



Main-McVay Transit Study
Stakeholder Advisory Committee

AGENDA

Tuesday, May 27th

Springfield City Hall, Library Meeting Room

3:00- 5:00 p.m.

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| 1. Welcome (15 minutes)
- <i>Stan Biles</i> | 3:00 p.m. |
| 2. Community Input Summary (5 minutes)
- <i>Chris Watchie</i> | 3:15 p.m. |
| 3. FTA Development Process (10 minutes)
- <i>Stefano Viggiano</i> | 3:20 p.m. |
| 4. Key Terms & Definitions (5 minutes)
- <i>Lynda Wannamaker</i>
- <i>Stefano Viggiano</i> | 3:30 p.m. |
| 5. Range of Mode Alternatives Discussion &
Recommendation (15 minutes)
- <i>Lynda Wannamaker</i>
- <i>Stefano Viggiano</i> | 3:35 p.m. |
| 6. Break (10 minutes) | |
| 7. Purpose, Need, Goals & Objectives (50 minutes)
- <i>Lynda Wannamaker</i>
- <i>Stefano Viggiano</i> | 4:00 p.m. |
| 8. Meeting Logistics (5 minutes)
- <i>Chris Watchie</i> | 4:50 p.m. |
| 9. Next Meeting (5 minutes)
- <i>John Evans</i> | 4:55 p.m. |
| 10. Next Steps & Adjourn
- <i>Stan Biles</i> | 5:00 p.m. |

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Main-McVay Transit Study
Stakeholder Advisory Committee Meeting #1
May 14th 2014

MEETING REPORT

SAC Members Present: Diana Alldredge, Mike Eyster, Ronna Frank, Randy Hledick, Jerry Hooten, Andrew Knori, Rosalia Marquez, Emma Newman, Brett Rowlett, Paul Selby, Gary Swanson

SAC Members Absent: David Helton, Lorenzo Herrera, Dan Rupe, Nik Stice, Troy Stoud, Chad Towe

Study Team: John Evans, David Reesor, Stefano Viggiano, Lynda Wannamaker

Facilitators: Stan Biles, Chris Watchie

Guests: Mayor Christine Lundberg, LTD Board President Doris Towery

KEY MEETING POINTS

Welcoming

- Mayor Lundberg & LTD Board President Towery provided welcoming comments.

Introductions & Agenda Review

- Stan Biles reviewed the agenda and led a group exercise for the SAC to learn members' diverse backgrounds and commonalities.

Main Street/McVay Highway Overview

- David Reesor provided an overview of other projects along Main Street, the Study's scopes and geographic boundaries.

Project Overview

- John Evans provided an overview of the Main-McVay Transit Study timeline, key elements, and purpose.
- This Study will evaluate transportation challenges and opportunities in the Main Street-McVay Corridor that were initially identified through public and stakeholder input and determine if there are transit solutions.
- If the Springfield City Council and LTD Board of Directors determine that transit improvements should be made in the Corridor, the range of most promising alternatives will be advanced to the next phase of the project for more in-depth technical analysis.
- The planning work to be conducted as part of this study is a requirement prior to a potential federally funded capital project for transit infrastructure.

Committee Charge

- The SAC has three assignments from the Governance Team:
 - Review and recommend a Project Problem Statement, Purpose & Need Statement, project Goals and Objectives (PNGO) and related evaluation criteria
 - Review all technical supporting documents on the range of corridor transit options
 - Review and recommend to the Governance Team (GT)
 - Draft Range Mode Alternatives
 - Draft Range of Alignment Alternatives
 - Narrowed Range of the Most Promising Alternatives for Further Study

- The meeting schedule (10 meetings over 11 months) is designed to provide and build the necessary knowledge base for the SAC to make well-informed recommendations to the Governance Team.
- It is imperative that all SAC members come well prepared to all meetings.

Review of naming conventions

- Official name: Main-McVay Transit Study.

Committee Mechanics

Review of Study Decision Making Structure

- SAC is advisory to the Governance Team.
- The Governance Team is an ad hoc body that provides project direction.
- Springfield City Council and Lane Transit District Board of Directors will make final Study decisions.

Group Operating Agreements

- The SAC reviewed preliminary Group Operating Agreements for additions.
- One addition requested: Add a brief break during the meeting.

SAC Decision Making Structure

- SAC discussed the two types of decisions they will make: informal and often process-oriented and a more substantive formal approach for recommendations.
- Informal will be made by show of hands.
- Formal decisions will require a motion and a second.
- Committee discussion in favor or in opposition will focus on the proposed motion. Votes on the motion and amendments to the motion will be recorded by name so the Governance Team (GT) not only receives the recommendation, but also will be informed on the vote itself.
- The GT will thus know how many were in favor and who was in favor and how many were opposed and who was opposed.
- Staff will always carry forward the majority recommendations as well as the minority point of view as stated in the committee deliberations.
- A simple majority of the committee membership must be present to establish a quorum.
- No committee decisions can be made unless a quorum is present at the moment of decision.
- When we make important decisions it is important to have citizens at large present and to note their vote.

Public Outreach

- The SAC received a Main-McVay Transit Study Outreach Form to capture any organizations, groups, and entities they had affiliations with or requested that the Study's outreach process include in email updates and potential future presentations.
- Work with Latino community leaders and organizations to develop Study outreach strategies (e.g. Latino Business Network, Downtown Languages, Inc., Spanish speaking transit users, etc.).

Next Meeting

- Tuesday, May 27th

SAC Questions

Q: Are all Main Street Projects listed in the Initiation Package?

A: See pages 14-16 in the SAC Initiation Package.

Q: How does Springfield Transportation System Plan (TSP) relate to this planning process?

A: The TSP reviewed and identified future studies required for capital transportation infrastructure projects.

Q: What's reasoning behind ½ mile buffer?

A: It's the reasonable distance to walk to transit.

Q: Will we have average daily traffic counts, accident rates, and bus ridership for use in our decision-making?

A: Yes. The information will be provided at the SAC #3 & #4 meetings. We'll start by reviewing data at a higher level. Once the alternatives are narrowed, we'll study those selected alternatives in greater detail.

Q: McVay is named after whom?

A: Staff is researching.

Q: Where does Main Street actually become the highway?

A: Full route is considered a highway (OR 126) and is under the Oregon Department of Transportation's jurisdiction.

Q: How synched up are we with the other Main Street projects?

A: All the Main Street projects have relationships to one another and the project managers for each of the studies meet on a regular basis. The Study will address the vision of Main Street and how transit fits into it. The Study is well timed to respond to the Main Street Visioning Plan's direction.

Q: Is every meeting going to be at City Hall?

A: Yes

Additional Comments:

- Need to think about pedestrian crossings further to the east.
- Be aware of where accidents have happened on Main.

Resource List:

[Springfield Transportation System Plan](#)

[OR 126 Safety Study](#)

[Lane Transit District Long Range Transit Plan](#)

Project Development Using the Federal Transit Administration Small Starts Program

The construction of Lane Transit District's (LTD) EmX projects have been funded largely by grants from the Federal Transit Administration (FTA), with the Gateway and West Eugene projects funded through FTA's New Starts/Small Starts Program. The New Starts/Small Starts program provides funds to be allocated to qualifying high capacity transit (HCT) projects through a competitive grant process. The previous EmX projects have qualified for funding under the Small Starts element of the New Starts program, which is used for projects that do not exceed \$250 million in total cost and are limited to \$75 million in FTA funding. It is expected that a Main-McVay transit improvement project would also fall within these limits. To qualify for these funds, FTA has established rules and processes for how projects are developed, how money is requested, and how that money is distributed.

High Capacity Transit (HCT)

HCT includes options such as light rail, commuter rail and bus rapid transit.

The 2011 adopted Regional Transportation Plan has designated bus rapid transit the HCT mode of choice for the region. The Springfield Transportation System Plan identifies a Frequent Transit Network for major corridors.

FTA's Small Starts Process



Project Planning

FTA allows a great deal of flexibility in the planning process that a community uses to identify an HCT project it wishes to pursue. However, FTA must grant approval for a project to proceed to the next phase, called Project Development. An agency is ready to formally make a request to enter Project Development when it can:

- Identify the study sponsor, any partners involved in the study, and the roles and responsibilities of each, including the project manager and other key staff that will perform the Project Development work
- Provide a description of the corridor being studied and the transportation problem the project is to address
- Identify whether the project would be a New Starts or Small Starts project
- Describe the current level of transit service in the corridor
- Identify and document the funding available and committed to conduct the Project Development work
- Identify the proposed project and alternatives that are being considered
- Provide a cost estimate for the project, if available
- Provide copies of prior studies done in the corridor, if any

New Starts/Small Starts

FTA's New Starts/Small Starts Program provides funding for new rail or busway projects, the improvement and maintenance of fixed guideway systems, and the upgrading of systems. Capital assistance grants provide up to 80% of the net project costs.

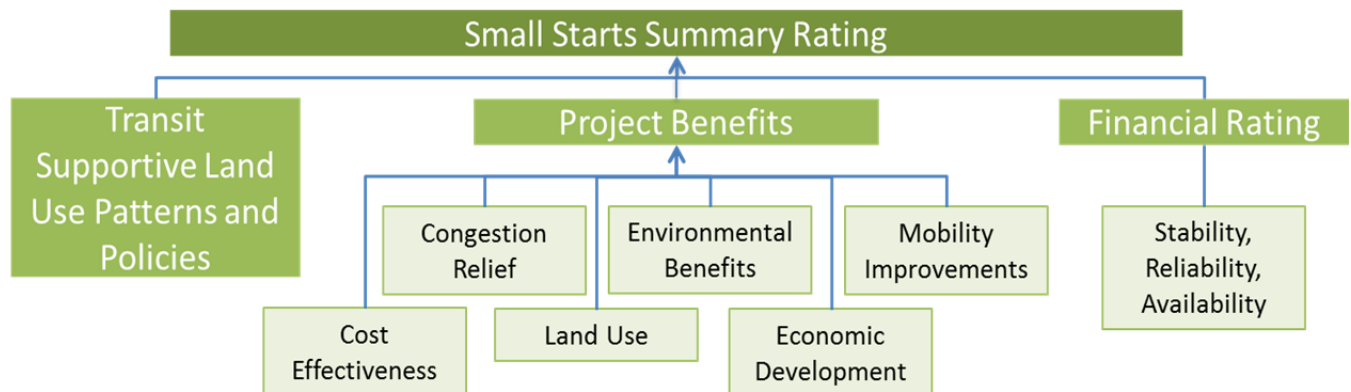
FTA reviews the information provided and determines whether the project is developed sufficiently to proceed to Project Development.

Project Development

Project Development includes all the steps necessary to prepare the project for construction. This includes the following:

- Completion of environmental analysis and satisfying the requirements of the National Environmental Policy Act (NEPA)
- Confirmation of the locally preferred alternative (LPA) and adoption of the LPA by the region's Metropolitan Policy Organization
- Analysis of the project against Small Starts criteria
- FTA Evaluation and Rating of the project
- Commitment of the local (non-federal) funds to match the federal funding
- Preliminary and final design and engineering to prepare project plans and specifications
- Acquire needed right-of-way, if any
- Relocate utilities, if needed

As the project advances through Project Development, a submittal to FTA is compiled for rating the project against the Small Starts criteria. This generally occurs at about the 60 percent design level. The project will be rated based on the criteria shown in the figure below; each of which must be analyzed using FTA-approved methods.



