BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF APPROVING AN AMENDMENT TO THE SOUTH/NORTH DRAFT ENVIRONMENTAL IMPACT STATEMENT CONSULTANT SERVICES CONTRACT WITH PARAMETRIX INCORPORATED, NO. 904021, TO INCORPORATE ANALYSIS OF ADOPTED COST-CUTTING MEASURES	RESOLUTION NO. 97-2527 Introduced by Mike Burton, Executive Officer

WHEREAS, In April 1993, the Metro Council adopted Resolution No. 93-1784 which selected the Milwaukie Corridor and the I-5 Corridor as the region's high-capacity transit priority for study and combined them into the South/North Transit Corridor to be studied further within a federal Draft Environmental Impact Statement; and

WHEREAS, In October 1993, the Federal Transit Administration issued notification of intent in the *Federal Register* to publish a South/North Environmental Impact Statement; and

WHEREAS, In March 1995 the Metro Council adopted Resolution No. 95-2101 which authorized the release of a request for proposals and an execution of a contract for consultant services to prepare environmental analysis and documentation for the South/North Transit Corridor Study; and

WHEREAS, A consultant team led by Parametrix Incorporated was selected through a competitive bidding process for the provision of consultant services to prepare environmental analysis and documentation for the South/North Transit Corridor Study and the Metro Executive Officer executed consultant Contract No. 904021 in January 1996 with Parametrix Incorporated for the provision of consultant services for the South/North Draft Environmental Impact Statement with a budget not to exceed

$1.5 million; and

WHEREAS, In November 1996, Ballot Measure 32, which would have provided $375 million in State of Oregon Funds for the South/North Light Rail Project, failed in a state-wide vote; and

WHEREAS, In December 1996, the Metro Council endorsed the South/North Steering Committee's findings that there remains a strong base of regional support for the South/North Light Rail Project and the Metro Council endorsed the committee's plan to undertake a process intended to significantly reduce costs for the South/North Light Rail Project; and

WHEREAS, In May 1997, following extensive technical analysis and public comment on the proposed cost-cutting measures, the Metro Council adopted Resolution No. 97-2505A for the purpose of adopting cost-cutting amendments to the South/North light rail alternatives and design options to be studied further in the Draft Environmental Impact Statement; and

WHEREAS, The cost-cutting alternatives approved by the Metro Council were not included within the original scope of work and budget for the South/North Draft Environmental Impact Statement consultant services Contract No. 904021; and

WHEREAS, Parametrix Incorporated is uniquely qualified to perform the consultant service required to prepare the environmental impact analysis associated with the amended South/North light rail alternatives and to incorporate that analysis into the South/North Draft Environmental Impact Statement; and

WHEREAS, Current funding for the South/North Transit Corridor Study Environmental Impact Statement and Preliminary Engineering of approximately $24.7 million has adequate funds available for an amendment to the South/North Draft Environmental

Impact Statement consultant services contract to evaluate the cost-cutting amendments to South/North light rail alternatives; now, therefore,

BE IT RESOLVED:

That Metro's Executive Officer is authorized to execute an amendment for $310,000 to Contract No. 904021 with Parametrix Incorporated to incorporate a revision to the contract's scope of work substantially similar to Exhibit A, resulting in an amended not-to-exceed budget of approximately $1,810,00.

ADOPTED by the Metro Council on this 26th day of June, 1997.

Jon Kvistad, Presiding Officer

Approved as to Form:

Daniel B. Cooper, General Counsel

LS:lmk
97-2527.RES
6-6-97

CHANGE ORDER NO. 1
METRO CONTRACT NO. 904021

MODIFICATION TO A PERSONAL SERVICES AGREEMENT
FOR THE SOUTH/NORTH DRAFT ENVIRONMENTAL IMPACT STATEMENT

This Agreement hereby amends the above-titled contract (the "Original Agreement") between Metro, a metropolitan service district organized under the laws of the State of Oregon and the 1992 Metro Charter ("Metro"), and Parametrix Inc. ("Contractor").

A. Purpose. The purpose of this Change Order is to replace certain terms and conditions contained in the Original Agreement, as set forth herein.

B. Terms of Change Order.

1. Section 1, Duration is hereby amended to read as follows:

> The term of the Agreement shall commence on January 15, 1996 and terminate on June 30, 1998 unless terminated earlier under the provision of the Agreement

2. Section 2, Scope of Work, of the Original Agreement is hereby amended to read as follows:

> Contractor shall provide all services and materials specified in the Revised Scope of Work for DEIS, attached hereto as Exhibit A and incorporated by this reference as if set forth in full.

3. Section 3, Payment, is hereby amended to read as follows:

> The total amount of this contract shall not exceed ONE MILLION EIGHT HUNDRED TEN THOUSAND AND 00/100THS DOLLARS ($1,810,000.00)
>
> The Expenditure Budget, attached hereto as Exhibit B and incorporated by this reference as if set forth in full, states the amounts Contractor shall be reimbursed for its work under the Revised Scope of Work for DEIS.
>
> Metro shall pay Contractor for services performed and materials delivered in the amount(s), manner and at the time(s) specified in

the Scope of Work and Revised Scope of Work for DEIS for a maximum sum not to exceed ONE MILLION EIGHT HUNDRED TEN THOUSAND AND 00/100THS DOLLARS ($1,810,000.00). Upon acceptance of work completed, Metro will approve payment of the invoices for amount invoiced less ten percent (10%) retainage. Final payment of retainage will be paid upon full satisfactory completion of contract terms. Completion of products for each task is required for final reimbursement for that task.

C. Effect of Amendments. Except as modified or superseded herein, all other terms and conditions of the Original Agreement and all previous change orders shall remain in full force and effect.

METRO	PARAMETRIX
_____	_____
By: _____	By: _____
Title: _____	Title: _____
Date: _____	Date: _____

EXHIBIT A

South North Transit Corridor Study
Revised Scope of Work
for DEIS Consultant Contract

Table of Contents

1. Introduction

Metro is amending the scope and budget for to the South/North DEIS contract with Parametrix, Inc. in response to the changes proposed to the project "Definition of Alternatives." These changes have been necessitated by the failure of Ballot Measure 32 in November 1997, and the subsequent "Cost-Cutting Process" that was initiated by the region. Following are the descriptions of the changes to the *Consultant DEIS Scope of Work* that are proposed in response to the proposed changes in the "Definition of Alternatives" that are intended to be evaluated in the DEIS.

It is the intent of this amendment to be an addition to the existing "Scope of Work" to the contract between Metro and Parametrix. Work defined in the previous scope of work is not amended except as specifically stated herein or through separate mutually agreed upon amendments to the contract.

2. Changes to the "Definition of Alternatives"

In response to the Cost-Cutting Effort that has been undertaken, the Steering Committee has recommended changes in the list of alternatives that are to be evaluated in the DEIS. These changes are described in the *Briefing Document: Recommended Cost-Cutting Measures, Steering Committee, April 23, 1887.* Those recommendations will be considered by the Metro Council with adoption of the Cost-Cutting Measures Final Report Metro Council, scheduled for May 22, 1997.

3. Individual Task Descriptions

The following sections are individual descriptions of the proposed changes to the consultant scope of work. For each task the previous work has been summarized, new work has been, issues related to completion of the tasks are discussed, and the budget for each task has been defined. The general outline for the description of additional work on each task is outlined below:

x.1 Status of previous work.
- Summary -
- Chapter 1 Introduction -
- Chapter 2 Methods -
- Chapter 3 Agency Coordination and Involvement -
- Chapter 4 Affected Environment -
- Chapter 5 Environmental Consequences -
- Chapter 6 Mitigation -
- References -
- Appendices -
- P&R/O&M Facility Study -

x.2 New (or additional) work required due to cost-cutting.
x.3 Issues related to completion of the task.

3.1 Land Use and Economic Impacts Results Report

3.1.1 Status of previous work.

Summary - No work has been done.

Chapter 1 Introduction - Provided by Metro

Chapter 2 Methods - Needs editing related to tense and actual evaluation (included in original scope). Metro will provide a copy for review and revisions if necessary.

Chapter 3 Agency Coordination and Involvement - Rough draft of this section has been prepared by Metro. Metro will provide a copy for review and revisions if necessary.

Chapter 4 Affected Environment - Data compilation by station area/alternative by Metro was about 75% complete (except for Clark County), but needs revisions to reflect the new alternatives and MOS. Analysis of data by consultant was limited, about 20% complete. Documentation and analysis included preparation of a prototypical section to be used for each segment. A draft of the policy analysis section had been prepared, comments from the Metro task manager were provided, but not yet incorporated.

Chapter 5 Environmental Consequences - Data compilation was about 75% complete. Adjustment to some data and data compilation for Clark County were remaining. A draft of two prototypical sections for analysis of each segment was drafted, comments are due from the Metro Task Manager. Analysis of land use and economics impacts was to follow completion of Chapter 4, and therefore had very little completed.

Chapter 6 Mitigation - No work has been done.

References - Initial work had begun, and is approx. 10% complete.

Appendices - No appendices are anticipated. We may choose to include or reference the North Portland Economic Analysis.

P&R/O&M facility study - Initial work had begun, but will change due to new alternatives.

3.1.2 New (or additional) work required due to cost-cutting.

There are several areas, particularly in the southern portion of the corridor that have been changed. The changes affect some of the segment breaks, alignment alternatives, design options and station locations. New data for new or revised station locations, design options, alternative alignments, segment breaks and MOS's will be generated by Metro for the consultant. Revisions to previous consultant work will be limited, due to the relatively small amount of work that had

been done with the completed data.

3.1.3 Issues related to completion of the task

New data and maps must be compiled by Metro for the new station areas and alternatives. New data and maps for Existing Land Use, Planned Land Use and Vacant and Redevelopable Lands will be compiled by Metro.

3.2 Social and Neighborhoods Impacts Results Report

3.2.1 Status of previous work.

Summary - No work has been done.

Chapter 1 Introduction - Provided by Metro

Chapter 2 Methods - Original version complete, needs to be reviewed and may need minor editing. Metro will provide a copy for review and revisions if necessary.

Chapter 3 Agency Coordination and Involvement - Partially complete by Metro. Metro will provide a copy for review and revisions if necessary.

Chapter 4 Affected Environment - Needs some further editing, but has most data describing the affected neighborhoods except for the Lake Road Neighborhood in Milwaukie. This neighborhood will need to be added to the list of neighborhoods due to the addition of the Highway 224 Alignment Alternative.

Chapter 5 Environmental Consequences - A prototypical format for this section has been drafted and reviewed. Section 5.1 has no work done. Section 5.2 is approximately 30% complete based on prior alignment descriptions, impacts to mobility, community facilities and some displacements for neighborhoods from the south to downtown Portland. No text has been written for neighborhoods from the Steel Bridge north. Some minor revisions to the text that has been written will be required. The neighborhoods evaluation of traffic impacts, noise and vibration impacts, visual impacts will be done through coordination with the Metro task managers, rather than waiting until all the Results Reports are done. This should help to expedite the completion of this report.

Chapter 6 Mitigation - No work has been done.

References - No work has been completed.

Appendices - Memorandum to be prepared by Metro on Environmental Justice.

P&R/O&M facility study - Draft was completed, but needs amendments due to new alternatives.

3.2.2 New (or additional) work required due to cost-cutting.

Revise alignment descriptions related to the neighborhoods in chapters 4 and 5 (do not duplicate descriptions in chapter 1). Some sections where alignment deletions have occurred (i.e. Milwaukie CBD) will require that text be revised. Revisions to the environmental consequences section will be required to the previous work for: 1) Fuller Road area; 2) Highway 224 area; 3)

Railroad Avenue area; 4) Milwaukie CBD; 5) Caruthers crossing at the west bank; 6) PSU diagonal; and 7) Max connector.

3.2.3 Issues related to completion of the task.

Timing will be affected by getting the necessary data from the other tasks, such as traffic, noise, visual, displacement, parks etc. Schedule implications could put this task on the critical path.

3.3. Historic and Cultural Resources Results Report (Section 106)

3.3.1 Status of previous work.

Summary - A draft of the Summary has been prepared.

Chapter 1 Introduction - Provided by Metro

Chapter 2 Methods - A revised draft reflecting the completed analysis has been prepared. It may need minor editing.

Chapter 3 Agency Coordination and Involvement - Draft based on previous work has been completed. Editing related to the new alternatives will be done by Metro. Additional coordination will be conducted by Metro staff. This chapter will be modified as necessary by Metro staff.

Chapter 4 Affected Environment - Complete draft based on previous work has been completed. Revisions related to changes in segmentation and new alternatives will be completed by Metro. Also revisions to reflect the new archaeological data may be required.

Chapter 5 Environmental Consequences - Complete draft based on previous work has been completed. Revisions related to changes in segmentation and new alternatives will be completed by Metro.

Chapter 6 Mitigation - Complete draft based on previous work has been completed. Revisions related to changes in segmentation and new alternatives will be completed by Metro.

