AMARP & ATS PLAN

ANALYSIS OF AMENDMENTS TO THE AUSTIN METROPOLITAN AREA ROADWAY PLAN

MAY, 1987

Prepared by
City of Austin
Department of Planning
and Growth Management

AMARP AND ATS PLAN

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ANALYSIS OF AMENDMENTS TO THE
AUSTIN METROPOLITAN AREA ROADWAY PLAN

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I. INTRODUCTION

The Policy Advisory Committee of the Austin Transportation Study (ATS) adopted the Transportation Plan for the Austin Metropolitan Area on February 24, 1986. There are significant differences between the ATS Plan and the City's Austin Metropolitan Area Roadway Plan (AMARP). On February 19, 1987, the City Council approved a process to consider selected amendments to the AMARP from the ATS Plan.

The Planning and Growth Management Department developed criteria to identify roadways that require immediate attention. A list of 20 roadways was recommended for amendment consideration. Staff presented the recommended criteria and list of roadways to the Austinplan Transportation Task Group on February 24 and the Urban Transportation Commission on March 2. Both groups agreed to the recommended 20 roadways with the addition of the Third Street Parkway project. The City Council considered the recommendations on March 19. They approved the list of roadways with the addition of the Third Street Parkway and expanded the limits of RM 2222 to include the segment from Loop 1 to IH 35. Figure 1 shows the proposed amendments that are analyzed in this report.

This report presents an analysis of each roadway and a recommendation on each amendment proposal. The definition of each classification of roadway is presented in Section II, System Continuity and Demand analysis. A summary of the recommendations is presented in Table 1. The analysis of each amendment proposal is presented in the body of the report.

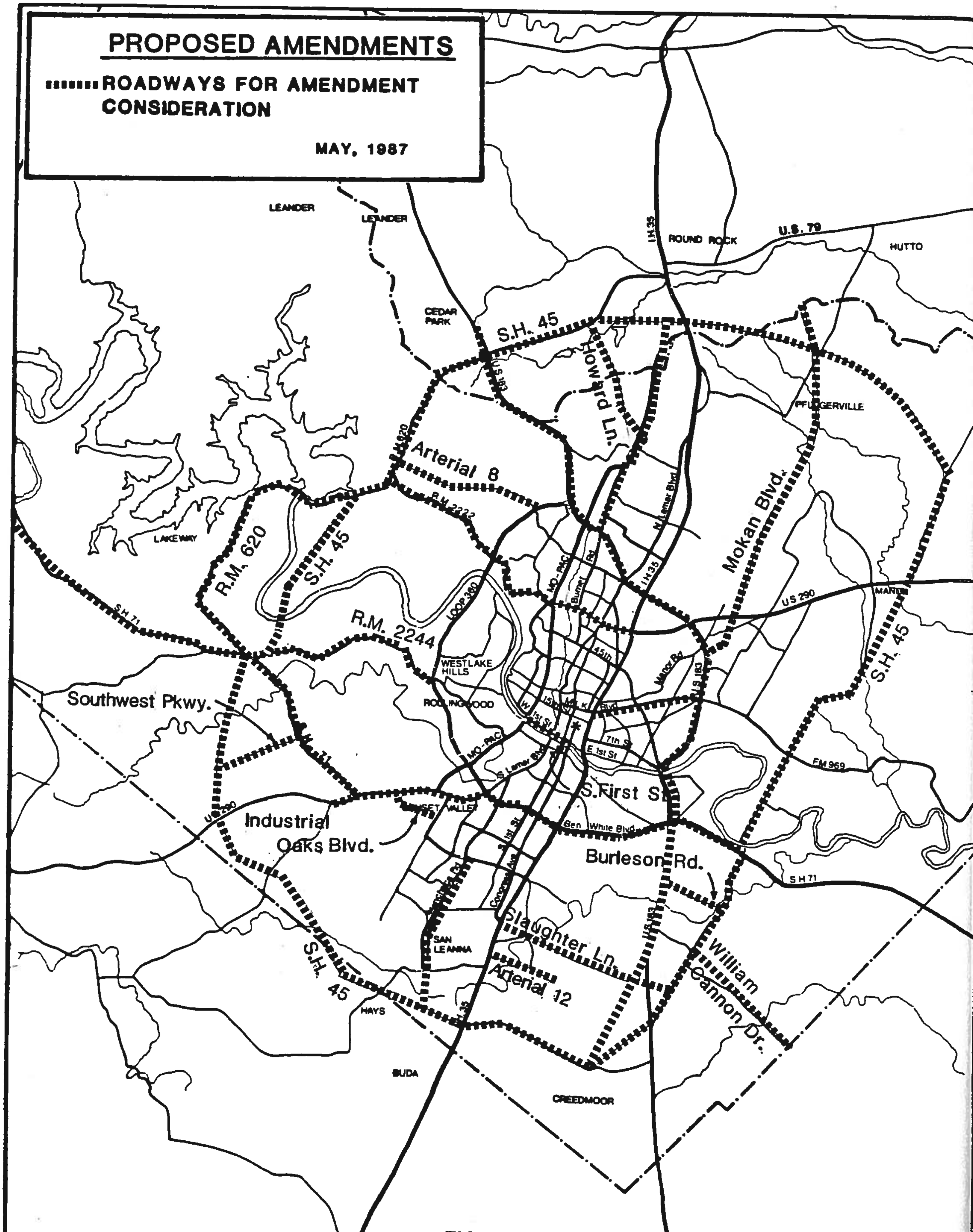

PROPOSED AMENDMENTS
ROADWAYS FOR AMENDMENT CONSIDERATION
MAY, 1987
LEANDER
ROUND ROCK
U.S. 79
HUTTO
IH 35
CEDAR PARK
S.H. 45
Howard Ln.
PFLUGERVILLE
Arterial 8
R.M. 2222
LAKEWAY
R.M. 620
N Lamar Blvd
Mokan Blvd.
LOOP 360
MO-PAC
Burnet Rd
US 290
MANOR
S.H. 71
R.M. 2244
WESTLAKE HILLS
45th
Manor Rd
US 183
Southwest Pkwy.
ROLLINGWOOD
7th St
E 1st St
FM 969
S.First St.
Industrial Oaks Blvd.
Ben White Blvd
Burleson Rd.
SH 71
S 1st St
Congress Ave
SAN LEANNA
Slaughter Ln.
William Cannon Dr.
Arterial 12
HAYS
BUDA
CREEDMOOR

FIGURE 1

TABLE 1
SUMMARY OF RECOMMENDED AMENDMENTS

ROADWAY	ROADWAY LIMITS	CURRENT AMARP CLASS	CURRENT AMARP ROW	CURRENT AMARP PVMT*	ATS PLAN CLASS	ATS PLAN PVMT*	RECOMMENDED AMEND. CLASS	RECOMMENDED AMEND. ROW	RECOMMENDED AMEND. PVMT*
1. US 183	Lakeline - SH 71 E.	Fwy	300	---	Fwy	2 @ 36	Fwy	400	2 @ 48
	SH 71 E. - Onion Creek	Fwy	300	---	Fwy	2 @ 36	Fwy	400	2 @ 36
	Onion Creek - FM 1625	Expy	200	2 @ 36	Fwy	2 @ 36	Fwy	400	2 @ 36
Note: Improvements to planned elevated sections are tentative and subject to feasibility study by SDHPT. Pavement width is not specified in the adopted AMARP for some sections of US 183.									
2. US 290 W.	FM 1826 - S.H 71 W.	Fwy	300	2 @ 36	Fwy	2 @ 36	Fwy	400	2 @ 36
	SH 71 W. - IH 35	Fwy	300	2 @ 36	Fwy	2 @ 48	Fwy	400	2 @ 48
Note: Additional study of this roadway and parallel facilities is recommended to determine the need for additional capacity.									
2. SH 71 E.	IH 35 - Pleasant Valley	Fwy	300	2 @ 36	Fwy	2 @ 48	Fwy	400	2 @ 48
	Pleasant Valley - US 183	Fwy	300	@ @ 36	Fwy	2 @ 36	Fwy	400	2 @ 36
	US 183 - FM 973	Fwy	300	2 @ 36	Fwy	2 @ 24	Fwy	400	2 @ 24
Note: Additional study of this roadway and parallel facilities is recommended to determine the need for additional capacity.									
3. (NE)/SH 45	IH 35 - MoKan	---	---	---	Fwy	2 @ 36	Fwy	400	2 @ 24
(SE)/FM 1625	US 183 - FM 1327	Major	100	44	Major	2 @ 24	Fwy	400	2 @ 24
FM 1327	FM 1625 - Thaxton	Major	100	2 @ 24	Fwy	2 @ 24	Fwy	400	2 @ 24
	Thaxton - IH 35	Major	100	2 @ 24	Fwy	2 @ 36	Fwy	400	2 @ 24
(SW)/Art. #11	IH 35 - Loop 1	Major	150	2 @ 36	Pky	2 @ 36	Pky	400	2 @ 24
	Loop 1 - FM 1626	Major	150	2 @ 36	Pky	2 @ 24	Pky	400	2 @ 24
	FM 1626 - US 290	Major	150	2 @ 24	Pky	2 @ 24	Pky	400	2 @ 24
	US 290 - RM 620	---	---	---	Pky	2 @ 24	Pky	400	2 @ 24

ROADWAY	ROADWAY LIMITS	CURRENT AMARP CLASS	ROW	PVMT*	ATS PLAN CLASS	PVMT*	RECOMMENDED AMEND. CLASS	ROW	PVMT*
3. (NW)/RM 620	Quinlan Pk Rd. - RM 2222	Pky	300	2 @ 24	Fwy	2 @ 36	Fwy	400	2 @ 24
	RM 2222 - US 183	Fwy	350	2 @ 36	Fwy	2 @ 36	Fwy	400	2 @ 36
	US 183 - Howard	Major	250	2 @ 36	Fwy	2 @ 48	Fwy	400	2 @ 36
	Howard - IH 35	---	---	---	Fwy	2 @ 48	Fwy	400	2 @ 36
	Note: Add environmentally sensitive notation to this roadway. Collector Street Plan and Interim Access Management Plan are recommended for parkway sections. Related amendments include the deletion of Arterial #11 and Quinlan Park Road and changes to RM 620, Pfluger Lane, RM 1625 and FM 1327.								
4. RM 620	Quinlan Pk. Rd. - SH 71	Major	150	60	Major	2 @ 24	No change		
	Note: No change to the AMARP. Paved shoulders are recommended for bicycle access. Add environmentally sensitive notation.								
5. SH 71 W.	US 290 - RM 620	Major	100/200	48	Expy	2 @ 36	Expy	200	2 @ 36
	RM 620 - ETJ	---	---	---	Major	48	Major	150	2 @ 24
	Note: Paved shoulders are recommended for bicycle access.								
6. SH 130/MoKan	Williamson Co. Line-Parmer	Pky	300	2 @ 36	Fwy	2 @ 36	No change		
	Parmer - Springdale	Fwy	400	2 @ 36	Fwy	2 @ 36	No change		
	Springdale - US 183	Pky	300	2 @ 36	Fwy	2 @ 36	No change		
	Note: Alignment of this southern end is subject to further study. A Collector Street Plan and Interim Access Management Plan are recommended for parkway sections. Add environmentally sensitive notation.								
7. FM 969/MLK	IH 35 - Chicon	Major	90	60	Major	2 @ 36	No change		
	Chicon - Airport	Major	90	60	Major	2 @ 24	No change		
	Airport - Webberville	Major	95/110	2 @ 24	Major	2 @ 24	Major	150	2 @ 36
	Webberville - US 183	Major	150	2 @ 30	Major	2 @ 36	Major	150	2 @ 36
	Note: Recommended consideration for TSM program between IH 35 and Airport Blvd. Grade separation at Airport Blvd. Paved shoulders are recommended on rural sections for bicycle access.								

ROADWAY	ROADWAY LIMITS	CURRENT AMARP CLASS	ROW	PVMT*	ATS PLAN CLASS	PVMT*	RECOMMENDED AMEND. CLASS	ROW	PVMT*
8. FM 1325	US 183 - Loop 1	Expy	120	2 @ 36	Expy	2 @ 48	Expy	150	2 @ 48
	Loop 1 - Howard	Fwy	350	2 @ 36	Fwy	2 @ 60	Fwy	400	2 @ 60
	Howard - SH 45 (realignment)	Fwy	350	2 @ 36	Major	2 @ 36	Major	150	2 @ 36
8. Howard Lane	RM 620 - FM 1325	Major	120	2 @ 36	Fwy	2 @ 36	Fwy	400	2 @ 36
Add environmentally sensitive notation.									
9. FM 2304/ Manchaca Rd.	William Cannon-Art. #12	Major	100	2 @ 30	Major	2 @ 36	Major	120	2 @ 24
	Art. #12 - FM 1626	Major	100	2 @ 30	Major	48	Major	120	2 @ 24
	FM 1626 - SH 45	---	---	---	Minor	24	Major	120	2 @ 24
Paved shoulders are recommended for bicycle access.									
10. RM 2222/ Koenig Ln.	RM 620 - Riverplace	Fwy	350	2 @ 36	Fwy	2 @ 48	Fwy	400	2 @ 36
	Riverplace - Jester	Pky	300	2 @ 36	Pky	2 @ 48	Pky	400	2 @ 48
	Jester - Loop 360	Pky	350	2 @ 48	Pky	2 @ 48	Pky	400	2 @ 48
	Loop 360 - Loop 1	Major	150/300	2 @ 36	Expy	2 @ 36	Pky	300	2 @ 36
	Loop 1 - US 290	Minor	60/100	40/60	Fwy	2 @ 36	Pky	300	2 @ 24
Note: A Collector Street Plan and Interim Access Management Plan are recommended for parkway sections. Add environmentally sensitive notation.									
11. RM 2244	SH 45 - Loop 360	Major	90	2 @ 24	Major	2 @ 36	Major	150	2 @ 36
Note: Paved shoulders are recommended for bicycle access. Add environmentally sensitive notation.									
12. Burleson Rd.	US 183 - FM 973	---	---	---	Major	2 @ 24	---	---	---
Note: Recommended for designation as collector street.									

ROADWAY	ROADWAY LIMITS	CURRENT AMARP CLASS	ROW	PVMT*	ATS PLAN CLASS	PVMT*	RECOMMENDED AMEND. CLASS	ROW	PVMT*
13. Industrial Oaks Blvd.	US 290 - Loop 1	---	---	---	Major	2 @ 36	Major	120	2 @ 36
	Loop 1 - Brodie	---	---	---	Major	2 @ 36	Major	90	2 @ 24
Note: Subject to coordination with Sunset Valley. Add environmentally sensitive notation.									
14. Slaughter Ln.	IH 35 - FM 973	Major	120	2 @ 30	Major	2 @ 36	No change		
15. South First	W. 1st - Barton Springs	Major	60	44-60	Major	2 @ 24	Major	120	2 @ 36
16. SW Parkway	SH 71 - SH 45	---	---	---	Major	48	Major	120	2 @ 24
Note: Recommended designation as a Scenic Arterial. Add environmentally sensitive notation.									
17. Wm. Cannon/ FM 812	FM 973 - Elroy	---	---	---	Major	48	Major	90	2 @ 24
	Elroy - ETJ	---	---	---	Major	48	Major	90	48
Note: Four-lane section will start at SH 45 if the Outer Loop is adopted in the southeast.									
18. Arterial #8/ Spicewood Springs	Loop 360 - Jester	Major	90	2 @ 24	Major	2 @ 36	Mod/Pky	150	2 @ 24
	Jester - Riverplace	Major	90	2 @ 24	Major	2 @ 48	Mod/Pky	150	2 @ 24
	Riverplace - RM 620	Major	120	2 @ 24	Major	2 @ 48	Major	150	2 @ 36
Note: A Collector Street Plan and Interim Access Management Plan are recommended for arterial parkway sections. Add environmentally sensitive notation.									

ROADWAY	ROADWAY LIMITS	CURRENT AMARP CLASS	CURRENT AMARP ROW	CURRENT AMARP PVMT*	ATS PLAN CLASS	ATS PLAN PVMT*	RECOMMENDED AMEND. CLASS	RECOMMENDED AMEND. ROW	RECOMMENDED AMEND. PVMT*
19. Arterial #12	IH 35 - Bluff Springs Rd.	---	---	---	Major	48	---	---	---
Note: No change in AMARP.									
20. 3rd St. Pkwy.	Loop 1 - Nueces	---	---	---	---	---	Pky	150	2 @ 24

Note: A Collector Street Plan and Interim Access Management Plan are recommended for this project. Alternative downtown access would be required during construction.

* Pavement Width and Lanes:

Width (feet)	Lanes
48	4 lanes undivided
60	5 lanes undivided
2 @ 24	4 lanes divided
2 @ 36	6 lanes divided
2 @ 48	8 lanes divided
2 @ 60	10 lanes divided

OVERVIEW OF PLANNING EFFORTS

II. OVERVIEW OF PLANNING EFFORTS

RELATIONSHIP BETWEEN THE ATS PLAN AND THE AMARP

The City of Austin, as one of the participating jurisdictions in the Austin Transportation Study (ATS), was involved in the cooperative development of a regional transportation plan in 1984 to 1986 in order to meet the mid-term and long-term transportation needs of the metropolitan area. As a condition of the receipt of federal-aid funds, the Federal-Aid Highway Act of 1962 requires that each urbanized area over 50,000 population undertake a continuing, cooperative and comprehensive transportation planning process, commonly referred to as the 3-C planning process. The Metropolitan Planning Organization (MPO), together with the State, is responsible for implementing the 3-C process.

The Austin Transportation Study (ATS) Policy Advisory Committee is the officially designated MPO for the Austin urbanized area. The ATS represents the cooperative efforts of city, county and state authorities to develop a regional transportation plan for the Austin urbanized area. The ATS Policy Advisory Committee is a 17-member body whose membership includes State Senators and Representatives, the City of Austin, Williamson, Hays and Travis Counties, Capital Metro and the State Department of Highways and Public Transportation. As the MPO, the ATS is the recipient of federal transportation planning funds, and is responsible for the review, coordination and endorsement of federally-funded transportation programs and projects in the urbanized area.

The ATS Policy Advisory Committee adopted the Transportation Plan for the Austin Metropolitan Area on February 24, 1986. It is intended to serve as a planning tool for a future transportation system by providing a long-term guide for right-of-way reservation and a mid-term guide for public investment in improvements. The ATS consultants, Cambridge Systematics and CRS Sirrine, evaluated 16 possible land use scenarios and designed a recommended plan which, theoretically, could reasonably accommodate the travel demand associated with any one of these scenarios.

There are significant differences between the ATS Plan and the Austin Metropolitan Area Roadway Plan (AMARP). The AMARP is a roadway plan. The ATS Plan is a transportation plan and as such contains a roadway element and a transit element. The AMARP-ATS Comparison Report prepared in May, 1986 and the AMARP and ATS Plan report prepared for the City Council work session on January 20, 1987 provide a comprehensive accounting of the differences between the AMARP and the roadway element of the ATS Plan. Although the ATS Plan used the AMARP arterial network as a base, it added several roadways to the network and expanded others.

One of the fundamental disparities between the two roadway plans is that unlike the ATS Plan which contains a mid-term plan for a projected study area population of 1 million and a long-term plan for a population of 1.7 million, the AMARP has no specific time horizon and is not based on a specific metropolitan area population projection. The AMARP was

originally adopted in 1980 to correspond with the Austin Tomorrow Comprehensive Plan. It is a composite of several sub-area transportation studies, and private, city, and county initiated amendments. The AMARP is the City's official roadway planning document as adopted by the City Council, and is the basis for requiring the dedication of up to 150 feet of right-of-way through the subdivision and zoning process.

RELATIONSHIP TO THE AUSTINPLAN PROCESS

Forecasts of population and employment are an integral part of any long-range planning effort. The ATS consultant produced alternative low, medium and high forecasts in 1985 for use in preparing the Plan. The Plan was based on a "high" rate of areawide growth and configured to satisfy both alternative distribution patterns - "centralized" and "dispersed." Modeling for this analysis of AMARP amendments is based on the ATS mid-level centralized land use pattern.

Over the past several months the Planning and Growth Management Department and the Austinplan Steering Committee have been formulating several alternative population and employment forecast distributions for use in Austinplan. The Austinplan process uses a set of reasonable, consistent, and agreed upon forecasts and distributions to evaluate the policies and strategies developed during the second phase of each Austinplan task group's workplan. These forecasts are particularly important to the evaluation of major infrastructure system expansions, such as transportation, because expansion of the arterial roadway system is dependent on both the level and location of an area's future population and employment centers.

The Austinplan process uses an agreed-upon range of population forecasts for the Metropolitan Statistical Area (MSA) in 2020. The low end of the forecast continuum is 1.1 million persons and the high end is 1.9 million. In general, the high forecast corresponds to the mid-level forecasts used by ATS, which were used in this ATS-AMARP analysis.

Austinplan participants are now working on distributions of forecasted population and employment. Transportation needs for these scenarios will be analyzed and will form the basis for the recommended Transportation Element of the plan. The need for a systemwide approach to the AMARP will be satisfied through the Austinplan process, where the revised forecast and a land use plan will be the basis for revising the entire AMARP.

Expansion of the arterial roadway system is dependent on both the level and the location of an area's future population and employment centers. The forecasts are key inputs for transportation modeling in the Transportation Element. The model will be used to forecast travel demand so that the size of needed future arterial roadways can be ascertained. Because the population and employment forecasts and distributions developed as part of Austinplan may be different from the forecasts which are the basis for the ATS Plan, there may be different roadway needs identified in Austinplan.

While Austinplan may identify some different roadway needs than those recommended by this analysis, this effort does provide a basis for Austinplan's work. This analysis identifies some roadways where expansion is need to serve future residents. It begins to define a transportation system for planned land uses - something the AMARP does not now do. Many of the recommended roadways would be needed to serve Austinplan's projected growth under most potential land use scenarios. The amendments will include these roads in the AMARP before Austinplan completion, allowing the City to reflect them in its subdivision dedication requirements. In cases where Austinplan does not identify the need for a roadway improvement, the process will give an opportunity to further modify the AMARP.

ANALYSIS METHODOLOGY

III. ANALYSIS METHODOLOGY

A professional team from four city departments conducted an analysis of the 21 potential Roadway Plan amendments from the Austin Transportation Study Plan. The professional team evaluated the following factors for each roadway: projected travel demand; roadway system design; impacts on the natural, built and social environment; and fiscal impacts. Where additional information was needed for special roadways, more data was collected and a more extensive analysis was conducted.

TRAVEL DEMAND MODELING

Purpose

Travel demand modeling is a tool designed to test the performance of a transportation system based upon a given land use scenario. The assumed land use scenario dictates the number and location of trips. The output of these models provides the data needed by the transportation analyst to determine whether the proposed transportation system can adequately serve the forecasted land use.

Land Use Scenario

Travel demand forecasting consists of a series of mathematical models that estimate travel volumes and locations based upon a land use scenario and a transportation system. For the purposes of this model, the land use scenario must be disaggregated to very small areas and contain assumptions about such indicators as population, housing units, commercial, industrial, and civic employees and income levels. The land use scenario used in this study was one of the six, detailed, year 2020 forecasts produced for the Austin Transportation Study in January of 1985. The ATS forecasts included three possible levels of regional growth (low, mid-level and high) and two possible distributions (centralized and dispersed). Of the six scenarios of land use, the mid-level centralized scenario of growth represents the one most compatible with previous Planning and Growth Management research. The mid-level centralized forecast assumes a population of approximately 1.5 million people and 824,000 employees in the ATS study area which is comprised of most of Travis County, portions of southern Williamson County and portions of northern Hays County. The centralized distribution was based closely on previous work by the PGM in 1984 on locational preferences for residential and industrial development. The centralized distribution differs from the dispersed distribution in that it assumes that the central corridor along IH 35 remains relatively attractive for future development. The dispersed distribution scenario removes a proportion of the growth occurring along the IH 35 corridor under the centralized distribution to the far western sections of the study area.

Since the scenario used in this study was completed in January of 1985, some recently approved major projects were not included in determining the distribution. The most obvious omissions include the Decker Lake MUDs in East Austin and the Lakeline development in Northwest Austin. The

implications of such new developments are being reviewed as part of the Austinplan land use scenario development. A series of new distributions are being discussed with the Austinplan Steering Committee, the 14 Task Groups and the various Sector Councils. For this analysis, development proposals approved before January of 1985 were used as locational indicators rather than assuming each proposal would build out at the approved level in order to maintain appropriate control totals on regional growth.

Highway and Transit Networks

The adopted Austin Metropolitan Area Roadway Plan served as the base highway network. The proposed amendments were added to the highway network as needed for analysis. Each road segment was computer coded in terms of its distance, facility type, and number of lanes. The capacity and operating speed of each road segment was calculated based upon this information.

The adopted ATS transit network was used for this study. It includes four transit modes as shown below with route miles:

1) Local bus - 733 route miles
2) Express bus - 150 route miles
3) Transitways - 205 route miles
4) U.T. shuttle - 35 route miles

This network is much more extensive then the adopted Capital Metro Service Plan. Funding for this network has not been identified and therefore may not be fully implemented.

Travel Demand Model

The four primary components of the travel demand forecasting process are trip generation, trip distribution, mode choice and trip assignment.

Trip generation models translate land use and demographic information into the number of trips created by an area. For this study, the Austin area is divided into 591 traffic serial zones. Trips originating and/or destined outside the study area (external trips) are not included in this study. Estimated trips are calculated based upon zonal information, including the number of households, population, employees, and median income.

Trip distribution models estimate where trips will be made. The primary objective is to distribute the total number of trips originating in each traffic serial zone among all the possible destination zones. The distribution model used in this study is commonly known as the gravity model. It assumes that trips are proportional to the number of attractions in all possible destination traffic serial zones and inversely proportional to the travel time between the zones. The number of attractions in a zone is correlated with the number of employees in that zone.

Mode choice models assign trips to the various alternative modes of travel available. The basic assumption of mode choice models is that travelers make rational choices between the available modes based in part upon characteristics of those modes, and in part upon characteristics of the travelers. The mode choice model for this study uses five possible travel modes: transit, drive alone, two person carpool, three person carpool and four or more person carpool. The product of the mode choice model is a series of tables of daily home-to-work person trips from each zone to each other zone by each mode. The home-to-work person trip tables are then expanded to reflect total morning (AM) peak hour vehicle trips, which provide the basis to estimate roadway volumes and requirements.

Trip assignment models assign the distributed volumes of vehicle trips, by mode, to individual network links. The trip assignment model used for this study, incremental capacity restraint, assumes that the choice of route is a choice to minimize total travel time. The model estimates the minimum paths between each zone and every other zone on the basis of travel time. Incremental capacity restraint assignment is an iterative process. A percentage of the total trips are "loaded" onto the network during each iteration of the process. Three iterations were used for this study: 50 percent in the first iteration and 25 percent in subsequent iterations. The travel times between zones are modified after each iteration to reflect congestion created by the cumulative traffic volumes assigned to each link in previous iterations. Travel time is adjusted link by link according to the standard Bureau of Public Roads capacity restraint formula. Transit trip assignment is performed in a similar fashion. Transit minimum paths also account for transfers and the time spent walking to, or waiting for, a transit vehicle.

Application of Travel Demand Forecasts

The basic output of the modeling process are the travel forecasts. These forecasts are summarized by estimated volumes on each segment of the roadway network. This data is used to indicate whether the proposed transportation system can adequately serve the forecasted land use scenario. Table 2 shows the relationship between facility type, number of lanes and estimated traffic carrying capacity.

The forecasted volumes are used to indicate the appropriate size of the roadway facility. The transportation analysis and recommendations also consider other factors such as system continuity, physical constraints and engineering considerations.

Table 2

Estimated Capacity By Facility Type*

Facility Type	Directional Lanes				
	1	2	3	4	5
Freeway**	1,800	3,600	5,400	7,200	9,000
Parkway	1,800	3,600	5,400	7,200	--
Expressway	1,200	2,400	3,600	4,800	--
Major Divided Arterial	985	1,970	2,955	3,940	--
Minor Arterial	725	1,450	--	--	--
Collector	650	1,300	--	--	--

* Capacities are expressed as vehicles per hour, per lane.

** Freeway capacities do not include the capacity of the frontage roads. The primary function of frontage roads is to provide access to the main facility, not to serve through movements.

SYSTEM CONTINUITY AND DESIGN METHODOLOGY

The phrase "system continuity" in transportation planning refers in the broadest sense to the consistency of the roadway system within each of the functional roadway classifications and the compatibility of the design and capacities of the roadways within the network. To insure "system continuity" the requirements for main lane capacity, functional classification, and access must be balanced into a roadway network which will provide continuous travel paths and avoids abrupt transitions between functional classifications and designs along the length of the roadway.

The classifications of roadways within the City relate to both the service function and access function they provide. The basic roadway types and their functional descriptions are:

Table 3
Roadway Function by Facility Type

Classification	Principal Function	Average Trip Length	Land Use Linkage
Freeway	Through movements access by frontage roads	3-5 miles	CBD, major generators
Parkway	Through movements access at inter-changes	3-5 miles	CBD, major generators
Expressway	Through movements interchanges at major intersections. Restricted driveway access	3-5 miles	CBD, major generators
Arterial	Through movements limited driveway access	1-3 miles	CBD, secondary generators
Collector	Through movements and land access	1 mile	Local areas
Local	Land access	1/2 mile	Individual tracts

The access and through movement functions described form the basis for physically planning the future system-wide transportation needs.

System continuity along an individual roadway may address the physical alignment, functional classification, the length of the facility, and the roadway cross-section (design).

The method employed to estimate the lane requirements for the future roadway system are developed initially upon a segment-by-segment assessment based upon computer generated traffic volumes. The projected traffic volumes are compared to the assumed capacities for compatible roadway designs and matched by both functional classification and the ability to serve the projected demand.

There are seven different roadway designs and five lane configurations which were assessed for the proposed amendments. The description of the design elements and access management is included in the following paragraphs. These are:

1. Freeways - 4, 6, 8, or 10 travel lanes with 400 feet of right-of-way. A limited access roadway with full grade separated interchanges. Access on and off the roadway is accomplished by ramps connecting to frontage roads. Continuous parallel frontage roads along each side of the facility. Access limited to interchanges and driveway on the frontage roads.

2. Parkways - 4, 6, or 8 travel lanes with 300 to 400 feet of right-of-way. A limited access roadway with full grade separated interchanges. Frontage roads are not provided. Access limited to interchanges and ramps at major intersections.

3. Expressways - 4, 6, or 8 travel lanes with 200 to 300 feet of right-of-way. A high volume, high capacity arterial roadway with widely spaced signalized intersections at minor intersections. Major intersections are grade separated. Limited or no direct access to the main lanes from property fronting the facility with access limited to right in-right out movements when access is available.

4. Major Divided Arterial - 4, 6, or 8 lanes with 90 to 150 feet of right-of-way. A high volume, at grade roadway with street and regulated driveway access. Signalized at significant intersections with priority given to the arterial through movement. A raised center median is minimum spacing requirements for median breaks and separate left turn lanes. A continuous left turn lane, or flush median may be provided depending solely upon the access requirements of the properties fronting the facility.