If a project has achieved an overall rating by FTA of medium or better and has been recommended for funding in the New Starts Report, it can seek a Small Starts Grant Agreement (SSGA) which contractually determines the amount and timing of the local and FTA funding. Once an SSGA has been executed, the project can proceed into construction.

New Starts vs. Small Starts

New Starts

Total FTA funding is greater than \$75M and/or total project cost greater than \$250M

Small Starts

Total FTA funding is less than \$75M and total project cost of less than \$250M

Project Development Phase

- Complete Environmental Compliance
- Commit Local Funds
- Advance Engineering and Design
- Develop a Small Starts Grant Agreement (SSGA)

Key Terms and Definitions
Main-McVay Transit Study
Stakeholder Advisory Committee Meeting #2
May 27, 2014

The key terms listed below will be used in the next Committee meeting on May 27, 2014. Please familiarize yourself with these terms prior to the meeting. At the meeting we will not have time go through each term and its definition but, prior to the meeting presentation, we will answer questions and clarify any terms that may be confusing.

- Alignment
- Evaluation Criteria
- Frequent Transit Network (FTN)
- Goals and Objectives
- High Capacity Transit (HCT)
- Mode
- New Starts / Small Starts
- Problem Statement
- Purpose and Need Statement

Terms	Definitions
Alignment	Alignment is the street or corridor that the transit project would be located within.
Evaluation Criteria	Evaluation criteria are developed from a project's Goals and Objectives. The criteria are specific and can be both quantifiable and qualitative measures of effectiveness. These measures of effectiveness are used to assist decision makers when comparing and contrasting alternatives.
Frequent Transit Network	The Frequent Transit Network (FTN) represents the highest orders of transit service within the region. The FTN represents corridors where transit service would be provided, but does not presume specific street alignments. Street alignments will be determined in future studies. FTN stops will be located closest to the highest density development within the corridor. FTN Corridors will have the following characteristics: <ul style="list-style-type: none">• Enables a well-connected network that provides regional circulation• Compatible with and supportive of adjacent urban design goals• Operates seven days a week in select corridors• Service hours are appropriate for the economic and social context of the area served• Coverage consists of at least 16 hours a day and area riders trip origins or destinations are within ¼ of a mile-straight line distance• Frequency is at least every 10-15 minutes in peak travel times• Speed is no less than 40 percent of the roadway speed limit

Terms	Definitions
	<ul style="list-style-type: none"> • Coverage throughout the region is geographically equitable and serves Title VI protected populations • Transit service is reliable and runs on schedule
Goals	Project goals state the broader project issues. Along with the Purpose and Need Statement, the project's goals and objectives are used to develop criteria to evaluate alternative solutions to the transportation problem(s).
Mode	A particular form or method of travel distinguished by vehicle type, operating characteristics and right-of-way separation from other traffic.
New Starts/Small Starts	Federal funding granted under Section 3(j) of the Federal Transit Act. These discretionary funds are made available for construction of a new fixed guideway system or extension of any existing fixed guideway system, based on cost-effectiveness, alternatives analysis results and the degree of local financial commitment.
Objectives	Project objectives specify how to achieve the project's goals. Along with the Purpose and Need Statement, the project's goals and objectives are used to develop criteria to evaluate alternative solutions to the transportation problem(s).
Problem Statement	A project's Problem Statement defines the transportation problem(s) the community is trying to solve.
Purpose and Need	The project Purpose and Need provides a framework for developing and screening alternatives. The purpose is a broad statement of the project's transportation objectives. The need is a detailed explanation of existing conditions that need to be changed or problems that need to be fixed.

MEMO

To: Main-McVay Transit Study Stakeholder Advisory Committee

From: Lynda Wannamaker, Wannamaker Consulting
Stefano Viggiano, Parsons Brinckerhoff

Cc: John Evans, Lane Transit District
David Reesor, City of Springfield

Date: May 19, 2014

Re: Mode Alternatives Recommendations for Main-McVay Transit Study

The Main-McVay Transit Study will develop and evaluate alternative transit improvements in the project Corridor. Generally transit improvement alternatives fall into two categories: mode alternatives and alignment alternatives. This memo provides background information on the study of mode alternatives in the Springfield-Eugene- metro area and, based on years of previous study, recommends a range of mode alternatives for consideration in the Main-McVay Transit Study. This memo does not address alignment alternatives, which will be addressed in a separate process and report.

Definitions

Mode is a particular form or method of travel and a transit mode is defined as the mode of operation used to provide transit service along a given alignment or within a given corridor. A more detailed definition of mode alternatives is provided below. Transit modes are generally distinguished by mode technology or vehicle type, operating characteristics and right-of-way separation from other traffic. Examples of “mode technology” include bus, rapid bus, and rail. Examples of “operating characteristics” included local vs express, stations vs non-stop, and integrated feeders vs transfers. Examples of “degree of right-of-way separation” include mixed traffic and exclusive right-of-way.

Alignment is the street or corridor in which the transit project is located. Alignment elements include horizontal (e.g., streets, medians, rights-of-way), vertical (e.g., elevated, at-grade, subway), station locations, and length or terminus.

Listed alphabetically below are descriptions and information about different mode alternatives.

Bus Rapid Transit (BRT).

BRT is a permanent, integrated system that uses buses or specialized vehicles on roadways or dedicated lanes to efficiently transport passengers. BRT system elements (running ways, stations, vehicles, fare collection, intelligent transportation systems, and branding elements) can easily be customized to community needs, and result in more passengers and less congestion. BRT is generally defined as a variety or menu of capital and operating improvements within a corridor that are made to improve

transit travel times, reliability and ridership. As a specialized and branded service, BRT combines the elements of rail transit with the flexibility of buses. It can operate exclusively or on any combination of bus-only lanes, high-occupancy vehicle (HOV) lanes, shared business access and transit lanes, or in general purpose traffic lanes. BRT vehicles and stations are designed to allow rapid passenger loading and unloading, with more doors than ordinary buses. Construction costs average between \$3 and \$25 million per mile (depending on design constraints). Typically, and as implemented by LTD, BRT projects include an additional right-of-way for BRT vehicles for a portion of the length of the corridor.

BRT is the highest level of service available within the Frequent Transit Network (FTN) promoted by LTD's Long-Range Transit Plan. The purpose of the Frequent Transit Network (FTN) is to leverage transit investment by tying it to the density and other elements of adjacent development. The FTN is a regional initiative to better connect areas of more active development to transit in the Springfield and Eugene Transportation System Plans. **Fixed Route Bus.** Fixed route bus service is defined as transit vehicles, typically 35 to 60 feet in length, operating on a "fixed" schedule and on a regular ("fixed") route, generally using general purpose lanes of traffic on public streets and highways. Typically in a transit alternatives study, the existing fixed route bus service is included as the "No Action" alternative (also referred to as the No-Build Alternative) and is used as the basis for comparing all other mode alternatives under consideration. This comparison tells decision-makers how much better or worse an alternative is compared to existing conditions. Additionally, when a project enters the federal environmental review phase, evaluation of a No Action or No-Build Alternative is required by the National Environmental Policy Act (NEPA) and the Federal Transit Administration.

Grade Separated Transit. Grade separated transit includes "commuter rail" and "subways". Commuter rail usually provides high-speed service between an outlying community and an employment center. This type of rail transit generally operates using electric trains that operate either above or below grade in exclusive right-of-way. Passenger vehicles are powered by overhead lines or third rails. Crossings are normally gate-controlled, so the train never has to stop except at stations. These types of rail transit lines are typically at least 20 miles long. Stations are usually spaced several miles apart. Construction costs (assuming new rail) average between \$100 and \$150 million per mile.

Subways provide high-speed, underground service within major metropolitan areas. The grade separation enables the system to operate efficiently, though the underground lines and stations add significantly to the construction costs of the system. Stations are typically at least one mile apart. Subways use electric power provided through a "third rail". Construction costs are more than \$100 million per mile.

High Capacity Transit. High Capacity Transit (HCT) refers to transit services that make fewer stops, travel at higher speeds and achieve faster travel times. HCT includes any transit mode that is all or partly

protected from traffic congestion through exclusive right-of-way or some other priority mechanism. HCT includes mode options such as BRT, light rail, and commuter rail.

Light Rail. Light rail is typically a corridor-based service that operates on exclusive rights-of-way, but has at-grade crossings. Most light rail systems use electric propulsion with an overhead catenary system. Light rail stations can have low or high platform loading. The reserved transit right-of-way can be at, below or above grade. Light rail service can operate across at-grade, mixed-traffic intersections either with or without signal priority or pre-emption. Light rail lines are typically five to twenty miles long, and stations are spaced at least 1/3 mile apart. Light rail lines typically occur in larger communities. The smallest metropolitan areas to have light rail are Buffalo, New York, and Salt Lake City, Utah, each of which has an urban area population of 1.1 million people or more. Construction costs average between \$50 and \$100 million per mile.

Monorail. Monorail is a single-rail overhead system. The grade separation eliminates conflicts with other vehicles, though it also greatly increases construction costs. The only operating monorail systems in the United States are located in Seattle, Las Vegas, and Disney amusement parks. Construction costs are more than \$100 million per mile.

Streetcar. The streetcar mode is generally characterized as similar to the electric trolley bus, except that the vehicle operates on steel tracks using steel wheels. Streetcars typically operate in mixed traffic, using general purpose travel lanes and the signal system for general purpose intersections. Streetcars typically operate on city streets in mixed traffic and provide circulator or connector service in central business districts or tourist areas. They have slow speeds (the Portland Streetcar averages seven miles per hour), and can be self-propelled or electric with an overhead catenary system. Streetcar lines are typically less than five miles in length. Stations are often spaced every couple of blocks, similar to a city bus line. Construction costs average between \$25 and \$50 million per mile.

Streetcars are in operation in a wide range of communities--from Galveston, Texas (population 60,000) to Dallas, Texas (population 6 million). It should be noted, however, that streetcars in the three smallest communities: Galveston, Texas; Kenosha, Wisconsin; and Little Rock, Arkansas; have very low ridership (less than 5 percent of the ridership on the EmX Green Line). Streetcars have often been pursued as an economic development strategy, and their track record in generating economic development in some communities is strong. Although streetcars have not typically been able to compete well for federal funding when projects are judged on cost-effectiveness as a transportation mode, recent changes to federal transit funding legislation have made streetcar projects more competitive for funding due to greater allowances for economic development benefits over mobility benefits.

Enhanced Bus. Enhanced Bus consists of relatively minor capital and operating improvements that can be made to fixed route bus service in a corridor to improve the speed and reliability of transit service.

Typical Enhanced Bus options include use transit signal priority, queue-jump lanes, and/or skip-stop express service.