References - A complete draft has been prepared.

Appendices - The *Historic Context Statement* is 95% complete. The changes to the alternatives is not expected to require changes to the Historic Context Statement. The *Archaeological Resources Report* will require additional field work and documentation in two areas: 1) along 80th Avenue in the Clackamas Regional Center Segment; and 2) along Highway 224 in the East Milwaukie Segment.

P&R/O&M facility study - Complete draft based on previous work has been completed. Revisions related to changes in segmentation and new alternatives will be completed by Metro.

3.3.2 New (or additional) work required due to cost-cutting.

For the archaeological reconnaissance additional field work and documentation will be required in the area of 80th Avenue in the Clackamas Regional Center Segment and along Highway 224 in the East Milwaukie Segment.

Additional Historical research will be required to re-assess the potential eligibility of two structures in the Eliot Segment in the vicinity of Tubman Middle School, in light of the recent African American Historic Research. If, after initial reevaluation of these two resources and consultation with Metro and the SHPO, it is decided that either or both of the resources would be eligible for the National Register of Historic Places, then prepare Eligibility Forms.

3.3.3 Issues related to completion of the task.

Metro will reformat the existing inventory of historical and cultural resources on a segment by segment basis to incorporate the changes to the alternatives and segments. Modifications in the existing documentation are anticipated in the Clackamas Regional Center Segment, East Milwaukie Segment and the Downtown Portland Segment. Additionally, deletions will be made to the inventory list to remove historical and cultural resources associated with alignment alternatives that have been deleted from further analysis in the DEIS.

Metro staff will conduct a review of existing City, County and State inventories of cultural resources in the area of potential effect where new or revised alternatives are located. The existing local jurisdictional inventories of cultural and historical resources will be reviewed by Metro staff for the areas where new alternatives are located. In addition, a field inventory will be conducted to identify potentially eligible resources.

Plan and profile sheets will be used to identify potential impacts to newly identified cultural and/or historical resources. Metro staff will prepare preliminary evaluations of effect if any new resources are located. Metro staff will meet with the State Historic Preservation Office to review any new eligibility and impact evaluations.

Where alternatives have changed (such as along Railroad Avenue), Metro in cooperation with the Tri-Met engineers, will reassess the preliminary determinations of effect. If the effects have changed, Metro will revise the table documenting the Preliminary Determinations of Effect, following coordination with the SHPO.

Metro staff will evaluate relevant documents related to the Half Mall alternative to determine the potential affect of increased LRT frequency on the existing LRT alignment in Downtown Portland. This evaluation will be reviewed with the SHPO. Coordination with the SHPO will be primarily by Metro and by telephone with the consultant if necessary.

Upon completion of the revisions to the document by Metro, a copy will be forwarded to Kimberly Demuth for review.

3.4 Parklands Results Report - Preliminary Section 4(f) Evaluation

3.4.1 Status of previous work.

Summary - (generally no work has been completed on this section to date)

Chapter 1 Introduction - Provided by Metro.

Chapter 2 Methods - Needs editing related to tense and actual evaluation.

Chapter 3 Agency Coordination and Involvement - Draft completed, limited additional agency coordination may be required. If additional coordination is required, it will be handled by Metro.

Chapter 4 Affected Environment - Rough draft completed but does not contain historic element. This chapter, will require some reformatting to be consistent with the new segment breaks and new alternatives. The inclusion of Historic Resources was included in the original work scope, and has not yet been added to the draft.

Chapter 5 Environmental Consequences - Rough draft completed but does not contain historic element. This chapter, will require some reformatting to be consistent with the new segment breaks and new alternatives. The inclusion of Historic Resources was included in the original work scope.

P&R/O&M facility study - Draft completed, revisions due to new alternatives required.

3.4.2 New (or additional) work required due to cost-cutting.

Several 4(f) resources could be affected differently by the change in the alignment in the OIT/CCC/Clackamas Swim Center vicinity. Also, the changes to the Railroad Avenue alignment will alter the impacts previously described for the 4(f) resources along Railroad Avenue. No new parks resources are anticipated along the Highway 224 alignment in the East Milwaukie Segment. Changes in the types of impacts to Scott Park in the Milwaukie Regional Center Segment have previously been incorporated through the Main Street/SP Branch alignment budget/scope revision. Changes to the Caruthers River Crossing alternative (2 design options) on the west bank of the Willamette River could affect the Willamette River Greenway differently than previously analyzed.

3.4.3 Issues related to completion of the task.

Historic work is generally completed and should be included as soon as possible in the existing document.

3.5 Ecosystems Impacts Results Report

The ecosystem task entails the completion of four separate documents. The *Wetland Determination and Delineation Report*, The *Bald Eagle Draft Biological Assessment*, the *Fisheries Draft Biological Assessment*, and the *Ecosystem Result Report*.

3.5.1 Status of previous work.

Summary - (generally no work has been completed on this section to date)

Chapter 1 Introduction - Provided by Metro

Chapter 2 Methods, Chapter 3 Agency Coordination and Involvement, Chapter 4 Affected Environment, and *Chapter 5 Environmental Consequences* - Chapters two, three and four of the *Ecosystem Results Report* have been drafted. These chapters are about 50-60% complete. Chapters five (Impacts) and six (Mitigation) are reliant on Tri-Met producing Auto-Cad maps indicating the amount of wetland fill area. An early draft (20%) of the Chapter five has been completed.

Chapter 6 Mitigation - 20% complete, the actual write up has not been drafted.

References - No work done.

Appendices: the status of the appendices is as follows:

1. The *Wetland Determination and Delineation Report* has been completed and submitted to the Corps and DSL for review in November 1996. The project needs to follow up this report with a letter documenting the historical land uses near the Bybee Station on the McLoughlin section and uses near I-5 near Delta Park in the North Portland segment.

2. The *Eagle Draft Biological Assessment* will require minor changes and should be ready to submit to USFWS and ODFW. It is possible that these agencies may ask that changes be made to the report.

3. The *Fisheries Draft Biological Assessment* has been prepared and submitted to Metro. Metro and Tri-Met staff have comments that need to be incorporated. After completion of the report it will be submitted to the National Marine Fisheries Service (NMFS). The discussion with NMFS could likely result in changes to the draft.

P&R/O&M facility study - Field work has been done, write up has not been completed.

3.5.2 New (or additional) work required due to cost-cutting.

The consultant will be responsible for documenting ecosystem impacts based on changes to plan and profile drawings and operations. As a result of the addition of new alignments in the Clackamas Town Center, East Milwaukie and Milwaukie segments, new field reconnaissance will need to be completed. Wetlands will be identified in Hwy. 224 alternative.

The changes in the height of the Caruthers Bridge will not likely substantially modify the analysis for the rivers crossing. The number of the piers associated with the river crossing have not changed. No changes are anticipated to the *Fisheries Draft Biological Assessment.*

Additional field work will be required for the SE 80th alignment in the CTC segment and the Hwy. 224 alignment in the Railroad Avenue Segment. This will require updating the Ecosystem Results Report.

Wetland Delineation will be required for the Hwy. 224 alignment. This will require that the Wetland Delineation report and the Result Report be updated to incorporate any new wetlands.

No additional work is anticipated on the Bald Eagle BA.

No additional work is anticipated on the Fisheries BA as a result of cost cutting measures.

Below is discussion scope changes by project segment.

Clackamas Regional Center Segment - Additional field work may be required to examine the proposed alignment between the SE Harmony and SE Monterey along SE 80th Avenue. The LRT will cross Phillips Creek which is culverted in this area. Minor flagging of the creek will be required. The Price-Fuller alignment has been dropped. This should require minor changes to the Wetland Determination and Delineation Report. Any changes to the existing draft of the Ecosystems will be minor. ***Cost 8 hrs field work, 2 hrs analysis***

East Milwaukie Segment - The Hwy 224 design option will require examinations of a creek and wetlands located on the North side of 224. The alignment generally remains out of these areas however, some wetlands will likely require delineation and surveying. The Railroad Avenue design has been modified but the footprint of the project is generally smaller than previously assumed. As a result, no new field work should be required. Assessment of impacts of the new footprint will be required for the two new design options. The Wetland Determination and Delineation Report will require modification to include any Hwy. 224 wetlands. The Ecosystem Results Report will require modification to reflect changes in this segment. ***Cost 30 hrs field work, 10 hrs analysis, and surveying $2,000***

Milwaukie Regional Center Segment - No new field work will be required to characterize the affected environment for the Main St/Tillamook Branch design option. This field work should have been completed for the Maintenance and Operations study and the earlier versions of the Milwaukie Loop. Additional work may be necessary to determine the impact of the footprint

of the project on the affected environment. ***Cost 4 hrs analysis***

McLoughlin Boulevard Segment - No changes in this section.

South Willamette River Crossing Segment - No changes were made to the Ross Island Alternative. The lower level Caruthers bridge will not result in more piers in the river and therefore, should not require any additional work.

Downtown Portland Segment -Changes will not affect ecosystems.

Eliot Segment - Changes will not affect ecosystems .

North Portland Segment - Changes will not affect ecosystems.

Hayden Island/Vancouver Segment - No changes.

3.5.3 Issues related to completion of the task.

MOSs -- The deletion of MOS 2 and 3 and the addition of MOS 5 should add very little work. MOS 5 has not been discussed in the current draft of the Result Report. The impact of the MOS 5 compared to the full length alignment can be described in a couple of paragraphs. This work has not been completed on the existing Ecosystem Result Report, therefore this change should not impact cost. ***No Cost***

Wetland Delineation Report -- The report will be modified to reflect the addition, modifications and additions. Metro will make modifications to the document. Parametrix will create new field data sheets and provide the appropriate text for any new wetland sites that are investigated. Site numbers and wetland numbers should remain constant. Most of the changes include text changes and deletions ***Cost 16 hrs analysis***

Ecosystems Results Report -- The report will be modified to reflect the addition, modifications and additions. Because this Result Report is at 50-60% many portions have not been drafted yet and therefore changes will result in original text. ***Cost 20 hrs analysis***

Eagle BA -- No changes will be required as result of the changes in the project. Any changes will be the result of direction of USFWS or ODFW. ***No Cost***

Fisheries BA -- Few changes will be required to Section 4.1.3 Habitat Disturbance. This should amount to changing one table and portions of two paragraphs and coordination with Federal Agencies. ***No Cost***

3.6 Hydrology and Water Quality Impacts Results Report

3.6.1 Status of previous work.

Summary - (generally no work has been completed on these sections to date)

Chapter 1 Introduction - Provided by Metro (see attached draft)

Chapter 2 Methods - Needs editing related to tense and actual evaluation. 90% complete.

Chapter 3 Agency Coordination and Involvement - 90% complete

Chapter 4 Affected Environment - includes descriptions based on old alignment and segment breaks; 70% complete

Chapter 5 Environmental Consequences - includes impacts of old alignment alternatives and design options; 70% complete thoroughly

Chapter 6 Mitigation - 60% complete; does not have detailed descriptions of mitigation

References - 95% complete; needs to include reference to and analysis of Title 3 of Metro's Urban Growth Management Functional Plan

Appendices - Water Quality Appendix not complete

P&R/O&M facility study - Draft has been completed, revisions required to address cost-cutting issues.

3.6.2 New (or additional) work required due to cost-cutting.

In addition to the issues discussed below, the Results Report chapters need general review, editing and revising. Chapters 4, 5 and 6 need to be modified to reflect new alignment, design option and segment names. They also need to reflect new segment breaks, include MOS 5 and delete MOS 3 and MOS 4 references. Specific changes are listed by chapter below.

<u>Review final version of the Mount Scott/Kellogg Creek Master Plan</u>

This plan will be finalized in mid-June. The consultant has already reviewed and applied information from the draft report. Metro will forward the final report to the consultant for review.

Review Title 3 (Water Quality and Flood Management Conservation) of the Urban Growth Management Functional Plan

Title 3 includes water quality and flood management performance standards for cities and counties within the Metro Boundary. Title 3 will not take effect until a Metro model ordinance and related maps are adopted by the Metro Council (expected adoption in Fall 1997).

The consultant should review Title 3 language, Metro's draft model ordinance and Metro Boundary maps which reflect: a) the FEMA 100-year floodplain; b) areas which were inundated during the February 1996 flood event; and c) buffers which will be required for streams and wetlands. The FEMA standard will be applied in the analysis of impacts since Title 3 has not yet been adopted. However, the consultant should note areas potentially impacted by the project where: a) Title 3 will be more restrictive than FEMA or other applicable ordinances (e.g. wider buffers required near wetlands and streams); and b) flood hazard areas as shown on Title 3 maps are more extensive than reflected by FEMA.

Affected Environment

This chapter needs to be revised to include descriptions of areas in the vicinity of new and modified alignment alternatives including: the 79th Avenue/80th Avenue portion of alignments in the Clackamas Regional Center segment; the Highway 224 alignment in the East Milwaukie Segment; the new Caruthers Crossing design options in the South Willamette River Crossing segment; the downtown Half Transit Mall alignment and the Lombard terminus.

