Parking Price - Ownership	$15,000	Per Covered Secured Space
16	Parking - Office Space	$65.00	Per Covered Secured Space per Month
17	Average Annual Pricing Growth Trend (Residential-Rental)	2.0%	AAGR/Inflation Adjusted
18	Average Annual Pricing Growth Trend (Residential-Owner)	2.0%	AAGR/Inflation Adjusted
19	Average Annual Pricing Growth Trend (Office)	0.0%	AAGR/Inflation Adjusted
20	Average Annual Pricing Growth Trend (Retail)	0.0%	AAGR/Inflation Adjusted
OPERATING CHARACTERISTICS			
Structural Vacancy			
24	Rental Residential	5.0%	
25	Office	10.0%	
26	Retail	10.0%	
Operating Expenses			
27	Rental Residential	35.0%	
28	Office	5.0%	
29	Retail	5.0%	
FINANCIAL CHARACTERISTICS			
30	Rental Residential Cap Rate	6.50%	
31	Office Cap Rate	7.50%	
32	Retail Cap Rate	7.50%	
33	Ownership Residential, Return on Cost	20.00%	

What the model tells us…

1. Magnitude of new development stimulated by public investment
2. How local regulations affect development feasibility
3. Estimated fiscal and economic benefits of development

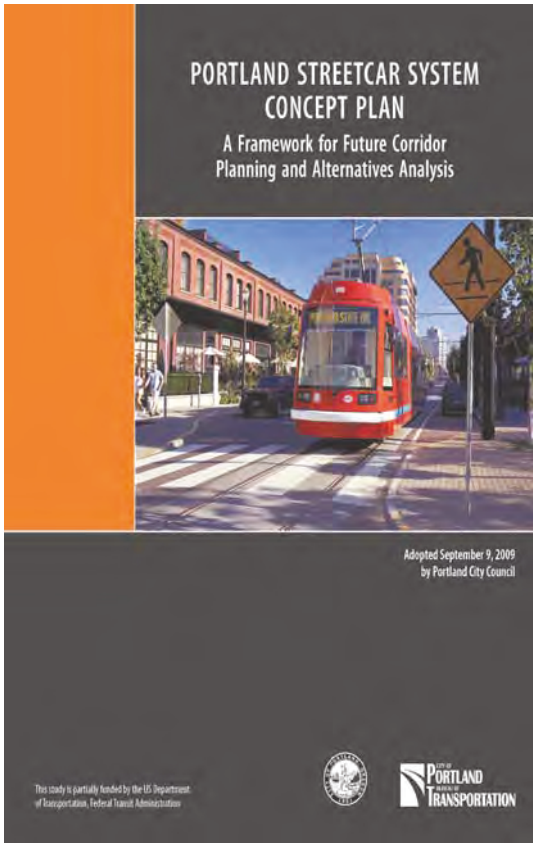


How the model might be applied

- Policy (HCT Plan Update)
- Transit Projects (locally & nationally)

Local Policy application

- The City of Portland is using the model to analyze several corridors identified as potential streetcar routes in the 2009 *Streetcar System Concept Plan*
- The results will feed into the project evaluation process underway as part of the Transportation System Plan update



Local Project application

AmberGlen Redevelopment Plan in Hillsboro

What comes next…

- Policies
- Projects
- Places beyond Portland
- Other ideas?

Questions?

Thank you!

OREGON CONSENSUS

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AGENDA
ODOT Region 1 Transportation Coordination Task Force
Monday, September 22, 2:00-5:00 p.m.
ODOT Region 1 Headquarters
First Floor Meeting Rooms A/B
123 NW Flanders Street, Portland, 97209

2:00 Welcoming Remarks--Matt Garrett, Director, Oregon Department of Transportation

2:05 Self-Introductions

2:10 Report out- Technical Advisory Committee on activities since the June Task Force meeting

2:20 ACT Panel

a. Panel Introductions
    i. Shirley Kalkhoven, Nehalem Mayor, Northwest ACT
    ii. Ken Woods, Dallas City Councilor, Mid-Willamette ACT
    iii. Alan Unger, Deschutes County Commissioner, Central Oregon ACT
    iv. Travis Brouwer, ODOT Assistant Director
b. Questions and Discussion

3:20 Review ACT alternatives document and maps

c. Overview from Technical Advisory Committee members
d. Feedback from stakeholder groups
e. Discussion aimed at narrowing the alternatives
f. Assignments for obtaining additional feedback

4:50 Discuss Future Information Needs and Presentations

5:00 Next Meeting: Monday, October 27th, 2-5 p.m.

Adjourn

OREGON CONSENSUS

NATIONAL POLICY CONSENSUS CENTER
Hatfield School Of Government

Oregon Consensus staff sent out the initial draft alternatives developed by the Technical Advisory Committee to members of the Region 1 Transportation Coordination Task Force on August 5, 2014 requesting initial feedback around:

- the advantages and disadvantages of each alternative from your perspective,
- any indication you may have about your preference and why, and
- any input you may have on characteristics of each option that should be incorporated.

Below are informal responses from Task Force members sent by email to help inform the upcoming September 22, 2014 Task Force meeting:

Task Force Member Comments

1. Warren Jones, Mulino
2. Bill Avison, Molalla
3. Paul Savas, Clackamas County
4. Travis Stovall, East Metro
5. Steve Wheeler, Hood River
6. Bruce Warner, Trimet
7. Julie Stephens, Sandy Transit
8. Debra Dunn, Oregon Trucking Association
9. Diane McKeel, Multnomah County Commissioner

Interested Parties

1. Michel Wagner-Mulino

Warren Jones, Mulino Hamlet

I have polled all of our contacts involved in the ACT planning, which include all of the active Hamlet and Villages in Clackamas County, (REACT group), the C-4 CPO representative, and a few other interested parties. All of my peers will support alternative 2-A, two acts, There is little to no support for any of the other alternatives.
The following ideas were captured:

- Get the 2 ACTS formed as soon as possible.
- For the rural areas, include BLM and Warm Springs Tribes, and USFS, both Mt. Hood and Willamette N.F.s
- Regarding the South County boundary or possibility of joining portions of the area into the Mid Willamette Valley ACT (MWACT), the consensus is this issue is best addressed by the ACT(s) after formation, as there are likely a lot of details that will arise.
- We note that adjacent ACTS around the State appear to actively work together.
- Boundaries can now apparently be readjusted as the needs arise.
- Most feel the STIP process went well.

Warren Jones
28931 S. Dalmatian Road
Mulino, OR 97042
wlj1943@molalla.net
503-829-6424 Home
503-829-5626 Cell

Bill Avison, Avison Lumber, Mollala

DRAFT

Molalla's position on the proposed Draft ACT's 9/5/14

Option 1B:

Advantages:

If all the STIP funds are in one pot, then one ACT for the entire region may help the rural communities like Molalla be considered with other projects.

A stronger unified representation at the table with OTC may help both the Metro and Non-Metro (urban) areas of the county

Disadvantages:

May be too focused on urban areas to allow for greater emphasis on funding for the rural areas.

Option1B:

Advantages:

The commute-shed approach is intriguing, particularly since a large number of residents in Molalla commute into the Metro area.

Disadvantages:

The size alone of this ACT idea may be too large to establish a clear message, particularly for the rural areas that may be overshadowed by all of the larger priority areas.

Option 2A:

Advantages:

Having a two ACT option for Region 1 could help by allowing the Rural and Metro stakeholders to prioritize their own projects. They could also each have their own access to the OTC, which should allow better representation of the rural communities with the selection process on the STIP division of projects.

Disadvantages:

Having a Super ACT that was charged with deciding projects between the two ACTs may be no different than having a single ACT such as Option 1A or 2A, except for adding another layer of committees.

OptionĀ 2B:Ā

Advantages:

The advantages may be the same as Option 2A.

Disadvantages:

Molalla would not support joining the Mid-Willamette Valley ACT. Most of Molalla's transportation activities including commuting and transportation of goods and services occur to the north in the Metro Urban areas of ODOT Region 1. Also splitting Clackamas County into different ACT zones would fractionalize any representation from the County's BCC and may further complicate any future county transportation projects or needs.

Variations:

Option 2B could possibly work for Molalla, if Molalla and the southern rural areas of Clackamas County remain in the ODOT Region 1 ACT(s). It is not logical to the representatives of Molalla to split the County into separate ACT zones.
Ā

Ā
AdditionalĀComments:Ā

Molalla is in support of an ACT or ACT like commission to insure that Molalla has a voice before the OTC. Molalla does not have a strong preference at this time on the draft ACTs that are currently being considered. Perhaps a hybrid of Option 2A would be the best fit for Molalla. Or Option 1A could possibly work with some of the components from Option 2B blended in. Molalla also reserves its right to comment at a later time as the draft selection narrows.

In addition Molalla would like to recommend to the ACT task force that what ever ACT or ACTS are ultimately decided by the group, that the group considers in the governance and messages to the OTC from the newly formed ACT(s), that the value of employment lands in any calculations on STIP funding priorities be seriously considered instead of strictly using population numbers to allocate ODOT STIP funding.

The rural areas of Clackamas County including Molalla have significant blocks of Tier 1 employment lands - needed to expand the employment base for the Region. The combined volume of these rural industrial lands is important for attracting any new business opportunities since most of the Urban / Metro industrial land base has been built out with few small parcels remaining.

These rural employment lands if utilized, could also have a positive effect on the ODOT Region 1 commute shed by keeping those jobs in the local communities. These lands many "shovel ready", could develop quickly but are currently encumbered with transportation deficiencies particularly on Hwy 211 and Hwy 213.

While most of the funds in past years in ODOT Region 1 have been utilized for multimodal needs of the commuters in the Metro area, little or no money has been spent on improving roads to employment lands particularly in the rural areas of Clackamas county that are necessary to move goods and services to the market timely.

Molalla is ready and able to come to the table for state transportation projects and now has tools available to participate with ODOT on potential projects in the future.

As the ACT task force committee narrows the proposed ACT structure options for Region 1, the Molalla City Council would like the opportunity to formalize any comments in the future prior to implementation.

###

Paul Savas, Clackamas County Commission

All,

My suggestions are conditioned upon what the ACT committee composition is whether option 1a or 2a, but my option 2 is actually a hybrid.

I see an advantage to one super act if the focus is of course on the highway system. Some of you may recall my perspective that jpact has yet to discuss or embrace the highway system in length or depth and in my experience advocates for transit, bike and ped modes. I do of course recall some discussions and support for a few freight projects. That said I have frequently heard over the years at Metro, Jpact, and Mpac resistance to expanding highways to solve congestion.
More discussion on that is needed.

If we cannot come to terms on one super act (1A), then I would like to discuss an ACT that includes Hood River county, East Multnomah, and ALL of Clackamas County. It makes no sense to me that highway 26, 224, 212, 213, 99e should each be divided into separate ACTs. To divide them is counter intuitive to why and how ACTS are formed.

I realize that JPACT members want to leave their group as is, and I think they can if highways and or the highway system is left to ODOT and integrated within a new ACT.

I suspect that the smaller jurisdictions (including Clackamas) would prefer equal representation amongst the counties. Can jpact perform the minimum functions of an MPO and allow an ACT to co-exist? I hope so.

In closing I want draw attention to the current roles of the jurisdictions. The counties play a huge role in all modes of transportation from building to maintaining them. ODOT and the counties have the expertise in roads & highways and Metro-Jpact has the passion-mission of building a transit oriented metropolitan system. Clackamas has tremendous needs for road and highway connectivity that transit cannot practically provide or supplant. Portland-Multnomah has completely different needs and topography than Clackamas.

Respectfully,
Paul Savas
Clackamas County Commissioner

Travis Stovall, East Metro Economic Alliance

Hello All,

My discussion with stakeholders here in the East Metro have centered around similar conclusions that Commissioner Savas summarized. Our preference is to look at a Super ACT (1A) as the primary solution ensuring that the input from the various jurisdictions and regions are included in the discussions. I had similar discussions surrounding the Highways and ensuring they are part of the discussion. To add to that the discussions that I had also included the realization that there would need to be clarity around the potential of how funds would be divided. In essence the discussion would need to had early on as to the criteria of the funds would be divided among the various types of roads and highways to ensure there was support for the proposed outcomes. As Commissioner Savas mentioned if we are unable to achieve the clarity and agreement with a Super ACT structure then 2A would be the second choice.

