600 NE Grand Ave.
Portland, OR 97232-2736

Metro | *Agenda*

Meeting: Transportation Policy Alternatives Committee (TPAC)
Date: Friday, May 27, 2011
Time: 9:30 a.m. to noon
Place: Council Chambers

9:30 AM	**1.**		**Call to Order and Declaration of a Quorum**	**Tom Kloster, Acting Chair**
9:30 AM	**2.**		**Comments from the Chair and Committee Members**	**Tom Kloster, Acting Chair**
9:35 AM	**3.**		**Citizen Communications to TPAC on Non-Agenda Items**	
	4.		**CONSENT AGENDA**	
9:40 AM		#	• **Consideration of the TPAC Minutes for April 29, 2011**	
		*	• **Resolution No. 11-4266**, For the Purpose of Amending the 2010-10 Metropolitan Transportation improvement Program (MTIP) to Add the Going Street Bike/Ped: N Vancouver Ave – N Channel Ave Project	
	5.		**ACTION ITEMS**	
10:00 AM	5.1	*	**Resolution No. 11-4265**, For the Purpose of Adopting the Regional High Capacity Transit System Expansion Policy Implementation Guidance – RECOMMENDATION TO JPACT REQUESTED • *Purpose*: Final review of implementation guidance. • *Outcome*: Recommend adoption of High Capacity Transit System Expansion Policy implementation to JPACT.	**Josh Naramore**
10:35 AM	5.2	*	Climate Smart Communities Scenarios Evaluation – RECOMMENDATION TO JPACT REQUESTED • *Purpose*: Present and have TPAC review. • *Outcome*: A recommendation from TPAC to JPACT.	**Kim Ellis**
	6.		**INFORMATION/DISCUSSION ITEMS**	
11:00 AM	6.1	#	DEQ Low Carbon Fuel Standards – INFORMATION / DISCUSSION • *Purpose*: Brief TPAC on the three general strategies to reducing greenhouse gas emissions from light vehicle use specified in House Bill 2186. • *Outcome*: Increase awareness about House Bill 2186 and how it complements other greenhouse gas reduction strategies being developed in Oregon.	**Cory Ann Wind, DEQ**

Continued on back

11:50 AM	6.2	#	Update on the 2012-15 Statewide Transportation Improvement Program (STIP) public comment period. • *Purpose*: Share information about the 2012-15 STIP public comment period. • *Outcome*: Knowledge of public comment process and tools.	**Jeff Flowers, ODOT**
12 PM	**7.**		**ADJOURN**	**Tom Kloster, Acting Chair**

* Material available electronically.
\# Material will be available at the meeting.

For agenda and schedule information, call Kelsey Newell at 503-797-1916, e-mail: kelsey.newell@oregonmetro.gov.
To check on closure or cancellations during inclement weather please call 503-797-1700#.

Future TPAC discussion items:

- MOVES update
- Lake Oswego Locally Preferred Alternative
- On-street Bus Rapid Transit
- High Speed Rail – ODOT funds, alignment and station areas, etc.
- Update on the Columbia River Crossing Project
- Context sensitive design and least cost planning
- A briefing on the Metro Auditor's *Tracking Transportation Project Outcomes* report

2011 TPAC Work Program
4/22/11

April 29, 2011 – Regular Meeting
• Climate Smart Communities Scenarios Evaluation – Discussion
• Making the Greatest Place – Information
  o State of the Centers Report and 2040 Context Tool
  o Proposed HCT System Expansion Policy Guidance
  o Proposed Local Plan Implementation Guidance (RTP and Title 6)
• TSMO amendment
	May 27, 2011 – Regular Meeting
	• Lake Oswego to Portland Transit Project Locally Preferred Alternative (LPA) Briefing – Information
	• HCT System Expansion Policy Guidance – Recommendation to JPACT
	• Climate Smart Communities Scenarios Evaluation – Recommendation to JPACT
	• DEQ Low Carbon Fuel Standards – Information / Discussion

July 1, 2011 – Regular Meeting • Lake Oswego to Portland Transit Project Locally Preferred Alternative (LPA) – Recommendation to JPACT • Regional Flexible Fund Project Summaries – Discussion	**July 29, 2011 – Regular Meeting**
August 26, 2011 – Regular Meeting • Climate Smart Communities Scenarios - Discussion on Preliminary Results	**September 23, 2011 – Regular Meeting** • Climate Smart Communities Scenarios - Discussion on Preliminary Results
October 28, 2011 – Regular Meeting • Climate Smart Communities Scenarios – Discussion on Findings and Recommendations to be Submitted to 2012 Legislature	**November 18, 2011 – Regular Meeting** • 2012-15 MTIP/STIP Approval and Air Quality Conformity – Recommendation to JPACT • Climate Smart Communities Scenarios – Recommendation to JPACT on Findings and Recommendations to be Submitted to 2012 Legislature • 2014-15 Regional Flexible Fund Allocation – Recommendation to JPACT **FYI: Hold Joint JPACT/MPAC Meeting** Climate Smart Communities Scenarios Results and Preliminary Recommendations

Parking Lot:

- MOVES update
- On-street Bus Rapid Transit
- High Speed Rail
- Update on the Columbia River Crossing Project
- Context sensitive design and least cost planning
- A briefing on the Metro Auditor's *Tracking Transportation Project Outcomes* report
- Congestion Pricing Pilot Study

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TRANSPORTATION POLICY ALTERNATIVES COMMITTEE
April 29, 2011
Metro Regional Center, Council Chamber

MEMBERS PRESENT	AFFILIATION
Chris Beanes	Citizen
Elissa Gertler	Clackamas County
Mara Gross	Citizen
Katherine Kelly	City of Gresham, Representing Cities of Multnomah Co.
Scott King	Port of Portland
Alan Lehto	TriMet
Mike McKillip	City of Tualatin, Representing Cities of Washington Co.
Dave Nordberg	Oregon Department of Environmental Quality
Satvinder Sandhu	FHWA
Karen Schilling	Multnomah County
Paul Smith	City of Portland
Jenny Weinstein	Citizen
Tracy Ann Whalen	Citizen
Rian Windsheimer	Oregon Department of Transportation

MEMBERS EXCUSED	AFFILIATION
Brent Curtis	Washington County
John Hoefs	C-TRAN
Nancy Kraushaar	City of Oregon City, Representing Cities of Clackamas Co.
Dean Lookingbill	SW Washington RTC
Charlie Stephens	Citizen
Sharon Zimmerman	Washington State Department of Transportation

ALTERNATES PRESENT	AFFILIATION
Kenny Asher	Cities of Clackamas County
Andy Back	Washington County
Lynda David	SW Washington RT

STAFF: Dan Kaempff, Tom Kloster, Ted Leybold, Robin McArthur, Lake McTighe, Chris Myers, Josh Naramore, Kelsey Newell, Deb Redman, Dylan Rivera, Matthew Rohrbach, Amy Rose.

1. CALL TO ORDER AND DECLARATION OF A QUORUM

Chair Robin McArthur called the meeting to order and declared a quorum at 9:34 a.m.

2. COMMENTS FROM THE CHAIR AND COMMITTEE MEMBERS

- Ross Roberts left Metro a few months ago; his position will go out for recruitment next week.
- Robin taking a 6 month leave of absence starting at end of June returning January 2nd
- Paul Smith of Portland Bureau of Transportation (PBOT) announced that they expect to start the Sullivan's Gulch Trail Project next week.

3. CITIZEN COMMUNICATIONS TO TPAC ON NON-AGENDA ITEMS

There was none.

4. Consideration of the TPAC Minutes for March 25, 2011

MOTION: Ms. Tracy Ann Whalen moved, Mr. Alan Lehto seconded, to approve the TPAC minutes from March 25, 2011.

ACTION TAKEN: With all in favor, the motion passed.

5. ACTION ITEMS

5.1 Resolution No. 11-4246, For the Purpose of Amending the 2010-2013 Metropolitan Transportation Improvement Program (MTIP) to Allocate Funds to Manage the Regional Mobility Program.

Chair Robin McArthur discussed the challenge of planning budgets at Metro and how that might affect Metro led projects.

Mr.Ted Leybold of Metro discussed amending 2010-2013 MTIP to fund on-going management of the Regional Mobility program. This would ensure continued support of key regional programs. TSMO capital infrastructure projects would not be impacted by the proposal. Activities to be supported with the funding include grant management, committee management, project management, and performance management.

Mr. Dennis Mitchell of the Oregon Department of Transportation (ODOT) briefed the committee on the background of Transport. The committee is a group of technical staff from agencies throughout the region and is a sub-committee of the Transportation Policy Alternatives Committee (TPAC). This committee created the TSMO plan and recommended the amendment to fund management support of the Regional Mobility program.

Ms. Deena Platman of Metro and Mr. Peter Koonce of Portland Bureau of Transportation briefed the committee on the importance of the Metropolitan Transportation Improvement Program (MTIP) resources to the Regional Mobility program. The resources will allow project groups to know and understand what other project teams are doing to ensure projects are coordinated

across jurisdictional boundaries. An example of this collaboration is traffic signal timing between cities throughout the region. Mr. Koonce stated that the region needs these funds in order to share information within the region and create these types of collaborations. This will help agencies to use the same language and operate with consistent information.

Committee members asked for clarification on the reductions in program FTEs, whether the funding reductions will allow for delivery of the same products, clarification on why there is a reduction in funding, and whether bicycling information will be included. Committee members expressed that TSMO activities are an efficient way to tackle transportation problems in a limited funds environment.

MOTION: Mr. Paul Smith moved, Mr. Rian Windsheimer seconded the staff recommended motion for Resolution No. 11-4246 with the following amendments:
• Exhibit A under line item titled Regional Mobility Management, change amounts listed for years 2013-14-15 to read zero dollars.
• Remove all language in Exhibit A and the staff report about programming intent for years 2014 and 2015.

ACTION TAKEN: With all in favor the motion passed, as amended.

6. INFORMATION/DISCUSSION ITEMS

6.1 Creating a Climate Smart Communities Strategy Using Scenarios

Ms. Kim Ellis of Metro updated the committee on the Climate Smart Communities Scenarios Evaluation approach and role of TPAC and MTAC. This briefing is intended to gather input on the evaluation framework and strategies to be tested in regional scenarios. The evaluation framework provides a set of instructions to staff that will direct the development and evaluation of scenarios and other research to be conducted in summer 2011. The evaluation framework has been an important piece of work to figure out the scenarios and strategies as well as understanding which combination of strategies will be used. The analysis will include development of a "Strategy Toolbox" that synthesizes existing research on different strategies in terms of their carbon reduction potential, potential co-benefits and synergies, and implementation feasibility. Evaluation will be based on all six desired outcomes throughout the region. While reducing greenhouse gas emissions from light vehicles is important, the scenarios will be used to demonstrate how the region can progress toward the GHG reduction goals set by the state and achieve other outcomes of importance to the region: a healthy economy, clean air and water, and access to good jobs, affordable housing, transportation options, and nature, trails and recreation.

Committee member discussed the potential for overlap within the indicators, the challenges to figuring out public health benefits, possibly separating traditional air quality emissions from air toxics, and the benefit of evaluating the costs by income group.

6.2 Making a Great Place

Ms. Sherry Oeser of Metro, briefed the committee on transportation and land use tools to assist local governments in becoming eligible for regional investments and supporting local aspirations. There are plans to have a work session regarding system expansion policy with guidance coming back to this committee later in the spring.

Mr. Brian Harper of Metro, discussed the state of the centers report and the 2040 context tool. Specifically how centers are performing and new methodologies for the most recent version of the context tool. Using a one minute walk cell overlayed on a map which will show distance and density and its relative success allows a view of changes and to see how a center is functioning.

Mr. Josh Naramore of Metro, briefed the committee on the system expansion policy specifically that the Regional Transportation Plan has very general language and this expansion policy is an attempt at the details, the decision making process, the corridor work group, and analysis. Linking all these pieces together based on policies that have already been implemented.

7. ADJOURN

Chair McArthur adjourned the meeting at 12:04 p.m.

Respectfully submitted,

Chris Myers
Recording Secretary

ATTACHMENTS TO THE PUBLIC RECORD FOR APRIL 29, 2011
The following have been included as part of the official public record:

ITEM	DOCUMENT TYPE	DOC DATE	DOCUMENT DESCRIPTION	DOCUMENT NO.
6.1	PowerPoint	N/A	Climate Smart Communities Scenarios Evaluation	042911t-01

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF ADOPTING THE REGIONAL HIGH CAPACITY TRANSIT SYSTEM EXPANSION POLICY IMPLEMENTATION GUIDANCE	))))	RESOLUTION NO. 11-4265 Introduced by Councilor Carlotta Collette

WHEREAS, the Metro Council accepted elements of the Regional High Capacity Transit System Plan by Resolution No. 09-4052 (For the Purpose of Accepting the Regional High Capacity Transit System Tiers and Corridors, System Expansion Policy Framework and Policy Amendments) on July 9, 2009, for addition to the 2035 Regional Transportation Plan; and

WHEREAS, the regional high capacity transit system plan was incorporated into the 2035 Regional Transportation Plan.

WHEREAS, the Metro Council adopted the 2035 Regional Transportation Plan ("RTP") and related elements by Ordinance No. 10-1241B (For the Purpose of Amending the 2035 Regional Transportation Plan (Federal Component) and the 2004 Regional Transportation Plan to Comply with Federal and State Law; to add the Regional Transportation System Management and Operations Action Plan, the Regional Freight Plan and the High Capacity Transit System Plan; to Amend the Regional Transportation Functional Plan and Add it to the Metro Code; to Amend the Regional Framework Plan; and to Amend the Urban Growth Management Functional Plan) on June 10, 2010; and

WHEREAS, Chapter 6 of the 2035 RTP lists a number of implementation activities to completed post-adoption of the 2035, including developing guidance for implementing the high capacity transit system expansion policy and bringing it forward to the Joint Policy Advisory Committee on Transportation (JPACT), Metro Policy Advisory Committee (MPAC) and the Metro Council; and

WHEREAS, the high capacity transit system expansion policy and the implementation guidance will be revisited as part of each update to the RTP; and

WHEREAS, any changes to the high capacity transit system expansion policy and the implementation guidance between RTP updates will need to be brought forward to JPACT, MPAC and the Metro Council; now therefore

BE IT RESOLVED that the Metro Council hereby adopts the high capacity transit system expansion policy implementation guidance attached hereto as Exhibit A.

ADOPTED by the Metro Council this _____ day of June 2011.

Tom Hughes, Council President

Approved as to Form:

Alison Kean-Campbell, Metro Attorney

Exhibit A

www.oregon**metro.gov**

High Capacity Transit System Expansion Policy

Implementation Guidance

for the Portland metropolitan region

A guidebook for local implementation

May 2011

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About Metro

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

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

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HIGH CAPACITY TRANSIT SYSTEM EXPANSION POLICY GUIDELINES

In June 2010, the Portland Metropolitan region adopted the 2035 Regional Transportation Plan (RTP) that included an outline for developing a high capacity transit (HCT) system expansion policy. The system expansion policy emphasizes fiscal responsibility by ensuring that limited resources for new HCT are spent where local jurisdictions have committed supportive land uses, high quality pedestrian and bicycle access, management of parking resources and demonstrated broad based financial and political support.

One of the first post-adoption implementation steps included in Chapter 6 of the RTP called for developing regional guidance for the system expansion policy[1]. With adoption of the 2035 RTP, Metro committed to developing guidance and bringing it forward for discussion to MPAC, JPACT and Metro Council. The purpose of the system expansion policy implementation guidance is to:

1) Clearly articulate the decision-making process by which future HCT corridors will be advanced for regional investment.

2) Establish minimum requirements for HCT corridor working groups to inform local jurisdictions as they work to advance their priorities for future HCT.

3) Define quantitative and qualitative performance measures to guide local land use and transportation planning and investment decisions.

4) Outlines the process for updating the 2035 RTP, including potential future RTP amendments, for future HCT investment decisions.

Following the system expansion policy guidelines does not guarantee a regional investment in HCT. The ultimate decision rests with JPACT and the Metro Council. The purpose of this document is to help local jurisdictions and consultants understand and implement recent regional policy and regulatory changes with adoption of the 2035 Regional Transportation Plan, Regional Transportation Functional Plan (RTFP), and amendments to the Urban Growth Management Functional Plan (UGMFP). Additional implementation guidelines have been developed for the changes in the RTFP and UGMFP.

1.0 INTRODUCTION

Transit is necessary to implement the 2040 Growth Concept, which calls for focusing future growth in regional and town centers, station communities, main streets, and 2040 corridors. Investments in transit, particularly high capacity transit (HCT) help the region concentrate development and growth in centers and corridors, achieve local aspirations and serve as the region's most powerful tools for community building. The 2035 Regional Transportation Plan (RTP) lays out the region's transportation concepts and policies that will result in a complete and interconnected transportation system that supports all modes of travel and implementation of the 2040 Growth

[1] Section 6.7.3 of the 2035 RTP, Page 6-29 and is listed in Attachment 1.

Concept. Chapter 2 of the RTP details the policies for the regional transit system aiming to optimize the existing system, attract future riders and ensure transit-supportive land uses are implemented to leverage the region's current and future transit investments.

In 2008 the Metro Council, with guidance from the Metro Policy Advisory Committee (MPAC), agreed that our planning efforts should start with defining the desired outcomes that the residents of this region have consistently expressed when asked. To that end, the Metro Council and our regional partners adopted six desired outcomes to guide regional planning for the future. The 2035 RTP establishes an outcomes-based planning and decision-making framework to ensure transportation decisions support the six desired outcomes.

The ability of this region to grow toward the 2040 Growth Concept vision hinges upon the ability to develop and sustain high capacity transit. However, the number of additional high capacity transit corridors that can be implemented in this region are limited by several factors, including:

- Local funding and community support.
- Competition with other regions for scarce federal funding.
- Institutional and financial capacity to develop, build and operate additional high capacity transit corridors.

WHAT OUTCOMES ARE WE TRYING TO ACCOMPLISH?

VIBRANT COMMUNITIES – People live, work and play in vibrant communities where their everyday needs are easily accessible.

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

SAFE AND RELIABLE TRANSPORTATION – People have safe and reliable transportation choices that enhance their quality of life.

LEADERSHIP ON CLIMATE CHANGE – The region is a leader in minimizing contributions to global warming.

CLEAN AIR AND WATER – Current and future generations enjoy clean air, clean water and healthy ecosystems.

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

As adopted by the Metro Council and MPAC.

Because this region cannot implement all of the desired high capacity transit corridors in the near term and we want to ensure we invest limited resources in the best way possible, it is necessary to prioritize which corridors are completed first. The High Capacity Transit System plan and system expansion policy provide a framework for the region to understand how transit can best deliver on the six outcomes for a successful region and the outcomes-based framework of the 2035 RTP.

1.1 HIGH CAPACITY TRANSIT SYSTEM PLAN

As part of the RTP, the region undertook a comprehensive assessment of the existing and potential future high capacity transit network. In July 2009, the Metro Council adopted the Regional High

Capacity Transit (HCT) System Plan. The HCT Plan identifies corridors where new HCT is desired over the next 30 years. It prioritizes corridors for implementation, based on a set of evaluation criteria, and sets a framework to advance future corridors, consistent with the goals of the RTP and the region's 2040 Growth Concept. The HCT system plan provides the framework for transit investments to be implemented as part of a broad corridor strategy that includes supportive land use and transit-oriented development (TOD), comprehensive parking programs, access systems for pedestrians and cyclists, park and rides and feeder bus networks. It assigned near- and long-term regional HCT priorities one of four priority tiers:

- Near-term regional priority corridors: Corridors most viable for Federal Transit Administration (FTA) alternatives analysis in the next four years (2010-2014).
- Next phase regional priority corridors: Corridors where future HCT investment may be viable if recommended planning and policy actions are implemented.
- Developing regional priority corridors: Corridors where projected 2035 land use and commensurate ridership potential are not supportive of HCT implementation, but which have long-term potential based on political aspirations to create HCT supportive land uses.
- Regional vision corridors: Corridors where projected 2035 land use and commensurate ridership potential are not supportive of HCT implementation.

To help simplify future analyses, the *next phase regional priority corridors* and *developing regional priority corridors* have been consolidated into *Emerging Corridors*. The HCT System Plan corridors are shown in **Table 1** and on the map in **Attachment 2.**

Table 1 – HCT System Plan Corridors

Tier	Corridors
Near-term regional priority corridors	10 – Portland Central City to Gresham (in general Powell Boulevard corridor) 11 – SW Corridor 34 - Beaverton to Wilsonville (in general WES commuter rail corridor)
Emerging Corridors	8 - Clackamas Town Center to Oregon City Transit Center via I-205 9 - Milwaukie to Oregon City TC via McLoughlin Boulevard 12 - Hillsboro to Forest Grove 13 - Gresham to Troutdale extension 17 – Sunset Transit Center to Hillsboro 17D - Red Line extension to Tanasbourne 28 - Washington Square Transit Center to Clackamas Town Center (via I- 205) 29 - Washington Square Transit Center to Clackamas Town Center (via abandoned railroad) 32 - Hillsboro to Hillsdale

Table 1 – HCT System Plan Corridors	
Tier	**Corridors**
Regional vision corridors	13D - Troutdale to Damascus 16 - Clackamas TC to Damascus 38S - Tualatin to Sherwood

1.2 SYSTEM EXPANSION POLICY OVERVIEW

The System Expansion Policy (SEP) provides the framework to advance future regional HCT corridors by establishing performance measures and defining regional and local actions that will guide the selection and advancement of those projects. The SEP framework is designed to provide a transparent process to advance high capacity transit projects and the key objectives are to:

- Promote transit supportive land uses in future HCT corridors
- Promote local policies that increase value of future HCT investments (i.e., parking management, street design and connectivity, Transportation Demand Management, etc)
- Provide local jurisdictions with a fair and measurable process for developing future HCT corridors
- Provide Metro with a tool to allocate limited planning resources to the most supportive, prepared communities
- Ensure that transit serves cost-burdened households

The SEP is designed to provide clear guidance to local jurisdictions and community partners in identified HCT corridors about the key elements that support high capacity transit system investments. It is designed to protect public investments and ensure limited resources are used to maximize adopted regional transportation and land use outcomes. The SEP is designed to provide:

- *Flexibility* (responsive to local aspirations) – no two communities or corridors in the region face the same set of land use and transportation planning conditions. Nor do any two communities have the same aspirations for future community form and land development. The SEP is flexible and allows communities and corridors an opportunity to promote transit development within the context of local priorities.
- *Local control* – the SEP process provides a framework for local jurisdictions in a corridor to initiate a corridor working group. While no jurisdiction is required to participate, those desiring HCT investments will need to work with local partners to establish a working group and to develop a corridor purpose and needs statement. The SEP creates a new level of transparency in decision making, which provides local jurisdictions a clearer path to project advancement that has been available in the past.
- *Corridor level cooperation* – since most HCT projects cross jurisdictional boundaries and since both HCT itself and HCT-supportive land uses potentially affect State facilities, the SEP requires cooperation between local jurisdictions, TriMet, ODOT and Metro by establishing a Corridor Working Group. By requiring local jurisdictions to work together to meet SEP

targets, the policy helps guide local jurisdictions to set joint priorities and balance tradeoffs associated with meeting land use and financial targets. Through the Corridor Working Group, local jurisdictions can take the lead in identifying the extent of a future HCT corridor, identifying possible future stations areas, and revising zoning policies.

- *Simplicity* – the SEP is straightforward and uncomplicated to enable local jurisdictions to work through the process easily.

The SEP is not intended to dramatically increase administrative requirements; rather it provides a fair and flexible process for corridor advancement and prioritization.

1.3 USING THE TRANSIT SEP HANDBOOK

The purpose of this handbook is to provide local jurisdictions that are located within one of the 18 corridors included in the 2009 HCT System Plan (**Figure 1** and **Attachment 2**) a path to move their HCT corridor toward a regionally supported project development and funding process. The handbook is divided into five sections:

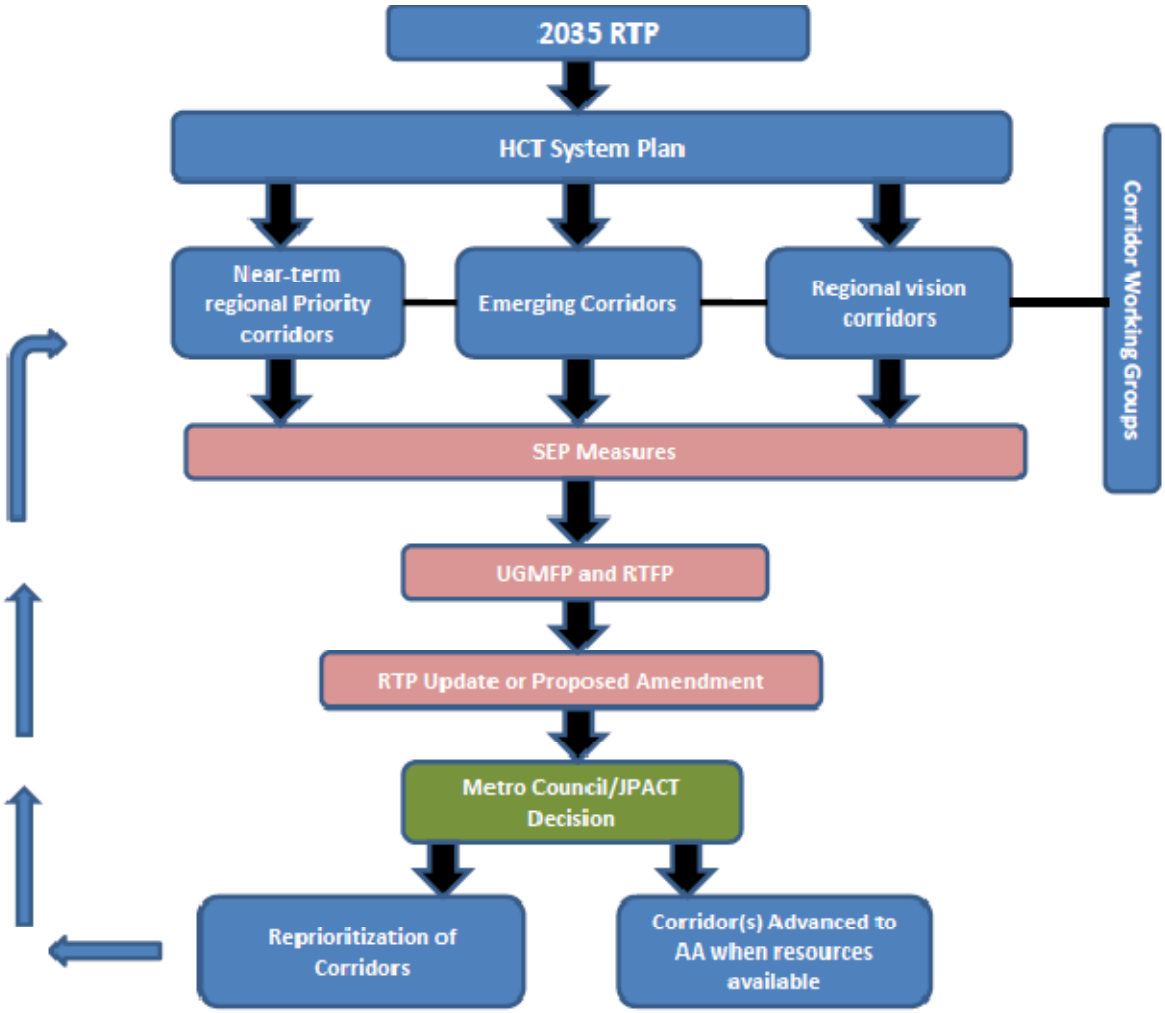
1. SEP Decision-making framework
2. Corridor Working Groups
3. Evaluating performance
4. Updating the 2035 RTP

The handbook also serves as a tool to educate local jurisdiction staff and policymakers about the investments needed to support transit.

1.3.1 SEP Decision-Making Framework

At the foundation of the SEP is a clear and transparent decision-making process for both local land use and transportation planning, and for future RTP amendments. As depicted in **Figure 1** below, the 2035 RTP serves as the umbrella for the HCT System plan and the SEP.

Figure 1 – SEP Decision-Making Framework



All of the HCT corridors will be evaluated using the measures in section 1.3.3 as well as requirements from the Urban Growth Management Functional Plan (UGMFP) and Regional Transportation Functional Plan (RTFP) applied to them as part of the SEP. Every four years as part of RTP updates, Metro will run the multiple account evaluation (MAE) technical analysis that was as part of the HCT System Plan for all of the HCT Corridors. The results of the analysis will be used to inform Metro Council and JPACT's decision on prioritizing and advancing corridors to the FTA alternatives analysis (AA) process based on available resources. Section 1.3.3 discussed the details of the MAE analysis.

Should additional resources for HCT investment become available between RTP updates, the MAE analysis will be conducted to inform potential RTP amendments. Section 1.3.4 details the process for local governments to propose amendments to the RTP. Corridors that are not selected for advancement will be reprioritized and will continue to work through the SEP for future RTP updates or amendments.

1.3.2 Corridor Working Groups

Corridor Working Groups (CWG) are the core organizational body that will be working to implement the SEP and develop HCT corridors. All local jurisdictions seeking to advance HCT priorities must utilize the following minimum requirements for CWGs:

Formation of a Corridor Working Group

1. Needs to include all of the local jurisdictions in the HCT corridor as defined in the 2035 RTP and HCT System Plan.
2. Assembled using the Mobility Corridors framework identified in Chapter 4 of the 2035 RTP. All of the HCT corridors are part of a larger Mobility Corridor and should coordinate with work underway as part of Metro's Congestion Management Process and any Mobility Corridor Refinement Plans.
3. Initiated by the local jurisdictions but must coordinate with staff from Metro, Tri Met and ODOT. This coordination includes, but is not limited to, inclusion on meeting notices and correspondence. The responsibility for organizing, staffing and coordinating CWGs rests with local jurisdictions. Once corridors are selected by Metro Council and JPACT for advancement for a regional investment, Metro will assume staffing and coordination responsibilities. The Southwest Corridor is the most recent example of when Metro will assume staffing responsibility for developing the HCT Corridor.

