

ORDINANCE NO. 95 0309-.G

AN ORDINANCE AMENDING THE COMPREHENSIVE PLAN BY ADOPTING THE AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN TO REPLACE THE AUSTIN METROPOLITAN AREA ROADWAY PLAN; WAIVING THE RULE REQUIRING THE READING OF ORDINANCES ON THREE (3) SEPARATE DAYS; PROVIDING FOR SEVERABILITY; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, the Austin Transportation Study (ATS) is the Metropolitan Planning Organization for the City of Austin and surrounding jurisdictions; and

WHEREAS, the ATS has adopted the Austin Metropolitan Area Transportation Plan (AMATP) for the metropolitan planning area and has requested member jurisdictions to adopt AMATP; and

WHEREAS, the City Council wishes to adopt a transportation plan consistent with the ATS plan; and

WHEREAS, the City Council has received recommendations about the adoption of AMATP from the Planning Commission and the City Manager and has conducted a public hearing as required by the City Charter;

NOW, THEREFORE,

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:

PART 1. That the City Council hereby adopts and approves as an element of the Comprehensive Plan the Austin Metropolitan Area Transportation Plan (AMATP), a copy of which is attached hereto as Exhibit "A" and incorporated by reference as if fully set out herein, with the following additional provisions:

- (a) Specific roadway alignments within the City's planning jurisdiction shall be as determined by the Director of the Department of Planning and Development or his successor in function, except that any roadway addition, deletion, change of classification or change of alignment of more than one thousand five hundred (1500) feet in any direction shall require an amendment according to procedures set forth in the Austin City Charter;
- (b) Right of way requirements shall be as set forth in the Transportation Criteria Manual as it shall be amended from time to time; and
- (c) Bicycle access requirements shall be determined by AMATP and the Austin Bikeway Plan, as they shall be adopted or amended from time to time.

PART 2. That AMATP is a policy document, implementation of which shall be by separate

ordinance or ordinances adopted in accordance with the procedures set forth in the Land Development Code.

PART 3. That AMATP replaces the Austin Metropolitan Area Roadway Plan for all purposes, and that references in the Land Development Code to the Roadway Plan shall be construed as references to the roadway elements of AMATP.

PART 4. That the requirement imposed by Section 2-2-3 of the Austin City Code of 1992, as amended, that this ordinance be read on three (3) separate days shall be waived by the affirmative vote of five (5) members of the City Council to pass this ordinance through more than one reading on a single vote.

PART 5. That if any provision, section, sentence, clause or phrase of this ordinance, or the application of same to any person or set of circumstances is for any reason held to be unconstitutional, void, invalid or for any reason unenforceable, the validity of the remaining portion of this ordinance or its application to other persons or sets of circumstances shall not be affected thereby, it being the intent of the City Council of the City of Austin in adopting this ordinance that no portion hereof or provision or regulation contained herein shall become inoperative or fail by reason of any unconstitutionality or invalidity of any other portion, provision or regulation.

PART 6. That this ordinance shall be effective on the twenty-first day after the date of its passage.

PASSED AND APPROVED:

March 9, 1995

§
§
§
§



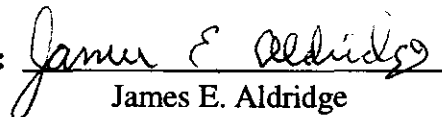
Bruce Todd
Mayor

APPROVED:



Andrew Martin
City Attorney

ATTEST:



James E. Aldridge
City Clerk

GB:glb

The ATS Vision:

The ATS regional transportation plan and program will provide for the maximum mobility for the people of the Greater Austin Metropolitan Area with the least detrimental effects. It will support the goals of safety, clean air, clean water, and preservation and respect for neighborhoods. It will anticipate future conditions and be realistic, affordable and effective to the community. It will foster the development and maintenance of a metropolitan area with full opportunity for and inclusion of a citizenry which is culturally, economically and physically diverse.

Adoption Resolution

Whereas the *Austin Metropolitan Area Transportation Plan (AMATP)* was prepared in accordance with the requirements of the Intermodal Surface Transportation Efficiency Act (ISTEA) and USDOT federal guidelines; and

Whereas the Austin Transportation Study and participating agencies agreed to cooperatively develop a regional transportation plan for the Austin metropolitan area in order to meet our medium and long range transportation needs; and

Whereas this *AMATP* will serve as a planning tool and not an action plan for a future transportation system by providing a long-term guide for a right-of-way reservation and a mid-term guide for public investment in transportation improvements; and

Whereas implementation of the proposed elements of this plan will require approval from local jurisdictions and participating agencies over the next 25 years, followed by review and possible endorsement by the Austin Transportation Study Policy Advisory Committee of the use of Federal funds for priority projects in its five-year Transportation Improvement Program; and

Whereas the vision of the Austin Transportation Study is as follows:

The ATS regional transportation plan and program will provide for the maximum mobility for the people of the Greater Austin Metropolitan Area with the least detrimental effects. It will support the goals of safety, clean air, clean water, and preservation and respect for neighborhoods. It will anticipate future conditions and be realistic, affordable and effective to the community. It will foster the development and maintenance of a metropolitan area with full opportunity for and inclusion of a citizenry which is culturally, economically and physically diverse.

NOW, THEREFORE, BE IT RESOLVED:

- A. That the *AMATP* is adopted as the Long Range Transportation Plan under ISTEA for the Austin Metropolitan Area and supersedes the current (1986) *Transportation Plan for the Austin Metropolitan Area*; and
- B. The ATS Policy Advisory Committee shall use the following criteria in its review and endorsement of any transportation projects, whether contained in this plan or proposed in the future:
 - Consistency with land use and master plans of local jurisdictions
 - Cost effectiveness and fiscal impact
 - Traffic demand
 - Pedestrian, cyclist, and motorist safety
 - *Recommendations of implementing agencies and jurisdictions*
 - Neighborhood impact
 - Environmental impact
 - Consistency with overall transportation plans and mass transit plans

ADOPTED DECEMBER 12, 1994

Preface

The *Austin Metropolitan Area Transportation Plan (AMATP)* is a planning guide which contains transportation policy and projects for the next 25 years (to 2020). The Plan includes policies and programs for congestion/demand management, transit, bicycles, pedestrians and trails, roadways and freight. The *AMATP* must be revised at least every five years (by 1999).

The *AMATP's* primary use is as a regional long-range plan for federally funded projects, and it also serves as a comprehensive, coordinated transportation plan for all the governmental jurisdictions within the ATS area. Different jurisdictions have different transportation implementation responsibilities under the Plan. These include Texas Department of Transportation, Capital Metro, and cities and counties.

The *AMATP* promotes a change from existing transportation conditions and trends by encouraging alternatives to the single-occupant motor vehicle for travel, especially during "rush hour." This is made necessary by our growing population and the inability to build enough roadways to handle the demand. The question is how much and how fast should we change. We must start from where we are, i.e., heavy dependence on the automobile. We cannot force changes in travel behavior, but rather must encourage change through transportation alternatives and programs. Transportation policy alone cannot change transportation trends, changes in land use trends must be made also.

Austin Metropolitan Area Transportation Plan

Austin Transportation Study Policy Advisory Committee

Gonzalo Barrientos, ATS Chair	State Senator
Valarie Bristol, Vice Chair	Travis County Commissioner
Jeff Wentworth	State Senator
Susan Combs	State Representative
Wilhelmina Delco	State Representative
Sherri Greenberg	State Representative
Michael Krusee	State Representative
Glen Maxey	State Representative
Elliott Naishtat	State Representative
Bill Aleshire	Travis County Judge
Marcos de Leon	Travis County Commissioner
Mike Heiligenstein	Williamson County Commissioner
Bruce Todd	Mayor, City of Austin
Gus Garcia	City of Austin Council Member
Jackie Goodman	City of Austin Council Member
Scott Polikov	Capital Metro Board Member
Bill Garbade	TxDOT District Engineer

Austin Transportation Study Staff

Michael R. Aulick	Transportation Planning Director
Nancy Ledbetter	Senior Planner
Lee Hoy	Senior Planner
Rick Lakata	Transportation Engineer
David Mann	Planner II
Mary Hawkins	Grant Specialist
Stephanie Brandstetter	Administrator
David Menter	Graduate Intern
Karen Smith	Graduate Intern
Cindy Jordan	Graduate Intern

This report was prepared by the Austin Transportation Study (ATS). Comments or questions regarding the contents of this report should be directed to ATS by writing to:

Austin Transportation Study
P.O. Box 1088 - Annex
Austin, Texas 78767
Re: AMATP
(fax) 499-2269

"The contents of this report reflect the views of the authors who are responsible for the opinions, findings, and conclusions presented herein. The contents do not necessarily reflect the views or policies of the Federal Highway Administration, the Federal Transit Administration, or the Texas Department of Transportation."

Austin Metropolitan Area Transportation Plan

Table of Contents

	Page
1.0 INTRODUCTION	1-1
1.1 BACKGROUND	1-1
1.1.1 ISTE A and the New Focus in Transportation Planning	1-1
1.1.2 Previous Long Range Plan - 1986	1-1
1.2 THE AUSTIN TRANSPORTATION STUDY	1-2
1.2.1 History and Governing Body	1-2
1.2.2 Study Area	1-2
1.2.3 MPO Purpose and Responsibilities	1-2
1.3 PLAN PREPARATION AND IMPLEMENTING AGENCIES	1-2
2.0 VISION, OPPORTUNITIES AND CONSTRAINTS	2-1
2.1 THE ATS VISION	2-1
2.2 OBJECTIVES	2-1
2.3 CONCEPTS AND STRATEGY	2-2
2.4 OPPORTUNITIES AND CONSTRAINTS	2-3
3.0 NEED FOR AMATP	2-1
3.1 ISTE A REQUIREMENTS - PLANNING REGULATIONS	3-1
3.1.1 Financially Constrained Plan	3-1
3.1.2 Metropolitan Planning Factors	3-1
3.1.3 Public Involvement Program	3-2
3.2 TRANSPORTATION AND DEMOGRAPHIC TRENDS	3-3
3.2.1 Austin Metropolitan Area Trends	3-3
3.2.2 Population and Employment Forecasts	3-3
3.3 PUBLIC SURVEY RESULTS	3-4
3.4 AIR QUALITY AND ENERGY CONSERVATION	3-8
3.4.1 Air Quality Program	3-8
3.4.1.1 Emission Inventory and Forecast	3-8
3.4.1.2 Ozone Advisory Program & Voluntary Vehicle Trip Reduction Program	3-8
3.4.1.3 Long Range Pollutant Reduction Measures	3-9
3.4.2 Energy Conservation	3-9
3.4.2.1 Federal Legislative Requirements	3-9
3.4.2.2 State Requirements	3-10
3.4.2.3 Local Programs	3-10
3.4.2.4 ATS Initiatives and Strategies	3-10
3.5 LIST OF BACKGROUND STUDIES/DOCUMENTS	3-10
3.5.1 Metropolitan Planning Factors Report	3-10
3.5.2 Public Involvement Program	3-10
3.5.3 Transportation Trends Report	3-10
3.5.4 Public Opinion Survey	3-10
3.5.5 Emission Inventory and Forecast	3-10

4.0 AMATP ELEMENTS

4-1

4.1	PLAN INTEGRATION, IMPLEMENTATION AND INTERMODALISM	4.1-1
4.1.1	Integration and Implementation Policies and Programs	4.1-1
4.1.2	Access to Intermodal Transportation Networks	4.1-3
4.1.2.1	Intermodalism	4.1-3
4.1.2.2	ISTEA	4.1-3
4.1.2.3	Access	4.1-3
4.1.3	Intermodal Policies and Programs	4.1-5
4.1.3.1	General	4.1-5
4.1.3.2	Access to Airports	4.1-6
4.1.3.3	Access to Freight Distribution Routes	4.1-7
4.1.4	List of Background Studies and Documents	4.1-7
4.1.4.1	Design Criteria for Intermodal Access	4.1-7
4.1.4.2	Report on Airport Access	4.1-7
4.1.4.3	Survey of Local Transportation Providers	4.1-7
4.2	PUBLIC TRANSPORTATION ELEMENT	4.2-1
4.2.1	Introduction	4.2-1
4.2.1.1	ISTEA Requirements	4.2-1
4.2.1.2	Challenges and Opportunities	4.2-2
4.2.2	Public Transportation Policies and Programs	4.2-5
4.2.3	Facilities and Service	4.2-10
4.2.4	List of Background Studies/Documents	4.2-18
4.2.4.1	Capital Metro: Five Year Service Plan, 1994	4.2-18
4.2.4.2	University of Texas Shuttle: Five Year Service Plan	4.2-18
4.3	CONGESTION/DEMAND MANAGEMENT ELEMENT	4.3-1
4.3.1	Introduction	4.3-1
4.3.1.1	ISTEA Requirements	4.3-1
4.3.1.2	Increasing Demands on the Transportation System	4.3-2
4.3.2	CDM Policies and Programs	4.3-3
4.3.3	List of Background Studies/Documents	4.3-10
4.3.3.1	Congestion Management System Work Plan	4.3-10
4.3.3.2	Transportation Trends: 1960 - Present	4.3-10
4.3.3.3	Congestion Management Techniques	4.3-10
4.3.3.4	Congestion/Demand Management Technical Report	4.3-10
4.3.3.5	Austinplan: Transportation Plan for Implementation	4.3-10
4.4	BICYCLE / PEDESTRIAN / TRAIL ELEMENT	4.4-1
4.4.1	Introduction	4.4-1
4.4.1.1	ISTEA Requirements	4.4-1
4.4.1.2	Problems and Opportunities	4.4-1
4.4.2	Policies and Programs for ATS and Member Jurisdictions	4.4-3
4.4.3	Policies and Programs for Member Jurisdictions	4.4-9
4.4.4	List of Background Studies/Documents	4.4-11
4.4.4.1	Existing Bicycle Facilities and Programs in the City of Austin	4.4-11
4.4.4.2	Innovative Ideas in Bicycle Transportation in U.S. Cities With High Usage of Bicycles for Transportation	4.4-11
4.4.4.3	Proposed City of Austin Bicycle Plan	4.4-11
4.4.4.4	Issues and Strategies for City of Austin Pedestrian Plan	4.4-11
4.4.4.5	Draft Map of Trails and Regionally Significant Bicycle Routes	4.4-11
4.4.4.6	Austinplan: Transportation Plan for Implementation	4.4-11
4.4.4.7	Pflugerville Bicycle Plan	4.4-11
4.4.4.8	Draft Travis County Pedestrian Policy and	

4.4.4.9	Implementation Plan	4.4-11
	Draft Travis County Trail Plan	4.4-11
	Attachment A - Design Standards	4.4-12
4.5	ROADWAY ELEMENT	4.5-1
4.5.1	Introduction	4.5-1
4.5.2	Roadways	4.5-1
4.5.3	Roadways Policies and Programs	4.5-3
4.5.4	List of Background Studies and Documents	4.5-5
4.5.4.1	Austinplan: Transportation Plan for Implementation	4.5-5
4.5.4.2	Transportation Plan for the Austin Metropolitan Area, Preliminary Draft, 1991	4.5-5
4.6	FREIGHT ELEMENT	4.6-1
4.6.1	Introduction	4.6-1
4.6.1.1	ISTEA Requirements	4.6-1
4.6.1.2	Roadway Freight	4.6-1
4.6.1.3	Rail Freight	4.6-3
4.6.1.4	Air Freight	4.6-3
4.6.1.5	Effects of NAFTA	4.6-3
4.6.2	Policies to Enhance Freight Movement	4.6-5
4.6.3	List of Background Studies and Documents	4.6-7
4.6.3.1	Vehicle Classification Report	4.6-7
4.6.3.2	Impacts of NAFTA on Freight Transportation in Austin	4.6-7
4.6.3.3	Introduction of Freight Terminology	4.6-7
4.6.3.4	Traffic Volume Analysis	4.6-7
4.6.3.5	Characteristics of Major Freight Operations	4.6-7
4.6.3.6	Summary of TxDOT Major Investment Studies (SH-130 and IH-35)	4.6-7
5.0	FINANCIAL PLAN	5-1
5.1	INTRODUCTION	5-1
5.1.1	ISTEA Requirements	5-1
5.1.2	Current Planning Considerations of ATS Member Jurisdictions	5-1
5.2	POLICY INITIATIVES AND STRATEGY	5-3
5.2.1	General	5-3
5.2.2	Structure of the Financial Plan	5-4
5.2.3	Use of Public/Private Partnerships	5-5
5.2.4	Project Financing and Implementation	5-5
5.3	FINANCIAL STRATEGY	5-6
5.4	POLICIES AND PROGRAMS	5-10
6.0	TRANSPORTATION GLOSSARY	6-1
7.0	TRANSPORTATION ACRONYM LIST (TAL)	7-1
8.0	LIST OF PREPARERS	8-1
9.0	REFERENCES	9-1
10.0	INDEX	10-1

Austin Metropolitan Area Transportation Plan

List of Figures

1.0 INTRODUCTION

- 1.1 The Metropolitan Area 1-3

2.0 VISION, STRATEGY, OPPORTUNITIES AND CONSTRAINTS

3.0 NEED FOR AMATP

- 3.1 ATS Subareas 3-5
3.2 Comparison of Population and Employment Year 2020 Forecasts
By Subareas: 1991 & 1994 3-6

4.0 AMATP ELEMENTS

Plan Implementation, Integration and Intermodalism

- 4.1-1 Intermodal Sites 4.1-4

Public Transportation Element

- 4.2-1 Capital Metro Service Area within the ATS Study Area 4.2-3
4.2-2 Principal Transit Corridors 4.2-9
4.2-3 Long Term Transit Network 4.2-11
4.2-4 Current & Forecasted Daily Transit Ridership Based on "Trends"
Land Use Forecast 4.2-15
4.2-5 Fixed Guideway Network Forecasted Year 2020 Daily Link Volumes 4.2-16

Congestion/Demand Management Element

- 4.3-1 Traffic Congestion and Major Traffic Generators 4.3-4
4.3-2 Major Traffic Generators (Austin CBD) 4.3-5
4.3-3 AM Peak Period (7:00 - 8:30) Traffic Congestion 4.3-7
4.3-4 PM Peak Period (4:30 - 6:00) Traffic Congestion 4.3-8

Bicycle / Pedestrian / Trail Element

- 4.4-1 Group A/B/C Cyclists 4.4-4
4.4-2a Metropolitan Bicycle Route System 4.4-5
4.4-2b Metropolitan Bicycle Route System (Central) 4.4-6

Roadway Element

- 4.5-1 Roadway Plan 4.5-6

Freight Movement Element

- 4.6-1 Roadway Freight Corridors by Volume of Trips 4.6-2
4.6-2 Areas of Concentrated Roadway Freight Activity 4.6-4

Austin Metropolitan Area Transportation Plan List of Tables

4.0 AMATP ELEMENTS

Public Transportation Element

4.2-1	Transit Based Land Use Development Patterns	4.2-9
4.2-2	Public Transportation Plan	4.2-13
4.2-3	Description of Transit Service Types	4.2-17

Roadway Element

4.5-1	Austin Metropolitan Area Transportation Plan Roadway Table	4.5-5
4.5-2	Criteria for the Functional Classification of Roadways	4.5-31
4.5-3	Recommended Service and Design Standards for Roadways	4.5-32

5.0 FINANCIAL PLAN

5.1	Financial Plan Transportation Cost Estimates	5-7
5.2	Financial Plan Capital Projects Summary	5-8
5.3	Financial Plan Operation and Maintenance Summary	5-9

950309-G

Section 1

Introduction

1.0 INTRODUCTION

The *Austin Metropolitan Area Transportation Plan (AMATP)* is the long range transportation plan required by federal law for the Austin metropolitan area that looks to the year 2020. The *AMATP* is a revision of the *ATS Transportation Plan for the Austin Metropolitan Area* adopted in 1986. The *AMATP* considers a wide range of social, environmental, energy and economic factors in determining overall regional goals and how transportation can best meet these goals. The plan identifies congestion/demand management techniques, and transit, bicycle, pedestrian, trail and roadway facilities needed to serve the metropolitan area's expected growth to the year 2020. The *AMATP* should serve as a guide for planning, evaluation, and implementation of transportation projects within the Austin metropolitan area. The *AMATP* is intended to be a flexible guide to implementing local transportation solutions in a logical, rational basis.

1.1 BACKGROUND

1.1.1 The Intermodal Surface Transportation Efficiency Act (ISTEA) and the New Focus in Transportation Planning

The Intermodal Surface Transportation Efficiency Act (ISTEA) was signed into federal law on December 18, 1991. ISTEA places renewed emphasis on transportation planning, programming and project selection by both Metropolitan Planning Organizations (MPOs) such as ATS, and state Departments of Transportation (DOTs). ISTEA focuses transportation planning priority on overall mobility, environmental and community goals rather than on capital investment. A wider variety and balance of transportation modes is sought, as well as an emphasis on the preservation of existing systems over the construction of new facilities. Rules from the U.S. DOT require that the plan be revised at least every five years.

The *AMATP* arises out of requirements set forth in the Metropolitan Planning section of the ISTEA. MPOs are responsible for developing, in cooperation with the State and affected transit operators, a long-range transportation plan and a transportation improvement program (TIP) consistent with that plan. The planning process includes consideration of land use, intermodal connectivity, methods to enhance transit service, and needs identified through the transportation management systems.

Within the ISTEA framework, *AMATP* identifies transportation facilities, including major roadways, transit, and multimodal and intermodal facilities, that based on growth forecasts will be needed in the next twenty-five years. In addition, The *AMATP* includes a financial plan that indicates public and private resources which are reasonably expected to be available and identifies financing techniques to fund transportation projects and programs.

Since the signing of the ISTEA legislation in 1991 and the amendments to the Clean Air Act in 1990, transportation planning has shifted focus from the continuing expansion of roadways to an emphasis on the more efficient use of existing roadways, and other modes of transportation, including transit, ridesharing, bicycle, and pedestrian facilities and congestion demand management techniques.

1.1.2 Previous Long Range Plan - 1986

The adopted April 1986 *Transportation Plan for the Austin Metropolitan Area* emphasized the implementation of capital-intensive roadway and transit facilities to serve Austin's future transportation needs. In the period from 1980-1985, Austin experienced very rapid growth in population and employment, resulting in extensive demands on the existing roadway system. Projections indicated a continuation of this trend; the 1986 plan documented the need for roadway and transit improvements to meet the existing and future transportation needs. The Plan promoted comprehensive transportation goals consistent with existing regional land use goals.

In December 1991 a draft *Transportation Plan for the Austin Metropolitan Area* was presented to the Austin Transportation Study Policy Advisory Committee as a revision to the 1986 Plan. The draft Plan lowered the Year 2020 forecast of population by 500,000 persons and redirected urban growth away from environmentally sensitive areas in western Travis County. Based on the new population forecast and urban pattern, a revised travel forecast indicated the need for additional roadways and public transportation service, particularly in the central city. This draft Plan was not adopted because of the passage of ISTEA and its new Plan requirements. At its meeting in April 1992, the ATS Policy Advisory Committee adopted a motion to direct that the impact and disruption on existing residential neighborhoods from transportation proposals be evaluated and eliminated as much as possible.

1.2 THE AUSTIN TRANSPORTATION STUDY

1.2.1 History and Governing Body

Established in 1973, the Austin Transportation Study (ATS) is the designated Metropolitan Planning Organization (MPO) for the Austin metropolitan area. ATS is governed by a 17-member Policy Advisory Committee (PAC) as listed on page iii.

1.2.2 Study Area

The ATS study area, as shown in Figure 1.1, includes Travis County, and the city limits and extraterritorial jurisdictions (ETJs) of Austin, Round Rock, Cedar Park, Leander, and Hays. This area includes portions of the region that are currently urbanized or are likely to be urbanized by the year 2020, as well as non-urban areas that are logical extensions based on inter-community travel patterns. Figure 1.1 identifies all local jurisdictions within the ATS area.

1.2.3 MPO Purpose and Responsibilities

The purpose of ATS is to coordinate regional transportation planning among the state, three counties, nineteen cities, and Capital Metro and to approve the use of federal transportation funds. ATS is responsible for the promotion of transportation systems which embrace a variety of modes in a manner that efficiently maximizes the mobility of people and goods with minimal energy consumption, air and water pollution, and negative social impacts.

1.3 PLAN PREPARATION AND IMPLEMENTING AGENCIES

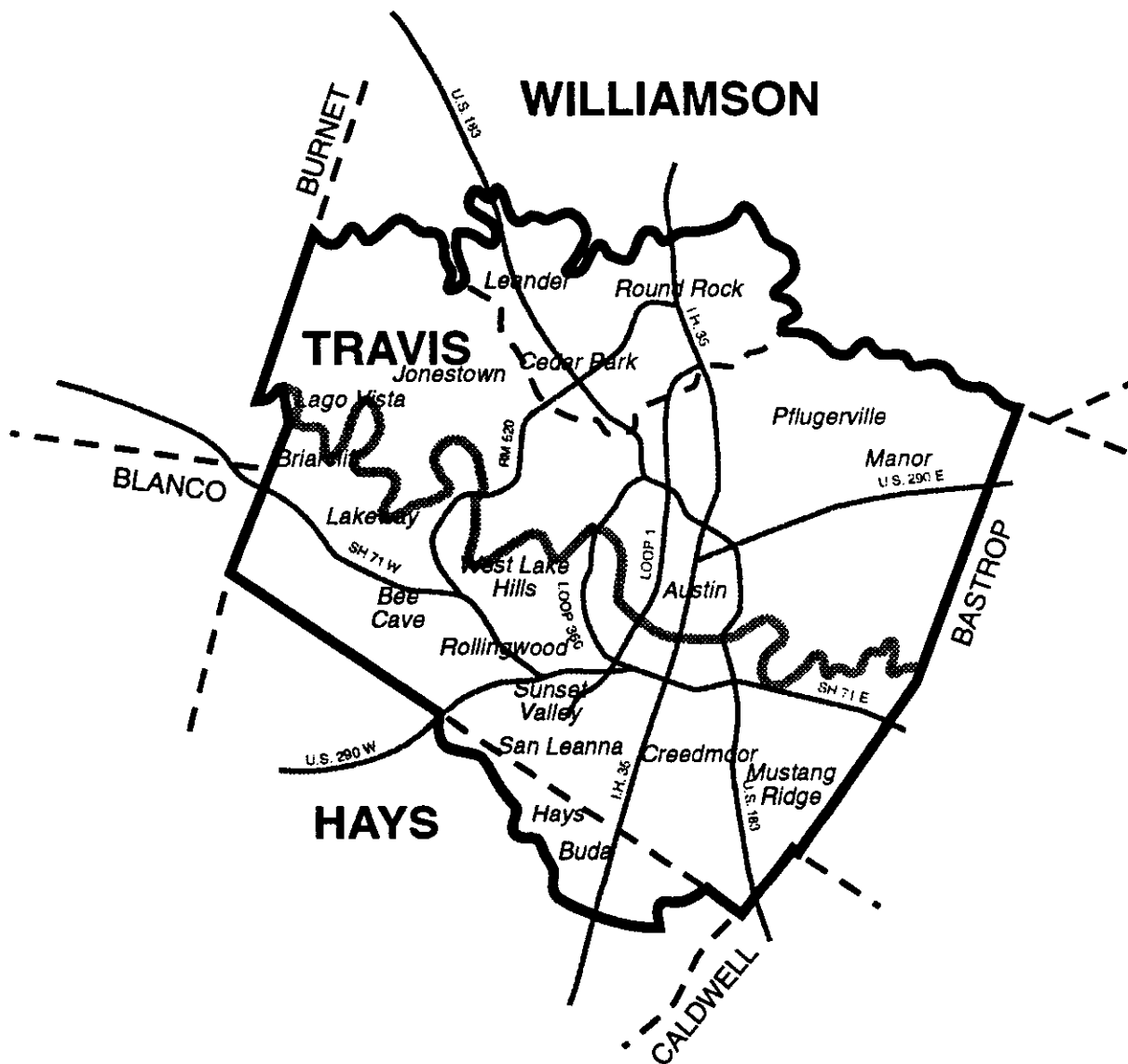
Agencies working with ATS in the *AMATP* preparation include the Capital Metropolitan Transportation Authority (Capital Metro), the City of Austin, Travis County, Texas Department of Transportation (TxDOT), Texas Parks and Wildlife Department, the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA).

Under contract with ATS, Capital Metro has prepared the Public Transportation Element of the *AMATP* and contributed to the Congestion/Demand Management Element. The City of Austin Department of Public Works and Transportation has been the lead agency in the development of the Congestion/Demand Management Element. The City of Austin Department of Planning and Development prepared the Bicycle and Pedestrian Element and the population and employment forecasts. The City of Austin Environmental Conservation Services Department prepared the air quality emission inventory and forecast. The Travis County Public Improvements and Transportation Department assisted with the development of the Congestion/Demand Management Element and the Bicycle/Pedestrian/ Trail Element. The Texas Parks and Wildlife Department assisted with the trails portion of the Bicycle/Pedestrian/Trail Element. TxDOT has provided the roadway and transit modeling. Other local jurisdictions provided data for preparation of the population forecasts.

Many of the agencies that have been involved in the preparation of the *AMATP* are also the implementing agencies. The recommended actions for most transportation modes require implementation actions by all transportation providers including TxDOT, Capital Metro, Capital Area Rural Transportation System (CARTS), cities, and counties. Actions will also be

requested of public and private employers. All jurisdictions within the ATS metropolitan area will have the opportunity to review and comment on the draft *AMATP* during the public review period.

Figure 1.1
The Metropolitan Area



Section 2

*Vision,
Opportunities and
Constraints*

2.0 VISION , OPPORTUNITIES AND CONSTRAINTS

2.1 THE ATS VISION

A transportation vision consistent with regional land use and social goals can guide transportation system implementation. The following is the vision which the ATS Policy Advisory Committee (PAC) prepared to guide its work:

The ATS regional transportation plan and program will provide for the maximum mobility for the people of the Greater Austin Metropolitan Area with the least detrimental effects. It will support the goals of safety, clean air, clean water, and preservation and respect for neighborhoods. It will anticipate future conditions and be realistic, affordable and effective to the community. It will foster the development and maintenance of a metropolitan area with full opportunity for and inclusion of a citizenry which is culturally, economically and physically diverse.

2.2 OBJECTIVES

Within a framework of regional land use and social goals, the principal transportation goal is to provide an acceptable level of mobility and accessibility for the region's residents with the least detrimental effects. Within this overall goal, specific transportation system objectives are listed below:

Transportation Plan Objectives:

- Undertake transportation planning within the framework of comprehensive regional planning and support regional growth and development goals.
- Maintain personal mobility.
- Coordinate the provision of facilities for all major modes of travel for a balanced transportation system.
- Be compatible with the unique and sensitive environment in the greater Austin metropolitan area and be consistent with natural resource limitations.
- Be consistent with the area's social, environmental, economic, and energy conservation goals.
- Be consistent with all adopted land use plans and ordinances.
- Ensure that the Austin metropolitan area continues to meet clean air standards.
- Provide for a diversity of life and work styles and travel behaviors for different subareas with a comprehensive multipurpose transportation system.
- Contain transportation policies and programs for three time frames - near-term (1995-2000), mid-term (2000-2010), and long-term (2010-2020). The near-term will emphasize operational (non-construction) programs which reduce congestion and use the existing transportation system more efficiently. The mid- and long-term periods will include those programs plus new capital improvements to the transportation system.
- Be fiscally constrained. The transportation system and programs must be affordable according to projected transportation revenues. A financial plan is being prepared that will demonstrate how the *AMATP* can be implemented. The option of enlarging urban roads as a viable measure to reduce congestion is limited by its high fiscal and social costs.

- Identify implementing agencies and groups for each measure.
- Monitor the Austin metropolitan area's land use development and transportation system and revise the *AMATP* within five years.

2.3 CONCEPTS AND STRATEGY

Both population and the amount of travel have grown rapidly in the Austin metropolitan area. It is forecasted that the 2020 population could be twice the 1990 population. The ATS staff has prepared two forecasts for the distribution of population and employment in the future. These forecasts are not predictions, but only reasonable alternative futures. The ATS transportation plan need not match a trends forecast. We can use the transportation plan and policies to support the kind of metropolitan area desired.

One of the *AMATP* goals is to maintain personal mobility. To achieve that we need to reduce the high proportion of drive-alone travel and to increase transit ridership, ridesharing, bicycling and walking. This is especially important in solving peak period congestion problems. In addition to encouraging other modes, we should reduce the need to travel and spread the peak travel period. Based on the implementation of these measures the recommended size of roadways in the draft *AMATP* is not set to handle the highest peak hour vehicle demand.

The *AMATP* should be a win-win transportation solution for all communities and jurisdictions within the metropolitan area. We are a family of independent communities and neighborhoods with diverse characteristics and the *AMATP* is intended to support the diversity and individuality of personal life choice. The Plan should be responsive to the characteristics and goals, including transportation and land use policies, of each jurisdiction and community while providing a complete and comprehensive metropolitan transportation system. The emphasis of the *AMATP* is on the State and Federal transportation system and it strives to support local jurisdiction plans for other arterials and local transportation facilities.

The ATS Policy Advisory Committee (PAC) has stated its intent to not destroy inner city neighborhoods by widening roadways. Therefore the draft *AMATP* attempts to minimize the expansion of arterials within existing urbanized areas, especially residential areas. In existing urbanized areas the *AMATP* priority is on increasing person carrying capacity rather than motor vehicle capacity.

The City of Austin contains about two-thirds of the existing ATS area population. It is the maturing central city in a growing metropolitan area. The City of Austin is concerned about maintaining a strong and healthy central city. It seeks to develop a compact center city (or dense livable city) that is integrated with its diverse neighborhoods and, on a regional scale, with its suburbs and surrounding communities. To achieve this requires giving greater emphasis to transit, bicycle and pedestrian activity rather than motor vehicle activity in critical areas, such as neighborhoods and mixed use activity centers, of which the largest is the central business district.

The following are some recommended methods to support a dense livable city:

A. Transportation Measures

1. Build the light rail transit system
2. Improve bus service
3. Promote increased transit ridership
4. Improve pedestrian and bicycle facilities
5. Promote ridesharing

6. Promote staggered work hours and telecommuting
7. Limit roadway expansions and parking facilities
8. Increase operational efficiency of roadways

B. Land Use Measures

1. Promote infill development and higher densities in appropriate locations
2. Support development of higher residential densities and commercial nodes within transit corridors
3. Provide incentives to encourage multipurpose activity centers
4. Update zoning, subdivision and site plan ordinances to promote more transit and pedestrian oriented development.

2.4 OPPORTUNITIES AND CONSTRAINTS

In preparing the *AMATP*, it is important to identify opportunities for improving the transportation system and to determine the constraints that might restrict the implementation of identified improvements. Together with other information needed for developing the *AMATP*, a determination of transportation opportunities and constraints is essential to the formation and adoption of goals, objectives, strategies, policies and procedures for the long range plan.

Opportunities for improving the surface transportation system fall into five categories:

- Make public transportation services more convenient and amenable.
- Reduce travel demand and improve the efficiency of transportation operations.
- Improve the safety and availability of bicycle, pedestrian, and trails facilities.
- Expand the roadway system.
- Upgrade the effectiveness of the movement of goods and freight.

Constraints on the implementation and use of the identified improvement opportunities are:

- Citizen preference for the single occupant motor vehicle.
- State and local legal and regulatory barriers.
- Limited availability of funding.
- Restrictions on air, water, and noise pollution.
- Sensitive environmental areas.
- Automobile oriented zoning and subdivision ordinances.
- Concern over the disruption of neighborhoods.
- Conflicting interests among political entities within the metropolitan area.
- Geographic limitations (e.g., steep terrain, pervious and/or expansive soils).

Section 3

Need for AMATP

3.0 NEED FOR AMATP

3.1 ISTEA REQUIREMENTS - PLANNING REGULATIONS

3.1.1 Financially Constrained Plan

ISTEA specifies that the long range transportation plan include a financial plan that demonstrates how future projects and programs can be implemented. Employing a number of reasonable assumptions, local, state and federal funding levels are projected through the year 2020. All regional planning transportation projects included in the *AMATP* are matched with appropriate funding sources. The result is a financially constrained plan that addresses the future regional transportation needs.

3.1.2 Metropolitan Planning Factors

ISTEA requires the following fifteen factors be considered in developing metropolitan plans and programs. These factors are addressed in the *Metropolitan Planning Factors Report*. Each factor discussed in the Report is listed below.

- 1) Preservation of existing transportation facilities and, where practical, ways to meet transportation needs by using existing transportation facilities more efficiently.
- 2) The consistency of transportation planning with applicable Federal, State, and local energy conservation programs, goals, and objectives.
- 3) The need to relieve congestion and prevent congestion from occurring where it does not yet occur.
- 4) The likely effect of transportation policy decisions on land use and development and the consistency of transportation plans and programs with the provisions of all applicable short- and long-term land use and development plans.
- 5) The programming of expenditures on transportation enhancement activities.
- 6) The effects of all transportation projects to be undertaken in the metropolitan area, without regard to whether such projects are publicly funded.
- 7) International border crossings and access to ports, airports, intermodal transportation facilities, major freight distribution routes, national parks, recreation areas, monuments and historic sites, and military installations.
- 8) The need for connectivity of roads within the metropolitan area with roads outside the metropolitan area.
- 9) The transportation needs identified through use of the management systems.
- 10) Preservation of rights-of-way for construction of future transportation projects, including identification of unused rights-of-way which may be needed for future transportation corridors and identification of those corridors for which action is most needed to prevent destruction or loss.
- 11) Methods to enhance the efficient movement of freight.
- 12) The use of life-cycle costs in the design and engineering of bridges, tunnels, or pavement.

- 13) The overall social, economic, energy, and environmental effects of transportation decisions.
- 14) Methods to expand and enhance transit services and to increase the use of such services.
- 15) Capital investments that would result in increased security in transit systems.

3.1.3 Public Involvement Program

The ATS Policy Advisory Committee (PAC) adopted a *Public Involvement Program* in February 1994 containing procedures that ATS follows in the preparation of the *Austin Metropolitan Area Transportation Plan* and the *Transportation Improvement Program*.

The *Public Involvement Program (PIP)* was implemented in order to facilitate communication between elected officials, staff and citizens in the transportation planning process. The program has been a year-long exercise in accessing valuable public input in the development and writing of the *AMATP*. Phase I included the review of the transportation plan concepts, major draft element concepts, and a Public Opinion Survey; Phase II incorporated a draft transportation plan public review period, public hearings, and staff's response to public comment.

