TRIP 97 PARTNERSHIP

SUMMARY REPORT

OCTOBER 2013

TRANSPORTATION ▪ REINVESTMENT ▪ INNOVATION ▪ PLANNING

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Executive Summary

TRIP97 (an acronym standing for Transportation Reinvestment Innovation and Planning for US 97 in Central Oregon) is a collaborative Partnership between the communities who use and are responsible for the US 97 transportation corridor in Central Oregon. These agencies are linked by their respective proximity and reliance on the US 97 corridor as an economic lifeline.

Why TRIP97?

Central Oregon has experienced significant growth over the last 30 years, with the population of Deschutes County tripling since 1980. This growth has had significant impacts to the regional and local transportation systems and current transportation policies have made it challenging to maintain current standards in an affordable manner. Furthermore, the Partnership identified the need to evaluate transportation system performance from a more holistic perspective than is allowed by current policy, which primarily focuses on roadway/intersection capacity. Goals shared by all members of the Partnership include Economic Development & Job Creation, Safety, Mobility, Accessibility, Travel Options for all Users, Network Redundancy, and the Environment. TRIP97 was created to establish a new way to evaluate and fund transportation to capture these goals.

What is TRIP97?

TRIP97 is a comprehensive approach to transportation system planning and management that includes a comprehensive set of performance measures used within a flexible evaluation approach, a detailed funding strategy tied to specific projects, and options for a governance structure that promotes collaboration and regional decision making. To be effective, all three of the components need to work together with a shared purpose and goal. Exhibit ES-1 illustrates the relationship of these three areas and how all of these major components, and their individual subcomponents, must work together under a common vision for TRIP97 to be successful.

What has TRIP97 Accomplished?

Ultimately, the overarching goal of the TRIP97 Partnership is to utilize the US 97 corridor as an asset to support the economic development and prosperity of the region. Key aspects of realizing this goal have been the outcomes of the Phase 1 effort of TRIP97. Phase 1 of TRIP97 was initiated in February 2012 and has accomplished a series of important milestones for changing the paradigm of transportation planning for corridors of regional significance. The Phase I effort:

- Introduced multiple performance measures for transportation system evaluation (in comparison to the current single performance measure of volume/capacity) to address a broader range of local, regional, and statewide goals, expand the types of solution

options that can be considered, and document impacts and benefits to all roadway users (including pedestrians, bicyclists, transit riders, and freight)

- Introduced a corridor-wide evaluation approach that considers the regional context and corridor nature of US 97 and evaluates travel from the user's perspective for a trip (as opposed to what users experience at a single point) which is more consistent with how users perceive system performance
- Moved from a peak 15-minute analysis to a whole-year analysis so system evaluation can also be sensitive to rare events (weather, crashes, work zones), estimate travel time reliability, and provide a more holistic assessment of system performance
- Added use cases as a as an additional evaluative tool to translate analyses into real-world effects and experiences and inform stakeholders on inherent tradeoffs associated with investments and improvements
- Developed a comprehensive list of funding options (both ones used today as well as new options) that will provide funding resources for the continued maintenance, monitoring, and improvement of the corridor
- Identified a preferred funding option to pursue that focuses on "small bites" from multiple sources tied to growth
- Documented governance strategies for the TRIP97 Partnership to consider using as it moves forward. These strategies provide options for how the TRIP97 Partnership can work together to manage the corridor, evaluate and prioritize improvements, and obtain and distribute funding
- Identified a preferred approach to governance that will begin with intergovernmental agreements amongst the Partnership while providing a framework that can evolve over time to enable a broad range of funding options
- The new performance measures and evaluation methodology are tied directly to funding sources such that a balance is maintained between the identified needs and the financial ability of the Partnership to address those needs.

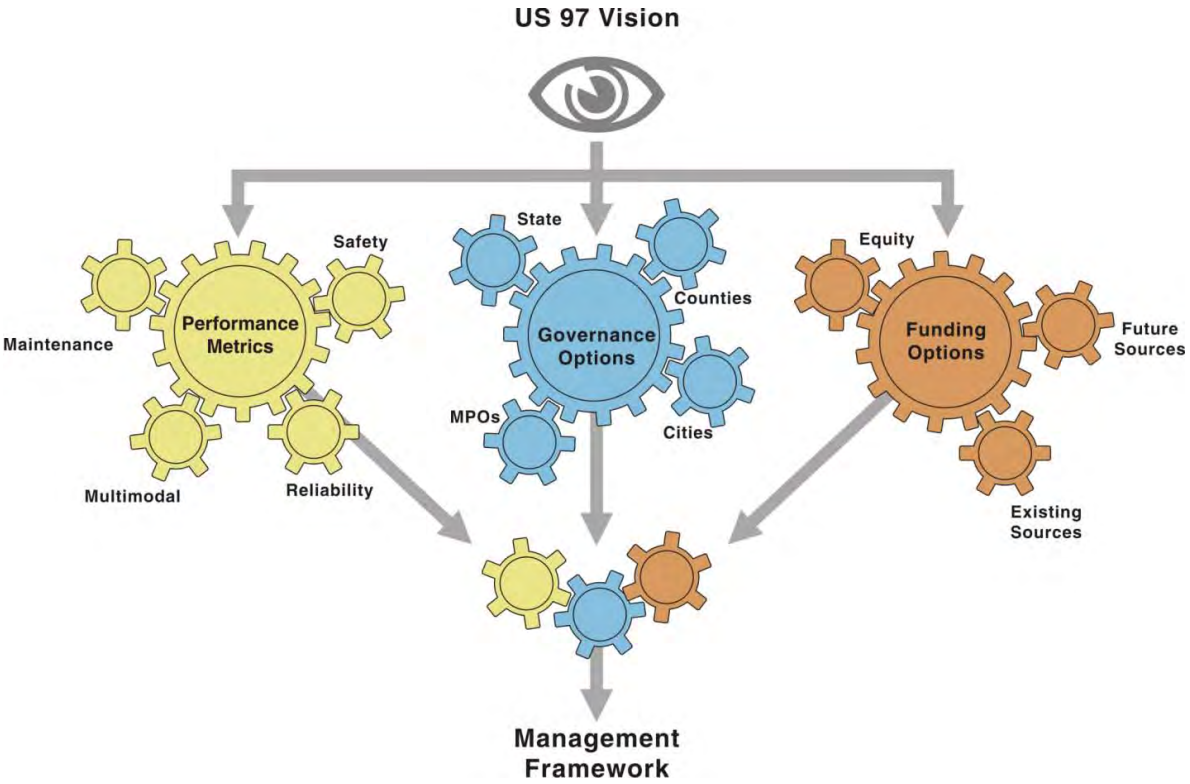

Exhibit ES-1 Graphical Depiction of TRIP97 Management Framework.

With this overall framework in place, the TRIP97 Partnership proceeded to establish the details and specifics of each individual component as well as how they would work together. The results of the Phase I effort on Performance Measures, Governance Options, and Funding Options are summarized at a high level here and in more detail throughout the body of this report.

What are the Elements of TRIP97?

Performance Measures

The performance measures will define how the transportation system is operating. The evaluation methodology is intended to apply those measures and address specific analysis needs. The TRIP97 Partnership developed a broad range of performance measures for the US 97 corridor to reflect the broad range of interests and measure progress towards the outlined goals. Overall these measures provide a much broader range of management options and better correlate to the transportation user experience.

The selected TRIP97 Performance Measure, and goals to which they relate, are outlined in Table ES-1.

Table ES-1 TRIP97 Performance Measures & Goal Areas

Goal Area	Performance Measure
 Mobility	▪ Average Travel Time ▪ Travel Time Reliability ▪ Side-Street Delay
 Economy	▪ Job Potential/Funding Plan Revenue
 Safety	▪ Predicted Crash Frequency and Severity
 Environment	▪ Carbon Dioxide Emissions
 Network Redundancy	▪ Percent of north-south travel on US 97
 Accessibility	▪ Public street turning movement opportunities per mile
 Travel Options	▪ Multimodal Level of Service

While each performance measure will assess a different goal area, it is important to acknowledge that these performance measures do correlate with one another. For example, increasing access to US 97 can increase opportunities to develop employment lands, affect mobility by adding congestion, and affect highway safety with new conflict points. A further detailed description of the individual performance measures can be found starting on Page 7 of this report.

Evaluation Approach

The TRIP97 evaluation approach outlines how the above performance measures are analyzed and how the results of that analysis are combined and summarized into meaningful direction for transportation investment and decision-making. This evaluation approach was developed to account for the regional role that the US 97 corridor serves as well as the unique and potentially differing priorities of individual communities within the Partnership.

This difference in management priorities and objectives necessitated two levels of analysis: 1) a corridor-level analysis methodology that would be applied to the entire US 97 corridor from Madras to La Pine, and 2) a segment-level analysis methodology that would apply to sections of roadway with similar characteristics and management goals. A third analysis level was also developed to help provide context on the user perspective in a non-technical manner, that allows agencies, decision makers, citizens, modal interests, and other parties to readily understand the tradeoffs being made between modes. This third analysis level is referred to as a Use Case analysis.

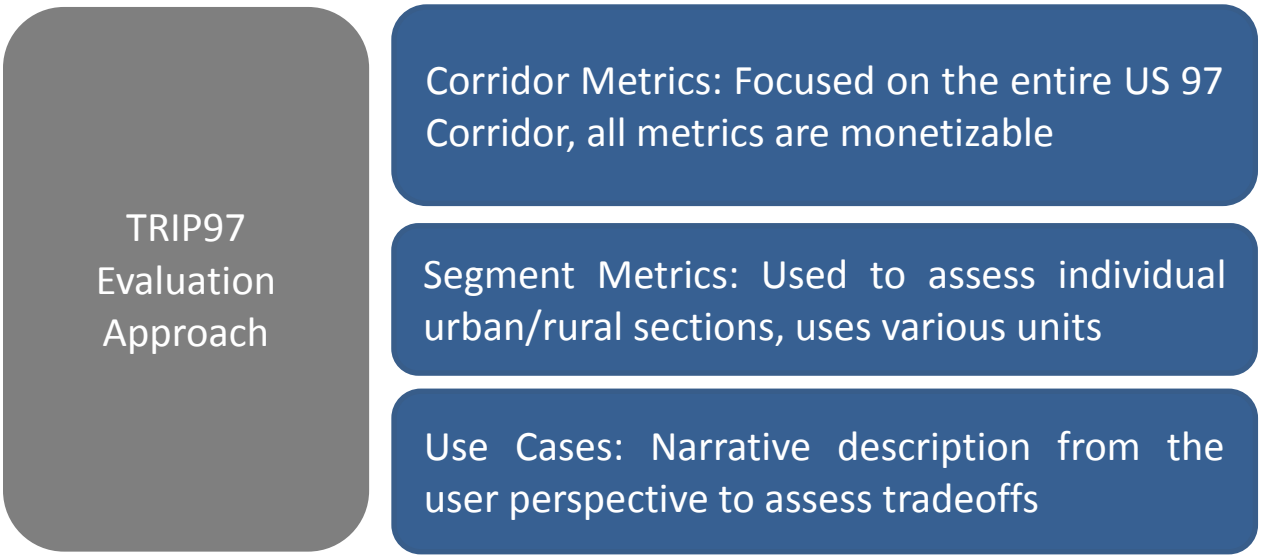

Exhibit ES-2 TRIP97 Evaluation Approach Overview

It is anticipated that there will be two primary applications of the TRIP97 evaluation approach as shown in Exhibit ES-3.

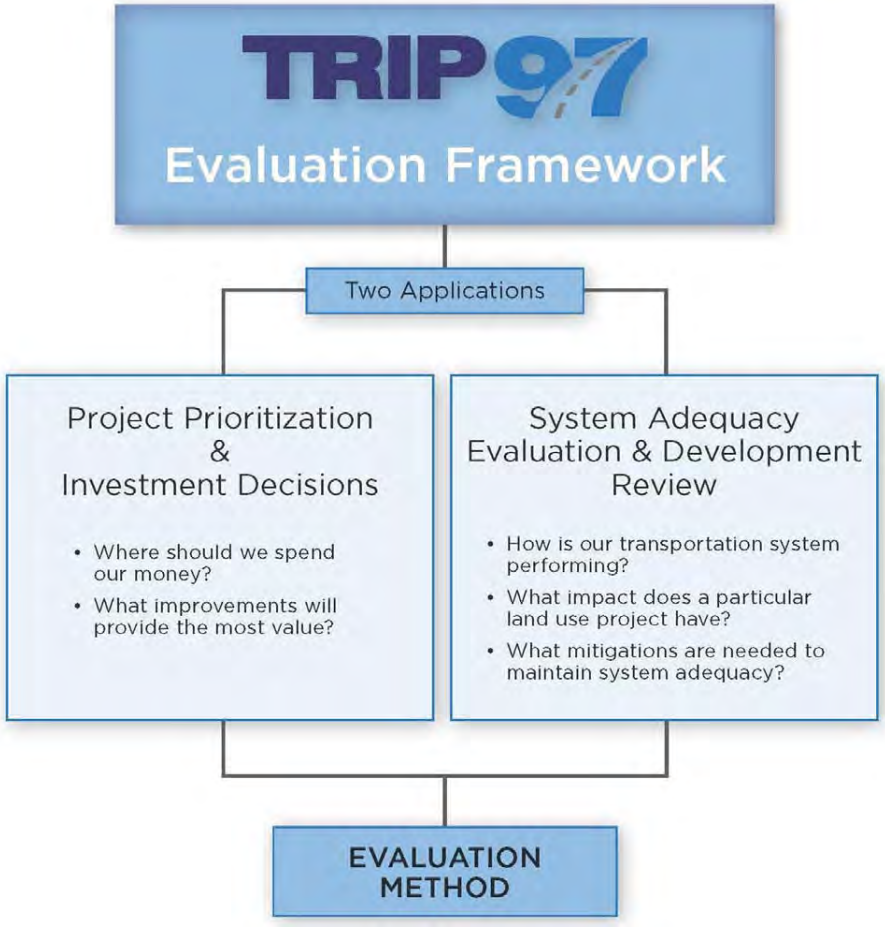

Exhibit ES-3 Applications of TRIP97.

Project prioritization is one of the key outcomes desired from the TRIP97 work products. This is envisioned as a legislative planning effort with collaboration from the affected agencies. It is expected that this process will be used to rank and prioritize projects based on their regional merit. The intent of a project prioritization process is to quantify the project costs and the project benefits. The results of such an evaluation can be used to provide decision-makers with information as to which projects provide the greatest return on investment.

Because of the many legal requirements associated with system adequacy evaluations, the evaluation approach also needs to be repeatable and consistent between analyses and, ultimately, result in an objective evaluation of potential impacts to the transportation system. In general, the intent of the system adequacy evaluation included as part of the TRIP97 Framework is to determine if the proposed action (land use or infrastructure change) results in a net benefit to the transportation system.

Funding Plan

The funding plan element identifies potential funding sources that could be used to fund improvements to the TRIP97 Corridor, to evaluate those sources against a common set of logical criteria, and to suggest hypothetical funding scenarios that demonstrate options for funding the local share of TRIP97. Funding for transportation projects along the TRIP97 Corridor will come from three levels of government: (1) federal, (2) state, and (3) local.

While many funding scenarios are possible and nothing has been solidified, an initial funding scenario that focuses on obtaining funding through "small bites from many sources" has been recommended by the Partnership as a starting place for future funding discussions. In addition, this funding scenario strives to tie regional economic development to dependable and sustainable local funding sources.

The initial funding plan relies on six different revenue sources to generate sufficient revenue to fund the local share of TRIP97 project costs, including the use of property and income tax sequestration, Local Improvement Districts, and System Development Charges. Table ES-2 shows the makeup of this initial funding package for the TRIP97 Partnership.

Table ES-2. Funding Scenario: Small Bites from Many Sources

Funding Source	Geography	Rate	Units	Avg. Annual Revenue
Property Tax Sequestration	UGB Expansion Areas	$12.00	cost per $1,000 of assessed value per year	$1,388,000
Personal Income Tax Sequestration	UGB Expansion Areas	6.50%	percent of income	$1,567,000
LID or BID	1/8 Mile of US 97	$0.50	cost per $1,000 of assessed value per year	$549,000
Rental Car Tax	Regional	5.00%	percent of sales	$612,000
Vehicle Registration Fee	Regional	$10.50	per vehicle (every 2 years)	$1,178,000
SDCs	Regional	$1.00	cost per $1,000 of assessed value per year	$184,000
Total				$5,478,000

Note: Sequestration rates would apply to incremental growth, not full assessed value or income

The intent of the funding work conducted under this project was to facilitate a conversation about the relative merits of each funding source available to the TRIP97 Partnership and inform the development of a detailed funding strategy in later phases of the project. Overall, two-dozen local funding sources were evaluated. For TRIP97 to have the best opportunity for implementation, (1) leveraging state and federal funds will be vital, (2) projects will need to be affordable, (3) political decision makers and the general public will need to make TRIP97 a high-priority, and (4) some presumably unpopular local funding sources will likely need to be approved to supplement state and federal funds. There will need to be the *political* capacity to move forward with some potentially unpopular decisions and learn how much residents, businesses, and visitors are willing to pay for improved transportation infrastructure in the TRIP97 corridor. In subsequent phases of this project, the TRIP97 Partners will need to more fully evaluate a subset of these funding tools that have the most promise for contributing meaningfully to the TRIP97 Funding Strategy, including refining the estimates of revenue capacity, and matching those revenues to specific projects on the TRIP97 project list.

