

# MOBILITY 2000

the Regional Transportation Plan  
for North Central Texas

North Central Texas Council of Governments

May 1986



## What is the Regional Transportation Plan?

Transportation planning in the DALLAS/FORT WORTH METROPOLITAN AREA passed an important milestone in February, 1986, when the Regional Transportation Council and NCTCOG's Executive Board approved ***Mobility 2000: The Regional Transportation Plan for North Central Texas.***

This federally-mandated Regional Transportation Plan lists a combination of proposals that address the growing traffic problems in the region, including four categories of transportation improvements:

- new and improved freeways and parkways
- rail transit
- arterial improvements
- preferential treatment (high occupancy vehicle) facilities.

The Regional Transportation Plan guides the expenditure of state and local funds and is required for federal transportation funding.

# What are the recommendations of the Plan?

The Plan lists four major categories of improvements necessary to maintain mobility in the year 2000. The recommended improvements are expected to increase average speeds on freeways and arterials by 24 percent over levels currently projected for 2000 without the Plan and would reduce the percentage of congested roadways by 28 percent.

## Rail Options

The Plan calls for 181 miles of passenger rail service and reserved right-of-way for the following corridors:

- Dallas Area Rapid Transit (DART) Phase 1, 2, and 3 rail system facilities;
- RAILTRAN (former Rock Island line) between Dallas and Fort Worth;
- Missouri-Pacific (MOPAC) line between the Dallas and Fort Worth central business districts (CBD's) through Arlington and Grand Prairie;
- Reserved right-of-way for a line from the Fort Worth CBD to Plano; and
- Reserved right-of-way for a line connecting the MOPAC and RAILTRAN lines in Grand Prairie and Arlington.

## Freeway-Parkway Options

The Plan calls for a total of 4,807 lane miles of freeways to be operating in the region by the year 2000. (In 1980 there were 2,740 freeway lane miles.) These include improvements to existing freeways and the following new and future freeway facilities:

- Trinity River Parkway from U.S. 175 in Dallas to I.H. 820 east of Fort Worth;

- S.H. 161 from I.H. 635 in Irving to I.H. 20 in Grand Prairie;
- S.H. 190 from I.H. 35E to I.H. 30 in northern Dallas and southern Collin Counties;
- Dallas North Tollway extension from I.H. 635 to S.H. 121;
- S.H. 121 from I.H. 35W north of the Fort Worth CBD to a road yet to be designated in Johnson County;
- A new freeway in north Tarrant County from D/FW Airport to I.H. 35W;\*
- S.H. 360 north extension from S.H. 183 to S.H. 121;
- S.H. 360 south extension from I.H. 20 to U.S. 287;\*
- S.H. 114 extension from the city of Grapevine to I.H. 35W in Denton County;
- I.H. 20 (Dallas County) extension into Kaufman County;
- S.H. 121 north of D/FW Airport to U.S. 75; and
- S.H. 199 from downtown Fort Worth to the Tarrant County line.

\* This facility is recommended as a new freeway to assure designation of a location so right-of-way acquisition can proceed. Future traffic needs will be re-estimated.

## Preferential Facilities

The Plan also calls for a 119-mile regional high occupancy vehicle system to include a connector line between Dallas and Fort Worth, a circumferential route around Dallas, and six radial lines in Dallas and Fort Worth. The regional system will

connect five major activity centers — the Dallas/Fort Worth Airport, downtown Dallas, downtown Fort Worth, Las Colinas, and the Galleria.

High Occupancy Vehicle lanes for preferential use by carpools, vanpools and buses will be provided in the following locations:

- From the Fort Worth CBD south along the MKT Railroad to I.H. 820, west along I.H. 30 to Camp Bowie Blvd., and north along the MKT to I.H. 820;
- Along I.H. 820 and S.H. 183 from the north Fort Worth HOV lane to the HOV lane along I.H. 35E in Dallas;
- From the Dallas CBD east along I.H. 30 to I.H. 635 and west along S.H. 114 and Loop 12 to I.H. 635;
- Along I.H. 635 on the north from I.H. 35E to S.H. 352 in Mesquite.

Preferential lanes for carpools and vanpools only will be provided in the following locations:

- From the Dallas CBD south along I.H. 35E and U.S. 67 to I.H. 20;
- North along I.H. 35E from I.H. 635 to S.H. 121; and
- North along U.S. 75 from I.H. 635 to Spring Creek Parkway.

## Arterial Facilities

The Plan calls for the construction of 2,484 additional lane miles of arterial improvements above and beyond the 22,810 lane miles already anticipated to be in place by the year 2000. In 1980 there were 15,560 lane miles of arterials in the study area.

