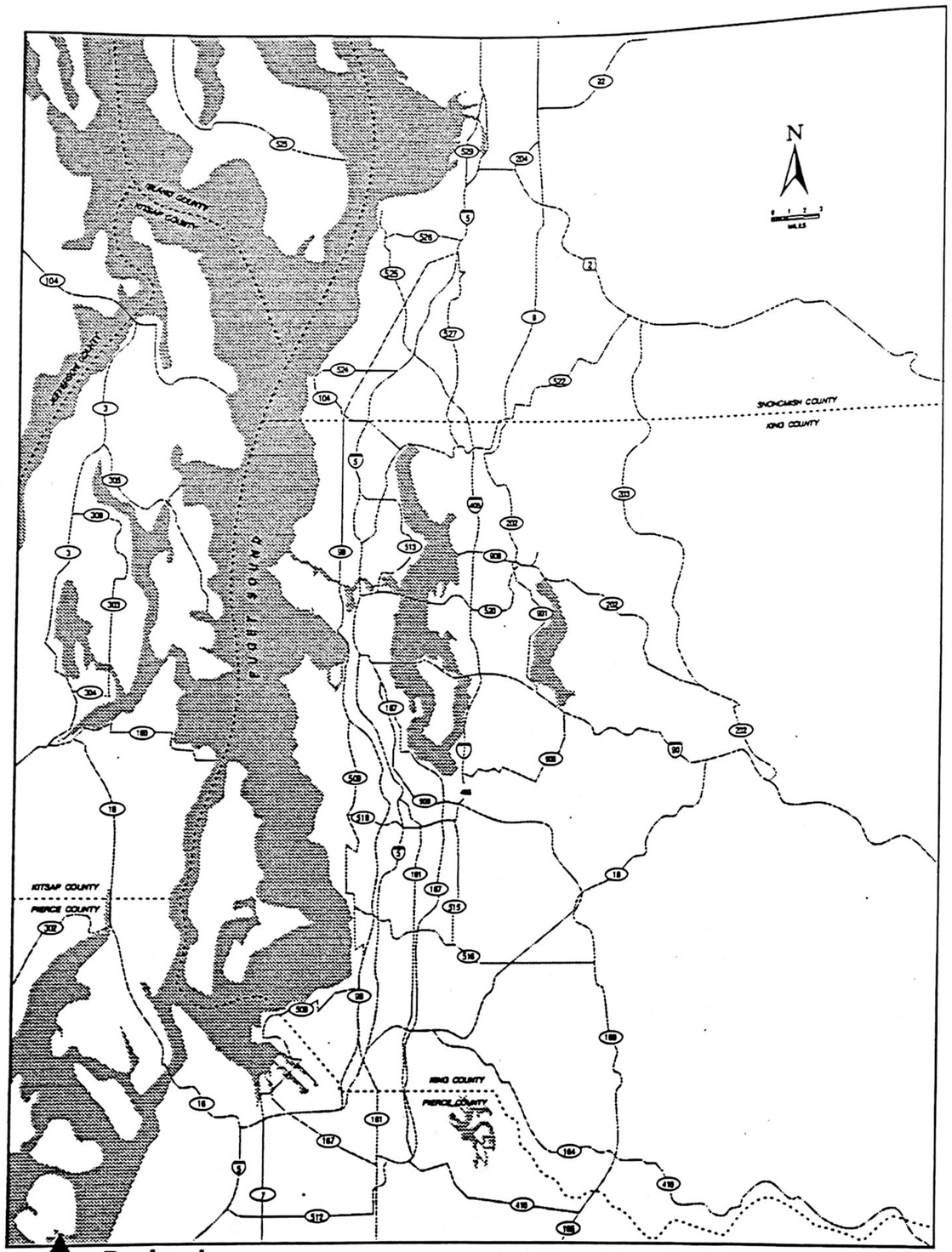


Regional Transit Project

KING COUNTY • PIERCE COUNTY • SNOHOMISH COUNTY

JLB - Staree

Puget Sound Region and Study Area

System Plan

FIGURE 2-1

2.1.2 Earlier Efforts

Working on answers to the region's transportation problems is not a recent development. **Table 2.1** provides a brief chronology of events over the past 25 years related to high capacity transit planning in the Central Puget Sound Region. A rapid transit system was first proposed in the Seattle area in 1968 as part of a 12-element capital improvement program ballot measure. The plan was defeated. A similar plan was placed on the ballot in 1970 and it too was defeated. Following the failure of these two measures, rail planning was not pursued during the 1970s and instead emphasis was placed on improving the area's bus system. However, in 1981, PSCOG conducted a study which determined that development of light rail could help the transportation problems in the central Puget Sound Region if the region's growth were managed and urban centers developed to support a rapid transit system.

Since 1981, there has been an on-going effort to plan for and implement improved transportation facilities in the Puget Sound Region. Several studies have been conducted regarding the feasibility and necessity of improving regional transit service. Each of the studies focused on addressing the future transportation needs of the community as a result of area growth. Most of the studies proposed a mix of transportation solutions including rail alignments, high-occupancy vehicle (HOV) lanes, extended bus routes, park-and-ride facilities, arterial improvements, etc. The following provides a brief summary of the more noteworthy of the plans, studies, and projects conducted over the past ten years and their completion dates.

Light Rail Transit (LRT) Feasibility Study, Puget Sound Council of Governments, March 1981. The object of this study was to assess the post 1990 feasibility of rail transit in all or some portions of the region's high volume corridors. The study ranked the probability of a feasible, cost-effective project within a corridor, or combination of corridors, as follows: 1) the North Corridor from the Seattle Central Business District (CBD) to the general Lynnwood area, 2) the East Corridor from the Seattle CBD to some point north or northeast of Bellevue, 3) the South Corridor to some point south of Southcenter (preferably in a non-freeway corridor), 4) the South Corridor to Tacoma, and 5) the North Corridor to Everett. The study led to inclusion of an LRT element and a priority ranking of corridors in the Regional Transit Plan.

TABLE 2.1

HISTORY OF HIGH CAPACITY TRANSIT PLANNING IN THE PUGET SOUND REGION

YEAR	EVENT
1968	Forward Thrust rapid transit bond issue fails.
1970	Second rapid transit bond issue fails.
1970's – 80's	Transit Investment focuses on bus system and ridesharing.
1981	Regional study concludes light rail transit is feasible.
1982–1987	Corridor studies recommend rail for 2020; alternative routes analyzed.
1987	Studies of commuter rail for the Green River Vally begin.
1988	State rail commission recommends planning and funding for high capacity transit.
1989	High capacity transit system planning advances.
1990	Washington State Growth Management Act passes.
	Joint Regional Policy Committee (JRPC) forms to guide regional transit system planning.
	Vision 2020 land use and transportation plan adopted.
	Downtown Seattle Transit Tunnel opens.
1991	State Clean Air Act passes; includes mandate to reduce drive–alone commutes.
1992	Growth management policies to be adopted.
	Draft regional transit system to be adopted.
1993	Final regional transit system to be adopted.
	Growth management plans to be adopted.
	Transit financing ballot to be proposed.

Regional Transportation Plan, Puget Sound Council of Governments, September 1982. The PSCOG Executive Board adopted a prioritization of major corridors in the Region for subsequent detailed analysis of transportation alternatives and amended the Regional Transportation Plan to include this set of priorities.

Downtown Seattle Transit Project, Metro and the City of Seattle, March 1984. The objective of this study was to improve the transit system through downtown Seattle in response to increased CBD employment and transit demand and to enhance the urban environment. The study recommended a transit tunnel for electric buses with a Pine Street and Third Avenue preferred alignment and five stations. The tunnel was to be fully convertible to rail transit and fully accessible to the elderly and handicapped. The recommendations of the study were approved. The tunnel was built as recommended and is now in operation. It was designed to be converted to light rail or other fixed guideway operation and it will be a vital link in any regional guideway transit system that is selected.

North Corridor Alternatives Analysis, Puget Sound Council of Governments and Metro, May 1984. This study's objective was to evaluate alternative transit investments needed by the year 2000 for the north corridor from the Seattle CBD to south Snohomish County. A steering committee of PSCOG and Metro members guided the study which was partially funded by Federal Transit Administration (FTA) as an "alternatives analysis". The preferred technologies were LRT and advanced technology bus and an I-5 alignment was preferred over all other alignments studied. Because of federal policy at the time, FTA was not in a position to participate in new rail starts thus the PSCOG Executive Board adopted the following position on May 24, 1984: select advanced technology bus and LRT in the downtown tunnel as the two leading contenders for implementation in the north corridor; and complete the north corridor work as the first step to a Draft Environmental Impact Statement (DEIS), concurrently with a multi-corridor study.