Detailed information regarding the funding plan work can be found beginning on Page 37 of this report.

Governance Options

"Governance" addresses the institutional structure by which TRIP97 decisions are made with regard to project priorities, funding decisions, program administration, and other factors. The governance structure incorporates the underlying legal authorities, rights, and obligations of the basic participating governments, and the processes for making decisions. Phase 1 of TRIP97 included a detailed evaluation of possible governance structures that varied in local decision-making control and available funding opportunities.

The TRIP97 governance structure needs to address:

- The development and implementation of a corridor-wide program of interrelated projects with a substantial total cost that is implemented in phases over time;
- The development and on-going operations of a corridor management program;
- The implementation of a funding strategy that likely incorporates the pooling of funding contributions from the TRIP97 Partners; and
- Intergovernmental coordination or administration of land use issues affecting the intergovernmental-funded corridor programs.

Three basic governance structure options were reviewed to meet these needs for the TRIP97 Partnership:

- Option 1: Intergovernmental Agreement Governance (IGA) Structure
- Option 2: Intergovernmental Entity Governance Structure
- Option 3: Special District Governance Structure

Each of these governance structure options can provide a satisfactory governance structure for the development and implementation of the TRIP97 capital improvement program and corridor management programs. Each governance structure option can accommodate and fully enforce funding contributions from TRIP97 Partners and other grants. However, for each there will be both benefits and tradeoffs that must be considered by the TRIP97 Partners. The major countervailing forces appear to be the breadth and flexibility of funding authorities versus the level of decision-making retained by the TRIP97 Partners.

The initial recommendation from the TRIP97 team is to establish IGAs to initiate the regional collaboration process. Different governance models can be pursued in the future as desired or needed by the Partnership members. A matrix summarizing the considerations and tradeoffs of the various governance structures is provided in Table ES-3.

Table ES-3. Summary Evaluation of Governance Structure Options

	Intergovernmental Agreement Option	Intergovernmental Entity Option	Special District Option
Ability to Establish Governance Structure	Easiest structure to establish. All parties familiar with structure. Enactment only requires approval by parties.	More difficult to establish than the intergovernmental agreement option. In addition to approval of enabling agreement by TRIP97 Partners, requires approval of a majority of cities in each of counties.	Most difficult option to establish. Stage 1 similar to the other options, requiring intergovernmental agreements for funding contributions; but must prepare and secure passage of legislation tailored to meet the needs of TRIP97. Special district option void if legislation fails. Implementation complicated by need to set district boundaries.
Ability to Implement Projects and Programs	Except for inability to use certain funding and financing options, can perform activities necessary to implement TRIP97 programs.	Fully capable of undertaking all activities required to develop and implement the TRIP97 programs.	Fully capable of undertaking all activities required to develop and implement the TRIP97 programs.
Ability to Facilitate Project and Program Funding	Can accommodate and fully enforce funding contributions from TRIP97 Partners and other grants. Could impose a local vehicle registration fee with voter approval.	Can accommodate and fully enforce funding contributions from TRIP97 Partners and other grants In addition has authority to seek approval of a tax base and/or general obligation bond. Could also impose a local vehicle registration fee with voter approval.	Can accommodate and fully enforce funding contributions from TRIP97 Partners and other grants Has authority to secure contributions, and seek voter approval of tax base and/or GO Bond. Can create sub-districts with differing tax rates. Better ability to impose system development charges. Can impose local vehicle registration fee.
Ability to Finance Debt	Limited ability to finance debt. Can pool funding from several sources to issue debt, but difficult practically.	In addition to opportunity for GO Bonds, has authority for revenue bonding, short-term borrowing, and other debt.	In addition to opportunity for GO Bonds, has authority for revenue bonding, short-term borrowing, and other debt.
Impact on Existing Decision-Making Processes	Governing Bodies of TRIP97 retain all material decision-making authority.	Entity provided some independence from the local decision -making. Amount of independence depends on the authorizing agreement.	Most independence from the local decision-making. Amount of independence depends on legislation; can be adjusted through intergovernmental agreements.

	Intergovernmental Agreement Option	Intergovernmental Entity Option	Special District Option
Minimize Administrative Costs	Least costly to administer because no new entity and no additional budget, audit, accounting requirements.	Higher administrative costs than the intergovernmental agreement option due to record keeping and staffing of new entity; but may operate more efficiently otherwise	Similar to intergovernmental entity.
Ability to Facilitate Land Use Requirements	Assists in land use coordination, but no major ability to facilitate land use requirements.	Better able to facilitate corridor-based decision-making than the Intergovernmental Agreement option.	Best ability to facilitate land use requirements. Similar to Intergovernmental entity option, can facilitate corridor-based decision-making. Functional planning authority ensures consistency of affected comp plans, TSPs, etc. Reduces risk of land use challenges in multiple jurisdictions.
Adaptability	Easily adaptable. Revisions only require amendments to intergovernmental agreements, which must be approved by TRIP97 Governing Bodies.	Procedures for adapting authorities of intergovernmental entity are set in authorizing agreement. Adaptability depends on these terms.	Least adaptable. Procedures for adapting authorities set in legislation. Adaptability depends on these terms.

What's Next for TRIP97?

The TRIP97 Phase I effort has completed a large first step in evolving the way the regional transportation system in Central Oregon is evaluated and how transportation investments are determined. The framework established here allows the agencies within the Partnership to collaborate and gain greater benefit than any individual agency could achieve independently. It provides a mechanism to view system performance from the perspective of a broad range of users and through metrics that capture the traveler's (or customer's) true experience. Finally, the funding options provide Central Oregon with specific tools that create a sustainable way for practical enhancements to be implemented within the corridor to serve travel needs and provide flexibility for future economic growth.

The next steps for TRIP97 will include development of the technical data to support the TRIP97 process, affirmation of technical and political decisions regarding funding options and governance structures, and further implementation of the TRIP97 framework to assess and prioritize the system needs.

TRIP97 Definitions

The TRIP97 Framework is a new and innovative approach to corridor planning and management. With such an approach come new terms, new information, and the potential for confusion. This section defines the terms used within the TRIP97 Framework to ensure a consistent understanding as the methodological details are described further.

Performance Measure - A performance measure is a tool by which the performance of the transportation system is evaluated. Historically, jurisdictions within Oregon have relied upon mobility-based performance measures such as volume-to-capacity (v/c) ratio and/or level of service (LOS), which is based on calculated delay.

Corridor - For the purposes of TRIP97, corridor refers to the US 97 corridor from Madras to La Pine. It should be noted that the corridor is more than just the highway itself. Thus, the corridor refers to the ability of the transportation system to move users and goods north and south through Central Oregon. This definition includes, with some limitations, parallel roadway facilities, adjacent multimodal facilities, and railroad freight corridors.

Corridor Measure - These quantifiable performance indicators are used to describe and/or evaluate the performance of US 97 in its entirety. These measures are not intended to describe microscopic performance details. Rather, the corridor measures inform analysts and decision-makers as to how the entire length of the corridor from Madras to La Pine is operating. These measures provide the integrated corridor evaluation approach that is central to the purpose of the TRIP97 Partnership.

Segment - Segment refers to a single continuous section of the US 97 corridor defined by relatively homogeneous characteristics in terms of typical traffic control, speed, access, land use, etc. Multiple segments are possible (and most likely typical) within individual city boundaries to account for the changing highway environment. Segments may extend across jurisdictional lines as appropriate to encompass transitioning areas. The entire corridor is described by a continuous connection of adjoining segments. In other words, every section of highway within the TRIP97 corridor will be part of a segment. Segments do not overlap with one another.

Segment Measure - A segment measure (metric) is a quantifiable performance indicator applied within a relatively homogenous section of the highway. The purpose of the segment metrics is to allow decision makers to understand how a specific section of the highway is meeting the established goals and priorities. Taken together, segment measures allow agencies to understand the tradeoffs being made while balancing the multiple management goals for a given section of US 97.

TRIP97 Plan – The TRIP97 plan refers to a comprehensive understanding of the future land use scenario and transportation improvements planned for the US 97 corridor. This plan has not yet been developed and will be subject to yet-to-be agreed upon terms between the TRIP97 Partners. Specific to the TRIP97 evaluation method, compliance with the TRIP97 plan would be equivalent to consistency with local planning documents (such as State, County, and local Transportation System Plans) under the current planning approach, but from a regional level.

TRIP97 Acronyms

The following provides a list of acronyms used throughout this report.

- Transportation Reinvestment Innovation and Planning for US 97 in Central Oregon (TRIP97)
- Volume-to-capacity (v/c)
- Level of service (LOS)
- Transportation Planning Rule (TPR)
- Urban Growth Boundary (UGB)
- Highway Capacity Manual (HCM)
- Multi-modal Level of Service (MMLOS)

PROJECT SUMMARY REPORT

Introduction

TRIP97 (an acronym standing for Transportation Reinvestment Innovation and Planning for US 97 in Central Oregon) is a collaborative Partnership between:

- ODOT
- City of Bend
- City of Madras
- City of Redmond
- City of Bend
- City of La Pine
- Jefferson County
- Deschutes County
- Bend MPO

These agencies are linked by their proximity and reliance on the US 97 corridor. Phase I of the TRIP97 effort was initiated in February 2012 and accomplished a series of important milestones for changing the paradigm of transportation planning for corridors of regional significance. The Phase I effort:

- Established a shared vision for the US 97 corridor amongst the Partnership with an emphasis on function rather than form
- Introduced multiple performance measures for transportation system evaluation to address a broad range of local, regional, and statewide goals, expand the types of solution options that can be considered, and to document impacts and benefits to all roadway users (including pedestrians, bicyclists, transit riders, and freight)
- Introduced a corridor-wide evaluation approach that considers the regional context and corridor nature of US 97 and evaluates travel from the user's perspective for a trip (as opposed to what users experience at a single point), which is more consistent with how users perceive system performance
- Moved from a peak 15-minute analysis to a whole-year analysis so system evaluation can also be sensitive to rare events (weather, crashes/incidents, work zones), estimate travel time reliability, and provide a more holistic assessment of system performance
- Added use cases as an evaluative tool to translate analyses into real-world effects and experiences and inform stakeholders on inherent tradeoffs associated with investments and improvement
- Developed a comprehensive list of funding options (both ones used today as well as new options) that will provide funding resources for the continued maintenance, monitoring, and improvement of the corridor
- Identified a preferred funding option to pursue that will emphasize small bites from multiple sources tied to growth
- Documented potential governance strategies for the TRIP97 Partnership to consider. These strategies provide options for how the TRIP97 Partnership can work together to manage the corridor, evaluate and prioritize improvements, and obtain and distribute funding

- Selected a governance strategy that will begin with intergovernmental agreements amongst the Partnership

The remainder of this report summarizes the background context of transportation planning along US 97, the purpose of the Partnership, and the outcomes of the Phase I effort in more detail.

Background

The modern application of transportation planning in Oregon was born out of the establishment of major Oregon land use planning laws created by former Governor Tom McCall as part of Senate Bill 100 in 1973. This bill established state land-use goals and requirements. Specifically related to TRIP97, Goal 12 of the Statewide Planning Goals addresses transportation. Subsequently, the Transportation Planning Rule (TPR) was developed to implement Goal 12, including requirements that influence transportation planning, evaluation, development impact review, and transportation project creation and prioritization. The TPR was established in 1991 and identifies and emphasizes the relationship between land use and transportation. In general, the TPR requires that growth and intensification of development is coupled with a plan for appropriate supporting transportation infrastructure.

Exhibit 1 Former Oregon Governor Tom McCall (1967-1975).

Since its inception, the TPR has experienced notable changes. In 2005, the Jaqua vs. City of Springfield ruling established that planned improvements considered as part of a TPR analysis need not only be planned, but must also be “reasonably likely” to be funded. Given the increasingly uncertain nature of transportation funding, increasing design standards and resultant project costs, this standard has become difficult to meet, and can conflict with the desire to attract economic development.

The TPR was recently modified (effective January 1, 2012) to allow more flexibility for infill development, land use modifications that are consistent with an adopted comprehensive plan, and to encourage multimodal improvements that lessen the reliance on the automobile. The TPR does not prescribe any particular methodology for determining impacts or mitigation. In 660-012-0060(1)(c)(A-C), the TPR makes it clear that the performance measures used to

determine whether or not an action would degrade a transportation system must be adopted in a Transportation System Plan or comprehensive plan.

Elsewhere, at 660-012-0060(4), the TPR states that "Determinations under sections (1)-(3) of this rule shall be coordinated with the affected transportation facility and service providers and other affected local governments." Since ODOT is the provider on US 97, the TPR would require ODOT to adopt the proposed TRIP97 performance measures, most likely as an amendment to the Oregon Highway Plan, along with the affected jurisdictions in their respective Transportation System Plans. Once these actions are complete, the TRIP97 performance measures would be available to the State and to local decision-makers, in compliance with the TPR.

The Central Oregon Experience

Central Oregon has experienced significant growth over the last 30 years, with population of Deschutes County tripling since 1980. Aside from the recent economic downturn, Central Oregon has consistently been one of the fastest growing areas in the country. Increases in traffic from the growing population have resulted in significant impacts to the regional and local transportation system.

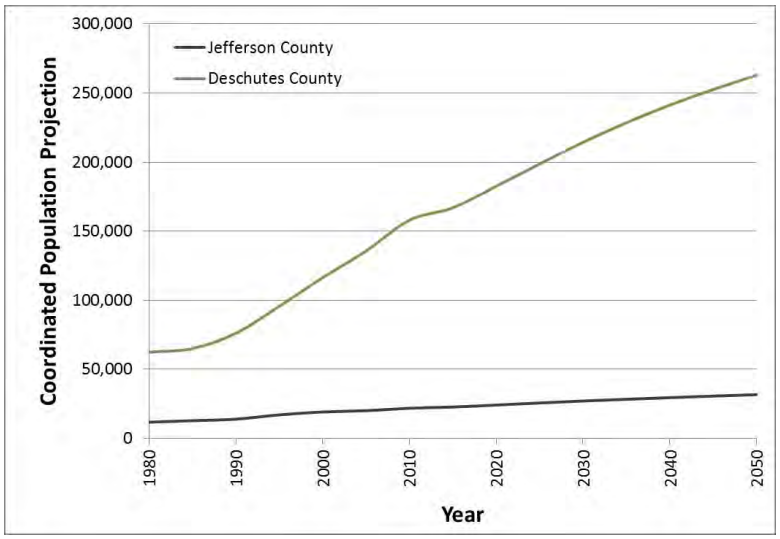

Exhibit 2 Historical and forecast population in Jefferson and Deschutes Counties.

This rapid regional growth has highlighted the dampening effects of stringent mobility standards on local economies. Specifically, mobility standards along the US 97 corridor through Central Oregon can require as much as 30 percent reserve capacity be available at intersections 20 years into the future. When compounded with the narrow period in which this capacity is evaluated (the peak 15 minutes of the 30th highest hour of the year), the standard becomes, at times, potentially unattainable and, more often, unaffordable.

In addition to stringent standards, the current methods also focus on isolated intersection analysis as a surrogate to the adequacy of the overall transportation system. While such methods have historically been applied and provide useful information, increasingly congested and integrated transportation systems require that a more comprehensive evaluation be

considered. Recent advancements in the transportation profession have focused on expanding the evaluation approaches available to practitioners. Specifically, corridor-wide evaluations that encompass auto and non-auto modes have become available and are increasingly accepted and utilized. Given these advancements, it is an appropriate time for the "standard" transportation evaluation to be reconsidered.

The value of the end result of current methods is further diminished by the limited availability of transportation funding locally, regionally, and nationally. With transportation funding becoming increasingly difficult to secure, large scale transportation projects are quickly becoming a thing of the past. Within Central Oregon, there are a number of large scale projects and priorities included in local and regional planning documents that do not include realistic funding sources. While modifications to transportation evaluation methods provide some benefit to this issue, it is also necessary to consider new and innovative approaches to transportation funding. This goal is an integral part of what the TRIP97 Partnership aims to accomplish.

Exhibit 3 Illustration of transportation infrastructure and funding balanced by a governance structure.

Finally, the implementation of new and innovative evaluation and funding approaches will require a coordinated multijurisdictional approach to secure funding, prioritize projects, and ensure that agency and regional interests are addressed. This approach may result in the need to create a new governance structure. Such a structure has many potential forms. Whatever form is chosen would serve as a basis for regional decision making and planning. The jurisdictions within Central Oregon realize the need for such an approach/structure and aim to implement one as part of the TRIP97 process.

