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Amendment Number: 2007-40
Reviewed by USDOT:
TPC Approved:
Public Comment began:
Public Comment complete:
MPC **Approved**/Informed: 9/13/07
Sent to ODOT/STIP Coord:
STIP Amendment #:

AMENDMENT
Operative FY06-09 and Adopted, Pending FY08-11
Metropolitan Transportation Improvement Program (MTIP)

DATE OF REQUEST: 8/30/2007 **BY AGENCY, PERSON:** LTD, Tom Schwetz

ODOT KEY NUMBER: TBD **RTP NUMBER/POLICY:** RTP Goals #1, 2

PROJECT NAME: Technical Analysis for West Eugene Transit Alternatives

PROJECT SUMMARY: Conduct analysis of range of transit alternatives in West Eugene including transit ridership data, bus travel time variability in mixed-traffic operations, and highway system user benefits of transit alternatives.

ACTION REQUESTED:

- delete existing MTIP project/phase
- add new MTIP project/phase
- change existing MTIP project/phase

REASON FOR REQUEST:

Grant received from FTA's FY07 Discretionary Alternatives Analysis program to support technical analysis of transit alternatives for West Eugene.

IS THIS REQUEST AN ADMINISTRATIVE AMENDMENT?

- Yes other-described below in OTHER COMMENTS
- No (requires MPC adoption)

FISCAL CONSTRAINT

Is this project federally funded? Yes No
Changes in funding sources: Federal: Transit 5339 Alternative Analysis
State: SPECIFY SOURCE:
Local: SPECIFY SOURCE:

AIR QUALITY – CONFORMITY:

Is the project in the AQMA? (see map <http://www.lcog.org/aqc/default.htm>) Yes No
If YES,
Is the project EXEMPT from Air Quality Conformity ? Yes No
If YES, specify exempt category (see Appendix A; e.g. Table 2-Safety-adding medians):
OAR 340-252-0270 - Table 2 - Exempt - Other- Planning and technical studies
If NO,
Is this project regionally significant? (see Appendix A): Yes No
Does this amendment trigger a conformity determination? Yes No
Provide rationale for this declaration:

OTHER COMMENTS:

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This project does not involve any funding decision or transfer on the part of MPC - the project is fully funded via federal process. The project does not affect financial constraint or air quality conformity of the MTIP

This amendment is being presented to MPC without waiting for the next TPC meeting due to the need to make the funds available so that the origin-destination survey, a foundational piece of the project, can be carried out as soon as possible. The Transportation Advisory Subcommittee to TPC met on August 30 and approved forwarding this project to MPC for review and approval.

CHECKLIST OF ATTACHMENTS:

- MTIP/STIP Amendment spreadsheet – for all deletion/addition/change actions
- MTIP Project Description Form (Form TIP-2) – for all new projects or significant changes

Application for EmX Corridor Alternatives Analysis and Supporting Technical Analysis

APPLICANT INFORMATION

1. Applicant Name. Lane Transit District – Recipient ID 1738
2. Grant Contact. Todd Lipkin, Grant Administrator
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3. Services Provided. Lane Transit District (LTD) provides fixed-route and complementary paratransit services to the residents of the greater Eugene/Springfield metropolitan area as well as acting as the regional coordinator of public transit and human services transportation throughout Lane County, Oregon. Fixed-route service now includes the first bus rapid transit line, the EmX Green Line, that connects the central transit stations of Eugene and Springfield, Oregon, utilizing exclusive right-of-way, fixed guideway, and traffic signal priority. Paratransit and auxiliary services include a broad range of services to meet the transportation needs of people with disabilities as well as seniors and other transit-dependent citizens.

PROJECT INFORMATION

I. Overview of Local Context

In January 2007, Lane Transit District (LTD) began operation of the first leg of its bus rapid transit (BRT) system, called EmX. The 4-mile segment, operating between downtown Eugene and downtown Springfield, is part of what is envisioned in the Regional Transportation Plan as a 60-mile network that will serve as the backbone of LTD's service within the Eugene/Springfield metropolitan area. After five months of operation, this service is averaging 55 percent more ridership than the route it replaced.