Phase I

This phase of the public involvement process included notification and dissemination of all draft Major Concepts of the *AMATP*. Draft reports were available free of charge at the ATS office, and available for public review at all libraries within the ATS metropolitan area, the Travis, Williamson, and Hays County offices, the TxDOT District office, and the ATS Policy Advisory Committee meetings.

- As part of its regular public participation process, the ATS bi-monthly newsletter informs citizens about ATS activities, including the development of the *AMATP*. The mailing list includes over 1700 interested citizens, organizations, and neighborhood groups. ATS held Policy Advisory Committee Meetings once a month during 1994 open to the public and public comment.
- The March/April 1994 ATS Newsletter extensively outlined the Transportation Plan Concepts and work elements. In this same newsletter, ATS staff outlined the timeline for the adoption of the Plan, as well as Plan objectives.
- Three public open house meetings were held on March 29, March 31, and April 6 at the Downtown Austin History Center, South Austin Bedichek Jr. High School, and Round Rock City Hall, respectively. The meetings were held from 5:00 to 8:00 PM and free copies of the Draft Concept Plans were available.

Phase II

The second phase of the public involvement process for the *AMATP* incorporated the same strategies outlined above for the dissemination of the draft Transportation Plan itself. In addition, ATS held two public hearings on the Plan (notices of which were placed in local newspapers) and made presentations to over 20 agencies, interested groups and organizations.

- The July/August 1994 ATS Newsletter summarized the intent of the *AMATP*, as well as the process governing its production, and invited public comment. The August and September Drafts of the *AMATP* were mailed with the ATS newsletter to the recipients on the ATS mailing list.

- ATS staff held three public open house meetings on the *AMATP* in order to receive public comment and to allow the public access to the staff involved with writing the plan. These meetings were held from 5:00 to 8:00 PM on September 15, September 22, and September 27, at South Austin's Bedichek Jr. High School, Downtown Austin's Austin History Center, and Round Rock City Hall, respectively.
- Perhaps the most important phase of the citizen involvement process was the compilation of the public hearing, written comments and staff responses. The publication *Comments on Draft Plan* (Volume I) includes the 187 comments received between July 8 and October 31. Volume II contains comments 188-303 received between November 1 and the 28th. ATS staff compiled a *Response to Comments on Draft Plan* report which responds to the comments specifically regarding the *AMATP*.

To conclude, ISTEA, Title I, SEC. 1024(a) mandates that metropolitan planning organizations provide citizens, affected public agencies, representatives of transportation agency employees, private providers of transportation, and other interested parties with a "reasonable opportunity" to comment on the long range plan before its approval. ATS staff has actively solicited public comment and participation for over a year as a tool for the effective planning of the *AMATP* and incorporated many of the ideas and suggestions of the public into the final *AMATP*.

3.2 TRANSPORTATION AND DEMOGRAPHIC TRENDS

3.2.1 Austin Metropolitan Area Trends

The population and the amount of travel has increased significantly in the Austin metropolitan area since 1960. In the last thirty years, population has tripled while employment has more than quadrupled. All of us are traveling a lot more. On a per capita basis, vehicle miles traveled has quadrupled, the number of vehicles owned has doubled, and the number of vehicle trips has increased by 50 percent. Basically, we are driving longer distances, buying more cars, and making more trips. Average vehicle occupancy has decreased by 29 percent. The key factors for the average vehicle occupancy decline seem to be declining family size and increasing vehicle availability. Along with other factors, these trends have shrunk the pool of those available to carpool or use transit. The result is a tremendous increase in automobile use and traffic congestion.

The size of the bus fleet has tripled and transit ridership has quintupled since Capital Metro began operation in 1985. Transit trips currently account for two to three percent of all daily trips, and slightly higher during peak periods.

Of the four basic resources involved in a motor vehicle transportation system, two continue to be abundant and relatively inexpensive - motor vehicles and gasoline. However, the other two - roadway capacity and air quality - are in short supply. Because we will not be able to continue the trend of heavy automobile dependence, we must make changes in the way we travel as the Austin metropolitan area continues to grow. The Austin metropolitan area population is projected to double in the next twenty-five years if the high forecast comes to pass. For more detailed information, refer to the *ATS Transportation Trends 1960 - 1990 Report*.

3.2.2 Population and Employment Forecasts

In April 1994, the ATS Policy Advisory Committee accepted, for transportation modeling purposes, population and employment forecasts to the year 2020 for the Austin metropolitan area. The population totals for Travis, Williamson, and Hays counties were produced by the State Data Center in February 1994, and were based on data from the 1990 U.S. Census. The State Data Center produced forecasts for all Texas counties for four growth scenarios, each with a different assumption about net in-migration: low, mid, high and very high. The ATS forecasts are based on the high scenario.

The three Austin metropolitan area county totals were distributed within the ATS modeling area (slightly larger than the ATS planning area), as shown in Figure 3.1. The distribution was based on existing development ordinances, development trends and the availability of "developable" land within each of 635 traffic serial zones. Within the ATS modeling area the population is forecasted to grow from about 700,000 in 1990 to about 1,363,000 in the year 2020.

Figure 3.2 shows a summary of the high population and employment forecasts from the 1994 trends forecast. The data are distributed by the ten subareas shown in Figure 3.1. Because the State Data Center forecasts an increase in the Williamson County population from 140,000 in 1990 to 520,000 in 2020 under the high scenario, an increase of about 247,000 people (1994 to 2020) is indicated for subarea 6, which includes the Round Rock, Cedar Park and Leander area. This is almost half of the total forecasted metropolitan population increase of 546,000. Growth in other subareas ranges from 8,000 to 68,000. Forecasted growth in the central area is 9,700. For employment, an increase of about 123,000 is indicated for subarea 6, compared to the total forecasted metropolitan employment increase of 277,000. Employment growth in other subareas ranges from 4,000 to 34,000. Forecasted employment growth in the central area is 6,500.

The 1994 forecast data was compared to the 1991 forecast data (also in Figure 3.2). The total population and employment forecasted in 1991 and 1994 are very similar. The 1991 forecast projected a much greater employment total for the Austin central city and a smaller population total for the Williamson Urban area. The transportation system needs of both forecasts are being analyzed and used to prepare recommendations.

3.3 PUBLIC SURVEY RESULTS

A public opinion survey was taken to collect the opinions, attitudes, beliefs and values of residents of the Austin metropolitan area about transportation issues. The survey consisted of three sections: 1) the current travel characteristics of area residents, 2) travel behavior changes people would be willing to make, and 3) transportation improvements wanted by area residents.

A total of 1,500 interviews were conducted during late April and early May 1994 with a random sample of area residents who commute to work or school during the peak traffic hours. The survey results are useful in understanding the characteristics of travel to work and school and in determining where vehicle trip reduction programs might best be directed. A significant number of respondents are willing to try alternatives to driving alone. Following are highlights of the survey results:

1. Eighty-seven percent of area commuters drive their own cars to work/school, and 82 percent never use other means of transportation. Four percent occasionally or regularly carpool; less than one percent vanpool. Nine percent take the bus, but only three percent of those who work rather than attend school ride the bus. Three percent walk, two percent bicycle and less than one percent ride motorcycles or use some other mode occasionally or regularly.
2. The average commute is just less than nine miles each way, consuming about 18 1/2 minutes in the morning and 20 minutes in the afternoon, on an average of 4.96 days per week.
3. About half of the commuters make stops, mainly for groceries or other shopping, on the way to or from work. Of those, almost two-thirds stop three or more times a week.
4. Thirty-six percent of those employed need a car for their job during working hours, most using their own cars.

Figure 3.1
ATS Subareas

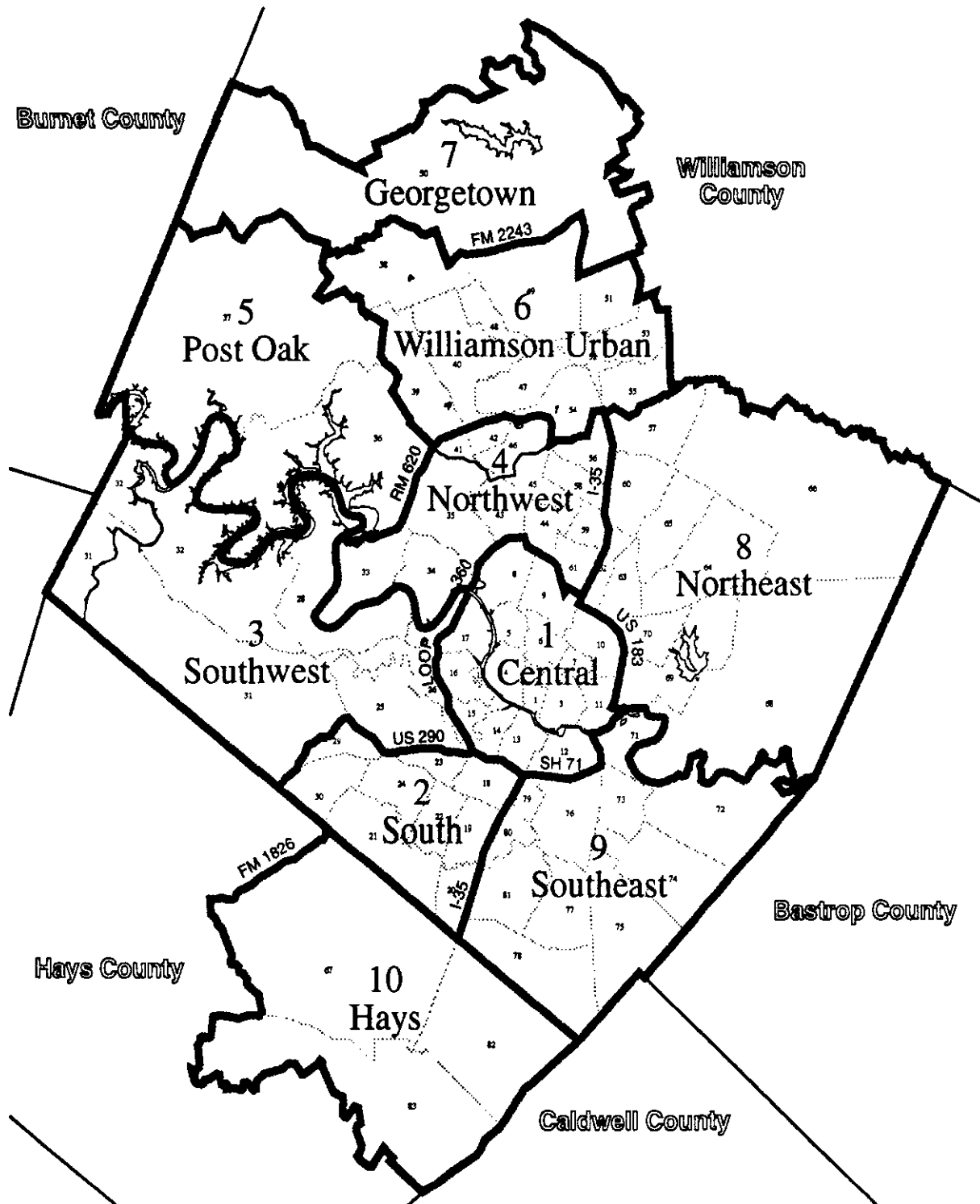


Figure 3.2
Comparison of Population and Employment
By Subareas
1991 & 1994 Forecasts

ATS SUB- AREA NUMBER	ATS SUB- AREAS	1994 ESTIMATED POPULATION	2020 POPULATION	
			1991 FORECAST	1994 FORECAST
1	CENTRAL	304,971	330,786	314,688
2	SOUTH	103,486	147,839	119,052
3	SOUTHWEST	32,414	76,534	57,929
4	NORTHWEST	144,052	204,185	171,401
5	POST OAK	11,298	16,832	19,191
6	WILLIAMSON URBAN	76,436	210,633	323,665
7	GEORGETOWN	25,704	40,235	93,963
8	NORTHEAST	53,867	131,337	119,477
9	SOUTHEAST	45,195	108,257	74,381
10	HAYS	18,380	30,284	68,384
	TOTALS:	815,803	1,296,922	1,362,131

ATS SUB- AREA NUMBER	ATS SUB- AREAS	1994 ESTIMATED EMPLOYMENT	2020 EMPLOYMENT	
			1991 FORECAST	1994 FORECAST
1	CENTRAL	227,502	305,719	234,042
2	SOUTH	17,178	35,719	24,914
3	SOUTHWEST	12,395	31,206	25,077
4	NORTHWEST	74,240	113,071	87,830
5	POST OAK	1,547	3,108	5,470
6	WILLIAMSON URBAN	14,721	79,564	137,593
7	GEORGETOWN	4,795	15,629	38,719
8	NORTHEAST	28,011	75,176	60,618
9	SOUTHEAST	21,145	43,057	39,460
10	HAYS	3,929	9,127	28,781
	TOTALS:	405,463	711,376	682,504

5. Eighty-four percent have free parking available to them at work or school. Of those, 41 percent say they would be much more or somewhat more likely to consider some other way of commuting if they had to pay for parking; 51 percent say that having to pay for parking would make no difference in their commuting habits.
6. Employers are not doing much to encourage alternatives to single-driver daily commuting. Sixty-three percent do offer flexible work hours and 24 percent permit compressed work schedules. Twenty-three percent encourage carpooling and 14 percent offer preferential parking for carpoolers. Eleven percent offer opportunities to work at home instead of the workplace on occasion. Six percent sell or provide bus passes and five percent subsidize use of public transportation. Only nine percent provide emergency transportation for bus riders or carpoolers. In most cases, government agencies account for half or more of those promoting alternative transportation.
7. Most commuters are willing to consider alternatives to driving alone if the conditions were right for them. Sixty-five percent say they would be very or somewhat willing to ride the bus, 73 percent would consider carpools/vanpools, and 31 percent would consider bicycling.
8. Similarly, most commuters indicate that incentives would affect their commuting choices. Sixty-three percent say they would be much or somewhat more likely to consider alternatives to driving alone if they were given a financial incentive to carpool; 57 percent if there were a substantial increase in the cost of gasoline; 51 percent if there were high occupancy vehicle lanes on major roads; 37 percent if they were given a free bus pass by their employer; and 28 percent if there were showers, lockers and safe bike storage at their work site.
9. Despite the openness to alternatives, most respondents focused on automobile travel when asked where they would prefer to see the most emphasis on a list of possible areas for transportation improvements. In order of aggregate ranking, the choices were:

	-----RANKED-----			AVE. RANK
	FIRST	SECOND	LEAST	
Synchronize the traffic lights	22%	23%	6%	5.38
More east-west thoroughfares	20%	17%	5%	5.14
More buses and public transportation	12%	13%	7%	4.65
More roads and freeways	18%	11%	14%	4.64
Diverting single driver traffic to carpools, public transportation and other modes	8%	8%	9%	4.28
A light rail system	9%	10%	19%	4.09
More and better bike lanes and pathways	9%	10%	20%	4.04
More and better sidewalks	4%	6%	19%	3.78

3.4 AIR QUALITY AND ENERGY CONSERVATION

3.4.1 Air Quality Program

In 1993 the ATS Policy Advisory Committee adopted a three-part air quality program for the Austin metropolitan area which is intended to keep the area in attainment of federal air quality standards. Attainment of federal standards is important to maintain healthy air and to avoid federally imposed sanctions for transportation projects and economic growth in the area. Such sanctions are in effect in the four Texas non-attainment areas of Houston, Dallas-Fort Worth, Beaumont-Port Arthur and El Paso.

The mandate for better coordination of air quality and transportation planning was set by the Clean Air Act Amendments (CAAA) of 1990. The CAAA requires transportation plans and investments in areas that do not attain federal clean air standards to conform to a state's clean air plan. Among other effects, this means that new highways and roads can be built only if the added pollution they are likely to cause is more than offset by other measures, so that continuing improvements are made in air quality. The Austin metropolitan area currently is close to but does not exceed federal clean air standards, and the Texas Natural Resource Conservation Commission (TNRCC) has designated it as a "near non-attainment" area.

The adopted three-part program includes preparation of a detailed pollutant emissions inventory and forecast, a voluntary action program (Ozone Advisory Program) for forecasted high ozone "advisory" days during the "smog season" from April through October, and analysis of long range pollutant reduction measures.

3.4.1.1 Emission Inventory and Forecast

ATS completed an emission inventory of existing air pollution in the Austin metropolitan area and a forecast of emissions to the years 2010 and 2020. This information is vital to developing the most efficient and cost-effective air pollution control program.

The emission inventory includes the pollutants that combine to form ground-level ozone, the principal component of smog. Ozone itself is not directly emitted from any source, but comes from a combination of volatile organic compounds (VOCs) and oxides of nitrogen (NOx). The formation of ozone is strongly dependent on weather conditions, and reaches hazardous levels whenever hot, sunny stagnant conditions arise. These conditions occur an average of about fifteen days a year in the Austin area.

Another aspect of the air quality study is a short-term monitoring program. Until now, TNRCC has been monitoring in only one area of town for ozone. The City of Austin recently began monitoring ozone at an "upwind" site at Bergstrom Air Force Base. This monitor is operated with assistance of the TNRCC, and will not only help us determine how much ozone is formed from local emissions, but also how much is blown in from San Antonio or Houston.

3.4.1.2 Ozone Advisory Program & Voluntary Vehicle Trip Reduction Program (V-Trip)

The voluntary action program, formerly titled Clean Air Metro Austin, now called Austin AIR Force, was initiated jointly by several government and private organization sponsors to try to reduce unhealthy peak levels of ozone in the Austin area.

Ozone Advisories are announced when weather conditions are expected to produce high levels of ozone in the Austin metropolitan area. On those days citizens are urged to help reduce emissions by carpooling, riding the bus, riding bicycles, and avoid running gasoline engines. Other actions include waiting until late afternoon to buy gas, mow lawns or run errands. On days when ozone advisories are issued, Capital Metro offers free fares on all regularly scheduled buses and special transit services with the exception of shuttle service to special events.

A Voluntary Vehicle Trip Reduction Program (V-Trip) is being created to help reduce air pollution emissions and traffic congestion. The two-part program consists of: 1) a list of measures recommended to all metropolitan area employers to encourage alternative modes of travel to work, and 2) a pilot program to be conducted by ATS, Capital Metro, the City of Austin, and TNRCC with selected employers for extensive support of alternative modes of travel. The draft program and list of recommended measures for employers is listed below:

1. Promote Alternative Ways To Travel
 - Ridesharing (carpooling and vanpooling)
 - Transit
 - Bicycle and Pedestrian
2. Promote Congestion Reduction
 - Staggered Work Hours
 - Compressed Work Week
 - Telecommuting

3.4.1.3 Long Range Pollutant Reduction Measures

The Austin metropolitan area currently has only voluntary air quality programs in place; the City of Austin is working in conjunction with ATS, TNRCC, Capital Metro, and other agencies on programs to reduce vehicle trips, encourage alternative fuels, and operate an ozone advisory program. Future regulations will be implemented based on the results of the emission inventory completed under joint agreement by ATS and the City of Austin. Potential regulations would cover Stage I/Stage II vapor recovery systems, RFG (reformulated gasoline), low volatility gasoline which produces fewer emissions due to slower evaporation, and automobile inspection and maintenance. A Stage I vapor recovery system is designed to prevent vapors from escaping when gasoline is transferred from storage tanks to trucks and from trucks to gas stations. A Stage II vapor recovery system is designed to prevent vapors from escaping when gasoline is transferred to automobiles.

Analysis of long range pollutant reduction measures will begin in 1995 after the emission forecasts have been analyzed.

3.4.2 Energy Conservation

ISTEA requires that transportation plans promote energy efficiency and conservation goals and that the transportation system is balanced and intermodal. ATS strategies to conserve energy include a reduction in the dependence on conventional fuel sources and the amount people travel. These strategies are in compliance with federal, state, and local requirements as discussed below.

3.4.2.1 Federal Legislative Requirements

The Energy Policy Act (EPACT) of 1992 was enacted to encourage economic growth, strengthen energy security, and improve environmental quality through the use of alternative fuels. EPACT affects all urban areas with populations of 250,000 or more, which includes the Austin metropolitan area. Except for rental cars, auto dealers, law enforcement, emergency, and off-road vehicles, fleets with more than 20 centrally fueled light-duty vehicles and a total fleet of more than 50 vehicles must convert 20 percent of their fleets to alternative fuel vehicles by the year 1999. Federal fleet conversions are under a tighter schedule.

ATS has identified congestion/demand management techniques (Section 4.3) that improve the efficiency of the traffic network and reduce traffic delays and congestion. These techniques promote conservation of energy resources by encouraging alternative modes of transportation, including carpooling and bicycling, transit improvements and high occupancy vehicle facilities.

3.4.2.2 State Requirements

The *AMATP* conforms to the Texas Alternative Fuels Fleet Requirement. Senate Bills 7, 740, and 769 address the conversion of school district, state agency, metropolitan transit authority, city transit department, regional transit authority, local government, and private fleets. ATS monitors the efforts of the Texas Sustainable Energy Development Council which encourages the development and use of renewable energy resources in Texas. ATS and TxDOT staff cooperate in the planning and improvements processes to ensure that ATS and state plans are compatible.

3.4.2.3 Local Programs

ATS participates in the Clean Cities Program, which promotes the reduction of dependence on petroleum-based imported fleet fuels in the Austin and Travis County area, as specified in the Energy Policy Act of 1992. Participants in the Clean Cities Program include Travis County, the City of Austin, the Texas Department of Transportation, the Capital Metropolitan Transportation Authority, ATS, and others. ATS is expected to maintain a liaison with the Alternative Fuels Research and Education Division of the Railroad Commission, as well as monitor the conversion of fleet vehicles.

3.4.2.4 ATS Initiatives and Strategies

ATS focuses upon specific measures to conserve energy by targeting the demand for energy and facility use. ATS follows the newest strategies to reduce vehicle miles of travel and to reduce congestion and traffic delays, all of which cause higher energy consumption.

V-Trip. ATS developed a Voluntary Vehicle Trip Reduction Program (V-Trip) to improve air quality and reduce traffic congestion, which furthers the goal of energy conservation. This program is described in the Air Quality section (section 2.5.1.2).

Congestion Demand Management. The Congestion/Demand Management Element, Section 4.3, addresses congestion and excess fuel consumption in the Austin metropolitan area. ATS has approved \$2.25 million in funding for a Congestion/Demand Management program in the 1995-1997 Transportation Improvement Program.

3.5 LIST OF BACKGROUND STUDIES/REPORTS

3.5.1 Metropolitan Planning Factors Report

3.5.2 Public Involvement Program

3.5.3 Transportation Trends Report

3.5.4 Public Opinion Survey

3.5.5 Emission Inventory and Forecast

Section 4

Plan Elements

*Plan Integration, Implementation and
Intermodalism*

4.1 PLAN INTEGRATION, IMPLEMENTATION AND INTERMODALISM

Using the strategies discussed in Section 2.0, the Austin Transportation Study (ATS) is cooperating with other area agencies to recommend transportation policies and programs for the next twenty-five years. Section 4.0 of the *Austin Metropolitan Area Transportation Plan (AMATP)* focuses on five elements of the planning and implementation process: Public Transportation, Congestion/Demand Management, Bicycle/ Pedestrian/Trail, Roadway, and Freight Movement.

The clear intent of ISTEA legislation is the coordination of facilities across all major modes of travel into a balanced and complementary or intermodal system. Thus, the five elements presented in this section are interrelated and interdependent. ATS, working with member jurisdictions and the public, has developed strategies to address the travel needs of the study area population without sacrificing the community's social, environmental, and economic priorities; the five-element intermodal framework of the *AMATP* is critical to achieving that goal.

Once the *AMATP* is adopted it is important to work with member jurisdictions to ensure compatibility between it and local plans. It is also important to monitor changes in transportation characteristics and land use development patterns. This will allow ATS to know if the adopted policies are successful and will prepare for the next revision of the Plan in 1999.

4.1 PLAN INTEGRATION, IMPLEMENTATION AND INTERMODALISM

A. Integration and Implementation Policies and Programs

- Policy A-1: ATS will work with member jurisdictions to achieve compatibility of the Austin Metropolitan Area Transportation Plan (AMATP) with local plans. Adoption of AMATP by member jurisdictions is a necessary condition to be eligible for any federal assistance to that jurisdiction.
- Policy A-2: ATS will prepare and adopt a population and employment policy forecast which is consistent with member jurisdiction growth policies and is supported by the AMATP.
- This is intended to support the diversity of land use goals and characteristics of ATS member jurisdictions and communities.
 - Policy Advisory Committee (PAC) members and others have criticized the "existing trends" forecasts for being too low in Travis County and in the central subarea and inhibiting the efforts to promote "compact city" growth.
 - The *AMATP* need not match a trends forecast; it can be used to support the kind of metropolitan area that is desired.
 - See the transit corridor Policies B-3 and B-4 in the Public Transportation Element (Section 4.2).
- Policy A-3: Coordinate transportation planning activities with land use and other infrastructure planning activities in cooperation with affected agencies and jurisdictions.

Policy A-4: ATS supports the reduction in travel and the high proportion of drive-alone travel, and an increase in telecommuting and the proportion of transit ridership, ridesharing, bicycling and walking trips, especially during peak periods.

Policy A-5: ATS supports the development and expansion of multi-purpose activity centers throughout the metropolitan area.

- Such centers include commercial, office, recreational and residential development and therefore reduce the need for automobile travel.

Policy A-6: ATS will develop and maintain a data collection program for monitoring changes in the transportation system and land use development characteristics in the metropolitan area.

- Effective metropolitan planning requires extensive information about the transportation system, travel behavior, existing land use and proposed land use.
- Effective metropolitan planning also requires that all agencies involved in the provision of transportation facilities services coordinate their activities and use compatible data.

Examples of steps to implement a data collection program policy are:

a) Develop and support an ongoing transportation data collection program, that includes transportation system characteristics such as:

- Volume counts (automobile, transit, bicycle, and pedestrian)
- Transit ridership
- Travel time and vehicle delay
- Accident analysis
- Vehicle miles of travel
- Vehicle occupancy
- Vehicle mix
- Air quality levels
- Socioeconomic data
- Origin and destination
- Peak travel period characteristics
- Bicycle Transit Linked Trips

b) Conduct a metropolitan area travel survey and comprehensive traffic counts in 1997.

c) Regularly monitor and report metropolitan land use development and population and employment changes.

d) Provide annual reports on characteristics of the transportation system and land use changes.

Policy A-7: ATS will work with TxDOT to implement the management and monitoring systems to meet the content and schedule requirements of ISTEA and the U.S. Department of Transportation. The systems are for pavement, bridge, highway safety, traffic congestion, public transportation facilities and equipment, intermodal facilities and systems, and traffic monitoring for highways.

Policy A-8: ATS will maintain project implementation programs that reflect schedules and agency responsibility for major transportation projects in the ATS area.

- There is a need to outline and publicize the implementation steps and status of major projects so that responsibilities, timelines, and status is clear to all interested parties.
- These implementation programs will provide a bridge between the Long Range Plan (*AMATP*) and the Transportation Improvement Program.

4.1.2 Access to Intermodal Transportation Networks

4.1.2.1 Intermodalism

The term "intermodal" is relatively new to most people and can be confusing even to transportation professionals. Intermodalism originated within the freight shipping industry as the practice of allowing a freight shipment to change modes of transportation during the course of a single trip from origin to destination. The first intermodal activity began with the practice of switching semi-truck trailers from their rubber-tired tractors on the highway to a "piggy back" ride on top of railroad flatcars.

The term "intermodal" has recently taken on a more universal meaning. An intermodal trip is now described as a trip where there is at least one change in mode of transportation experienced in the movement of either *goods or people*. In this section of the *AMATP*, "intermodal" refers only to the *movement of people*. The movement of freight is addressed in Section 4.6 (Freight Movement Element).

4.1.2.2 ISTEA

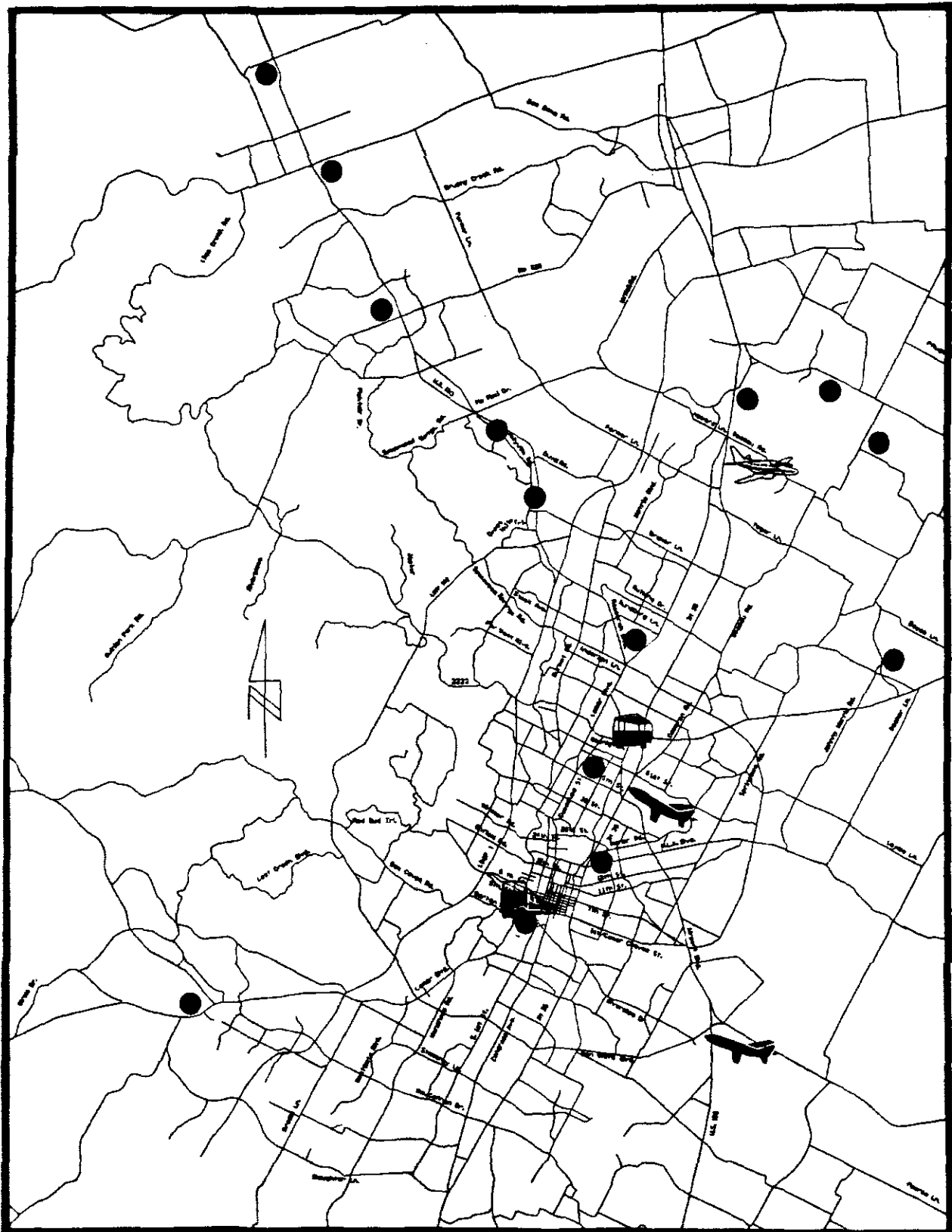
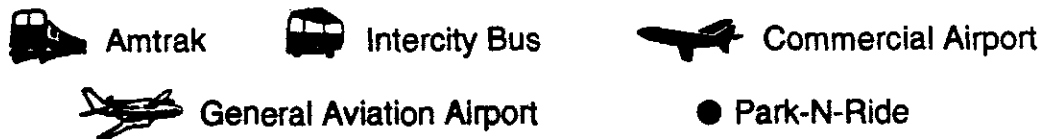
In order for planning to be considered comprehensive, the MPO must consider "international border crossings, and access to ports, airports, intermodal transportation facilities, major freight distribution routes, national parks, recreation areas, monuments and historic sites, and military installations." ISTEA provides a specific requirement that MPOs shall develop transportation plans and programs which " *shall provide for the development of facilities..., which will function as an intermodal transportation system for the State, the metropolitan area and the Nation.*" The goal of ISTEA (factor #7) is to improve the efficiency of the transportation network by focusing on *access*.

4.1.2.3 Access

The term "access" has been used in the transportation field to define physical proximity and ease of approaching a location. However, "access" has other important dimensions that need consideration. Three other characteristics affect the consumer's perception of access: appeal, connectivity and price. An alternative has appeal if it is conveniently located, has ample security and lighting, provides adequate amenities, and offers a high level of service. Connectivity is defined by how directly an individual can reach his destination. Service must be reasonably priced.

Access (proximity, appeal, connectivity and price) influences an individual's decision about which mode of transportation to use. It is difficult to make other transportation modes as appealing as the automobile, because personal automobile use has exceptional access. An individual's choice of transportation is based on perceptions of convenience and price. For example, Southwest Airlines dominates the Texas intercity market because its service is convenient, accessible and reasonably priced. Likewise, a metropolitan area must incorporate all of these characteristics of access in order to have an effective intermodal transportation network. However, the Austin metropolitan area presently has only seventeen (17) locations (see Figure 4.1-1) which can be considered intermodal, and all but five are Capital Metro Park and Ride lots. The remaining two locations as shown on Figure 4.1-1 are

**Figure 4.1-1
Intermodal Sites**



the future Austin Airport at Bergstrom and the Austin Executive Airpark (formerly Timm's) for private planes. Neither of these two sites currently has intermodal service. Facilities at the new airport are being planned, and the private airstrip has ample room for a park and ride facility that offers excellent access to IH 35. The Amtrak station has only six trains per week in service and is hard to find and inconvenient to most residents of the ATS area.

The 14 park and ride locations are insufficient to provide community-wide access and connectivity. Automobile-to-bus is the only option offered at the park and ride lots and relies on the roadway network to function. Many of these park and ride locations are served by a limited number of bus routes and infrequent service intervals. There are shelters at some locations but no restrooms or other amenities. The service area surrounding each location is so large that many people will not switch modes, since they already have to drive their personal automobile a long distance to reach the intermodal access point. Therefore, commuters continue using automobiles rather than public transportation for the entire trip.

4.1.3 Intermodal Policies and Programs

B. General

Policy B-1: ATS will support and make available federal funds for the development of intermodal passenger facilities in each of the ATS sub-areas.

- Traffic congestion within each neighborhood is not a major concern to commuters. However, it is important to give people access to a network that connects origins in one area with destinations in another. To accomplish this, each area needs at least one high quality access point. Such a facility will serve to connect the neighborhood areas to the intermodal network of roads, trails, and railways.
- This development is also necessary to demonstrate the intent to provide intermodal access, in compliance with the ISTEA requirements.

Policy B-2: ATS will work to build public support for the completion of an integrated regional fixed guideway system that supports compact mixed-use communities around transit stations. The system should include facilities for light rail transit as outlined in Section 4.2 and the design of the system should be amenable to an increase in regional and intercity commuter rail operations.

- Fixed guideway provides the metropolitan area with an alternative to the roadway network. Fixed guideway transit stations should be highly accessible and effectively linked to other modes of transportation throughout the region.
- Fixed guideway stations should be designed with ample parking for motor vehicles and bicycles in suburban areas, because a majority of citizens in these areas will access the station by automobile or bicycle.

Policy B-3: ATS will encourage member jurisdictions to create Park/Bike-and-Ride facilities to provide better access for transit and carpools. Park and Ride facilities should also be created wherever HOV lanes are considered.

- Study Park and Ride demand, especially in sub-areas 4, 6, and 7. A thorough investigation should indicate significant "latent demand". Commercial property owners have recently observed that the parking

lots designated for their customers are being used by commuters as unofficial Park and Ride locations.

Policy B-4: Evaluate passenger rail routing and terminal alternatives.

- The location of the current Amtrak station offers few opportunities for intermodal access. It is hard to find and is not convenient to most of the City. Relocation of the station is a viable option. If the rail freight line is rerouted (see Freight Element), numerous opportunities for improvement will be available, including possibly locating these facilities at the new airport.

C. Access to Airports

Policy C-1: *ATS encourages the use of alternatives to single-occupant vehicles by airport commuters from both the local and regional areas. The design of the new airport should reflect the goal of good intermodal access.*

- *The trip to the new airport will be about twice as long as the current trip for many airline passengers. They should be given incentives to use some form of mass transit (e.g., bus, private shuttles, light rail, commuter/regional/intercity rail). These facilities need to be closely integrated with those of the airport.*
- *The relocation of the airport to a more remote location provides Austin with an excellent opportunity to establish a true intermodal facility and to get airport commuters out of the habit of relying solely on automobiles, thereby decreasing congestion on major arterials.*
- *Institute alternatives early to capture riders before they develop the habit of using single occupant vehicles to travel to the new airport. Make sure the alternative vehicles are equipped with baggage handling capabilities.*
- *Inform the public of the alternative ways to get to the airport. Get this information to the public using the mass media, travel agencies, and the transportation providers.*

Policy C-2: *Remove the permit "freeze" on private airport shuttles, currently enforced by the City of Austin.*

- *The City's current policy interferes with the goal of intermodalism. It is a legal barrier that prevents participation by the private sector in providing cost-effective alternatives to single occupant vehicles.*

Policy C-3: *ATS encourages the coordination of shuttle and transit routes and schedules with flight schedules wherever possible, in an effort to make alternative modes of transportation more appealing.*

- *Conduct an origin/destination survey for local airport passengers. Identify which areas generate the most airport passenger traffic to assist with most efficient shuttle and transit service design.*

Policy C-4: ATS recognizes the need to provide proper and sufficient signs to guide passenger vehicles and truck freight traffic into and out of the airport.

- Member jurisdictions should adopt policies that clearly define the routes to and from the airport which best accommodate each type of traffic. Plans should be made to integrate easy access from SH 71 and US 183 and SH 130, all of which will intersect near the airport.

D. Access to Freight Distribution Routes - (See Section 4.6 - Freight Element)

4.1.4 List of Background Studies and Documents

4.1.4.1 Design Criteria for Intermodal Access

4.1.4.2 Report on Airport Access

4.1.4.3 Survey of Local Transportation Providers

Public Transportation Element

4.2 PUBLIC TRANSPORTATION ELEMENT

4.2.1 Introduction

The Austin Transportation Study places major emphasis on public transportation for meeting future mobility needs in the Austin metropolitan area. The Capital Metropolitan Transportation Authority supports the strengthening of public transportation, and has adopted the following mission statement:

"We envision a multimodal transportation system which provides ease of mobility throughout the Austin metropolitan area and which contributes to clean air and water, a sense of community, preservation and enhancement of our neighborhoods and inner-city, and healthy economic development. Our mission is to seek our vision through:

- Effective public transportation systems.
- Effective traffic management programs, particularly those aimed at reducing single-occupancy vehicle travel and peak-hour congestion.
- Planning and development to encourage walking and biking.
- Leadership in urban planning."