Environmental Consequences

This chapter needs to be modified to reflect the impacts of issues listed in section 3.6.1. In addition, text needs to be modified to reflect the new approach in presenting the operations and maintenance facility and North Milwaukie park-and-ride impacts (i.e. having a separate chapter on operations and maintenance facility impacts and addressing park-and-ride impacts in the Milwaukie Regional Center segment).

3.6.3 Issues related to completion of the task.

In the Clackamas Regional Center segment, the new alignment on SE 80th Avenue will cross Phillips Creek in a different location than previously studied. This will require a field visit and an examination of the plan and profile drawing for that location. Impacts will need to be documented, including appropriate mitigation if required. The footprint for the 82nd Avenue park-and-ride (same configuration for both North of CTC and South of CTC alignment alternatives) has changed and needs to be addressed in the Environmental Consequences chapter and, if necessary, the Mitigation chapter.

In the East Milwaukie segment, the new Highway 224 alignment may have different water

quality and hydrology impacts than Railroad Avenue (such as stormwater runoff and impacts on Mount Scott Creek). In addition, there would be a new creek crossing just east of the Freeman Way station. Impacts from runoff and construction of the creek crossing will need to be examined through a field visit and from plan and profile drawings. The Railroad Avenue alignment alternative has been modified, although the general location remains the same; there are now two alternatives, Railroad Avenue Through Traffic and Railroad Avenue Local Access. Potential impacts may change from what is currently documented in the Environmental Consequences chapter. Changes in the Linwood park-and-ride (two different configurations) and a new Highway 224 structured park-and-ride lot at Milwaukie Market Place will need to be assessed for construction and stormwater runoff impacts. Mount Scott Creek would no longer be straightened with the new Linwood park-and-ride configurations. Documentation will need to be added to the Affected Environment and Environmental Consequences chapters and appropriate mitigation will also need to be determined.

In the Milwaukie Regional Segment, the footprint for the Hanna and South of Ochoco park-and-rides with the Main Street/Tillamook Branch Line have changed from what was previously studied. The park-and-ride sizes are the same as what was previously studied, but their location and configuration has changed. A reassessment of hydrologic impacts will need to be performed. The Johnson Creek crossing in this segment has changed. The crossing will be higher than previously studied to stay out of the floodway. It is assumed that no piers will need to be in the creek, however, water quality and hydrology impacts may change from previous findings.

In the South Willamette River Crossing segment, a lower bridge design and different pier placement for the Caruthers Crossing alignment alternative and design options may change water quality and hydrology impacts. The Environmental Consequences and Mitigation sections will need to reflect this change in design and resulting impacts.

3.7 Visual Quality and Aesthetic Impacts Results Report (and Visual Simulations)

Two separate tasks are discussed in this section: 1) the visual quality and aesthetics analysis for the Results Report; and 2) the Visual Simulations.

3.7.1 Status of previous work.

Summary - (generally no work has been completed on this section to date)

Chapter 1 Introduction - Provided by Metro

Chapter 2 Methods - Needs editing related to tense and actual evaluation.

Chapter 3 Agency Coordination and Involvement - Draft complete, may need minor revisions

Chapter 4 Affected Environment - Revisions required due to segment break changes.

Chapter 5 Environmental Consequences - Revisions due to new alternatives.

Chapter 6 Mitigation - Revisions due to new alternatives.

References -

Appendices - Simulations (described below)

P&R/O&M facility study -

Visual Simulations - 32 of 50 simulations have been completed. New simulations are requested, refer to the list included in the following section.

3.7.2 New (or additional) work required due to cost-cutting.

Clackamas Regional Center Segment -

SE 82nd Avenue/ SE Monterey Ave. (at-grade crossing) The change in the design profile for this intersection should be evaluated for both the Causey and Southgate neighborhoods. The scale and visual impact on both neighborhoods may improve. Commercial development along SE 82nd Avenue would not be visually impacted as with the previous profile.

SE 80th Avenue Alignment (SE Monterey Ave. - SE Harmony Rd.) The new alignment for all north of CTC alternatives would run along SE 80th Avenue. The alignment (est. 200' west of SE 82nd Avenue) would separate commercial land uses on SE 82nd Avenue from the primarily

residential nature of the Southgate neighborhood. This alignment would add a regional transportation element into an existing local residential area. Impacts to Philips Creek may occur. The future redevelopment of the areas will be included in the analysis by the consultant.

East Milwaukie Segment -

Railroad Avenue (thru-traffic) Alternative This alternative would mirror the existing two lane configuration of SE Railroad in the Linwood, Hector-Campbell and Ardenwald neighborhoods.

Railroad Avenue (local access) Alternative This design option would have a minimal visual impact on the three neighborhood units. Some visual or aesthetic impacts may occur to resources resulting for cull-de-sac, loop roads or hammer head local road designs

Highway 224 Alternative The Oak Lodge neighborhood and residential developments south of Highway 224 could be affected by this alignment. The significance of any negative impact could be mitigated, to some degree, by the existing (and planned) multi-laned regional highway. West of SE 37th Avenue this alignment would require the removal of some residential dwellings and existing vegetation. Expanding the width of the regional transportation services (S/N LRT and Highway 224) could change the character of some existing views in the area.

Railroad Avenue Crossing of SE Harrison Street The new design for this intersection provides for a below grade crossing of both the SP mainline and SE Harrison Street. The earlier designs anticipated an above grade crossing of the railroad. By eliminating the planned structure in the Ardenwald neighborhood, the affects of introducing LRT would be reduced.

Milwaukie Regional Center Segment -

Main Street/Tillamook Branch Line This alignment was not completed by the time that Jones and Jones submitted their draft report, but the scope and budget for the analysis were included in a separate scope and budget revision. The potential affected of this alignment is significantly less that expected by earlier alternatives. Only commercial land uses are expected to be impacted. The existing berm for Highway 224 will reduce the visual impact of structure required to develop this alignment from the residential areas.

North Milwaukie Operation and Maintenance Facility There are several redesign issues associated with the Hanna, Ochoco and Tacoma sites that may have slightly different visual and aesthetic impacts for the Ardenwald neighborhood.

South Willamette River Crossing Segment -

Caruthers Crossing Alternative (bridge height) This river crossing has be identified by the consultant as the 'defining visual element' of the study. Reducing the height of the river crossing

has the potential for reduced overall visual impacts from the structure and of reducing the vista along the Willamette Greenway Trail.

Caruthers/Moody Design Option This design option should be evaluated for potentially affecting the aesthetic character of the RiverPlace development. It could add to the existing regional transportation elements (i.e. Marquam Bridge) into the local neighborhood character of the area.

Downtown Portland Segment -

Half Mall Alignment Alternative Connecting with SW Yamhill and Morrison Streets in downtown Portland would reduce the affected (northern portion) transit mall. It could further emphasize view and vista which are a part of the urban design of downtown Portland.
PSU Diagonal Design This design replaces the design at the south end of the Transit Mall, it has not been previously evaluated by the consultant.

Eliot Segment -

Rose Quarter (at-grade station) The consultant will evaluate the reduced scale of the Rose Quarter station.

North Portland Segment -

MOS -5 Terminus (Lombard station) For both alternatives (I-5 and Interstate Avenue) a terminus station has been defined in the vicinity of N. Lombard Street. The potential affects of this terminus could affect both the Kenton and Arbor Lodge neighborhoods. While no park-and-ride facilities are planned with either alignment alternative, increased bus and pedestrian traffic is anticipated.
Alberta Ramps Design Option This I-5 design option would reduce the residential displacements in the Overlook and Boise neighborhoods. The consultant will be asked to compare and contrast the affect of the two Alberta ramp design options.

Hayden Island/Vancouver Segment -

No design changes in this segment.

Draft List of Additional Visual Simulation

Following is a list of new and revised visual simulations related to the new alternatives:

List of Additional Visual Simulation

Clackamas Regional Center Segment

North OIT/CCC Design Option	Aquatic Center Station
South OIT/CCC Design Option	Aquatic Center Station

East Milwaukie Segment

Railroad Avenue Local Access Design Option	Hector Campbell School
Railroad Avenue Through Access Design Option	Hector Campbell School
Highway 224 Alignment Alternative	SE Oak St @ Milwaukie Market Place

Downtown Portland Segment

Half Mall Alignment Alternative	Pioneer Place Connection
Harrison Street	Harrison Street Station

South Willamette River Crossing Segment (revised simulations to reflected lower bridge height)

Brooklyn/Caruthers Crossing Alignment Alternative	OMSI Station @ Willamette River SW Terwilliger Blvd.

North Portland Segment

N. Interstate Avenue Alignment Alternative	Lombard Street Terminus
Interstate Highway 5 Alignment Alternative	Lombard Street Terminus
North Interstate Ave. Alignment Alternative	N. Portland Avenue (Elevated in median)

3.8 Local and Systemwide Traffic Impacts Results Report

The consultant and subcontractor are requested to revise the existing local and systemwide traffic analysis to reflect Recommended Cost-Cutting Measures for the South/North Corridor Transit Study.

3.8.1 Status of previous work.

Summary - (generally no work has been completed on this section to date)

Chapter 1 Introduction - Provided by Metro (see attached draft)

Chapter 2 Methods - Needs editing related to tense and actual evaluation.

Chapter 3 Agency Coordination and Involvement - Not complete - To be prepared by Metro

Chapter 4 Affected Environment - Requires reformatting to address MOS 5 termini at the Clackamas Town Center and in North Portland (N. Lombard Avenue). In addition potential traffic analysis for the Downtown Portland segment needs to be added.

Chapter 5 Environmental Consequences - Requires reformatting to address MOS 5 termini at the Clackamas Town Center and in North Portland (N. Lombard Avenue). In addition potential traffic analysis for the Downtown Portland segment needs to be added.

Chapter 6 Mitigation - Portions of this chapter have been submitted for review. The remainder of the Chapter is within the original scope of work.

It is suggested that the consultant provide generic discussion of potential mitigation measures for intersections projected to have a No-Build level-of-service of "F" in the design year. No-Build intersection congestion (level-of-service) should be noted in the consultant analysis, however no attempt should be made by the consultant to apportion the cost of potential mitigation measures between No-Build conditions and LRT design year congestion, however this should be identified as an outstanding issue.

References -

Appendices -

P&R/O&M facility study -

3.8.2 New (or additional) work required due to cost-cutting.

3.8.2.1 Additions

Traffic Count Locations
New Intersection Analysis Location
Clackamas Town Center Transit Center Terminus Rogue Parking
SE 80th Avenue Alignment Traffic Issues
Highway 224/Freeman Way Station Rogue Parking
Lombard Terminus Rogue Parking

New Special Studies and Circulation/Diversion
Close Railroad Avenue (Circulation/Diversion)
1st Avenue Train Frequency/Signal Pre-empts Impacts to Circulation
Close Alberta Ramps Design Option Impacts on Circulation/Diversion

Special Studies
New Freight Impact Assessment
Ross Quarter (at-grade) Study

3.8.2.2 Revisions

Linwood Station Access Study
North Milwaukie Park-and-Ride
North Macadam Analysis

3.8.2.3 Deletions

North of CRC (Price Fuller alignment alternative)
Milwaukie Regional Center (Monroe/SP and Monroe/Main alignment alternative)
Downtown Portland (South Mall to Harrison alignment alternative
MOS 3
MOS 4

3.8.3 Issues related to completion of the task.

3.8.3.1 Traffic Count Locations

New traffic counts will be required at several locations as result of the revised alternatives. The specific locations are listed in the table below. These counts should be completed prior to the end of May, 1997.

East Milwaukie

Hwy 224 @ Freeman Way	Monroe @ 42nd
Monroe @ Stanley	McLoughlin to Main
Monroe @ Home	Slip Ramp (hose ct.)