The following are minimum activities expected to be carried out by CWGs.

A) *Develop HCT Corridor Purpose & Needs Statement* – The CWG is responsible for developing a purpose and needs statement that establishes the purpose and need for the proposed high capacity transit investment (i.e., congestion mitigation, economic development, etc.). It assesses the role of the project in addressing other regional land use and transportation priorities and identifies opportunities for integration with other transportation system improvements in the corridor. It will need to reference how the HCT corridor investment would help the region address multiple desired outcomes.

B) *Develop an IGA or MOU* - This to get agreement on scope of work for the HCT-supportive corridor plan and the necessary state, regional and local actions needed to advance the HCT corridor.

C) *Recognition from JPACT & Metro Council* – Once local jurisdictions have completed steps A and B of the CWG process, they will need to have their designated elected officials make a presentation to JPACT and Metro Council to discuss their aspirations to develop and advance their HCT Corridor as a regional priority. This will not require a formal resolution, but will allow the CWG to receive regional recognition and acknowledgement of local jurisdiction(s) intent to advance their HCT Corridor.

D) *Identification of High Capacity Transit Focus Areas*. Defining focus areas is important to conduct evaluation against the measures, but also helps local jurisdictions to begin

planning for future areas that are highly supportive of a transit investment. It should be recognized that these "focus areas" do not represent a formal decision to site a HCT station, a decision that would be made at a later phase of planning. A basic principle should be to plan for one to two focus areas per mile on average along the corridor.

The CWG structure would carry forward as corridors move into the FTA alternatives analysis process.

1.3.3 Evaluating Corridor Performance

The 2035 RTP emphasizes measurable performance and linking investments in land use and transportation to support local community aspirations. Because of a combination of limiting factors, this region cannot implement all of the desired transit expansion in a short time. The SEP establishes a set of measures for evaluating performance. This analysis will assist in the prioritization of corridors for future high capacity transit expansion by Metro Council and JPACT.

There are two different kinds of performance measures to evaluate the performance of HCT Corridors. The first set of measures was developed as part of the HCT System Plan and will be used to evaluate HCT Corridors as part of each RTP update and with potential RTP amendments. The second set of measures focus more on existing conditions and are intended to help guide local jurisdiction planning and investment decisions to become more transit supportive in the future. The following provides details on both these sets of quantitative and qualitative performance measures.

HCT System Plan and the Multiple Account Evaluation (MAE) Analysis

For the Regional HCT System Plan, Metro and its agency and jurisdictional partners used a Multiple Account Evaluation (MAE) approach to evaluating project potential to deliver desired regional outcomes. Twenty-five evaluation criteria were developed to measure potential HCT corridor attainment across four outcome categories: Community, Environment, Economy and Deliverability. Intensive involvement by regional stakeholders, including local jurisdictions and agencies, was used to develop the evaluation framework and to guide the evaluation of corridors against the multiple criteria.

The MAE approach was adopted and refined from a standardized methodology employed in the United Kingdom for evaluation of major transportation projects. The approach was chosen for the HCT System Plan because of its ability to provide decision makers with data in a number of key areas, allowing them to assess the cost and benefits of proposed HCT investments. Figure 2 shows how the MAE process aligns closely with the RTP policy framework.

Figure 2: 2035 RTP evaluation approach and deliverability

Figure 3 summarizes the specific criteria under each account: community, environment, economy and deliverability. More detailed description of all of these criteria are available as part of the HCT System Plan available on Metro's website[2].

[2] http://www.oregonmetro.gov/index.cfm/go/by.web/id=25038

Figure 3: Adopted evaluation accounts and criteria

Community	
C1	Supportiveness of Existing Land Uses
C2	Local Aspirations
C3	Placemaking and Urban Form
C4	Ridership Generators
C5	Support of regional 2040 Growth Concept
C6	Integration with Regional Transit System
C7	Integration with Other Road Uses*
C8	Congestion Avoidance Benefit (M)
C9	Equity Benefit
C10	Health (Promotion of Physical Activity) (M)
C11	Safety and Security (*discussed later in this report*)
C12	Housing + Transportation Affordability Benefit
C13	Transportation Efficiency or Travel Time Benefit to Individual User (M)
C14	Transportation Efficiency or Travel Time Benefit to All Corridor Users (M)
Environment	
EN1	Reduction in Emissions and Disturbance (M)
EN2	Risk of Natural Resource Disturbance
EN3	Risk of 4(f) Resource Disturbance (*discussed later in this report*)
Economy	
EC1	Transportation Efficiency (Operator) (M)
EC2	Transportation Efficiency (User) (M)
EC3	Economic Competitiveness
EC4	Rebuilding/ Redevelopment Opportunity
Deliverability	
D1	Total Project Capital Cost (Exclusive & Non-Exclusive ROW Options)
D2	Capital Cost Per Mile (Exclusive & Non-Exclusive ROW Options)
D3	Operating & Maintenance Cost (M)
D4	Ridership (M)
D5	Funding Potential (M)

(M) Denotes criteria which are evaluated, at least in part, using Regional Travel Demand outputs

* Addressed through the Mobility Corridor work in Coordination with ODOT

The MAE measures listed in Figure 3 will analyzed as part of each RTP update to inform JPACT and Metro Council HCT investment decisions. Additionally, if additional HCT resources become available in between RTP updates, these measures will be used to inform JPACT and Metro Council decisions on potential HCT-related RTP amendments.

2040 Context Tool

The MAE analysis conducted as part of the HCT plan was an expensive and resource-intensive process and is currently not easily replicable for evaluating corridor performance over time. As Metro staff started the process of creating this guidance, it was clear that a simpler method was needed to supplement the MAE measures to better inform local jurisdictions planning and investment decisions between RTP cycles. Building on the HCT plan analysis framework, Metro has been exploring new tools to measure *existing conditions* that contribute towards a transit supportive environment. Using Metro's Regional Land Information System (RLIS), Metro's Data Resource Center staff have developed an innovative GIS based analysis tool that measures specific aspects of the built and natural environment to help illustrate the character of a place.

Known as the 2040 Context Tool, the idea came about as Metro staff thought of new ways to engage policy makers, community groups, and others to better understand how to achieve their aspirations using objective measures to evaluate elements that can be controlled with policy. The 2040 Context Tool can be used to measure existing conditions, perform diagnostics on a given area and track change over time. Even more importantly, the RLIS Data used by the 2040 Context Tool is updated region-wide, on a quarterly basis by all subscribers, allowing for the best data to be used in any analysis.

Specifically, the 2040 Context Tool is a walk accessibility model where a one minute walk time is the spatial resolution of the data. This is a simple additive model where each location knows its distance from individual land use, transportation and environmental variables. Taken together, the model gives a quantitative measure of the characteristics of a place based on a defined outcome. This analysis was developed as part of the TOD Strategic Plan to help prioritize station areas for future TOD investment that can best leverage additional private investment to increase land use efficiency and increase transit ridership. **Table 2** below shows the2040 Context Tool measures.

Table 2 – SEP 2040 Context Tool Measures

Measure	Description (within distance of HCT Corridor)
Density of People	Current households and jobs per net acre within ½ mile
Density of ULI Businesses	Number of ULI Businesses within ½ mile
Transit Oriented Zoning	Assigning values to regional zoning classifications within ½ mile
Average Block Size	Density of acres of blocks within ½ mile
Sidewalk Coverage	Completeness of sidewalk infrastructure within ½ mile
Bicycle Facility Coverage	Access to bicycle infrastructure measured as distance to nearest existing bicycle facility within ½ mile
Transit Frequency	Transit frequency within ½ mile of corridor

Household and employment density is a primary determinant of transit ridership and have been combined as *density of people*.[3] As demonstrated in Metro's State of the Centers Report, there is a basic relationship between the number of people living and working in a district and the number of urban amenities. The Urban Living Infrastructure (ULI) amenities are a set of land use amenities that together comprise an active urban environment and are captured in *density of ULI businesses*. To measure the transit supportive land use that is currently adopted by local governments, Metro's TOD group developed a *transit-oriented zoning* measure. The methodology behind each quantitative measure and the 2040 Context Tool can be found in Attachment X [under development].

As part of the UGMFP and RTFP there are also a number of qualitative measures that will need to be considered as part of the development of HCT Corridors. A list of qualitative measures is provided in **Table 3**.

Table 3 – Qualitative SEP Measures

Measure	Description
Housing & Transportation Affordability	Demonstrating that potential transit investment will serve communities with high rate of cost burdened households
Parking Requirements	Implement parking requirements in corridor that meet or exceeds Title 4 of the RTFP.
Local Funding Mechanisms	Implement funding mechanisms in corridor communities that could help fund capital or operations to support transit investment and station area development, including urban renewal, tax increment financing, local improvement district, parking fees, or other proven funding mechanisms.
Equity	Improving options for serving low-income, minority, senior and disabled populations within corridor.

The measures in Table 3 are of equal importance to the quantitative measures in Table 2. However, at this time, the region does not have a documented process for evaluating these measures. Work is

[3] Here in the Portland region, a 1995 study by Nelson\Nygaard Consulting Associates found that 93 percent of the variation of transit demand is explained by employment and housing density. These findings were the result of a regression analysis that controlled for 40 land use and socio-demographic variables. A study of 129 San Francisco Bay Area rail stations found that the commute mode split was 24.3 percent in neighborhoods with densities of 10 housing units per gross acre. This figure jumps to 43.4 percent and 66.6 percent, respectively, in station areas with densities of 20 and 40 housing units per gross acre.

currently underway to better define how to measure equity and affordability. Once this work is completed, the SEP guidance will need to be updated to reflect these changes. CWGs will need to document changes to each of these measures and work with Metro, ODOT, and TriMet to track changes over time..

The intent of this group of quantitative and qualitative measures is to ensure that a minimum level of density, pedestrian and bicycle connectivity, urban form, zoning and urban living infrastructure is in place or planned for proposed corridors/station areas. The measures from the 2040 Context Tool are to be used as a regional yardstick for a relative comparison of all of the HCT corridors. Local governments can use the results of each measure to prioritize different elements requiring local investment. Improving the 2040 Context Tool measures is likely to improve a corridor's MAE score because they are strongly linked with the MAE outcome categories of Community, Environment, and Economy.

1.3.4 RTP Updates and Initiating an RTP Amendment

The RTP establishes a comprehensive policy direction for the regional transportation system and recommends a balanced program of transportation investments to implement that policy direction. However, the recommended investments do not solve all transportation problems and are not intended to be the definitive capital improvement program on the local transportation system for the next 20 years.

Rather, the RTP identifies the projects, programs, refinement plans, and project development activities required to adequately meet regional transportation system needs during the planning period based on known available funding levels. The RTP is updated every four years to comply with federal and state regulations. As part of each RTP update all of the HCT corridors will be evaluated using the MAE performance measures. The analysis will be considered for potential action by Metro Council and JPACT as part of the RTP update.

If between RTP updates additional HCT resources become available or a CWG wishes to advance a HCT corridor it can request an RTP amendment. The CWG will need to draft a written application to Metro that demonstrates a set of actions adopted and work performed that would improve performance against both the MAE and 2040 Context Tool evaluation measures.

Metro staff would conduct a reevaluation of the HCT corridor using the MAE evaluation measures, as well as schedule consideration of the proposed amendment by resolution using the Metro advisory committee process. A Metro staff report would be prepared including a ridership forecast, land use forecast and input from TriMet. Metro Council and JPACT would then decide whether or not to take action and reprioritize and/or advance the corridor for alternatives analysis. Requests for RTP amendments and reevaluation using the SEP may be done no more than once a year or during an RTP update.

The following is excerpted from Chapter 6 of the 2035 RTP that was adopted in June 2010. This language can be found on pages 6-29 and 6-30 of the RTP.

6.7.3 High Capacity Transit System Expansion Policy (SEP) Guidebook

In June and July 2009, the Joint Policy Advisory Committee on Transportation and the Metro Council adopted the Regional High Capacity Transit (HCT) System Plan. The HCT Plan identifies corridors where new HCT is desired over the next 30 years. It prioritizes corridors for implementation, based on a set of evaluation criteria, and sets a system expansion policy (SEP) framework to advance future corridors by setting targets and defining regional and local actions, consistent with the goals of the Regional Transportation Plan (RTP) and the region's 2040 Growth Concept.

More work is needed to define how the SEP policy will be implemented. This work is underway and will be brought forward for future policy discussion by JPACT, MPAC and the Metro Council.

The SEP is intended to provide policy direction on the range of factors that should be considered when determining the next high capacity transit corridor to pursue, including:

- Community factors that center on local land use aspirations, transit-supportive land uses, building-orientation and block sizes, transportation infrastructure (e.g., sidewalks, bicycle facilities and street connectivity) parking and demand management policies, and design factors that will leverage HCT investments and increase ridership potential within a particular corridor. Generally, these factors are under the control of local governments and are implemented through local land use and transportation plans. If successfully implemented, these factors would bring a given HCT corridor and the communities connected by that corridor closer to the 2040 Growth Concept vision.
- Readiness factors such as political commitment, community support and partnerships needed to pursue the long and sometimes difficult process that even the most popular transportation investments must work through.
- Regional factors such as financial capacity and regional consensus on the appropriate next corridor.

To aid this decision-making, the HCT Plan focuses on technical factors. It will be updated with each RTP update, though the specific measures and methodologies are expected to evolve over time through a collaborative regional decision-making process. Potential HCT corridors can move closer to implementation, advancing from one tier to the next through a set of coordinated TriMet, Metro, ODOT and local jurisdiction actions that address the remaining factors.

More work is needed to define how the SEP policy will be implemented. This work is underway and will be brought forward for future policy discussion by JPACT, MPAC and the Metro Council. This section and the Regional Transportation Functional Plan will include guidance to help local

jurisdictions, Metro and TriMet work together to achieve the community, readiness and regional factors listed above. This can include Memorandum of Understandings (MOUs) and eventually Intergovernmental Agreements (IGAs) that harness the synergy between community aspirations, the ability to develop high capacity transit to further those aspirations and other needed local, regional and state actions. It will also include specific targets to measure corridor readiness and contribution to regional goals.

The factors are complex and stem from the interactions of private individuals and businesses, local jurisdictions, and regional agencies. The intention of the guidance is that those jurisdictions which are achieving positive outcomes in these factors and/or have the aspiration to create the most improvement on these factors are simultaneously improving their own communities, creating more transit-friendly environments, and also may be able to pursue a near-term high capacity transit project along with the other jurisdictions in the corridor.

Exhibit A

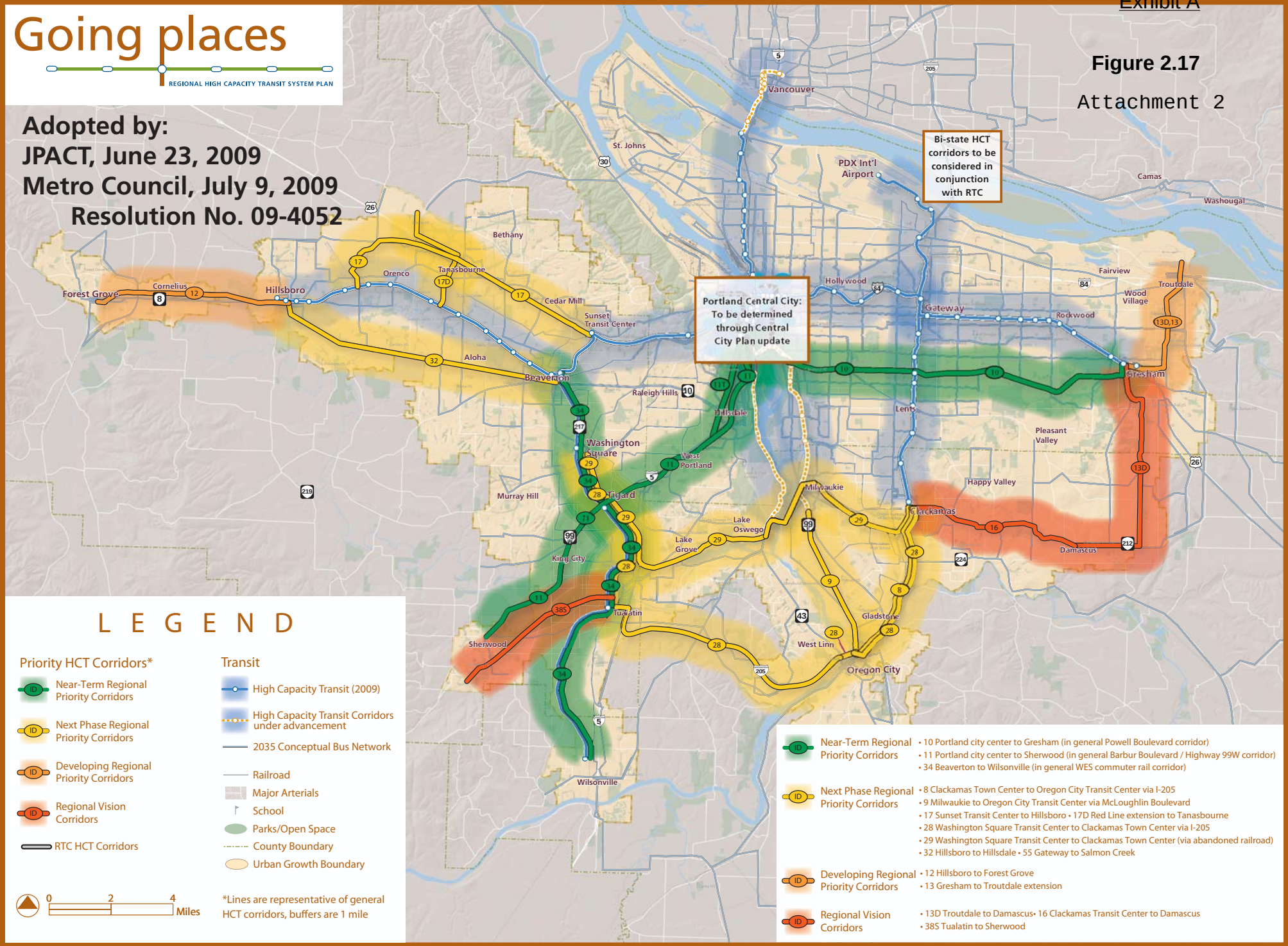
Going places

REGIONAL HIGH CAPACITY TRANSIT SYSTEM PLAN

Figure 2.17

Attachment 2

Adopted by:
JPACT, June 23, 2009
Metro Council, July 9, 2009
Resolution No. 09-4052



LEGEND

Priority HCT Corridors*

- Near-Term Regional Priority Corridors
- Next Phase Regional Priority Corridors
- Developing Regional Priority Corridors
- Regional Vision Corridors
- RTC HCT Corridors

Transit

- High Capacity Transit (2009)
- High Capacity Transit Corridors under advancement
- 2035 Conceptual Bus Network
- Railroad
- Major Arterials
- School
- Parks/Open Space
- County Boundary
- Urban Growth Boundary

0 2 4 Miles

*Lines are representative of general HCT corridors, buffers are 1 mile

Near-Term Regional Priority Corridors
- 10 Portland city center to Gresham (in general Powell Boulevard corridor)
- 11 Portland city center to Sherwood (in general Barbur Boulevard / Highway 99W corridor)
- 34 Beaverton to Wilsonville (in general WES commuter rail corridor)

Next Phase Regional Priority Corridors
- 8 Clackamas Town Center to Oregon City Transit Center via I-205
- 9 Milwaukie to Oregon City Transit Center via McLoughlin Boulevard
- 17 Sunset Transit Center to Hillsboro • 17D Red Line extension to Tanasbourne
- 28 Washington Square Transit Center to Clackamas Town Center via I-205
- 29 Washington Square Transit Center to Clackamas Town Center (via abandoned railroad)
- 32 Hillsboro to Hillsdale • 55 Gateway to Salmon Creek

Developing Regional Priority Corridors
- 12 Hillsboro to Forest Grove
- 13 Gresham to Troutdale extension

Regional Vision Corridors
- 13D Troutdale to Damascus• 16 Clackamas Transit Center to Damascus
- 38S Tualatin to Sherwood

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 11-4265 FOR THE PURPOSE OF ADOPTING THE REGIONAL HIGH CAPACITY TRANSIT SYSTEM EXPANSION POLICY IMPLEMENTATION GUIDANCE.

Date: May 19, 2011 Prepared by: Josh Naramore 503-797-1825

BACKGROUND

The Regional High Capacity Transit (HCT) System Plan was developed as a component of the 2035 Regional Transportation Plan (RTP) and serves as the foundation for prioritizing future HCT investments. The Regional HCT System Plan identifies the best locations for major transit capital investments based on evaluation criteria derived from the 2035 RTP. These adopted evaluation criteria will provide the basis to inform MPAC, JPACT and Metro Council's regional decisions on HCT investments as part of future RTP updates.

The 2035 RTP adopted in June 2010 included an outline for developing a HCT system expansion policy (SEP). The SEP emphasizes fiscal responsibility by ensuring that limited resources for new HCT are spent where local jurisdictions have committed supportive land uses, high quality pedestrian and bicycle access, management of parking resources and demonstrated broad-based financial and political support. Chapter 6 of the RTP calls for developing regional guidance for the system expansion policy. With adoption of the 2035 RTP, Metro committed to developing guidance and bringing it forward for discussion to l.

This resolution adopts the HCT SEP Implementation Guidance in Exhibit A and is the first post-adoption 2035 RTP implementation activity to be completed. It builds upon the SEP policy framework that was adopted as part of the 2035 RTP by:

1) Clearly articulating the decision-making process by which future HCT corridors will be advanced for regional investment;
2) Establishing minimum requirements for HCT corridor working groups to inform local jurisdictions as they work to advance their priorities for future HCT;
3) Defining quantitative and qualitative performance measures to guide local land use and transportation planning and investment decisions; and
4) Outlining the process for updating the 2035 RTP, including potential future RTP amendments, for future HCT investment decisions.

Following the SEP guidelines does not guarantee a regional investment in HCT. The ultimate decision rests with JPACT and the Metro Council, both as part of RTP updates, or with potential RTP amendments should additional HCT resources become available in the interim. The implementation guidance is intended to help local jurisdictions understand and implement recent regional policy and regulatory changes with adoption of the 2035 Regional Transportation Plan, Regional Transportation Functional Plan (RTFP), and amendments to the Urban Growth Management Functional Plan (UGMFP). It also provides new analytical tools to help inform local jurisdiction planning and investment decisions to become more transit-supportive.

Any changes to the HCT SEP implementation guidance will be addressed as part of each RTP update. With adoption of this resolution, changes to the HCT SEP implementation that arise between RTP updates will need to come before MPAC, JPACT and Metro Council.

ANALYSIS/INFORMATION

1. **Known Opposition** – No known opposition
2. **Legal Antecedents** –

   Metro Council Ordinance No. 10-1241B FOR THE PURPOSE OF AMENDING THE 2035 REGIONAL TRANSPORTATION PLAN (FEDERAL COMPONENT) AND THE 2004 REGIONAL TRANSPORTATION PLAN TO COMPLY WITH FEDERAL AND STATE LAW; TO ADD THE REGIONAL TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS ACTION PLAN, THE REGIONAL FREIGHT PLAN AND THE HIGH CAPACITY TRANSIT SYSTEM PLAN; TO AMEND THE REGIONAL TRANSPORTATION FUNCTIONAL PLAN AND ADD IT TO THE METRO CODE; TO AMEND THE REGIONAL FRAMEWORK PLAN; AND TO AMEND THE URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN, adopted by the Metro Council June 10, 2010.

   Metro Council Resolution No. 09-4052 FOR THE PURPOSE OF ACCEPTING THE REGIONAL HIGH CAPACITY TRANSIT SYSTEM TIERS AND CORRIDORS, SYSTEM EXPANSION POLICY FRAMEWORK AND POLICY AMENDMENTS, adopted by the Metro Council July 9, 2009.
3. **Anticipated Effects** – None Anticipated.
4. **Budget Impacts** – None Anticipated.

RECOMMENDED ACTION

Approve Resolution No. 11-4265 and adopt the High Capacity Transit System Expansion Policy Implementation Guidance.

Updated May 17, 2011

DRAFT Phase 1 Scenario Evaluation Framework

This framework provides a set of instructions to staff that will guide the development and evaluation of scenarios and other research to be conducted in summer 2011. The framework reflects input received from Metro's policy and technical advisory committees and the Metro Council.

Changes to the May 5, 2011 draft are shown in ~~strikethrough~~ and underscore format for reference.

BACKGROUND:

The purpose of the Phase 1 analysis is to use scenario planning and other research to determine the key characteristics and combinations of land use and transportation strategies that are most promising for meeting the region's carbon emissions reduction target for cars, small trucks and sport utility vehicles (SUVs) in the Portland metropolitan region. The analysis will include development of a "Strategy Toolbox" that synthesizes existing research on different strategies in terms of their carbon reduction potential, potential co-benefits and synergies, and implementation feasibility. Potential impacts and benefits will be evaluated against the region's six desired outcomes, local aspirations and feasibility of implementation using a combination of qualitative and quantitative indicators.

The region's six desired outcomes – adopted by the Metro Council on December 16, 2010.

The analysis will be used to identify potential policy options and provide information useful for policymakers and stakeholders to discuss the trade-offs and choices presented by the most effective carbon reduction strategies during Fall 2011. The regional policy discussion will shape the findings and potential packages of strategies recommended for further evaluation in 2012.

In 2012, the region will explore additional scenarios in more detail, examining the potential to pursue different strategies that support distinct community goals across the region in recognition that implementation will be different in each community. Ultimately, Phase 3 of the Climate Smart Communities Scenarios effort will entail selecting a preferred set of land use and transportation strategies and implementing the policies through local and regional plans.

Selecting strategies will involve policy decisions that could have political, economic, equity, community and lifestyle ramifications. By identifying the policy choices and tradeoffs that decision-makers will need to consider throughout the process, this summer's research can serve as a basis for continuing a regional policy dialogue on how to confront the threat of global climate change through regional and local actions while advancing the region's efforts to build livable, prosperous and equitable communities.

***Scenario** is a term that is used to describe a possible future, representing a hypothetical set of strategies or sequence of events. Scenarios will represent different ways in which the region can make progress toward the region's desired outcomes and state climate goals.*

GUIDING PRINCIPLES:

- **Focus on outcomes and co-benefits:** The strategies that are needed to reduce carbon emissions can help save individuals, local governments and the private sector money, grow local businesses and create jobs and build healthy, livable communities. The multiple benefits should be emphasized and central to the evaluation and communication of the results.
- **Build on existing efforts and aspirations:** Start with local plans and 2010 regional actions[1] that include strategies to realize the region's six desired outcomes.
- **Show cause and effect:** Provide sufficient clarity to discern cause and effect relationships between strategies tested and realization of regional outcomes.
- **Be bold, yet plausible and well-grounded**: Explore a range of futures that may be difficult to achieve but are possible in terms of market feasibility, public acceptance and local aspirations.
- **Make relevant, understandable and tangible:** Develop and organize information so decision-makers and stakeholders can understand the choices, consequences (intended and unintended) and tradeoffs.
- **Meet state climate goals:** Demonstrate what is required to meet state carbon emissions reduction targets for cars, small trucks and SUVs, recognizing reductions from other emissions sources must also be addressed in a comprehensive manner.

WHAT WE HOPE TO ACCOMPLISH:

- Determine what combinations of land use and transportation strategies are required to meet the state carbon emissions reduction targets for light vehicles.
- Show potential impacts and benefits through a comprehensive array of measures that link back to the six desired outcomes and community values. ~~to~~ This information will be used to demonstrate how well the strategies support local plans and the region's desired outcomes, and communicate the relationship of these strategies to carbon emissions reductions in other sectors beyond light duty vehicles.
- Identify the potential challenges, opportunities and tradeoffs associated with different strategies and the social equity, economic and environmental implications for the region and state.
- Identify the key characteristics and combinations of strategies that are most promising for meeting the region's carbon emissions reduction target and that should be carried forward to Phase 2 for further evaluation. This should include identifying the strategies that are needed if technology advancements do not come to fruition.
- Report findings and make recommendations to the 2012 Legislature and future project phases.

OUTCOMES TO BE EVALUATED:

While the primary objective of the ~~scenarios~~ analysis is to determine the carbon emissions reduction potential of different combinations of strategies and their ability to achieve state targets for cars, small trucks and SUVs, the evaluation ~~of a smaller set of scenarios~~ will also consider:

[1] In 2010, the Metro Council adopted the Community Investment Strategy and Regional Transportation Plan, and designated urban and rural reserves. These actions provide the policy foundation for better integrating land use decisions with transportation investments to achieve the region's six desired outcomes and state climate goals.

- **Outcomes and co-benefits** – Benefits and impacts across environmental, economic, and equity goals from a business, individual/household and regional perspective will be evaluated to clearly illustrate the policy choices and tradeoffs. Evaluation methods and criteria will be clearly explained and available.
- **Effectiveness and Cost** – Carbon emissions reduction potential will be evaluated**,** along with the costs and cost effectiveness of different strategies. A full cost-benefit analysis cannot be conducted. However, the information provided must be well-grounded and reasonable from a variety of backgrounds and interests, and consider that there are public and private costs associated with different strategies and a cost to inaction.
- **Implementation opportunities and challenges** – The feasibility of implementing different strategies and the timeframe required will be assessed to inform next steps and recommendations for Phase 2 of the process. Recommended solutions should not put the region at an economic disadvantage,

Table 1 identifies the outcomes-based indicators that are readily available to evaluate the Phase 1 scenarios using the metropolitan-scale GreenSTEP[2] model. The evaluation will be supplemented with national research findings, past regional model runs and scenarios work, and localized case studies from current planning efforts and the Envision Tomorrow[3] scenario planning tool.

