

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF ENDORSING)
THE RECOMMENDATIONS OF THE)
NORTHWEST SUBAREA TRANSPORTA-)
TION STUDY)

RESOLUTION NO. 94-1965
Introduced by the
Planning Committee

WHEREAS, The Northwest Subarea Transportation Study was initiated in 1991 and was intended to address transportation issues in an area generally located north of the Sunset Highway between northwest Portland and NW 112th Avenue; and

WHEREAS, The initial study objective was to develop and analyze transportation strategies that would significantly enhance mobility and relieve the congestion problems within the study area; and

WHEREAS, The study determined that the congestion problems were a result of significant travel demand passing through the study area; and

WHEREAS, The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 requires comprehensive, multi-modal, and coordinated transportation planning; and

WHEREAS, The State Transportation Planning Rule (TPR) requires coordinated transportation and land use planning at the regional level; and

WHEREAS, As a result of ISTEA and the TPR, study alternatives for major capital projects, particularly those that would provide for single-occupant vehicle capacity (SOV), were eliminated for consideration as part of the Northwest Subarea Transportation Study; and

WHEREAS, The study concluded that any SOV projects or other major capital projects should be identified through the next update to the Regional Transportation Plan or subsequent refinements; and

WHEREAS, The study identified a package of relatively low-cost transit, system and demand management, and bicycle and pedestrian improvements to enhance study area mobility and reduce through traffic in the study area neighborhoods; now therefore

BE IT RESOLVED:

1. That the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council endorse the Northwest Subarea Transportation Study recommendations as identified in Exhibit A.

2. That JPACT and the Metro Council encourage Metro staff to work with responsible study area agencies and jurisdictions to implement study recommendations through Memoranda of Understanding.

ADOPTED by the Metro Council this 28th day of July,
1994.

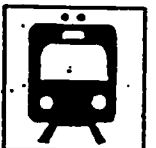

Judy Wyers, Presiding Officer

Number	Location	Description	Implementing Agency	Timing			Cost Estimates
				5 year (CIP)	10 year	10-20 year	
Access/ Safety Improvement Projects							
1	Burnside at Macleay/Tichner	Signalize intersections and provide left turn bays on Burnside	City of Portland	X			*** \$150,000
2	Burnside at NW Barnes	Improve intersection (signage)	City of Portland	X			\$5,000
3	Burnside at SW Skyline	Signalize intersection	City of Portland	X			\$474,500
4	Burnside at NW Skyline	Signalize intersection	City of Portland		X		\$200,000
5	SW Barnes at Miller	Provide right turn lane for westbound, and separate signal phase for southbound	Washington County	X			\$41,500
6	SW Capitol Highway at Sunset Drive	Realign the intersection, include left turn bay to Wilson High School	City of Portland		X		\$1,000,000
Sub Total							\$1,871,000
Transportation Systems Management (TSM) Projects							
7	Beaverton-Hillsdale Hwy. at Bertha/Capitol	Eastbound bus bypass lane from Beaverton-Hillsdale Hwy. to Capitol	City of Portland	X			\$25,000
8	I-405 at Sunset Highway	Add SB to WB exit ramp, widen at east end and restripe rest of ramp	ODOT		X		\$290,000
9	Cornell at Miller	Adjust signal phasing to discourage through traffic on Cornell, monitor	City of Portland	X			\$2,000
Sub Total							\$317,000
Bicycle and Pedestrian Projects							
10	Burnside from NW Macleay to SW Barnes	Add segments of bike facilities and sidewalks	City of Portland		X		\$500,000
11	Burnside near NW Barnes	Add a pedestrian overpass	City of Portland		X		\$500,000
12	SW Barnes from Leahy to Burnside	Add a bike lane	Washington County	X			\$208,000
13	Cornell from Westover to Miller	Add bicycle/pedestrian lane	City of Portland	X			\$518,000
14	Cornell from Miller to 112th	Add bicycle/pedestrian lanes	Washington County	X			\$500,000
15	Miller Road	Add a bikeway	City of Portland /Washington County		X		\$71,000
16	Barnes Road Extension from Hwy.217 to 112th	Add bicycle/pedestrian lanes	Washington County	X			\$327,000
17	Leahy Road	Add a bikeway		X			\$667,000
Sub Total							\$3,291,000

Final NWS Recom Jallons

Number	Location	Description	Implementing Agency	Timing			Cost Estimates
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<i>Transit Projects</i>							
18	Burnside/Barnes west of NW 23rd	Increase transit service on the existing line #20 to 15 min. service during both peak and off peak.	Tri-Met		X		** \$486,300
19	Various locations to Westside LRT	Increase transit service on 5 feeder bus lines to 15 min. service during peak and 20 min. during off peak.	Tri-Met		X		** \$630,500
20	Various locations to Westside LRT	Increase transit service on 3 feeder bus lines to 15 min. service during peak and 30 min. during off peak.	Tri-Met		X		** \$400,800
21	Bethany Area to Westside LRT	Add a feeder bus line from Rock Creek Community College (via West Union Road and Saltzman) to the Sunset Transit Station, with 15 minute service during peak and 20 minute service during off peak.	Tri-Met		X		** \$806,000
22	Burnside and Barnes	Provide additional bus shelters at selected locations along the existing line #20 route, west of NW 23rd and Burnside.	Tri-Met		X		\$22,400
23	Westside LRT stations and Park and Ride lots	Install bike lockers	Tri-Met		X		\$35,500
24	Oak Hills to downtown Portland	Add new bus line on Cornell Road, with stops at Forest Heights.	Tri-Met			X	** \$835,400
25	Forest Heights to downtown Portland	Maintain privately run express transit with 15 min. service during peak hours only.	Forest Heights and City of Portland	X			\$0
<i>Sub Total</i>							\$57,900
<i>Sub Total</i>							** \$3,159,000
<i>Grand Total</i>							\$5,536,900

* The scope of this project is subject to change, and may result in a new cost estimate.
 ** Project costs are per year estimates to provide transit service.
 *** This project has been completed and will be operational in March of 1994.
 Note: All above cost estimates are systems planning level estimates, not engineering estimates.



Executive Summary

Northwest Subarea Transportation Study

March 30, 1994



METRO

600 NE Grand Ave.
Portland, OR 97232
(503) 797-1700

Northwest Subarea Transportation Study's Executive Summary

This Executive Summary highlights the key findings of the Northwest Subarea Transportation Study. Complete information on the results of this study are found in the Alternatives Analysis and Recommendations Report.