Purpose and Vision

At the initial kick-off meetings with the TRIP97 Partnership, a shared vision for the corridor was discussed. Previous visions for the corridor had been described in physical terms, such as the number of lanes and intersection control types. It was noted by the Partnership that while this infrastructure vision was largely shared, it was seen as aspirational and beyond the means of the agencies within the 20-year planning horizon. Similarly, it was recognized that a single physical vision for the corridor was not the only means to achieve its desired function within the 20-year planning horizon.

Therefore, the Partnership developed a functional vision as well as functional goals for the US 97 corridor. The TRIP97 corridor was defined as a multimodal transportation network connecting the Partnership agencies. Shared goals for this corridor included the following attributes:

- Economic Development & Job Creation
- Safety
- Mobility
- Accessibility
- User Travel Options
- Network Redundancy
- Environment

Ultimately, the overarching goal of the TRIP97 Partnership is to maximize the influence and use of the US 97 corridor as an important asset to the economic development of the region. A key aspect of realizing the full value of this asset resides in the additional performance measures and modified evaluation approach that are part of TRIP97. These new tools also allow for a more comprehensive look at the capacities and opportunities that the transportation provides, thereby enabling better ways to manage the system.

The new performance measures and evaluation methodology are intended to be tied directly to funding sources so that a balance is maintained between the identified needs and the financial ability of the Partnership to address those needs.

TRIP97 Framework Overview

TRIP97 is a comprehensive approach that includes a performance measurement approach, funding process, and governance structure. To be effective, all three of the components need to work together with a shared purpose and goal. Exhibit 4 illustrates the relationship of these three areas and how all of these major components, and their individual subcomponents, must work together with a common vision for TRIP97 to be successful.

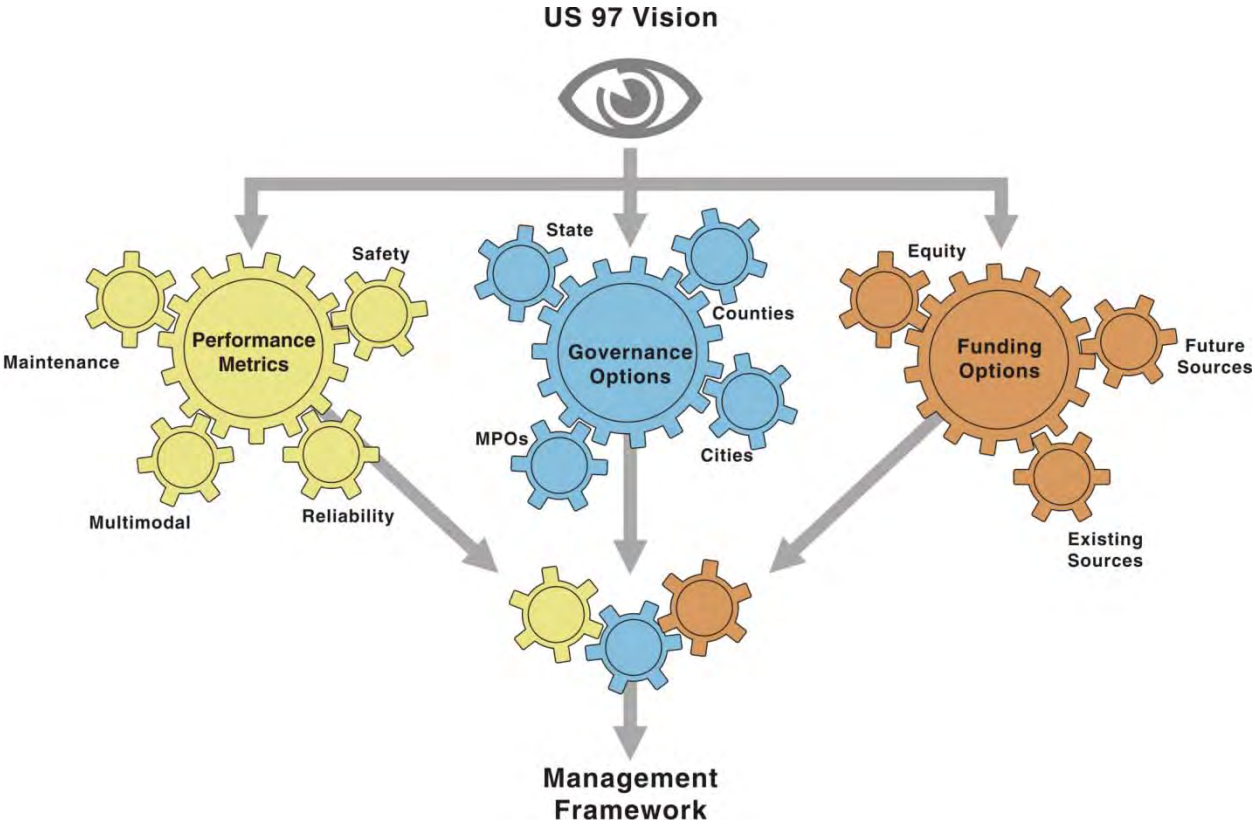

Exhibit 4 Graphical Depiction of TRIP97 Management Framework.

With this overall framework in place, the TRIP97 Partnership proceeded to establish the details and specifics of each individual component as well as how they would work together. The results of the Phase I effort on Performance Measure, Governance Options, and Funding Options are summarized in the following sections.

Performance Measures and Evaluation Approach

This section documents the proposed recommendations for transportation system performance measures and related evaluation approach methodology for inclusion in the TRIP97 Framework. The performance measures will be used to define how the transportation system is operating. The evaluation methodology is intended to apply those measures and address specific analysis needs.

Performance Measures

Performance measures form the backbone of the TRIP97 evaluation process. As described previously, transportation evaluations within Oregon have historically relied upon measures focused on isolated intersection analysis. Given the integrated evaluation objective of the TRIP97 Partnership, a broad range of performance measures were considered for potential application to the US 97 corridor. Multiple performance measures were selected to reflect the broad range of interests and measure progress towards the outlined goals. These measures are generally related to the performance of the overall corridor, and allow an analysis focused on the system level. This approach provides a broader range of management options, and better correlates to the user experience.

Performance Measure Selection Process

The selection of performance measures can easily fall into one of two pitfalls: the selection of too few or, alternatively, too many performance measures. The current transportation evaluation approach, which relies solely on the intersection or segment volume/capacity (v/c) ratio, does not provide enough relevant and useful information to decision-makers. By contrast, the evaluation process can easily become overwhelmed when there is no limit to the number of performance measures used to individually address each aspect of the transportation system. In such situations, the evaluation process has been shown to become quite onerous for the practitioner and very difficult to interpret for the decision-maker.

The TRIP97 Partnership avoided both of these extreme situations by selecting a small number of performance measures that collectively provide useful information to the decision-maker while still maintaining a manageable evaluation and interpretation process. More specifically, performance measures were selected based on their ability to address the TRIP97 goal areas outlined previously. The specific goal areas are outlined and related to each performance measure in Table 1.

Table 1 Performance Measure Relationship to Goal Areas

Goal Area	Performance Measure Applied
Mobility	▪ Average Travel Time ▪ Travel Time Reliability ▪ Side-Street Delay
Economy	▪ Job Potential/Funding Plan Revenue
Safety	▪ Predicted Crash Frequency and Severity
Environment	▪ Greenhouse Gas Emissions
Network Redundancy	▪ Percent of north-south travel on US 97
Accessibility	▪ Public street turning movement opportunities per mile
Travel Options	▪ Multimodal Level of Service

The selection of the performance measures identified above was based in part on their ability to independently assess the different goal areas that were identified. However, it is important to acknowledge that these performance measures do have some correlation to one another. For example, increasing access to US 97 can increase opportunities to develop employment lands, affect mobility by adding congestion, and affect highway safety with new conflict points. This is an inherent shortcoming of most multivariate analyses but is considered, especially in this case, to be an acceptable tradeoff in order to achieve greater sensitivity to the entire set of goals listed above.

A brief description of each selected performance measure is provided in the following paragraphs.

Average Travel Time

Average Travel Time measures the average expected time for a vehicle to traverse the corridor in one direction during the analysis period. It should be noted that Average Travel Time is not derived from the analysis of a single period. Rather, the measure results from the average of multiple runs that account for variance in travel demand, weather, occurrence of crashes, and other factors over the specified analysis period and a specified number of days, weeks, months, or years. The analytic method used to estimate average travel time is based on the results of a research project recently completed within the national Strategic Highway Research (SHRP2) program entitled, *Incorporating Reliability into the Highway Capacity Manual.*

For the purposes of the TRIP97 evaluation method, Average Travel Time is expressed in minutes of travel time per travel direction.

Travel Time Reliability

Also called Travel Time Variability, this measure considers how travel time changes based on varying expected conditions. Exhibit 5 depicts the relationship between Average Travel Time and Travel Time Reliability.

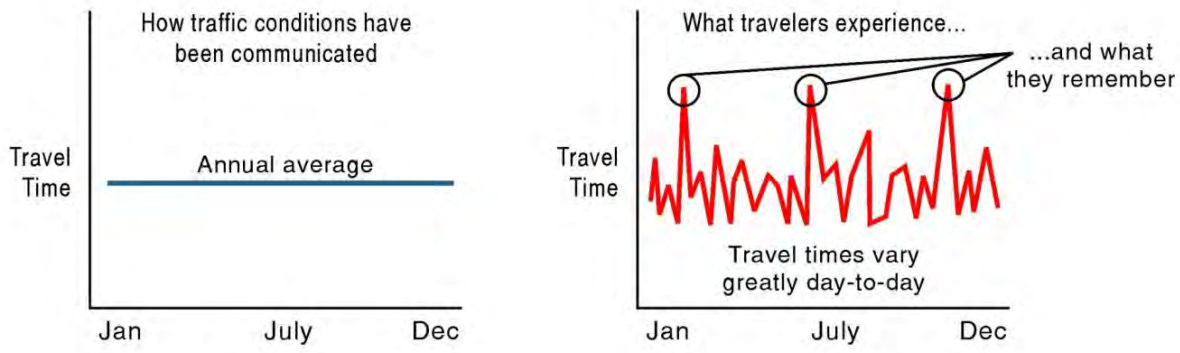

Exhibit 5. Relationship Between Average Travel Time and Travel Time Reliability

As shown, Average Travel Time and Travel Time Reliability each represent a different aspect of the function of the transportation system. As such, both have been included in the TRIP97 evaluation approach.

The analysis method used for this project accounts for the variability of travel time due to the following factors:

- Demand fluctuations
- Traffic control devices
- Traffic incidents
- Weather
- Work zones
- Physical capacity variations

For the purposes of TRIP97 based evaluation, Travel Time Reliability is expressed as the standard deviation of directional Average Travel Time, and therefore is also described in the units of “minutes”.

Side Street Delay

Side street delay is a measure of mobility for travelers who are crossing or entering US 97. It measures the amount of delay travelers experience while waiting to turn onto or to cross US 97. From an evaluative perspective, this measure provides context on the balance of mobility between the highway corridor and the local street network. It also informs how projects and strategies on the US 97 benefit or impact travel on the connecting local streets.

Funding Plan Revenue

The TRIP97 Funding Plan will seek to generate revenue from growth. This revenue is a direct benefit to the US 97 corridor as it will allow the Partnership to reinvest in the corridor and will help to offset the impacts of development by applying this funding toward new infrastructure or system management projects. The funding plan revenue may vary depending on the specific funding options and associated as set by the Partnership.

While there are other economic benefits of a well-functioning US 97 corridor (job creation, larger tax base, etc.), the ability to capture these benefits and attribute them (in whole or in part) directly to transportation was problematic. Use of the funding plan revenue was identified as the most appropriate measure at this time as the revenue is dedicated entirely to the US 97 corridor and directly correlated to transportation. This also introduces a linkage between the performance measures and funding plan, acknowledging the inter-related nature of these elements.

Job Potential Analysis

Job potential is a measure of the economic development benefit created by a transportation improvement. Implementing a transportation improvement often creates the opportunity for accommodating additional travel demand. In turn, the additional vehicle trips thus accommodated can be used to back-calculate the number of employees (and thus jobs) that can be sustained. These jobs can also be converted to a regional economic value according to their expected average annual wage rates, which in turn can be compared in monetized units with the anticipated cost of the improvement.

The job potential analysis should be used as an informative measure for decision-makers to maintain a connection between the transportation system (specifically US 97) and the local economy. The results of the analysis will not directly affect the system evaluation, but is important to maintain the economic spirit in which TRIP97 was originally established.

It should be noted that an increase in job potential relates to adding capacity to the US 97 corridor, and would be most useful in comparing or prioritizing infrastructure projects, whereas funding plan revenue would be more relevant in assessing the merit of a land use application.

Predicted Crashes

Predicted Crashes is a measure that evaluates the safety goal of the TRIP97 process. This assessment compares historical crash experience with the results of predictive safety models from the *Highway Safety Manual* (HSM) to estimate the net change in expected crashes by frequency and severity (property damage only, injury, and fatality). Each crash severity category contains a typical associated cost that allows this measure to be monetized. Such an approach allows a greater understanding of potential problem areas. For example, resolving an identified safety problem in an area with a relatively high number of property damage only (PDO) crashes may result in less economic value than focusing on an area that has a lower crash frequency but a relatively high occurrence of severe crashes involving personal injuries.

Emissions

Carbon Dioxide Emissions (CO_2) or Carbon Dioxide Equivalents (CO_{2eq}) are commonly-used surrogates for environmental impacts within the transportation realm. It is quite possible that, in the future, other measures may rise in favor above CO_2 because of factors such as their sensitivity to specific environmental impacts; therefore, the TRIP97 performance measures should remain flexible so as to be able to respond to such changes if and when they occur. However, either CO_2 or CO_{2eq} provides the most effective means to quantify and monetize the environmental impacts a particular course of action provides.

Percent of North-South Traffic on US 97

US 97 serves as a major north-south route across the State of Oregon for statewide travel and freight transport. However, the highway also commonly serves as a north-south connector for local travelers within Central Oregon or within a community. As such, parallel routes to the highway can provide a regional benefit by providing local residents an alternative to US 97, either for typical commute trips or during highway incidents. Examples of parallel facilities that serve this function include Huntington Road in La Pine, 3rd Street in Bend, and Canal Boulevard in Deschutes County and Redmond.

The intent of this measure is to estimate the percentage of the total north-south travel within a specific segment that is carried by US 97. Results are expressed as a percentage of total north-south travel demand during the study analysis period.

Public Street Turning Movement Opportunities per Mile

This performance measure evaluates the connectivity of the surrounding surface street transportation system to US 97. The intent of this measure is to provide a measure of accessibility of surrounding areas to the highway. This measure assesses only public street connections, and considers how many maneuvers are provided by counting the directional opportunities (distinguishing between restricted and full-access connections). The quality of each connection is evaluated according to whether the connection occurs at a stop sign, at a traffic signal, or with grade-separation (for example, via a bridge structure).

Multimodal Level of Service

This measure estimates the service levels of non-auto travel modes along US 97. The methodology relies upon the multimodal evaluation procedures included in the Highway Capacity Manual (HCM) 2010. These methods separately address pedestrian, bicycle, transit, and vehicular operations. The evaluation results are based upon the index score that results from the analysis outputs. Specific evaluation details are included in the Highway Capacity Manual.

TRIP97 Evaluation Approach

The TRIP97 evaluation methodology must be sensitive to the different issues that exist within urban and rural environments. For example, pedestrian access is likely to be a more critical issue within the "Main Street" environment of downtown Madras than it would be on either a rural section of the corridor or in north Redmond along the Reroute.

Exhibit 6 North Bend US 97 corridor, highlighting the expressway characteristics.

Exhibit 7 Downtown Madras section of US 97, highlighting the "Main Street" environment.

This difference in management priorities and objectives necessitated two levels of analysis: 1) a corridor-level analysis methodology that would be applied to the entire US 97 system, and 2) a

segment-level analysis methodology that would apply to sections of roadway with similar characteristics and management needs. A third analysis level was also developed to help provide context on the user perspective in a non-technical manner, that allows agencies, decision makers, citizens, modal interests, and other parties to readily understand the tradeoffs being made between modes. This third analysis level is referred to as a Use Case analysis.