The discussion there centered around "like minded" communities and/or needs being grouped together. While some of the same challenges will exist as far as competition for limited resources at least there could be some clarity of the priority of the different projects coming out of a two ACT system.

In conclusion 1A is our preference.

Best,
Travis

Steve Wheeler, Hood River

September 4, 2014

TO: Steve Bryant, Project Manager

VIA: Julia Babcock

FROM: Steve Wheeler, City Manager, Hood River

SUBJECT: Local comments on TAC Options for ODOT Region 1 ACT Task Force

As interested parties in the Hood River area we thank you for an advance review of the six options developed by the TAC. While there has been some limited discussion on the possibility of the Hood River County area withdrawing from consideration as member of a possible ODOT Region 1ACT I can say we are united in believing it is best to remain a partner and forthcoming member of an ACT for Region 1.

That said, we believe two of the presented options are best suited for Hood River. They are:

- Option 1A. The key issue would be to ensure from our point of view that overall representation in the ACT is done in a manner that provides equity for the entire region. While representation that reasonably satisfies all is difficult, it is essential if it is to be an effective ACT for such a wide-ranging and diverse region.
- Option 2B. The key issue is it keeping its proposed geographic shape and form. Adding area to the south and west that is now proposed for the Mid-Willamette Valley ACT would be problematic in our opinion.

A third variation that would be of interest would be modifying the current Option 2B. This could be done by establishing a smaller Hood River ACT that would combine the portion of Multnomah County east of the Metro area with Hood River County. This approach would reflect our major transportation interests along I-84. We believe an effective community of interest with our neighbors in east Multnomah County would also be created.

Finally, we are appreciative of the positive consideration given for a local advisory group that would include members throughout the Gorge and could inform the ACT about transportation issues on both sides of the Columbia River.

Participating with me in providing this input are David Meriwether, Hood River County, Michael McElwee, Port of Hood River, Gordon Zimmerman, City of Cascade Locks, Paul Koch, Port of Cascade Locks, Karen Joplin, Hood River County and Terry Cullen (on behalf of Darren Nichols), Columbia River Gorge Commission

Thank you again for the chance to comment.

THOUGHTS AND MUSINGS ON ACT OPTIONS

9/6/2014

Restatement of the Problem and Desired Outcomes

When I reviewed the proposed ACT options, I had to refresh my understanding of the task force "Purpose Statement" to make cogent comments to the group. From the beginning, it seems that the main problem driving this task force work is that "some rural areas do not feel adequately represented in transportation planning and funding decisions." My translation is that the rural areas – particularly those in Clackamas County – do not believe that they are receiving their fair share of the financial resources and that they want more funds for necessary road and highway improvements in their areas.

This perceived inequity is a very consistent message that I have heard for years from various areas of the state. This inequity will become more and more of a concern as funding for transportation is unable to support growth, a healthy economy and basic maintenance of our existing transportation system. The problem statement clearly identifies this as an issue for all modes of transportation.

The other main problem that was identified is the lack of adequate communications across the region --"particularly between the MPO and non-MPO areas regarding their respective transportation needs and the impacts they have on each other." This is a critical problem that should be directly addressed by our work and conclusions

After reading Commissioner Savas' comments and those of others, there is a clear belief by some that JPACT allocates too much of its resources to alternative modes of transportation at the expense of adequately funding road and highway projects. This belief is bolstered by the Governor's agreement for the region's MPO designation. This agreement establishes three METRO councilor positions on JPACT and then requires the full METRO Council to endorse/affirm the JPACT decisions. I hear from stakeholders who have concerns about the priority given road and highway funding due to the fact that METRO and its staff not only administer and guide the MPO, but insert their staffing costs, programs and projects for funding consideration. Since METRO staff does the ranking of these funding requests, they are also recipients of federal funding for their staff, programs and projects. This appears to many to be a conflict of interest and hinders open dialogue about the transportation investment choices and priorities in the region. In other words, those who do not agree with the funding decisions believe METRO has an unfair position and is driving all the decisions toward their priorities and

projects. The task force work and our recommendations may be helpful in solving this thorny issue.

Analysis of the Options presented

The 2 basic options, as I understand them, are to have either one large ACT which encompasses the entire Metropolitan (MPO) area and the rural areas of the ODOT Region 1 or two ACTS with various boundaries – one for the MPO area and another for the rural areas. Either of the two options can work if ODOT, METRO and the rest of the region's elected and appointed officials are willing to roll up their sleeves and embrace the need to think beyond their respective geographic boundaries and to engage in real dialogue about the transportation investment priorities of the entire region. .

Overall, I favor the concept of a single ACT which will force this regional – urban and rural – view and discussion. I prefer the Option 1A which includes western Washington County.

I do not agree with Commissioner Savas that "highways or the highway system is left to ODOT." I agree with him that the new ACT needs to address these road and highway issues, but the ACT must also be a group that embraces and supports all modes of transportation. Hard decisions will have to be made, and without new financial resources, the decisions will be even more difficult in the future. However, the single ACT will ensure more discussion, debate and understanding of transportation funding and the best investment decisions.

Review of the Desired Outcomes (from Task Force Purposes Statement)

I thought it might be helpful to go over the desired outcomes of our efforts to determine the best option. So – here are my outcome by outcome comments.

1. **The entire region has a representative voice consistent with other ACTs before the OTC, ODOT Modal Committees and ODOT staff** -- The single ACT (1a) would better address this desired outcome. The OTC would be able to rely on a single position and recommendation from the entire region. The two ACT proposals would work, but there would likely be many times when disagreements would occur.

2. **There will be more direct representation from business and community stakeholders in future ODOT transportation planning efforts and project prioritization.** This can address only by a willingness to change the current

makeup of the MPO/JPACT and the composition of the new ACT. This has been a common concern from many over the years. This could be accomplished if the Governor is willing to make the MPO more consistent with all other MPOs throughout the United States. For example -- this could be done by making JPACT the designated MPO, but the MPO would have just one METRO councilor on that body. Further, the METRO Council would no longer be a formal part of the MPO decision-making process. These two METRO Councilor positions, which are eliminated, could be replaced with representatives that meet the federal requirements but have business and community perspectives. The new ACT can also include more representatives to address this desired outcome.

3. **There is broader participation in transportation decision making processes.** Either the one or two ACT proposals will help achieve this desired outcome. A single ACT may better encourage urban/rural dialogues and debates.

4. **There will be established "communities of interest" around regional transportation subareas where stakeholders are provided a formal means for learning about and participating in regional transportation issues.** Either ACT proposal will help achieve this outcome. I do, however, believe that it is incumbent on the cities and counties to help educate and inform their constituents and interest groups about transportation issues and provide consensus –building in these communities of interest. For example, Clackamas County should consider creating a group of elected and appointed officials similar to the Washington County Coordinating Committee which meets regularly to develop consensus positions on issues of regional land use or transportation concern.

5. **There is improved understanding about how strategic infrastructure investments throughout Region 1 can improve economic development opportunities and other quality of life benefits**. Either option will work well to meet this desired outcome.

6. **Communication and coordination is enhanced between the MPO and non-MPO areas of ODOT Region 1.** A single ACT model will better aid in meeting this desired outcome.

7. **There is improved understanding and communication of existing funding mechanisms, limitations, mandates, and distribution responsibility and criteria.** With increased efforts by Clackamas County, the single ACT alternatives will provide a better venue in which stakeholders and citizens can

participate and learn. As I mentioned at the task force meeting, a large number of folks in Clackamas County live in an urban unincorporated areas or rural "communities/hamlets/villages." Their decision to not be part of a city means that these areas lose out on a large share of state-shared highway revenues. I think that the amount the county and its citizens do not receive is likely close to $30 per capita for those area which could be part of a city. Any recommendation from the task force should strongly encourage the county to implement new strategies to entice citizens to create a new city or annex to an existing city. The County should also examine the creation of road maintenance districts – similar to Washington County – to provide funds for road maintenance in these unincorporated areas. This would help free up existing resources for other needs.

8. **There is enhanced collaboration among transportation stakeholders leading to support for new transportation funding strategies to meet critical local, regional, and statewide needs.** This is an outcome that cannot be overstated. It is critical that all – urban and rural – support and advocate for new funding at all levels. Either ACT option should get us closer to this desired outcome, but the single act will do the best job.

9. **Existing transportation planning and policy formation efforts that already work well are not impeded**. I agree with this outcome, and either ACT option will help. All areas of the region desire and need adequate multimodal transportation investments to support economic opportunity and quality of life. We need to learn from each other and implement successful programs throughout the region.

Summary

In summary, I offer the following –

- I favor the one ACT proposal that includes western Washington County (1a).
- The new ACT must be responsible for making recommendations and decisions on all modes of transportation. For example, investments in the rural areas to improve transit service, provide bike lanes and walkways are very critical to the future of these areas.
- As part of the implementation of this new ACT, it seems appropriate to look at the bifurcated MPO process, the number of METRO positions on JPACT, changing the role of the METRO council as part of the MPO, and exploring the addition of some business and community members to the ACT. This could go a long way

toward eliminating some of the real and perceived conflicts in the region's transportation investment priorities.

- Clackamas County should be encouraged to step up their transportation coordinating activities and look at funding opportunities to cover many of their basic road and highway needs. These include clarity in their role in providing urban services and how to fund community desires. The county needs to develop new ways or committees to ensure the county is speaking with one voice on regional land use and transportation issues.

I apologize for the length of this document, but I felt the need to explain my thoughts. I look forward to a robust discussion on the options and the details!!

Julie Stephens, Sandy Transit

ACT Structure Feedback

Feedback received thus far from the represented constituencies:

Rural Transit Agencies

Some Rural Cities of Clackamas County

1. An ACT will allow for a voice at the regional level and with the OTC.

2. Though an ACT will require more meetings, much can be accomplished through the existing coordinating committees as sub-committees of the ACT. The rural cities and transit agencies of Clackamas County, have TSPs and/or transit master plans identifying most future transportation system projects which recognize the interconnectivity of the region and see benefit in being a part of one ACT for the region.

3. Population is not the best nor only measure by which to determine equity—road miles, lane miles, registered vehicles should be considered and therefore;

4. The 1a-ACT model is preferred and should build upon the recent STIP Selection Committee's structure as a positive experience and success within the region. Regional equity was achieved by allowing each representative county to identify the same number of members (4) to give broad representation. The inclusion of the larger regional agencies (Metro, City of Portland, Port of Portland, TriMet & ODOT) lent balance to the committee to address population and urban equity.

5. *Concerned by a Rural Clackamas County Act. Especially, if it keeps the form of the ReAct. This group seemed heavily weighted with folks from the villages and hamlets on the mountain. Which doesn't seem balanced or fair to the other rural Clackamas County Cities. I also have difficulty with multiple ACTs. It seem much more efficient to start with a well-balanced group of representatives and complete one process of sifting through projects rather than multiple process that require another round of sifting.*

Debra Dunn, Oregon Trucking Association

Julia and Task Force Members,

In the Task Force Purpose Statement several priorities stood out for me; One voice, Collaboration, Communication, and Broader Representation. There are pros and cons to every ACT option, advantages and disadvantages and details to sort out, but the one option that I believe has the best chance of achieving the outcomes in the Task Force Purpose Statement is Option 1a. The entire region needs a single representative voice consistent with other ACTs before the OTC, ODOT Modal Committees and ODOT staff.

In my opinion, one ACT will establish a collaborative environment leading to improved communications among the MPO and Non-MPO areas. Many of the outcomes are geared towards communication and one ACT creates the opportunity to educate, and debate the urban and rural, freight and multi modal transportation needs in Region 1. With transportation resources strained it is critically important that we are making strategic infrastructure investments throughout Region 1. The region's economy neither ends at the county lines, nor does the transportation system.