Study Purpose

The Northwest Subarea Transportation Study was initiated in early 1991 to address problems related to existing and future traffic movements between Washington County and the City of Portland. The study focuses on east-west traffic in the Cornell/Barnes/Burnside corridor, but also examines north-south travel patterns along with transit service, transportation systems management, and demand management strategies.

Map A (next page) identifies the Northwest Subarea Transportation Study's primary and secondary study areas. The primary study area represents the major area of focus. This area experiences traffic infiltration due to increasing congestion on east-west facilities such as the Sunset Highway and Barnes-Burnside. The primary study area is also an area which has not previously undergone a comprehensive transportation analysis. Such an analysis has been requested by local residents and governments since the late 1970's and is noted as an issue area within the Regional Transportation Plan (RTP).

The secondary study area represents an additional area of potential transportation mitigation and further defines a travel shed which impacts the primary study area. Potential traffic solutions for the study have concentrated on both the primary and secondary study areas.




Study Reports

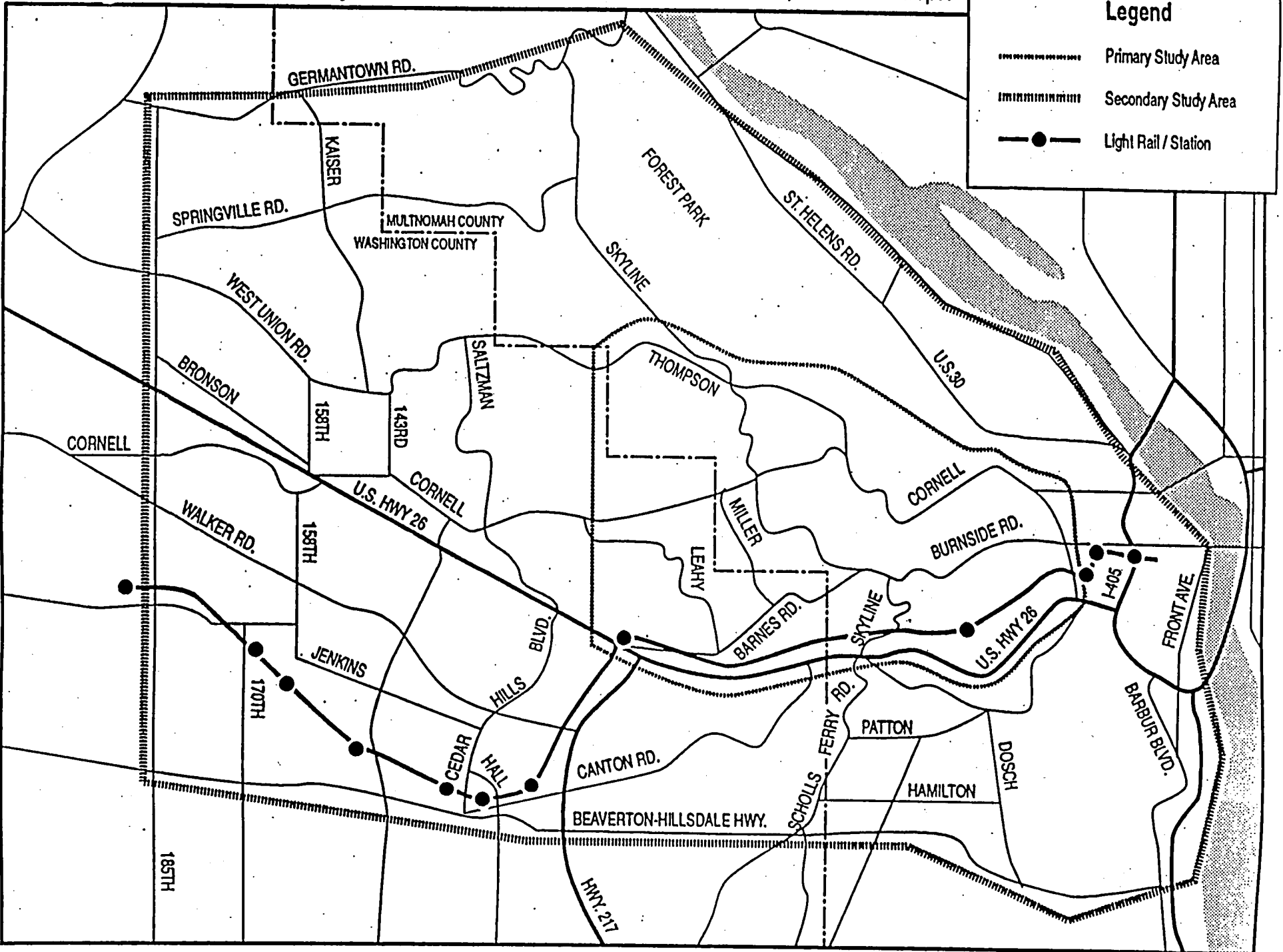
The Northwest Subarea Transportation Study has resulted in five reports:

1. Background Report. Completed in February of 1991, this report includes a list of study issues, goals and objectives; a compendium of existing and historical transportation information; and a summary of transportation policies, plans, and programs which influence the study area.
2. Base Year (1988) Conditions Report. This report was completed in December of 1991 and includes 1988 base year information (volumes, capacities, v/c ratios) and a through trip methodology which evaluates study area travel patterns and identifies problem areas using a number of evaluation tools.
3. Forecast Year (2010) Conditions Report. Completed in February of 1992, this report includes projected 2010 future year information (volumes, capacities, v/c ratios). The same through trip methodology and evaluation tools that were used in the 1988 Conditions Report were applied. In addition,

Primary 1d Secondary Study Areas

Map A

Legend	
	Primary Study Area
	Secondary Study Area
	Light Rail / Station



a comparison to the 1988 Conditions Report for each of the evaluation tools was completed.

4. Alternatives Development and Evaluation Methodology Report This report was completed in May of 1993 and accomplished three study tasks. First, it described the future (2010) transportation issues and problems that this study was designed to address. These issues and problems include: congestion and resulting through traffic within the study area, locally generated traffic and poor access to the Sunset Highway, the lack of public transit in the primary study area, natural and geographic constraints, and capacity constraints on the Sunset Highway. Second, this report developed several alternative scenarios intended to address study area problems. Third, it developed an evaluation methodology to evaluate and determine which alternative scenario (or combination of scenarios) will most effectively address the study issues and transportation problems. Evaluation required consistency with federal, state, regional, and local transportation goals and objectives.