Capital Metro has identified five goals for the 1994 *Austin Metropolitan Area Transportation Plan (AMATP)* Public Transportation Element:

- Support the ATS vision.
- Support land use planning.
- Reduce single-occupant vehicle travel.
- Develop an affordable public transportation plan.
- Create a public transportation system which is accessible to all segments of the community.

4.2.1.1 ISTEA Requirements

Federal regulations include several transit-related planning factors that are to be considered in the development of a regional transportation plan.

Land Use

The form and quality of urban growth can best be managed when transportation and land use policies are mutually supportive. Numerous studies have documented the inter-relationship of transportation infrastructure investments and development activity. Transportation improvements can facilitate population and employment growth, but in and of themselves are not sufficient to produce desired land use patterns. Such patterns are achieved through concerted land use and transportation policy and planning.

The regional transportation plan should recognize the likely effect of land use policies and development on transit investment decisions. As ATS member cities are able to focus urban growth within their respective corporate limits, transit investments begin to yield higher returns in terms of ridership and cost-effectiveness. Lower yields on transit investments may be

expected if the preponderance of regional growth is allowed to continue in unincorporated areas at the city edge. Therefore, commitments to construct major transit investments should be coordinated with the development of land use policies that focus growth within well-defined urban boundaries, while enhancing the existing neighborhoods' quality of life.

Expansion, Enhancement, and Increased Use of Transit Services

Federal planning guidelines stress the importance of expanding, enhancing and increasing the use of transit service. The policies, programs, facilities and services outlined in the following pages focus on a variety of measures to create substantial transit capacity, improve mobility and promote transit use.

Capital Investments that would result in Increased Security in Transit Systems

Public transportation operates in a public environment. To be an attractive transportation choice for a significant cross section of the community, transportation facilities and systems should foster an environment in which patrons are safe and secure. While passenger security is an important consideration, it is one of many factors that determine the relative attractiveness of transit service. The public transportation plan should promote the concept of transit stops and stations as mixed-use activity centers that provide an attractive, secure and safe atmosphere for patrons and non-patrons alike.

4.2.1.2 Challenges and Opportunities

Many challenges and opportunities confront public transportation within the Austin metropolitan area. Capital Metro's service area of 505 square miles and population of over 550,000 covers only a portion of the ATS study area (see Figure 4.2-1). About half of the Service Area is outside of the higher density urbanized area and is sparsely developed. The 1994 AMATP Public Transportation Element is intended to provide broad transit planning guidance for the entire ATS study area over the next 25 years, addressing the following challenges and opportunities.

Creating Livable Community

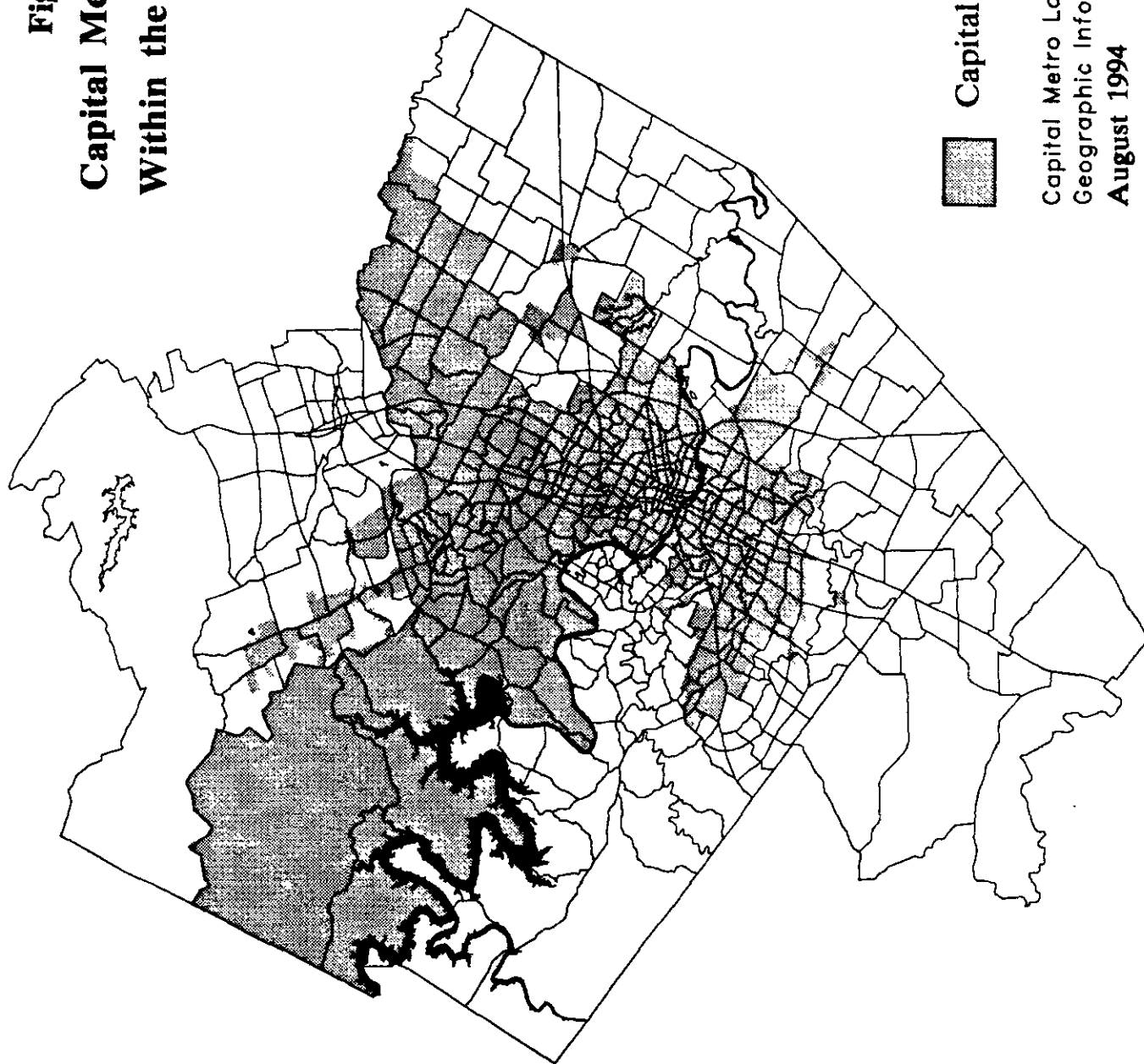
Neighborhood Vitality and Control. Austin is rich in its diversity of cultures and sub-cultures, each with the desire and ability to create distinct life styles. Transportation plays a major role in the quality and health of neighborhood life, and local communities must be given greater control in the provision and appearance of transportation services that traverse their neighborhoods. This must be balanced with the overall mobility needs of the metropolitan community as a whole.

Environmental Quality. The need for improved mobility is inseparable from the need for overall quality of life. Transportation solutions must present not only an improvement in mobility; they must also protect and enhance the metropolitan area's quality of life.

Connecting Land Use and Transportation Policy

Transport Efficient Land Use Patterns. Regional economic competitiveness is strengthened by a transport-efficient land use pattern which combines a compact, well-mixed downtown with several outlying, high-density areas - all linked by an extensive public transit system. The system should be designed with sufficient capacity to accommodate existing and facilitate proposed major activity centers. Transit facilities should be integrated into activity centers and along higher-density corridors. This pattern of transportation investment builds upon existing urban infrastructures, supports more efficient land development patterns and consequently strengthens the tax base of ATS member cities.

Figure 4.2-1
Capital Metro Service Area
Within the ATS Study Area



Capital Metro Service Area Communities	
Austin	Manor
Cedar Park	Pflugerville
Jonestown	San Leanna
Lago Vista	Travis Co. Pt. 2
Leander	Williamson Co. Pt. 1 & 2



Miles



Capital Metro Service Area

Capital Metro Long Range Development Department
 Geographic Information System
 August 1994

The existing pattern and trend toward widely separated and segregated land uses has encouraged a dramatic escalation in trip making within the metropolitan area. The challenge over the next several decades will be to foster more mixed-use development which invites a higher proportion of walking, bicycling and transit trips, and diminishes the need for single-occupancy vehicle trips. Transit stops and stations, integrated with pedestrian and bicycle routes, can function as centers around which mixed-use residential, retail and commercial activity can be developed.

Downtown Revitalization. The core area of Austin, which contains the central business district, the state capital complex and the University of Texas (UT) Main Campus, constitutes the primary economic engine for the Austin metropolitan area. Improved access and circulation to and around the central core will be one of transit's major responsibilities in the coming decades.

Other Activity Centers. In addition to the central core, other major activity centers are emerging throughout the ATS region. Providing cost-effective transit access and circulation to and around these centers, many of which are beginning to develop in suburban areas, will become an increasingly important function for transit in the future.

Diversifying Travel Behavior

Mode Share. Transit trips have traditionally accounted for only a small fraction of total daily travel. However, the ATS commuter survey indicated that 65 percent of respondents would be willing to use transit. Through initiatives aimed at customer comfort, safety, competitive travel times, and better route and schedule information, the overall mode share for transit could be increased. Adoption of transit-oriented design guidelines and more transport-efficient land development patterns would also encourage a modal shift away from single-occupant vehicles (SOVs).

Intelligent Transportation Systems. Transit service will greatly benefit from new technologies aimed at improved signal timing, automatic vehicle location, real-time schedule monitoring and customer information systems, and more convenient access to transportation services and facilities.

Corridor Capacity and Congestion Levels. Many arterial roadways and highways in the metropolitan area have become congested as a result of the preponderance of SOV travel. Transit can be effective at moving large numbers of people within existing street rights-of-way, with a resulting increase in people-carrying capacity as opposed to vehicular capacity. Sound traffic engineering principles exist for the integration of higher-capacity transit service with other traffic operations, and must be applied to ensure that congestion levels, particularly at intersections, are improved for all travelers.

Interstate Highway 35 is a unique transportation challenge because of its multiple functions and excessive congestion. High capacity transit service designed to relieve some of the commuter traffic from IH-35 would create additional capacity for the movement of goods, which is expected to become an increasingly significant function with the advent of the North American Free Trade Agreement (NAFTA).

Cost-Effectiveness. Major transit improvements must compete at least partially on the basis of cost-effectiveness, as do all other major transportation projects. The Major Investment Study (MIS) process requires consideration of many other factors besides cost-effectiveness.) Traditional measures such as cost per ride and farebox recovery that gauge the effectiveness of capital and operating investments should continue to be important evaluation tools. Because of its greater carrying-capacity, transit improvements can also

result in a variety of cost savings through avoided roadway construction, avoided parking construction, and avoided vehicle accidents. These measures of effectiveness should also be incorporated into the MIS process.

To the degree that transit investments can support the development of more efficient land-use patterns, transit improvements can also be evaluated in terms of reduced infrastructure requirements and an enhanced tax base for member jurisdictions.

Parking Management. Employee parking in the downtown, state capital and UT areas is currently provided at no or low cost to the employee. A significant opportunity exists to improve transit ridership by encouraging public agency and private sector employers to develop parking management and SOV trip reduction plans. Higher levels of transit usage reduce the amount of parking spaces required, thereby permitting other, non-automobile related land uses to flourish.

Allocating Resources

The "3-C" Process. Comprehensive, Cooperative and Continuing..., these have long been the guiding principles of transportation planning. The provision of transportation services is currently spread among all levels of government, with almost every agency faced with critical transportation funding needs. In the coming years, more creative sharing of transportation funding resources and responsibilities could contribute to more effective and efficient provision of transportation services.

Balanced Funding Program. Federal transportation legislation has given local jurisdictions like the ATS increased authority over which transportation projects are approved and how they are funded. ATS has an opportunity over the coming decades to achieve the desired balance between roadway, transit, pedestrian and bicycle infrastructure investments. Previously adopted long range transportation plans, like the 1986 ATS plan, are being re-evaluated in part because of funding constraints and the need to achieve a balanced pattern of transportation investments.

Providing Essential Mobility

There are many people throughout the metropolitan area who, for a variety of reasons, rely on transit. Commuters, persons with disabilities, elderly citizens, lower income citizens, choice riders, people who live in rural areas - all of these groups have a traditional stake in the quality and availability of transit service. Serving the mobility needs of these constituents over the next 25 years will be an essential responsibility for public transit.

4.2.2 Public Transportation Policies and Programs

A. Support the ATS Vision.

Policy A-1: ATS supports the development of transit services that preserve the cultural and physical diversity of Austin area neighborhoods.

- Transit stations should form small centers of public life, creating gateways into neighborhoods. They should blend into the pedestrian and bicycle network, and reflect the cultural identity of the neighborhood.
- Bus stops should be easy to recognize and pleasant, with enough activity around them to make people feel comfortable and safe.

- Smaller transit vehicles should be used for neighborhood oriented service.
- Even within high-capacity transit corridors, there will be locations where higher-intensity or mixed-use land development patterns are not appropriate.

Policy A-2: ATS supports the implementation of transit plans that enhance environmental quality.

- ATS encourages transit operators to utilize clean fuel options.
- Overall, the transit "presence" should be aesthetically positive.

B. ATS supports land use planning.

Policy B-1: ATS encourages the adoption of land development guidelines by member jurisdictions that focus growth within the corporate limits of ATS member cities. ATS specifically requests that, by 1995, the City of Austin, in conjunction with Capital Metropolitan Transit Authority, evaluate what changes would be needed in the City of Austin Master Plan in order to provide a plan that reflected a "compact city" approach to future growth.

- As an example, the City of Austin recently established a citizens coordinating group to update planning principles and policies for the land use decision-making process.

Policy B-2: ATS supports the development of procedures that will promote collaboration between Capital Metro and other public, private and community-based organizations in the land development review processes of member jurisdictions.

- Coordination can be enhanced through site design and roadway design criteria developed by member jurisdictions in coordination with Capital Metro. Site Design criteria should include: easy pedestrian/bicycle access to transit routes; for commercial projects, building orientation that invites pedestrian activity and parking priority for van/car pools; and corresponding reductions in off-road parking requirements. The roadway design criteria should include: bus turnouts on major arterials and shopping facilities; bus stop pads that save the regular roadway; street geometrics for buses, especially at intersections/turns; and comprehensive integration of bicycle routes into street/roadway system. Where traditional subdivision development continues to occur, provisions should be made for transit linkages.
- Member jurisdictions are encouraged to dedicate appropriate staff for the purposes of (i) ensuring compliance with transit access criteria in the subdivision and plan review process and (ii) coordinating with Capital Metro.

Policy B-3: ATS supports public/private sector coordination to identify infill and redevelopment opportunities, including joint development projects, that support transport-efficient land use patterns.

Policy B-4: **ATS supports the designation of transit based land use corridors.**

- A transit service classification system should be adopted and utilized by ATS member jurisdictions to help guide land use decisions. An example of such a classification system is shown in Table 4.2-1.
- High-capacity fixed-guideway transit service can support higher levels of land use and should become primary corridors for residential and employment growth. An illustration of the "principal transit corridors" is shown in Figure 4.2-2.
- As transit based land use corridors develop, the type and intensity of transit improvements should reflect the level of demand within the corridor. Higher levels of transit service can, in turn, afford opportunities for additional corridor development.

C. *ATS supports the reduction of single occupant vehicle (SOV) travel.*

Policy C-1: **ATS supports preferential treatment for transit and other high occupancy vehicles (HOV) such as vanpools and carpools.**

- Express transit routes should be routed onto HOV lanes if and when such lanes are constructed along IH-35, U.S. 183, Loop 1, or other roadways.
- High-capacity, high-demand transit corridors should have exclusive rights-of-way and preferential signal treatment to ensure safe and convenient operations.
- Carpool and vanpool vehicles should be given preferential parking spaces.

Policy C-2: **ATS supports the development of a parking management plan for the downtown, State Capital Complex, and University of Texas Main Campus areas.**

- Parking policies should encourage transit and HOV trips, discourage the all-day warehousing of SOVs, and encourage the availability of short term (shopping, service) parking.

Policy C-3: **ATS supports public agency and private sector initiatives such as subsidized transit pass programs, transportation management associations (TMAs), employer sponsored jitneys, and parking cash-out programs.**

Policy C-4: **ATS encourages member jurisdictions to support more mixed-use development which invites a higher proportion of walking, bicycling and transit trips, and diminishes the need for single-occupancy vehicle trips.**

Policy C-5: **ATS supports the creation of intermodal transfer centers which facilitate the development of a seamless transportation network.**

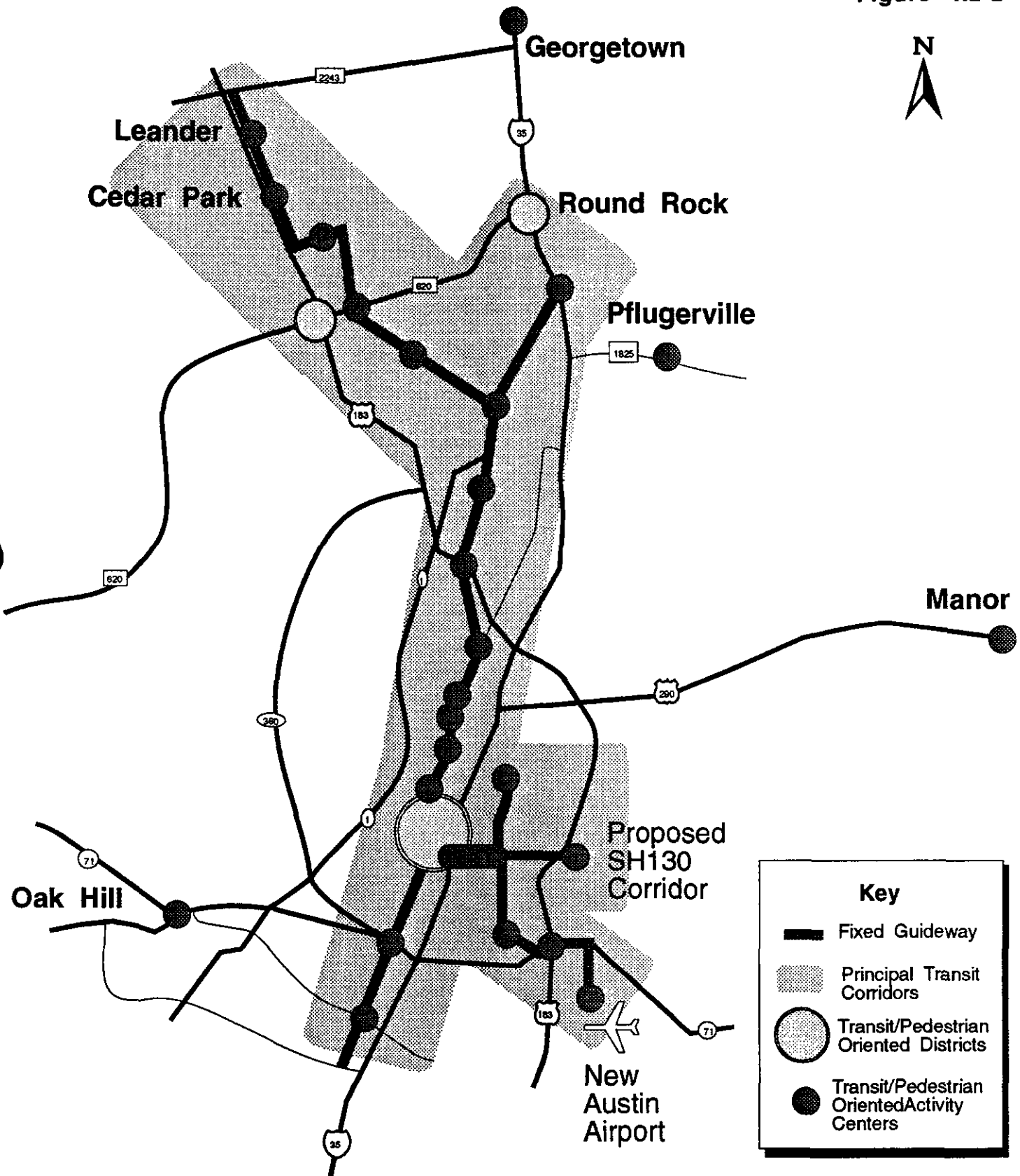
- The new Austin airport should be developed as a national model of intermodalism.

Table 4.2-1
Transit Based Land Use Development Patterns

	Principal Transit Corridor	Major Transit Corridor	Suburban Transit Corridor	Local Transit Service	Transit/ Pedestrian Oriented District (T/POD)	Transit/ Pedestrian Oriented Activity Center (T/POAC)
Types of service	Fixed guideway: light rail busway, etc.	Limited/express bus Local service	Express bus Local service	Local service	Fixed guideway Express service Local service	Some circulator service.
Level of service	Provides the most frequent service with 5-7 min. between vehicles in the peak hour and 10 min. in the off peak hour.	Provides frequent service with 10 min. service all day.	Local service will be at least every 20 min. in the peak and less than 30 min. in the off-peak. Express service will be 10 min. in the peak and less than 30 min. in the off-peak.	Service will be at least every 15 min. in the peak hour and 20-30 min. in the off peak.	Has features of primary, major, local, and circulator service.	N/A
Frequency of stations	Major stations are located every 1 mile and minor stations are every 1/4 mile.	Stations are located every 1/4 mile.	Stations are located along the park-and-ride lots and along future transit routes.	Stops are located every 1/4 mile.	Stops are located every 300'-600'.	N/A
Density of housing/ employment	Supports high density housing and/or employment centers along the entire corridor, especially at transit stations.	Supports medium density housing and employment centers along the entire corridor.	Supports lower density housing and employment except around park-and-rides where multi-family housing and higher density employment is encouraged.	Supports lower density housing and employment.	Supports the highest level of density for housing and employment within the area.	Supports high density housing and employment around major station facilities, transfer centers and park-n-ride lots.
Area of influence	1/2 mile in each direction.	1/4 mile in each direction.	1 mile in each direction.	1/4 mile in each direction.	Area of influence varies by the size of the district.	1/4 mile radius.
Types of improvements	High level of station improvements, bike parking facilities, pedestrian amenities, ticket machines, signal preferential treatment, off-street bus/rail transfer stations, park-n-ride lots.	Shelters, curb extensions, pedestrian amenities, signal preferential treatment, Transportation Systems Management, sidewalks.	Pedestrian/bicycle amenities, bike parking facilities, bus separated lanes, lighting at stations, park-n-ride lots.	Improvements and amenities based on local need.	High levels of infill and mixed-use activity, pedestrian and bicycle improvements, sidewalks	High levels of infill and mixed-use activity, pedestrian and bicycle improvements, sidewalks

Principal Transit Corridors

Figure 4.2-2



D. ATS supports the development of an affordable public transportation plan.

Policy D-1: ATS supports using a variety of local, state and federal transportation funding sources to support transit operations, maintenance and infrastructure investments.

- Operating and maintenance requirements must be fully met as new capital improvements and costs are introduced.

E. ATS supports creating a public transportation system which is accessible to all segments of the community.

Policy E-1: ATS supports the provision of special transit services for persons with disabilities and elderly persons who rely on public transportation and are not able to use mainline transit services.

Policy E-2: ATS encourages the use of low-floor transit vehicles, the development of infrastructure to enhance accessibility and the development of accessible communication systems to enhance accessibility for all riders.

Policy E-3: ATS supports the continuation of transit fare policies that keep public transportation services affordable and convenient to riders.

Policy E-4: ATS supports the continuation of public transportation services for rural citizens.

4.2.3 Facilities and Service

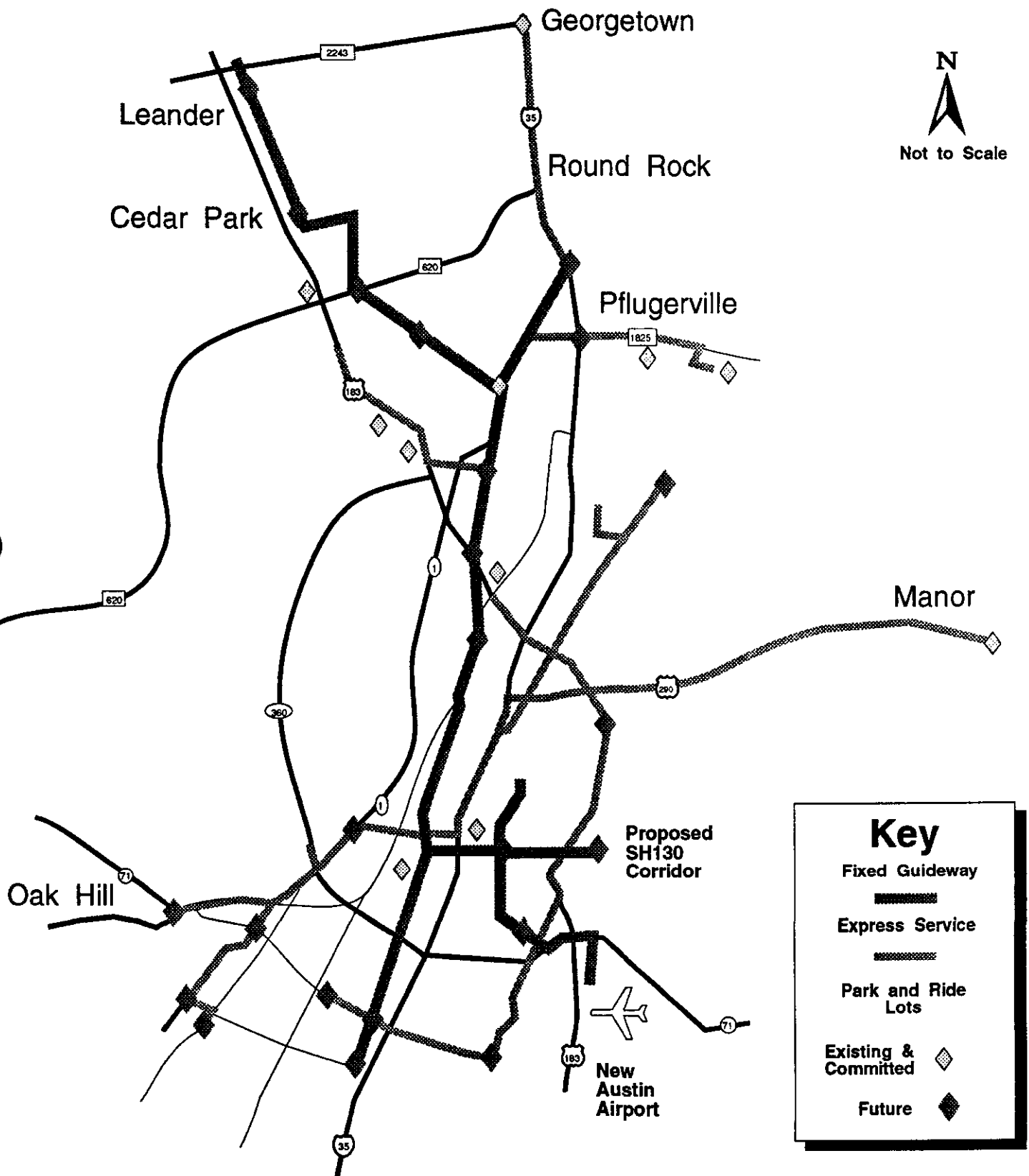
The major elements of the long term transit network are illustrated in Figure 4.2-3. The Public Transportation Element contains specific transit facility and service recommendations. Table 4.2-2 shows current transit service levels by service type, along with the recommended 2010 and 2020 improvements. Figure 4.2-4 presents current and forecasted daily transit boardings, and Figure 4.2-5 shows forecasted daily boardings for each segment of the long term fixed-guideway network.

The following text describes the different types of recommended facilities and services. Table 4.2-3 describes the different types of transit service.

Fixed Guideway - refers to busways or light rail transit service that can accommodate up to 4,000 passengers/hour in the peak hour direction with 7.5-minute headways along a corridor. Although local service may exist, the primary function of the corridor is that of line haul. It operates as a limited-express to express type service. Given the nature of continually evolving guideway technology, the specific type of service is generic to allow flexibility. As a corridor develops, higher capacity transit service can be gradually introduced.

Long Term Transit Network

Figure 4.2-3



**Table 4.2-2
Public Transportation Plan**

SERVICE/FACILITY TYPE	EXISTING & COMMITTED	YEAR 2010	YEAR 2020
Fixed Guideway	none	North Central/Northwest (Slater Line) (FG 1) Bergstrom Line (FG 2) South Congress Line (FG 3) Cedar Park/Leander Line (FG 4) North Extension (Round Rock) (FG 5)	Continued Continued Continued Continued SH 130 Connection Robert Mueller Line
Bus-Only Lanes	none	Brazos, 1st to 11th Colorado, 1st to 11th	Continued Continued
Park/Bike-and-Ride Lots	Leander Cedar Park Lake Creek Pavilion Balcones Woods North Lamar Transit Center Downtown Dillo Lot Oak Hill Pflugerville High School Pflugerville Elementary HEB: IH-35 at Wells Branch IH-35/11th Mopac/Parmer 6 UT P-n-R lots (Sites TBD) Georgetown	Continued Continued Continued Continued Continued Continued New (Oak Hill Replacement) Continued Continued New (IH-35/Wells Branch Replacement) Continued Continued Continued Continued Mopac/5th-15th Mopac/William Cannon Mopac/Slaughter IH-35/Slaughter Shady Hollow (Brodie/Wildwood) Georgetown/IH-35 Springdale/US 183 Braker/RR (FG 1) US 183/RR (FG 1) Anderson Ln/RR (FG 1) IH-35/4th (FG 1) Pleasant Valley/5th (FG 1) Riverside/Montopolis (FG 2) Congress/William Cannon (FG 3) Parmer/McNeil (FG 4) Parmer/RM 620 (FG 4) Brushy Creek/US 183 (FG 4) Co. Road 272/US 183 (FG 4) MoPac/IH-35 (FG 5)	Continued SH 130/Au&NW RR (FG 6) Pleasant Valley/William Cannon Cameron Rd/Parmer Ln
Express Services	10 Suburban To Downtown 1 Crosstown	Reduced to 4 Continued 3 Suburb to fixed guideway station	Continued Continued Continued 1 Crosstown

NOTE: FG = fixed guideway

Any of the fixed guideway corridors may, prior to the implementation of fixed guideway service, be operated with bus-only lanes.

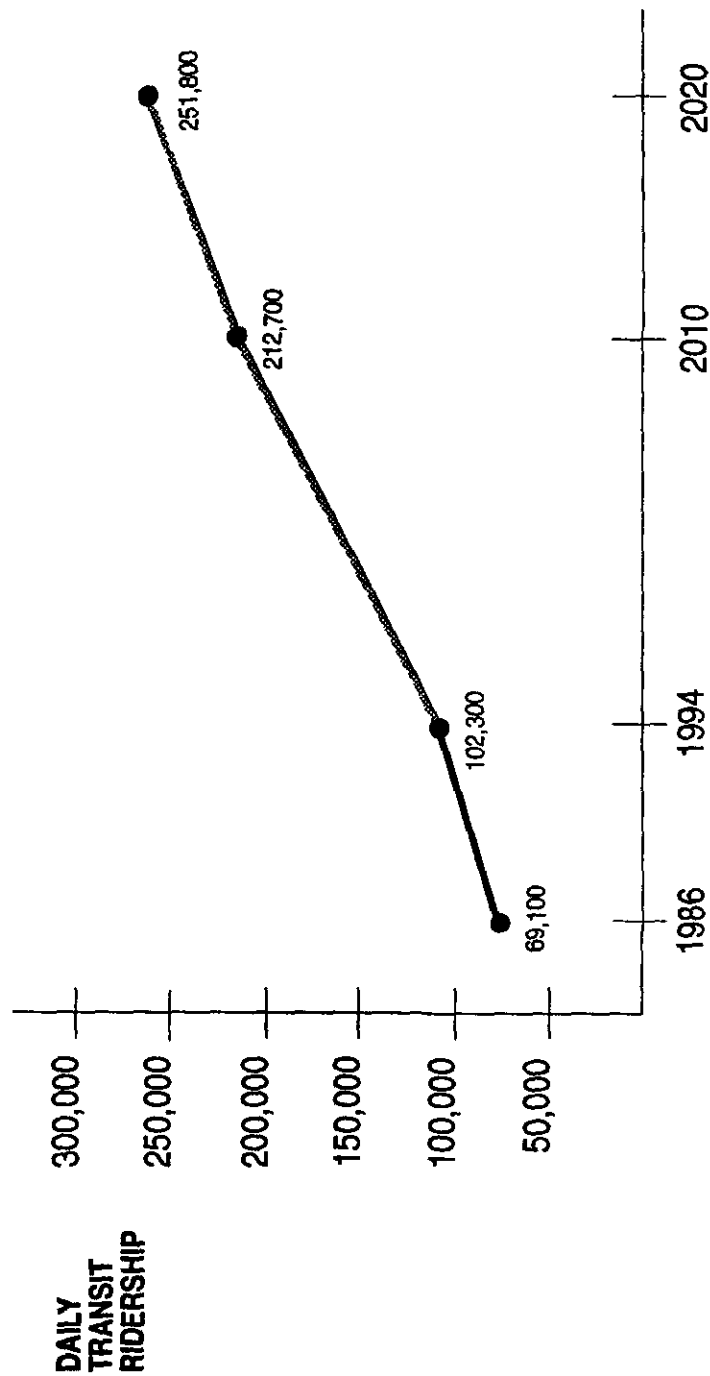
Table 4.2-2
Public Transportation Plan

SERVICE/FACILITY TYPE	EXISTING & COMMITTED	YEAR 2010	YEAR 2020
Major Transfer Centers	Highland Mall	Transfer activity reduced	Continued
	North Lamar	Continued	Continued
	New (Northcross Replacement)	Continued	Continued
	William Cannon/Woodhull	Continued	Continued
	Bluff Springs/William Cannon	Continued	Continued
	ACC Riverside Campus	Continued	Continued
		Downtown	Continued
		Springdale/US 183	Continued
		Mopac/Parmer (FG 1)	Continued
		Braker/RR (FG 1)	Continued
Local Services		Anderson Ln/RR (FG 1)	Continued
		Justin/Lamar (FG 1)	Continued
		20th/Whitlie (FG 1)	Continued
		IH-35/4th (FG 1)	Continued
		Pleasant Valley/5th (FG 1)	Continued
		Pleasant Valley/Riverside (FG 2)	Continued
		Bergstrom/New Airport (FG 2)	Continued
		Congress/Ben White (LRT 3)	Continued
		Congress/William Cannon (FG 3)	Continued
		Expanded in the southwest, south, Pflugerville, Round Rock, and along the Anderson Mill, Cedar Park, Leander corridor and any other areas warranting service	Continued
Circulator Service	24 Radial	Continued	Continued
	8 Cross-Town		
	6 Feeder		
Teleride	10 UT Radial		
	3 Downtown Dillo Routes		
	3 UT Shuttle Routes		
Special Transit Service	Anderson Mill	2 Additional Central Area Dillo Routes	Continued
	Leander/Cedar Park	Continued	Continued
	Far South Central	RM 620/US 183 Circulator	Continued
Travel Demand Management		Employer-Sponsored Neighborhood Shuttles	Continued
		Introduction of limited Fixed Route Service	Replaced with Fixed Route Service
		Introduction of limited Fixed Route Service	Replaced with Fixed Route Service
Transportation Systems Management		New zones may be established	New zones may be established
		Continued	Continued
		Additional 300 (20/year)	Additional 200 (20/year)
Intelligent Transit Systems (ITS)	90 Vanpools	Continued	Continued
	Bicycle Racks on All Buses	Expanded	Expanded
	RideShare Matching	Expanded (more employer initiatives)	Expanded
Intelligent Transit Systems (ITS)	VTrip Program	Continued	Continued
	Free Fare on High Ozone Days	Continued	Continued
	Guaranteed Ride Home	Parking Management Program	Expanded
Intelligent Transit Systems (ITS)	Intersection Improvements	Continued	Continued
	Bus Pull-Outs	Continued	Continued
	Queue-jumper lanes	Continued	Continued
Intelligent Transit Systems (ITS)	Automatic Vehicle Location	Continued	Continued
	Advanced Signal Timing	Continued	Continued
	Customer Information Systems	Continued	Continued
Intelligent Transit Systems (ITS)	Smart Cards	Continued	Continued

Table 4.2-2
Public Transportation Plan

SERVICE/FACILITY TYPE	EXISTING & COMMITTED	YEAR 2010	YEAR 2020
Administration and Other Operations			
Other Transportation Support			

Figure 4.2-4
Current & Forecasted Daily Transit Ridership *
Based on "Trends" Land Use Forecast



Source: Capital Metro/Austin Transportation Study Staff, 1994

* Includes fixed guideway, express, UT, local/Dillo service.
 Does not include vanpools, carpools, STS or Teleride ridership.

