BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF AUTHORIZING FEDERAL FUNDS FOR THE MCLOUGHLIN BLVD. CORRIDOR PROJECT	)	RESOLUTION NO. 79-111 Introduced by the Joint Policy Advisory Committee on Transportation

WHEREAS, In the Metro Transportation Improvement Program (TIP), $24,773,865 (as of June 30, 1979) of Mt. Hood Freeway withdrawal funds have been reserved for development of the McLoughlin Blvd. Corridor project; and

WHEREAS, As part of a cooperative Southern Corridor Study effort between Metro, ODOT, Tri-Met and affected jurisdictions, a set of nine alternatives on McLoughlin Blvd. have been identified; and

WHEREAS, The systems analysis undertaken in the Southern Corridor Study has followed the procedures set out in the State Action Plan; and

WHEREAS, The Southern Corridor Study has formulated a set of improvement objectives which respond to the critical corridor problems; and

WHEREAS, Metro staff has evaluated each of the alternatives and has determined that, north of Milwaukie, one of the alternative systems concepts (the addition of two mixed traffic lanes between Milwaukie and Reedway and a reversible lane for buses and carpools between Milwaukie and the Union/Grand couplet) meets the corridor objectives; and

WHEREAS, The Southern Corridor Study has concluded that,

while light rail is not included in the preferred system concept, it should be considered as a long-range option; and

WHEREAS, ODOT has indicated that, while the preferred alternative systems concept appears to be feasible, resulting in minimal environmental problems, further refinement of the alternative is needed as part of a preliminary engineering (PE) study; and

WHEREAS, The ODOT preliminary engineering study will follow the procedures outlined in the State Action Plan; and

WHEREAS, As part of the ODOT preliminary engineering studies on the proposed McLoughlin Blvd. project, an extensive program will be undertaken to ensure involvement by affected jurisdictions, citizens, and businesses; and

WHEREAS, In conducting preliminary engineering studies, ODOT will analyze design and traffic operational aspects of a reversible lane for buses and carpools to ensure safety; and

WHEREAS, During preliminary engineering studies, Tri-Met will analyze bus network options and transit requirements in concert with Metro, ODOT and affected jurisdictions; and

WHEREAS, The Oregon Transportation Commission has requested suggestions for the use of gasoline tax revenues made available by the State Legislature for incorporation in the Six-Year Highway Improvement Program; now therefore,

BE IT RESOLVED,

1. That $20,612,500 (federal) be authorized from the McLoughlin Corridor account (funded by Mt. Hood withdrawal funds) for engineering, right-of-way acquisition, and construction of the preferred alternative systems concept on McLoughlin Blvd. (addition

of two mixed-traffic lanes between Milwaukie and Reedway and a lane for buses and carpools between Milwaukie and the Union/Grand couplet) described in the Systems Planning Report for the project (Staff Report No. 61).

2. That the Transportation Improvement Program (TIP) and its Annual Element be amended to reflect this authorization as set out in Exhibit A.

3. That the Metro Council find the project in accordance with the region's continuing, cooperative, comprehensive planning process and hereby give affirmative A-95 approval.

4. That the Metro Council request the Oregon Transportation Commission to provide matching funds for the recommended project.

5. That the remaining funds in the McLoughlin Corridor Interstate Transfer account be maintained as a Reserve account for possible future authorization for one or more of the following uses:

a. Cover additional costs on the recommended project north of Milwaukie as they may be identified in project development activities;

b. Fund new projects which directly complement the recommended project north of Milwaukie; or

c. Fund new projects responding to corridor problems south of Milwaukie.

d. Possibility of purchase of the Portland Traction Company right-of-way if the Southern Corridor systems analysis work to be done between now and May 1980, results in a recommendation for early purchase.

e. Purchase of additional buses required for service in the Southern Corridor.

6. That the option of developing a light rail project in the Southern Corridor over the longer-range future be preserved.

ADOPTED By the Council of the Metropolitan Service District this 20th day of December, 1979.