5. Alternatives Analysis and Recommendations Report This report was completed in March of 1994 and accomplished three study tasks. First, it provided a detailed system level alternatives analysis. The alternatives analysis applied evaluation measures related to through traffic, the natural and built environment, transit ridership, vehicle miles of travel, vehicle hours of delay, vehicle emissions, energy consumption, and project costs. Second, this report defined a preferred alternative. The evaluation criteria was reapplied to measure improvement to system performance. Third, the report recommends an implementation strategy for the preferred alternative and identifies implications for the Regional Transportation Plan (RTP).

Study Process

Assisting Metro staff were a Citizens Advisory Committee (CAC) consisting of study area neighborhood associations, business groups, and interested parties. A Technical Advisory Committee (TAC) consisting of local jurisdictions and transportation agencies assisted staff with technical data and policy decisions. Two public meetings were held with residents and business people in the area to discuss the study issues and recommendations, and obtain their feedback.

Study Goals and Objectives

The study goals and objectives are:

Goal- Recommend an efficient, cost-effective, and integrated transportation network for the Northwest Subarea study areas, which enhances mobility, reduces peak congestion, improves auto and pedestrian safety, enhances neighborhood livability, and protects natural resources while maintaining access to business and jobs; and complies with state and federal regulations and is sensitive to local plans and policies.

Objective #1- Identify transportation improvements that reduce the negative impacts on neighborhoods by minimizing inappropriate through traffic and providing more alternative transportation options.

Objective #2- Identify transit improvements designed to provide better access to the Westside Light Rail Transit (LRT), and provide efficient transit service to some parts of the study area that would otherwise be under served.

Objective #3- Identify an adequate arterial/collector street system, for both east-west and north-south access, that supports the anticipated levels of development north of the Sunset Highway and facilitates connections to adjacent areas.

Objective #4- Identify bicycle and pedestrian improvements that enhance transit usage, connect to the regional bike network, connect to transit networks and major activity centers, and encourage the use of bicycling and walking for short trips.

Objective #5- Identify, as appropriate, potential access improvements to Westside LRT and the Sunset Highway, west of Highway 217, that facilitate regional traffic.

These goals and objectives recognize that the westside of the region suffers from a general lack of east-west travel capacity. However, any solutions to that problem must await completion of the Region 2040 Study. Following Region 2040, a decision may be made to comprehensively address that problem.

Policy Objectives/ Planning Guidelines

Initially the study envisioned recommending a preferred alternative that would significantly enhance mobility and resolve the congestion problems within the corridor. This preferred alternative could have potentially recommended new facilities or major capacity increases on existing facilities in order to achieve currently adopted level of service standards. However, a number of new policy objectives/ policy guidelines placed corridor capacity expansion beyond the scope of the study.

Essentially, the study team, including staff, the CAC, and the TAC, limited the study alternatives due to uncertainty associated with a number of "planning in transition" issues that are being comprehensively addressed through Metro's Region 2040 planning process and the subsequent update to the RTP. As required in the State Transportation Planning Rule 12, Region 2040 is examining regional land use and transportation options that may result in recommendations that alter the need for additional major transportation facilities. The Region 2040 recommendations may suggest land use scenarios for the Northwest Subarea study area that range anywhere from no-growth

(due to terrain and service provision constraints); to high density development (due to its relative central location and access to regional transportation facilities). Results and recommendations for Region 2040, and an updated RTP, will not be complete until May of 1995, hence the term "planning in transition". As a result, major capital projects, particularly those that could influence land use or would be influenced by land use, were not considered for inclusion as study recommendations.

Furthermore, uncertainties associated with new federal and state planning guidelines also limited the study scope. The Intermodal Surface Transportation Efficiency Act (ISTEA) requires that in non attainment areas for carbon monoxide or ozone (like Portland) pursuant to the Clean Air Act, interim and /or final Congestion Management Systems (CMS) plans be developed before significant single occupant vehicle (SOV) projects using Federal funds can be advanced. At a minimum, the interim CMS shall include "an appropriate analysis of all reasonable travel demand reduction strategies and operational management strategies for the corridor in which a SOV facility is proposed." The proposed rule in ISTEA also states, "this analysis must demonstrate how far such strategies can go in eliminating the need for additional SOV capacity in the corridor."

Vehicle miles of travel (VMT) per capita reduction goals are also required by the State's Transportation Rule 12. For the Portland area, Rule 12 requires regional and local transportation plans be designed to support the objectives of reducing regional VMT per capita by 10 percent within 20 years of adoption of a plan; and by 20 percent within 30 years of adoption. These requirements will influence decisions to construct projects that add SOV capacity in a corridor.

As a result of these policy objectives and planning guidelines, the study grouped alternative scenarios into two categories. First sequence alternatives consisted of a no build scenario, TSM type scenarios and transit improvement scenarios. Second sequence alternatives consisted of major capital improvement projects (expanding capacity), and included arterial improvement scenarios, and scenarios with new regional facilities. First sequence alternatives were evaluated against the study's identified performance criteria. Second sequence alternatives were not evaluated against the study criteria, and performance measurements were used for informational purposes only. The study recommendation is to implement a preferred alternative that combines the best elements from the first sequence alternatives. The system alternatives from the second sequence will be forwarded for consideration as part of the next update of the RTP.

Study Recommendations

Attached to this executive summary (for quick reference) is a table which lists each project the study is recommending, and three maps that show the

location of these projects. The table provides a brief description, the name of the implementing agency, a recommended time frame for implementation, and a cost estimate for each of the projects.

The study is recommending for implementation into the RTP and local plans, a "preferred alternative" which includes the following transportation projects:

1) Access/ safety improvement projects that are oriented towards improving safety, access, and traffic circulation. These projects are not to be considered as required safety mitigation projects. Access/ safety improvement projects include:

- Signalizing the intersections at Macleay/ Tichner and Burnside, provide left turn bays, and provide left turn restrictions at Maywood and Burnside.
- Improving the intersection at NW Barnes and Burnside.
- Signalizing the intersection at SW Skyline and Burnside.
- Signalizing the intersection at NW Skyline and Burnside.
- Providing a right turn lane at SW Barnes and Miller Road for westbound Barnes traffic, and a separate signal phase for southbound Miller traffic.
- Realigning and improving the intersection at Capitol Highway and Sunset Drive, including a left turn bay for westbound traffic to access Wilson High School.