5. Major Undivided Arterial - 4, or 6 lanes with 90 to 120 feet of right-of-way. Similar to the major divided arterial. No center median with left turn channelization restricted to intersections. Normally a retrofit design on an existing roadway with severe right-of-way limitations. Not typically recommended.

6. Minor Arterial - 4 or 6 lanes with 90 to 120 feet of right-of-way. A secondary arterial facility to provide access to major arterials or limited access roadways. Serves localized circulation and access needs. The roadway may be either divided or undivided and typically supports the access requirements for extensive, small scale, commercial development along the frontage of the facility.

7. Collector - 2 or 4 lanes with up to 90 feet of right-of-way. Low capacity roadway to provide local access and circulation to the arterial network.

The designs and functional classification ascribed to the roadways being considered represent the staff recommendation based on the following criteria; 1) Continuity of design, 2) adequacy of main lane capacity, 3) access for adjacent tracts, and 4) roadway function within the network.

The capacities for each of the roadway designs has been discussed in the previous section. In every instance, only the main lane capacity is used in the process of developing recommendations. This means that in the case of a freeway, which will have X number of main lanes, that the frontage roads are not included in calculating the total capacity of the facility. The frontage roads perform an access function, allowing travel to and from the main lanes of the freeway. While the presence of frontage roads will increase the capacity within the "corridor," they have no influence on the ability of the main lanes to carry traffic. Conversely, the presence of a parallel collector system to provide access to a parkway will increase the "corridor" capacity but will not alter the main lane capacity of the parkway.

The right-of-way requirements for the roadways under the City of Austin's jurisdiction have been established by City policy through the Street Design Standards Manual. The ROW must be adequate to allow for the roadway pavement, sidewalks, utility easements, street lighting, traffic control devices and signage, drainage, and when appropriate, bicycle lanes. The amount of ROW will vary, corresponding to the requirements of the roadway function and design. This will range from 50 feet of ROW for a typical local street up to 150 feet of ROW for an 8 lane arterial.

On State maintained roadways, which include all planned freeways and parkways, the State Department of Highways and Public Transportation requires ROW consistant with the Design Division's Operations and Procedures Manual. The right-of-way requirement may also be established by the Highway Commission through a Minute Order. The State standards for ROW are usually substantially greater than those of the City, especially for "rural" roadways which are not constructed with curb and gutter but relying on bar ditches to provide drainage.

The need for a collector street system has not been specifically addressed during this analysis. However, the use of the parkway design makes it imperative that a collector street system which will provide access along the recommended parkway sections be developed. The integrity of the parkway design cannot be maintained without an interim access management plan and a collector street plan.

NATURAL ENVIRONMENT ANALYSIS

Introduction

Each of the 21 proposed amendments has been analyzed for potential impacts on the natural environment. (In the context of this environmental analysis, "proposed amendments" refers to those changes which would amend AMARP to conform with the ATS long range plan for a given roadway. This may differ from the final staff recommendation for certain amendments.) The primary emphasis of this analysis is on identifying the potential for impacts on sensitive resources, so that this information can be used in making decisions on amendments to the AMARP.

The analysis has evaluated both direct and indirect impacts on water resources, sensitive ecological resources, and impacts on specific environmental features where relevant. Direct impacts include impacts associated with construction and operation of the roadway. Indirect impacts include those impacts which might result from land use changes along the roadway corridor, where the potential for such changes are significantly related to the proposed amendment close up. Although the provision of a given roadway does not affect the net amount of a given land use in an area, it can influence the location of more intense land uses absent other public land use policies. This shift in the location of more intensive land uses may have an adverse impact on sensitive resources which occur along the roadway corridor. Although the likelihood of this effect may be ascertained, it is not possible to accurately predict its magnitude in the current analysis. The indirect impact of roadway amendments is best dealt with through land use and environmental controls.

In addition to identifying the potential for significant impacts from the proposed amendments, this analysis has identified those roadways which should be designated as traversing an environmentally sensitive area. This designation refers to a footnote to many roadway proposals contained in the AMARP. This designation generally indicates the need for environmentally sensitive design and alignment for these roadways. In some cases, it may be appropriate to consult with the Department of Environmental Protection during the pre-design phase to more specifically address the environmental concerns associated with roadway construction.

Methodology

The potential for significant impacts was determined by analysis of key indicators of sensitive environmental resources which would be affected by the roadway. (stream crossings, habitat types, etc.) This determination was based on analysis of the map-based environmental inventory used in the sector planning process, other available map-based resource information, and field reconnaissance of selected amendments. For amendments which constitute new alignments for AMARP (or extensions of existing alignments) impacts are quantified where possible, and the number and type of stream crossings, area of sensitive habitat disturbed, etc. is provided in the narrative impact summary. For amendments which constitute a change in function or cross-section for an existing roadway in AMARP, the corridor along the current AMARP alignment was examined for potentially affected resources and the probable impacts of the amendment were ascertained.

A summary environmental impact matrix (Table 4) is provided which rates all of the proposed amendments according to potential for significant impacts on surface water, groundwater, native habitat, rare and endangered species, critical environmental features (and other specific features of environmental significance), and air quality (where possible). These ratings are based on an overview analysis of available information. Actual impacts may be determined to be more or less severe than indicated based on site specific pre-design and design analysis. Significant impacts are those which would be expected to cause a perceptible adverse change in the condition of the natural environment over the long term, or a severe short term impact. The potential for significant impacts is rated as "High", "Moderate", "Low", or "No Change". A "No Change" rating indicates that the nature of the proposed amendment does not increase or decrease the potential for significant impacts from that potential that exists with the currently adopted AMARP.

This will generally apply to those amendments which entail only a relatively minor change in roadway cross-section or function. The criteria for "High", "Moderate", and "Low" ratings for the various categories of impacts is described below. These criteria primarily apply to amendments which entail adding a new roadway or extension of a roadway to AMARP. For amendments which involve substantial new or additional construction or a significant increase in impervious cover a modified version of the criteria will be used.

Water Resources

Potential impact on surface water is determined by the number of major and minor stream crossings and other aspects of the terrain based on an analysis of topographic maps. For the purposes of this analysis, major crossings involve the main branch of streams which are named on the USG.S. Topographic Quadrangle Maps; minor crossings involve unnamed tributary waterways which are indicated as intermittent streams on the USG.S. Maps. Other topographic characteristics which affect the rating are floodplain characteristics, slope steepness, streambank characteristics, and general proximity to waterways. These factors influence the effectiveness of erosion controls in mitigating construction impacts and the water quality impacts of roadway drainage over the long term. In general, a "High" rating indicates a minimum of two major stream crossings, a total of four stream crossings, or a site specific condition which would result in a high potential for impacts. A "Moderate" rating generally indicates a minimum of one major crossing, a total of two to three crossings, or a site specific condition which results in a moderate potential for impacts. Other amendments which involve moderate change in the characteristics of the roadway cross-section are rated "Low".

Design of drainage, filtration, and stream crossings should consider minimization of impacts on water quality and changes in the natural character of the streams. Clear spans may be appropriate for some major stream crossings.

TABLE 4

SUMMARY MATRIX

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT*

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END. SP.	CEF'S, OTHER	AIR QUALITY	COMPO-SITE
1. US 183	----	----	----	----	----	----	NO CHANGE
2. US 290W/SH 71E	LOW-MOD	LOW-MOD	NO CHANGE	NO CHANGE	LOW-MOD	NO CHANGE	LOW
3. SH 45, Sage 1	HIGH	HIGH	MOD-HIGH	LOW-MOD	MOD	TBD**	MOD-HIGH
3. SH 45, Sage 2	HIGH	MOD	MOD	LOW	LOW	TBD	LOW-MOD
3. SH 45, Seg 3	HIGH	HIGH	HIGH	HIGH	HIGH	TBD	HIGH
3. SH 45, Seg 4	MOD	HIGH	LOW	HIGH	HIGH	TBD	MOD-HIGH
4. RM 620	----	----	----	----	----	----	NO CHANGE
5. SH 71 W	LOW-MOD	NO CHANGE	LOW	LOW	NO CHANGE	TBD	LOW
6. SH 130 (MOKAN)	NO CHANGE	NO CHANGE	MOD	LOW	NO CHANGE	NO CHANGE	LOW
7. FM 969 (MLK)	----	----	----	----	----	----	NO CHANGE
8. FM 1325	LOW	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	TBD	LOW
8. HOWARD LANE	MOD-HIGH	MOD	MOD	NO CHANGE	MOD	TBD	MOD
9. FM 2304	MOD	MOD	MOD	NO CHANGE	NO CHANGE	NO CHANGE	LOW-MOD
10. RM 2222	LOW	LOW	LOW	MOD	MOD	TBD	LOW-MOD
11. RM 2244	LOW	LOW	LOW	MOD	MOD	NO CHANGE	LOW-MOD
12. BURLESON RD	MOD	MOD	MOD	NO CHANGE	NO CHANGE	NO CHANGE	MOD
13. INDUSTRIAL OAKS	LOW	HIGH	LOW	NO CHANGE	NO CHANGE	NO CHANGE	MOD
14. SLAUGHTER LANE	LOW-MOD	LOW-MOD	LOW	NO CHANGE	NO CHANGE	NO CHANGE	LOW-MOD
15. S FIRST	HIGH	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	MOD
16. SOUTHWEST PKWY	HIGH	MOD	HIGH	HIGH	MOD	TBD	MOD-HIGH
17. WILLIAM CANNON	MOD	LOW	LOW	LOW	LOW	TBD	LOW
18. ARTERIAL 8	MOD	MOD	LOW-MOD	MOD	MOD	NO CHANGE	MOD
19. ARTERIAL 12	HIGH	MOD	MOD	LOW	MOD	NO CHANGE	MOD
20. 3RD ST PKWY	LOW	LOW	NO CHANGE	NO CHANGE	NO CHANGE	TBD	LOW

* As compared to the adoptaed AMARP.

** TBD: To be determined/air quality modeling in progress.

The potential impact on groundwater resources is determined by the roadway's location in relationship to the Edwards aquifer and the Alluvial and Terrace aquifer, the two most significant aquifers which are recharged in the area affected by the amendments. A "High" rating indicates a new or expanded roadway project traversing the Edwards aquifer recharge zone or a significant portion of the Alluvial and Terrace aquifer recharge zone. A "Moderate" rating indicates a project over the Edwards aquifer contributing zone or a less significant amount of the Alluvial and Terrace aquifer recharge zone. Other amendments which could impact groundwater are rated as "Low".

Measures to protect groundwater resources include filtration of roadway runoff and special construction techniques to minimize disturbance of recharge features. Drainage designs should consider effects on groundwater recharge features (caves and sinkholes).

Biological Resources

The potential impact on native habitats is determined from examination of biological resource maps which depict areas of priority woodlands, priority grasslands, and other native habitat types as inventoried for the Planning Sectors. New or expanded roadway construction which would traverse 5000 feet or more of priority habitat or 10,000 feet of other significant habitat, or entail impacts on particularly significant habitat areas, are rated as "High". Those which traverse 2500 to 5000 feet of priority habitat or 7500 to 10,000 feet of other significant habitat are rated as "Moderate". Other amendments with a potential to impact native habitat are rated as "Low".

There are several rare and endangered species dependent on specific habitats in the Austin area, including those listed or under study by the State and Federal Government as well as species which are locally rare and in danger of being extirpated from the Austin area. The loss of a species from the native ecosystems in our area, or the more serious global loss of a species by extinction, constitutes irreparable damage to our environment. Responsible environmental management should attempt to avoid such a loss, therefore impacts on individuals or occupied habitat for rare or endangered species is a critical factor in evaluating the environmental significance of the amendments. Two bird species of primary concern in evaluating these amendments are the Golden-cheeked Warbler and the Black-capped Vireo. The Golden-cheeked Warbler is a "State Protected" species listed as "Threatened." It is also a Federal Category 1 species, which means it meets the criteria to be considered for listing by the US Fish and Wildlife Service as "Endangered or Threatened." This small bird occupies priority upland woodland habitat in the western part of Austin's ETJ, with each nesting pair requiring five to eight acres of habitat. The Black-capped Vireo is a "Federal Candidate 1" species which has been proposed to be listed as "Federal Endangered" this year. This small bird is dependent on a specific type of upland habitat which is not generally a priority woodland habitat. It is in serious decline in the Austin area and throughout its limited range. A "High" rating in this category indicates that direct impacts on a rare/endangered species are expected from the amendment. "Moderate" rating indicates that although the species is not known to occur along the proposed alignment, there is a moderate potential

for it to occur. A "Low" rating indicates a low probability for impacts on a rare/endangered species.

Protection measures for rare and endangered species and other sensitive biological resources include preservation of habitat within and adjacent to right-of-way and fine tuning of the roadway alignment based on detailed surveys of the roadway corridor.

Critical Environmental Features

The potential for impacts on Critical Environmental Features (CEF's) was determined from examination of map-based information on the occurrence of springs, caves, sinkholes, other groundwater recharge features, canyon rimrocks, steep bluffs, and wetlands. Such features affect roadway design and in some areas can be significant factors in the overall impact of roadway construction. Those amendments involving new alignments or significant increases in cross-section with known occurrence of two or more CEF's along the alignment corridor are rated a "High". Those with less than two known CEFs and/or a high probability of encountering CEFs are rated as "Moderate". Those having no known CEF's along the alignment but which have a low to moderate probability of encountering one or more CEF's are rated as "Low".

Protection of CEF's may require special design of drainage and filtration as well as fine tuning of roadway alignments. This should be based on site specific analysis of alignments during the pre-design phase.

Air Quality

Localized and area-wide impacts on air quality from mobile sources such as vehicles is a serious concern which warrants consideration in evaluation of the overall impact potential of the amendments. However, determination of impacts from a future roadway network involves a complex analysis requiring the use of computer modeling to evaluate various factors such as meteorological, traffic, and operating conditions and the physical/chemical processes which take place in the atmosphere. Impacts are cumulative in nature and it is difficult to determine the impacts of a given roadway. Although some of the proposed amendments may have an adverse or beneficial impact on air quality, the potential for significant impacts cannot be determined at this time, in the absence of modeling results. The impacts of some pollutants, such as carbon monoxide which is generated by incomplete combustion of fuel, may be manifested locally as well as area-wide. Local problems with carbon monoxide are usually associated with extreme traffic congestion, and concentrations of this pollutant tend to decrease rapidly with distance from the source. Impacts of other pollutants such as nitrogen oxides and hydrocarbons are more likely to manifest themselves in regional air quality. Various factors may cause localized impact as well, though not likely associated with a specific roadway. Hydrocarbon emissions are highly dependent on the total number of vehicles in an area, and are generated by both operating and parked vehicles. Nitrogen oxides are generated by combustion of fuel under varying operating conditions.

Nitrogen oxides and hydrocarbons are precursors of ozone, which is currently the air pollutant of greatest concern in the Austin area. Ozone is not emitted directly by vehicles, but is formed over a period of several hours as a result of chemical reactions which occur in the atmosphere between hydrocarbons and nitrogen oxides. The occurrence of high ozone levels is heavily dependent on meteorological conditions, such as sunlight and atmospheric circulation, in addition to motor vehicle emissions. Area-wide ozone problems are generally independent of the impacts of a particular roadway. Regional ozone levels can generally be expected to increase as population and employment increase. Automobile emissions of hydrocarbons and nitrogen oxides are directly related to vehicle trips and vehicle miles traveled. These traffic parameters will increase as population and employment grow, irrespective of the design and location of individual roadways. Regional transportation strategies that reduce vehicle trips and vehicle miles traveled can be expected to minimize the increase in regional ozone levels.

Although some of the proposed amendments may have an adverse or beneficial impact on air quality, the potential for significant impacts cannot be determined at this time, in the absence of modeling results. Those amendments which entail only a relatively minor change in function or cross-section are not expected to change the potential for impacts on air quality. The State Department of Highways and Public Transportation is currently conducting air quality modeling for the Austin Transportation Study. The modeling will examine emissions of hydrocarbon, nitrogen oxides, and carbon monoxide and their concentrations at the traffic serial zone level. It will include a comparison of the existing plus committed (funded for construction) roadway network to the mid-term and long-term roadway networks in the ATS plan. The modeling results will facilitate an analysis of impacts and trends both area-wide and along specific roadway corridors. Modeling is expected to be completed in the third week of May, with analysis to continue to mid to late June. The Department of Environmental Protection will analyze the modeling results when they are available. Depending on the availability of the modeling information, it may be possible to provide an updated rating of the potential for air quality impacts for some amendments in June.

BUILT AND SOCIAL ENVIRONMENTAL ANALYSIS

The review of each amendment proposal includes a preliminary assessment of the potential impact upon the built and social environment. Amendments to the AMARP may impact the built and social environment in a variety of ways. The most immediate impact is upon the design of proposed development since the Subdivision Ordinance requires consistency with the AMARP. A description is included in each amendment analysis of proposed development that has been submitted to the City.

Once the roadway is implemented, impacts may include the acquisition of existing development and altered travel patterns which may preserve or disrupt existing neighborhoods. A description is included in each amendment analysis of the existing development along the roadway corridor.

FISCAL IMPACT ANALYSIS

The fiscal impact of the ATS Plan proposals is the cost of right-of-way acquisition and construction to be borne by public agencies. Specific cost estimates could not be calculated because there are, at this time, no detailed construction plans for these roadways. It is the normal procedure in cases like this to use a standard cost per linear foot or per mile to calculate the construction cost. Because each roadway is unique, additional construction money is added for bridges, culverts and for any additional features unique to that particular roadway. Approximate costs for engineering (design, surveying, administration), inspection and testing are based on the estimated construction cost and data maintained by the City. The total engineering and construction cost shown for each roadway in this report reflects the estimated cost for building the entire recommended roadway.

These estimates are based on the most logical roadway alignment that could be determined at this very preliminary stage of the project development. Some minor variations could and probably will be made but should not greatly affect the basic estimate. As property is developed and more time and detailed analysis is performed on these roadways the cost estimates can also be refined to more closely approximate the final project cost.

The cost factors used in preparing these preliminary project estimates are shown in Table 5.

Table 5
Estimated Roadway Cost Per Linear Foot

30′ roadway	$165/L.F.
48′ roadway	$275/L.F.
60′ roadway	$335/L.F.
2 @ 24′ roadway	$361/L.F.
2 @ 36′ roadway	$520/L.F.
2 @ 48′ roadway	$683/L.F.

These prices include excavation, flexible base, surfacing, curb and gutter, and basic site restoration. Also included is basic drainage, engineering design, administration, inspection and testing for quality control.

Additional money was estimated for bridges, culverts and overpasses on individual projects where the need was identified. A requirement of streets and roadways constructed under the jurisdiction of the City of Austin is that the rainfall runoff be filtered. On those streets an additional 20% was added to the construction cost to accommodate these associated costs. In all cases 20% was added for miscellaneous construction items and contingencies.

Right-of-way costs were also considered on a project by project basis with consideration given to recent market sales of property in the roadway area. The land costs depended on a variety of factors such as the present level of development in the subject property area. Widening an existing roadway is almost always more expensive than cutting a new road through vacant tracts. Values also varied because of the desirability of certain areas and their perceived growth potential. Approximately 5% of the parcels needed for any given project will be dedicated at no cost. It would be prudent to estimate that about 15% of the parcels needed will end up in condemnation, and the cost for these will usually be greater than their appraised value.

AMENDMENT ANALYSIS

STATE ROADWAYS

1. US 183

Description

US 183 is adopted in the AMARP as a limited access freeway on 300 feet of right-of-way from US 183A to Onion Creek. The pavement width for US 183 is not specified in the AMARP. US 183 is adopted as a six-lane expressway from Onion Creek to FM 1327.

The roadway is adopted in the ATS Plan as an eight-lane freeway from Lakeline Boulevard to Loop 1 and East Seventh Street to SH 71 East, and a six-lane freeway from Loop 1 to East Seventh Street. US 183 is shown in Figure 2.

Improvements to US 183 are included in the State Department of Highways and Public Transportation's 4-year Letting Schedule and 5-year Project Development Program. These improvements include an eight-lane freeway from RM 620 to Balcones Woods Drive and a six-lane freeway from Balcones Woods Drive to SH 71 East. The 300 feet of right-of-way adopted in the AMARP is inadequate for this project.

Recommendation

The recommended amendments would upgrade US 183 to an eight-lane freeway from Lakeline Boulevard to SH 71 East and a six-lane freeway from SH 71 East to FM 1625.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
US 183	Lakeline-SH 71 E	Fwy	300	ns	Fwy	400	2@48*
	SH 71E.-Onion Crk.	Fwy	300	ns	Fwy	400	2@36
	Onion Crk - FM 1625	Expy	200	2@36	Fwy	400	2@36

* Improvements to the planned elevated section are tentative and subject to a feasibility study by the SDHPT.

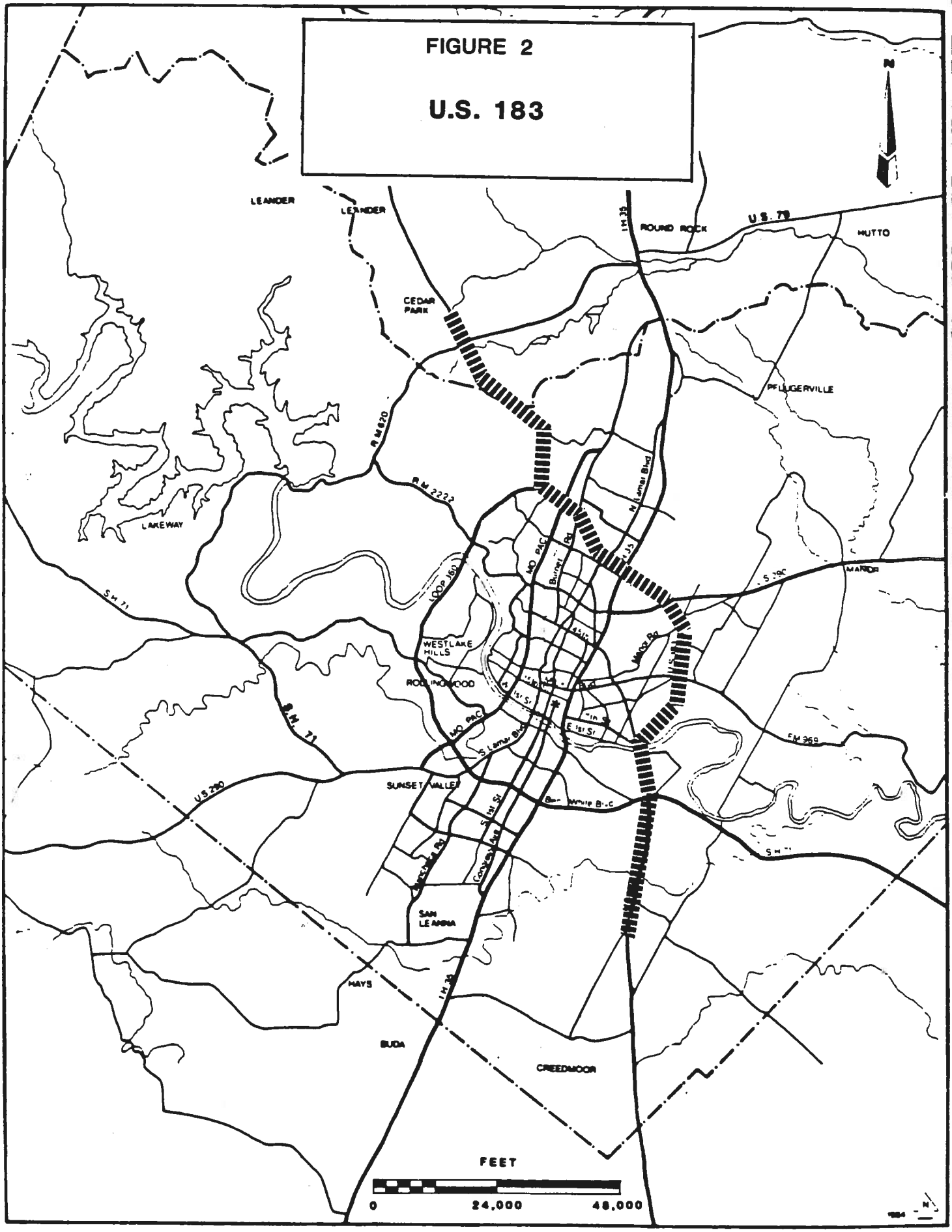
ns = not specified.

Projected Demand

US 183 is the major travel corridor to the northwest. The projected travel demand is heavy with maximum, northbound, AM peak hour volumes ranging from 3,500 vehicles south of SH 71 E. to 7,700 vehicles west of IH 35. Maximum, southbound, AM peak hour volumes range from 2,000 vehicles south of SH 71 E. to 8,900 west of IH 35. An eight-lane freeway is judged to adequately serve the demand between Lakeline Boulevard and SH 71 E. A six-lane freeway would serve the segment south of SH 71 East.

FIGURE 2

U.S. 183



Design

The results of the model runs indicate the need for an 8-lane freeway on US 183 for the northern segments of US 183. The current SDHPT project to upgrade US 183 to a six-lane freeway will not preclude the addition of two more lanes except in one area. The elevated section of US 183 from Peyton Gin Road to IH 35 will not be possible to upgrade. This section would require complete reconstruction for the elevated portion to provide the two additional lanes.

Natural Environment

This proposed amendment entails an increase of right-of-way and specification of the cross-section. It is not expected to significantly change the potential for environmental impacts. This roadway has been recommended for designation as an alternate route for transport of hazardous materials upon completion of the upgrade to a freeway. Portions of this roadway should be designated as traversing an environmentally sensitive area (Edwards aquifer recharge zone).

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
US 183	---	----	----	----	----	----	NO CHANGE

Built and Social Environment

Most of US 183 is located in a highly developed urban area. There will be significant impact on the built and social environment from the improvement project underway to upgrade US 183 to a six-lane limited access freeway. The addition of two lanes to the freeway would have minimal additional impact with the exception of the elevated section between Peyton Gin Road and IH 35.

Fiscal Impact

Total engineering and construction cost is estimated at $196 million. Right-of-way costs would vary from $8 to $16 per square foot. The City of Austin is participating with the State Department of Highways and Public Transportation on the freeway project. US 183 is designated in the Federal-Aid Primary Program which makes it eligible for federal assistance.

2. US 290 WEST/SH 71 EAST

Description

US 290 West is adopted in the AMARP as a six-lane limited access freeway on 300 feet of right-of-way from Arterial #11 to IH 35. SH 71 East is adopted in the AMARP as a six-lane limited access freeway on 300 feet of right-of-way from IH 35 to FM 973. The roadway is shown in Figure 3.

US 290 West is adopted in the ATS Plan as a six-lane freeway from FM 1826 to Loop 1 and an eight-lane freeway from Loop 1 to IH 35. SH 71 East is adopted in the ATS Plan as an eight-lane freeway from IH 35 to Pleasant Valley Road, a six-lane freeway from Pleasant Valley Road to US 183, and a four-lane freeway from US 183 to SH 45.

Improvements to US 290 West and SH 71 East are included in the State Department of Highways and Public Transportation's 4-year Letting Schedule and 5-year Project Development Program. These improvements include a six-lane freeway from FM 1826 to FM 973. The 300 feet of right-of-way adopted in the AMARP is inadequate for this project.

Recommendation

The recommended amendments would increase the right-of-way on US 290 W. and SH 71 E. to 400 feet. The freeway facility would have four to eight main lanes.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
US 290 W.	FM 1826-SH 71W	Fwy	300	2@36	Fwy	400	2@36
	SH 71W-IH 35	Fwy	300	2@36	Fwy	400	2@48 *
SH 71 E.	IH 35-Plsnt Vly	Fwy	300	2@36	Fwy	400	2@48
	Plant Vly-US 183	Fwy	300	2@36	Fwy	400	2@36
	US 183-FM 973	Fwy	300	2@36	Fwy	400	2@24

* East-west travel demand is very heavy in this corridor. Additional capacity between SH 71 W. and Pleasant Valley Road is needed. Additional study of this roadway and parallel facilities is recommended.

Projected Demand

US 290 West and SH 71 East form a major east-west corridor in south Austin. The projected demand along this corridor is very heavy with maximum eastbound, AM peak hour volumes ranging from 3,700 vehicles west of SH 71 W. to 9,400 vehicles between SH 71 W. and IH 35. Maximum westbound, AM peak hour volumes range from 1,800 vehicles west of SH 71 W. to 5,900 vehicles between IH 35 and Pleasant Valley Road. The projected demand between SH 71 W. and Pleasant Valley Road is very heavy requiring 10 freeway lanes.

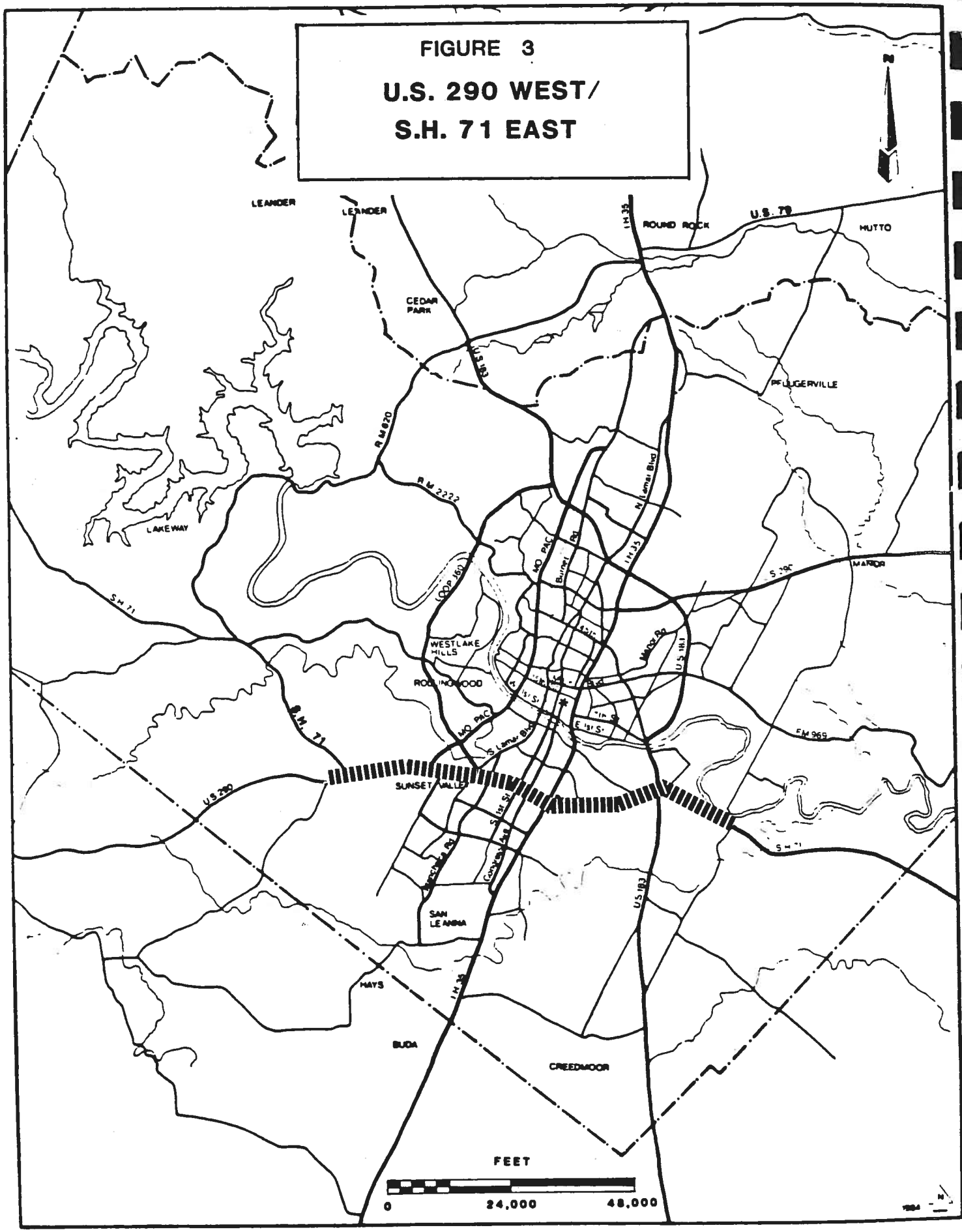


FIGURE 3
U.S. 290 WEST/
S.H. 71 EAST
N
LEANDER
LEANDER
CEDAR PARK
ROUND ROCK
U.S. 79
HUTTO
PFLUGERVILLE
I.H. 35
U.S. 183
R.M. 620
R.M. 2222
LAKEWAY
(LOOP 360)
S.H. 71
WESTLAKE HILLS
ROLLINGWOOD
MO PAC
Burnet Rd
N. Lamar Blvd
Airport Blvd
MANOR
MANOR RD
E. 51st St.
E. 1st St.
S. Lamar Blvd
FM 969
SUNSET VALLEY
U.S. 290
S.H. 71
SAN LEANNA
HAYS
BUDA
CREEDMOOR
FEET
0
24,000
48,000

Design

There are no significant design related issues for this roadway.