Presiding Officer

CWO/gl
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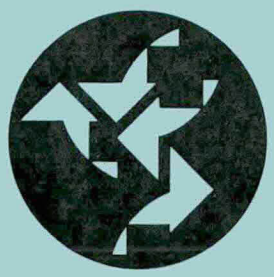

STAFF REPORT No. 61

Date: DECEMBER 6, 1979

Title: SYSTEMS PLANNING REPORT: MCLOUGHLIN CORRIDOR

Transportation Department

Metropolitan Service District

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CONCLUSIONS AND RECOMMENDATIONS

Congestion and congestion-related problems along McLoughlin Blvd. north of the city of Milwaukie are currently among the most severe in the region. These conditions are expected to worsen considerably in the future if new transportation projects are not built.

As described in the Corridor Improvement Strategy approved by the Metro Council in July, 1979, Metro staff analyzed a number of alternative improvement treatments on McLoughlin Blvd. Only one of the nine alternatives evaluated provides an adequate level of traffic service in the peak hours while allowing diversion of through traffic from local streets. This system alternative (adding two mixed traffic lanes between the city of Milwaukie and Reedway and a reversible lane for buses and high-occupancy vehicles between Milwaukie and the Union/Grand couplet) appears to be the most effective system solution north of Milwaukie over the next fifteen years. Metro staff, therefore, recommends that reserved Interstate Transfer funds be authorized for development of this preferred system alternative. This authorization will enable preliminary engineering studies to commence. These studies will allow a refinement of the preferred systems alternative to ensure an adequate sensitivity of the projects to the local environment in which it would be located. At the same time, opportunites for citizen input on project alternatives can be actively pursued.

BACKGROUND

Metro staff, working with ODOT, Tri-Met, and affected jurisdictions, has made significant progress in defining the type of transportation project needed to correct existing and future problems along McLoughlin Blvd. This systems concept addresses the underlying causes of travel problems which have plagued McLoughlin Blvd. over the years. In addition to examining travel characteristics on McLoughlin Blvd., the many supporting arterial highways and transit services which make up the Southern Corridor transportation system between the Grand/Union Ave. couplet and I-205 have also been examined.

The following is a brief summary of the Metro study efforts in the corridor:

Southern Corridor Systems Analysis: Phase I

Phase I of the analysis was completed in Oct, 1979. This phase documented the ramifications of not improving McLoughlin and identified a level of additional corridor person-carrying capacity needed to achieve adequate service levels in the Southern Corridor over the next 15 years. This additional capacity was specified for the peak and off-peak direction during the peak-hours for four different sections of McLoughlin Blvd.

Southern Corridor Systems Analysis: Phase II

The Phase II analysis was completed in November, 1979. This phase estimated how well eight "build" alternatives would meet the required person-carrying capacity identified in Phase I. Without the achievement of this basic level of improvement, it is apparent that a given alternative will not adequately meet the full range of corridor objectives, and should not, therefore, be recommended for further consideration in the systems effort.

PROBLEM IDENTIFICATION

The Metro analysis has identified a number of problems relating to conditions on McLoughlin Blvd. north of Milwaukie. Many of these problems are directly related to the severity of congested conditions north of Milwaukie. As a result of these congested conditions, through traffic overflows onto parallel minor arterials, collector roads and neighborhood streets. To address these problems, the location and magnitude of existing congestion on McLoughlin Blvd., as well as the underlying causes of the problems were quantified.

In addition to examining current problems, future problems were projected. Vehicular travel flows are projected to increase by 19 percent over current levels on roads crossing Holgate and by 27 percent on roads crossing Ochoco (assuming no major corridor projects).

Assuming corridor growth and development through the next 15 years, additional person carrying capacity on roads and transit facilities crossing Holgate would have to increase by 1,080 persons per hour during the a.m. peak northbound in order to operate at an adequate level of traffic service.