2) Adding bicycle and pedestrian improvement projects that are consistent with RTP and State Transportation Rule 12 objectives. These projects are designed to improve walk and bike access for short, localized trips. The local implementation of these bicycle and pedestrian facilities will seek to provide continuous, convenient, and safe facilities. Bicycle and pedestrian improvement projects include:

- General bicycle/pedestrian improvements on Burnside (segments of sidewalks and bike facilities), from NW 23rd to SW Barnes, to improve access to transit.
- A continuation of the bike lane on Barnes Road from Leahy Road to Burnside.
- A bicycle/pedestrian lane on Cornell Road from Westover to Miller.
- A bicycle/pedestrian lane on Cornell Road from Miller to 112th.
- A connecting bikeway on Miller Road.
- A bicycle/pedestrian lane on the Barnes Road Extension from Highway 217 to 112th.
- A bikeway on Leahy Road between Cornell Road and Barnes Road.

3) Installing bike lockers at Westside LRT stations and transit stations with park and ride lots.

4) Adding privately run express transit service, from Forest Heights to the downtown Portland transit mall via Miller Road and Barnes/ Burnside, with service every 15 minutes during the peak hours only.

5) Increasing bus service on the existing line #20 that runs on Barnes/ Burnside, with service every 15 minutes during both the peak and off peak hours.

6) Adding TSM improvement projects on Beaverton-Hillsdale Highway from Bertha Blvd. to Scholls Ferry Road. Includes a bypass lane for through eastbound traffic from Beaverton-Hillsdale Highway to Capitol Highway.

7) Adding an exit lane from I-405 southbound to Sunset Highway westbound. Widening will occur at the east end of the project, with re-striping along the rest of the ramp.

8) Adjusting the signal phasing at NW Cornell and Miller Road during the peak hours, with the intent of discouraging through traffic on Cornell east of Miller, while maintaining a safe and well balanced intersection. (Local implementation of these adjustments will be dependent upon additional analysis of this intersection).

9) Increasing bus service on eight of the future lines that feed into the Westside LRT. Service on five of these lines would be provided every 15 minutes during the peak, and every 20 minutes during the off peak. Service on the other three lines would be provided every 15 minutes during the peak, and every 30 minutes during the off peak.

10) Adding a feeder bus to the Westside LRT that runs from Rock Creek Community College, through Bethany via West Union Road, to the Sunset Transit Station, with service every 15 minutes during the peak and every 20 minutes during the off peak hours.

11) Providing additional bus shelters at selected locations along the existing line #20 route, west of NW 23rd and Burnside.

For long term implementation, the study is also recommending new bus service, which would run on Cornell Road from Downtown Portland to Oak Hills (NW 153rd and Oak Hills Dr.) with stops at Forest Heights, through Tri-Met's Annual Service Plan.

The study supports regional efforts to examine various land use mixes for their ability to reduce and shorten trips taken by auto. In particular, the study supports Region 2040 efforts to define a long-term urban form and transit related development activities. The land use factors used in this study implied that a better mix of land uses would reduce travel demand by auto.

The level of travel reduction and shortening of trips will need additional study. Any long term solution to auto travel demand is likely to include transportation demand management (TDM) programs as well as a better mix of land uses.

The study is recommending that the local projects in the preferred alternative be reviewed and implemented through local capital improvement programs, or (for transit projects) Tri-Met's Annual Service Plan. Regional projects within the preferred alternative are recommended for review and implementation as part of the RTP update for Rule 12.

Analysis of the study's ability to meet its goals and objectives

The following is an assessment of how well the recommendations work towards accomplishing each study goal and objective:

Goal - Recommend an efficient, cost-effective, and integrated transportation network for the Northwest Subarea study areas, which enhances mobility, reduces peak congestion, improves auto and pedestrian safety, enhances neighborhood livability, and protects natural resources while maintaining access to business and jobs; and complies with state and federal regulations and is sensitive to local plans and policies.

The preferred alternative does little to reduce peak congestion and enhance mobility. These problems may be resolved through a combination of restructuring regional land use development, aggressive congestion management plans, and providing the necessary capacity to accommodate travel demand in this corridor. These are regional issues that will be dealt with in the Region 2040 study and the RTP update, and were beyond the scope of this study.

Considering the "planning in transition" issues that restricted major capacity expansion traffic solutions, the study adequately addresses the primary goal. The preferred alternative provides an integrated transportation network that combines intersection improvements (TSM projects) and additional transit service with elements of a transportation demand management (TDM) program. The preferred alternative enhances neighborhood livability by allowing better access to major city traffic streets, reducing through traffic in the neighborhoods along Cornell, and providing safer auto and pedestrian crossings at key intersections. The study used a process that measured cost effectiveness of each first sequence alternative.

Objective #1- Identify transportation improvements that reduce the negative impacts on neighborhoods by minimizing inappropriate through traffic and providing more alternative transportation options.

The preferred alternative reduces through traffic by nearly 12 percent on Cornell, and by over 11 percent on Burnside. Overall, these reductions enable the preferred alternative to meet the objective of minimizing inappropriate through traffic.

The study meets the objective of providing alternative transportation options by providing improved access to existing transit, and additional bicycle and pedestrian facilities. The study also addresses the issue of increasing carpooling and vanpooling efforts.

Objective #2- Identify transit improvements designed to provide better access to the Westside LRT, and provide efficient transit service to some parts of the study area that would otherwise be under served.

The preferred alternative provides better access to the Westside LRT by improving service on some feeder buses, and providing bicycling facilities to (and bike lockers at) LRT stations. The new transit service for the Bethany area provides service to an area that would otherwise be under served, while meeting transit service standards. The new transit service on Cornell Road (from Downtown Portland to Oak Hills) also serves an area that would otherwise be under served. Overall, the study recommendations meet objective #2.

Objective #3- Identify an adequate arterial/collector street system, for both east-west and north-south access, that supports the anticipated levels of development north of the Sunset Highway and facilitates connections to adjacent areas.

The study determined that the east-west arterial/ collector street system north of the Sunset Highway (Cornell and Burnside) would provide adequate capacity in 2010 if not burdened with through traffic. The north-south street system in the primary study area provides adequate capacity and access even with the through traffic it carries. However, some trips must travel out of direction to access the Sunset Highway. With the current policy restrictions on the distances between interchanges on the Sunset Highway, and the geographical constraints, the study did not seek a solution to the out of direction movements.

Objective #4- Identify bicycle and pedestrian improvements that enhance transit usage, connect to the regional bike network, connect to transit networks and major activity centers, and encourage the use of bicycling and walking for short trips.

The preferred alternative provides additional bicycle and pedestrian facilities that connect to the transit network and major activity centers (i.e. downtown, Sunset Transit Center, and Forest Heights). The bicycle and pedestrian

improvements on Cornell, Miller, and Barnes Road complete an important connection in the regional bike network. The new facilities should encourage bicycling and walking for short trips. No adjustment to the regional bicycle system is recommended.