OTA has worked with many ACTS around the state and has witnessed the value of having a diverse group of stakeholders from all modes of transportation address highway and active transportation system needs. Option 1A builds upon last year's successful STIP Selection Committee process. The committee was well balanced with representation from the business community (shippers that depend on the system), each county, and local and regional agencies. Successful outcomes start with diverse expertise and points of view. Commission Unger from Bend has expressed how important it is for the Central Oregon Area Commission on Transportation (COACT) to learn from trucking representatives about their system needs. We recommend that the new ACT add representatives from the Trucking, Agricultural and High Tech industries.

Thank you for listening to just a few of the reasons why OTA's preferred choice is Option 1A.

Debra

Diane McKeel, Multnomah County Commission

Diane McKeel

Julia,

We have reviewed the ACT models with Commissioner Bailey and our planning staff, and below is our feedback from Multnomah County about the different models under consideration.

We agree with the advantages and disadvantages listed for options 1A and 1B, and are particularly concerned that a single ACTwould lack commonalities for transportation planning and funding. Neither of these would be our preferred option.

We are more supportive of the 2 ACT options, especially the "communities of interest" option with a variation. A Metro/JPACTACT should include all of Multnomah County (including the east and the west side) since that is our community of interest. Under this slightly revised "2B" option, Hood River and non-MPO Clackamas County would be the second ACT for the region and rural Washington County would remain in the Northwest ACT.

Overall, we thought the STIP Project Selection Committee worked well with its even representation from each county. The business representation on this committee was also a valuable component and we would advocate for some element of that to be replicated in a future ACT for transportation planning and funding decision making.

Commissioner McKeel will be attending JPACT next week and prepared to share this feedback with the committee during the appropriate agenda item.

Sincerely,
Sean Files, on behalf of Commissioner Diane McKeel

Michael Wagner, Mulino Hamlet (Interested citizen)

Dear Members of the Task Force,

Thank you for the opportunity to comment on the ACT Formation.

I believe the only decision before the Task Force is 1 ACT or 2 ACTS.

I would like to support the formation of 2 ACTS as suggested by Clackamas County Rural Appointee Warren Jones and Clackamas METRO Rep. Carlotta Collette.

The purpose of the previous legislation was to give the 130,000 Clackamas County Rural Citizens (as well as other unrepresented rural areas with 170,000 population) representation before the OTC.

Of the alternatives presented the Interim STIP Process (ACT-like structures) was very heavily dominated by urban interests and no rural residents were on the Selection Committee. One only needs to look at the composition of the current Task Force to realize that of the 25 or so members, only two are from rural areas of Clackamas County.

Formation of only one ACT will give the urban area domination of the entire process.

While the 2 ACTS would coordinate with each other, I don't believe that there is a need for a "Super ACT". There are several small ACTS in the State and one is as small as 25,000 persons.

I believe that the Task Force should recommend that funds be distributed based not only on population, but also by miles of streets and highways, and number of trucks.

I also think that realigning Region 1 based on the final distribution of areas to the various ACTS has substantial merit.

Thank you for the opportunity to comment.

Michael J. Wagner
26173 S. Milk Creek Circle
Mulino, OR 97042
503-829-5124

Oregon
John A. Kitzhaber, MD, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
Fax: (503) 229-6945
TTY: 711

September 10, 2014

Chairman Craig Dirksen
Metro JPACT
600 NE Grand Avenue
Portland, OR 97232

RE: ACT options

Dear Chair Dirksen,

As a member of Metro's Joint Policy Committee on Transportation (JPACT), I am submitting this letter on behalf of the Oregon Department of Environmental Quality (DEQ) to provide our perspective on the different configurations currently under consideration for "Area Commission on Transportation" (ACTs).

While DEQ remains neutral regarding any changes to the current structure, we have some considerations we would like decision makers to keep in mind with respect to air quality and government efficiency.

We appreciate that the Portland metro region and surrounding areas have different geographies and infrastructure needs. The communities affected are in the best position to evaluate transportation options, including how to pay for them. Over the past several decades, the Portland area has achieved compliance with air quality standards. However, we still have more to do regarding air toxics, and potentially more work ahead on ozone pollution when EPA updates the national ambient air quality standard for ozone in 2015. We will need to collaborate with the transportation planning community and others in the region to address the public health risks from air toxics and other air pollutants. DEQ would have cause for concern under any transportation planning scenario that leads to increased air pollution in the Metro region.

DEQ recognizes that a healthy environment and economic growth are both important to the Portland metro region. Today, the Portland metro area meets air quality standards for ground level ozone (smog) due to a suite of air pollution reduction strategies that include various transportation initiatives, strict emission controls on existing industrial and commercial sources, and closely managing emission growth from new and expanding industry. The transportation sector is a major source of air pollution in the Metro region and limiting those emissions continues to play a critical role in maintaining compliance with ozone standards, and will be increasingly important in reducing the public's health risk from air toxics. Transportation, industrial, and other strategies all work together to avoid new violations of air quality standards and a return of stringent nonattainment area requirements that can significantly burden local businesses. Maintaining the commitment to limiting and reducing air pollution from transportation and other key sectors is very important to maintaining a healthy environment and business climate in the Metro region.

Finally, in this era of shrinking resources at all levels of government, DEQ urges those considering the potential ACT configurations to factor in the costs and complexity for all parties of working with multiple transportation planning organizations in the same region. DEQ would be concerned if creating multiple transportation planning entities for the metro area significantly increased the complexity and resources needed to develop comprehensive and integrated air pollution reduction strategies for transportation, and made it more difficult to reduce the public's risk from ozone, climate change, and toxic air pollution.

We appreciate the opportunity to provide our thoughts associated with the difficult decisions facing the group's consideration of ACT options. Thank you for your time and consideration of DEQ's viewpoints. If you have any questions, please contact me or DEQ's JPACT alternate, David Collier.

Sincerely,

Nina DeConcini

Nina DeConcini
DEQ NW Region Administrator

Cc: David Collier

Office of Mayor Charlie Hales
City of Portland

Thursday, September 11, 2014

As Mayor of the City of Portland, I believe in the value of having a regional perspective. This has been vital to the success of our residents and our economy, and has helped create one of the most vibrant metropolitan areas in the country. It is in this spirit that I address the question posed by Oregon Solutions of whether and how to organize an ACT in ODOT Region 1 for better coordination of transportation investments.

The fundamental question we must ask ourselves in this decision is how we are defining the region, and whether our transportation needs are more similar than they are disparate. I can attest, having spent 15 years working on developing transit systems in cities around the country, including here in Portland, that competition for ever-shrinking funding for transportation means that we have to select good projects that make the most sense for our citizens and the future development of our region. If we try to be all things to all people, we will fail to invest wisely with the limited resources at our disposal.

In my view, the needs of the Portland Metro region are sufficiently different from those of the surrounding rural areas that it merits two separate ACTs (I remain flexible about the specifics of options 2A and 2B) I strongly urge us to work on adapting the structures we currently have to better meet the needs of our partners by modifying JPACT when it needs to function in an ACT capacity. This will allow the urban metro region to continue to make decisions that meet our urban needs, and yet provide for a bigger, more inclusive table when it comes to making STIP recommendations.

If we do move forward with a single ACT solution, that structure would have to include fair representation for larger urban areas based on population. A membership formula that does not include a weighted vote based on population is simply not equitable for the citizens of Portland and other larger municipalities in the Metro region.

This debate has been a provocative one, but it's led me back to my initial opening comments- the bigger discussion needs to be as a unified body working together to bring more funding into the state and our region. Only by speaking with one voice can we hope to affect that change, and that's a change that will benefit us all, regardless of our mission, our size, or our location.

Thank you for your consideration,

Charlie Hales
Mayor

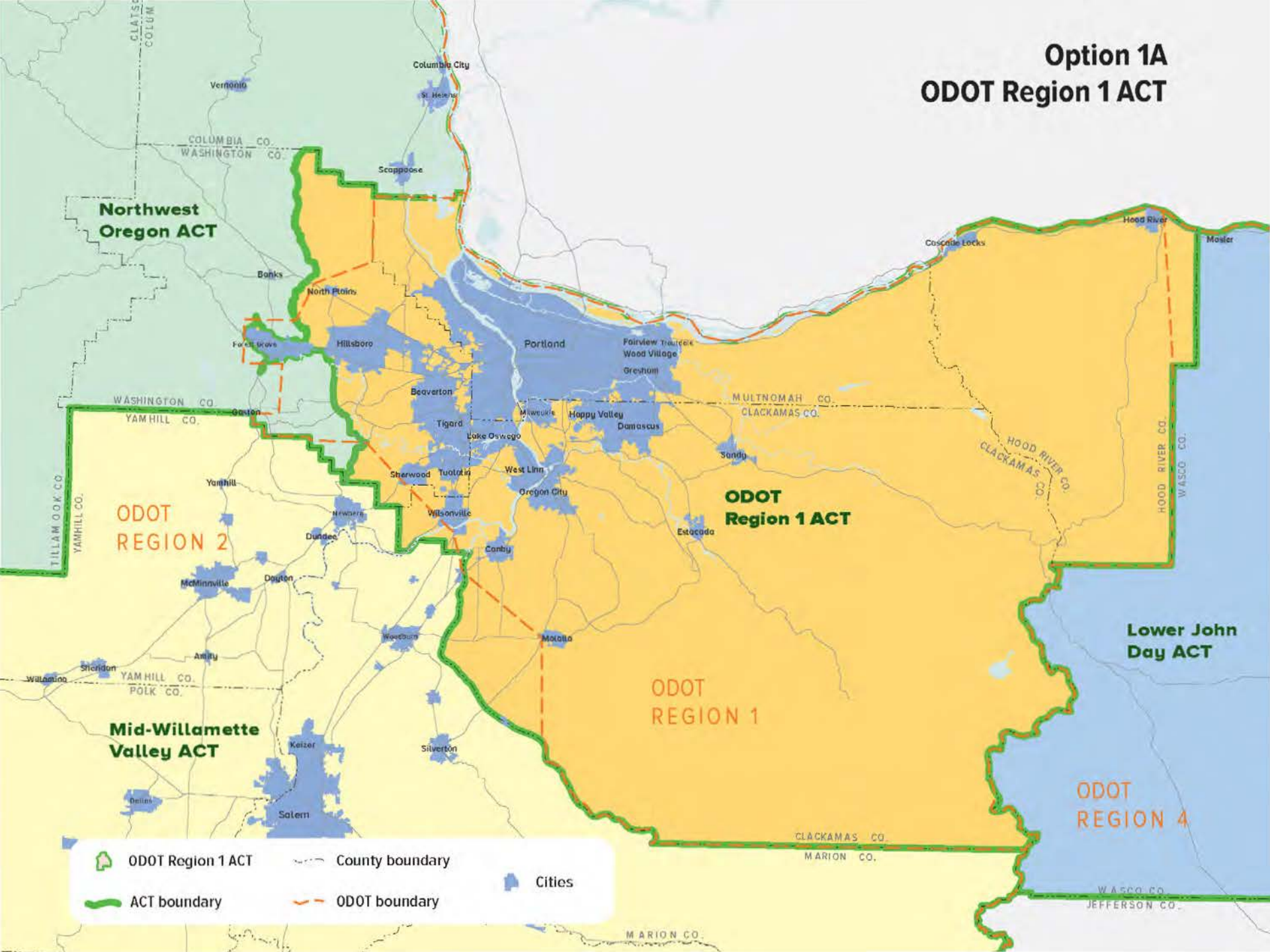
1221 SW Fourth Avenue, Suite 340 • Portland, Oregon 97204
Phone (503) 823-4120 • Fax: (503) 823-3588 • MayorCharlieHales@PortlandOregon.gov