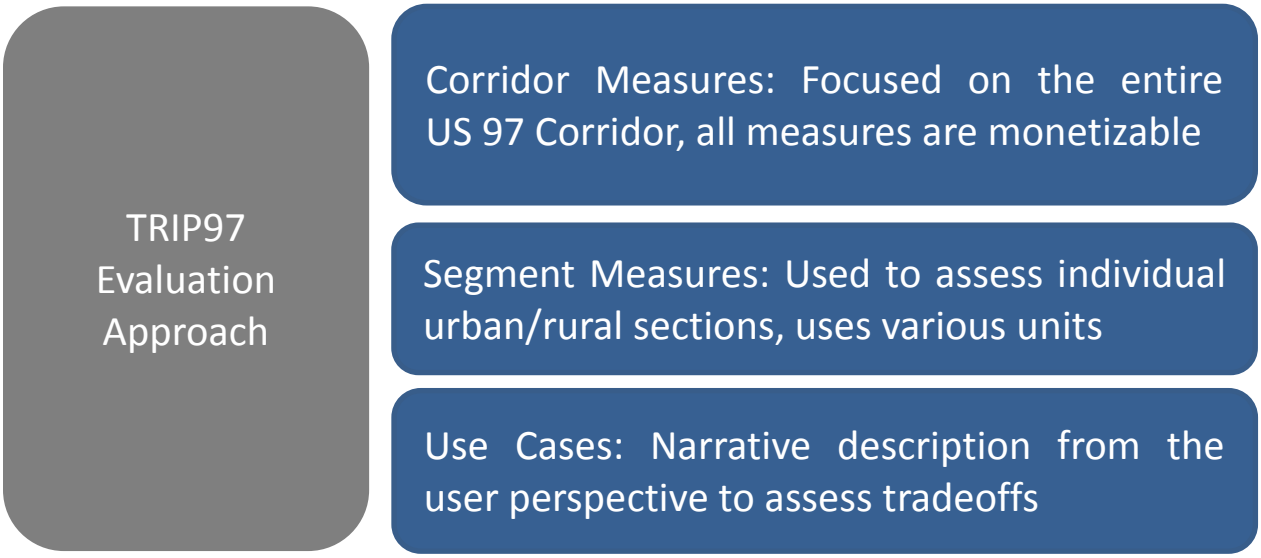

Exhibit 8 Categories of Performance Measures

Corridor-Level Analysis Methodology

All of the holistic corridor measures can be quantified and monetized to a single output as a benefit (dollars), which can then be compared against scenario costs to develop a benefit/cost measure. This allows each scenario to be directly compared to others within a singular currency measure. Then, more detailed information related to individual measures can be "unfolded" by agencies and decision makers, as desired, to provide a replicable and transparent decision making framework. The relevant performance measures applied at the corridor level are illustrated in Exhibit 9.

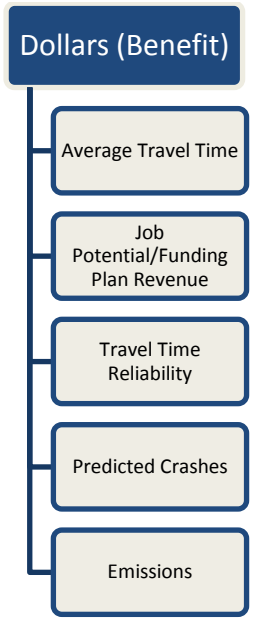

Exhibit 9 TRIP97 Corridor Measures.

These individual performance measures capture holistic measures for the corridor from a regional perspective, but the higher level facility review of the overall corridor may dilute the ability to understand localized impacts. Therefore, the corridor measures will serve as a "report card" for the facility and as a useful tool in informing and facilitating regional transportation decision-making and investment strategies.

Segment-Level Analysis Methodology

The segment performance measures consider the operation of specific sections of the corridor, which may be found in either rural or urban environments and which may also vary by facility type. The intent of the segment measures is to evaluate specific segments of the corridor in more detail, and with an appropriate emphasis on management goals within that segment, than is provided at the system level corridor analysis. Unlike a corridor-level analysis, not all of the segment measures can be monetized. As such, a different evaluation approach has been developed for the application of these measures. This approach is described in detail in the Technical Evaluation Approach section that follows.

As shown in Exhibit 10**Error! Reference source not found.**, seven performance measures apply within urban segments and six performance measures apply in rural areas. Multi-modal Level of Service (MMLOS) does not apply in the rural segments because the methodologies included in the MMLOS analysis procedures are focused on urban facilities.

The complete list of performance measures is summarized in Table 2.

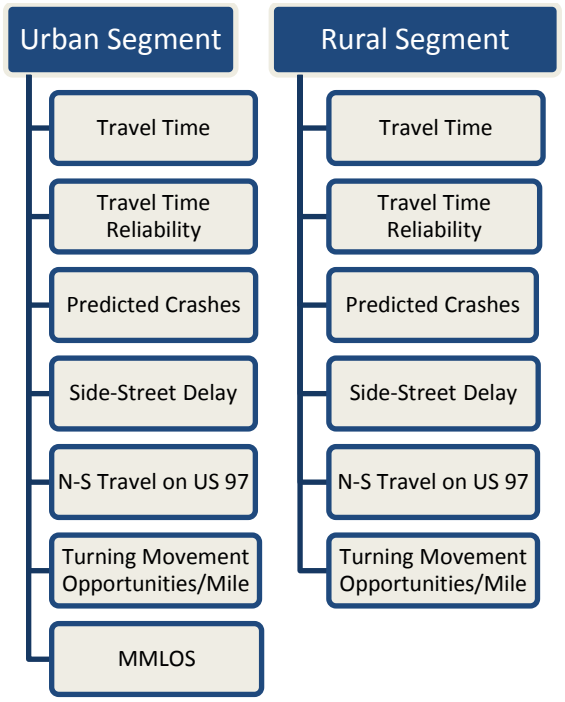

Exhibit 10 TRIP97 Segment Measures.

Use Cases Analysis

The application of the corridor and segment measures described above is intended to inform general roadway performance throughout the entire or a designated component of the system. These measures are quantifiable and subject to monetization or a weighting scale.

In contrast, use cases supplement these analyses with a qualitative analysis from the perspective of the general or specific user, essentially to summarize how different travel modes are impacted by a proposed land use or infrastructure action. Use cases enable the reviewer to better focus on the various modes and their individual needs within any specific rural or urban corridor segment. They also provide this summary in a format that is readily understood and responsive to specific issues.

Two broad categories of use cases are recommended. The first is the general, which summarizes in qualitative terms the ability of a specific user to travel along or across US 97

within a given segment. The second is the specific, which provides a more quantitative assessment of a key issue, possibly at a specific location, raised by a local agency or ODOT.

General Use Cases

The general use cases provide a generic description for each travel category along or across US 97. For example, a pedestrian use case could relate to the continuity and conflicts along the corridor, or the spacing and location of enhanced crossing locations. A separate narrative is provided for each individual use case. The initial review of a segment is compiled by the managing agency. Subsequent land use actions identify whether a change or impact to the use case will be provided, and assess what impact that change may have. For any land use action, each use case will need to be addressed within each segment, although it is expected that most responses will be “no change/no effect.” Sample use case categories are listed below.

Table 2. Performance Measure Overview

Performance Measure	Definition
Corridor Performance Measures	
Average Travel Time	Average annual corridor travel time during the weekday evening commute period
Travel Time Reliability	Travel time variability during the weekday evening commute period
Infrastructure projects: Change in Job Potential[1] *Non-infrastructure projects:* Funding Plan Revenue	Net change in ability to accommodate and achieve employment in designated employment lands Revenue the TRIP97 funding plan would generate for improvements to US 97
Expected Crash Frequency	Predicted annual crashes (and severity types) for a given future corridor configuration and scenario
CO_2 Emissions	Total average carbon dioxide (CO_2) emissions resulting from travel within the corridor for a given scenario
Segment Performance Measures	
Mobility Measures	
Average Travel Time	Annual average segment travel time during the weekday evening commute period
Travel Time Reliability	Travel time variability during the weekday evening commute period
Side Street Delay	Annual average delay per vehicle entering/crossing US 97 during the weekday evening commute period
Safety Measures	
Expected Crash Frequency	Predicted crashes (and severity) for a given future segment configuration and scenario
Connectivity Measures	
Turning Movement Opportunities Per Mile	Number of turning opportunities per mile on to or off of a segment. Focused on public street connections and weighting be connection type.
Percent of N-S traffic on US 97	Average annual through traffic on a segment of US 97 as a percentage of the total amount of N-S traffic during the evening commute period
Alternative Modes Measures	
Pedestrian, Bicycle, and Transit Level of Service	Perception of service levels during weekday evening commute periods for non-vehicular travel by each mode (Multimodal Level of Service). *Measure is likely only relevant in urban areas.*

[1] Considered independently of other corridor measures

- *Vehicular intersegment trip*: describes points of control delay, allowable passing areas, posted speeds, and can include discussion of essential motorist services (food, gas, restrooms).
- *Vehicular intra-segment trip (urban areas only)*: describes generalized highway east-west crossing delays, locations of higher-capacity crossing treatments (e.g., signals and interchanges) and accessibility to these areas, and can also highlight major origins/destinations.
- *Freight intersegment and intra-segment categories:* this is similar to vehicular trips, but includes additional discussion of accommodations for larger vehicles. Roadway grades, dimensional restrictions, or weight restrictions are also relevant to this discussion.
- *Intersegment transit trip*: describes regional service stops, service hours and frequency, and connections. This description can include discussion of facilities that parallel US 97.
- *Intra-segment transit trip (urban segments only)*: describes the interface between the regional and local transit systems, interaction and crossings with US 97, service hours and frequency, and the locations of stops and park and ride locations along the corridor.
- *Intra-segment bicycle trip*: describes the interaction of the bicycle routes with the highway, locations for bicycle crossings of the corridor (to include the adjacent railway as applicable), and continuity of bicycle facilities alongside or parallel to the highway.
- *Intra-segment pedestrian trip*: describes the spacing and treatments at highway crossings, the type of crossing enhancements, key travel destinations, continuity of pedestrian facilities along US 97 (or parallel), and general access to the sidewalk or trail system.
- *Rail trip (to include spur line effects)*: describes the frequency of rail service, the location of spur lines/junctions, rail crossings, location of rail yards and other major rail infrastructure, the number of tracks, condition of the rail lines, clearances, and any unique rail treatments (such as quiet zones).

These use cases should include discussion of changing conditions throughout the day and throughout the seasons. The intent is not to provide information that is redundant with prior segment analysis, but to provide more detailed qualitative modal information that better highlights the effects of a land use action on a specific travel mode.

Specific Use Cases

Specific use cases could include crash sites, connectivity goals, school-related impacts, or other issues. The specific use cases would be defined by the managing agencies to require a more quantitative analysis of a specific and critical issue. Such use cases will supplement the generic use cases.

Technical Evaluation Approach

The TRIP97 evaluation process implements the previously-identified performance measures within the evaluation framework described above. Just as performance measures have been separated into corridor level or segment level, so too have separate evaluation approaches

been developed for the corridor level and segment level. These differing evaluation types provide the decision-maker with an idea of project impact or benefits from the broad corridor level or the more specific segment level. The remainder of this section provides further details on the application of the evaluation method including when the framework should be applied, thresholds for evaluation, project prioritization approach, system adequacy approach, and details of the methodology.

Legislative vs. Quasi-Judicial Process

The evaluation methodology employed by the TRIP97 Partnership must be able to address two types of land use processes, legislative and quasi-judicial. Within a legislative process, such as developing a Transportation System Plan, plans and ordinances are created or modified and adopted by the responsible legislative body. This process ultimately results in a plan that is premised on population, employment, and land use. It results in the development of plans, ordinances, and policies applicable to future land use proposals and requests for action.

Within the framework of TRIP97, a Partnership has been established to enact the legislative role of developing the TRIP97 plan. The TRIP97 Plan will ultimately be adopted by the partnering agencies as an amendment to the State and local Transportation System Plans (Oregon Highway Plan, County Transportation System Plan, and City Transportation System Plan). Since the TRIP97 Plan will be a component of the agency Transportation System Plan, the existing rules governing these plans will also be addressed in its development and adoption.

A quasi-judicial ("court-like") process is one where participants work together to judge the merits of a specific pending land use application against its adherence to already-established policies. Quasi-judicial processes are the actual implementation of the established process and typically contain a localized impact that affects a specific group or subset more acutely than others. This process will generally follow the outline of OAR 660-12-0060, which describes the process of defining whether a proposal complies outright with the existing plan, modifies the existing plan, and the mitigation strategies required where a change to the plan is required. The tiered evaluation approach developed for TRIP97, as further discussed below, follows this same process.

It should be noted that the TRIP97 analysis process addresses impacts only to US 97. As a specific land use application may be located either distant or proximate to the highway, it may also affect other City or County facilities not specifically addressed within TRIP97. Analysis of impacts to adjacent facilities would be governed by each jurisdiction's adopted plans and codes.

TRIP97 Applicability

Exhibit 11 illustrates the two applications where a TRIP97 evaluation could be used; either could be applied in a legislative or quasi-judicial context for regional investment or mitigation of impacts. Each of these applications is further described below.

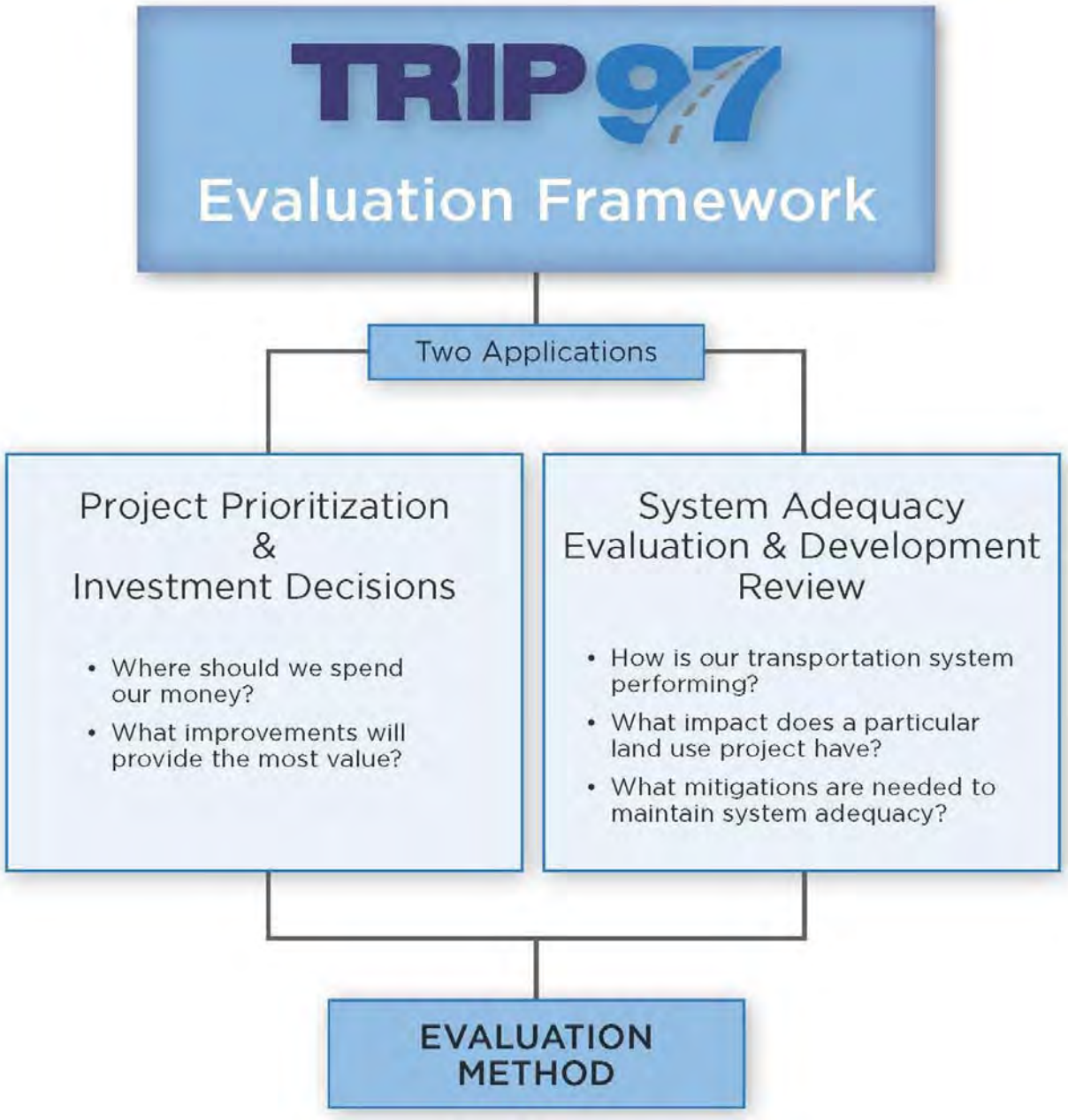

Exhibit 11 Applications of TRIP97.

Project Prioritization

Quantifiable project prioritization is one of the key outcomes desired from the TRIP97 work products. This is envisioned as a legislative planning effort with collaboration from the affected

agencies. It is expected that this process will be used to rank and prioritize projects based on their regional merit. The intent of a project prioritization process is to quantify the project costs and the project benefits. The results of such an evaluation can be used to provide decision-makers with information as to which projects provide the largest return on investment. Historically, project prioritization has been based on subjective approaches and inadequate performance measures, with agencies competing for dollars and projects without a direct comparison. By utilizing the TRIP97 evaluation approach, decision-makers will be presented with the following:

- A corridor-wide Benefit/Cost ratio, which is a direct outcome of the corridor evaluation process
- A System Change Index, which is a direct outcome of the aggregated segment evaluation process

For project prioritization, this information does not need to be prescriptive. Rather, the results of the analysis can be just one of several factors that help decision-makers rate the benefits of one project compared to others. This process still allows for some level of political prioritization, of course, but such prioritization decisions will occur in an environment that is better informed by a more objective analysis.