The indicators will continue to be refined in Phase 2 of the process as the evaluation effort transitions to Envision Tomorrow, which will provide spatial analysis capabilities allowing for a more robust analysis of economic development, public/private costs, accessibility, public health and environmental justice indicators.

Table 1. Beta Indicators for Phase 1 (proposed)

Business	Individuals and Households	Region
Delay by vehicle type (light vehicle, bus, freight truck)	Amount of daily driving **(VMT)** & **travel time** per capita and by income group	**Carbon** emissions
Freight **truck travel costs**	**Housing and Transportation cost** per household by income group	**Air quality** emissions
Freight **truck travel time**	People living in **areas with a good mix of homes, jobs and services** by income group	Transportation and building **energy** consumption
Private costs	**Physical activity**/Walking, biking and transit per capita	**Land** consumption
	Fuel consumption per capita and by income group	**Public infrastructure costs** (capital and operations)
	Water consumption per capita	Investment **revenues generated**
	Transit service levels per capita	~~**Public services costs**~~

[2] Greenhouse Gas State Transportation Emissions Planning (GreenSTEP) is a non-spatial model used to estimate transportation sector emissions with sensitivity to mixed-use, vehicle fleet mix, transportation cost, fuels and other factors which are used to calculate household VMT and corresponding greenhouse gas emissions. Inputs within the statewide model will be tailored where more current local/regional information is available to create a metropolitan GreenSTEP model for Phase 1.

[3] Envision Tomorrow is a spatial GIS-based scenario planning tool that estimates the effect of changes to land use using a combination of land use, environmental and transportation data. The inputs will be tailored where more current local/regional information is available for more refined scenario analysis in Phase 2.

The scenarios to be tested in this phase are for discussion and research purposes only, and do not represent a Metro Council, JPACT or MPAC endorsed policy proposal. The scenarios will be developed and analyzed with input from Metro's technical advisory committees during the summer 2011. The scenarios will be analyzed using a metropolitan GreenSTEP model.

The results of the analysis will be summarized and brought forward for discussion by the region's decision-makers and community and business leaders in Fall 2011. The regional policy discussion will shape the findings and recommendations forwarded to the next phase of the process and the 2012 Legislature.

DEFINING THE SCENARIOS:

- **Build on lessons learned from statewide scenarios.** Scenarios will be created by applying different levels of implementation to meet state carbon emissions reduction targets for cars, small trucks and SUVs. The region should use the attributes of the best performing statewide scenarios as a starting point for defining the region's scenarios. The region may want to consider different assumptions, however, such as more aggressive assumptions for deployment of electric vehicle and hybrid vehicles.
- **Develop complementary packages of strategies.** Scenario inputs will be based on different combinations of strategies and levels of implementation or investment, reflecting MPAC, JPACT and Metro Council direction. For example, combining mixed-use development, expanded public transit and parking management could make one scenario and combining industrial centers, travel demand management and vehicle travel fees could create another one.
- **Explore a range of possible futures.** The first phase is not about 'picking a winner' from the set of scenarios evaluated, but to explore a range of possible futures and then discuss and agree on the associated opportunities, challenges and implications for the region and state.
- **Test realistic pricing strategies.** The scenarios need to be realistic about pricing as a strategy given the lack of public acceptance and current economic climate.

EVALUATING THE SCENARIOS:

- **Good communication tools and methods are critical**. Use case studies, visualization and illustration tools to communicate results and make the choices real for policymakers and the public.
- **A comprehensive evaluation is needed to understand the political, community, social equity, and economic implications of different strategies**. Analysis needs to consider benefits, costs and tradeoffs for individuals, businesses and local governments. There are many choices – the first phase should clearly pose the consequences (intended and unintended) of different choices.
- **Public health and equity need to be meaningfully built into the evaluation.** This should include assessing the impacts to transit dependent communities and places in the region that do not have well-connected street systems, sidewalks, and bicycle facilities.
- **Evaluate parking management as a potential resource to realize community investments.** Assess how parking management and other resources developed by the strategies could be used to help fund expanded transit or streetscape investments in downtowns and main streets.

SCENARIOS TO BE TESTED IN PHASE 1:

Table 2 summarizes the strategies and assumptions to be tested through regional-level scenarios during the summer of 2011. **The table is for research purposes only, and does not represent a Metro Council, JPACT or MPAC endorsed policy proposal.** The scenario evaluation will be supplemented with national and local research findings, past regional model runs and scenarios work, and localized case studies from current planning efforts and the Envision Tomorrow scenario tool.

- Each category includes a set of carbon reduction strategies that the metropolitan GreenSTEP model is able to test, including transportation, land use, fleet and technology strategies. The strategies are assumed to be implemented with consideration of environmental justice and equity concerns; there may be some strategies that by their very nature could pose challenges.
- Scenarios will be created in Phase 1, reflecting different implementation levels for each strategy. Level 1 represents the Reference Case, reflecting current adopted plans and policies.

The top performing combinations of strategies will be evaluated in more detail, using the indicators listed in Table 1. Additional sensitivity analysis may be conducted after the initial set of scenarios are evaluated as time and resources allow.

Table 2. Climate Smart Communities Scenarios (DRAFT TO BE REFINED BY TPAC/MTAC TECHNICAL WORK GROUP IN MAY)

	2035 Implementation Levels			Climate Strategies to be Tested (indicated in bold)
	Level 1 (Reference)	**Level 2**	**Level 3**	
COMMUNITY DESIGN	*TBD*	Double	Triple	Households in **mixed-use areas and neighborhoods** [4] (percent)
	TBD	½-current rate	No expansion	**Urban growth boundary** (expansion relative to population growth)
	2%	Triple		**Bicycle travel** (mode share)
	2035 RTP Financially Constrained (FC) System			**Road capacity**
	TBD 2035 RTP FC	Double	Triple	**Bus and rail transit service** (revenue mile growth per capita compared to base year level)
PRICING [5]	31%	Double	100%	**Workers paying for parking** (percent)
	29%	*TBD*	*TBD*	**Non-work trips paying for parking** (percent)
	TBD	*TBD*	*TBD*	**Average daily parking fee** for work and non-work trips (2005$)
	$0	*TBD*		**Pay-as-you drive insurance**
	$0.42	*TBD*		**Fuel and emissions fees** [6]
	$0	*TBD*		**Vehicle travel fees** [7]

[4] Existing zoning and forecasted population and employment held constant across all scenarios.
[5] Reflected as the cost per mile to drive. Fuel price will held constant across all scenarios, reflecting market trends.
[6] Reference case assumes only current gas tax. Carbon fee, increased gas tax, or other instruments could be used.
[7] Vehicle miles traveled fee or other instruments could be used.

	2035 Implementation Levels			Climate Strategies to be Tested (indicated in bold)
	Level 1 (Reference)	Level 2	Level 3	
MARKETING & INCENTIVES	5%	*TBD*		Households participating in **individualized marking programs** (percent)
	TBD	*TBD*		Workers participating in **employer-based demand management programs**[8] (percent)
	5,000 hh/vehicle	*TBD*		Households participating in **carsharing** (target participation rate per carshare vehicle)
	0%	*TBD*		Households participating in **ecodriving** (percent)
MANAGE -MENT	10%	*TBD*		System management strategies such as traffic signal timing, **incident management** (percent of delay addressed)
FLEET	44%	29% *Level 3 from State Agency Report*		**Auto/truck vehicle proportions** (light truck percent)
	10 years	8 years *Level 3 from State Agency Report and assumed in the Metropolitan GHG Reduction Targets Rule*		**Fleet turnover rate/ages**
TECHNOLOGY	50 mpg	58.1 mpg *Level 3 from State Agency Report and assumed in the Metropolitan GHG Reduction Targets Rule*		**Fuel economy** (average of auto and light trucks)
	81.34 g CO_2e/ megajoule	72.38 g CO_2e/ megajoule *Level 3 from State Agency Report and assumed in the Metropolitan GHG Reduction Targets Rule*		**Carbon intensity of fuels**
	8% *Level 3 from State Agency Report*	*TBD*		**Electric vehicles and plug-in hybrids market shares**

[8] Examples include transit fare reduction, carpool matching and other carpool programs, and compressed work week.

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Metro | *Memo*

Date: May 19, 2011

To: TPAC and interested parties

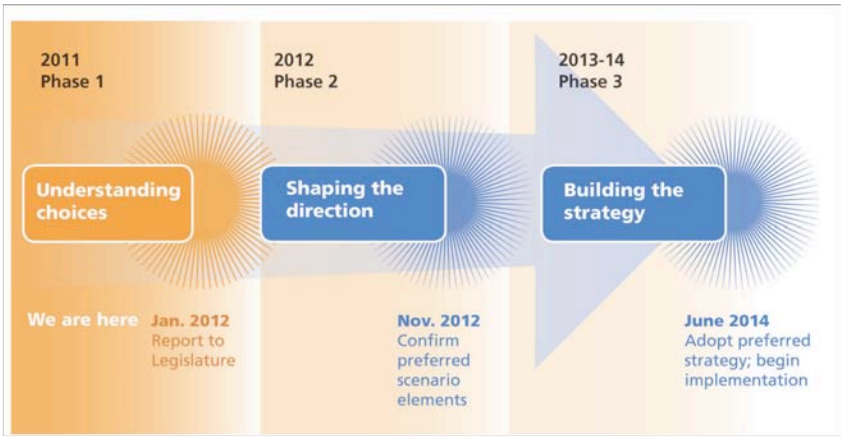
From: Kim Ellis, Principal Transportation Planner

Re: Updated Phase 1 Scenario Approach and Framework

BACKGROUND

The Phase 1 Climate Smart Communities Scenarios analysis is anticipated to begin in June, and will focus on determining the key characteristics and combinations of land use and transportation strategies that are most promising for meeting the region's carbon emissions reduction target and that should be carried forward to Phase 2 for further evaluation.

CLIMATE SMART COMMUNITIES SCENARIO PLANNING TIMELINE



Staff presented the *Phase 1 Scenario Approach and Framework* to the Metro Council and Metro's technical and policy committees during the past three months. The committees have generally supported the overall approach.

Finally, a work group of members of the Transportation Policy Alternatives Committee and the Metro Technical Advisory Committee has been created to provide technical support to the Climate Smart Communities Scenarios process in 2011. Table 1 lists the work group members for reference. Staff will work with the technical work group to continue refining the framework and scenario assumptions in May and June. This work will also include refining the set of indicators to be evaluated in Phase 1.

NEXT STEPS

The attached document reflects the comments and refinements identified during the Joint Policy Advisory Committee (JPACT) discussion on May 12, and provides direction to staff and the work group moving forward.

TPAC will be asked to provide final comments on the evaluation approach at the May 27 meeting. The Metro Technical Advisory Committee (MTAC) will be asked to provide final comments on June 1. MPAC and JPACT will be requested to give staff and the work group the "green light" to move forward with the Phase 1 scenario analysis on June 8 and June 9, respectively.

The results of the analysis will be summarized and brought forward for discussion by the region's decision-makers and community and business leaders in Fall 2011. The regional policy discussion will shape the findings and recommendations forwarded to the 2012 Legislature and the next phase of the process.

Table 1. TPAC/MTAC Climate Smart Communities Scenarios Technical Work Group Members

	Name	Affiliation	Membership
1.	Tom Armstrong	City of Portland	MTAC alternate
2.	Andy Back	Washington County	TPAC alternate & MTAC alternate
3.	Chuck Beasley	Multnomah County	MTAC member
4.	Lynda David	Regional Transportation Council	TPAC member
5.	Jennifer Donnelly	DLCD	MTAC member
6.	Denny Egner	City of Lake Oswego	MTAC member
7.	Elissa Gertler/Karen Buehrig	Clackamas County	TPAC member/TPAC alternate
8.	Mara Gross/Chris Beane	TPAC citizen members	TPAC members
9.	Jon Holan	City of Forest Grove	MTAC alternate
10.	Katherine Kelly/Jonathan Harker	City of Gresham	TPAC member/MTAC member
11.	Nancy Kraushaar/Kenny Asher	City of Oregon City/City of	TPAC member/TPAC alternate
12.	Alan Lehto/Jessica Tump	TriMet	TPAC member/MTAC member
13.	Mary Kyle McCurdy	MTAC citizen/community group	MTAC member
14.	Mike McKillip/Margaret Middleton	City of Tualatin/ City of Beaverton	TPAC member/TPAC alternate
15.	Tyler Ryerson	City of Beaverton	MTAC alternate
16.	Lainie Smith	ODOT	TPAC alternate & MTAC member

/attachment: Draft Phase 1 Scenario Evaluation Framework *(May 17, 2011)*

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Metro | *Memo*

Date: May 4, 2011

To: TPAC, MTAC and interested parties

From: Kim Ellis, Principal Transportation Planner

Re: Climate Smart Communities Scenarios Technical Work Group

Background

A work group of members of the Transportation Policy Alternatives Committee and the Metro Technical Advisory Committee has been created to provide technical support to the Climate Smart Communities Scenarios process in 2011.

The Metropolitan Greenhouse Gas Emissions Reduction Targets Rule assumes significant advancements in vehicle fleet, technologies and fuels, but also calls for the Portland region to reduce per person carbon emissions by 20 percent below 2005 levels through other transportation and land use strategies that will be evaluated through the Climate Smart Communities Scenarios process. The first phase of the region's mandated scenario analysis will occur during summer 2011 using a metropolitan GreenSTEP model to learn "what it will take," at a macro-regional level, to meet state carbon emissions reduction targets for cars, small trucks and SUVs. Potential impacts and benefits will be evaluated against the region's six desired outcomes, local aspirations and feasibility of implementation using a combination of qualitative and quantitative indicators.

Findings and recommendations from the analysis will be reported to Metro's policy committees in fall 2011 before being finalized for submittal to the Legislature in January 2012. In 2012, Metro and local government staff will use the Envision Tomorrow scenario planning tool to develop and analyze more tailored alternative regional scenarios that apply the Phase 1 lessons learned and recommendations at a subarea-level. This work will lead to development of a "draft" preferred land use and transportation scenario by the end of 2012 that will be further analyzed using the region's most robust analysis tools – MetroScope, regional travel model and MOVES (the region's emissions model).

Scenarios Work Group Charge

The work group is charged with helping develop the Phase 1 scenarios assumptions and evaluation indicators, consistent with the evaluation framework developed by the Metro Council, the Joint Policy Advisory Committee on Transportation and the Metro Policy Advisory Committee. In addition, the work group would review the preliminary technical analysis and provide guidance and consensus-based recommendations to Metro staff that reflect the range of interests and consideration of the land use and transportation strategies evaluated.

Key work group tasks would include:

- Help develop the Phase 1 scenarios evaluation framework and indicators. *(May-June 2011)*
- Help develop and review technical assumptions to be evaluated. *(May-June 2011)*
- Help develop and review preliminary findings and recommendations on the Phase 1 scenarios analysis. *(Summer/early Fall 2011)*
- Help develop and review report to the 2012 Legislature and recommendations for Phase 2 of the process. *(Fall 2011)*

Briefings on the progress of the technical work will be made to TPAC and MTAC as needed to prepare for policy committee briefings. The details of the technical work will be discussed during work group meetings. The work group meetings will conclude in December 2011.

Work Group Meeting Dates and Topics

1.	**Monday, May 16, 2011** 10 a.m.-noon Metro Regional Center, Room 401	• Discuss scenario analysis tools (GreenSTEP and Envision Tomorrow) and region's evaluation framework • Overview of State GreenSTEP, and State scenario assumptions and findings • Discuss regional GreenSTEP inputs for Base year (2010), Reference Case (2035), Level 2 and Level 3 scenarios
2.	**Monday, May 23, 2011** 2:30 – 4:30 p.m. Metro Regional Center, Room 501	• Discuss regional GreenSTEP input options for Level 2 and Level 3 scenarios • Discuss metropolitan GreenSTEP outputs and indicators • Overview of Strategy Toolbox
3.	**Monday, June 6, 2011** 2:30 – 4:30 p.m. Metro Regional Center, Room 301	• Finalize regional GreenSTEP inputs for Level 2 and Level 3 scenarios, if needed • Discuss regional GreenSTEP outputs and indicators • Discuss 2040 Development Typologies
4.	**Monday, June 20, 2011** 2:30 – 4:30 p.m. Metro Regional Center, Room 501	• Discuss regional GreenSTEP outputs and indicators • Discuss 2040 Development Typologies and Strategy Toolbox
Additional meetings will scheduled to review preliminary Phase 1 results.		

TPAC/MTAC Climate Smart Communities Scenarios Work Group Members

	Name	Affiliation	Membership
1.	Tom Armstrong	City of Portland	MTAC alternate
2.	Andy Back	Washington County	TPAC alternate & MTAC alternate
3.	Chuck Beasley	Multnomah County	MTAC
4.	Lynda David	Regional Transportation Council	TPAC
5.	Jennifer Donnelly	DLCD	MTAC
6.	Denny Egner	City of Lake Oswego	MTAC member
7.	Elissa Gertler/Karen Buehrig	Clackamas County	TPAC
8.	Mara Gross/Chris Beane	TPAC citizen members	TPAC members
9.	Jon Holan	City of Forest Grove	MTAC alternate
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11.	Nancy Kraushaar/Kenny Asher	City of Oregon City/City of Milwaukie	TPAC member/TPAC alternate
12.	Alan Lehto/Jessica Tump	TriMet	TPAC/MTAC
13.	Mary Kyle McCurdy	MTAC citizen/community group	MTAC member
14.	Mike McKillip/Margaret Middleton	City of Tualatin/City of Beaverton	TPAC member/TPAC alternate
15.	Tyler Ryerson	City of Beaverton	MTAC alternate
16.	Lainie Smith	ODOT	TPAC alternate and MTAC

For more information or to be added to the work group interested parties list, contact Kim Ellis at kim.ellis@oregonmetro.gov.

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF AMENDING THE 2010-13 METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM (MTIP) TO ADD THE GOING STREET BIKE/PED: N VANCOUVER AVE - N CHANNEL AVE PROJECT	))))))	RESOLUTION NO. 11-4266 Introduced by Acting Chief Operating Officer Daniel Cooper with the concurrence of Council President Tom Hughes

WHEREAS, the Metropolitan Transportation Improvement Program (MTIP) prioritizes projects from the Regional Transportation Plan to receive transportation related funding; and

WHEREAS, the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council must approve the MTIP and any subsequent amendments to add new projects to or significantly change the scope to existing projects in the MTIP; and

WHEREAS, the JPACT and the Metro Council approved the 2010-13 MTIP on September 16, 2010; and

WHEREAS, the Oregon Department of Transportation (ODOT) awarded the City of Portland $2,093,400 of state funding to construct pedestrian, bicycle, transit and demand management improvements along N Going Street between Vancouver Avenue and Channel Avenue; and

WHEREAS, the awarding of these funds is adopted in the 2010-13 MTIP as Programming Table 3.1.1; and

WHEREAS, this project is exempt by federal rules from needing to conduct an air quality conformity analysis; and

WHEREAS, JPACT approved the resolution on June 9, 2011; now therefore

BE IT RESOLVED that the Metro Council hereby adopts the recommendation of JPACT to add the Going Street Ped/Bike: N Vancouver Avenue to N Channel Avenue project and to modify the Programming Table 3.1.1, Section 3.1 of the 2010-13 Metropolitan Transportation Improvement Program as provided in Exhibit A to this resolution.

ADOPTED by the Metro Council this ___ day of June 2011.

Tom Hughes, Council President

Approved as to Form:

Alison Kean Campbell, Acting Metro Attorney

Exhibit A to Resolution No. 11-4266

Proposed action: Add new project to 2010-13 MTIP Programming Table 3.1.1

New programming

Project Name	Project Description	ODOT Key #	Lead Agency	Estimated Total Project Cost	Project Phase	Fund Type	Program Year	Federal Funding	Minimum Local Match	Other Funding	Total Funding
Going Street Bike/Ped: N Vancouver Ave To N Channel Avenue	Design and construct bicycle, pedestrian, transit stop and demand management activities in the North Going Street corridor between Vancouver Avenue and Channel Avenue in the Swan Island industrial area.	17740	Portland	N/A	PE	L24R	2011	$538,380	$61,620	N/A	$600,000
				N/A	Cons	L24R	2011	$1,555,020	$177,980	N/A	$1,733,000
							Total	$2,093,400	$239,600	N/A	$2,333,000

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 11-4266, FOR THE PURPOSE OF AMENDING THE 2010-13 METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM (MTIP) TO ADD THE GOING STREET BIKE/PED: N VANCOUVER AVE TO N CHANNEL AVENUE PROJECT

Date: May 17, 2011 Prepared by: Amy Rose, 503-797-1776

BACKGROUND

The Oregon State Department of Transportation (ODOT) made available approximately $24 million of funding for sustainable, non-highway projects, programs and services that positively impact modal connectivity, the environment, mobility and access, livability, energy use and the overall operation of the transportation system.

The City of Portland applied for $2,093,400 of funding to design and construct bicycle, pedestrian, transit stop and demand management activities in the North Going Street corridor between Vancouver Avenue and Channel Avenue in the Swan Island industrial area. The Oregon Transportation Commission awarded funding to the project this spring.

Because the award was for a bicycle and pedestrian project of more than $500,000, it is a significant amount under the MTIP amendment process in section 1.7, and requires a Metro resolution to add the project to the Metropolitan Transportation Improvement Program (MTIP).

These type of facilities and demand management activities are exempt by federal rule from needing to complete any air quality impact analysis prior to adding the project to the MTIP.

ANALYSIS/INFORMATION

1. **Known Opposition** None known at this time.

2. **Legal Antecedents** Section 1.7 of the 2010-2013 Metropolitan Transportation Improvement Program adopted by Metro Council Resolution 10-4186 on September 16, 2010 (For the Purpose of Approving the 2010-13 Metropolitan Transportation Improvement Program for the Portland Metropolitan Area) ("2010-13 MTIP") requires that bicycle and pedestrian projects with significant funds of $500,000 or greater have a Metro Resolution to add a project to the MTIP.

3. **Anticipated Effects** Adoption of this resolution will allow City of Portland to proceed with construction of these facilities and implementation of travel demand activities.

4. **Budget Impacts** No impact to the Metro budget.

RECOMMENDED ACTION

Metro staff recommends the approval of Resolution No. 11-4266.

Materials following this page were distributed at the meeting.

Climate Smart Communities Scenarios Project

PROJECT GOALS

- **Build on existing efforts and aspirations:** Start with local plans and 2010 regional actions to develop a preferred land use and transportation strategy that meets state climate goals and advances the 2040 Growth Concept, community aspirations and the region's six desired outcomes.
- **Focus on outcomes and co-benefits:** Consider the economic, equity, environmental and community benefits and impacts to demonstrate how strategies may affect realization of the region's six desired outcomes. These outcomes may be realized by the potential for strategies to save money for individuals, local governments and the private sector, grow local businesses, create jobs and build healthy, livable communities.
- **Engage and educate:** Actively engage and inform the region's decision-makers, public agencies and business and community leaders on land use and transportation strategies needed to achieve the state carbon emissions reduction target for cars, small trucks and sport utility vehicles in the Portland metropolitan region.
- **Collaborate:** Work together to build ownership and support for the preferred land use and transportation strategy and policies, investments, and actions that will be recommended by the region.

KEY TASKS

	Phase I **Understanding Choices** *Jan. – Dec. 2011*	Phase II **Shaping the Direction** *Jan. – Dec. 2012*	Phase III **Building the Strategy** *Jan. 2013 – Dec. 2014*
TECHNICAL WORK AND POLICY DEVELOPMENT	▪ Participate in development of Statewide Transportation Strategy and transportation-related carbon emissions reduction target for the region *(LCDC adoption by June 2011)* ▪ Develop tools and enhance regional data, tools and methods ▪ Define outcomes-based indicators and 2040 development typologies ▪ Research local and regional climate strategies to frame policy choices ▪ Evaluate "broad-level" scenarios to learn "what it will take" to meet state target and understand the potential challenges, opportunities, tradeoffs and effectiveness of different strategies ▪ Prepare Toolbox Report and case studies to illustrate research findings ▪ Prepare findings and recommendations for regional policy discussion	▪ Evaluate more tailored alternative scenarios with an integrated suite of tools, applying the lessons learned from Phase I and incorporating strategies identified in local and regional planning efforts that are underway ▪ Continue to develop and enhance regional data, tools and methods; refine evaluation indicators, as needed ▪ Prepare the region's findings and recommendations for narrowing the range of alternatives, and prioritizing and phasing strategies to be included in the preferred scenario ▪ Consider amending the 2035 RTP	▪ Evaluate the preferred scenario with regional models ▪ Prepare the region's findings and implementation recommendations ▪ Recommend a preferred land use and transportation strategy and needed changes to regional and local plans to support implementation o Regional Framework Plan and 2040 Growth Concept o Regional Transportation Plan o Regional Functional Plans o Local transportation system plans, comprehensive plans and land use regulations
ENGAGEMENT	▪ Conduct focus groups, public opinion research and targeted stakeholder outreach on values, beliefs and climate strategies *(Jan. - March 2011)* ▪ Convene region's elected officials and community leaders on policy choices and tradeoffs *(Spring and Fall 2011)* ▪ Conduct stakeholder outreach on preliminary findings *(Fall 2011)*	▪ Continue stakeholder outreach on findings and recommendations *(Winter 2012, Fall 2012)* ▪ Convene subarea scenario planning workshops *(Spring-Summer 2012)* ▪ Conduct focus groups on choices and tradeoffs *(Spring 2012)* ▪ Convene region's elected officials and community leaders to provide input on preferred scenario *(Fall 2012)*	▪ Conduct stakeholder outreach on findings and recommendations *(Spring 2013)* ▪ Convene region's elected officials and community leaders to provide input on preferred scenario *(Fall 2013)* ▪ Conduct stakeholder outreach and public review of preferred strategy as part of RTP update *(Spring 2014)*
MILESTONE	▪ Confirm scenario evaluation approach *(MPAC, JPACT and Council in June 2011)* ▪ Approve findings and recommendations report for consideration by the 2012 Legislature and Phase II *(MPAC, JPACT and Council in Dec. 2011/Jan. 2012)*	▪ Report findings and make recommendations to the 2012 Legislature (*by Feb. 2012*) ▪ Approve policy recommendations to direct development and evaluation of preferred scenario *(MPAC, JPACT and Council by Dec. 2012)*	▪ Release preferred land use and transportation strategy for public and stakeholder review *(March 2014)* ▪ Approve preferred land use and transportation strategy *(June 2014)* ▪ Approve updated regional plans and policies, and new local government implementation requirements *(Dec. 2015)*
RELATED METRO ACTIONS	▪ Portland-Vancouver Greater Indicators, June 2011 ▪ Regional Flexible Fund Allocation, Dec. 2011 ▪ Draft East Metro Connections Plan Investment Strategy, Dec. 2011 ▪ Urban Growth Boundary decision, Oct. 2011	▪ 2040 regional growth forecast, Jan. 2012 ▪ East Metro Connections Plan Investment Strategy, March 2012 ▪ Active Transportation Action Plan, June 2012 ▪ Regional Transportation Plan Update Work Plan, Dec. 2012 ▪ Draft SW Corridor Plan Investment Strategy, Dec. 2012	▪ SW Corridor Plan Investment Strategy, June 2013 ▪ Federal Regional Transportation Plan, June 2014 ▪ Urban Growth Report, Dec. 2014 ▪ *State Regional Transportation Plan, Dec. 2015* ▪ *Functional plans, Regional Framework Plan and 2040 Growth Concept amended, Dec. 2015*

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Metro | *Memo*

Date: May 27, 2011

To: TPAC and interested parties

From: Kim Ellis, Principal Transportation Planner

Re: Supplemental Memo on Phase 1 Scenario Approach and Framework

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This memo proposes additional refinements to the Draft Phase 1 Scenario Evaluation Framework (dated May 17, 2011) for TPAC consideration. The refinements respond to comments provided by the scenarios technical work group and the Metro Policy Advisory Committee (MPAC); MPAC discussed the draft framework on May 25.

REFINEMENT #1: Table 2, on page 5 of the framework, lists the strategies that can be tested with the tools being used to support the region's scenarios analysis – metropolitan GreenSTEP and Envision Tomorrow. Staff recommends replacing Table 2 of the framework with the following table:

NEW Table 2. Policies, programs and investment strategies to be tested in Phase 1 and Phase 2

	Key Strategies to be Tested (indicated in bold)	GreenSTEP	Envision Tomorrow
COMMUNITY DESIGN	**Urban growth boundary** (rate of expansion relative to rate of population growth)	X	
	Households located in **mixed-use areas and neighborhoods with public amenities** [1] (percent)	X	X
	Pedestrian travel (this is accounted for in the mixed-use areas strategy)	X	
	Bicycle travel (share of all trips)	X	
	Household with access to transit (percent)		X
	Road capacity (lane miles of arterial and freeway capacity)	X	
	Bus and rail transit service levels (revenue miles growth)	X	
MANAGE -MENT	System management strategies such as traffic signal timing, **incident management** (percent of delay addressed)	X	

[1] Forecasted population and employment held constant across all scenarios. This policy lever links several strategies to account for the effect of density (people and jobs), design, diversity of uses, destinations and distance to transit on vehicle miles traveled. Examples of amenities include pedestrian-friendly street designs, well-connected network of streets, sidewalks and biking facilities, and good transit.