Objective #5- Identify, as appropriate, potential access improvements to Westside LRT and the Sunset Highway, west of Highway 217, that facilitate regional traffic.

Beyond the transit and bicycle access improvements to the Westside LRT that were shown under objective #2, the study does not propose any additional access to the Sunset Highway or LRT.

Final NWS Recommendations

Number	Location	Description	Implementing Agency	Timing			Cost Estimates
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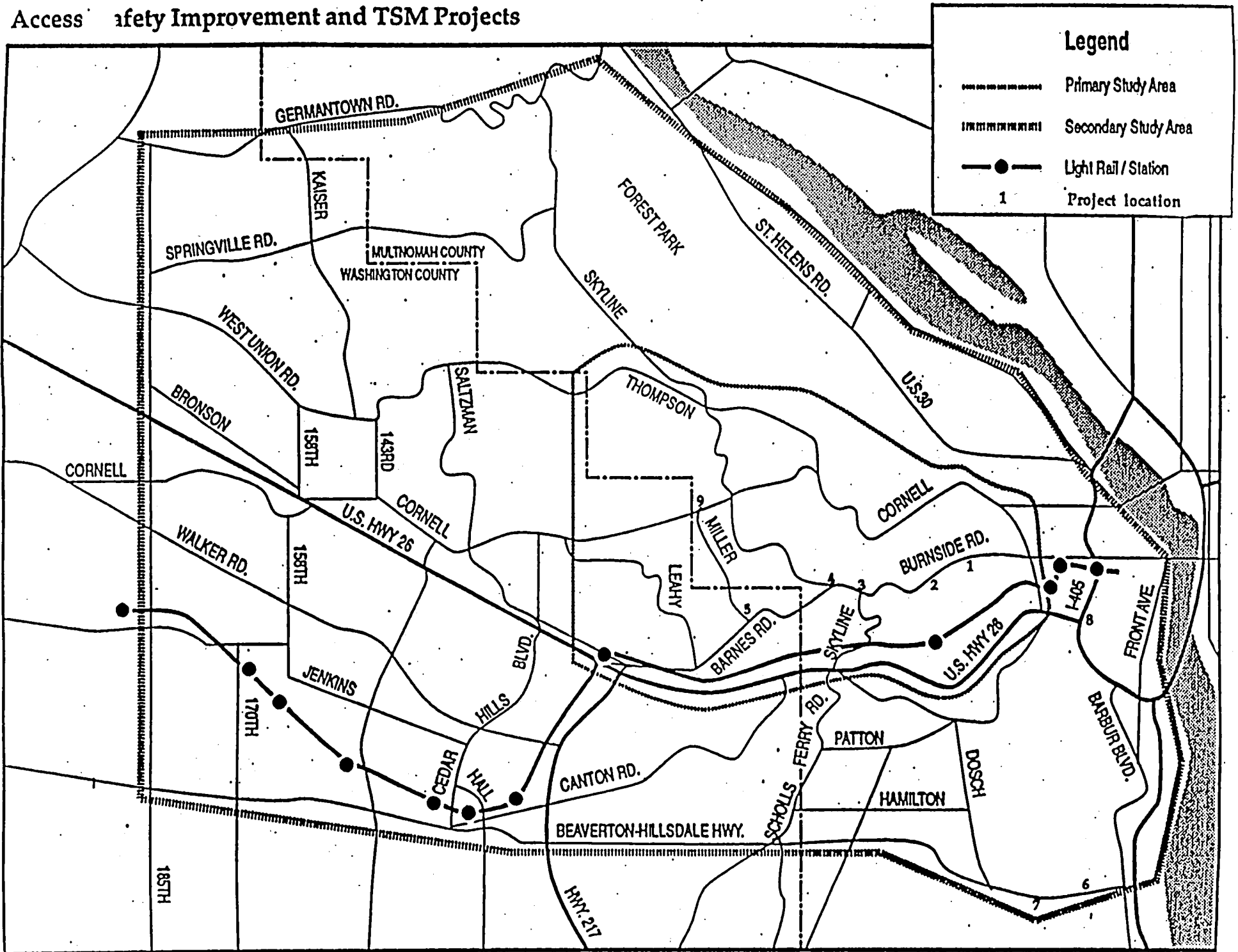
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25	Forest Heights to downtown Portland	Maintain privately run express transit with 15 min. service during peak hours only.	Forest Heights and City of Portland	X			\$0





Sub Total \$57,900
 Sub Total ** \$3,159,000
 Grand Total \$5,536,900

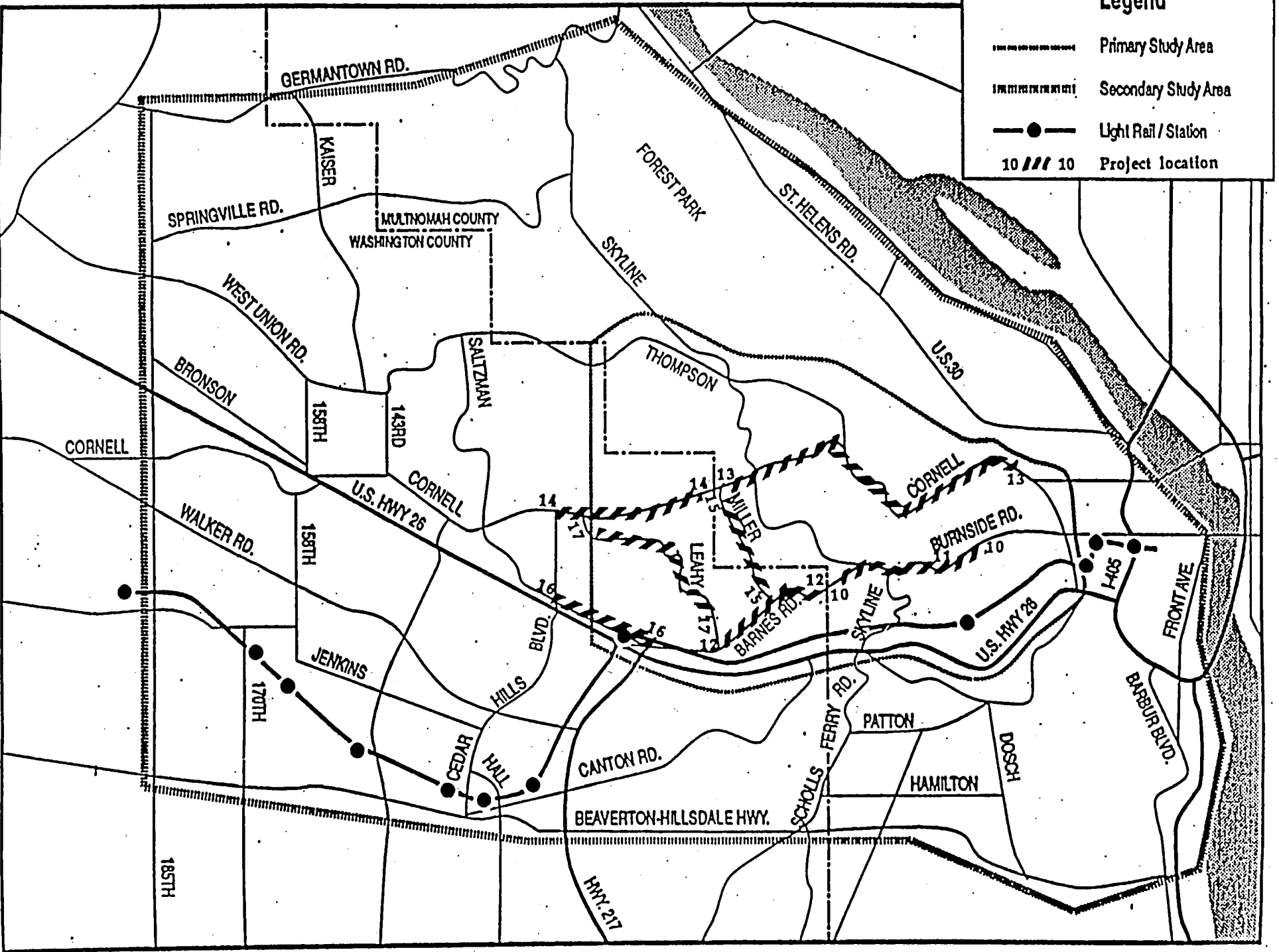
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 Note: All above cost estimates are systems planning level estimates, not engineering estimates.

