

BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF APPROVING AN) RESOLUTION NO. 92-1670
AMENDMENT TO THE 1993 UNIFIED WORK)
PROGRAM TO PROVIDE FOR TRANSPORTATION) Introduced by
AND LAND USE MODELING IMPROVEMENTS) Councilor Richard Devlin

WHEREAS, The Metropolitan Service District approved
Resolution No. 92-1575, which approved the Fiscal Year 1993
Unified Work Program; and

WHEREAS, The Metropolitan Service District approved the FY
1991-1992 Budget which provided for Region 2040, Phase I and also
approved Resolution No. 91-1530, which provided for a work pro-
gram for Region 2040, Phase I; and

WHEREAS, The Region 2040 work plan anticipated modeling only
one Region 2040 concept; and

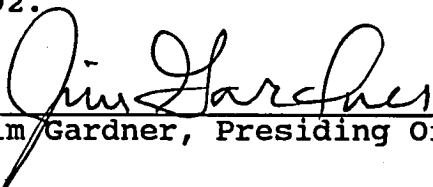
WHEREAS, It is the conclusion of TPAC and JPACT that model-
ing three Region 2040 concepts, instead of the original work task
to model only a "Reference Case," would substantially and mater-
ially improve the understanding of regional growth alternatives
and the differences between them; and

WHEREAS, The amendment of the Unified Work Program and the
completion of the proposed scope of work would allow for improved
modeling capability; now, therefore

BE IT RESOLVED,

That the FY 1993 Unified Work Plan is amended as indicated
on Attachment "A."

ADOPTED by the Council of the Metropolitan Service District
this 24th day of September, 1992.


Jim Gardner, Presiding Officer

STAFF REPORT

CONSIDERATION OF RESOLUTION NO. 92-1670 FOR THE PURPOSE OF APPROVING AN AMENDMENT TO THE 1993 UNIFIED WORK PROGRAM TO PROVIDE FOR TRANSPORTATION AND LAND USE MODELING IMPROVEMENTS

September 3, 1992

By: Andrew Cotugno
Keith Lawton

BACKGROUND

The Region 2040 project has developed three regional growth concepts. Concept "A" accommodates expected regional growth by assuming that existing policies will remain largely unchanged. It assumes that growth will occur within the constraints of existing comprehensive plans and that growth that cannot be provided for within the current Urban Growth Boundary will occur outside the UGB in patterns similar to current development patterns. It is a "base case" or "reference alternative" which provides a point of departure for other growth concepts.

Metro Technical Services staff have been preparing to computer model this concept and have developed and refined many aspects of both the transportation model and the spatial interaction model through LUTRAQ project assistance.

However, given the effort, time and cost required for this modeling effort, it was concluded in the initial Region 2040 Phase I scope of work that only this one concept would be modeled.

It is clear that if specific model problems can be resolved, there are several advantages to modeling the three concepts. First, by modeling three concepts, the concepts could be more rigorously shaped to better ensure that if a concept were ultimately adopted as Metro's preferred concept, it would have been tested for its ability to function. In addition, modeling would help ensure that consistency among concepts was probable.

One of the major obstacles to modeling more than one concept is the amount of time required for computer runs. With the improvements that would be developed in this project, run times would be greatly reduced and the sensitivity of existing models would be much better understood. From this, Metro will learn the threshold of sensitivity of the models, therefore, when they are appropriate to run. In addition, speed increases will allow many more technical reviews and answers to "what if" queries that will become major questions raised by the Region 2040 effort.

The Federal Highway Administration has indicated interest in funding this modeling effort as a means to test hypotheses they have about the level of modeling needed nationally to comply with land use aspects of the 1991 Intermodel Surface Transportation

Efficiency Act (ISTEA). Sufficient funding of modeling is likely to be available from this source. Only very recently did Metro staff learn that the funding source for this prospective grant is available. However, it is available only until the end of the federal fiscal year, September 30. Accordingly, favorable action on this amendment is necessary if funding is to be secured.

TPAC has reviewed this UWP amendment and recommends approval of Resolution No. 92-1670.

EXECUTIVE OFFICER'S RECOMMENDATION

The Executive Officer recommends approval of Resolution 92-1670, approving an amendment to the FY 1993 Unified Work Program, as indicated on Attachment "A."

Attachment "A"

Transportation and Land Use Modeling for Three Region 2040 Concepts

Scope of Work

Introduction

The following description outlines the scope of work for a research project on equilibrium properties in the travel projection process. The research will be conducted by the Metropolitan Service District, Portland, Oregon (Metro), with the cooperation of the Oregon Department of Transportation and the Federal Highway Administration.

The purpose of this grant is to: 1) develop and make operational the set of integrated transportation and land use projection models at Metro and, 2) test the sensitivity of the combined process to various levels of feedback and degrees of equilibrium. The information and reports generated are for national distribution and need to consider issues generic to most transportation models as well as local concerns.

The major local application at this time will be to improve Region 2040 growth concepts by increasing the number of computer generated scenarios, providing answers to more of the expected "what if" questions than would otherwise be possible. This analysis is needed prior to the commencement of Phase II of the Region 2040 project.