Trolley Bus. A trolley bus is an electric-powered rubber-tired passenger vehicle that draws power from overhead wires. Trolleys are manually steered, operate in mixed traffic and with frequent stops. Trolley service is generally defined as fixed route bus service because it must operate under the fixed overhead power wires (catenaries).

Prior Evaluation of Mode Alternatives

The question of “What is the best transit mode or mix of transit modes for the Eugene-Springfield metro area” has been asked and studied since 1995. Two prior studies of high capacity transit modes were conducted by LTD and LCOG:

- The Bus Rapid Transit Concept Major Investment Study (MIS); and
- The Eugene/Springfield Area Urban Rail Feasibility Study.

Key participants in the MIS included: LCOG, the Oregon Department of Transportation (ODOT); LTD; the cities of Eugene and Springfield; Lane County; and the Federal Highway Administration (FHWA). Key participants in the Urban Rail Study included: LCOG; ODOT; LTD; cities of Eugene and Springfield; Lane County; Willamalane Parks and Recreation; and the Emerald Empire Railroad. The results of these two studies are documented respectively in the: 1) Bus Rapid Transit (BRT) Concept Major Investment Study (MIS) Final Report (LCOG, 1997), and 2) Urban Rail Feasibility Study Eugene/Springfield Area Final Report (LCOG, 1995).

Based upon these two studies, the region’s Metropolitan Planning Organization (MPO) adopted the transit policies in its regional transportation plan (Eugene-Springfield Regional Transportation Plan (TransPlan)) in 2001. In that plan, BRT was identified as the region’s preferred high capacity transit mode. As part of that plan, the MPO also set as a transportation priority the implementation of a BRT system based on a set of potential BRT corridors (Chapter 2, pages 28 to 30). Following is a description of the study’s process, evaluation and conclusions.

The region’s evaluation of high capacity transit alternatives took place over four phases (see Chapter 1 of the BRT MIS Final Report for more detail):

- Phase I: Needs/Issues and Goals/Objectives (June 1992 to June 1993)
- Phase II: Alternatives Development (July 1993 to October 1995)
- Phase III: Alternatives Evaluation and Draft Plan Direction (November 1995 to April 1997)
- Phase IV: Draft Plan Development, Review and Adoption (May 1997 to 1999)

An inclusive public process was implemented by LCOG to support the study's evaluation process including (see Chapter 1 of the BRT MIS Final Report for more detail):

- Focus groups conducted in December 1995 and May 1996;
- A public opinion survey conducted in May 1996;
- Community workshops held in May 1996;
- A symposium to receive stakeholder review and recommendations in August 1996; and
- Public hearings conducted by LCOG in conjunction with the TransPlan update in 1997 to 1999.

The Urban Rail Feasibility Study was incorporated as a part of the BRT MIS Phase II and Phase III (development and evaluation of alternatives, respectively). The study evaluated and screened a range of alternatives (described below) based on the following evaluation measures: increases transit ridership; reduces vehicle miles traveled; reinforces desired urban form, linking land use, transportation, economic development and community livability; contributes to overall air quality improvement; minimizes traffic disruption; provides and improves access to major activities; creates intermodal transportation opportunities; and minimizes private property acquisitions.

The study evaluated two concepts for the implementation of urban rail transit meant to capture the spectrum of likely rail modes:

- **Low-End Cost** – generally in-street operations with relatively limited transit reserved right-of-way and traffic signal modifications, with relatively few displacements and utility relocations and a limited communication (typical of streetcar or low-cost light rail); and
- **Mid-Range Cost** – primarily reserved transit right-of-way and traffic signal modifications to provide for transit priority at key intersections, with a greater number of displacements and utility locations and a train-to-wayside communication system (typical of light rail or heavy rail).

In general, the Low-End and Mid-Range concepts represent the two ways that urban rail systems could be implemented within the Eugene/Springfield area: 1) either using available street right-of-way, with transit primarily operating in mixed-traffic conditions; or 2) creating new transit right-of-way. The first concept would reduce costs and impacts; however, the increases in transit travel time savings and resulting ridership increases would be relatively small. The second concept would increase costs and impacts, but there would be relatively greater increases in transit ridership due to greater improvements in transit travel time and reliability.

Within the urban rail study, the Low-End Cost option was found to inadequately address the study's goals and objectives, key being: 1) improving transit travel times and reliability, 2) increasing transit ridership needed to reduce the region's reliance on automobiles (as measured in decreasing vehicle

miles traveled), and 3) providing for an economically-viable and financially stable transit system (as measured in reducing transit operating costs and competitiveness for Federal capital funds).

The BRT MIS study found that there are primarily two ways to implement the Mid-Range Cost concept: 1) urban rail, or 2) BRT. The BRT MIS study found that there would be a substantial capital cost difference between the implementation of a Mid-Range Cost urban rail concept and a Mid-Range Cost BRT concept, with the urban rail costs being substantially greater than the BRT capital costs. The BRT MIS study found that a Mid-Range Cost urban rail concept implemented in the Eugene-Springfield area with its population and employment densities would tend to not meet FTA's threshold measure for cost-effectiveness and would therefore not be competitive for Federal Section 5309 funds, but the study also found that a Mid-Range Cost BRT concept would meet FTA's threshold measure for cost-effectiveness (as confirmed by the Pioneer Parkway EmX Project which received a 'High' cost-effectiveness ranking through FTA's evaluation process).

There are two primary reasons why BRT generally has a lower capital cost than urban rail in the same corridor, while generally resulting in similar transit travel time and reliability improvements. First, the vehicle, infrastructure and support facility costs for BRT are generally lower than for urban rail, when constructed in the same corridor using similar performance and design standards (e.g. an urban rail corridor would require rail cars, catenary and substations and connecting guideway to and construction of a specialized maintenance facility). Second, a BRT line does not require a continuous transit guideway in order to be effectively implemented within a corridor. In contrast, an urban rail line must be constructed continuously throughout the corridor. That is, a BRT vehicle may operate in a BRT guideway, then shift to mixed-traffic operations, then back to a BRT guideway, and so forth. In contrast, an urban rail vehicle must have a continuous length of rail alignment between the start and terminus of the line. Therefore, a BRT project has much more latitude in balancing capital costs and transit travel time and reliability improvements than does urban rail, and BRT improvements can be focused in areas with the greatest need for priority treatment

In January 2008, LTD collected comparative data on examples of Low-Cost and Mid-Range urban rail (streetcars and light rail systems) in cities across the country and included data from LTD's Franklin Corridor EmX (see table at end of memo: Characteristics of Streetcars and Light Rail Systems in the USA (LTD, January 2008)). That comparative analysis found that all Mid-Range Cost urban rail projects across the country had operating expenses per mile substantially greater than LTD's Franklin Corridor EmX. Further, the data confirms the findings and conclusions from the 1997 BRT MIS and 1995 Urban Rail Study that transit demand in the region's BRT corridors is and will remain for the foreseeable future at a level that would not justify the substantially higher costs associated with Mid-Range Cost urban rail.

Recommendations

Studies conducted in the 1990s concluded that BRT was a more cost effective high capacity transit mode than urban rail modes for the Eugene-Springfield metro area. In 2008, LTD conducted a comparative analysis of BRT and urban rail and found that the LTD EmX Green Line compares favorably with both streetcar and light rail systems. This 2008 analysis confirmed that the conclusions of the studies from the 1990s were still valid. LTD EmX has a lower cost per boarding than the streetcar or light rail system examples. The EmX also is rated in the middle in terms of boardings per route mile, even though light rail systems generally have higher capacities.

Based on the findings of previous mode alternative studies, the project team concluded that BRT continues to be a more cost effective high capacity transit mode choice for the Eugene-Springfield metro area. The project team recommends eliminating the following mode alternatives from further consideration in the Main McVay Transit Study:

- Grade Separated Transit
- Light Rail
- Monorail
- Streetcar
- Trolley Bus

The project team recommends advancing the following mode alternatives for further evaluation in the Main McVay Transit Study:

- Fixed Route Bus
- Enhanced Bus
- Bus Rapid Transit (BRT)

Characteristics of Streetcars and Light Rail Systems in the USA

STREETCAR (also known as VINTAGE TROLLEYS)

Metropolitan City Area	Urbanized Area Population	Start of Service	Route Miles	Revenue Vehicles	Annual Boardings (000)	Annual Operating Expense (000)	Annual Cost Per Boarding	Annual Boardings per Route Mile	Comments
Galveston, TX	60,000	1988	5.0	4	41	\$355	\$8.75	8,120	Primarily tourist-oriented. Received \$10 M from UMTA Federal funds with local match from state and two private foundations.
Kenosha, WI	90,000	2000	1.9	5	59	\$302	\$5.12	31,000	Operating hours vary by season.
LTD (BRT)	260,000	2007	8.0	4	1,439	\$2,054	\$1.43	179,875	
Little Rock, AR	650,000	2004	2.5	3	45	\$224	\$5.04	17,800	Primarily tourist-oriented.
New Orleans, LA	1,000,000	1893	26.0	66	8,920	\$14,275	\$1.60	343,065	Capital expenses are skewed by damage from Hurricane Katrina in 2005
Memphis, TN	1,300,000	1993	7.0	18	983	\$3,577	\$3.64	140,357	
Philadelphia, PA	1,518,000	2005	8.2	17	NA	NA	NA	NA	Boarding and expense information is not readily available. Scheduled trips are 45 to 60 minutes long at 10-20 minute headways 24/7.
Portland, OR	2,200,000	2001/2005	5.0	4	1,350	NA	NA	NA	Boarding and expense information is not readily available.
Tampa, FL	2,700,000	2003	3.2	8	520	\$1,626	\$3.13	162,375	
Seattle, WA	3,300,000	2003	1.8	3	795	\$2,544	\$3.20	441,444	
Seattle, WA	3,300,000	1982	2.1	5	399	\$1,427	\$3.58	189,810	
San Francisco, CA	4,200,000	1988	5.8	44	NA	NA	NA	NA	Muni upgraded their original electric railway system (streetcars) to LRT and have since implemented a route that features vintage and restored streetcars along the
Dallas, TX	6,000,000	1989	2.8	4	NA	NA	NA	NA	Vintage Trolley, tourist-oriented. Received \$2.5 M from UMTA Federal funds with contributions from local businesses and supporters of \$2.5 M.