## What approach should be used to implement the Plan?

**A growth management approach is the most promising approach for dealing with the region's transportation problems.** While most of us see growth as a positive thing for the regional economy, we also recognize that unplanned, unrestrained growth has presented us with some significant challenges. Growth management uses transportation problems as a guide to current planning and attempts to program transportation improvements in conjunction with land development. The approach helps elected officials to be aware of effects of zoning and the costs of providing necessary services.

The private sector plays an important role in growth management because coordination of transportation services with new development requires participation by private enterprise. In light of funding restrictions, the traditional notion that transportation is solely the responsibility of government must be discarded. A joint public/private partnership can alleviate the problem of limited public resources and can deal with transportation needs better than government alone. Such a partnership is advantageous to the private sector because transportation services affect business. Working together can also avoid confrontations by resolving conflicts before they occur.



*Noel Road in Dallas was built in part with private dollars.*

The Texas State Highway and Public Transportation Commission encourages private sector contributions for transportation projects so it can stretch available gas tax revenues to build additional roads. In 1984 the Legislature approved enabling statutes

that permit creation of special purpose districts and corporations to facilitate creative financing of transportation improvements. Senate Bill 33 authorizes the creation of road utility districts; H.B. 125 facilitates the donation of highway rights-of-way.

## How was the Plan approved?

After reviewing comments submitted at a January 7, 1986 local government hearing, the Regional Transportation Council (RTC) adopted **Mobility 2000: The Regional Transportation Plan for North Central Texas** on February 4, 1986. Subsequently the North Central Texas Council of Governments Executive Board endorsed the Plan on February 27, 1986.

Adoption of the Plan culminated an eighteen-month process of evaluation and analysis guided by the RTC. The North Central Texas Council of Governments Transportation and Energy Department, the Regional Planning Office of the State Department of Highways and Public Transportation, and local government staff professionals provided technical support.



## Who is responsible for regional transportation policy?

In accordance with federal law, the North Central Texas Council of Governments (NCTCOG) is designated by the Governor of Texas as the Metropolitan Planning Organization (MPO) for transportation planning in the Dallas/Fort Worth metropolitan area. NCTCOG's Executive Board establishes overall policy for comprehensive planning coordination for the region; whereas the role of the Regional Transportation Council (RTC) is to provide a single policy direction for multimodal transportation planning and development.

NCTCOG's transportation staff reports through the Executive Director to the Executive Board on policy decisions relative to the transportation operating budget, appointments of technical committees, consulting contracts, and the relationships of transportation planning with comprehensive planning. The transportation staff also provides staff support to the RTC.

The RTC receives advice for policy direction from three technical advisory committees representing public transportation, highway transportation and air transportation interests. These committees are represented by local government professionals, public transportation providers, private sector representatives, and representatives of state and federal agencies.

The Regional Transportation Council's primary function is to assure coordination among transportation modes, local governments, and planning activities. RTC responsibilities include approval of the Regional Transportation Plan, the Transportation Improvement Program and the Unified Planning Work Program.

Transportation policy for North Central Texas is established through the institutional base of the North Central Texas Council of Governments and its Executive Board — with the Regional Transportation Council serving as an independent policy body for regional transportation improvements

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## Why is the Regional Transportation Plan necessary?

The rapid growth of the Dallas-Fort Worth region in recent years has led to increasing problems with transportation. An encouraging business environment, tax advantages, a favorable climate, and available land continue to attract many businesses to the region. While growth has many benefits, the recent rate of growth has urbanized land so quickly and has so overloaded our transportation system that available financial resources to improve transportation have not kept pace.