Natural Environment

This proposed amendment entails an increase of right-of-way and change of the cross-section. It is not expected to significantly change the potential for environmental impacts with the exception of short-term construction impacts on water resources. Portions of this roadway traverse the Edwards aquifer recharge zone and contributing zone, but since the area is already developed the ground water impact is rated as low to moderate. Short term impacts may result in increased sediment pollution of waterways, including those which recharge the aquifer. Sinkholes along the right-of-way may also be affected by construction. SH 71 east of IH 35 has been recommended for designation as an alternate route for transport of hazardous materials upon completion of the upgrade to a freeway. Portions of this roadway should be designated as traversing an environmentally sensitive area (Edwards aquifer recharge zone).

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
US 290W/SH 71E	LOW - MOD	LOW - MOD	NO CHANGE	NO CHANGE	LOW - MOD	NO CHANGE	LOW

Built and Social Environment

Much of US 290 West and SH 71 East are located in a well developed urban area. There will be significant impact on the built and social environment from the improvement project now underway to upgrade this roadway to a six-lane limited access freeway. Additional ROW is needed in the AMARP to accommodate the freeway project as well as any additional improvements to add travel lanes.

Existing Development:

1) FM 1826 to SH 71 W.: There is minimal development in this area; SDHPT schematics (Dec. 85) show approximately 350′ to 400′ of ROW proposed. Almost all additional ROW is proposed to come from the south side.

2) SH 71 W. to IH 35: From SH 71 W. to Westgate, SDHPT shows approximately 350′of ROW. Scattered commercial and residential development, especially concentrated in the Oak Hill area, will be affected by the freeway. From Westgate to IH 35, there is a heavily developed area with primarily commercial and retail land uses. SDHPT shows proposed 320′-400′ of ROW with the additional amount taken almost entirely from the north side.

3) IH 35 to Pleasant Valley: Commercial and industrial development exists on both sides of SH 71 E. The SDHPT schematic proposed 320′-400′ of ROW with almost all additional taken from the south side.

4) Pleasant Valley to US 183: Some commercial and industrial development exists at Pleasant Valley Road as well as mobile home parks and sales. SDHPT shows 350′ of ROW.

5) US 183 to FM 973: Development at Del Valle/Bergstrom will be affected by the current SDHPT freeway projeect. SDHPT shows 300′ to 370′ of ROW with all additional from the north at Bergstrom transitioning to all from the south at FM 973.

Subdivision Activity:

1) FM 1826 to SH 71 W.: Only two new subdivisions have been submitted recently, the Pinnacle, C8-84-191, and Wedgewood C8-67-32.02(85). These approved preliminaries show 150′ for ROW from existing centerline on the south side.

2) SH 71 W. to IH 35: Barton Ridge, C8-84-161, has a recorded plat west of US 290 at Westgate. The development provides a building setback to provide for future ROW on US 290 as per SDHPT schematics. From Westgate to IH 35, frontage is basically fully developed.

3) Pleasant Valley to US 183: Metro Center, C8-84-122, has an approved preliminary which shows 150′ for ROW from the existing centerline to be dedicated. TM Commercial, C8-84-140.1, has an approved final with no new ROW dedicated.

4) US 183 to FM 973: Bergstrom Center, C8-85-148, has an approved preliminary which proposes to dedicate ROW and/or set building line in accordance with SDHPT schematics.

Fiscal Impact

Total engineering and construction costs for US 290 West are estimated at $220 million. Right-of-way costs are estimated at $8 to $16 per square foot.

Total engineering and construction costs for SH 71 East are estimated at $21.5 million with a range of $10 to $16 per square foot for right-of-way.

US 290 West and SH 71 East are designated in the Federal-Aid Primary Program which make them eligible for Federal assistance.

3. SH 45

Description

SH 45 (The Outer Loop) is a proposed limited access facility that would begin at IH 35 near Round Rock, loop around to the east of Austin and intersect IH 35 again just north of the Hays County line. From this point the route would proceed back north by looping to the west of Austin and would tie back into the point of origin for a total distance of approximately 83 miles. Minute Order No. 83158 designated this loop roadway as SH 45 and was approved by the State Department of Highways and Public Transportation Highway Commission on May 22, 1985. SH 45 and the four study segments are shown in Figure 4.

SH 45 is adopted in the ATS Plan as a six-lane freeway from IH 35 to West Pfluger Lane, a four-lane freeway from West Pfluger Lane to Thaxton Road, a six-lane freeway from Thaxton Road to IH 35, a six-lane parkway from IH 35 to Loop 1, a four-lane parkway from Loop 1 to RM 620, a six-lane freeway from Quinlan Park Road to US 183, and an eight-lane freeway from US 183 to IH 35.

Recommendation

The recommended amdendment would provide for a limited access facility around the city to connect major travel corridors. The route would utilize MoKan and US 183 as the eastern portion of the loop. SH 45 would pick up at FM 1625, extend to FM 1327 and then remain on the SH 45 alignment until it intersects MoKan again in the north. The recommended facility would be a parkway in the southwest and freeway elsewhere.

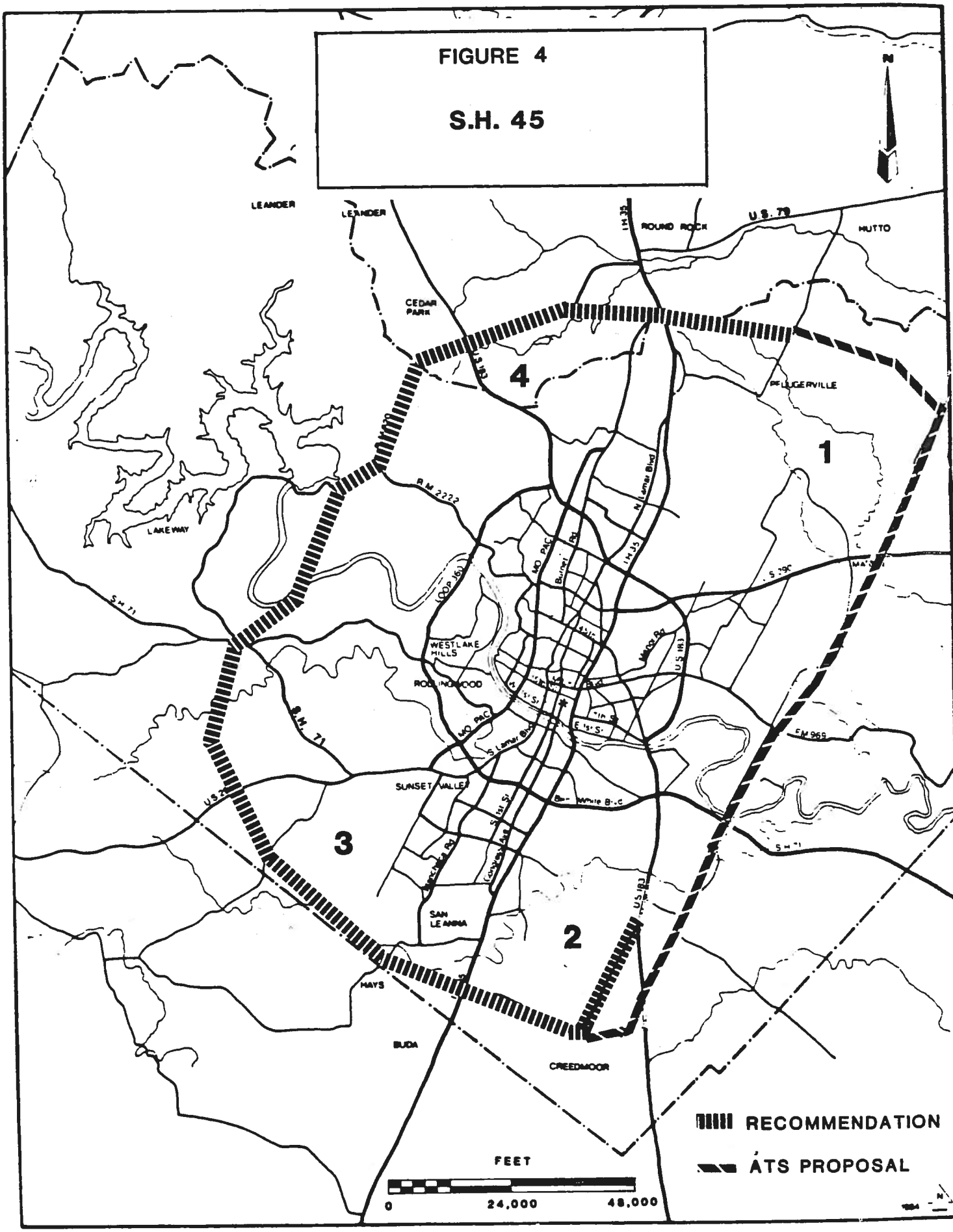


FIGURE 4
S.H. 45
N
LEANDER
LEANDER
ROUND ROCK
U.S. 79
HUTTO
CEDAR PARK
4
PFLUGERVILLE
1
R.M. 2222
LAKEWAY
LOOP 1(IH)
MO. PAC
Burnet
N. Lamar Blvd
IH 35
S. 79C
MANOR
S.H. 71
WESTLAKE HILLS
ROLLINGWOOD
MANOR RD
U.S. 183
E. 1st St.
E. 7th St.
MO. PAC
S. Lamar Blvd
FM 969
SUNSET VALLEY
White B.C.
U.S. 290
S.H. 71
3
S. 1st St.
Barton Blvd
Congress Ave
SAN LEANNA
2
U.S. 183
HAYS
BUDA
CREEDMOOR
RECOMMENDATION
ÁTS PROPOSAL
FEET
0
24,000
48,000

ROADWAY	LIMITS	ADOPTED AMARP CLASS	ROW	PVMT.	RECOMMENDED CLASS	ROW	PVMT.
SH 45							
Seg. 1 (NE)	IH 35-Mokan	---	---	---	Fwy	400	2@24
Seg. 2 (SE)							
FM 1625	US 183-FM 1327	Major	100	44	Fwy	400	2@24
FM 1327	FM 1625-Thaxton	Major	100	2@24	Fwy	400	2@24
	Thaxton-IH 35	Major	100	2@24	Fwy	400	2@24
Seg. 3 (SW)							
Art. #11	IH 35-US 290	Major	150	2@36	Pky	400	2@24
	US 290-RM 620	---	---	---	Pky	400	2@24
Seg. 4 (NW)							
RM 620	Quinlan Pk Rd-RM 2222	Pky	300	2@24	Fwy	400	2@24
	RM 2222-US 183	Fwy	350	2@36	Fwy	400	2@36
	US 183-Howard	Major	250	2@36	Fwy	400	2@36
	Howard-IH 35	---	---	---	Fwy	400	2@36

*A Collector Street Plan and an Interim Access Management Plan are recommended for parkway sections.

The 400 feet of right-of-way on parkway sections includes 100 feet of scenic easements and buffer.

Related amendments include the deletion of Arterial #11 and changes to Quinlan Park Road, RM 620, FM 1625, Pfluger Lane and FM 1327.

Projected Demand

The projected demand on the Outer Loop varies substantially by the four segments. Given the long length of the Outer Loop (83 miles), the need for each segment of the roadway was analyzed separately in addition to considering the roadway's function within the continuity of Austin's roadway system.

Segment 1 (NE)

The projected demand for the northeast segment of SH 45 is low and does not support a limited access facility. FM 973 is currently adopted as a six-lane divided major arterial which can adequately handle the projected demand. Mokan and US 183 also serve as parallel limited access

facilities. The northbound, AM peak hour demand on FM 973 ranges from 1200 vehicles between SH 71 and FM 969, and 600 vehicles north of FM 969. The maximum southbound demand on FM 973 is 700 vehicles in the AM peak hour.

Segment 2 (SE)

The projected demand on the southeast segment of the proposed SH 45 (0.7 miles south of SH 71 E. to Thaxton Road) is low and does not support a limited access facility. The maximum, northbound, AM peak hour demand is 900 vehicles. The maximum, southbound, AM peak hour demand is 500 vehicles. US 183 serves as a parallel limited access facility.

The projected, AM peak hour demand on the proposed SH 45 between IH 35 and Thaxton Road is 1500 vehicles in both directions.

Segment 3 (SW)

The projected, maximum, northbound demand between IH 35 and SH 71 is 2800 vehicles in the AM peak hour. The maximum southbound demand between IH 35 and SH 71 is 3000 vehicles.

The projected, maximum, northbound, AM peak hour demand on SH 45 between SH 71 and RM 620 is 2700 vehicles. The projected, maximum, southbound, AM peak hour demand on SH 45 between SH 71 and RM 620 is 3900 vehicles. Approximately 2800 northbound vehicles, and 2600 southbound vehicles, will cross the Colorado river on SH 45.

Analysis indicates the RM 620 does not serve as an alternate route to the Quinlan Park Road segment of SH 45. If the Quinlan Park Road segment is not constructed, the preferred route is RM 2222. Approximately 1500 additional vehicles would be added to RM 2222 between SH 45 and Loop 360. An additional two lanes on RM 2222 would be required to serve the increased demand, consequently RM 2222 would be a ten-lane parkway in this segment.

A four-lane parkway from IH 35 to RM 620 is judged to be able to adequately handle the projected volume.

Segment 4 (NW)

The projected, maximum, northbound, AM peak hour demand on SH 45 between RM 620 and IH 35 is 3700 vehicles. The projected, maximum, southbound, AM peak hour demand is 3400 vehicles.

A four-lane freeway between Quinlan Park Road and RM 2222, and a six-lane freeway between RM 2222 and IH 35, would serve the projected demand.

Design

The entire eastern segment of SH 45, as modeled along the proposed SDHPT alignment, did not evidence sufficient travel demand based on the assumed forecast to merit the inclusion of this segment into the AMARP. The lack

of travel demand may be attributed to the inability of the proposed alignment to perform the two basic "loop" functions; provide a bypass route for inter-regional highways and/or perform a trip interchange function for local and regional traffic. The distance from the central city and the absence of significant forecasted concentrations of land uses north and east of SH 45 preclude the ability of the roadway to serve the trip interchange function. The bypass function is minimized by the presence of Mokan Boulevard which satisfies the travel demand for the bypass movement. The "loop" function for the eastern Austin area can be provided by Mokan Boulevard/US 183 and SH 45 along the present alignments of FM 1625 and FM 1327.

The southwestern segment (SH 71W to IH 35) is recommended by staff to be constructed as a four lane parkway. The travel demand along this this roadway segment could be satisfied by a four lane divided arterial, however there are several advantages to proceeding with the parkway design.

The primary advantage is one of system continuity by maintaining a consistent design for the length of the roadway. The parkway design will allow higher average speeds, eliminate the delays encountered at signalized arterial intersections, reduce the potential for accidents due to the absence of driveway connections, and provide a better level of driver comfort than could by afforded by an arterial design. This segment of SH 45 will also serve a bypass function by allowing trip interchanges between IH-35 and SH 71 along another limited access facility. The implementation of the parkway design will require a collector plan and an interim access management plan to preserve the integrity of the parkway designation.

Natural Environment

This proposed amendment was evaluated in four separate segments, as delineated by the State Department of Highways and Public Transportation (SDHPT) for their environmental impact studies. The proposed route for SH 45 consists of alternate alignments in several locations, and a comparison of alternates was conducted where the difference is significant in terms of environmental implications.

SH 45 will be constructed in phases as development pressures increase the vicinity of each segment. This increased development intensity may increase impacts on sensitive resources, particularly at major intersections. These impacts are in addition to, and may exacerbate, the direct roadway impacts described below for the various segments.

If adopted into AMARP, portions of this roadway should be designated as traversing an environmentally sensitive area. Environmental impacts of portions of the Outer Loop (particularly Segment 3) may be severe, both in the long and short term. The SDHPT will be preparing full environmental impact reports on all four segments. These studies will assess potential impacts in detail and evaluate measures to mitigate impacts. DEP will be working with the SDHPT to develop measures to mitigate adverse impacts of roadway construction.

Segment 1 (NE):

This segment, extending from about 1 mile east of IH 35 North to about 0.7 mile south of SH 71 East, has a high potential for impacts on surface water resources, as it involves several major stream crossings, including Willbarger, Gilleland, Decker, Elm, and Onion Creeks and the Colorado River. This segment entails a total of 9 major and 24 minor stream crossings for the eastern alternative route and 10 major and 24 and 18 minor stream crossings for the western alternate routes. The crossing of Onion Creek on both routes is particularly adverse due to a steep bluff which occurs at the crossing. Segment 1 traverses a significant portion of the recharge zone of the Alluvial and Terrace aquifer, and several of the streams crossed by this segment recharge this aquifer.

Segment 1 traverses a significant area of priority riparian woodland habitat near Onion Creek and the Colorado River, as well as at other stream crossings. A total of 4700 feet of priority habitats are traversed by the eastern alternative routes and 6900 feet by the western alternative route. The eastern alternate route traverses about 4500 feet of other significant woodlands. The western alternative route traverses about 14,800 feet. One of the highest priority grasslands (native prairie habitat) in the Austin area occurs at the northeast corner of the proposed intersection of SH 45 and SH 130 (Mokan). Protection of this important habitat is recommended in the discussion of impacts for SH 130. No known rare or endangered species occur along the proposed alignment for Segment 1, but rare plant species are known to occur in the general area, including the priority grassland mentioned above.

There is a moderate to high probability that Segment 1 may encounter Critical Environmental Features (wetlands and possibly springs). The western alternate route traverses the lower portion of a wetland which has formed along a waterway that receives releases from the Lake Long dam, but the site specific characteristics at that exact location are not known. Other, smaller wetlands may be encountered at stream crossings elsewhere along the route.

Just south of the Colorado River, the proposed right-of-way passes within 400 feet of the City of Austin Onion Creek Nature Preserve. A major roadway such as this in such close proximity to a nature preserve can be expected to have adverse noise impacts on the natural character of the preserve. The City should attempt to persuade the SDHPT to adjust the route to provide a minimum of one-half mile buffer between the preserve and SH 45.

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
SH 45 Seg. 1	HIGH	HIGH	MOD-HIGH	LOW-MOD	MOD	TBD	MOD-HIGH

Segment 2 (SE):

Segment 2 extends from 0.7 mile south of SH 71 East to about 1 mile east of IH 35 South. This segment would entail 4 major stream crossings (1 crossing of Rinard Creek and 3 of Dry Creek). In addition it would entail at least 7 and 8 minor stream crossings respectively, for the eastern and western alternate routes. This segment traverses approximately 10,000 feet of the recharge zone for the Alluvial and Terrace aquifer.

Segment 2 traverses approximately 3500 feet of priority habitat, including a tract of priority grassland and a portion of the riparian woodland along Onion Creek. The potential for impacts on rare and endangered species and Critical Environmental Features is relatively low, although small areas of wetlands may be encountered at stream crossings.

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
SH 45 Seg. 2	HIGH	MOD	MOD	LOW	LOW	TBD	LOW-MOD

Segment 3 (SW):

This segment has the greatest overall potential for impacts of the entire SH 45 project, as portions of it traverse the Edwards aquifer recharge zone, Lake Austin, and large expanses of undeveloped land. Segment 3 entails 9 major stream crossings, including Barton Creek and the Colorado River at Lake Austin. In addition, 10 minor streams are crossed by the eastern alternate route and 13 minor crossings are encountered by the western alternate route. Many of these streams contribute runoff to the Edwards aquifer recharge zone. The crossing of Lake Austin is particularly adverse due to very steep topography. Segment 3 spans the Edwards aquifer recharge zone and contributing zone for much of its length.

Construction of Segment 3 would entail substantial loss of native habitat. The eastern alternate would traverse about 32,700 feet of priority woodlands and 37,600 feet of other significant woodlands. The western alternate would traverse about 30,900 feet of priority woodlands and 41,800 feet of other significant woodlands. Much of the priority woodland in this area is known to be breeding habitat for the Golden-cheeked Warbler. Activities within the right-of-way would impact approximately 30 nesting pairs of Golden-cheeked warblers, assuming 300 feet of right-of-way for Segment 3. In addition, the Black-capped vireo is known to occur within the proposed route of Segment 3. The SDHPT is currently conducting detailed field studies of the Black-capped Vireo along SH 45. The exact number that will be impacted is not known at this time, but it is

inevitable that breeding territories for a minimum of several pairs will be lost if Segment 3 is built. Based on available information, Segment 3 will impact several Critical Environmental Features, including springs, steep bluffs and rimrocks, and groundwater recharge features (caves and sinkholes).

In order to minimize impacts of roadway construction and potential land use changes associated with the roadway, this section of SH 45, if built, should be designed as a limited access parkway facility with no frontage roads. Provision of 400 feet of right-of-way should facilitate preservation of some habitat if disturbance from construction and the pavement section is kept to a minimum. In some areas of Segment 3 additional easements (beyond the 400 feet) may be appropriate to preserve habitat for endangered species. Such preservation may be warranted to compensate for unavoidable loss of habitat from roadway construction. Actual losses of breeding territory for the Black-capped Vireo and Golden-cheeked Warbler should be determined based on site specific surveys of the roadway alignment.

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
SH 45 Seg. 3	HIGH	HIGH	HIGH	HIGH	HIGH	TBD	HIGH

Segment 4 (NW):

The impact potential for Segment 4 is not as severe as Segment 3, largely because it utilizes existing RM 620 for most of the route. Expansion of the roadway cross-section will not significantly increase the potential for impacts on surface water, but since the route traverses the Edwards aquifer recharge zone the potential for significant impacts on groundwater will be increased.

Segment 4 will have a significant impact on the Black-capped Vireo, and there is potential for impacts on some extremely rare cave fauna which occur in some specific caves in the Four Points area. For some of these species of cave invertebrates, this may be the only location in the world where they exist. In addition, new or expanded construction along the RM 620 route will likely impact some springs and groundwater recharge features (caves).

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
SH 45 Seg. 4	MOD	HIGH	LOW	HIGH	HIGH	TBD	MOD-HIGH

Social and Built Environment

SH 45 would provide an extensive limited access loop around the Austin area. Much of the land that the proposed roadway would traverse is undeveloped farm and ranch land. While the Outer Loop would provide better access in these rural areas, it may also change the character of the area by splitting properties with major roadways. The imact on prime agricultural land is a concern particularly to land owners in the northeast.

Subdivision Activity:

Segment 1 (NE)

Churchill Estates and High Country I and II show the alignment of the Outer Loop but do not dedicate right-of-way. Decker Creek MUD has an approved Land Use Plan that shows 400' of right-of-way for the Outer Loop.

Segment 2 (SE)

Moore's Crossing MUD Land Use Plan is pending final approval. It does not show the Outer Loop. No subdivisions, however, have been submitted from the MUD.

Segment 3 (SW)

The previously approved preliminary plan for the Shavano Woods subdivision did not show any right-of-way for the Outer Parkway. However, the recently submitted land plan for the Bear Creek MUD that supersedes the subdivision does provide right-of-way for the Outer Parkway through the middle of the tract. The applicant has been advised that the indicated alignment does not have the final approval of the State Department of Highways and Public Transportation, but that the right-of-way can be shown on the land plan, and dedicated during the subdivision process, pending State approval. If the alignment is not approved, then only 150 feet of right-of-way for Arterial #11 would be retained.

Circle C, Phase C, has an approved preliminary showing 300 feet of right-of-way along the alignment of Arterial #11. Bohl's Ranch is a proposed but unapproved preliminary that is opposite Quinlan Park Road. This preliminary does not show the Outer Loop, although the applicant is aware of the state's plans for the Outer Loop.

Gill Ranch (C8-86-21) is an unapproved preliminary that does not show right-of-way for the Outer Parkway. Rio Vista has an approved preliminary that is held in force indefinitely by a final plat along a small section of Quinlan Park Road. This subdivision dedicated 40 feet of right-of-way from the centerline along Quinlan Park Road. If the Outer Loop becomes an AMARP amendment, additional right-of-way would be needed.

Steiner Ranch is proposing 120' ROW along Quinlan Park Road, but does not dedicate the full right-of-way needed for the Outer Loop.

Segment 4 (NW)

There are several subdivisions bordering on RM 620 which have dedicated right-of-way in accordance with the AMARP. Additional right-of-way might be required along RM 620 if the Outer Loop is adopted.

Fiscal Impact

There are a variety of costs associated with SH 45. By accepting Minute Order No. 83158, Travis and Williamson Counties agreed to furnish to the State all required right-of-way as well as complete all necessary utility adjustments for the construction. The right-of-way required for the freeway sections would be 400 feet. The right-of-way required for the parkway sections would be 300 feet plus an additional 100 feet of easements. The SDHPT has estimated the total right-of-way for SH 45 to cost approximately $171 million if all of the right-of-way had to be purchased.

There are three approved county road districts that are involved with segments of SH 45. They are Southwest Williamson County Road District No. 1, Southwest Williamson County Road District No. 3, and Northeast Travis County Road District No. 3.

The estimated total construction cost for SH 45 is approximately $595 million. The estimated construction costs for each segment are as follows:

Northeast:	$175,000,000
Southeast:	$ 80,900,000
Southwest:	$184,700,000
Northwest:	$155,000,000
TOTAL	$595,600,000

SH 45 is designated on the Federal-Aid Primary Program which makes this project eligible for Federal assistance.

4. RM 620

Description

RM 620 is adopted in the AMARP as a five-lane undivided major arterial on 150 feet of right-of-way from Quinlan Park Road to SH 71. The roadway is adopted as a four-lane divided major arterial (with a comparable capacity) in the ATS Plan. RM 620 is shown in Figure 5.

The State Department of Highways and Public Transportation has an improvement project to upgrade RM 620 to five lanes included in their one-year and four-year letting schedule.

Recommendation

The recommendation is to make no change to the AMARP.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
RM 620	Quinlan Pk-SH 71	Major	150	60	No Change*		

* Paved shoulders for bicyclists. Environmentally sensitive notation.

Projected Demand

RM 620 is a rural roadway that serves the Lake Travis area. The maximum projected AM peak hour volumes are 1,300 northbound and 1,400 southbound.

Design

The design and construction of RM 620 currently under contract by the State Department of Highways and Public Transportation will eliminate the existing design deficiencies and safety problems, and increase the roadway capacity.

Natural Environment

This proposed amendment entails a change of right-of-way and cross-section and is not expected to significantly change the potential for environmental impacts. The most significant impacts associated with this roadway will result from the SDHPT widening project, which is undergoing final environmental analysis at this time. This roadway should be designated as traversing an environmentally sensitive area (rare/endangered species habitat).

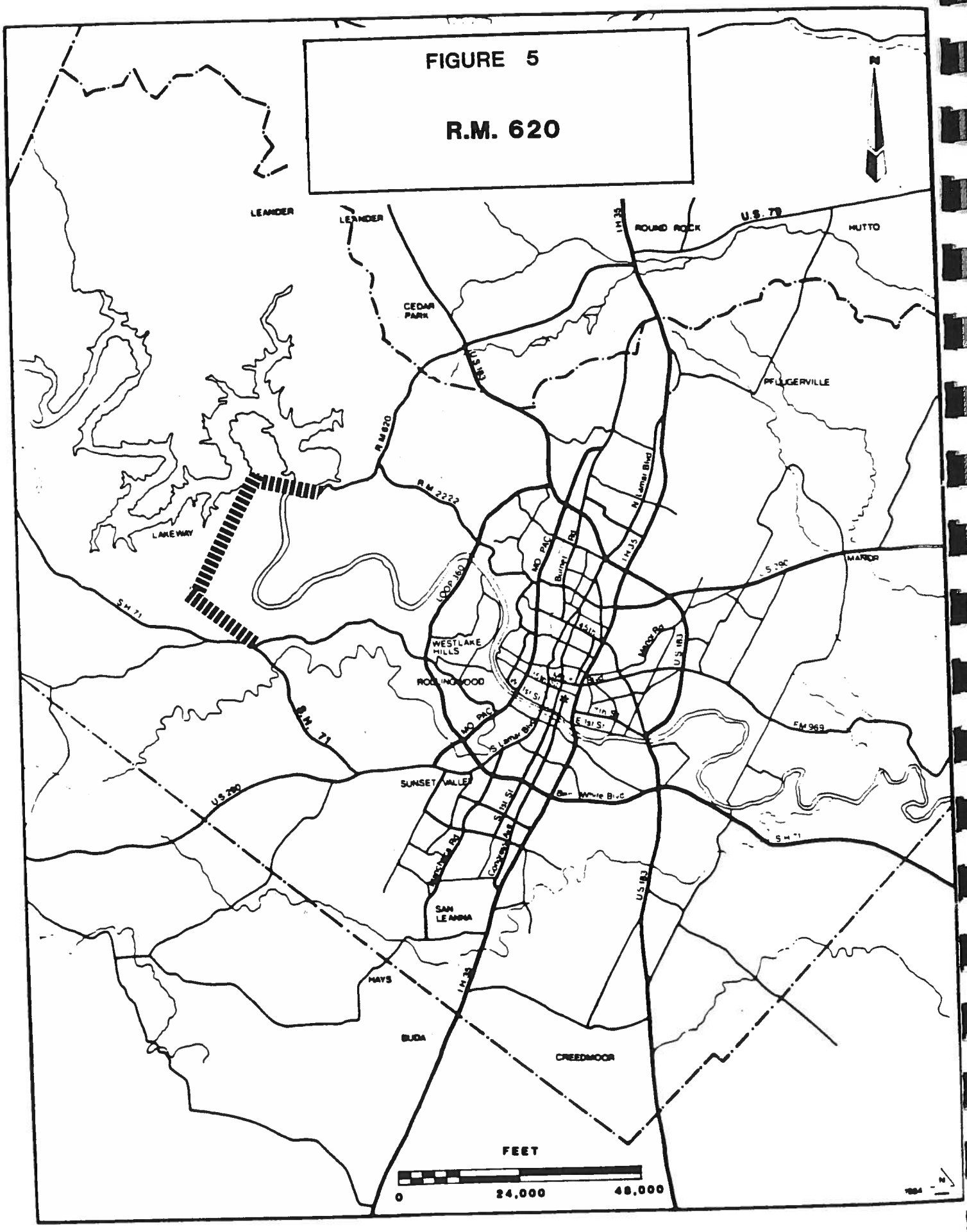


FIGURE 5
R.M. 620
N
LEANDER
LEANDER
CEDAR PARK
ROUND ROCK
U.S. 79
HUTTO
PFLUGERVILLE
R.M. 620
R.M. 2222
LAKEWAY
LOOP 360
S.H. 71
WESTLAKE HILLS
ROLLINGWOOD
MO PAC
Burnet Rd
N. Lamar Blvd
MARBR
S. 290
Lamar Blvd
U.S. 183
1st St.
E. 1st St.
S. Lamar Blvd
FM 969
R.M. 71
SUNSET VALLEY
U.S. 290
Ben White Blvd
S.H. 71
SAN LEANNA
HAYS
I.H. 35
BUDA
CREEDMOOR
FEET
0
24,000
48,000
1984

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
RM 620	----	----	----	----	----	----	NO CHANGE

Built and Social Environment

Existing Development: Several small commercial developments exist along this roadway.