Figure 4.2-5

Fixed Guideway Network Forecasted Year 2020 Daily Link Volumes

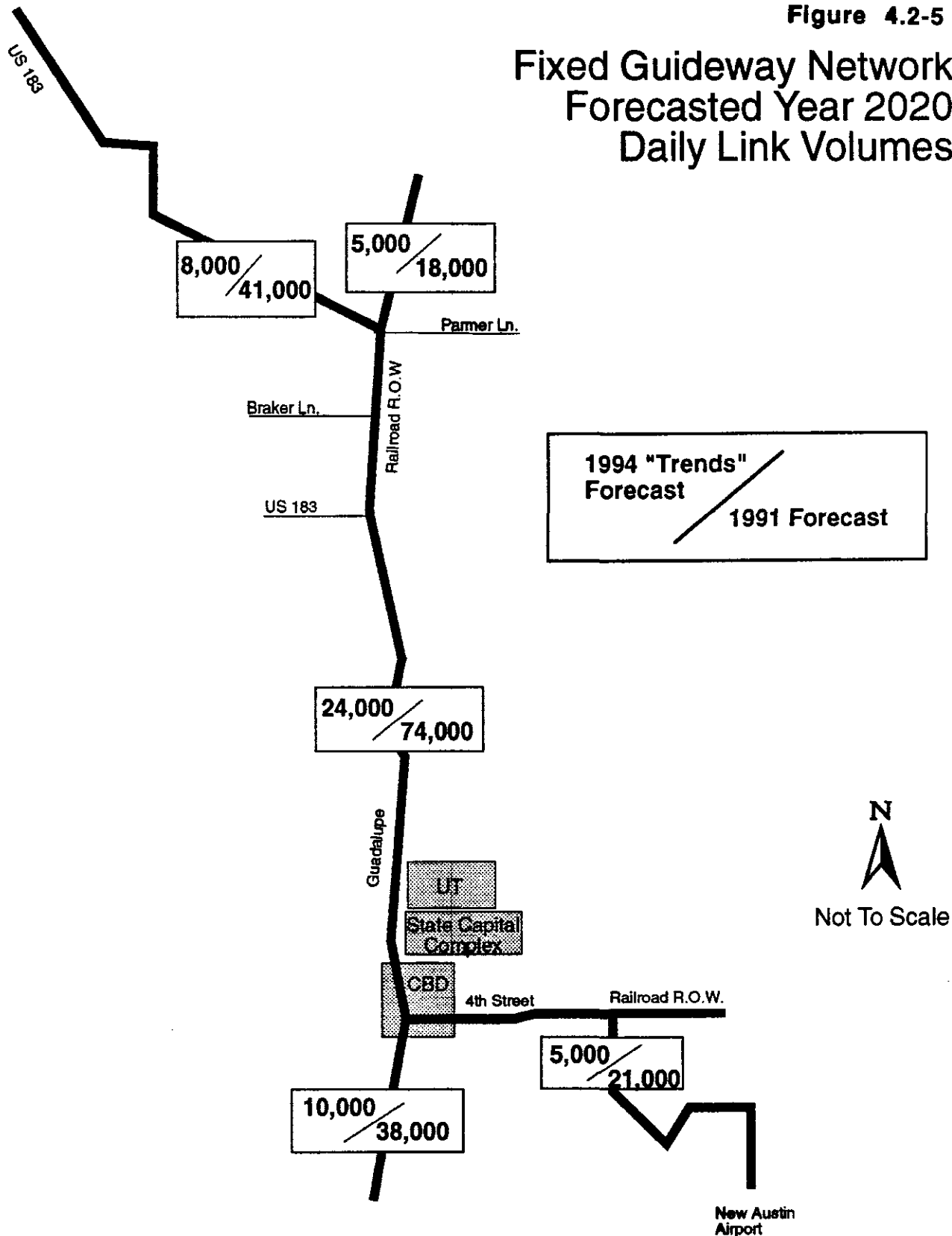


Table 4.2-3
Description of Transit Service Types

Transit Service Types	Function	R-O-W	Avg. Oper. Speed (mph)	Vehicle Capacity	Peak Hour		Transportation Nodes Served
					Headways (minutes)	Dbl-Trk Req'ts (ft)	
Fixed Guideway	Line-haul trips in heavily traveled corridors	varies	20-30	45-150	5	24-50	park-n-ride lots; transfer centers
Commuter Rail	Line-haul trips in heavily traveled corridors	Reserved ROW w/grade separations at intersections	40-50	100	20-30	25-40	park-n-ride lots; transfer centers
Light Rail	Line-haul trips in heavily traveled corridors	along major roadways or RR ROW on shared and/or reserved track/lanes	20-25	150	5-7.5	25/35	park-n-ride lots; transfer centers
Busway 1	Line-haul trips in heavily traveled corridors	exclusive	35-40	45-65	2-5	25/70	park-n-ride lots; transfer centers
Busway 2	Line-haul trips in heavily traveled corridors	exclusive	35-40	45-65	5-10	25/75	park-n-ride lots; transfer centers
Electric Trolley Bus	Line-haul trips in heavily traveled corridors	on shared or reserved traffic lanes	15-20	45	5-10	24	park-n-ride lots; transfer centers
Express Bus	Line-haul trips from fringe areas; serves mostly home-based work trips	On major roadways in mixed traffic or on HOV lanes	20-30	45	5-10	12	park-n-ride lots, kiss-n-ride lots
Local Bus	serves mostly home-based trips	along local streets in mixed traffic flow or reserved lane(s)	10-15	45	5-15	12	transfer centers; local bus stops
Radial	serves mostly home-based trips	along local streets in mixed traffic flow	15-20	45	5-10		transfer centers; local bus stops
Crosstown	serves mostly home-based trips	along local streets in mixed traffic flow	15-20	45	10-15		transfer centers; local bus stops
Feeder	serves mostly home-based trips	along local streets in mixed traffic flow	15-20	45	5-10		transfer centers; local bus stops
Circulator	serves periphery residential/ parking lot shuttle service	along local streets in mixed traffic flow or reserved lane(s)	5-10	25	5-10		fringe parking or residential; TPODs

Bus-Only Lane - refers to a traffic lane on a street that is reserved for transit vehicles and designated by special signage and striping.

Park-and-Ride Lot - refers to any designated parking lot that is serviced with express or limited-express transit service.

Express Service - refers to non-stop service between two distant points, usually from a suburb or fringe area, coupled with park-and-ride lots, to the central core. Express service may also operate between suburban activity centers. Operating speeds should be, at a minimum, 2 to 3 times that of local service.

Major Transfer Center - refers to a multimodal transportation node that connects two or more transit routes with pedestrian, bicycle or automobile modes of travel. The transfer distance between different modes of transport should be no more than 300 feet wherever possible, with an absolute maximum of 600 feet.

Local Service - refers to transit service, usually by bus, that accommodates boardings and alightings roughly every 300 to 1,000 feet, depending on density levels. The average operating speed is usually between 10 and 25 miles per hour.

Circulator Service - refers to local stop, high frequency transit service for high density, pedestrian oriented districts. The service may include a shuttle or park-and-ride function from some periphery parking area to the high density activity area.

Teleride - refers to demand response service, usually provided with cabs, in an area where density levels do not warrant fixed route service. The three existing teleride zones are planned to be replaced with fixed route service during the coming years. New teleride zones may be established in other sparsely developed areas.

Special Transit Service (STS) - refers to demand response service, specifically for elderly citizens and persons with disabilities.

Travel Demand Management (TDM) - refers to an approach for alleviating traffic congestion by reducing travel demand, in contrast to increasing the supply. This program includes parking management, free fares on ozone advisory days, bikes on-board transit vehicles, vanpools, ridematching services, V-Trip (voluntary vehicle trip reduction initiative program), guaranteed ride home, and employer education.

Transportation Systems Management (TSM) - refers to relatively low cost improvements to the street network at key points, usually at intersections, that improve transit operations. Bus pullouts, intersection improvements and queue jumper lanes are incorporated where appropriate.

Intelligent Transportation Systems - includes the use of automatic vehicle location systems, advanced signal timing, and other new and emerging advanced public transportation system technology.

4.2.4 List of Background Studies and Documents

4.2.4.1 Capital Metro: Five Year Service Plan, 1994.

4.2.4.2 University of Texas Shuttle: Five Year Service Plan, 1994.

*Congestion/Demand
Management Element*

4.3 CONGESTION/DEMAND MANAGEMENT ELEMENT

4.3.1 Introduction

The purpose of the Austin Metropolitan Area Transportation Plan (AMATP), Congestion/Demand Management (CDM) Element is to increase vehicular occupancy, reduce vehicle trips, and improve mobility and safety by reducing peak hour vehicle travel demand and implementing operational improvements to the transportation network. This will in turn reduce air pollution and fuel consumption and result in a safer, more efficient transportation system.

The CDM Element includes:

- Preparation and implementation of a Congestion Management System (CMS)
- Travel demand reduction measures
- Roadway operational improvements

ATS, the Texas Department of Transportation (TxDOT), the City of Austin, and other member jurisdictions and interested parties will discuss, develop, and implement a Congestion Management System (CMS) for the Austin metropolitan area. The CMS will be used to enact and monitor potential strategies for reducing travel demand and improving operational efficiency in order to reduce congestion.

Travel demand reduction measures can lead to changes in travel behavior. The recommended travel demand reduction policies in the next section are listed in order from easily implemented, voluntary activities to more restrictive government-regulated programs. Highly restrictive policies, such as auto restricted zones, are not recommended at this time. Research has shown that travel demand reduction initiatives such as parking management, ridesharing (with guaranteed ride home for emergencies), alternative work hours, bicycling, transit and telecommuting can substantially reduce vehicle trips.

Operational improvements can help increase the efficiency of the roadway and transit system through measures such as traffic signal synchronization, intersection improvements, one-way flow, and High-Occupancy Vehicle (HOV) lanes.

The federal requirements of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and rapidly increasing demand on the transportation system in the Austin metropolitan area provided the basis for the CDM structure. These two issues are discussed below.

4.3.1.1 ISTEA Requirements

The Austin metropolitan area is considered a Transportation Management Area (TMA) by the federal government. This is an area having a population of at least 200,000 people. According to ISTEA, the Metropolitan Planning Organization in a TMA must include a Congestion Management System (CMS) as part of their planning process. The CMS is defined as a systematic process that provides information on transportation system performance, and identifies and implements strategies to alleviate congestion and enhance the mobility of persons and goods. A CMS also includes methods to monitor and evaluate the effectiveness of implemented actions. The CMS will result in the identification and implementation of on-going strategies that improve the efficiency of existing and future transportation facilities.

The following is the federal government's compliance schedule for implementing the CMS in an attainment TMA (one that has air quality conditions within federal limits):

By October 1, 1994:

- The State shall develop a work plan that does the following:
 - 1) Identifies major activities and responsibilities.
 - 2) Includes a schedule demonstrating full operation and use of the CMS by 10-1-96.
 - 3) Describes the most critically congested areas requiring analysis.
- Data collection activities shall be initiated.

By October 1, 1995:

- CMS design completed or underway in accordance with the State's work plan.
- Full-scale data collection shall be underway.

By October 1, 1996:

- The CMS shall be fully operational and shall identify projects and programs for consideration in the development of the metropolitan and statewide Transportation Plans and Improvement Programs.

ISTEA also requires that transportation plans be financially constrained. This limits the availability of resources for providing sufficient peak-hour Single Occupant Vehicle (SOV) roadway capacity. These ISTEA requirements direct that peak hour congestion must be addressed through more vigorous congestion management strategies.

4.3.1.2 Increasing Demands on the Transportation System

In most urban areas of Texas, increased auto use and ownership have significantly outpaced highway infrastructure investments resulting in more urban traffic congestion, excessive air pollution and fuel consumption, higher accident rates, and increased levels of frustration and delay. In Texas, from 1960 to 1990, daily person trips per person and daily vehicle trips per person have increased approximately 13 percent and 25 percent, respectively. In the large urban areas (greater than 200,000 persons) approximately half of these trips started during the peak hours between 7:00 AM and 10:00 AM or between 3:00 PM and 6:00 PM. Furthermore, from 1960 to 1990, driver-only person trips in large urban areas increased from 63 percent to 71 percent.

The Austin metropolitan area is included among the large urban areas of the state and has experienced similar 30-year trends:

- Average vehicle occupancy declined by 29 percent (i.e., more motorists are driving alone)
- The average number of vehicles per capita doubled
- Average trip length more than doubled
- The amount of arterial vehicle miles traveled quadrupled
- The population tripled

Furthermore, a doubling of the population to 1.3 million persons is estimated by the year 2020. Most of the arterial corridors and intersections within the Austin area are already experiencing

unacceptable levels of congestion. The increase in travel demand will further aggravate our currently congested roadway network and will reduce traffic safety, mobility, and air quality.

4.3.2 Congestion/Demand Management Policies and Programs

A. ATS, TxDOT, the City of Austin, and other member jurisdictions will cooperatively develop and implement a Congestion Management System (CMS) for the ATS area.

- Policy A-1: ATS supports the development and use of a regional congestion management system (CMS), as required by ISTEA, to enhance the effectiveness of travel demand reduction measures and operational improvements for the Austin metropolitan area's transportation system.
- Policy A-2: ATS encourages its member jurisdictions to participate in the regional CMS to monitor and quantify traffic congestion, to evaluate roadway system performance, and to develop congestion management strategies within their own jurisdictional boundaries.
- Policy A-3: ATS will make federal funds available to transportation providers to help them develop and implement congestion management initiatives that respond to strategies identified by the CMS, including travel demand reduction and roadway operational improvements.

B. ATS supports the implementation of Travel Demand Reduction Measures.

- Policy B-1: ATS supports the completion of the ATS Voluntary Vehicle Trip Reduction (V-Trip) Pilot Project; and will help fund the establishment of a full-scale ATS V-Trip program based on the Pilot.
- Policy B-2: ATS encourages member jurisdictions and public agencies to implement trip reduction programs for their employees through the ATS V-Trip program.
- Policy B-3: ATS encourages major private sector employers to follow the lead of ATS member jurisdictions to implement trip reduction programs for their employees through the ATS V-Trip program.
- There are approximately 145,000 people who work for major employers (an organization or employment center with at least 250 employees) in the City of Austin alone.
- Policy B-4: ATS supports the development and implementation of a region-wide commuter education program with two major objectives:
- To encourage motorists to use alternative modes of transportation other than the single occupant vehicle. Alternative modes of transportation may include carpooling/vanpooling, public transit, bicycling and walking.
 - To emphasize the requirements of the Clean Air Act and the purpose of the ATS Ozone Advisory Day Program.
- Policy B-5: ATS encourages all member jurisdictions to adopt growth management and trip reduction ordinances requiring proposed subdivisions and office buildings to implement congestion management techniques. ATS also encourages multi-use activity centers, parking management, and access management to minimize traffic volumes to and from a site.

Figure 4.3-1

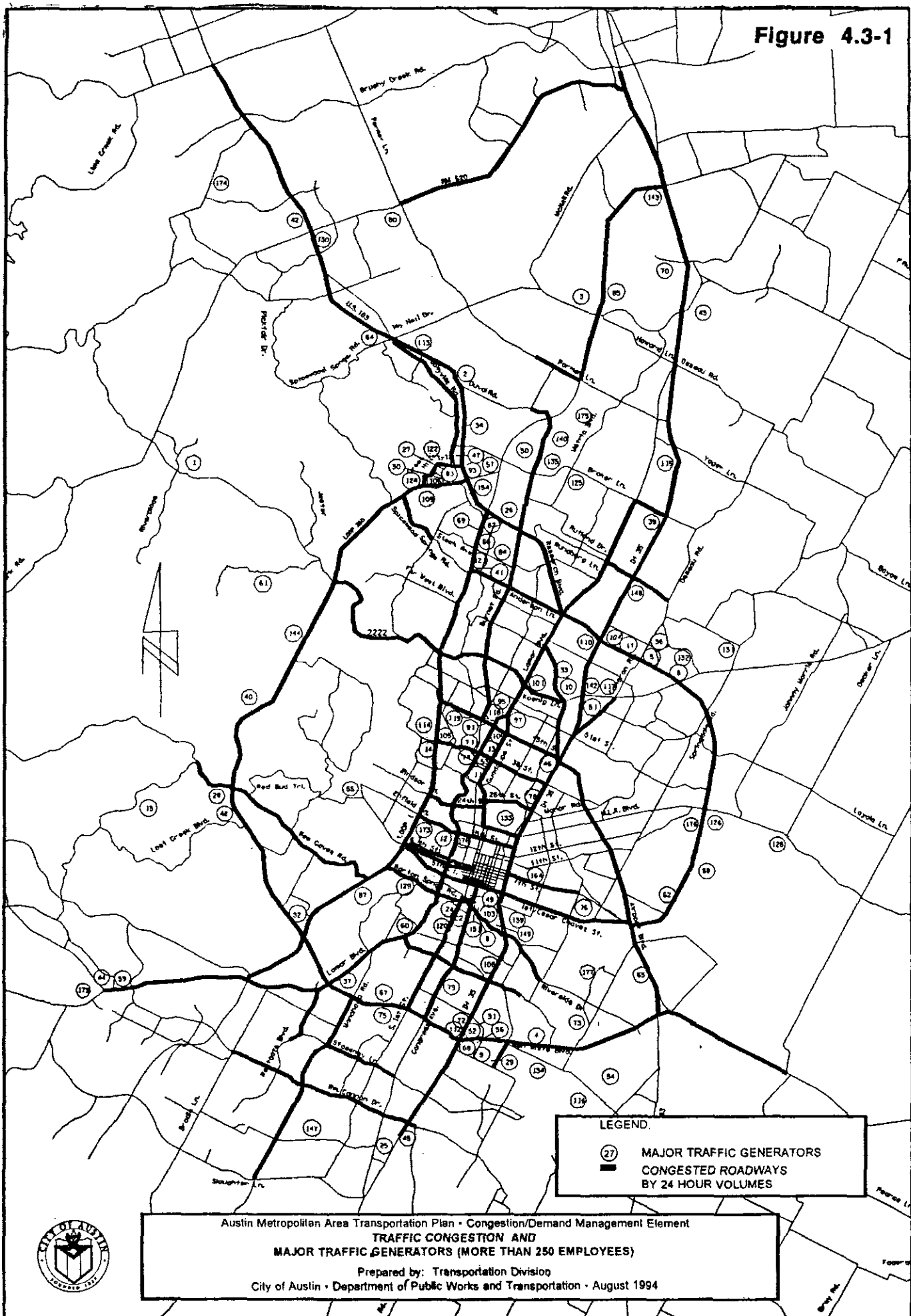
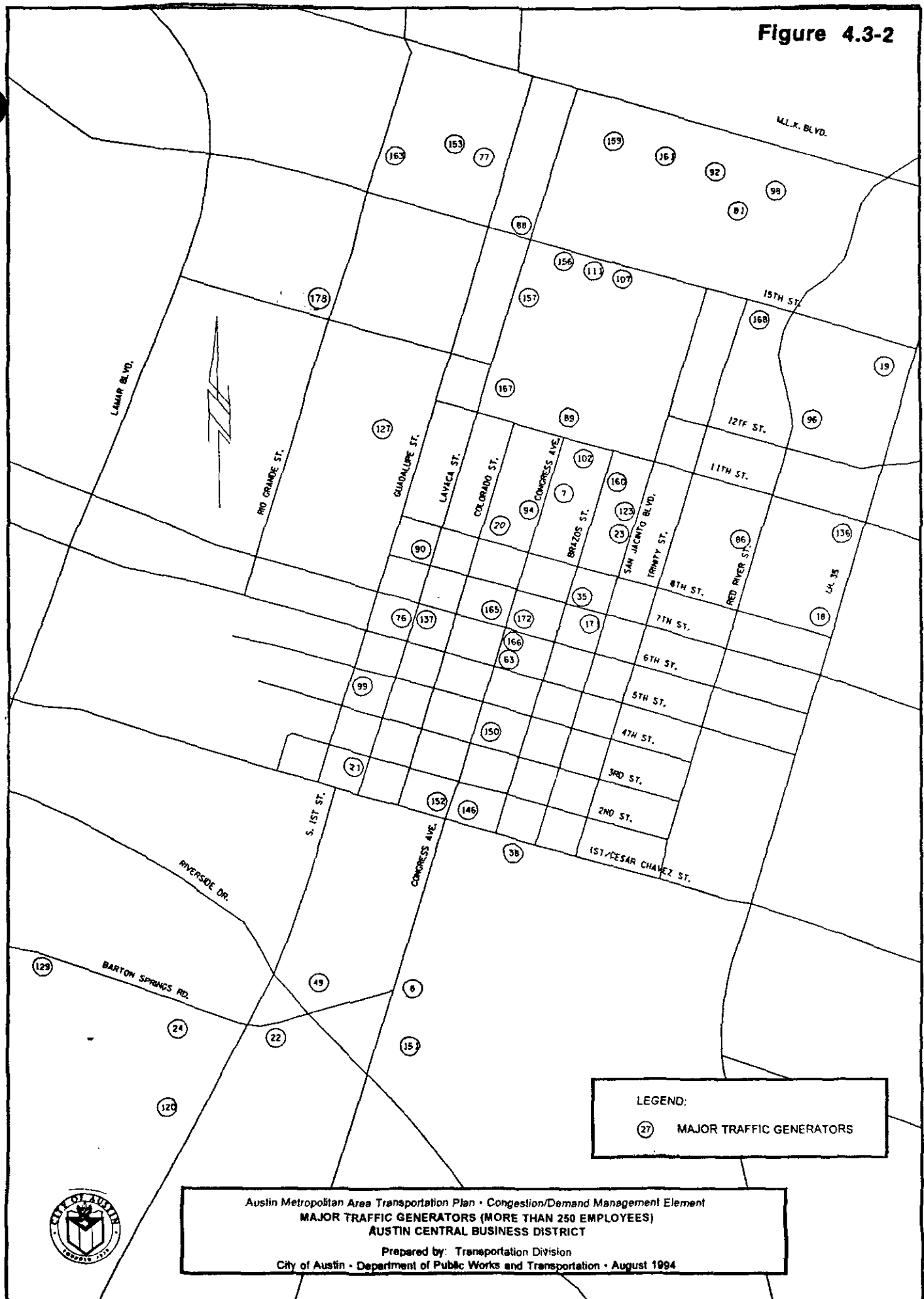


Figure 4.3-2



Policy B-6: ATS supports parking fees for single-occupant vehicles, and incentives that encourage the use of public transportation, carpooling, bicycling and walking. ATS supports investigating the feasibility of establishing a central business district parking management authority.

Policy B-7: ATS and its affected member jurisdictions, in cooperation with TxDOT and the Texas Turnpike Authority, will investigate the feasibility of implementing a Road Pricing Pilot Project on a selected roadway within the ATS area.

- Expected benefits from road pricing include reduced congestion and increased revenues. Road pricing provides a mechanism for controlling the level of congestion on the facility and the funds collected can be used for construction and maintenance.

C. *ATS supports the implementation of Roadway Operational Improvement Measures.*

Policy C-1: ATS encourages all member jurisdictions to participate in the Austin metropolitan area's Traffic Management Team (TMT) to address transportation construction, operational, and safety problems.

- The TMT has been working since 1984 to coordinate the efforts of TxDOT, the City of Austin, and the Capital Metropolitan Transportation Authority (CMTA).

Policy C-2: ATS supports the establishment of an integrated metropolitan incident management program that provides unified guidance for police, fire, rescue, and transportation agencies for assisting motorists in disabled vehicles, cleaning up spills, accident rescue, and wreckage removal.

- The objective is to improve safety conditions, expedite rescue efforts, and reduce traffic congestion associated with random incidents (e.g., breakdowns and accidents) occurring on the region's roadway system.
- According to a study performed by the Texas Transportation Institute, just over half of all vehicle occupant delay costs experienced on congested freeways and principal arterials are due to random incidents.

Policy C-3: ATS encourages member jurisdictions to implement roadway operational improvement projects, such as traffic signal synchronization and Transportation Systems Management (TSM) projects, to reduce traffic congestion and improve traffic flow.

- Traffic signal synchronization is one of the highest priorities as evidenced by the ATS Public Opinion Survey.
- A 1994 study by the General Accounting Office reported that air pollution is reduced when cities install new traffic control systems and upgrade the timing of existing signals. Nationwide experiences have shown that improved signal timing can reduce air pollutants by 14 - 20 percent.
- Data collected by the City of Austin indicate that approximately 80 intersections experience excessive delay in the morning peak period (7:00 to 8:30 AM) and 100 intersections in the afternoon peak period (4:30 to 6:00 PM).

Figure 4.3-3

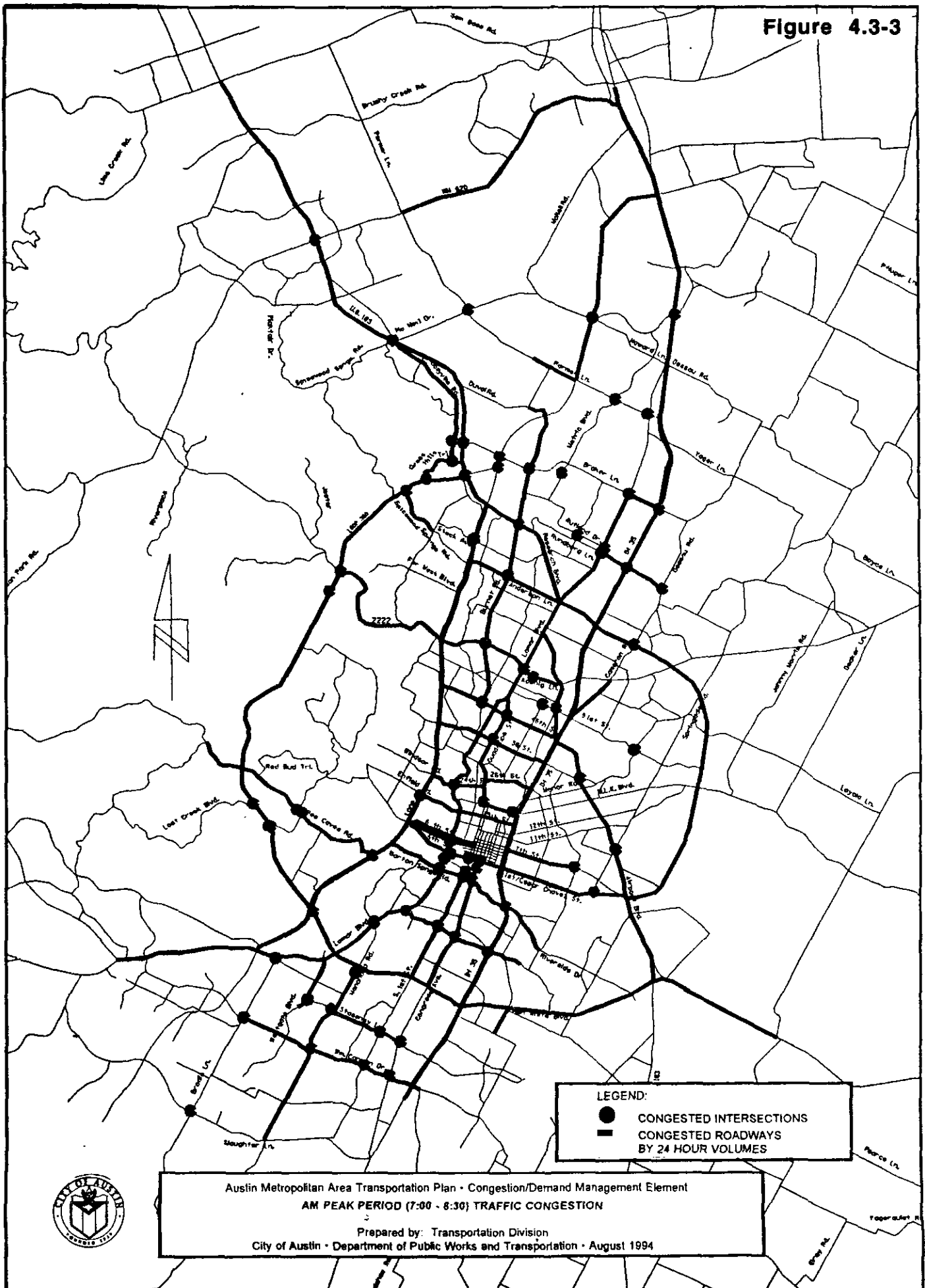
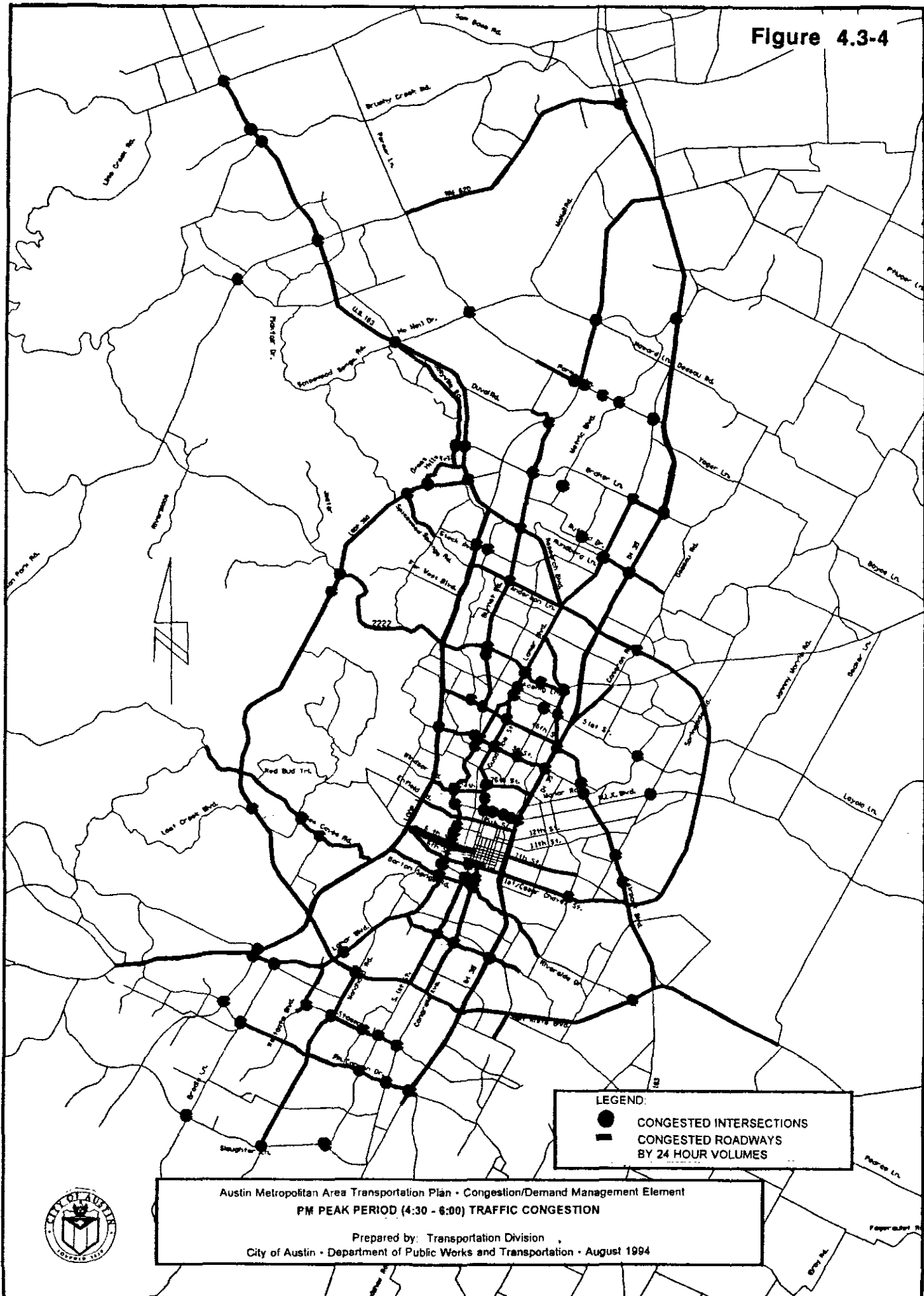


Figure 4.3-4



- TSM projects have two primary benefits: 1) They avoid the costs of major roadway capacity improvements (e.g., roadway widenings) and the impacts of such improvements on neighborhoods; and 2) They help reduce fuel consumption, traffic congestion, and air pollution due to vehicle emissions.
- TSM projects are less disruptive roadway capacity improvement measures such as reversible flow lanes, one-way streets, intersection improvements, ramp metering, and bottleneck removal.
- The City of Austin recently implemented seven TSM projects (at a total cost of \$700,000) to add left turn lanes and right turn bays, and to upgrade signal mast arms at selected locations. The estimated savings in commuter travel time and reduced fuel consumption attributed to these projects is \$1.8 million per year.

Policy C-4: ATS supports High Occupancy Vehicle (HOV) lanes to increase the person-carrying capacity of major arterials and freeways. ATS and its member jurisdictions will study the feasibility and implementation of HOV lanes at selected locations in the Austin metropolitan area.

- The Houston-Galveston area HOV network has greatly expanded since its inception in the mid 1980s. By late 1993, 58 miles of the proposed 96 mile network were in operation.
- The HOV system in the Houston area served over 78,000 daily person trips in December 1993, with just less than 10,000 vehicles parked in the associated park-and-ride lots.
- On an average day in the Houston area, a 20-mile round trip made by an HOV takes approximately 15 minutes less time than the same trip made driving alone.

Policy C-5: ATS supports the current efforts of the City of Austin and TxDOT to implement Intelligent Transportation System (ITS) technology to enhance or improve the efficiency of new or existing major arterial and freeway facilities and transit operations.

- Estimates of the benefits of IVHS technology were cited in an article titled "Technology and the New Transportation" (Washington Times, 23 May 1994). Assuming current traffic levels, the article states that IVHS has the potential:
 1. To reduce traffic fatalities eight percent by the year 2011.
 2. To cut travel times in half in certain congested areas.
 3. To reduce fuel consumption by 10 percent.
 4. To reduce auto pollution emissions by as much as 15 percent.

Policy C-6: ATS encourages all member jurisdictions to require that utilities (water, wastewater, telephone, etc.) be placed outside the pavement area of major and minor arterial roadways.

- The objective is to decrease occurrences where work for utility construction and maintenance temporarily reduces roadway capacity, particularly for roadways which carry significant traffic.

4.3.3 List of Background Studies and Documents

- 4.3.3.1 Congestion Management System Work Plan
- 4.3.3.2 Transportation Trends: 1960 - Present
- 4.3.3.3 Congestion Management Techniques
- 4.3.3.4 Congestion/Demand Management Technical Report
- 4.3.3.5 Austinplan: Transportation Plan for Implementation

Bicycle / Pedestrian / Trail Element

4.4 BICYCLE / PEDESTRIAN / TRAIL ELEMENT

4.4.1 Introduction

Bicycling and walking, the two primary nonmotorized transportation choices, contribute a small fraction of their potential. Bicycling and walking must be partners with other modes of travel if they are to achieve widespread use. They must be elevated to the same level of planning, design, and proportional funding that goes into the other modes. The Bicycle/Pedestrian/Trail Element discusses the federal requirements, the problems and opportunities associated with bicycle and pedestrian travel, and recommended policies and programs to improve bicycle and pedestrian facilities. The recommended policies and programs are divided into two sections: 1) overall policies and programs for both ATS and member jurisdictions, and 2) recommended policies and programs for member jurisdictions.

4.4.1.1 ISTEA Requirements

The passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 requires Metropolitan Planning Organizations (MPOs) to develop "transportation facilities (including pedestrian walkways and bicycle transportation facilities) which will function as an intermodal transportation system for the metropolitan area." Bicycle and pedestrian transportation planning must be conducted in a comprehensive and functional manner and also be integrated into all transportation efforts, particularly highway and road development.

Survey research by the U.S. Department of Transportation indicates that bicycle and pedestrian commuting could be increased if adequate facilities were available. This would translate into fewer motor vehicle trips and a significant drop in traffic congestion and pollution emissions. In addition to their applicability in the home-to-work commute market, bicycle and pedestrian travel can serve as an all-around short distance transportation alternative to motor vehicle trips to schools, shopping, recreational facilities and neighborhood destinations.

While the primary focus of this element is the use of bicycle and pedestrian facilities as an alternative transportation mode, many existing and proposed bicycle and pedestrian facilities are also used to meet the region's recreational needs. Similarly, many of the metropolitan area's recreational trails are used for transportation. The bicycle/pedestrian/trail system should be designed to create an efficient, safe network to enhance linkages for both transportation and recreation.

4.4.1.2 Problems and Opportunities

Bicycle System

National surveys have shown that people believe inadequate facilities are the key impediment to expanding bicycle ridership. Major barriers and problems exist which deter the great majority of people, including active recreational cyclists, from using the bicycle as a regular means of transportation. There are many people who would enjoy riding to work, but find it prohibitive because of perceived safety problems, lack of bicycle facilities, large distances, lack of bicycle parking, and inadequate support facilities such as showers or changing rooms.

ATS conducted a public opinion survey in the Spring of 1994 regarding people's attitudes about the existing and future transportation system. Of those surveyed, two percent said that they bicycle to work or school, however, 31 percent stated that they would consider bicycling if the conditions were right for them.

Inducements to bicycle commuting include safe bicycle lanes, financial incentives, showers and storage at the work site, and a rise in gasoline and parking prices. No single improvement will be sufficient to attract all potential bicycle commuters to cycle. An integrated approach is

best for stimulating mode shifts. Moreover, the relative importance of various improvements will depend heavily on local conditions and variables. As discussed in the 1994 Draft *Austin Bicycle Plan*, conditions in Austin are very favorable to increased cycling.

Consideration for cyclists is inadequate in most instances because facilities to encourage safe use of bicycles are not routinely designed into new or renovated roadways. Meeting bicyclists' needs should be a regional objective within transportation related agencies and departments. This objective is a major part of increasing the acceptance of bicycling as a legitimate and valuable transportation mode.

Pedestrian System

Pedestrians are not treated as legitimate users of streets both in engineering design and transportation funding. Standard traffic engineering policies and practices facilitate motor vehicle movement in urban areas which often cause conflict, inconvenience and unsafe conditions for pedestrians. Too many variances to the subdivision ordinance requirements are given to new developments resulting in inadequate sidewalk facilities being built. These policies and practices result in an unsafe and ineffective pedestrian transportation system.

All roadways not legally prohibiting pedestrians should be designed to accommodate sidewalks, where appropriate, in order to achieve a balanced multi-modal transportation system. New developments need to provide for sidewalks with direct connections to residential, commercial and recreational areas and to transit stops. Furthermore, revised design standards for street and sidewalk construction need to be developed and implemented to facilitate walking.

We are all pedestrians when we walk to work, school or shopping, walk to the bus stop, or walk from our car in the parking lot to the office building. Pedestrians have the same activity centers as automobile traffic and use the same routes. Basically, pedestrians have the right to safe, accessible, and direct sidewalk facilities.

Trails System

The need for more trail related opportunities in Texas was documented in the 1990 *Texas Outdoor Recreation Plan*. Jogging, walking for pleasure, and bicycling are three of the top four most popular outdoor recreation activities in the state. The supply of trails in Texas, however, is relatively low compared to other states.

Off-road trails offer several transportation benefits to pedestrians and bicycle users. They provide linkage, an alternative to automobiles, integration with mass transit systems, and increased transportation safety. Building trail networks will result in economic, convenience, safety, environmental, and personal health benefits.

A major transportation benefit is in providing linkage, where trails connect origins with destinations. Off-road trails and networks of trail systems can connect cities, regional points of interest, different parts of a community, various transportation routes, and basically, any two points that are desired to be linked together by means of bicycle or pedestrian travel.

Because trails do not just stop at jurisdictional boundaries, there is the need for cooperation and coordination between all jurisdictions. The Austin Metropolitan Trails Council is a group of citizens and area governmental representatives concerned with having more high-quality trails in the Austin metropolitan area. The group began meeting in the fall of 1993 to look for ways to increase trail opportunities in the region. To that end, the Trails Council is focusing on the development of a community-based plan for a trail and greenway system that provides for both commuting and recreational travel. The plan will emphasize resource protection and appreciation, transportation, diverse recreational opportunities, open space, community cohesion and quality of life improvements for local citizens and visitors, with hope to link all trails wherever possible. ATS funds and supports the process of the Trails Council and the next step is to further refine regionally significant corridors.