System Adequacy Evaluation

Because of the many legal requirements associated with system adequacy evaluations, an evaluation approach needs to be available that is much more prescriptive than the project prioritization approach. Specifically, the system adequacy evaluation needs to be repeatable and consistent between analyses and, ultimately, an objective evaluation of potential impacts to the transportation system.

In general, the intent of the system adequacy evaluation included as part of the TRIP97 Framework is to determine if the proposed action (land use or infrastructure change) results in a net benefit to the transportation system. This is done from both the corridor (benefit/cost ratio) and the segment (weighted segment index) levels.

Application of Evaluation Framework

The TRIP97 Partnership was formed to promote the US 97 corridor as an economic engine for Central Oregon. As such, the development of the evaluation process for the TRIP97 Framework consciously considered if the application of such a method would be overly onerous for users, particularly within the quasi-judicial process. With this premise, the following guiding principles were established:

- The TRIP97 Framework should describe in detail when a more rigorous TRIP97 evaluation is necessary.

- A TRIP97 evaluation should only be applied to planning projects and developments or projects with regional significance.
- Consistency with previous planning efforts should be encouraged and the applications of such projects should be streamlined.

To meet these objectives, a three-tier process was developed for application of the TRIP97 Framework, as shown in Exhibit 12. Together, these tiers ensure consistency with the framework and intent of the Transportation Planning Rule (TPR). The process that has been developed addresses projects that are consistent with the baseline plan assumptions, those that modify the assumptions but do not create a "significant effect" on the highway, and those that modify the plan assumptions and do create a significant effect on US 97. Each of the evaluation analysis tiers are described below.

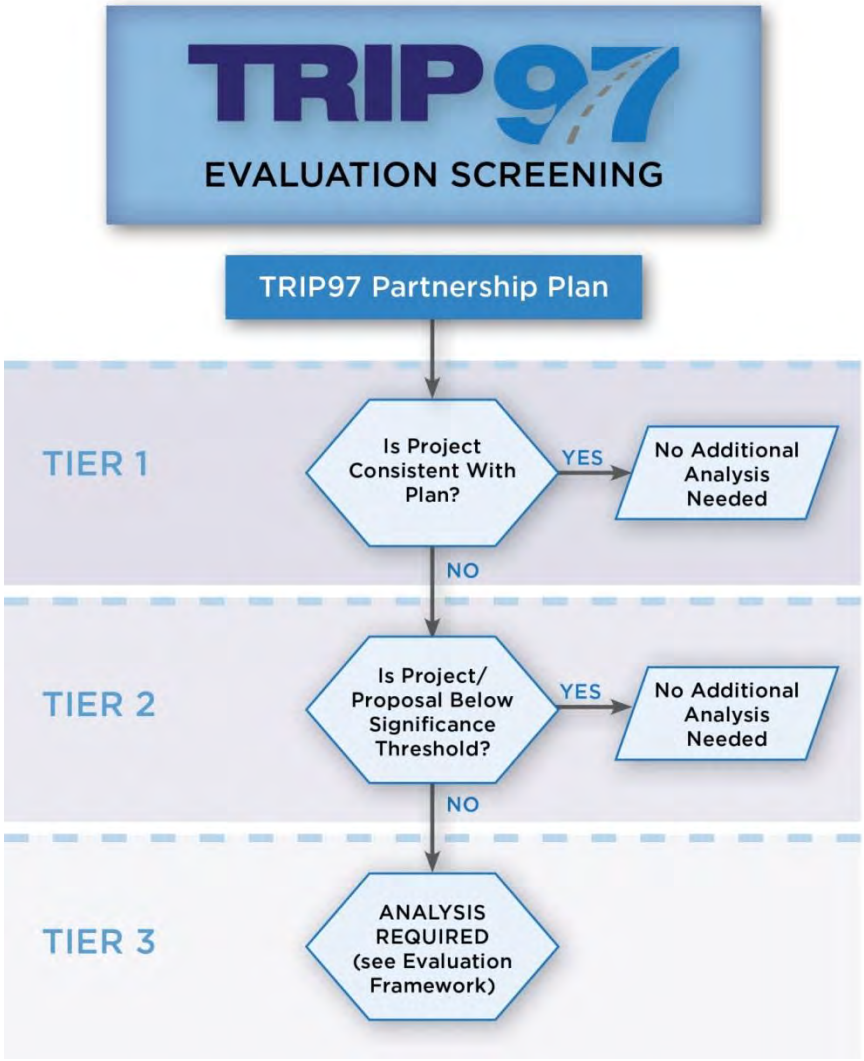

Exhibit 12 TRIP97 Tiered Review Process.

Tier 1 – Plan Compliance

Following the same outline as the TPR, the first consideration is whether the proposed land use creates a "significant effect" on an existing or planned transportation facility. Questions asked to determine whether a significant effect *might* occur should include the following:

- Does the proposal affect population? Does it result in changes in households or change the assumed allocation of those households from the baseline assumptions of the plan?
- Does the proposal affect employment? Does it show changes in the types or levels of employment from what was assumed in the baseline assumptions of the plan?
- Does the proposal change the highway characteristics in a way that was not envisioned within the plan? Does it add new sources of control delay, prescribe new interchanges, alter the way traffic accesses or crosses the highway at classified facilities, provide additional travel lanes, or alter the dimensional characteristics of the highway?

Applications that conform to the plan assumptions with respect to land use and infrastructure are considered Tier 1 applications. These comply with the baseline assumptions of the plan and have already been accounted for in the plan. These applications would be required to participate in adopted plan recommendations (which could include financial contributions toward plan recommendations) and may also require an abbreviated analysis to demonstrate conformance with standards related to access and safety. It is expected that the vast majority of these projects would only require compliance with local land use policies.

Tier 2 – Plan Modification/Insignificant

The second Tier addresses applications that may change the baseline assumptions, but those changes are not considered significant by the definition of the Transportation Planning Rule. This could be particularly relevant to minor amendments that affect an individual urban parcel, that are located some distance from the highway, that reduce impacts to the highway, or that fail to meet some yet to be defined significance threshold. A specific standard has not been defined within this work effort. However, it is recommended that this significance threshold be set somewhat high, as the intent is to avoid a lengthy process when the proposed actions is nothing more than a change in building tenancy or a minor land use amendment.

For reference purposes, currently established significance thresholds set by various agencies include the following:

- City of Redmond: the addition of more than 25 net new weekday p.m. peak hour vehicle trip ends passing through an intersection.
- City of Bend: the addition of more than 15 net new weekday p.m. peak hour vehicle trip ends in any single lane group on any approach to an intersection.
- ODOT: the addition of more than 50 net new weekday p.m. peak hour vehicle trip ends passing through an intersection OR the addition of more than 25 net new weekday p.m. peak hour vehicle trip ends passing through a classified arterial or collector intersection.

Proposed actions that are not substantial enough to generate these levels of additional vehicle traffic would remain within Tier 2. In such cases, the proposed actions do have real consequences relative to the TRIP97 Plan's baseline assumptions, but the effects are marginal and therefore not considered to be significant. So, similar to Tier 1, such actions might be required to participate in plan recommendations and might also require an abbreviated analysis demonstrating conformance with highway access and safety requirements as applicable. Tier 2 applications would be recorded and included as part of subsequent periodic updates to the plan to ultimately account for the incremental impacts.

Tier 3 – Plan Modification/Significant

Tier 3 represents large-scale applications that cause significant changes to the baseline assumptions. Projects that fall within this category are expected to be limited; examples would include projects such as Juniper Ridge in Bend, Senate Bill 1544 lands in Redmond, UGB expansions, or major infrastructure changes. These are typically large-scale and multi-year projects that would need to apply the more involved Tier 3 process. Longer-term projects such as those cited could even be included within a collaborative legislative process as the impacts and mitigating strategies are more likely to affect a broader group of stakeholders and agencies.

Within the Tier 3 framework the application would need to show the plan findings with the proposed land use or infrastructure modification and compare these findings to the adopted plan. An outline of the proposed Tier 3 methodology is provided below in Exhibit 13.

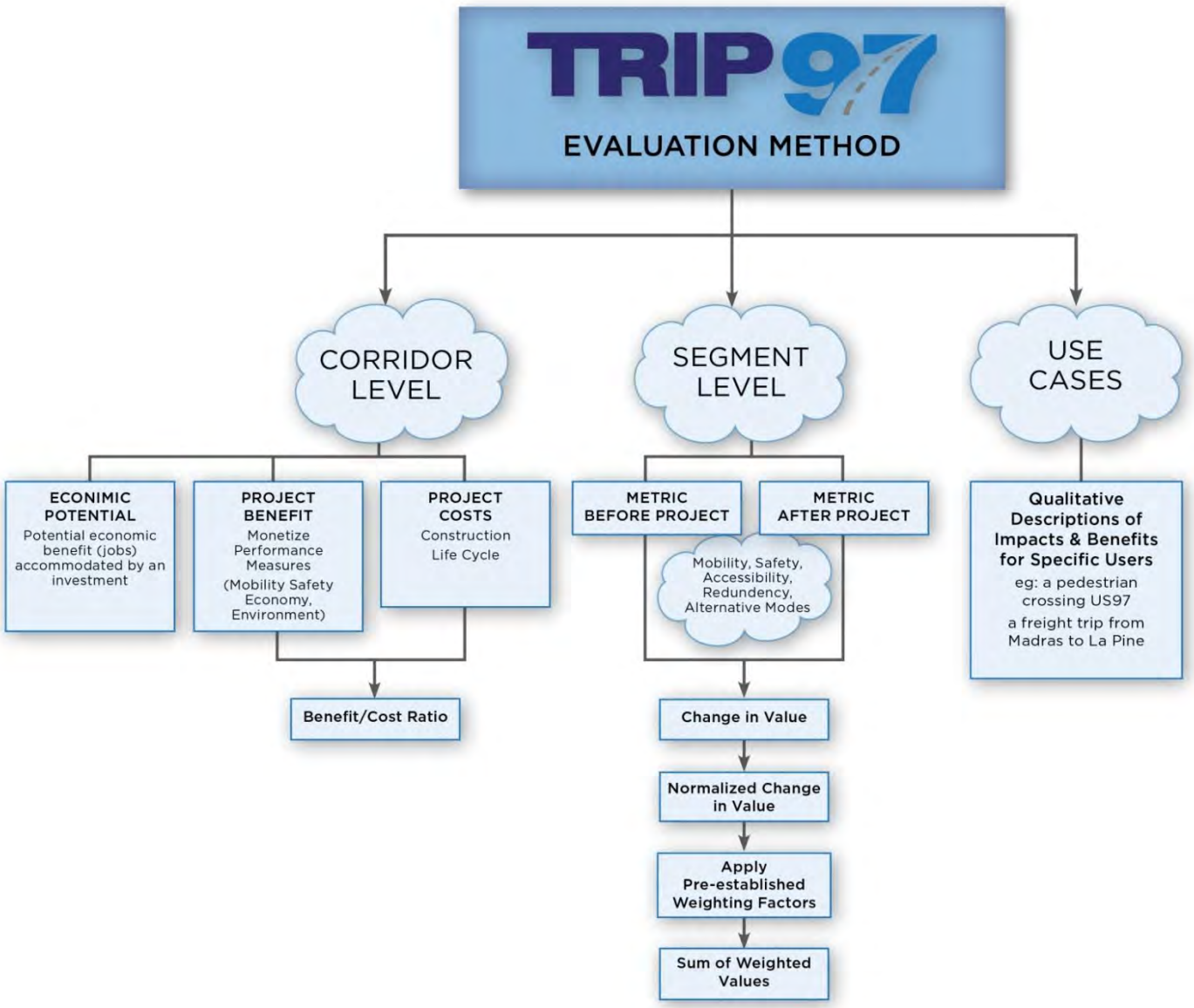

Exhibit 13 Tier 3 Evaluation Process flowchart.

Analysis conducted within the Tier 3 process is outlined below. The analysis compares a baseline scenario with an analysis that includes the proposed land use and/or infrastructure changes. If mitigation is required, this could include some formulaic or pro-rata sharing toward pre-established projects, minor improvements, or other mitigation strategies that affect the broad range of performance measures.

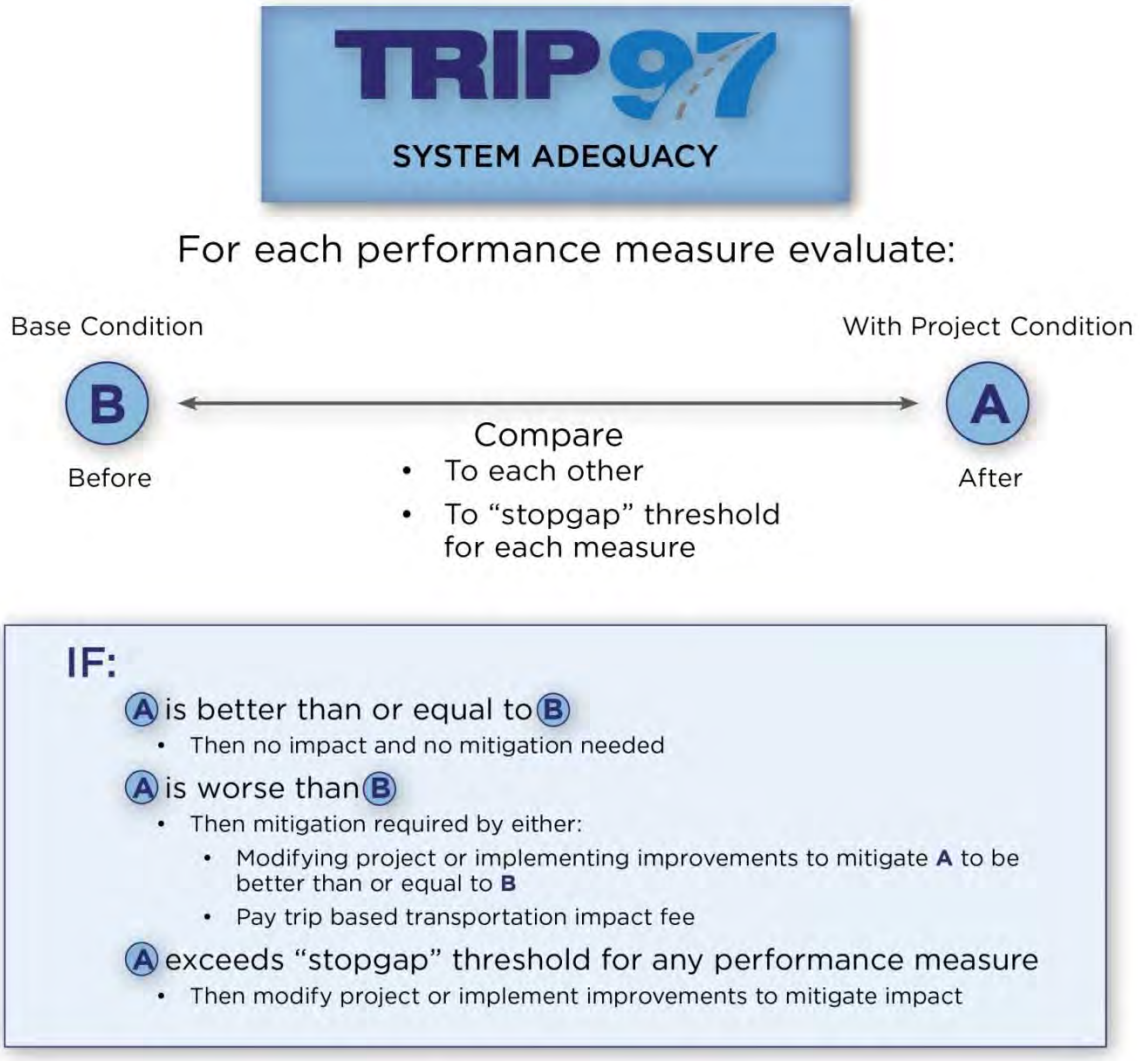

Exhibit 14 TRIP97 Evaluation Decision Tree.

Calculation of Corridor Level Benefit/Cost (b/c) Ratio

As described, the corridor measures are intended to facilitate the development of a b/c ratio for a particular project or development. Each application will be slightly different, but the overall intent of this evaluation is to describe the system-wide benefits and costs associated with a given action.

Specific instruction on the calculation of a particular b/c ratio is difficult because costs and benefits can come from similar or differing sources depending on the specific application. As such, care should be taken with the following procedural description to ensure that the specific characteristics associated with any particular action should be carefully considered.