Multi-Corridor Project, Puget Sound Council of Governments and Metro, July 1986. The objective of the Multi-Corridor Project was to examine long-range transit and HOV alternatives for increasing capacity in the region's three highest priority corridors: downtown Seattle, north to South Snohomish County, east to Bellevue, and south to Federal Way. The project steering committee recommended

implementation of a rail system by 2020 to meet the region's public transportation needs; a phased implementation approach to include evaluation of the effectiveness of such projects as the Downtown Seattle Transit Tunnel (DSTT) and I-90; and maximizing the cost-effectiveness and benefits of the phased approach through specific actions listed in the recommendations. The study recommendations were endorsed by both the PSCOG Executive Board and the Metro Council and subsequently adopted as an amendment to the Regional Transportation Plan by the PSCOG Assembly on March 26, 1987 following an EIS and public hearing process.

North Corridor Extension Project, Snohomish County Transportation Authority, January 1986. The objective of the study was to evaluate long-range, high capacity transit from the northern terminus of the north corridor portion of the Multi-Corridor Project to Everett. The study, conducted concurrently with the Multi-Corridor Project, was initiated by Snohomish County officials in light of projected growth in population and employment. The preferred alignment recommended by the study included rail transit via the I-5 alignment from the King-Snohomish County line to the Everett CBD with major stations at Alderwood Mall and downtown Everett.

Tacoma-Seattle Transit Connections Project, Pierce Subregional Council and Puget Sound Council of Governments, completed January 1987. The project objective was to examine the feasibility of a rail transit connection between Pierce and King Counties by 2020 as well as examining the financial implications and identifying near-term actions to support the inter-county transit service plan. Project recommendations included rail as the preferred long-range technology and consideration of implementation of rail transit as one component of an overall regional transportation strategy.

Regional Transportation Plan, Puget Sound Council of Governments, May 1987. On May 24, 1987, the PSCOG Assembly adopted the recommendations of the Tacoma-Seattle Transit Connections Project, along with those for the Multi-corridor Project and the North Corridor Extension Project, as an amendment to the Regional Transportation Plan.

Eastside Transportation Program, Puget Sound Council of Governments, November 1986. The objective of the Eastside Transportation Program (ETP) was to develop a comprehensive and balanced transportation plan for the Eastside to meet existing and

future travel needs. The ETP recommendations included a broad range of policies, programs, services, and physical improvements addressing the wide variety of transportation needs and issues facing the Eastside. Some of those recommendations were as follows: place highest priority on HOV improvements over general purpose improvements; improve the multi-centered transit system to effectively serve travel within the Eastside and to provide links from all of the Eastside to the larger metropolitan area; complete the Eastside roadway network; use an inter-jurisdictional approach to transportation systems; link land use and transportation planning; pursue regional high capacity transit; and encourage public/private partnership. As a result of the ETP, Metro developed an Eastside bus service improvement program in cooperation with Eastside communities.

Green River Valley Transportation Action Plan, Puget Sound Council of Governments, Washington State Department of Transportation (WSDOT), King County, Kent, Renton, Auburn, and Tukwila, January 1987. The objective of this study was to develop a plan for implementing road improvement projects in the Green River Valley including prioritization of the projects and a funding plan. The study recommended that PSCOG and WSDOT undertake a freeway operations study of I-5, I-405, and SR 167; that the potential for HOV should be included in all study area projects; and that HOV projects be identified for which matching funds might be available from Metro.

Regional High Capacity Transit 2000 Policies, Puget Sound Council of Governments, October 1989. The 1990-2000 High Capacity Transit (HCT) System Plan component of the Regional Transportation Plan identified priority locations throughout the region for advancement of detailed planning and implementation steps for HOV facilities, passenger ferry facilities, and potential rail and busway systems.

I-90 Improvements. Phase I of the I-90 improvement project commenced in June 1989. Phase II is currently under construction and is estimated to be completed in 1993. Phase II includes construction of the eastbound lanes; completion of the Mercer Island and Seattle lids; construction of a new floating bridge to carry eastbound traffic; refurbishing of the old Mount Baker Ridge twin tunnels; completion of the interchange with Rainier Avenue; and construction of the freeway/ramp complex known as the Seattle Access Project which will extend the general-purpose lanes from I-5 to Fourth Avenue South, allow HOVs to exit at Airport Way and route Metro transit buses into

the Downtown Seattle Transit Tunnel. In its final configuration, the seven-mile I-90 project will include three westbound general-purpose lanes, two reversible lanes for transit and HOVs, and three eastbound general-purpose lanes.

Commuter Railroad Development. Commuter rail has long been discussed as a potential element of the region's rail system. The available tracks are limited in location; the most suitable commuter rail corridor has always been considered the Seattle-Green River Valley-Puyallup-Tacoma corridor because it has been relatively underserved by bus transit. In 1987 Metro Council members from this corridor formed a Commuter Rail Task Force and initiated an in-house feasibility study of "demonstration" service in this corridor. The service was determined as feasible, with a modest cost and modest ridership. A consultant was hired to verify the in-house findings and confirmed them. The same firm was subsequently hired to perform some extensive "pre-implementation" planning.

State/Regional HOV Initiatives. The Washington State Department of Transportation (WSDOT), PSCOG, transit agencies, and local jurisdictions are all involved in HOV planning including where and when HOV facilities should be located on the regional network. WSDOT has implemented transportation system management projects designed to increase the person- and vehicle-carrying capacity of existing facilities. The major elements of the system are the HOV Lane Program; Park-and-Ride Program; freeway flyer stops for express buses; the Surveillance Control and Driver Information System; reversible roadways; arterial signal control systems; support for ride-matching services for car pools and van pools; and tow truck operations. The Puget Sound Region's HOV system includes many of the WSDOT transportation system management elements plus transit centers, the DSTT, ferry priority loading lanes, passenger-only ferries, and planning and marketing activities to support the system.

2.1.3 Vision 2020

In October 1990, after more than three years of work and the incorporation of public comments, the PSCOG (now the Puget Sound Regional Council (PSRC)) adopted Vision 2020, a long-range growth and transportation strategy for the Central Puget Sound Area -- King, Kitsap, Pierce, and Snohomish counties. Vision 2020 is a landmark regional plan explicitly linking land use and transportation policy.

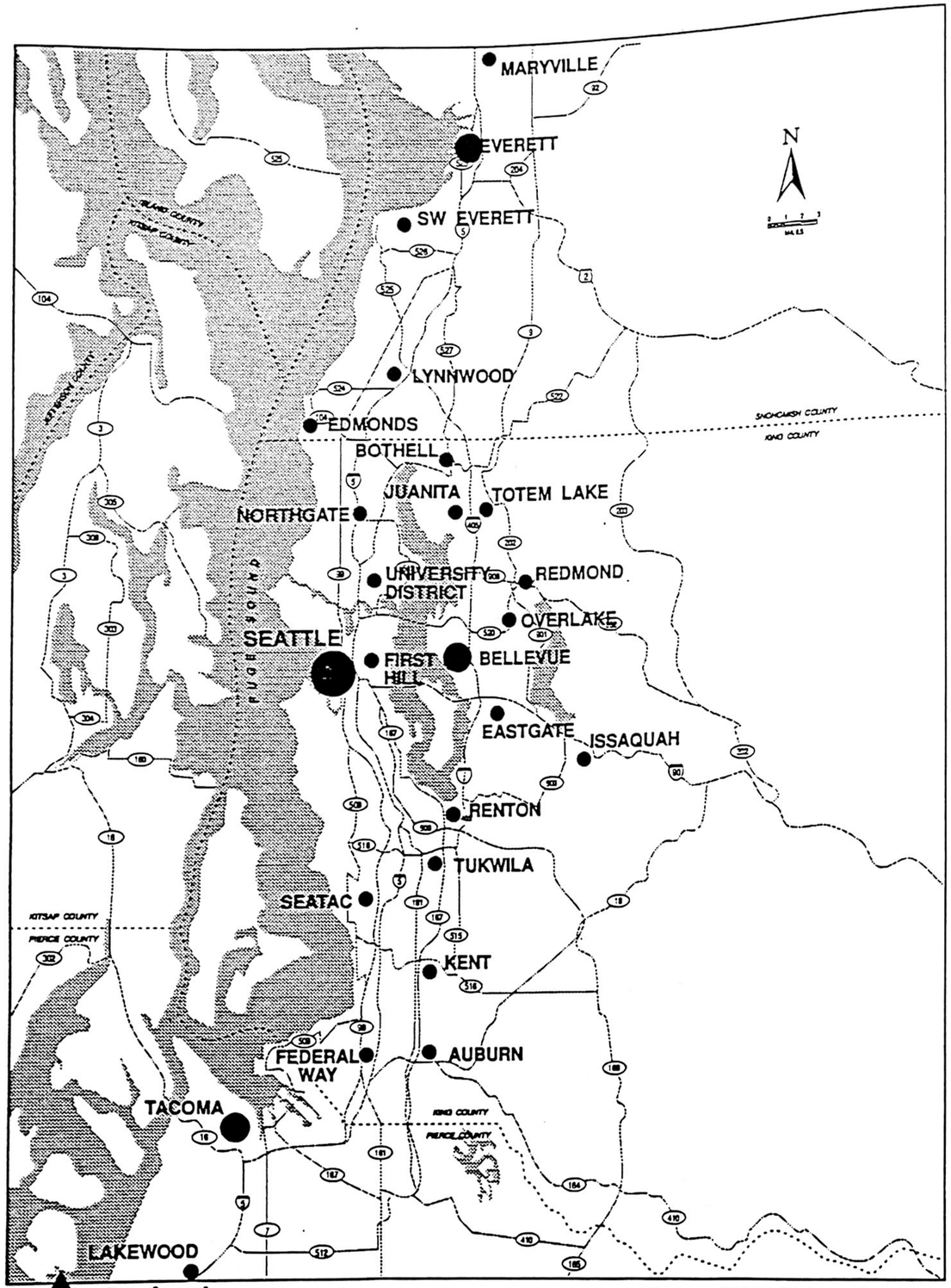
Vision 2020 replaces the 1982 Regional Transportation Plan as the basis for approval of state and federal transportation funding in the Region. It also replaces the 1979 Regional Development Plan as the regional framework for growth. Vision 2020 extends the planning horizon from year 2000 to 2020 and updates the highway, transit, ferry, and transportation demand elements of the previous Regional Transportation Plan.