Travel problems are even worse south of Reedway. Assuming minor increases in transit ridership and no changes in peaking characteristics and vehicle occupancy, additional person carrying capacity required for highways and transit services crossing Ochoco would need to increase by approximately 2,200 persons per hour in each direction to achieve a reasonable level of travel service. This is the single largest excess travel demand (note: excess travel demand was used as an "improvement standard"; each of the alternatives was evaluated to determine if these standards could be met) identified within the Southern Corridor. The above figures assume continued use by through traffic of collector roads and local streets. If through traffic on these streets was to be eliminated, the person-moving capacity of McLoughlin at Ochoco Street would need to increase by 2,870 persons per hour in the a.m. and p.m. peak. This represents an additional capacity increase of over 670 person trips in the peak direction and assumes through trips can be discouraged from using local streets which would then be operating well below capacity.

IMPROVEMENT OBJECTIVES

Nine basic improvement objectives have been identified for the Southern Corridor. The improvement objectives are as follows:

A. Discourage the use of single occupant automobiles by means of increased transit service and related facility improvements and promotion of ride-sharing alternatives.

B. Improve the ability of McLoughlin Blvd. to serve regional traffic flows.

C. Discourage regional traffic use of parallel neighborhood streets and redistribute existing regional traffic from residential arterials back onto McLoughlin Blvd. and other major arterials, thereby improving the residential environment.

D. Reduce conflicts between through movements and short local access movements.

E. Encourage more efficient land use arrangements and transportation related connections.

F. Reduce transportation related air quality emissions and consumption of energy resources.

G. Reduce accident hazards within the Southern Corridor.

H. Favor the most cost-effective way to solve the identified problem.

I. Preserve the option for light rail within the Southern Corridor.

SYSTEMS ALTERNATIVES

Nine alternatives in four improvement catagories were analyzed:

1. No Improvements

   1a. No-Build Alternative

2. Highway Improvements

   2a. TSM (traffic management techniques and major intersection improvements) Alternative
   2b. Add Two Mixed Traffic Lanes (one in each direction) Alternative

3. Transit/High Occupancy Vehicle (HOV) Improvements

   3a. Add a Reversible Lane for Buses Alternative
   3b. Add a Reversible Lane for Buses and High Occupancy Vehicles Alternative
   3c. Transit Only (hypothetical maximum transit improvements) Alternative

4. Multi-Modal Combination Improvements

   4a. Add Two Reversible Lanes for Mixed-Traffic and High Occupancy Vehicles Alternative
   4b. Add Two Mixed Traffic Lanes and a Reversible Lane for Buses Alternative
   4c. Add Two Mixed Traffic Lanes and a Reversible Lane for Buses and High Occupancy Vehicle Alternative

Table 1

Unmet person Movements:
1995 Peak-Hour, Peak-Direction Daily Person Trip Capacity requirements

Location	No Build Alternative #1 No Build Alternative		Alternative #2a Major Intersection Improvements		Highway Improvements Alternative #2b 2 Additional Mixed Traffic Lanes, 1 NBD, 1 SBD		Transit/Lane for Buses and Carpools Improvements Alternative #3a Single Reversible Bus Only Lane	
	Vacant Trips	% Objective Met	Vacant Trips	% Objective Met	Vacant Trips	% Objective Met	Vacant Trips	% Objective Met
Holgate								
NBD	1080	(0%)	930	(14%)	67	(94%)	559	(48%)
SBD	500	(0%)	322	(36%)	0	(100%)	0	(100%)
Ochoco								
NBD	2200	(0%)	2087	(5%)	1038	(53%)	1685	(23%)
NBD*	2870	(0%)	2751	(4%)	1704	(41%)	2474	(14%)
SBD	2240	(0%)	2130	(5%)	1076	(52%)	1662	(26%)
SBD*	2870	(0%)	2751	(4%)	1704	(41%)	2429	(15%)
Underlying System Changes	Existing Roadway 22% Mode Split 1.24 Auto Occupancy		Highway Capacity Increased by 5% 22% Mode Split 1.24 Auto Occupancy		Add Mixed Lane 22% Mode Split 1.24 Auto Occupancy		Add Bus Lane 28% Mode Split 1.24 Auto Occupancy	

*With City of Portland local streets policy which assures the removal of all through traffic from local facilities

Table 1 (continued)

Transit/Lane for Buses and Carpools Improvements (con't)