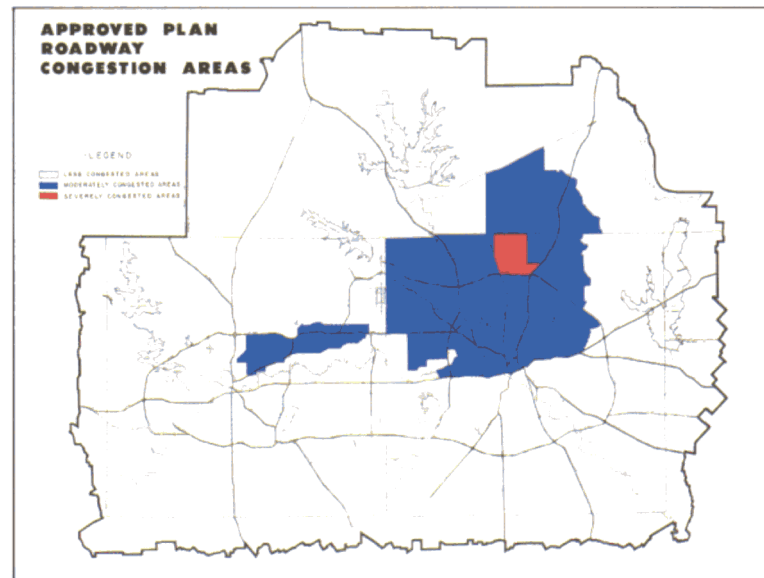
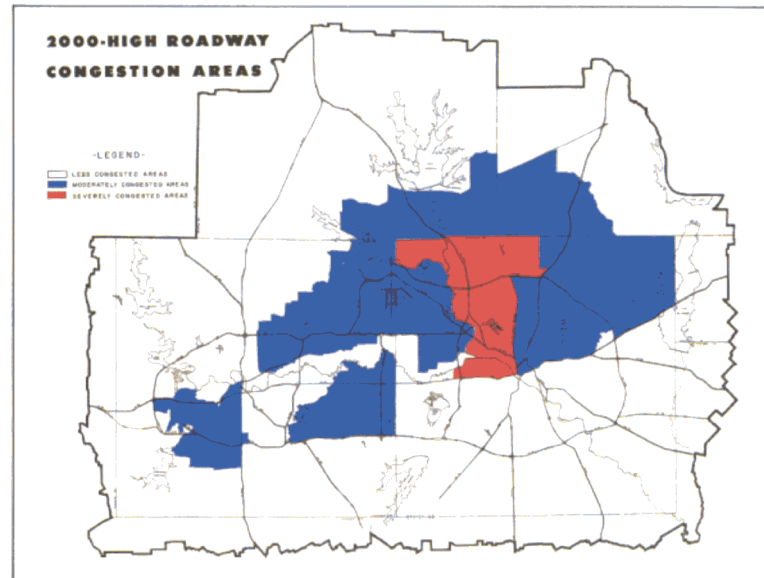
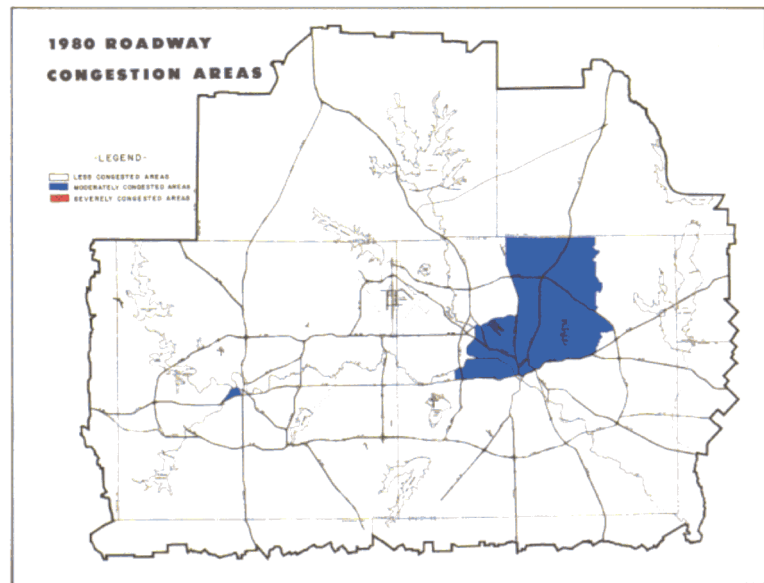
With new business come increases in employment and population. The 1985 employment estimate of 1.8 million for the entire Metroplex is a 25 percent increase since 1980. Employment for the year 2000 is expected to reach 2.9 million. In addition, people try to live within reasonable commuting distance of their jobs. In 1985 3.3 million people lived in the NCTCOG Transportation Study Area, up 22 percent since 1980. By the year 2000, over 5 million persons are expected to live in the region (comprising Dallas, Tarrant, and parts of Denton, Collin, Rockwall, Kaufman, Ellis, Johnson, and Parker Counties).

**The forecast growth translates into more cars and trucks on the road.** By 2000, residents and employers of the region will own almost 3.8 million passenger vehicles, 126 percent more than in 1980. While this is good for many local businesses, it poses some stiff challenges for maintaining our quality of life.

Transportation problems associated with rapid growth are familiar to us all. First and most obvious is traffic congestion. Increased numbers of vehicles and trips result in restricted traffic flow, reduced mobility, longer trips, greater demand, and more conflicts and traffic accidents.