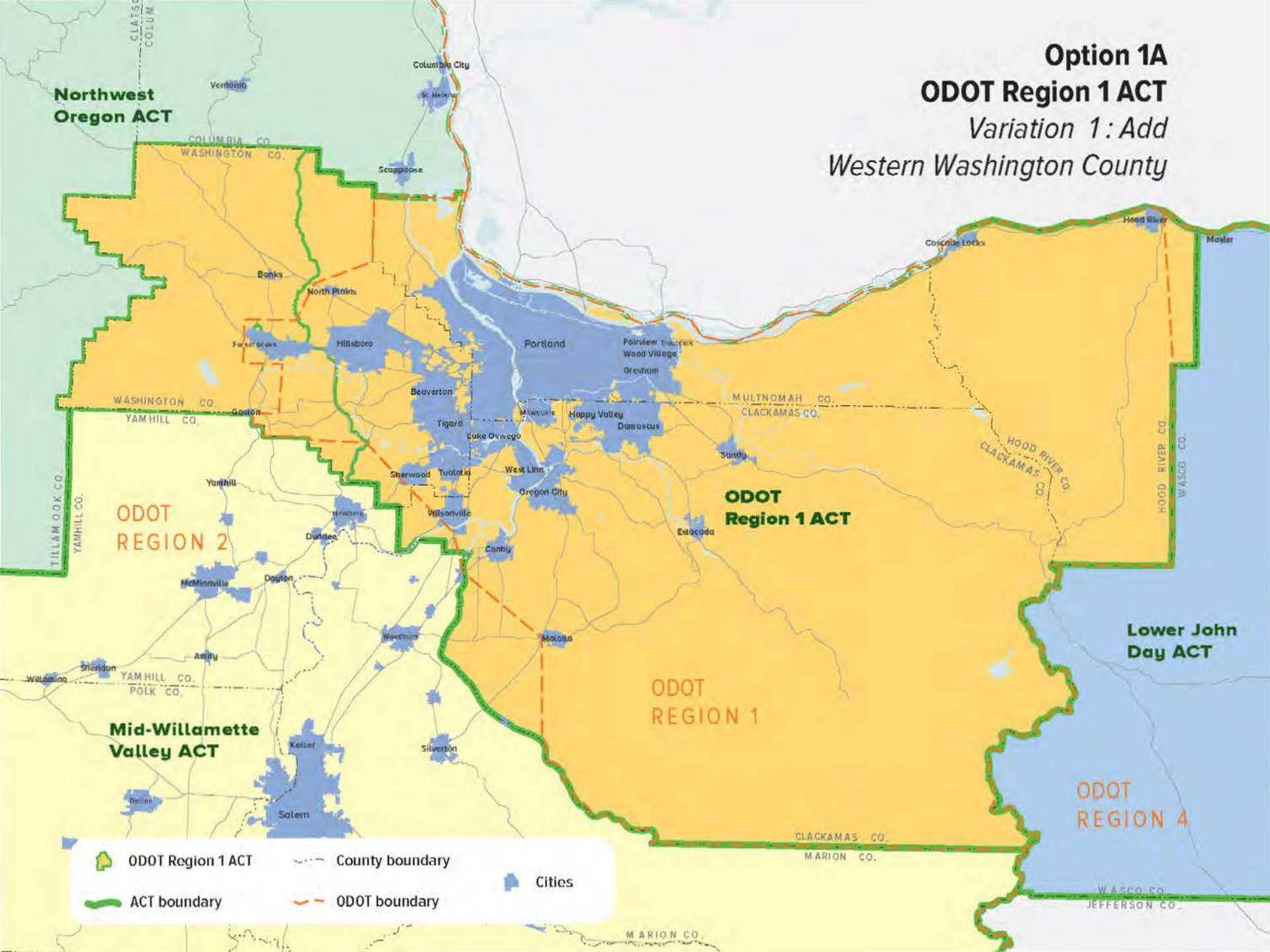
1 ACT?

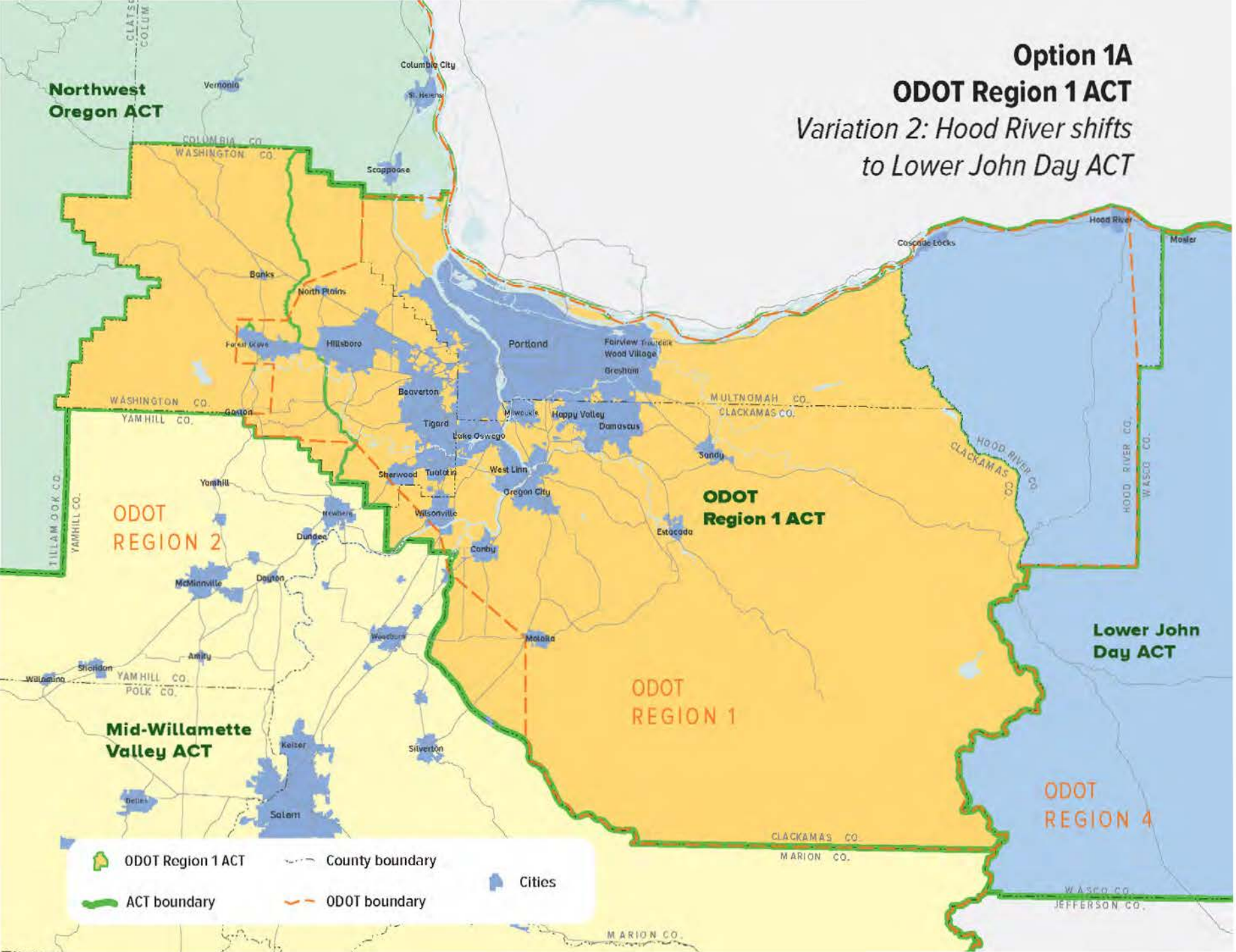
2 ACT?