Subdivision Activity: For information, the City's subdivision and zoning maps show that almost the entire frontage of RM 620 in this area has approved development plans, has development plans submitted, or is already developed. (Much more is proposed than existing). Developments that are approved or currently in the subdivision and/or zoning approval process include, from Quinlan Park (proposed SH 45) to SH 71: The Horizon, Steiner Ranch, Premier Point 1 and 2, Lakewind, Cardinal Hills, Travis Views, Lake Travis Gnomon Tract, Round Mountain, Lakeway, Schramm Ranch, Lakeland Park, etc. (Many of these were originally submitted 1 to 2 years ago and haven't been very "active" lately.)

The existing ROW is 100' in this area so the effect of this expansion on existing/proposed development would be minimal, except in areas where realignment or straightening may be necessary. Some of the proposed developments have dedicated ROW or proposed to accommodate future ROW where the SDHPT plans do show some realignment.

Fiscal Impact

The estimated total engineering and construction cost for the proposed ATS project is $45.3 million. Right-of-way costs in this area are estimated at $4 per square foot.

RM 620 is designated in the Federal-Aid Secondary System Program which makes it eligible for Federal assistance.

5. SH 71 WEST

Description

SH 71 West is adopted in the AMARP as a four-lane undivided major arterial on 100-200 feet of existing right-of-way from US 290 to RM 620. SH 71 West provides a primary travel corridor from the Hill Country and Highland Lakes region into South Austin. It intersects US 290 forming the "Y" at Oak Hill. SH 71 is shown in Figure 6.

SH 71 West is adopted in the ATS Plan as a six-lane expressway (grade separations at major intersections) from US 290 to SH 45 and a four-lane major undivided arterial from SH 45 to the study boundary.

Recommendation

The recommended amendment would upgrade SH 71 West to a six-lane expressway between US 290 and RM 620 and a four-lane divided arterial west of RM 620 to the ETJ.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
SH 71 W.	US 290-RM 620	Exy	100/200	48	Exy	200	2@36*
	RM 620-ETJ	Major	---	--	Major	150	2@24*

* Paved shoulders are recommended for bicycle access.

Projected Demand

SH 71 West provides an important connection between the proposed SH 45 and US 290. Approximately 4,600 vehicles are projected to use eastbound SH 71 West between SH 45 and US 290 during the AM peak hour, and 2,000 vehicles are projected to use the westbound lanes.

The projected travel demand between RM 620 to the ETJ boundary is low, however, much of the future traffic on SH 71 West would have origins or destinations external to the study area, for which estimates of traffic are not available.

Design

The result of the modeling indicates that a four-lane undivided roadway will accomodate the projected travel demand west of RM 620. A safer alternative to this design would be a four-lane divided roadway. The 55 mph speed limit and the lack of turn lanes provides the potential for serious rear-end collisions due to the speed differential between the turning vehicles and the through traffic aproaching from behind. The 4-lane divided design would eliminate the hazards associated with left movements from SH 71 by offering a sheltered lane for the turning vehicles and encouraging better access management.

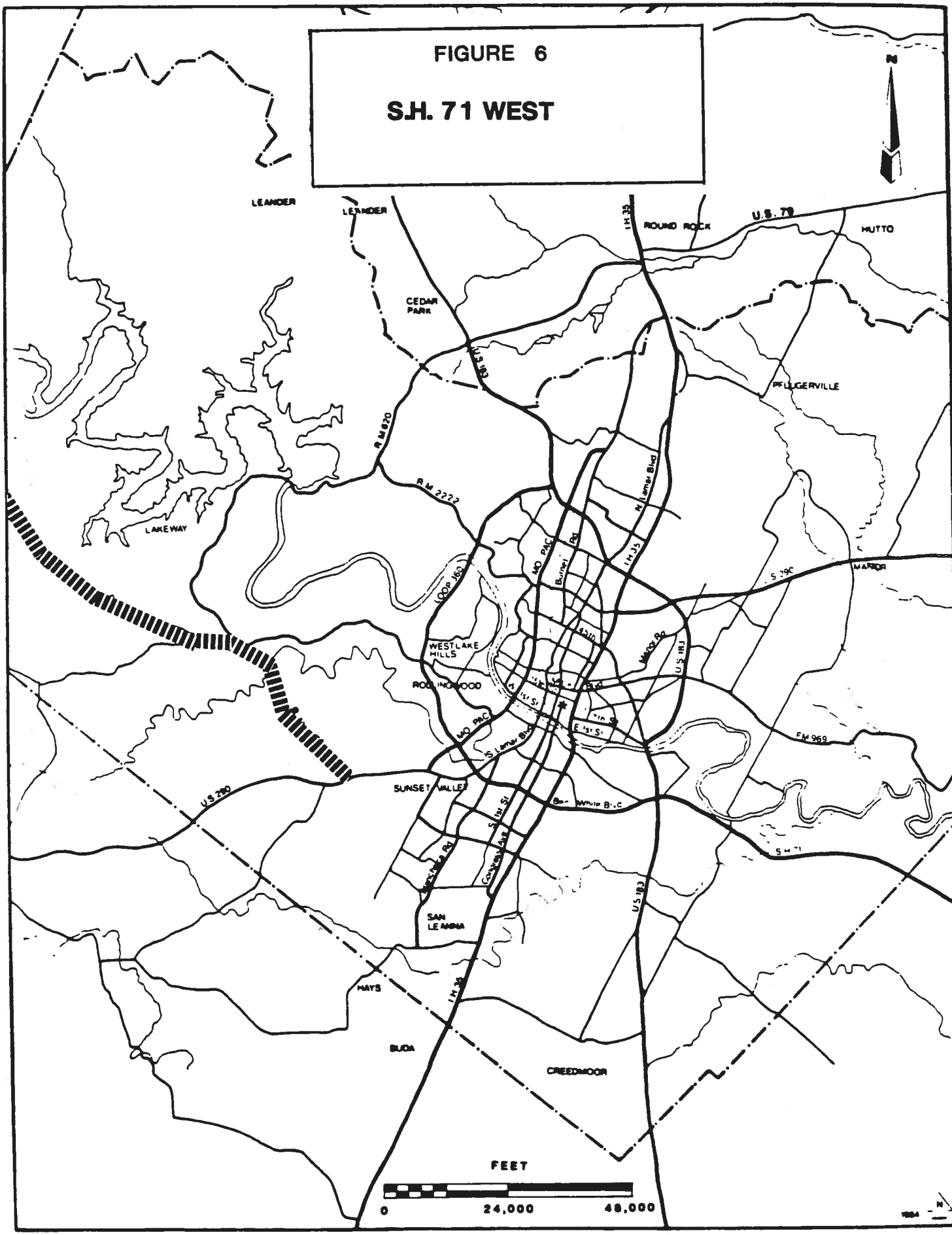


FIGURE 6
S.H. 71 WEST
LEANDER
CEDAR PARK
ROUND ROCK
U.S. 79
HUTTO
PFLUGERVILLE
LAKEWAY
R.M. 620
R.M. 2222
WESTLAKE HILLS
ROLLINGWOOD
SUNSET VALLEY
SAN LEANNA
HAYS
BUDA
CREEDMOOR
MANOR
FM 969
US 290
S.H. 71
I.H. 35
US 183
MO. PAC.
N. Lamar Blvd
S. Lamar Blvd
Manor Rd
E. 51st St.
E. 1st St.
S. 1st St.
Barton Blvd
Convict Hill Rd
FEET
0
24,000
48,000
N

Natural Environment

This proposed amendment entails an increase of right-of-way and a change in the cross-section. It is not expected to significantly change the potential for environmental impacts, except for relatively minor increases in the potential for impacts on surface water, native habitat, and the Black-capped Vireo. However, widening of the bridge at Barton Creek may involve more severe short term impacts from construction and longer term water quality impacts from increased roadway drainage. Therefore, consideration of special design criteria for the bridge spanning Barton Creek is recommended.

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
SH 71 W.	LOW-MOD	NO CHANGE	LOW	LOW	NO CHANGE	TBD	LOW

Built and Social Environment

The primary impact of improvements to SH 71 West would be near the "Y" in Oak Hill where several commercial and retail centers exist. A grade separated interchange at US 290 is included in the SDHPT US 290 freeway project.

Subdivision Activity: There is minimal subdivision activity west of RM 620. The area is sparsely developed with scattered commercial and residential land uses. There will be minimal impact in this section. Approved preliminary, near US 290, Long Mountain subdivision, C8-86-88. Also, in the process for preliminary approval: Cedar Bluff Research Park, Sweetwater Ranch, The Uplands, Fox Creek, Gill Ranch.

Existing Development: Sparsely developed (commercial and residential) along this section, mostly at intersections, except near the "Y" where there is heavy commercial development.

The existing ROW from US 290 to RR 620 is already 150′ (160′ in some places), so the impact on development, proposed and existing should be minimal in most areas. There will be an impact on existing development at the "Y" due to the interchange with US 290. Interchanges at other intersections, such as RM 2244 and RR 620, would also affect existing or proposed development with the additional ROW needed.

Fiscal Impact

The estimated total engineering and construction cost for this project is $21.4 million. Right-of-way costs in this area range from $4 to $5 per square foot.

S.H 71 is designated on the Federal-Aid Primary Program which makes it eligible for Federal assistance.

6. SH 130/MOKAN BOULEVARD

Description

SH 130 is adopted in the AMARP as a six-lane parkway between US 183 and Springdale Road and between Parmer Lane and the Williamson County line. A freeway with frontage roads is adopted between Springdale Road and Parmer Lane and between the Williamson County line and the Austin ETJ boundary. SH 130 is shown in Figure 7.

SH 130 is adopted in the ATS Plan as a six-lane freeway from Georgetown to US 183.

Recommendation

No changes are recommended to the AMARP.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
SH 130	Wlmson Cty Line-	Pky					
	Parmer Lane		300	2@36	Fwy		No Change
	Parmer-Spgdale	Fwy	400	2@36	Fwy		No Change
	Spgdale-US 183	Pky	300	2@36	Fwy		No Change*

*Tentative alignment subject to further study.

A Collector Street Plan and Interim Access Management Plan are recommended for parkway sections. Add environmentally sensitive notation.

Projected Demand

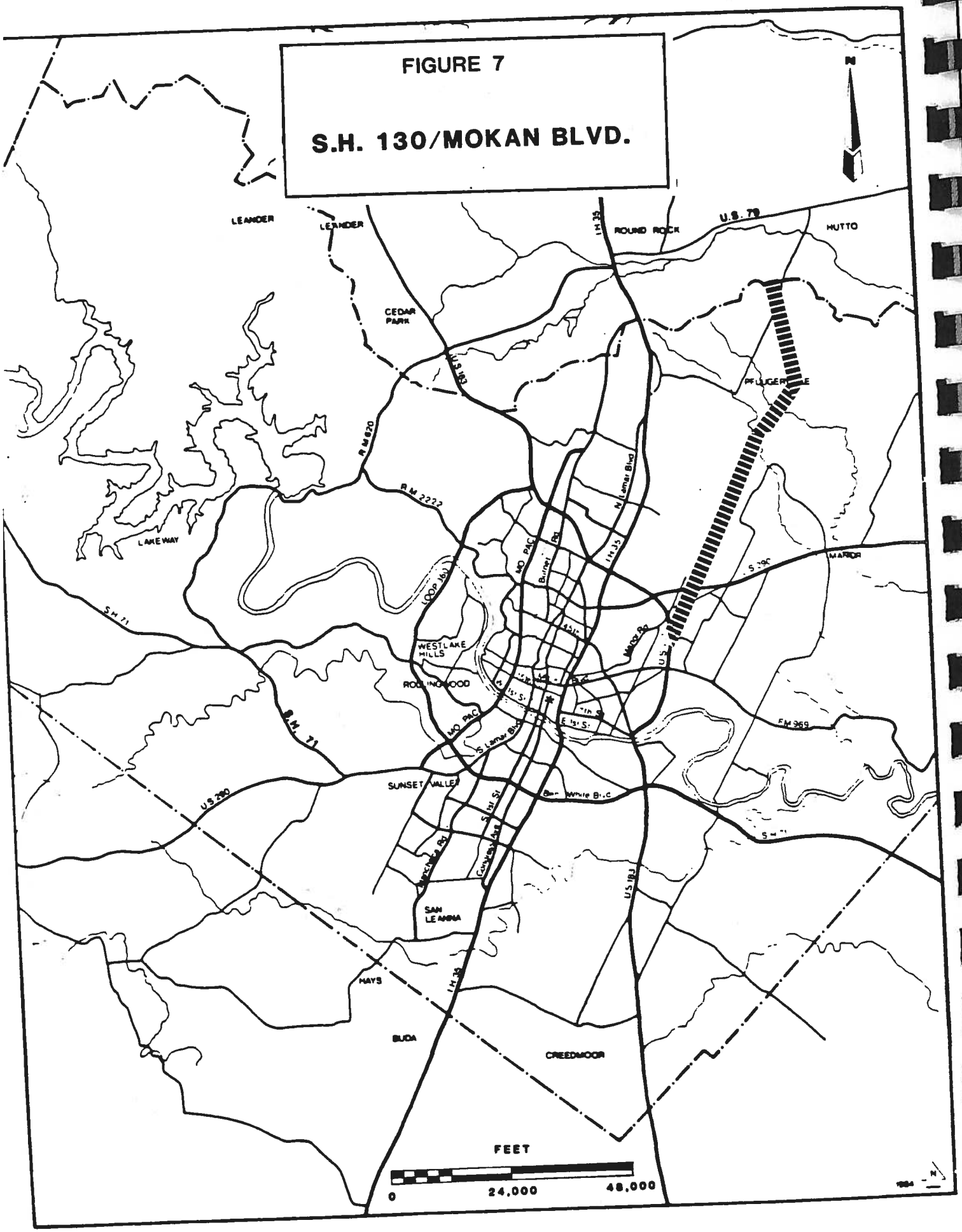
SH 130 will provide a major north-south corridor parallel to IH 35 on the east. The projected northbound, AM peak hour volumes demand ranges from 3,100 vehicles, north of Parmer Lane, to 3,700 vehicles, between US 183 and Springdale Road. The projected southbound, AM peak hour demand ranges from 5,000 vehicles, north of Parmer Lane, to 5,800 vehicles, between US 183 and Springdale Road. A six-lane parkway/freeway, as adopted in the AMARP, is adequate.

Design

The two design issues are freeway versus parkway and the southern portion of the alignment of the facility to provide access to the CBD. The Austin Metropolitan Area Roadway Plan shows MoKan as a parkway for the majority of its length with one small segment shown as a "scenic freeway". The question of freeway or parkway is merely a question of the need for access.

FIGURE 7

S.H. 130/MOKAN BLVD.



Areas where development activity has yet to occur are candidates for the parkway designation. The future access to the adjacent tract may be adequately accommodated through collector streets parallel to the parkway. The provision of an organized collector plan and an interim access management plan are essential to the successful implementation of a parkway design.

The issue of alignment has not been thoroughly addressed, especially for the southern portion of MoKan and its point of termination. The results of the modeling suggest that the preferred travel path to US 290 and US 183 is along the present alignment of Springdale Road. These initial results point out Springdale Road as one logical terminus of Mokan. The purpose of MoKan was to provide an alternative route to IH 35 into the CBD. The present terminus at US 183/51st Street has some serious environmental problems and does not adequately provide for the continuation of CBD bound trips. Alternative alignments which have been discussed (SP rail ROW) present other design problems. The upgrading of Springdale Road south of US 290 to six lanes may be an attractive solution to the MoKan/CBD access problem. Further study of alignments is necessary.

Natural Environment

This proposed amendment entails an increase of right-of-way and change of the function (parkway to freeway). This would primarily affect the potential for impacts on native habitat. This includes potential impacts on the highest priority grassland in the Austin area, known as the Mokan Prairie, just northeast of the intersection of MoKan and SH 45. This native grassland has been subdivided into several large (five acre) residential lots, and, recognizing its value, the homeowners have maintained it in an undisturbed condition. If possible, this site should be acquired for preservation to partially mitigate the cumulative impacts of this freeway and SH 45 which will run just to the south of the Mokan Prairie. Impacts on this important habitat could be exacerbated by a change in SH 130 from a parkway to a freeway with frontage roads. The frontage roads would facilitate more intense development directly along the roadway corridor, which includes the Mokan Prairie.

Other areas of environmental concern, not directly related to the proposed amendment, involve the constraints associated with the floodplain and meander belt of Walnut Creek south of Hwy 290 East. An important riparian woodland, including the Walnut Creek Nature Preserve occur adjacent to the alignment in this area. A detailed alignment study for SH 130 should consider adjusting the alignment to minimize impacts on the woodlands and the Nature Preserve. Portions of this roadway should be designated as traversing an environmentally sensitive area (important native habitat).

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
SH 130	NO CHANGE	NO CHANGE	MOD	LOW	NO CHANGE	NO CHANGE	LOW

Built and Social Environment

Subdivision Activity: The Jourdan Crossing subdivision (approved preliminary, C8-85-98) showed proposed Mokan as a scenic freeway with 300'-500' ROW with scenic easements/building setbacks in some areas. Meadows at Springbrook, C8-87-010, a preliminary plan in process, is proposing to dedicate ROW for Mokan in the area of Meister Ln/Walk Ln. (north). The alignment shown (400' proposed ROW) was obtained from the latest proposal from the Mokan Association.

Existing Development: The major impact on existing development would be felt at the southern end of Mokan. Walnut Place neighborhood is located just north of US 290 adjacent to Springdale Road. Much of the east side of Springdale Road south of US 183 is vacant until 51st Street. Springdale Road south of M.L.K. is more fully developed.

Fiscal Impact

The Mokan Transportation Corporation is responsible for the right-of-way and preliminary studies for SH 130. It is anticipated that much of the right-of-way will be donated. The Transportation Corporation have asked the City and and Travis and Williamson Counties for cost participation.

The estimated total engineering and construction cost for this project is $140 million. Right-of-costs in this area range from $3 to $4 per square foot.

SH 130 is designated on the Federal-Aid Primary Program and eligible for Federal assistance.

7. FM 969/MARTIN LUTHER KING JR. BOULEVARD

Description

Martin Luther King, Jr. Boulevard is adopted in the AMARP as a five-lane undivided major arterial on 90 feet of right-of-way from IH 35 to Airport Boulevard. FM 969 is adopted in the AMARP as a four-lane divided major arterial on 95-150 feet of right-of-way from Airport Boulevard to the Austin ETJ boundary. MLK Boulevard is shown in Figure 8.

MLK Boulevard is adopted in the ATS Plan as a six-lane major divided arterial from IH 35 to Chicon, four-lane divided major arterial from Chicon to Webberville Road, and six-lane divided major arterial from Webberville Road to US 183.

Recommendation

The recommended amendment would not change MLK in the AMARP between IH 35 and Airport, but would upgrade the section from Airport to US 183 to a 6-lane divided arterial on 150 feet of right-of-way.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
M.L.K.	IH 35-Airport	Major	90	60	Major	No Change*	
FM 969	Airport-Webberville	Major	95-110	2@24	Major	150	2@36
	Webberville-US 183	Major	150	2@30	Major	150	2@36

*Recommend consideration for Transportation System Management Program and a grade separation at Airport Boulevard. Include paved shoulders for bicyclists in rural roadway sections.

Projected Demand

The projected eastbound, AM peak hour demand on FM 969 ranges from 1,400 vehicles, between IH 35 and Airport Boulevard, to 2,400 vehicles, between Airport Boulevard and US 183. The projected westbound, AM peak hour demand on FM 969 ranges from 1,300 vehicles, between Airport Boulevard and US 183, to 2,000 vehicles, between IH 35 and Airport Boulevard.

Design

Limited ROW and the presence of homes and businesses on small lots with minimal frontage create difficulty in providing main lane capacity and the provision of access to the abutting tracts. The results of the model runs suggests that the demand on MLK will necessitate upgrading the existing roadway to six lanes to permit an adequate level of service. The

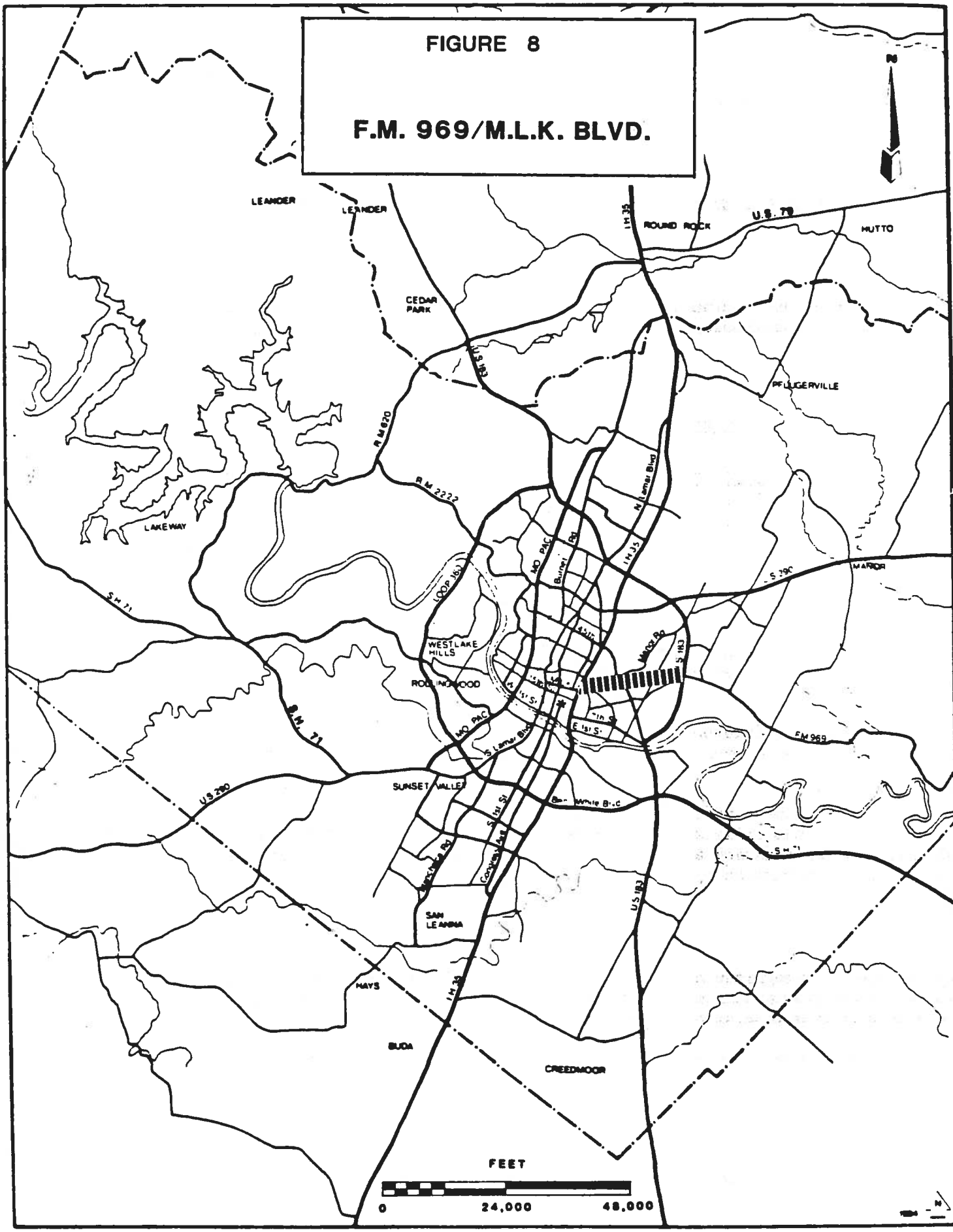


FIGURE 8
F.M. 969/M.L.K. BLVD.
N
LEANDER
LEANDER
CEDAR PARK
ROUND ROCK
U.S. 79
HUTTO
PFLUGERVILLE
LAKEWAY
R.M. 620
R.M. 2222
LOOP 360
S.H. 71
WESTLAKE HILLS
ROLLINGWOOD
SUNSET VALLEY
MANOR
F.M. 969
U.S. 290
S.H. 45
SAN LEANNA
HAYS
BUDA
CREEDMOOR
I.H. 35
U.S. 183
M.O. PAC.
N. Lamar Blvd
S. Lamar Blvd
Burnet Rd
Manor Rd
E. 51st St.
E. 1st St.
Barton Springs Rd
Congress Ave.
FEET
0
24,000
48,000

construction of a six lane facility may not be practical given the aforementioned access constraints. An alternative design which could include a grade separated intersection at Airport Blvd. and M.L.K., selective street closures and driveway modifications could improve the capacity of a four lane divided roadway to a point that the effects of traffic congestion and delays are minimized to an acceptable level. A four lane roadway with a flush median would be an acceptable design from IH 35 to Airport Boulevard, as currently adopted in the AMARP.

Natural Environment

This proposed amendment entails an increase of right-of-way and change of the cross-section, and is not expected to significantly change the potential for environmental impacts.

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
FM 969	----	-----	----	----	----	----	NO CHANGE

Built and Social Environment

Subdivision Activity: Webberville-US 183: Tannehill 2-A, C8-85-05.02(86) US 183-Johnny Morris: Meadows of Trinity Crossing, C8-85-150, RF Bearden, C8-66-33.01(84).

Existing Development: M.L.K traverses a developed urbanized area from IH 35 to east of US 183. There is scattered development east to Johnny Morris Road.

Conclusions/Remarks: IH 35-Chicon: Increasing proposed ROW to 120′ will increase impact on existing development-existing ROW is +/- 60′. Chicon-Johnny Morris: Current AMARP calls for the same or more ROW than proposed by ATS. Existing ROW is +/- 60′ from IH 35 to Airport; 100′ east of Airport.

Fiscal Impact

The estimated engineering and construction cost for this project is $21.5 million excluding the grade separated interchange at Airport Boulevard. Right-of-way costs in this area range from $4 to $8 per square foot.

FM 969 is designated on the Federal-Aid Urban System Program and is eligible for Federal assistance.

8. FM 1325 AND HOWARD LANE

Description

FM 1325 is adopted in the AMARP as a six-lane expressway (grade separation at major intersections) on 120 feet of right-of-way from US 183 to Loop 1 and as a six-lane freeway on 350 feet of right-of-way from Loop 1 to IH 35. Howard Lane is adopted in the AMARP as a six-lane divided major arterial on 120 feet of ROW from FM 1325 to RM 620. RM 1325 and Howard Lane are shown in Figure 9.

FM 1325 is adopted in the ATS Plan as an eight-lane expressway from US 183 to Loop 1, a ten-lane freeway from Parmer Lane to Howard Lane, and a six-lane divided arterial from Howard Lane to SH 45. The proposed northern extension of Loop 1 follows the Howard Lane alignment from FM 1325 to SH 45 as a six-lane freeway.

Recommendation

The recommended amendment would upgrade Howard to a limited access freeway between FM 1325 and SH 45. This section would function as the northern extension of MoPac. The recommended amendment to FM 1325 would increase the right-of-way and pavement widths between US 183 and Howard Lane as shown below. The section between Howard and SH 45 would be downgraded to an at-grade arterial.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
FM 1325	US 183 - Loop 1	Expy	120	2@36	Expy	150	2@48
	Loop 1 - Howard	Fwy	350	2@36	Fwy	400	2@60
	Howard - SH 45	Fwy	350	2@36	Major	120	2@36
Howard Lane	FM 1325-RM 620	Major	120	2@36	Fwy	400	2@36

Add environmentally sensitive notation to the AMARP.

Projected Demand

FM 1325 is a major travel corridor to the north. The projected AM peak hour demand is very heavy. Northbound demand ranges from 3,600 vehicles, between US 183 and Loop 1, to 4,700 vehicles, between Loop 1 and Howard Lane, and 1,900 vehicles, from Howard Lane to RM 620. Southbound demand ranges from 2,900 vehicles, between RM 620 and Howard Lane, to 10,200 vehicles, between Howard Lane and Loop 1, and 3,100 vehicles from Loop 1 to US 183. The demand supports an eight-lane expressway between US 183 and Loop 1, a ten lane freeway between Loop 1 and Howard Lane, and a six-lane major divided arterial between Howard Lane and RM 620.