*continued*

*The preparation of this document was financed by grants from the Federal Highway Administration and the Urban Mass Transportation Administration.*

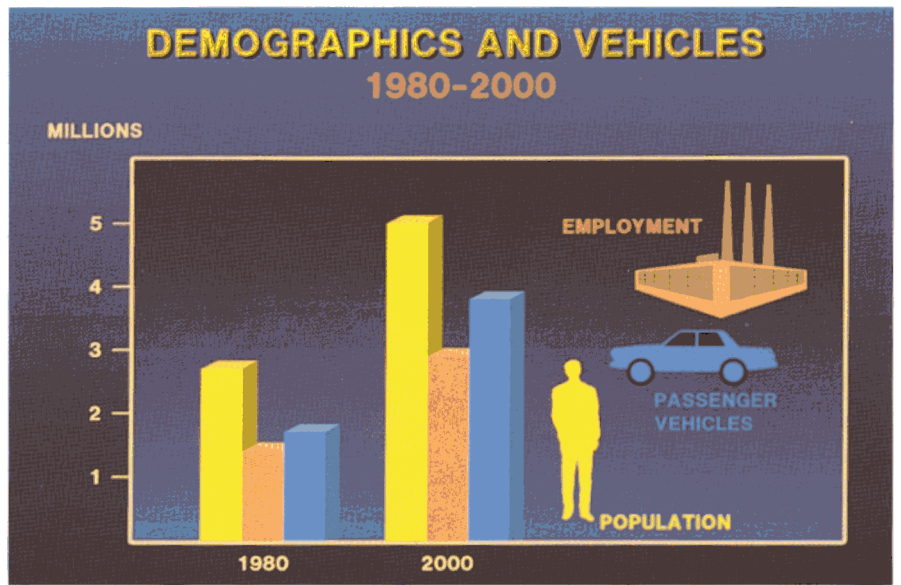


Congestion decreases an area's attractiveness and can lead to relocation of population and employment and loss of business; this congestion makes serving clients difficult and causes higher, unproductive labor costs when workers are delayed in traffic. The regional total cost of congestion today is around \$500 million a year; by 2000, this cost will approach \$1.4 billion annually.

Vehicle miles of travel (VMT) is a measure of the total daily miles traveled by all vehicles. In 1980 there were nearly 56 million vehicle miles of travel in the region each day. The latest forecasts for 2000 indicate that daily travel will approach 117 million vehicle miles each weekday. **Dallas County travel for 2000 will exceed that for the entire region in 1980; Tarrant County travel will exceed the 1980 Dallas County total.**

While 1980 congestion was mostly limited to northern portions of Dallas County, the area of congestion will spread much further by 2000. Conditions similar to those currently prevailing in north Dallas will affect much of the region, with greater intensity of congestion in north Dallas. Many parts of Dallas, Denton, Collin, and Tarrant Counties will be congested.

To serve this increased traffic, we will need to rehabilitate and reconstruct our aging roads and bridges and build



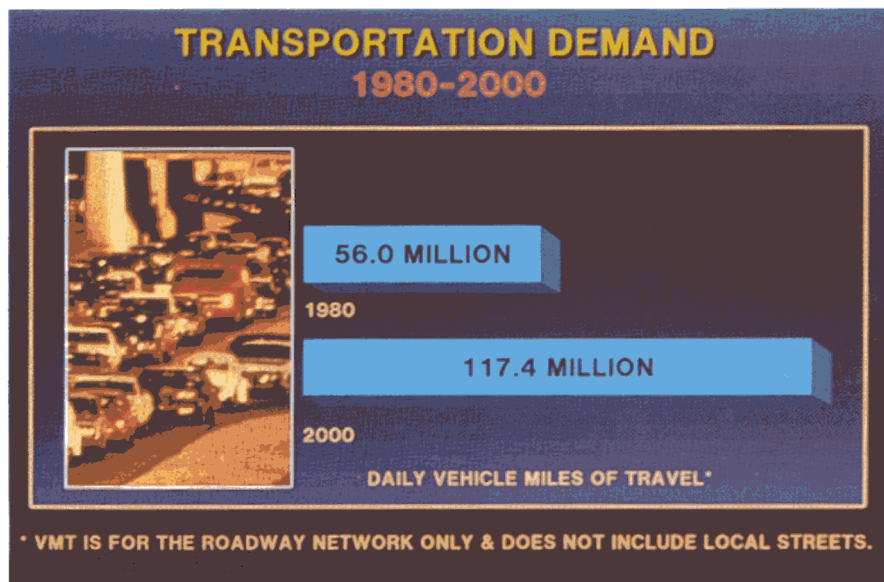
still more; we will need more maintenance, more traffic signals and complex control systems to ease traffic flow, more parking facilities, and more taxes or other funding to pay for them. NCTCOG projections indicate that an expenditure of **\$12.5 billion** for new roadway construction will be required regionwide before the year 2000 to **maintain the current level of service**. Yet only \$7.0 billion is currently programmed.