4.4.2 Policies and Programs for ATS and Member Jurisdictions

A. Bicycle/Pedestrian/Trail Facilities

- Policy A-1: Provide a comprehensive bicycle, pedestrian, and trails program of facilities, education, law enforcement, and promotion that is coordinated and integrated by ATS and its member jurisdictions which will remove barriers to continuous bicycle and pedestrian travel.
- The objective is to increase the current peak period percentage of bicycling trips to 5% and walking trips to 6% by the year 2000. By the year 1999, ATS will evaluate progress towards this goal. Upon completion of this evaluation, ATS will make further recommendations as needed and shall adopt additional numerical goals for the year 2010 so that further evaluations can be made.
- Policy A-2: Employ incentives for bicycles and pedestrians as alternatives to the automobile in highly congested areas.
- Policy A-3: Design all new and improved roadways not legally prohibiting bicycles or pedestrians to accommodate bicycle facilities and sidewalks, except where inappropriate, in order to achieve a balanced multi-modal transportation system.
- The ATS will coordinate bicycle system improvements with roadway improvements to accommodate a safe and efficient car-bicycle traffic flow.
 - Each member jurisdiction will specify a person to meet with ATS to coordinate bicycle planning in the region, review local roadway plans for bicycle accommodation, and apply for funding for bicycle projects.
 - When a roadway is wider than the current or anticipated travel demand, and is designated as a bicycle route, either in *AMATP* or the member jurisdiction's roadway or bicycle plan, the roadway should be reduced in size to provide the planned bicycle facilities (i.e. wide outside curb or bicycle lanes).
- Policy A-4: Design all roadways not legally prohibiting bicycles for at least group A bicyclists, as defined by the Federal Highway Administration (FHWA) guidelines. Establish a network of enhanced routes in coordination with each ATS member jurisdiction by identifying appropriate corridors in which to incorporate the designated bicycle facilities recommended for group B/C bicyclists. (See Figure 4.4-1)
- Policy A-5: Adopt a metropolitan bicycle route system as shown in Figures 4.4-2a & b and maintain the usability of these routes for bicycling by providing shoulders, wide outer lanes or similar features. (See Figures 4.4-2a&b in sleeve.)
- Policy A-6: Solicit public involvement from bicyclists and pedestrians to identify projects and programs of high priority to the local bicycle and pedestrian community.

Figure 4.4-1
Group A / B / C Bicyclists

- **Group A – Advanced Bicyclists**

- * experienced riders
- * they prefer:
 - direct access to destinations
 - maximum speed with minimum delays
 - sufficient operating space to share roadways with motor vehicles



- **Group B – Basic Bicyclists**

- * casual or new adult and teenage riders
- * they prefer:
 - comfortable access to destinations
 - well-defined separation from motor vehicles



- **Group C – Children**

- * pre-teen riders
- * they prefer:
 - access to key destinations
 - streets with low motor vehicle speed limits and volumes.
 - well-defined separation from motor vehicles

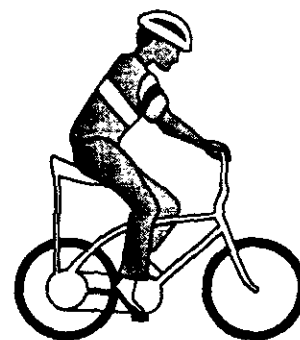


Figure 4.4-2a
Metropolitan Bicycle Route System

SEE MAP IN THE BACK

Figure 4.4-2b
Metropolitan Bicycle Route System (Central)

SEE MAP IN THE BACK

- Policy A-7: An explicit breakdown of the bicycle and pedestrian elements will be provided in the financial plan segment of the *AMATP* by 1995.
- Give priority to local jurisdiction approved projects.
- Policy A-8: ATS shall assist local jurisdictions in developing zoning, subdivision and site plan standards which balance the needs of pedestrians, bicyclists and the environment with the requirements of the automobile.
- Policy A-9: Support continued development of an off-road trails plan that recommends connecting trails to activity centers such as schools, parks, shopping centers and workplaces through member jurisdictional cooperation with the *Austin Metropolitan Area Transportation Plan (AMATP)*. ATS will continue to support and fund the Austin Metropolitan Trails Council (AMTC) process to further refine regionally significant corridors for trails.
- Policy A-10: Adopt design standards in transportation criteria manuals as shown in Attachment A (D.S. 1-10) that promote comprehensive bicycle, pedestrian and trail systems that facilitates increased use and safety and are consistent with preservation of sensitive environmental features and ecosystems.
- Policy A-11: Member jurisdictions should develop detailed bicycle planning which will be reconciled with other member jurisdictions' plans and adopted by amendment of the *AMATP* upon their completion. Bicycle route segment descriptions should contain the following elements: segment start and end, design cyclist, urban or rural design, parking, speed limit, observed actual speeds, AADT, sight distance, presence of heavy duty traffic, pavement width, number of lanes, outer lane width, ROW width, necessary modifications, comments and reasons for inclusion.
- Policy A-12: Priority shall be given to the facilities listed in the bicycle plans and trail systems submitted by the member jurisdictions. By mid 1995, the City of Austin Bicycle Plan (final version), the AMTC Regional Trails Map, and the City of Austin Pedestrian Program, and other plans from member jurisdictions shall be considered for adoption as part of the *AMATP*.
- Policy A-13: For longer trips and trips across major barriers (e.g., bridges, highways), bicycles must be able to interface with transit for an intermodal trip. In addition to Capital Metro providing bicycle racks on all mainline buses.
- Policy A-14: ATS should encourage local jurisdictions to establish a Pedestrian Coordinator position within the appropriate city department. The Pedestrian Coordinator would review development proposals to insure future development is pedestrian-oriented.
- Policy A-15: ATS encourages its member jurisdictions to encourage and fund retrofit existing crosswalks to provide maximum visibility and safety for pedestrians. This could be as simple as restriping a crosswalk or in appropriate circumstances adding traffic calming features.

B. Education Program

Policy B-1: Provide support to ATS member jurisdictions and local schools and law enforcement personnel to make bicycle, pedestrian and trail use and safety educational programs available area-wide.

- Bicycle training is one of the most cost-effective methods of reducing accidents, encouraging greater ridership, and making bicycling safer for bicyclists, pedestrians, and motorists. Bicyclists frequently do not obey traffic laws, and thus put themselves and others in danger. A person who knows how to ride a bicycle does not necessarily know how to ride in traffic.
- All law enforcement officers in the ATS area should receive instruction on bicycle and pedestrian traffic as part of regular training. Law enforcement personnel should fully understand proper use of the bicycle as a legal vehicle, and realize the need for adequate enforcement for all riders, including children. Children are often overlooked during traffic enforcement, despite the increased risk of death or injury created by their illegal riding behaviors.
- Education in bicycle use should be available for students at both the public school and university/college levels in the ATS area.
- Defensive driver training classes should have bicycle components, and should be available to cyclists in lieu of a fine for traffic violations.

Policy B-2: Develop a multimodal "Share the Road" public awareness campaign which would include placing "Share the Road" signs in selected locations.

- The imperative to "Share the Road" should encourage cooperation between motor vehicle operators and bicyclists on the road. Neither group has exclusive rights to the road, and increasing congestion in the ATS area will require greater cooperation to make the most efficient use of our roadways. Bicycles and motor vehicles have to share the road for safe and efficient use of the transportation system. Reduced conflicts will improve everyone's use of the roads.



Policy B-3: Support amendment to the Defensive Driving Course curriculum, adding a component on bicycle and pedestrian safety and sharing the road with bicyclists.

- This is one of the few ongoing education programs for motorists who already have driver's licenses; it should be used to educate this group about the need to share public facilities with other modes of transportation.

4.4.3 Policies and Programs for Member Jurisdictions

C. Bicycle/Pedestrian/Trail Facilities

- Policy C-1: Prepare and adopt Bicycle and Pedestrian Plans for facilities, education, safety, and maintenance which will be coordinated with the ATS *Austin Metropolitan Area Transportation Plan (AMATP)*. Implement the Plans through multi-modal design.
- Policy C-2: Encourage intermodal transportation through provision of bicycle/transit interfaces on buses and light rail trains and provision of high security bicycle lockers and covered racks at park and ride and transit stations in the ATS area.
- Policy C-3: Establish and regularly update a database of bicycle safety and bicycle use data.
- Policy C-4: Develop and maintain a sidewalk data base to identify sidewalk problems and develop a retrofit program.
- Policy C-5: ATS shall propose guidelines for the identification and development of Pedestrian Activity Zones (PAZ) by member jurisdictions. A pedestrian zone is an area where pedestrians are provided with quality facilities and protected from interference from impeding vehicular traffic. It should be noted that PAZ's do not have to be automobile-free zones.

The ATS metropolitan area has numerous opportunities for implementation of this concept. A number of examples are listed below:

- 1) Guadalupe St. from Martin Luther King, Jr. Blvd. to 29th St.;
- 2) The Capitol area;
- 3) Barton Springs Rd. from Loop 1 to Congress Ave.;
- 4) Lamar Blvd. from Town Lake to Barton Springs Rd.;
- 5) Riverside Dr. from Lamar Blvd. to Congress;
- 6) South Congress from Town Lake to Live Oak St.

This list is not all inclusive as there are areas throughout the region which could benefit from the pedestrian activity zone designation.

The establish of Pedestrian Activity Zones would not only encourage pedestrian activity but would also raise public awareness of the benefits and possibilities of pedestrian-oriented development.

- Policy C-6: Ensure that all new developments provide sidewalks with direct connections to residential, commercial and recreational areas, and to transit stops.

Policy C-7: Integrate trail plan with existing subdivision development regulations. Modify the development regulations to include bicycle parking requirements and trail easement dedication requirements.

Policy C-8: Modify development regulations to mandate the provision of showers and bicycle storage facilities in public buildings with at least 50 employees for new construction and major renovation projects.

D. Safety

Policy D-1: Establish a more aggressive enforcement program of traffic laws by all drivers, bicyclists, and pedestrians. Promote cooperation and sharing the roadway among all users.

- Traffic laws for bicycles and pedestrians should be regularly enforced by all law enforcement agencies. Special enforcement in problem areas should be made in an effort to assure cyclists that they will receive a citation for breaking traffic laws.
- Law enforcement personnel should encourage motorists to share the road by issuing citations for harassment of cyclists, such as passing too close, unnecessary horn sounding, verbal abuse, and physical attacks.
- Local jurisdictions should set goals to reduce the number of bicycle and pedestrian deaths and injuries in traffic crashes by 10% by the year 2000.

Policy D-2: Establish a comprehensive record keeping system to monitor bicycle and pedestrian accidents and injuries with all member jurisdictions, area hospitals and the Texas Department of Public Safety.

- Accidents involving bicycles and pedestrians (including those occurring on trails) should be reported with at least the same degree of information as motor vehicle accidents.
- The bicycle/pedestrian coordinator (or designated person from member jurisdiction) will establish a hotline that will include collection of minor accidents involving bicyclists which may now be "blue formed" or not reported at all.
- The bicycle/pedestrian coordinator (or designated person from member jurisdiction) will be responsible for the compilation and analysis of accident information provided by the all area law enforcement agencies.

E. Maintenance

Policy E-1: Establish bicycle facility maintenance programs. These should include regular and immediate problem repair and maintenance such as: pothole and rough pavement repair, edge and bike lane sweeping, signal problems and adjustment, striping changes and maintenance, unsafe grate replacement and signing changes and upkeep.

Policy E-2: Establish pedestrian facility maintenance programs with funding to repair, maintain, and clean sidewalks.

Policy E-3: Establish an inspection and maintenance schedule for trail routes to insure that they are maintained and repaired in a timely matter.

4.4.4 List of Background Studies/Documents

- 4.4.4.1 Existing Bicycle Facilities and Programs in the City of Austin
- 4.4.4.2 Innovative Ideas in Bicycle Transportation in U.S. Cities With High Usage of Bicycles for Transportation
- 4.4.4.3 Proposed City of Austin Bicycle Plan
- 4.4.4.4 Issues and Strategies for City of Austin Pedestrian Program
- 4.4.4.5 Draft Map of Trails and Regionally Significant Bicycle Routes
- 4.4.4.6 Austinplan: Transportation Plan for Implementation
- 4.4.4.7 Pflugerville Bicycle Plan
- 4.4.4.8 Draft Travis County Pedestrian Policy and Implementation Plan
- 4.4.4.9 Draft Travis County Trail Plan

Attachment A
BICYCLE, PEDESTRIAN AND TRAIL
DESIGN STANDARDS

D. S. 1: Adopt the American Association of State Highway and Transportation Officials' (AASHTO) standards (Guide for the Development of Bicycle Facilities, 1991), FHWA guidelines (Selecting Roadway Treatments to Accommodate Bicycles, 1994), (including the "Design Cyclist" concept of groups A, B and C, (attached)), and the Manual on Uniform Traffic Control Devices (MUTCD) for bicycle facility planning and design.

- ATS will work with member jurisdictions to ensure that their transportation systems meet these standards and guidelines.
- All standards, ordinances, and regulations that affect transportation in member jurisdictions (such as the *Austin Land Development Code* and *Transportation Criteria Manual*) should be revised to prevent contradictions with national bicycle standards and ensure continuous travel by bicycle is possible throughout the region.

D. S. 2: Create a bikeway system to include both on-street and trails/paths designed and maintained to accommodate all bicyclists in the ATS area. This bikeway system should be designed to create an efficient, safe network to enhance linkages for both transportation and recreation.

- The Bicycle Federation of America estimates that fewer than 5 percent would qualify as experienced or highly skilled bicyclists. Since the policy goal is to accommodate existing bicyclists and encourage increased bicycle use, there will be more novice riders than advanced bicyclists using the highway system. Therefore, any roadway treatments intended to accommodate bicycle use must address the needs of both experienced and less experienced riders.
- Regional Routes
 - Selected roadways, generally arterials, or continuous collectors, will be planned for all three groups of cyclists: A, B, and C.
 - These will have the most exposure and provide the best encouragement for bicycle transportation, and should be given priority in the implementation process to eliminate barriers to continuous travel.
 - Roadways should be selected to provide a basic mobility framework in all parts of the Austin metropolitan area.
- Local Routes
 - Establish a Group A bikeway system to facilitate continuous and efficient bicycle transportation.
 - Establish a Group B/C bikeway system, with bike lanes or separate path connections.

- Tie local routes into the regional bicycle system
 - Connect to local routes in adjoining jurisdictions.
 - Eliminate barriers to continuous travel.
- D. S. 3: Implement the American With Disabilities Act (ADA) standards for pedestrian facility planning and design.
- D. S. 4: Increasing pedestrian activity requires a view of the street as an environment for all modes of transportation. A Comprehensive Pedestrian Design Plan should be developed by each member jurisdiction consisting of pedestrian-oriented development regulations, traffic calming measures, sensitive design, street/sidewalk design and a new street classification system which ties every street to its land use class. These elements are necessary to fully realize the potential for pedestrian travel to replace single-occupancy vehicle trips. Upon their completion, the design plans shall be reconciled with other member jurisdictions' plans and considered for adoption by amendment of the *AMATP*.
- D. S. 5: Design the trail network to give preference to establishing trails in easements, flood plains and through parks where trails would serve both transportation and recreation purposes.
- D. S. 6: Establish trail corridors parallel to arterials and collectors where suitable easements and flood plains are not available.
- D. S. 7: Construct transportation trails according to AASHTO bicycle facility guidelines, keeping in mind that the trails are for multi-purpose user types.
- D. S. 8: Coordinate transportation trail improvements to coincide with state and local roadway and utility improvements.
- D. S. 9: Design, construct, and maintain all roads to provide for the needs of bicyclists as defined in the Federal Highway Administration's (FHWA) "Selecting Roadway Treatments to Accommodate Bicycles" and the American Association of State Highway and Transportation Officials' (AASHTO) "Guide for the Development of Bicycle Facilities."
- Regardless of the source of funding for transportation improvements, all members of the public are entitled to use public thoroughfares by their choice of mode. Therefore, it is incumbent on all Austin area transportation agencies to plan and design facilities accordingly.
 - Bicycle facilities need to be considered at the inception of new transportation projects and become incorporated into the total design of each project. Retrofitting bicycle facilities in completed roadways is more costly and generally leads to less desirable results. Planning for bicycles must recommend routes and facilities that are direct, safe, efficient, and convenient.
 - People who choose to bicycle should not be placed in greater danger than any other legal mode of transportation, as is the case when roadways are not

designed to accommodate them. Adequate street width should be provided to accommodate both bicycles and automobiles safely.

- D. S. 10: Plan for rest facilities, including rest rooms, drinking fountains, public telephones, and air for tires when existing infrastructure does not provide them or makes their use inconvenient for trail users.

Section 4.5

Roadway Element

4.5 ROADWAY ELEMENT

4.5.1 Introduction

As population growth and increased travel demand continues to place a higher burden on area roadways, it is imperative that many single-occupant vehicle trips be shifted to other modes such as transit, bicycling, and walking, especially during the peak travel periods. As the cost of constructing and maintaining roadway facilities increases, it will become more difficult for government agencies to provide sufficient funds to satisfy traveler's demands for new roadways.

Given these constraints, the roadway element of the *Austin Metropolitan Area Transportation Plan (AMATP)* is designed to provide a reasonable level-of-service for all vehicular travel in and through the Austin metropolitan area, and provide a safe and efficient driving environment. In developing this element, many local and regional influences were considered. Existing and future land use and transportation facilities are critical factors in forecasting future travel demand. Using a variety of inputs, the future travel demand for the years 2010 and 2020 have been estimated in order to develop a recommended transportation system for those years.

Additional factors considered while developing the recommended roadway networks include the impact of freight traffic, impacts to neighborhoods, environmental impacts, fiscal constraints, and increasing levels of congestion. Right-of-way preservation is a key component to a strong transportation plan, and the construction of future roadways or increasing capacity on existing roadways depends on the provision of sufficient right-of-way. The Roadway Table 4.5-1 should be used as a guide to preserving right-of-way throughout the Austin metropolitan area.

The ATS Policy Advisory Committee (PAC) has stated its intent to not destroy inner city neighborhoods by widening roadways. Therefore the draft Roadway Element attempts to minimize the expansion of arterials within existing urbanized areas, especially residential areas. The *AMATP* priority is on increasing person carrying capacity rather than motor vehicle capacity.

4.5.2 Roadways

Table 4.5-1 identifies facilities that are regionally significant from the standpoint of moving traffic within and through the urban area. Roadways are classified according to the relative importance of the movement and access-to-property functions they perform. As the importance of the movement function increases, the access function decreases and vice versa. For example, freeways perform the function of moving large traffic volumes at high speeds, while residential local streets provide access to homes at low speeds and low volumes.

The facilities identified in the *AMATP* consist of:

- **Freeways (FWY)** - Fully access controlled roadways with grade separation at interchanges. Ramp movements on and off the facility are accomplished by ramps connecting to frontage roads. Access points are limited to major facility crossings.
- **Parkway (PKY)** - Through travel lanes are similar in characteristics to Freeways, but frontage roads are not normally provided. Access is provided by grade separated interchanges and ramps at major crossings. Whenever possible, landscape treatments and scenic easements are provided.

- Expressway (EXPY) - High volume, high capacity roadways with widely spaced at-grade signalized intersections. Little or no direct access from frontage development or local roads along the facility with right turns in and out when access is available. Major street crossings are grade separated.
- Major Divided Arterials (MAD) - High volume surface roadways with high priority at intersections with all lower level facilities. Typically, signalization is provided at significant crossings. Flush, depressed or raised center median with left turn storage.
- Major Undivided Arterials (MAU) - Similar to Major Divided Arterials, but with no center median, normally due to right-of-way limitations. Limited left turn channelization at key crossing is provided wherever possible.
- Minor Arterials (MNR) - Secondary facility to meet local access and circulation requirements in addition to providing through movement. Typically, full movement access (left and right turns) is permitted along the route. Low priority is given at significant intersections.

Table 4.5-1, indicates the travel demand on roadway facilities for the years 2010 and 2020 (columns 8 and 9). For many roadways, the recommended cross section (columns 10 and 11) is less than the travel demand indicates. This indicates that the demand for such roadways is growing beyond the ability to expand and fund roadway capacity increases. The other modal elements of the draft *AMATP* recommend alternatives to continued roadway expansion.

The efficient operation of existing roadway facilities is critical to provide a minimum level-of-service to roadway users. By implementing congestion management techniques a more efficient use of the existing facilities is possible, thereby, reducing the need for the construction of new roadways or the expansion of existing roadways. As an alternative to widening major freeway facilities, high-occupancy vehicle (HOV) facilities will be recommended for many of these routes to encourage higher vehicle occupancies and increase the capacity of such corridors.

ISTEA requires that all recommended freeways, parkways and fixed guideway transit lines be reviewed through a "major investment study" (MIS). In the MIS, alternatives are evaluated in the identified corridor prior to selection of a preferred alternative to proceed to design and construction. Roadways subject to the MIS requirement are indicated in Table 4.5-1, and the roadway size is recommended for adoption by the Policy Advisory Committee subject to the completion of the MIS.

ISTEA also requires that the adopted transportation system be constrained by "reasonably" available financial resources over the life of the Plan. The recommendations in column 11 of the Roadway Table have not yet been constrained in that way. Project costs and prospective sources will be provided to the Policy Advisory Committee at its October 10 meeting.

A type of facility new to the ATS area recommended in the roadway element are high-occupancy vehicle lanes. Evaluation of HOV lanes through an areawide HOV study is recommended for IH 35, US 183, and Loop 1. Consideration of HOV lanes on these roadways should be given priority to encourage ridesharing and transit ridership, rather than encouraging additional single-occupancy vehicle (SOV) travel.

There are three roadway locations which require policy direction from the Policy Advisory Committee. They are RM 2222, SH 130/US 183 and a suggested new bridge over Lake Travis.

First, our recommendation for RM 2222 (Koenig lane) between Loop 1 and IH 35 is to keep it at its existing size. Modeling results suggest that the existing size may be adequate. However, existing conditions are that the intersections at Burnet Road and Lamar Blvd. are almost at failure. It is clear that if the roadway were to be widened it would carry more traffic.

The decision on improvements to RM 2222 in this section should be made after the completion of the current TxDOT feasibility study.

Second, the portions of proposed SH 130 that are parallel to US 183 require Policy Advisory Committee consideration. The transportation modeling analysis for SH 130 assumed that 15 percent of the external traffic on IH 35, at the southern boundary of the ATS area, was diverted to US 183 (S). This was based on a study of diversion from IH 35 conducted by the Texas Transportation Institute. The modeling results indicate that the construction of SH 130 adjacent to US 183 may not be warranted by the year 2020, and that the forecasted demand could be handled by improving US 183 to a freeway from its adopted intersection with SH 130 south to SH 71. It is recommended that this option be considered in the ongoing MIS study for SH 130.

Third, based on a request from the City of Lago Vista, we evaluated the need for a new bridge over Lake Travis in the vicinity of Lohman's Ford Road and the Arkansas Bend County Park. Transportation modeling results indicate a significant demand for such a crossing. Because of the many issues that must be addressed before considering adoption of such a facility, it is recommended that a crossing feasibility study be undertaken to determine if such a crossing is warranted and if it should be a ferry or bridge crossing.

4.5.3 Roadway Policies and Programs

A. ATS supports the concept of "Compact City"

- Policy A-1: Design, manage and utilize roadway systems that are compatible with and support desired major activity centers and high intensity nodes while redirecting and slowing motor vehicle traffic in neighborhoods to enhance safety and freedom of movement of children, pedestrians, and bicyclists.
- Policy A-2: Support infill development that more fully utilizes the existing roadway infrastructure and minimizes negative neighborhood and environmental impacts.

B. Maximize the operational efficiency of existing roadways

- Policy B-1: Give priority to roadway improvements which will increase a roadway's person-carrying capacity, such as transit lanes and HOV lanes, as opposed to the vehicle-carrying capacity.
- Policy B-2: Provide adequate resources to properly maintain existing roadway facilities, in order to minimize excessive reconstruction costs.
- Policy B-3: Member jurisdictions are encouraged to implement access (driveway and street) management standards to improve traffic movement.

C. Provide adequate collector street systems

- Policy C-1: Member jurisdictions shall adopt and implement collector street plans in coordination with ATS through subdivision ordinances, in order to provide adequate circulation within neighborhoods and access to arterials. Selected collector streets shall be considered for amendment to the *AMATP* by ATS.
 - Mandatory collector plans are necessary in order to avoid excess traffic on local and residential streets.

- Collector plans and future local, collector and arterial extensions should be made clear to residents and property owners, through barricade signs and correspondence.
- Implement procedures in the subdivision review process to anticipate and mitigate potential through traffic problems.

Policy C-2: Develop and implement traffic management and calming strategies within and around existing neighborhoods.

- Encourage local jurisdictions to develop and implement a Traffic Calming Program to facilitate and slow internal neighborhood traffic flow, discourage high speed cut through traffic movement on local streets, and to increase bicycle and pedestrian safety.

Policy C-3: Discourage the widening of arterial roadways within existing neighborhoods in order to prevent disruption.

D. Environmental Mitigation

Policy D-1: Include evaluation of sound walls for freeways and parkways in urban and suburban areas in all appropriate feasibility studies following the National Environmental Policy Act (NEPA). If the studies warrant the need, sound walls should be included in all construction plans.

Policy D-2: Include evaluation in the Environmental Impact Statement (EIS) of the air quality impacts of all freeway and parkway expansions and construction.

- For projects requiring an Major Investment Study (MIS), ATS and TxDOT will conduct an appropriate analysis of reasonably available travel demand reduction and operational management strategies for the corridor in which a project that will result in a significant increase in Single-Occupant Vehicle (SOV) capacity is proposed. If the demand cannot be reduced or met through operational strategies, including transit, an SOV capacity project of appropriate design concept and scope may be an appropriate solution.

Policy D-3: Consider and protect the environmental sensitivity of areas in designing roadway improvements as shown in Table 4.5-1.

E. State Highway 130

Policy E-1: It is the vision of the ATS Policy Advisory Committee (PAC) that SH 130 be a true intermodal facility, with a freight and passenger rail element. To protect the concerned neighborhoods of East Austin, the portion of SH 130 which stretches from US 290 to SH 71 is adopted as a parkway and must have limited access points.

The Major Investment Study (MIS) shall also include discussion of alignment options, freeway/parkway options, social/economic impacts, and tollway feasibility. During the MIS the planners should evaluate whether construction of SH 130 will eliminate the need for conversion of US 183 to a freeway from US 290 to SH 71.

Furthermore, no construction of any SH 130 segment in the ATS study area should proceed until realistic and comprehensive design and financial plans are in place for all segments.

In addition to these policies, please see Policy A-8 in Section 4.1 - Plan, Implementation and Intermodalism which is pertinent to roadway construction.

Figure 4.5-1 illustrates the roadway plan (see inserted sleeve). Table 4.5-1 shows the existing and recommended roadway sizes. It also shows the environmental sensitivity of the area through which the roadway passes and remarks about the roadway. Table 4.5-2 shows the criteria for the functional classification of roadways and Table 4.5-3 shows the recommended service and design standards for roadways.

4.5.4 List of Background Studies and Documents

4.5.4.1 Austinplan: Transportation Plan for Implementation

4.5.4.2 Transportation Plan for the Austin Metropolitan Area, Preliminary Draft, 1991

Figure 4.5-1
Roadway Plan

SEE MAP IN THE BACK

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
IH 35 (MIS)	CR 111 - RM 3406	FWY 4	FWY 6/HOV	LOW	All segments are subject to Major Investment Study.
National Highway System	RM 3406 - FM 620	FWY 6	FWY 6/HOV	LOW	including evaluation of converting a main lane to HOV.
	FM 620 - SH 45	FWY 6	FWY 6/HOV	LOW	
	SH 45 - Parmer Ln.	FWY 6	FWY 6/HOV	LOW	
	Parmer Ln. - Rundberg	FWY 6	FWY 6/HOV	LOW	Evaluate improved access at Yager Lane
	Rundberg - US 183	FWY 6	FWY 6/HOV	LOW	Includes Direct Connectors at US 183 / US 290
	US 183 - 51st St.	FWY 8	FWY 8/HOV	LOW	Includes Direct Connectors at US 183 / US 290
	51st St. - MLK Blvd.	FWY 8	FWY 8/HOV	LOW	
	MLK Blvd. - 15th St.	FWY 8	FWY 8/HOV	LOW	
	15th St. - 6th St.	FWY 6	FWY 8/HOV	LOW	
	6th St. - Cesar Chavez	FWY 6	FWY 8/HOV	LOW	
	Cesar Chavez - US 290 (W)	FWY 6	FWY 8/HOV	LOW	
	US 290 (W) - William Cannon	FWY 6	FWY 8/HOV	LOW	
	William Cannon - Dittmar	FWY 6	Existing	LOW	Study need for HOV lane(s) south of William Cannon
	Dittmar - FM 1626	FWY 6	Existing	LOW	
	FM 1626 - FM 1327	FWY 6	Existing	LOW	
	FM 1327 - Study Boundary (S)	FWY 6	Existing	LOW	
BR IH 35 (Mays Avenue)	FM 3406 - Brushy Creek	MAD 4	Existing	LOW	
(Round Rock)	Brushy Creek - Lake Creek	MAD 4	Existing	LOW	
	Lake Creek - IH 35	MAU 4	Existing	LOW	
US 79	IH 35 - BR IH 35	MAD 6	Existing	LOW	
National Highway System	BR IH 35 - FM 1460	MAD 4	Existing	LOW	
	FM 1460 - CR 122	MAU 4	MAD 4	LOW	
	CR 122 - Study Boundary	MAU 4	MAD 4	LOW	
US 183	Study Boundary - FM 2243	MAU 4	MAD 4	LOW	
National Highway System	FM 2243 - Block House Creek Rd	MAU 4	MAD 4	LOW	
	Block House Creek Rd - New Hope	MAD 4	Existing	LOW	
	New Hope - FM 1431	MAD 4	Existing	LOW	
	FM 1431 - Brushy Creek	MAD 4	Existing	LOW	
	Brushy Creek - Lakeline	MAD 4	Existing	LOW	
	Lakeline - RM 620	MAD 4	FWY 6	LOW	
(MIS)	RM 620 - Travis CL	MAD 6	FWY 6/HOV	LOW	Subject to Major Investment Study. No Direct Connectors
(MIS)	Travis CL - Braker	MAD 6	FWY 6/HOV	LOW	Subject to Major Investment Study
(MIS)	Braker - Loop 1	MAD 6	FWY 6/HOV	LOW	Subject to Major Investment Study

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
(MIS)	Loop 1 - IH 35	MAD 6	FWY 6	LOW	Subject to Major Investment Study
	IH 35 - US 290	MAD 6	FWY 4	LOW	No Direct Connectors at US 290
	US 290 - E. 7th	MAD 6	FWY 4	LOW	
	E. 7th - SH 71	MAD 6	FWY 4	LOW	
	SH 71 - Onion Creek	MAD 4	EXPY 4	LOW	
	Onion Creek - FM 812	MAD 4	EXPY 4	LOW	
	FM 812 - FM 973	MAU 4	EXPY 4	LOW	
	FM 973 - SH 130	MAU 4	EXPY 4	LOW	
	SH 130 - SH 21	MAU 4	FWY 4	LOW	Continuation of SH 130
US 183 (A) (MIS)	US 183 (N) - FM 2243	---	MAD 4	LOW	Preserve ROW for FWY\PKY 4
	FM 2243 - New Hope	---	MAD 4	LOW	Preserve ROW for FWY\PKY 4
	New Hope - FM 1431	---	FWY/PKY 4	LOW	All segments subject to Major Investment Study
	FM 1431 - Brushy Creek	---	FWY/PKY 4	LOW	and review for tollway feasibility
	Brushy Creek - US 183 (S)	---	FWY/PKY 6	LOW	
US 290 (E)	IH 35 - Cameron	FWY 4	Existing	LOW	
National Highway System	Cameron - US 183	FWY 4	Existing	LOW	
(MIS)	US 183 - Springdale Rd.	MAD 4	FWY 6	LOW	
(MIS)	Springdale Rd. - Giles	MAD 4	FWY 4	LOW	
(MIS)	Giles - FM 973	MAD 4	Existing	LOW	Preserve ROW for FWY\PKY 4
	FM 973 - Study Boundary	MAD 4	Existing	LOW	Preserve ROW for EXPY\PKY 4
US 290 (W)	Study Boundary - SH 45	MAU 4	Existing	MED	Preserve ROW for EXPY 4
National Highway System	SH 45 - FM 1826	MAU 4	Existing	MED	Preserve ROW for FWY 4
	FM 1826 - SH 71	MAD 4	FWY 4	MED	
	SH 71 - Loop 1	MAD 6	FWY 6	MED	No Northbound Direct Connectors to Loop 1
	Loop 1 - West Gate	MAD 6	FWY 6	MED	
	West Gate - Loop 360	MAD 6	FWY 6	LOW	
(Ben White Blvd)	Loop 360 - Manchaca	MAD 6	FWY 6	LOW	
(Ben White Blvd)	Manchaca - Congress	MAD 6	FWY 6	LOW	
(Ben White Blvd)	Congress - IH 35	MAD 6	FWY 6	LOW	No Northbound Direct Connectors from SH 71
SH 45	(NHS) (RM 620) US 183 - RM 620	MAU 4	FWY 6	HIGH	
(NHS)	RM 620 - FM 1325	---	FWY 4	HIGH	Preserve ROW for FWY 6
(NHS)	FM 1325 - IH 35 (N)	MAU 4	FWY 4	HIGH	Preserve ROW for FWY 6
(NHS)	IH 35 (N) - Greenlawn	MAD 4	EXPY 6	MED	Preserve ROW for FWY 4

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
(NHS)	Greenlawn - Pflugerville Loop	MAD 4	MAD 6		Preserve ROW for Fwy 4
(NHS)	Pflugerville Loop - SH 130	MAD 4	Existing	MED	Preserve ROW for Fwy 4
	SH 130 - FM 685	MAD 0/4	Existing	MED	Preserve ROW for MAD 4
(Arterial 11)	FM 1826 - Loop 1	MAD 4	Existing	HIGH	
(Arterial 11)	Loop 1 - FM 1626	--	MNR 2	HIGH	Preserve ROW for PKY 4
SH 71 (E) (NHS)	IH 35 - Pleasant Valley				
(NHS)	Pleasant Valley - Riverside Dr.	MAD 6	FWY 6	LOW	
(NHS)	Riverside Dr. - US 183	MAD 6	FWY 6	LOW	
(NHS)	US 183 - Ave. F	MAD 4	FWY 6	LOW	
(NHS)	Ave. F - FM 973	MAD 4	FWY 6	LOW	
	FM 973 - Study Boundary	MAD 4	Existing	LOW	Preserve ROW for Fwy 4
SH 71 (W)	Study Boundary - FM 3238	MAU 4	Existing	HIGH	
	FM 3238 - RM 620	MAD 4	Existing	HIGH	Preserve ROW for MAD 6
	RM 620 - US 290 (W)	MAU 4	Existing	HIGH	Preserve ROW for MAD 6
SH 130/Pickle Parkway (MIS)	CR 111 - US 79	--	EXPY 4	MED	Preserve ROW for Fwy 4
National Highway System	US 79 - Gattis School Rd.	--	PKY 4	MED	All segments subject to Major Investment Study, including evaluation of freight and passenger railroad and transit options, alignment options, and impacts on east Austin, tollway feasibility, and possible connection to IH 35 via SH 45, SH 71 (E), and Slaughter Lane.
	Gattis School Rd. - Pfluger Ln.	--	FWY 4	MED	
	Pfluger Ln. - Pflugerville Rd.	--	FWY 4	MED	
	Pflugerville Rd. - Howard Ln.	--	FWY 4	MED	
	Howard Ln. - Parmer Ln.	--	FWY 6	MED	
	Parmer Ln. - Springdale Rd.	--	FWY 6	MED	
	Springdale Rd. - US 290 (E)	--	FWY 6	MED	
	US 290 (E) - SH 71	--	PKY 4/6	MED	
	SH 71 - US 183	--	FWY 4	MED	Build Mainlanes first
(US 183)	US 183 - Study Boundary	--	See US 183	MED	
Loop 1 (MOPAC Blvd)	SH 45 (S) - Slaughter Ln.	MAD 4	Existing	HIGH	
National Highway System	Slaughter Ln. - Wm. Cannon	PKY 4	Existing	HIGH	
	Wm. Cannon - US 290 (W)	MAD 6	FWY 4	HIGH	No additional right-of-way needed.
(MIS) (NHS)	US 290 (W) - Loop 360	PKY 6	Existing	HIGH	Subject to Major Investment Study including evaluation of converting main lane to HOV.
(MIS) (NHS)	Loop 360 - RM 2244	FWY 4	FWY 4/HOV	HIGH	
(MIS) (NHS)	RM 2244 - Town Lake	FWY 4	FWY 4/HOV	HIGH	
(MIS) (NHS)	Town Lake - RM 2222	PKY 6	PKY 6/HOV	HIGH	Add ramp from Lake Austin Blvd to Loop 1
(MIS) (NHS)	RM 2222 - Far West	PKY 6	PKY 6/HOV	MED	for northbound access.

