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# Roads and Engineering Division

## 1989 - The Year Of Transportation

The Roads and Engineering Division is the largest operational division in King County government, employing approximately 525 people in 1989. Through responsible planning, construction, and maintenance activities, the Division ensures for both the motorized and nonmotorized public the integrity and adequacy of the 2,700 miles of maintained roads in unincorporated King County.

As Washington State celebrated its Centennial in 1989, a number of developments served to make it one of the most demanding years the Roads and Engineering Division has experienced in many decades. Highlights included:

- A major annexation to the City of Tukwila and affirmative votes to create two new cities, Federal Way and SeaTac, created the need for considerable analysis and negotiations for service contracts.

- Proposals by the State Legislature, local elected officials and private transportation advocacy groups to increase the gas tax, and provide cities and counties with new local revenue options to address pressing transportation needs required constant Division involvement and support.

- The issue of growth and its impact on our quality of life rose to the political forefront, creating the need for increased efforts in transportation planning, coordination, and program development.

Significant engineering and administrative resources were mobilized to address these issues. Yet, these demands occurred at a time when the creation of new cities and annexations to existing cities of major portions of unincorporated King County were projected to result in reduced responsibilities and revenues to the County Road Fund by the beginning of 1990. In that year, the Division is projected to lose an estimated $7.9 million. That loss may be offset, however, by projected increases in the value of real estate in unincorporated King County.

The Division responded well to these challenges. In many cases, the Division's work set the stage for elected officials to make major policy decisions in these areas. The challenges faced in 1989 will continue into 1990 and on through the rest of the decade.

### Transportation Planning

The Transportation Planning Section is responsible for identifying future transportation needs and planning necessary improvements for mass transit facilities, the pedestrian, equestrian, and bicycle trail systems, and the existing road network.

King County's population increased from 1.2 million in 1970 to 1.4 million at present, with anticipated growth projected to reach 2.1 million in the year 2020. As the County grows, its transportation needs will change. New residential developments and employment centers alter commuting patterns. Much of the transportation network, which was adequate to handle traffic in the past, is now overloaded, necessitating improvements to existing roads, and the construction of new ones.

The Transportation Planning Section prepares numerous studies that predict future traffic patterns, and examine and recommend possible transportation improvements. Perhaps the most significant of these are undertaken in conjunction with the County's community planning process. During 1989, transportation needs were identified for the Bear Creek, SeaTac, and Snoqualmie Community Plans and work was continued on the Soos Creek, Burien, East Sammamish, Enumclaw, and Northshore Community Plans.

Because transportation facilities frequently cross jurisdictional boundaries, County transportation plans must often be coordinated with cities, the State, and other municipal entities such as METRO. In 1989, the King County Transportation Plan, which identified, state, city, and county transportation improvements needed to support projected growth to the year 2000, was formally adopted by the King County Council.

The County uses a scoring system to prioritize transportation projects so that the most pressing are built first. This process was used by cities in south King County to prioritize their transportation needs, forming the basis for the proposed establishment of the first Transportation Benefit District in the State to fund multi-jurisdictional transportation projects.

The Transportation Planning Section in 1989 continued its participation in a similar effort to address multi-jurisdictional transportation needs in east King County, known as the Eastside Transportation Program. In 1990, King County will assume the program's lead administrative role, and will explore strategies to implement identified needs.

The Transportation Planning Section was involved in many other regional transportation projects such as The Issaquah/I-90 Access Study, the Puget Sound Council of Governments' Regional Transportation Plan, and METRO's High Capacity Transit Study. Two major County programs were begun to increase use of public transit: a Transportation Systems Management Ordinance and a High Occupancy Vehicle (HOV) Plan for County arterials.

The Transportation Planning Section also expanded its RoadShare Program in 1989. The Program focuses on incorporating bicycle, pedestrian and equestrian modes of travel into the Division's plans and designs for transportation improvements. In 1989, the program participated in a bicycle tour of historic areas sponsored by the County Centennial Commission, coordinated a "Bike to Work" Day to encourage bicycling as an alternative form of commuting, continued its support of the highly acclaimed "Sprocketman" program in local schools to promote bicycle and pedestrian safety, and produced a new bicycle and trails map which was ready for sale and distribution in early 1990.