Downtown Portland

Yamhill @ 3rd	Morrison @ 1st
Yamhill @ 4th	Oak @ 1st
Morrison @ 2nd	Stark @ 1st
Morrison @ 3rd	Couch @ 1st
Morrison @ 4th	Everett @ 1st

Eliot

Interstate @ Multnomah	Holladay @ 1st
Holladay @ MLK	Holladay @ Grand Avenue

3.8.3.2 Intersection Analysis Locations

The following tables identify intersections which will be either screened or analyzed as part of the local traffic assessment for the cost-cutting alternative.

a. Intersections which we know we will need to analyze (marked with a solid bullet for each alternative which is relevant)
   - Existing traffic operations - 21 analyses
   - 2015 No-Build operations - 21 analyses
   - New Alternatives - 36 analyses
   - Park-and-ride lot entrances - 8 analyses (see below)

   Total number of analyses = 86 * 4 hours each @ $75/hour = **$25,800**

b. Screening of intersections (marked with a hollow bullet)
   - Assume 3/hour to prepare worksheets and analyze

   Total number of analyses = 100 @ 3/hour * $75/hour = **$2,500**

c. Allowance for additional full intersection analyses after screening
   - Assume analysis would be needed for 33 percent of the screened locations

Total number of analyses = 33 * 4 hours each @ $75/hour = **$9,900**

d. Park-and-ride lot entrance analyses - 8 locations including:
- With CTC terminus and both North and South alignments (2 locations)
- Lake Road P&R with Hwy 224 alignment (2 locations)
- Oak Street P&R with Hwy 224 alignment (2 locations)
- Milwaukie Marketplace with MOS 5 Seed (1 location)
- Milwaukie Marketplace with Railroad Avenue Local Access option (1 location)

South/North Transit Corridor Study - Low Cost Alternative
Summary of Intersections to be Analyzed/Screened

Intersection/Location	MOS 5 Seed	MOS 5 w/NCTC	MOS 5 w/ RR Local	MOS 5 w/ Hwy 224	MOS 5 w/ Caruthers/ Moody	MOS 5 w/Interstate	MOS 5 w/ Modified Alberta Ramps
Sunnyside Rd at:							
105th Avenue		o					
101st Avenue		o					
Stevens Road		o					
97th Avenue		o					
I-205 NB Ramps	o	o					
I-205 SB Ramps	o	o					
93rd Avenue	o	o					
90th Avenue	o	o					
86th Avenue	o	o					
82nd Avenue	o	o					
Monterey Avenue at:							
90th Avenue		o					
86th Avenue		o					
82nd Avenue		•					
Sunnybrook Road at:							
82nd Avenue (1)	o	o					
Harmony Road at:							
LRT Xing w/o 82nd Avenue	o	•					

Note: MOS 5 Seed includes South CTC with Terminus at CTC, Railroad Avenue Through, Main Street/SP, Ross Island Crossing, Half Mall and I-5 to Lombard.

South/North Transit Corridor Study - Low Cost Alternative
Summary of Intersections to be Analyzed/Screened

Intersection/Location	MOS 5 Seed	MOS 5 w/NCTC	MOS 5 w/ RR Local	MOS 5 w/ Hwy 224	MOS 5 w/ Caruthers/ Moody	MOS 5 w/Interstate	MOS 5 w/ Modified Alberta Ramps
Harmony Rd at:							
Fuller Road	o	o					
Aquatic Center	o	o					
Linwood Avenue	o		●				
Linwood at-grade LRT Crossing			●				
Railroad/Linwood Avenue				●			
Lake Road			o	●			
Railroad Avenue at:							
Linwood Avenue	o						
Stanley Avenue				o			
Wood Avenue				o			
37th Avenue				o			
Highway 224 at:							
Lake/Webster				o			
Rusk Street				o			
WB Ramps/Lake Road				o			
EB Ramps/Lake Road				o			
Freeman Way (2)				●			
37th Avenue				●			
Oak Street				●			

Note: MOS 5 Seed includes South CTC with Terminus at CTC, Railroad Avenue Through, Main Street/SP, Ross Island Crossing, Half Mall and I-5 to Lombard.

South/North Transit Corridor Study - Low Cost Alternative
Summary of Intersections to be Analyzed/Screened

Intersection/Location	MOS 5 Seed	MOS 5 w/NCTC	MOS 5 w/ RR Local	MOS 5 w/ Hwy 224	MOS 5 w/ Caruthers/ Moody	MOS 5 w/ Interstate	MOS 5 w/ Modified Alberta Ramps
Highway 224 at:							
Monroe Street				o			
Harrison Street				o			
King Street at:							
37th Avenue			o				
Monroe Street at:							
Stanley Avenue (2)	•		o				
Home Avenue (2)	•		o				
42nd Avenue (2)	•		o				
37th Avenue	o		o				
Railroad/Oak (3)	o		o	o			
25th Avenue				o			
Harrison Street at:							
Main Street	o						
McLoughlin Boulevard NB Slip Ramp to Main Street (4)	•						
Bybee Street Crossing of McLoughlin Boulevard (4)	•						
Holgate at 17th					•		
Moody Street at:							
Sheridan Street (5)	•				o		

Note: MOS 5 Seed includes South CTC with Terminus at CTC, Railroad Avenue Through, Main Street/SP, Ross Island Crossing, Half Mall and I-5 to Lombard.

South/North Transit Corridor Study - Low Cost Alternative
Summary of Intersections to be Analyzed/Screened

Intersection/Location	MOS 5 Seed	MOS 5 w/NCTC	MOS 5 w/ RR Local	MOS 5 w/ Hwy 224	MOS 5 w/ Caruthers/ Moody	MOS 5 w/Interstate	MOS 5 w/ Modified Alberta Ramps
Moody Street at:							
Harbor Drive					o		
Harrison Street at:							
Front Avenue	o				o		
4th Avenue	•						
6th Avenue at:							
Mill Street (6)	o						
Burnside Street	o						
5th Avenue at:							
Montgomery Street (6)	o						
Burnside Street	o						
4th Avenue at:							
Salmon Street (2)	•						
Taylor Street (2)	•						
Yamhill Street (2)	•						
Morrison Street (2)	•						
3rd Avenue at:							
Yamhill Street (2)	•						
Morrison Street (2)	•						

Note: MOS 5 Seed includes South CTC with Terminus at CTC, Railroad Avenue Through, Main Street/SP, Ross Island Crossing, Half Mall and I-5 to Lombard.

South/North Transit Corridor Study - Low Cost Alternative
Summary of Intersections to be Analyzed/Screened

Intersection/Location	MOS 2	MOS 5 Seed	MOS 5 w/NCTC	MOS 5 w/ RR Local	MOS 5 w/ Hwy 224	MOS 5 w/ Caruthers/ Moody	MOS 5 w/ Interstate	MOS 5 w/ Modified Alberta Ramps
2nd Avenue at:								
Morrison Street (2)		•						
1st Avenue at:								
Morrison Street (2)		•						
Oak Street (2)		•						
Stark Street (2)		•						
Couch Street (2)		•						
Everett Street (2)		•						
Multnomah Street at:								
Interstate Avenue (2)		•						
1st Avenue		o						
Williams Avenue		o						
Wheeler Street at:								
I-5 SB Ramps		o						
Holladay Street at:								
1st Avenue (2)	•							
MLK Street (2)	•							
Grand Avenue (2)	•							

Note: MOS 5 Seed includes South CTC with Terminus at CTC, Railroad Avenue Through, Main Street/SP, Ross Island Crossing, Half Mall and I-5 to Lombard.

South/North Transit Corridor Study - Low Cost Alternative
Summary of Intersections to be Analyzed/Screened

Intersection/Location	MOS 5 Seed	MOS 5 w/NCTC	MOS 5 w/ RR Local	MOS 5 w/ Hwy 224	MOS 5 w/ Caruthers/ Moody	MOS 5 w/Interstate	MOS 5 w/ Modified Alberta Ramps
Alberta Street at:							
I-5 SB Ramps	o					o	●
Interstate Avenue	o					o	●
Portland Boulevard at:							
I-5 SB Ramps	o					o	o
Interstate Avenue	o					o	o
Skidmore Street at:							
West end of I-5 Bridge	o					o	o
Interstate Avenue	o					o	o
Killingsworth Street at:							
West end of I-5 Bridge	o					o	o
Interstate Avenue	o					o	o
Ainsworth Street at:							
West end of I-5 Bridge	o					o	o
Interstate Avenue	o					o	o
Lombard Street at:							
I-5 SB Ramps	●					o	o
Interstate Avenue	o					o	

Note: MOS 5 Seed includes South CTC with Terminus at CTC, Railroad Avenue Through, Main Street/SP, Ross Island Crossing, Half Mall and I-5 to Lombard.

South/North Transit Corridor Study - Low Cost Alternative
Summary of Intersections to be Analyzed/Screened

Intersection/Location	MOS 5 Seed	MOS 5 w/NCTC	MOS 5 w/ RR Local	MOS 5 w/ Hwy 224	MOS 5 w/ Caruthers/ Moody	MOS 5 w/Interstate	MOS 5 w/ Modified Alberta Ramps
Interstate Avenue at:							
Going Street	o					o	•
Buffalo Street	o					o	
Fenwick Street	o					o	
Denver Avenue at:							
Willis Street	o					o	
Argyle Street	o					o	

Note: MOS 5 Seed includes South CTC with Terminus at CTC, Railroad Avenue Through, Main Street/SP, Ross Island Crossing, Half Mall and I-5 to Lombard.

(1) Compare with No-Build and Full Length Generic Alternatives previously analyzed at this location.

(2) Analysis of existing and 2015 No-Build conditions also needs to be conducted for these locations.

(3) This location should also be screened with MOS 1 volumes depending on whether intersection geometrics have been changed.

(4) This location should also be screened with Full Length Generic Alternative volumes.

(5) This location should also be analyzed for "No-Build" conditions which will consist of same traffic volumes and geometrics without an LRT traffic phase.

(6) Compare with analysis of existing, No-Build and Full Length Generic conditions conducted for PSU Transit Center project.

3.8.3.3 New Local/Neighborhood Impacts

3.8.3.3.1 Clackamas Town Center Transit Center Terminus Rogue Parking

There are two new terminus alternatives in this segment, directly at the transit center which would be located either North of or South of the Clackamas Town Center. Additional parking dedicated for S/N LRT riders is not proposed with either alignment alternative. Both alternatives would reduce the amount of existing parking at the shopping center. There is a need to evaluate the potential that some S/N LRT riders may attempt to use the existing inventory of parking in the Clackamas Town Center vicinity. In addition to park-and-rider patrons, there may be in an increase in 'kiss-and-ride' vehicles which could impact the analysis of the intersections in the CTC area.

The impacts of rogue parking at the Clackamas Town Center and the potential impact on the level-of-service at intersections will be evaluated by the consultant. Mitigation measures such as traffic management alternatives will be evaluated and identified.

Clackamas Town Center Transit Center Terminus Rogue Parking - **$1,500**

3.8.3.3.2 SE 80th Avenue Alignment Traffic Issue

The North of Clackamas Regional Center alignment alternative is designed to cross 82nd Avenue at-grade in the vicinity of Monterey Avenue and following the alignment of 80th Avenue to the intersection of Harmony Road. Currently 80th Avenue is an un-improved local street. The design for the alternative would provide a half street improvement which would alter residential circulation in Southgate neighborhood. The at-grade crossing at SE 82nd Avenue and the changes to local traffic circulation patterns in the vicinity of SE 80th Avenue will be evaluated by the consultant.

SE 80th Avenue Alignment Traffic Issue - **$1,500**

3.9.1.3.3 Highway 224/Freeman Way Station Rogue Parking

The Highway 224 alignment includes a station in the vicinity of Freeman Way. No park-and-ride facilities are currently planned at the station. Freeman Way (a signalized intersection) provides access to the east Milwaukie industrial park. The consultant will evaluate the potential that S/N LRT riders may attempt to park in existing parking lots in the industrial park. Additionally the intersection of Highway 224 and Freeman Way could experience increased congestion from 'kiss-and-ride' S/N LRT riders. The consultant will evaluate the potential impact to the existing parking inventory in this East Milwaukie industrial park and the potential congestion impacts at Freeman Way and other local roads servicing the industrial park.

Highway 224/Freeman Way Station Rogue Parking - **$500**

3.8.3.3.4 Lombard Terminus Rogue Parking

MOS 5 includes a terminus in the vicinity of N. Lombard Street with both the I-5 and Interstate Avenue alignment alternatives. The current land use pattern around both terminus sites is commercial and single family residential. There is no park-and -ride facilities planned at either Lombard Street terminus station. A pedestrian bridge over I-5 (immediately south of N. Lombard Street) is included in the design of the I-5 alignment. The potential exists for rogue parking in the immediate vicinity of terminus sites which could impact the residential and commercial land uses in the Arbor Lodge, Kenton and Piedmont neighborhoods.

The potential impact of parking in neighborhoods will be evaluated along with the potential for impact of additional "kiss and ride" traffic impacting intersection traffic levels. Potential mitigation strategies will be assessed to reduce potential impacts.

The same issue of rogue park-and-ride potential will be addressed for a potential terminus located in the Kenton Business District at the same location as identified for the Kenton Station with the Interstate Avenue (Full Length) alignment.

Lombard Terminus Rogue Parking - **$1,500**

3.8.3.4 New Studies and Circulation/Diversion

3.8.3.4.1 Close Railroad Avenue (Circulation/Diversion)

Two Alignment Alternatives are under consideration for Railroad Avenue between Linwood Avenue and SE 37th Avenue, a continuous two lane (one lane in either direction) with reduced width and a bike lane and pedestrian sidewalk. The other design is limited local access design option which provides for only limited residential access and change to neighborhood circulation.

Both design options for Railroad Avenue will effect the current traffic patterns in the Hector Cambell neighborhood. Increased traffic may be expected on Stanley, Wood and Home Avenues and SE 42nd Avenue. Additionally, both Railroad Avenue Alternatives will be evaluated with and without a Wood Avenue station. The potential exists for rogue parking in the vicinity of the Wood station.