Sources: Railway Preservation Resources website <http://www.railwaypreservation.com/vintagetrolley/vintagetrolley.htm>

LIGHT RAIL

Metropolitan City Area	Urbanized Area Population	Start of Service	Round-Trip Route Miles	Revenue Vehicles	Annual Boardings (000)	Annual Operating Expense (000)	Annual Cost Per Boarding	Annual Boardings per Route Mile	Comments
LTD (BRT)	260,000	2007	8.0	4	1,439	\$2,054	\$1.43	179,875	
Charlotte, NC	630,478	2007	19.2	NA	NA	NA	NA	NA	The light rail system in Charlotte opened in November 2007. Projected ridership is 8,900 passengers per day.
Buffalo, NY	1,100,000	1985	14.1	27	5,478	\$18,271	\$3.34	388,511	
Salt Lake City, UT	1,100,000	1999	37.3	46	10,020	\$20,013	\$2.00	268,630	
Philadelphia, PA	1,518,000	2005	132.0	141	25,158	\$46,088	\$1.83	190,591	SEPTA retired most of their streetcars and switched to LRT in 1992. In 2005 operation began of 17 restored streetcars on about 8 miles of the service area.
San Jose, CA	1,800,000	1987	71.5	80	5,473	\$45,753	\$8.36	76,545	
Cleveland, OH	2,100,000	1936/1996	33.0	17	2,561	\$12,766	\$4.99	77,597	
Sacramento, CA	2,100,000	1987	62.6	72	11,022	\$35,226	\$3.20	176,070	
Portland, OR	2,200,000	1986	92.9	105	31,516	\$56,966	\$1.81	339,249	
Denver, CO	2,400,000	1994/2000	32.1	49	10,029	\$21,689	\$2.16	312,414	
Pittsburgh, PA	2,400,000	1987	44.8	55	6,655	\$35,590	\$5.35	148,540	
Baltimore, MD	2,700,000	1992/1997	54.0	53	6,067	\$33,688	\$5.55	112,354	
St. Louis, MO	2,800,000	1993	81.0	65	14,510	\$36,294	\$2.50	179,130	
San Diego, CA	2,900,000	1981	97.0	123	26,538	\$41,831	\$1.58	273,590	The light rail system in San Diego is called "San Diego Trolley, Inc." It is not a streetcar.
Minneapolis, MN	3,200,000	2006	24.2	22	2,939	\$8,368	\$2.85	121,438	
San Francisco, CA	4,200,000	1912	72.9	181	45,187	\$105,900	\$2.34	619,849	
Boston, MA	4,500,000	1897	78.0	185	70,558	\$107,082	\$1.52	904,591	
Houston, TX	5,500,000	2004	20.0	18	5,350	\$14,135	\$2.64	267,485	
Philadelphia, PA	5,800,000	1908	171.0	141	25,158	\$46,088	\$1.83	147,123	
Dallas, TX	6,000,000	1996	98.4	95	16,376	\$57,023	\$3.48	166,423	
Los Angeles, CA	13,000,000	1990	116.3	121	32,852	\$111,654	\$3.40	282,479	
New York, NY	18,900,000	1910	67.1	55	9,869	\$54,714	\$5.54	147,077	Operating area is New Jersey (not New York City)

Sources: APTA website <http://www.apta.com/research/stats/>

Main-McVay Transit Study Purpose and Need Statement

*STAKEHOLDER ADVISORY COMMITTEE
WORK PACKET*

MAY 27, 2014

A collaborative study between:



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1 Glossary of Acronyms, Abbreviations and Terms

Transportation projects can be complicated and are often difficult to understand because of the acronyms, terms and abbreviations used in technical documents and presentations. Attachment A is a glossary of acronyms, terms and abbreviations used often in transportation studies.

2 Importance of the Purpose and Need Statement

A project's Purpose and Need Statement is in many ways the most important element of a proposed project – it is the foundation for all other project elements. A clear, well-founded Purpose and Need Statement explains to the public and decision makers why a project is being considered and what “needs” (problems) it is intended to address. A project's Purpose and Need Statement sets the parameters for alternatives development, in-depth analysis of the alternatives, and, ultimately, the selection a preferred alternative.

When the funding for a priority project includes federal funds, the project must follow a federally prescribed process, which starts with defining the transportation problem (Problem Statement). The Problem Statement is followed by the Purpose and Need Statement, which further defines the problem(s) to be solved and outlines the elements of a successful solution. The elements of a successful solution are described through the project's Goals and Objectives. The project's Purpose and Need Statement, and Goals and Objectives are then used to develop evaluation criteria. Evaluation criteria are used to compare and contrast alternatives that are proposed as solutions to the transportation problem(s). The process of using a set of Evaluation Criteria provides decision makers with the information they need to consider the relative strengths and weaknesses of the alternatives. This is an iterative process and it is used to narrow the range of alternatives to those that best meet the project's needs and, eventually, select the community's preferred alternative for solving the transportation problem(s).

3 Definitions

3.1 Problem Statement

A project's Problem Statement defines the transportation problem(s) the community is trying to solve.

3.2 Purpose and Need Statement

A Purpose statement is a declarative paragraph or two which defines the transportation problem(s) to be solved and outlines the goals and objectives that should be included in a successful solution.

Generally, a Purpose Statement should:

- Be specific and precise - not general, broad or obscure
- Be concise - one or two paragraphs

- Be clear - not vague, ambiguous or confusing
- Be goal-oriented - stated in terms of desired outcomes
- Be stated as the positive outcome that is expected. For example, the purpose is to reduce congestion in the interstate corridor
- Address the agency's strategic goals, such as Taking Care of What We Have; Making the System Work Better; Increasing Capacity; or Improving Safety
- Avoid stating a solution
- Be stated broadly enough so that more than one mode can be considered and multi-modal solutions are not dismissed prematurely and more than one alternative can be considered and alternatives are not dismissed prematurely
- Focus on the transportation system

The Need statement explains the transportation problem and provides supporting data. A Need statement should:

- Establish the evidence that a problem exists, or will exist if projected population and planned land use growth are realized
- Be factual and numerically based.
- Support the assertion made in the Purpose Statement.

Together, the Purpose and Need Statement clarifies the expected outcome of public expenditure and provides a basis for that expenditure. The Purpose and Need Statement becomes a guide for developing alternative solutions to solve the transportation problem(s) and, eventually, selecting the best alternatives from a range of alternative solutions.

Examples of Purpose and Need Statements from transit improvement projects across the United States are included in Attachment B.

3.3 Goals and Objectives

In general, a project's goals and objectives are to be consistent with the project's Purpose Statement and serve to:

- Define the project's desired outcome
- Reflect community values
- Ensure consistency with laws and regulations

Project goals state the broader project issues. Objectives specify how to achieve the project's goals. Along with the Purpose and Need Statement, the project's goals and objectives are used to develop criteria to evaluate alternative solutions to the transportation problem(s).

In 2013, the Governance Team worked with staff to develop Main Street Project Goals that provide overarching guidance to all of the Main Street Projects:

- Encourage economic revitalization and land use redevelopment
- Provide transportation choices to residents, businesses and commuters to encourage individual and community well-being and public safety

- Improve transportation safety and access for walkers, cyclists, transit riders and drivers along and through the corridor
- Improve aesthetics on Main Street, making it an attractive place to live, work and shop
- Create Main Street identities

The Main-McVay Transit Study will support these Main Street goals, but will have project goals specific to Main Street and McVay Highway transit issues.

3.4 Evaluation Criteria

Evaluation criteria are developed from a project's Goals and Objectives. The criteria are specific and can be both quantifiable and qualitative measures of effectiveness. These measures of effectiveness are used to assist decision makers when comparing and contrasting alternatives.

4 Guidance and Direction from the Governance Team

As you review and develop recommendations for the project's preliminary draft Problem Statement, Purpose and Need Statement, Goals and Objectives, and Evaluation Criteria, the Governance Team asks that you consider the following:

- Focus on the concepts – don't wordsmith
- Support Main Street goals
- Focus on the Purpose Statement and the Goals/Objectives
 - Needs Statement is data driven and is developed from the Problem and Purpose Statement
 - Evaluation Criteria is generally technical in nature and is developed to measure goals / objectives
- Questions to think about
 - Is this aligned with our community values?
 - What is right for the Corridor – both Main Street and McVay Highway Segments?
 - What is not right for the Corridor – both Main Street and McVay Highway Segments?
 - What do we need to know to make a recommendation?
- As new information arises during the project process there is an opportunity to revise the Needs, Goals and Objectives

5 Preliminary Draft Problem Statement

The Main-McVay Corridor is an L-shaped Corridor extending from 69th Street on Main Street to Lane Community College on McVay Highway. The Corridor is comprised of two segments, the Main Street Segment and the McVay Highway Segment, which connect at Franklin Boulevard and McVay Highway. The segments, while part of an overall corridor, have differing issues and concerns that are to be addressed by this study.

Main Street Segment

Transit Service on Main Street is hindered by overcrowded buses, increasing transit travel time and operating cost caused by signal and passenger boarding delays, and safety and security issues for passengers accessing buses at transit stops that are poorly lit and not located at signalized street crossings. If not addressed, these issues will worsen in the future as the corridor's population, employment, and transit ridership increase.

McVay Highway Segment

Transit service on McVay Highway is hindered by lack of sidewalks and safe street crossings for passengers and rider security concerns because transit stops are poorly lit and not located at signalized street crossings. The current transit service on McVay Highway is not positioned to handle the growth and redevelopment planned for the Glenwood area.

6 Preliminary Draft Purpose and Need Statement

6.1 Purpose

The purpose of the Main-McVay Transit Study project is to identify a range of transit improvements in the Main-McVay Corridor that provide improved transportation choices to residents, businesses and commuters to encourage individual and community well-being and public safety. The transit improvements will be consistent with regional plans and the community's long-term vision and goals for the area. The range of improvements will include options that result in improved bus speeds, long-term transit capacity, transit reliability and transit travel times.

The project improvements would strive to improve transportation safety and access for walkers, cyclists, transit riders, autos, freight and people with mobility issues along and through the corridor and improve connections to and from adjacent neighborhoods.

The project would support local, regional, and state plans and goals for land use and transportation; efforts in the Main-McVay Corridor aimed at encouraging economic revitalization and land use redevelopment; and, plans and programs to create Main Street identities and improve aesthetics on Main Street, making it an attractive place to live, work and shop.

6.2 Need

The need for the project results from:

- High transit ridership along the Main Street corridor that results in overcrowding of bus trips during peak travel times;
- Pedestrian safety issues for riders walking to and from the bus stops on Main Street, including street crossings to access bus stops that are not located near a signalized crossing;

- Bicycle safety issues for cyclists using on-street bike lanes that are blocked by buses making passenger stops.
- Lengthening transit travel times and deteriorating public transportation reliability in the Main-McVay Corridor due to growing traffic congestion, signal delays, and passenger boarding delays;
- Limited corridor revitalization and redevelopment resulting from aging structures and infrastructure and a poor visual environment along Main Street, South A Street, and McVay Highway;
- Historic and projected increases in traffic congestion in the Main-McVay Corridor due to increases in regional and corridor population and employment;
- For this corridor project, McVay Highway, as designed today, does not support the proposed mixed-use development goals expressed in the Glenwood Refinement Plan or the Franklin Boulevard Redevelopment Project;
- Policy direction in regional and City transportation plans that assume increased reliance on public transportation to address the community's future transportation needs.;
- Increasing operating expenses, combined with increasingly scarce operating resources, while demanding more efficient public transportation operations;
- The decision in the adopted 2035 Regional Transportation Plan (RTP) to include bus rapid transit (composed of frequent, fast transit service along major corridors and neighborhood feeder service that connects with the corridor service and with activity centers) in the fiscally constrained model as part of the regional transportation strategy.
- The decision in the adopted Springfield 2035 Transportation System Plan (STSP) to include partnering with LTD to provide frequent transit network (FTN) connections along major corridors, connecting to local neighborhood bus service and major activity centers to provide viable alternatives to vehicle trips. The STSP incorporates numerous FTN projects and 20-year priority roadway, urban standards and pedestrian / bicycle projects relevant to the Main-McVay Transit Study.
- Local and regional land use and development plans, goals, and objectives that identify the Main-McVay Corridor for residential, commercial, retail, institutional/educational, government, and industrial development to help accommodate forecasted regional population and employment growth.
- Auto and freight delay from buses making passenger stops in travel lane.