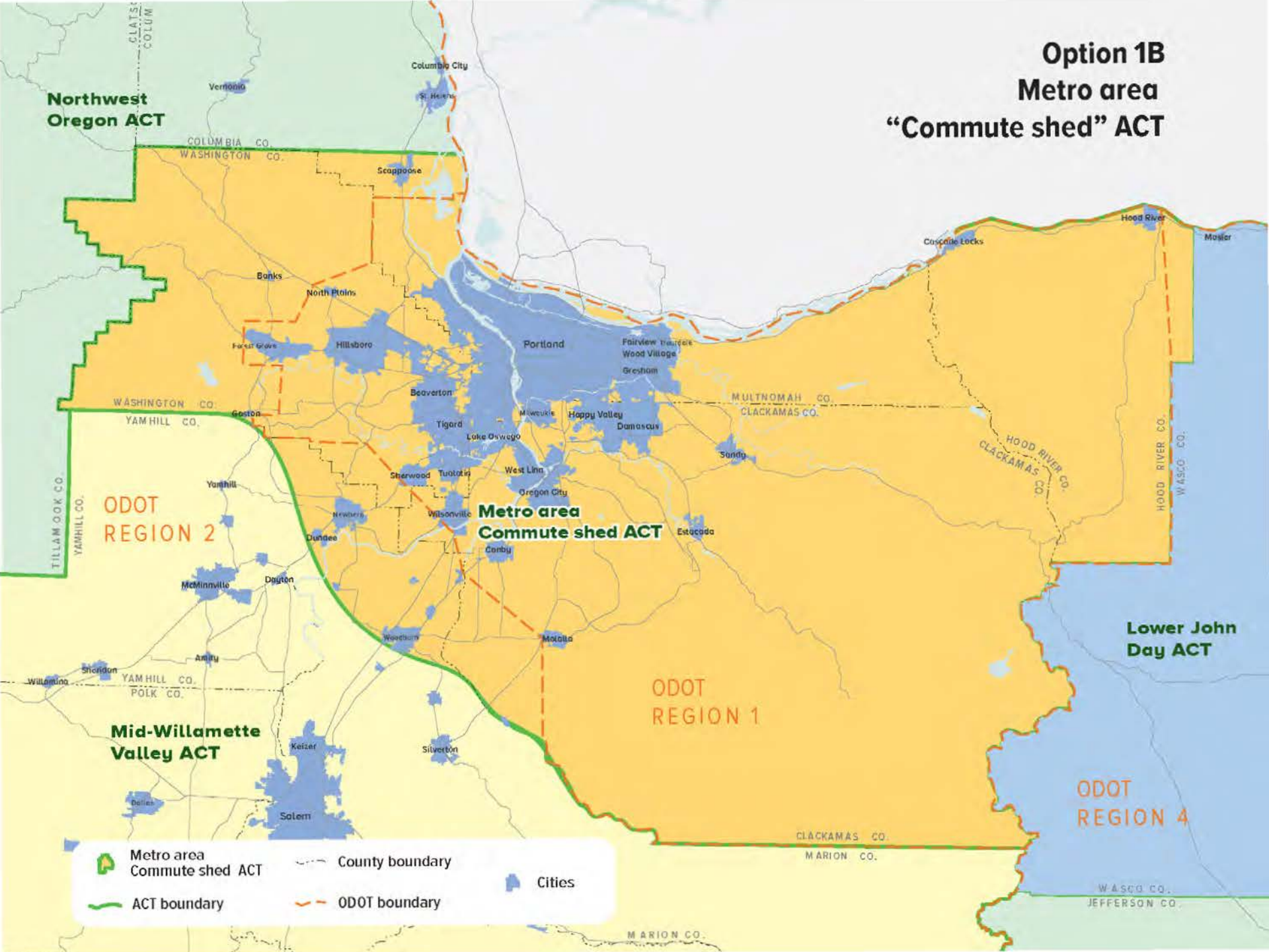
Problem Statement

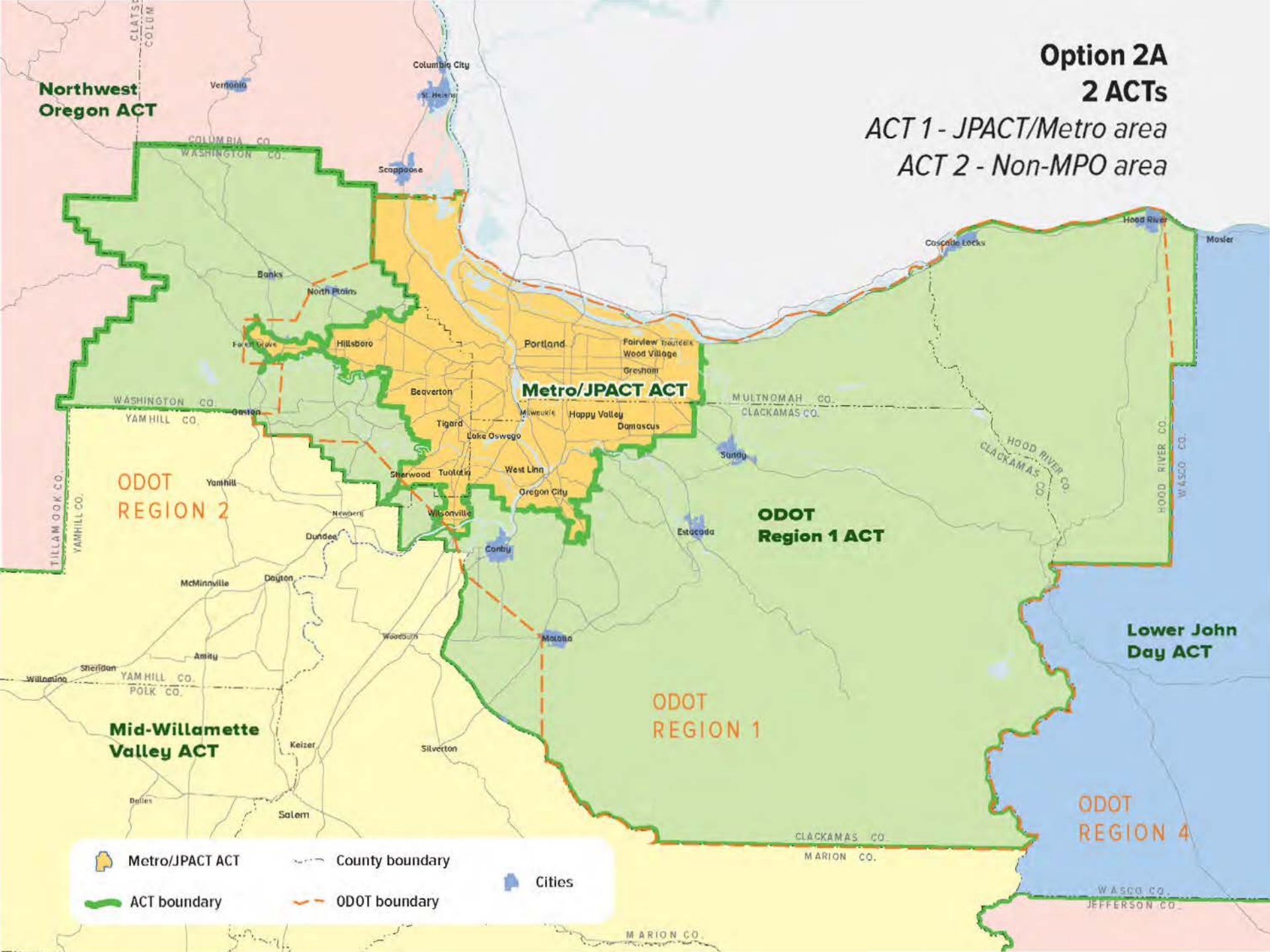
- **Need a voice with OTC**
- **Need business and community stakeholders**
- **Broaden involvement in transportation decisions**
- **Organize decision-making around "Communities of Interest"**
- **Improve understanding of link to economy and livability**
- **Improve communication between MPO and non-MPO area**
- **Improve understanding of existing transportation funding**
- **Enhance understanding of needs to support increased funding**
- **Don't mess up existing coordination mechanisms that work**

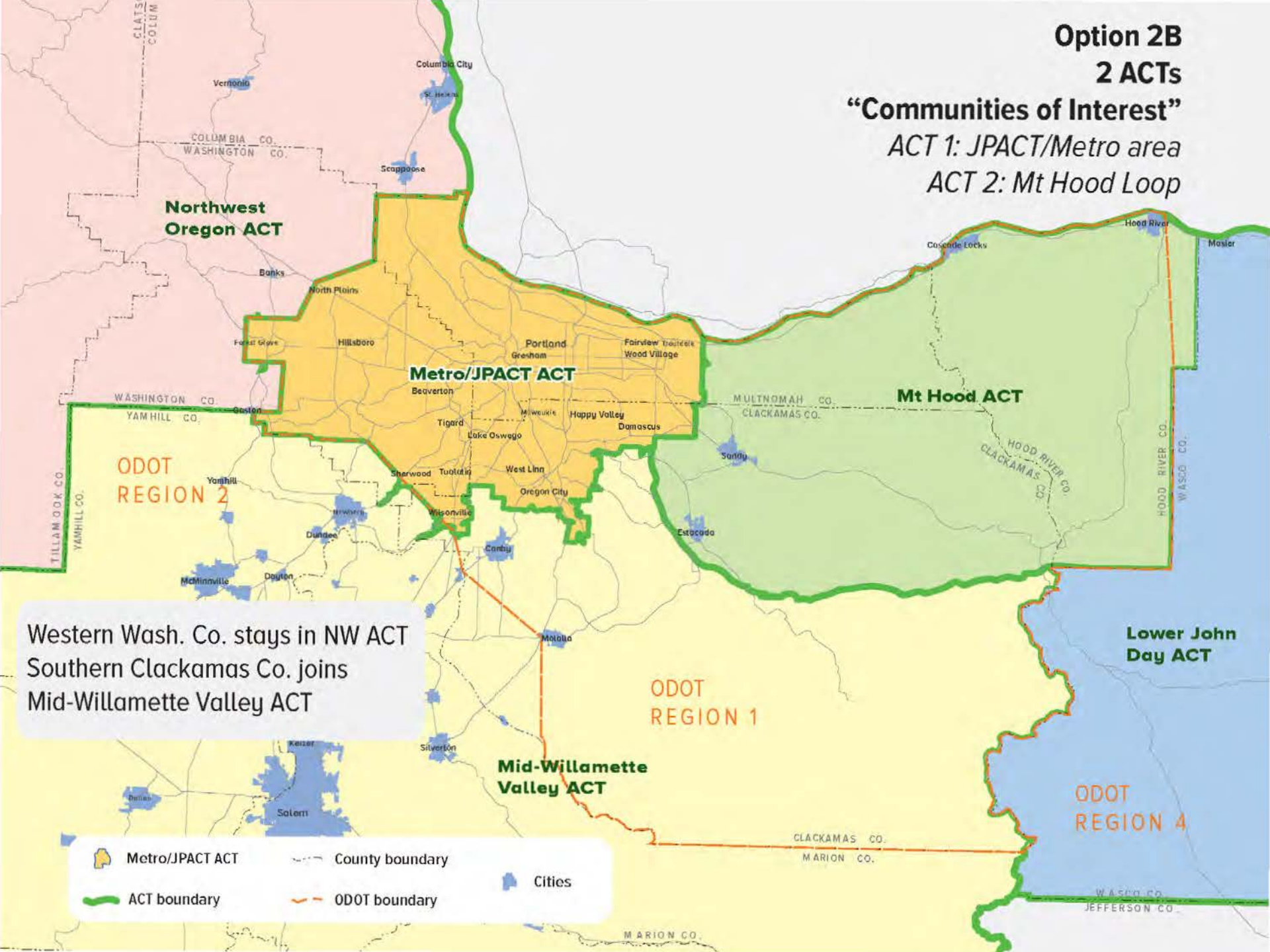

Option 1A
ODOT Region 1 ACT
Northwest Oregon ACT
Mid-Willamette Valley ACT
ODOT Region 1 ACT
Lower John Day ACT
ODOT REGION 2
ODOT REGION 1
ODOT REGION 4
Columbia City
St. Helens
Vernonia
Scappoose
Banks
North Plains
Hillsboro
Forest Grove
Portland
Fairview
Troutdale
Wood Village
Gresham
Beaverton
Tigard
Tualatin
Sherwood
Lake Oswego
Milwaukie
Happy Valley
Damascus
Sandy
West Linn
Oregon City
Wilsonville
Canby
Estacada
Cascade Locks
Hood River
Mosier
Gaston
Yamhill
Newberg
Dundee
McMinnville
Dayton
Amity
Sheridan
Willamina
Woodburn
Molalla
Silverton
Keizer
Salem
Dallas
WASHINGTON CO.
YAMHILL CO.
MULTNOMAH CO.
CLACKAMAS CO.
HOOD RIVER CO.
WASCO CO.
TILLAMOOK CO.
POLK CO.
MARION CO.
JEFFERSON CO.
ODOT Region 1 ACT
ACT boundary
County boundary
ODOT boundary
Cities


Option 1A
ODOT Region 1 ACT
Variation 1: Add
Western Washington County
Northwest
Oregon ACT
Columbia City
St. Helens
Vernonia
Scappoose
COLUMBIA CO.
WASHINGTON CO.
Banks
North Plains
Hillsboro
Forest Grove
Portland
Fairview
Troutdale
Wood Village
Gresham
Beaverton
Tigard
Tualatin
Sherwood
Lake Oswego
Milwaukie
Happy Valley
Damascus
Sandy
Gaston
WASHINGTON CO.
YAMHILL CO.
MULTNOMAH CO.
CLACKAMAS CO.
Cascade Locks
Hood River
Mosier
HOOD RIVER CO.
CLACKAMAS CO.
WASCO CO.
TILLAMOOK CO.
YAMHILL CO.
Yamhill
Newberg
Dundee
Wilsonville
West Linn
Oregon City
Estacada
Canby
ODOT
REGION 2
ODOT
Region 1 ACT
McMinnville
Dayton
Molalla
Woodburn
Amity
Sheridon
Willamina
YAMHILL CO.
POLK CO.
Lower John
Day ACT
ODOT
REGION 1
Mid-Willamette
Valley ACT
Keizer
Silverton
Salem
Dallas
ODOT
REGION 4
CLACKAMAS CO.
MARION CO.
WASCO CO.
JEFFERSON CO.
MARION CO.
ODOT Region 1 ACT
ACT boundary
County boundary
ODOT boundary
Cities


Option 1A
ODOT Region 1 ACT
Variation 2: Hood River shifts to Lower John Day ACT
Northwest Oregon ACT
Mid-Willamette Valley ACT
ODOT Region 1 ACT
Lower John Day ACT
ODOT REGION 1
ODOT REGION 2
ODOT REGION 4
Columbia City
St. Helens
Vernonia
Scappoose
Banks
North Plains
Hillsboro
Forest Grove
Portland
Fairview
Troutdale
Wood Village
Gresham
Beaverton
Tigard
Tualatin
Sherwood
Lake Oswego
Milwaukie
Happy Valley
Damascus
Sandy
West Linn
Oregon City
Wilsonville
Newberg
Dundee
Yamhill
Carlton
McMinnville
Dayton
Amity
Sheridan
Willamina
Woodburn
Molalla
Canby
Estacada
Cascade Locks
Hood River
Mosier
Keizer
Silverton
Salem
Dallas
COLUMBIA CO.
WASHINGTON CO.
YAMHILL CO.
MULTNOMAH CO.
CLACKAMAS CO.
HOOD RIVER CO.
WASCO CO.
TILLAMOOK CO.
POLK CO.
MARION CO.
JEFFERSON CO.
ODOT Region 1 ACT
ACT boundary
County boundary
ODOT boundary
Cities


Option 1B
Metro area
"Commute shed" ACT
Northwest
Oregon ACT
Columbia City
Vernonia
St. Helens
COLUMBIA CO.
WASHINGTON CO.
Scappoose
Banks
North Plains
Forest Grove
Hillsboro
Portland
Fairview
Troutdale
Wood Village
Gresham
Beaverton
Tigard
Milwaukie
Happy Valley
Damascus
Lake Oswego
Sherwood
Tualatin
West Linn
Oregon City
Wilsonville
Newberg
Dundee
Canby
Estacada
Sandy
Cascade Locks
Hood River
Mosier
MULTNOMAH CO.
CLACKAMAS CO.
HOOD RIVER CO.
CLACKAMAS CO.
HOOD RIVER CO.
WASCO CO.
WASHINGTON CO.
YAMHILL CO.
Gaston
Yamhill
TILLAMOOK CO.
YAMHILL CO.
ODOT
REGION 2
Metro area
Commute shed ACT
McMinnville
Dayton
Amity
Sheridan
Willamina
YAMHILL CO.
POLK CO.
Mid-Willamette
Valley ACT
Keizer
Salem
Dallas
Silverton
Woodburn
Molalla
ODOT
REGION 1
Lower John
Day ACT
ODOT
REGION 4
CLACKAMAS CO.
MARION CO.
WASCO CO.
JEFFERSON CO.
MARION CO.
Metro area
Commute shed ACT
ACT boundary
County boundary
ODOT boundary
Cities