Multi-Mode Combination Improvements

Cutline	Alternative #3b single** Reversible Lane for Buses and Carpools		Alternative #3c Transit Only		Alternative #4a 2 Reversible Lanes, 1 Mixed, 1 Lane for Buses & Carpools		Alternative #4b 3 Additional Lanes 1 NBD, 1 SBD, 1 Reversible Bus Only		Alternative #4c 3 Additional Lanes 1 NBD, 1 SBD, 1 Reversible 1 Lane for Buses & Carpools	
	Unmet Trips	% Objective Met	Unmet Trips	% Objective Met	Unmet Trips	% Objective Met	Unmet Trips	% Objective Met	Unmet Trips	% Objective Met
Holgate										
NBD	0	(100%)	--	--	0	(100%)	0	(100%)	0	(100%)
SBD	0	(100%)	--	--	0	(100%)	0	(100%)	0	(100%)
Ochoco										
NBD	518	(76%)	--	--	0	(100%)	520	(76%)	0	(100%)
NBD*	1418	(51%)	--	--	196	(93%)	1308	(54%)	196	(93%)
SBD	498	(78%)	1190	(47%)	0	(100%)	497	(78%)	0	(100%)
SBD*	1374	(52%)	2071	(28%)	152	(95%)	1264	(56%)	152	(95%)
Underlying System Changes	Add Lane for Buses & Carpools 28% Mode Split 1.30 Auto Occupancy		Add Hypothetical Transit Improvement 35% Mode Split 1.24 Auto Occupancy		Add Lane for Buses & Carpools and Mixed Lane 28% Mode Split 1.30 Auto Occupancy		Add Bus Lane and Mixed Lane 28% Mode Split 1.24 Auto Occupancy		Add Lane for Buses & Carpools Mixed Lane 28% Mode Split 1.30 Auto Occupancy	

*With City of Portland local streets policy which assures the removal of all through traffic from local facilities

EVALUATION OF SYSTEMS ALTERNATIVES

The following sections of this report summarize the effectiveness of the alternatives in achieving the identified objectives.

The performance measurements of the various alternatives are summarized in Table 1. A brief summary of the performance of each alternative and the Metro staff recommendation is presented below.

NO IMPROVEMENTS

- No-Build Alternative

  This alternative provides no additional person-carrying capacity and fails to meet the improvement standard. While this alternative should not be considered for further evaluation in the systems effort, it must be considered in project planning studies.

HIGHWAY IMPROVEMENTS

- Major Intersection Improvements

  This alternative provides, at best, 36 percent of the additional corridor person-carrying capacity necessary at Holgate. The alternative generally meets less than 10 percent of the improvement standard at Ochoco.

  Because the alternative does not adequately meet the identified corridor improvement standards in either direction, it should not be considered further. However, the alternative may offer promise for solving corridor problems south of the city of Milwaukie.

- Add Two Mixed Traffic Lanes Alternative

  While this alternative meets the improvement standard at Holgate, it only meets one-half the standard at Ochoco (assuming through trips are allowed on local and collector streets). Only 41 percent of the standard is met at Ochoco if through trips are not allowed on local and collector streets.

  It should be noted that the addition of two mixed traffic lanes is likely the largest highway improvement that could be implemented in the Southern Corridor, due to the auto volume constraints imposed by other segments of the transportation system.

  It is obvious that the addition of traffic lanes alone will not provide the additional corridor person-carrying capacity necessary to meet improvement standards. However, it does meet off-peak direction improvement standards.

TRANSIT/LANE FOR BUSES AND CARPOOLS IMPROVEMENTS

- Add Single Reversible Bus Lane

  The alternative does not meet the improvement objective at either Holgate or Ochoco Streets. Between 14 to 26 percent of the standard is met at Ochoco Street (depending on whether the City of Portland policy concerning the removal of through traffic from local streets is followed). The off-peak direction improvement standard is not met at Ochoco if the City of Portland policy to remove through traffic from local facilities is followed.