## Engineering Services

To meet the demands of population growth, new roads must be built. In addition, existing roads are periodically considered for major reconstruction. Roadways may be widened, and turn lanes added. The Engineering Services Section, with support from the CIP Coordination Unit, is responsible for the design and completion of road construction projects.

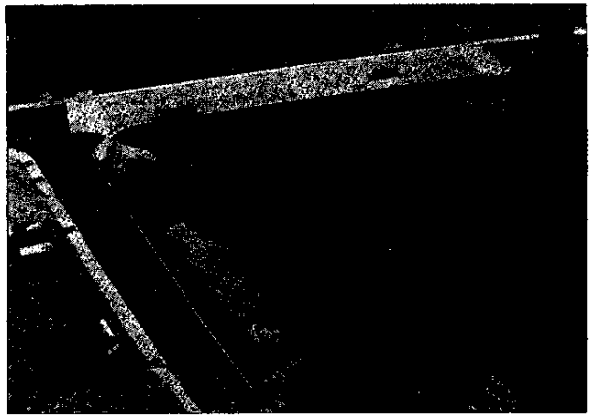
Potential road construction projects are identified and evaluated by the Transportation Planning Section. Yet, before construction work can begin, the project must be placed on the six-year Capital Improvement Program (CIP) by the County Council, and funding sources to pay for the project such as gas and property taxes, grants, and developer contributions must be identified. The Division's 1989-94 six year CIP totalled over $150 million.

Before design work can begin, pertinent data must be gathered. A detailed survey identifies property lines, right-of-way boundaries, adjacent land ownership, slopes, soil conditions, trees, buildings, and utility facilities.

Road projects are designed by County engineers, or by private consultant engineers supervised by County staff. The road design must address impacts on drainage and water quality, pedestrian and vehicular safety, and aesthetics. Design plans and anticipated schedules must be coordinated with nearby utilities. Frequently, the project will require the relocation of utility lines and other facilities.

All road projects must undergo an environmental assessment to determine the project's environmental impact. If the assessment determines that the project is likely to have a significant impact, a full environmental impact statement (EIS) must be prepared. Public hearings or meetings are frequently held to inform and involve citizens. Due to growing recognition of the value of wetlands and other environmen-

King County Executive Tim Hill and others participate in "Bike To Work" Day.



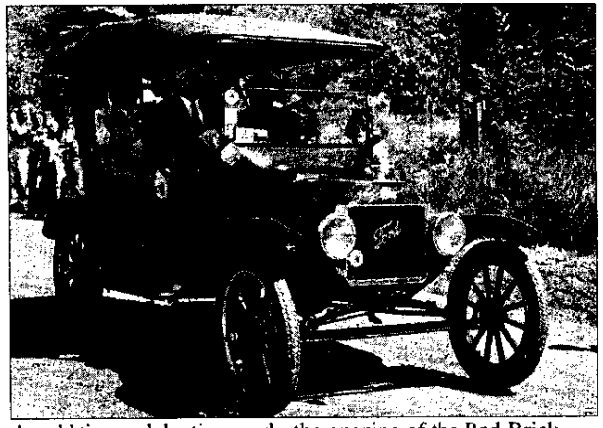
New Interurban Bridge opens in August, 1989.

tally sensitive areas, the Division continues to pay close attention to the environmental impacts of road construction and maintenance activities.

Actual construction work is usually done by private firms. Those firms are selected through competitive bidding. To ensure that the construction project meets high design, safety, and construction standards, County inspectors check road foundations, drainage, electrical, and traffic control systems, and the final pavement structure.

Major projects designed in 1989 included Northeast 195th (Woodinville) and Southwest 356th Street (Federal Way). Major construction projects in 1989 included the Juanita Drive Bikeway, East Lake Sammamish Parkway, the Interurban Bridge, 128th Ave SE, Cedar Grove Road, and the Green River Bridge. 1989 construction expenditures totalled $17.4 million, the highest yearly total ever for the Division.