	Key Strategies to be Tested (indicated in bold)	GreenSTEP	Envision Tomorrow
PRICING	**Workers that pay for parking** (percent and cost in 2005$)	X	
	Non-work trips that pay for parking (percent and cost in 2005$)	X	
	Pay-as-you drive insurance (cost per mile driven)	X	
	Emissions pricing [2] (cost per mile driven)	X	
	Fuel pricing [3] (cost per mile driven)	X	
	Vehicle travel pricing [4] (cost per mile driven)	X	
MARKETING & INCENTIVES	Households participating in **individualized marking programs** (percent)	X	X
	Workers participating in **employer-based commute options programs** [5] (percent)	X	
	Individuals participating in **carsharing** (target participation rate per carshare vehicle)	X	
	Households participating in **ecodriving** [6] (percent)	X	
FLEET	**Auto/truck vehicle proportions** (light truck percent)	X	
	Fleet turnover rate/ages	X	
TECHNOLOGY	**Fuel economy** (average of auto and light trucks)	X	
	Carbon intensity of fuels	X	
	Electric vehicles and plug-in hybrids market shares	X	

This change is recommended for the following reasons:

- Table 2 was intended to be illustrative, showing the range of strategies that can be tested with the tools available for the analysis. The guiding principles and outcomes to be evaluated will serve as the set of instructions for staff and the work group to follow.

[2] Increased gas tax, or other instruments could be used.
[3] Carbon fee or other instruments could be used.
[4] Vehicle miles traveled fee or other instruments could be used.
[5] Examples include transit fare reduction, carpool matching and other carpool programs, and compressed work week.
[6] Educating motorists on how to drive in order to reduce fuel consumption and cut emissions. Examples avoiding rapid starts and stops, matching driving speeds to synchronized traffic signals, and avoiding idling.

- Metro's policy and technical committees are not being asked to make a recommendation on the detailed technical assumptions to be used in the Phase 1 scenarios analysis; the committees are being asked to give staff and the work group the "green light" to move forward with the analysis.

OTHER REFINEMENTS: In addition, MPAC discussed the draft framework on May 25 and provided the following comments:

- Expand the background section on page 1 to more clearly describe the broader mission and goals of this effort with a recognition that this effort should not focus solely on reducing greenhouse gas emissions (GHGs), or land use and transportation planning – it must do that and support the other 5 outcomes the region is collectively striving to achieve within the context of investing in communities to achieve outcomes of importance to residents: a healthy economy, clean air and water, and access to good jobs, affordable housing, transportation options, and nature, trails and recreation.
- This is important work for the region to choose the best path for us collectively and an opportunity to show how we can reduce GHGs and make the case for the economic, equity and other environmental benefits and potential public/private cost savings that will come from creating better, more energy efficient places to live and work – which is what many of these strategies will do.
- More explicitly include development of a finance strategy in the effort because many of the strategies will be implemented locally, and to the extent possible, demonstrate potential cost savings to the public and private sectors and potential costs of inaction.

Staff recommends integrating these concepts in the draft framework that will be considered by the MPAC and the Joint Policy Advisory Committee on Transportation (JPACT) on June 8 and June 9, respectively.

NEXT STEPS

TPAC will be asked to provide final comments on the evaluation framework (including the revised Table 2 and MPAC refinements) at the May 27 meeting. The Metro Technical Advisory Committee (MTAC) will be asked to provide final comments on June 1. MPAC and JPACT will be requested to give staff and the work group the "green light" to move forward with the Phase 1 scenario analysis on June 8 and June 9, respectively.

The scenario work group will continue to assist Metro staff in developing these assumptions following the guiding principles and other instructions identified in the evaluation framework. Staff will document the detailed technical assumptions used in the analysis to ensure transparency.

Oregon
John A. Kitzhaber, M.D., Governor

Department of Transportatio
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FILE CODE:

Date: May 26, 2011

To: Region 1 STIP Stakeholders

From: Jeff Flowers
Region 1, Program and Funding Services Manager

Subject: 2014-2015 Draft STIP Outreach

Region 1 currently finalized preparations for the public outreach of the 2014-2015 Draft STIP. The public comment period will last from June 1 through July 31. We will be holding three public meetings in June and July.

The scheduled meetings are:

Meeting #1:
Date: June 22
Location: Powell's Bookstore at Cedar Hills Crossing in Beaverton
Time: 5pm – 8pm

Meeting #2:
Date: June 29
Location: Region 1 Headquarters
Time: 5pm – 8pm

Meeting #3:
Date: July 9
Location: Sandy Mountain Festival
Time: 10am – 2pm

In addition, Region 1 is adding a new website for STIP outreach. The website will provide some overall STIP development information, maps and specific project information for the proposed projects in the 2014-2015 Draft STIP, and allow public comments via web form. The information can be found at the following website:

http://www.oregon.gov/ODOT/HWY/REGION1/STIP

If you have any questions, please feel free to contact me.

Thank you

2014-2015 Draft STIP Updated Timeline

June 2011
- Public comment period begins

July 2011
- Public comment period ends

August 2011
- Public comment reviewed by OTC, ACT's, MPO's, and other stakeholders
- Project adjustments, if needed

September – December 2011
- Air quality conformity and modeling

January 2012
- Final STIP information completed and prepared for review
- Final STIP review at TPAC – January 27th

February 2012
- Final STIP information reviewed with stakeholders
- Final STIP review at JPACT – February 9th

March 2012
- OTC review and approval of Final STIP
- Final STIP submitted to FHWA with MTIP's

April 2012
- FHWA review and approval of Final STIP
- MTIP's to Governor for signature and approval

June 2012
- Final STIP printed and distributed

Fact Sheet

Lifecycle Analysis Approach of Transportation Fuels

In 2009, the Oregon Legislature authorized the Environmental Quality Commission to develop low carbon fuel standards for Oregon. The goal is to reduce the average **carbon intensity** of Oregon's transportation fuels by ten percent over a ten-year period based on a lifecycle assessment. This factsheet describes how to calculate carbon intensity using a lifecycle analysis approach.

Measurement of carbon intensity

Carbon intensity is expressed in grams of greenhouse gases (measured in carbon dioxide equivalent) emitted per million joules of energy produced. The mathematical equation looks like this: g CO_2e/MJ. Gallons of liquid fuels, cubic feet of gaseous fuels, and watts of electricity must be converted to a common measure of energy. This conversion allows for equal comparison between all types of fuels.

Calculating carbon intensity

Carbon intensity encompasses emissions from the extraction or growth, refinement, distribution, storage, and combustion of a fuel. The sum of each step in a fuel's lifecycle produces an overall lifecycle value. The carbon intensity of an individual fuel can also be adjusted to account for:

- production of co-products,
- indirect effects such as land use change, and
- efficiency of alternative fuel vehicles.

A more detailed description of this calculation can be found in the final report.

Fuel made from petroleum

The lifecycle of petroleum-based fuels begins at the point of extraction from a well and ends when the fuel is burned. Since petroleum-based gasoline and diesel fuels are used the most, DEQ calculated the statewide average carbon intensity based on the known source of crudes, conventional and oil sands extraction and refining technology, and typical paths that fuels take to get to Oregon.

Fuel made from petroleum waste

For fuel made from waste products like plastics, the lifecycle analysis begins when the use of the product for its original intent ends. This means that the emissions from producing the original product do not count as part of the lifecycle of the fuel. The lifecycle begins with the collection of the waste that becomes the feedstock for the fuel and again ends when that fuel is burned in a vehicle.

Fuel made from biomass

Biomass is a fancy name for plants and other types of cellulosic and organic material. As biomass grows, it removes carbon dioxide from the atmosphere during photosynthesis. When biomass-based fuel is combusted, carbon dioxide is returned to the atmosphere. This results in a net zero balance of carbon dioxide emissions. However the intensity value is still not zero for this fuel because other greenhouse gases are also emitted during combustion.

Fuel made from biomass waste

For fuel made from biomass waste like cooking oil, wheat, grass straw or corn stover, the lifecycle analysis begins at the collection of the waste from the field. As with all fuel from biomass, the carbon dioxide emissions from the combustion of a biomass waste fuel is also a net zero.

Co-Products

Production of some biofuels can produce co-products that have other benefits. For example, refining ethanol produces distiller's grains and solubles that can replace animal feed while biodiesel refining produces glycerin for use in industrial applications. A credit is included when calculating carbon intensity to represent emissions that are being displaced.

Land use change

Growing a feedstock to produce more biofuels might cause unproductive land to be converted into cropland. In the conversion process, carbon dioxide is released that may have remained otherwise sequestered in the soil or vegetation. The current science presents a great deal of variation and uncertainty in quantifying this effect. At this time, DEQ is proposing to not adjust the carbon intensity for land use change, but intends to do so once the science becomes more certain. A review of this issue is included in future program reviews.

Other indirect effects

Other indirect effects may also occur when producing and utilizing fuels. For example, greenhouse gases are released during the clean-up of oil spills. The current science on these issues is very immature and at this time, DEQ is proposing to not adjust the carbon intensity to account for other indirect effects. A review of this issue is included in future program reviews.

Efficiency of alternative fuel vehicles

DEQ uses an "energy economy ratio" to establish the relative greenhouse gas contribution of various vehicles. DEQ has calculated values through 2022 to reflect existing federal standards for fuel economy. In the future, these standards are likely to change as the technology of alternative fuel vehicles improves. What won't likely change is that most alternative types of vehicles will continue to utilize fuel far more efficiently than vehicles with conventional gas and diesel combustion engines DEQ will continue to review this ratio to ensure that it remains accurate in future program reviews.

State of Oregon
Department of Environmental Quality

Air Quality Division
Low Carbon Fuel Standards
811 SW 6th Avenue
Portland, OR 97204
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(800) 452-4011
Fax: (503) 229-5675
Contact: Cory-Ann Wind
wind.cory@deq.state.or.us
http://www.oregon.gov/DEQ/

DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

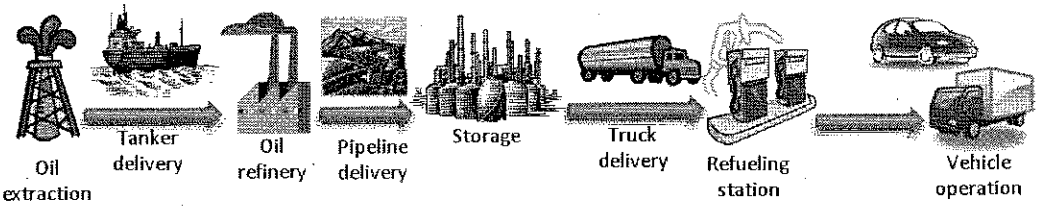
Last Updated: 3/15/2011
By: Cory-Ann Wind
11-AQ-017

Table of selected carbon intensity values

DEQ has calculated the carbon intensity of several of Oregon's fuels. This table is a portion of those calculations:

Gasoline and Gasoline Substitutes	Carbon Intensity Value (gCO2e/MJ)	Diesel and Diesel Substitutes	Carbon Intensity Value (gCO2e/MJ)
Gasoline	92.34	**Ultra low sulfur diesel**	91.53
Ethanol - Midwest production and corn	64.82	**Biodiesel - Midwest production and soybeans**	21.66
Ethanol - Northwest production and Midwest Corn	53.79	**Biodiesel - Northwest production and Midwest soybeans**	19.99
Sugarcane Ethanol	26.44	**Biodiesel - Northwest Canola**	27.31
Cellulosic Ethanol - Farmed Trees	15.54	**Biodiesel - Yellow Grease**	10.28
Cellulosic Ethanol - Wheat Straw	20.90	**Biodiesel - Tallow Average**	16.85
Pipeline natural gas in Oregon	70.22	**Pipeline natural gas in Oregon**	74.70
Electricity average - 2012	37.80	**Electricity average - 2012**	57.40

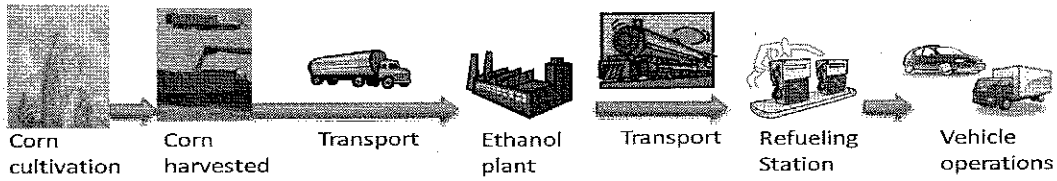
Example: Petroleum lifecycle analysis



For petroleum, the following are some of the elements included in the model:

- Oil extraction, flaring and venting rates of natural gas;
- Transportation including marine tankers, pipelines, and tanker trucks;
- Oil refining process;
- Terminal, storage, and dispensing operations; and
- Combustion in vehicles.

Example: Corn ethanol lifecycle analysis



For corn ethanol, the following are some of the elements included in the model:

- Farming practices including fertilization, equipment used;
- Crop yield;
- Transported using a variety of modes including rail cars and tanker trucks;
- Fuel production process, including the type of fuel used;
- Production of co-products;
- Terminal, storage, and dispensing operations; and
- Combustion in vehicles.

Model used for Life Cycle Analysis: GREET Model (Greenhouse gases, Regulated Emissions, and Energy use in Transportation model)

GREET is a computer model developed and maintained by the Argonne National Laboratory. DEQ modified GREET to reflect Oregon conditions. If GREET is unable to generate an accurate carbon intensity (as in the case of a fuel made from an industrial waste), then a DEQ-approved method can be used.

Alternative Formats

Alternative formats of this document can be made available. Contact DEQ Public Affairs for more information (503) 229-5696.

Fact Sheet

Oregon's Proposed Low Carbon Fuel Standards - Safeguards

In 2009, the Oregon Legislature authorized the Environmental Quality Commission to develop low carbon fuel standards for Oregon. The goal is to reduce the average **carbon intensity** of Oregon's transportation fuels by ten percent over a ten-year period. Carbon intensity refers to the emissions per unit of fuel; it is not a cap on total emissions or a limit on the amount of fuel that can be burned. Carbon intensity encompasses emissions from the extraction (growing in the case of biofuels), refinement, distribution, and combustion of a fuel – a life-cycle approach to calculating carbon emissions.

Oregon's proposed low carbon fuel standards

DEQ plans to propose two standards, one for gasoline and its substitutes and one for diesel and its substitutes. This approach encourages innovation of lower carbon alternatives for both gasoline and diesel. Each standard will phase in gradually. Most reductions will occur in the last few years to allow time for the development of lower carbon fuel technologies, alternative fueling infrastructure and more widespread use of alternative fuel vehicles.

Safeguards

Protection of Oregon businesses and individuals are an important facet of the low carbon fuel standards. DEQ has designed the program to minimize the risk of fuel price spikes or low carbon fuel shortages. DEQ also plans to propose safeguards to protect Oregon businesses and individuals in the unlikely case that such price spikes or supply shortages occur. These safeguards are unique to Oregon's program and are intended to keep the low carbon fuel standards feasible, flexible, and cost effective.

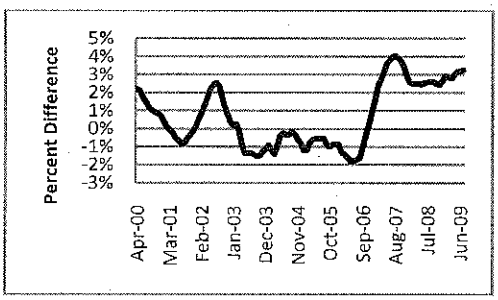
While protecting businesses and individuals from any unintended consequences is important, the standards must also prevent uncertainty in demand that could discourage investment in new low carbon fuel infrastructure. Construction of production, charging, and dispensing facilities has the potential to bring significant economic activity into Oregon and create a market in which low carbon fuels can prosper in the future.

Fuel Prices

Analysis shows that the low carbon fuel standards should result in lower fuel costs at the pump. In the event that this does not occur, a safeguard is included to monitor fuel prices and allows for the deferment of Oregon's standards if requirements cause fuel prices to rise. This **fuel price safety net** is discussed below.

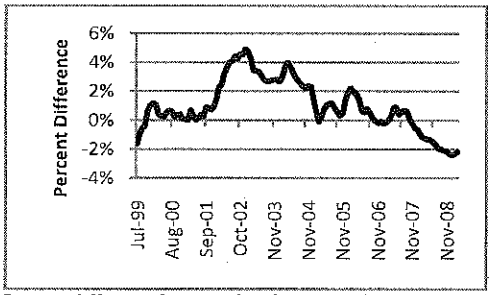
Natural fluctuations in fuel prices

The price of fuels fluctuates naturally due to seasonal or operational changes in the supply and demand of petroleum. During the past decade, the price of gasoline in Oregon has varied from two percent lower to four percent higher when compared to selected Western states.



Percent difference between gasoline prices in Oregon compared to Oregon, Washington, Nevada, and Arizona

Diesel shows the same range of fluctuation.



Percent difference between diesel prices in Oregon compared to Oregon, Washington, Nevada, and Arizona

Fuel price safety net

HB 2186 directed DEQ to monitor fuel prices in Oregon and selected Western states (Arizona, Nevada, and Washington) to ensure that Oregon fuel prices remain competitive after implementing the low carbon fuel standards. DEQ proposes that the threshold to determine "competitiveness" be set at 5 percent, in order to account for natural fluctuations in the price of fuel.

If the price of fuel in Oregon exceeds the price in the comparison states by more than 5 percent, DEQ would investigate whether the low carbon fuel standards are causing the uncompetitive price. The following types of information would be considered:

State of Oregon
Department of Environmental Quality

Air Quality Division
Low Carbon Fuel Standards
811 SW 6th Avenue
Portland, OR 97204
Phone: (503) 229-5388
(800) 452-4011
Fax: (503) 229-5675
Contact: Cory-Ann Wind
http://www.oregon.gov/DEQ/

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11-AQ-011
Last Updated: 02/28/2011
By: Cory-Ann Wind

- changes in the price of low carbon fuels or crudes;
- natural disasters;
- changes in population or other demands for fuel;
- changes in regulations;
- a change in the number of retail outlets for fuel;
- errors in the price or volume data; and
- other relevant factors.

If the Environmental Quality Commission finds that the low carbon fuel standards have caused the price increase, they would revise the standards to mitigate the fuel price increase. The revision could apply to the gasoline standard, the diesel standard, or both. Possible revisions could include:

- temporarily delaying compliance with the standard;
- temporarily exempting all or a portion of the fuels from complying with the low carbon fuel standard; or
- temporarily deferring the entire standard.

Depending on the circumstances, the Commission could require the lost carbon reductions to be made up in a future year if that can be done without causing uncompetitive fuel prices.

Fuel Shortages

DEQ plans to propose two types of deferrals for fuel supply shortages, **temporary** and **forecasted**, both of which are described below.

In periods of deferrals, credits can still accrue for producers and suppliers of low carbon fuels. Allowing credits to accrue during deferral times provides more certainty for investors that demand will continue for the low carbon fuels that are available.

Temporary fuel supply deferrals

If there is an unplanned, short-term disruption of the supply of low carbon fuels to Oregon, DEQ could respond by providing a temporary fuel supply deferral. Upon learning about a fuel supply disruption, DEQ would gather information about the disruption including:

- type of fuels affected;
- anticipated duration of the disruption; and
- an estimate of the amount of low carbon fuel lost due to the disruption.

DEQ would estimate the magnitude of the disruption relative to the entire program and assess whether fuel suppliers can meet the required reduction goals.

If DEQ finds that the disruption will prevent fuel suppliers from being able to comply with the standard, then DEQ could issue temporary fuel supply deferrals. The deferrals would allow fuel suppliers to delay complying with the standard for up to one year. Depending on the size of the disruption, DEQ could require lost carbon reductions to be made up over future years.

Forecasted fuel supply deferrals

Once a year, DEQ will also determine whether anticipated supplies of low carbon fuels will be sufficient for fuel suppliers to meet the standards in the coming year. In particular, DEQ will assess whether anticipated low carbon fuel production capacity and supporting infrastructure is on schedule or delayed.

In assessing whether the supply of low carbon fuel will be adequate, DEQ will consider the following types of information:

- the status of existing and new low carbon fuel production facilities;
- the status of existing and new electric vehicle charging infrastructure;
- the status of existing and new natural gas fueling station construction;
- the status of alternative vehicle availability;
- the projected amount of fuel consumed;
- trends in alternative fuel use;
- volumes of advanced biofuels and biomass-based diesel required under the federal renewable fuel standard; and
- the status of banked credits.

If DEQ finds that a shortage in low carbon fuels will prevent regulated parties from being able to comply with the standard, then DEQ will issue temporary fuel supply deferrals. The deferrals would allow regulated parties to delay complying with the standard for up to one year. If the forecasted shortages are severe enough, DEQ could also recommend that the Environmental Quality Commission revise the low carbon fuel standards through a rulemaking process to change the overall schedule of the program to match revised expectations for the supply of low carbon fuels.

Exemptions

Exemptions are part of the proposed low carbon fuel standards to ensure that fuels used in specific applications and with special performance needs are not adversely affected. HB 2186 exempted fuel used in farm vehicles and tractors, implements of husbandry, and log trucks. The low carbon fuel standards advisory committee recommended that DEQ expand the exemptions to include aircraft, racing vehicles, military tactical vehicles, ocean-going vessels and locomotives.

Reviewing the program

The science and policy underpinning the low carbon fuel standards is rapidly developing. DEQ will track this development and assess whether the standards need to be modified in the future. DEQ plans to include several formal program reviews in the proposed rules.

For more information please contact:

Cory-Ann Wind, Air Quality Planner (503) 229-5388.

Alternative Formats

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Fact Sheet

Oregon's Proposed Low Carbon Fuel Standards - Economic Impact Analysis

As directed by HB 2186, DEQ commissioned an independent study to identify and estimate the potential economic impacts of implementing low carbon fuel standards in Oregon. Using a federal grant, DEQ hired a national expert on the economics of government transportation policy (Jack Faucett Associates) to conduct this analysis. This analysis is available on DEQ's website at: http://www.deq.state.or.us/aq/committees/lowcarbon.htm.

Oregon's proposed low carbon fuel standards

In 2009, the Oregon legislature authorized the Environmental Quality Commission to develop low carbon fuel standards for Oregon. The goal is to reduce the average **carbon intensity** of Oregon's transportation fuels by ten percent over a ten year period. **Carbon intensity** refers to the emissions per unit of fuel; it is not a cap on total emissions or a limit on the amount of fuel that can be burned. **Carbon intensity** encompasses emissions from extraction (growing in the case of biofuels), refinement, distribution, and combustion of a fuel – a true life cycle analysis approach.

DEQ plans to propose two standards, one for gasoline and its substitutes and one for diesel and its substitutes. This approach encourages innovation of lower carbon alternatives for both gasoline and diesel. Each standard will phase in gradually, with most reductions in the last few years to allow more time for the development of lower carbon fuel technologies and the development of alternative fueling infrastructure and more widespread use of alternative fuel vehicles.

Oregon's standards do not mandate the use of specific fuels nor do they mandate specific blending rates for fuels. Oregon's standards do not regulate the public or individual gas stations.

Positive impact on Oregon's economy

Since the vast majority of Oregon's transportation fuels are produced out-of-state, a large negative balance of trade currently exists. Approximately $5 billion left Oregon's economy in 2008 to import transportation fuels.

JFA's analysis shows that with low carbon fuel standards, Oregon's employment, average personal income and gross state product all grow, when compared to the economy without the standards. To meet the standards, significant investment in lower carbon fuels production capacity and fuel distribution infrastructure will be needed.

That new production capacity could be built anywhere, but if it were built in Oregon, it would produce the greatest economic benefit of the program. The extent of the economic gain is dependent on how much construction actually occurs. Complementary policies that support development of this capacity in Oregon would increase the economic benefit of the low carbon fuel standards.

Regardless of where low carbon fuel is produced, infrastructure to deliver that fuel will be needed in Oregon. In particular, installing electric vehicle charging equipment or natural gas dispensing equipment in earlier years would produce economic benefits sooner because its existing distribution system makes it easier and cheaper to implement.

The following table represents the estimated range of economic benefits.

	Range of Benefits over 10 year period
Employment	863 – 29,290 jobs
Personal Income	$60 – $2,630 million
Gross State Product	$70 – $2,140 million

Fuel savings for consumers

JFA's analysis also shows that the low carbon fuel standards would result in lower costs at the pump for fuel users, leaving more funds available for other things.

	Range of Benefits over 10 year period
Fuel Savings	$43 – $1,607 million

State of Oregon
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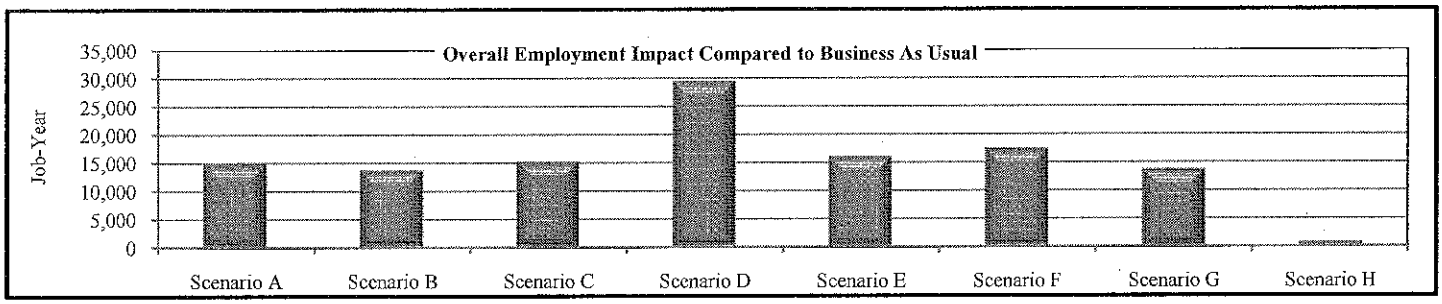
11-AQ-006
Last Updated: 02/28/2011
By: Cory-Ann Wind



Details of the Economic Analysis

To evaluate these possible compliance approaches, eight hypothetical scenarios were developed by DEQ and the advisory committee to test the feasibility of the low carbon fuel standards. The scenarios were analyzed through a computer model to forecast how much and what types of vehicles and fuels would be needed in the future.

The scenarios are described as follows:

- **Scenario A** – Cellulosic Biofuels w/ ILUC (Produced Primarily In-State)
- **Scenario B** – Mixed Biofuels w/ ILUC (Produced Primarily In-State)
- **Scenario C** – Mixed Biofuels w/o ILUC (Produced Primarily In-State)
- **Scenario D** – Electricity, NG and Cellulosic Biofuels w/ ILUC (Produced Primarily In-State)
- **Scenario E** – One combined standard for gasoline and diesel fuel
- **Scenario F** - Same as Scenario C, but assuming higher oil prices
- **Scenario G** – Same as Scenario C, but assuming lower oil prices
- ***Scenario H*** – Cellulosic Biofuels w/ ILUC, Assuming Out-of-State Production

**ILUC - Indirect land use change refers to the concept that changes occur in land uses to accommodate an increase demand for biofuels which results in emissions of greenhouse gases.*

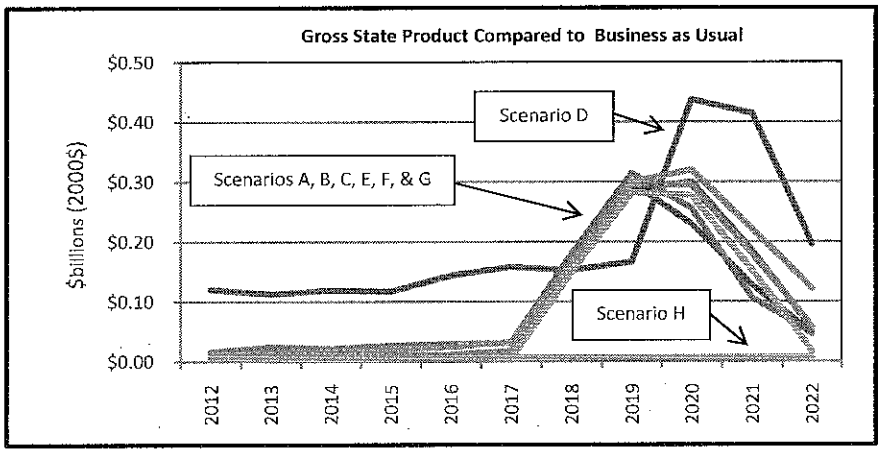
Each scenario was compared to what would happen in the future without low carbon fuel standards. Impacts are provided for economic factors such as employment, gross state product, and personal income across 70 sectors of Oregon's economy.

Observed Trends

All of the biofuels scenarios (A, B, C, E, F, & G) have similar results and their economic benefit is tied closely with constructing new biofuels production capacity in Oregon.

The electricity and natural gas scenario (D), projects the largest positive impact. The reasons for this are two-fold: 1) these fuels are less expensive than liquid fuels; and 2) an existing primary distribution system makes earlier development easier and cheaper.

Scenario (H) assumes that increased biofuels production will occur outside Oregon. This scenario produced the smallest economic benefit for Oregon impact, but it is still positive.



Sensitivity Analysis

Sensitivity analyses were done for three program design factors: the future price of fuels (high, medium, and low), accounting for indirect land use changes (with and without), and using a combined gasoline and diesel standard as opposed to two separate standards. All three had little effect (less than a 10% change in their economic benefit curves) overall.

For more information please contact:

Cory-Ann Wind, Air Quality Planner (503) 229-5388.

Alternative Formats

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About the Study:

The contents of the report, "Economic Impact Analysis of the Low-Carbon Fuel Standard Rule for the State of Oregon", reflect the view of the authors who are solely responsible for the facts and accuracy of the material presented. The contents do not necessarily reflect the official views of the Oregon Department of Environmental Quality (DEQ). The analysis was prepared by Jack Faucett Associates (JFA). The DEQ and consultant, TIAX LLC., developed the Low Carbon Fuel Standard compliance scenarios. TIAX estimated the direct impacts of the scenarios by using the Argonne National Laboratory VISION model and JFA converted the VISION outputs to inputs to the REMI PI+ macroeconomic model for the State of Oregon. The REMI model runs were conducted by REMI Northwest. The inputs and outputs of the REMI model were reviewed by Adam Rose, Ph.D. and Dan Wei, Ph.D. from the University of Southern California. DEQ staff provided project data and insightful reviews of model runs and reports.