The consultant will evaluate the potential changes in traffic patterns on local neighborhood streets with the Railroad Avenue - Local Access Alternative. The assessment of neighborhood traffic impacts will include an analysis of traffic diverted off of Railroad Avenue, local circulation and access modifications and an evaluation of the character of Railroad Avenue traffic using "select line" analysis. Metro will provide the appropriate traffic assignments including the select line assignments. The consultant will work with that information and provide smoothing and an assessment of impacts on streets not included in the regional network.

Additionally the consultant will consider rogue parking and potential impacts to public services to the neighborhood.

Close Railroad Avenue = **$3,000**

3.8.3.4.2 Bybee Station Traffic

There are two designs for the Bybee over crossing of McLoughlin Blvd. that will be evaluated in the traffic results report and DEIS; one that replaces the existing over crossing with a new over crossing that includes bus pull-outs, and one that retains the existing over crossing and provides LRT station access via a pedestrian walkway north of the structure.

The consultant will prepare an analysis that evaluates the impact on peak hour traffic flow of the two over crossing designs. Specifically, the impact of bus-related delay which results from buses blocking through traffic flow with the design that retains the existing structure. Metro and Tri-Met will provide the consultant with data on bus stop location, roadway width, headways, bus width, length of dwell and traffic volumes. The consultant will prepare an analysis that quantifies the number of vehicles potentially impacted and the length of bus related delay resulting from use of the existing over crossing with a Bybee LRT station.

Bybee Station Traffic - **$500**

3.8.3.4.3 North Macadam Analysis

There are two design options on the west bank of the Willamette River for the Caruthers Alternative. The Caruthers/Moody design option for the South Willamette River Crossing segment would extend the Caruthers Bridge west, under the west end of the Marquam Bridge. The light rail alignment would extend northwest, at grade, parallel to and north of Moody Avenue. It would then turn north, running east of and parallel to Harbor Drive. An at-grade station would be located at SW Moody Avenue and SW River Drive.

The Caruthers/South Marquam design option would have an at-grade light rail crossing of SW Moody Avenue in two locations, one under the west approach ramps to the Marquam Bridge and one just east of SW Harbor Drive. The Caruthers/Moody design option would generally avoid the proposed mixed-used development by crossing under the Marquam Bridge north of the development parcel. It would, however, impact two parcels along SW Moody Avenue. In addition the design option may affect the local circulation in the immediate vicinity of the alignment.

This area is currently undergoing major changes based on evolving development proposals. The consultant will evaluate the two Caruthers design options and determine each option's potential traffic impacts based on the assumed street network.

North Macadam Analysis - **$1,500**

3.8.3.4.4 Downtown Portland - 5th/6th at Yamhill/Morrison and 1st Avenue Train Frequency/Signal Pre-empts Impacts to Circulation

Along SW 5th and 6th Avenues at SW Morrison and at SW Yamhill the existing pattern of signal progression may be affected and the effectiveness of mixed bus/vehicular/LRT usage of the Transit Mall could be effected particularly at the connection of the S/N and Max lines. Pedestrian circulation in the vicinity of the MAX connection could be affected. City of Portland staff will provide the consultant with information on the traffic signal progression and the impacts to that progression based on MAX connector operations. Issues related to bus and light rail operations will be evaluated by Tri-Met staff in conjunction with city staff. The consultant will prepare an assessment of impacts to automobile operations and flow in this vicinity that are a direct result of the proposed MAX connector operation.

The increased headways on the existing MAX alignment could result in signal timing adjustments at the intersection of 4th and Yamhill. The consultant will work with city staff to evaluate the appropriate signal timing at 4th and Yamhill Street and its potential impact on queuing on both 4th Avenue northbound and/or on Yamhill Street eastbound.

The Half-Mall alignment alternative will use the existing eastside LRT trackage from the intersections of 5th and 6th Avenues and Yamhill and Morrison Streets. The current frequency of LRT trains will increase with the addition of S/N transit corridor trains to a peak period frequency of 3 minutes in year 2015. Traffic circulation east and west across SW 1st Avenue on streets that intersect with this alignment alternative may be impacted due to signal pre-emption. The consultant will prepare an assessment of LOS and queuing on these east/west streets with 3 minute headway operations during the p.m. peak hour.

1st Avenue Train Frequency/Signal Pre-emption Impacts - **$5,000**

3.8.3.4.5 Modify Alberta Ramps Design Option Impacts on Local Circulation

In the North Portland segment two design options (between N. Going Street and N. Killingsworth Street) are under consideration for the I-5 alignment alternative. One option (the original I-5 alignment alternative) includes an LRT alignment west of N. Minnesota Street would require the following modification of the local circulation in the Overlook neighborhood: the vacation of Blandena Street (between N. Montana and N. Minnesota Streets; LRT gate crossings at the intersections of N. Wygant N. Summer and N. Emerson Streets at N. Minnesota Street; the modification of the signal controlling the N. Alberta and N. Minnesota Streets intersection and the closing of N. Humbolt Street and Webster Streets at N. Minnesota Street. On and off-bound ramps to I-5 from the Overlook neighborhood would be maintained.

The other design option (I-5 alternative with modification to southbound Alberta ramps) would relocate the southbound I-5 off ramps to N. Minnesota/N. Alberta Street to N. Going Street and close the I-5 on-bound ramps from N. Minnesota Street. In addition N. Minnesota Street would be vacated between N. Going Street to N. Wygant Street and the closing N. Blandena Street. The intersection signalization of N. Alberta @ N. Minnesota Streets would be modified to provide LRT service.

Traffic impacts of the original I-5 Alternative have been evaluated previously. The focus of this analysis will be on the design options that modifies the Alberta ramps to and from I-5 Southbound. With this design option access to and from I-5 would be altered from both the Humboldt and Overlook neighborhoods. The consultant will evaluate traffic assignments which include the ramp modifications, with particular emphasis on impacts to the N. Interstate/N. Going intersection with additional trips from the north and east accessing I-5 (south) vis N. Going. The City of Portland will provide traffic assignments that include the ramp modifications and include a "select line" assignment that focuses on traffic on the Alberta ramps. The consultant will provide an evaluation of the local circulation impacts of the new design as well as the broader issues of changes to freeway access and impacts to the Interstate and Going intersection.

Close Alberta Street Ramps Analysis = **$3,480**

3.8.3.5 Additional Studies

3.8.3.5.1 New Freight Impact Assessment

The Caruthers Crossing Alignment Alternative has been narrowed to a single, at-grade design, east of the Willamette River Crossing is at-grade. Previous traffic analysis included an evaluation of an at-grade alignment alternative, however the refined option includes additional at-grade crossings for the spur tracks servicing local industrial users and the PTC trackage. The potential impact of this crossing should be evaluated by the consultant. Also spur track operations in the North Milwaukie industrial area have been modified.

New Freight Impact Assessment - **$1,000**

3.8.3.5.2 Linwood Station Access Study

The Linwood Station park-and-ride may increase congestion on SE Harmony Road and SE Lake Road. Additionally the design of the Highway 224 alternative alignment is for an at-grade crossing of SE Harmony Road, immediately west of the Linwood Station. Access into and out of the park-and-ride structure has to be provided and thru-traffic accommodated on SE Harmony. The consultant will evaluate this station design to assess these potential affects.

Linwood Station Access Study - **$2,500**

3.8.3.5.3 Rose Quarter (at-grade) Study

At the Rose Quarter station there are two design options, an at-grade crossing of N. Interstate Avenue and a grade separated option. The at-grade design includes an at-grade crossing of Interstate Avenue near Multnomah Street. Traffic impacts of this at-grade crossing need to be evaluated with 3 minute headway operations for the combined South/North and East/West lines. Metro will work with the city to provide the consultant updated information on the planned intensity of development in this area and provide an analysis of the feasibility of the at-grade LRT.

Rose Quarter (at-grade) Study - **$5,000**

3.9 Air Quality Impacts Results Report

3.9.1 Status of previous work.

Summary - (generally no work has been completed on these sections to date)

Chapter 1 Introduction - Provided by Metro (see attached draft)

Chapter 2 Methods - Needs editing related to tense and actual evaluation. 90% Complete.

Chapter 3 Agency Coordination and Involvement - 95% complete, includes full documentation of agency contacts.

Chapter 4 Affected Environment - 80% complete.

Chapter 5 Environmental Consequences - Approximately 25% of the preliminary work for running the CAL3QHC model to determine potential CO hot spots has been completed. None of the work has been documented yet. The following tasks have been completed for all intersections:

- Drove alignments
- Sketched lane configurations
- Pulled all relevant maps showing location of intersection

A substantial amount of work was completed for the following intersections, including the creation of input files in preparation for CAL3QHC model runs (existing, 2015 no-build and 2015 full-length with all relevant alignment alternatives):

- Sunnyside @ I-205 Southbound Ramps
- Sunnyside @ 82nd Ave
- Harmony @ Fuller (needs lane modification)
- McLoughlin @ Ochoco
- Holgate @ 17th
- 3rd @ Washington

A moderate amount of work was completed for the following intersections:

- Harmony @ Railroad/Linwood (existing and 2015 no-build only)
- Fourth Plain @ I-5 Northbound Ramps

Only initial work was completed on the remaining intersections.

Emissions inventory analysis and other initial work has been completed on the burden analysis

(regional ozone pollution impact)

Chapter 6 Mitigation - No work complete yet.

References - No work complete yet.

Appendices - No work complete yet.

P&R/O&M facility study - Park-and-ride impacts will be analyzed through modeling of relevant intersections. No analysis of operations and maintenance facility impacts will be performed.

3.9.2 New (or additional) work required due to cost-cutting.

Chapters 4, 5 and 6 need to be modified to reflect new alignment, design option and segment names. They also need to reflect new segment breaks, include MOS 5 and delete MOS 3 and MOS 4 references. Specific changes are listed by chapter below. References and appendices will also need to be completed, as needed.

Environmental Consequences

The original scope of work called for the analysis of 25 intersections to assess carbon monoxide pollution impacts. Metro has modified the existing list of 24 intersections with the following revisions:

- Remove Harmony @ Fuller from analysis (the work on this intersection was identified by the consultant as substantially complete)
- For Harmony @ Railroad Avenue/Linwood Avenue, analyze impacts with both Railroad Avenue alignment alternatives (Railroad Avenue Through Traffic and Railroad Avenue Local Access) and Highway 224. The current scope calls for only one Railroad Avenue analysis (equivalent to Railroad Avenue Through Traffic).
- For Highway 224 Westbound Ramps @ Lake Avenue, analyze impacts with both Railroad Avenue alignment alternatives and the Highway 224 alternative. The current scope calls for only one Railroad Avenue analysis (equivalent to Railroad Avenue Through Traffic).
- For Interstate Avenue @ Going Street, analyze impacts with Interstate Avenue and with Interstate Avenue with a Lombard Street terminus. The current scope calls for only Interstate Avenue without a Lombard terminus.
- For Interstate Avenue @ Lombard Street, analyze impacts with Interstate Avenue and with Interstate Avenue with a Lombard Street terminus. The current scope calls for only

Interstate Avenue without a Lombard terminus.

Metro will provide the consultant with all new data necessary for generating input files for the CAL3QHC model.

3.9.3 Issues related to completion of the task.

New traffic data for intersections in question will be provided by Metro as soon as it is available.

3.10 Noise and Vibration Impacts Results Report

3.10.1 Status of previous work.

The detailed noise monitoring program has been completed and we have developed a policy on cost-effectiveness on mitigation. The draft of the Noise and Vibration Results Report has been submitted. This draft should be viewed as about a 75-80% draft. Graphics are still to be completed by Metro and chapter 5 and 6 need detailed review.

Summary - (generally no work has been completed on these sections to date)

Chapter 1 Introduction - Provided by Metro

Chapter 2 Methods - Generally this section is complete, but it needs general editing.

Chapter 3 Agency Coordination and Involvement - 50% draft complete, needs additional work on details such as agency roles and actual involvement.

Chapter 4 Affected Environment - 75% draft complete, needs general edits and cost-cutting changes.

Chapter 5 Environmental Consequences - 65% draft complete, needs general edits and cost-cutting changes.

Chapter 6 Mitigation - 60% complete, needs agreement on potential mitigation, criteria, measures and locations.

References - 75% complete.

Appendices - 40% complete, need tables including the APTA measurements for receivers.

P&R/O&M facility study - Analysis is complete, write up has not been done.

3.10.2 New (or additional) work required due to cost-cutting.

Modifications to the scope are detailed below segment by segment.

Clackamas Regional Center Segment -

Additional analysis will be needed for the SE 80th Avenue section. This alignment borders the residential and commercial neighborhoods. An additional noise monitor site may be needed in this area.

Two alternatives have been added at the in this segment. One alignment stops at the North side of the Clackamas Town Center and the other stops on the South side of the CTC. The noise monitoring, noise estimation has been completed for this work as a result of the full length alignments. The additional work is to change the documentation to reflect the addition of these two design options.