Step 1: Monetize Performance Measures

Each of the corridor performance measures can be monetized. The conversion to currency allows the relative change each performance measure may experience to be directly and equivalently comparable to changes in other performance measures as well as understandable by decision-makers or the general public. The following paragraphs provide examples of how each performance measure can be monetized based on current practice. As better information becomes available, the specific estimation/conversion methodologies described in these paragraphs might be changed. Therefore, it is important to recognize that the particular approaches presented in these paragraphs are not meant to be prescriptive, but rather to provide an instructive example of how the calculation of monetization values can occur.

Travel Time: The Texas Transportation Institute (TTI) produces the *Urban Mobility Report*, which quantifies the value of time for travelers relative to the average congestion experienced in different metropolitan areas. The calculations presented in that method are involved and consider many different factors not necessarily appropriate for planning applications. A simplified approach to their methodology is to assign a value to time based on the average wage in the region. Such economic data is readily available and can be tailored to the level of detail obtainable from the transportation side. For example, if a highly disaggregated data set is available where the average travel time of specific user groups such as freight, commuters, or vacation travelers is available, then average time values can be assigned to each group according to their respective average wage rates. If, on the other hand, the data set has been aggregated, then a more generalized value of time can be assigned that is reflective of the proportional representation of these user groups within the population or traffic stream.

Travel Time Reliability: All the same principles associated with monetizing travel time apply to travel time reliability. Recent research results from around the world tend to show that travelers value the reliability of their travel time separately from and in addition to the value they place upon the actual travel time itself. Further, it appears that travelers value travel time reliability at least as much as they value their travel time. A common value currently being assigned to travel time variability is a factor of 1.3 multiplied by the estimated value of travel time. This factor can be applied in travel time reliability calculations to account for the higher value of any such time that is either saved or lost. On the other hand, a more conservative

approach can be taken wherein the value of travel time variability is established at the same value as travel time. Either approach can be appropriate.

Predicted Number of Crashes: The costs associated with specific crash types and severities are documented in a number of established sources. These values are typically based on a number of socioeconomic variables, most notably the loss of productivity due to a severe injury or fatality crash. Within Oregon, ODOT has established values for these crashes. These values can therefore be assigned to expected crash frequencies in any given analysis.

Emissions: Carbon dioxide (CO_2) or carbon dioxide equivalents (CO_{2eq}) are commonly used as a surrogate for the broader category of emissions and can be monetized through a variety of methods. One application that will likely be useful for TRIP97 evaluations is the quantification of CO_2 emissions through travel demand model outputs and then monetization by industry standard means.

Funding Plan Revenue: Funding plan revenue can be calculated by making specific or generalized assumptions (depending on the application) related to the growth in tax revenue as a result of the proposed action. By then accounting for the appropriate sequestration rates, an equivalent increasing in TRIP97 funding revenue over the analysis period could be calculated.

Step 2: Quantify the Costs

For the purposes of TRIP97 b/c evaluations, both near-term (capital) and long-term (maintenance/operational) costs should be considered. If the project is an infrastructure project (new signal or interchange, for example) the costs can readily be assembled. If the project is a land use change the project costs are directly related to the potential negative degradation of the corridor level performance measures given the specific course of action being considered.

Step 3: Quantify Project Benefits

Project benefits will accrue from differing sources depending on the specific course of action being considered. In most cases it is expected that the benefits will be reflected entirely within the performance measures that have been identified by the TRIP97 Partnership (job creation potential, better safety, improved highway mobility, etc.).

Step 4: Compute b/c Ratio

After the performance measures have been evaluated, project costs quantified, and project benefits quantified, a b/c ratio can be calculated by dividing the project benefits by the project costs. The results of this analysis will inform the analyst and, ultimately, the decision-maker, as to the net benefit or cost associated with the given course of action.

Step 5: Consider change in job potential

The change is job potential should be calculated and considered independently of the previously described b/c ratio if an infrastructure project is being considered. This measure would not apply to development review applications. Rather, Funding Plan Review should be evaluated. If calculated, the results should then be considered as informative for the decision-maker as to the economic impact of the proposed action. If the proposed action is a change in land use and not capacity adding to the transportation system then the economic impact can be determined by other means, such as through an economic impact evaluation. This step is not critical for system evaluation, but is critical to maintain a direct link between US 97 and the local economy.

Calculation of Segment Level Evaluation Results

Differing from the corridor level analysis, the segment level analysis does not produce outputs that can all be monetized. However, the segment level analysis still needs to be a repeatable analysis. The following describes the individual steps in developing a segment level analysis.

Step 1: Estimate the value of segment level performance measures both before and after the proposed action

The segment level analysis is based on determining the relative change between two scenarios. Thus, the first step in calculating the segment results is to estimate the value of the applicable performance measures in both scenarios. The specifics for how these values can be calculated were described previously.

Step 2: Establish the relative percent change of each performance measure

Since the performance measures associated with the segment level analysis cannot be universally monetized, other means are established by which the overall results can be compared and analyzed. A critical step in that process is to calculate the relative change of each measure.

Calculating the relative change each measure experiences is somewhat complicated by the potential for extreme values in the evaluations. For example, if a particular segment was observed to experience one annual crash historically and was expected to experience two annual crashes based on a proposed action, the result would be a 100 percent increase in expected crashes. Obviously, such a high value likely puts the expected increase in crashes out of context when the simple percentage is used. To overcome this problem, another means of calculating percent change was established.

The modified percentage calculation method addresses the extreme value potential by defining "baseline" values for each segment performance values. Essentially, these values provide a

consistent value by which change in a given performance measure can be compared against a non-extreme value. Based on this, the calculation of change percentage is generally described as follows:

Relative Performance Measure Change/Baseline Value = Change Percentage

Table 3 shows the Baseline Values that have been initially established for each performance measure. These values can and probably should vary by jurisdiction as further refinements are undertaken.

Table 3 Baseline Values

Performance Measure	Urban Value	Rural Value
Average Travel Time	35 mph	50 mph
Travel Time Variability	1.0 std. dev.	1.0 standard deviation
Side-street Delay	60 seconds	30 seconds
Expected Crash Frequency	Average Statewide Crash Rate for Similar Facilities	Average Statewide Crash Rate for Similar Facilities
Turning Movement Opportunities per mile	Index score: 80/mile	Index score: 40/mile
Percent of N-S traffic on US 97	75 percent	90 percent
Pedestrian LOS	Index Score: 3.0	n/a
Bicycle LOS	Index Score: 3.0	n/a
Transit LOS	Index Score: 3.0	n/a

Step 3: Assign change value based on percent change

After change percentages have been established, the next step is to assign a change value to designate the relative magnitude of each positive or negative change. As shown in Table 4, the change values are assigned change values of “1”, “2”, or “3” according to the magnitude of each change relative to its baseline value.

Table 4 Thresholds for Change Value

Change from Nominal Value	Change Value	Change relative to "Baseline Values"
Major Degradation	-3	>-10%
Moderate Degradation	-2	-5 to -10%
Minor Degradation	-1	<-5%
No Change	0	-
Minor Improvement	1	<+5%
Moderate Improvement	2	+5 to +10%
Major Improvement	3	>+10%

Step 4: Assign weighting values based on community value

Next, the net results are combined in a manner reflective of community values. The weighting process allows ODOT and each community along the TRIP97 corridor to weight the performance measures in a way that is reflective of their own priorities as they relate to the goals and function of the highway within each jurisdiction. Table 5 below shows an example set of weightings that might be applied. These initial weighting recommendations should be considered a conversation starting point and should therefore be updated according to the outcomes of a public input process with feedback from key stakeholders.

Table 5. Example Segment Measure Weighting Scenario

Performance Measure Category	Performance Measures Included	% Weight
Mobility	-Average Travel Time -Travel Time Reliability -Side-street Delay	45
Safety	-Expected Crash Frequency	30
Accessibility	-Turning Movement Opportunities per Mile	15
Redundancy	-Percent of N-S traffic on US 97	5
Alternative Modes	-Pedestrian LOS -Bicycle LOS -Transit LOS	5

For application purposes, weighting areas that include multiple performance measures are averaged together prior to the weighting exercise. For example, if the alternative modes analysis resulted in change values of 2, 1, and 1, the change value to be considered for weighting purposes would be an average value of 1.33 (summation of 4 divided by 3 modal categories).

While specific weighting scenarios could vary be segment, some level of consistency should exist between the weightings used by adjacent and overlapping jurisdictions. One way to address the need for consistency is to provide a recommended range in which a weighting might fall. These ranges have not yet been established. In any case, it will be desirable for the TRIP97 Partnership to achieve consensus on the specific weightings employed for each segment.

The end result of the weighting exercise is a weighted sum of the change values based on community values. For analysis purposes, a positive weighted sum indicates a net benefit to the transportation system while a negative weighted sum indicates a net disadvantage to the transportation system.

Step 5: Check Stopgap Values

The final step in the segment evaluation is to compare the individual performance values against predefined stopgap values. These values are pre-established for each measure based on Partnership and community input and are intended to ensure that one or more areas of the transportation system do not degrade beyond minimum operating standards. These stopgap levels have been purposely set to levels such that it is unlikely they will ever be met or exceeded. Regardless, these are in place as a safeguard against that possibility.

If for some reason a stopgap value is projected to be exceeded as the result of any proposed set of actions, then the proposed actions cannot proceed as planned. Instead, mitigation is required to the transportation system or modifications must be made to the proposed course of land us action, mitigation measures, or transportation project to ensure the stopgap value is not exceeded.

A proposed set of stopgap values is presented in Table 6. Adjustments to these initial values are likely to occur as experience is gained and the methodology is put into practice.

Table 6. Example "Stopgap" Values

Performance Measure	"Stopgap" Threshold
Corridor Measures	
Average Travel Time	25 mph
Travel Time Variability	0.35*Average Travel Time
Expected Crash Frequency	2x State Average for Similar Facility
Change in Job Potential	n/a
Carbon Dioxide Emissions	n/a
Segment Measures	
Average Travel Time	5 mph
Travel Time Variability	0.50*Average Travel Time
Expected Crash Frequency	5x State Average for Similar Facility
Side-Street Delay	300 seconds/vehicle
Pedestrian LOS	Index Score: 5.50
Bicycle LOS	Index Score: 5.50
Transit LOS	Index Score: 5.50
Turning Opportunities per Mile	Index Score: 2.5
Percent N/S Traffic on US 97	N/A

TRIP97 Analysis Data Needs

The inclusion of new performance measures will require additional traffic data and calibration. Even so, care has been taken to ensure that the data needs associated with the new performance measures are not onerous and rely on data that is typically readily available to the local agencies and analysts tasked with performing a TRIP97 evaluation.

Table 7 describes the data needs associated with each performance measure included in the TRIP97 program. Generally, the required data is the compilation of information already being collected and available within GIS systems, automated traffic recorders (ATR), turning counts, signal systems, service providers, and weather stations. This will require standardizing how the data is collected and reported, with limited new data collection required. As TRIP97 links land use and transportation, one critical need for the region will be to establish a travel demand model that applies throughout the Deschutes and Jefferson County study area.

Table 7. TRIP97 Analysis Data Needs

Performance Measure	Specific Data Needs
Corridor Measures	
Average Travel Time	○ Default traffic characteristics (typical HCM factors) ○ Roadway characteristics (speed, geometrics, segment length, etc.) ○ Traffic demand ○ Signal timing information
Travel Time Reliability	○ Analysis period ○ Weather data (calibration factor - available via weather stations) ○ Demand variability (calibration factor - available via ATRs) ○ Incident response time (calibration factor) ○ Occurrence of crashes
Change in Job Potential	○ Traffic volumes ○ Data derived from other performance measure outputs
Funding Plan Revenue	○ Adopted TRIP97 funding plan; specific needs will vary with funding options implemented.
Predicted crashes	○ Roadway characteristics ○ ADT ○ Occurrence of crashes
CO_2 Emissions	○ Travel Demand Model Outputs
Segment Measures	
Average Travel Time	○ Same as above
Travel Time Reliability	○ Same as above
Side-Street Delay	○ Typical v/c analysis
Expected Crash Frequency	○ Same as above
Turning Movement Opportunities per mile	○ Physical roadway environment observation
Percent of N-S Traffic on US 97	○ Roadway volume estimates (traffic counts, travel demand model)
Pedestrian, Bicycle, and Transit LOS	○ Demand data ○ Roadway characteristics

Initial TRIP97 Projects & Strategies

Following the development of the TRIP97 evaluation framework and analysis methodology, an initial transportation improvement package was assembled that provides a starting point for specific improvement projects and strategies that incorporate operational improvements as well as capacity-adding features. This improvement package was developed to test the viability of the evaluation framework and analysis methodology that has been developed during the course of this work effort.

While developed to respond to system needs identified as part of a future horizon scenario, this list of projects is a combination of projects previously identified in agency Transportation System Plans, current projects that are already in planning stages, and other projects suggested by the consultant team that would respond to the multi-modal and system management

aspects of the TRIP97 framework. The project list is for demonstration purposes only, though the projects identified may include a portion of the projects that would be recommended with a more refined analysis.

The development of the initial package of improvement projects and strategies described herein for the TRIP97 corridor occurred through a collaborative process with the TRIP97 Project Management Team and feedback from the Steering Team. The project list provided as a result of this effort will be modified in the future as more refined tools and analysis data become available. These projects could be further refined beyond what was tested to maximize their benefit to the system. Modifications to the project list could include a host of highway improvement options including but not limited to projects on facilities parallel to US 97, demand management projects, and many others. The package presented in this report was developed through the following steps:

- Existing programmed projects were identified by the Partnership agencies, which include projects that are currently funded and programed for completion within the near term future (approximately within the next 5 years).
- Planning studies and evaluations previously completed by the Partnership agencies were reviewed and high value improvements were identified from those efforts.
- New improvement strategies not heretofore considered, particularly in the area of operational improvement strategies, were identified and assessed at a qualitative level.
- Improvement projects and strategies were identified in previously-completed work products that were found to have both a) important mobility or safety benefits; and b) likelihood of being achievable within a reasonable funding range.
- The project team and PMT distilled this information into a preliminary set of new projects and strategies that responded to the performance measures established for the TRIP97 corridor.

These steps resulted in an initial list of multiple projects and strategies. The initial list was then reviewed with the Project Management Team and Steering Team to distill it down to a more refined package of improvements and strategies considered most promising for demonstration purposes. Considerations that directed the refinement process included:

- Benefit of the project/strategy in comparison to cost;
- Range of geographic diversity in project location along the corridor;
- Ability of the package to address and enhance the range of performance measures (mobility, safety, multi-modal travel, economic development); and
- Feasibility of project/strategy implementation.

The resultant initial package of projects and strategies for the TRIP97 corridor is provided in Table 8, which also provides planning-level cost estimates (either as identified from previous studies or developed as part of this effort, and rounded to millions of dollars for magnitude purposes only) for each recommended project/improvement strategy.

Table 8 TRIP97 Demonstration Projects & Strategies

WHAT projects have been recommended?	WHY were these projects recommended?	What is the project's ESTIMATED COST?
J Street Signals – Madras	• Public street turning opportunities • Pedestrian and bicycle travel	$2 million
Central Area Interchange – Redmond	• Public street turning opportunities • Improvements in travel time, travel time variability, and side street delay • Expected crash frequency • % N/S traffic on US 97 • Pedestrian and bicycle travel	$50 million
Quartz Avenue Extension – Redmond	• Public street turning opportunities • Improving side street delay • % N/S traffic on US 97	$11 million
Cooley Road Interim - Bend	• Job potential change • Improves travel time, travel time variability, side street delay	$45 million
Powers Road Interchange – Bend	• Improves average travel time, travel time variability, side street delay • Reduces expected crash frequency • Improves public street turning opportunities • Enhances pedestrian and bicycle travel	$30 million
Variable speed limit – Corridor	• Improves travel time and reduces travel time variability • Reduces expected crash frequency	$1 million
Median (Bend to Sunriver)	• Reduces expected crash frequency • Reduces travel time variability	$5 million
Incident Management – Corridor	• Reduces travel time variability and average travel time • Reduces expected crash frequency	$2 million
Green extension for trucks at signals – Corridor	• Improves travel time, travel time variability, and side street delay • Reduces expected crash frequency • Reduces GHG	$1 million
TOTAL PACKAGE		**$145-150 million**

This recommended initial list of projects and strategies was used to complete an evaluation of the TRIP97 corridor to show their influence on the corridor and segment performance measures. It was also used to test funding plans for the financing element of the package as outlined in the next section.

Funding Plan

The TRIP97 process seeks to produce an agreed upon set of improvements to Highway 97 with reasonable alternatives for funding those improvements. This section of the report describes the funding options for the TRIP97 improvements. Its purpose is to identify potential funding sources that could be used to fund improvements to the TRIP97 Corridor, to evaluate those sources against a common set of logical criteria, and to suggest hypothetical funding scenarios that demonstrate options for funding the local share of TRIP97 for consideration by the Partnership.