Rapid growth also brings problems such as increased noise from heavy truck traffic and an increase in traffic accidents. The use of open space for

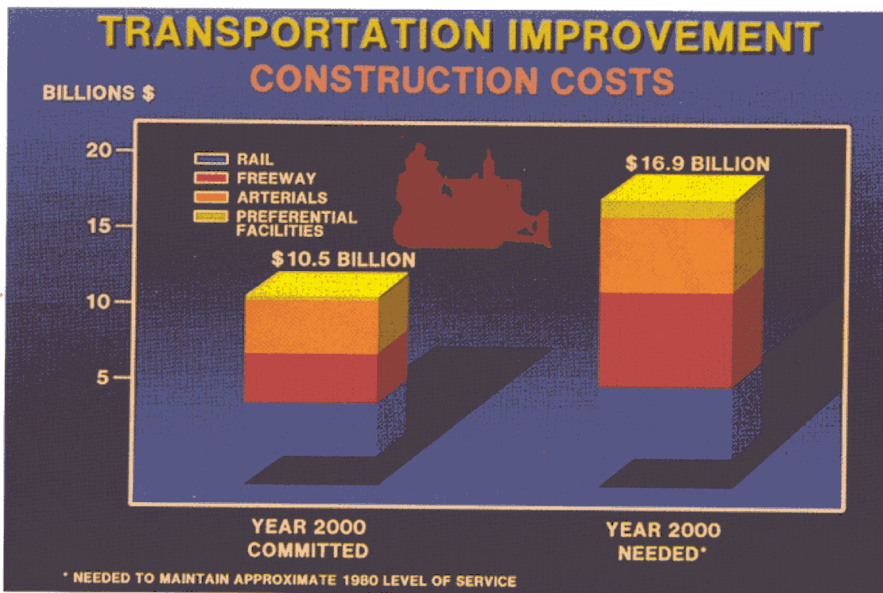
highways and interchanges is also an issue, as are the lurking problems of foreign oil dependency and possible supply disruptions. The increase in hazardous material transportation places an increasing risk on our resident and worker populations.

Increasing numbers of commuters will seek relief from roadway congestion and other problems by using transit. Year 2000 transit ridership with the approved Plan is expected to increase significantly over anticipated ridership without the Plan. In 1980 daily transit ridership for the region was 119,300; by 2000 this figure would increase to 419,300, just with committed improvements, and to 661,700 with improvements outlined in the Plan.

It must be emphasized, however, that all the transportation problems brought on by growth cannot be solved; the growth has occurred too quickly. Rather, the situation can be alleviated or prevented from deteriorating further. This is what the Regional Transportation Plan is intended to do.



The charts on these pages graphically represent 1980 and anticipated 2000 conditions.



## How was the Regional Transportation Plan developed?

The process to develop the Plan began with obtaining 1980 population and employment figures and forecasting these values for the year 2000. Three 2000 scenarios—low, medium, and high—were developed to quantify the need and necessary staging of the transportation improvements. The “2000 high” scenario was selected to assure that an adequate planning horizon was considered in the development of the Plan (i.e., 15-25 years).

The NCTCOG travel demand model was used to forecast the demand for three interdependent travel modes—mixed flow traffic (i.e., freeways and arterials), high occupancy facilities, and transit. Three alternatives using different “mixes” of these modes were tested for the “2000 high” population and employment scenario.

Evaluating the three modes of transportation in the final Plan involved a process of testing a series of alternatives against a master list of facilities until the final, most effective alternatives were identified.

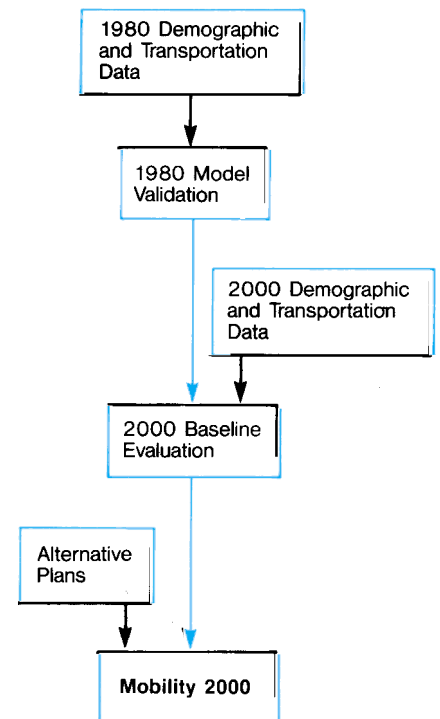
## What will the Regional Transportation Plan cost?