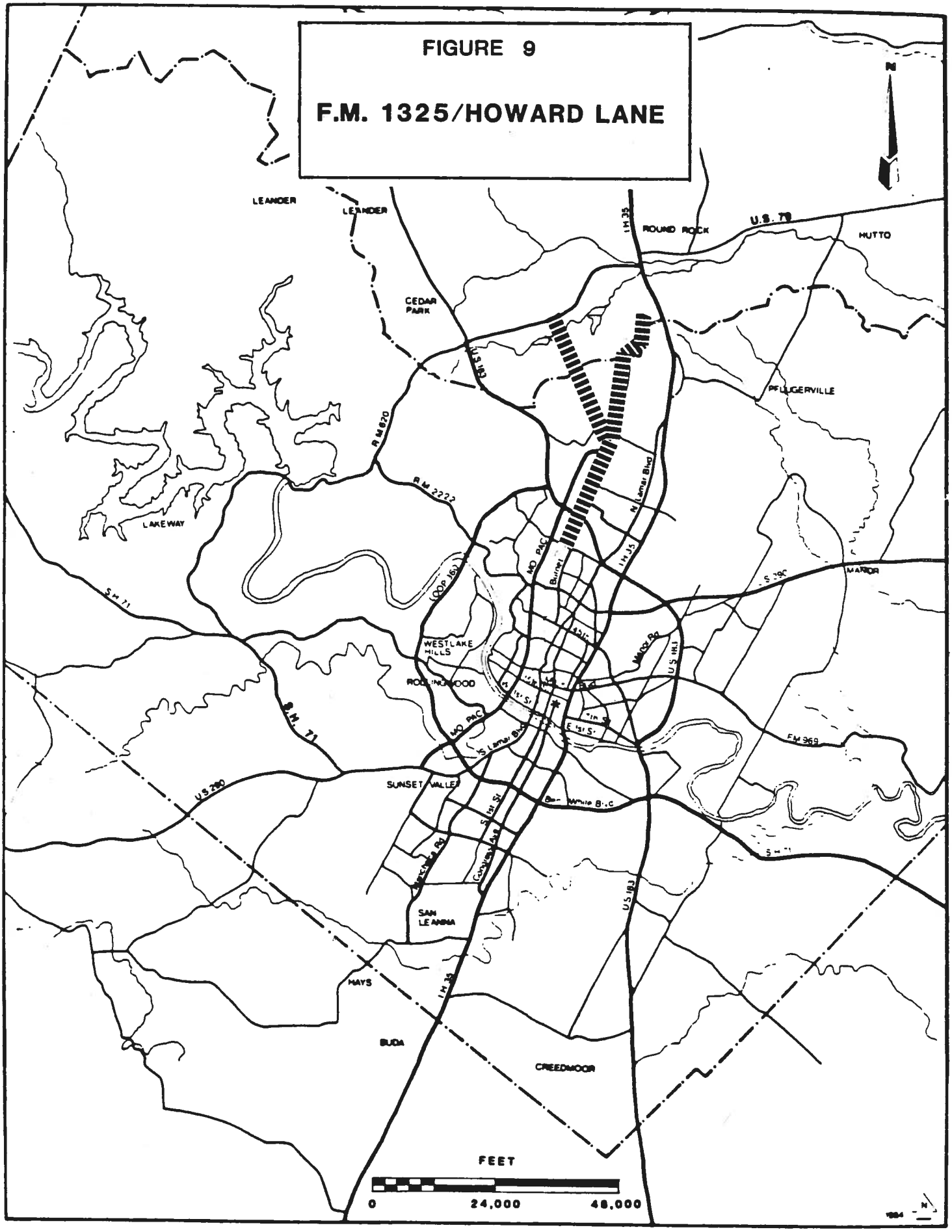


FIGURE 9
F.M. 1325/HOWARD LANE
N
LEANDER
LEANDER
ROUND ROCK
U.S. 79
HUTTO
CEDAR PARK
PFLUGERVILLE
R.M. 620
R.M. 2222
LAKEWAY
N. Lamar Blvd
MO PAC
Burnet
I.H. 35
MANOR
S. 290
S.H. 71
(LOOP 1)
WESTLAKE HILLS
ROLLINGWOOD
Manor Rd
U.S. 183
E. 51st St.
S. Lamar Blvd
R.M. 71
F.M. 969
U.S. 290
SUNSET VALLEY
S. 1st St.
Barton Creek Blvd
Convict Hill Rd
SAN LEANNA
HAYS
I.H. 35
BUDA
CREEDMOOR
FEET
0
24,000
48,000

The projected demand on Howard Lane between FM 1325 and SH 45 ranges up to 4,000 eastbound vehicles and 2,600 westbound vehicles in the AM peak hour. The demand supports a six-lane freeway between RM 620 and FM 1325.

Design

The results of the model runs suggest that a six-lane freeway would be an appropriate design for the extension of MoPac Blvd. north to SH 45 along Howard Lane. Informal discussions with the SDHPT indicate that the interchange of Burnet Road/MoPac Blvd./Wells Branch Parkway can be designed without compromise to the freeway design speed and will provide adequate opportunities for future roadway redesign. The area east of MoPac to IH-35 requires additional study to determine the travel demand between these two facilities and examine the available alternatives.

Staff has reviewed the proposed design of SH 45 with representatives of the SDHPT. The SDHPT plans to realign Burnet Road to the west of its present alignment to intersect SH 45 along the County Road 172/Quick Hill Road alignment. The realignment of Burnet Road would increase access to this facility from SH 45, and is recommended by staff.

Natural Environment

The proposed amendment to FM 1325 entails an increase of right-of-way and change of the cross-section, and is not expected to significantly change the potential for environmental impacts, except that the crossing of Walnut Creek will likely be more severe in terms of construction impacts.

The proposed amendment to Howard Lane entails a significant expansion of this roadway, which overlies the Edwards aquifer recharge zone and traverses areas of native habitat. This will increase the potential for adverse impacts on groundwater as well as native habitat (the alignment traverses over 4500 feet of woodlands), as well as certain critical environmental features (caves and sinkholes). The AMARP alignment for this roadway involves three major and three minor stream crossings, and impacts at these crossings would be increased with a substantially larger facility. This roadway should be designated as traversing an environmentally sensitive area (Edwards aquifer recharge zone).

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
FM 1325	LOW	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	TBD	LOW
HOWARD LANE	MOD-HIGH	MOD	MOD	NO CHANGE	MOD	TBD	MOD

Built and Social Environment

Existing Development: There is existing development at the northwest corner of Howard Lane and FM 1325.

1) US 183-Loop 1: Existing commercial/industrial development, both sides (especially south of Braker), would be affected-existing ROW is 120', ATS proposes 150'.

2) Parmer-Howard: SDHPT plans show all the additional ROW coming from the east side due to the existing RR ROW on the west. Several existing structures/detention facilities will likely have to be removed.

3) Howard-SH 45: Existing ROW is already 120', so the only impact should be at the northern end, if road is realigned to intersect with future SH 45, rather than IH 35.

Subdivision Activity: Two or three small subdivisions with frontage on Howard Lane (near FM 1325) are in process, however there have been no recent subdivision approvals.

Subdivision Activity: At the transition of future Loop 1 into FM 1325, Walnut Creek Center, C8-83-64, and The Centrum, C8-85-78 are proposing to dedicate and/or reserve ROW for future Loop 1, as per SDHPT plans.

Fiscal Impact

The estimated total engineering and construction cost to upgrade Howard Lane to a six-lane freeway is $108 million. Right-of-way costs in this area average $4 per square foot. The estimated total construction and engineering cost is $36.7 million. Right-of-way costs in this area range from $8 to $16 per square foot. The proposal to downgrade FM 1325 from a freeway to a 6-lane arterial would have a positive fiscal impact.

9. FM 2304/MANCHACA ROAD

Description

Manchaca Road is adopted in the AMARP as a four-lane divided major arterial on 100 feet of right-of-way from William Cannon Drive to FM 1626. The roadway is adopted in the ATS Plan as a six-lane divided major arterial from William Cannon Drive to Arterial #12, a four-lane undivided major arterial from Arterial #12 to FM 1626, and a two-lane minor arterial from FM 967 to FM 1626. Manchaca Road is shown in Figures 10 and 11.

The State Department of Highways and Public Transportation is in the process of upgrading Manchaca Road (FM 2304) to a four-lane divided major arterial on 120 feet of right-of-way from Matthews Lane to FM 1626.

Recommendation

The recommended amendment would increase the right-of-way to 120 feet and extend the roadway to SH 45.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
FM 2304	William Cannon-FM 1626	Major	100	2@30	Major	120	2@24*
	FM 1626-SH 45		--	--	Major	120	2@24

* Paved shoulders for bicycle access are recommended.

Projected Demand

The projected volumes on Manchaca Road between William Cannon Drive and FM 1626 do not support a six-lane divided arterial as adopted in the ATS Plan. A four-lane divided arterial could serve the projected northbound, AM peak hour demand of 1,400 vehicles and the projected southbound demand of 900 vehicles.

The extension of FM 1626 south to the proposed SH 45 (Outer Loop) attracted a maximum of 200 northbound vehicles in the AM peak hour. Although the two-lane minor arterial adopted in ATS would serve this demand, the turning and passing problems associated with two-lane arterials tend to make them a poor design choice.

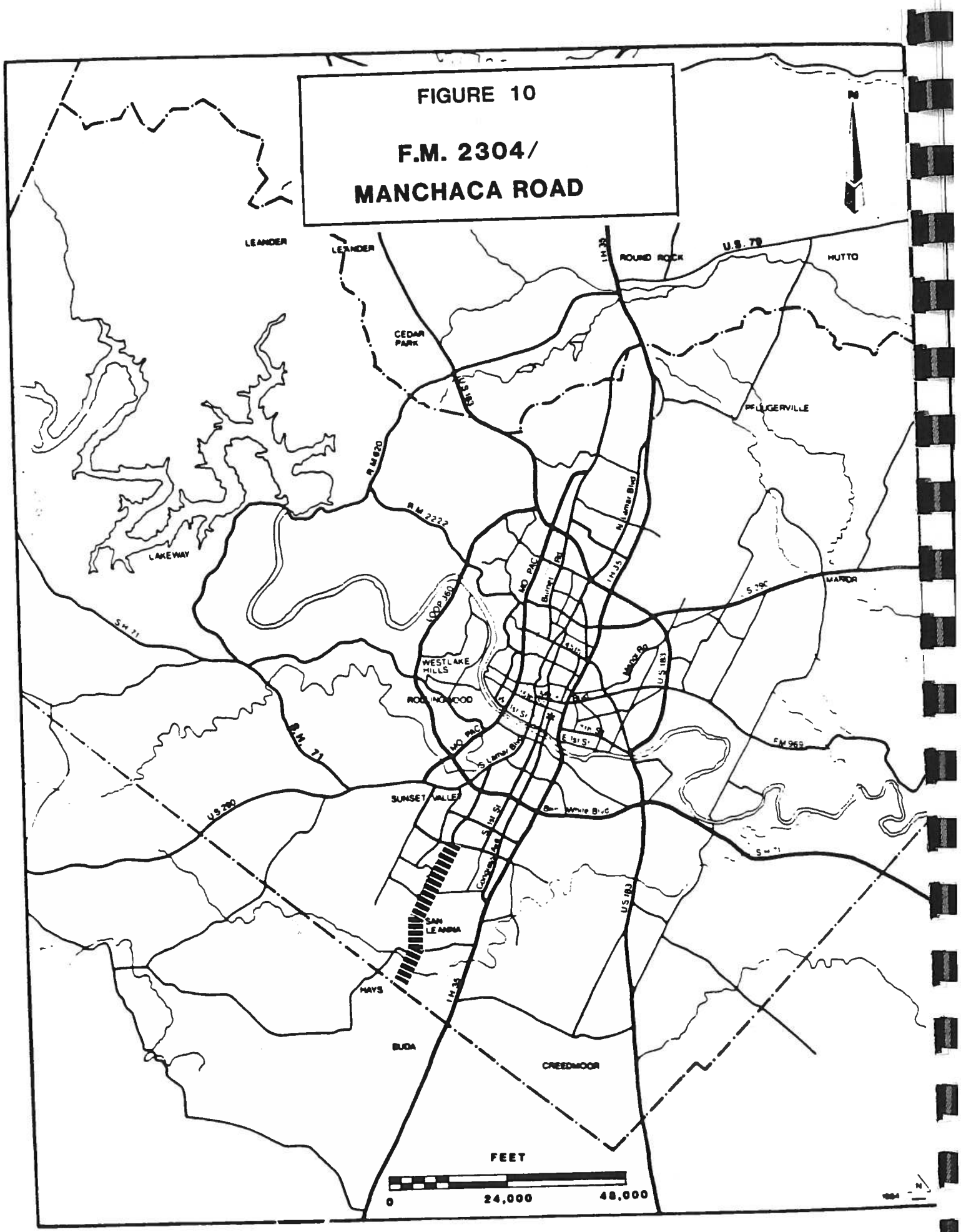


FIGURE 10
F.M. 2304/
MANCHACA ROAD
LEANDER
LEANDER
CEDAR PARK
LAKEWAY
R.M. 620
R.M. 2222
LOOP 360
S.H. 71
WEST LAKE HILLS
ROLLINGWOOD
R.M. 71
SUNSET VALLEY
U.S. 290
SAN LEANNA
HAYS
BUDA
I.H. 35
ROUND ROCK
U.S. 79
HUTTO
PFLUGERVILLE
N. Lamar Blvd
MO PAC
Burnet Rd
Airport Blvd
MANOR
S. 290
U.S. 183
Manor Rd
E. 1st St.
E. 7th St.
S. Lamar Blvd
S. 1st St.
Barton Creek
William Cannon Blvd
FM 969
CREEDMOOR
FEET
0
24,000
48,000
N

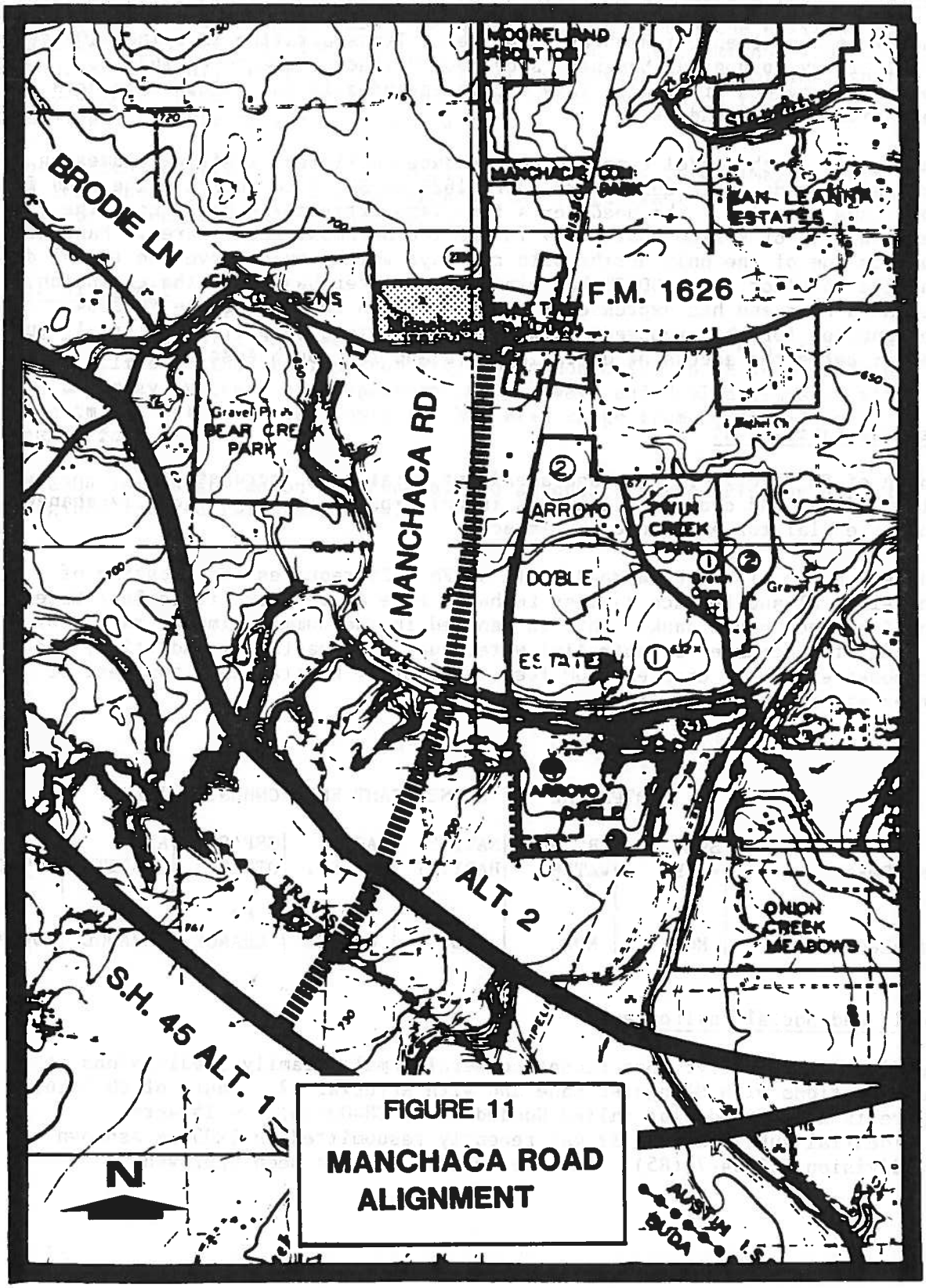


FIGURE 11

MANCHACA ROAD ALIGNMENT

Design

The State Department of Highways and Public Transportation is using 120 feet of right-of-way to upgrade Manchaca Raod from Matthews Lane to FM 1626 to a four-lane divided arterial. This design includes 12-foot flush shoulders on each side of the roadway.

The result of the model runs did not produce sufficient traffic volumes on the extension of Manchaca Road south of FM 1626 to SH 45 to indicate the need for a four lane arterial. The need for a four lane arterial is based upon the desirability of system continuity is the southernmost Austin area. Manchaca Road is one of the only north/south roadways which could serve the travel demand in this corridor. The SDHPT has planned and interchange for the extension of Manchaca Road and has expressed some interest in continuing the FM 2304 designation for the proposed extension. The extension of this arterial would better serve the access needs in the Buda and far south Austin area.

Natural Environment

North of FM 1626, this proposed amendment entails an increase of right-of-way and cross-section, and is not expected to significantly change the potential for environmental impacts.

The extension of Manchaca Road south of FM 1626 requires the crossing of the Alluvial and Terrace aquifer recharge zone as well as Little Bear Creek and its steep south bank. This is denoted in the summary impact matrix by a moderate increase for potential water quality impacts. In addition, the proposed extension crosses 1500 feet of priority habitat and 1500 feet of other significant habitat.

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
Manchaca Rd.	MOD	MOD	MOD	NO CHANGE	NO CHANGE	NO CHANGE	LOW-MOD

Built and Social Environment

Subdivision Activity: Some recent commercial/multi-family subdivisions at intersections with Slaughter Lane and with Arterial 12. South of FM 1626, there is a recorded plat called Wooded Oaks, C8-83-76.1, a 15-acre residential subdivision. It was recently resubmitted in 1985 as Ashdown Subdivision, C8-84-77(85). The resubmittal has not been approved.

Existing Development: Some existing residential development between William Cannon Drive and Slaughter Lane may be affected although the existing ROW is already mostly 100' from William Cannon to FM 1626 (some 80'-100'). Structures should not be affected. Existing development is minimal south of Slaughter Lane. South of FM 1626, tax plats show large residential development (primarily 2 to 5 acre lots).

Conclusions/Remarks: North of FM 1626 impact should be minimal. South of FM 1626 where there is no existing ROW, the large-tract residential area will be affected by ROW requirements.

Fiscal Impact

The estimated total engineering and construction cost for this project is $14.6 million. The section from William Cannon Drive to FM 1626 is funded and underway by the State Department of Highways and Public Transportation Department. Right-of-way costs in this area range from $8 to $12 per square foot.

FM 2304 is designated on the Federal-Aid Secondary System Program and is eligible for federal assistance.

10. RM 2222/KOENIG LANE

Description

RM 2222 is adopted in the AMARP in three major segments with boundaries at RM 620, Loop 360, Loop 1 (MoPac Blvd), and Airport Boulevard. In the western segment RM 2222 is adopted as a 6-lane freeway from RM 620 to Riverplace Boulevard, a 6-lane parkway from Riverplace Boulevard to Jester Boulevard,and an 8-lane parkway from Jester Boulevard to Loop 360. In the central segment from Loop 360 to Loop 1 it is adopted as a 6-lane arterial. In the eastern segment it is adopted as a 4-lane undivided arterial from Loop 1 to Grover, a 4-lane divided/5-lane undivided arterial from Grover to Guadalupe, and a 5-lane undivided arterial from Guadalupe to Airport Boulevard. RM 2222 is shown in Figure 12.

In the ATS Plan RM 2222 is adopted in the western segment as an 8-lane freeway from RM 620 to Riverplace Boulevard and as an 8-lane parkway from Riverplace Boulevard to Loop 360. In the central segment it is adopted as an expressway from Loop 360 to Loop 1. In the eastern segment it is adopted as a 6-lane freeway from Loop 1 to Airport Boulevard.

The State Department of Highways and Public Transportation has contracted for a three-year feasibility study of a freeway on RM 2222 from RM 620 to Loop 1. The State is designing safety improvements on RM 2222 for the 3.5 mile segment west of Loop 360.

Recommendation

The recommended amendment would upgrade RM 2222 to an eight-lane Parkway from Riverplace to Loop 360. The section from Loop 360 to US 290 would be upgraded to a parkway dsign with six and four lanes.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
RM 2222	RM 620-Riverpl.	Fwy	350	2@36		400	2@36
	Riverpl.-Jester	Pky	300	2@36		400	2@48
	Jester-LP 360		350	2@48		400	2@48
	LP 360-LP 1		150/300	2@36		300	2@36
	LP 1-US 290		60/100	40/60		300	2@24

A Collector Street Plan and Interim Access Management Plan are recommended for parkway sections. Add environmentally sensitive notatation to the AMARP.

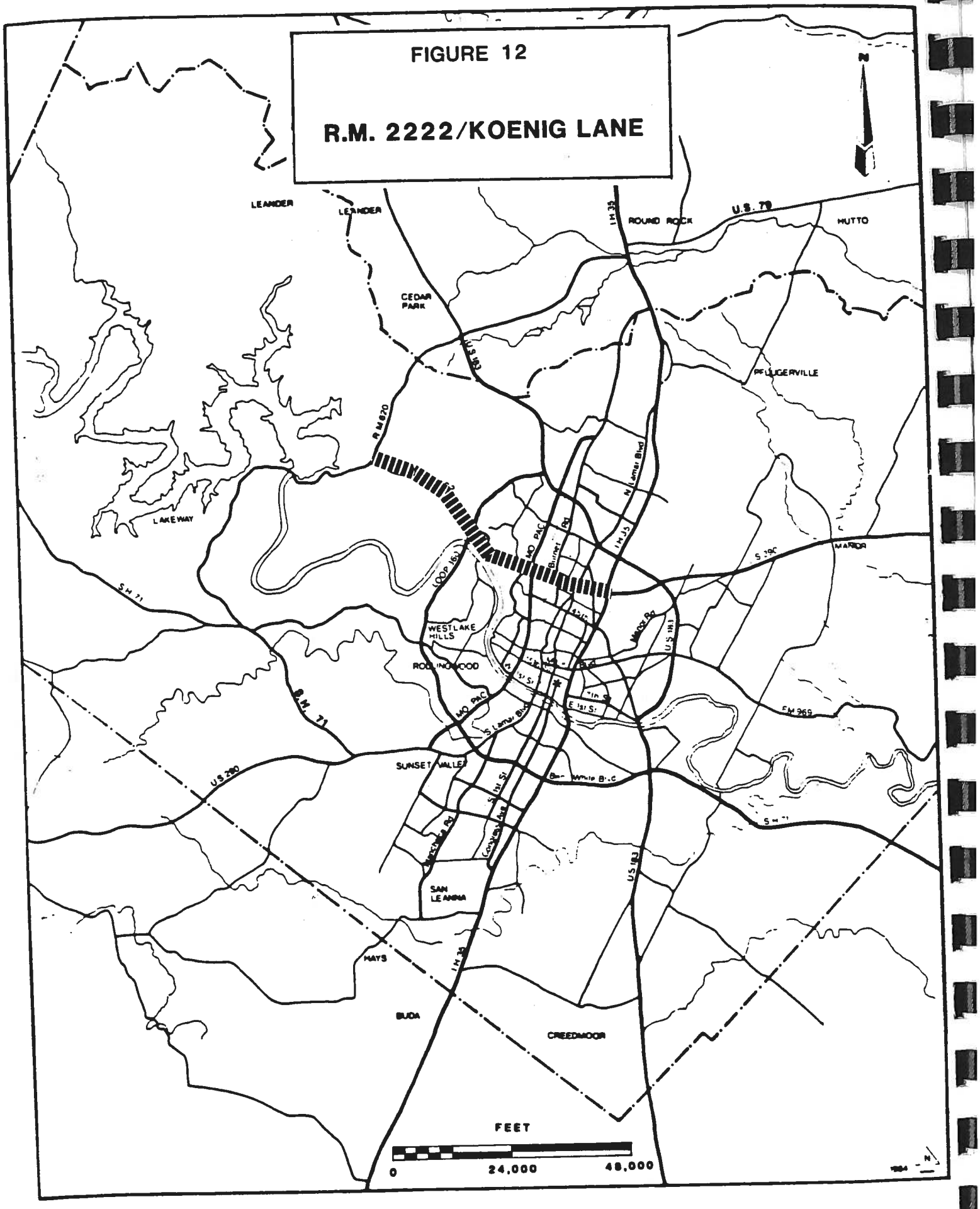


FIGURE 12
R.M. 2222/KOENIG LANE
N
LEANDER
LEANDER
CEDAR PARK
ROUND ROCK
U.S. 79
HUTTO
PFLUGERVILLE
LAKEWAY
R.M. 620
LOOP 360
MO PAC
Burnet Rd
N Lamar Blvd
I.H. 35
MANOR
S. 290
SH 71
WESTLAKE HILLS
ROLLINGWOOD
Mopac Rd
U.S. 183
12th St.
11th St.
E 1st St.
FM 969
S Lamar Blvd
SUNSET VALLEY
US 290
Barton Creek Blvd
Convict Hill
SAN LEANNA
HAYS
BUDA
CREEDMOOR
FEET
0
24,000
48,000

Projected Demand

The projected eastbound, AM peak hour demand on RM 2222 between SH 45 and Loop 360 is 6,900 vehicles. The projected westbound demand is 2,700 vehicles. A six-lane freeway between SH 45 and Riverplace, and an eight-lane parkway from Riverplace to Loop 360 would serve the projected demand.

The projected, eastbound AM peak hour demand on RM 2222 between Loop 360 and Loop 1 is 5,500 vehicles. The projected westbound demand is 3,500 vehicles. A six-lane parkway would serve the projected volume.

The projected eastbound, AM peak hour demand on RM 2222 between Loop 1 and Airport Boulevard is 3,300 vehicles. The projected westbound demand is 3,000 vehicles. This demand supports the need for a four-lane parkway.

The projected demand for RM 2222 is heavily impacted by SH 45. The Quinlan Park Road segment of SH 45 diverts approximately 1,500 vehicles off of RM 2222 between SH 45 and Loop 360. The 1,500 vehicles would require an additional two lanes on RM 2222 to serve the increased demand.

Design

The western section of RM 2222 (SH 45 to Loop 360) has been designated a freeway from SH 45 to Riverplace Boulevard and as a parkway from Riverplace Boulevard to Loop 360. Travis County is in the process of acquiring as part of the SDHPT safety project which will add a 14 foot flush median to the roadway and includes intersection improvements at City Park Road.

The analysis of the ROW requirements for the parkway segment points out several specific problems related to the need to provide access to the adjacent tracts. The successful implementation of the parkway design requires that all of the access to the roadway is accommodated through collector and arterial streets at grade separated intersections. Driveway connections must be strictly prohibited or frontage roads must be constructed to avoid main lane driveway connections as have occurred on south MoPac Boulevard (Loop 1). The access regulation provisions of the Hill Country Roadway Ordinance (HCRO) and (prior to the adoption of the HCRO) the RM 2222 Roadway Ordinance have successfully limited access to RM 2222 through the use of parallel collector streets and the arterial roadways identified in the AMARP. Only one project, Park 22, has been approved with direct driveway connections. This situation will require the provision of a discontinuous frontage road to prevent a direct main lane connection. There are several large undeveloped tracts west of Loop 360 which deserve prompt attention to insure adequate access for their future development while maintaining the integrity of the parkway design.

The central segment of RM 2222 (Loop 360 to MoPac) presents a series of daunting engineering problems owing to difficult topography and the enormous cut sections required to reconstruct the roadway. The SDHPT has conducted a preliminary engineering assessment to develop various design solutions which would achieve a 50 to 55 mph design speed for an expressway

Projected Demand

The projected eastbound, AM peak hour demand on RM 2222 between SH 45 and Loop 360 is 6,900 vehicles. The projected westbound demand is 2,700 vehicles. A six-lane freeway between SH 45 and Riverplace, and an eight-lane parkway from Riverplace to Loop 360 would serve the projected demand.

The projected, eastbound AM peak hour demand on RM 2222 between Loop 360 and Loop 1 is 5,500 vehicles. The projected westbound demand is 3,500 vehicles. A six-lane parkway would serve the projected volume.

The projected eastbound, AM peak hour demand on RM 2222 between Loop 1 and Airport Boulevard is 3,300 vehicles. The projected westbound demand is 3,000 vehicles. This demand supports the need for a four-lane parkway.

The projected demand for RM 2222 is heavily impacted by SH 45. The Quinlan Park Road segment of SH 45 diverts approximately 1,500 vehicles off of RM 2222 between SH 45 and Loop 360. The 1,500 vehicles would require an additional two lanes on RM 2222 to serve the increased demand.

Design

The western section of RM 2222 (SH 45 to Loop 360) has been designated a freeway from SH 45 to Riverplace Boulevard and as a parkway from Riverplace Boulevard to Loop 360. Travis County is in the process of acquiring as part of the SDHPT safety project which will add a 14 foot flush median to the roadway and includes intersection improvements at City Park Road.

The analysis of the ROW requirements for the parkway segment points out several specific problems related to the need to provide access to the adjacent tracts. The successful implementation of the parkway design requires that all of the access to the roadway is accommodated through collector and arterial streets at grade separated intersections. Driveway connections must be strictly prohibited or frontage roads must be constructed to avoid main lane driveway connections as have occurred on south MoPac Boulevard (Loop 1). The access regulation provisions of the Hill Country Roadway Ordinance (HCRO) and (prior to the adoption of the HCRO) the RM 2222 Roadway Ordinance have successfully limited access to RM 2222 through the use of parallel collector streets and the arterial roadways identified in the AMARP. Only one project, Park 22, has been approved with direct driveway connections. This situation will require the provision of a discontinuous frontage road to prevent a direct main lane connection. There are several large undeveloped tracts west of Loop 360 which deserve prompt attention to insure adequate access for their future development while maintaining the integrity of the parkway design.

The central segment of RM 2222 (Loop 360 to MoPac) presents a series of daunting engineering problems owing to difficult topography and the enormous cut sections required to reconstruct the roadway. The SDHPT has conducted a preliminary engineering assessment to develop various design solutions which would achieve a 50 to 55 mph design speed for an expressway

or parkway section. Representatives of the SDHPT have indicated that the results of the preliminary assessment have directed their attention away from engineering intensive solutions, such as bridging and cantilevering, to a more conventional design solution which will concentrate on the use of excavation to provide the desired results.

The ATS Transportation Plan identifies the central segment of RM 2222 as a six lane expressway. Staff is recommending that a six lane parkway is a more appropriate designation. The actual differences between the final engineering design of the expressway or parkway for this segment are minimal. Access to RM 2222 is severely limited by topography and road cut and restricted primarily to existing collector street connections. The majority of the land uses which presently have driveway access would be purchased as part of the ROW acquisition. The section between Dry Creek Road and Balcones Drive will require additional attention in order to balance the engineering design requirements with neighborhood needs and concerns.

The eastern section of RM 2222 (Allandale Road/Koenig Lane) has been designated as a six-lane freeway in the ATS Transportation Plan. The model runs produced traffic volumes which would suggest that a six-lane freeway facility is not warranted, but could be accommodated by either a six-lane arterial or four- lane freeway design. To assess the implications of constructing a six-lane arterial or six-lane freeway staff developed a tentative roadway alignment for the purpose of estimating right-of-way requirements. The existing ROW along Koenig Lane is 80 feet. The ROW requirement for a six lane arterial would be 132 feet, or 52 feet of additional ROW The six-lane freeway, using State standards would require 400 feet, or 320 feet of additional ROW.