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		LIMITS	EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY						
(MIS) (NHS)	Far West - Spicewood Springs		FWY 6	FWY 6/HOV	MED	
(MIS) (NHS)	Spicewood Springs - Steck		FWY 6	FWY 6/HOV	MED	
(MIS) (NHS)	Steck - US 183		FWY 6	FWY 6/HOV	MED	
(MIS) (NHS)	US 183 - Braker		FWY 6	Existing	MED	Evaluate HOV Feasibility
(MIS) (NHS)	Braker - Burnet		FWY 6	Existing	MED	Evaluate HOV Feasibility
(MIS) (NHS)	Burnet - Parmer Ln.		FWY 6	Existing	MED	Evaluate HOV Feasibility
(MIS) (NHS)	Parmer Ln. - SH 45 (N)		MAU 4	See FM 1325	MED	Evaluate HOV Feasibility
Loop 4						
	IH 35 (N) - FM 967		MNR 2	Existing	LOW	
	FM 967 - IH 35 (S)		MNR 2	Existing	LOW	
Loop 360 (NHS)						
(NHS)	US 290 (W) - Walsh Tarlton		MAD 4	Existing	HIGH	
(NHS)	Walsh Tarlton - Westlake		MAD 4	Existing	HIGH	
(NHS)	Westlake - FM 2244		MAD 4	Existing	HIGH	
(NHS)	FM 2244 - Lake Austin Blvd.		MAD 4	Existing	HIGH	
(NHS)	Lake Austin Blvd. - FM 2222		MAD 4	Existing	HIGH	
(NHS)	FM 2222 - US 183		MAD 4	Existing	HIGH	
Capital of Texas Highway (N)	US 183 - Loop 1		MAD 6	Existing	MED	Non-State Roadway
FM 685						
	Pflugerville Rd. - Wilke Ln.		MAU 4	Existing	LOW	Preserve ROW for MAD 4
	Wilke Ln. - Gaffis School Rd		MAU 4	Existing	LOW	Preserve ROW for MAD 4
FM 734/Parmer Ln./Boyce Ln.						
	FM 2243 - FM 1431		---	Existing	HIGH	Preserve ROW for MAD 6
	FM 1431 - Brushy Creek		MAU 2	MAD 6	HIGH	
	Brushy Creek - FM 620		MAU 2	MAD 6	HIGH	
(NHS)	FM 620 - Loop 1		MAD 6	Existing	HIGH	
(NHS)	Loop 1 - IH 35		MAD 6	Existing	MED	
	IH 35 - Heatherwilde Blvd.		---	MAD 4	LOW	Preserve ROW for MAD 6
	Heatherwilde - Dessau Rd.		---	MAD 4	LOW	Preserve ROW for MAD 6
	Dessau Rd. - Springdale Rd.		MNR 2	MAD 4	LOW	Preserve ROW for MAD 6
	Springdale Rd. - Giles		MNR 2	MAD 4	LOW	Preserve ROW for MAD 6
	Giles - US 290 (E)		MNR 2	MAD 4	LOW	Preserve ROW for MAD 6
Boyce Ln.	US 290 (E) - FM 973		---	MAD 4	LOW	Non-State roadway
FM 812						
	US 183 (S) - FM 973		MAU 4	Existing	LOW	
	FM 973 - Study Boundary		MAU 2	Existing	LOW	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
FM 967					
	FM 1826 - Ruby Ranch Rd.	MNR 2	MAU 2	HIGH	Add wide shoulders for bicycling and safety
	Ruby Ranch Rd. - FM 1626	MNR 2	MAU 2	HIGH	Add wide shoulders for bicycling and safety
	FM 1626 - Loop 4	MNR 2	Existing	HIGH	Preserve ROW for MAU 4
FM 969/MLK Blvd.					
	Lamar - Nueces	MAU 2	Existing	LOW	
	Nueces - Guadalupe	MAU 4	Existing	LOW	
	Guadalupe - Red River	MAU 4	Existing	LOW	
	Red River - IH 35	MAU 4	Existing	LOW	
	IH 35 - Chicon	MAU 4	Existing	LOW	
	Chicon - Airport Blvd.	MAU 4	Existing	LOW	
	Airport Blvd. - Springdale	MAU 4	Existing	LOW	
	Springdale - Weberville Rd.	MAU 4	Existing	LOW	
	Weberville Rd. - US 183	MAU 4	Existing	LOW	
	US 183 - Johnny Morris Rd.	MAU 4	Existing	LOW	
	Johnny Morris - Decker Ln.	MAU 4	Existing	LOW	
	Decker Ln. - FM 973	MAU 4	Existing	LOW	
	FM 973 - Taylor Ln.	MAU 2	Existing	LOW	
	Taylor Ln. - Study Boundary	MAU 2	Existing	LOW	
FM 973					
	US 183 (S) - Burleson Rd.	MNR 2	Existing	MED	Preserve ROW for MAD 4
	Burleson Rd. - SH 71 (E)	MNR 2	Existing	MED	Preserve ROW for MAD 4
	SH 71 (E) - FM 969	MNR 2	MAD 4	MED	
	FM 969 - US 290 (E)	MNR 2	MAD 4	MED	
	US 290 (E) - Study Boundary	MNR 2	MAD 4	MED	
FM 1325					
	US 183 - Rutland	MAD 4	Existing	MED	Preserve ROW for MAD 6
	Rutland - Loop 1	MAD 4	Existing	MED	Preserve ROW for MAD 6
	(Burnet Road)				
	(Loop 1) (NHS)	MAD 4	FWY 4	MED	Evaluate HOV Feasibility
	(Loop 1) (NHS)	MAU 4	FWY 4	MED	Evaluate HOV Feasibility
	(SH 45) (NHS)	MAU 4	See SH 45	MED	
FM 1327 (NHS)					
	IH 35 - Pleasant Valley	MNR 2	Existing	LOW	
	(NHS)	MNR 2	Existing	LOW	
	Pleasant Valley - Thaxton	MNR 2	Existing	LOW	
	(NHS)				
FM 1431					
	Study Boundary - Lohman's Ford	MNR 2	MAU 2	HIGH	Add wide shoulders for bicycling and safety
	Lohman's Ford - US 183	MNR 4	Existing	HIGH	Preserve ROW for MAD 4

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		LIMITS	EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY		US 183 - US 183 (A)	MAU 4	Existing	MED	
		US 183 (A) - IH 35 (N)	MAU 4	Existing	MED	
FM 1460		US 79 - Chandler Rd.	MAU 2	Existing	MED	
		Chandler Rd. - CR 111	MAU 2	Existing	MED	
FM 150		Study Boundary - IH 35	MNR 2	Existing	HIGH	
FM 1625		Study Boundary - FM 1327	MAU 2	Existing	LOW	
		FM 1327 - US 183	MAU 2	Existing	LOW	
FM 1626		FM 2770 - FM 967	MAU 2	Existing	MED	
		FM 967 - Travis C.L.	MAU 2	MAD 2	MED	
		Travis C.L. - Manchaca	MAU 2	MAD 2	MED	
		Manchaca - IH 35	MAU/MAD 2	MAD 2	MED	
FM 1825		IH 35 - Heatherwild Blvd.	MAD 4	Existing	LOW	
		Heatherwild Blvd - 10th St.	MAD 4	Existing	LOW	
		10th St. - FM 685	MAU/MAD 2	MAD 2	LOW	
FM 1826		Nutty Brown - SH 45	MAU 2	Existing	HIGH	Preserve ROW for MAD 4
		SH 45 - Slaughter	MAU 2	Existing	HIGH	Preserve ROW for MAD 4
		Slaughter - US 290 (W)	MAU 2	Existing	HIGH	Preserve ROW for MAD 6
FM 2001		IH 35 - SH 21	MNR 2	MAU 2	MED	Add wide shoulders for bicycling and safety
FM 2304/Manchaca		FM 1626 - Slaughter Ln.	MAU 2	MAD 4	HIGH	
		Slaughter Ln. - Wm. Cannon	MAU 2	MAD 4	HIGH	
		Wm. Cannon - Stassney	MAU 4	Existing	LOW	
		Stassney - Ben White	MAU 4	Existing	LOW	
		Ben White - S. Lamar	MAU 4	Existing	LOW	
FM 2769		Lime Creek Rd. - Bullick Hollow Rd.	MNR 2	Existing	MED	
		Bullick Hollow Rd. - Anderson Mill	MNR 2	Existing	MED	
		Anderson Mill - RM 620	MNR 2	MAD 6	MED	See Anderson Mill Road
FM 2770		Loop 4 - FM 150	MNR 2	MAU 2	HIGH	Add wide shoulders for bicycling and safety

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
FM 3177	FM 969 - US 290 (E)	MAU 4	Existing	LOW	
(Decker Lane)	US 290 (E) - Northtown Pky.	---	MAU 4	LOW	Non-State roadway
(Decker Lane)	Northtown Pky. - Pflugerville Rd.	MNR 2	MAU 4	LOW	Non-State roadway
(Decker Lane)	Pflugerville Rd. - Study Boundary	MNR 2	MAU 4	LOW	Non-State roadway
FM 3238	SH 71 - Study Boundary	MNR 2	Existing	HIGH	
FM 3406	FM 1431 - Wyoming Springs	MAU 2	Existing	LOW	Preserve ROW for MAD 4
	Wyoming Springs - IH 35	MAU 4	Existing	LOW	Preserve ROW for MAD 4
	IH 35 - Sunrise Rd.	MAD 4	Existing	LOW	
	Sunrise Rd. - FM 1460	MAD 4	Existing	LOW	
RM 620	SH 71 (W) - Lakeway Blvd.	MAD 4	Existing	HIGH	
	Lakeway Blvd. - Quinlan Pk. Rd.	MAD 4	Existing	HIGH	
	Quinlan Pk. Rd. - RM 2222	MAU 2	MAD 4	HIGH	
(SH 45) (NHS)	RM 2222 - US 183	MAD 4	Existing	HIGH	Preserve ROW for MAD 6
	US 183 - SH 45	MAU 4	FWY 6	HIGH	
	SH 45 - Wyoming Springs	MAU 4	MAD 4	HIGH	
	Wyoming Springs - IH 35 (N)	MAU 4	MAD 4	HIGH	
RM 2222\	RM 620 - Riverplace Blvd.	MAU 4	MAD 4	HIGH	Preserve ROW for MAD 6
Koenig Lane, Allandale Rd	Riverplace Blvd - Tumbleweed	MAU 4	MAD 4	HIGH	Preserve ROW for MAD 6
	Tumbleweed - Jester Blvd.	MAD 4	Existing	HIGH	Preserve ROW for MAD 6
(NHS)	Jester Blvd. - Loop 360	MAD 4	Existing	HIGH	Preserve ROW for MAD 6
(NHS)	Loop 360 - Loop 1	MAU 4	MAD 4	HIGH	Preserve ROW for MAD 6
(Spur 69) (NHS)	Loop 1 - Lamar Blvd.	MAU 4	MAD 4	LOW	Total cost estimates range from \$21 mil to \$40 mil
(Spur 69) (NHS)	Lamar Blvd. - Airport Blvd.	MAU 4	MAD 4	LOW	for these two segments combined.
	Airport Blvd. - IH 35	FWY 4	Existing	LOW	
RM 2243	CR 278 - US 183	MAU 2	Existing	HIGH	Preserve ROW for MAD 4
	US 183 - CR 175	MAU 2	Existing	HIGH	Preserve ROW for MAD 4
	CR 175 - CR 176	MAU 2	Existing	HIGH	Preserve ROW for MAD 4
RM 2244	SH 71 (W) - Crystal Creek Dr.	MAD 4	Existing	HIGH	
(Bee Cave Rd)	Crystal Creek Dr. - Barton Cr Blvd	MAD 4	Existing	HIGH	
	Barton Cr Blvd- Loop 360	MAU 4	MAD 4	HIGH	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
	Loop 360 - Westlake Dr.	MAU 4	MAD 4	MED	
	Westlake Dr. - Loop 1	MAU 4	MAD 4	HIGH	
Co. Rd. 105/Turnersville Rd.	IH 35 (S) - US 183 (S)	MNR 2	Existing	LOW	
Co. Rd. 112	FM 1460 - CR 122	MNR 2	MAU 4	LOW	
Co. Rd. 113/Old Settler's Blvd.	FM 1460 - CR 122	MNR 2/4	MAU 4	LOW	
Co. Rd. 114/Chandler Rd.	IH 35 - CR 115	MAD 4	MAD 6	LOW	
	CR 115 - FM 1460	MAD 4	MAD 6	LOW	
	FM 1460 - SH 130	---	MAD 6	LOW	
Co. 115/Sunrise Rd.	US 79 - Old Settler's Blvd.	MAU 4	Existing	MED	
	Old Settler's Blvd. - Chandler Rd.	MAD 4	Existing	MED	
Co. Rd. 122	CR 112 - US 79	MNR 2	MAU 4	LOW	
	US 79 - CR 168	MNR 2	Existing	LOW	
	CR 168 - SH 45	---	MAU 2	LOW	
Co. Rd. 168/Gattis School Rd.	BR 35 - Greenlawn	MAU 4	Existing	LOW	
	Greenlawn - CR 122	MAU 4	Existing	LOW	
	CR 122 - FM 685	MAU 2	Existing	LOW	
Co. 172/Quick Hill Rd.	McNeil Rd. - SH 45	MAU 4	MAD 4	HIGH	
Co. Rd. 272/275/177	FM 1431 - Lakeline	---	MNR 4	HIGH	
Crystal Falls Pkwy	Lakeline - Bagdad Rd.	MNR 2	MNR 4	HIGH	
	Bagdad Rd. - US 183	MAU 2	MAU 4	HIGH	
	US 183 - CR 175 (Howard Ln.)	MAU 2	MAU 4	HIGH	
Co. Rd. 278/Bagdad	RM 2243 - RM 1431	MAU 4	MAD 4	MED	
Airport Blvd.	N. Lamar - RM 2222	MAD 4	MAD 6	LOW	
	RM 2222 - 51st St.	MAD 4	MAD 6	LOW	
	51st St. - IH 35	MAD 4	MAD 6	LOW	
(SH 111) (NHS)	IH 35 - Manor Rd.	MAD 6	Existing	LOW	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
(SH 111) (NHS)	Manor Rd. - MLK Blvd.	MAD 4	Existing	LOW	
(SH 111) (NHS)	MLK Blvd - E. 12th St.	MAD 4	Existing	LOW	
(SH 111) (NHS)	E. 12th St. - Oak Springs	MAD 4	Existing	LOW	
(SH 111) (NHS)	Oak Springs - US 183	MAD 4	Existing	LOW	
Anderson Lane	Loop 1 - Burnet	MAD 4	MAD 6	LOW	
	Burnet - Woodrow	MAD 4	MAD 6	LOW	
	Woodrow - N. Lamar	MAD 4	MAD 6	LOW	
Anderson Mill Rd.	FM 1431 - Buttercup Creek Blvd.	---	MAD 6	HIGH	
	Buttercup Creek Blvd - Dies Ranch	---	MAD 6	HIGH	
See FM 2769	Dies Ranch Rd. - RM 620	MAU 2	MAD 6	HIGH	
	RM 620 - Spicewood Pkwy	MAU 2	MAD 4	HIGH	
	Spicewood Pkwy - US 183	MAU 4	MAD 4	HIGH	
	US 183 - Parmer Ln.	MAU 2	MAD 4	HIGH	
	Parmer Ln. - Howard Ln.	---	MAD 4	HIGH	
	Howard Ln. - FM 1325	---	MAD 4	HIGH	
	FM 1325 - IH 35	---	MAD 4	HIGH	
Barton Springs	Loop 1 - Robert E. Lee	MNR 4	MAU 4	MED	Add shoulders for bicycling
	Robert E. Lee - S. Lamar	MNR 4	MAD 4	LOW	
	S. Lamar - S. 1st.	MAD 4	Existing	LOW	
	S. 1st - Congress	MNR 4	MAU 4	LOW	
Beckett Rd.	Slaughter - Dittmar	---	MNR 4	LOW	
	Dittmar - Kiva	---	MNR 4	LOW	
	Kiva - William Cannon	MNR 4	Existing	LOW	
Berkman Dr.	St. Johns Ave. - 51st St.	MNR 4	Existing	LOW	
Blake Manor Rd.	FM 973 - Taylor Ln.	MNR 2	MNR 4	LOW	
Bluff Springs Rd. / Old Lockhart Hwy	William Cannon - Slaughter	MNR 2	MAU 4	MED	
	Slaughter - Onion Creek	MNR 2	MAU 4	MED	
	Onion Creek - Pleasant Valley	MNR 2	MAU 4	MED	
	Pleasant Valley - FM 1625	MNR 2	MAU 4	MED	
	FM 1625 - US 183	MNR 2	MAU 4	MED	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
Braker Ln./Blue Goose	Jollyville Rd. - US 183	MAD 4	MAD 6	MED	
	US 183 - FM 1325	MAD 6	Existing	MED	
	FM 1325 - Metric	MAD 6	Existing	MED	
	Metric - Parkfield	MAD 6	Existing	MED	
	Parkfield - Lamar	MAD 6	Existing	MED	
	Lamar - IH 35	MNR 4	MAD 4	MED	
	IH 35 - Dessau Rd.	MNR 4	MAD 4	MED	
	Dessau Rd. - Springdale Rd.	---	MAD 4	MED	Move intersection with Dessau to north, if feasible, to avoid bridging Walnut Creek
	Springdale Rd. - Harris Branch Pky.	---	MAD 4	MED	
	US 290 (E) - Taylor Ln.	---	MAD 4	MED	
Brazos St.	11th St. - Cesar Chavez	MAU 4	Existing	LOW	
Brodie Ln.	US 290 (W) - William Cannon	MAD 4	Existing	MED	
	William Cannon - Davis	MAD 4	Existing	LOW	
	Davis - Slaughter	MAD 4	Existing	MED	
	Slaughter - Edwards Hollow	MNR 2	MAD 4	MED	
	Edwards Hollow - FM 1626	---	MAD 4	MED	
Brush Country/Latta Dr.	US 290 (W) - William Cannon	MNR D/2	MNR 4	MED	
	William Cannon - Alto Loma	MNR 2	MNR 4	MED	
Bullick Hollow/Long Hollow	RM 620 - FM 2769	MNR 2	MNR 4	HIGH	
Burleson Rd./Elroy Rd.	Oltorf - SH 71 (E)	MNR 2	Existing	LOW	
	SH 71 (E) - Montopolis	MAD 4	Existing	HIGH	
	Montopolis - McKinney Falls Pkwy	MAD 4	Existing	HIGH	
	McKinney Falls Pkwy - US 183	MAD 4	Existing	HIGH	
	US 183 - FM 973	MAU 4	Existing	HIGH	
	FM 973 - Study Boundary (E)	MNR 2	Existing	HIGH	
Burnet Rd.	45th St. - RM 2222	MAU 4	MAD 4	LOW	
	RM 2222 - Anderson Ln.	MAD 4	Existing	LOW	
	Anderson Lane - US 183	MAD 4	Existing	LOW	
Buttercup Creek Blvd.	Anderson Mill - US 183	MNR 4	Existing	LOW	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
Cameron Rd./Dessau Rd.	51st St. - US 290 (E)	MAU 4	MAD 4	LOW	
	US 290 (E) - US 183	MAD 4	MAD 6	LOW	
	US 183 - Rundberg	MAD 4	MAD 6	LOW	
	Rundberg - Parmer Ln.	MAD 6	Existing	LOW	
	Parmer Ln. - Wells Branch Pkwy	MAD 4	Existing	LOW	
	Wells Branch Pkwy - FM 1825	MNR 2	MAU 4	LOW	
Cesar Chavez \ W./E. First St	Loop 1 - Lamar	MAU 4	Existing	MED	
	Lamar - San Antonio	MAU 4	Existing	LOW	
	San Antonio - Trinity	MAU 4	Existing	LOW	
	Trinity - IH 35	MAU 4	Existing	LOW	
	IH 35 - Pleasant Valley	MNR 2	Existing	LOW	
	Pleasant Valley - E. 7th St.	MNR 2/4	MNR 4	LOW	
Chicon St.	E. 26th St. - Rosewood	MNR 2	Existing	LOW	
	Rosewood - Haskell	MNR 2	Existing	LOW	
City Park Rd.	City Park - RM 2222	MNR 2	MNR 4	HIGH	
Colorado St.	11th St. - 10th St.	MAU 4	Existing	LOW	
	10th St. - Cesar Chavez	MAU 4	Existing	LOW	
Congress Ave.	11th St. - Cesar Chavez	MAU 6	Existing	LOW	
	Cesar Chavez - Oltorf	MAD 6	Existing	LOW	
	Oltorf - Ben White	MAD/MAU 4	MAD 6	LOW	
(Loop 275)	Ben White - William Cannon	MAU 4	MAD 6	LOW	
(Loop 275)	William Cannon - Slaughter	MAU 2/MAD4	MAD 4	LOW	
Cypress Creek Rd./Brushy Ck.	Anderson Mill - US 183	MNR 2	MAD 4	MED	
	US 183 - Howard Ln.	MNR 2	MAD 4	MED	
Davis/Dittmar Ln.	FM 1826 - Beckett	---	MAD 4	MED	
	Beckett - Brodie Ln.	---	MAD 4	MED	
	Brodie Ln - South 1st	MNR 2	MAD 2	MED	
	Congress - IH 35	MNR 2	MAD 4	MED	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		LIMITS	EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY						
Davis Springs Rd./O'Connor	US 183 - US 183(A)		---	MAD 4	HIGH	
	US 183 (A) - Howard		---	MAD 4	HIGH	
	Howard - Great Oaks		---	MAD 4	HIGH	
	Great Oaks - RM 620		MAU 4	MAD 4	HIGH	
Double Creek Blvd.	CR 170 - SH 130		MNR 0/2	MAD 4	LOW	
	SH 130 - CR 122		---	MAD 4	LOW	
Duval Rd.	US 183 - Whispering Valley		MAU 2	MNR 4	LOW	
	Whispering Valley - Loop 1		MAD 4	Existing	LOW	
El Salido Pkwy.	RM 620 - Cypress Creek Rd.		MNR 2	MNR 4	HIGH	
Enfield Rd./15th St.	Lake Austin Blvd. - Exposition		MNR 2	Existing	LOW	
	Exposition - Loop 1		MNR 4	Existing	LOW	
	Loop 1 - Lamar		MNR 4	Existing	LOW	
	Lamar - West Ave.		MAD 6	Existing	LOW	
	West Ave. - Red River		MAD 6	Existing	LOW	
	Red River - IH 35		MAD 6	Existing	LOW	
Escarpment Blvd.	SH 45 - La Crosse Blvd.		MAD 0/6	MAD 4	HIGH	
	La Crosse Blvd. - William Cannon		MAD 0/6	MAD 4	HIGH	
Exposition	Lake Austin Blvd. - Enfield		MNR 2	Existing	LOW	
	Enfield - Westover		MNR 2	Existing	LOW	
	Westover - W. 35th St.		MNR 4	Existing	LOW	
Far West Blvd.	Mesa Dr. - Hart Ln.		MNR 4	Existing	HIGH	
	Hart Ln. - Loop 1		MAD 6	Existing	MED	
Fern Bluff	FM 1431 - Wyoming Springs		---	MNR 2	MED	
	Wyoming Springs - Great Oaks		MAU 0/4	MAD 4	MED	
Frate Barker	SH 45 - Manchaca Rd.		MNR 0/2	MNR 4	HIGH	
Giles Ln.	US 290 (E) - Harris Br. Pky.		MNR 2	Existing	LOW	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
Grand Ave. Pkwy./Schultz	IH 35 - Pflugerville Loop Rd.	MAD 2/4	MAD 4	LOW	
	Pflugerville Loop Rd. - SH 130	MNR 2	Existing	LOW	
Great Hills Trail	Loop 360 - US 183	MAD 4	Existing	MED	
	US 183 - Stonelake Blvd.	MAD 4	Existing	MED	
Great Oaks Dr.	Brushy Creek Rd. - RM 620	MAD 4	Existing	LOW	
Greenlawn Blvd.	CR 170 - CR 168	MAD 4	Existing	LOW	
Guadalupe St.	Lamar - 45th St.	MAU 4	Existing	LOW	
	45th St. - 38th St.	MAD 4	Existing	LOW	
	38th St. - 29th St.	MAD 4	Existing	LOW	
	29th St. - 26th St.	MAU 4	Existing	LOW	
	26th St. - 24th St.	MAU 4	Existing	LOW	
	24th St. - MLK	MAU 4	Existing	LOW	
Harris Branch Pkwy./Cameron Rd.	MLK - Cesar Chavez	MAU 2/4	Existing	LOW	
Harris Ridge Blvd.	US 290 (E) - Braker Ln.	MAD 4	MAD 6	LOW	
	Braker Ln - Northtown	MNR 2	MAD 6	LOW	
	Northtown - Pflugerville Rd.	MNR 2	MAD 6	LOW	
	Pflugerville Rd. - FM 973	MNR 2	MAD 6	LOW	
	FM 973 - Rowe Ln.	---	MNR 2	LOW	
Heatherwilde Blvd./Arterial #14	IH 35 - Parmer Ln.	---	MAD 6	HIGH	
	Parmer Ln. - Northtown	---	MAD 4	HIGH	
Howard Ln./CR 175	Parmer Ln. - Northtown	---	MAD 4	LOW	
	Northtown - FM 1825	MAD 0/4	MAD 4	LOW	
	FM 1825 - Pflugerville Ln.	MAD 0/4	MAD 4	LOW	
	Pflugerville Ln. - SH 130	---	MAU 4	LOW	
	SH 130 - CR 168	---	MAU 4	LOW	
New Hope - FM 1431	FM 2243 - New Hope	---	MAD 4	LOW	
	New Hope - FM 1431	---	MAD 4	LOW	
	FM 1431 - Davis Springs	---	MAD 4	LOW	
	Davis Springs - RM 620	---	MAD 4	LOW	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
	RM 620 - McNeil	---	MAD 4	LOW	
	McNeil - FM 1325	MNR 2	MAD 4	MED	
	FM 1325 - IH 35	MAU 2	MAD 4	MED	
Industrial Oaks	US 290 (W) - Loop 1	---	MAD 4	HIGH	
Jester Blvd.	FM 2222 - Arterial #8	MNR 2	Existing	HIGH	
Johnny Morris Rd.	FM 969 - Loyola	MNR 2	MAD 4	LOW	
	Loyola - US 290 (E)	MNR 4	MAD 4	LOW	
Jollyville Rd./Pond Springs	US 183 - McNeil Rd.	MNR 2	Existing	LOW	
	McNeil - Great Hills	MAD 4	Existing		
Justin Ln.	Burnet - Woodrow	MNR 2	MNR 4	LOW	
	Woodrow - Lamar	MNR 2	MNR 4	LOW	
La Crosse Ave.	Southwest Pky - Circle Dr.	MNR 2	Existing	HIGH	Thomas Springs Road
Lake Austin Blvd.	Enfield - Red Bud Trail	MNR 2	MNR 4	MED	
	Red Bud - Exposition	MNR 4	Existing	MED	
	Exposition - Loop 1	MNR 4	Existing	MED	Add ramp for northbound access to Loop 1
Lakeline Blvd./Neenah Ave.	Great Oaks - Howard Ln.	---	MAU 4	LOW	
	Howard Ln. - US 183	---	MAD 4	LOW	
	US 183 - FM 1431	---	MAD 4	MED	
	FM 1431 - FM 2243	---	MAD 4	HIGH	
S. Lakeshore Blvd.	Riverside - Pleasant Valley	MNR 2	MNR 4	LOW	
	Pleasant Valley - Montopolis	---	MNR 2	LOW	
Lakeway Blvd.	RM 620 - Lohman's Crossing	MAD 4	Existing	MED	
	Lohman's Crossing - City Limits	MAD 4	Existing	MED	
Lamar/Loop 275	IH 35 (N) - Braker	MAD 4	Existing	LOW	
(Loop 275)	Braker - Peyton Gin	MAD 4	Existing	LOW	Preserve ROW for MAD 6
(Loop 275)	Peyton Gin - US 183	MAD 4	Existing	LOW	Preserve ROW for MAD 6

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
	US 183 - Airport Blvd.	MAD 4	MAD 6	LOW	
	Airport Blvd. - Justin Ln.	MAD 4	Existing	LOW	
	Justin Ln. - Guadalupe	MAD 4	Existing	LOW	
	Guadalupe - 34th St.	MAD 4	Existing	LOW	
	34th St. - 29th St.	MAD 4	Existing	LOW	
	29th St. - MLK Blvd.	MAU 4	Existing	LOW	
	MLK - Enfield Rd.	MAD 4	Existing	LOW	
	Enfield Rd. - W. 5th St.	MAD 4	Existing	LOW	
	W. 5th St. - Cesar Chavez	MAD 4	MAD 6	LOW	
	Cesar Chavez - Barton Springs	MAD 4	MAD 6	LOW	
	Barton Springs - Manchaca	MAD 4	MAD 6	LOW	
	Manchaca - US 290 (W)	MAD 4	MAD 6	LOW	
Lavaca St.	Cesar Chavez - 11th St.	MAU 4	Existing	LOW	
	11th St. - MLK	MAU 4	Existing	LOW	
Lime Creek Rd.	FM 1431 - FM 2769	MNR 2	Existing	HIGH	
Lohman's Crossing Road	RM 620 - Hurst Creek Rd	MNR 2	MAD 4	MED	
Lohman's Ford Road	FM 1431 - Lake Travis	MNR 2	MNR 4	MED	
	Lake Travis - RM 620	---			Conduct crossing feasibility study
Loyola Ln./Decker Lake Rd.	Springdale - US 183	MAU 4	Existing	LOW	
	US 183 - E. of Johnny Morris	MNR 2	MAD 4	LOW	
	E. of Johnny Morris - FM 3177	MNR 2	MAD 4	LOW	
	FM 3177 - FM 973	MNR 2	MAD 4	LOW	
	FM 973 - Taylor Ln.	MNR 2	MAD 4	LOW	
Manchaca Rd. - see FM 2304					
Manor Rd.	IH 35 - Cherrywood	MNR 2	MAU 4	LOW	
	Cherrywood - Pershing	MAU 4	Existing	LOW	
	Pershing - Springdale	MAU 4	Existing	LOW	
Martin Luther King Blvd. (MLK) - see FM 969					

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		LIMITS	EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
McNeil Rd/McNeil Cutoff (Spicewood Springs)	Old Lampassas - Yaupon Dr. Yaupon Dr. - US 183 US 183 - Parmer Parmer - Howard Howard - SH 45 SH 45 - IH 35 IH 35 - BR 35		MAD 4 MAD 4 MAD 4 MAD 4 MAU 2 MAU 4 MAU 4	Existing Existing Existing Existing MAD 4 MAD 4 MAD 4	HIGH HIGH HIGH HIGH HIGH HIGH HIGH	
Metric Blvd./Thermal Dr.	US 183 - Rundberg Rundberg - Rutland Rutland - Braker Braker - FM 734 FM 734 - Howard Howard - Wells Branch		MAD 4 --- MNR 4 MAD 4 MAD 4 MAU 4	Existing MAD 4 MAD 4 Existing Existing MAD 4	LOW LOW LOW LOW LOW LOW	
Montopolis/Grove Blvd	Burleson - Ben White Ben White - Riverside Riverside - Fairway Fairway - US 183		MAD 4 MAD 4 MAD 4 MNR 0/4	Existing Existing Existing Existing	MED MED MED MED	
New Hope Dr./CR 181,276	Lakeline Blvd - CR 278 CR 278 - US 183 US 183 - US 183 (A) US 183 (A) - Howard Ln. Howard Ln. - Wyoming Springs		MNR 2 MNR 2 MNR 2 MNR 2 ---	MAD 4 MAD 4 MAD 4 Existing MNR 2	HIGH HIGH HIGH HIGH HIGH	
North Capital Pkwy/ West Dessau/ Gregg Lane	FM 1325 - IH 35 IH 35 - Dessau Rd. Dessau Rd. - SH 130 SH 130 - Giles Rd. Giles Rd. - FM 973		MAU 2 MAU 2 MAU 2 MAU 2 ---	MAD 6 MAD 4 MAD 4 MAD 4 MAD 4	LOW LOW LOW LOW LOW	
North Loop Blvd/ Hancock Dr./E. 53rd. St. Lamar - Airport Blvd.	Loop 1 - Burnet Burnet - N. Lamar Lamar - Airport Blvd.		MNR 4 MNR 4 MNR 4	Existing Existing Existing	LOW LOW LOW	
Northeast Drive	US 290 - Manor Rd.		MNR 2	Existing	LOW	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
Oltorf St.	Lamar - IH 35	MAU 4	Existing	LOW	
	IH 35 - Pleasant Valley	MAU/MAD 4	Existing	LOW	
	Pleasant Valley - Montopolis	MAU 0/4	MAD 4	LOW	
Park Street	Anderson Mill Rd - US 183 (A)	MNR 2	MNR 4	HIGH	
Parkfield Dr.	Peyton Gin - Rundberg	MNR 4	Existing	LOW	
	Rundberg - Braker	MNR 2/4	Existing	LOW	
Parmer Ln. - see FM 734					
Peyton Gin Rd.	US 183 - Lamar	MNR 4	Existing	LOW	
Pflugerville Ln./Pflugerville Loop	SH 45 - FM 685	MNR 0/2	MAU 4	LOW	
	FM 685 - Giles	MNR 2	MAU 4	LOW	
	Giles - FM 973	MNR 0/2	MAU 4	LOW	
Pflugerville Rd.	FM 685 - SH 130	MNR 2	Existing	LOW	
	SH 130 - Harris Branch	MNR 2	MAD 4	LOW	
	Harris Branch - FM 973	MNR 2	MAD 4	LOW	
Pleasant Valley Rd./ Todd Ln.	7th Ave - Cesar Chavez	MAU 4	Existing	LOW	
	Cesar Chavez - Colorado River	MAU 4	Existing	LOW	
	Colorado River - Riverside Dr.	MAU 4	MAD 4	LOW	
	Riverside Dr. - Oltorf	MAD 4	Existing	LOW	
	Oltorf - Ben White	---	MAD 4	MED	
	Ben White - William Cannon	MAD 0/4	MAD 4	MED	
	William Cannon - Onion Creek Dr.	MAU 2	MAD 4	MED	
	Onion Creek Dr. - FM 1327	---	MAD 4	MED	
Quinlan Park Rd.	RM 620 - Selma Hughes Rd.	MNR 2	MAD 4	HIGH	
	Selma Hughes Rd. - Lakeline Pk.	MNR 2	MAD 4	HIGH	
Red Bud Trail	Lake Austin Blvd. - Westlake	MNR 2	Existing	HIGH	
	Westlake - FM 2244	MNR 2	Existing	HIGH	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		LIMITS	EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS	Red River St.	MAU 3/4	Existing	LOW	
		E. 5th St. - MLK Blvd.	MAU 2/4	Existing	LOW	
		MLK Blvd. - 45th St.	MAU 2/4	Existing	LOW	
Riverplace Blvd/ Leonard E. Rd.	LIMITS	Lover Place - RM 2222	MAD 0/4	MNR 4	HIGH	
		RM 2222 - Four Points Dr.	MAU 2	MNR 4	HIGH	
Riverside Dr.	LIMITS	Lamar - S. 1st St.	MAD 4	Existing	LOW	
		S. 1st St. - Congress	MAU 4	Existing	LOW	
		Congress - Newning	MAD 4	Existing	LOW	
		Newning - IH 35	MAD 4	Existing	LOW	
		IH 35 - Lakeshore	MAD 6	Existing	LOW	
		Lakeshore - Ben White	MAD 6	Existing	LOW	
Rosewood Ave./ Oak Springs/11th	LIMITS	IH 35 - Airport	MNR 2	Existing	LOW	
		Airport - Springdale	MNR 2	Existing	LOW	
Rundberg Ln.	LIMITS	FM 1325 - Metric	---	MAD 4	LOW	
		Metric - Lamar	MAD 4	Existing	LOW	
		Lamar - IH 35	MAD 4	Existing	LOW	
		IH 35 - Dessau Rd.	MAD 4	Existing	LOW	
		Dessau Rd. - SH 130	---	MAD 4	LOW	
Sam Bass Rd.	LIMITS	Fern Bluff - IH 35 (N)	MNR 2	Existing	MED	
		MLK - 1st Street	MAD 3/4	Existing	LOW	
Shoal Creek Blvd.	LIMITS	US 183 - 45th St.	MNR 4	Existing	LOW	
		FM 1826 - Brodie	MAD 4	Existing	HIGH	
Slaughter Ln./Riddle	LIMITS	Brodie - Manchaca	MAD 4	Existing	HIGH	
		Manchaca - IH 35(S)	MAD 6	Existing	LOW	
		IH 35 - Onion Creek	---	MAD 6	HIGH	
		Onion Creek - Bluff Springs Rd.	---	MAD 4	MED	
		Bluff Springs Rd. - US 183	---	MAD 4	MED	
	LIMITS	US 183 - FM 973	---	MAD 4	MED	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
Southwest Pkwy. (Boston Lane)	SH 71 (W) - William Cannon William Cannon - US 290 (W)	MAD 6 MAD 6	Existing Existing	HIGH HIGH	
Spicewood Springs Rd.	US 183 - Old Lampassas Yaupon - Loop 360	MAD 4 ---	See McNeil Rc MNR 4	HIGH HIGH	
	Loop 360 - Neeley Dr.	MAU 2	MAD 4	HIGH	
	Neeley Dr. - Mesa Dr.	MAD 4	Existing	HIGH	
	Mesa Dr. - Hart Ln.	MAD 4	MAD 6	HIGH	
	Hart Ln. - Loop 1	MAD 4	MAD 6	HIGH	
Springdale Rd.	Rundberg - US 290 (E) US 290 (E) - US 183	MNR 2 MAD 4	MAD 4 Existing	LOW LOW	
	US 183 - Manor	MAU 4	MAD 4	LOW	
	Manor Rd. - Cesar Chavez	MAU 4	Existing	LOW	
St. Johns Ave.	Lamar - IH 35 IH 35 - Cameron	MNR 4 MNR 4	Existing Existing	LOW LOW	
	Cameron - Berkman	MNR 2	MNR 4	LOW	
Stassney Ln.	West Gate - S. Congress S. Congress - IH 35 (S)	MAD 4 MAD 6	Existing Existing	LOW LOW	
	IH 35 (S) - Pleasant Valley	MAD 4	Existing	LOW	
	Pleasant Valley - Nuckols Crossing	MAD 6	Existing	LOW	
	Nuckols Crossing - Burneson	---	MAD 4	LOW	
Steck Ave.	Mesa - Loop 1 Loop 1 - Burnet Rd.	MNR 4 MNR 4	Existing Existing	LOW LOW	
Taylor Ln./Old Kimbro Rd.	FM 969 - Blake Manor Rd. Blake Manor - Littig Rd.	MNR 2 MNR 2	MAD 4 MAD 4	LOW LOW	
	Littig Rd. - US 290 (E)	MNR 2	MAD 4	LOW	
Thornton/Scenic Loop McKinney Falls Pkwy.	S. Study Boundary - CR 105 CR 105 - FM 1327	--- ---	MAD 4 MAD 4	LOW LOW	
	FM 1327 - Slaughter	MNR 2	MAD 4	MED	
	Slaughter - William Cannon	---	MAD 4	MED	
	Wm. Cannon - Onion Creek	MAD 4	Existing	MED	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		LIMITS	EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS	Onton Creek - Burlleson	MAD 4	Existing	MED	
		Burlleson - US 183	MAD 4	Existing	MED	
Toro Canyon Rd.	Westlake Dr. - Westlake Dr.		MNR 2	Existing	MED	
Von Quintus/Blocker	US 183 - Hokanson		MNR 2	Existing	LOW	
Walsh Tarlton Ln.	RM 2244 - Tamarroon Blvd. Tamarroon Blvd. - Loop 360		MNR 4	Existing	MED	
			MAD 4	Existing	MED	
Wells Branch/ Northtown Pkwy.	FM 1325 - IH 35		MAD 4	Existing	LOW	
	IH 35 - Heatherwilde		MAD 4	MAD 6	LOW	
	Heatherwilde - SH 130		---	MAD 6	LOW	
	SH 130 - Giles		MNR 2	MAD 6	LOW	
	Giles - FM 973		---	MAD 6	LOW	
West Gate Blvd.	Slaughter - Davis/Dittmar		---	MAD 4	LOW	
	Davis/Dittmar - Stassney		MAD 4	Existing	LOW	
	Stassney - US 290 (W)		MAU 4	MAD 4	LOW	
	US 290 (W) - Loop 360		MAD 0/4	MAD 4	HIGH	
Westlake/Westlake High Dr.	Loop 360 - FM 2244		MNR 4	Existing	LOW	
	FM 2244 - Red Bud Trail		MNR 2	Existing	HIGH	
	Red Bud Tr. - Toro Canyon		MNR 2	Existing	HIGH	
	Toro Canyon - Loop 360		MAD/MNR 4	Existing	HIGH	
William Cannon/North Bluff	Southwest Pkwy. - US 290 (W)		MAD 6	Existing	HIGH	
	US 290 (W) - Brodie		MAD 6	Existing	LOW	
	Brodie - Manchaca		MAD 4	Existing	LOW	
	Manchaca - Pleasant Valley		MAD 6	Existing	LOW	
	Pleasant Valley - Running Water		MAU 2	MAD 6	LOW	
	Running Water - Scenic Loop		---	MAD 6	LOW	
Windsor Rd./W. 24th St.	Scenic Loop - US 183 (S)		---	MAD 6	LOW	
	Exposition Blvd. - Loop 1		MNR 4	Existing	LOW	
	Loop 1 - Lamar		MNR 4	Existing	LOW	
	Lamar - Guadalupe		MNR 4	Existing	LOW	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
ROADWAY	LIMITS				
Woodrow Ave.	Burnet Rd. - RM 2222 FM 2222 - Anderson Ln.	MNR 2 MNR 2	Existing Existing	LOW LOW	
Woodward St./Lightsey Rd.	S. 1st St. - Congress Congress - IH 35 IH 35 - Ben White	MNR 2 MNR 2 MNR 4	Existing Existing Existing	LOW LOW LOW	
Wyoming Springs	FM 1431 - FM 3406 FM 3406 - RM 620 RM 620 - SH 45	--- --- ---	MAD 6 MAD 6 MAD 6	HIGH HIGH HIGH	
W./E. First St	(See Cesar Chavez)				
S. First St.	FM 1626 - Slaughter Ln. Slaughter - William Cannon William Cannon - Stassney Stassney - Ben White Ben White - Barton Springs Barton Springs - Cesar Chavez	--- MNR 4 MNR 4 MNR 4 MNR 4 MAU 4/6	MNR 4 Existing Existing Existing Existing Existing	HIGH LOW LOW LOW LOW LOW	
Fifth St.	Loop 1 - Lamar Lamar - Trinity Trinity - IH 35	MAU 4 MAU 4 MAU 4	Existing Existing Existing	LOW LOW LOW	
Sixth St.	Loop 1 - Lamar Lamar - Colorado Colorado - IH 35	MAU 4 MAU 4 MAU 4	Existing Existing Existing	LOW LOW LOW	
Seventh St.	Guadalupe - IH 35 IH 35 - Pleasant Valley Pleasant Valley - Airport Blvd	MAU 4 MAD/MAU 4 MAU 4	Existing MAD 4 MAD 4	LOW LOW LOW	
Eighth St.	Guadalupe - IH 35	MAU 4	Existing	LOW	
Eleventh St.	Guadalupe - IH 35	MAU 4	Existing	LOW	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE		LIMITS	EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	Remarks 4
Twelfth St.	Lamar - West Ave.		MNR 4	Existing	LOW	
	West Ave. - Colorado		MAD 4	Existing	LOW	
	San Jacinto - IH 35		MAD 4	Existing	LOW	
	IH 35 - Springdale		MNR 4	Existing	LOW	
Twenty-sixth St.	Manor - I-35		MAD 4	Existing	LOW	
	I-35 - Lafayette		MAD 4	Existing	LOW	
	Lafayette - San Jacinto		MAD 6	Existing	LOW	
	San Jacinto - Whittis		MAU 4	Existing	LOW	
	Whittis - Guadalupe		MAD 4	Existing	LOW	
Thirty-fifth/Thirty-eighth/ Thirty-eight 1/2	Balcones Dr. - Exposition		MNR 4	Existing	LOW	
	Exposition - Loop 1		MAU 4	Existing	LOW	
	Loop 1 - Jefferson		MAU 4	Existing	LOW	
	Jefferson - Lamar St.		MAD 4	Existing	LOW	
	Lamar St. - Guadalupe		MAD 4	Existing	LOW	
	Guadalupe - Duval		MNR 2	Existing	LOW	
	Duval - Red River		MNR 2/3	Existing	LOW	
	Red River - IH 35		MNR 2	Existing	LOW	
	IH 35 - Manor Rd.		MNR 2/4	Existing	LOW	
Forty-fifth St.	Loop 1 - Burnet		MNR 4	Existing	LOW	
	Burnet - Lamar		MNR 4	Existing	LOW	
	Lamar - Guadalupe		MAD 4	Existing	LOW	
	Guadalupe - Airport		MNR 4	Existing	LOW	
Fifty-first St.	Lamar - Airport Blvd.		MNR 2/3	MNR 4	LOW	
	Airport Blvd. - IH 35		MNR 4	Existing	LOW	
	IH 35 - Berkman		MNR 4	Existing	LOW	
	Berkman - Springdale		MNR 4	Existing	LOW	
	Springdale - US 183		MAD 4	Existing	LOW	