7 Preliminary Draft Goals and Objectives

Goal 1: Improve corridor transit service

Objective 1.1: Improve transit travel time

Objective 1.2: Improve transit service reliability

Objective 1.3: Provide convenient transit connections that minimize the need to transfer

Objective 1.4: Increase transit ridership and mode share along the corridor

Goal 2: Meet current and future transit demand in a cost-effective manner

Objective 2.1: Control the increase in transit operating cost to serve the corridor

Objective 2.2: Increase transit capacity to meet current and projected ridership demand

Goal 3: Support economic revitalization and land use redevelopment opportunities for the corridor

Objective 3.1: Support development and redevelopment as planned in other adopted documents

Objective 3.2: Enhance the aesthetics of the corridor to improve economic activity

Objective 3.3: Coordinate transit improvements with other Main Street projects

Objective 3.4: Coordinate transit improvements with other Franklin Boulevard / McVay Highway projects

Goal 4: Enhance the safety and security of the corridor

Objective 4.1: Improve the safety of pedestrians and bicyclists accessing transit and crossing Main Street

Objective 4.2: Enhance the security of transit users and of the corridor as a whole

Goal 5: Enhance other modes of travel

Objectives 5.1: Maintain reliable motor vehicle operations and traffic flow in the corridor

Objectives 5.2: Improve bicycle and pedestrians connections along the corridor and to and from transit stops

8 Preliminary Draft Evaluation Criteria

Evaluation Criteria will be used during the screening process to determine how well each of the proposed alternatives would meet the project's Goals and Objectives. The Evaluation Criteria will require a mix of quantitative data and qualitative assessment. The resulting data will be used to measure the effectiveness of proposed alternatives and to assist in comparing and contrasting alternatives. In Table 1, Evaluation Criteria are listed for each of the project's Objectives. Some Objectives have only one criterion for measuring effectiveness while others require several criteria to measure effectiveness.

Table 1. Preliminary Draft Evaluation Criteria

Goals and Objectives		Evaluation Criteria
Goal 1: Improve corridor transit service		
Objective 1.1:	Improve transit travel time	<ul style="list-style-type: none"> Round trip transit pm peak travel time between select origins and destinations
Objective 1.2:	Improve transit service reliability	<ul style="list-style-type: none"> On-time performance (no more than 4 minutes late) of transit service
Objective 1.3:	Provide convenient transit connections that minimizes the need to transfer	<ul style="list-style-type: none"> Number of transfers required between heavily used origin-destination pairs
Objective 1.4:	Increase transit ridership and mode share in the corridor	<ul style="list-style-type: none"> Average weekday boardings on Corridor routes Transit mode share along the corridor
Goal 2: Meet current and future transit demand in a cost-effective manner		
Objective 2.1:	Control the increase in transit operating cost to serve the corridor	<ul style="list-style-type: none"> Cost per trip Impact on LTD operating and maintenance costs Meet or exceed FTA's Small Starts requirements for cost-effectiveness Cost to local taxpayers
Objective 2.2:	Increase transit capacity to meet current and projected ridership demand	<ul style="list-style-type: none"> Capacity of transit service relative to the current and projected ridership
Goal 3: Support economic revitalization and land use redevelopment opportunities for the corridor		
Objective 3.1:	Support development and redevelopment as planned in other adopted documents	<ul style="list-style-type: none"> Support for the overall BRT System Plan Support for the Springfield Transportation System Plan (STSP) Frequent Transit Network (FTN) concept Amount of vacant and underutilized land within ½ miles of stops/stations Impacts to businesses along the Corridor measured in acres of property acquired and parking displacements Potential for displacement of businesses measured in number of businesses displaced. Acquisitions and/or displacement of residents measured in acres of property acquired and residential unit and parking displacements Local jobs created by project construction Percentage of current and planned population within ½ mile of FTN stop Percentage of current and planned employment within ½ mile of FTN stop General assessment of transit improvements to support development and redevelopment opportunities as measured by number of planned development /

Goals and Objectives		Evaluation Criteria
		<ul style="list-style-type: none"> redevelopment opportunities within ½ mile of transit improvements General assessment of the flexibility of the transit improvements to support changing development patterns
Objective 3.2:	Enhance the aesthetics of the corridor to improve economic activity	<ul style="list-style-type: none"> Potential impact to street trees, landscaping Number of transit-related visual elements identified in adopted plans that would be implemented by alternative Potential impacts to the natural environment Opportunity for streetscape improvements, wayfinding, and design elements that reinforce the community's identity and increase awareness of economic activity areas
Objective 3.3:	Coordinate transit improvements with other Main Street projects	<ul style="list-style-type: none"> Capability of transit improvement to coordinate with other Main Street projects identified in adopted plans Opportunity for streetscape improvements, wayfinding, and design elements that reinforce the community's identity and increase awareness of Main Street projects
Objective 3.4:	Coordinate transit improvements with other Franklin Boulevard / McVay Highway projects	<ul style="list-style-type: none"> Capability of transit improvement to coordinate with other Franklin Boulevard / McVay Highway projects identified in adopted plans Opportunity for streetscape improvements, wayfinding, and design elements that reinforce the community's identity and increase awareness of Franklin Boulevard / McVay Highway projects
Goal 4: Enhance the safety and security of the corridor		
Objective 4.1:	Improve the safety of pedestrians and bicyclists accessing transit and crossing Main Street	<ul style="list-style-type: none"> Number and quality of designated (marked) crossings near transit stops (signalized or unsignalized) General assessment of potential to reduce the number of pedestrian / vehicle collisions General assessment of potential to reduce the number of bicycle / vehicle collisions
Objective 4.2:	Enhance the security of transit users and of the corridor as a whole	<ul style="list-style-type: none"> Amount of added street lighting Amount of added lighting at / near transit stops Extent and character of stop and station improvements
Goal 5: Enhance other modes of travel		
Objective 5.1:	Maintain reliable motor vehicle operations and traffic flow in the corridor	<ul style="list-style-type: none"> Impact on current and future year intersection LOS Impact on current and future year PM peak hour auto / truck travel times Impact on freight mobility measured by maintaining

Goals and Objectives	Evaluation Criteria
Objective 5.2: Improve bicycle and pedestrians connections along the corridor and to and from transit stops	<p>acceptable lane widths for trucks</p> <ul style="list-style-type: none"> • General assessment of the interface with pedestrians and bicyclists • Length of new or improved sidewalk in stop and station areas • Length of new or improved bike lanes in stop and station areas • Number of bicycle treatments in stop and station areas

ATTACHMENT A: GLOSSARY OF ACRONYMS, TERMS AND ABBREVIATIONS

The glossary below provides an at-a-glance guide to many of the terms that may be used throughout the project Study.

Acronyms and Abbreviations [Updated 05-21-14]

Acronyms & Abbreviations	Defined
AA	Alternatives Analysis
ADT	Average Daily Traffic
BAT Lane	Business Access and Transitway Lane
BMPs	Best Management Practices
BRT	Bus Rapid Transit
CATS	Central Area Transportation Study
CEQ	Council on Environmental Quality
COL	College
CPTED	Crime Prevention through Environmental Design
DCE	Documented Categorical Exclusion
DEIS	Draft Environmental Impact Statement
DEQ	Oregon Department of Environmental Quality
DLCD	Oregon Department of Land Conservation and Development
DO	Design Option
DSL	Oregon Department of State Lands
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EmX	Emerald Express, Lane Transit District's Bus Rapid Transit System
EPA	U. S. Environmental Protection Agency
ESA	Endangered Species Act
ESH	Essential Salmonid Habitat
EWEB	Eugene Water and Energy Board
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FEIS	Final Environmental Impact Statement
FTA	Federal Transit Administration
FTN	Frequent Transit Network
HBO	Home-based Other
HBW	Home-based Work
HCT	High Capacity Transit
ISTEA	Intermodal Surface Transportation Efficiency Act
ITS	Intelligent Transportation Systems
JLPAC	Joint Locally Preferred Alternative Committee
LCC	Lane Community College
LCOG	Lane Council of Governments
LOS	Level of Service
LPA	Locally Preferred Alternative
LRAPA	Lane Regional Air Protection Agency

LRFP	Long-Range Financial Plan
LTD	Lane Transit District
LWCF	Land and Water Conservation Fund
MAP-21	Moving Ahead for Progress in the 21 st Century Act
Metro Plan	Eugene-Springfield Metropolitan Area General Plan
MEV	Million Entering Vehicles
MIS	Major Investment Study
MDR	Medium Density Residential
MOS	Minimum Operable Segment
MOE	Measures of Effectiveness
MPC	Metropolitan Policy Committee
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
NEPA	National Environmental Policy Act
NHN	Non-home Based Non-work
NHW	Non-home Based Work
NOI	Notice of Intent
NOX	Nitrogen oxides
NPS	U.S. Department of Interior's National Park Service
NRHP	National Register of Historic Places
O&M	Operations and maintenance
OAR	Oregon Administrative Rule
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
OSP	Oregon State Police
PM	Particulate matter
ROW	Right-of-Way
RTP	Central Lane Metropolitan Planning Organization Regional Transportation Plan
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SCC	Standardized Cost Comparison
SCH	School
SHP	Home-based Shopping
SHPO	Oregon State Historic Preservation Office
STA	Special Transportation Area
SUB	Springfield Utility Board
TAZ	Transportation Analysis Zone
TDM	Transportation Demand Management
TE&S	Threatened, Endangered and Sensitive
TESCP	Temporary Erosion and Sediment Control Plan
TMA	Transportation Management Area
TMDLs	Total Maximum Daily Loads
TPR	Transportation Planning Rule
TransPlan	Eugene-Springfield Transportation System Plan
TSM	Transportation System Management
TSUB	Transportation System User Benefits
UGB	Urban Growth Boundary
VMT	Vehicle Miles Traveled
VOCs	Volatile organic compounds

Terms [Updated 05-21-14]

