

MOTION NO. 2091

1
2 A MOTION relating to Interstate 90, requesting
3 the Washington State Department of Highways,
4 as lead agency on I-90 and the Puget Sound
5 Council of Governments, as lead agency on the
6 mass transit substitution alternatives, to
7 provide for appropriate mass transit
8 substitution study, and including three
9 recommended generalized alternatives for study.

10 WHEREAS, in October, 1957, the Washington State Highway
11 Department initiated route studies for Federal Aid Interstate
12 (FAI)-90 for the 5.87 miles between its junction with FAI-5 and
13 the South Bellevue Interchange, and

14 WHEREAS, the Lathan v. Volpe suit filed in 1970 resulted in
15 the state being enjoined from purchasing land in the corridor
16 since May 22, 1972, and also ordered a new corridor-design
17 hearing for the entire corridor section to be followed by the
18 preparation of a final environmental impact statement, which is
19 tentatively scheduled for March, 1976, and

20 WHEREAS, the Adler v. Brinegar suit, filed in November,
21 1973, raises issues related to asserted failure to comply with
22 the State Environmental Policy Act, the State Shorelines
23 Management Act, the National Environmental Policy Act (NEPA),
24 section 309 of the Clean Air Act, section 4(f) of the Department
25 of Transportation Act, 23 United States Code (U.S.C.) section 128
26 relating to public hearings, 23 U.S.C. section 134 relating to
27 continuing comprehensive transportation planning, 23 U.S.C.
28 section 109(h) relating to consideration of economic, social and
29 environmental effects and the requirements of NEPA as applicable
30 to the issuance of a Coast Guard permit for construction of a
31 third Lake Washington bridge, and

32 WHEREAS, litigation in the Adler v. Brinegar case has been
33 stayed to await consolidation with Lathan v. Volpe following the
34 holding of a new corridor-design hearing, preparation of a final
35 environmental impact statement, and the filing of a motion for
36 dissolution of the Lathan injunction with the United States

1 District Court for the Western District of Washington, and

2 WHEREAS, NEPA, Section 102(s)(d) requires the responsible
3 agency (Washington State Department of Highways) to "study,
4 develop and describe appropriate alternatives to recommended
5 courses of action in any proposal which involves conflicts
6 concerning alternative uses of available resources", and

7 WHEREAS, the 1973 Federal Highway Act added a new policy
8 option for local officials: to withdraw an interstate segment
9 from the nationwide Interstate System, and substitute a mass
10 transit project in the same urbanized area, and

11 WHEREAS, the U.S. Department of Transportation Order 5610B
12 "Procedures for Considering Environmental Impacts", attachment 2,
13 "Form and Content of Statement", Section 3, "General Content",
14 states that "A vigorous exploration and an objective evaluation
15 of the environmental impacts of all reasonable alternative
16 actions, particularly those that might enhance environmental
17 quality or avoid some or all of the adverse environmental
18 effects, are essential. Sufficient analysis of such alternatives
19 and their environmental benefits, costs and risks should
20 accompany the proposed action through the review process in order
21 not to foreclose prematurely, options which might enhance
22 environmental quality or have less detrimental effects. Examples
23 of such alternatives include...mass transit alternatives to
24 highway construction.... In each case, the analysis should be
25 sufficiently detailed to reveal comparative evaluation of the
26 environmental benefits, costs and risks of the proposed action
27 and each reasonable alternative.", and

28 WHEREAS, the PSGC I-90 and Governor's I-90 Committees met
29 through the months of December, 1974 - April, 1975, and produced
30 a plan for study of the mass transit substitution question
31 separate from both the WSDOH evaluation of highway, nontransit
32 alternatives for its EIS, and Metro's operational assessment of
33 cross-lake transit in terms of bus transit, and

1 WHEREAS, on July 2, 1975, the final draft of Phase 1
2 entitled "A Survey of Mass Transit Alternatives to Interstate 90",
3 which was released by PSCOG, addresses the question, "What
4 precisely is/is not eligible or possible for this metropolitan
5 area as a mass transit substitution project?" and provides a
6 purely physical and operational description of the
7 characteristics of five of the many transit alternatives to I-90
8 in terms of location in the same corridor or elsewhere, in terms
9 of different technologic operations and capacity, capital costs
10 and implementation considerations, and

11 WHEREAS, the local elected officials representing Mercer
12 Island, Bellevue, Seattle and King County are now deciding
13 whether or not to answer a second, earlier raised question, and
14 in what scope and depth, as the subject of a Phase 2 study of
15 mass transit substitution; namely, "How well or poorly do the
16 most reasonable transit alternatives fulfill this regions adopted
17 goals and policies, in lieu of the presently adopted interstate
18 highway design?", and

19 WHEREAS, the number of studies and volume of information
20 completed, and to be completed by various agencies, including
21 Metro's imminent Phase 1 TRANSITION Study and the WSDOH draft EIS
22 to be published by early October, 1975, require consideration and
23 appropriate organization for comparison and evaluation for
24 informed decision making, and

25 WHEREAS, deleting a major facility from the cross-lake
26 corridor obviously requires adjustments to other elements of the
27 adopted 1990 Transportation System Plan for the Central Puget
28 Sound Region to bring the relationships between regional growth
29 and development, the behavior of the traveling public, the hours
30 and miles of transit service provided and the auto lane capacity
31 provided back into balance,

1 NOW THEREFORE, BE IT MOVED by the Council of King County:

2 1. The Washington State Department of Highways, as lead
3 agency on I-90, and the Puget Sound Council of Governments, as
4 lead agency on the mass transit substitution alternatives, in
5 close coordination and cooperation with Metro, Mercer Island,
6 Bellevue, Seattle and King County, are encouraged to provide for
7 an appropriate mass transit substitution study to satisfy, as
8 sufficiently as possible, the spirit and letter of the applicable
9 federal, state and local laws, regulations and procedures
10 relating to the evaluation of impacts of the most reasonable mass
11 transit alternatives.