Table 4.5 - 1

AUSTIN METROPOLITAN AREA TRANSPORTATION PLAN ROADWAY TABLE					Remarks
ROADWAY	LIMITS	EXISTING 1994 1	PLANNED 2020 2	Area Environmental Sensitivity 3	

KEY TO ROADWAY CLASSIFICATIONS

FWY	Freeway	The number after the roadway classification indicates the number of lanes. A "MAD" designates a roadway divided either by a raised median, flush center left turn lane, or a central drainage ditch. The choice of one or the other is to be made in the roadway design and construction process.			
PKWY	Parkway				
EXPV	Expressway				
MAD	Major Arterial Divided				
MAU	Major Arterial Undivided				
MNR	Minor Arterial				
COL	Primary Collector				
(MIS)	Major Investment Study	the recommended cross section is subject to the results of a major investment study.			
Area Environmental Sensitivity	Column 3 indicates the natural environmental sensitivity of the area through which each roadway passes. Criteria for high, medium and low sensitivity and potential mitigation actions are described on the following page.				
(NHS)	National Highway System	Roadway is included in the National Highway System.			

CRITERIA AND DEFINITIONS FOR DETERMINING NATURAL ENVIRONMENTAL SENSITIVITY

I. CRITERIA

A. AREA OF LOW ENVIRONMENTAL SENSITIVITY

- 1.) No endangered species habitat, or minor amounts.
- 2.) No substantial water resources.
- 3.) Limited Critical Environmental Features and or Biological Resources.
- 4.) Existing roadway with high-density or medium density development existing.

B. AREA OF MEDIUM ENVIRONMENTAL SENSITIVITY

- 1.) Endangered species habitat present but not prevalent.
- 2.) Minor water resources.
- 3.) Presence of Critical Environmental Features and Biological Resources.
- 4.) Existing roadway with low-density or medium-density development existing.

C. AREA OF HIGH ENVIRONMENTAL SENSITIVITY

- 1.) Substantial amounts of endangered species habitat present.
- 2.) Substantial water resources.
- 3.) Numerous Critical Environmental Features and Biological Resources.
- 4.) New or existing roadway in undeveloped area.

II. POTENTIAL MITIGATION ACTIONS

- A. LOW SENSITIVITY:** Impacts may be mitigated during construction, design, or minor route or alignment revisions.
- B. MEDIUM SENSITIVITY:** Impacts may possibly be mitigated by design revisions, but will most likely require alignment revisions.
- C. HIGH SENSITIVITY:** Alignment or route revisions, or special design considerations will be required to mitigate impacts.

Table 4.5-2
Criteria for the Functional Classification of Roadways

Functional Classification	Primary Function	Service Performed	Trips Served	Preferred Spacing	Location
Freeway/Parkway/ Expressway	Through traffic movement	Line-haul, longer distance trips	Interstate, inter-regional, inter-city/ community	1 to 3 miles	In natural community separations, defining development
Major Arterial	Primarily through traffic movement, secondarily access to abutting property	Line-haul function for inter-regional, inter-city trips, some collection and distribution of traffic between local streets and freeways/ expressways	Intra-city/ community trips	2 miles	Form residential neighborhood and industrial boundaries
Minor Arterial	Both through traffic movement and abutting property access	Moderate length line-haul function for intra-city/community trips. Collection and distribution to higher and lower level facilities	Intra-city/ community	1 mile	Occasionally form boundaries to neighborhoods

Table 4.5-3
Recommended Service and Design Standards for Roadways

Functional Classification	Volume (Vehicles/Lane/Hour)	Typical Design Speeds (MPH)	Typical Through Lanes	Minimum Preferred R.O.W	Roadway Cross Section	Minimum Interchange/ Intersection Spacing (Miles)	Access Control
Freeway	1,800	50 to 60	4 to 10	300' to 400'	12' per lane 8' to 10' shoulders both sides, 8' to 60' or greater median strip	1	Interchanges at major cross streets, no at-grade crossings
Parkway	1,800	50 to 60	4 to 6	300' to 400'	Same as freeway	1	Same as freeway but without Frontage roads
Expressway	1,200 to 1,500	40 to 50	4 to 6	120' to 150'	12' per lane 8' to 10' shoulder	1/2 to 1	Interchanges or at-grade intersections at major cross streets, few private access points allowed
Major Arterial	800 to 900	40 to 50	4 to 6	90' to 150'	12' lanes with curbs, typically with 10' left turn lanes in raised or painted medians	1/4 to 1	At-grade intersections signalization at major cross streets, private access limited
Minor Arterial	600 to 700	30 to 40	2 to 4	80' to 120'	12' lanes with curbs, typically with no turning lanes	1/8 to 1/4	At-grade intersections, some restrictions on private access

Section 4.6

Freight Element

4.6 FREIGHT ELEMENT

4.6.1 Introduction

Freight movement, as an impact on transportation, has received minimal consideration in past planning efforts. However, ISTEA now requires consideration of freight movement in transportation planning. The efficient movement of freight is especially significant for the Austin metropolitan area, where freight transporters and passenger vehicles generally utilize the same transportation corridors. The Freight Movement Element addresses the federal requirements (ISTEA), impacts of the North American Free Trade Agreement (NAFTA), and significant aspects of roadway freight, rail freight, and air freight in the Austin metropolitan area. Recommended policies are grouped as issues pertaining to: SH-130, Ordinances and Operational Regulations, Alternative Freight Routes, Interchanges and Bridges, and Other Studies.

4.6.1.1 ISTEA Requirements

The passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 requires Metropolitan Planning Organizations (MPOs) to consider "methods to enhance the efficient movement of freight." This legislation forces planners to look beyond the needs of passenger vehicles, and directs all modes of transportation to receive equal attention with respect to planning a future transportation network. Addressing this factor (ISTEA factor #11) will require many areas to undertake goods-movement studies.

4.6.1.2 Roadway Freight

In order to enhance freight movement, it is necessary to study the means by which freight is moved. In the Austin metropolitan area the majority of freight is moved by truck (roadway freight). Roadway freight is addressed in this document as being either through (non-stop), or local.

Through (non-stop) Roadway Freight

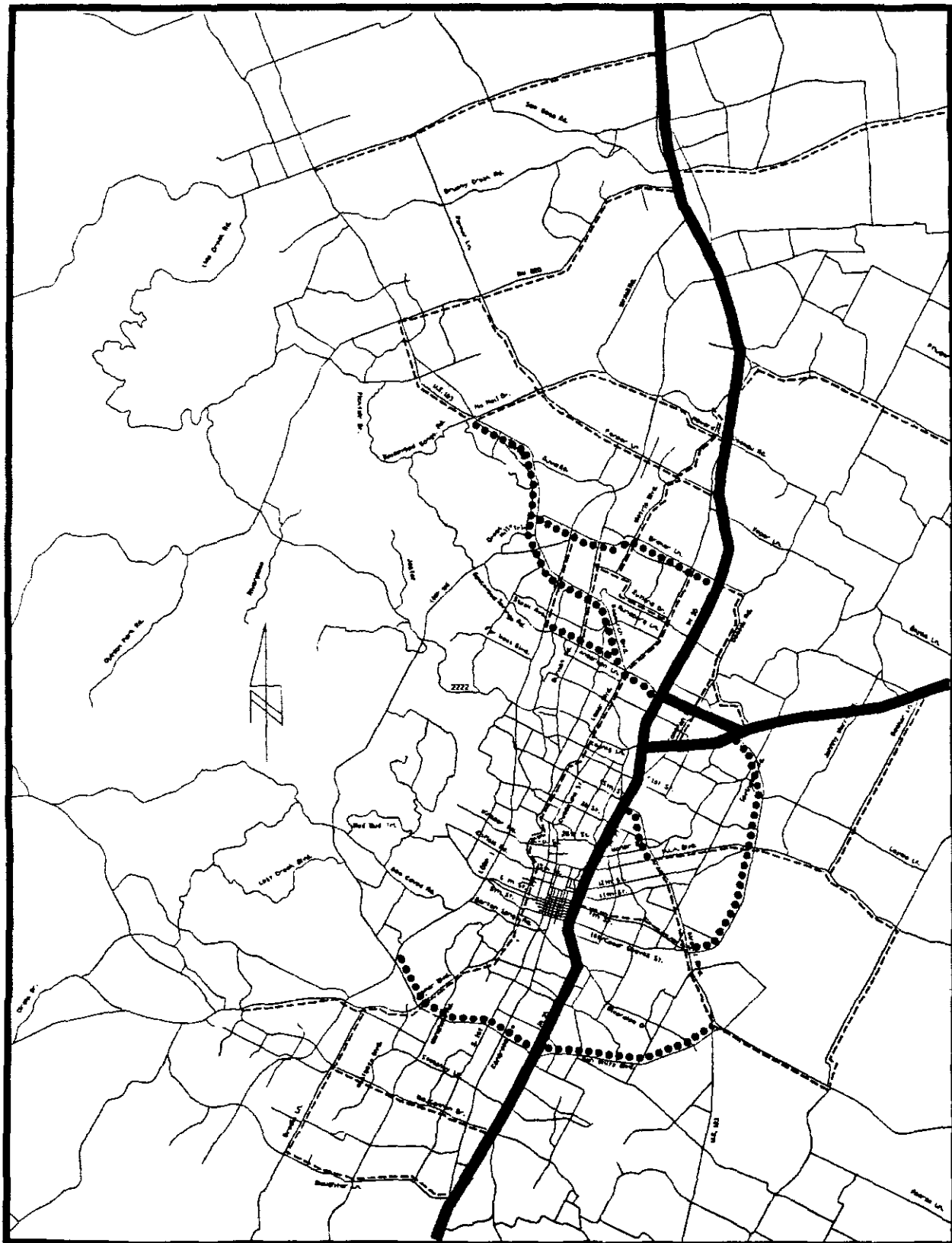
Through roadway freight pertains to trucks traveling *through* Austin, having no origin or destination inside the metropolitan area. Most of the through roadway freight traveling from Mexico (along the Laredo - San Antonio - Dallas/Fort Worth corridor) is carried on IH-35, and therefore moves directly through the center of Austin. This freight traffic places a huge burden on IH-35, which is already over capacity with commuters at peak hours. Interstates in many major cities include bypasses around the CBD; trucks hauling through freight on these Interstates can be diverted around urban traffic congestion. This is not the case for Austin, where IH-35 passes through the CBD. As stated previously, through roadway freight traffic is anticipated to increase steadily over the next few years.

Local (stop) Roadway Freight

Local roadway freight pertains to any trucks having an origin or destination(s) inside the Austin metropolitan area. Austin has a higher level of inbound roadway freight than outbound freight. This fact is explained by the nature of Austin business. The Austin metropolitan area is unique in that its highest paying jobs are in fields that produce a lower-than-average volume of outgoing freight. A large portion of the work force is characterized by young, affluent households which are huge consumers of sports and entertainment products, electronic equipment, clothes, furniture, disposable paper products, building materials, automobiles, and food and beverages. This high level of consumption generates a high volume of incoming freight trips in the Austin area (see Figure 4.6-1).

Figure 4.6-1
Roadway Freight Corridors, by Volume of Trips

Volume of Trips: - - - - High ●●●● Higher Highest



Preliminary findings indicate that a majority of consumable goods, especially food products, enter Austin from the south (San Antonio), while durable goods tend to come from the north (Dallas/Fort Worth). Almost all of this freight travels on IH-35. Many of these trucks have an Austin destination east of IH-35 (see Figure 4.6-2). Most commercial distribution centers (warehouses), as well as UPS, Federal Express, the General Mail Facility, and all five (5) landfills are located east of IH-35.

4.6.1.3 Rail Freight

A high level of rail freight traffic moves by train *through* Austin non-stop. These trains must decrease speed because of restrictive grades, slow speed curves, and the single-track Colorado River bridge. The Union Pacific Railroad (UPRR) currently operates about 20 through trains per day. The current UPRR track capacity (without significant delays) is about 25 trains. Industry forecasts suggest that the amount of rail traffic through the Austin corridor to San Antonio and Laredo will double (to 40) between 1993 and 1998. Improvements to the current Austin rail configuration may require building a modern double-track bridge, or possibly rerouting the main tracks to enhance the movement of rail freight.

The level of *local* rail freight traffic (stopping) in Austin is relatively light compared to the total volume of rail freight moving through the city. Goods carried into Austin by rail include beer, lumber, paper, plastics, and some chemicals. Goods carried out of Austin are primarily aggregates from mines and quarries in Georgetown, Austin and Marble Falls.

There are currently no facilities in the ATS service area for transferring freight from trucks onto trains. San Antonio, less than 200 miles away, currently provides this service at a reasonable price.

4.6.1.4 Air Freight

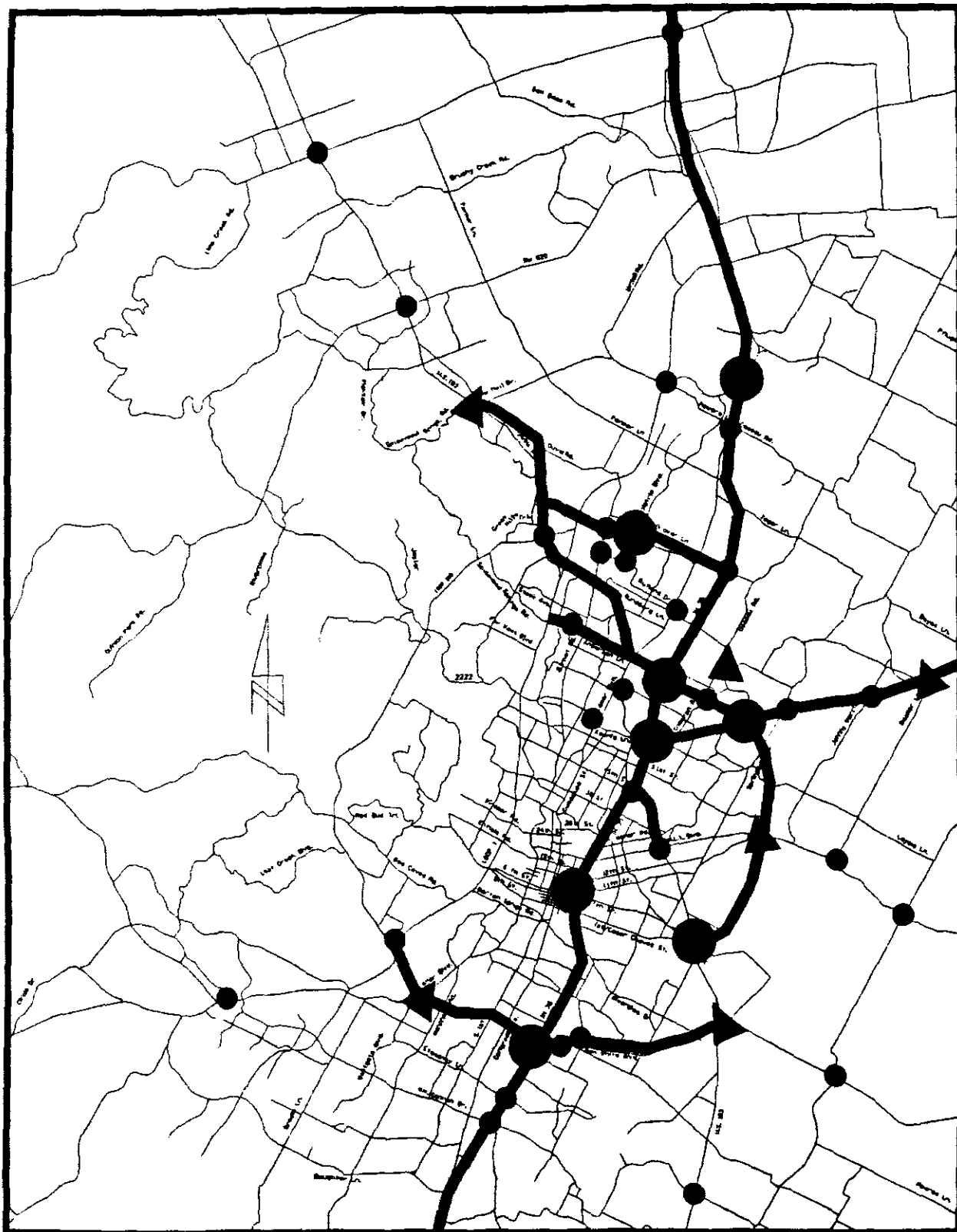
Austin serves as a regional air freight hub. The Austin metropolitan area sustains a very high per capita volume of air freight, due largely to its business climate (high-tech and academic). This volume of air freight is expected to continue to grow rapidly, and this growth may result in conflicts between passenger and freight traffic at and near the new airport.

4.6.1.5 Effects of NAFTA

The North American Free Trade Agreement took effect on January 1, 1994. The City of Laredo currently accounts for 60 percent of all trade between the US and Mexico. About 80 percent of that traffic moves by truck; most of the remaining 20 percent moves by rail. It is estimated that at least 30 percent of that truck traffic travels along IH-35 *through Austin* enroute to the mid-west and Canada; 80 percent of the rail traffic travels the Union Pacific Railroad (UPRR) main track *through Austin*. From October 1991 to December 1993, Austin experienced a 40 percent increase in cross-border truckloads passing through the city destined for Mexico (from 13,000 to 18,000 truck loads per month) and a 25 percent increase in truckloads coming from Mexico (from 8,500 to 10,400 per month). This traffic is anticipated to continue to increase at 20 percent per year through the year 1998, coinciding with the initial phase-in of the Agreement. It will likely level off after the year 1998, proceeding with a more normal 10 percent growth rate as experienced prior to the announcement of NAFTA.

Figure 4.6-2
Areas of Concentrated Roadway Freight Activity

● Moderate Activity ● High Activity ▲ Forecasted High Activity



4.6.2 Policies to Enhance Freight Movement

A. SH-130

- Policy A-1: Accelerate feasibility study/planning of SH-130 (segments A & B, east of IH-35, around the CBD.
- Preliminary reports from TxDOT indicate a completion date beyond the year 2020.
- Policy A-2: Make the enhancement of freight movement a priority in the planning of SH-130. Design SH-130 as an express freight route away from the CBD, with interchanges and ramp exits planned to encourage through traffic. This will minimize the number of ramps, thus minimizing cost.
- If SH-130 is designed primarily to cater to the needs of passenger cars, then trucks will continue to use IH-35, as the most direct route. Increased efficiency through reduced congestion will be the main incentive for trucks to use SH-130.
- Policy A-3: Study the feasibility of relocating UPRR to the east (e.g. SH-130 corridor) for rail freight movement.
- If this transportation corridor is adopted by ATS and implemented, the existing UPRR track through the center of Austin could be utilized for local/regional passenger service during the 5:00 am - 11:00 pm time frame, allowing local freight operations during the nighttime. Provision of adequate rail right of way should be addressed in the planning of SH-130, including provisions for air cargo - rail transfer of containers.

B. Ordinances and Operational Regulations

- Policy B-1: Restrict large commercial trucks to the right lane(s) of IH-35, US 290, and US 183, using local ordinances or changes to state law, if necessary.
- Policy B-2: Establish an adequate number of designated delivery parking spaces for commercial vehicles, especially in the CBD.
- Policy B-3: Identify and enforce an alternative route for trucks transporting hazardous materials.

C. Alternative Roadway and Rail Routes

- Policy C-1: Evaluate US 183 (Ed Bluestein Blvd.) as an interim alternative freight route for through freight in order to bypass the heavy congestion on IH-35, until construction of SH-130. To connect US 183 to IH-35, consider using either FM 1327, or the Slaughter Lane extension east of IH-35, or SH 71.
- Expansion at the US 183 Montopolis bridge is incomplete. Current southbound capacity is reduced to one lane for through traffic on US 183. Northbound lanes have new bridge piers but no bridge. This bridge must be completed to full capacity in order to utilize US 183 as a freight route.

Policy C-2: Notify trucking companies, truck stops and the Department of Public Safety (DPS) of this alternative route(s) and provide incentive to trucks who use them. Also, install Route signs to inform trucks of "Truck Route" (see *Manual on Uniform Traffic Control Devices*).

Policy C-3: Study benefit of Commercial Vehicle Only lanes as part of current feasibility study for HOV lanes.

- The high level of commercial/freight activity in Austin may indicate this type of lane to be at least as beneficial as an HOV lane. Also, consider a combination of both lane types. Additionally, if Williamson County implements a transit commute plan, a new level of HOV demand will be introduced to IH-35.

Policy C-4: Examine feasible alternative rail alignments and improvements. This evaluation should include the following options: (1) building a double-track bridge at the present Colorado River bridge location, (2) double-tracking other segments of the existing line, and (3) constructing a new rail alignment (see Policy A-3).

D. Interchanges

Policy D-1: Evaluate the Airport Blvd./IH-35 interchange for improvement as this location appears to have an increasingly high level of truck freight traffic, not necessarily related to airport cargo operations.

Policy D-2: Evaluate possible solutions to the IH-35/US 290 East interchange as this location has a high level of commuter traffic, mixing with inbound truck freight and intercity bus traffic.

Policy D-3: Evaluate current plans for IH-35/US 183 interchange to facilitate future freight movement.

- Current plans for this interchange show dedicated lanes for traffic movement westbound on US 183 only. Traffic moving eastward on US 183 from IH-35 will be required to stop at a signalized intersection. This configuration will slow down the movement of freight and will impede the northern connection of the US 183 alternate freight route.

E. Further Study

Policy E-1: Conduct a freight origin/destination study for trucks utilizing IH-35 as part of an origin/destination study that TxDOT will conduct in 1997 in the ATS area.

- Determine the percentage of inbound/outbound traffic from both the south (San Antonio and Mexico) and the north (Dallas/Fort Worth). Determine which carriers have a destination in ATS area and which are passing through.

Policy E-2: Study economic impact of traffic delays to local businesses who require freight transport/shipping or deliveries by truck.

Policy E-3: Conduct an hourly freight movement study. Hourly traffic counts that show number of trucks are necessary to improve traffic signal timing. Efficient traffic signal timing is important to enhance the movement of freight.

Policy E-4: Study current freight corridors to determine the need for and existence of dedicated left turn signals, left turn lanes, and wide-radius right turn lanes. Trucks need these features to expedite their travel through intersections.

4.6.3 List of Background Studies and Documents

4.6.3.1 Vehicle Classification Report

4.6.3.2 Impacts of NAFTA on Freight Transportation in Austin

4.6.3.3 Introduction to Freight Terminology

4.6.3.4 Traffic Volume Analysis

4.6.3.5 Characteristics of Major Freight Operations

4.6.3.6 Summary of TXDOT Major Investment Studies (SH-130 and IH-35)

Section 5

Financial Plan

5.0 FINANCIAL PLAN

5.1 INTRODUCTION

The Austin Transportation Study (ATS), acting as the Metropolitan Planning Organization (MPO) for the urbanized areas of Travis, Williamson and Hays Counties, has adopted a long-range financial plan which is structured to provide resources for the transportation projects which can be accommodated within the limits of available funding. ATS, along with virtually every other dynamic and growing urbanized area in Texas, faces a difficult dilemma: the demand for roadway and highway capacity and intermodal transportation system linkages far outpaces the growth of available funds from standard, traditional sources to meet those demands. When combined with the other issues of growth management, environmental protection and preservation, North American Free Trade Agreement (NAFTA) and local and regional economic development initiatives, the willingness and ability to plan and construct the necessary facilities will depend more and more on local creativity and innovation and less on reliance on the Texas Department of Transportation (TxDOT) to solve the area's transportation needs. Many other urbanized areas in the country which have previously experienced these same types of situations have begun to address the gap between demand and available traditional funds by identifying and by implementing non-traditional sources and pursuing privatization programs.

5.1.1 ISTEA Requirements

The *AMATP* Financial Plan was prepared to meet the requirements of the Intermodal Surface Transportation Efficiency Act (ISTEA), which requires that the long range plan (*AMATP*):

"Include a financial plan that demonstrates how the long-range plan can be implemented, indicates resources from public and private sources that are reasonably expected to be made available to carry out the plan, and recommends any innovative financing techniques to finance needed projects and programs, including such techniques as value capture, tolls and congestion pricing."

Metropolitan Planning Rules issued by the U.S. Department of Transportation in 1993 to amplify the ISTEA requirements state:

"The (long range) plan shall ... (11) include a financial plan that demonstrates the consistency of proposed transportation investments with already available and projected sources of revenue. The financial plan shall compare the estimated revenue from existing and proposed funding sources that can reasonably be expected to be available for transportation uses, and the estimated costs of constructing, maintaining and operating the total (existing plus planned) transportation system, over the period of the plan. The estimated revenue by existing revenue source (local, State, and Federal and private) available for transportation projects shall be determined and any shortfalls identified. Proposed new revenues and/or revenue sources to cover shortfalls shall be identified, including strategies for ensuring their availability for proposed investments. Existing and proposed revenue shall cover all forecasted capital, operating, and maintenance costs. All cost and revenue projections shall be based on the data reflecting the existing situation and historical trends."

5.1.2 Current Planning Considerations of ATS Member Jurisdictions

A review of the local jurisdictions, including the TxDOT Austin District and Capital Metro, revealed a lack of consistency in the development and utilization of long term revenue forecasting for both capital projects and maintenance. While all agencies and jurisdictions have some form of needs assessment, it is not directly tied to a revenue source. The exception is Capital Metro, which has a dedicated sales tax base and has been able to prepare a 35-year revenue forecast.

Those agencies and jurisdictions which have prepared a needs assessment do not have the same planning horizon. While TxDOT may forecast its needs for 10 years, the City of Austin looks at a 6-year planning horizon for their Capital Improvements Program. Because of the lack of a dedicated revenue source or even a guaranteed annual budget allocation, all of the agencies and jurisdictions are unable to develop and sustain long-term capital and maintenance programs.

Major financial planning issues facing the implementing agencies in the Austin Transportation Study include:

- No major dedicated transportation funding source.
- Dependence on traditional funding sources (e.g., ad valorem taxes) for maintenance programs.
- Competing interest for limited local dollars (i.e., crime versus roads).
- Inability to accurately project revenues and budget allocations for capital and maintenance programs.
- An underuse of alternative transportation funding mechanisms to supplement and leverage TxDOT funds.
- Inability to "catch up" on backlog of maintenance needs, further exacerbating the long-term maintenance and viability of the roadway system.
- Competing interest and demand for limited state (TxDOT) dollars delays and defers high priority state highway projects.

The review of the area agencies' and jurisdictions' financial planning identified another critical problem that affects the timely and successful completion of the ATS long range plan: the lack of coordinated budgeting and financial planning on projects with multi-jurisdictional responsibilities. A good example of this problem is SH 130 which is one of the region's highest priority corridors:

- TxDOT is responsible for the environmental studies, design and construction of the project.
- TxDOT is aggressively pursuing the environmental clearances and development of right-of-way.
- TxDOT has programmed, in their 10-year plan, the design and construction of early phases of the project.
- While TxDOT has identified the need and programmed the project, no funds are available to construct the project.
- The counties and cities are responsible for right-of-way acquisition (by minute order agreement with the Texas Transportation Commission) and some utility relocations.
- TxDOT has no right-of-way estimates and local agencies have not identified funds for right-of-way.

All affected agencies or jurisdictions are aware the project is underway, but there has been no effort to develop a multi-jurisdictional financing plan to assure the project's timely implementation.

The success of the ATS long range plan is dependent upon the development of a comprehensive financing program for major multi-jurisdictional projects, identifying costs by agency or jurisdiction, the time frames in which funds are required, and identified sources of revenue to fund those requirements. The ATS long range plan requires the implementation of a series of traditional and non-traditional funding sources in order to provide a dedicated and consistent revenue stream over the next 25 years. The region's transportation needs can not be met if only traditional funding sources are available.

No one can argue with the condition of the region's streets and the needs to improve Austin's transportation system. The shortfall will only continue to increase as the transportation system competes with other needed state and local services. This financial plan identifies a package of funding sources that, if implemented over a period of time, would close the transportation funding gap.

Successful implementation of the ATS long range plan must also take into account other issues, some of which may be specific to the ATS area and others which may result from statewide, national and international issues. Some of these issues which should be integrated into the financial planning process include:

- Impacts of local, state and federal environmental policies and ordinances.
- Technology that could promote more efficient utilization of maintenance funds.
- Impacts of current versus potential future clean air attainment status.
- Americans with Disabilities Act requirements.
- Impacts of federal "information highway" with relation to access to rights-of-way, requirements for hard-wire and fiber optic systems, etc.
- Impacts of statutory recycling of construction materials.
- Alternative fuels policies and regulations.
- In-place private toll road corporations which have statutory power to develop toll roads.
- TxDOT maintenance agreement renewals with municipal and county entities.
- Use of operational characteristics in prioritizing roadway system maintenance.
- Inconsistency of ROW dedication requirements between local municipal and county entities.
- Urban and suburban funding resources versus urban and suburban travel demand, in the ATS area.

These and other issues will cause the financial plan to be a dynamic rather than static document requiring periodic review and updates and statutory program changes or local initiatives to be enacted.

5.2 POLICY INITIATIVES AND STRATEGY

5.2.1 General

Over the next 25 years, the ATS population is expected to double, increasing dramatically the traffic volume and demand for transportation facilities throughout the region. Public monies are limited for the improvements which will be needed and under the provisions of the new

Clean Air Act amendments, ATS and TxDOT will be limited in the types of new highway capacity that can be built to handle increased traffic.

Broad public resistance to general tax increases and increasing demands on limited federal and state budgets have left local governments with little choice but to find alternate sources of revenue to pay for capital and maintenance improvements. A regional effort will be required to meet this funding challenge, not only in terms of integrated transportation modal planning, but also in project identification and implementation and perhaps most importantly, the allocation of funds.

A new framework may be necessary which depends on an unprecedented level of cooperation among state and local units of government, and partnerships with the private sector to take advantage of capital availability and operating efficiencies. The philosophy which underpins the regional framework is composed of the following four elements:

- A regional financial plan which addresses identified project funding gaps at five-year intervals from 1995 through 2020, with revenue initiatives and expenditure reductions that over time are progressively severe.
- Institutional actions which will expand the region's ability to finance transportation projects with public and private capital, contributing to the availability of resources and financial self sufficiency.
- Utilization of joint private sector / public agency organizations in highway and transit infrastructure development in order to leverage private capital with scarce public funds for new projects.
- Highway development that is essentially funded by user fees. New construction will be HOV-oriented to help achieve the region's air quality goals and congestion priced to discourage single occupant vehicles.

5.2.2 Structure of the Financial Plan

ATS' long-term financial plan should emphasize a careful assessment of transportation needs and available funding resources over the period 1995-2020. The following principles and assumptions apply to these analyses:

- Capital, operating and maintenance requirements are to be projected on a cash flow basis and adjusted for inflation over the life of the plan.
- Specific revenues from traditional federal, state and local sources should be matched to long-term project funding needs.
- The gap in available revenues to meet these needs should be identified at five-year increments by project category (i.e., street rehabilitation and repair, highway construction, bus capital, etc.).
- Availability of non-traditional funding sources (user fees, private sector financing) should be projected and matched to project requirements over the life of the plan.

One of the basic purposes of the long-range plan is to expand the region's ability to leverage public funds with private capital, utilizing innovative methods of revenue-based debt financing without pledging the credit of the public sector.

The identified funding gap should also be matched with potential solutions to address the shortfall. For example, in the near-term it may be necessary for Austin, Round Rock, Cedar Park or Leander to impose special assessment districts to fund street, arterial and collector infrastructure in new neighborhoods. As the gap widens in future years, capital program

cutbacks, deferrals and stern revenue measures may be necessary, even to the point that mechanisms such as a head tax and sales tax surcharge would be needed to fund the budget deficit.

The strategy for financial planning contains near-term measures to help prevent a long-term funding crisis. Implementation of a pilot toll road project, SH 130, for example, and benefit assessment districts, if properly timed, could set the stage for other programs such as a dedicated local sales tax or motor fuels tax in the future or a city/county supported road concessions program in the future.

5.2.3 Use of Public/Private Partnerships

Private capital, when raised through user fees and other non-traditional sources, and combined with public monies, will expand the region's capacity to fund and complete highway and transit projects. Public/private partnerships can take several forms, as follows:

- Provision of right-of-way and engineering design and other project services in exchange for development rights near a major highway project, for example.
- Development of concession roads and bridges, with debt/equity financing, construction and operation of the facility by a private entity.
- Payment of impact fees through a Benefit Assessment or Special Districts to finance special purpose infrastructure connected to residential or commercial developments.

Public/private partnerships can be complex business arrangements in which the mixed use of public and private funds; allocation of risk and return on equity capital are not well understood by the public. Among government agencies, the use of federal and state grants, general obligation bond authority and direct government revenues offend few constituents directly. When this base is expanded to include private capital supported by tolls, tariffs, and assessments affecting specific users or groups, the politics become more difficult.