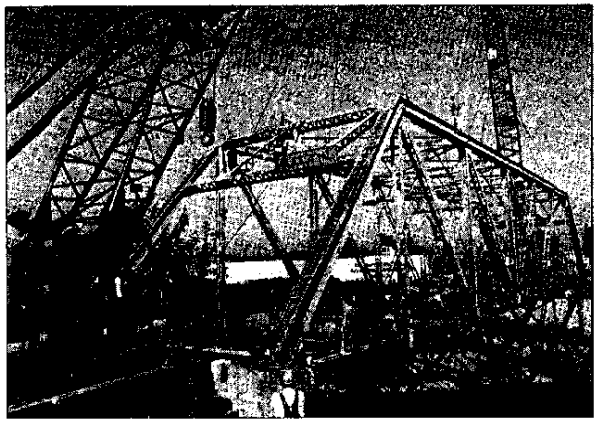
The most unique project undertaken in 1989 was the restoration of a portion of the Red Brick Road (196th Avenue N.E.). The Road, originally built in 1913, was restored with original paving bricks.



An old time celebration marks the opening of the Red Brick Road.

## Maintenance

The Maintenance Section is responsible for ensuring that all County roads are in safe operating condition. Routine maintenance activities include street sweeping, pavement repair, ditch cleaning, slide removal, shoulder restoration, roadside spraying, and installation of drainage basins. Road maintenance crews also sand and plow snow and ice-covered roads and respond to flood emergencies.



Old Green River Bridge is dismantled prior to construction of new bridge.

Undoubtedly the greatest challenge for maintenance workers in 1989 were the three successive snowstorms occurring early that year. Field crews collectively worked over 25,000 hours in frigid temperatures to open snow-clogged roadways.

To improve maintenance efficiency and accountability, a number of new programs were implemented in 1989.

- The Division purchased its first "ditchmaster", a vehicle capable of automatically clearing and loading material from roadside ditches. The Division hopes to purchase more of these cost-saving machines in the future.

- Work progressed on the Facility Master Plan, a study of the Division's projected field facility needs which is scheduled for completion in the spring of 1990.

- The Maintenance Section began implementation of a new snow & ice control program. Among the components of this program are methods to prioritize roadways for snow and ice removal.

## Traffic and Planning Section

The Traffic and Planning Section is responsible for ensuring that roadways are operated safely. The Section's functions include the installation and maintenance of traffic signals and signs, paint striping, setting speed limits, and collecting and analyzing accident data. There are more than 80,000 traffic and information signs along County roadways. The inventory of traffic signals declined to 176 following the installation of nine new signals in 1989, offset by the loss of thirteen which are located in an area now annexed to the city of Tukwila.

In 1989, a new Neighborhood Speed Reduction Program was begun in cooperation with the Department of Public Safety to respond to increased complaints of speeding in King County neighborhoods. Volunteers were provided a car equipped with a radar speed gun and a readerboard which displayed the speed of passing cars. Reduced speeds were reported

after only two or three days where this radar unit was operated while data was compiled for the police. The program received strong public support and will be expanded in 1990.

Traffic safety must also consider pedestrians, bicycles, and other non-motorized users of the County road system. As is done every year, traffic engineers assisted local schools in developing safe walking programs to help students travel safely to and from school.

County crews maintain road shoulders.

## Finance Section

The Finance Section performs accounting, financial, and budgetary services for the Roads Division. The Finance Unit must submit annual financial reports to the State Auditor, County Road Administration Board, and Office of Financial Management. These reports provide yearly information on the Road Division's financial condition. Two other sections in the Roads Division, the Program Development/Administration Section, and the Transportation Financing Strategies Section, develop programs to finance needed improvements to the County's transportation system.

The 1989 Roads Operating Budget was $35.7 million. The major Road Fund revenue sources are the property tax, State gasoline tax, Federal forest tax, and State and Federal grants. In 1989, those grants averaged $350,000 per month for the Roads Capital Improvement Program (CIP). Cash management and investment practices generated over $2.8 million in additional funds for the CIP in 1989.

The Finance Section's long-range financial planning capabilities were heavily utilized this past year to analyze the impacts of revenue losses associated with annexations and incorporations, as well as potential gains associated with proposed gas tax increases and developer impact fees. While these factors did not actually lose or gain revenue for the Division in 1989, they are most certainly on the horizon in future years. In 1990 and 1991, the new cities will decide whether to continue contracting with the County for road services.

One revenue proposal under consideration by the King County Council in 1990 is the Mitigation Payment System (MPS), a program to collect impact fees from developers to help pay for roads serving new developments. In 1989, the Division developed and transmitted to the King Council a proposed MPS ordinance.

Roads and Public Safety staff team up to bring Traffic Safety Programs to neighborhoods.