The ability of a six-lane arterial or the four-lane freeway to serve the projected travel demand is roughly equivalent. The problem is one of desirability, access, and compatibility to the adjacent neighborhoods. Both designs have serious negative social aspects other than the actual loss of homes and businesses for the construction of the facility.

Allandale Road/Koenig Lane in its present four-lane undivided condition cannot accommodate the forecast travel demand. A transportation system management (TSM) report recently completed for the City of Austin outlines the existing design deficiencies along this roadway segment. The addition of a center left turn lane, as proposed in the TSM report, would correct many of these deficiencies but will not adequately increase the capacity of the roadway to meet future needs.

The AMARP amendments for RM 2222 which were adopted over the past three years have increased the future need for a limited access roadway on the Allandale/Koenig Lane segment. RM 2222 west of MoPac is designated in the AMARP as a six lane expressway. The eastern terminus of Koenig Lane turns into US 290 which is constructed as a six-lane freeway. These two limited access segments are connected by a four-lane undivided roadway which cannot effectively serve its system-wide function. In order to provide for system continuity, especially on a state facility, the reconstruction of Allandale Road/Koenig Lane to accommodate future demand and its system-wide role is essential. A decision to relocate Mueller Airport to eastern Travis County could increase the need to upgrade this segment.

In the evaluation of the ATS recommendation for a six lane freeway for the Allandale/Koenig Lane segment of RM 2222 this facility was determined to be: 1) unnecessary to serve the projected travel demand, 2) the need for frontage road was not demonstrated, and 3) the 400 foot right-of-way requirement was overly disruptive to the adjacent neighborhoods and public uses.

The alternative of a six-lane arterial is the least attractive of the options. The arterial design is not consistent with the limited access segments it would connect. The potential for traffic delays inherent with the provision of traffic signals, intersecting streets, and commercial driveways along an arterial could negatively affect the operation of the freeway and parkway segments by reducing the effective capacity of the roadways and decreasing the level of safety to the motorist. The arterial design also presents the opportunity for commercial redevelopment, especially along the Koening Lane section. The acquisition of ROW would leave one row of lots which currently have frontage on Koening Lane. The majority of these lots have dimensions of 60-70 feet x 110 feet. With frontage on a six lane arterial and limited lot size the range of uses which would be drawn to redevelop this area would fall into the convenience retail & service class (convenience grocery, gasoline sales, car wash, motor bank) and "fast food" restaurants. The desirability of these land uses in the neighborhood is open to varying interpretations. The effect of the driveway spacings (less than 200 feet) and the relatively high number of turning movements associated with these land uses would significantly diminish the effective traffic capacity of the roadway along this section.

The six-lane arterial design, when compared to the freeway design, presents additional negative consequences. These include:

1) A significant pedestrian barrier
2) Lack of noise abatement structures
3) At-grade unsignalized intersections
4) Diminished motorist and pedestrian safety
5) Potential for commercial redevelopment in the neighborhood
6) Undesirable operating characteristics for system continuity

The negative aspects of the arterial design preclude this option as a serious alternative to the freeway design.

The six lane freeway would provide the limited access design which would promote system continuity by complimenting and completing the existing and planned limited access design for the length of RM 2222.

The problems associated with the freeway design are the product of the provision of frontage roads. In order to construct the frontage roads approximately 400 feet of right-of-way is required to accommodate the on and off ramps. The construction of frontage roads would create additional problems for the existing neighborhoods. The local streets connecting to the system would also permit pedestrian and bicycle access thereby increasing the potential of vehicle/pedicyclist conflicts. The frontage road/local street intersections would reduce the ability to mitigate the noise from the freeway into the neighborhood. An additional area of

concern would be that the availability of access to the frontage road would create a situation that would favor the redevelopment of existing homes into commercial uses.

The recommended design for the Allandale/Koenig Lane section of RM 2222 must fulfill the following criteria:

1) Provide the main lane capacity to accommodate the future travel demand at an acceptable level of service.
2) A limited access roadway to provide both system and design continuity.
3) Require the minimum amount of right-of-way to achieve the final roadway design.
4) Provide for neighborhood access needs.
5) Eliminate the impetus for undesirable commercial redevelopment.
6) Provide the maximum degree of noise abatement.
7) Prevent street and headlight intrusion in the neighborhoods.
8) A design which meets the SDHPT engineering design standards.
9) The development of the design adheres to a defined process that incorporates public participation and review.

The result of preliminary studies conducted by staff have indicated that a four lane parkway design on 300 feet of right-of-way could meet all of the aforementioned criteria. Staff recommends that a 4 lane parkway be adopted for this section with the several caveats ouline below.

First, that the City aproach the State Highway Commission to request that they pass a Minute Order declaring the Allandale/Koenig Lane section of RM 2222 as a limited access facility and placing it on the Federal Primary Roadway System. This will make RM 2222 eligible for federal cost participation and mandate compulsary federal project review and approval. Second, that the City enter into a contractural agreement with the SDHPT to establish each agencies responsibilities and financial obligations for right-of-way acquisition and roadway constructin. This must include all of the additional design constraints above and beyond a "normal" parkway design, such as noise abatement requirements, lighting, etc.

The actual cost participation for the City will be the product of the contract negotiations with the State. In general, the governmental body entering into a contract with the SDHPT will be responsible for the cost of right-of -way acquisition, often with a percentage of that cost reimbursed to the governmental body. This may vary on a project by project basis.

Natural Environment

The proposed expansion of the roadway cross-section from RM 620 to Loop 360 may impact West Bull Creek as the right-of-way of the lower half closely parallels the creek and crosses it six times. The upper half of this section traverses the Edwards aquifer recharge zone, increasing the potential for significant impacts on groundwater.

Although expansion of this section of roadway may mean only a minor increase in the potential for impacts on native habitat, it will likely impact Black-capped Vireo habitat near Four Points, and it may impact

nearby Critical Environmental Features including several caves that support extremely rare cave-adapted fauna and function as groundwater recharge features.

The severe topography from Loop 1 to Loop 360 will have a large impact on roadway design. Any major construction in this area is likely to have severe short term impacts on water quality, particularly in the vicinity of the steep bluffs and stream crossings.

Provision of a freeway from IH 35 to MoPac may improve localized air quality conditions by reducing extreme traffic congestion. Although emissions of air pollutants related to traffic congestion may decrease those associated with traffic volumes may increase.

This roadway should be designated as traversing an environmentally sensitive area (Edwards aquifer recharge zone, rare/endangered species habitat, critical environmental features, severe topography.

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
RM 2222	LOW	LOW	LOW	MOD	MOD	TBD	LOW-MOD

Built and Social Environment

Subdivision Activity: Some of the currently proposed or approved commercial and residential developments include 1) SH 45-Riverplace: Lake Travis Professional Office, Four Points Center, Riverplace Center. 2) Riverplace-Jester: 3M Center, 2222 Business Park, Ribelin Tract, Schlueter Tract, Park West, Park 22, Canyon Ridge. 3) Jester-Loop 360: Jester Village, Bell Vista Office Park. 4) Loop 360-Loop 1: Bluffs of Cat Mountain.

Existing Development: SH 45-Loop 360: There is some existing small commercial development at the intersection with RM 620. Loop 360-Loop 1: There is existing residential development in this area. Loop 1-IH 35: Urban area, residential and commercial development all along this section.

Conclusions/Remarks: SH 45-Loop 360: The impact of additional ROW requirements is minimal, except probably at the SH 45 intersection where more ROW is needed and there are many existing retail land uses. Loop 360-Loop 1: Residential development in this area may be affected by improvements since topography may require extensive realignment. AMARP calls for the same or more ROW than ATS in this area so the ATS proposal wouldn't cause any additional impact.

Loop 1-IH 35: There would be major impact on existing development including the removal of existing structures since this section is basically fully developed.

Fiscal Impact

The estimated total engineering and construction cost for this project is $143 million. Right-of-way costs in this area range from $6 to $25 per square foot.

If RM 2222 is designated as a limited access facility with federal participation and federal project review and approval, the degree of City, State and Federal cost participation would be established through contractural arrangements.

11. RM 2244

Description

RM 2244 is adopted in the AMARP as a 4-lane divided arterial from SH 71 to Loop 360. In the ATS Plan it is adopted as a 6-lane divided arterial. RM 2244 is shown in Figure 13.

The State Department of Highways and Public Transportation has an improvement project to upgrade RM 2244 from SH 71 to St. Stephens School Road to 5 lanes as part of their one-year letting schedule.

Recommendation

The recommended amendment would upgrade RM 2244 to a six-lane major divided arterial from the Outer Loop to Lop 360.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
RM 2244	SH 45-LP 360	Major	90	2@24	Major	150	2@36

* Paved shoulders are recommended for bicycle access.

Add environmentally sensitive notation to AMARP.

Projected Demand

The projected eastbound demand in the AM peak hour is 2,700 vehicles between Loop 360 and SH 45. The projected westbound, AM peak hour is 1,500 vehicles.

Design

There are no significant design issues for RM 2244.

Natural Environment

The realignment/straightening (cut and fill) required for existing sharp curves and steep slopes increases the potential for impact on streams and springs in nearby canyon heads. In addition, there are increases in the potential for impacts on native habitat, including the breeding habitat of the Golden-cheeked Warbler and possibly the Black-capped Vireo. This roadway should be designated as traversing an environmentally sensitive area (rare/endangered species habitat, springs).

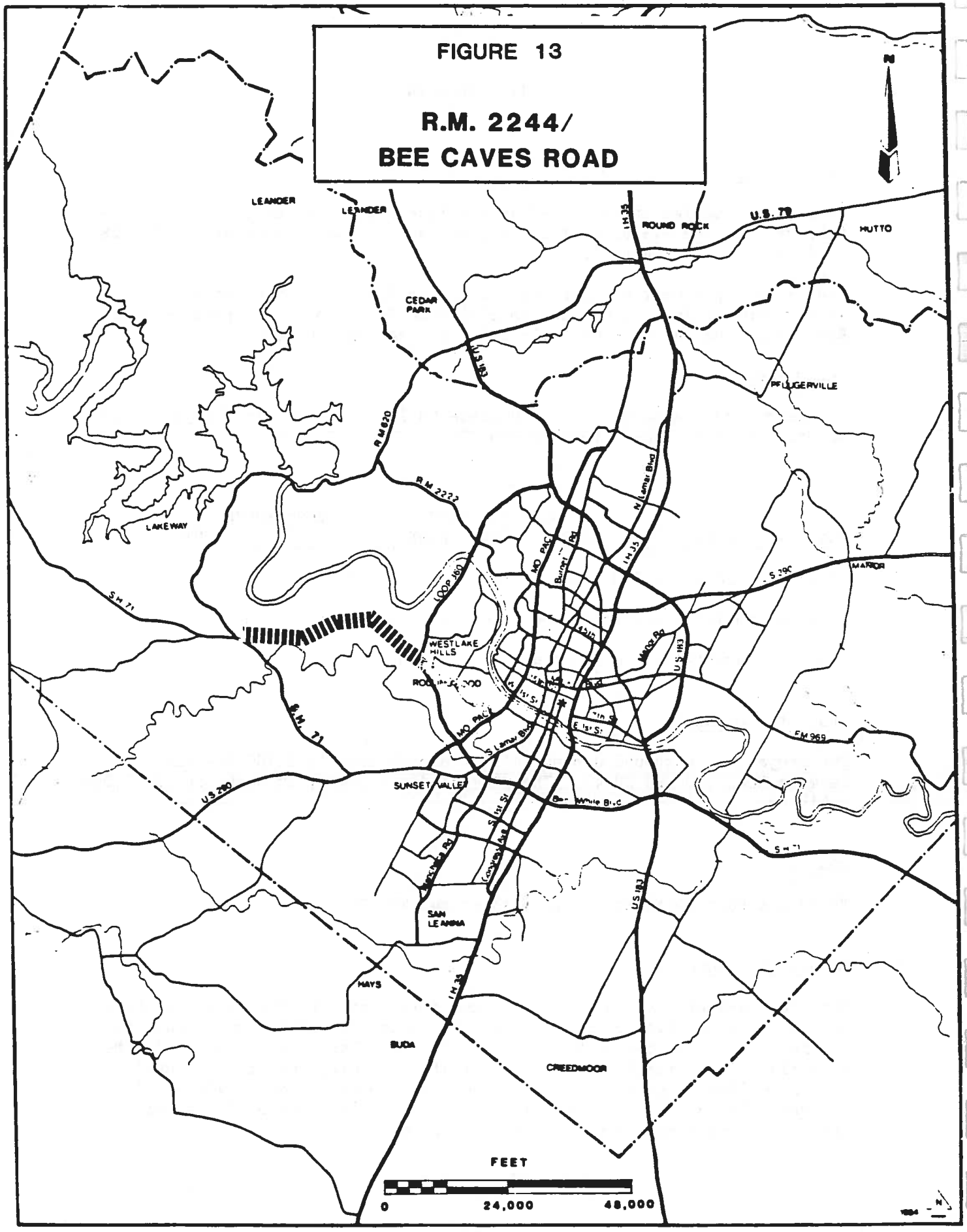


FIGURE 13
R.M. 2244/
BEE CAVES ROAD
N
LEANDER
LEANDER
ROUND ROCK
U.S. 79
HUTTO
CEDAR PARK
PFLUGERVILLE
R.M. 620
R.M. 2222
LAKEWAY
LOOP 360
S.H. 71
WESTLAKE HILLS
ROLLINGWOOD
MO PAC
Burnet Rd
N Lamar Blvd
MARBR
S 290
Mopac Rd
U.S. 183
E 1st St
S Lamar Blvd
FM 969
SUNSET VALLEY
US 290
W Slaughter Ln
S 1st St
Barton Creek
SAN LEANNA
HAYS
BUDA
CREEDMOOR
FEET
0
24,000
48,000

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
RM 2244	LOW	LOW	LOW	MOD	MOD	NO CHANGE	LOW-MOD

Built and Social Environment

Subdivision Activity: Proposed and approved developments along RM 2244 include: The Uplands, Bohls Ranch, Senna Hills, Barton Creek West, Patterson Square Office Park, Bonita Vista, Seven Oaks, Bee Cave Retail, Treemont.

Existing Development: Minimal existing development west of 360, from West Lake Hills to Loop 1, various commercial developments.

Conclusions/Remarks: The existing ROW varies from 90′ to 120′, so the impact on existing development should mostly be minimal, except where realignment would be required because of existing inadequate geometrics, sight distance problems, etc., mainly on the section west of 360.

Fiscal Impact

The estimated total engineering and construction cost for this project is $17.2 million. Right-of-way costs in this area are $5 per square foot.

RM 2244 is designated on the Federal-Aid Secondary System Program and is eligible for federal assistance.

CITY-COUNTY ROADWAYS

12. BURLESON ROAD

Description

Burleson Road is adopted in the AMARP as a four-lane major divided arterial on 90 feet of right-of-way from Stassney Lane to US 183. The proposed amendment would extend the arterial designation of Burleson Road from US 183 east approximately 2.1 miles to FM 973 by increasing the existing two-lane road to a four-lane divided arterial. The recommended amendment is shown in Figure 14.

Recommendation

The recommendation is to leave the designation on Burleson Road extension as a collector and not add this segment to the AMARP.

		ADOPTED AMARP			RECOMMENDED			
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.	
Burleson Rd.	US 183-FM 973	---	--	--	---	--	--	*

* No change to the AMARP

Projected Demand

The projected, maximum, westbound, AM peak hour demand on the Burleson Road extension is 300 vehicles.

Design

Floodplain problems make the design of an arterial roadway problematic.

Natural Environment

Approximately two-thirds of the length of this section of roadway is in the 100-year floodplain of Onion Creek based on the 1973 Corps of Engineer's Study. The City is updating this information, and preliminary results indicate higher flows than the 1973 study. Modifications and fill in floodplain may be extensive. These modifications have the potential to affect some 6500 linear feet of priority riparian woodlands. The crossing of Onion Creek will likely have severe short term impacts on surface water quality, as steep, highly erodible stream banks occur in this area. The entire roadway traverses the recharge zone for the Alluvial and Terrace aquifer.

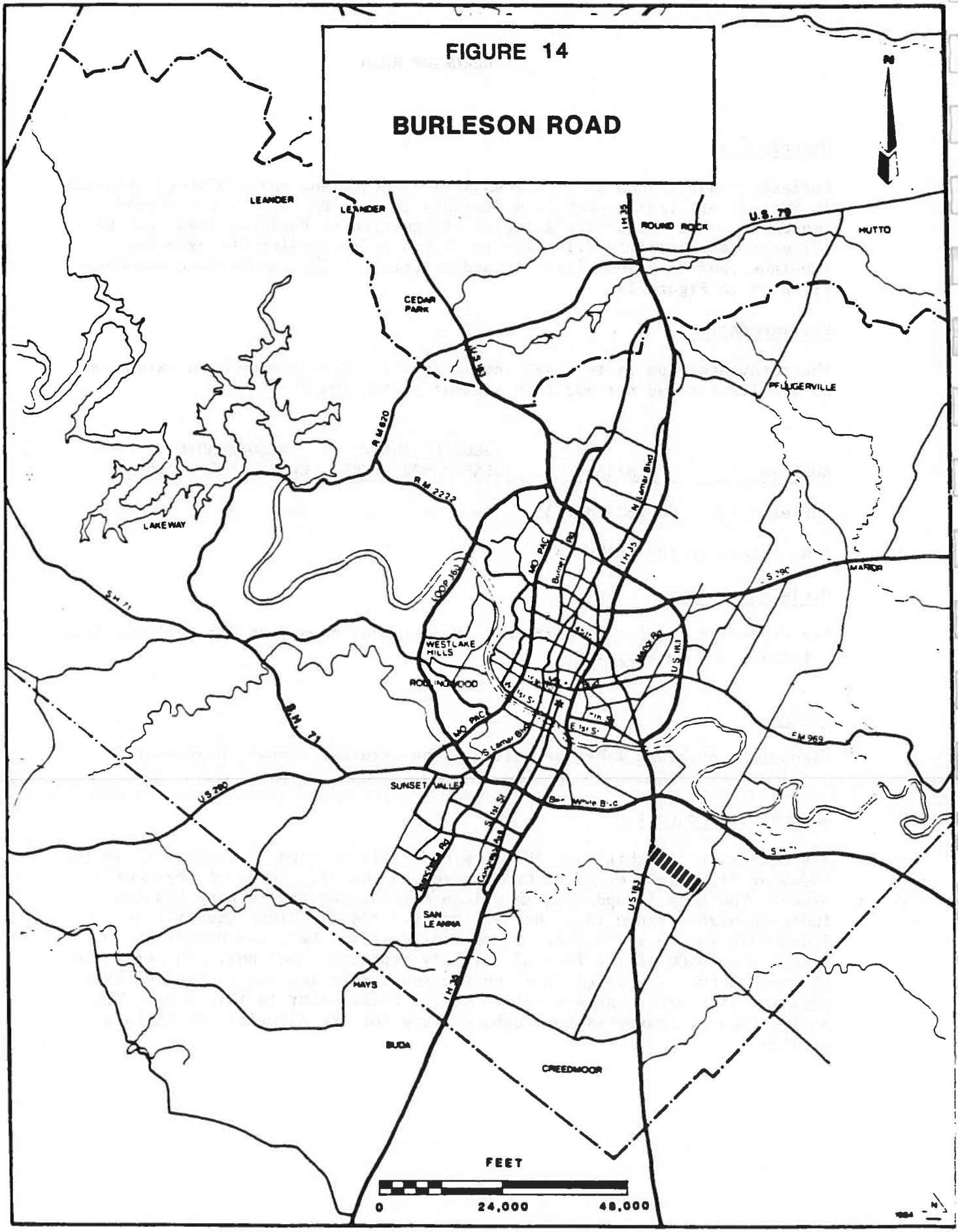


FIGURE 14
BURLESON ROAD
N
LEANDER
LEANDER
ROUND ROCK
U.S. 79
HUTTO
CEDAR PARK
PFLUGERVILLE
R.M. 620
R.M. 2222
LAKEWAY
S.H. 71
(LOOP 360)
WESTLAKE HILLS
ROLLINGWOOD
R.M. 71
MO PAC
S. Lamar Blvd
E. 1st St.
MANOR
FM 969
U.S. 290
SUNSET VALLEY
SAN LEANNA
HAYS
BUDA
CREEDMOOR
FEET
0
24,000
48,000

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
BURLESON RD.	MOD	MOD	MOD	NO CHANGE	NO CHANGE	NO CHANGE	MOD

Built and Social Environment

Subdivision Activity: There is no current subdivision activity on this portion of Burleson Road.

Existing Development: Approximately one-third of the length of this existing section of roadway is adjacent to Bergstrom Air Force property. The remainder traverses Precinct 4 County Park.

Fiscal Impact

The estimated total engineering and construction cost for the proposed amendment is $7.3 million. Right-of-way costs in this area are $3 per square foot.

13. INDUSTRIAL OAKS BOULEVARD

Description

Industrial Oaks Boulevard (US 290 - Brodie Lane) is adopted in the AMARP as a six-lane major divided arterial on 120 feet of right-of-way from Southwest Parkway to US 290. The proposed amendment would extend Industrial Oaks Boulevard from US 290 approximately 1.5 miles to the southeast to Brodie Lane as shown in Figures 15 and 16.

The roadway is adopted in the ATS Plan as a four-lane divided arterial extension of Stassney Lane. This amendment proposal does not consider a connection between Industrial Oaks Boulevard and Stassney Lane because this connection would occur within Sunset Valley's city limits. Sunset Valley City Council opposes the extension of Stassney Lane through their city.

Recommendation

The recommended amendment would add Industrial Oaks Boulevard to the AMARP as a six-lane arterial from US 290 to Loop 1 and a four-lane arterial from Loop to Brodie Lane. Sunset Valley supports a four-lane divided roadway east of Loop 1, but not a six-lane roadway.

		ADOPTED AMARP			RECOMMENDED			
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.	
Industrial Oaks	US 290-LP 1	---	--	--	Major	120	2@36	
	LP 1-Brodie	---	--	--	Major	90	2@24	*

* Subject to coordination with Sunset Valley within its ETJ. Add environmentally sensitive notation to the AMARP.

Projected Demand

The projected demand on this roadway warrants a four-lane divided major arterial with a maximum, westbound, AM peak hour volume of 1,200 vehicles, and a maximum, eastbound, AM peak hour demand of 800 vehicles.

Design

The segment of Industrial Oaks Boulevard from US 290 to Mopac Boulevard is recommended as a six-lane arterial design. Although the results of the model runs indicate that a four lane arterial design would suffice, the two additional lanes better serve the proposed commercial development and the system function. This recommendation is consistent with the right-of-way and roadway design shown by the adjacent developments' proposals. The segment of Industrial Oaks Boulevard from Mopac to Brodie Lane is recommended as a four lane divided arterial section.

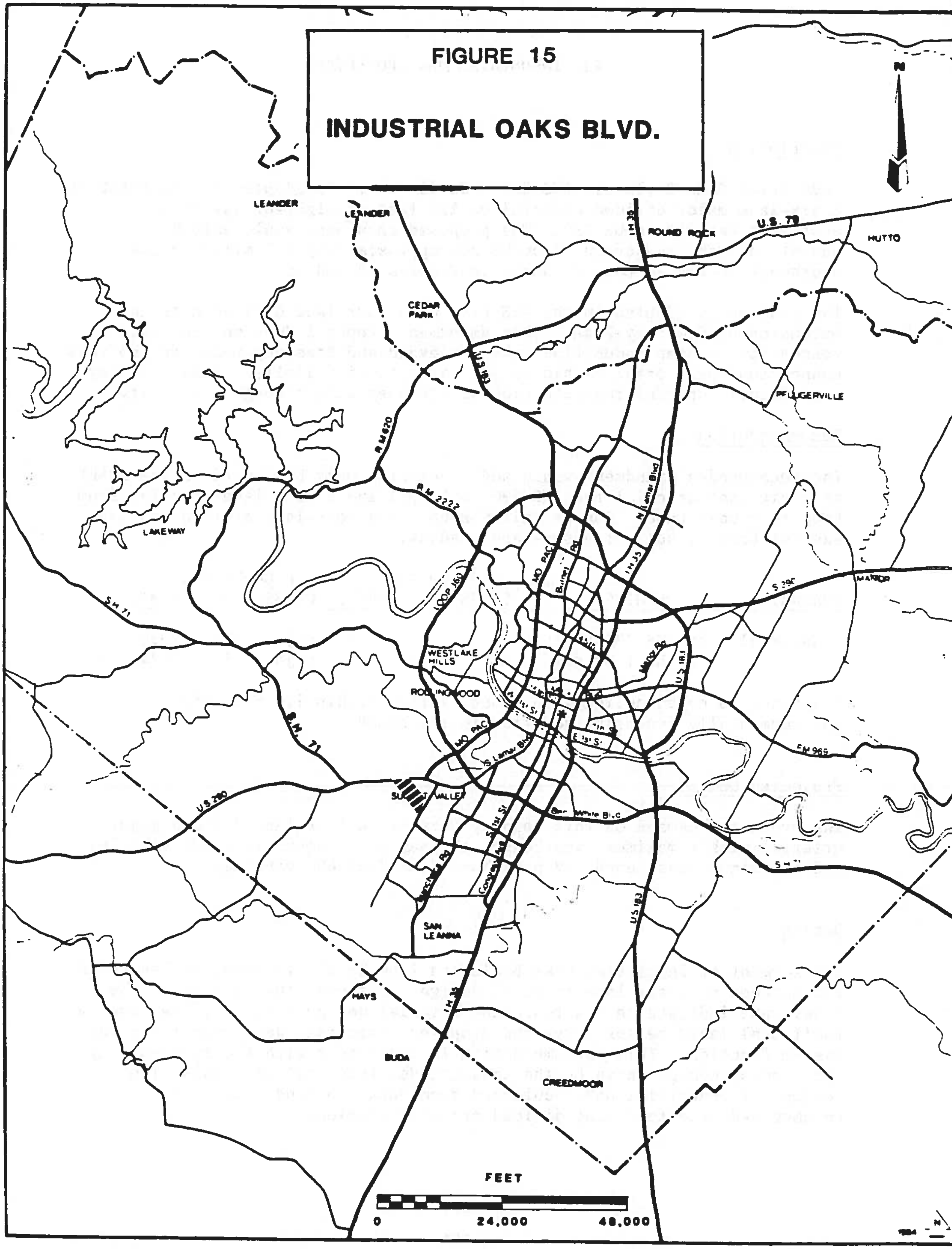


FIGURE 15
INDUSTRIAL OAKS BLVD.
N
LEANDER
LEANDER
I.H. 35
ROUND ROCK
U.S. 79
HUTTO
CEDAR PARK
PFLUGERVILLE
R.M. 620
R.M. 2222
LAKEWAY
N. Lamar Blvd
MO PAC
Burnet Rd
I.H. 35
S. 290
MANOR
LOOP 360
S.H. 71
WESTLAKE HILLS
ROLLINGWOOD
Manor Rd
U.S. 183
MO PAC
S. Lamar Blvd
E. 1st St.
FM 969
S.H. 71
U.S. 290
SUNSET VALLEY
Ben White Blvd
S. 1st St.
Congress Ave
Manchaca Rd
SAN LEANNA
S.H. 71
U.S. 183
HAYS
I.H. 35
BUDA
CREEDMOOR
FEET
0
24,000
48,000
1984

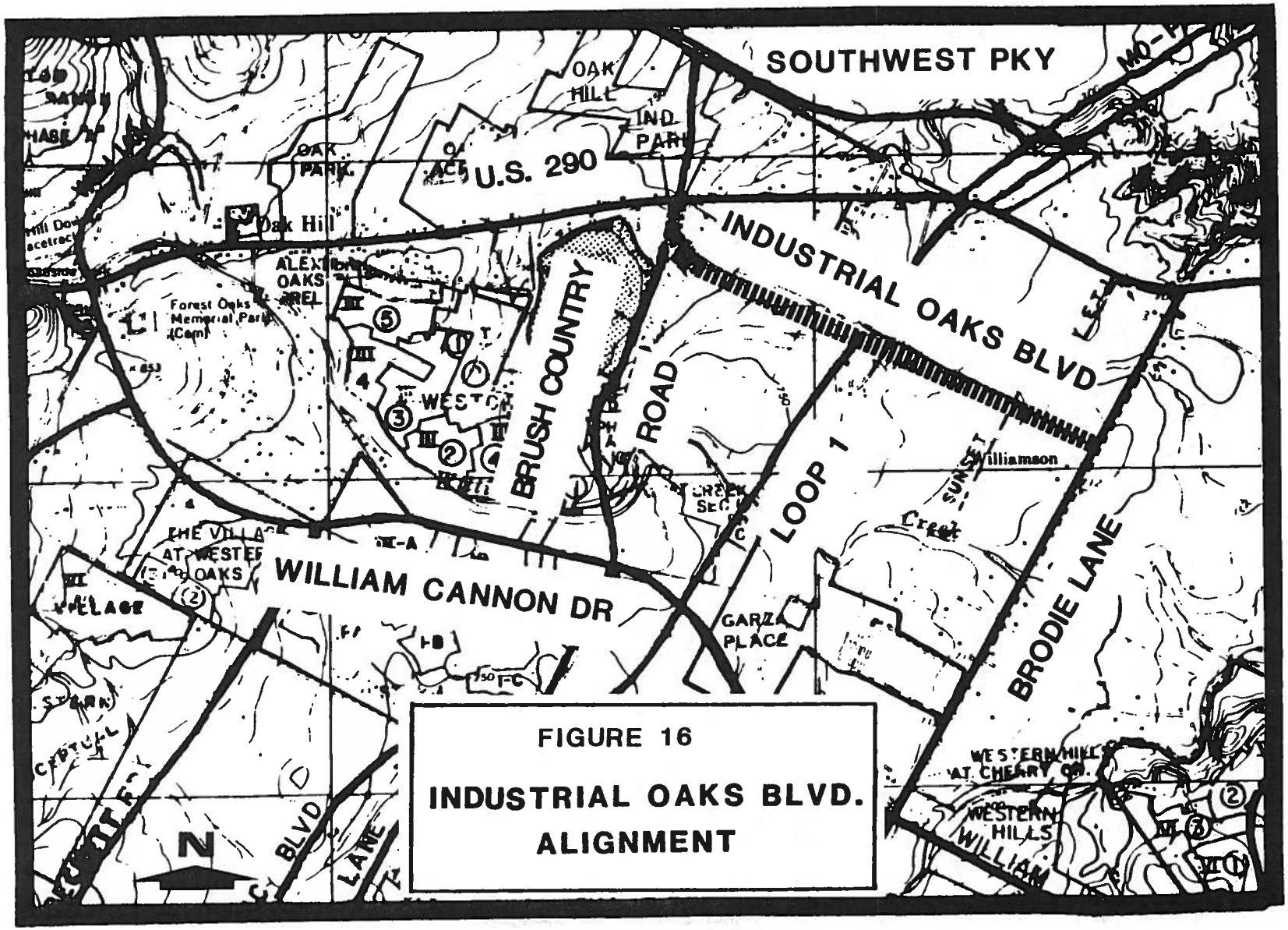


FIGURE 16

INDUSTRIAL OAKS BLVD. ALIGNMENT

Natural Environment

This proposed roadway amendment lies entirely within the Edwards aquifer recharge zone and, therefore, is anticipated to have a high potential for impact on groundwater. Drainage and filtration should be designed to minimize impacts on groundwater quality. It also crosses Williamson Creek, a tributary of Williamson Creek, and some 2400 feet of priority woodlands. This roadway should be designated as traversing an environmentally sensitive area (Edwards aquifer recharge zone).