12 2. The following generalized alternatives are recommended
13 to be addressed:

14 a. Fixed Facility Group Rapid Transit (GRT) "Horseshoe":
15 Seattle Alignment C, Eastgate to Union Station (I-90) and SR-520
16 plus (see Attachment A).

17 (1) Undergrounding through Mercer Island and Seattle.

18 (2) Seattle Basic CBD GRT (see Attachment M).

19 (3) Increased Duwamish Bus Service (express and local)
20 (see Attachment F).

21 (4) University of Washington GRT Connector (see
22 Attachment E).

23 (5) Increased Eastside local bus service.

24 (6) Bellevue CBD GRT (see Attachment D).

25 (7) Bellevue South GRT Connector (see Attachment D).

26 (8) Bellevue North GRT Connector (see Attachment D).

27 b. Fixed Facility Alignment from Eastgate to Seattle Center
28 via Union Station by Light Rail Transit plus (see Attachment B).

29 (1) Undergrounding through Mercer Island and Seattle.

30 (2) Increased Duwamish Bus Service (express and local)
31 (see Attachment F).

32 (3) West Seattle GRT (see Attachment E).

33 (4) High Speed Ferries.

1 (5) Bellevue CBD GRT (see Attachment D).

2 (6) Increased Eastside Local Bus Service.

3 (7) Bellevue South GRT Connector (see Attachment D).

4 c. Modified electric bus guideway corridors including
5 (see Attachment C):

6 (1) I-90 (see Attachment G).

7 (2) SR-520 (see Attachment H).

8 (3) West Seattle (see Attachment I).

9 (4) First Avenue South/SR-509 (see Attachment I).

10 (5) Northwest (see Attachment J).

11 (6) I-5 North (see Attachment J).

12 (7) Seattle CBD Bus Removal (see Attachment K).

13 (8) SR-509 - Sea-Tac (see Attachment K).

14 (9) I-405 (see Attachment L).

15 3. The three major alternatives are recommended to include
16 the following analyses:

17 a. Testing of alternatives at moderate level of detail in
18 I-90 corridor and sketch planning approach on remaining system
19 including:

20 (1) Accessibility values.

21 (2) Mode split by corridor

22 (3) Vehicle miles of travel.

23 (4) Level of service per auto and transit.

24 b. Goods movement capabilities and feasibility.

25 c. Operational feasibility for local collection/distribution
26 systems and interchange points.

27 d. Transportation maintenance and operation short-term and
28 long-term.

29 e. Social impact.

30 (1) Comparison with 4-2T-4 in relation to mobility to
31 all residents, especially elderly and the physically and
32 economically handicapped (shopping, work, recreation).

33 (2) Displacement of families.

(3) Preservation of neighborhoods.

f. Environmental impacts.

(1) Air - within I-90 corridor

(2) Noise - within I-90 corridor.

(3) Energy consumption.

g. Regional land use impacts.

(1) Compatibility with IRDP, using updated population and employment forecast data.

(2) Other development pressures and applicability of local growth policies.

(3) Public and private development cost implications.

h. Analysis of feasibility of SR-520.

i. Comparison of withdrawal alternatives to highway alternatives to facilitate an evaluation of all alternatives.

j. Practical policy implications. One very important example is the financial analysis comparison between 4-2T-4 and the transit substitution alternatives for the local share match for capital costs as well as for maintenance and operations long-term costs.

4. The Washington State Department of Highways and the Puget Sound Council of Governments are requested to provide for the completion of any of the foregoing uncompleted study by November 1, 1975, to allow for adequate review and evaluation by the public and the involved elected representatives for wise decision making.

PASSED this 21st day of July, 1975.

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

ATTEST:

VICE Robert B. Quinn
Chairman

Dorothy W. Quinn
Clerk of the Council

ATTACHMENT A.