- Add Single Reversible Lane for Buses and Carpools

  While this alternative meets the improvement standard at Holgate, only 51 percent to 76 percent of the peak-direction objective at Ochoco is met (the percent varies depending on whether Portland's local street policy is followed). Under city policy, the alternative fails to meet the off peak-direction improvement standard at Ochoco.

  For the lane for buses and carpools analysis, it was assumed that a lane for buses and carpools would have the effect of raising corridor vehicle occupancy from 1.24 to 1.3 (the current average week day peak-hour vehicle occupancy of the Banfield Freeway which includes a lane for buses and carpools).

  To meet the improvement standard, it appears that any lane for buses and carpools treatment would have to be combined with some level of additional transit and mixed auto traffic improvement.

- The Transit Only Alternative

  A detailed analysis was undertaken on the potential of instituting extremely high level transit service (such as light rail). This analysis assumed implementation of an unspecified transit treatment of sufficient magnitude to provide transit service levels necessary to generate significant increases in modal split.

  The assumptions for this alternative were extremely optimistic. There is a question as to whether the technology exists to actually provide a transit network capable of achieving the assumed mode splits.

  This analysis was performed only at Ochoco as it has been identified as the most deficient corridor segment during the peak-hour.

  The alternative meets only 47 percent of the peak-hour person-trip capacity requirements if the City of Portland local streets policy is not followed and only 28 percent if the policy is followed.

Thus, even with the most optimistic modal split, the transit improvements alone are not capable of solving the problems in the Southern Corridor. It is clear that increased transit service levels must be combined with some type of auto improvements if the problems in the Southern Corridor are to be solved.

MULTI-MODAL COMBINATION IMPROVEMENTS

- Add Two Reversible Lanes: One Mixed Traffic and One Lane for Buses and Carpools

  This alternative generally meets the peak-direction objective. It combines three modal treatments: transit improvements; an incentive for increasing auto occupancy; and, added capacity for mixed traffic use. However, the alternative fails to meet the off-peak direction improvement standard at Ochoco if the City of Portland policy is followed.

  The analysis assumes no likely changes in directional split over time. Therefore, a peak-hour, off-peak direction improvement appears to be needed.

- Add Three Additional Lanes: Two Mixed Traffic and One Reversible Bus Lane

  While this alternative meets the objective at Holgate it only provides 54 percent to 76 percent of the peak-direction objective at Ochoco (depending on whether the City policy on through trips on local streets is followed). This alternative does not adequately solve corridor problems. The alternative meets the off-peak direction standard.

- Add Three Additional Lanes: Two Mixed Traffic and One Reversible Lane for Buses and Carpools

  This alternative meets both peak hour, peak-direction and off-peak direction requirements. Based on the sketch analysis, it appears to be the most promising alternative.

Summary:

The Metro staff analysis indicates that the addition of two mixed-traffic lanes and a reversible lane for buses and carpools is the only effective alternative for solving the problems in the Southern Corridor north of Milwaukie.

HOW THE PROPOSED PROJECT MEETS THE OBJECTIVES

The Metro analysis indicates that the recommended project alternative meets the corridor improvement objectives.

Discourage the use of single occupant automobiles: The two mixed traffic lanes and a reversible lane for buses and high occupancy vehicles alternative discourages the use of single occupant automobiles because of the preferential treatment provided for transit, vanpools, and shared-ride vehicles. Compared to the no build alternative, the project results in the reduction of 700 p.m. peak-hour peak-direction vehicle trips.

Improve regional traffic flows: The additional capacity provided by the project improves the ability of McLoughlin, a Federal Aid Primary facility, to serve regional traffic flows.

Removed regional traffic from neighborhood streets: The alternative allows the diversion of regional traffic use from parallel neighborhood streets by providing sufficient highway and transit capacity to accomodate travel flows passing between locations in Clackamas County and activities in the City of Portland.

Reduce conflicts between through and local movements: By removing through trips from local streets, the alternative is effective in reducing conflicts between through movements and local access movements.

Encourage efficient land use arrangements: The reliance on transit for meeting corridor problems is consistent with Clackamas County efforts to encourage a better tie between land uses and transit.