Vision 2020 established a new regional design that calls for compact, people-oriented living and working places -- reversing the trends that have created low density, auto-dependent communities. This design limits expansion of the urban area by focusing new employment and housing into 10 to 15 of the major urban centers shown in **Figure 2-2**. The centers are supported with a transportation investment plan that emphasizes a more efficient transit-oriented, multi-modal transportation system that includes rapid transit, local transit, ridesharing, demand management, and maintenance of existing facilities. The PSRC and local jurisdictions are working to designate which communities will be centers. The designations will be reflected in local comprehensive plans that are now required by new state growth management legislation.

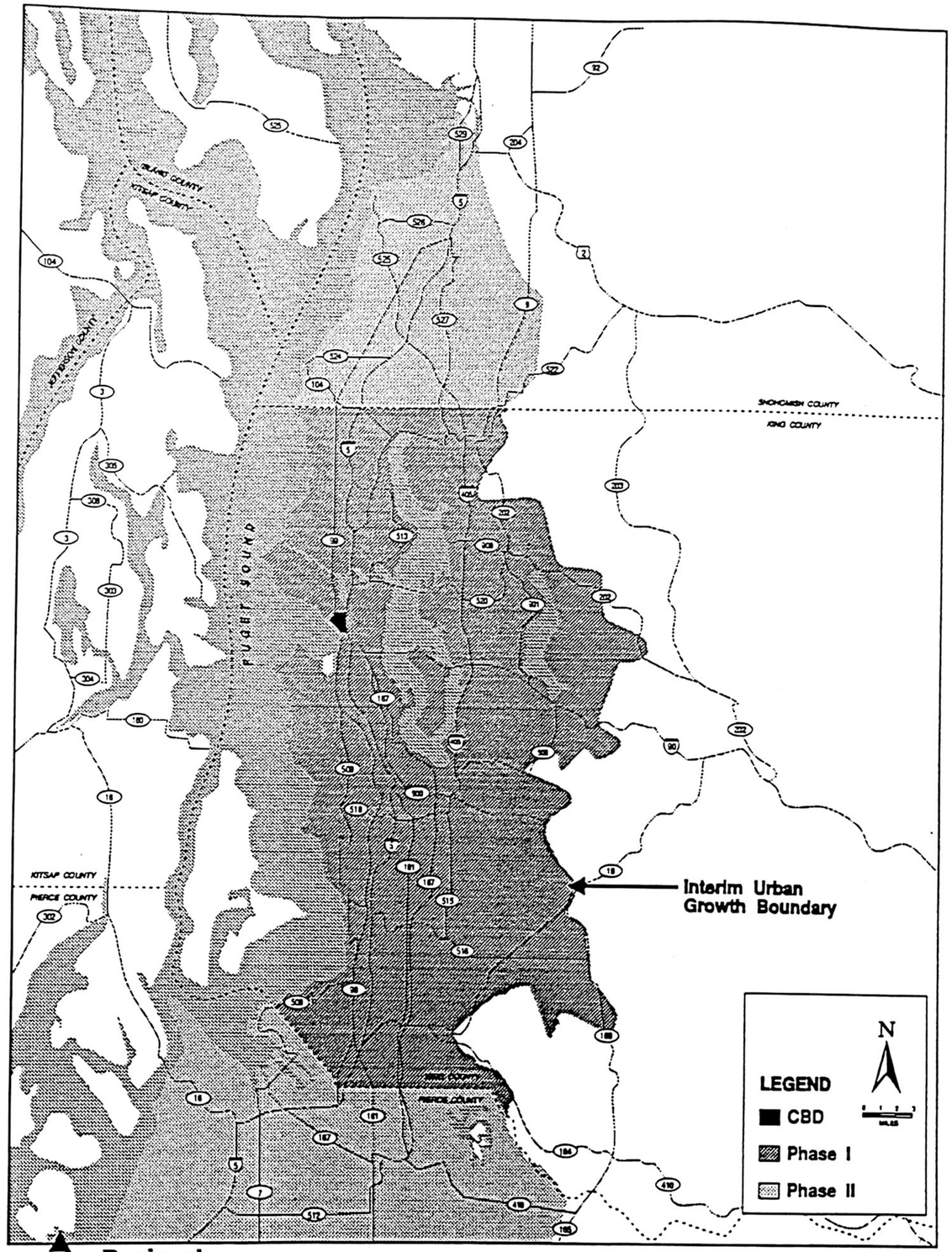
2.1.4 Regional Transit Project Evolution

In September 1988, the PSCOG Assembly adopted a policy to advance the planning schedule for high capacity transit (HCT) so that an initial segment would be in revenue service by year 2000. A work program was designed to identify the staging of an implementation plan, by decades, through year 2020. Policies for the development of the first stage were adopted by PSCOG in October 1989 as an amendment to the Regional Transportation Plan. Consistent with the PSCOG policy objectives, Metro entered into a new series of transportation planning and engineering studies in October 1989, which were feeder studies to what is now characterized as the "Regional Transit Project", formerly the "Metro High Capacity Transit Project", as resolved by Metro Council in March 1989.

The RTP is being conducted in two phases, as illustrated in **Figure 2-3**. Phase I covered certain system planning studies in the context of Metro's Long Range Plan within their service area. Phase II relates to a three-county regional study area which would produce two primary documents: the System Plan and the Washington State Draft Environmental Impact Statement.



Vision 2020 Urban Centers
System Plan
FIGURE 2-2



Study Phases
System Plan
FIGURE 2-3

The Phase II effort, now active, consists of planning and conceptual engineering work for three corridors, which generally radiate from the Seattle CBD and includes an assessment of projected travel demand under four basic transit alternatives -- No-Build, Transportation Systems Management (TSM), Transitway/TSM, and Rail/TSM, including Commuter Rail. Phase II also includes the preparation of Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) type methodology reports, conceptual design and engineering for all fixed facilities and operating systems of three "build" alternatives. Also provided, by alternative and by corridor, are the operations plans, measurement of effectiveness, capital and operations and maintenance (O&M) cost estimates. Based on the adopted evaluation criteria, developed and comparative evaluations of alternatives have been performed and ranked as to their effectiveness. Implementation priorities will be made. Parallel work of community participation, and public information is included. The concluding work of this phase is the assembly of the data and design into a series of technical memoranda and alternative reports. These memoranda and reports are further summarized into a System Plan. Also included is a Washington State DEIS. Together they form the basic referendum documents to be taken to the voters after approval by the appropriate boards and governing bodies.

Stage II of Phase II of the RTP will consist of advancement of the Stage I conclusions including the continuation of the conceptual engineering and the finalization of the EIS work. If the conclusions of Stage I include continuation of development work other than TSM improvements on one or more corridors, the Stage II scope will so reflect it. The Stage II scope may include work tasks and schedules in one corridor which conform to the FTA processes for Preliminary Engineering/Final Environmental Impact Statement (PE/FEIS) work tasks and schedules in another corridor which do not conform necessarily to the FTA requirements. Outputs from Stage II will include the PE/FEIS documentation, the financial plan, the implementation plan, and a Preferred Alternative Report. Concurrent with the required or elective hearings, referenda, and approval processes, there will be certain pre-design technical studies undertaken, including development of design criteria and standards for major fixed facilities and systems, geotechnical investigations, constructibility analyses, and other special technical studies.

2.2 RTP Goals and Objectives

In 1988, Metro began the task of defining goals and objectives for a future rapid transit system. During the 1988 to 1991 period initial efforts at defining the goals and objectives for the project were undertaken in numerous Metro forums. Metro conducted an extensive public involvement program related to the RTP and the development of the project's goals and objectives. Two voter surveys were conducted, numerous public forums/meetings were held, and 30 roundtable sessions were undertaken. From these surveys, meetings and sessions Metro gained a sense of the public's concerns, preferences and attitudes regarding transportation, growth and the environment. The results of this public process directly affected the development of the goals and objectives of the RTP.