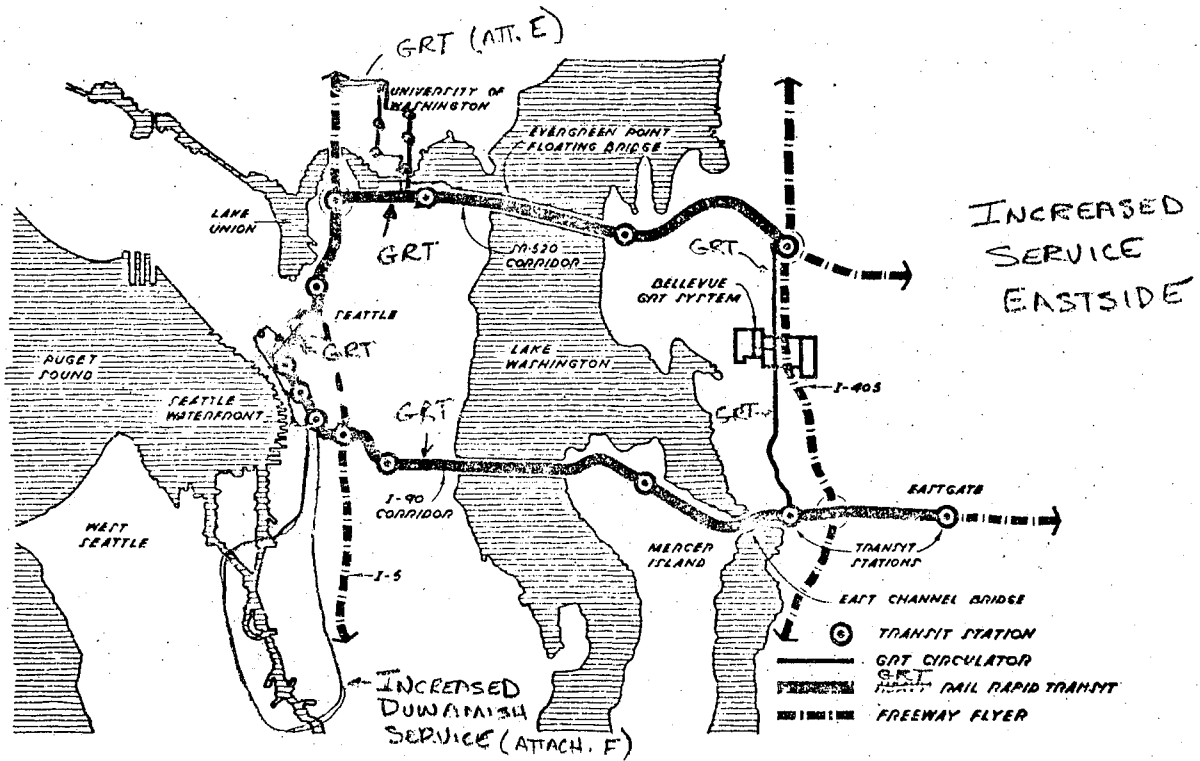


Figure 5.17 The fixed facility "horseshoe" route with three alternative alignments in Seattle.

HORSESHOE WITH ALIGNMENT C

EASTGATE - UNION STATION - 520-405

GRT	505M	
UNDERGROUND THROUGH MI & SEA.		146M
LOCAL BUS SERVICE EASTSIDE	3M	
INCREASED DUWAMISH SERVICE	10M	
BELLEVUE GRT	68M	
BELLEVUE SOUTH CONNECTOR ^{GRT}	64M	
U OF W GRT CONNECTOR	47M	
BELLEVUE NORTH CONNECTOR ^{GRT}		38M
BASIC SEATTLE GRT NETWORK (ATT. M)		<164M
	697M	+ 348M