Reduce air quality emissions and consumption of energy resources: The alternative will reduce emissions and energy consumption. The alternative results in approximately 700 fewer peak-hour, peak-direction vehicle trips. This reduction is due to increased transit usage and auto occupancy. In addition, operating speeds will be improved.

Reduce Accident Hazards: The alternative will improve levels of service, reduce "stop and go" driving conditions and provide increased safety in the corridor. The lane for buses and carpools must be designed to ensure safe operation.

Favor the most cost-effective solution: The alternative provides only enough additional capacity as needed and is the most cost-effective way to solve the problems.

Option for light rail: Where widening of McLoughlin is required, the improvement will be wide enought to allow the coversion to light rail.

IMPACTS OF THE MCLOUGHLIN PROJECT ON THE REGIONAL TRANSPORTATION SYSTEM

The proposed project has a number of system impacts. McLoughlin Blvd. is a major regional facility and the analysis identified several regional transportation system problems. The project adequately addresses the problems on McLoughlin appearing to offer the potential for relieving additional problems. Specifically, the regional impacts include:

- relieving operating deficiencies on the major facility in the corridor;
- ensuring an adequate level of service on McLoughlin;
- improving transit operating conditions in the corridor;
- decreasing through trips on a majority of the corridor's parallel collectors and local streets;
- improving safety in the corridor; and
- reducing air pollution and energy consumption levels produced by corridor trips.

The project is also related to a number of other "critical impact areas" within the Southern Corridor. The impact of the proposed project on these areas is as follows:

1. Union/Grand Couplet

   The City of Portland has evaluated the year 1995 capacity constraints exhibited by the Union/Grand couplet. In order to provide an acceptable level of service on Grand Avenue, the City identified maximum a.m. peak hour northbound vehicle volumes allowable on McLoughlin north of Holgate. With the inclusion of either the McLoughlin I-5 ramps or with maximum Grand Ave. green times, the McLoughlin project would not be constrained by the Union/Grand couplet.

   With the implementation of the recommended McLoughlin project, it is estimated by Metro that approximately 3,100 - 3,300 vehicles will use McLoughlin north of Holgate during the 1995 a.m. peak-hour in the northbound direction. This volume is below the specified City of Portland maximum in all but the Do-Nothing scenario.

2. Ross Island Bridge/Powell Blvd.

   Mimimal increases in volume as a result of the proposed project are expected on the Ross Island Bridge and Powell Blvd. The increase will be made up of multi-occupant vehicles.

3. Milwaukie Avenue/17th Avenue

Neighborhood infiltration (the use of local and collector streets by through trips) is a major problem on both Milwuakie and 17th Avenues. Congestion on McLoughlin forces through trips onto these local streets. Without improvements to McLoughlin this problem is expected to worsen considerably by 1995.

The recommended project will increase the ability of McLoughlin to carry through trips by:

A. Improving transit operating conditions in the corridor;

B. Providing incentives to divert trips from single occupant autos into more efficient transportation modes (buses and carpools); and

C. Providing increased auto capacity.

These improvements will provide sufficient through-trip person-carrying capacity on McLoughlin to alleviate problems of neighborhood infiltration on Milwaukie and 17th Avenues.

THE NEXT STEP AND AGENCY RESPONSIBILITIES

The next step in Metro's analysis, Phase III, will focus on establishing project priorities for the rest of the corridor. In order to assist project planning efforts of ODOT, a more refined simulation of the ridership and carpooling potential of the most promising alternative defined in Phase II will also be undertaken. More refined transit patronage estimates are needed to define the number of additional buses and their headways, the extent of needed park and ride facilities/location, and transit capital and operating costs. A more precise estimate of the affects of the high occupancy vehicle lane on vehicle occupancy would be useful for incorporation in the Environmental Impact Statement to be prepared by ODOT. Included in the simulation will be a sensitivity analysis for supportive "demand management" (staggered work hour program) actions, gasoline price and availability assumptions, and "land use intensification" assumptions. It is not clear what significant decreases in fuel supply or increases in fuel price would have on this facility as well as the rest of the transportation system. Such an analysis is underway by Metro as part of the development of the Regional Transportation Plan.