Access Safety Improvement and TSM Projects

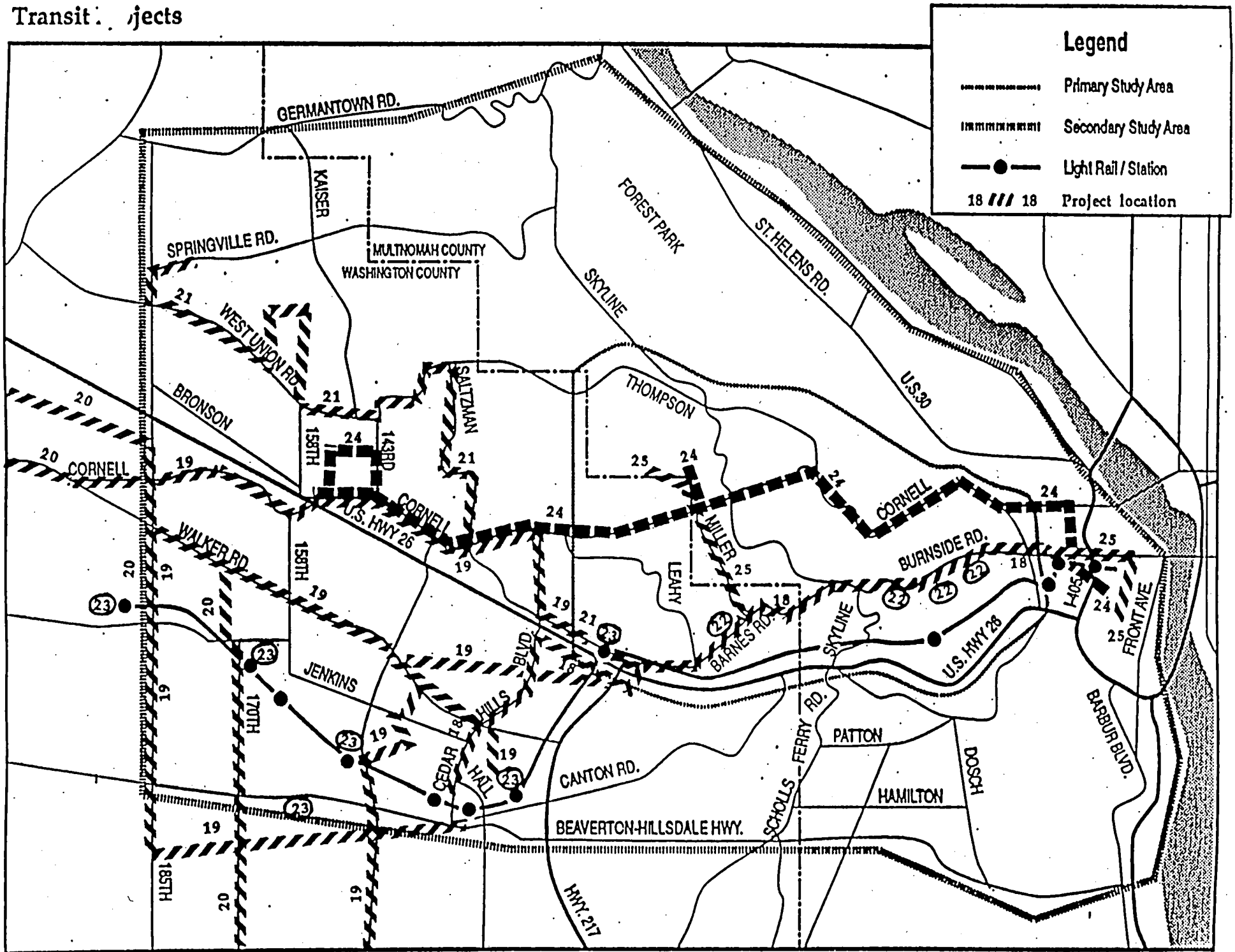


Bicycle and Pedestrian Projects

Legend	
	Primary Study Area
	Secondary Study Area
	Light Rail / Station
	Project location



Transit Projects



STAFF REPORT

CONSIDERATION OF RESOLUTION NO. 94-1965 FOR THE PURPOSE OF ENDORING THE RECOMMENDATIONS OF THE NORTHWEST SUBAREA TRANSPORTATION STUDY

Date: May 31, 1994

Presented by: Michael Hoglund

PROPOSED ACTION

This resolution endorses the recommendations contained in the *Northwest Subarea Transportation Study Alternatives Analysis and Recommendations Report*. The resolution further directs Metro staff to work with ODOT, Tri-Met, the City of Portland, and Washington County to develop Memoranda of Understanding for implementation of study recommendations through local plans and capital programming processes.