Implementing all needed projects identified in the Regional Transportation Plan will cost approximately \$16.9 billion in 1983 dollars. Of this amount, \$6.4 billion will be for freeways and parkways, \$4.9 billion for arterials, \$4.4 billion for rail, and \$1.2 billion for preferential facilities (HOV lanes). Estimates place the **annual** travel time savings of the Plan at \$1.4 billion, compared to the Plan’s annualized cost of \$700 million.

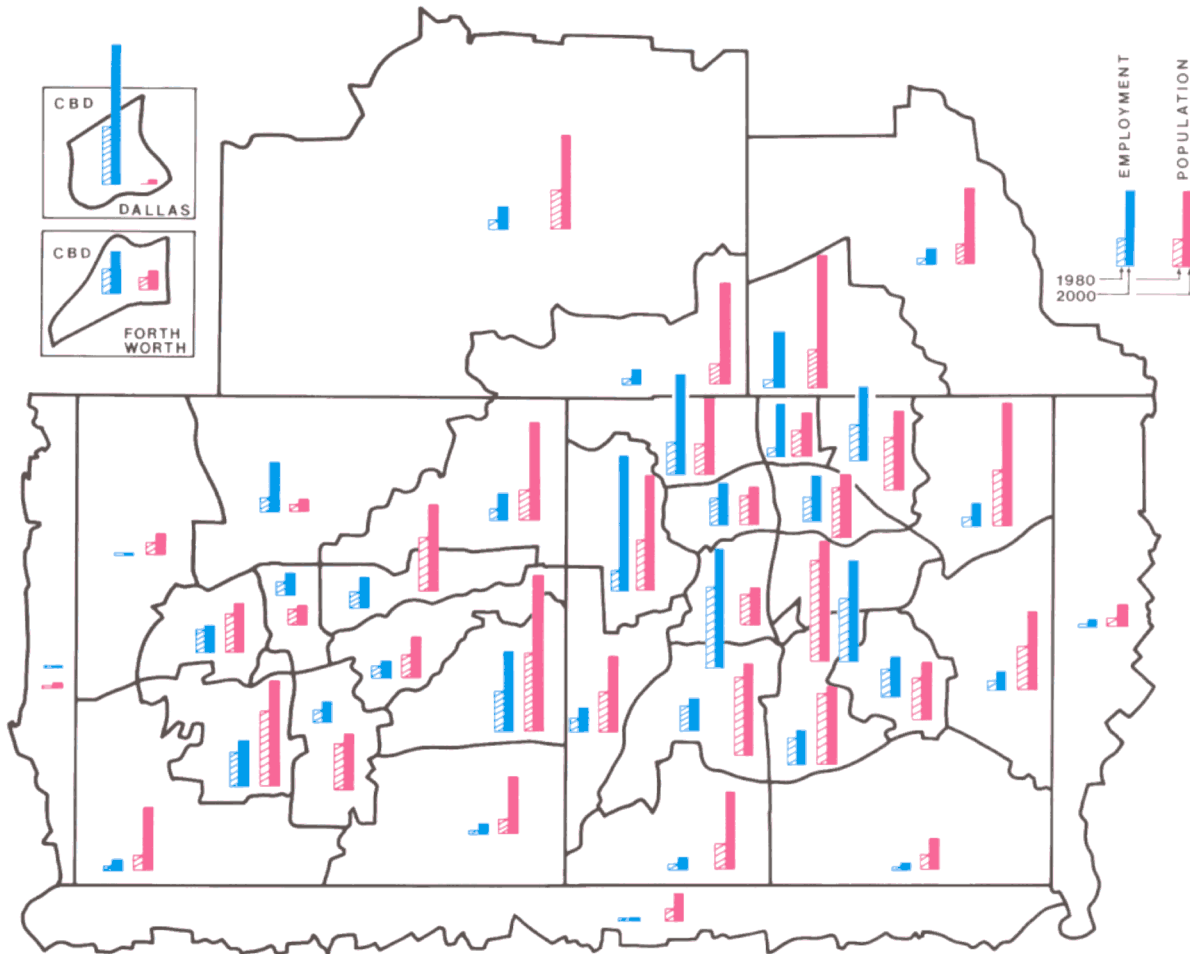
Costs for freeways were determined using information in the 1986 Transportation Improvement Program, the SDHPT 10-Year Project Development Plan Category 3, and the SDHPT 10-Year Project Development Plan Category 2a. Unit costs were used if freeway costs were not listed in one of these documents. HOV costs were also developed using unit cost data; rail costs were identified using data from the original (1983) DART Service Plan.