ATTACHMENT B

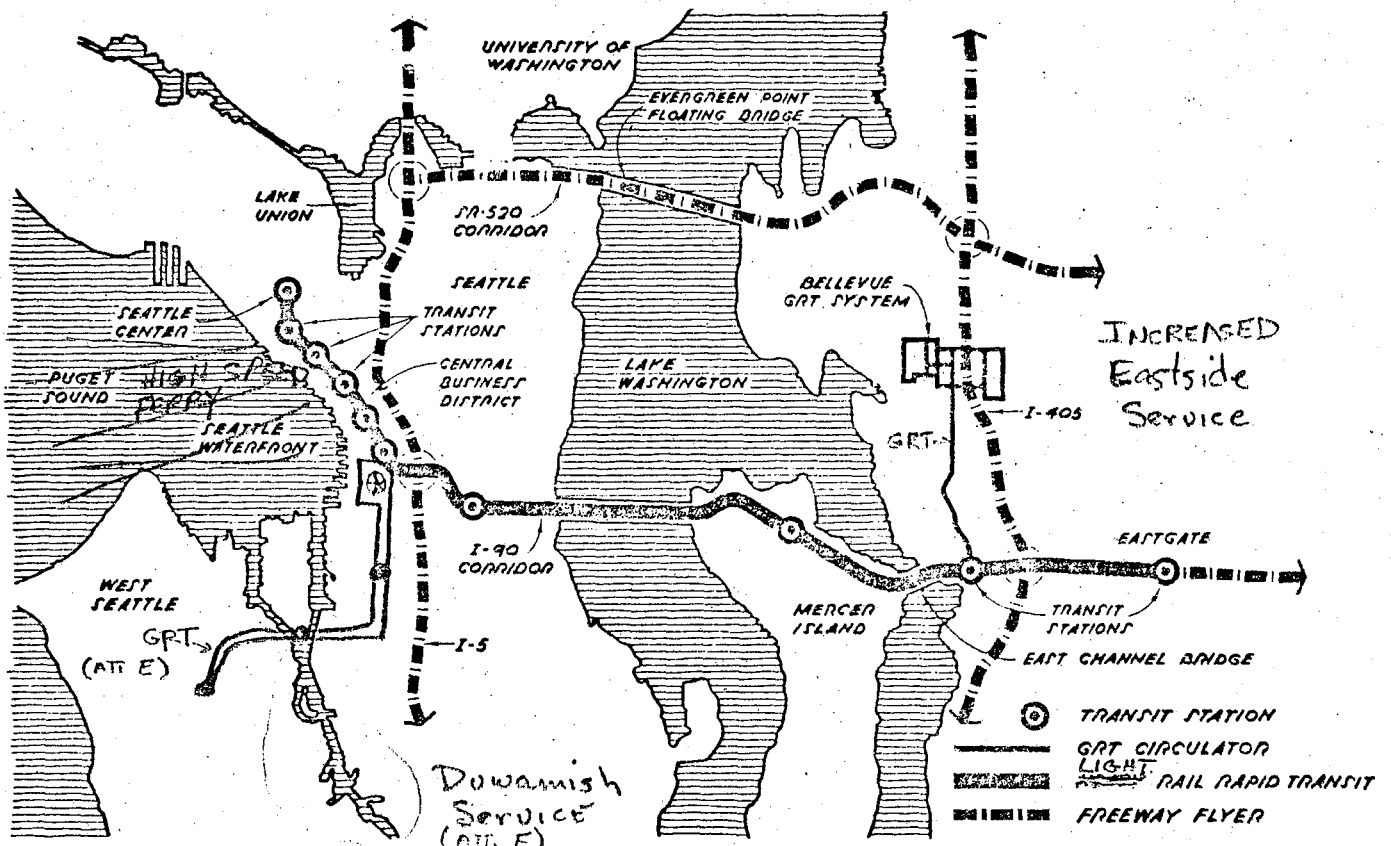


Figure 5.14 The fixed facility alignment from Eastgate to the Seattle Center via Union Station.

LIGHT RAIL LINE HAUL

LIGHT RAIL EASTGATE - UNION STATION - SEATTLE CENTER	305M
UNDERGROUND THROUGH MI & SEATTLE	146M
BELLEVUE GRT	68M
BELLEVUE SOUTH CONNECTOR	64M
WEST SEATTLE GRT	104M
INCREASED DUWAMISH SERVICE	10M
LOCAL BUS SERVICE EASTSIDE	3M
HIGH SPEED FERRIES	68M
	<hr/>
	554M + 214

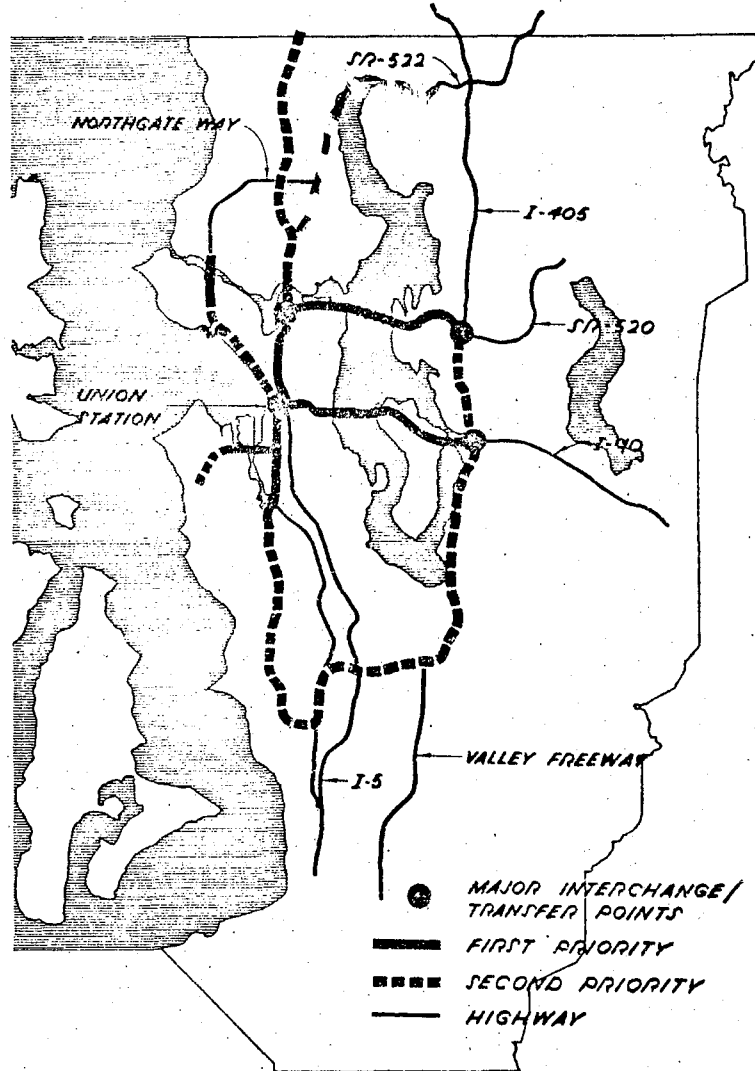


Figure 7.2 Travel corridors where modified bus guideways are most warranted.