Fact Sheet

Oregon's Proposed Low Carbon Fuel Standards

In 2009, the Oregon legislature authorized the Environmental Quality Commission to develop low carbon fuel standards for Oregon. The goal is to reduce the average **carbon intensity** of Oregon's transportation fuels by ten percent over a ten year period. Carbon intensity refers to the emissions per unit of fuel; it is not a cap on total emissions or a limit on the amount of fuel that can be burned. Carbon intensity encompasses emissions from the extraction (growing in the case of biofuels), refinement, distribution, and combustion of a fuel – a true life cycle approach.

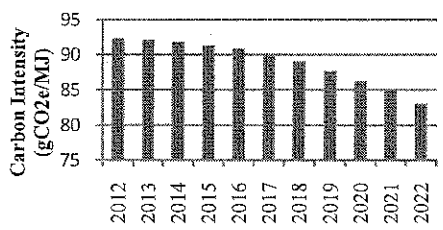
Background

Transportation produces over a third of Oregon's greenhouse gas emissions. If Oregon is to reduce its fair share of greenhouse gas emissions, pollution from these sources must be addressed via three complementary approaches: developing cleaner vehicle technologies, reducing the amount of miles traveled, and developing lower carbon transportation fuels. Oregon's proposed low carbon fuel standards address the third approach.

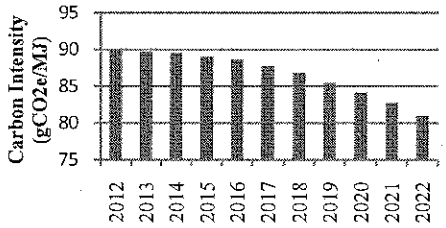
Oregon's proposed low carbon fuel standards

DEQ plans to propose two standards, one for gasoline and its substitutes and one for diesel and its substitutes. This approach encourages innovation of lower carbon alternatives for both gasoline and diesel. Each standard will phase in gradually. Most reductions will occur in the last few years to allow time for the development of lower carbon fuel technologies, alternative fueling infrastructure and more widespread use of alternative fuel vehicles.

Graphs show the compliance schedules for each of the low carbon fuel standards:



*Low Carbon Fuel Standard for **Gasoline** and its Substitutes*



*Low Carbon Fuel Standard for **Diesel** and its Substitutes*

Who is affected by low carbon fuel standards?

The standards will regulate fuel distributors that bring transportation fuels into Oregon. Standards are designed to provide maximum flexibility in allowing fuel distributors to purchase any mix of conventional and lower carbon fuels they desire to meet the standards. As standards tighten over time, more lower-carbon fuels will be needed.

Producers of low carbon fuels such as ethanol, biodiesel, and electricity, and users of natural gas will also be affected because they can earn credits. Credits can be purchased by fuel distributors to help meet the standards.

Oregon's standards will not regulate the public or individual gas stations.

Preventing price increases or fuel shortages

Safeguards protecting businesses and individuals are an important facet of Oregon's low carbon fuel standards.

Analysis shows that the low carbon fuel standards should result in lower fuel costs at the pump. In the event that this does not occur, a safeguard is included to monitor fuel prices and allows for the deferment of Oregon's standards if requirements cause fuel prices to rise.

Oregon's standards can also be deferred if there isn't enough low carbon fuel or credits available to meet the standards.

Exemptions are included to ensure fuels used in specific applications and with special performance needs are not affected. These include farm vehicles and tractors, log trucks, aircraft, racing vehicles, military tactical vehicles, ocean-going vessels and locomotives.

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11-AQ-005
Last Updated: 02/28/2011
By: Cory-Ann Wind

Development of the standards

DEQ convened a 29 member advisory committee to provide input on how standards should be designed. The committee included experts from the conventional and alternative fuels sectors and interested stakeholder groups, including both supporters and opponents of the standards. The overarching principles guiding the advisory committee were to achieve the required greenhouse gas reductions, provide flexibility for compliance, keep it market-based, and protect consumers.

The advisory committee met for over a year to discuss technical and policy issues affecting the design of the standards. The committee's discussions are captured in the report titled "Oregon Low Carbon Fuel Standards: Advisory Committee Process and Program Design". Committee input was used heavily by DEQ in developing the design of its proposed standards. The report is available online.

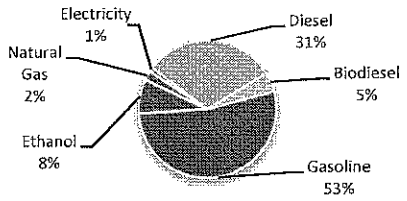
How were potential impacts analyzed?

DEQ used a federal grant to hire an engineering firm with national expertise in fuels life-cycle assessment (TIAX LLC) to explore ways for petroleum companies to comply with Oregon's low carbon fuel standards. Because the standards will not mandate a specific fuel, there can be multiple ways to comply. To evaluate possible compliance approaches, eight hypothetical scenarios were developed by DEQ and the advisory committee to test the feasibility of the low carbon fuel standards. These scenarios evaluated possible futures for Oregon's transportation fuel mix, including increased use of electric vehicles, and increased in-state production of low carbon biofuels.

Each scenario was analyzed with a computer model to forecast how much and what types of vehicles and fuels are needed in the future. This exercise assumed that existing regulations governing the production of biofuels, biofuels blending requirements, and car efficiency standards continued to exist.

The future of Oregon's transportation fuels

Oregon's low carbon fuel standards provide incentives that encourage higher adoption rates of alternative fuel vehicles, more production of lower carbon fuels, and installation of more electric vehicle charging and alternative fuel dispensing equipment. The following is an example of what fuels might be available in 2022:



Possible mix of transportation fuels in 2022 (high rate of electric and natural gas vehicles scenario)

The use of natural gas, electricity, ethanol, and biodiesel will increase in the future, but exactly to what extent is unknown. Even with a low carbon fuel standard, petroleum fuels will remain the most widely used fuel for transportation.

Economic impacts

Using a federal grant, DEQ hired a national expert on the economics of transportation policy (Jack Faucett Associates) to estimate the potential economic impacts of implementing low carbon fuel standards in Oregon. JFA's analysis shows that with a low carbon fuel standard, Oregon's employment, average personal income and gross state product all grow, when compared to the economy without the low carbon fuel standards. There are no cases where the standards have a negative economic effect.

To meet the standards, significant investment in lower carbon fuels production capacity and fuel distribution infrastructure will be needed. That new production capacity could be built anywhere, but if it were built in Oregon, it would produce the greatest economic benefit of the program.

Regardless of where low carbon fuel is produced, infrastructure to deliver that fuel will be needed in Oregon. In particular, installing electric vehicle charging equipment or natural gas dispensing equipment in earlier years would produce economic benefits sooner because its existing distribution system makes it easier and cheaper to implement.

Next steps

In 2011, DEQ will discuss its proposed design for Oregon's low carbon fuels standards with the Oregon legislature and with the public and stakeholders to gather input.

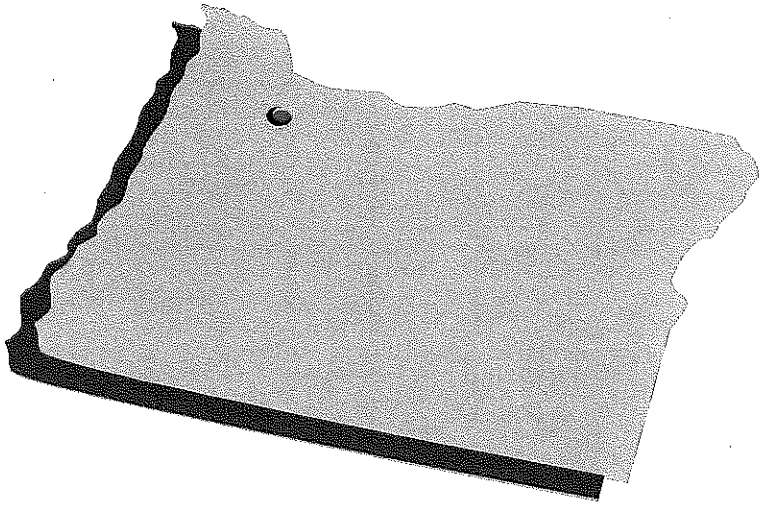
For more information please contact:

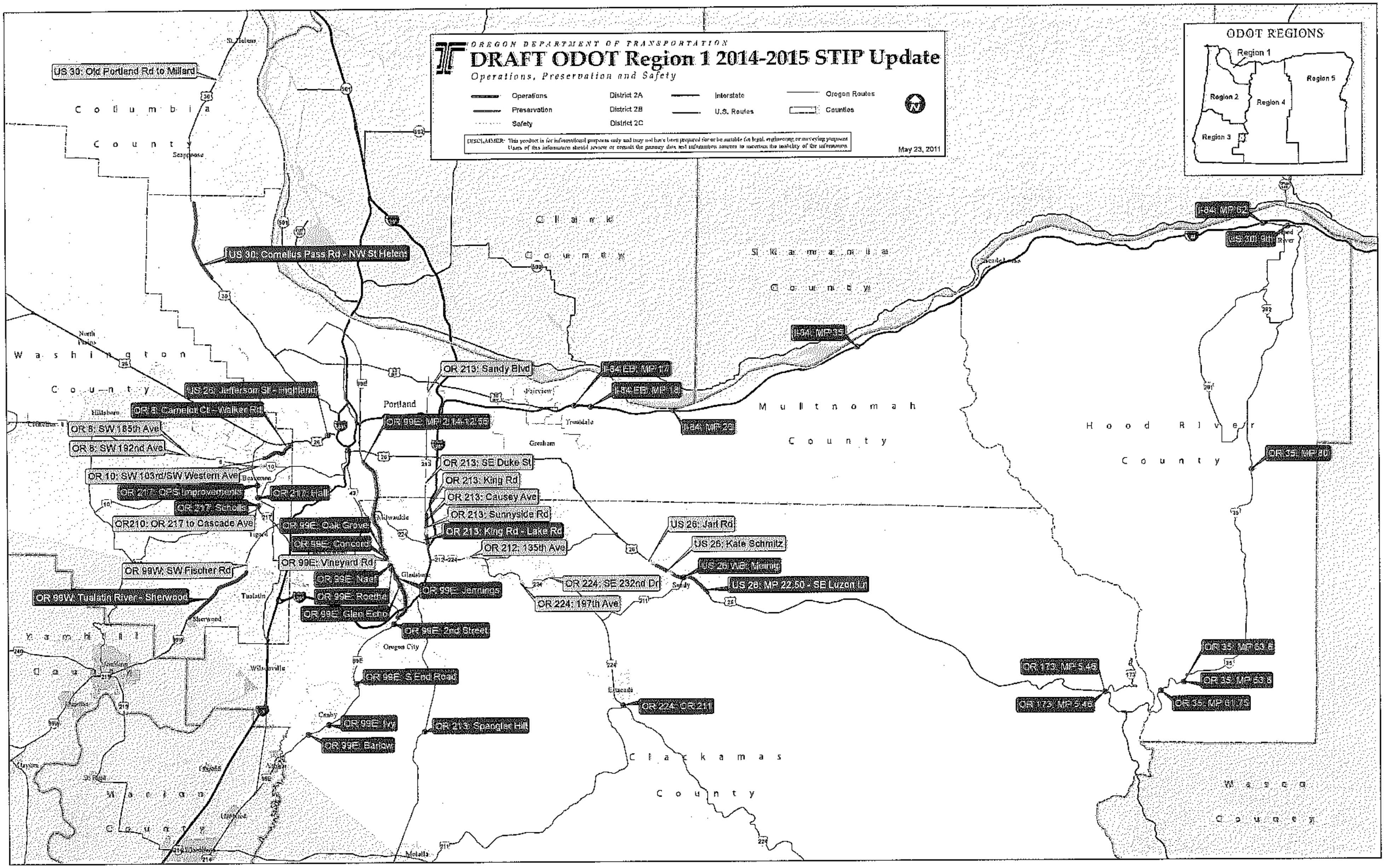
Cory-Ann Wind, Air Quality Planner (503) 229-5388.

Oregon Department of Transportation

Statewide Transportation Improvement Program (STIP)

2014-2015 Draft Outreach Safety Project Information





OREGON DEPARTMENT OF TRANSPORTATION
DRAFT ODOT Region 1 2014-2015 STIP Update
Operations, Preservation and Safety
Operations
Preservation
Safety
District 2A
District 2B
District 2C
Interstate
U.S. Routes
Oregon Routes
Counties
May 23, 2011
ODOT REGIONS
Region 1
Region 2
Region 3
Region 4
Region 5
US 30: Old Portland Rd to Millard
US 30: Cornelius Pass Rd - NW St Helens
US 26: Jefferson St - Highland
OR 8: Camelot Ct - Walker Rd
OR 8: SW 185th Ave
OR 8: SW 192nd Ave
OR 10: SW 103rd/SW Western Ave
OR 217: OPS Improvements
OR 217: Hall
OR 217: Scholls
OR210: OR 217 to Cascade Ave
OR 99W: SW Fischer Rd
OR 99W: Tualatin River - Sherwood
OR 99E: Oak Grove
OR 99E: Concord
OR 99E: Vineyard Rd
OR 99E: Naef
OR 99E: Roethe
OR 99E: Glen Echo
OR 99E: Jennings
OR 99E: 2nd Street
OR 99E: S End Road
OR 99E: Ivy
OR 99E: Barlow
OR 213: Spangler Hill
OR 99E: MP 2.14-12.56
OR 213: Sandy Blvd
I-84 EB: MP 17
I-84 EB: MP 18
I-84: MP 22
I-84: MP 35
I-84: MP 62
US 30: 9th
OR 213: SE Duke St
OR 213: King Rd
OR 213: Causey Ave
OR 213: Sunnyside Rd
OR 213: King Rd - Lake Rd
OR 212: 135th Ave
OR 224: SE 232nd Dr
OR 224: 197th Ave
OR 224: OR 211
US 26: Jarl Rd
US 26: Kate Schmitz
US 26 WB: Meinig
US 26: MP 22.50 - SE Luzon Ln
OR 173: MP 5.46
OR 173: MP 5.48
OR 35: MP 63.8
OR 35: MP 63.8
OR 35: MP 61.75
OR 35: MP 80
Columbia County
Washington County
Clark County
Skamania County
Multnomah County
Hood River County
Clackamas County
Yamhill County
Marion County
Wasco County
St. Helens
Scappoose
North Plains
Hillsboro
Beaverton
Portland
Fairview
Troutdale
Gresham
Milwaukie
Gladstone
Oregon City
Tigard
Tualatin
Sherwood
Wilsonville
Canby
Estacada
Sandy
Molalla

PRG	PROJECT NAME	D
MOD	No 2014-2015 Mod Allocation	
PRES	US30: Cornelius Pass Rd - NW St. Helens Rd (MP 13.12 - 17.90)	1R - 2" grind and inlay of travel lanes with 5% subrade stabilization
PRES	OR99W: Tualatin River Br - Sherwood (MP 12.2 - 16.67)	1R - 2" inlay both west and east bound lanes with 5% subgrade stabilization
PRES	OR213 (82nd Ave): King Rd - Lake Rd (MP 8.2 - 9.9)	1R - 2" grind and inlay of travel lanes
PRES	US26: MP 22.5 to SE Luzon Lane	1R - 2" grind and inlay of travel lanes
SAFE	OR99W: SW Fischer Road	Improve intersection at Fischer Rd to allow SB U-turns. Close median opening t
SAFE	US30: Old Portland Road to Millard	Intersection improvements at Old Portland Rd, Bennett Rd, and Millard.
SAFE	OR210: OR217 to Cascade Ave	Intersection improvements at Hwy 217 and Cascade Ave; adding programmed s
SAFE	OR8: SW 185th Ave	Install Traffic separators to West and East of 185th. WB OR8 add right turn lane
SAFE	OR8: SW 192nd Ave	Install traffic separator west and east of 192nd.
SAFE	OR10: SW 103rd/SW Western Ave	Install traffic separators west of Western, ped improvements, reduce crossing dis
SAFE	OR 213 (82nd Ave): Sandy Blvd	Intersection improvements including advance signal head NB, countdown Ped si
SAFE	OR 213 (82nd Ave): SE Duke Street	Intersection improvements, signal upgrade, pedestrian and sidewalk improveme
SAFE	OR 213 (82nd Ave): King Rd	Install traffic separator south of King Rd. Intersection improvements on King, rer
SAFE	OR 213 (82nd Ave): Causey Ave	Install traffic separator provide alternative left turns
SAFE	OR 213 (82nd Ave) Sunnyside Rd	Install traffic separator north of Sunnyside allow U-turns
SAFE	OR 99E: Vineyard Rd	Intersection and pedestrian improvments
SAFE	OR 212: 135th Ave	Intersection improvements including protected left turns on 135th.
SAFE	US26 (Mt Hood Hwy): Jarl Rd	Improve signal visibility and warning, add right turn lane WB
SAFE	US26 (Mt Hood Hwy): Kate Schmitz	Install traffic separator
SAFE	2014 Priority Safety Improvements Reserve	Safety Reserve for priority safety improvements
SAFE	OR224 (Clackamas Hwy): 197th Avenue	Flatten curve, widen shoulders and add guardrail
SAFE	OR224 (Clackamas Hwy): SE 232nd Dr	Add left and right turn lanes to 232nd
OPS	Illumination - OR217: Hall and Scholls/Progress Interchanges	New poles and new service
OPS	ITS - I-84: Frontage Rd (MP 17) EB	VMS
OPS	ITS - OR99E: MP 2.14 - 12.56	CCTV & Communications -- Camera
OPS	ITS - OR99E: 2nd Street	CCTV
OPS	ITS - OR99E: South End Road	CCTV
OPS	ITS - OR213: Spangler Hill	RWIS -- Weather Information Station
OPS	ITS - OR99E: Ivy St (Canby)	CCTV
OPS	ITS - I-84: MP 62	CCTV
OPS	ITS - I-84: MP 35	CCTV
OPS	ITS - I-84: MP 23	CCTV
OPS	ITS - I-84: MP 18 EB	VMS
OPS	ITS - OR173: MP 0 NB	CCTV, Temperature
OPS	ITS - OR173: MP 0 SB	VMS
OPS	ITS - OR35: MP 63.8	VMS
OPS	ITS - OR35: MP 63.8	CCTV
OPS	ITS - US26: MP 61.75	CCTV
OPS	ITS - OR35: MP 80 SB	VMS
OPS	Signals - OR99E: Barlow	Signal Upgrades
OPS	Signals - OR99E: Concord, Oak Grove, Naef, Roethe, Jennings, Glen Echo	Signal Upgrades
OPS	Signals - US30: Oak @ 9th	Signal Upgrades
OPS	Signals - US26: (Proctor WB) @ Meinig	Signal Upgrades
OPS	Signals - OR8: Camelot Court - Walker Road	Signal Upgrades
OPS	Signals - Hwy 224 @ Hwy 211	Signal Upgrades
OPS	OR217 Operational Improvements	Improvements being based on OR217 Study
OPS	Interstate Operations Improvements	Identification and design of interstate operational improvements
OPS	Slides/Rockfalls - Rockfall Investigations	Investigate Rockfall issues

OR99W AT SW FISCHER ROAD
INTERSECTION IMPROVEMENT DIAGRAM

WHAT'S THE PROBLEM ?

2004-2008 COLLISION HISTORY

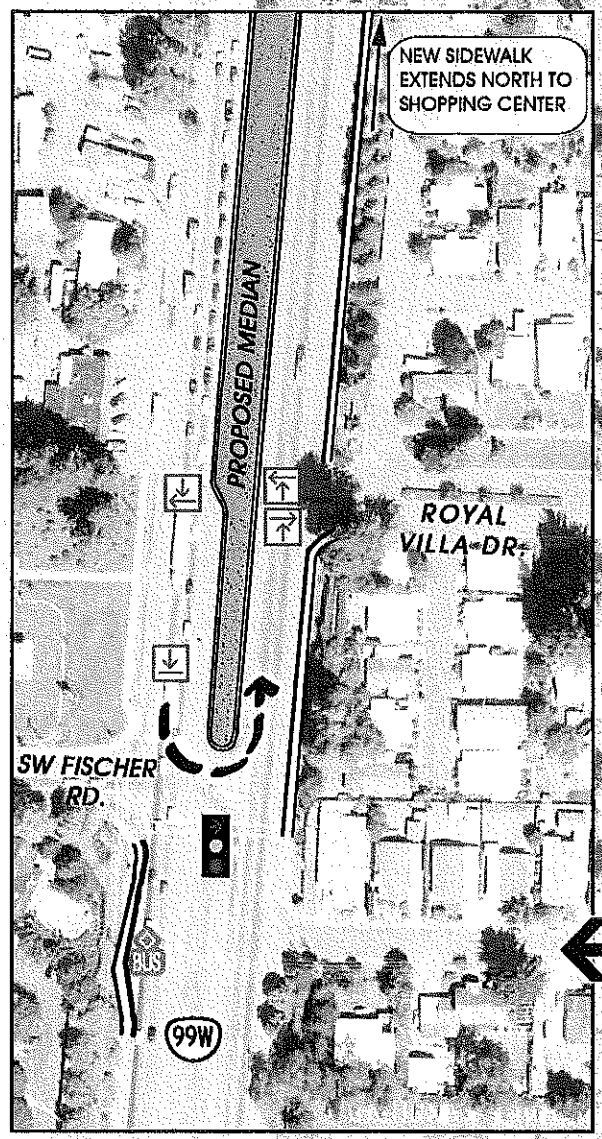
38 TOTAL COLLISIONS

- 0 SERIOUS INJURIES & 0 FATALITIES

PREDOMINANT COLLISION TYPES

REAR-END COLLISIONS SOUTHBOUND, SOUTH OF SW FISCHER ROAD

T-BONE COLLISIONS AT MEDIAN OPENING DUE TO LEFT-TURNING AND CROSSING TRAFFIC FROM DRIVEWAY



PROPOSED SOLUTIONS

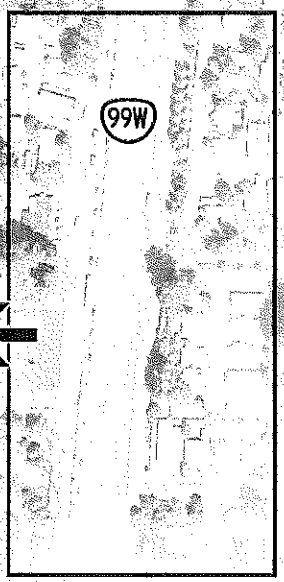
CLOSE OPENING IN MEDIAN AT SW ROYAL VILLA DRIVE
- Eliminates T-bone collisions

PROVIDE U-TURNS AT SW FISCHER ROAD AND SW DURHAM ROAD
- Provides for driveway access

ADD SIGNAL FOR NEW U-TURN LANE
- Provides for U-turns

ADD BUS PULL-OUT SOUTHBOUND, SOUTH OF FISCHER ROAD INTERSECTION
- Increases signal visibility, reducing rear-end collisions

ADD NEW SIDEWALK NORTHBOUND NORTH OF FISCHER ROAD INTERSECTION
- Increases pedestrian safety



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QUESTIONS OR COMMENTS?

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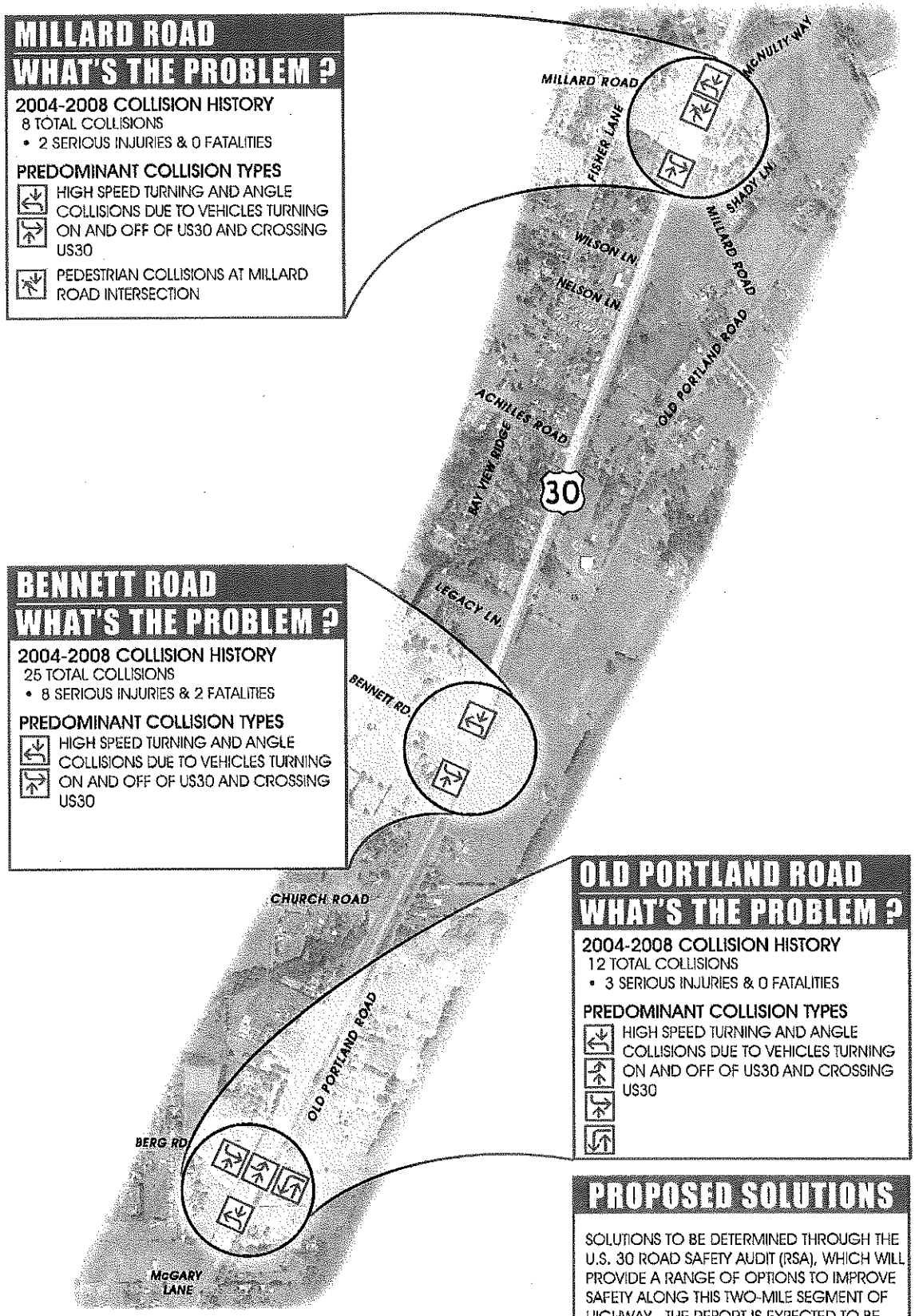
NORTH

US30: OLD PORTLAND ROAD TO MILLARD ROAD
INTERSECTION IMPROVEMENT DIAGRAM



MILLARD ROAD
WHAT'S THE PROBLEM?

2004-2008 COLLISION HISTORY
8 TOTAL COLLISIONS
- 2 SERIOUS INJURIES & 0 FATALITIES

PREDOMINANT COLLISION TYPES
- HIGH SPEED TURNING AND ANGLE COLLISIONS DUE TO VEHICLES TURNING ON AND OFF OF US30 AND CROSSING US30
- PEDESTRIAN COLLISIONS AT MILLARD ROAD INTERSECTION

BENNETT ROAD
WHAT'S THE PROBLEM?

2004-2008 COLLISION HISTORY
25 TOTAL COLLISIONS
- 8 SERIOUS INJURIES & 2 FATALITIES

PREDOMINANT COLLISION TYPES
- HIGH SPEED TURNING AND ANGLE COLLISIONS DUE TO VEHICLES TURNING ON AND OFF OF US30 AND CROSSING US30

OLD PORTLAND ROAD
WHAT'S THE PROBLEM?

2004-2008 COLLISION HISTORY
12 TOTAL COLLISIONS
- 3 SERIOUS INJURIES & 0 FATALITIES

PREDOMINANT COLLISION TYPES
- HIGH SPEED TURNING AND ANGLE COLLISIONS DUE TO VEHICLES TURNING ON AND OFF OF US30 AND CROSSING US30

PROPOSED SOLUTIONS

SOLUTIONS TO BE DETERMINED THROUGH THE U.S. 30 ROAD SAFETY AUDIT (RSA), WHICH WILL PROVIDE A RANGE OF OPTIONS TO IMPROVE SAFETY ALONG THIS TWO-MILE SEGMENT OF HIGHWAY. THE REPORT IS EXPECTED TO BE COMPLETE BY JUNE 2011.