TPAC reviewed the study recommendations at its May 27 meeting and recommends approval of Resolution No. 94-1965.

FACTUAL BACKGROUND AND ANALYSIS

Study Purpose and Approach

The Northwest Subarea Transportation Study was initiated in 1991 to address traffic problems related to existing and future travel between Washington County and the City of Portland and within the study area. The study focus was on east-west traffic in the Cornell/Barnes/Burnside corridor. Also analyzed were north-south travel, internal circulation, transit service, and transportation systems and demand management strategies. Attachment A summarizes the study and includes a study area map.

Modified Study Approach

The initial study objective was to develop transportation strategies that would significantly enhance mobility and relieve the congestion problems within the subarea. Strategies were to examine the potential of new facilities or expansions to the existing street system for their ability to achieve currently adopted service standards and reduce neighborhood traffic infiltration. However, a number of actions at the federal, state, and local level required a modified approach to the study.

The modified approach was based on a number of "planning in transition" issues that are more appropriately being addressed through Metro's Region 2040 planning process and the update to the RTP. First, to meet State Transportation Planning Rule (TPR) requirements and goals, the Region 2040 Study is examining regional land use and transportation options that may result in recommendations that alter the need for additional major transportation facilities in the study area. Any such decisions coming from the Northwest Subarea Study were determined to have been premature.

Second, uncertainties associated with federal planning requirements also limited the study scope. The Intermodal Surface Transportation Efficiency Act (ISTEA) requires that in non-attainment areas for carbon monoxide or ozone (such as the Metro area), and pursuant to the Clean Air Act, congestion management systems (CMS) be developed before significant single-occupant vehicle (SOV) projects using federal funds can be advanced. At a minimum, a CMS shall include "an appropriate analysis of all reasonable travel demand reduction strategies and operational management strategies for the corridor in which an SOV facility is proposed." The proposed rule in ISTEA also states, "this analysis must demonstrate how far such strategies can go in eliminating the need for additional SOV capacity in the corridor." The CMS is essentially being developed in conjunction with, and will focus on, the updated RTP. As a result, any proposals for new SOV facilities as part of the Northwest Subarea Study and prior to the RTP Update would also be premature at this time.

Consequently, the modified approach, developed jointly between Metro staff, the Study Citizens Advisory Committee (CAC), and the Study Technical Advisory Committee (TAC), limited the number and scope of study alternatives. The approach was to group the study alternatives into two categories. These included:

- First sequence alternatives consisting of a no-build scenario, TSM/TDM type scenarios and transit improvement scenarios. Those types of alternatives were considered to be consistent with current planning policy and would be necessary regardless of the Region 2040 decision.
- Second sequence alternatives included arterial improvement scenarios and scenarios with new regional facilities. These alternatives could be greatly influenced by Region 2040 and RTP decisions.

Consistent with the modified approach, first sequence alternatives were evaluated against the study's identified performance criteria and were considered in the recommended package of projects, as appropriate. Second sequence alternatives were not evaluated against the study criteria, and performance measurements were used for informational purposes only. Second sequence alternatives were not considered for inclusion in the recommended package. The study TAC and CAC recommend that second sequence alternatives be forwarded for review as part of the RTP update, as appropriate.

Evaluation Methodology

Study alternatives were evaluated against a number of qualitative and quantitative criteria. The criteria were grouped into three main categories:

1. Neighborhood and Environmental Impacts. These criteria examined each alternative's impacts on the built and natural

environment and through traffic within the Cornell and Barnes/Burnside Corridor.

2. Clean Air Act and TPR Objectives. Criteria included vehicle miles of travel, energy consumption, and emissions of hydrocarbons, carbon monoxide, and nitrogen oxides.
3. Transit and System Performance. Criteria included vehicle hours of delay, transit ridership, and number of drive-alone vehicles.

Each of the above criteria were weighted and assigned points. Project costs were estimated and a modified cost/benefit analysis was developed. Only projects meeting study objectives and having a significant (as tested) impact on traffic or operations were included in the study recommendations.

Study Recommendations

Attachment A to the staff report is the study's *Executive Summary Report*. The report includes the study goals and objectives, summarizes the study process, provides an overview of previous study reports, and lists and describes study recommendations. The report also includes an analysis of the ability of the recommendations to meet study objectives. Recommendations begin on page 4 and are summarized in the table and maps in the back of the report.

Finally, the study also recommends that the local projects in the preferred alternative be reviewed and implemented through local capital improvement programs, or (for transit projects) Tri-Met's Annual Service Plan. To ensure such review, it is proposed that memoranda of understanding (MOUs) between Metro and the local jurisdictions be developed. The MOUs would include a commitment from the implementing agency or jurisdiction to review the recommendations as part of their capital programming activities.

Public Involvement/Local Coordination

The study included ongoing technical and citizen advisory committees. Attachment B lists the members. In addition, outreach efforts include two public meetings in the study area (one to discern issues and problems and a second to present findings and recommendations); a regular newsletter sent to interested persons; and periodic presentations to interested organizations. Attachment C is a summary of public comment from a December 1993 public meeting to discuss preliminary study recommendations.

Schedule

JPACT will review recommendations June 9; the Metro Planning Committee public hearing is June 16; and Metro Council action is June 23.

EXECUTIVE OFFICER'S RECOMMENDATION

The Executive Officer recommends approval of Resolution No. 94-1965.

TECHNICAL ADVISORY COMMITTEE

Andy Back
Blair Crumpacker
Jennifer Gerlach
Dan Layden
Dennis Mitchell
Rick Root
Laurel Wentworth
Dave Williams

Washington County
Washington County
Tri-Met
Multnomah County
ODOT
City of Beaverton
City of Portland
ODOT

CITIZEN ADVISORY COMMITTEE

Members

Betty Atteberry
Selwyn Bingham
John Breiling
Richard E. Caplan
Charlotte Corkran
Candice Deming
Earl Grove
Chet Grycko
David Lokting
Eugene Lynch
Gerald Parady
John Phillips
Ron Poplin
Larry Preuss
Chuck South
Ellen Vanderslice
Hubert Walker
Ken Zinsli

Sunset Corridor Association
NW Industrial Neighborhood Association
CPO 7
Nob Hill Business Association
Oregon Environmental Council
SW Hills Residential League
Forest Park Neighborhood Association
At-Large
Arlington Heights Neighborhood Association
Sylvan-Highlands Neighborhood Association
Citizens for the Canyon
Hillside Neighborhood Association
Homes Association of Cedar Hills
CPO 1
Leahy Neighborhood Association
Northwest District Association
Friends of Forest Park
St. Vincent's Hospital

Alternates

Gordon Baker & John Thompson
Barbara Divine
Mitch Lockett
Marcy McInelly
Gail Neuburg & Cristine James
Micki Rosen
Chuck Weswig
Chris Wrench

Arlington Heights Neighborhood Association
SW Hills Residential League
Friends of Forest Park
Forest Park Neighborhood Association
Hillside Neighborhood Association
Sylvan-Highlands Neighborhood Association
Homes Association of Cedar Hills
Northwest District Association

**Summary of Key Issues from NW Subarea Study's
December 13, 1993 Public Meeting**

Issue #1 - Should the Cornell/Miller intersection be the only intersection on Cornell that delays through traffic with a signal phasing change? Should staff look at changing the signal phasing on Cornell at intersections west of Miller? Should signal phasing changes be considered at the intersection of Cornell and Murray?