The general public, the four transit agencies in the region, local governments, the Washington State Department of Transportation, and public officials were also involved in the development of the RTP goals and objectives. The following committees and panels were responsible for the evolution and development of the goals, objectives and evaluation measures: the Metro Council Planning Subcommittee, the Joint Regional Policy Committee and the Expert Review Panel. The following is a chronological summary of the committee process followed in adopting the goals and objectives:

- Metro Planning Subcommittee
  - May 16, 1991 - discussion of performance measures
  - July 18, 1991 - adoption of goals and objectives
- Joint Regional Policy Committee
  - August 23, 1991 - discussion of goals and objectives
  - September 27, 1991 - adoption of goal and objectives
  - November 22, 1991 - discussion of service policies
  - December 20, 1991 - adoption of service policies
  - September 18, 1992 - adoption of Regional Transit System Draft Plan goals and performance objectives

- Expert Review Panel
  - April 1991 - discussion of evolution criteria and measures
  - October 1991 - revised criteria and measures
  - March 1992 - review of evaluation methodology

This process resulted in the establishment of a general overall goal statement for the project, which was adopted by both the Metro Council Planning subcommittee and the JRPC. **Table 2.2** summarizes this statement which formed the basis for the development of an evaluation methodology for the project. As the planning progressed the general statement summarized in **Table 2.2** was expanded and eventually evolved to a set of goals and performance objectives included in the Regional Transit System Draft Plan, which was adopted by the Joint Regional Policy Committee in September of 1992. **Table 2.3** presents these goals and objectives.

2.3 Population Households and Employment

2.3.1 Population

In 1990, there were approximately 2.48 million people living in the 27 study area districts shown in **Figure 2-4**. As can be seen in **Figure 2-5**, the total population for the 27 districts is forecasted to increase by over 966,000 people (36 percent) between 1990 and 2010 and by over 1.2 million people (51 percent) between 1990 and 2020. **Figure 2-4** shows the location of the districts and which districts fall within each of the System Plan corridors (i.e., the North, South and East Corridors). The Seattle CBD is not included in any of the corridors as it is the focus for a significant amount of the transit ridership to/from all the corridors. In addition, Kitsap County (District 26) is treated as an external zone in the system planning process and does not fall within any of the corridors.

Of the three counties in the study area, the urbanized area of King County (including Seattle) is by far the most populated with 1.5 million people counted during the 1990 Census as shown in **Figure 2-5**. With an urban area only slightly larger than the areas of Pierce and

TABLE 2.2

INITIAL RTP GOAL STATEMENT

OVERALL GOAL

Plan, construct and operate a public transportation system which provides a competitive alternative to the single-occupant vehicle (SOV) in both the commuter and community transportation markets, and supports and responds to adopted plans for land use, growth management and air quality.

OVERALL OBJECTIVE

Work with the community, environmental and business groups to develop a comprehensive public transportation plan to present to the voters in 1992 which increases Metro's market share, reduces SOV usage and provides for an early return on investment.

SPECIFIC SYSTEM OBJECTIVES

Objective 1: Plan and construct a transit system which, combined with other public transportation services, will enable residents and visitors to easily and inexpensively move to, among, and within the region's activity centers without resorting to use of a single occupant, private automobile.

Objective 2: Plan and construct a transit system which, combined with other public transportation services will improve air quality, limit urban sprawl and reduce energy consumption.

Objective 3: Plan and construct a transit system which, combined with other public transportation services, will enhance our region's communities and neighborhoods. Support achievement of Vision 2020 and of local and regional land use plans not in conflict with Vision 2020.

TABLE 2.3

GOALS AND PERFORMANCE MEASURES

GOALS

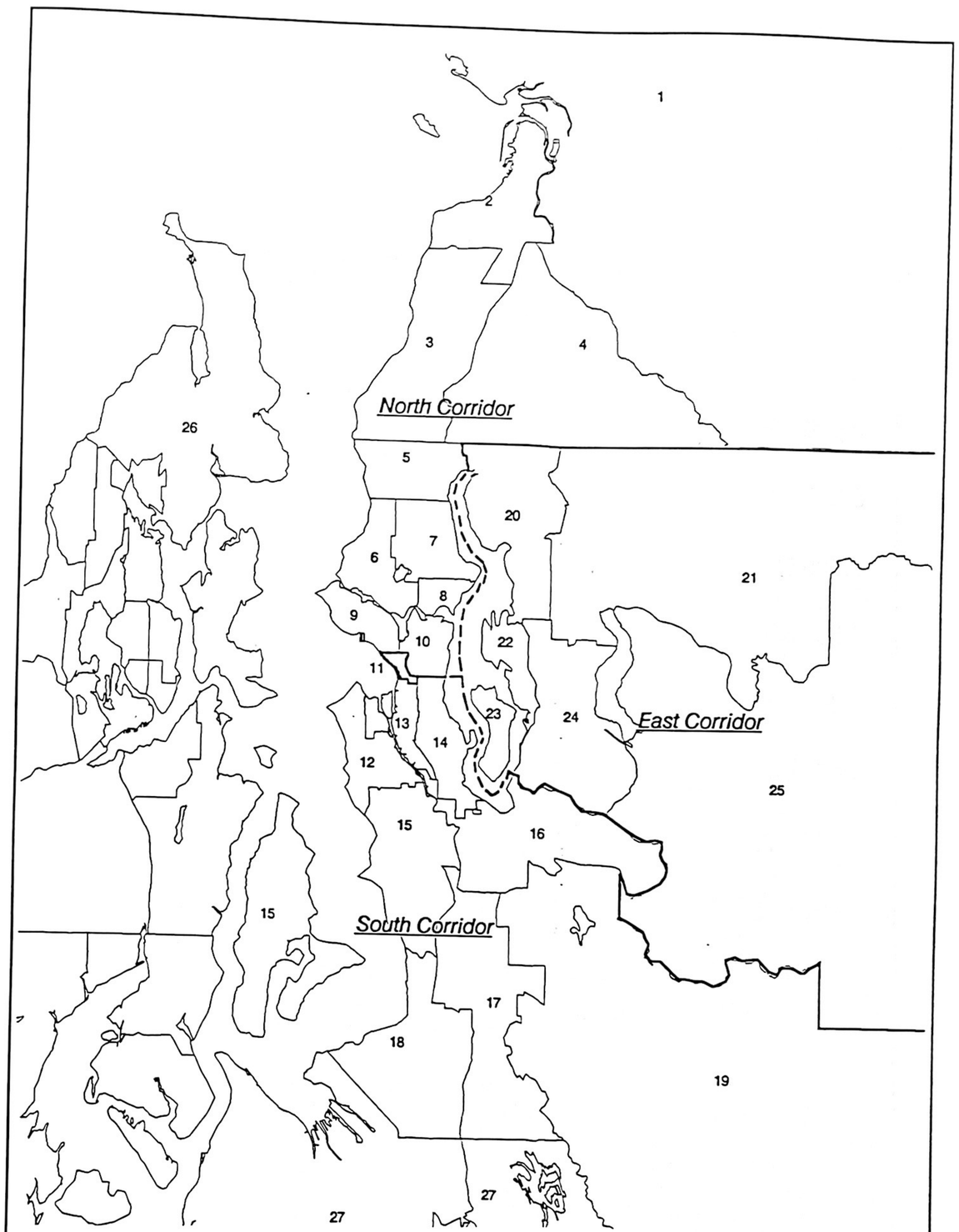
- **Ensure the Ability to Move around the Region** - Provide reliable, convenient and safe public transportation services throughout the region.
- **Preserve Communities and Open Space** - Support communities' ability to develop in ways that preserve and enhance their livability and limit intrusion into rural areas.
- **Improve the Region's Economic Vitality** - Increase access to jobs, education and other community resources.
- **Preserve Environmental Quality** - Conserve land and energy resources, and contain air pollution growth.

PERFORMANCE OBJECTIVES

- **Mobility**
  - Increase the portion of regional trips by people using transit and ridesharing

    Year 2020 targets

    - 25 percent of all trips
    - 40 percent of all work trips
    - 50 percent of work trips to activity centers
  - Reduce average transit travel time by 10 minutes.
  - Increase transit speed and reliability
  - Improve transit access to jobs and other activities.
- **Cost and Efficiency**
  - Offer the most efficient and effective services and facilities possible within available resources.
- **Social, Economic and Environmental Benefits**
  - Help limit urban sprawl, maintain open space and protect natural resources.
  - Support creation of pedestrian-friendly and transit-supportive communities.
  - Increase transportation options that use less energy, consume less land resources and produce fewer air pollutants.
  - Reduce the miles and hours travelled per day per person.
- **Equity**
  - Provides services and facilities that benefit all socioeconomic groups.
  - Benefit geographic areas in proportion to the revenue they generate.
- **Financial Feasibility**
  - Develop a system that is affordable to build, run and use.