Framework

Methods

The list of funding sources in this section was compiled through a review of national literature, relevant documents (such as local transportation system plans) and prior studies. To ensure the list of funding sources was current (since the availability of funding sources changes over time), up-to-date lists of funding sources from national sources were reviewed, representatives of Representative Blumenauer's office were consulted, and a draft list of funding sources was distributed to the TRIP97 agencies for review.

Concepts

Funding vs. financing

There is a distinction between the terms "funding" and "financing," which often are used interchangeably. Providing transportation facilities and services costs money, and somebody has to pay for these costs. The ultimate source of revenue for these costs is funding. Funding comes from households and businesses that pay taxes and fees that give money to the various levels of government. Examples of funding mechanisms are tolls, fuel taxes, registration fees, systems development charges, and property taxes. For each of these mechanisms, one can determine who is paying. When the funds for transportation costs are borrowed and paid back over time, then these costs have been financed. The ultimate source of funding for financed costs is not the financing instrument itself—e.g., bonds—but rather the revenue sources used to repay the borrowed funds.

Overview of funding sources

Funding for transportation projects along the TRIP97 Corridor will come from three levels of government: (1) federal, (2) state, and (3) local. Exhibit 15 illustrates how funding from these three levels of government are combined to fund local transportation improvements. It is assumed that local jurisdictions will do their best to maximize their allocation of state and federal sources for qualifying projects, and therefore the greatest level of detail was developed on local sources—those revenues that jurisdictions within the TRIP97 Corridor have direct authority for collecting or allocating.

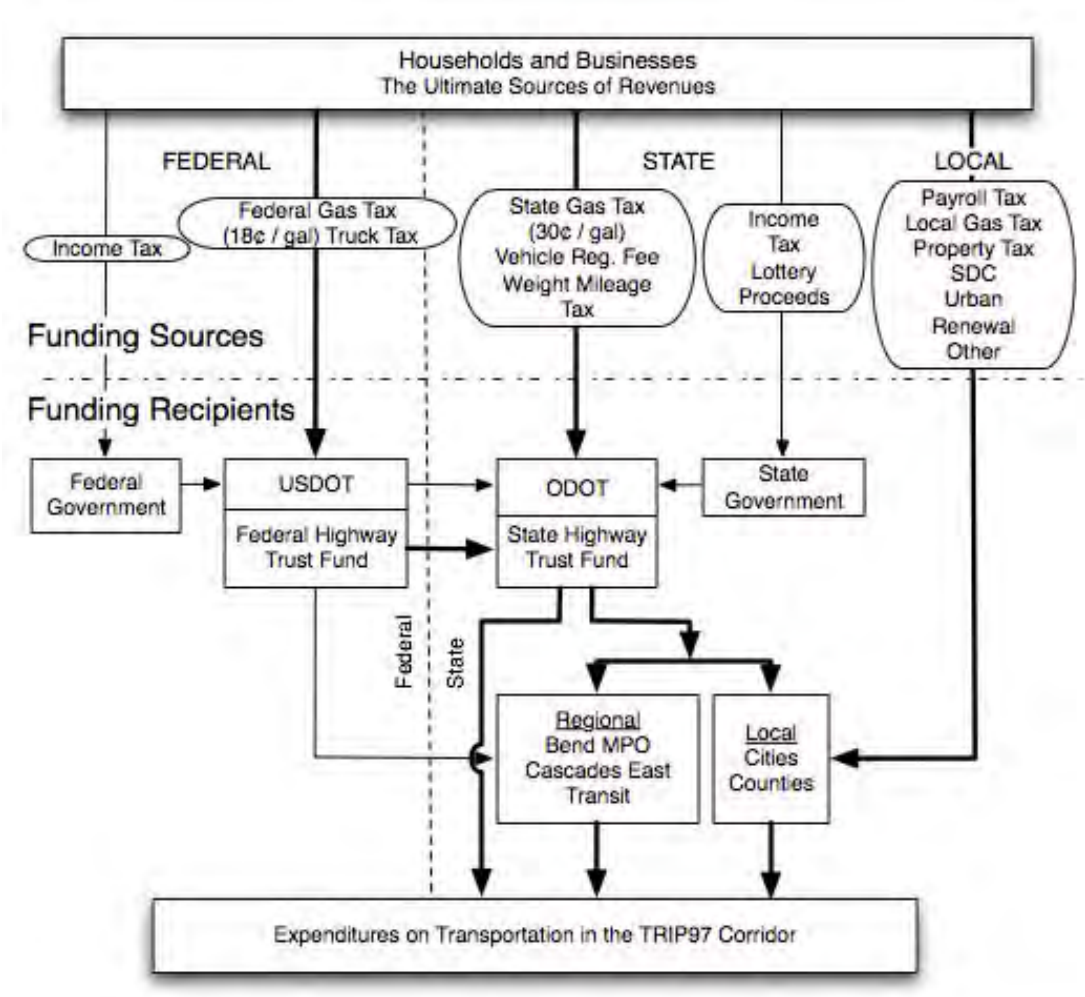

Exhibit 15 Diagram of state, federal, and local funding sources.

Evaluation Criteria

A list of criteria for evaluating local funding sources was developed, with four broad categories: (1) legal authority, (2) efficiency, (3) fairness, and (4) political acceptability. Each is described below.

Legal Authority

An essential part of an assessment of the ease of implementing a funding source is determining the legality of the source. If the source is currently prohibited by State statute, then there is a very big administrative hurdle to be surmounted up front. All the benefits of a funding source are moot if the source is not legal or cannot become legal within the desired timeframe.

Efficiency

This category covers everything related to creating and maintaining net revenues. Efficiency is divided into four subcategories: (1) revenue-generating capacity, (2) administrative costs, (3) revenue stability, and (4) revenue flexibility.

- **Revenue-generating capacity** considers how much money the source can generate.
- **Administrative cost** considers the portion of gross revenues that will be spent on administration. The easier it is to administer the tax or fee, the more of the gross revenue collected that will be available as net revenue for transportation projects and programs in the corridor.
- **Revenue stability and predictability** considers whether the source is likely to avoid large fluctuations each year and whether the source is likely to be close to the forecasts analysts might make.
- **Revenue flexibility** considers limitations on the types of projects that can be funded with a given source. A funding source may be a little less useful to jurisdictions if its use is limited to certain types of projects.

Fairness

Fairness, also referred to as equity, can be defined in many ways. In the context of transportation funding, the key question related to fairness is “who pays?" A standard definition of fairness in public finance is that the charges that fund the transportation system are tied to the users who receive benefits from (or impose costs on) the transportation system.

Political acceptability

Political acceptability considers whether elected officials and the public at large are likely to support the funding source. This depends to a large extent on the issues above: if a revenue source is legal, efficient, and fair, then it should get political support from the public, advisory groups, and decision makers. Ultimately, for this analysis, the evaluation of whether a source is politically acceptable was conducted using two approaches: (1) is the source widely used elsewhere in Oregon? And (2) does the source collect revenue mostly from non-locals (as opposed to local residents)? Political acceptability will ultimately be determined by a more comprehensive set of considerations that that go beyond just these two, of course, but for the purposes of this work it is believed that the two factors listed are broad enough and important enough to provide a good initial assessment.

Evaluation of Funding Sources

Twenty-four local funding sources were evaluated, as summarized in Table 9. This table shows the assessment from the evaluation as a matrix of "+", "0", and "-". Pluses indicate a funding source scores relatively high on a given criteria. Minuses indicate a funding source scores relatively low. Zeros indicate that a funding source is relatively neutral. It leaves it to the reader to make judgments about the value of relative advantages of different sources. A few cells are highlighted in red to indicate the team's judgment that the low score for that funding source on that criterion is qualitatively so low that it is essentially a fatal flaw and should be considered least feasible as a significant component of the TRIP97 Funding Strategy.

Table 9 Summary of Local Funding Sources

Category	Name	Legality	Efficiency				Fairness	Political Acceptability
			Capacity	Admin Ease	Stability	Flexibility		
Transportation Related	Tolls	+	+	-	-	+	+	O
	Local Gas Tax	O	+	+	+	+	+	-
	Vehicle Miles Traveled Tax	O	+	-	+	+	+	-
	Local Weight-Mile Tax	O	-	-	+	+	+	O
	Vehicle Registration Fee	+	+	+	+	+	O	O
	Street Utility Fees	+	+	O	+	O	O	O
	Parking Revenues	+	-	+	+	+	O	-
	Selected Sales Tax	+	O	O	O	+	O	O
	Local Improvement District	+	O	O	+	+	O	O
Development Derived	SDCs	+	-	+	-	O	+	+
	Urban Renewal	+	O	O	O	O	-	O
	Property Tax Sequestration	O	+	O	O	+	O	O
	Income Tax Sequestration	O	+	O	-	+	+	+
	Construction Excise Tax	-	-	O	-	-	-	O
	Permit/Record Surcharge	O	O	+	-	O	O	O
Other	General Fund	+	+	+	+	+	-	-
	Property Tax	+	+	+	+	+	O	O
	Personal Income Tax	+	+	O	O	+	-	-
	Corporate Income Tax	+	+	O	O	+	-	-
	Sales Tax	+	+	O	O	+	-	-
	Payroll Tax	+	+	O	O	-	-	-
	Transient Lodging Tax	+	O	+	-	-	-	+
	Business License Fee	+	-	O	O	+	-	-
	Real Estate Transfer Tax	-	O	O	O	-	-	-

The amount of information on the matrix in Table 9 can be overwhelming: seven different criteria for 24 different revenue sources, resulting in 168 individual cells filled with +, 0, and -. Table 10 provides an alternate illustration to evaluate each of these funding sources. In Table 10 only two of the evaluation criteria are highlighted to identify which of these funding sources might be most desirable for TRIP97: fairness, and political acceptability. Fairness considers how strong the connection is between the funding source and the benefits received. Political acceptability considers who pays – whether predominantly locals or non-locals?

Table 10. Alternative Summary of Local Funding Sources

Fairness – Correlation between Impact and Fee				
More Fair		VMT Tax (Narrow)	Tools or Weight-Mile Tax throughout TRIP97 Corridor Tax sequestration and SDCs on property in TRIP97 Corridor	Tolls on US 97 at Edge of Region
		For Property in TRIP97 Corridor LID or BID Street Utility Fee Regional VMT Tax Street Utility Fee Vehicle Reg. Fee SDCs (Broad)	Taxes on: Gasoline Car Sales Studded Tires Other Trans. Goods	Rental Car Tax
Less Fair		Property Tax Income Tax Real Estate Transfer Tax Construction Excise Tax Business License Fee Payroll Tax Most other local sources	Broad Sales Tax	Hotel Tax
		Mostly Local	Mix	Mostly Non-Local
Political Acceptability - Who Pays?				

Potential Funding Scenarios

Creating a full-fledged funding package is beyond the scope of the analysis. The ultimate funding package will be informed as much by politics as by the technical analysis. In the absence of a thorough political debate with local elected officials, we cannot presume to know which funding sources will be most politically desirable. Instead, several hypothetical funding scenarios were developed that are considered reasonable given the technical analysis and political input provided by the TRIP97 Project Management Team.

These funding simulations show how different funding tools could be combined to provide sufficient funding to implement TRIP97 Projects. These funding simulations are based on the total project costs estimated for the TRIP97 Starting Point Package of Transportation Improvement Strategies, which totals $150,200,000 in costs.

Local funding sources will not need to fund the entirety of the project costs, as some level of state and federal funding should be assumed. For the purposes of this analysis, it was conservatively assumed that the TRIP97 Partners would need to raise 40 percent of project costs from local sources. Given the total project costs of about $150 million, if 40 percent of costs came from local sources, it would require approximately $60 million in local funding. Ideally, local jurisdictions would ultimately be able to secure a larger share of project costs from state and federal sources, further reducing the amount of local funding required.

Although these projects would likely be built incrementally and phased in over many years as funds become available, insufficient information is available to make assumptions on project phasing. Thus, this analysis assumes all projects would be built immediately, using revenue bonds to be repaid over the next 30 years with the various local revenues identified in each funding scenario. For the purposes of our analysis, we have assumed these bonds would have a 30-year amortization period, with a 6% interest rate, and that a minimum coverage ratio of 1.25x debt service would be required. Based on these financing assumptions, local sources would need to contribute $5,450,000 per year to finance the $60 million capital costs. Note that if these projects are ultimately implemented over a longer period of time, it would not decrease the total local share of project costs, but would decrease the amount of local revenue that would need to be generated per year.

Funding Scenario #1. Emphasis on Fair, Feasible, and Non-Local

As shown in Table 10, only one local funding source scores highly on the criterion of fairness while collecting a substantial amount of revenue from non-locals: tolls. If traditional tolls were implemented at the edge of the TRIP97 Corridor, where other state highways connect with Highway 97, then a relatively large number of vehicles could be tolled, with a relatively small amount of tolling infrastructure, and with a reasonable amount of lost revenue from diversion.

A toll of $0.70 per vehicle entering the TRIP97 Corridor via each of these State highways would generate gross revenues of $8,163,000 per year. Assuming one third of revenues would be lost to diversion of traffic, net revenues would be $5,469,000 per year. This one revenue source would be more than sufficient to cover the local share of project costs for TRIP97.

Funding Scenario #2. Value Capture and Development Pays

Value capture is a philosophy gaining a lot of attention as a guiding principle for transportation infrastructure funding. Not only are value capture mechanisms fair in concept, but they can also be politically acceptable, as they shift the financial burden to new development in a small geographic area.

In the context of TRIP97, value capture means property tax sequestration, income tax sequestration, and a Local Improvement District. To determine the amount of revenue that could be raised by these value capture mechanisms, one must first decide on the geographic area for which the mechanism would be applied. One could argue that all development in Deschutes and Jefferson counties is dependent on the TRIP97 Corridor. Such an assumption could justify a value capture mechanism that collects taxes from all new development in both counties.

If these mechanisms were applied to the entirety of both counties, they could generate $2.5 million in income tax sequestration and $2.2 million in property tax sequestration in their first year, with revenues increasing dramatically over time. On average, over a 20-year period, these sources would be expected to generate $46.9 million per year. This is well above the funding level required for TRIP97 projects, as should be expected, since it represents the cumulative amount of taxes paid by new development in two counties for the next two decades. Thus, one potential approach to using tax sequestration would be to apply it region-wide, but to only sequester 10% of the tax revenues from new growth, with the remaining 90% of tax revenues going to other taxing jurisdictions as normal. Under this scenario, property and income tax sequestration could generate $4.7 million per year for TRIP97 projects, on average over a 20-year period.

Another possible approach to tax sequestration would be to apply these mechanisms only to a relatively small geographic area that would benefit most from the TRIP97 improvements. If such an approach were applied to an area extending 1/8th of a mile on either side of Hwy 97,this revenue stream could generate about $294,000 in the first year, and an average of $2,944,000 per year over 20 years. An additional $1,097,000 per year could be generated by an LID applied to the same geographic area.

For the purposes of this analysis, it was assumed that tax sequestration would be applied to new development in urban growth boundary (UGB) expansion areas in the region, and that

these areas would accommodate 30% of regional growth in the future. Rather than sequester all of the tax revenue from development in UGB expansion areas, it was assumed 20% of tax revenue would be sequestered with 80% of tax revenue going to the State and local taxing districts as usual.

To bolster the local revenue generated by tax sequestration and an LID, we turn to complementary sources, in-line with the philosophy of "development pays." Funding sources rooted in this philosophy tend to be politically acceptable, since they do not raise taxes on current residents. We have included a construction excise tax and a dedicated TRIP97 SDC as part of this funding simulation.

Table 11 shows the revenue raised by these funding sources. At the tax rates shown in Table 11, these sources would collectively generate $5,460,000 per year. Enough to finance the debt service for the $60 million local share of capital costs for TRIP97 projects.

Table 11. Funding Scenario #2: Value Capture and Development Pays

Funding Source	Geography	Rate	Units	Avg. Annual Revenue
Property Tax Sequestration	UGB Expansion Areas	$12.00	Cost per $1,000 of assessed value per year	$1,388,000
Personal Income Tax Sequestration	UGB Expansion Areas	6.50%	percent of income	$1,567,000
LID or BID	1/8 Mile of Hwy 97	$1.00	Cost per $1,000 of assessed value per year	$1,097,000
Construction Excise Tax	Regional	0.60%	percent of spending	$674,000
SDCs	Regional	$4.00	Cost per $1,000 of assessed value per year	$734,000
Total				$5,460,000

Note: Sequestration rates would apply to incremental growth, not full assessed value or income

Funding Scenario #3. Small Bites from Many Sources

The third and final scenario developed is based on the philosophy of taking "small bites from many sources." Rather than looking for just one or two revenue sources that have sufficient capacity to fund the entire local share of funding for TRIP97, this funding simulation looks at using a variety of sources, collecting relatively small amounts of revenue from each, to spread the financial burden.