Staff is currently looking at signal phasing changes at Cornell and 112th, Cornell and Barnes/Saltzman, along with Cornell and Miller; in order to discourage through traffic on Cornell. At each of these intersections the through movement will be assumed to have an additional 15 seconds of red time over the existing (or normal) red time, and the north/south movement will have an additional 15 seconds of green time. The intent of this approach is to spread the additional delay for through trips on Cornell over three different intersections, instead of having a 45 second delay at only Cornell and Miller. This approach should reduce the probability that drivers will violate a signal and thus create a safety problem. Changes to the signal phasing at Cornell and Murray were not considered due to the level of congestion that currently exists at this intersection during peak hours.

Issues #2- The neighborhood at the east end of Cornell is negatively impacted by through traffic. What other neighborhoods and transportation functions are legitimately served by Cornell?

Staff's answer is that Cornell between Miller and NW 28th (in the City of Portland) is classified as a Neighborhood Collector. With this classification, this portion of Cornell should serve as the street that collects neighborhood traffic from Forest Heights, and the Forest Park and Hillside neighborhoods, and carry it between these neighborhoods and to adjacent neighborhood districts (i.e.: NW Portland). However, the portion of Cornell west of Miller is classified as a Minor Arterial by Washington County, and as such it serves a broader area.

Issue #3- The study's recommendations on bicycle improvement projects received favorable comments at the public meeting. As requested at the public meeting, the Alternatives Analysis and Recommendation Report could add language to provide an adequate number of bike lane signs as part of the recommendations for bicycle and pedestrian improvement projects.

Staff agrees that the Alternatives Analysis and Recommendations Report will add language that recommends an adequate number of signs for the designation of new bicycle and pedestrian facilities.

Issue #4- Should the study consider more bus service on Leahy Road? A comment at the public meeting was that the current service runs too infrequently.

Currently the NW Subarea Study recommendations do not include additional transit service on Leahy. Preliminary transit analysis shows little new ridership could be obtained from additional service on the line #60. Metro staff will check with Tri-Met to see if they have considered additional service on Leahy.

Issue #5- Will changing the signal phasing at Cornell and Miller (by 45 seconds for the through movement) during the peak hours create traffic and safety problems? Will this change result in insufficient storage space in the eastbound right turn lane on Cornell?

The issue will be considered in more detail after the City of Portland performs a level of service (LOS) analysis on this intersection. The impact of this scenario on the LOS at other intersections within Washington County (i.e. Cornell/112th, Cornell/Saltzman, etc.) will also be analyzed. Results of this analysis will be discussed at the March 2nd NW Subarea TAC meeting.

Issue # 6- Should signal changes at Cornell/112th, Cornell/Saltzman, and Cornell/Murray be examined for their effectiveness in discouraging through traffic on Cornell?

Yes, signal changes will be considered for these intersection (except Cornell/Murray) and for Cornell/Miller. The impacts on LOS at all these intersections (plus the Barnes/Miller and Cornell/Miller intersection) will be analyzed for a scenario that includes 15 seconds of delay (during the peak hours only) for through movements at Cornell/Miller, Cornell/112th, Cornell/Saltzman, and for westbound to southbound movements at Cornell/112th.

Issue #7- Should signal changes at Cornell/Saltzman and Cornell/Murray become part of the NW Subarea study's recommendations?

This decision will be made after the analysis of the two scenarios mentioned above, and the discussion of this analysis at the March TAC meeting.

Issue #8- What are Forest Heights obligations to provide privately run transit service from Forest Heights to downtown Portland? Is Forest Height obligated to provide the service indefinitely, or for a limited time?

Condition Q clearly states Forest Heights agreement to provide privately run transit service to downtown Portland every 15 minutes during the peak

hours only. According to Tri-Met and the City of Portland this requirement is not limited to a specific time period.

Issue #9- Dave Miller would like more information on the traffic impacts, neighborhood impacts, and modeling assumptions for the alternatives (second sequence) with a new tunnel/arterial under Forest Park. He owns a house near Cornell and 112th which could be directly impacted by such an alternative.

Information on the modeling assumptions (in a simplified and condensed form) will be provided to Dave when this becomes available. Traffic and neighborhood impacts will not be considered for any second sequence alternatives, since these alternatives were not evaluated for consideration as study recommendations.

PLANNING COMMITTEE REPORT

CONSIDERATION OF RESOLUTION NO. 94-1965 FOR THE PURPOSE OF ENDORSING THE RECOMMENDATIONS OF THE NORTHWEST SUBAREA TRANSPORTATION STUDY

Date: July 25, 1994

Presented By: Councilor Moore

Committee Recommendation: At the July 21, 1994 meeting, the Planning Committee voted unanimously to recommend Council adoption of Resolution No. 94-1965. Voting in favor: Councilors Kvistad, Gardner, Devlin, Gates, McLain, Monroe, Moore, and Washington.

Committee Issues/Discussion: Mike Hoglund, Transportation Planning Manager, presented the staff report. He explained that the committee had received several briefings on this matter in the past. The study was initiated in 1991 to address traffic problems related to existing and future travel between Washington County and the City of Portland and within the study area.

This resolution endorses the Northwest Subarea Transportation Study recommendations and directs Metro staff to work with ODOT, Tri-Met, the City of Portland, and Washington County to develop a memoranda of understanding (MOU) to implement the recommendations through local plans and capital programming processes. He explained the projects recommended are not considered to be of "regional significance" and are entirely a local responsibility. He reviewed how the project was scaled back to be consistent with the Intermodal Surface Transportation Efficiency Act (ISTEA), the transportation planning rule and the Region 2040 program.

Councilor Moore commented that the study had operated with a good process that should be re-created for other parts of the region. Our involvement was good and should be considered as a model for other subareas.