Terms	Definitions
Accessibility	The extent to which facilities are barrier free and useable by persons with disabilities, including wheelchair users.
Action	An "action," a federal term, is the construction or reconstruction, including associated activities, of a transportation facility. For the purposes of this Handbook, the terms "project", "proposal" and "action" are used interchangeably unless otherwise specified. An action may be categorized as a "categorical exclusion" or a "major federal action."
Alignment	Alignment is the street or corridor that the transit project would be located within.
Alternative Fuels	Low-polluting fuels which are used to propel a vehicle instead of high-sulfur diesel or gasoline. Examples include methanol, ethanol, propane or compressed natural gas, liquid natural gas, low-sulfur or "clean" diesel and electricity.
Area of Potential Effect	A term used in Section 106 to describe the area in which historic resources may be affected by a federal undertaking.
Auxiliary Lanes	Lanes designed to improve safety and reduce congestion by accommodating cars and trucks entering or exiting the highway or roadway, and reducing conflicting weaving and merging movements.
Base Period	The period between the morning and evening peak periods when transit service is generally scheduled on a constant interval. Also known as "off-peak period."
Base Fare	The price charged to one adult for one transit ride; excludes transfer charges, zone charges, express service charges, peak period surcharges and reduced fares.
Business Access and Transitway Lane (BAT)	In general, a BAT lane is a concrete lane, separated from general-purpose lanes by a paint stripe and signage. A BAT lane provides BRT priority operations, but general-purpose traffic is allowed to travel within the lane to make a turn into or out of a driveway or at an intersecting street. However, only the BRT vehicle is allowed to use the lane to cross an intersecting street.
Boarding	Boarding is a term used in transit to account for passengers of public transit systems. One person getting on a transit vehicle equals one boarding. In many cases individuals will have to transfer to an additional transit vehicle to reach their destination and may well use transit for the return trip.. Therefore a single rider may account for several transit boardings in one day.
Bus Rapid Transit (BRT)	A transit mode that combines the quality of rail transit and the flexibility of buses. It can operate on bus lanes, HOV lanes, expressways, or ordinary streets. The vehicles are designed to allow rapid passenger loading and unloading, with more doors than ordinary buses.
Busway	Exclusive lane for buses
Clean Air Act Amendments of 1990 (CAAA)	The comprehensive federal legislation which establishes criteria for attaining and maintaining the federal standards for allowable concentrations and exposure limits for various air pollutants; the act also provides emission standards for specific vehicles and fuels.
Collector Streets	Collector streets provide a balance of both access and circulation within and between residential and commercial/industrial areas. Collectors differ from arterials in that they provide more of a citywide circulation function, do not require as extensive control of access and are located in residential neighborhoods, distributing trips from the neighborhood and local street system.

Terms	Definitions
Community Cohesion	A measure of how well residents can connect with one another within their community. These connections can occur at gathering places such as schools, community centers, parks, or transit stations. High home ownership rates and active neighborhood associations also contribute to higher levels of community cohesion.
Commuter Rail	Commuter rail is a transit mode that is a multiple car electric or diesel propelled train. It is typically used for local, longer-distance travel between a central city and adjacent suburbs, and can operate alongside existing freight or passenger rail lines or in exclusive rights of way.
Compressed Natural Gas (CNG)	An alternative fuel; compressed natural gas stored under high pressure. CNG vapor is lighter than air.
Conformity	The ongoing process that ensures the planning for highway and transit systems, as a whole and over the long term, is consistent with the state air quality plans for attaining and maintaining health-based air quality standards; conformity is determined by metropolitan planning organizations (MPOs) and the U.S. Department of Transportation (U.S. DOT), and is based on whether transportation plans and programs meet the provisions of a State Implementation Plan.
Cooperating Agency	Regulations that implement NEPA define a cooperating agency as any Federal agency other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment.
Coordination Plan	Required under SAFETEA-LU, the coordination plan contains procedures aimed at achieving consensus among all parties in the initial phase of environmental review and to pre-empt disagreements that can create delays later on in a project.
Congestion Mitigation and Air Quality (CMAQ)	Federal funds available for either transit or highway projects which contribute significantly to reducing automobile emissions which cause air pollution.
Corridor	A broad geographical band that follows a general directional flow connecting major sources of trips that may contain a number of streets, highways and transit route alignments.
Demand Responsive	Non-fixed-route service utilizing vans or buses with passengers boarding and alighting at pre-arranged times at any location within the system's service area. Also called "Dial-a-Ride."
Diesel Multiple Unit (DMU)	Each unit carries passengers and can be self-powered by a diesel motor; no engine unit is required.
Draft Environmental Impact Statement (DEIS)	The DEIS is the document that details the results of the detailed analysis of all of the projects alternatives. The DEIS contains all information learned about the impacts of a project and alternatives.
Electrical Multiple Unit (EMU)	The EMU is heavier than a light rail vehicle, but it is powered in the same way by an overhead electrical system.
Earmark	A federal budgetary term that refers to the specific designation by Congress that part of a more general lump-sum appropriation be used for a particular project; the earmark can be designated as a minimum and/or maximum dollar amount.
Effects	Effects include ecological, aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial. Effects

Terms	Definitions
	include: (1) direct effects that are caused by the action and occur at the same time and place, and (2) indirect effects that are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use; population density or growth rate; and related effects on air and water and other natural systems, including ecosystems (40 CFR 1508.8).
EmX	Lane Transit District's Bus Rapid Transit System, pronounced "MX", short for Emerald Express.
Environmental Assessment (EA)	A report subject to the requirements of the National Environmental Policy Act (NEPA) demonstrating that an Environmental Impact Statement (EIS) is not needed for a specific set of actions. The EA can lead to a Finding of No Significant Impact (FONSI).
Environmental Impact Statement (EIS)	A comprehensive study of likely environmental impacts resulting from major federally-assisted projects; statements are required by the National Environmental Policy Act (NEPA).
Environmental Justice	A formal federal policy on environmental justice was established in February 1994, with Executive Order 12898 (EO 12898), "Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations." There are three fundamental environmental justice principles: • To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations. • To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process. • To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.
Exclusive Right-of-Way	A highway or other facility that can only be used by buses or other transit vehicles.
Finding of No Significant Impact (FONSI)	A document prepared by a federal agency showing why a proposed action would not have a significant impact on the environment and thus would not require preparation of an Environmental Impact Statement (EIS). A FONSI is based on the results of an Environmental Assessment (EA).
Fixed Guideway System	A system of vehicles that can operate only on its own guideway constructed for that purpose (e.g., rapid rail, light rail). Federal usage in funding legislation also includes exclusive right-of-way bus operations, trolley coaches and ferryboats as "fixed guideway" transit.
Fixed Route	Service provided on a repetitive, fixed-schedule basis along a specific route with vehicles stopping to pick up and deliver passengers to specific locations; each fixed-route trip serves the same origins and destinations, unlike demand responsive and taxicabs.
Frequent Transit Network	The Frequent Transit Network (FTN) represents the highest orders of transit service within the region. The FTN represents corridors where transit service would be provided, but does not presume specific street alignments. Street alignments will be determined in future studies. FTN stops will be located closest to the highest density development within the corridor. FTN Corridors will have the following characteristics: Enables a well-connected network that provides regional circulation Compatible with and supportive of adjacent urban design goals Operates seven days a week in select corridors Service hours are appropriate for the economic and social context of the area served

Terms	Definitions
	<p>Coverage consists of at least 16 hours a day and area riders trip origins or destinations are within ¼ of a mile-straight line distance</p> <p>Frequency is at least every 10-15 minutes in peak travel times</p> <p>Speed is no less than 40 percent of the roadway speed limit</p> <p>Coverage throughout the region is geographically equitable and serves Title VI protected populations</p> <p>Transit service is reliable and runs on schedule</p>
Geographic Information System (GIS)	Data management software tool that enables data to be displayed geographically (i.e., as maps).
Guideway	A transit right-of-way separated from general purpose vehicles.
Headway	Time interval between vehicles passing the same point while moving in the same direction on a particular route.
High Capacity Transit (HCT)	High capacity transit is any transit mode characterized by carrying a larger volume of passengers using larger vehicles and/or more frequent service than a standard fixed route bus system. High capacity transit can operate on exclusive rights-of-way such as a rail track or dedicated busway, or on existing streets with mixed traffic. The main goal of high capacity transit is to provide faster, more convenient and more reliable service for a larger number of passengers.
High Occupancy Vehicle (HOV) lane	Lanes, typically on freeways, that are used exclusively by carpools and buses. In some cases, HOV lanes are in effect for only a portion of the day and revert to general purpose lanes during non-peak travel periods
Hydrology	Refers to the flow of water including its volume, where it drains and how quickly it flows.
Impacts	A term to describe the positive or negative effects upon the natural or built environments as a result of an action (i.e., project).
Independent Utility	A project or section of a larger project that would be a usable and reasonable expenditure even if no other projects or sections of a larger project were built and/or improved.
Intergovernmental Agreement	A legal pact authorized by state law between two or more units of government, in which the parties contract for, or agree on, the performance of a specific activity through either mutual or delegated provision.
Intermodal	Those issues or activities which involve or affect more than one mode of transportation, including transportation connections, choices, cooperation and coordination of various modes. Also known as "multimodal."
Joint Development	Ventures undertaken by the public and private sectors for development of land around transit stations or stops.
Kiss and Ride	A place where commuters are driven and dropped off at a station to board a public transportation vehicle.
Layover Time	Time built into a schedule between arrival at the end of a route and the departure for the return trip, used for the recovery of delays and preparation for the return trip.
Lead Agency	The organization that contracts and administers a study. For transit projects, FTA would typically fill this role. The lead agency has the final say about the project's purpose and need, range of alternatives to be considered, and other procedural matters.
Level of Detail	The amount of data collected, and the scale, scope, extent, and degree to which item-by-item particulars and refinements of specific points are necessary or desirable in carrying out a study.

Terms	Definitions
Level of Service (LOS)	Level of service (LOS) is a measure used by traffic engineers to determine the effectiveness of elements of transportation infrastructure. LOS is most commonly used to analyze highways, but the concept has also been applied to intersections, transit, and water supply.
Limited (or Controlled) Access	Restricted entry to a transportation facility based upon facility congestion levels or operational condition. For example, a limited access roadway normally would not allow direct entry or exit to private driveways or fields from said roadway.
Light Rail Transit (LRT)	Steel wheel/steel rail transit constructed on city streets, semi-private right-of-way, or exclusive private right-of-way. Formerly known as "streetcar" or "trolley car" service, LRT's major advantage is operation in mixed street traffic at grade. LRT vehicles can be coupled into trains, which require only one operator and often are used to provide express service.
Liquefaction	A phenomenon associated with earthquakes in which sandy to silty, water saturated soils behave like fluids. As seismic waves pass through saturated soil, the structure of the soil distorts, and spaces between soil particles collapse, causing ground failure.
Liquefied Natural Gas (LNG)	An alternative fuel; a natural gas cooled to below its boiling point of 260 degrees Fahrenheit so that it becomes a liquid; stored in a vacuum bottle-type container at very low temperatures and under moderate pressure. LNG vapor is lighter than air.
Local Streets	Local streets have the sole function of providing direct access to adjacent land. Local streets are deliberately designed to discourage through traffic movements.
Locally Preferred Alternative (LPA)	The Locally Preferred Alternative is the alternative selected through the Alternatives Analysis process completed prior to or concurrent with NEPA analysis. This term is also used to describe the proposed action that is being considered for New Starts or Small Starts funds.
Maintenance area	An air quality designation for a geographic area in which levels of a criteria air pollutant meet the health-based primary standard (national ambient air quality standard, or NAAQS) for the pollutant. An area may have on acceptable level for one criteria air pollutant, but may have unacceptable levels for others. Maintenance/attainment areas are defined using federal pollutant limits set by EPA.
Maintenance facility	A facility along a corridor used to clean, inspect, repair and maintain rail vehicles, as well as to store them when they are not in use.
Major Arterial	Major arterial streets should serve to interconnect the roadway system of a city. These streets link major commercial, residential, industrial and institutional areas. Major arterial streets are typically spaced about one mile apart to assure accessibility and reduce the incidence of traffic using collectors or local streets for through traffic in lieu of a well placed arterial street. Access control, such as raised center medians, is a key feature of an arterial route. Arterials are typically multiple miles in length.
Major Investment Study (MIS)	An alternatives analysis study process for proposed transportation investments which a wide range of alternatives is examined to produce a smaller set of alternatives that best meet project transportation needs. The purpose of the study is to provide a framework for developing a package of potential solutions that can then be further analyzed during an Environmental Impact Statement (EIS) process.