Regional Transit Project

KING COUNTY • PIERCE COUNTY • SNOHOMISH COUNTY

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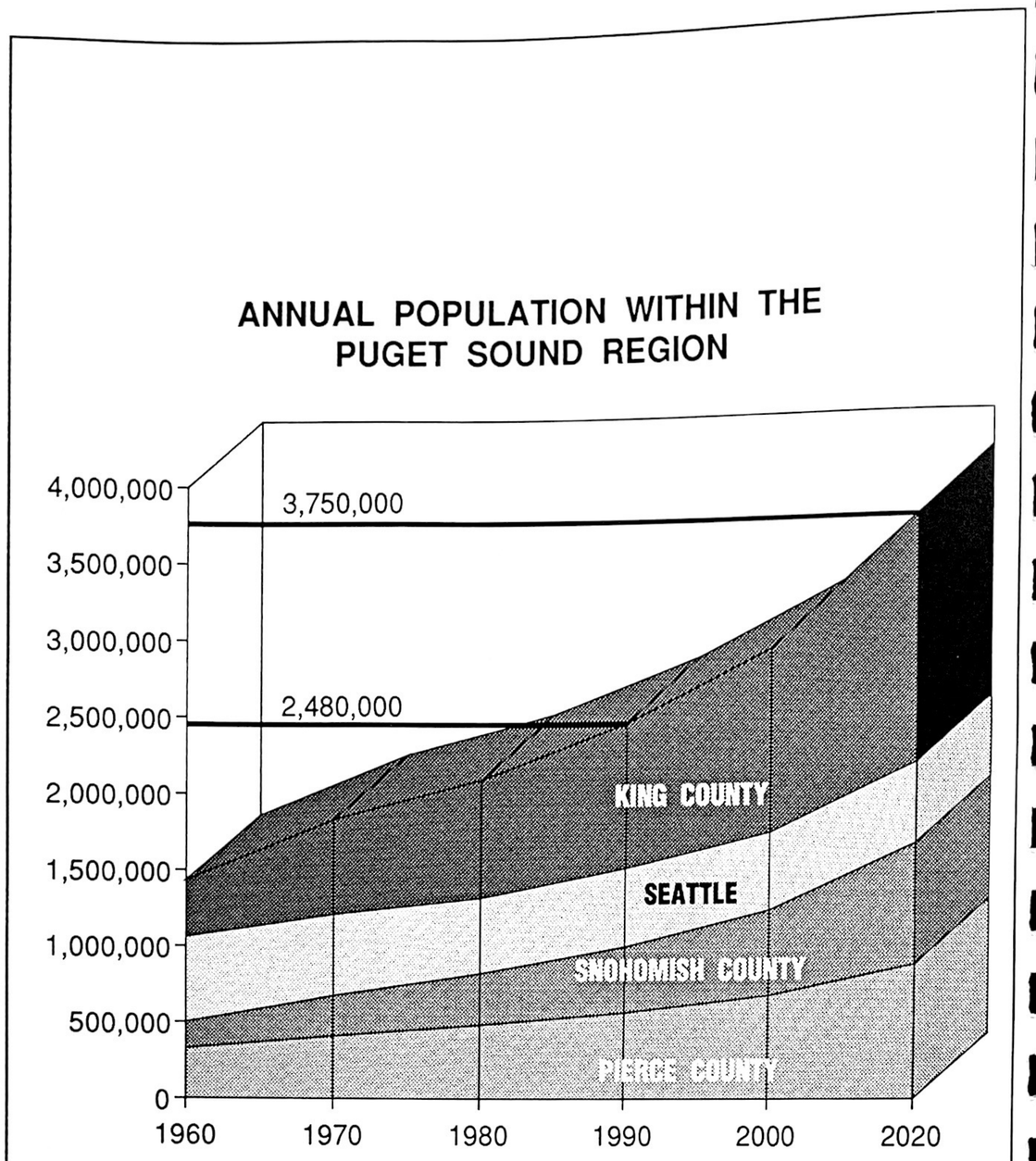
27-District Group

System Plan

FIGURE 2-4



Source: U.S. Bureau of the Census,
PSCOG, Population & Employment Forecasts, June 1988

Regional Transit Project
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Annual Population Within the Puget Sound Region
System Plan
FIGURE 2-5

Snohomish Counties, King County has over twice the population density of the other two counties. All of the counties have experienced rapid population growth over the past decade, however, the growth rate in Snohomish Country has far outstripped the growth rate of the other two counties. Population, land area and density for each country for 1990 are presented in **Table 2.4**.

The PSRC is the source of forecasts of regional population, households, and employment. The forecasts are prepared by PSRC staff and circulated for review by a wide variety of public, private, and non-profit organizations and then finalized based upon comments received. The forecasts were adopted by the PSRC Subregional Councils and Executive Board. The PSRC household and employment projections were used in applying growth factors to the trip tables developed for the RTP.

2.3.2 Households

For the three-county region, King County has the greatest share of the existing households with 643,333 followed by Pierce County with 217,616 and Snohomish with 182,879, as shown in **Figure 2-6** and **Table 2.5**.

This table also shows the forecasted number of households for the three counties for the three counties for 2010 and 2020. There are two sets of 2020 forecasts shown in the table: 2020A are the adopted forecasts and 2020V are the Vision 2020 forecasts; these forecasts differ in that the Vision 2020 forecasts are based on concentrating growth in certain selected centers as opposed to allowing present growth patterns to continue (2020 Adopted). As can be seen from **Table 2.5**, the number of households in Snohomish County is forecasted to grow at the fastest rate followed by Pierce and King Counties. The number of households for 1990 and future years 2010, 2020A and 2020V for the three study-area corridors and the Seattle CBD are also shown in **Table 2.5**.

The South Corridor presently contains the greatest number of households with 495,430 households. The North Corridor follows with 381,829 and the East Corridor has 158,042. As can be seen from **Table 2.6**, although the North and South Corridors are each forecasted to gain a greater total number of households than the East Corridor, the number of East Corridor households are projected to grow at the fastest rate under all three future forecasts.

Executive Summary

The Regional Transit Project (RTP) is a cooperative project involving the Municipality of Metropolitan Seattle (Metro), Pierce Transit, and the following Snohomish County transit planning and operating agencies -- Snohomish County Transportation Authority (SNO-TRAN), Community Transit, and Everett Transit. Elected officials from the governing boards of these transit agencies and the secretary of the Washington State Department of Transportation (WSDOT) comprise a Joint Regional Policy Committee (JRPC) which is guiding the RTP and the System Plan.

The System Plan is designed to provide joint public transit development in the three-county region and to implement the public transportation objectives adopted by the Puget Sound Council of Governments (PSCOG) in 1990. The System Plan proposes a major public transit investment to help meet the region's transportation-related needs. The Plan also responds to initiatives put forth by the Washington State Legislature addressing growth management, high-capacity transit planning, reduction in the number of single-occupant vehicle trips to major employment sites, and the nonattainment air quality status of large portions of King, Pierce and Snohomish counties.

This Executive Summary provides a brief overview of the technical process followed to develop the RTP System Plan and outlines subsequent actions to be taken in implementing the Plan. Included in this summary, and further detailed in the body of the report, are sections on the purpose and need for the plan; the plan development process; the alternative transit systems evaluated; the conclusions of the evaluation process; the selection of the alternative; the implementation strategies; the recommended system; the financial plan; and the next steps including implementation responsibilities and the short-range program.

Materials presented in this report are generally summaries and abstracts from other technical reports produced during the course of the system planning process. Appendix A presents a listing and abstract of the key reports prepared in developing the System Plan.

The Transitway/TSM Alternative is designed to build on the HOV system, giving more speed and reliability in areas where HOV lanes are not adequate. It would improve transit access to activity centers such as the University District and Bellevue and would replace the reversible lanes on I-90 and I-5 with two-way HOV facilities. Improved transit centers and new park-and-ride spaces would accompany the proposed expansion of service.

The Transitway/TSM Alternative capital facilities plan would feature exclusive busways extending along the North, South and East Corridors from Downtown Seattle Transit Tunnel Stations. Access to the Transitway/TSM Alternative would be provided at a limited number of stations on each corridor. The Transitway/TSM Alternative service plan would emphasize local-express and express-only operations overlaid on the local transit, paratransit and ridesharing measures planned under the TSM Alternative.

Major changes in planned bus transit service over the TSM Alternative include a direct regional route operated by Metro from Everett to Tacoma by way of the downtown Seattle bus tunnel. This route would operate all day every fifteen minutes. A similar regional route would be operated by Community Transit for South Everett to Bellevue at half hour frequencies. Other changes include extension to some Rainier Valley routes to connect with transitway buses at Boeing Access Road. Some SR 520 routes to downtown Seattle would be rerouted onto the I-90 transitway.