The Price-Fuller alignment has been dropped little work should be involved in deleting this from the results report document.

The at-grade crossing of SE 82nd Ave occurs in location that is away from residential uses and therefore should not be an impact.

East Milwaukie Segment -

The existing design on Railroad has been deleted and replaced by two other alternatives for Railroad Avenue and an new option for Hwy. 224. The current description of the existing noise environment for the Railroad Avenue design should be adequate. A description of the existing noise environment adjacent to Hwy. 224 needs to be developed. The assessment of impacts of the deleted Railroad design should be very useful in producing the assessment of impacts for the new design on railroad Avenue.

Through Traffic Railroad Avenue. Under this alternative, the cross section of Railroad Avenue is reduced to narrow sidewalks, bikeways and roadways. This action saves about 8 houses which would have been considered displaced under the earlier design. These houses will now provide noise shielding to the 2nd row and third row receivers. The revised design, Railroad Avenue is generally located in the same location however the road is designed to have lower traffic volumes and speeds than previously assumed. The existing noise and vibration monitoring for this area should be adequate to describe the environment. Changes in plan and profile drawings and traffic will require a reassessment of the impacts for some portions of Railroad Avenue.

Local Access Railroad Avenue. Under this alternative, Railroad Avenue is discontinuous and is cull-de-sacked in some locations. The result is that only local traffic would be located on Railroad Avenue and the traffic speed would be much lower. This will require that the traffic work be reassessed. Also the residential displacements on this section would be decreased by 65 from approximately 73 to 8. These units will now act as noise shields for 2nd and 3rd row properties. The existing noise and vibration monitoring for this area should be adequate to describe the environment. Changes in plan and profile drawings and traffic will require a reassessment of the impacts.

Highway 224 . This design option is located directly next to traffic on the north side of Highway 224. This alignment could be split into three sections. The first section is along SE Harmony Rd.. between Railroad Avenue and Hwy. 224. Houses located along the north side of Harmony will be displaced as a result of the park-and-ride lot. Minimal additional work may be required

to address noise issues related to any remaining houses located along SE Harmony between Railroad and Hwy. 224. The second section is between SE Harmony and SE Oak and is located next to Hwy. 224. land uses in this area consists of commercial and industrial properties on the north and housing up on the bluff on the south side of highway. Little or no analysis will need to be done in this area do to the types of land uses. The third section is between SE Oak and SE Harrison. In this three block section, houses are located to the north of the alignment and south of Hwy. 224. The analysis in this section could be very similar to the analysis near railroad Avenue. Additional noise measurements may be required in section one and three of this segment.

Milwaukie Regional Center Segment -

The SP/Monroe and Main/Monroe design options in this area have been dropped and replaced by a third option. This area can be split into the areas north of Hwy. 224 and the areas south of Hwy. 224.

The areas *north of Hwy. 224* should not be affected by noise or vibration due to the types of industrial land uses. This area was examined as part of the Maintenance Facility Study for this project. The only area where attention should be spent in located east of the SP mainline and north of the Lumber yard located SE 32nd and SE Harrison Avenue. This area has a number of low quality housing. Additional work would include an additional noise monitoring site and assessment of 1st and 2nd row receivers (# houses). Noise measurements were taken in the neighborhood at site M27 and for the maintenance facility. These measurements could be used instead of new measurements.

South of 224 . This area has a mix of commercial, residential, and institutional uses located near the alignment. The houses located north of the Ledding Library near Scott Park should be investigated. The noise measurement for the area near the Ledding library M23 and M26 should be sufficient to adequately describe the existing noise conditions. The analysis for the Ledding library will need to be rechecked for wheel squeal and passby. Some of the analysis used for the Main St./Monroe design option can be recycled for the new design option.

McLoughlin Boulevard Segment -

Changes in this section will not affect project noise estimates.

South Willamette River Crossing Segment -

This section consist of the Ross Island and Caruthers Rivers crossings.

Ross Island There are no changes to the Ross Island alternative.

Caruthers The modifications to this alignment include the addition of two design options and

elimination of the current option on the west bank. The changes also include the elimination of the above grade options between OMSI and the SE 12th Avenue. Current monitoring at M38 should be adequate to describe the noise environment at the Condominiums at near RiverPlace and at the PGT office structure. An assessment will need to be made of options as they relate to RiverPlace condominiums and the PGT office building. In addition, work may be required to assess the impacts on a development that would be in conjunction with LRT in the South Marquam design option.

Downtown Portland Segment -

Two modification have been assumed in the downtown segment. These include modifying the alignment on 5th and 6th between SE Harrison and SE Mill. These changes will integrate the alignment into a urban center area which will be created by PSU. This will eliminate the tight corner at 5th/6th and Harrison. Existing monitoring locations at M39 and M41 should be adequate to portray the existing noise environment.

The second change in downtown has been the addition of the Half Transit Mall Alternative. This requires a tight turn between from the cross mall to the transit mall and assessment of the increase in light rail trains on the SE Yamhill, SE Morrison and 1st Avenue alignment. This work will require an estimate of impact due to schedule changes on the existing alignment. The use of the cross mall may require additional noise monitoring.

Eliot Segment -

The modifications in this area are based on changes to the Rose Quarter Station. These changes include making the Rose Quarter station an at-grade station instead a grade separated station. This modification should have no change in the project noise and vibration impact because there are no sensitive noise receptors near the changes.

North Portland Segment -

Interstate Alternative There are no alignment changes related to this alternative. The track type previously assumed interstate was a covered track which assumed a tie-and-ballast structure with panels over the top. For vibration analysis purposes, a tie-and-ballast structure was assumed and for noise analysis purposes a covered track was assumed. Indications are that a paved track with rail boot fasteners will be less expensive than covered track and that this should be assumed for analysis. Therefore, the vibration analysis for Interstate Avenue should reflect a paved track with rail boot fasteners instead of the tie-and-ballast previously assumed.

I-5 Alternative We have added a design option between N. Skidmore and N. Killingsworth that will eliminate a number of front row displacements and could easily allow for a wayside noise barrier. This will require a recompilation of impact based on front row shielding and a calculation of impacts for the front row receivers. About 39 residential buildings would not be

taken under this design option. Calculations should be re-computed for 1st, 2nd and 3rd row receivers.

MOSs -

We have dropped the MOS 3 and MOS 4 which were between CTC and Kaiser and Expo Center respectively. We have added a MOS 5 which is between CTC and Lombard Avenue.

The MOS 5 will require that we study the different Termini options for the Lombard and I-5 options in the north in that segment. This will require that we total the differences in the North Portland Segment between the full length alignments and the MOS termini options. A quick review of traffic volumes associated with MOS 5 compared to the Full-Length Alternative should be done to assure that increased volumes do no cause additional impacts.

Changes to the Noise and Vibration Results Report -

The report will have to be modified to change tables, figures, references and text to accommodate the deletions, modifications and additions. Also may require modifications to the noise mitigation cost-effectiveness criteria. The MOS 2 terminus will require noise analysis for additional trains between the Rose Quarter and NE 11th Avenue.

3.10.3 Issues related to completion of the task.

The consultant will be responsible for documenting noise and vibration impacts based on changes to plan and profile drawings and operations. As a result of cost cutting, the existing noise environment for SE 80th, Hwy. 224, cross mall and near Alberta may need to be measured and described. Noise and vibration impacts will need to be assessed in areas where the plan and profiles have changed significantly. Additional noise monitoring could be expected for three to six locations. The *Noise and Vibration Results Report* needs to revised to remove alignments, design options and MOS's that have been added, dropped or modified.

3.11 Energy Impacts Results Report

3.11.1 Status of previous work.

Draft energy result report complete. Analysis is sound but needs some work with respect to comparison of alternatives. Basically report needs some polishing.

Summary - (generally no work has been completed on this section to date)

Chapter 1 Introduction - Provided by Metro (see attached draft)

Chapter 2 Methods - Complete.

Chapter 3 Agency Coordination and Involvement - Draft completed.

Chapter 4 Affected Environment - Draft completed.

Chapter 5 Environmental Consequences - This section encompasses the bulk of the new work. Fortunately, the majority of this section is tables. Energy calculations for new alternatives (MOS 5) could be done with minimal consultant time. Repackaging of tables and descriptions could be done in house.
Direct Impacts - (operational energy use) Tables for new alternatives will need to be calculated and described. The majority of input data is derived from the regional forecasting model (VMT, park-and-ride assumptions, maintenance facility square footage, LRT car miles, and number of vehicles).
Indirect Impacts - (construction energy use and payback period) Tables for new alternatives will need to be calculated and described. Input data based on capital costs. Additional time from Andrew Janssen may be required to break out capital costs into the components previously used. A memo has been drafted to Gerald Fox informing Tri-Met engineering of this potential need.

Chapter 6 Mitigation - will require minor repackaging to include new alternatives (MOS 5).

References - Complete.

3.11.2 New (or additional) work required due to cost-cutting.

additions: MOS 5 and Half Transit Mall Alternative
revisions: none
deletions: MOS 3 and MOS 4

3.11.3 Issues related to completion of the task.

The DEIS energy analysis will be affected as a result of new alternatives and deleted alternatives

associated with cost cutting measures. New alternatives will require input data from full model runs and tri-met engineering regarding capital costs. Deleted alternatives will require modification to all tables and paragraphs.

3.12 Management and Coordination

Following is a description of the additional management/coordination effort resulting from the South/North project changes. The two types of changes include:

1. The addition of new alternatives/options increases the amount of analyses and duration of work, thus requiring additional management/coordination effort not anticipated in the original budget.

2. The delay in the project required interim coordination from December through May. This was not anticipated in the original budget. Management effort was considerably less intensive during this period, averaging 5 hours/week.

Each of these budget implications is described below:

1. Increase in the amount of analyses and duration of work.

Status of previous work. The original contract budget was based on a 12/96 DEIS publication date. We stopped work on analysis and documentation in 12/96. At that time there was approximately 2 months worth of management /coordination budget remaining. The projected DEIS publication had already been extended to 3/97, but the budget had not been revised to reflect the revised the extended duration.

New or additional work. Because the DEIS was put on stand by for 5 to 6 months, and the alternatives/options have been revised, the amount of analyses and the duration of work are being increased. This increase in technical work and the duration of work will proportionately increase the amount of management/coordination work proportionately.

We are scheduled to start analyses documentation again in 6/97 and continue through 10/97. This is a 5 month management/coordination effort. When we stopped analyses in 12/96 there was approximately 2 months of project management/coordination budget remaining. However, it has been partially used up in the 6 months of "interim management" work between 12/96 and 5/97. By providing additional budget to replace the budget used for this, unanticipated task, the management /coordination budget would be largely restored to what was remaining in 12/96.

Subtracting 2 months from 5 months leaves a net difference of 3 months. Thus, there will be approximately 3 additional months to coordinate the team, attend meetings, coordinate with Metro, and manage our budgets, schedule and scope. The sub-tasks include:

- Coordinating the consultant team (analysis, field work, reporting, data transfers, information exchange and other activities);

- Meetings and coordination with Metro;

- Managing the budget and the scope of work, preparing invoices and progress reports, and reviewing all sub-consultant invoices and progress reports; and

- Monitoring the schedule.

2. Interim Management

From the time that work was significantly stopped on most of the analyses (November/ December) until the time that work was substantially re-initiated (June), a variety of management/coordination tasks continued, including:

- coordinating and occasionally meeting with Metro staff;

- providing review and documentation of various scope and budget issues;

- coordinating with various sub-consultant team members as needed;

- working with sub-consultants on outstanding invoicing and payment issues; and

- reviewing and processing invoices and progress reports.

3.13 Milwaukie Main Street/SP Branch Alignment

Attached on the following pages is the scope of work for the Milwaukie Main Street/SP Branch Alignment Alternative analyses. This scope of work was developed earlier and is incorporated herein by reference.

Proposed Budget / Sc
3rd Align. Mil-C

Parametrix, Inc.

Consultants in Engineering and Environmental Sciences

7820 N.E. Holman Suite B-6 Portland, OR 97218-2859
503-256-5444 • 360-694-5020 • Fax: 503-256-4221

MEMORANDUM

To: Sharon Kelly, Metro 27-1919-19
From: Jeff Heilman
Subject: Main Street/SP Branch Alignment Scope and Budget
Date: October 16, 1996

Sharon:

I have scopes of work and budget estimates finalized with all task managers for the Main Street/SP Branch Alignment Alternative, except Shapiro.

The basic scope of work that we have developed is intended to accomplish the following for all Results Reports and the Draft EIS:

- Add a new alignment alternative (Main Street/SP Branch) in the Milwaukie Regional Center segment to the description of affected environment, impacts and mitigation
- Change the existing boundary that separates the Railroad Avenue segment and the Milwaukie Regional Center segment from 29th Street to 37th Street.

The attached budget estimate is divided into three parts.