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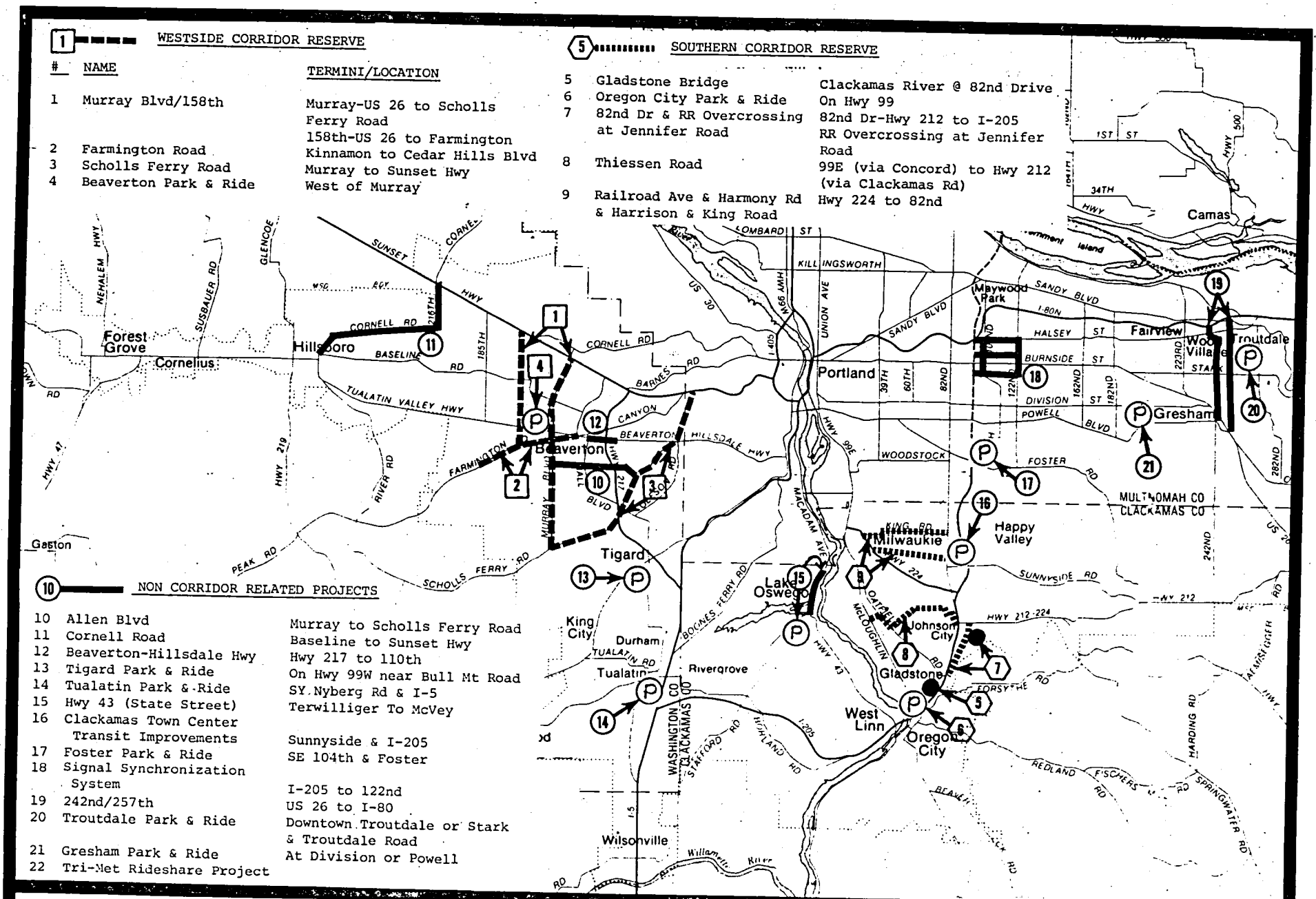

IDENTIFICATION OF CORRIDOR RELATED PROJECTS

Figure 1