Length (miles)	Description	Cost (\$ millions - 1975)	
		Minimum	Maximum
10.20	4.1: I-90 Corridor	68	154
6.90	4.2: SR 520 Corridor	59	116
4.00	4.3: West Seattle Corridor	50	90
2.41	4.4: First Ave. So./SR 509 Corridor	50	68
6.00	4.5: Northwest Corridor	75	133
8.00	4.6: I-5 North	22	62
—	4.7: Seattle CBD Bus Removal	(90)	90
8.33	4.8: SR 509 - SeaTac Corridor	(92)	92
16.50	4.9: I-405 Corridor	(131)	131
61.84	TOTAL PROJECT COST	324 (637)	936

Table 7.10: Alternative IV - Summary of Options – Guideways for Modified Electric Buses

ATTACHMENT D

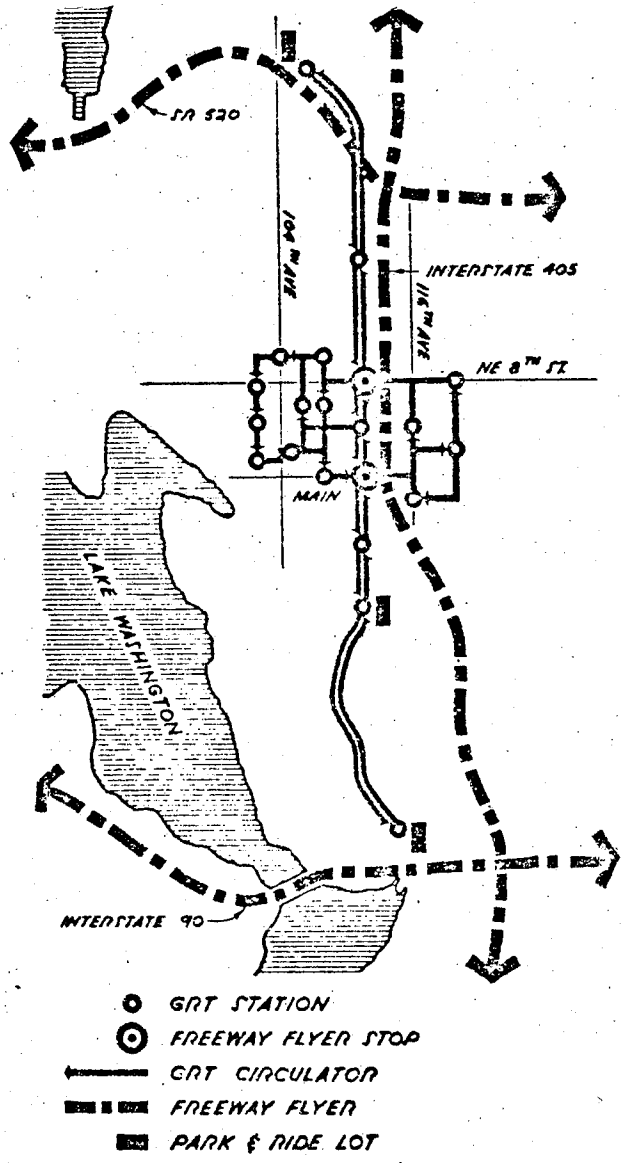


Figure 6.10 The addition of north-south GRT guideways connect the Bellevue CBD system to major cross-lake facilities.

ATTACHMENT E

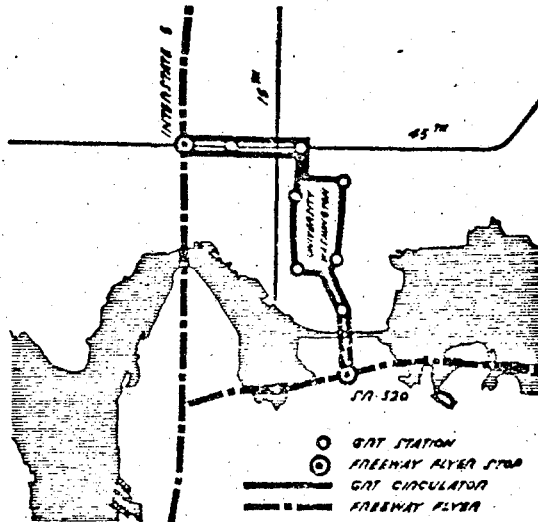


Figure 5.11 The University of Washington campus circulator system.

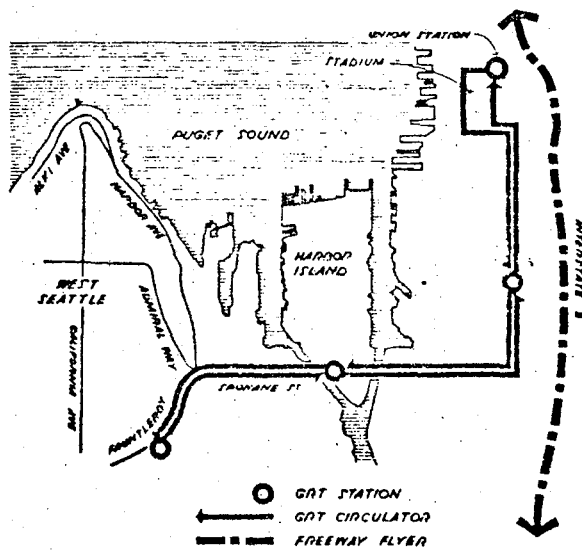


Figure 5.12 A two-way GRT system connects West Seattle to the Seattle CBD at Union Station.