- The first part summarizes the basic task budgets we are requesting to complete the above goals (note that the historic budget and the traffic-related budget are not yet determined. The historic budget is being re-scoped, and the traffic-related budget is awaiting a review of plans and profiles by John and Anne).
- The second part is a "reserve budget". These are task budgets that we are not currently requesting. They are estimates of the additional costs that will be associated with this work, but we expect to be able to absorb these costs into the existing task budgets. However, in the event these tasks expend all of their budgets, I would like to be able to consider a budget adjustment at that time.
- The third part is the "optional task budget". Under the basic budget, LRT noise will be compared to existing noise levels, including existing traffic noise. This is all that is required. However, if the results of this analysis are that LRT would have a significant noise impact to the receivers near 224, then we would recommend completing this "optional task" as well. Under the optional task, Michael Minor would model *future* highway noise (because it would be expected to increase noticeably over existing

conditions) and show that it will be substantially greater than the LRT noise. This could legitimately reduce the level of modeled LRT noise impact.

The basic issues that will need to be addressed for each Results Report are outlined below. The more detailed scopes of work and budgets are attached at the end of this package.

Land Use/Economics
Issues: Additional station location
New capital cost estimates
Change rough tables and text

Social/Neighborhoods
Issues: Altered access to community facility (library)
Different neighborhood impacts
Different demographics?
Revise existing tables and text.

Energy
Issues: New capital cost estimates (additional construction cost calculation)
No change to VHT/VMT
Change draft tables and text.

Water Quality/Hydrology
Issues: Different impact to creek/pond crossing
Different downtown station location
New water quality calculations
New flood event calculations
Revise report

Ecosystems
Issues: Delineate and describe additional wetlands
Revise wetland report and add figure
Evaluate new wetland impacts and mitigation and habitat
Revise Results Report

Section 106
Issues: One new DOE
Evaluate potential effect to 4 resources
SHPO Concurrence with DOE
Revise 106 report
Review archaeological records for, and visit, new properties; revise report.

Section 4(f)

Issues: Analysis of new use of Scott Park
Evaluate potential avoidance and mitigation measures
One to four 106 resources impacted
Revise report.

Noise and Vibration
Issues: Additional noise monitoring for new receiver locations
Modeling LRT noise impacts for new receivers
Modeling LRT vibration impacts for new receivers
Evaluate mitigation options
No vibration propagation tests
Revise report

Traffic
Issues: Use Monroe/McL model output
2 new signals on Main Street?
3 new traffic counts
Hand-adjust volumes
Screen intersections and evaluate as necessary
Parking impacts

Visual
Issues: Simulations?
New visual units and new impact assessment
Revise report

Displacements
To be done by Metro and Tri-Met

Maintenance Facility/Park-and-Ride Narrowing
Issues: Two new maintenance facility options, roughly same as existing.
Two new park-and-ride options, roughly same as existing

Coordination/Management
Issues: Coordinate with all Task Managers, Metro, Tri-Met to understand new alignment
Re-review existing reports to ensure appropriate changes
Review and revise schedules to accommodate new alignment and segment change.

Dave: Look ok? Jeff

MEMORANDUM

To: Jackie Fern

From: Jeff Heilman, Dave Jennings

27-1919-19

Subject: New Milwaukie Scope and Budget

Date: October 9, 1996

The following summarizes the changes that will need to be made to the Hydrology/Water Quality Report, and the analyses that will need to be completed, in order to:

- Move the segment boundary between Railroad Ave and Milwaukie segments from 29th Street to 37th Street, and
- Add the new alignment alternative--Main Street/SP Branch.

The changes are organized by report section. An estimated budget is attached.

Section 4.4 Spring Creek
Add more description of creek and pond to cover affected area.

Section 5.2.2.1
Move description of Milwaukie Marketplace to Section 5.2.3.1

Section 5.2.2.2 Hydrologic
Move description of Milwaukie Marketplace on 5-27, 5-29 and 5-30 to Section 5.2.3.2.
Edit pp. 5-29, 5-30

Section 5.2.2.3 Floodplain
No change

Section 5.2.2.4 Water Quality
Move description of Milwaukie Marketplace on 5-35 to Section 5.2.3.4

Table 5.2
Move Milwaukie Marketplace info to Table 5.3 (table 5.3 is currently missing)

Section 5.2.3.1 Route Description
Add new alignment description

Section 5.2.3.2 Hydrologic
Conduct and add evaluation of hydrologic impacts.

Section 5.2.3.3 Floodplain
Add description of new alignment's relationship to pond in Scott Park. Evaluate floodplain impacts from new alignment.
Johnson Creek and Tacoma Street Park-and-Ride impacts are the same as for other

alternatives.

Section 5.2.3.4 Water Quality

Impacts at park-and-rides and SE Tacoma interchange detention pond are essentially the same as for other alternatives.
Under new alignment, the transit center in downtown Milwaukie is 2.5 blocks north of location under existing alignments. Add evaluation of water quality impacts, as needed.

Section 5.2.3.5 Summary

No change

Section 6.2.2 Railroad Avenue Segment

Move and copy parts of pp 6-13 referring to Mil Marketplace to Section 6.2.3. Edit 6.2.2.

Section 6.2.3 Milwaukie Regional Center Segment

Add discussion of new alignment's potential hydrology, floodplains and water quality mitigation, as appropriate. Edit 6.2.3.

Table of Storm event analysis

Move rows (plan sheet numbers 25, 48, 23) to the Milwaukie segment group.
Calculate flows (for various storm events) for existing conditions and future build conditions and include in table.

Table of Pollutant loadings

Calculate for new alignment and include in table.

L A A S

LARSON ANTHROPOLOGICAL ARCHAEOLOGICAL SERVICES

Memorandum

To: Jeff Heilman, Parametrix, Inc.

From: Lynn Larson, Larson Anthropological/Archaeological Services

Date: September 30, 1996

RE: Scope of Work for Milwaukie Regional Center Segment, South/North EIS

We have looked at a portion of the Milwaukie Regional Center Segment and believe that most of the segment is in fill. However, one of our staff lives in Portland and has agreed to look at the segment during one of his trips home which saves mileage and travel time. Additional background research will be conducted for the new Milwaukie Alignment alternative, graphics will be modified, text prepared for affected environment, environmental consequences, and mitigation measures sections; and Tables 4 and 5 will be modified. The new eastern boundary for the Milwaukie Regional Center Segment will require modification to the sections on affected environment and environmental consequences, graphics and tables. The Results Report will be reformatted to accommodate the changes.

P.O. BOX 70106
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WASHINGTON
98107
TEL: [206] 782 0980
FAX [206] 782 9650

Larson Anthropological/Archaeological Services
Archaeological Resources Assessment
South/North Light Transit Corridormilwaukie REgional Center Segment Cost Proposal-September 30, 1996

LABOR TASKS	PERSONNEL				COSTS
	Principal	Project Man.	Field Archy.	Res. Archy.	
Task 1:Archival and literature review	2	2	0	4	
Task 2:Fieldwork	0	0	4	0	
Task 3:Report Preparation	4	8	8	16	
Total Hours	6	16	12	10	
Billing Rate	$62.37	$44.55	$29.09	$30.99	
Total Labor Costs	**$374.22**	**$712.80**	**$349.08**	**$309.90**	**$1,746.00**
Direct Expenses					
Photocopy	$ 100				
TOTAL COSTS					**$1,846.00**

Personnel
Principal - Lynn L. Larson
Project Manager-Dennis Lewarch
Field Director-Brad Bowden
Research Archaeologist - Leonard Forsman

MEMORANDUM

Date: October 3, 1996

To: Jeff Heilman

From: Ryan Young

Re: Section 4(f) Scope and Budget for Main Street/SP Branch Alignment Alternative

SCOPE OF WORK

Analysis of impacts resulting from the New Milwaukie Alignment Alternative will require additional input, analysis, and documentation for the potential 4(f) resource, Scott Park, located within the new alignment. Scott Park is the only potential 4(f) resource located in this alignment, except for any additional 106 resources. Field reconnaissance will be necessary to review the new location of property impacts to Scott Park. Parametrix staff will coordinate with the City of Milwaukie staff and the North Clackamas Parks and Recreation District regarding impacts to the park. Tri-Met staff will also be consulted to acquire property boundary maps to ensure a timely and accurate quantitative assessment of impacts, and production of report graphics. John Gray will facilitate coordination with these agencies.

Results of the analysis will be incorporated into the Section 4(f) Results Report. Existing sections, tables, and figures of the results report will be revised to reflect changes in the western and eastern endpoint locations of the Railroad and Milwaukie Regional Center segments, respectively, and to add this new alignment to the Milwaukie segment, potential mitigation measures will be identified to address all significant impacts to Scott Park. Avoidance alternatives are assumed to include No-Build and the other alignment alternatives with reduced use of Scott Park, but may include other potential alignments.

BUDGET

See attached

	Task	Staff	Hours	Rate	Cost
Labor					
	Coordination w/ Tri-Met/Metro	Young	4	$50.21	$200.84
	Coordination w/ Milwaukie		2	$50.21	$100.42
	Coordination w/ NCPRD		2	$50.21	$100.42
	Site Inspection of affected area		3	$50.21	$150.63
	Coordination w/ PM	Chaplin	2	$99.43	$198.86
		Young	2	$50.21	$100.42
	4(f) Use Assessment	Chaplin	3	$99.43	$298.29
		Young	8	$50.21	$401.68
	Eval. Alt. & Potential Mitigation	Chaplin	2	$99.43	$198.86
		Young	3	$50.21	$150.63
	Revise Report /Figures	Chaplin	5	$99.43	$497.15
		Heilman	1	$91.66	$91.66
		Young	16	$50.21	$803.36
	Editor		2	$63.00	$126.00
	Word Processing		4	$40.00	$160.00
	Total Hours		59		
	Total Labor				$3,579.22
Expenses					
	Mileage(75 miles)			.25/mile	$19
	Misc. (copies)				$20
	Total Expenses				$39
	GRAND TOTAL				$3,617.97

Parametrix, Inc.

Consultants in Engineering and Environmental Sciences

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503-256-5444 • 360-694-5020 • Fax: 503-256-4221

October 10, 1996

MEMORANDUM

To: Jeff Heilman
From: Anne Sylvester
Subject: Cost Estimate for Analysis of Third Milwaukie LRT Alignment Alternative

---

Per your request, I have prepared a cost estimate to provide traffic engineering services in conjunction with the third Milwaukie LRT Alignment Alternative. Included in this estimate are costs for work to be conducted by Parametrix (primarily coordination and/or meeting time and parking impact analysis) and BRW (traffic engineering analysis and documentation). Total estimated fee for this work is $4,770.00. This fee was computed as follows:

Parametrix, Inc.

Personnel	*Hours*	*Rate*	*Amount*
Anne Sylvester	6	$112/hour	$672.00
Gary Obery	8	$55/hour	$440.00
Total Staff Cost			$1,112.00

Direct Expense

Traffic counts	(2 PM peak turning movement counts at $70/each and one 48-hour hose count)	$330.00
Mileage/miscellaneous		$ 28.00
Total Direct Expenses		$358.00
Total Parametrix Cost		$1,470.00

BRW, Inc.

Personnel	*Hours*	*Rate*	*Amount*
Traffic Analyst	44	$75/hour	$3,300.00
TOTAL ESTIMATED COST			$4,770.00

FACSIMILE TRANSMISSION

Jones & Jones
Architects and Landscape Architects

105 South Main Street
Seattle, Washington 98104
206/624-5702
206/624-5923 Facsimile

Date | 9/23/96
Time | 2PM

To | Jeff Heilman
At | Parametrix

Fax # | 503-256-4221
Phone # | 503-256-5020

Project Name | South/North LRT EIS
Re | Milwaukee Alignment Alternative

Project # | 56030.196

Jeff -

This Memo is in response to your and John Grays' request for an addition to our scope of work - the addition of the Milwaukee Regional Center Tillamook Branch/Hwy 224 Alignment Alternative.

Jones & Jones will conduct the Visual/Aesthetic element analysis for this alternative. This analysis will consist of; a trip to the field to visit the site, working with John on possible simulation locations that are representative of conditions and changes, documenting existing conditions, assessing impacts and including this information in the results report.

The cost for conducting this work is:

LABOR:				
J. Thomas Atkins	2 hrs	$32	=	$ 64.
Curtis Miller	6 hrs	$25	=	$150.
Chris Carlson	34 hrs	$22	=	$748.
Base Labor				$962.
Overhead @ 1.75				$1,684.
Fee @ 0.09				$238.
Total Labor				$2.884.
EXPENSES:				
Transportation - Air		$240.		
Auto Rental		$60.		
Other travel		$30.		
Communication		$ 20.		
Total Expenses				$350.
TOTAL COST				$3,234.

If you have any questions about this - give me a call.
Thanks

Curt Miller

cc. John Gray
503-797-1921
179.