The second EmX leg, a 7-mile extension in Springfield, is entering into the design phase with operation expected to begin in 2010. LTD is beginning planning of a third leg, the West Eugene EmX Extension. It is anticipated that an Alternatives Analysis process would be started within the next 3-6 months. This analysis would be conducted in conjunction with a multimodal corridor analysis being undertaken by the City of Eugene and will be carried out in conformance with provisions of 49 USC 5309(e)(1)(A), FTA's requirements establishing the process for New Starts projects.

Policy direction for this effort comes from both the City of Eugene's Council and the LTD Board of Directors. The impetus for this direction stems from the recent cancellation of a major highway investment planned for West Eugene. The City of Eugene has asked LTD to assess the role that EmX service might play as part of a broader strategy to address transportation needs in the area of West Eugene.

The canceled highway project had been in development for over 20 years, was routed through wetland area, and was highly controversial. Today, the existing corridor has been identified as one of the region's congested corridors in the metropolitan planning organization's (MPO's) congestion management plan. This is due in large part because of development that has been allowed to occur assuming the canceled project would be built. The area remains an important economic growth area for the City, as well as an important environmental area for the region. A diverse group of stakeholders, including environmental, business, and neighborhood concerns, has taken a strong interest in how the local public agencies proceed in addressing this issue.

Within the context described above, City and LTD decision-makers have a heightened need for a strong assessment of options based on a solid foundation of data. The following sections of this grant application provide detail on LTD's need to augment the technical work underlying its Alternatives Analysis for this corridor.

II. General Alternatives Analysis

This grant will fund work that is generally associated with a corridor Alternatives Analysis. This work, which will lead to the selection of a Locally Preferred Alternative, includes the following:

- Development of a clear problem statement that is based on the identification of issues in the corridor and an understanding of their underlying causes
- Establishment of project goals and objectives
- Development of evaluation criteria
- Identification of conceptual alternatives that address the stated problem
- Evaluation of alignment alternatives and design options
- Screening of alternatives
- Detailed studies on remaining alternatives
- Selection of a Locally Preferred Alternative
- Public involvement throughout the process

III. Technical Analysis Needs

Given the controversy, extensive and diverse interests, and complexity surrounding transportation issues in West Eugene, policy makers from both the City of Eugene and Lane Transit District need a relevant and robust assessment of a broad range of transportation solutions as they deliberate on possible public investment decisions. A robust assessment is one based on the development of a broad range of transit alternatives, a comprehensive set of evaluation criteria that capture the concerns and priorities of the diverse stakeholders involved, a model built on current data covering an extensive set of evaluation factors, and the capacity to work through an iterative process of alternatives refinement. Specific technical work elements that would be included on LTD's Alternatives Analysis for this corridor include the following:

- Model validation
- Determination of bus travel time variability in mixed traffic
- An estimate of the highway system user benefits of transit alternatives
- The estimation of the full costs and benefits of proposed transit investments

The following paragraphs provide detail on how those tasks would be carried out.

a) Conduct Model Validation (collect and analyze transit ridership data)

1. LTD does not have a recent comprehensive origin-destination (O&D) survey of transit riders. One work element of this grant request would be to conduct an on-board ridership survey. Completion of the survey would facilitate additional model validation tasks to be completed under this grant request as described below.
2. Process results of O&D survey.
 - a. Geocode results of O&D survey trip ends.
 - b. Develop weekday expanded transit passenger linked trip matrices for each trip purpose.
 - c. Establish correlations with 2004 Base Year model weekday transit demand estimates:
 - i. Trip totals by purpose
 - ii. District-level origins and destinations
 - iii. District-to-district trip interchanges
3. Identify districts and interchanges where model estimates do not meet validation criteria. Identify likely sources of model error and potential revisions to improve demand model calibration.
4. Compile observed transit passenger boardings and alightings by stop/station and time period from automated passenger count (APC) data. Aggregate stop/station data to route segments for average weekday, and for a.m. peak and p.m. peak time periods. Establish correlation with model transit assignment estimates:
 - a. Boardings by route
 - b. Boardings by corridor
 - c. Passenger volumes by corridor segment
5. Identify network validation problems and potential revisions to modeled transit route network, transit walk and drive access networks, and transit assignment parameters to improve network calibration.