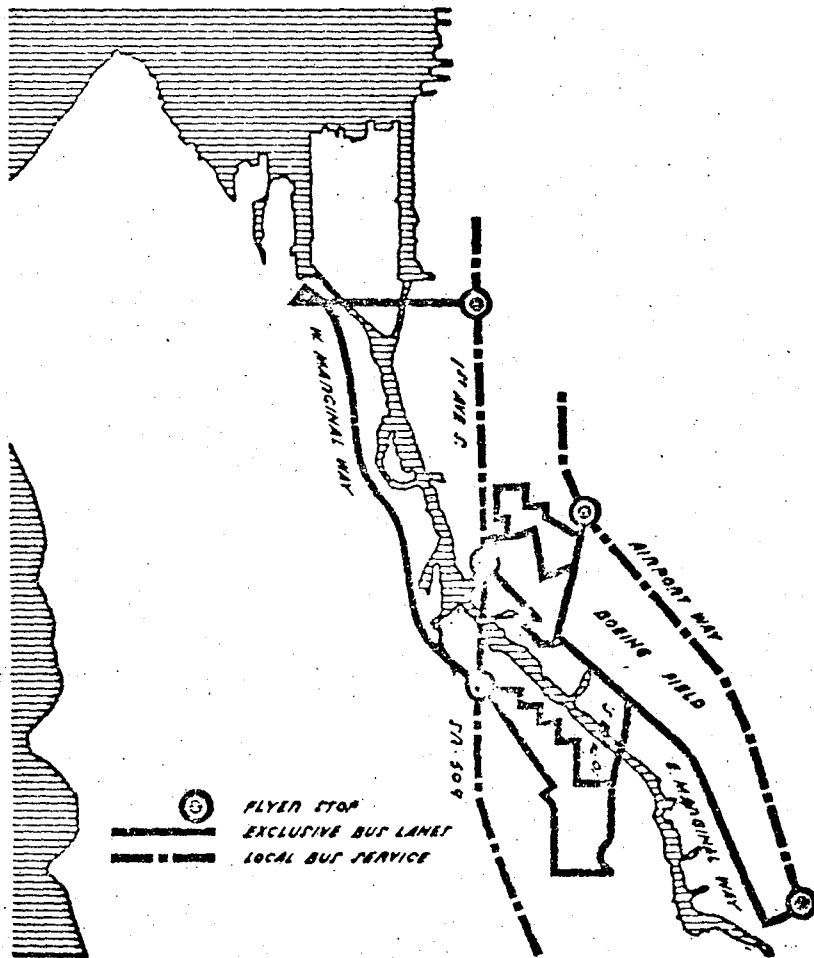


Figure 5.13 An improved bus circulation plan for the Duwamish Industrial Area.

ATTACHMENT G

Length (miles)	Description	Cost (\$ millions - 1975)																
10.2	<p><i>Union Station to Eastgate</i></p> <p><i>minimum:</i> One lane reversible guideway constructed from Union Station to Bellevue; overhead electrification added to existing lanes for reverse-direction trolley movements. Aerial guideway from Union Station to Mt. Baker Tunnel. Fifth lane added to existing floating bridge -- if feasible. At grade on Mercer Island. High level East Channel bridge. Modification of existing I-90 lanes from East Channel Bridge to Eastgate. 60 electric buses. No stations -- simple stops.</p> <p><i>optional:</i> Same alignment, but two-lane two-way guideway constructed, no overhead electrification of existing lanes. New floating bridge, two lanes, north of existing bridge. Aerial construction from E. Channel Bridge to Eastgate; 5 stations added.</p> <p>*additional cost beyond minimum corridor cost</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Guideways & Electrification</td> <td style="padding: 5px; text-align: right;">64</td> </tr> <tr> <td style="padding: 5px;">Buses</td> <td style="padding: 5px; text-align: right;">4</td> </tr> <tr> <td colspan="2" style="border-top: 1px solid black; padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px; text-align: right;">68</td> </tr> <tr> <td style="padding: 5px;">Guideways</td> <td style="padding: 5px; text-align: right;">59*</td> </tr> <tr> <td style="padding: 5px;">Stations</td> <td style="padding: 5px; text-align: right;">27*</td> </tr> <tr> <td colspan="2" style="border-top: 1px solid black; padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px; text-align: right;">86*</td> </tr> </table>	Guideways & Electrification	64	Buses	4				68	Guideways	59*	Stations	27*				86*
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Stations	27*																	
	86*																	
10.2	TOTAL PROJECT COST	(Maximum) 154																

Table 7.1: Option 4.1: I-90 Corridor Guideways for Modified Electric Buses

ATTACHMENT H

Length (miles)	Description	Cost (\$ millions - 1975)												
6.9	<p><i>1-5 to I-405, minimum:</i> One-lane reversible guideway, using fifth lane added to SR 520 floating bridge, and overhead electrification of existing lanes for reverse-direction travel. New 2-way tunnel to I-5 reversible lanes. At grade on Eastside, parallel to SR 520, to park/ride terminus near I-405. 60 electric buses. No stations -- simple stops.</p> <p><i>Optional:</i> Same alignment, but two-way guideway constructed as new facility parallel to SR 520. New floating bridge. Four stations added.</p> <p>*additional cost beyond minimum corridor cost</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Guideways & Electrification.</td> <td style="text-align: right; width: 20%;">55</td> </tr> <tr> <td style="border-top: 1px solid black;">Buses</td> <td style="text-align: right; border-top: 1px solid black;">4</td> </tr> <tr> <td></td> <td style="text-align: right;">59</td> </tr> <tr> <td style="padding-top: 10px;">Guideways</td> <td style="text-align: right; padding-top: 10px;">39*</td> </tr> <tr> <td style="border-top: 1px solid black; padding-top: 10px;">Stations</td> <td style="text-align: right; border-top: 1px solid black; padding-top: 10px;">18*</td> </tr> <tr> <td></td> <td style="text-align: right;">57*</td> </tr> </table>	Guideways & Electrification.	55	Buses	4		59	Guideways	39*	Stations	18*		57*
Guideways & Electrification.	55													
Buses	4													
	59													
Guideways	39*													
Stations	18*													
	57*													
6.9	TOTAL PROJECT COST	(Maximum) 116												