Task 1 described below will be completed by Metro, ODOT and FHWA staff. Task 2 will be completed by contractors, in conjunction with Metro staff. Tasks 3 and 4 will be completed by contractors exclusively.

Tasks

Task 1 Scoping - This task will provide a detailed scope of work for carrying out this project, including a schedule for completion of all tasks and subtasks. The issues to be addressed will be identified in detail and will include, but not be limited to: 1) feedback between assignment and mode choice; 2) assignment and distribution; and 3) assignment and land use. Types of testing to be done will be identified such as highly constrained and unconstrained networks. The scope of work will also include cost estimates and the level of effort needed for each task. Approximately \$15,000 has been allocated for this task.

Task 2 Existing Model Improvements - This task will include the development of a tightly integrated procedure which links Metro's transportation network model (EMME/2) with its spatial interaction model (DRAM/EMPAL). The objective will be to reconcile different zone/scale requirements of each process and to create enough speed for practical sensitivity analysis.

Task 3 New Procedure Development/Computer Runs - Task 3 will develop test objectives, procedures, and evaluation measures for model tests identified in task 1. Measures will include changes in at least the following: VMT, VHT, PMT and PHT. Model test runs will also be completed within this task.

Task 4 Draft Report - A draft report will be included within this task. Copies of the draft report will be provided to FHWA, ODOT and Metro. This task schedule will include adequate time for responses to the draft.

Task 5 Final Report - This task will include responding to comments about the draft report and completing and delivering the final report.

Proposed UWP Amendment

TRANSPORTATION AND LAND USE
MODELING IMPROVEMENTS FOR REGION 2040 CONCEPTS

PROGRAM DESCRIPTION

This project will provide speed improvements to the transportation model (EMME/2) and its links to the spatial interaction model (DRAM-EMPAL), as well as providing insight to the sensitivity of the combined models. The major local application at this time will be to improve Region 2040 growth concepts by increasing the number of computer-generated scenarios and providing answers to more of the expected "what if" questions than would otherwise be possible. This analysis is needed prior to the commencement of Phase II of the Region 2040 project.

RELATION TO PREVIOUS WORK

Work Program Prior to FY 92-93. Improvements to the transportation model have been made almost continuously for many years. This year's UWP includes travel model refinement -- but not to the extent of this project.

OBJECTIVES

Work Program for FY 92-93. The purpose of this project is to: 1) develop and make operational the set of integrated transportation and land use projection models at Metro; and 2) test the sensitivity of the combined process to various levels of feedback and degrees of equilibrium. The information and reports generated are for national distribution and need to consider generic issues as well as local concerns.

Anticipated Work Program after FY 92-93. None at this time, although system improvements will continue to be used.

PRODUCTS AND TARGETS

- Task 1 Scoping - October 1992
- Task 2 Existing Model Improvements - November 1992
- Task 3 New Procedure Development/Computer Runs - November 1992
- Task 4 Draft Report - December 1992
- Task 5 Final Report - January 1992

EXPENDITURE ALLOCATION

Personal Services:	\$ 45,000
(FTE 1.0)	
Materials & Services:	\$175,000
Computer (M&S):	\$ 2,750
Capital Outlay	\$ 2,250
Transfers	\$ 0
Contingency	\$ 0
TOTAL	\$225,000

REVENUES

FHWA:	<u>\$225,000</u>
TOTAL:	\$225,000

TRANSPORTATION AND PLANNING COMMITTEE REPORT

CONSIDERATION OF RESOLUTION NO. 92-1670, APPROVING AN AMENDMENT TO THE UNIFIED WORK PROGRAM TO PROVIDE FOR TRANSPORTATION AND LAND USE MODELING IMPROVEMENTS

Date: September 24, 1992

Presented by: Councilor McLain

Committee Recommendation: At the September 22 meeting, the Transportation and Planning Committee voted unanimously to recommend Council adoption of Resolution No. 92-1670. Voting in favor: Councilors Devlin, McLain, Buchanan, and Washington.

Committee Issues/Discussion: Keith Lawton, Technical Manager, presented the staff report. He said the resolution was before the committee because it takes an amendment to the Unified Work Program to allow expenditure of federal funds. The department recently became aware of some discretionary Federal Highway Administration (FHA) funding that may be available for the Region 2040 Project, if expended before the end of the federal fiscal year - September 30, 1992. The Transportation Policy Alternatives Committee (TPAC) and the Joint Policy Advisory Committee on Transportation (JPACT) have both approved the resolution.

The proposal would allow the department to streamline the linkage between for interactive modeling between the land use forecasting model and the transportation forecasting model. They have already done a lot of work with LUTRAQ. This funding will allow the software to be put together more effectively so that alternatives can be run much faster, particularly for the Region 2040 Project. It will also allow testing for consistency with the economic base looked at in the land use forecasting model.

Improving the model will be completed near Christmas. Testing of alternatives A, B, and C for the Region 2040 Project will follow.

Councilor McLain noted funds were being made available due to federal interest in the project. She interprets this interest to be a "pat on the back" encouraging the Council in the direction they have chosen.