### Cost of Additional Improvements (\$ Billions)

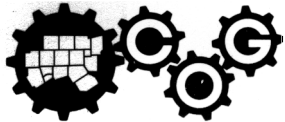
	2000 Committed	2000 Needed
Lane Miles of Freeways	3.2	6.4
Lane Miles of Arterials	3.5	4.9
Miles of Rail	3.5	4.4
Miles of Preferential Facilities	0.3	1.2
<b>Total</b>	<b>10.5</b>	<b>16.9</b>
<b>Benefits</b>		
Annual Travel Time Savings (\$ Billions)		1.4
Benefit-Cost Ratio		2.0



# Population and Employment Transportation Study Area 1980 and 2000 High Scenario



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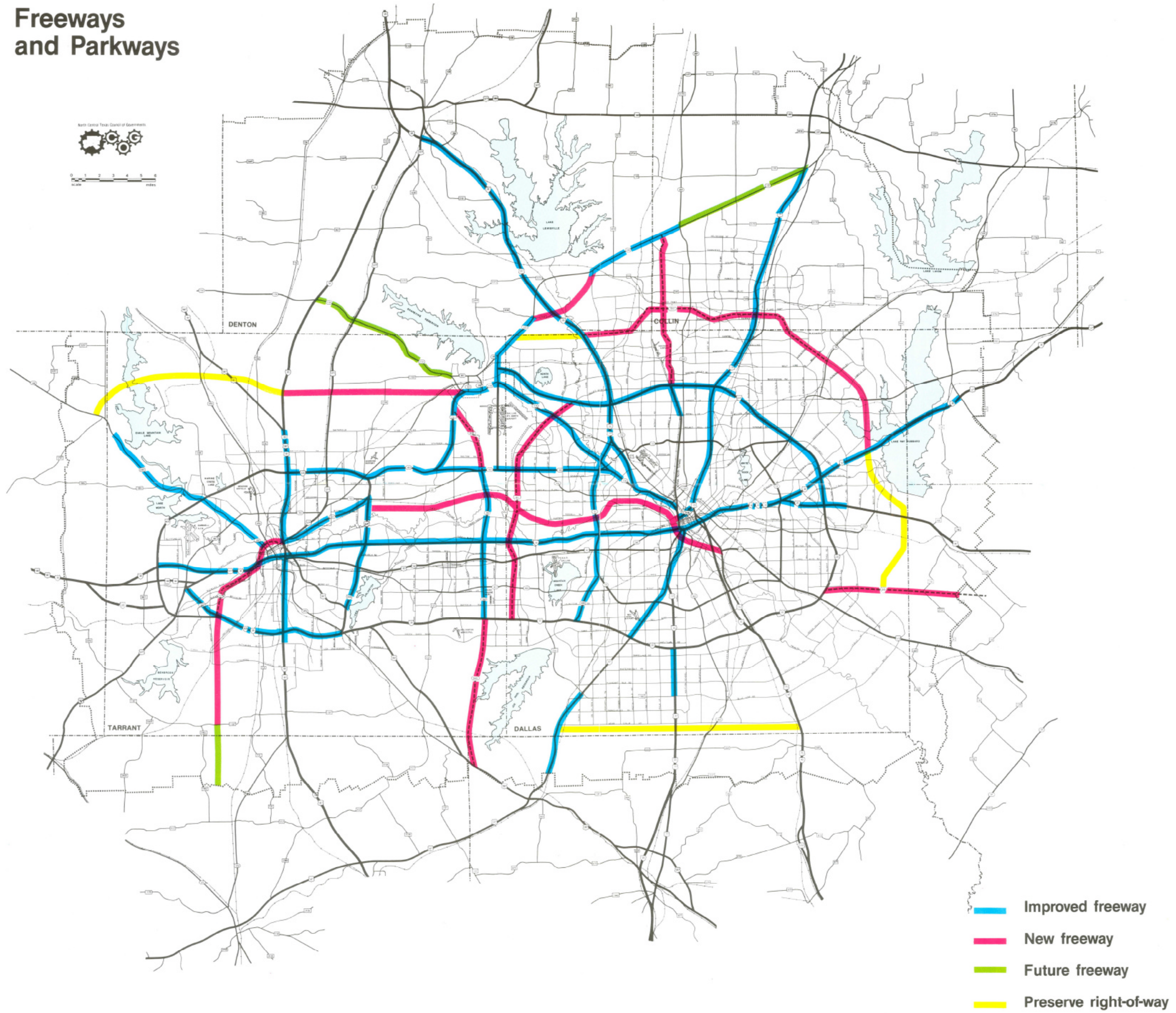