Option 2A
2 ACTs
ACT 1 - JPACT/Metro area
ACT 2 - Non-MPO area
Northwest Oregon ACT
Metro/JPACT ACT
ODOT REGION 2
ODOT Region 1 ACT
ODOT REGION 1
Lower John Day ACT
ODOT REGION 4
Mid-Willamette Valley ACT
Portland
Beaverton
Hillsboro
Gresham
Tigard
Lake Oswego
Tualatin
Sherwood
West Linn
Oregon City
Wilsonville
Happy Valley
Damascus
Milwaukie
Fairview
Troutdale
Wood Village
Forest Grove
Banks
North Plains
Cornelius
Gaston
Yamhill
Newberg
Dundee
McMinnville
Dayton
Amity
Sheridan
Willamina
Dallas
Salem
Keizer
Silverton
Woodburn
Molalla
Canby
Estacada
Sandy
Scappoose
St. Helens
Columbia City
Vernonia
Cascade Locks
Hood River
Mosier
WASHINGTON CO.
COLUMBIA CO.
CLATSOP CO.
TILLAMOOK CO.
YAMHILL CO.
POLK CO.
MULTNOMAH CO.
CLACKAMAS CO.
HOOD RIVER CO.
WASCO CO.
MARION CO.
JEFFERSON CO.
Metro/JPACT ACT
ACT boundary
County boundary
ODOT boundary
Cities


Option 2B
2 ACTs
"Communities of Interest"
ACT 1: JPACT/Metro area
ACT 2: Mt Hood Loop
Northwest Oregon ACT
Metro/JPACT ACT
Mt Hood ACT
Lower John Day ACT
Mid-Willamette Valley ACT
ODOT REGION 2
ODOT REGION 1
ODOT REGION 4
Western Wash. Co. stays in NW ACT
Southern Clackamas Co. joins
Mid-Willamette Valley ACT
Metro/JPACT ACT
ACT boundary
County boundary
ODOT boundary
Cities
Columbia City
Vernonia
Scappoose
Banks
North Plains
Hillsboro
Forest Grove
Portland
Gresham
Fairview
Troutdale
Wood Village
Beaverton
Tigard
Tualatin
Sherwood
Lake Oswego
Milwaukie
Happy Valley
Damascus
West Linn
Oregon City
Wilsonville
Canby
Estacada
Sandy
Cascade Locks
Hood River
Mosier
Yamhill
Newberg
Dundee
McMinnville
Dayton
Molalla
Silverton
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Salem
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Gaston
COLUMBIA CO.
WASHINGTON CO.
YAMHILL CO.
MULTNOMAH CO.
CLACKAMAS CO.
HOOD RIVER CO.
WASCO CO.
TILLAMOOK CO.
MARION CO.
JEFFERSON CO.

1 ACT?

2 ACT?

Population Differences: 4-County

	Share of 4-County Population
• Metro	89.4%
• Balance of Tri-County	9.2%
• Hood River County	1.3%

Population Differences: Tri-County

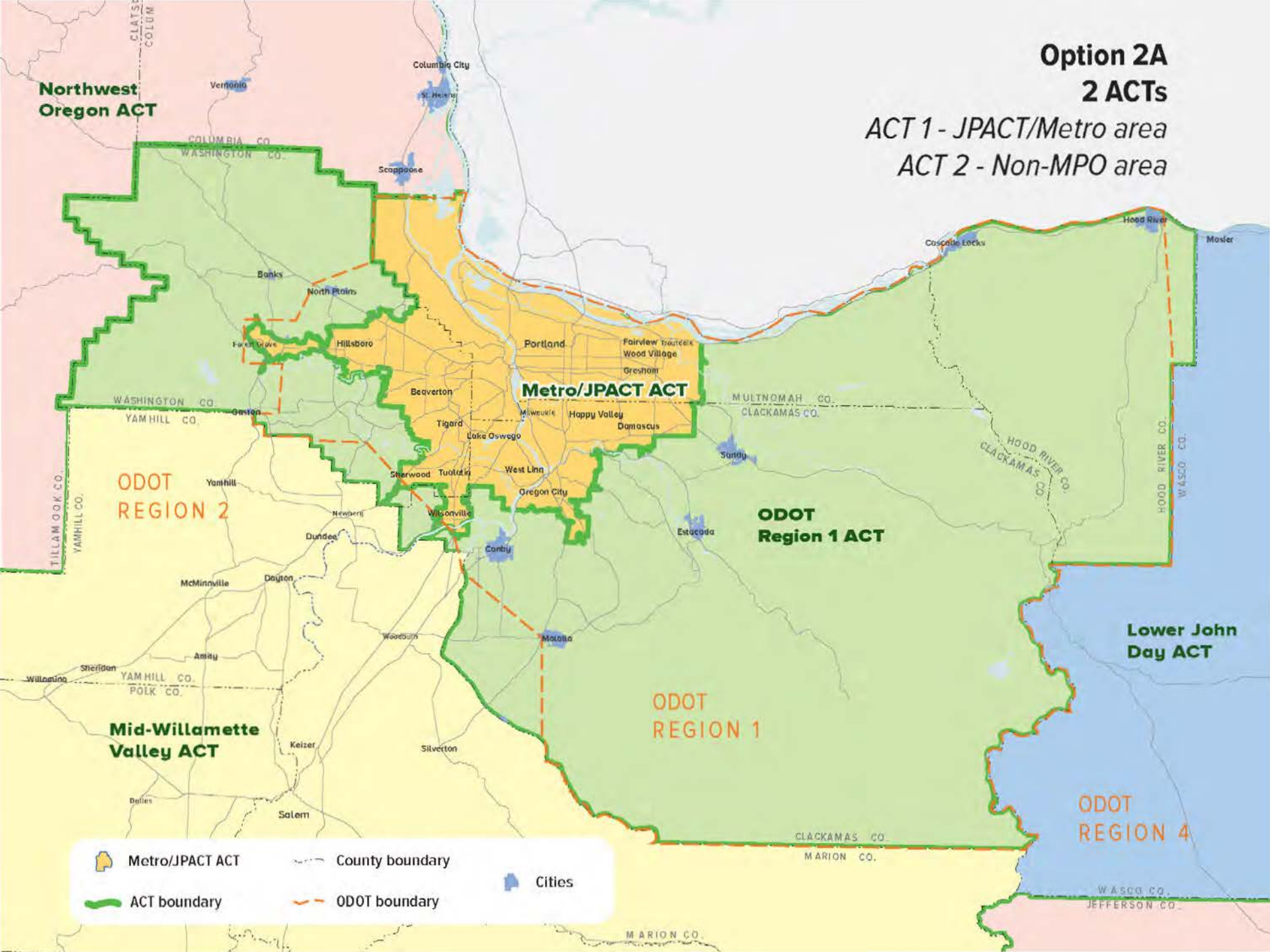
	Population outside Metro
• Rural Multnomah County	6,715
• Rural Washington County	33,275
• Rural Clackamas County	113,807

Other Allocation Factors

	Population	Lane-Miles	VMT	Truck Ton-Miles
Hood River County	1.3%	11.1%	4.2%	7.7%
Tri-County	98.7%	88.9%	95.8%	92.3%

1 ACT?

2 ACT?


Option 2A
2 ACTs
ACT 1 - JPACT/Metro area
ACT 2 - Non-MPO area
Northwest Oregon ACT
Metro/JPACT ACT
ODOT REGION 2
ODOT Region 1 ACT
ODOT REGION 1
Lower John Day ACT
ODOT REGION 4
Mid-Willamette Valley ACT
Portland
Beaverton
Hillsboro
Gresham
Tigard
Lake Oswego
Tualatin
Sherwood
West Linn
Oregon City
Wilsonville
Happy Valley
Damascus
Milwaukie
Fairview
Troutdale
Wood Village
Forest Grove
Banks
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Dundee
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Sheridan
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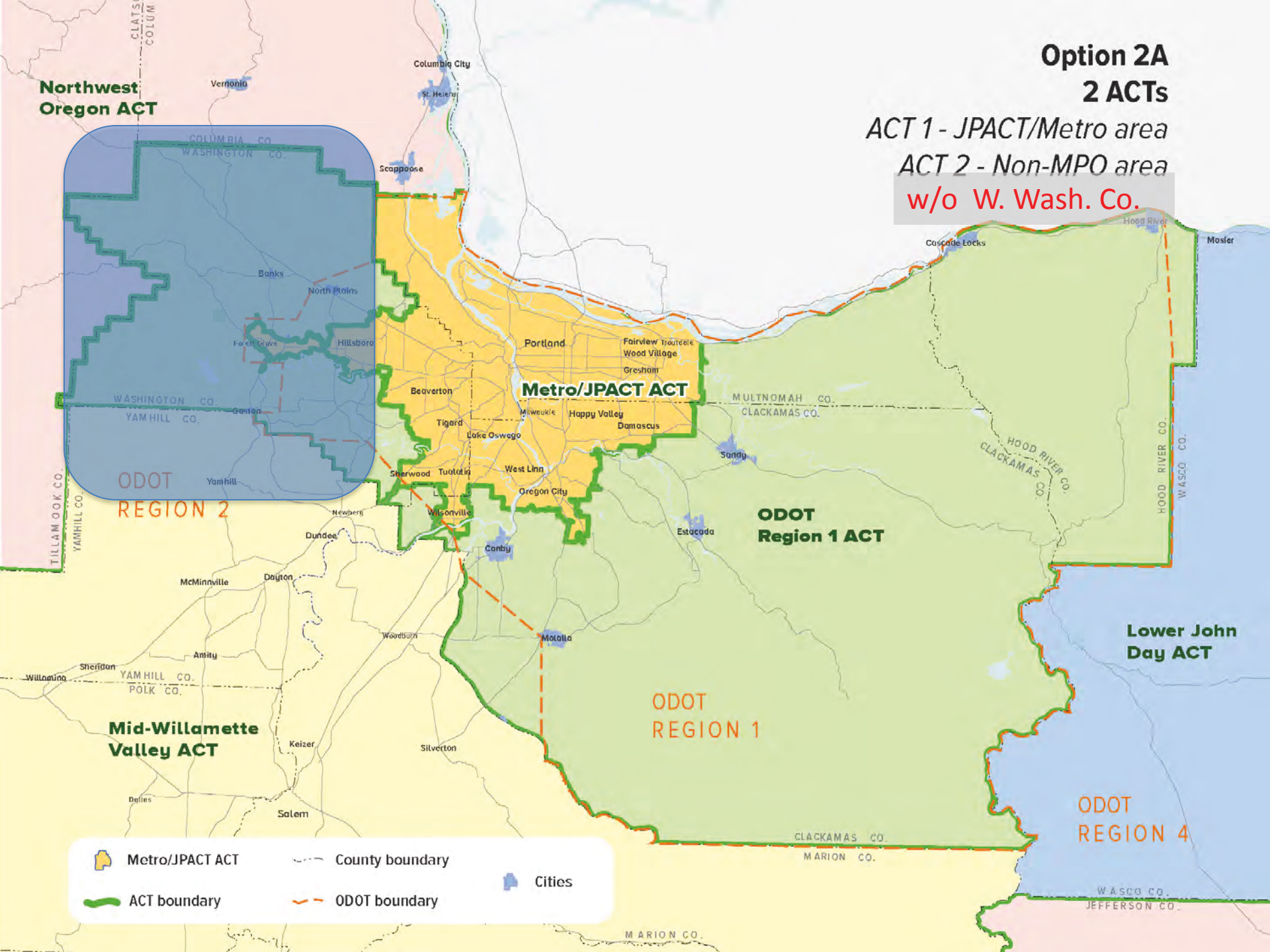
Molalla
Canby
Estacada
Sandy
Scappoose
St. Helens
Columbia City
Vernonia
Cascade Locks
Hood River
Mosier
WASHINGTON CO.
COLUMBIA CO.
CLATSOP CO.
TILLAMOOK CO.
YAMHILL CO.
POLK CO.
MULTNOMAH CO.
CLACKAMAS CO.
HOOD RIVER CO.
WASCO CO.
MARION CO.
JEFFERSON CO.
Metro/JPACT ACT
ACT boundary
County boundary
ODOT boundary
Cities