MEMORANDUM

Date: September 24, 1996

To: Jeff Heilman

From: Dan Kelly

Re: Ecosystems Scope and Budget for New Milwaukie Alignment

SCOPE OF WORK

Analysis of impacts resulting from the New Milwaukie Alignment Alternative will require Parametrix biologists to conduct additional field surveys to document the natural resources within the alignment. A field reconnaissance has revealed the presence of wetland habitat onsite, as well as adjacent habitat that has been designated by the City of Milwaukie as an "important" natural resource. Further documentation of the extent and quality of wetlands onsite will require conducting a wetland delineation and functional assessment, as well as having the wetland boundaries surveyed. Parametrix biologists will coordinate with surveyors and Tri-Met staff to ensure timely and accurate surveying of wetland boundaries, quantitative assessment of impacts, and production of report graphics. The Oregon Division of State Lands (ODSL) and U.S. Army Corps of Engineers (Corps) will also be consulted regarding their jurisdiction over areas identified by Parametrix as wetlands or other waters of the State.

Upland habitat in the vicinity of the alignment will be evaluated in association with wetland surveys. Parametrix biologists will also coordinate with City of Milwaukie staff regarding the special designation of the upland habitat within the alignment. Because of the disturbed condition and isolation of the site, it is unlikely that any TES plants or wildlife would occur there. In addition, correspondence with the Oregon Department of Fish and Wildlife (ODFW) indicates that the spring-fed drainages in the central Milwaukie area (including Spring Creek) are not known to support fishery resources. Therefore, no additional surveys beyond those associated with the wetland delineation and general wildlife habitat evaluation will be conducted at this time. If, however, additional information from independent sources indicates that the site supports TES plants or wildlife or fishery resources, then additional field surveys may be needed. The cost for additional surveys is not included in the attached budget.

Results of field surveys will be incorporated into the *Wetland Determination and Delineation Report* and the *Ecosystems Results Report*. Impacts will be assessed to vegetation, wildlife and wildlife habitat, and wetlands. Fishery resources and TES species will also be addressed, but impacts to them are not anticipated. Completion of the impact assessment to wetlands and aquatic resources will require review of the appropriate sections from the *Water Quality and Hydrology Results Report*. Revisions to existing sections of the *Ecosystems Results Report* will be revised to reflect changes in the western and eastern endpoint locations of the Railroad

Avenue and Milwaukie Regional Center segments, respectively. Mitigation measures will be prepared to address all significant impacts to natural resources within this alignment. Particular attention will be given to ensuring conformance with City of Milwaukie mitigation requirements for impacts to natural resources within the special designation area.

BUDGET

See attached

REVISED EXPENDITURE BUDGET
PARAMETRIX INC.
CONTRACT #904021

Task	Description	Current Budget	Proposed Amendment	New Budget
1.1.1	Traffic	$468,122	$94,590	$562,712
1.1.2	Energy	16,273	2,589	18,862
1.1.3	Air Quality	35,639	2,500	38,139
1.1.4	Noise/Vibration	105,358	27,024	132,382
1.1.5	Hydrology/Water Quality	33,055	13,365	46,420
1.1.6	Historic (Section 106)	118,771	8,712	127,483
1.1.7	Parks (Section 4 (f))	57,451	7,143	64,594
1.1.10	Displacement	5,668		5,668
1.1.11	Social & Neighborhoods	47,301	3,195	50,496
1.1.12	Ecosystems	138,117	22,807	160,924
1.1.13	Visual/Aesthetics	165,665	47,034	212,699
1.1.14	Land Use/Economic	59,858	1,857	61,715
1.2	Methods Report	7,003		7,003
1.4	Project Mgmt/Coordination	101,688	44,955	146,643
1.6	Draft EIS	128,970		128,970
	SUB-TOTAL	**1,488,939**	**275,771**	**1,764,710**
1.7	Contingency	11,061	34,229	45,290
	TOTAL	**$1,500,000**	**$310,000**	**$1,810,000**

DBE PARTICIPATION	Total Budget	DBE Budget	DBE Percentage
Original Contract	$1,500,000	$203,381	13.6%
Amended Contract	$1,810,000	$231,779	12.8%

STAFF REPORT

CONSIDERATION OF RESOLUTION No. 97-2527 FOR THE PURPOSE OF APPROVING AN AMENDMENT TO THE SOUTH/NORTH DRAFT ENVIRONMENTAL IMPACT STATEMENT CONSULTANT SERVICES CONTRACT WITH PARAMETRIX INCORPORATED, NO. 904021, TO INCORPORATE ANALYSIS OF ADOPTED COST-CUTTING MEASURES

Date: June 4, 1997 Presented by: Richard Brandman

PROPOSED ACTION

This resolution would authorize Metro's Executive Officer to execute an amendment of approximately $310,000 to Contract No. 904021 with Parametrix Incorporated to incorporate a revision to the contract's scope of work substantially similar to Exhibit A, resulting in an amended not-to-exceed budget of approximately $1,810,00, in order to evaluate and document the environmental impacts associated with the cost-cutting measures adopted by the Metro Council through Resolution No. 97-2505A.

FACTUAL BACKGROUND AND ANALYSIS

1. Background

The South/North Transit Corridor Study was initiated in April 1993 when the Metro Council adopted Resolution No. 93-1784, which selected the Milwaukie and I-5 North Corridors as the region's high-capacity transit priority to be studied further within a Draft Environmental Impact Statement (DEIS). In October 1993, the Federal Transit Administration (FTA) issued its intent in the *Federal Register* to publish an EIS for the South/North Corridor. Between December 1994 and December 1995, the project narrowed the alignment and length alternatives and design options to be studied further within the DEIS.

2. Selection of DEIS Consultant Services Contract

In March 1995, the Metro Council approved Resolution No. 95-2101 which authorized the release of a request for proposals and for the Metro Executive Officer to execute a contract for consultant services for the environmental analysis and documentation for the South/North Transit Corridor Study. Following a competitive bidding process, Parametrix Incorporated was selected to negotiate a scope of work and budget. In January 1996, the Metro Executive Officer executed Contract No. 904021 with Parametrix Incorporated for the provision of consultant services for the environmental analysis and documentation for the South/North Transit Corridor Study with a budget not to exceed $1.5 million. The current line item budget for Contract No. 904021 is summarized in Exhibit A.

3. Cost-Cutting Amendments

In February 1996, in a special session, the Oregon Legislature approved a bill that would have provided $375 million in Oregon

State Lottery funds for the state's share of South/North Light Rail's capital budget for the first construction segment. That bill was placed on the November 1996 statewide ballot by petition (Ballot Measure 32). In November 1996, Ballot Measure 32 was defeated statewide.

After the November 1996 election, the South/North Steering Committee evaluated the election results and proposed next steps for the South/North Transit Corridor Study. In response to the election results and analysis, the Steering Committee and the Metro Council called upon project staff to develop a range of options and design changes to significantly reduce the cost of the proposed light rail project.

In May 1997, following an extensive technical analysis and public comment process, the Metro Council adopted Resolution No. 97-2505A which amended the alternatives to be studied further within the South/North DEIS to respond to the most promising cost-cutting measures. The amendments to the South/North DEIS light rail alternatives approved by Metro Council are described in detail in the *South/North Cost-Cutting Measures Final Report* (Metro: May 1997).

4. Proposed Amendments to Contract No. 904021

A substantial portion of the environmental impact analysis and documentation for the South/North Transit Corridor Study was completed by Parametrix Incorporated prior to the November 1996 election. Following the election, Metro staff directed Parametrix Incorporated to delay work on completing the South/North environmental analysis and documentation pending completion of the cost-cutting process.

In order to comply with federal National Environmental Policy Act (NEPA) requirements needed to qualify for the receipt of federal funds, the South/North Transit Corridor Study must incorporate the cost-cutting amendments approved by the Metro Council into the South/North DEIS. The adopted cost-cutting measures were not included within the original scope of work and budget for Contract no. 904021.

Metro project staff prepared a scope of work which would incorporate the cost-cutting amendments into the South/North DEIS. Through the preparation of the cost-cutting scope of work, Metro staff found that Parametrix Incorporated is uniquely qualified for the execution of that scope of work because of 1) Parametrix Incorporation's previous work on the South/North DEIS; 2) the need to perform an environmental analysis on the cost-cutting measures and incorporate the results into the environmental analysis and documentation which has already been prepared by Parametrix Incorporated; and 3) the need to publish a South/North DEIS as soon as possible in order to meet federal funding requirements and timelines.

Metro staff have negotiated a proposed not-to-exceed budget with Parametrix Incorporated staff for the cost-cutting measures scope of work which would increase consultant services Contract No.

904021 by $310,000 resulting in a not-to-exceed budget of approximately $1,810,000. The proposed amendment to the scope of work and budget are included in Exhibit A. Resolution No. 97-2527 would therefore authorize the Metro Executive Officer to execute an amendment to Contract No. 904021 with a scope of work substantially similar to Exhibit A resulting in a budget not to exceed $1,810,000. Exhibit A includes a line item budget for the current contract and for the proposed contract amendment.

Proposed amendments to the South/North Technical Services Contract No. 904099 (which includes the preparation of the DEIS financial analysis, cost benefit analysis, definition of alternatives documentation, etc.) and intergovernmental agreements (IGAs) with participating jurisdictions will be prepared by Metro project staff and forwarded to the Metro Council for approval at a subsequent date. Those amendments will incorporate modifications to the contract and IGA scopes of work and not-to-exceed budgets to address the adopted cost-cutting measures and the initiation of Preliminary Engineering (PE) concurrent with preparation of the DEIS (as approved by FTA in April 1996). The proposed amendments to the IGAs will also incorporate the completion of PE and the preparation of the Final EIS.

5. Budget Impact

The South/North Transit Corridor Study's current budget for preparation of the EIS and PE is adequate to fund the proposed amendment to Contract No. 904021. The current total project budget has been incorporated into the proposed Fiscal Year 1997/98 Metro budget.

EXECUTIVE OFFICER'S RECOMMENDATION

The Executive Officer recommends approval of Resolution No. 97-2527.

October 9, 1996

3078-P20

Anne Sylvester
Parametrix
7820 N.E. Holman, Suite B-6
Portland, OR 97218

B R W INC.

Subject: Cost Estimate for Traffic Analysis of Additional Downtown Milwaukie LRT Alignment Alternative (Main Street/SP Branch)

Dear Ms. Sylvester:

Per your request, Dan Mills has provided this estimate of hours required to conduct traffic analysis for the Main Street/SP Branch LRT alignment alternative in downtown Milwaukie. This estimate is based on the following assumptions:

- Traffic volume information from the existing alternatives will be used as a basis for the analysis (no additional modeling information will be provided from Metro) existing information will be adjusted, as necessary, to conduct the analysis.
- The study area for this alternative will be determined by BRW staff during the analysis. In addition to intersections analyzed under other alternatives three additional intersections will be analyzed. These include Railroad Avenue @ Oak Street, 32nd Avenue @ Harrison Street and Main Street @ Scott Street. These intersections will be analyzed assuming the existing, no-build, full length and Main Street/SP Branch alternatives.
- Vehicular queuing analysis of the dual LRT crossings of Main Street and the crossing on Harrison Street between Highway 224 and 32nd Avenue will be conducted.
- PM peak hour turning movement counts will be obtained by Parametrix.

It is estimated that we will require approximately 44 hours at $75.00 per hour for a total of $3300.00, to complete this analysis. BRW staff will begin this analysis upon receipt of turning movement counts and the goal will be to present results at the next Milwaukie/Clackamas County TAC meeting in two weeks.

I hope that the information provided in this letter is sufficient to meet your needs at this time. If you have questions or require additional information please feel free to contact Dan Mills.

Sincerely,

BRW, Inc.

John A. Lackey, P.E.
Project Manager

cc: Dan Mills
Todd Widner

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FACSIMILE COVER LETTER

Please deliver the following to:

Name: JEFF HEILMAN

Organization: PARAMETRIX, INC.

FAX No.: 503-256-4221

Date: 9.26.96

Subject: SPRING CREEK WETLAND AREAS SURVEY

Proj. No.: 1436.29

From: PHIL TURNER

Total Number of Pages (including cover page): ____

If you do not receive all pages, please contact us at (503) 624-1468.

AFTER FIELD ASSESSMENT OF THE THREE SPRING CREEK WETLAND SITES, THOMAS/WRIGHT PROPOSES TO PROVIDE SURVEYING SERVICES FOR THESE SITES FOR A SUM NOT TO EXCEED 2200.00 BASED ON STANDARD COMPANY BILLING RATES. THIS SUM INCLUDES AN ESTIMATED 1½-2 DAY FIELD WORK + 6 HRS. of DATA COMPILATION / DRAFTING. AS THE SITE IS FULLY MARKED, WE COULD BEGIN SURVEYING IMMEDIATELY UPON NOTICE TO PROCEED + WOULD EXPECT TO DELIVER MAPPING WITHIN 4 BUSINESS DAYS.

PLEASE CALL IF YOU HAVE ANY QUESTIONS,

PHIL