1.2.4 Rail/TSM Alternative

The Rail/TSM Alternative consists of an electric rail system operating on an exclusive, grade-separated right-of-way and connecting major centers in King, Pierce and Snohomish counties. For the purposes of modeling the Rail/TSM Alternative and comparing it to the other system alternatives, specific alignments within each corridor were selected to be modeled. Selection of these alignments for the System Plan modeling effort does not preclude study variations of the alignments during the alternatives analysis phase. The following alignments were assumed for the purpose of modeling the Rail/TSM Alternative:

- North Corridor - The north alignment connects downtown Seattle with downtown Everett and also serves Capitol Hill, the University District, Northgate, Mountlake Terrace and Lynnwood.

- East Corridor - To the east, the rail system connects downtown Seattle to Redmond and to Issaquah. The Redmond alignment runs via Mercer Island, downtown Bellevue and the Overlake/"Microsoft" area. The Issaquah alignment serves Mercer Island and Eastgate.

- South Corridor - There are three south corridor rail alignments. One alignment links downtown Seattle to downtown Tacoma via the Rainier Valley, the Boeing Access Road, Sea-Tac Airport and Federal Way. Another alignment provides a connection between Burien and the Everett Boeing Plant by way of Renton, downtown Bellevue, Kirkland, Bothell and Swamp Creek. Finally, a commuter rail line connects downtown Seattle to downtown Tacoma via Longacres, Kent, Auburn and Puyallup.

In addition to the rail service described above, the Rail/TSM Alternative also includes a strong TSM component that consists of many of the capital facilities and much of the bus service included in the TSM Alternative.

The rail operating concept assumed under this alternative consists of four lines and a commuter rail system that follow the alignments described above. To the north, between Seattle and Everett, trains would operate every eight minutes during the peak periods. Additional trains would also operate every eight minutes between Seattle and Swamp Creek; thus, the effective peak headway between Seattle and Swamp Creek would be four minutes.

Peak headways to the south between downtown Seattle and Tacoma would also be eight minutes; additional trains would operate every eight minutes between the University District and Federal Way. The effective peak headway between the Seattle CBD and Federal Way would be four minutes and between the Seattle CBD and the University District, it would be three minutes.

In the East Corridor, trains would operate every eight minutes during peak periods between downtown Seattle and Redmond and downtown Seattle and Issaquah. Trains would also operate every eight minutes between Burien and Everett via Bellevue and Kirkland. The peak headway between Seattle and Tacoma would be 15 minutes.

1.2.5 Potential Rail/TSM Variations and Supplements: Surface Light Rail Systems, and Other Alternatives Considered but not Analyzed

In the development and analysis of the four alternatives described above, a number of other variations, supplements and alternatives were considered and analyzed or discarded. Potential rail/TSM variations included the analysis of a number of less capital intensive rail profiles for the ends of the line in Pierce and Snohomish Counties. In addition to the rail/TSM variations, a number of potential rail/TSM supplements were analyzed. The potential supplements included:

- A Ballard to Laurelhurst rail service
- Seattle to Everett commuter rail
- Express passenger ferry service
- A Rainier local rail service
- A Sea-Tac People Mover
- Renton/Tukwila commuter rail service
- Eastside commuter rail service, and
- I-405 access improvements for express bus

Two surface light rail concepts (the Rhododendron Line and R2B2) were privately developed and offered as alternatives to the RTP rail/TSM alternative. The concepts were analyzed in detail by the RTP team. In addition a number of other alternatives were considered, but not analyzed during the system planning process. These alternatives are addressed in the body of the report.

1.3 Selection of the Alternative

The Rail/TSM Alternative is the recommended alternative, based on evaluating the performance of the four alternatives under the following five criteria categories: Mobility/Effectiveness; Cost/Efficiency; Social, Economic and Environmental Impacts; Equity Considerations (Cost-Benefit Distribution); and Financial Feasibility. The evaluation results and the reasons for the selection of the recommended alternative are summarized below.

1.3.1 Mobility/Effectiveness Summary

Perhaps the most critical focus of the evaluation of the alternatives was their ability to comply with and support the intent of local and state growth management strategies and laws; i.e., Vision 2020, the Growth Management Act and the Commute Trip Reduction Law. The following is a brief synopsis of each alternatives ability to comply with these strategies and laws.

- The No-Build Alternative is not supportive of any of these strategies because it doesn't offer the speed, reliability or capacity to be an effective alternative to the single-occupant vehicle.

- The TSM and Transitway/TSM Alternatives are only marginally to moderately supportive of Vision 2020 and the Growth Management Act due to their inability to support the focus of growth at key activity centers. Both alternatives are initially responsive to the Commute Trip Reduction Law which focuses on decreasing SOV trips; however, the decreasing attractiveness of service will make goal attainment difficult.

- Investment in the exclusive fixed guideway system of the Rail/TSM Alternative provides the opportunity for transit to directly access the region's activity centers. Rail stations are focal points for a coordinated program of land use policies to support denser development. A substantial percent of the region's population in 2020 would be within five miles of one of the rail stations. With its combination of easy access, speed and capacity provided, the Rail/TSM Alternative is supportive of the state and region's growth management strategies and laws.

The second most critical evaluation point was the determination of which system provides an attractive alternative to the SOV. The baseline ridership forecasts for the four alternatives indicate that compared with today the No-Build Alternative would carry smaller percentage of trips on transit. The TSM and Transitway/TSM Alternatives would maintain current market shares. The Rail/TSM Alternative would capture an increasing share of the travel demand reducing the number of cars on the road daily in 2020 by about 430,000.

1.5.6 Regional Rail Transit System

The rail system will be planned, designed and built by 2015. The first segments will be scheduled to open by 2001. Final alignment and station location and design will be determined on a segment by segment basis following detailed planning, community involvement and environmental review. the initial phase of the south corridor commuter rail component of the rail system will be placed in service in 1996 and built out by 2005.

1.6 Financial Plan

1.6.1 Purpose of the Financial Plan

The recommended system requires a major capital investment in rail and transportation system management (TSM) facilities in the region. Implementation of the recommended system will require a local funding capacity of approximately $7.4 to $7.9 billion. At this system planning phase of the project, the purpose of the financial plan is to analyze alternative approaches to achieving two financial goals in the implementation of the recommended system: feasibility and equity.

Financial feasibility requires revenue sources acceptable to the public and a stable flow of funds sufficient to cover the cash outflows for capital, operation and maintenance expenditures. In addition, the there must adequate resources to service the debt and provide a reasonable capital reserve level. Financial equity requires a linkage of revenue sources to beneficiaries.

To develop a financial plan which meets these two goals of feasibility and equity, the distribution of costs and benefits to sub-regions and the characteristics of potential funding sources were analyzed. Potential funding sources were evaluated with respect to their capacity to yield revenue, reliability of revenue yield, equity across socioeconomic groups, administrative effort, public acceptability, ease of implementation and effect on travel behavior. Sub-regional equity of costs and benefits was analyzed by comparing the distribution of capital facilities, service hours and ridership to the distribution of costs.

1.6.2 System Development, Operation and Maintenance Costs

The costs of system development, operation, and maintenance determine the total financial capacity (or total revenue yield) required from various revenue sources. These costs and their phasing over time determine the annual levels of financial capacity which will be needed over the life of the project. Information on the cost and phasing of the recommended system are inputs to the analysis of potential funding sources.

As parts of the system become operational, the capacity to finance system operation and maintenance, in addition to completion of the system, will be necessary. The phasing of system development is designed to maintain relatively stable funding levels over the period of project development (as well as other goals such as sub-regional equity).

1.6.3 Potential Local Funding Sources

Drawing from a variety of funding sources is customary for the development of regional transit systems. The exact mix of these funding sources depends upon factors such as federal policies, state fiscal conditions and fiscal competitiveness, and the financial capacity of the service area. Funding sources evaluated include the sales tax, the motor vehicle excise tax (MVET), an employer tax, a local option gas tax, a parking tax, a property tax, a sales tax on gasoline and a tax increment on gasoline. The evaluation results indicate that viable funding sources include the sales tax, the MVET and a local option gas tax. Of these sources, the sales tax must be included to generate sufficient revenue to cover the costs of transit system development and operation and maintenance. The sales tax could generate up to $6.1 billion dollars (in 1991 present value) enough to fully fund the local share. The MVET also has enough revenue yield potential ($2.9 billion) to serve as a primary funding source. The local option gas tax would be a minor source of funding, but would have desirable effects on travel behavior which would support the objectives of the system.

1.6.4 Public/Private Financing Options

The financial plan calls for five percent of the total system cost to be financed by the private sector through joint development or other public/private financing options. Public/private financing options were evaluated and the results of the evaluation suggest that joint development, transfer or lease of development rights, special benefit assessments, and negotiated transportation agreements have the greatest potential to succeed in meeting the five percent goal in this region.