Table 12 shows this funding simulation. There are six different revenue sources to generate sufficient revenue to fund the local share of TRIP97 project costs. This scenario has some

similarities with the previous scenario, including the use of property and income tax sequestration, LID, and SDCs. Lower rates were assumed for the LID and SDCs, which puts less of a financial burden on property along Highway 97, and on new development, and should act as less of a disincentive for new development. Other revenue sources shown in Table 12 include rental car tax, and vehicle registration fee.

Table 12. Funding Scenario #3: Small Bites from Many Sources

Funding Source	Geography	Rate	Units	Avg. Annual Revenue
Property Tax Sequestration	UGB Expansion Areas	$12.00	Cost per $1,000 of assessed value per year	$1,388,000
Personal Income Tax Sequestration	UGB Expansion Areas	6.50%	percent of income	$1,567,000
LID or BID	1/8 Mile of Hwy 97	$0.50	Cost per $1,000 of assessed value per year	$549,000
Rental Car Tax	Regional	5.00%	percent of sales	$612,000
Vehicle Registration Fee	Regional	$10.50	Per vehicle (every 2 years)	$1,178,000
SDCs	Regional	$1.00	Cost per $1,000 of assessed value per year	$184,000
Total				$5,473,000

Note: Sequestration rates would apply to incremental growth, not full assessed value or income

Initial TRIP97 Recommendation

Based on initial project team feedback, Funding Scenario #3 represents a preferred approach for the TRIP97 funding plan. As such, this scenario represents an initial recommendation for future consideration and modification as the TRIP97 Framework is further refined.

Implications and Next Steps

The point of the analysis contained in this section is not to definitively identify a short list of preferred funding sources, the initial recommendation may change in the future, but to facilitate a conversation about the relative merits of each funding source available to the TRIP97 project. Its intent is to inform the TRIP97 Partners as they develop a refined TRIP97 Funding Strategy in later phases of the project.

Two-dozen local funding sources were evaluated. None is perfect. All have some limitations, and many have low scores for political acceptability. This means that for TRIP97 to have the best shot at implementation, (1) state and federal funds will be vital, (2) projects will need to be

affordable, (3) political decision makers and the general public will need to make TRIP97 a high-priority, and (4) some presumably unpopular local funding sources will likely need to be approved to supplement state and federal funds.

When considering the universe of potential local funding sources described in this memorandum, and the specific combination of funding sources described in the funding simulations, it is evident that there is significant funding capacity, from a technical perspective. But what is possible *technically and in theory* may not be possible *politically*.

The real question isn't about *technical* capacity, but rather *political* capacity. How much are residents, businesses, and visitors to the TRIP97 Corridor willing to pay for improved transportation infrastructure? The answer to this question will require an earnest conversation with local policy makers.

In subsequent phases of this project, the TRIP97 Partners will need to more fully evaluate a subset of these funding tools that have the most promise for contributing meaningfully to the TRIP97 Funding Strategy, including refining our estimates of revenue capacity, and matching those revenues to specific projects on the TRIP97 project list.

Governance Options

This section provides an overview of a detailed evaluation of governance structures includes in the appendix. The detailed evaluation includes discussion related too organizing the decision-making and work activities of the TRIP97 partners in support of an integrated, corridor-wide approach to addressing issues in the corridor. While not offering a specific recommendation, the detailed evaluation provides a technical foundation for further work by TRIP97.

Framework

Introduction

"Governance" addresses the institutional structure by which TRIP97 decisions are made with regard to project priorities, funding decisions, program administration, and other factors. The governance structure incorporates the underlying legal authorities, rights, and obligations the basic participating governments, and the processes for making decisions.

There is not one governance structure option that is clearly superior to the others. On one hand, it would appear that a corridor-wide governance structure (such as a special district covering the corridor) makes sense since the transportation issues are corridor-wide. Centralized project management may offer the most efficient organization for project and program implementation. On the other hand, equity considerations and a focus on local issues may augur for a governance structure offering more local control. However, multiple jurisdictions cannot be expected to help fund TRIP97 improvements and programs without some assurance that an action by one of the partners cannot negate the benefits prompting the funding contributions. Thus the governance structure for TRIP97 needs to properly balance between elements of local control, multi-jurisdictional coordination, and centralized project management.

Context for Governance Structure Options

Governance structures can only be identified and evaluated within the context of the objectives they seek to accomplish and the programs they seek to implement. Frequently the governance structure is driven, at least in part, by the associated funding plan. While the precise program and funding sources do not need to be finalized to start work on the governance structure, these factors must be sufficiently addressed to provide a meaningful context for the governance structure. For purposes of this memo, it is assumed that the TRIP97 governance structure would need to address at a minimum the following:

- The development and implementation of a corridor-wide program of interrelated projects with a substantial total cost that is implemented in phases over time;
- The development and on-going operations of a corridor management program;
- The implementation of a funding strategy that likely incorporates the pooling of funding contributions from the TRIP97 Partners; and
- Intergovernmental coordination or administration of land use issues affecting the intergovernmental-funded corridor programs.

Governance Structure Options

Three basic governance structure options are considered in this section. Each of the governance structure options can incorporate a wide variety of specific terms, depending on the needs of the TRIP97 Partners. To facilitate discussion, examples of these terms are incorporated in each of the options. While not intended to be recommendations, these examples of terms illustrate the major tradeoffs that need to be weighed by the TRIP97 Partners. The three basic options are briefly introduced in the paragraphs that follow, and are further explained in the following subsection.

Option 1: Intergovernmental Agreement Governance Structure

Intergovernmental Agreements are a well-known and frequently used method for two or more governmental entities to create what amounts to a Partnership-style governance structure. For cities and counties, these agreements are authorized under Oregon Revised Statute (ORS) 190. ODOT can participate under its various authorities. When an agreement under ORS 190.010 has been entered into, the governmental unit designated in the agreement to perform specified functions or activities is vested with all powers, rights, and duties relating to those functions and activities that are vested in each separate party to the agreement. The rights, such as approval rights, and the obligations of the parties, such as funding, are spelled-out in the agreements. And, the agreements are legally-binding and enforceable contracts.

In the example evaluated ODOT would be appointed the lead agency responsible for day-to-day management of activities, including planning, engineering, and construction of the capital improvement program. A Steering Committee and Project Management Group consisting of appointments from each of the TRIP97 partners would be created to provide for general coordination and to make certain limited decisions. Significant decisions would require the approval of the governing bodies of the TRIP97 partners. The intergovernmental agreement option is the least able governance structure to levy its own funding sources; funding would primarily come from pooling funding contributions from the Trp97 partners provided to ODOT under the terms and conditions in the agreements. Grant funding and, subject to voter approval, a local vehicle registration fee could also be pursued.

Option 2: Intergovernmental Entity Governance Structure

Intergovernmental entities are quasi-independent agencies created by local jurisdictions through intergovernmental agreements. To have an intergovernmental entity covering the full TRIP97 Corridor, both Deschutes County and Jefferson County must be parties to the authorizing agreements. ORS 190.083 applies when a county is party to an agreement creating an intergovernmental entity to operate, maintain, repair, and modernize transportation facilities. This statute provision allows the intergovernmental entity to have broad funding authorities, subject to the terms in the authorizing agreement.

An intergovernmental entity is governed by a board that is appointed by, responsible to, and acting on behalf of the parties to the authorizing agreement. The extent of the board's decision-making authority would be spelled-out in the authorizing agreement; the agreement could reserve significant decisions to the governing boards of the TRIP97 partners. The entity may take the actions required to carry out its purpose, such as entering into contracts, expending funds it receives, etc. In addition, the authorizing agreement may: (a) allow the entity to perform any specified functions the parties to the agreement may perform, and (b) vest the entity with any applicable powers, rights, and duties that are vested in these parties.

Funding for intergovernmental entities is frequently from funding contributions by participating governments, state or federal grants, and/or fees on the activities of the entity. The entity could also be granted the authority to impose a local vehicle registration subject to voter approval. In addition, an entity created by a county for transportation purposes under ORS 190.083 may also be authorized to levy taxes within its boundary and to issue general obligation bonds, both subject to voter approval. In addition, an intergovernmental entity created under ORS 190.083 can issue general obligation bonds, revenue bonds, and participate in other forms of borrowing to fund its projects and programs.

Option 3: Special District Governance Structure

Current state statutes enable several special transportation districts, but none are well suited for TRIP97. Therefore the special district option is premised on securing new enabling legislation that is tailored to the needs of TRIP97. This analysis assumes the special district would be granted broad planning, funding, and financing powers. Specifically the assumed legislation would:

- Create the district by requiring an intergovernmental agreement to be approved by the governing bodies of the TRIP97 partners that sets the boundaries of the district;
- Create a board of directors of the special district that would be generally independent from decision-making by the TRIP97 partners;

- Authorize the district to plan and implement capital improvements and corridor management programs within its boundaries based on a functional plan enacted by the district;
- Authorize the district to require the TRIP97 partners to (a) bring their plans into compliance with the district's functional plan and (b) issue permits for improvements required by the plan;
- Grant the district the power to levy ad valorem taxes, and to establish sub-districts with differing tax rates reflecting differences in the benefits provided to sub-district by the district's plan;
- Grant the district the power to impose system development charges and local vehicle registration fee;
- Grant the special district broad financing powers, including the power to issue general obligation bonds.

The provisions outlined above are not recommendations; rather they were assumed to highlight trade-offs.

Initial TRIP97 Recommendation

Based on feedback from the project team, the initial recommendation is for the TRIP97 Partnership to establish the necessary intergovernmental agreements to begin regional collaboration and implementing the TRIP97 Framework, as desired.

Assessment of Governance Structure Options

Each of the governance structure options described in this memorandum can provide a satisfactory governance structure for the development and implementation of the TRIP97 capital improvement program and corridor management programs. Each governance structure option can accommodate and fully enforce funding contributions from TRIP97 Partners and other grants.

In addition, each of the governance structure options can incorporate a wide variety of specific terms, depending on the needs of the TRIP97 Partners. To facilitate discussion, examples of these terms were incorporated in the options – but it is important to note that these were just examples and not recommendations. The examples illustrate the major tradeoffs that must be considered by the TRIP97 Partners. The major countervailing forces appear to be the breadth and flexibility of funding authorities versus the level of decision-making retained by the TRIP97 Partners. The selection of the preferred governance option may also be affected by the methodology chosen to address land use decision-making in the TRIP97 Corridor, in particular as it relates to measuring system performance under the Transportation Planning Rule.

The matrix on the following pages summarizes these tradeoffs.

Table 13. Summary Evaluation of Governance Structure Options

	Intergovernmental Agreement Option	Intergovernmental Entity Option	Special District Option
Ability to Establish Governance Structure	Easiest structure to establish. All parties familiar with structure. Enactment only requires approval by parties.	More difficult to establish than the intergovernmental agreement option. In addition to approval of enabling agreement by TRIP97 Partners, requires approval of a majority of cities in each of counties.	Most difficult option to establish. Stage 1 similar to the other options, requiring intergovernmental agreements for funding contributions; but must prepare and secure passage of legislation tailored to meet the needs of TRIP97. Special district option void if legislation fails. Implementation complicated by need to set district boundaries.
Ability to Implement Projects and Programs	Except for inability to use certain funding and financing options, can perform activities necessary to implement TRIP97 programs.	Fully capable of undertaking all activities required to develop and implement the TRIP97 programs.	Fully capable of undertaking all activities required to develop and implement the TRIP97 programs.
Ability to Facilitate Project and Program Funding	Can accommodate and fully enforce funding contributions from TRIP97 Partners and other grants. Could impose a local vehicle registration fee with voter approval.	Can accommodate and fully enforce funding contributions from TRIP97 Partners and other grants In addition has authority to seek approval of a tax base and/or general obligation bond. Could also impose a local vehicle registration fee with voter approval.	Can accommodate and fully enforce funding contributions from TRIP97 Partners and other grants Has authority to secure contributions, and seek voter approval of tax base and/or GO Bond. Can create sub-districts with differing tax rates. Better ability to impose system development charges. Can impose local vehicle registration fee.
Ability to Finance Debt	Limited ability to finance debt. Can pool funding from several sources to issue debt, but difficult practically.	In addition to opportunity for GO Bonds, has authority for revenue bonding, short-term borrowing, and other debt.	In addition to opportunity for GO Bonds, has authority for revenue bonding, short-term borrowing, and other debt.
Impact on Existing Decision-Making Processes	Governing Bodies of TRIP97 retain all material decision-making authority.	Entity provided some independence from the local decision -making. Amount of independence depends on the authorizing agreement.	Most independence from the local decision-making. Amount of independence depends on legislation; can be adjusted through intergovernmental agreements.

	Intergovernmental Agreement Option	Intergovernmental Entity Option	Special District Option
Minimize Administrative Costs	Least costly to administer because no new entity and no additional budget, audit, accounting requirements.	Higher administrative costs than the intergovernmental agreement option due to record keeping and staffing of new entity; but may operate more efficiently otherwise	Similar to intergovernmental entity.
Ability to Facilitate Land Use Requirements	Assists in land use coordination, but no major ability to facilitate land use requirements.	Better able to facilitate corridor-based decision-making than the Intergovernmental Agreement option.	Best ability to facilitate land use requirements. Similar to Intergovernmental entity option, can facilitate corridor-based decision-making. Functional planning authority ensures consistency of affected comp plans, TSPs, etc. Reduces risk of land use challenges in multiple jurisdictions.
Adaptability	Easily adaptable. Revisions only require amendments to intergovernmental agreements, which must be approved by TRIP97 Governing Bodies.	Procedures for adapting authorities of intergovernmental entity are set in authorizing agreement. Adaptability depends on these terms.	Least adaptable. Procedures for adapting authorities set in legislation. Adaptability depends on these terms.

Next Steps

Where Are We?

The following elements have been completed to date through the TRIP97 process. Largely, this process established a common vision for the management of the US 97 corridor, a set of performance measures and an evaluation framework, and commensurate funding and governance options.

- Affected agencies along the US 97 corridor developed a charter to guide the process and define agency roles. This charter established a Partnership between agencies.
- The Partnership developed project goals and objectives, along with a mutual vision for the US 97 corridor.
- A series of performance measures were identified to relate performance to the goals and objectives.
- A menu of funding options was identified for the Partnership to weigh the benefits and disadvantages related to legality, efficiency, fairness, and political acceptability.
- A framework was developed that the performance measures could be applied within. The framework is based on a quantifiable corridor and segment analysis, with agencies able to define the importance of various measures within a given section.
- Use cases have been identified that supplement this analysis with a more qualitative summary of who is “winning” and “losing” as project-related trade-offs are made.
- A proof of concept using the performance measures has been provided, and a series of projects have been established for testing this concept.
- Funding options and funding scenarios have been developed and vetted with the project management team highlighting realistic and feasible mechanisms to support the initial project list.
- A draft governance document has been provided to present options and their associated pros and cons for the Partnership. These options will identify how implementation and management of the plan is carried forward, what funding options are enabled, and what decision making by the Partnership agencies is required.
- Throughout these steps, the team has prepared webinars, regular meetings with the agencies, decision makers, stakeholders, and the OTC to provide a clear and transparent process.

Where is TRIP97 Going?

The next steps for TRIP97 will include development of the technical data to support the TRIP97 process, complex technical and political decisions regarding funding options and governance structures, and further implementation of the TRIP97 framework to assess and prioritize the system needs. Specific steps to be completed in the next Phases include:

- Development of a regional Partnership in addressing the complex funding, management, and formal governance needs of the US 97 corridor.

- Regional coordination of land use as it impacts the overall system.
- Development of a regional governance and decision making structure to prioritize and preserve the corridor
- Develop a regional travel demand forecasting model
- Refine the evaluation analysis tool (so that it has the capability to handle more segments and adds batching capabilities to make evaluation more efficient)
- Collect data to conduct refined corridor analysis such as turning movement counts (to be collected) and travel forecast information (to come from travel demand forecasting model)
- Develop corridor-wide 2035 population and employment forecasts which are essential input for the regional travel demand forecasting model
- Develop a refined project list as a natural outcome from applying the new tools described above
- Refine funding sources and develop a funding implementation plan
- Select a specific governance structure that meets the needs of the Partnership and identified funding approach
- Obtain necessary local, regional, and state agency endorsements

Conclusion

The TRIP97 Phase I effort has completed a large first step in evolving the way the regional transportation system in Central Oregon is evaluated and in the way transportation investments are decided. The framework established here allows the agencies with the Partnership to collaborate and gain greater benefit than any individual could achieve independently. It provides a mechanism to view system performance from the perspective of a broad range of users and through measures that capture the traveler's (or "customer's") true experience. Finally, the funding options provide Central Oregon with specific tools that create a sustainable way for practical enhancements to be implemented within the corridor to serve travel needs and provide flexibility for future economic growth.

Beyond this, the structure and outcomes from Phase I of TRIP97 can have far reaching applications and adaptations for corridors and collaborations elsewhere in Oregon and in the country.

Appendices

- Sample Evaluation Methodology Example
- Expanded Funding Option Details
- Expanded Governance Option Details