Option 2A
2 ACTs
ACT 1 - JPACT/Metro area
ACT 2 - Non-MPO area
w/o W. Wash. Co.
Northwest Oregon ACT
Metro/JPACT ACT
ODOT Region 1 ACT
Lower John Day ACT
Mid-Willamette Valley ACT
ODOT REGION 1
ODOT REGION 2
ODOT REGION 4
Columbia City
St. Helens
Vernonia
Scappoose
Banks
North Plains
Forest Grove
Hillsboro
Portland
Fairview
Troutdale
Wood Village
Gresham
Beaverton
Tigard
Tualatin
Sherwood
Lake Oswego
Milwaukie
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Hood River
Mosier
McMinnville
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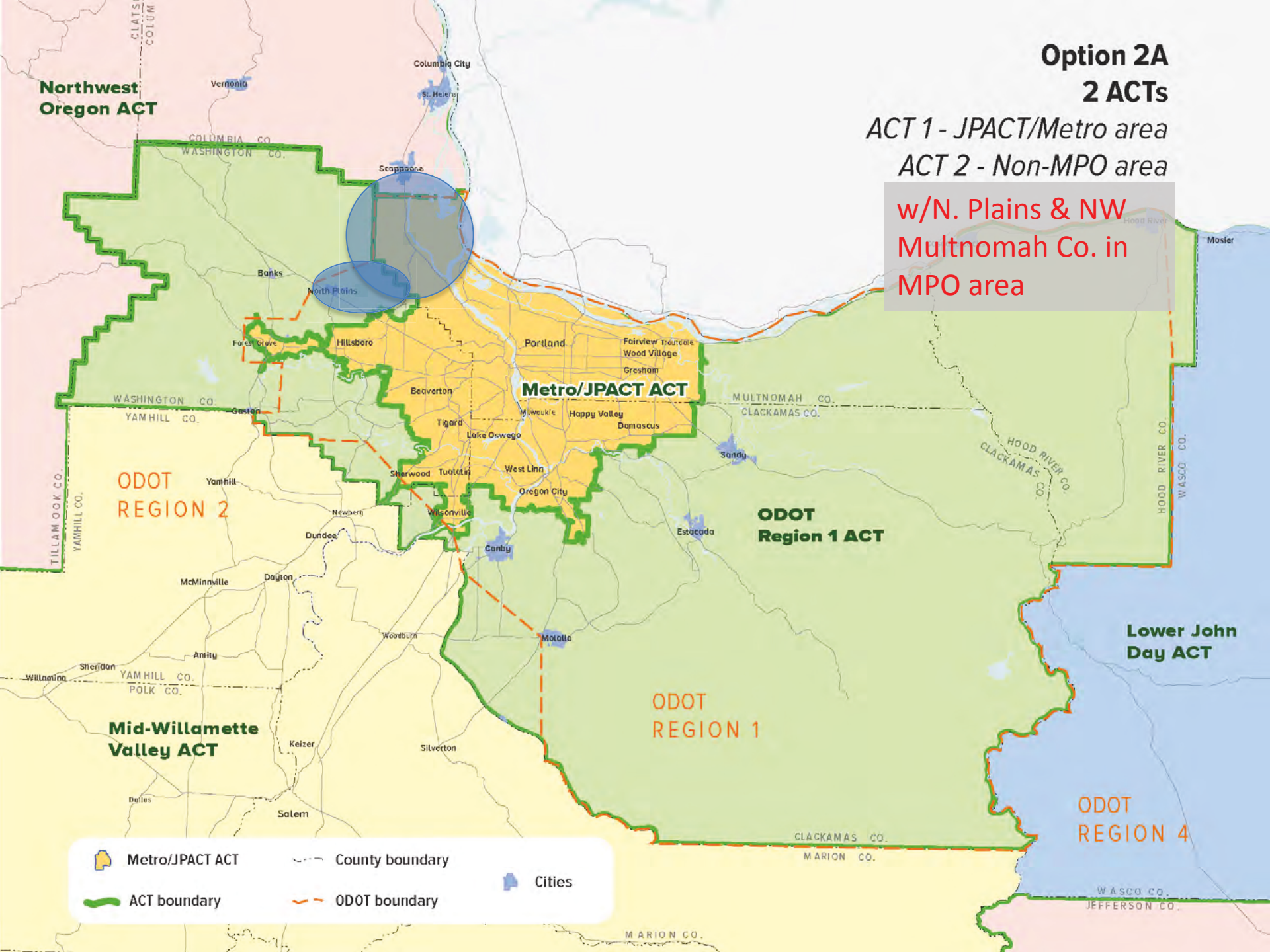
COLUMBIA CO.
WASHINGTON CO.
YAMHILL CO.
MULTNOMAH CO.
CLACKAMAS CO.
HOOD RIVER CO.
WASCO CO.
TILLAMOOK CO.
POLK CO.
MARION CO.
JEFFERSON CO.
Metro/JPACT ACT
ACT boundary
County boundary
ODOT boundary
Cities


Option 2A
2 ACTs
ACT 1 - JPACT/Metro area
ACT 2 - Non-MPO area
w/N. Plains & NW Multnomah Co. in MPO area
Northwest Oregon ACT
Metro/JPACT ACT
ODOT Region 1 ACT
Lower John Day ACT
Mid-Willamette Valley ACT
ODOT REGION 1
ODOT REGION 2
ODOT REGION 4
Columbia City
St. Helens
Vernonia
Scappoose
Banks
North Plains
Forest Grove
Hillsboro
Portland
Fairview
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COLUMBIA CO.
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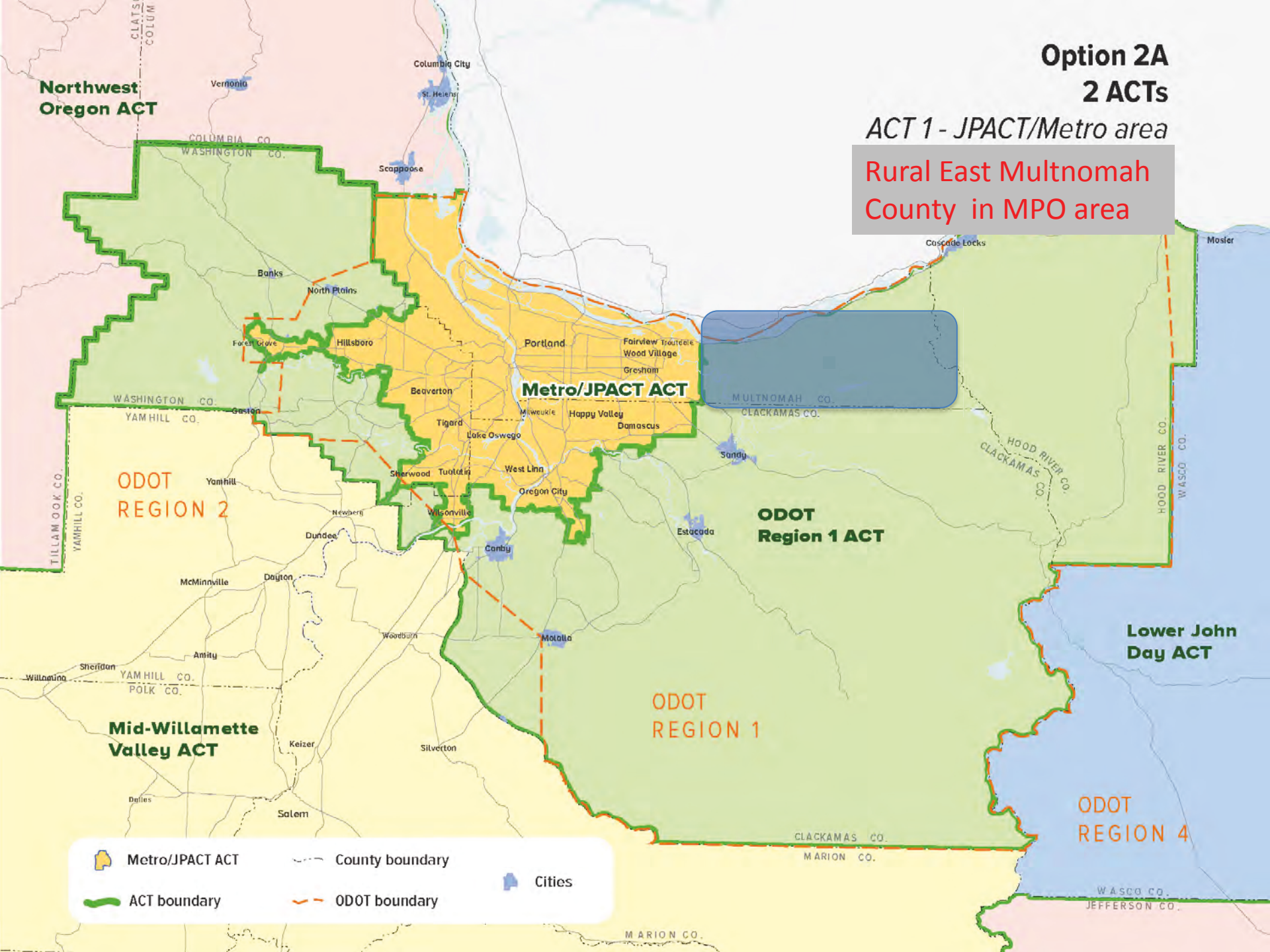
CLACKAMAS CO.
HOOD RIVER CO.
WASCO CO.
TILLAMOOK CO.
POLK CO.
MARION CO.
JEFFERSON CO.
Metro/JPACT ACT
ACT boundary
County boundary
ODOT boundary
Cities


Option 2A
2 ACTs
ACT 1 - JPACT/Metro area
Rural East Multnomah County in MPO area
Northwest Oregon ACT
Metro/JPACT ACT
ODOT Region 1 ACT
ODOT REGION 2
ODOT REGION 1
ODOT REGION 4
Lower John Day ACT
Mid-Willamette Valley ACT
Portland
Beaverton
Hillsboro
Gresham
Tigard
Lake Oswego
Tualatin
West Linn
Oregon City
Wilsonville
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Forest Grove
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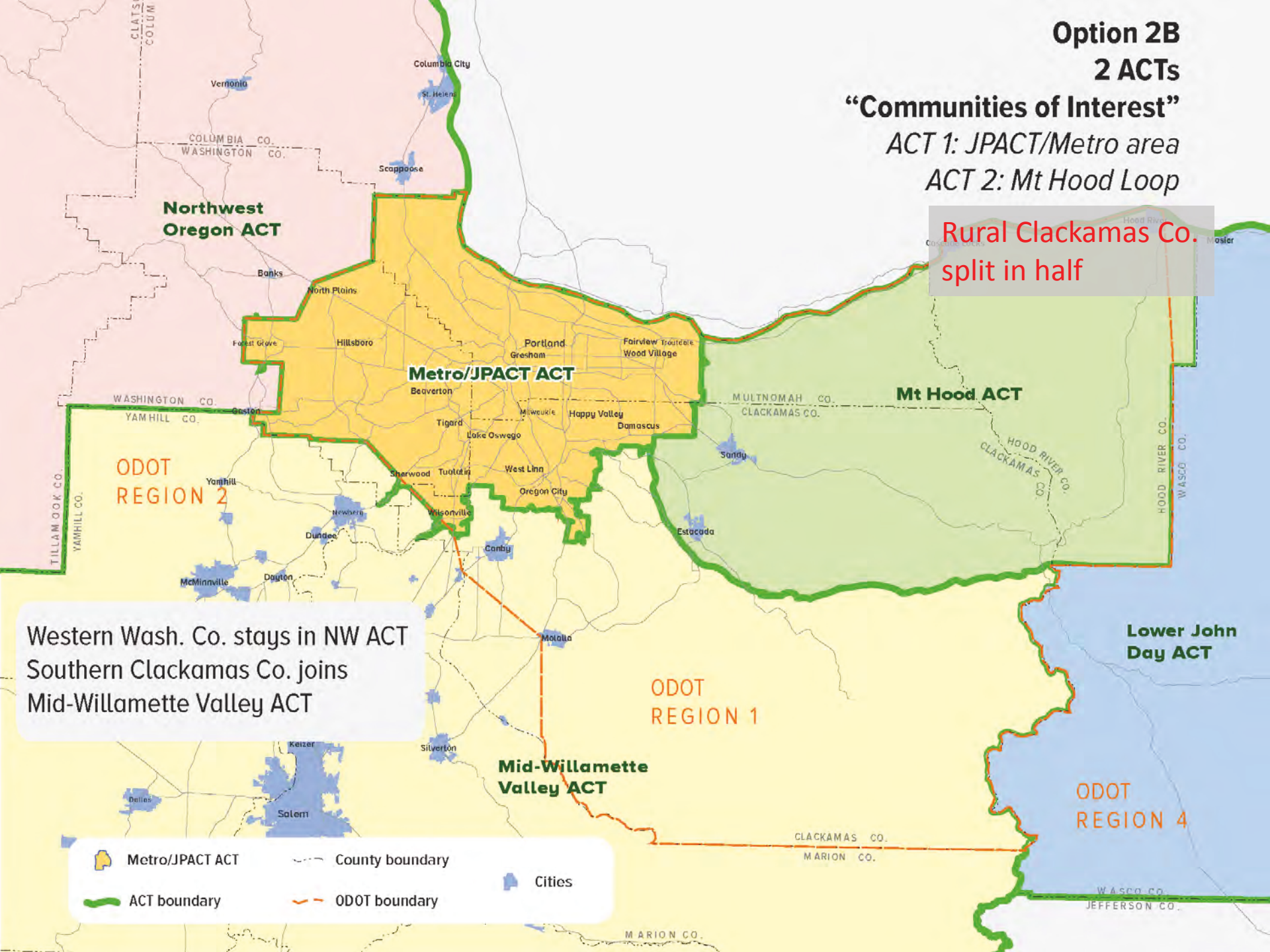
POLK CO.
MARION CO.
JEFFERSON CO.
Metro/JPACT ACT
ACT boundary
County boundary
ODOT boundary
Cities