1.6.5 Regional Equity

To achieve financial equity across regional geographic areas, it is necessary to balance benefits of capital assets against the revenue raised to pay for those assets by county and corridor. Because the investment will be made over a long period of time (approximately 20 years), it is also necessary to develop a system phasing plan which provides for an equitable distribution of costs over time.

To evaluate the equity of the distribution of costs and benefits across sub-regions, several distributional analyses were performed. The distribution of capital facilities (measured in dollars), transit service (measured in revenue vehicle hours) and ridership was compared to tax revenues contributed by county. A second analysis, comparing the capital cost per capita by county was also performed. These various measures are proxies for the overall transportation benefits of the system, which are generated by the existence of the system, ridership of the system, and travel time saved by riders. The analysis indicates that the distribution of costs and benefits is equitable by sub-region, but could be improved through adjustments to system phasing to accelerate the development of facilities in Pierce County.

1.6.6 Recommended Financial Plan

To fund the Regional Transit System, it is recommended that the Regional Transit Authority (RTA) levy a combination of local taxes that will generate the equivalent of 0.9 percent sales tax in new local revenues. These local taxes would include a sales tax increase, an MVET increase and, if authorized by the state legislature, a new tax on fuel.

The RTA would seek the following funding sources for construction of the regional rail system: a minimum of 33 percent from the Federal Transit Administration, a minimum of two percent from the state, a minimum of 5 percent from joint development and private sector involvement, and about 60 percent from voter-approved local option taxes.

1.7 Next Steps, Implementation Responsibilities and the Short-Range Program

On September 18, 1992, the JRPC recommended the Regional Transit Draft System Plan for public review and comment. On October 12, 1992, a DEIS along with the Draft System Plan were issued. Following a public review and comment period, and release of the FEIS, the JRPC expects to approve a final Regional Transit System Plan in early 1993. The participating counties must then form a Regional Transit Authority (already authorized by the State Legislature) to finance, build and operate the regional facilities and services. The RTA is expected to be formed and begin functioning in the second quarter of 1993. The RTA will propose a financing plan for voter approval of new local option taxes. The ballot measure is expected to be presented to the voters in the Fall of 1993.

Implementation of the System Plan will be coordinated with regional, county and local land use plans. A program for effective citizen involvement in implementing the plan has been developed and will be carried out. General recommended responsibilities for implementing the System Plan are as follows:

- The PSRC's Regional Transportation Plan and county Growth Management Act plans will be amended to reflect the adopted System Plan.

- Local jurisdictions will develop and implement land use and transportation plans and regulations necessary to support the System Plan and regional and county plans. They will also develop and implement plans for transit facilities within their jurisdictions.

- Local public transportation agencies will provide community feeder bus and regional bus services and plan, design, build, own and operate bus and community rail facilities.

- The RTA will collect voter-approved local-option taxes, allocate funds for System Plan elements, and plan, design, finance, build, own and operate the regional rail system element.

- WSDOT will plan, design, finance, construct and operate the state HOV system.

Over the next year, the JRPC and the RTA will be engaged in a short-range program designed to accomplish the following:

- Perform the tasks necessary to complete and adopt the final System Plan.

- Accomplish the logistical effort necessary to establish the RTA on an interim basis pending the November ballot on the System Plan.

- Support the effort necessary to communicate the System Plan to the public and affected agencies in the region.

- Perform the various planning and engineering tasks necessary to prepare for advancement of the System Plan into the next phase of planning, and perhaps initiate Alternatives Analysis and Draft Environmental Impact Statement (AA/DEIS) development.

- Support and coordinate the development of interlocal agreements for station area planning between the RTA and local agencies.

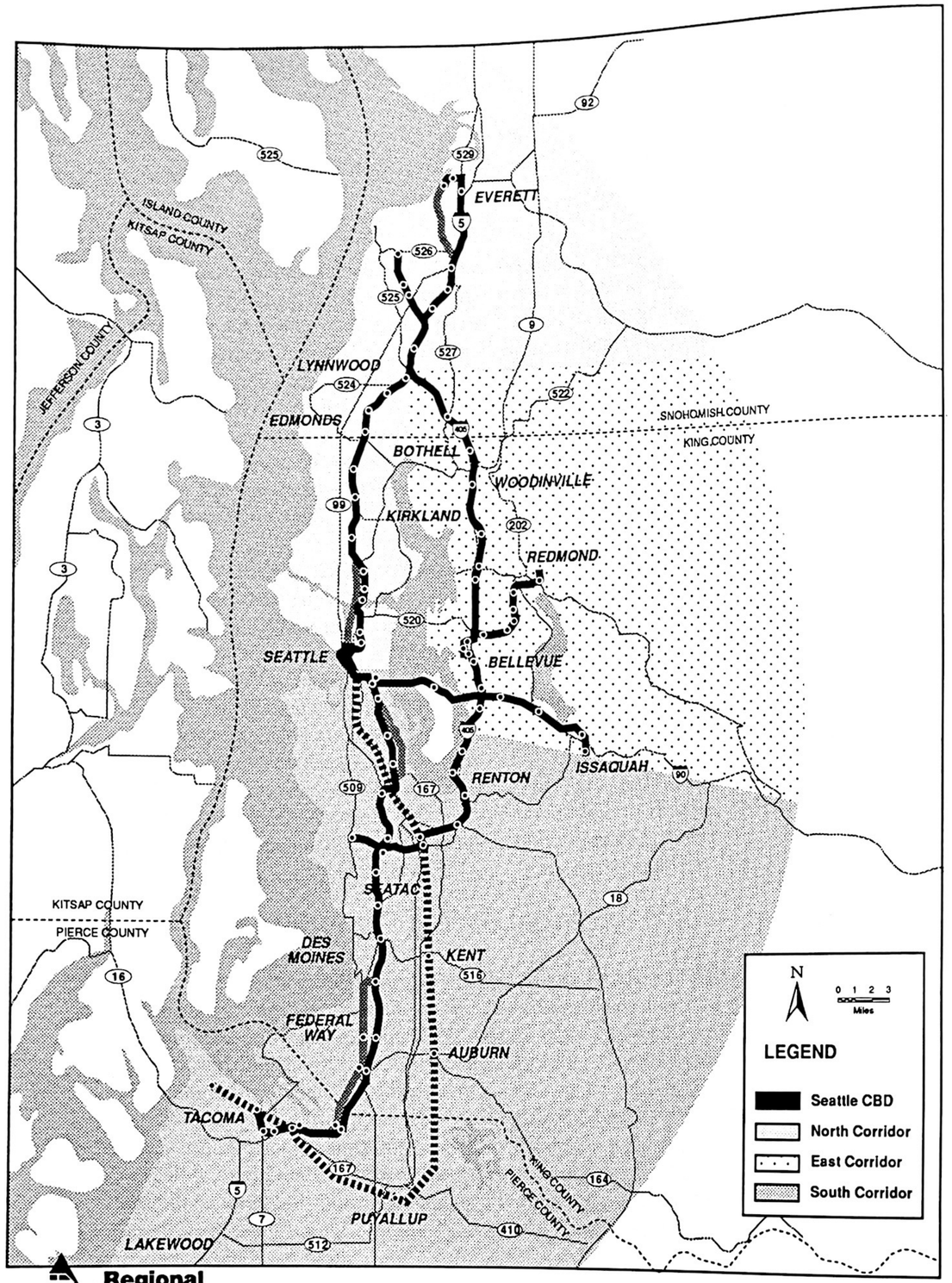
- For the segments of the system not included in the first AA/DEIS phase, provide the necessary resources to support the continued refinement and analysis of alignments and station locations.

- Advance an aggressive program of right-of-way preservation and acquisition for the future rail station sites.

- Continue to support and advance the implementation of the South Corridor Commuter Rail project.

- Advance the design and environmental review process necessary to quickly implement the critical "early action" bus acquisition and TSM projects.

The Short-Range Program and an "Early Action" Program will be developed in detail over the next year as the System Plan is completed and preparations are made for presentation of the plan to the voters for approval in November of 1993.



Regional Transit Project
KING COUNTY • PIERCE COUNTY • SNOHOMISH COUNTY
RTPCC2

Study Area Boundaries
SYSTEM PLAN
FIGURE 1-1

Metro

Councilmember Paul Barden, King County
Councilmember Martha Choe, Seattle
Councilmember Mary Gates, Federal Way
*Councilmember Fred Jarrett, Mercer Island
Councilmember Bruce Laing, King County
Councilmember Terry Lukens, Bellevue
Councilmember Greg Nickels, King County
Councilmember Jane Noland, Seattle
Mayor Norm Rice, Seattle
Mayor Bob Roegner, Auburn
Councilmember Jim Street, Seattle

Pierce Transit

Councilmember Robert Evans, Tacoma
*Councilmember Ric Silva, Bonney Lake
Councilmember Bill Stoner, Pierce County
Mayor Karen Vialle, Tacoma

SNO-TRAN

*Councilmember Bill Brubaker, Snohomish County

Community Transit

Councilmember Peter Hurley, Snohomish County
Councilmember Tina Roberts, Lynnwood

Everett Transit

Councilmember Chuck Moser, Everett

Washington State Department of Transportation

*Secretary Duane Berentson

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* Co-chairs

Rail Construction Funding
System Plan
FIGURE 9-4

Regional Transit Project
KING COUNTY • PIERCE COUNTY • SNOHOMISH COUNTY
paste-up 10-15-92

9.7.3.2 Fares

The RTA and local public transportation agencies will:

- Establish a target farebox recovery ratio of 40 percent on rail transit services.
- Adopt a fare structure based on distance travelled on the regional rail transit system.
- Implement an integrated local/regional fare structure and payment system for local and regional service.