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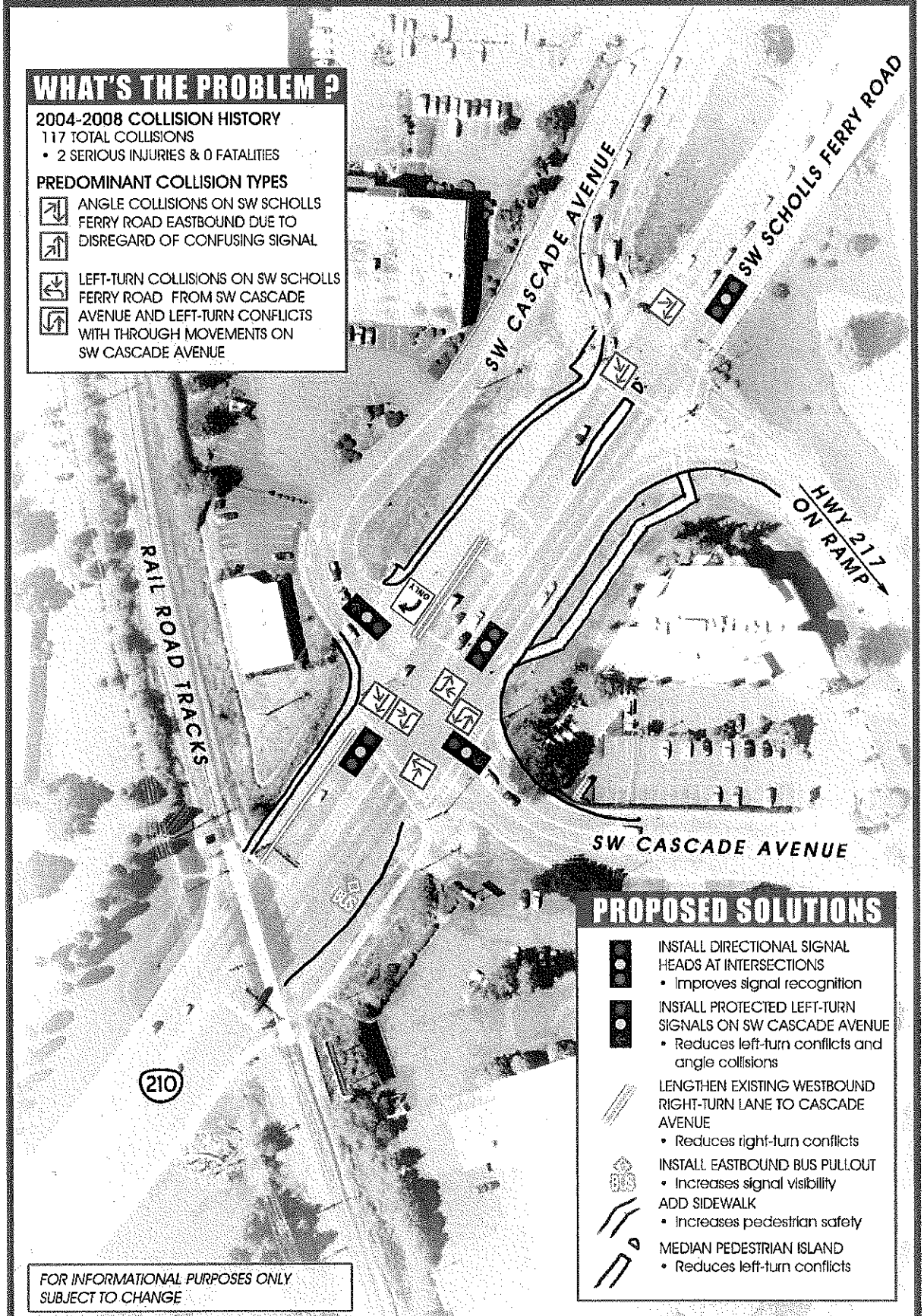
SW SCHOLLS FERRY ROAD AT CASCADE AVENUE
INTERSECTION IMPROVEMENT DIAGRAM



WHAT'S THE PROBLEM ?

2004-2008 COLLISION HISTORY
117 TOTAL COLLISIONS
- 2 SERIOUS INJURIES & 0 FATALITIES

PREDOMINANT COLLISION TYPES

ANGLE COLLISIONS ON SW SCHOLLS FERRY ROAD EASTBOUND DUE TO DISREGARD OF CONFUSING SIGNAL

LEFT-TURN COLLISIONS ON SW SCHOLLS FERRY ROAD FROM SW CASCADE AVENUE AND LEFT-TURN CONFLICTS WITH THROUGH MOVEMENTS ON SW CASCADE AVENUE

PROPOSED SOLUTIONS

INSTALL DIRECTIONAL SIGNAL HEADS AT INTERSECTIONS
- Improves signal recognition

INSTALL PROTECTED LEFT-TURN SIGNALS ON SW CASCADE AVENUE
- Reduces left-turn conflicts and angle collisions

LENGTHEN EXISTING WESTBOUND RIGHT-TURN LANE TO CASCADE AVENUE
- Reduces right-turn conflicts

INSTALL EASTBOUND BUS PULLOUT
- Increases signal visibility

ADD SIDEWALK
- Increases pedestrian safety

MEDIAN PEDESTRIAN ISLAND
- Reduces left-turn conflicts

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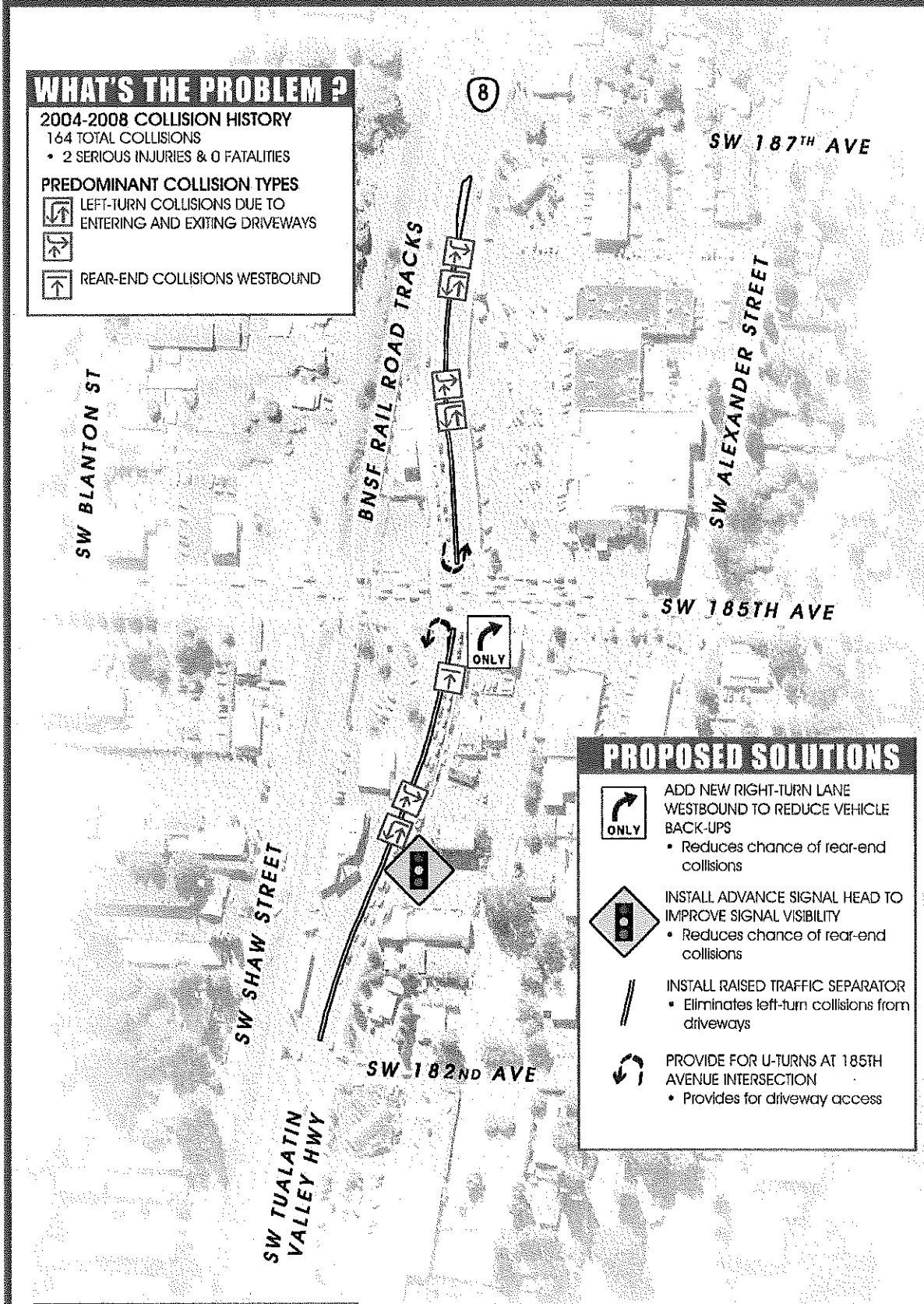
SW TUALATIN VALLEY HIGHWAY AT 185TH AVENUE
INTERSECTION IMPROVEMENT DIAGRAM



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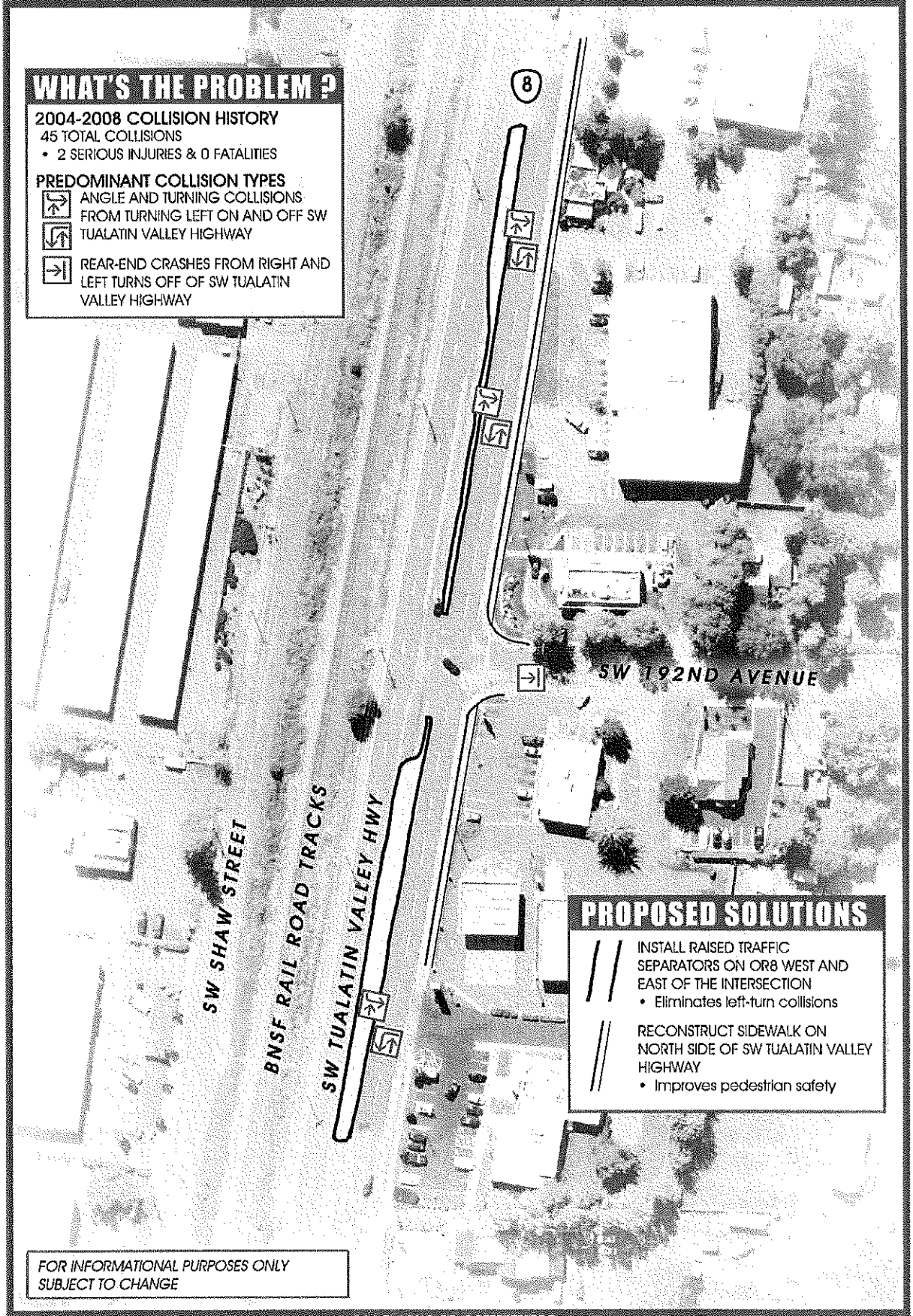
SW TUALATIN VALLEY HIGHWAY AT 192ND AVENUE
INTERSECTION IMPROVEMENT DIAGRAM



WHAT'S THE PROBLEM ?

2004-2008 COLLISION HISTORY

45 TOTAL COLLISIONS
- 2 SERIOUS INJURIES & 0 FATALITIES

PREDOMINANT COLLISION TYPES

ANGLE AND TURNING COLLISIONS FROM TURNING LEFT ON AND OFF SW TUALATIN VALLEY HIGHWAY

REAR-END CRASHES FROM RIGHT AND LEFT TURNS OFF OF SW TUALATIN VALLEY HIGHWAY

PROPOSED SOLUTIONS

INSTALL RAISED TRAFFIC SEPARATORS ON OR8 WEST AND EAST OF THE INTERSECTION
- Eliminates left-turn collisions

RECONSTRUCT SIDEWALK ON NORTH SIDE OF SW TUALATIN VALLEY HIGHWAY
- Improves pedestrian safety

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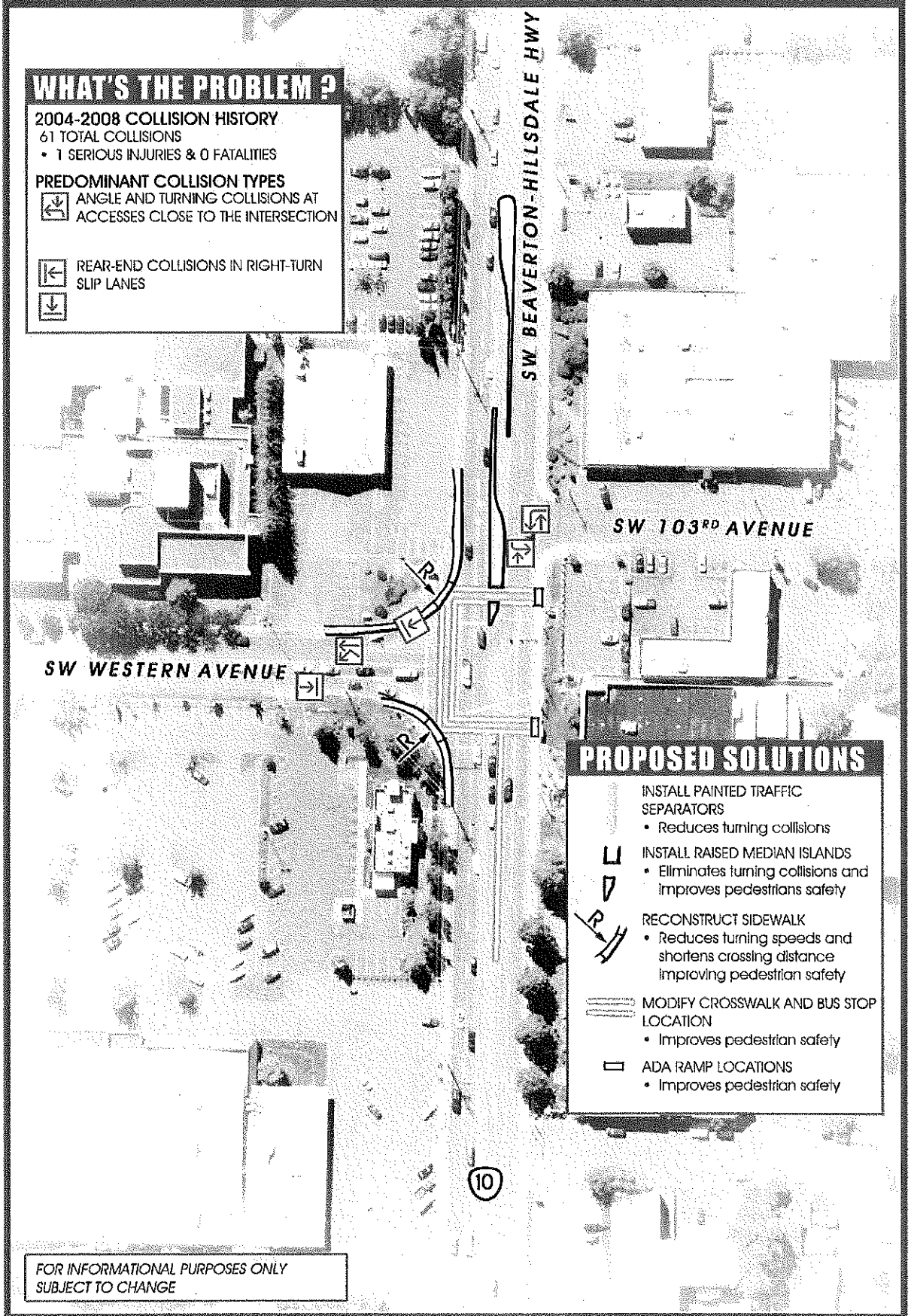
SW BEAVERTON-HILLSDALE HIGHWAY AT SW 103RD AVENUE
INTERSECTION IMPROVEMENT DIAGRAM



WHAT'S THE PROBLEM ?

2004-2008 COLLISION HISTORY
61 TOTAL COLLISIONS
- 1 SERIOUS INJURIES & 0 FATALITIES

PREDOMINANT COLLISION TYPES
- ANGLE AND TURNING COLLISIONS AT ACCESSES CLOSE TO THE INTERSECTION
- REAR-END COLLISIONS IN RIGHT-TURN SLIP LANES

PROPOSED SOLUTIONS

- INSTALL PAINTED TRAFFIC SEPARATORS
  - Reduces turning collisions
- INSTALL RAISED MEDIAN ISLANDS
  - Eliminates turning collisions and improves pedestrians safety
- RECONSTRUCT SIDEWALK
  - Reduces turning speeds and shortens crossing distance improving pedestrian safety
- MODIFY CROSSWALK AND BUS STOP LOCATION
  - Improves pedestrian safety
- ADA RAMP LOCATIONS
  - Improves pedestrian safety

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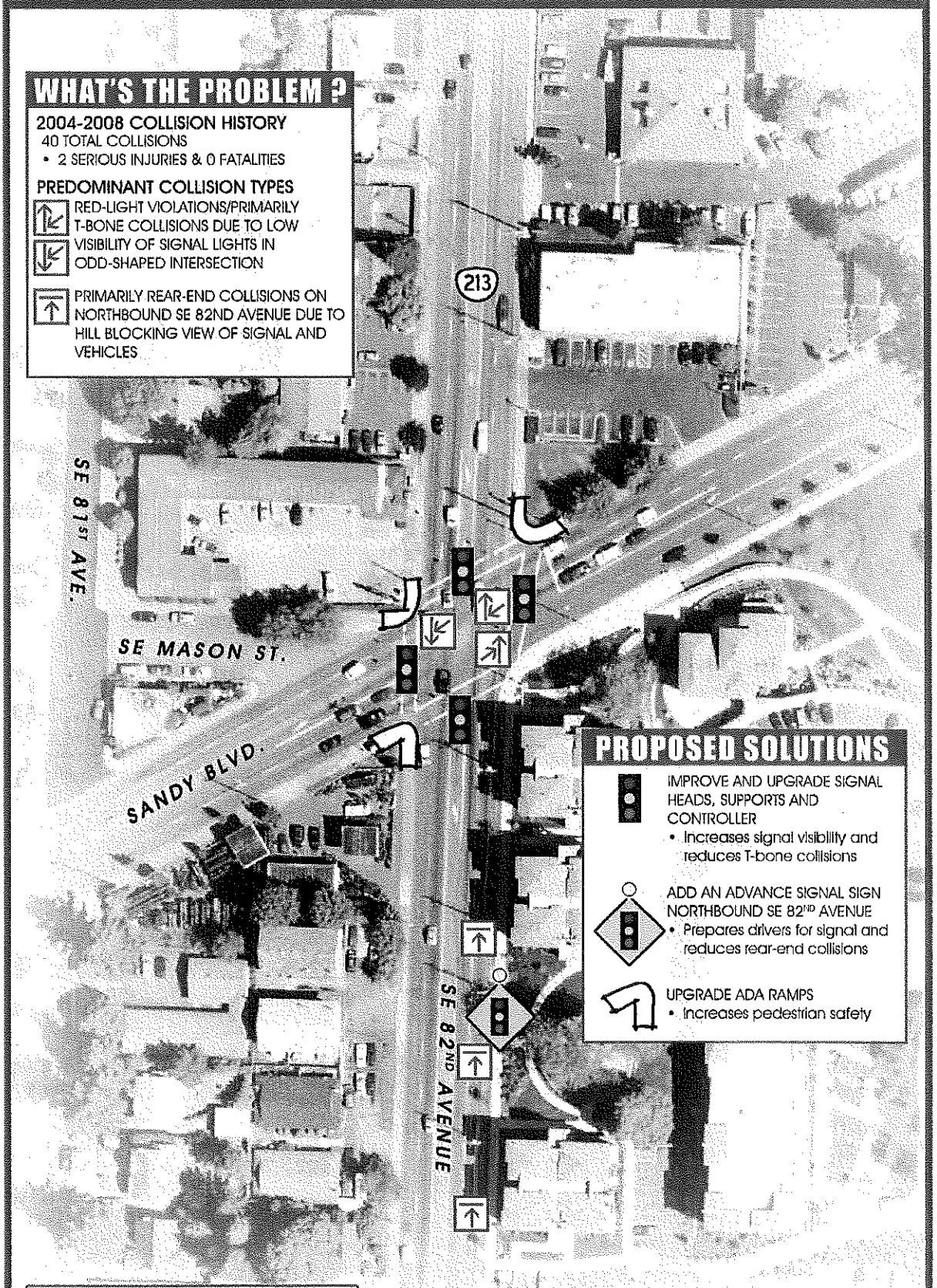
SE 82ND AVENUE AT SE SANDY BOULEVARD
INTERSECTION IMPROVEMENT DIAGRAM



WHAT'S THE PROBLEM ?

2004-2008 COLLISION HISTORY

40 TOTAL COLLISIONS
- 2 SERIOUS INJURIES & 0 FATALITIES

PREDOMINANT COLLISION TYPES

RED-LIGHT VIOLATIONS/PRIMARILY T-BONE COLLISIONS DUE TO LOW VISIBILITY OF SIGNAL LIGHTS IN ODD-SHAPED INTERSECTION

PRIMARILY REAR-END COLLISIONS ON NORTHBOUND SE 82ND AVENUE DUE TO HILL BLOCKING VIEW OF SIGNAL AND VEHICLES

PROPOSED SOLUTIONS

IMPROVE AND UPGRADE SIGNAL HEADS, SUPPORTS AND CONTROLLER
- Increases signal visibility and reduces T-bone collisions

ADD AN ADVANCE SIGNAL SIGN NORTHBOUND SE 82ND AVENUE
- Prepares drivers for signal and reduces rear-end collisions

UPGRADE ADA RAMPS
- Increases pedestrian safety

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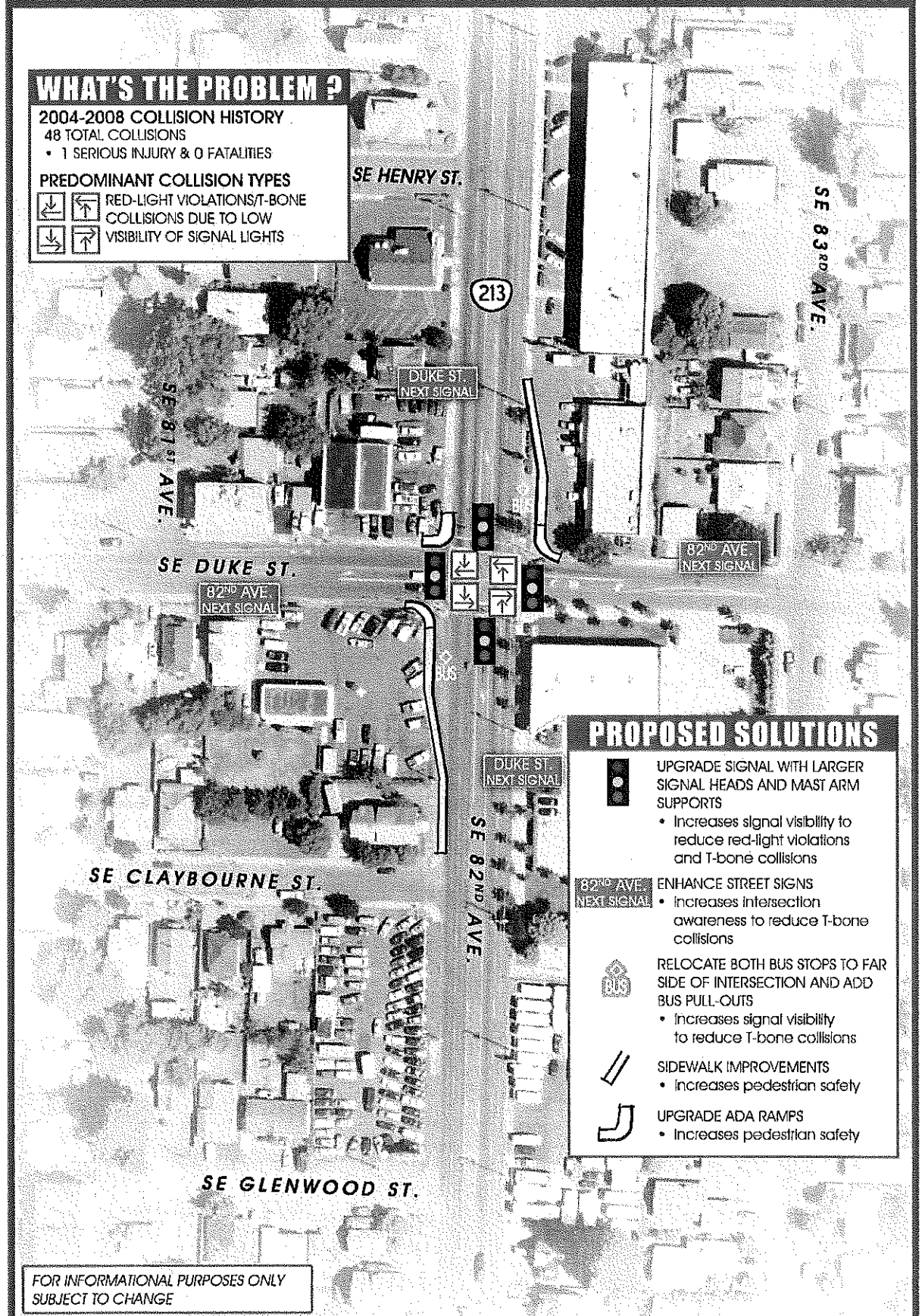
SE 82ND AVENUE AT SE DUKE STREET
INTERSECTION IMPROVEMENT DIAGRAM



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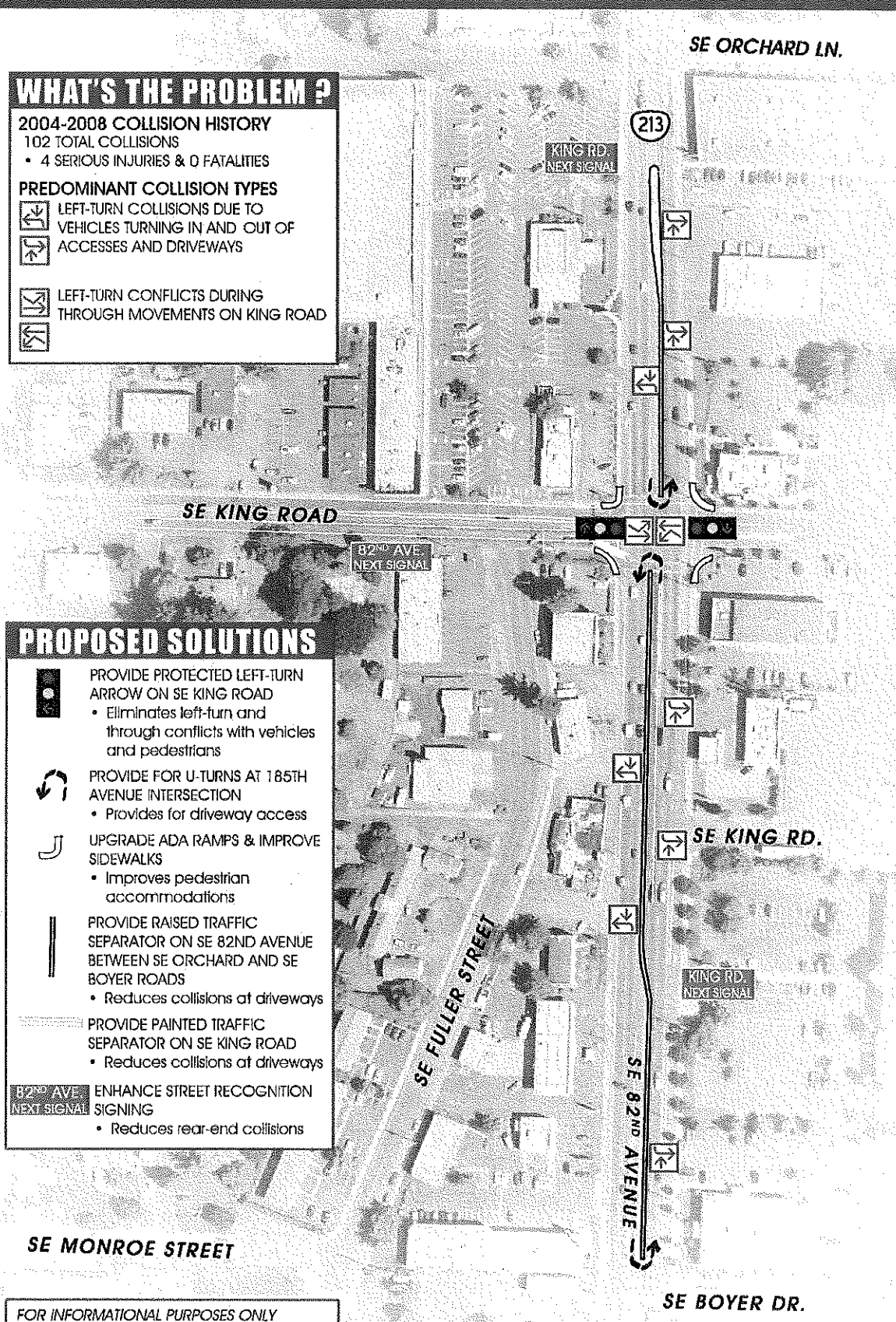
SE 82ND AVENUE AT SE KING ROAD
INTERSECTION IMPROVEMENT DIAGRAM



WHAT'S THE PROBLEM ?