Terms	Definitions
Moving Ahead for Progress in the 21 st Century Act (MAP-21)	The current federal transportation bill. Bill is for two years and set to expire in October 2014. Hill included significant changes to federal funding programs and changed the evaluation criteria for the New Starts/Small Starts Program
Metropolitan Planning Organization (MPO)	The organization designated by local elected officials as being responsible for carrying out the urban transportation and other planning processes for an area.
Minimum Operable Segment	A stand-alone portion of the alternative alignment that has independent utility, allowed by FTA to be considered as interim termini for a project. A minimum operable segment (MOS) provides flexibility to initiate a project with available funding while pursuing additional funding to complete the remainder of the project.
Minor Arterial	Minor arterial street system should interconnect with and augment the urban major arterial system and provide service to trips of moderate length at a somewhat lower level of travel mobility than major arterials. This system also distributes travel to geographic areas smaller than those identified with the higher system. The minor arterial street system includes facilities that allow more access and offer a lower traffic mobility. Such facilities may carry local bus routes and provide for community trips, but ideally should not be located through residential neighborhoods.
Mitigation	A means to avoid, minimize, rectify, or reduce an impact, and in some cases, to compensate for an impact.
Mode	A particular form or method of travel distinguished by vehicle type, operating characteristics and right-of-way separation from other traffic.
Modal Split	A term which describes how many people use alternative forms of transportation. Frequently used to describe the percentage of people using private automobiles as opposed to the percentage using public transportation.
National Environmental Policy Act of 1969 (NEPA)	A comprehensive federal law requiring analysis of the environmental impacts of federal actions such as the approval of grants; also requires preparation of an Environmental Impact Statement (EIS) for every major federal action significantly affecting the quality of the human environment.
New Starts	Federal funding granted under Section 3(i) of the Federal Transit Act. These discretionary funds are made available for construction of a new fixed guideway system or extension of any existing fixed guideway system, based on cost-effectiveness, alternatives analysis results and the degree of local financial commitment. Projects qualifying for funding under FTA's New Starts Program have a total project cost greater than \$250 million and/or are requesting greater than \$75 million in FTA funding
No Action or No-Build Alternative	An alternative that is used as the basis to measure the impacts and benefits of the other alternative(s) in an environmental assessment or other National Environmental Policy Act (NEPA) action. The No-Build alternative consists of the existing conditions, plus any improvements which have been identified in the Statewide Transportation Improvement Program (STIP).
Nonattainment Area	Any geographic region of the United States that the U.S. Environmental Protection Agency (EPA) has designated as not attaining the federal air quality standards for one or more air pollutants, such as ozone and carbon monoxide.
Notice of Intent	A Federal announcement, printed in the Federal Register, advising interested parties that an environmental impact statement will be prepared and circulated for a given project

Terms	Definitions
Off-Peak Period	Non-rush periods of the day when travel activity is generally lower and less transit service is scheduled. Also called "base period."
Park & Ride	Designated parking areas for automobile drivers who then board transit vehicles from these locations.
Participating Agency	A federal or non-federal agency that may have an interest in the project. These agencies are identified and contacted early-on in the project with an invitation to participate in the process. This is a broader category than "cooperating agency" (see cooperating agency).
Passenger Miles	The total number of miles traveled by passengers on transit vehicles; determined by multiplying the number of unlinked passenger trips times the average length of their trips.
Peak hour	The hour of the day in which the maximum demand for transportation service is experienced (refers to private automobiles and transit vehicles).
Peak Period	Morning and afternoon time periods when transit riding is heaviest.
Peak/Base Ratio	The number of vehicles operated in passenger service during the peak period divided by the number operated during the base period.
Preferred Alternative	An alternative that includes a major capital improvement project to address the problem under investigation. As part of the decision making process, the Preferred Alternative is compared against the No Action or No-Build Alternative from the standpoints of transportation performance, environmental consequences, cost-effectiveness, and funding considerations.
Purpose and Need	The project Purpose and Need provides a framework for developing and screening alternatives. The purpose is a broad statement of the project's transportation objectives. The need is a detailed explanation of existing conditions that need to be changed or problems that need to be fixed.
Queuing	Occurs when traffic lanes cannot fit all the vehicles trying to use them, or if the line at an intersection extends into an upstream intersection.
Record of Decision (ROD)	A decision made by FTA as to whether the project sponsor receives federal funding for a project. The Record of Decision follows the Draft EIS and Final EIS.
Regulatory Agency	An agency empowered to issue or deny permits.
Resource Agency	A Federal or State agency or commission that has jurisdictional responsibilities for the management of a resource such as plants, animals, water or historic sites.
Revenue Hours	Hours of transit service available for carrying paying riders.
Ridesharing	A form of transportation, other than public transit, in which more than one person shares the use of the vehicle, such as a van or car, to make a trip. Also known as "carpooling" or "vanpooling."
Ridership	The number of rides taken by people using a public transportation system in a given time period.
Right-of-way	Publicly owned land that can be acquired and used for transportation purposes.
Safe, Accountable, Flexible, Efficient Transportation Equity Act : A Legacy for Users (SAFETEA-LU)	Federal transportation bill passed by Congress July 29, 2005, signed by the President August 10, 2005. Included new and revised program guidance and regulations (approximately 15 rulemakings) with planning requirements related to public participation, publication, and environmental considerations. SAFETEA-LU was originally intended to cover FY 2005 through FY 2009, but through various extension continued until 2012.
Scoping	A formal coordination process used to determine the scope of the project and the major issues likely to be related to the proposed action (i.e., project).
Screening Criteria	Criteria used to compare alternatives.

Terms	Definitions
Shuttle	A public or private vehicle that travels back and forth over a particular route, especially a short route or one that provides connections between transportation systems, employment centers, etc.
Small Starts Program	The Small Starts Program is part of FTA's New Starts Program. FTA's New Starts/Small Starts Program provides funding for new rail or busway projects, the improvement and maintenance of fixed guideway systems, and the upgrading of systems. Capital assistance grants provide up to 80% of the net project costs. Projects qualifying for funding under FTA's Small Starts Program must have a total project cost less than \$250 million and requesting less than \$75 million in FTA funding.
State Implementation Plan (SIP)	A state plan mandated by the Clean Air Act Amendments of 1990 (CAAA) that contains procedures to monitor, control, maintain and enforce compliance with national standards for air quality.
Strategy	An intended action or series of actions which when implemented achieves the stated goal.
Study Area	The area within which evaluation of impacts is conducted. The study area for particular resources will vary based on the decisions being made and the type of resource(s) being evaluated.
Title IV	This title declares it to be the policy of the United States that discrimination on the ground of race, color, or national origin shall not occur in connection with programs and activities receiving Federal financial assistance and authorizes and directs the appropriate Federal departments and agencies to take action to carry out this policy.
Throughput	The number of users being served at any time by the transportation system.
Transit Oriented Development (TOD) or Nodal Development	An initiative to build transit ridership, while discouraging sprawl, improving air quality and helping to coordinate a new type of community for residents. TODs are compact, mixed-use developments situated at or around transit stops. Sometimes referred to as Transit Oriented Communities, or Transit Villages.
Transit System	An organization (public or private) providing local or regional multi-occupancy-vehicle passenger service. Organizations that provide service under contract to another agency are generally not counted as separate systems.
Transitway	A BRT priority lane generally with a concrete lane with or without concrete tracks with grass-strip divider and a curb separation, traverseable by general-purpose vehicles at signalized intersections.
Transportation Demand Management (TDM)	Strategies to attempt to reduce peak period automobile trips by encouraging the use of high occupancy modes through commuter assistance, parking incentives and work policies which alter the demand for travel in a defined area in terms of the total volume of traffic, the use of alternative modes of travel and the distribution of travel over different times of the day.
Transportation Improvement Program (TIP)	A program of intermodal transportation projects, to be implemented over several years, growing out of the planning process and designed to improve transportation in a community. This program is required as a condition of a locality receiving federal transit and highway grants.
Travel Shed	Synonymous with "corridor" (see corridor). Sub area in which multiple transportation facilities are experiencing congestion, safety or other problems.
Vehicle Hours of Delay	Cumulative delay experience by transit vehicles during high traffic periods.
v/ c ratio	Used as a principal measure of congestion. The "V" represents the volume or the number of vehicles that are using the roadway at any particular period. The "C" represents the capacity of a roadway at its adopted LOS. If the volume exceeds the capacity of the roadway (volume divided by capacity exceeds 1.00),

Terms	Definitions
	congestion exists.
Water Quality	Refers to the characteristics of the water, such as its temperature and oxygen levels, how clear it is, and whether it contains pollutants.
WEEE	West Eugene EmX Extension

ATTACHMENT B: EXAMPLES OF PURPOSE AND NEED STATEMENTS

West Eugene EmX Project

The Purpose of the proposed West Eugene EmX Extension project is to implement high-capacity public transportation service, in the West 11th Corridor (east/west), utilizing the adopted high-capacity transit mode identified in the Regional Transportation Plan, that is less hindered by congestion and that provides efficient, effective, dependable, and visually appealing service throughout the life of the project.

The project would support local, regional, and state plans and goals for land use and transportation, and support economic development and redevelopment opportunities in the corridor, while being sensitive to and protecting the natural and built environmental resources and continue to obtain local public participation in its development.

The Need for the project results from:

- Historic and projected increases in traffic congestion in the West 11th Corridor due to increases in regional and corridor population and employment;
- Lengthy transit travel times and deteriorating public transportation reliability in the West 11th Corridor due to growing traffic congestion;
- Increasing operating expenses, combined with increasingly scarce operating resources, while demanding more efficient public transportation operations;
- The decision in the Regional Transportation Plan (RTP) to implement a bus rapid transit (BRT) strategy for the region;
- Recent removal of the West Eugene Parkway as a proposed regional project, further constraining future capacity on the corridor and increasing the need for public transportation related options;
- The region's growing reliance on public transportation to meet travel needs in the West 11th Corridor;
- Prioritization of the West 11th Corridor by the City of Eugene and LTD as the region's third BRT corridor;
- Local and regional land use and development plans, goals, and objectives that identify the West 11th Corridor for residential, commercial, retail, and industrial development to help accommodate forecasted regional population and employment growth; and
- Limitation of options for transportation improvements caused by the identification and protection of important resources in the natural and built environment in the West 11th Corridor, including but not limited to wetlands, rare plants, and animals and their habitat.