b) Determine Bus Travel Time Variability in Mixed-Traffic Operations

While LTD has had an automated vehicle location (AVL) system in place since 2005, it has not had the resources to comprehensively assess running time issues at a

regional level in a manner that allows the data to be useful for regional travel demand forecasting. To do this requires that the running time data from the AVL system be correlated with regional traffic volume/congestion data. Congestion has continued to erode route running times, which has forced LTD to add time to certain trips in order to maintain their on-line reliability. The following tasks are intended to address this issue:

1. Compile AVL transit travel time data for regional analysis.
2. Establish corridor sampling frame. Use traffic count data and model estimates to identify and classify congested corridors and time periods. Develop data sampling strategy to obtain both time point (schedule adherence) data and running time within sampled corridors and time periods. (Running time will be obtained from last-stop-departure zone to next-stop-arrival zone, excluding time spent in stop zones.)
3. Analyze travel time variability by corridor type.
4. Validate travel model transit time functions. Utilize 2003 corridor “floating car” travel time studies from ITS Implementation Plan to estimate average congested speeds. Compare average transit speeds with “floating car” speeds.

c) Estimate Highway System User Benefits of Transit Alternatives

In the context of the elevated interest of diverse stakeholders, the decision-making process being developed for the West Eugene corridor study needs to incorporate criteria that support multiple objectives. An important area of measure in this process is the extent to which alternative transit investments provide benefit to highway users. The capacity of regional demand forecast models to produce reliable estimates of highway user benefits stemming from transit investments has been an issue that has been the subject of research and discussion both locally and nationally. Results of this research and discussion indicate that there may be extensive recalibration of the model sets and other significant model adjustments.

LTD will be working with the MPO (Lane Council of Governments) to develop a work program for this task. It is anticipated that development of this work program would need assistance from FTA. Development of a microsimulation of the corridor is being pursued as part of the joint study effort between LTD and the City of Eugene. This may provide key output that could contribute to a reliable estimate of highway user benefits (average auto travel times under alternative transit operating regimes).

IV. Proposal Summary

a) Demonstrated Need for Grant

The West 11th corridor in Eugene represents a substantial transportation problem for the Eugene-Springfield region. The combination of a loss of a major highway investment, the strong growth along the corridor, and the controversy surrounding previous transportation investment decisions have produced the need for a robust decision-making process. Currently, LTD lacks a recent survey of transit riders, and useful information correlating transit route running times and road network

congestion. LTD also has a need to develop a full range of costs and benefits to support the decision-making process.

b) Potential Impact of Grant on Decision Making

The tasks identified in Section III of this application are intended to support what is expected to be a controversial decision-making process. This narrative has articulated a number of factors which underscore the need for a more extensive analytical process. Funding of these tasks allows the technical analysis for the process to move well beyond what would otherwise be undertaken given budgetary constraints.

c) Capacity of LTD to Carry Out Proposed Work Successfully

Both LTD and the MPO have a long history of taking an integrated approach to their long-range planning efforts, including consideration of land use strategies and the use of multimodal strategies to address future transportation needs of the region. The agency's staffs have worked together over the last 20 years on a variety of efforts including route reviews, performance measurement, and regional plan development. Most notably, the two agencies worked together to develop the BRT concept being implemented in the region.

Over this time, LTD has used LCOG's extensive regional data base and GIS as well as its considerable modeling experience to complete these projects. Most recently, LTD employed LCOG to conduct analysis of the Pioneer Parkway EmX line using SUMMIT as part of its New Starts Application.

V. Line Item Budget

	Federal	Local	Total
Alternatives Analysis Activities	\$500,000	\$125,000	\$ 625,000
Technical Studies	<u>300,000</u>	<u>75,000</u>	<u>375,000</u>
Total	\$800,000	\$200,000	\$1,000,000