Table 7.2: Option 4.2: SR 520 Corridor Guideways for Modified Electric Buses

ATTACHMENT I

Length (miles)	Description	Cost (\$ millions - 1975)												
4.00	<p><i>Union Station to West Seattle, minimum:</i> High-level 2-way guideway generally parallel to Spokane Street, overhead electrification of existing streets from Union Station to Spokane Street. Guideway terminates at touchdown point of bridge in West Seattle. 20 electric buses. No stations – simple stops.</p> <p><i>Optional:</i> Aerial guideway over Fifth Avenue railroad tracks from Union Station to Spokane Street. Extension of guideway in West Seattle to Fauntleroy/35 Avenue vicinity park/ride terminal station. Two stations added. *additional cost beyond minimum corridor cost</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Guideways & Electrification</td> <td style="text-align: right; width: 20%;">48</td> </tr> <tr> <td>Buses</td> <td style="text-align: right;">2</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">50</td> </tr> <tr> <td>Guideways</td> <td style="text-align: right;">28*</td> </tr> <tr> <td>Stations</td> <td style="text-align: right;">12*</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">40*</td> </tr> </table>	Guideways & Electrification	48	Buses	2		50	Guideways	28*	Stations	12*		40*
Guideways & Electrification	48													
Buses	2													
	50													
Guideways	28*													
Stations	12*													
	40*													
4.00	TOTAL PROJECT COST	(Maximum) 90												

Table 7.3: Option 4.3: West Seattle Corridor Guideway for Modified Buses

Length (miles)	Description	Cost (\$ millions - 1975)														
2.41	<p><i>Spokane Street to First Avenue South Bridge, minimum:</i> Two-way (0.6 mile) guideway tunnel under Duwamish River parallel to First Avenue South Bridge. Overhead electrification of First Avenue, there to Spokane Street, joining West Seattle route at that point. 20 electric buses. Terminal station south of tunnel.</p> <p><i>Maximum:</i> Aerial 2 way guideway from Spokane Street to First Avenue South Bridge, mainly over Fifth Avenue railroad tracks. Two stations added. *additional cost beyond minimum corridor cost</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Guideways & Electrification</td> <td style="text-align: right; width: 20%;">42</td> </tr> <tr> <td>Terminal Sta.</td> <td style="text-align: right;">6</td> </tr> <tr> <td>Buses</td> <td style="text-align: right;">2</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">50</td> </tr> <tr> <td>Guideways</td> <td style="text-align: right;">12*</td> </tr> <tr> <td>Stations</td> <td style="text-align: right;">6*</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">18*</td> </tr> </table>	Guideways & Electrification	42	Terminal Sta.	6	Buses	2		50	Guideways	12*	Stations	6*		18*
Guideways & Electrification	42															
Terminal Sta.	6															
Buses	2															
	50															
Guideways	12*															
Stations	6*															
	18*															
2.41	TOTAL PROJECT COST	(Maximum) 68														

Table 7.4: Option 4.4: First Ave. South/SR 509 Corridor Guideway for Modified Electric Bus

ATTACHMENT J

Length (miles)	Description	Cost (\$ millions - 1975)
6.00	<p><i>Leary Way to Union Station, minimum:</i> 2-way guideway tunnel under ship canal, parallel to Ballard Bridge, approximately 1.17 miles from Interbay (vicinity of West Bertona Street) to Ballard (vicinity Leary Street), including terminal station facilities at Leary Way. Overhead electrification of streets as needed to connect existing electric trolley routes. 20 electric buses. No stations, except for Leary Way Terminal.</p> <p><i>Maximum:</i> Aerial guideway, Interbay to Union Station via waterfront, hillside (Western Avenue), integrated with existing industrial uses and/or future development plans. Four stations between Interbay and Broad Street including Seattle Center access.</p> <p>*additional cost beyond minimum corridor cost</p>	Guideway & Electrification 67 Terminal Sta. 6 Buses 2 <hr/> 75
		Guideways 46* Stations 12* <hr/> 58*
6.00	TOTAL PROJECT COST	Maximum 133

Table 7.5: Option 4.5: Northwest Corridor Guideway for Modified Electric Buses

Length (miles)	Description	Cost (\$ millions - 1975)
7.33	<p><i>James/Cherry Street to Northgate, minimum:</i> Conversion of two reversible lanes to guideways. No stations -- turn outs to local streets for distribution in CBD and residential areas. 164 electrical buses. Two reversible auto lanes operated through CBD.</p>	Guideway & Electrification 15 Buses 7 <hr/> 22
		Guideway 19* Stations 21* <hr/> 40*
0.67	<p><i>Union Station to Northgate, maximum:</i> Cut/cover underground extension to Union Station from freeway. Addition of five stations from Roanoke interchange to Northgate park/ride lot.</p> <p>*additional cost beyond minimum corridor cost</p>	
8.00	TOTAL PROJECT COST	Maximum 62