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
Industrial Oaks	LOW	HIGH	LOW	NO CHANGE	NO CHANGE	NO CHANGE	MOD

Built and Social Environment

Although there is minimal existing development in this area, several development proposals have been submitted to the City. The eastern segment of the roadway enters Sunset Valley's ETJ to intersect Brodie Lane. There are three commercial subdivisions in process. All three show a proposed dedication of 120 feet of ROW for Industrial Oaks Boulevard from US 290 to the Austin/Sunset Valley Extra-Territorial Jurisdiction boundary.

Fiscal Impact

The estimated total engineering and construction cost for this project is $8.2 million. Right-of-way costs in this area are estimated at $10 per square foot.

14. SLAUGHTER LANE

Description

Slaughter Lane is adopted in the AMARP as a six-lane major divided arterial on 120 feet of right-of-way from US 290 to IH 35 and a four-lane major divided arterial on 90 feet of right-of-way from IH 35 to FM 973. The ATS Plan proposed a six-lane divided arterial on 120 feet of right-of-way for this eastern segment of Slaughter Lane. East Slaughter Lane is shown in Figure 17.

Recommendation

There are no changes recommended to the AMARP.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
Slaughter Ln.	IH 35-FM 973	Major	120	2@30	No Change		

Projected Demand

The projected demand for Slaughter Lane is impacted by the proposed Outer Loop which would be a parallel facility south of Slaughter Lane. If the Outer Loop is approved in this section, a four lane divided arterial would be adequate for the projected eastbound demand of 900 vehicles, and the projected westbound demand of 800 vehicles, in the AM peak hour. However, if the Outer Loop is not approved in this section, then six lanes would be needed to meet the projected demand of approximately 1,700 eastbound vehicles in the AM peak hour.

Design

The 120 feet of right-of-way currently adopted on Slaughter Lane in the AMARP is adequate to accommodate a six lane divided arterial, if circumstances dictate.

Natural Environment

The proposed upgrade of Slaughter Lane east of IH 35 entails an increase of pavement width. This will change the potential for impacts on the Alluvial and Terrace aquifer, as the roadway traverses approximately 10,000 feet of the recharge zone. Changes in the crossings of Onion, Marble, and Cottonmouth Creeks and three smaller tributaries may involve more severe short term impacts from construction and longer term water quality impacts from increased roadway drainage. The potential for impacts on riparian woodlands will increase slightly.

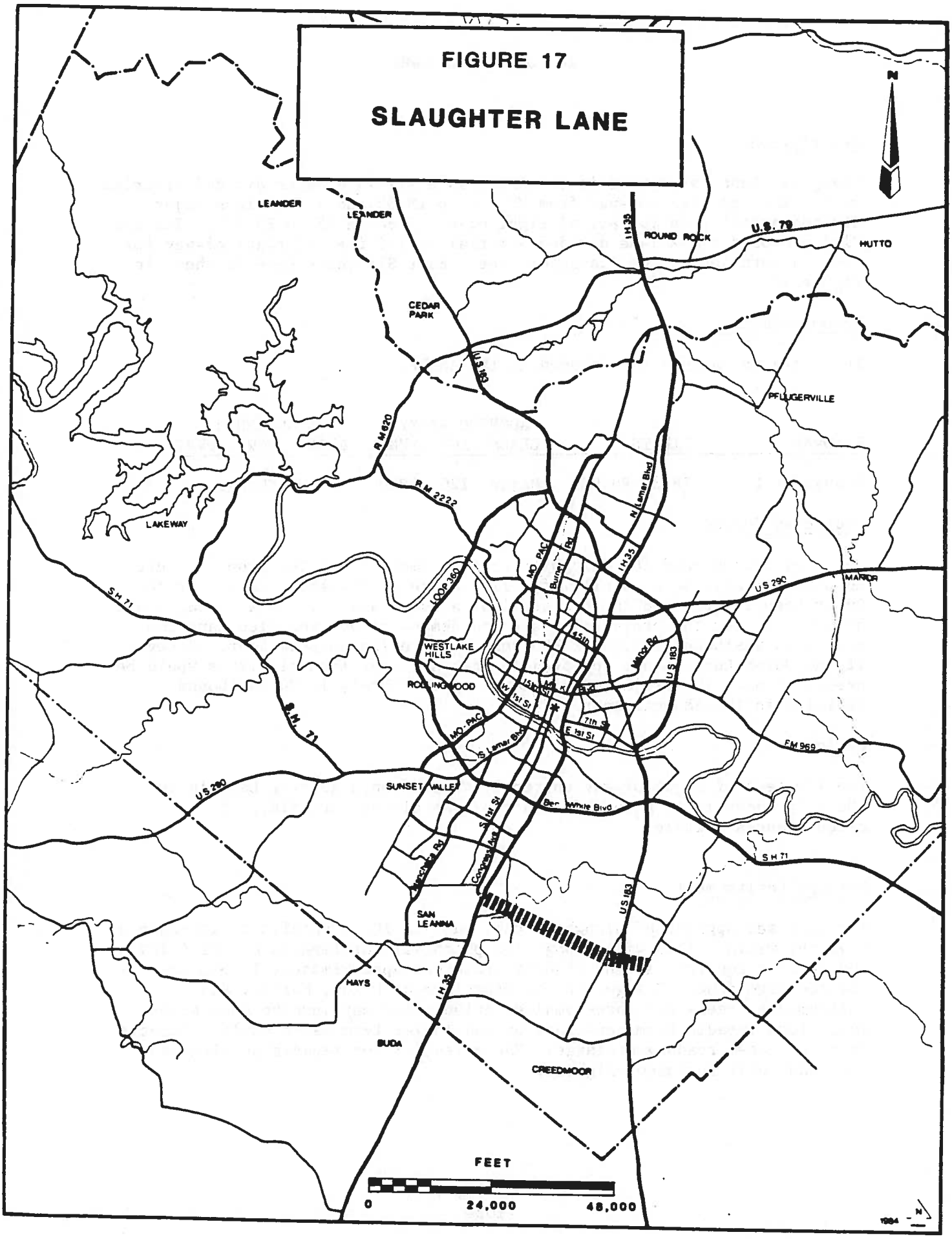


FIGURE 17
SLAUGHTER LANE
N
LEANDER
LEANDER
CEDAR PARK
ROUND ROCK
U.S. 79
HUTTO
I.H. 35
U.S. 183
PFLUGERVILLE
R.M. 620
R.M. 2222
LAKEWAY
N. Lamar Blvd
MO. PAC
Burnet Rd
I.H. 35
LOOP 360
S.H. 71
U.S. 290
MANOR
WESTLAKE HILLS
ROLLINGWOOD
45th St
Manor Rd
U.S. 183
W. 1st St
MO. PAC
S. Lamar Blvd
E. 1st St
71th St
FM 969
S.H. 71
SUNSET VALLEY
U.S. 290
Ben White Blvd
S. 1st St
Congress Ave
Church Hill Rd
S.H. 71
U.S. 183
SAN LEANNA
HAYS
I.H. 35
BUDA
CREEDMOOR
FEET
0
24,000
48,000
1984

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
Slaughter Lane	LOW-MOD	LOW-MOD	LOW	CHANGE	NO CHANGE	NO CHANGE	LOW-MOD

Built and Social Environment

Subdivision Activity: No recent approved subdivisions. Two preliminary plans in process, Slaughter Lane Street Dedication Plat (C8-86-81) and Spring Meadows (C8-86-38) propose 120 feet of ROW for Slaughter Lane.

Existing Development: Although there is minimal existing development, there may be some impact on farmland.

Conclusions/Remarks: The difference between the AMARP plan and the ATS plan would have a negligible impact on the social/development environment since the ROW is the same.

Fiscal Impact

Much of this roadway will be built through the development process through pending subdivisions. The estimated total engineering and construction cost for the proposed amendment is $26 million. Right-of-way costs in this area are estimated at $5 per square foot.

15. SOUTH FIRST STREET

Description

South First Street is one of only four roadways that provide access across the Colorado River in the CBD area. The AMARP does not propose any improvements to South First Street between West First Street and Barton Springs Road. The roadway exists as a four-lane undivided roadway on 60 feet of right-of-way. The bridge structure has narrow sidewalks on each side of the travel lanes. South First Street is shown in Figure 18.

South First Street is adopted in the ATS Plan as a four-lane major divided arterial from West First Street to Barton Springs Road. The existing right-of-way is inadequate for any major improvements to this facility.

Recommendation

The recommended amendment is to widen South First Street and the bridge to six lanes which requires approximately 120 feet of right-of-way.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
So. First St.	Barton Spgs-W. First	Major	60	44/60	Major	120	2@36

Projected Demand

A six-lane divided major arterial is needed to handle the projected demand of 2,400 northbound vehicles, and 2,300 southbound vehicles, in the AM peak hour.

Design

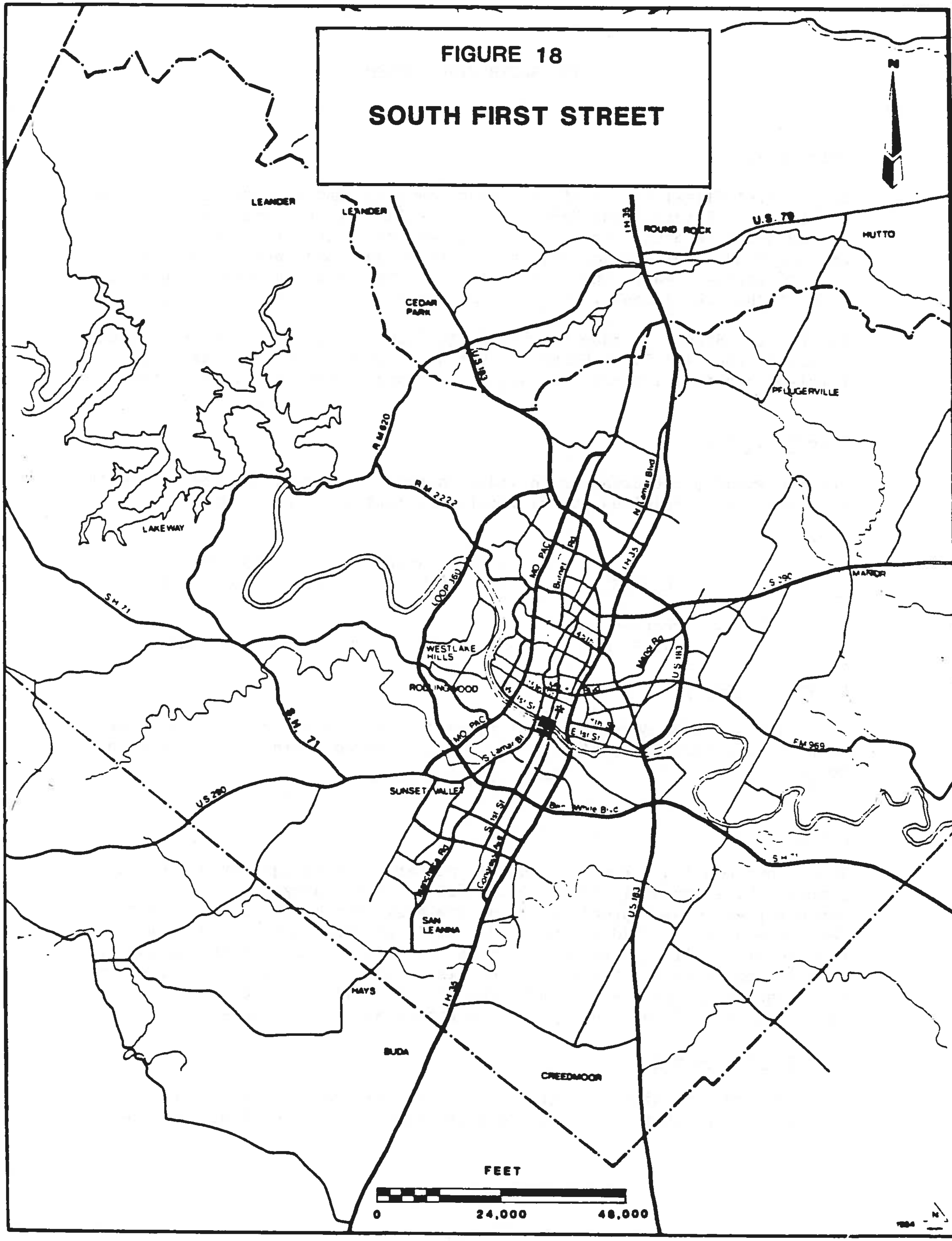
The recommendation for a six lane divided arterial design for South 1st Street, while necessary to serve the future travel demand, presents a serious right-of-way problem. Along the east side of South 1st Street there are several buildings which are built at the limits of the existing right-of-way. Along with western side, buildings pose no problem, but the area is dedicated as city park land. To obtain the necessary right-of-way will require a separate action by the City Council prior to the reconstruction of the roadway and the bridge across Town Lake.

Natural Environment

The proposed expansion of South First Street at Town Lake will likely increase the potential for water quality impacts from construction (short

FIGURE 18

SOUTH FIRST STREET



term) and increased impervious cover and roadway drainage (long term). These impacts can be significantly mitigated with appropriate design criteria and construction methods.

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
South First St.	HIGH	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	MOD

Built and social Environment

Subdivision Activity: There is no new activity in this fully developed urban area.

Existing Development: Existing development on the east may be affected by the additional right-of-way. City parkland and the auditorium are on the west side.

Fiscal Impact

The estimated total construction and engineering cost for this project is $6.8 million. Right-of-way costs in this area are $30 per square foot, however, much of the area south of the river is dedicated parkland. South First Street is designated as MH 376 on the Federal-Aid Urban System Program and is eligible for federal assistance.

16. SOUTHWEST PARKWAY

Description

Southwest Parkway is adopted in the AMARP as a six-lane major divided arterial on 120 feet of right-of-way from Loop 1 to SH 71. Formerly called Boston Lane, this roadway was added to the AMARP as part of the Southwest Amendments on March 22, 1984. The proposed amendment would extend Southwest Parkway from SH 71 approximately 3 miles to the southwest to SH 45 (the Outer Loop) or approximately 5 miles to Arterial #11 as shown in Figures 19 and 20. This segment is adopted in the ATS Mid-Term and Long-Term as a two-lane minor roadway.

Recommendation

Staff recommends that the Council extend Southwest Parkway from SH 71 to SH 45 as a four-lane divided major arterial on 120 feet of right-of-way. It is also recommended that the Council designate Southwest Parkway as a Scenic Arterial because of the unique and scenic qualities of the area through which the roadway will traverse.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
Southwest Pky	SH 71-SH 45	--	--	--	Major	120	2@24

* Recommended for Scenic Arterial Designation. Recommended to add environmentally sensitive notation to the AMARP.

Projected Demand

The projected eastbound demand is 600 vehicles in the AM peak hour, and the projected westbound demand is 400 vehicles. Although a two-lane minor arterial would serve this demand, the turning and passing problems associated with two-lane arterials tend to make them a poor design choice.

Design

A portion of this roadway is already platted as a divided four lane facility. The recommended four-lane divided major arterial design should be continued to provide system continuity. This segment will function as a minor arterial.

Natural Environment Impact

This is a proposed extension of Southwest Parkway west of SH 71 to proposed SH 45. This extension is in the Barton Creek Watershed, and would entail two major (Thomas Springs Branch and Grape Creek) and two minor (unnamed headwater tributaries) creek crossings. The roadway would contribute

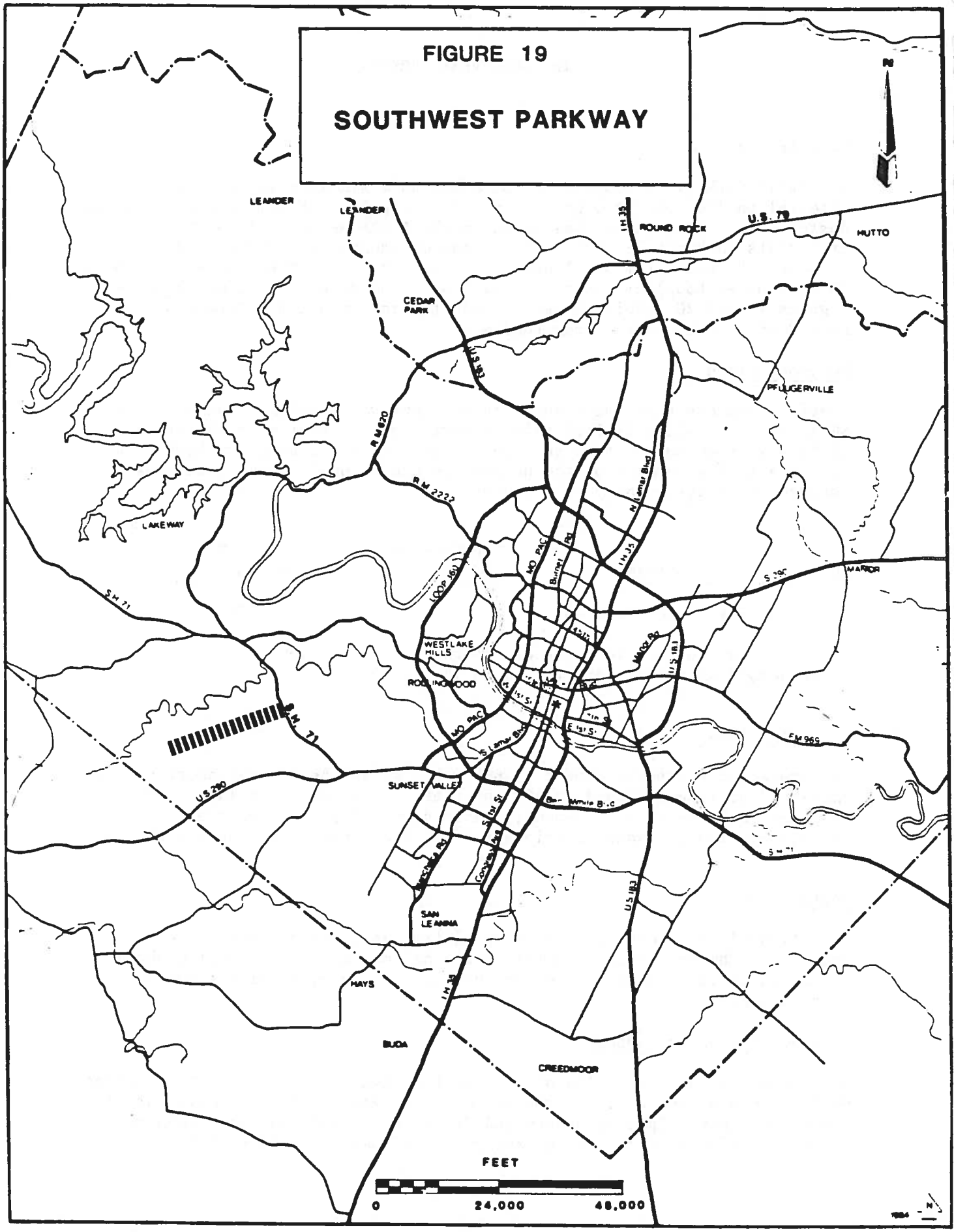


FIGURE 19
SOUTHWEST PARKWAY
N
LEANDER
LEANDER
ROUND ROCK
U.S. 79
HUTTO
CEDAR PARK
U.S. 183
PFLUGERVILLE
R.M. 620
R.M. 2222
LAKEWAY
S.H. 71
LOOP 360
MO PAC
Burnet Rd
N Lamar Blvd
I.H. 35
MANOR
WESTLAKE HILLS
ROLLINGWOOD
Manor Rd
U.S. 183
1st St.
E 1st St.
MO PAC
S Lamar Blvd
F.M. 969
SUNSET VALLEY
U.S. 290
S 1st St.
Barton Creek Blvd
Convict Hill
S.H. 71
U.S. 183
SAN LEANNA
HAYS
I.H. 35
BUDA
CREEDMOOR
FEET
0
24,000
48,000

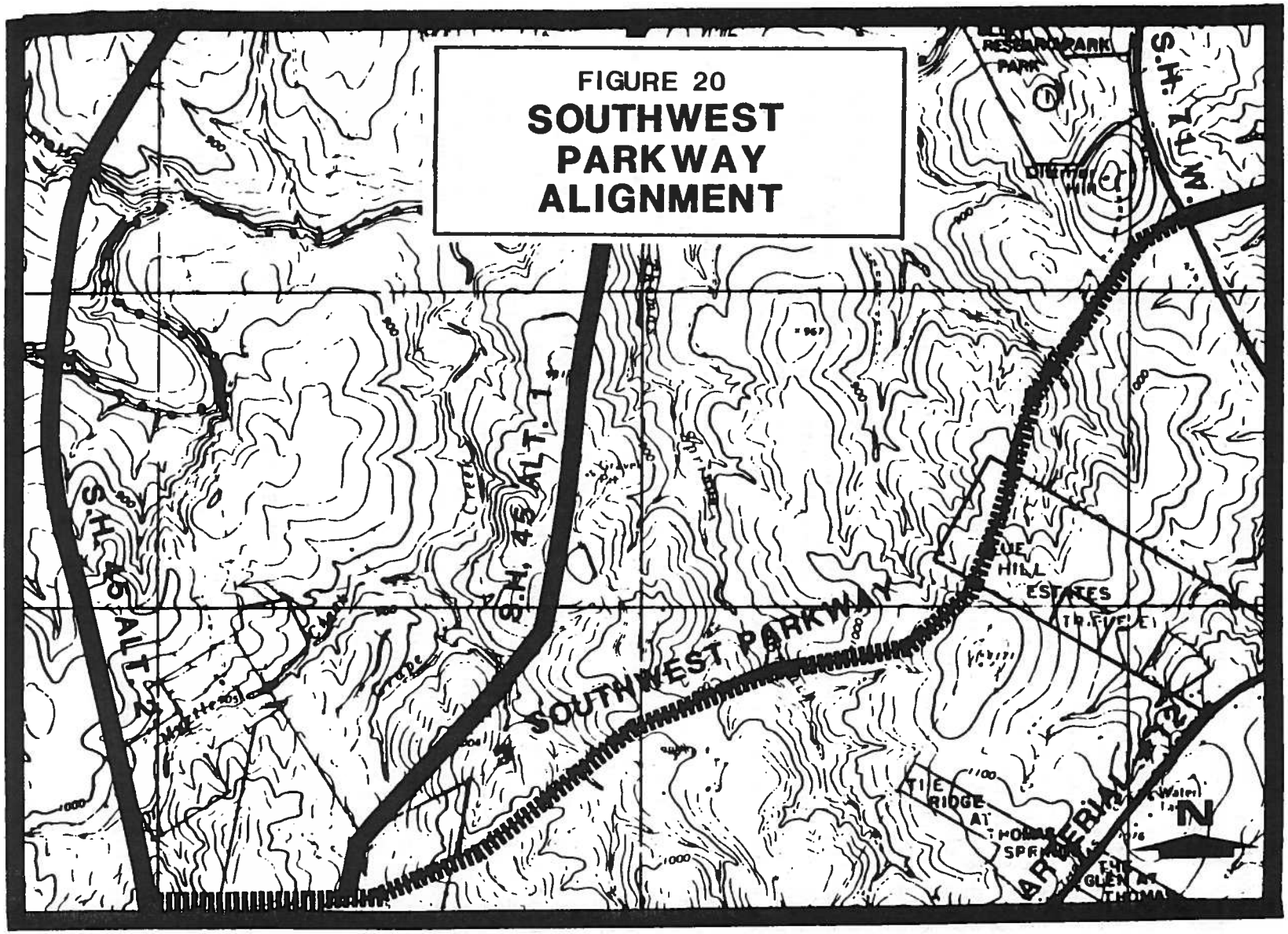


FIGURE 20
SOUTHWEST
PARKWAY
ALIGNMENT
RESEARCH PARK
PARK
S.H. 71 W.
S.H. 45 ALT.
S.H. 45 ALT.
SOUTHWEST PARKWAY
HILL
ESTATES
TIE
RIDGE
AT
ARTERIAL
N

runoff to the Edwards aquifer recharge zone. There is a moderate potential to impact springs (critical environmental features) which may occur in headwater drainageways in this area. No springs are currently known to occur along the conceptual alignment.

The most significant potential for adverse environmental impacts is in the area of biological resources. The extension of Southwest Parkway to proposed SH 45 would traverse approximately 8400 feet of high priority upland woodland habitat and about 8100 feet of other significant woodlands. The priority upland woodlands in this area constitute habitat for the Golden-cheeked Warbler, and activities in the proposed 120 foot right-of-way for the extension of Southwest Parkway could impact 3 to 4 breeding pairs. There is also a moderate potential for Black-capped Vireo habitat along the conceptual alignment, based on the vegetation types in the area and the occurrence of this species on nearby tracts (The Uplands, Steiner Ranch).

Increased development intensity along the roadway corridor and localized changes in land use and the timing of development may increase impacts on sensitive resources. These land use impacts could significantly impact biological as well as water resources in the area, and these impacts could well exceed the direct impacts of roadway construction.

If Segment 3 of SH 45 is not adopted into AMARP, and Southwest Parkway is extended to the current alignment of Arterial 11, it would traverse an additional 3000 feet of priority woodlands and 400 feet of other significant woodlands, and would entail 2 additional major stream crossings (Myrtle and White Branch Creeks).

If adopted, this roadway should be denoted as traversing an environmentally sensitive area, which should in turn trigger consultation with DEP during the pre-design phase of the roadway construction project to determine an exact alignment and appropriate environmental controls for construction to minimize impacts on biological and water resources. The Scenic Arterial designation may be appropriate for this roadway. Consideration should be given to the feasibility of establishing environmental conservation easements to preserve Golden-cheeked Warbler habitat as a part of the amenities of scenic arterials.

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
Southwest Pky	HIGH	MOD	HIGH	HIGH	MOD	TBD	MOD-HIGH

Built and Social Environment

The proposed extension of Southwest Parkway would traverse an area with few existing and proposed developments. The impact upon the existing social and built environment should be minimal since the alignment would avoid developed tracts. Secondary impacts such as increased development pressures may be influenced by the improved access.

Subdivision Activity:

1. Sweetwater Ranch proposes an extension of Southwest Parkway (120' ROW, 2 @ 24') southwest of SH 71. (approved preliminary, C8-85-44.01, approved street dedication plat for +/- 800 linear feet of Southwest Parkway)

2. Overlook Estates (recorded final plat, C8-85-110.1,) is located south of Sweetwater Ranch and west of "Ridge at Thomas Springs". There is no ROW dedicated for Southwest Parkway, however the alignment should be able to avoid this tract.

3. There are some older subdivisions in the area of the intersection with the Outer Loop.

Existing Structures:

There are few existing houses in this area. The alignment probably can avoid all structures, however the topography limits the alternatives.

Fiscal Impact

It is anticipated that much of this roadway will be built through the development process such as the approved Sweetwater Ranch. Although part of the proposed alignment is included in the taxing boundaries of the Southwest Travis County Road District No. 1, the road district's improvements do not extend west of SH 71. The Travis County Commissioners' Court would need to approve any changes to the road district's plans. Voter approval is required for any additional bond money.

The estimated total construction and engineering cost for this project is $17.5 million. Right-of-way costs in this area are $3 per square foot.

17. WILLIAM CANNON DRIVE

Description

William Cannon Drive is adopted in the AMARP as a six-lane major divided arterial from Southwest Parkway to FM 973. The ATS Plan proposes a major four-lane undivided arterial from SH 45 (the Outer Loop) to the ATS Study Boundary. The William Cannon Drive extension is shown in Figures 21 and 22.

Recommendation

The recommended amendment would extend William Cannon Drive from FM 973 approximately 3 miles to the southeast to the town of Elroy as a four-lane divided major arterial and an additional 2 miles to the Austin ETJ boundary as a four-lane undivided arterial. The proposed amendment would connect William Cannon Drive to FM 812.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
William Cannon	FM 973-Elroy	---	--	--	Major	90	2@24 *
	Elroy-ETJ	---	--	--	Major	90	48

*If SH 45 is adopted in the southeast, William Cannon Drive will require six lanes east to SH 45, rather than to FM 973. The four-lane section should then begin at SH 45.

Projected Demand

Much of the demand along this extension is anticipated to be external trips, with their origin and/or destination outside the Austin area.

Design

There are no significant design issues for this amendment.

Natural Environment

The proposed amendment to extend this roadway would entail crossing Dry Creek and two minor creeks, moderately increasing the potential for surface water impacts. The right-of-way of the extension also traverses 1400 feet of significant woodlands and passes next to a priority grassland.