2004-2008 COLLISION HISTORY

102 TOTAL COLLISIONS

- 4 SERIOUS INJURIES & 0 FATALITIES

PREDOMINANT COLLISION TYPES

LEFT-TURN COLLISIONS DUE TO VEHICLES TURNING IN AND OUT OF ACCESSES AND DRIVEWAYS

LEFT-TURN CONFLICTS DURING THROUGH MOVEMENTS ON KING ROAD

PROPOSED SOLUTIONS

PROVIDE PROTECTED LEFT-TURN ARROW ON SE KING ROAD
- Eliminates left-turn and through conflicts with vehicles and pedestrians

PROVIDE FOR U-TURNS AT 185TH AVENUE INTERSECTION
- Provides for driveway access

UPGRADE ADA RAMPS & IMPROVE SIDEWALKS
- Improves pedestrian accommodations

PROVIDE RAISED TRAFFIC SEPARATOR ON SE 82ND AVENUE BETWEEN SE ORCHARD AND SE BOYER ROADS
- Reduces collisions at driveways

PROVIDE PAINTED TRAFFIC SEPARATOR ON SE KING ROAD
- Reduces collisions at driveways

82ND AVE. NEXT SIGNAL ENHANCE STREET RECOGNITION SIGNING
- Reduces rear-end collisions

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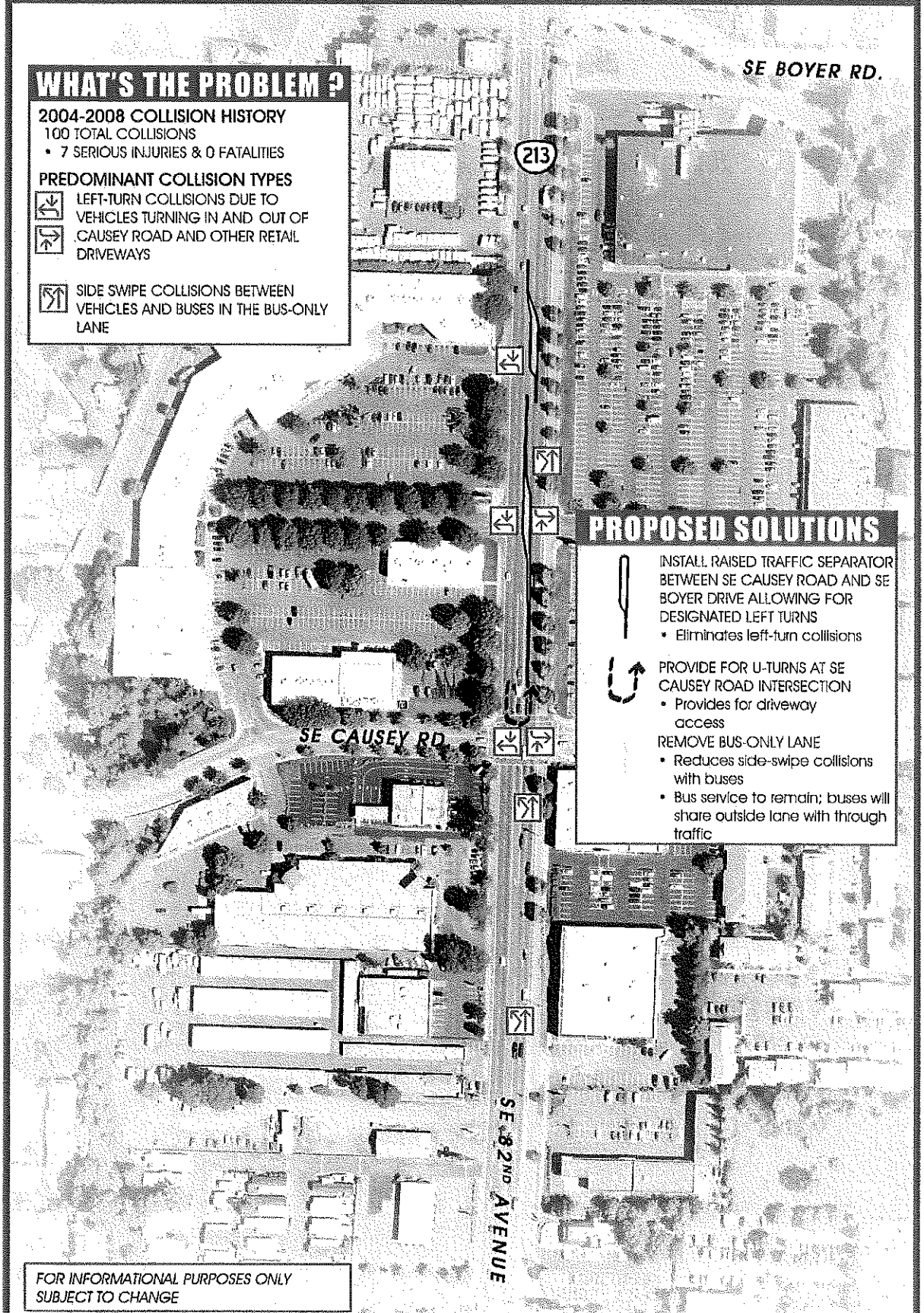
SE 82ND AVENUE AT SE CAUSEY ROAD
INTERSECTION IMPROVEMENT DIAGRAM



WHAT'S THE PROBLEM?

2004-2008 COLLISION HISTORY

100 TOTAL COLLISIONS

- 7 SERIOUS INJURIES & 0 FATALITIES

PREDOMINANT COLLISION TYPES

LEFT-TURN COLLISIONS DUE TO VEHICLES TURNING IN AND OUT OF CAUSEY ROAD AND OTHER RETAIL DRIVEWAYS

SIDE SWIPE COLLISIONS BETWEEN VEHICLES AND BUSES IN THE BUS-ONLY LANE

PROPOSED SOLUTIONS

INSTALL RAISED TRAFFIC SEPARATOR BETWEEN SE CAUSEY ROAD AND SE BOYER DRIVE ALLOWING FOR DESIGNATED LEFT TURNS

- Eliminates left-turn collisions

PROVIDE FOR U-TURNS AT SE CAUSEY ROAD INTERSECTION

- Provides for driveway access

REMOVE BUS-ONLY LANE

- Reduces side-swipe collisions with buses
- Bus service to remain; buses will share outside lane with through traffic

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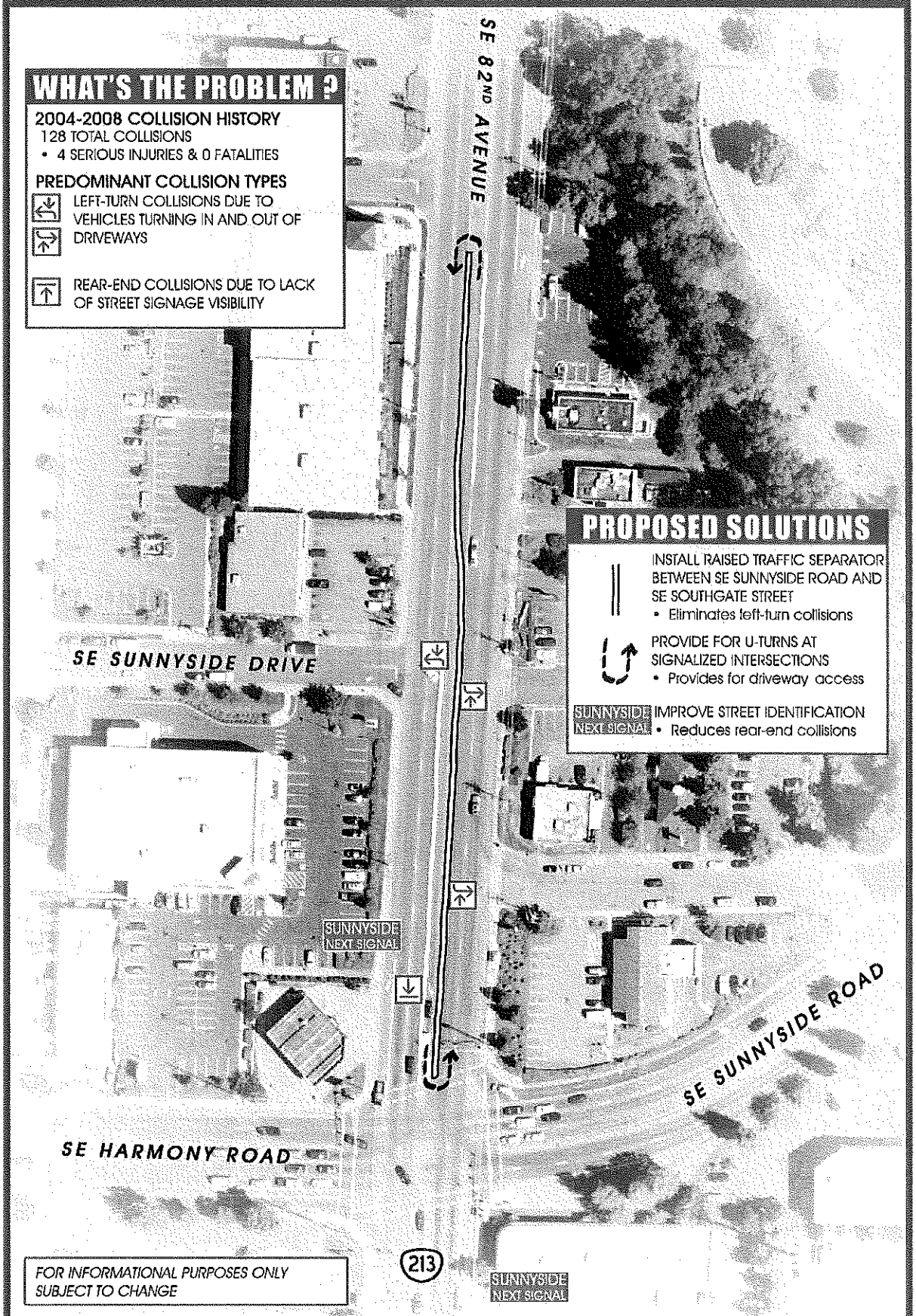
SE 82ND AVENUE AT SE SUNNYSIDE ROAD
INTERSECTION IMPROVEMENT DIAGRAM



WHAT'S THE PROBLEM?

2004-2008 COLLISION HISTORY
128 TOTAL COLLISIONS
- 4 SERIOUS INJURIES & 0 FATALITIES

PREDOMINANT COLLISION TYPES

LEFT-TURN COLLISIONS DUE TO VEHICLES TURNING IN AND OUT OF DRIVEWAYS

REAR-END COLLISIONS DUE TO LACK OF STREET SIGNAGE VISIBILITY

PROPOSED SOLUTIONS

INSTALL RAISED TRAFFIC SEPARATOR BETWEEN SE SUNNYSIDE ROAD AND SE SOUTHGATE STREET
- Eliminates left-turn collisions

PROVIDE FOR U-TURNS AT SIGNALIZED INTERSECTIONS
- Provides for driveway access

IMPROVE STREET IDENTIFICATION
- Reduces rear-end collisions

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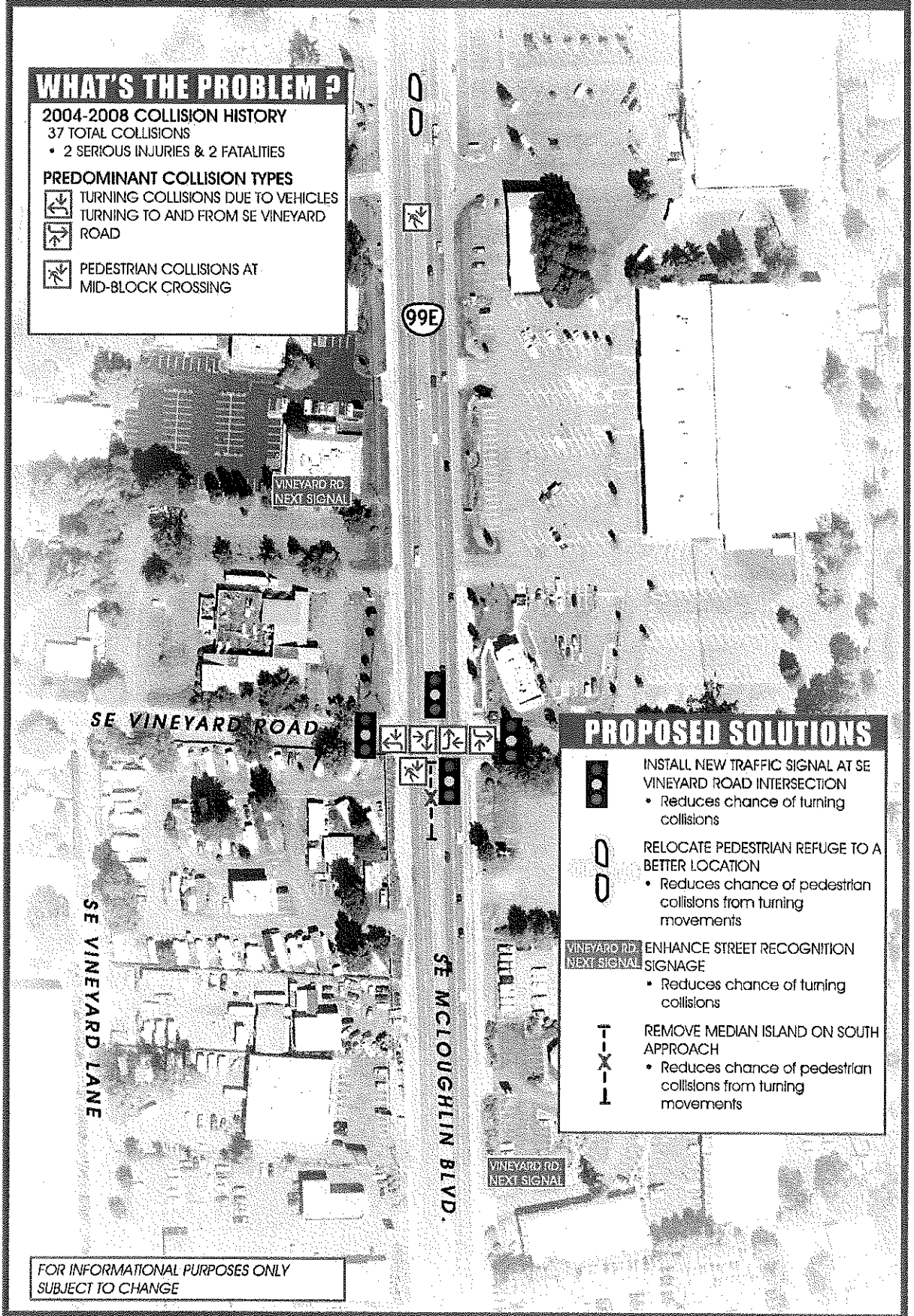
OR99E AT SE VINEYARD ROAD
INTERSECTION IMPROVEMENT DIAGRAM



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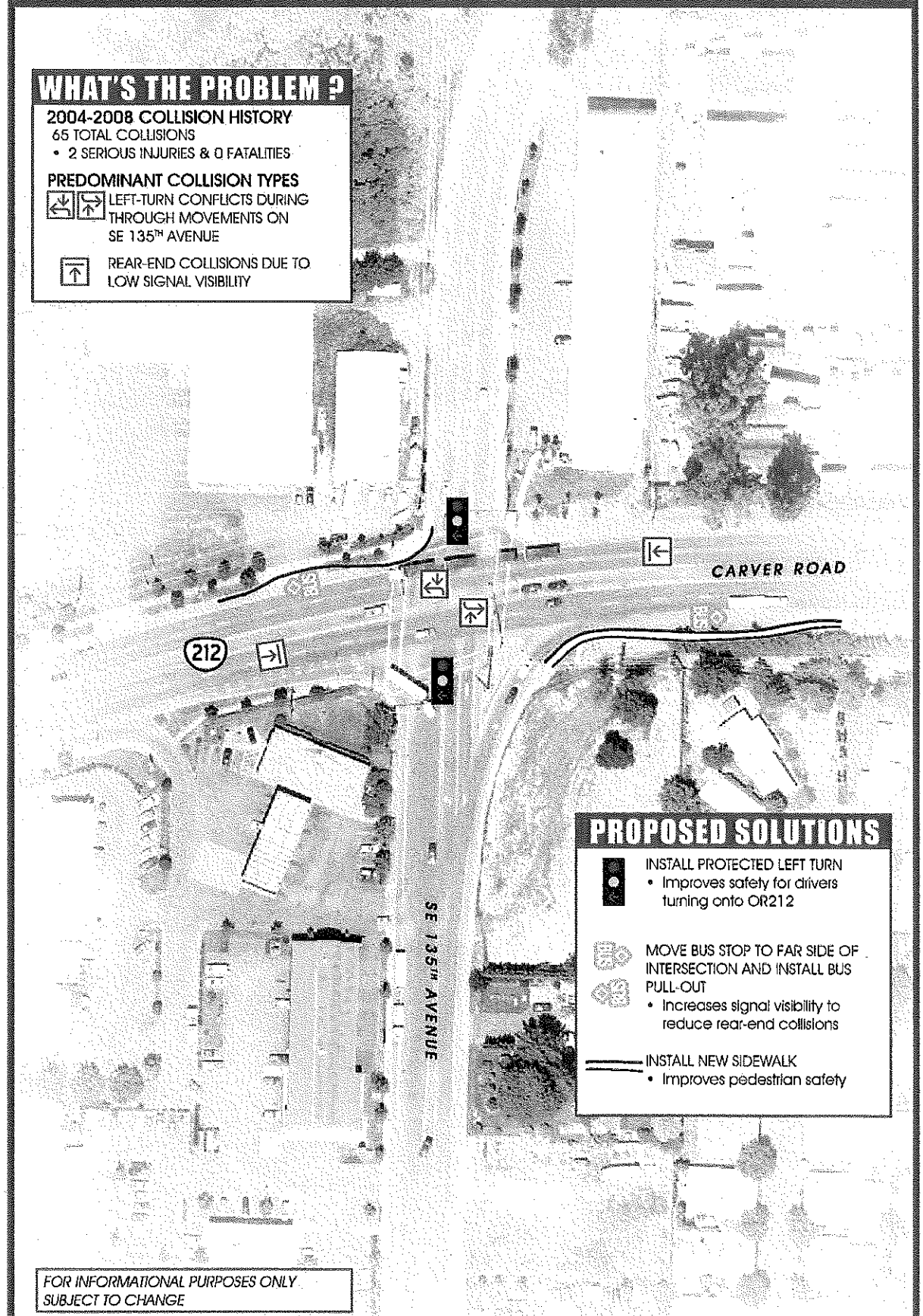
OR212 AT SE 135TH AVENUE
INTERSECTION IMPROVEMENT DIAGRAM



WHAT'S THE PROBLEM ?

2004-2008 COLLISION HISTORY

65 TOTAL COLLISIONS
- 2 SERIOUS INJURIES & 0 FATALITIES

PREDOMINANT COLLISION TYPES

LEFT-TURN CONFLICTS DURING THROUGH MOVEMENTS ON SE 135TH AVENUE

REAR-END COLLISIONS DUE TO LOW SIGNAL VISIBILITY

PROPOSED SOLUTIONS

INSTALL PROTECTED LEFT TURN
- Improves safety for drivers turning onto OR212

MOVE BUS STOP TO FAR SIDE OF INTERSECTION AND INSTALL BUS PULL-OUT
- Increases signal visibility to reduce rear-end collisions

INSTALL NEW SIDEWALK
- Improves pedestrian safety

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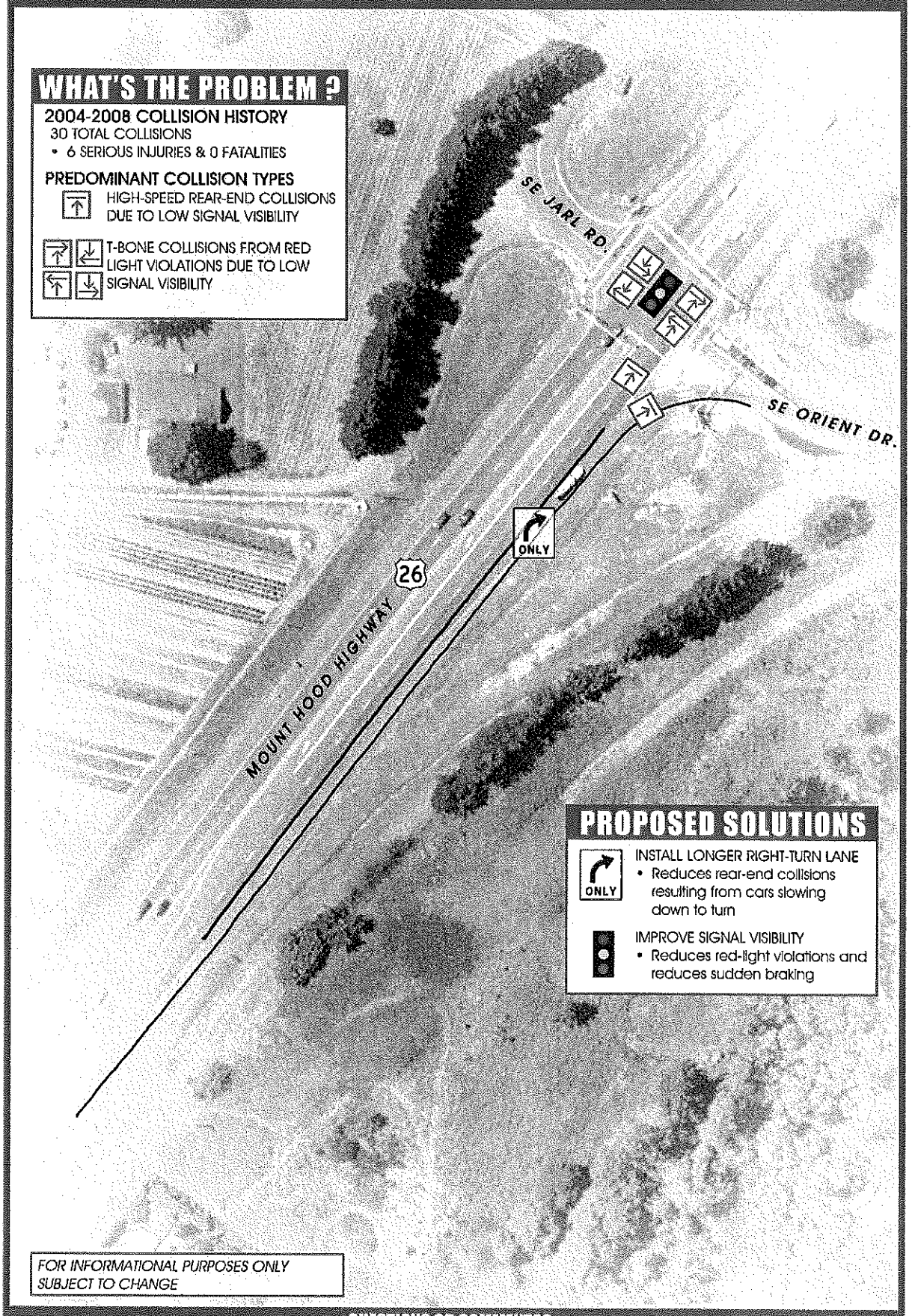
US26 AT SE JARL ROAD
INTERSECTION IMPROVEMENT DIAGRAM



WHAT'S THE PROBLEM ?

2004-2008 COLLISION HISTORY

30 TOTAL COLLISIONS

- 6 SERIOUS INJURIES & 0 FATALITIES

PREDOMINANT COLLISION TYPES

HIGH-SPEED REAR-END COLLISIONS DUE TO LOW SIGNAL VISIBILITY

T-BONE COLLISIONS FROM RED LIGHT VIOLATIONS DUE TO LOW SIGNAL VISIBILITY

PROPOSED SOLUTIONS

INSTALL LONGER RIGHT-TURN LANE

- Reduces rear-end collisions resulting from cars slowing down to turn

IMPROVE SIGNAL VISIBILITY

- Reduces red-light violations and reduces sudden braking

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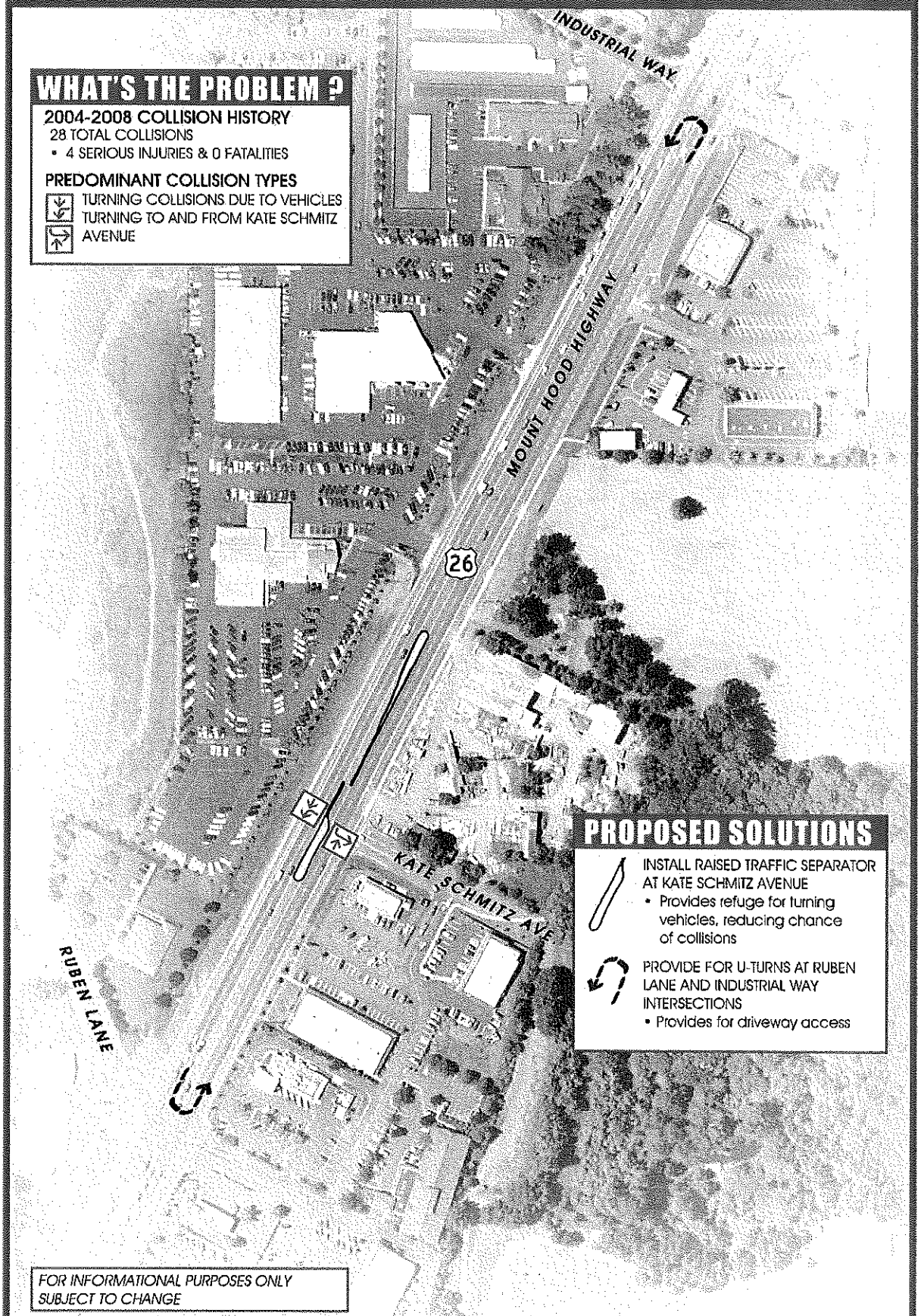
US26 AT KATE SCHMITZ AVENUE
INTERSECTION IMPROVEMENT DIAGRAM



WHAT'S THE PROBLEM ?

