



Amendment Number:	2009-19
Reviewed by USDOT:	
TPC Approved:	2/26/09
Public Comment began:	
Public Comment complete:	
MPC Approved /Informed:	3/12/09
Sent to ODOT/STIP Coord:	
STIP Amendment #:	

AMENDMENT
FY08-11 Metropolitan Transportation Improvement Program (MTIP)

DATE OF REQUEST: 2/26/2009 **BY AGENCY, PERSON:** LCOG, Andrea Riner
ODOT KEY NUMBER: TBD **RTP NUMBER/POLICY:** Goal 1 and multiple policies
PROJECT NAME: Regional Transportation-Land Use Modeling System

PROJECT SUMMARY: *Develop and implement a state-of-the-art land use and transportation modeling system to assist regional transportation planning within the Central Lane area..*

ACTION REQUESTED:

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

REASON FOR REQUEST:

The current land use and travel demand modeling suite at LCOG is old and cumbersome to use. Software tools, database systems, mapping applications and land use models have advanced over the past few years and are now at a point where they can be transitioned for use in addressing real-world problems.. Questions being asked of integrated landuse-transportation models are more sophisticated and complex than ever before. Funds from the ARRA will enable LCOG to begin and develop substantial components of a regional transportation-landuse modeling system.

IS THIS REQUEST AN ADMINISTRATIVE AMENDMENT?

(Any amendment that impacts fiscal constraint or air quality conformity must be approved by MPC)

- Yes *SPECIFY REASON:* No (requires MPC adoption)

FISCAL CONSTRAINT

Is this project federally funded? Yes No
Changes in funding sources: Federal: *ARRA_C230*
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- 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:

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

**REQUEST FOR USE OF AMERICAN RECOVERY AND REINVESTMENT ACT
(ARRA) FUNDS**

Project Name: Regional Transportation-Land Use Modeling System

Cost: \$500,000

Agency: Central Lane MPO/Lane Council of Governments

Type of Project: Planning

Estimated Jobs: 5-6, over approximately two years

Description:

This project will develop and implement a state-of-the-art land use and transportation modeling system to assist local and regional transportation planning within the Central Lane area.

In a complex urban environment with multiple layers of governmental policies and various urban and rural spatial patterns, it is difficult, if not impossible, to anticipate the effects of alternative courses of action without some form of computer-assisted analysis and simulation. Such models are most appropriately used for *comparing* alternative scenarios as opposed to prediction of *absolute* numbers. While any model is a simplification of reality, this project will implement a sophisticated set of computational processes that explicitly account for land, structures (houses and commercial buildings), and occupants (households and businesses). It will simulate the key decisions and choices impacting urban development; in particular mobility and location choices for households and businesses and the development choices of developers. It will include the interaction of demand in the land market (including locational preferences of businesses and households) and supply (vacant space, new construction, redevelopment), recognizing price signals.

The modeling system developed in this project will replace the set of existing tools that have served the region for over a decade, but that are now too simplistic in light of the complex questions being posed, are cumbersome to use, and require a large amount of staff resources to maintain and exercise. Software tools, database systems, mapping applications and land use models have advanced over the past few years and are now at a point where they can be transitioned for use in addressing real-world problems.

The major component of this project is the land use element of the modeling system that will be supported by databases and utility software that provide data flow to and from the travel demand element. Adequate reporting and mapping utilities are also an important part of the system. The framework will include an interface to the existing regional travel model of the Central Lane Metropolitan Planning Organization and will ensure that future upgrades to the travel model are easily incorporated.

Multiple software and data components will be integrated into a system framework that will support long range analysis and forecasting of land use, transportation and environmental planning. **The objective is to implement a tool that will inform and facilitate discussion and decision-making concerning the impact of public choices that have long-term, significant effects on the development and character of the region.**

This project is very well-timed. It will coincide with the MPO's development of new data on household travel choices through the Oregon Household Activity Survey. It also coincides with the initiation of a multi-year effort to update the region's travel demand model following advances that are being made at Portland Metro and Portland State University and at ODOT concerning development of activity-based travel models.

The project will use private contractors as well as public agency staff, and is also expected to employ University graduate students during certain phases. Some data sets may have to be purchased to augment the current regional data collections.

The first phase will select the prime contractor to assist LCOG in the implementation of the major software components. The land use model will be selected from a small set of such models that have been implemented in other MPOs, that have been utilized in regional transportation planning activities, that are fully documented, and that have a long-range plan for maintenance and update. The second phase will include assessment of the data needs and the subsequent data collection and quality control to build the required databases. The third phase will implement the land use model and perform calibration and validation to ensure that the model represents the dynamic processes within the Central Lane region. The associated reporting, mapping (via GIS utilities and scripts) and interface utilities (to data bases as well as the travel model) will also be designed, documented and implemented, concurrent with the land use model implementation. The final phase will exercise the model system on several scenarios as defined by local city staff. Staff training and documentation will be ongoing activities throughout the project.

This modeling system will be invaluable in providing analysis for a number of critical planning tasks, such as:

- Predicting the effects on land use patterns of various policy alternatives including investments in roads and transit infrastructure and of roadway or transit pricing, over long-range forecasting horizons.
- Incorporating the effect of land prices and economic conditions on future land use patterns.
- Predicting the possible effects of changes in demographics and composition of the area population on land use.
- Exploring the effects of various environmental policies on development patterns.
- Predicting the effects on land use patterns of changes in development policies such as changes in comprehensive plan designations and urban growth boundaries.

The work would be initiated immediately and is anticipated to be accomplished by September 30, 2011.

Product:

Computer model system that incorporates a modern, state-of-the-art land use model, integrated with the existing travel demand model to analyze and forecast future land use patterns. Reporting will include performance measures as defined by consultation with local agency staff.