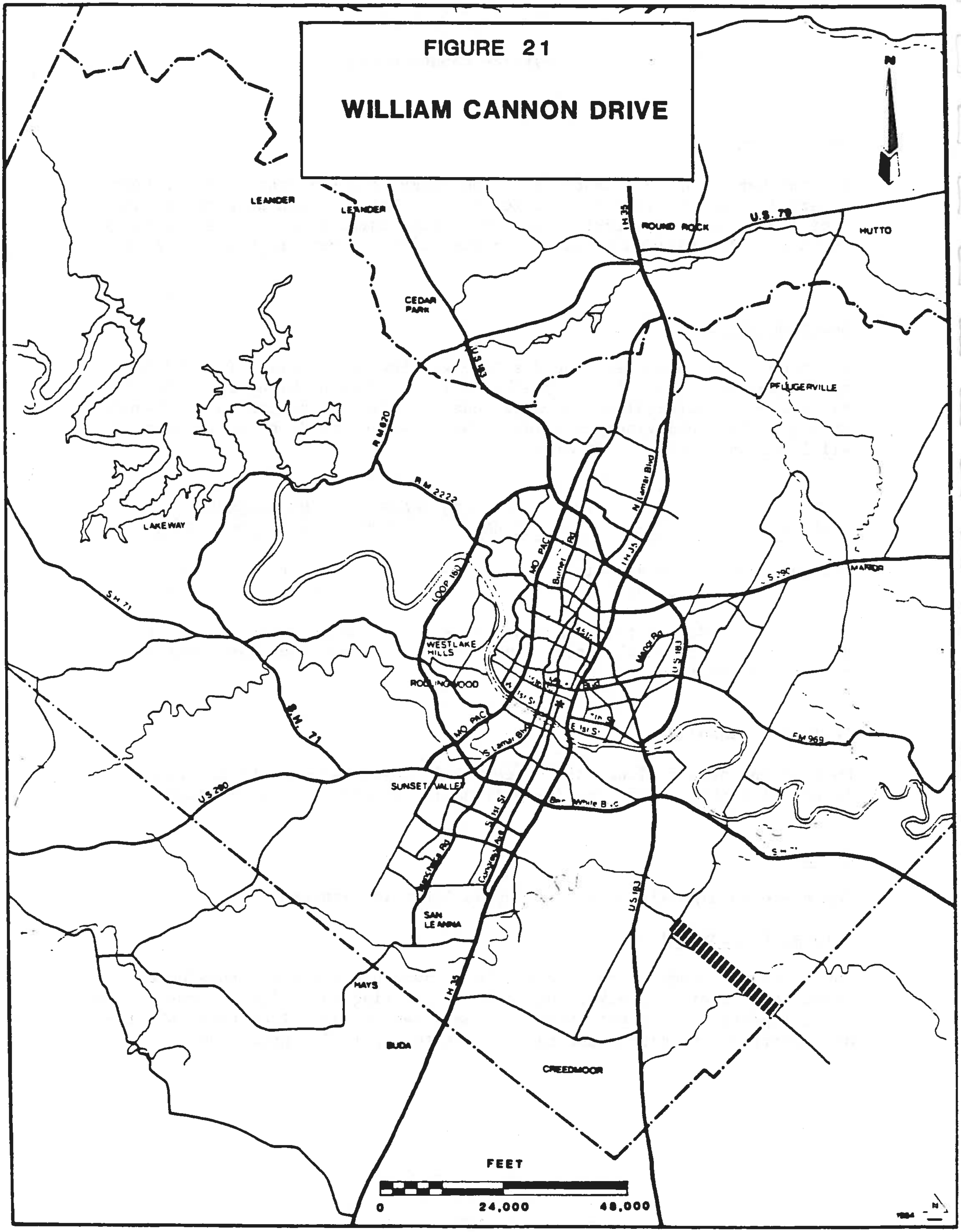


FIGURE 21

WILLIAM CANNON DRIVE

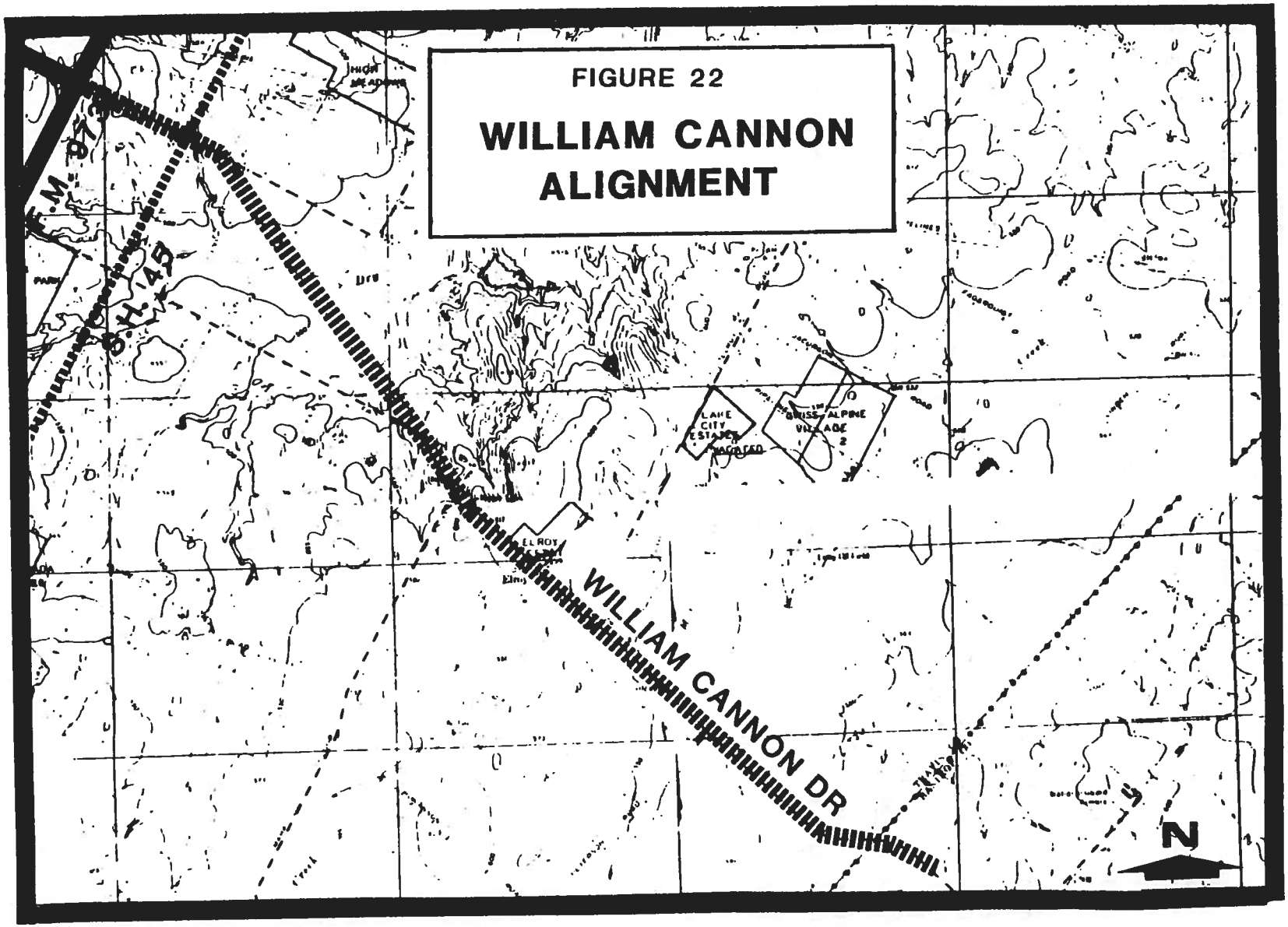


FIGURE 22
WILLIAM CANNON ALIGNMENT
F.M. 973
S.H. 45
WILLIAM CANNON DR
LAKE CITY ESTATES
SWISS ALPINE VILLAGE 2
ELROY
N

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

COM-AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	POSITE
William Cannon	MOD	LOW	LOW	LOW	LOW	TBD	LOW

Built and Social Environment

FM 812 currently has 100 feet of ROW. For the portion of the proposed William Cannon Drive west of the existing FM 812, existing development is minimal with scattered residences and farmland.

Fiscal Impact

The estimated total construction and engineering cost for this project is $11.1 million. Right-of-way costs in this area are $3 per square foot.

18. ARTERIAL #8 (SPICEWOOD SPRINGS ROAD)

Description

Arterial #8 is adopted in the AMARP as a four-lane major divided arterial on 120 feet of right-of-way from RM 620 to Riverplace Boulevard, and 90 feet of right-of-way from Riverplace Boulevard to Loop 360. Arterial #8 is shown in Figure 23.

Arterial #8 is adopted in the ATS Plan as an eight-lane major divided arterial from RM 620 to Jester Boulevard, and a six-lane major divided arterial from Jester Boulevard to Loop 360.

Recommendation

The recommended amendment would upgrade Arterial #8 to a four-lane limited access arterial-parkway from Loop 360 to Riverplace, and a six-lane arterial from Riverplace to SH 45.

		ADOPTED AMARP			RECOMMENDED			
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.	
Arterial 8	LP 360-Riverpl.	Major	90	2@24	Art-Pky	150	2@24	*
	Riverpl.-SH 45	Major	120	2@24	Major	150	2@36	

*A Collector Street Plan and Interim Management Access Plan are recommended for arterial parkway sections. Add environmentally sensitive notation to the AMARP.

Projected Demand

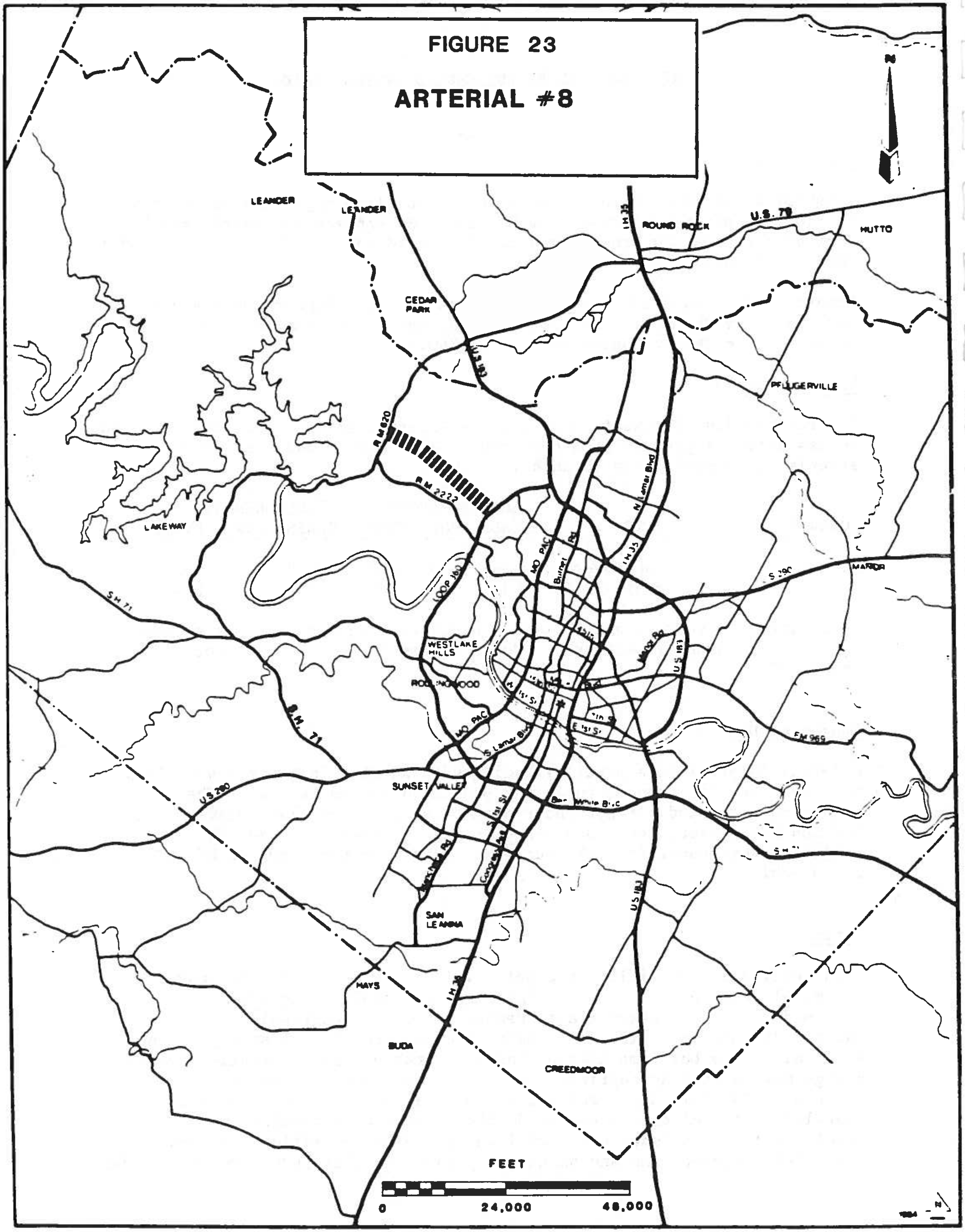
Arterial #8 provides a parallel facility to RM 2222 in an area with limited arterial capacity, consequently the projected demand is high. The projected eastbound, AM peak hour demand is 4,000 vehicles, between Loop 360 and Riverplace, and 2,000 vehicles from Riverplace to RM 620. The projected westbound, AM peak hour demand, between Loop 360 and RM 620, is 2,300 vehicles.

Design

This roadway is identified as a potential scenic arterial. The results of the model runs suggest that an eight-lane arterial is required to accommodate the projected travel demand. Due to topographic constraints and the disruption to the environment the construction of an eight-lane arterial may be both impractical and undesirable. An alternative roadway design may be more appropriate, such as a four-lane limited access arterial. By limiting street and driveway access the capacity of a four-lane arterial can be nearly doubled. This will require the development of a schematic arterial design which identifies the grade separated intersections and an access plan which will permit access to the

FIGURE 23

ARTERIAL #8



adjacent tracts without direct driveway connections to Arterial #8. The design envisioned by staff is not a "parkway" with 300 feet of ROW and a 55+ MPH design speed but a "downscaled" version of this type of facility incorporating all of the access control features, a reduced design speed, and approximately 150 feet of ROW. This arterial parkway design could be incorporated into the Scenic Arterial design standards which are being developed by staff.

Natural Environment

Construction of Arterial #8 will require extensive cut and fill because of the abrupt topography in the area. The alignment will cross two major and three minor streams in the Bull Creek system, and the western one-third traverses the Edwards aquifer recharge zone. Therefore, the proposed expansion of the roadway moderately increases potential impacts on surface and groundwater.

Similar to the proposed expansion of FM 2222, only a relatively minor increase in the potential impact on native habitat is expected, but the increase in right-of-way will likely increase the potential impact on one or more caves that support rare cave-adapted species. It will also increase the potential for impact on habitat of the Black-capped Vireo and Golden-cheeked Warbler.

Critical Environmental Features along or near the right-of-way that will potentially be impacted by the proposed expansion, other than the caves mentioned above, include springs and several major canyon rimrocks.

As a designated Scenic Arterial, environmental conservation easements should be considered to ensure minimal impacts on aesthetic and environmental characteristics of the area. Arterial #8 should be designated in the Roadway Plan as traversing an environmentally sensitive area. DEP should be consulted in the pre-design phase to assist in developing environmental controls for the project.

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
Arterial #8	MOD	MOD	LOW-MOD	MOD	MOD	NO CHANGE	MOD

Built and Social Environment

Subdivision Activity: There is dedicated right-of-way adjacent to the proposed Water Treatment Plant #4 (C8-85-158) near RM 620. There is 70'-90' of right-of-way dedicated just west of Loop 360 in the Great Hills

development, C8-81-22.6. PWB Subdivision, C8-85-23, has been submitted but has not been approved. Jester Point 2, C8-81-14.02, was revised to show 90 feet of right-of-way for Arterial #8 .

Existing Development: Some construction has begun on Arterial #8 including the bridge just west of Loop 360. Otherwise, there is minimal existing development.

Fiscal Impact

The estimated total engineering and construction cost for this project is $13 million. Right-of-way costs in this area are $6 per square foot

19. ARTERIAL #12

Description

Arterial #12 is adopted in the AMARP as a four-lane major divided arterial from Southwest Parkway to IH 35. The proposed amendment would extend this roadway from IH 35 to Bluff Springs Road. Arterial # 12 is adopted in the ATS Plan as a four-lane major divided arterial in this segment. The proposed extension of Arterial #12 is shown in Figures 24 and 25.

Recommendation

There are no recommended changes to the AMARP.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
Arterial 12	IH 35-Bluff Spr	--	--	--	--	--	--

Projected Demand

The projected demand on this segment of Arterial #12 is 1,500 eastbound vehicles, and 1,100 westbound vehicles, in the AM peak hour.

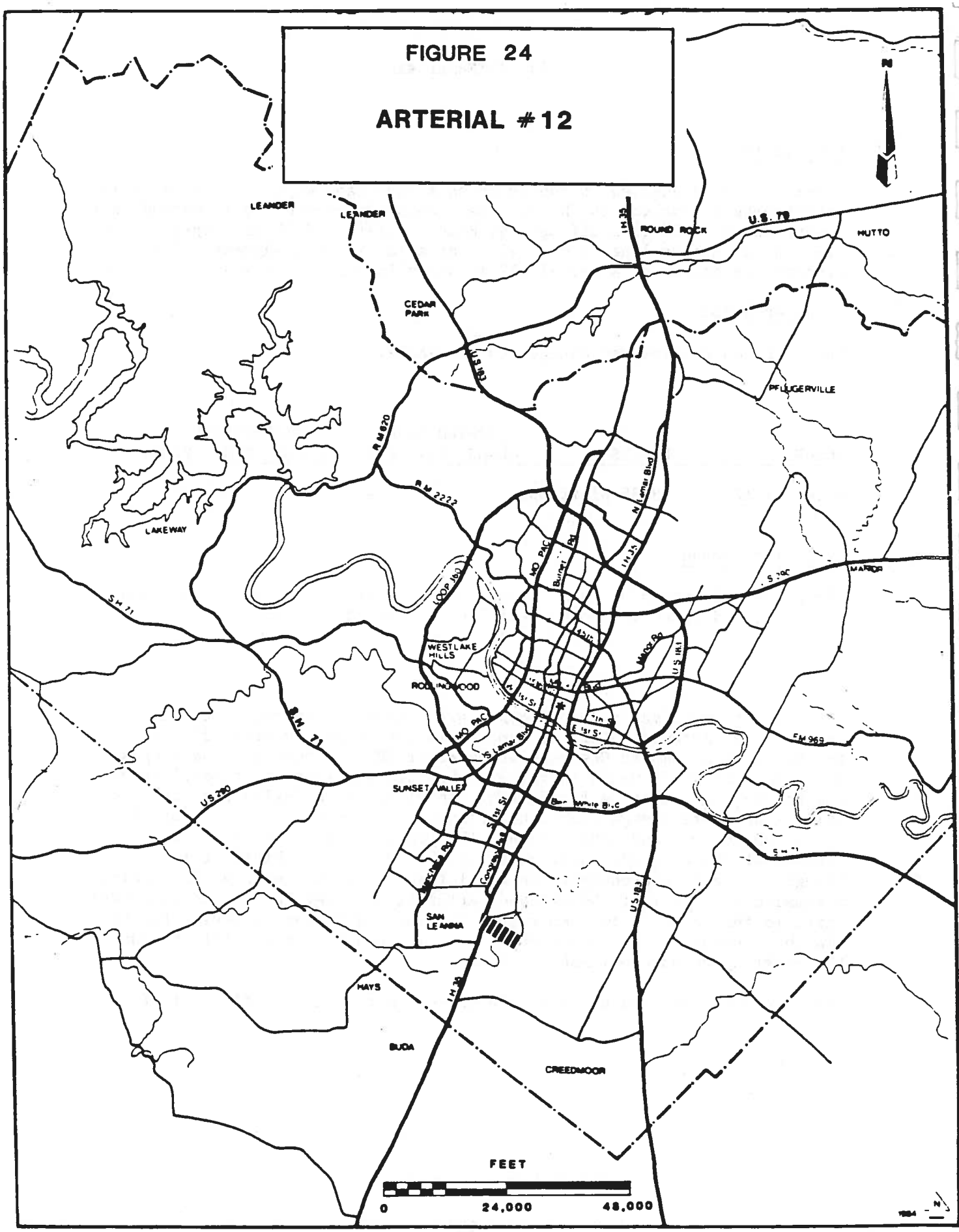
Design

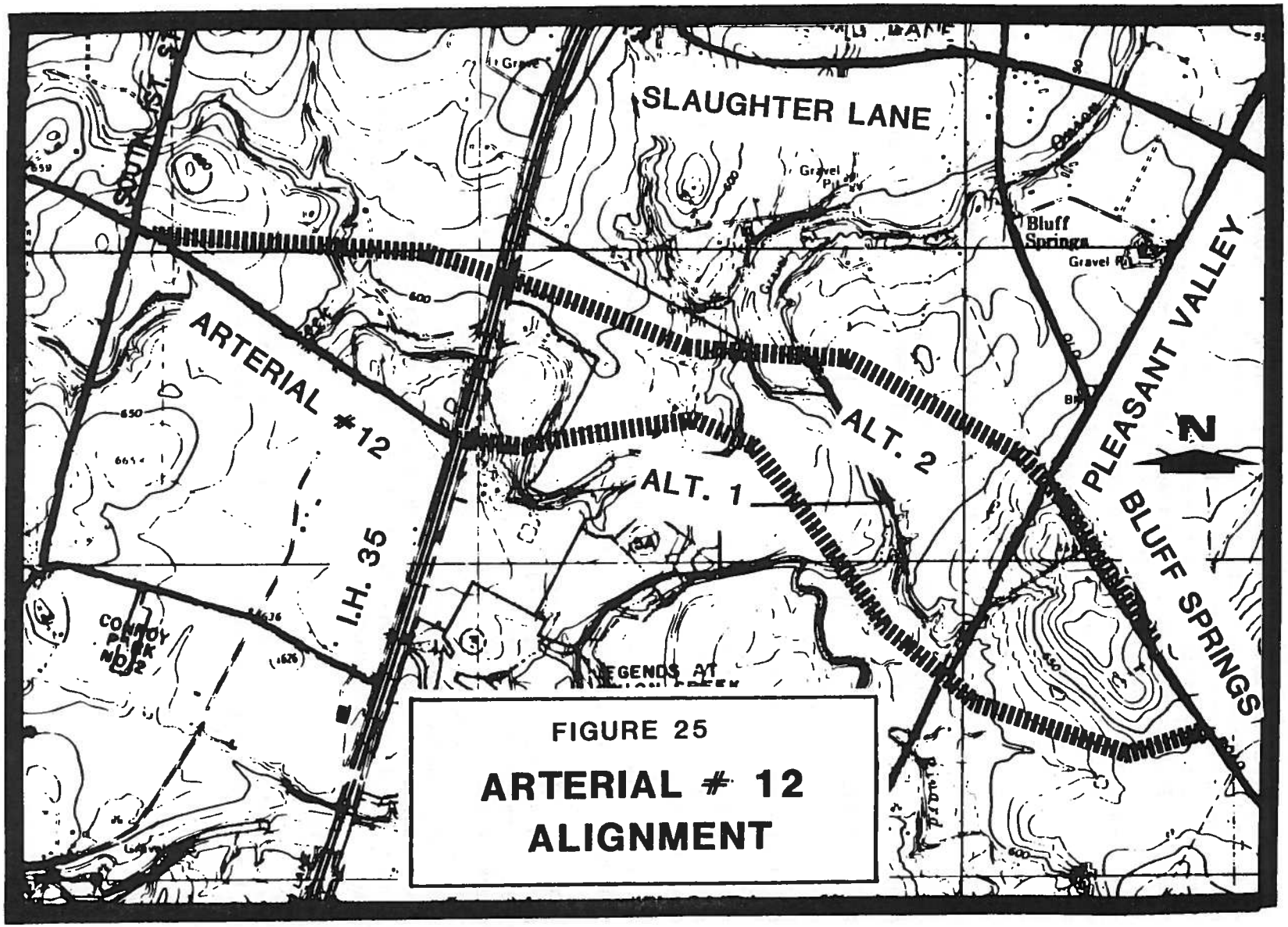
There are several major design constraints involved in the proposed extension of Arterial #12. As adopted in the AMARP, Arterial #12 will use the existing Slaughter Creek interchange at IH 35. However, the proposed route east of IH 35 would traverse a proposed subdivision, several large creeks, and an extensive floodplain. An alternative design was analyzed using a new interchange location farther to the north in an attempt to bypass the creeks and subdivision. This option would not be feasible because of the at-grade location of IH 35. Unlike the bluff at the Slaughter Creek interchange, the level terrain to the north would require extensive fill to lift the proposed Arterial #12 over IH 35. An alignment shift to the north would also reduce the spacing between Arterial #12 and Slaughter Lane. An alignment shift to the south is not feasible because of the existing Onion Creek subdivision.

These constraints prohibit a viable extension of Arterial #12 east of IH 35.

FIGURE 24

ARTERIAL #12




SLAUGHTER LANE
ARTERIAL #12
ALT. 2
ALT. 1
I.H. 35
PLEASANT VALLEY
BLUFF SPRINGS
Bluff Springs
Gravel Pit
N
FIGURE 25
ARTERIAL # 12
ALIGNMENT

Natural Environment

The proposed extension of Arterial #12 east of IH 35 crosses a major loop of Slaughter Creek (equivalent to two crossings), Onion Creek, and Rinard Creek, and one minor creek. These creek crossings and requisite floodplain modifications significantly increase potential impacts on surface water quality. This portion of the roadway also traverses the recharge zone of the Alluvial and Terrace aquifer. In addition, this roadway alignment traverses 3200 linear feet of priority riparian woodlands and 4000 feet of other significant woodlands. Portions of this roadway should be designated as traversing an environmentally sensitive area (important native habitat, surface water).

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
Arterial #12	HIGH	MOD	MOD	LOW	MOD	NO CHANGE	MOD

Built and Social Environment

Subdivision Activity: Approved preliminary Legends Park (residential subdivision) (C8-87-001) would be affected by this extension. (It is just east of IH 35.)

Existing Development: Existing residential development would be affected (Onion Creek and Legend of Onion Creek).

Conclusions/Remarks: The environmental/social/cost($) impact of the proposed extension of Arterial 12 seems very high. If the alignment was shifted to the north, the impact on existing residential development and creek crossings would be less, but: 1) it moves the interchange at IH 35 to within one mile (4000-5000 ft.) of the existing South Congress/Slaughter Lane exchange and 2) it would require realignment of the proposed Arterial 12 west of IH 35 (to South First, at least), and 3) it might require a realignment of Bluff Springs Road and/or Pleasant Valley Road near their intersection.

Fiscal Impact

The estimated total engineering and construction cost for this project is $8.1 million. Right-of-way costs in this area are $4 per square foot.

20. 3RD STREET PARKWAY

Description

The 3rd Street Parkway would be a new facility into the downtown from the west. The proposed alignment extends along the MoPac Railroad line between Loop 1 and Nueces Street where CBD bound trips would be distributed onto a 3rd/4th Street one-way pair. The proposed amendment would improve access between downtown, MoPac Boulevard and neighborhoods to the west. It would divert through traffic from West 1st, 5th, and 6th Streets to the new facility. The proposed 3rd Street Parkway is shown in Figure 20.

Recommendation

The recommended amendment is to add 3rd Street as a four-lane parkway from Loop 1 to Nueces. The final design of this roadway may require a future amendment to West 1st Street.

		ADOPTED AMARP			RECOMMENDED		
ROADWAY	LIMITS	CLASS	ROW	PVMT.	CLASS	ROW	PVMT.
3rd St. Pky	LP 1-Nueces	--	--	--	Pky	150	2@24

Projected Demand

The projected demand along this facility is 2,300 eastbound vehicles, and 2,100 westbound vehicles, in the AM peak hour.

Design

The results from the model runs suggest that a four lane parkway design could accommodate the forecast travel demand. The City of Austin has a consultant under contract to develop a design and alignment for this proposed facility. A minimum of 150 feet of right-of-way will be required depending upon the final design for the roadway.

Natural Environment

The proposed roadway traverses Lower Colorado River terrace deposits which may potentially impact groundwater. A minor increase in the potential surface water quality impacts may result from construction and roadway drainage at the crossing of Shoal Creek. Otherwise, no significant environmental impacts are anticipated.

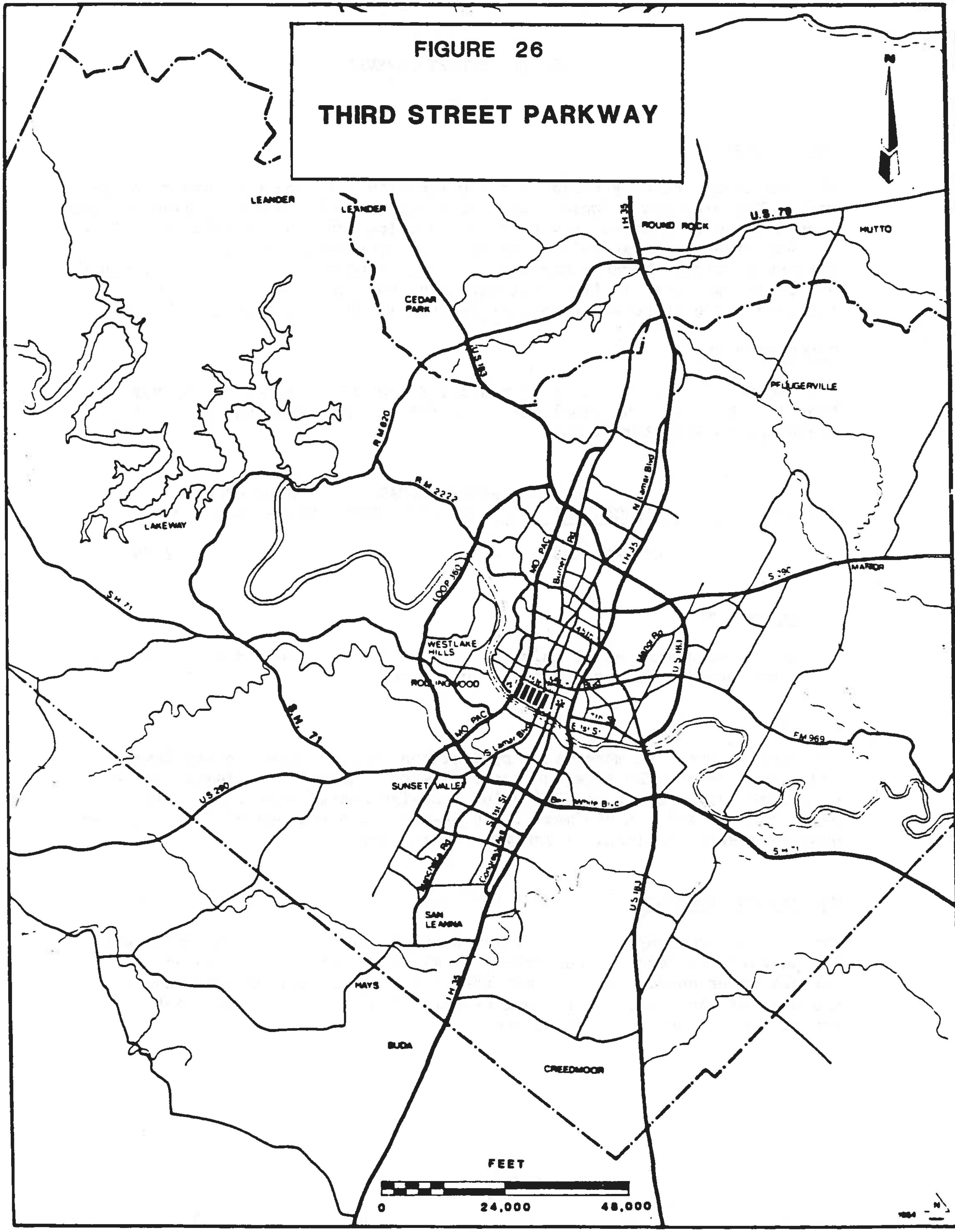


FIGURE 26
THIRD STREET PARKWAY
N
LEANDER
ROUND ROCK
U.S. 79
HUTTO
CEDAR PARK
PFLUGERVILLE
R.M. 620
R.M. 2222
LAKEWAY
N Lamar Blvd
MO PAC
Burnet Rd
IH 35
MANOR
S.H. 71
LOOP 360
WESTLAKE HILLS
ROLLINGWOOD
U.S. 183
R.M. 71
MO PAC
S Lamar Blvd
FM 969
SUNSET VALLEY
U.S. 290
S 1st St
Manchaca Rd
Congress Ave
SAN LEANNA
U.S. 183
IH 35
HAYS
BUDA
CREEDMOOR
FEET
0
24,000
48,000

POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACT

AMENDMENT	SURFACE WATER	GROUND WATER	NATIVE HABITAT	RARE & END SP.	CEF'S, OTHER	AIR QUALITY	COM-POSITE
3rd Street Pky	LOW	LOW	NO CHANGE	NO CHANGE	NO CHANGE	TBD	LOW

Built and Social Environment

Subdivision Activity: No current, new activity.

Existing Development: Third Street is not continuous through this area; existing residential and commercial development would be affected.

Fiscal Impact

The estimated cost for this project is $46-48 million (Source: Downtown Gateway Access Study).