10.0 Next Steps, Implementation Responsibilities and the Short-Range Program

10.1 Next Steps

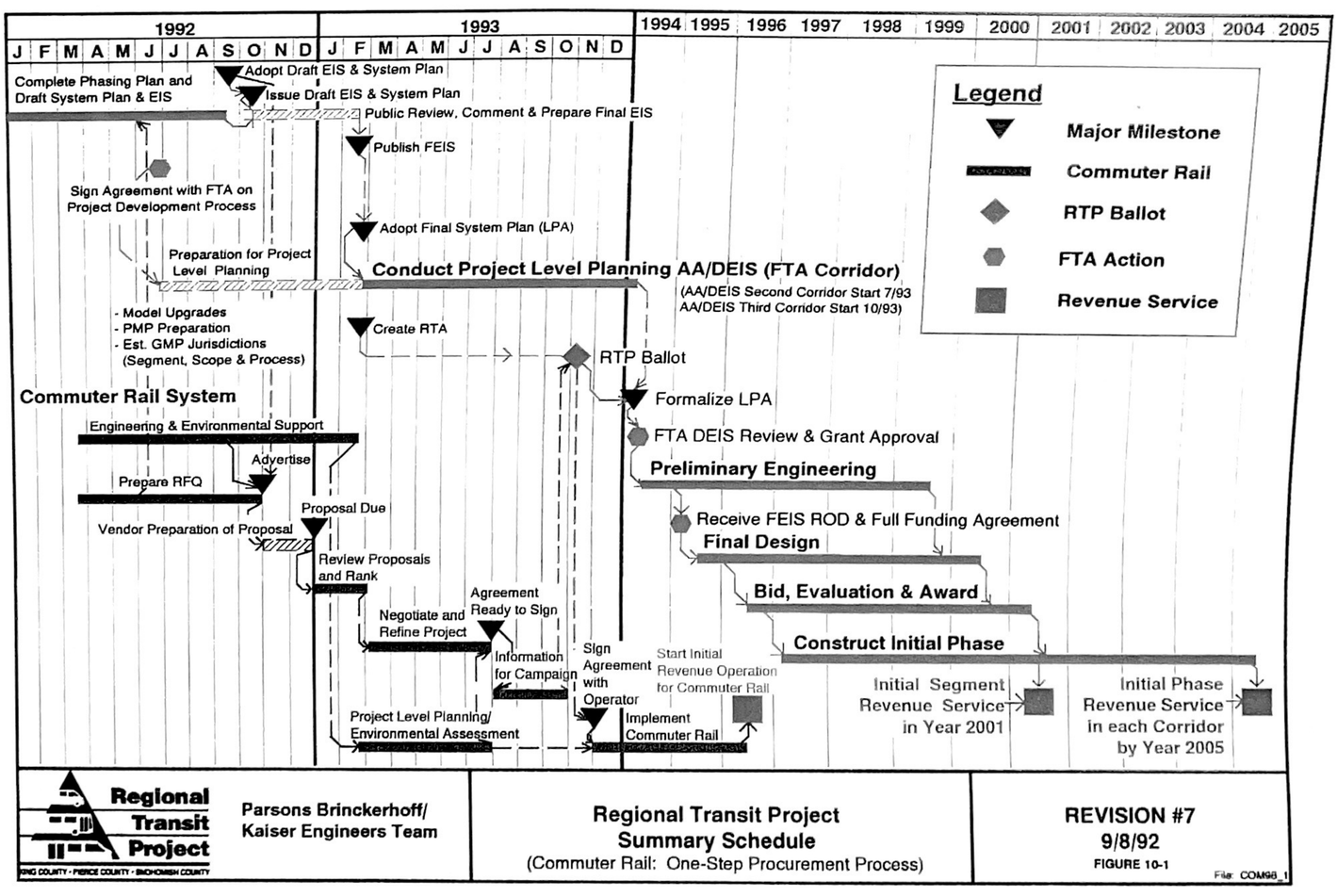
The Regional Transit Draft System Plan is supportive of the State Growth Management Act and emerging county growth management plans. Implementation of the system plan will be coordinated with regional, county and local land use plans. A program for effective citizen involvement in implementing the plan has been developed and will be carried out.

On September 18, 1992, the JRPC, representing the transit agencies in King, Pierce and Snohomish Counties and the WSDOT, recommended the Regional Transit System Draft Plan for public review and comment. A DEIS, along with the Draft System Plan, was issued on October 12, 1992.

Following public review and comment, and release of an FEIS, the JRPC expects to approve a final Regional Transit System Plan in early 1993. The participating counties must then form the Regional Transit Authority, already authorized by the State Legislature, to finance, build and operate the regional facilities and services. The RTA is expected to organize and begin functioning in the second quarter of 1993. The RTA will propose a financing plan for voter approval of new local taxes within the defined regional transit district boundary. The ballot measure is expected to be proposed to voters in the Fall of 1993. **Figure 10-1** reflects the RTP Summary Schedule, dated September 8, 1992.

10.2 Implementation Responsibility

The System Plan recommends the following general responsibilities for implementing elements of the System Plan:


1992
1993
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005
J F M A M J J A S O N D J F M A M J J A S O N D
Complete Phasing Plan and Draft System Plan & EIS
Adopt Draft EIS & System Plan
Issue Draft EIS & System Plan
Public Review, Comment & Prepare Final EIS
Publish FEIS
Sign Agreement with FTA on Project Development Process
Adopt Final System Plan (LPA)
Preparation for Project Level Planning
Conduct Project Level Planning AA/DEIS (FTA Corridor)
(AA/DEIS Second Corridor Start 7/93
AA/DEIS Third Corridor Start 10/93)
- Model Upgrades
- PMP Preparation
- Est. GMP Jurisdictions
(Segment, Scope & Process)
Create RTA
RTP Ballot
Commuter Rail System
Formalize LPA
Engineering & Environmental Support
FTA DEIS Review & Grant Approval
Advertise
Preliminary Engineering
Prepare RFQ
Proposal Due
Receive FEIS ROD & Full Funding Agreement
Vendor Preparation of Proposal
Final Design
Review Proposals and Rank
Bid, Evaluation & Award
Agreement Ready to Sign
Negotiate and Refine Project
Construct Initial Phase
Information for Campaign
Sign Agreement with Operator
Start Initial Revenue Operation for Commuter Rail
Initial Segment Revenue Service in Year 2001
Initial Phase Revenue Service in each Corridor by Year 2005
Project Level Planning/ Environmental Assessment
Implement Commuter Rail
Legend
Major Milestone
Commuter Rail
RTP Ballot
FTA Action
Revenue Service
Regional Transit Project
KING COUNTY - PIERCE COUNTY - SNOHOMISH COUNTY
Parsons Brinckerhoff/ Kaiser Engineers Team
Regional Transit Project
Summary Schedule
(Commuter Rail: One-Step Procurement Process)
REVISION #7
9/8/92
FIGURE 10-1
File: COM98_1

- **PSRC and County GMA Plans** - The PSRC's Regional Transportation Plan and Countywide GMA plans of counties participating in the RTA shall be appropriately amended to reflect the adopted System Plan. The PSRC and each participating countywide GMA program shall assure that programming to fund major transportation service and facility decisions are consistent with regional and local transportation, growth management and land use plan.

- **Local Jurisdictions** - Develop and implement local land use and transportation plans and regulations required to support regional and countywide plans and the System Plan. Also, develop and implement plans for final approval of transit facilities within the respective jurisdictions.

- **Local Public Transportation Agencies** - Provide community feeder and regional bus services, and plan, design, build, own, and operate bus and community rail facilities.

- **Regional Transit Authority** - Collect voter approved local-option taxes, allocate funds for elements of the System Plan as established in the financing proposal (including allocations to the local public transportation agencies) and plan, design, finance, build, own and operate the regional rail system element. The implementation of the RTA's capital and service programs shall support growth management strategies and plans conducive to the effective performance of the regional transit system.

- **Washington State Department of Transportation** - Plan, design, finance, construct and operate the state HOV system.

10.3 Regional and Countywide Land Use Plans

The System Plan recommends that regional and countywide land use plans establish guidelines for evaluating the extent to which local growth management plans and the recommended location and design of major transit facilities support the achievement of regional and countywide growth management objectives and maximize the cost-effectiveness of the public transportation system.