Option 2B
2 ACTs
"Communities of Interest"
ACT 1: JPACT/Metro area
ACT 2: Mt Hood Loop
Rural Clackamas Co. split in half
Northwest Oregon ACT
Metro/JPACT ACT
Mt Hood ACT
Lower John Day ACT
Mid-Willamette Valley ACT
ODOT REGION 2
ODOT REGION 1
ODOT REGION 4
Western Wash. Co. stays in NW ACT
Southern Clackamas Co. joins
Mid-Willamette Valley ACT
Columbia City
St. Helens
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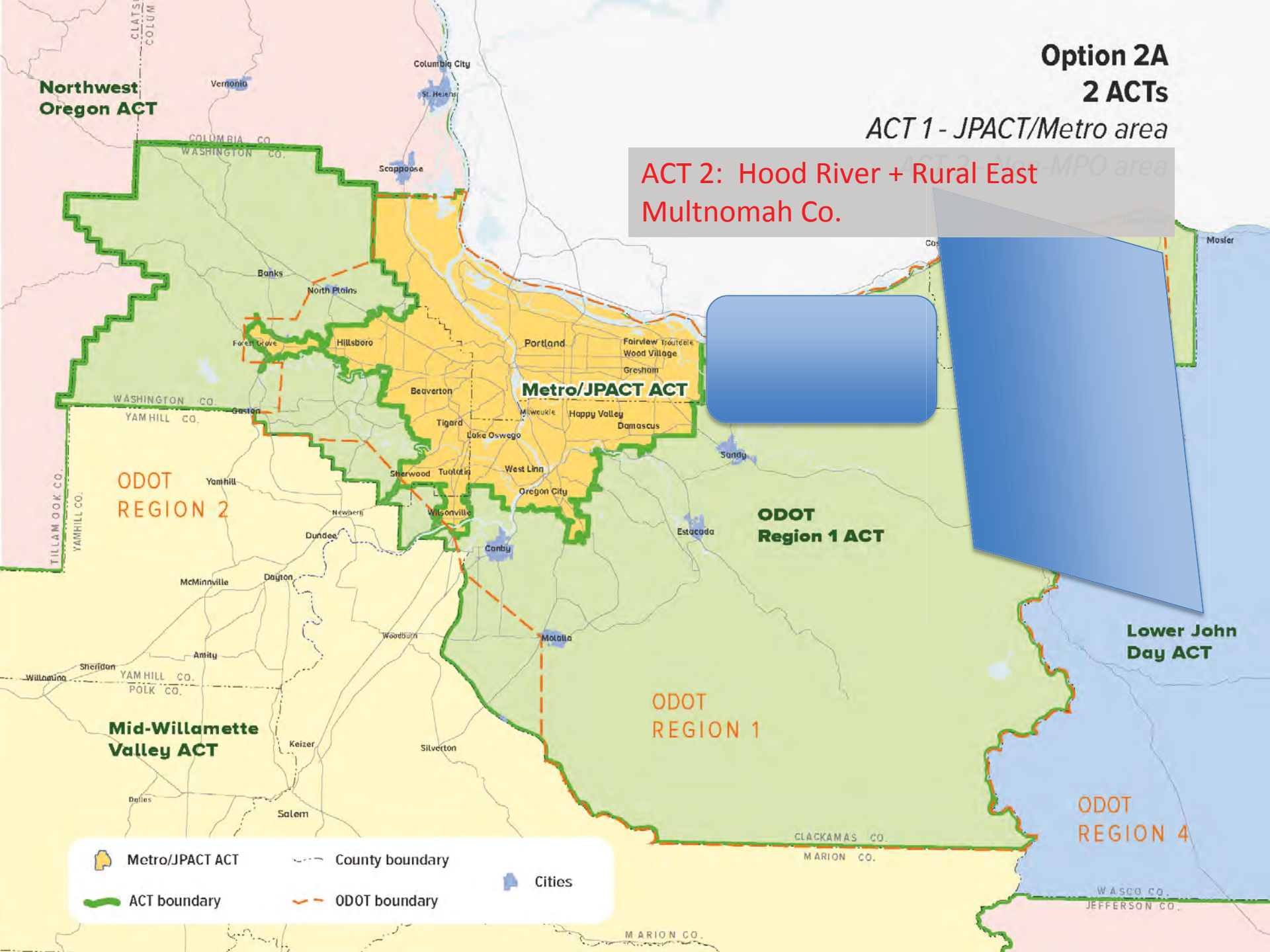
JEFFERSON CO.
Metro/JPACT ACT
ACT boundary
County boundary
ODOT boundary
Cities


Option 2A
2 ACTs
ACT 1 - JPACT/Metro area
ACT 2: Hood River + Rural East Multnomah Co.
Northwest Oregon ACT
Metro/JPACT ACT
ODOT Region 1 ACT
Lower John Day ACT
Mid-Willamette Valley ACT
ODOT REGION 2
ODOT REGION 1
ODOT REGION 4
Columbia City
St. Helens
Vernonia
Scappoose
Banks
North Plains
Forest Grove
Hillsboro
Portland
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YAMHILL CO.
TILLAMOOK CO.
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CLACKAMAS CO.
MARION CO.
WASCO CO.
JEFFERSON CO.
Metro/JPACT ACT
ACT boundary
County boundary
ODOT boundary
Cities

Meetings, Meetings and more Meetings

- There is already a significant time investment in JPACT.
- Which is preferred?
  - Adding meetings of a single Region 1 ACT?

OR

  - Adding meetings of a non-MPO ACT while building upon JPACT meetings for an MPO ACT

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Portland, OR 97232-2736
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JOINT POLICY ADVISORY COMMITTEE ON TRANSPORTATION
FINANCE SUBCOMMITTEE
August 21, 2014
Metro Regional Center, Room 370 B

MEMBERS PRESENT	AFFILIATION
Craig Dirksen, Chair	Metro Council
Denny Doyle	City of Beaverton, representing Cities of Washington County
Neil McFarlane	TriMet
Steve Novick	City of Portland
Roy Rogers	Washington County
Paul Savas	Clackamas County
Rian Windsheimer	Oregon Department of Transportation
Jules Bailey	Multnomah County
Susie Lahsene	Port of Portland
Ed Barnes	Clark County

STAFF: Beth Cohen, Andy Cotugno, Elissa Gertler, Noah Siegel, Nikolai Ursin

WELCOME AND INTRODUCTIONS

Chair Craig Dirksen called the meeting to order at 7:32 a.m. Chair Dirksen kicked off the meeting by noting that JPACT and the Metro Council recently passed the Regional Transportation Plan, but still need to figure out how to fund the projects in it. Chair Dirksen stated that one way to do that is to encourage the state to step up and be a partner in implementing project priorities.

GOALS AND SCOPE OF SUBCOMMITTE

Subcommittee members agreed to meet four times through December 2014 and to prioritize discussion of state transportation funding issues. The group expressed interest in using the subcommittee to discuss regional funding ideas as well. Members shared considerations for how the region could be successful in advocating for a 2015 state transportation package including plans for messaging and outreach to legislators and being mindful of the public's interest in projects that promote maintenance and safety. The group also discussed tools that might be helpful in advancing discussions on a 2015 transportation package including information on maintenance needs for each jurisdiction, the updated Cost of Congestion study and research on different funding mechanisms.

HISTORY OF JPACT'S ENGAGEMENT IN PREVIOUS LEGISLATIVE SESSIONS

Chair Dirksen shared with the group previous legislative principles adopted by JPACT for the 2011 and 2013 legislative sessions. Members flagged issues that have arisen in previous JPACT finance subcommittees including the tension between the region's ability to raise money locally or regionally and the need to ask the state for funding, which can be more complicated.

RECENT CONVERSATIONS AROUND A POTENTIAL TRANSPORTATION PACKAGE IN THE 2015 SESSION

Mr. Cotugno provided a summary of how the Oregon Transportation Forum (OTF) has been developing a strawman proposal around the 2015 state transportation package. OTF started these conversations in November 2013 and have been meeting to develop a straw proposal, on which OTF is working to collect feedback. Mr. Cotugno emphasized that the current set of proposals developed by the OTF has not been approved or endorsed by the OTF or its members, but rather is intended to help determine what proposals, if any, should be forwarded to the legislature and whether they will be submitted to the OTF membership for formal support.

The guiding principles of the OTF's strawman are: fund all modes, fix it first, provide reliable funding, share costs fairly and preserve local options. Mr. Cotugno described the various options included under each section of the proposal; fix-it, enhance and policy. The fix-it section includes proposals around gas tax indexing for inflation and fuel efficiency, increased funding for maintenance of state/county/city highways and roads, providing funding for Cascades AMTRAK service and providing funding to cover transit services for elderly and disabled.

The enhance section includes proposals around increasing the gas tax and weight-mile tax for an expanded multi-modal "Enhance" program, increasing Connect Oregon funds for non-highway modal infrastructure, and programming funds to facilitate transfers of road miles between ODOT and local governments. The policy section includes proposals targeted to future legislative sessions such as developing a 10-year multi-modal strategic transportation needs assessment, incentivizing co-location of city, county and state facilities, phasing in road user fees over gas taxes and supporting policies around greenhouse gas reduction strategies.

During the limited time for discussion, members commented about Connect Oregon, highlighting the fact that there needs to be parity in how the funds are distributed and questioning whether now is the right time to institutionalize the program as opposed to increasing the funding for the next biennium. Members also commented on the challenges of the transfer of road miles between ODOT and local jurisdictions.

WRAP UP AND NEXT STEPS

Mr. Cotugno mentioned that the next OTF meeting is scheduled for September 10th. Chair Dirksen told the group that he is planning to have a September meeting to continue the conversation on the OTF's strawman proposal. Members asked about inviting Craig Campbell, Chair of the OTF, to the September subcommittee meeting and about whether information about a menu of options similar to the OTF strawman could be developed for the region.

ADJOURN

Chair Dirksen adjourned the meeting at 9:04 a.m.

Respectfully Submitted,

Beth Cohen, Council Policy Coordinator