Fourth Plain Transit Improvement Project

Purpose & Need

Purpose

Consistent with the Clark County High Capacity Transit System Study, the purpose of the Fourth Plain Transit Improvement Project is to cost-effectively increase transit ridership as well as enhance transit's comfort, convenience and image by reducing transit travel time, improving trip reliability, and increasing transit capacity to meet current and long-term transit travel demand, while also enhancing the safety and security of the corridor. The project will support the City of Vancouver's and other community-based Fourth Plain corridor revitalization efforts.

Need

The need for the project results from:

- *Capacity issues as a result of very high corridor ridership.* Some buses are at standing-room-only conditions between 9:00 a.m. and 4:00 p.m. weekdays, and the problem will worsen as ridership increases. There are currently more than 6,000 average weekday boardings on Fourth Plain corridor bus routes; and corridor ridership accounts for approximately one-third of all boardings on the C-TRAN system. Population and employment in the Fourth Plain Study Area are projected to grow by 30 to 40 percent between now and 2035, and downtown Vancouver is expected to grow similarly as well, resulting in projections forecasting a 50 percent ridership increase by 2030, which will significantly exceed transit capacity in the corridor.
- *Poor reliability of the current service.* Routinely, between 30 and 40 percent of buses on the corridor are running at least five minutes late and with the forecast increases in ridership and traffic, service reliability will worsen.
- *Continuing increases in corridor transit delays and travel time.* Transit travel times from Westfield Vancouver Mall to downtown Vancouver have increased from approximately 30 minutes in 1992 to almost 45 minutes in 2011 as a result of higher ridership, more riders using wheelchairs, and delays from traffic congestion and traffic signals. This increase in transit travel time has occurred despite C-TRAN's efforts in reducing transit stops and shortening of the route. This slowing of the service adversely impacts the quality of service and increases transit operating expense. Without efforts to address the causes of delay, forecasts call for transit travel time between Vancouver Mall and downtown Vancouver to continue to increase.
- *Increasing demand for east/west travel and transit connectivity.* Travel patterns over the past ten years indicate a substantial amount of east-west travel within Clark County including along the Fourth Plain Corridor. Growth at both ends of the Fourth Plain Corridor as well as a planned light rail connection from Portland into downtown Vancouver creates a demand for an improved east/west transit connection.
- *Corridor safety and security concerns.* The Fourth Plain Boulevard corridor between I-5 and NE 117th Avenue (SR 500/503) has been designated a Traffic Safety Corridor by the Washington

State Traffic Safety Commission (in conjunction with the Washington State Department of Transportation) due to its above-average crash rate (compared to similar roadways in Washington State). Transit users and the general traveling public also experience safety concerns accessing, walking along, and crossing Fourth Plain Boulevard as pedestrians, on bicycles, or using mobility devices. In addition, transit patron safety and security continue to be major concerns for C-TRAN, corridor residents and businesses.

- *Mobility constraints to job creation and retention, economic growth, and access to education and community services.* A recent survey conducted of Fourth Plain transit riders indicates that over 40 percent are transit dependent, and that almost half of the transit riders are destined to businesses and establishments along the corridor. Transit delays, trip unpredictability, and bus overcrowding impair transit's ability to carry people to jobs and business appointments, as well as for work and non-work activities, within the Fourth Plain Corridor, constraining the ability of the Fourth Plain subarea to sustain jobs and achieve economic growth.

Southwest Washington RTC Fourth Plain Bus Rapid Transit Project

Purpose:

The purpose of the Fourth Plain Bus Rapid Transit project is to improve transit access and mobility while improving auto, pedestrian, and bike safety. The project will also support the economic revitalization plans for the corridor. Quicker and more reliable transit travel times will improve transit accessibility and reduce transit commute times to jobs, services, shopping, and other commercial activities along the corridor and into downtown Vancouver. Safety improvements will transform Fourth Plain into a more pleasant environment for both businesses and neighborhoods. The investment in BRT and its related transportation facility investments will help to provide a stimulus for the economic development opportunities planned for in Vancouver's Fourth Plain Corridor Subarea Plan.

Need:

The BRT project is important because Fourth Plain Blvd. is currently C-TRAN's highest ridership corridor with as many as 6,000 boardings per day. The Fourth Plain bus routes (#4 Fourth Plain and #44 Fourth Plain Limited) experience some of the worst on-time performances of routes across the C-TRAN system. These routes experience on-time failures due to traffic congestion, boarding delays, and other conflicts. As demand increases, service quality, travel times, and on-time performance will continue to degrade. The Fourth Plain BRT Alternative Analysis process provides the opportunity to identify how to fix these problems and to identify the best transit solution for this important travel corridor.

Pioneer Parkway EmX Project

The purpose of a major transit investment in the corridor is:

- *To provide a high quality, cost-effective transit improvement in the Pioneer Parkway Corridor that will support the community's land use and transportation goals, improve the efficiency and*

operation of the transportation system, provide environmental benefits, and reflect community values.

The need for a major transit investment in the Pioneer Parkway Corridor results from:

- *A high level of historic and projected population and employment growth in the Pioneer Parkway Corridor that has strained and will further strain the transportation infrastructure.*
- *Increasing levels of traffic congestion and travel delay that result in a deterioration of travel conditions and transit operations.*
- *The need for significant improvements in transit service to meet local and state transportation and land use policies.*

Grand River Transit Improvement Project

The purpose of this study is to identify a package of improvements that will provide rapid, reliable transit service to increase overall mobility and serve existing patterns of transit-oriented development and redevelopment in the corridor.

This study will seek to identify the transit improvement(s) best able to serve the following key needs:

- Increase overall mobility and support GRTC's Comprehensive Operations Analysis recommendations for a more efficient and effective organization of transit services
- Serve existing patterns of transit-oriented land use and support local plans to generate new transit-oriented development (TOD)
- Provide an attractive alternative to the automobile for east-west travel in terms of time and convenience
- Improve the environmental quality of the region and support the attainment of Environmental Protection Agency (EPA) air quality goals

Geary Bus Rapid Transit Project

The Geary BRT Purpose and Need reflects citywide transit priority network development policies articulated in the 2004 San Francisco Countywide Transportation Plan, as well as corridor-specific goals and needs identified during the Feasibility Study.

The project *purpose* is to:

- Support the city's growth and development needs;
- Better serve existing transit riders;
- Stem and reverse the trend toward transit mode share loss;
- Improve the operational efficiency and cost-effectiveness of the transportation system; and

- Accommodate potential rail in the future.

The *need* for the project is indicated by the following:

- The existing street configuration is unfavorable for buses, pedestrians, and bicyclists;
- Current transit service on Geary is inadequate for consistently high ridership throughout the day, on weekdays and weekends, and in both directions; and
- Existing bus service is slow and unreliable.
- The Purpose and Need are also consistent with, and supportive of, the recommendations of

VIA Primo Bus Rapid Transit Project

Purpose of the Proposed Project

- The purpose of the proposed VIA Primo is to improve bus travel time reliability and efficiency, improve mobility for the large transit dependent population and expand transit capacity.

Need for the Proposed Project

- The proposed VIA Primo would help meet a number of specific needs.
- The need to improve bus travel time reliability and efficiency – Several factors contribute to inefficient bus operations and long, unpredictable travel times in the VIA Primo Corridor, including the following:
 - Two at-grade freight rail crossings that create unpredictable and long delays
 - Lengthy dwell times associated with passenger boarding delays
- The need to improve mobility for the large transit dependent population – Reliability problems with the existing bus system limit mobility options for the high numbers of transit dependent individuals in the VIA Primo Study Area. According to the 2000 census, 27 percent of the VIA Primo Study Area population can be classified as transit dependent, which is substantially higher than the state average of 19 percent.
- The need to expand transit capacity – Employment is projected to grow by 31 percent between 2005 and 2035 in the VIA Primo Study Area. A substantial portion of that growth would be in and around the STMC area. This growth in employment, in addition to the corresponding growth in patient visits, would result in increased travel demand that exceeds existing transit capacity within the VIA Primo Corridor.

Provo-Orem Bus Rapid Transit Project

Project Purpose

The purpose of the Provo-Orem Bus Rapid Transit Project is to increase transportation capacity to include higher-capacity, high-quality, reliable transit service. Specifically, the purpose is to:

- Increase transportation capacity to accommodate growing population, employment, student enrollment, and travel demand in the year 2030.
- Improve transit competitiveness with the automobile by improving transit reliability and reducing transit travel time.
- Improve transit connections to and from FrontRunner commuter rail.
- Improve multi-modal connectivity across I-15 and from I-15 to Orem and Provo.

Statement of Project Need

The Provo-Orem Bus Rapid Transit Project is needed because of growing population, employment, student enrollment, and travel demand in the study area; insufficient transit capacity to serve growing demand; poor transit reliability due to congested roadways; and lack of connectivity across I-15 and from I-15 to Orem and Provo. The travel demand needs of residents and commuters in the study area are expected to be greater than the capacity of the existing transportation system in 2030.

Transportation needs were determined for the year 2030 based on the MAG Regional Travel Demand Model. Information on opening day conditions for any proposed improvement is required for the FTA Small Starts program. This information is included in the Provo-Orem Rapid Transit AA report. The needs result from the following problems:

- Increasing travel demand and insufficient roadway capacity
- Poor transit reliability and travel time
- Lack of high-quality alternatives to auto travel
- Insufficient transit capacity
- Lack of connectivity across I-15 and from I-15 to Orem and Provo

Naming Conventions [updated 05-20-14]

The following naming conventions, in alphabetical order and reverse referenced, will be used for the project.

Corridor Name	Main-McVay Corridor
Corridor Segments	Main Street Segment, McVay Highway Segment
Franklin Boulevard	Key Roadway
Key Roadways	Main Street Franklin Boulevard McVay Highway (previously called "Old Franklin Highway") South A Street
Main McVay Transit Feasibility Study	Project Name (Previously Used - <i>Do Not Use</i>)
Main McVay: Improved Transit Feasibility Study	Project Name (Previously Used - <i>Do Not Use</i>)
Main Street	Key Roadway
Main Street Segment	Corridor Segment (1 segment of 2 segments)
Main-McVay Corridor	Corridor Name (Use This Name)
Main-McVay Transit Improvement Study	Project Name (Previously Used - <i>Do Not Use</i>)
Main-McVay Transit Study	Project Name (Use This Name)
McVay Highway (previously called "Old Franklin Highway")	Key Roadway
McVay Highway Segment	Corridor Segment (1 segment of 2 segments)
Old Franklin Highway	Old name for McVay Highway (<i>Do Not Use</i>)
Project Name (Correct)	Main-McVay Transit Study
Project Names (Previously Used - <i>Do Not Use</i>)	Main-McVay Transit Improvement Study Main McVay Transit Feasibility Study Main McVay: Improved Transit Feasibility Study
South A Street	Key Roadway

This list of naming conventions will be appended as needed throughout the project duration.