2004-2008 COLLISION HISTORY

28 TOTAL COLLISIONS

- 4 SERIOUS INJURIES & 0 FATALITIES

PREDOMINANT COLLISION TYPES

TURNING COLLISIONS DUE TO VEHICLES TURNING TO AND FROM KATE SCHMITZ AVENUE

PROPOSED SOLUTIONS

INSTALL RAISED TRAFFIC SEPARATOR AT KATE SCHMITZ AVENUE

- Provides refuge for turning vehicles, reducing chance of collisions

PROVIDE FOR U-TURNS AT RUBEN LANE AND INDUSTRIAL WAY INTERSECTIONS

- Provides for driveway access

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APRIL 2011

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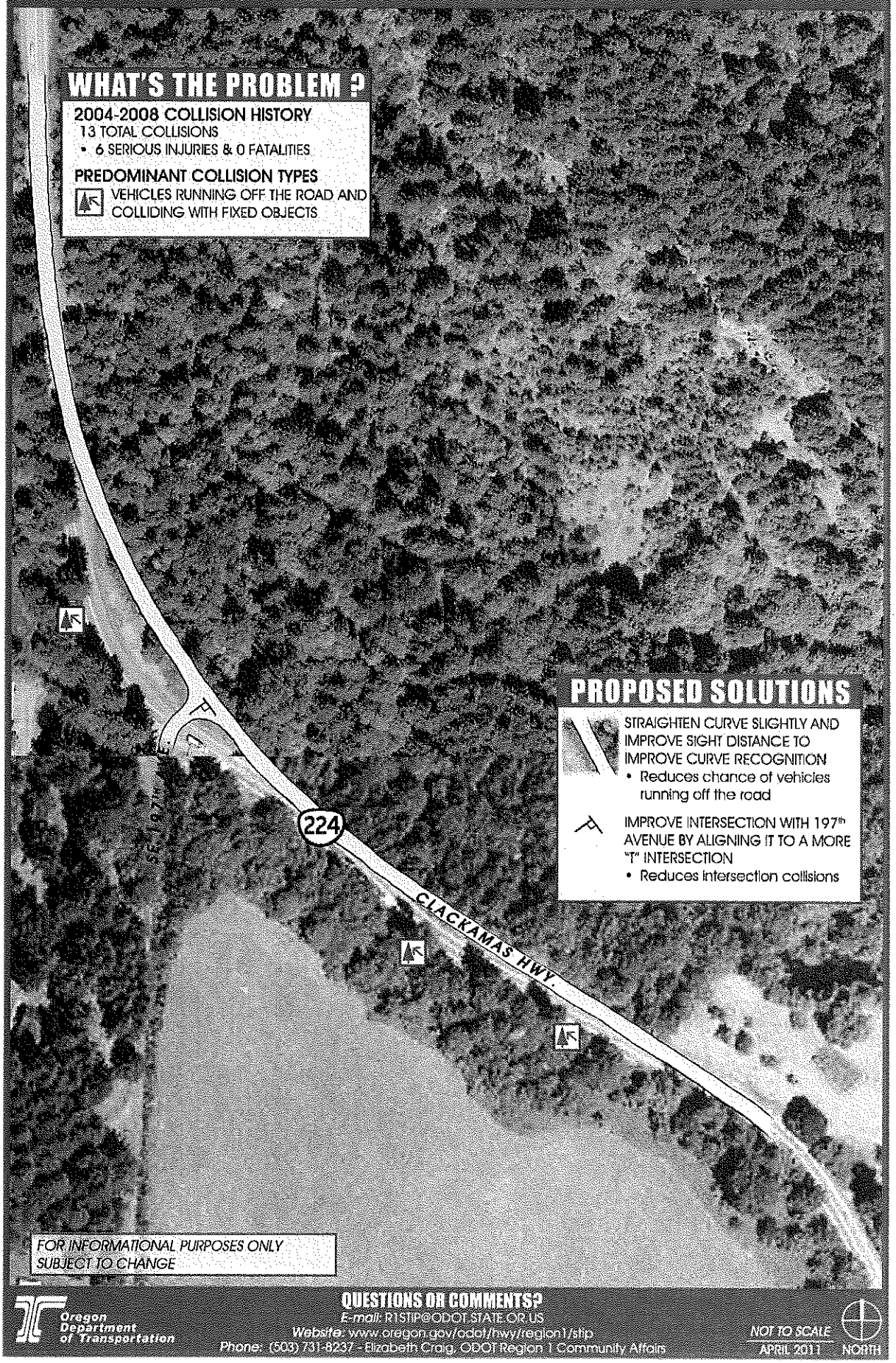
OR224 AT SE 197TH AVENUE
INTERSECTION IMPROVEMENT DIAGRAM



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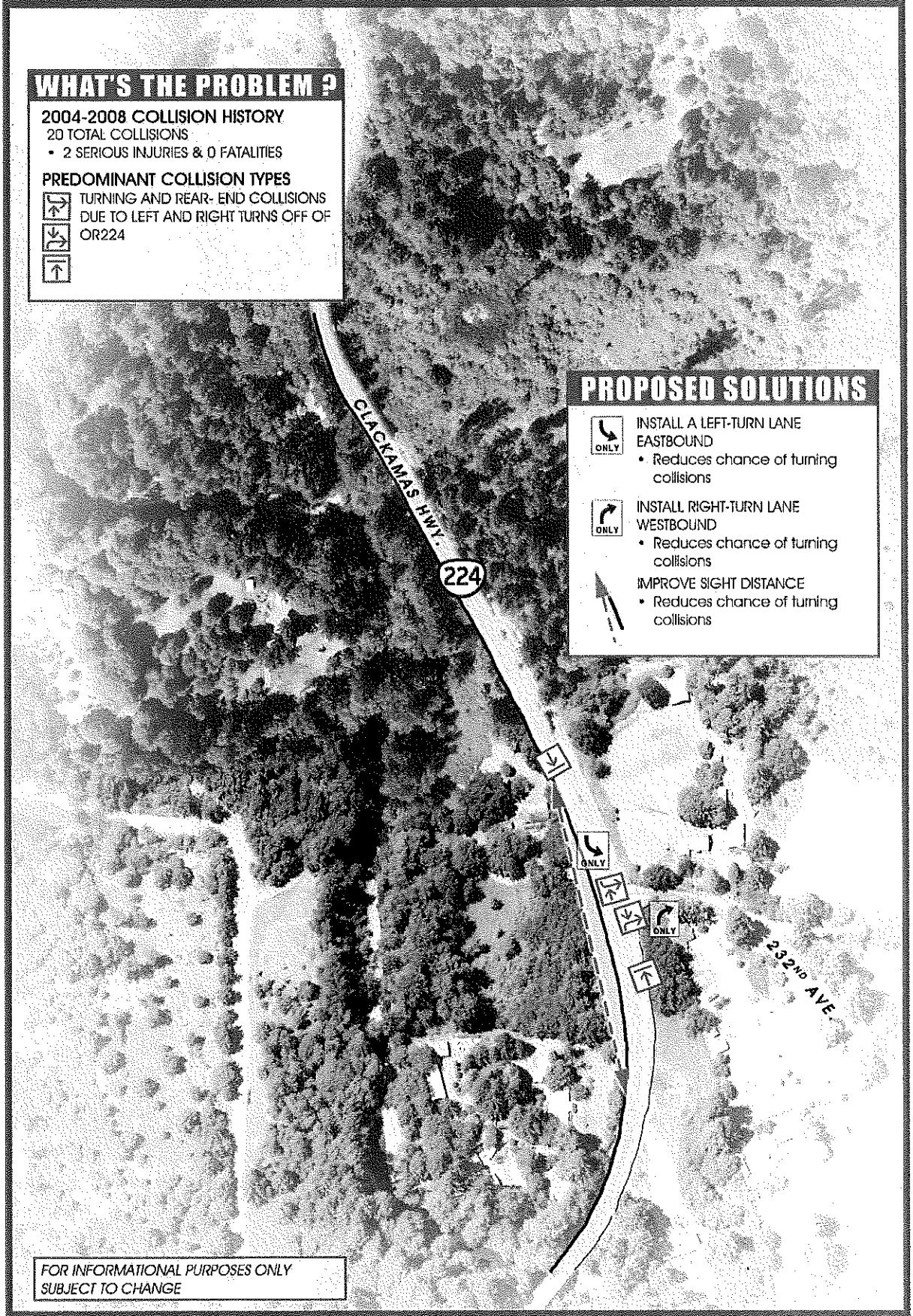
NOT TO SCALE
APRIL 2011
NORTH

OR224 AT 232ND DRIVE
INTERSECTION IMPROVEMENT DIAGRAM



Oregon Department of Transportation

QUESTIONS OR COMMENTS?

E-mail: R1STIP@ODOT.STATE.OR.US

Website: www.oregon.gov/odot/hwy/region1/stip

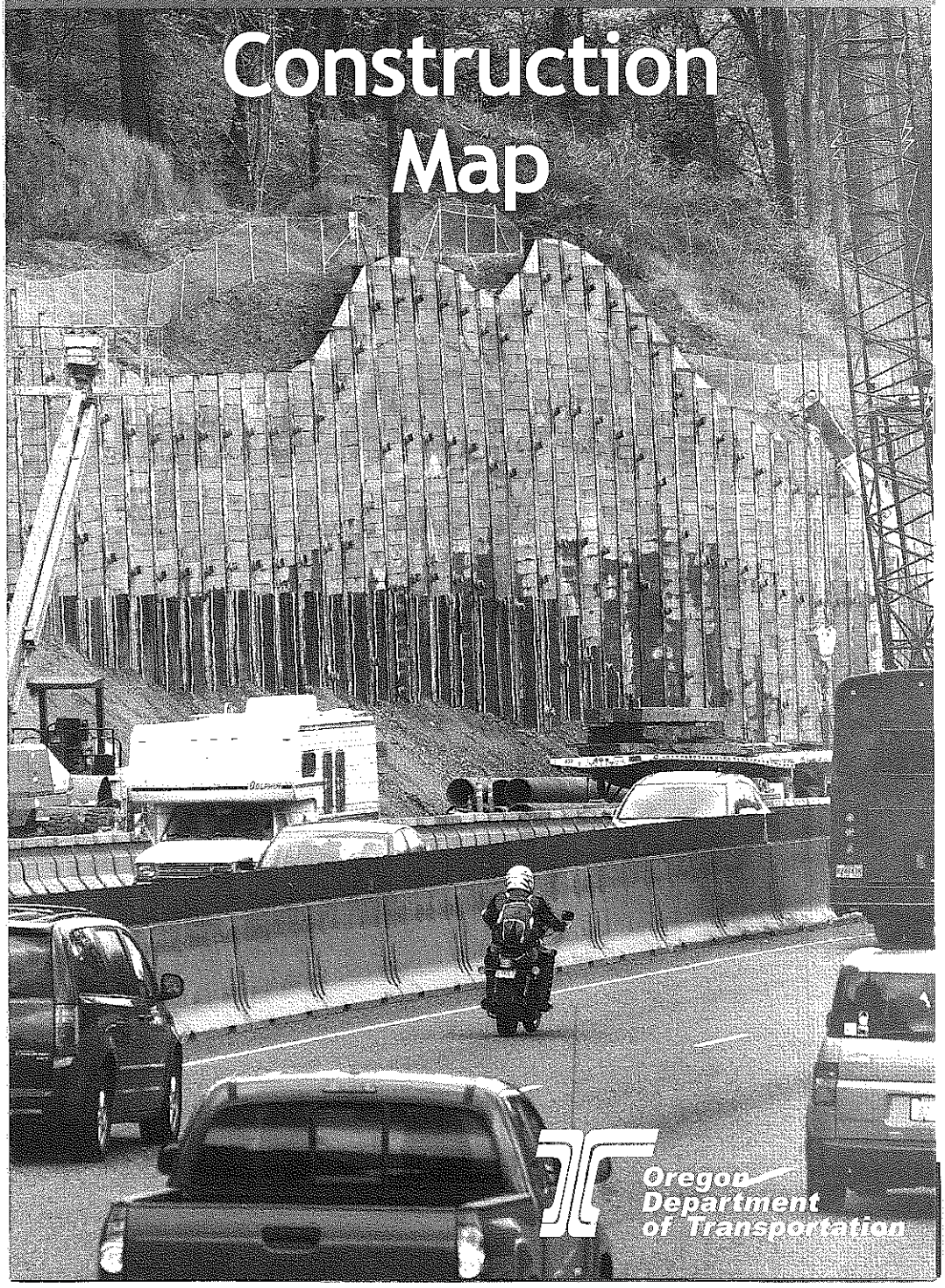
Phone: (503) 731-8237 - Elizabeth Craig, ODOT Region 1 Community Affairs

NOT TO SCALE

APRIL 2011

NORTH

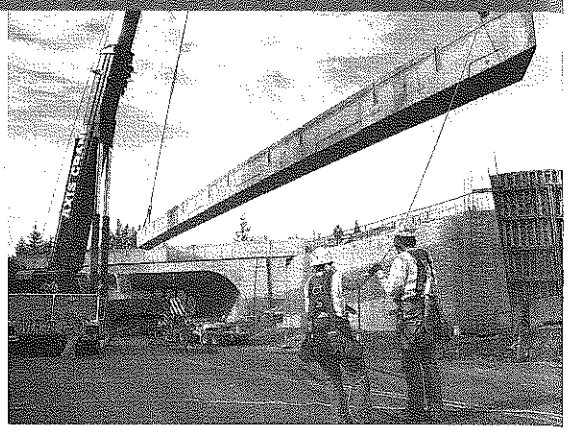
2011 Northwest Oregon Construction Map



Oregon Department of Transportation

Make a Go of the Gorge, or Get Clear to the Coast

ODOT works to provide a safe, reliable transportation system for motorists. This year, the state will repair a record number of roads and bridges.



With any major repair effort, it's important to realize that some spots will run more slowly at certain times. We appreciate your patience. We realize that our work coincides with many Oregonians' favorite time of year to travel and explore our great state. We're working hard to plan our projects carefully and strategically so they minimally impact your travel. Some of the ways ODOT minimizes traffic disruptions include:

- **Night work on weekdays** – Whenever possible, we send crews out between 8 p.m. and early morning hours, especially when the work requires closing traffic lanes.
- **Single-lane closures** – when you see flagging crews moving traffic through single lane closures, it's the alternative to closing a road completely and sending traffic through detours.
- **Coordinated project work** – ODOT experts carefully examine entire freeway corridors when planning construction work. They coordinate the timing of projects to keep traffic impacts as small as possible.
- ***Monitoring traffic*** – ODOT workers drive through construction sites personally and record how long it takes it takes to get through the work zone. When our work is causing substantial traffic backups, we often will suspend the job and open the road until traffic runs smoothly again.
- **Planning around communities** – ODOT works with local chambers of commerce and other partners to make sure we know about festivals and events that drive local tourism. When possible, we suspend work to help visitors get to Oregon's special places.

Know Before You Go

Use these resources so you "Know Before You Go." We will help you get there. But there will be delays along some highways. This map is designed to show you where major road construction projects are planned along ODOT's Northwest Oregon highways during the 2011 summer construction season.

FOR UP-TO-DATE PROJECT INFORMATION ON WHAT'S HAPPENING IN CONSTRUCTION ZONES THROUGHOUT OREGON, here are some key phone numbers and web addresses:

In-state travel information, call 5-1-1,
or 1-800-977-6368.
www.TripCheck.com

TripCheck
www.tripcheck.com

ODOT's website:
www.oregon.gov/ODOT/HWY/REGION1/ProjectPage.shtml

If you're heading to the Columbia River Gorge,
www.ODOTGorgeprojects.org
for construction information and project updates.

If you're heading to the North Coast,
www.GetToTheCoast.org
for construction information and project updates.

Oregon Department of Transportation

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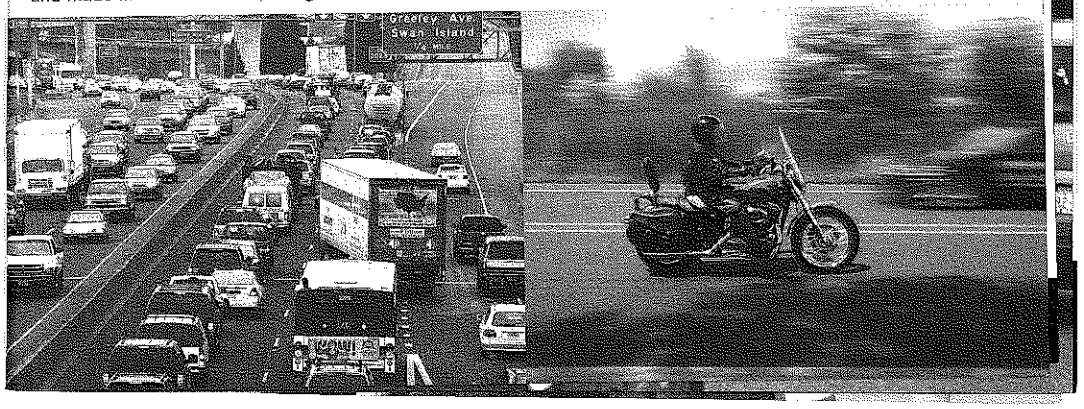


Test Your Safety Knowledge

Enjoy your summer recreation travel, but please remember to drive safely!

1. What do you do if you see a police car, tow truck, fire truck or ambulance with flashing lights on the shoulder of the highway?
   - **A.** Continue in the right lane and pass the vehicles at your current rate of speed.
   - **B.** Move over one lane to the left
   - **C.** Continue in your lane if you can't move over but reduce your speed at least 5 miles-per-hour below the posted speed limit
   - **D.** None of the above
   - **E.** Both b and c

2. More than 40 percent of work zone crashes in the "transition zone" and not the actual work area. The transition zone is?
   - **A.** The on-ramp to the freeway.
   - **B.** The area directly following the work zone.
   - **C.** The area following the "Road Work Ahead" sign and before the actual work area.

3. In Oregon, traffic fines for all traffic offenses in work zones for maintenance, construction and utility work are double at all times and on all roads, regardless whether there are signs posted.
   - **A.** True
   - **B.** False

4. Safety belts work just as well if your seat back is reclined or if you are slouched in your seat.
   - **A.** True
   - **B.** False

5. When traffic is entering and exiting at a freeway interchange, both through-traffic and exiting traffic have right of way over vehicles entering the freeway.
   - **A.** True
   - **B.** False

6. What is the length needed for a semi-trailer traveling at 55 miles-per-hour, fully loaded, traveling on dry roadway to fully brake to a stop?
   - **A.** 220 feet
   - **B.** 328 feet
   - **C.** 450 feet

Answer Key: 1. E, 2. C, 3. A, 4. B, 5. A, 6. B

Bike Travel Information

As a cyclist, riding through a construction work zone can be intimidating. However, a few simple guidelines can help make the trip a bit less stressful and safer:

- Do some pre-trip planning to determine if construction is occurring along your route. Visit **www.tripcheck.com** or dial 511.
- Determine if there is a safer alternate route around the work zone.
- If riding through a work zone, do the following:
  - Obey construction signs and look for bicycle-specific warning and detour signs.
  - Follow detour signing for bicycle routes, where applicable.
  - Follow detour signing for motor vehicles if sharing the road.
  - Stay out of the work area — do not ride behind cones, barricades or barrier.
  - Walk your bike across rough, uneven, or gravel surfaces.
  - Watch for steel plates in the roadway — they can be slippery!
  - Obey directions given by flaggers — they may have specific instructions for bicyclists.
  - Be alert, be visible, be patient.
  - Report any unsafe incidents to a flagger, police officer or other official on site, if necessary.

FOR MORE INFORMATION about biking through Oregon, visit
www.oregon.gov/ODOT/HWY/BIKEPED/

Oregon's Road Investment

Nobody likes to be caught in construction traffic, but this year's record-level construction season is good news for all Oregonians. By improving the operation and efficiency of our transportation system, we're improving your safety and making sure that our road system is set to support economic and population growth throughout the state for decades to come.

The next time you see an orange cone zone, remember the benefits it represents.

SOME INTERESTING FACTS ABOUT THE 2011 ROAD CONSTRUCTION EFFORT IN OREGON:

- Statewide, ODOT is starting **more than 122 road and bridge projects** this year.
- Regionally, nearly 40 projects are under construction in Northwest Oregon this year.
- ODOT is investing more than $220 million for the nearly 40 projects listed on this map during 2011.
- Road repair and construction provides thousands of jobs and an overall boost to Oregon's economy.

2011 Construction — Northwest Oregon

TE HIGHWAYS

RSTATE 5
C HIGHWAY)

uam Bridge — Bridge deck and
n one mile section of I-5 between
e Marquam Bridge (MP 300).
pletion: 09/2012

nent — Replace the bridge that
Street (MP 298) in Southwest
nd lane closures and shifting
sts will use a temporary bridge
on: 12/2013

overcrossing — Construct a
SW Gibbs Street (MP 299) in
amp closures and intermittent
pletion: 01/2012. City of Portland

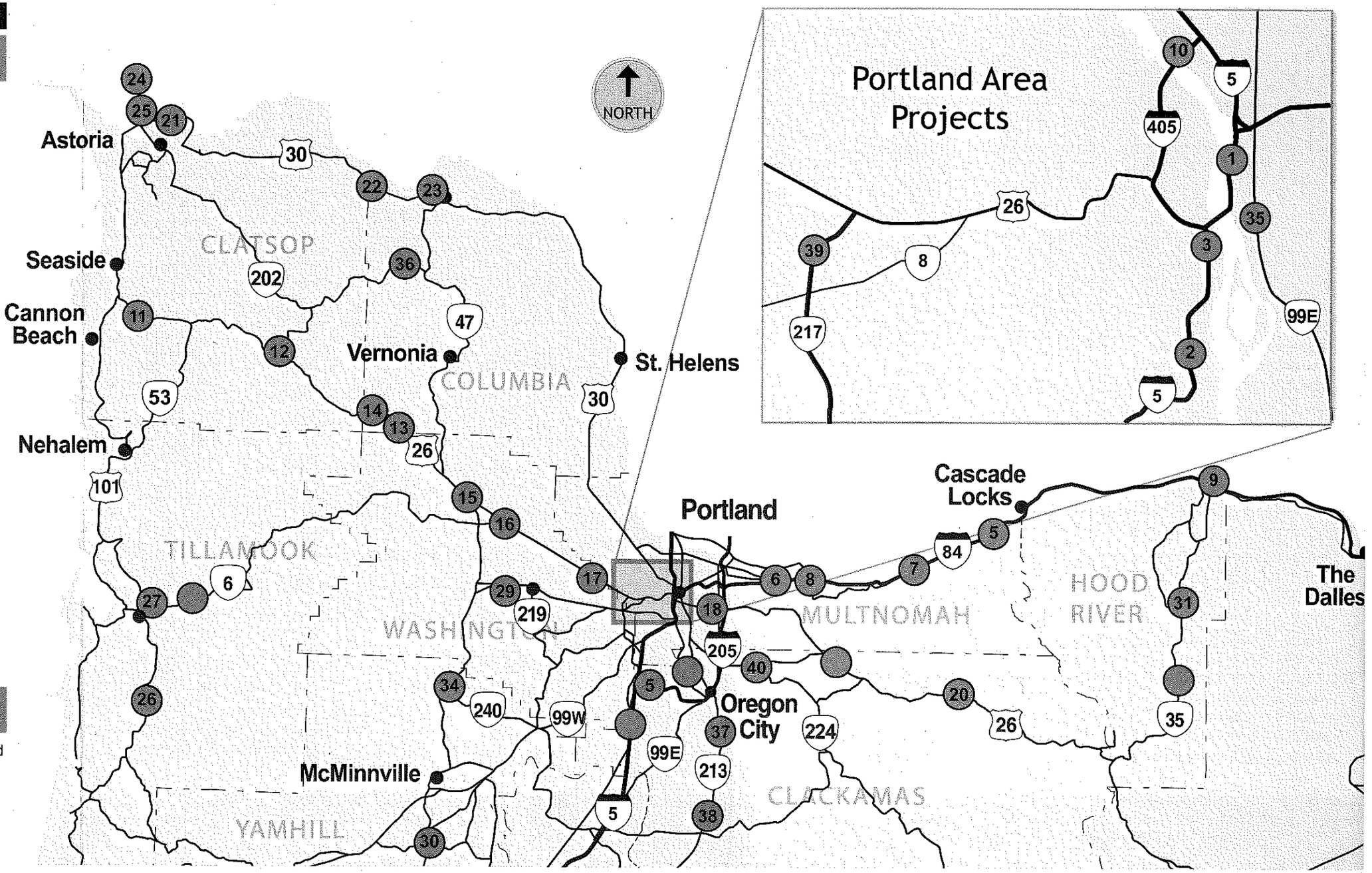
— Improve the Wilsonville on-
e Road and improve bicycle and
ramp closures, lane closures on
ff-ramps. Lanes on I-5 will not be
2

an auxiliary lane on I-5 northbound
widening I-5 from three to four
shifting traffic alignments,
d four weekend closures of the
orthbound. Completion:11/2011

STATE 84
RIVER HIGHWAY)

erchange — Widen the I-84 eastbound
o North and South Frontage Roads,
n Road. **Occasional nighttime exit**
es on Frontage Road. Completion:

to Cascade Locks preservation



MP = Milepost OTIA = Projects funded by the Oregon Transportation and Investment Act

OREGON HIGHWAY 99E (PACIFIC HIGHWAY EAST)

35 *MLK/Grand overcrossing UPRR milepost 1.0 to 1.25* – Replace north and southbound viaducts from MP 1.0 to 1.25. **Nighttime lane closures, closure of Division Street on-ramp to 99E northbound.** Completion: 07/2011

OREGON HIGHWAY 202 (NEHALEM HIGHWAY)

36 *Nehalem Bridge replacement* – Replace the Nehalem Bridge at MP 44. **Daytime single lane closures with flaggers.** Completion: 2012

OREGON HIGHWAY 213 (CASCADE HIGHWAY SOUTH)

I-205 - Redland Road overcrossing (jughandle) – Build a new bridge and widen Highway 213 between I-205 (MP 0) and Redland Road (MP 0.84), improve signals and ramp. **Four-day highway closure, nighttime lane closures.** Completion: 12/2012 Oregon City

38 *Cascade Highway South (Milk Creek Bridge) at Mulino Road* – Replace the Milk Creek Bridge, improve highway alignment, add a left turn refuge from Milk Creek (MP 10.69) to Passmore Road (MP 11.06) and add curbs and sidewalks. **Daytime and nighttime lane closures with flaggers. Expect up to 20-minute delays.** Completion: 06/2012

OREGON HIGHWAY 217 (BEAVERTON - TIGARD HIGHWAY)

39 *Highway 217 Modernization Project: Tualatin Valley Highway to Sunset Highway* – Widen to three lanes from MP 0 to 1.47 (U.S. 26 Sunset Highway to OR 8 Tualatin Valley Highway), lengthen the Wilshire Street overpass and other improvements. **Nighttime lane and ramp closures.** Completion: 10/2011 **OTIA**

OREGON HIGHWAY 224

40 *82nd Drive to I-205* – Add a third westbound lane between 82nd Drive (milepost 5.05) and the northbound I-205 on-ramp (MP 4.86) and improve signals. Daytime and nighttime lane closures. Completion: 11/2011

project – Pave, stripe, replace guardrails along 13 miles of I-84 between Multnomah Falls (MP 31.2) and east Cascade Locks (MP 46.1), **Daytime and nighttime lane closures, nighttime ramp closures.** Completion: 07/2011

8 *Interstate 84 - Sandy River to Jordan Road* – Replace two bridges and repair two bridges at the Sandy River near Troutdale. **Reduced speed limit, shifting travel lanes.** Completion: 11/2013 **OTIA**

9 *Interstate 84 - Exit 64 (Hood River)* – Bridge replacement at exit 64 in Hood River, improvements to underpass roadway and interchange. **Reduced speed limit, shifting travel lanes, continuous single-lane closures; occasional nighttime closures of adjacent streets.** Completion: 09/2011 **OTIA**

INTERSTATE 405 (FREMONT BRIDGE)

10 *I-405 Fremont Bridge upper deck paving* – Pave the upper deck of the Fremont Bridge (I-405 southbound). **Three full weekend closures of the upper deck and weeknight and weekend single and multiple lane closures.** Completion: 09/2012

US HIGHWAYS

U.S. 26 (SUNSET HIGHWAY)

11 *Remove/replace Volmer Creek and Johnson Creek Bridges just east of U.S. 101* – 24 hour flagging with single lane alternating traffic will be required during the demolition of the existing bridges and construction of the new bridges between midnight on Sundays and 3 p.m. on Fridays at MP 2 and 3. Delays are not anticipated to be over 20 minutes. The majority of the work is anticipated to occur in the months of April and July. Completion: 10/2011

12 *N. Fork Quartz Creek bridge retrofit* – Retrofit the bridge crossing Quartz Creek at MP 24. **Daytime and nighttime lane closures with flaggers M-F; expect up to 10-minute delays.** Completion: 12/2011

13 *Dennis Edwards Tunnel* – Replace the timber lining inside the tunnel, improve drainage and lighting. **Overnight tunnel closures weeknights through June, nighttime flagging and lane closures.** Completion: 7/2011

14 *Military Creek Rd to Wolf Creek paving (Sunset Highway)* – Improve guardrail, striping and signs along an 11 mile stretch of U.S. 26 from MP 26 to MP 37. **Daytime lane closures with flaggers M-F; expect up to 10-minute delays.** Completion: 10/2011

15 *McKay Creek Bridge replacement (Sunset Highway): U.S. 26 Sunset Highway* – Replace westbound McKay Creek Bridge at MP 57.8. **Shifting travel lanes, occasional daytime single-lane closures.** Completion: Fall 2011 **OTIA**

16 *Replace westbound East Fork Dairy Creek Bridge at MP 54.6* – **Shifting travel lanes, occasional daytime single-lane closures.** Completion: Fall 2011 **OTIA**

17 *Cornell Road to SW 185th Ave Modernization Project (Sunset Highway)* – Add a third lane on U.S. 26 in both directions between Cornell Road (MP 64.3) and SW 185th Avenue (MP 67.0). **Intermittent nighttime lane and ramp closures.** Completion: Fall 2012

U.S. 26 (MT. HOOD HIGHWAY)

18 *Powell preservation SE 51st Avenue to I-205 (Powell Boulevard)* – Pave and stripe 2.3 miles of SE Powell from 51st Avenue (MP 3.52) to I-205 (MP 5.75). **Daytime and nighttime lane closures. Paving requires full directional nighttime lane closures.** Completion: 11/2011

19 *East Burnside to SE Cherryville Drive (Mt. Hood Highway)* – Pave and stripe 20 miles of U.S. 26 between E Burnside (MP 14.22) and Sandy West City Limits (MP 22.4) and Luzon Lane (MP 26.3) to SE Cherryville Drive (MP 30.40) and the Highway 212 ramps to US 26. **Daytime and nighttime single lane and ramp with flaggers.** Completion: 08/2011

20 *U.S. 26 (Mt. Hood Highway) Rhododendron to Twin Bridges Road* – Pave, widen and realign curves along sections of U.S. 26 between Little Brook Lane (MP 44) to Twin Bridges Road (MP 49). **Daytime and nighttime lane closures and possible flagging.** Completion: 11/2011

U.S. 30 (LOWER COLUMBIA RIVER HIGHWAY)

21 *At the east end of Astoria* – Grind and pave project with pipe installation, mail box turnouts, and pavement markings between MP 92 and 97. **Flagging with single lane alternating traffic with no anticipated delays over 20 minutes.** Completion: 6/2011

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