Table 7.6: Option 4.6: I-5 North Corridor Guideway for Modified Electric Buses

ATTACHMENT K

Length (miles)	Description	Cost (\$ millions - 1975)
	<i>Seattle CBD Streets and Guideways (optional):</i> Construction of approximately six major stations on Northwest Corridor guideway (Western Avenue alignment), and I-5 guideway. All I-5 reversible lanes closed to automobiles south of Stewart Street. East-west electric trolley routes added to serve stations. North-south motor bus operations removed from Second, Third, Fourth Avenues. Electric trolley operations retained on Third Avenue. Stations on Northwest guideway provide vertical elevator access to Waterfront.	Stations 90
	TOTAL PROJECT COST	90

Table 7.7: Option 4.7: Seattle CBD Bus Removal – Guideway for Modified Electric Buses

Length (miles)	Description	Cost (\$ millions - 1975)
8.33	<i>First Avenue South Bridge to SeaTac Airport (optional):</i> Aerial two-way guideway over median of SR 509 to airport vicinity. Via SR 518 and airport access road to main terminal – aerial and/or at grade. Four stations, 22 electric buses.	Guideways 78 Stations 12 Buses 2
8.33	TOTAL PROJECT COST	92

Table 7.8: Option 4.8: SR 509 – SeaTac Corridor Guideway for Modified Electric Buses

ATTACHMENT L

Length (miles)	Description	Cost (\$ millions - 1975)	
16.5	<i>Junction I-405/SR 520 to SeaTac Airport (optional):</i> Two-way guideway via railroad alignment from SR 520 to Renton, at grade. From Renton to SeaTac via aerial guideway over medians of I-405 and SR 518 to junction of SeaTac Airport access road. Cost of aerial guideway from there to SeaTac Terminal is included in the SR 509 - SeaTac corridor cost.	Guideways	102
		Stations	24
		Buses	5
16.5	TOTAL PROJECT COST	131	

Table 7.9: Option 4.9: I-405 Corridor Guideway for Modified Electric Buses

ATTACHMENT M

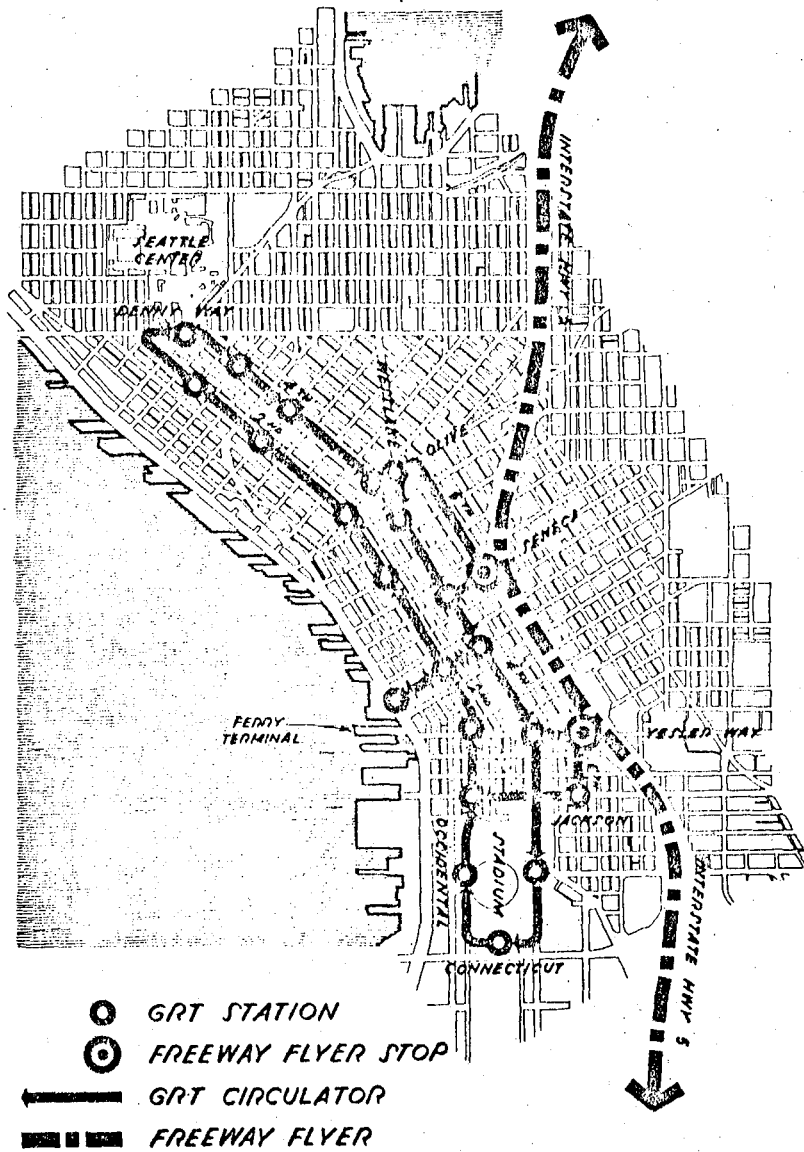


Figure 6.3 The basic Seattle CBD north-south GRT network.

COST \$164 MILLION