P. O. Drawer COG  
Arlington, Texas 76005-5888



# MOBILITY 2000

## Freeways and Parkways

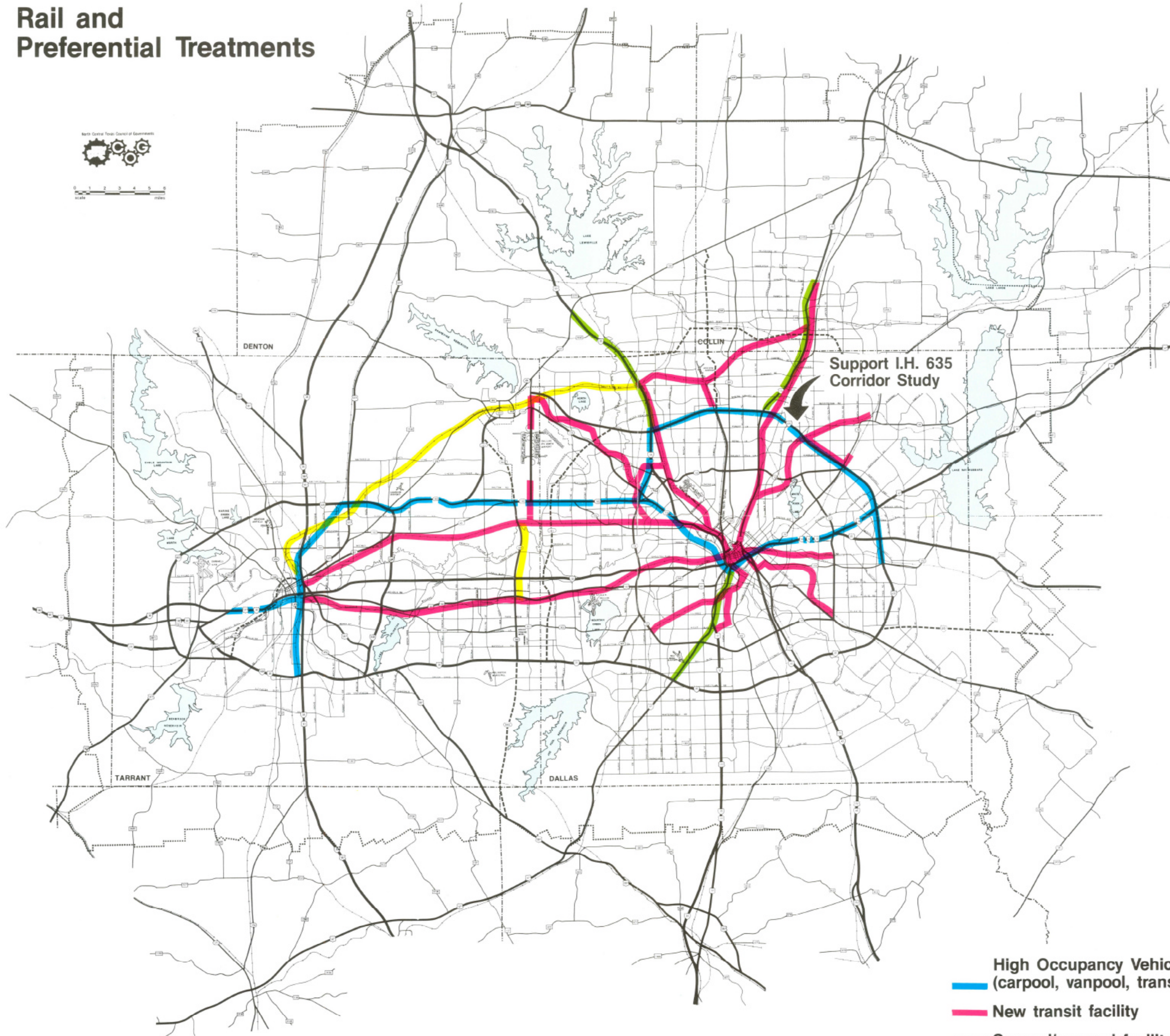


# MOBILITY 2000

## Rail and Preferential Treatments



Scale 0 1 2 3 4 5 miles



- High Occupancy Vehicle (carpool, vanpool, transit) facility
- New transit facility
- Carpool/vanpool facility
- Secure right-of-way for rail transit