Imposition of user fees and the use and allocation of these funds are almost always political rather than economic decisions for government policymakers. Interest groups and the public at large understand these decisions only when they can see tangible project results, competition among urban/rural interests is resolved, and the economic benefits are spread among all transportation modes.

5.2.4 Project Financing and Implementation

The level of regional interagency cooperation needed to effectively implement the long-range plan could be strengthened by establishment of a **Special Infrastructure Development Unit**. The unit would consist of a cadre of planning, engineering and financial specialists whose mission would be to identify and manage to implementation a limited number of major transportation projects with public and private sector funding.

The Infrastructure Development Unit could be implemented through a Joint Powers Resolution among local agencies, such as the TxDOT Austin District and a city and/or county transportation department. The Unit would be governed by these agencies and on their behalf would manage a single public/private sector projects pipeline for the region. Project implementation, however, would remain with the relevant state and local agencies. The Unit would finance its operations through fees payable at a financial closing, with the following responsibilities:

- Identification of revenue-producing infrastructure project opportunities for joint funding by public and private sectors. Highway and transit facilities would be a priority for the Unit.
- Coordination and prioritization of public/private projects among state and local agencies in the region, including allocation of funds.

- Information clearinghouse and point of contact for private firms with an investment interest in the region's infrastructure.
- Assistance to line agencies in developing a solicitation and bid evaluation process for public/private projects.
- Internal role for local agencies in helping them structure and execute financing for infrastructure projects.

The Infrastructure Development Unit would be augmented by a **Private Sector Infrastructure Development Fund (PSIDF)**, funded by local governments as a revolving subordinated debt facility for privately-funded projects. The fund would be capitalized by local governments with federal grants or tax exempt bond proceeds. Borrowers with revenue-producing projects would be eligible for the subordinated debt fund at taxable rates in order to attract commitments for senior debt from commercial lenders or the capital markets. Timely debt service payments would replenish the PSIDF for other borrowers.

The Unit could also coordinate the establishment and utilization of an **Infrastructure Development Trust Fund** to leverage the off-balance sheet financing potential of public and non-public revenue sources. The fund would issue revenue and project finance bonds to support public/private transportation projects in Austin and could be supported by taxes and grants on the public side and fees and assessments from private sources. It would be under the management of a public agency issuer, but without the credit of state or local governments.

5.3 FINANCIAL STRATEGY

The Financial Plan includes an estimate of capital and operations/maintenance costs. Table 5.1 shows summary costs. Table 5.2 shows capital project costs, revenues and shortfalls for the 25 year period of the plan. Table 5.3 shows the same information for transportation system operations and maintenance. No shortfalls are identified for construction based on the revenue assumptions made in the Financial Plan, but there are some shortfalls for maintenance as shown in Table 5.3.

New revenue sources have been recommended for agencies with shortfalls to pursue in order to eliminate those shortfalls. Recommendations are also included for Capital Metro, although no shortfall is identified. These new revenue sources are described in Policies B-1 through B-5. The following is the strategy for new revenue sources adopted as part of the *AMATP* Financial Plan to ensure that the shortfalls are eliminated:

1. **ATS will transmit the adopted *AMATP* in January with the financial analysis and recommended new revenue sources to each of the ATS member jurisdictions with a request that they each agree to investigate and pursue the implementation of the new revenue sources, or else suggest deleting transportation projects from the *AMATP*.**
2. **ATS staff will review the progress of new revenue source implementation by each jurisdiction and report to the Committee.**
3. **Annually in December, the ATS staff will report to the Committee on the status of *AMATP* costs and revenues for facilities and maintenance including new revenue sources. The Committee may consider amendments to the Financial Plan or other Plan Elements based on that status.**
4. **During consideration of the Transportation Improvement Program (TIP) each year, the Committee will ensure that all approved projects have reasonably committed funds to carry them to completion.**

Table 5.1
Financial Plan
Transportation Cost Estimates

	Capital Facilities	Operations/ Maintenance
Roadway System	\$2,476	\$1,286
Transit System	\$1,674	\$2,028
TOTAL	\$4,150	\$3,314

Table 5.2
Financial Plan
Capital Projects Summary
(\$ million)

	Transit System	State Roads	Local Roads
Capital Cost	\$1,674	\$1,439	\$1,037
Traditional Revenue	\$1,674	\$1,439	\$1,037
Total Shortfall	\$0	\$0	\$0

	<u>Shortfall</u>	<u>New Revenue Sources:</u>
TxDOT	\$0	Toll Roads High Occupancy Vehicle (HOV) Facilities Use FTA Funds for Highways Increased License and Registration Fees Sale or Lease of Development Rights Increased Motor Fuel Tax Increased Texas Transportation Commission Discretionary Funding
CMTA	\$0	User Fees for HOV Facilities Sale or Lease of Development Rights Developer Impact Fees, etc. Density Bonuses Use FHWA Funds for Transit

Table 5.3
Financial Plan
Operation and Maintenance Summary
(\$ million)

	Transit System	State Roads	Local Roads
Operation & Maintenance	\$2,028	\$444	\$842
Traditional Revenue	\$2,028	\$441	\$469
Total Shortfall	\$0	\$3	\$373

	<u>Shortfall</u>	<u>New Revenue Sources:</u>
TxDOT	\$3	Increased Motor Fuel Tax

Local Jurisdictions

Travis County	\$192
Williamson Co.	\$6
Cedar Park	\$1
Leander	\$6
Pflugerville	\$1
Round Rock	\$5
Private	\$171

Local Jurisdiction Revenue Sources:

Local Option Sales Tax
Local Option Fuel Tax
Increased License and Registration Fees
Periodic Increase in Transportation User Fee
Privatization of Maintenance and Operations
Contract Maintenance with Construction
Tax Increment Financing and Benefit
Assessment Districts
10-Year Maintenance Reserve Account

CMTA	\$0	Privatization of Long-Term Maintenance and/or Operations
------	-----	--

5.4 POLICIES AND PROGRAMS

A. Member Agency and Jurisdiction Financial Planning

- Policy A-1: ATS, TxDOT, and other member jurisdictions will cooperatively prioritize Interstate and National Highway system projects to maximize eligibility for ISTEA funding.
- Policy A-2: ATS, TxDOT, and other member jurisdictions will coordinate and cooperate in the passage of local CIP bond issues to fund local segments of the AMATP.
- Policy A-3: ATS, TxDOT, and other member jurisdictions will coordinate and cooperate in the development and implementation of project funding enhancement program and aggressively promote the selected projects and local funding to the Texas Transportation Commission.
- Policy A-4: ATS encourages all member jurisdictions to proactively support and cooperate with TxDOT Austin District in the implementation of regional Interstate, National Highway System, U.S. Highway, State Highway, Farm-to-Market projects as identified in the *AMATP* and the *Transportation Improvement Program (TIP)*.
- Policy A-5: ATS recommends the establishment of a Special Infrastructure Development Unit to coordinate the activities of member agencies and jurisdictions and the private sector in the programming, financing and construction of regional transportation projects, augmented by a Private Sector Infrastructure Development Fund and Infrastructure Development Trust Fund.
- Policy A-6: ATS encourages all member jurisdictions to build dedicated maintenance reserve accounts through non-traditional revenue sources to guarantee maintenance for the transportation system during the first 10 years of the ATS long range plan timeframe.
- Policy A-7: ATS encourages all member jurisdictions to fully fund transportation maintenance programs and protect such programs from local political considerations which may adversely impact maintenance funding during annual budget processes.
- Policy A-8: ATS does not assume or recommend that Capital Metropolitan Transportation Authority will resume full collection of its voter authorized one (1) percent local sales tax until it initiates a long range mass transit system which requires capital costs that necessitates additional local revenue, or unless revenue is lost in an amount which necessitates using previously authorized local revenue as a replacement.

B. Non-Traditional Sources of Revenue

If the region is to stay up with its transportation capital needs and maintenance requirements over the next 25 years, then additional revenue sources will be necessary to supplement traditional sources of taxpayer funds. The following are recommended additional revenue sources as they may be applied to the ATS planning over the near, medium and long-term time horizon. Implementation of any of these revenue sources will depend on the political environment, specific project requirements to be addressed, and revenue-generating ability.

Policy B-1: ATS encourages and supports the evaluation and application, where appropriate and viable, of the following **user-fee mechanisms** for the financing of transportation system improvements:

- **Tolls and Tariffs** - Major source of funding for construction and operation of new highways. Utilized more recently in Texas for urban expressways in Dallas and Houston, and many other areas of the U.S. Politically difficult to impose in areas without toll roads and nearly impossible to convert existing free roads to toll facilities.

Implementation: Difficult in near-term, easier long-term

Revenue: Significant

Time frame: Medium-term

- **Congestion Pricing** - Application of toll or fee to the peak-hour use of certain heavily traveled highways. Can also be used to price the use of a road based on vehicle occupancy. In use only on a pilot basis in one location in the U.S., the Bay Bridge between San Francisco and Oakland. Funding is available through the Federal Highway Administration for more demonstration projects. Can be used in Austin as a clean air strategy and could possibly be required if the area falls into non-attainment status.

Implementation: Easier to implement for air quality reasons.

Revenue: Low

Time frame: Near-term

- **Tax Exempt Revenue Bonds** - Widely used by state and local government to finance revenue producing facilities such as airports, toll roads, sports complexes, hospitals, and wastewater plants. It is generally secured only by project revenues, and without a back-up pledge, is regarded as off balance sheet financing for the public agency issuing the bonds. Revenue bonds can be used for street rehabilitation and maintenance, and possibly for new construction when moderate flows of revenue are identified to secure bonds.

Implementation: Feasible if repayment source is secure

Revenue: Significant

Time frame: Near-term

Policy B-2: ATS encourages and supports the evaluation and application, where appropriate and viable, of the following **value capture techniques** to finance transportation system improvements:

- **Special Districts** - Special Assessment Districts, Benefit Assessment Districts, and Road Utility Districts are used to help recover the capital costs of street or roads or to capture part of the potential value of these improvements for adjoining landowners or commercial businesses. As public entities, these districts can issue bonds secured only by fee income. This affects or benefits specific constituents and can be sensitive politically. Revenues derived from special districts are a potential good source to fund maintenance reserve accounts.

Implementation: Used on a case-by-case basis

Revenue: Low to medium

Time frame: Medium to long-term

- **Tax Increment Financing** - Utilized where property values and ad valorem assessments may increase as the result of transportation improvements. The local government agrees to apply the tax proceeds of any increased assessment to support the financing for a specified period of time, thereafter claiming the tax revenues for itself. Useful in urban areas for rail transit development, but limited potential for highways.

Implementation: Used on a case-by-case basis
Revenue: Low
Timing: Medium-term

- **Developer Impact Fees** - Occurs after a highway has been built and is applied to the value (income potential) of adjacent land which becomes developable as result of the improvements. These fees can be fixed on the value of the land or the completed development. Useful for development of transit centers near planned office buildings or highway interchanges constructed in the vicinity of land which is zoned for malls or shopping centers.

Implementation: Used on a case-by-case basis
Revenue: Low
Timing: Near-term

- **Sale of Development Rights** - Used at highway interchanges and along arterials by the public sector to capture the value of real estate potential, without giving up ownership of the land.

Implementation: Used on a case-by-case basis
Revenue: Low
Timing: Medium

Policy B-3: ATS encourages and supports the evaluation and application, where appropriate and viable, of the following **dedicated revenue source funds** which may be utilized on either a general or specific dedicated basis for transportation system improvements:

- **Dedicated Sales Tax** - Utilized with more frequency by local governments, particularly in California and Florida, for all types of transportation improvements. Can be used to fund local share of federal grants. If the income is steady and in a growing area, earmarked sales taxes can produce a secure revenue stream with which to support bond financing for highway and transit infrastructure which may not generate sufficient income for repayment. In Austin, an expansion of the sales tax would require that the state ceiling be increased or local officials designate part of the current income for transportation purposes. Dedication of sales tax for transportation purposes would also require voter approval.

Implementation: Difficult, except in crisis
Revenue: Significant
Time frame: Medium-term

- **Local Option Gas Tax** - Federal and state governments have historically reserved taxation of fuel to themselves, which in Texas now totals 0.20 cents, but with the approval of the State Legislature, municipalities can attach their own tax at the pump. Fuel taxes are a natural revenue source for transportation improvements but they

engender opposition among truckers, the AAA, and educators in Texas who receive part of the state's gasoline levy.

Implementation: Very difficult
Revenue: Significant
Timing: Long-term

- **Auto/Bicycle Licensing Fees** - Usually levied by local government as supplementary revenue sources to support bond financing which with project revenues alone, may be marginal. In lower density urban areas with a high ratio of vehicle ownership to population, auto registration/licensing fees can be considerable.

Implementation: Not difficult
Revenue: Medium
Timing: Near-term

Policy B-4: ATS encourages and supports the evaluation and application, where appropriate and viable, of the following additional **governmental or institutional mechanisms** to provide capital for transportation system improvements:

- **Revolving Loan Funds** - These have been used successfully by states to finance new wastewater projects using EPA funds for capitalization. The fund issues bonds at a rate less than what it loans the proceeds for, while replenishing its capital and covering its administrative costs.

The State of Texas has a revolving fund for economic development purposes. Such a fund could be established by the city for loans in lieu of direct expenditures or grants for road infrastructure in new neighborhoods or commercial developments. Federal highway funds can be on-loaned by states to private entities and discussion is underway in Washington about the use of these monies in revolving funds for private borrowers. Austin could capitalize its own revolving fund with grants or bond proceeds secured by independent revenue sources.

Implementation: Not difficult if proper credit analysis procedures used
Revenue: Medium to high
Timing: Near to medium-term

- **Subordinated Debt** - Longer term financing which is subordinated to the primary debt in a project can improve the credit quality of a project and its chances for financial closure. Subordinated lenders can be investors looking for higher returns or government agencies with an interest in a project financed primarily by commercial lenders or the capital markets. If a Private Sector Infrastructure Development Fund is capitalized with grants or from independent revenue sources, a city or a county may be able to participate as an indirect lender for eligible projects. Authorization may be needed from the State Legislature.

Implementation: Feasible if balance sheet is independent
Revenue: Medium
Timing: Medium-term

- **Sale/Leaseback** - Used by the public agencies as a cash raising or saving technique. Government-owned facilities, such as bus maintenance facilities, can be sold to private investors, who will

expand or rehabilitate the facility and then lease it back to the public agency over a fixed period of time.

Implementation: Used on a case-by-case basis

Revenue: Low

Timing: Medium

Policy B-5: ATS strongly encourages and supports the evaluation and development of the following **private sector funding** sources where appropriate and financially feasible:

- **Taxable Bonds** - For private-purpose transportation infrastructure projects that do not qualify for tax exempt private activity bonds. Government entities may issue debt on behalf of private borrowers at taxable rates, which are generally more favorable than commercial bank loans. These are often placed with institutional investors and have replaced tax exempt industrial development bonds as financing sources for the infrastructure requirements of creditworthy developers such as Walt Disney Co.

Implementation: Used on a case-by-case basis

Revenue: Medium

Timing: Medium to long-term

- **Public/Private Partnerships** - Very useful for toll road and major rail projects. As a project incentive, land owners, developers and contractors may contribute right-of-way, or partial engineering, design, and construction services in the form of in-kind equity or debt. Repayment or a return on investment occurs when revenues flow and lenders and bondholders have been paid. Used successfully by joint powers agency in Orange County, CA for large-scale toll road with non-recourse financing secured only by project revenues.

Implementation: Mixed experience; use on a case-by-case basis

Revenue: Significant

Timing: Long-term

- **Concession Development and Financing** - Through the use of Build-Own-Transfer (BOT) and Build-Own-Operate (BOO) techniques and similar structures, government can effectively involve the private sector in the development or expansion of facilities. The public sector awards a concession in a particular corridor for a fixed period of time to private firms, who will build or expand the facility using funds from investors and lenders. There is usually no financial liability to the public sector.

Profit sharing with the public sector can occur during the concession. After operating the facility and collecting user fees during the term of the concession, the concessionaire will turn it over to government debt free.

Implementation: Difficult; viewed as special interest

Revenue: Significant

Term: Long-term

Section 6

*Transportation
Glossary*

6.0 TRANSPORTATION GLOSSARY

Alternative Fuels - Any motor fuel other than ordinary gasoline which generally results in lower levels of air pollutants (i.e. reformulated gasoline, natural gas and liquid propane).

Americans with Disabilities Act of 1990 (ADA) - Federal Law which requires accessible public transportation services for persons with disabilities, including complementary or supplemental paratransit services in areas where fixed route transit service is operated. Expands definition of eligibility for accessible services to persons with mental disabilities, temporary disabilities, and the conditions related to substance abuse. The Act is an augmentation to, but does not supersede, Section 504 of the Rehabilitation Act of 1973 which prohibits discrimination on the basis of disability against otherwise qualified individuals in programs receiving federal assistance.

Arterial - A street classification for roadways serving major traffic volumes other than highways.

Attainment Area - An area considered to have air quality at least as good as the U.S. Environmental Protection Agency (EPA) health standards used in the Clean Air Act. An area may be an Attainment Area for one pollutant and a Non-Attainment Area for others. Non-attainment areas are areas considered not to have met these standards for designated pollutants.

Austin Metropolitan Area Transportation Plan (AMATP) - A document which identifies existing and future transportation deficiencies and needs, as well as network improvements needed to meet mobility requirements over at least a twenty year time period. To receive federal funding a transportation project must be included in the AMATP and the Transportation Improvement Program (TIP). Formerly known as the Long Range Transportation Plan.

Average Daily Traffic - The average number of vehicles passing a fixed point in a 24-hour time frame. A convention for measuring traffic volume.

Base Year - An analysis or study's baseline or leadoff year. The year to which other years are compared to.

Bikeway - A facility intended to accommodate bicycle travel for recreational or commuting purposes. Bikeways are not necessarily separated facilities; they may be designed and operated to be shared with other travel modes.

Bus Lane - A lane reserved for bus use only. Also known as a "diamond lane." See also "HOV."

3C "Continuing, Comprehensive, Cooperative" - Refers to the requirement set forth in the Federal Highway Act of 1962 that transportation projects in urbanized areas be based on a "continuing, comprehensive transportation planning process carried out cooperatively by states and local communities." ISTEA's planning requirements broaden the framework for such a process to include consideration of important social, environmental and energy goals and to involve the public in the process at several key decision making points.

Carbon Monoxide, (CO) - A gas without color and odor which is toxic because too much of it can dangerously reduce oxygen in the bloodstream.

Census Tract - Census tracts are small, relatively permanent statistical subdivisions of a county which are delineated for all metropolitan areas and other densely populated counties by local census statistical area committees following Census Bureau guidelines.

Central Business District (CBD) - The most intensely commercial sector of a city.

Clean Air Act (CAA) - 1970 Federal Act designed to improve air quality.

Clean Air Act Amendments (CAAA) - 1990 amendments to the Clean Air Act which aim to substantially reduce air pollutants by specified target dates. This federal regulation classified the Houston-Galveston area as a nonattainment area for the pollutant ozone.

Clean Fuels - Blends and/or substitutes for gasoline. Compressed natural gas (CNG), methanol, ethanol, and others are considered clean fuels. Also known under heading, "Alternative Fuels."

Collector/Distributor Street - A road generally parallel to a freeway which collects and distributes traffic from mainlanes to the local street system.

Conformity - Process to assess the compliance of any transportation plan, program, or project with air quality control plans. The conformity process is defined by the Clean Air Act.

Congestion Management System (CMS) - ISTEA requires that each Transportation Management Area (see definition of TMA) develop a CMS that provides for effective management of new and existing transportation facilities through the use of travel demand reduction and operational management strategies. Unless a part of a CMS, future highway projects which significantly increase capacity for single occupant vehicles (SOVs) may be ineligible for federal funding.

Congestion Mitigation and Air Quality Improvement Program (CMAQ) - A \$6 billion program which helps implement projects designed to reduce emissions in non-attainment areas (areas not meeting federal health standards for air quality).

Coordination - When agencies share responsibilities related to transporting clients: carrying others' clients, arranging with other agencies to carry clients, or sharing vehicles or vehicle support services including maintenance, etc. Example: a provider whose major activity is transporting elderly clients may make midday schedule space to serve clients of an AFDC, WIC, or substance abuse prevention program.

Demand-Responsive - Descriptive term for a service type, usually considered paratransit, in which a user can access transportation service which can be variably routed and timed to meet changing needs on a semi-daily basis. Compare with Fixed-Route.

Demography - Characteristics of a total population - characteristics can include, but are not restricted to: ethnic makeup, age distribution, education levels, and occupation patterns.

Elderly and Handicapped (E&H) - Anachronistic designation for special transportation planning and services.

Employer Trip Reduction (ETR) programs - Employer-designed programs which minimize employee commuting levels. These programs are federally required in severe non-attainment areas.

Enhancement Activities - Refers to activities conducted in relationship to a particular transportation project which "enhance" the existing or proposed project. Examples of such activities include provision of facilities for pedestrians or cyclists, landscaping or other scenic beautification projects, historic preservation, control and removal of outdoor advertising, archeological planning and research, and mitigation of water pollution due to highway runoff.

Environmental Impact Statement (EIS) - Report which details any adverse economic, social, and environmental effects of a proposed transportation project for which federal funding is being sought. Adverse effects could include air, water, or noise pollution; destruction or disruption of natural resources; adverse employment effects; injurious displacement of people or businesses; or disruption of desirable community or regional growth.

Environmental Protection Agency (EPA) - EPA is the source agency of air quality control regulations affecting transportation.

Expressway (EXPY) - High volume, high capacity roadways with widely spaced at-grade signalized intersections. Little or no direct access from frontage development or local roads along the facility with right turns in and out when access is available. Crossings between intersections are by grade separated over- and underpasses.

Federal Highway Administration (FHWA) - A part of the U.S. Department of Transportation. FHWA is responsible for approving and funding all federal aid for any highway project or program.

Federal Transit Administration (FTA) - A part of the U.S. Department of Transportation. FTA is responsible for approving and funding all federal aid for transit programs or projects.

Fixed-Route - Term applied to transit service which is regularly scheduled, operating over a set route.

Freeway (FWY) - Limited access roadways with full grade separation at interchanges. Ramp movements on and off the facility are accomplished by slip ramps connecting to frontage roads. Access points are limited to major facility crossings.

Headway - A transportation term meaning the time between vehicles on the same route.

High-Occupancy Vehicle (HOV) - A vehicle with two or more occupants. Freeways and other roads carrying large traffic volumes may have lanes designated for HOV use such as vanpools, carpools, and transit. HOV lanes may be designated for use by carpoolers, vanpools, and buses. The term HOV is also sometimes used to refer to high occupancy vehicle lanes themselves.

Highway - Term applies to roads, streets, and parkways, and also includes rights-of-way, bridges, railroad crossings, tunnels, drainage structures, signs, guard rails, and protective structures in connection with highways.

Home-Based Work Trip - A trip for the purpose of one's employment, with their trip end being one's home.

Infrastructure - A term connoting the physical underpinnings of society at large, including, but not limited to, roads, bridges, transit, waste system, public housing, sidewalks, utility installations, parks, public buildings, and communications networks.

Intelligent Transportation System (ITS) - A computer/communications technology that provides the motorist with information about road conditions as well as monitors and controls vehicle operation on roadways.

Intermodal - Refers to the connections between transportation modes.

Intermodal Surface Transportation Act (ISTEA) of 1991 - A federal mandate that restructures funding for highway and transit programs. The Act also requires that transportation plans and programs developed by metropolitan planning organizations be comprehensive and intermodal. In addition, the Act requires comprehensive regional long-range transportation plans extending to the horizon year of 2015.

Interstate System - That system of highways which connects the principal metropolitan areas, cities, and industrial centers of the United States. The interstate system also connects at suitable border points with routes of continental importance in Canada and Mexico. The routes of the interstate system are selected by joint action of the state highway department of each state and the adjoining states, subject to the approval of the U.S. Secretary of Transportation.

Jitney - Service provided by a van or automobile along a specific corridor. Stops are made only where riders appear.

Land Use - The way specific portions of land or the structures on them are used, i.e., commercial, residential, retail, industrial, and so on.

Local Street - A street intended solely for access to properties contiguous to it.

Long Range - Refers in transportation planning to a time span of more than five years. The TIP referred to in the glossary is typically regarded as a short-range program. ISTEA has changed the TIP from a five-year to a three-year document.

Long Range Transportation Plan - See Austin Metropolitan Area Transportation Plan.

Major Divided Arterials (MAD) - High volume surface roadways with high priority at intersections with all lower level facilities. Typically, signalization is provided at significant crossings. Flush or raised center median with left turn storage.

Major Undivided Arterials (MAU) - Similar to Major Divided Arterials, but with no center median, normally due to right-of-way limitations. Limited left turn channelization at key crossing is provided wherever possible.

Metropolitan Planning Organization (MPO) - The organizational entity designated by law with lead responsibility for developing transportation plans and programs for urbanized areas of 50,000 or more in population. Development of the Metropolitan Area Transportation Plan is the MPO's primary responsibility.

Minor Arterials (MNR) - Secondary facility to meet local access and circulation requirements. Typically, full movement access (left and right turns) is permitted along the route. Low priority is given at significant intersections.

Mobility - The ease with which desired destinations can be reached.

Model - A mathematical and geometric projection of activity and the interactions in the transportation system in an area. This projection must be able to be evaluated according to a given set of criteria which typically include criteria pertaining to land use, economics, social values, and travel patterns.

Multimodal - Refers to the diversity of options for the same trip; also, an approach to transportation planning or programming which acknowledges the existence of or need for transportation options.

National Ambient Air Quality Standard (NAAQS) - Federally mandated maximum levels (i.e. federal health standards) for air pollutants such as ozone.

National Environmental Policy Act (NEPA) - Federal act requiring a study on any environmental impact a federally funded or permitted project might cause.

National Highway System (NHS) - A classification of roads authorized by ISTEA which are comprised of Interstate Highways and roads designated as important for interstate travel, national defense, intermodal connections, and international commerce. Federal funds are designated for projects on the NHS system.

Natural gas - A chemical (methane) used for fueling vehicles which burns cleaner than more conventional vehicle fuels (gasoline and diesel). Natural gas is often used in either a compressed form (CNG) or liquefied form (LNG).

Network - A graphic and/or mathematical representation of multimodal paths in a transportation system.

Nitrogen oxides (NOx) - A pollutant produced during fossil fuel combustion which contributes to ground-level ozone.

Non-attainment area - A designation by the Environmental Protection Agency of any place in the United States failing to meet national air quality standards (NAAQS). The Houston-Galveston area is a non-attainment area for ozone.

Origin - The point or locale where a trip begins.

Origin-Destination Survey (O-D Survey) - A survey typically undertaken of travelers (motorists or transit passengers) to identify travel patterns, habits and needs.

Ozone - A gas which in excess quantities at ground-level is a pollutant and irritant. Ozone is created when nitrogen oxides (NOx) react with volatile organic compounds (VOCs) in sunlight. Also known as smog.

Paratransit - Alternatively known as special transportation when applied to social services systems. Applies to a variety of smaller, often flexibly-scheduled and routed nonprofit oriented transportation services using low capacity vehicles to operate within normal urban transit corridors or rural areas. These services usually serve the needs of persons whom standard mass transit services would serve with difficulty, or not at all. Common patrons are the elderly and persons with disabilities.

Paratransit Van - A van specially modified to carry disabled passengers.

Parking Cash-Out Program - The act of employers providing their employees with money that either partially or totally covers the cost of parking. Employers then have the option to spend the money on parking or spend some of the money on a transit pass and pocket the difference.

Parkway (PKY) - Through travel lanes are similar in characteristics to Freeways, but parallel frontage roads are not normally provided. Access is usually provided by grade separated interchanges and ramps at major crossings. Whenever possible, landscape treatments and scenic easements are provided.

Peak Hour - The 60 minute period in the a.m. or p.m. in which the largest volume of travel is experienced.

Pedestrian Walkway - Secured walkway provided as an alternate to auto travel.

Person-Trip - A trip made by one person from one origin to one destination.

Planner - In the transportation field, a title likely having to do with the management and analysis of data which directly supports qualitatively oriented, strategic, or "macro" decision making.

Privatization - Concept or theory having to do with for-profit business supplying goods and services for government, public programs or systems, with the intent of enhancing cost efficiency.

Provider - An agency that causes clients to be transported, as opposed to an agency whose role is limited to funding programs.

Public Involvement - The active involvement of the public in the development of transportation plans and improvement programs. The Intermodal Surface Transportation Efficiency Act (ISTEA) requires that state departments of transportation and MPOs "shall provide citizens, affected public agencies, representatives of transportation agency employees, private providers of transportation, and other interested parties with a reasonable opportunity to comment on the development of the long range plan and the TIP."

Public Road - Any road or street under the jurisdiction of and maintained by a public authority and open to public traffic.

Queue Jumper Lanes - Reserved lanes that allow transit vehicles to by-pass (cut to the front of the line) the queued vehicles at entrance ramps to freeways.

Reverse Commute - Travel from home to work or from work to home against the main directions of traffic.

Right of Way (R-O-W) - Priority paths for the construction and operation of highways, light and heavy rail, railroads, etc.

Shuttle - Usually a service provided with a 20-or-less passenger vehicle connecting major trip destinations and origins on a fixed-or route-deviation basis. Shuttles can provide feeder service to main transit routes, or operate in a point-to point or circular fashion.

Single Occupant Vehicle (SOV) - Any vehicle where the driver is driving alone to work, school, and other destinations.

Standard Metropolitan Statistical Area (SMSA) - A Census Bureau delineation for major metro areas in the U.S.

Surface Transportation Program (STP) - A federal program designed to create flexible funding for transit and highway construction. Funds may be used for a wide variety of purposes, including: roadway construction, reconstruction, resurfacing, restoration and rehabilitation; roadway operational improvements; capital costs for transit projects; highway and transit safety improvements; bicycle and pedestrian facilities; scenic and historical transportation facilities; and, preservation of abandoned transportation corridors.

Telecommuting - Using a home computer or a neighborhood work center for work, effectively eliminating the need to travel to a conventional workplace.

Teleconferencing - Using audio, video, and/or computer connections among sites for meetings, eliminating any need to travel to the meeting site.

Texas Department of Transportation (TxDOT) - State agency responsible for construction and maintenance of all Interstate, U.S., and State Highways and Farm-to-Market (FM) Roads within the state.

Traffic District - A geographic unit comprised of several traffic serial zones which may be used for the same purposes as traffic serial zones.

Traffic Serial Zone - The smallest geographically designated area for analysis of transportation activity such as data collection and travel movements within, into, and out of the urban area. A zone can be from one to 10 square miles in area.

Transit - Transportation mode which moves larger numbers of people than does a single automobile. Generally refers to passenger service provided to the general public along established routes with fixed or variable schedules at published fares.

Transit Dependent - Persons who must rely on public transit or paratransit services for most of their transportation. Typically refers to individuals without access to personal vehicles.

Transportation - The act of getting persons or things from here to there, through personal or communal means. An integral and vital human need, behavior, and/or service.

Transportation Conformity - A requirement of the CAAA that a regional emissions analysis be conducted on transportation programs and plans to ensure that these plans meet the State Implementation Plan's air quality goals.

Transportation Control Measure (TCM) - Any measure designed to reduce congestion, emissions, and other traffic problems.

Transportation Demand Management (TDM) - Strategies for easing or reducing transportation demand, specifically aimed at diverting people from driving alone. Programs used to improve air quality and congestion by decreasing vehicle miles traveled and vehicle trips.

Transportation Improvement Program (TIP) - An MPO prepared document that identifies specific highway and transit projects to be implemented in an area over a three year period, i.e., this document covers the first three years of the Metropolitan Transportation Plan. To receive federal funding, a transportation project must be included in the plan and TIP.

Transportation Management Area (TMA) - Defined by ISTEA as all urbanized areas over 200,000 in population. Within a TMA, all transportation plans and programs must be based on a continuing and comprehensive planning process carried out by the Metropolitan Planning Organization (MPO) in cooperation with states and transit operators. The TMA boundary affects the responsibility for the selection of transportation projects that receive federal funds.

Transportation System Management (TSM) - That element of a TIP (Transportation Improvement Program) which proposed non-capital-intensive steps toward the improvement of a transportation system, such as refinement of system and traffic management, the use of bus priority or reserved lanes, and parking strategies. It includes actions to reduce vehicle use, facilitate traffic flow, and improve internal transit management.

Travel Time - Customarily calculated as the time it takes to travel from "door-to-door." For transit service measures of travel time include time spent accessing, waiting, and transferring between vehicles, as well as that time spent on board.

Trip - A one-direction movement from an origin to a destination.

Trip End - Origin or destination of a trip.

Trip Purpose - Reason for a trip.

Unified Planning Work Program (UPWP) - Annual report prepared by the MPO describing transportation planning activities which will take place within the Austin ETJ.

United States Department of Transportation (DOT) - Principal federal funding and regulating agency for transportation facilities. FHWA and FTA are agencies within DOT.

Urbanized Area (UZA) - Area which contains a city of 50,000 or more population plus incorporated surrounding areas meeting set size or density criteria.

Vehicle Miles Traveled (VMT) - Term used for describing the total number of miles traveled by a vehicle in a given time. Most conventional VMT calculation is to multiply average length of trip by the total number of trips.

Volatile Organic Compounds (VOC) - Toxic residual chemicals from fossil fuel combustion, solvents, paints, glues, and some dry cleaning processes. VOCs contribute to ozone formation and other pollutants.

Section 7

*Transportation
Acronym List (TAL)*

7.0 *TRANSPORTATION ACRONYM LIST (TAL)*

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans With Disabilities Act
AMARP	Austin Metropolitan Area Roadway Plan (City of Austin)
AMATP	Austin Metropolitan Area Transportation Plan (ATS)
AMTC	Austin Metropolitan Trails Council
AARF	Austin AIR Force
ATS	Austin Transportation Study
CAAA	Clean Air Act Amendments
CAMA	Clean Air Metro Austin
CDM	Congestion/Demand Management
CMS	Congestion Management System
DOT	Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
EPACT	Energy Policy Act
ETJ	Extraterritorial Jurisdiction
EXPY	Expressway
FHWA	Federal Highway Administration (part of United States DOT)
FFS	Ferry Feasibility Study
FRY	Freeway
FTA	Federal Transit Administration (part of United States DOT)
HOV	High Occupancy Vehicle
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITS	Intelligent Transportation System
LRP	Long Range Plan
MAD	Major Divided Arterial

MAU	Major Undivided Arterial
MNR	Minor Arterial
MPO	Metropolitan Planning Organization
MUTCD	Manual on Uniform Traffic Control Devices
NHS	National Highway System (part of ISTEA)
NOx	Nitrogen Oxides
PAC	Policy Advisory Committee
PIP	Public Involvement Program
PKY	Parkway
PSIDF	Private Sector Infrastructure Development Fund
RFG	Reformulated Gasoline
RVP	Reid Vapor Pressure
SDC	State Data Center
SIP	State Implementation Plan (under CAAA)
SOV	Single Occupant Vehicle
STIP	State Transportation Improvement Program
STP	Surface Transportation Program (part of ISTEA)
STS	Special Transit Service
TAL	Transportation Acronym List
TCM	Transportation Control Measure
TDM	Transportation Demand Management
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TMT	Traffic Management Team
TSM	Transportation Systems Management
TNRCC	Texas Natural Resource Conservation Commission
TxDOT	Texas Department of Transportation
VOC	Volatile Organic Compounds
V-Trip	Voluntary Vehicle Trip Reduction Program

Section 8

List of Preparers

8.0 LIST OF PREPARERS

Agencies

Austin Transportation Study
Capital Metropolitan Transportation Authority
City of Austin Environmental Conservation and Services Department
City of Austin Department of Planning and Development
City of Austin Department of Public Works and Transportation
Texas Department of Transportation
Travis County Public Improvements and Transportation Department

Consultants

Carter Burgess
E.P. Hamilton & Associates, Inc.
Huston-Tillotson College
Opinion Analysts, Inc.
Parsons Brinckerhoff Quade & Douglas, Inc.

Section 9

References

9.0 REFERENCES

Access to Intermodal Transportation Networks (Section 4.1.2)

Association of American Railroads. 1991, Vol. II, No. 12. *Urban Impact Raises LCV Bridge Costs to \$30 Billion*. An AAR/Intermodal Policy Division Report.

Austinplan Integration Committee. 1988. *Austinplan*. A Publication of the City of Austin Planning Department.

Capital Metropolitan Transportation Authority. 1994. *Project Briefing and FY 1995 Appropriations Request*. United States House of Representatives Committee on Appropriations, Subcommittee on Transportation and Related Agencies Project Briefing by The Capital Metropolitan Transportation Authority.

Capital Metropolitan Transportation Authority -- Long Range Planning Department. 1994. *Downtown Transit Center Alternatives Analysis*. A Report Published by the Capital Metropolitan Transportation Authority.

Capital Metropolitan Transportation Authority. 1994. *Capital Metro Schedule Booklet*.

Carter Design Associates. 1993. *Light Rail Phase Two -- Station and Corridor Area Planning Project*. Final Report Submitted to Capital Metropolitan Transportation Authority.

City of Austin, Department of Aviation. 1993, Vol. 1-3. *New Airport News*.

City of Austin, Department of Aviation. 1994, Vol. 1-3. *New Airport News*.

East Austin Corridor Design Collaborative. 1993. *East Austin Corridor Study final Report*. Final Report Submitted Prepared for the Capital Metropolitan Transportation Authority.

Fainstein, Susan S.; Fainstein, Norman I.; Hill, Richard Child; Judd, Dennis; and Smith, Michael Peter. 1983. *Restructuring the City*. Longman Inc.

ITE Technical Council Committee 5C-1A. 1992. *The Location and Design of Bus Transfer Facilities*. An Informal Report Published by the Institute of Transportation Engineers.

Lowe, Marcia D. 1991. *Worldwatch Paper 105 -- Shaping Cities: The Environmental and Human Dimensions*. Worldwatch Institute.

National Railroad Passenger Corporation. 1994. *Amtrak's Texas Eagle Schedule*.

Passenger Transport. 1994. *Two Light Rail Stations Open in East Sacramento*. An Article Published in Volume 52, Number 34 of the Passenger Transport Weekly Newspaper.

Public Law 102-240. 1991. *Intermodal Surface Transportation Efficiency Act of 1991*.

Ringrose, Michael R. and Turnbull, Katherine F. 1993. *Joint Development Strategies for Texas Transit Facilities*. Summary Report 1206-1S Published by the Texas Transportation Institute in Cooperation with the Texas Department of Transportation.

Robinson, Glenn A. 1987. *Texas at the Crossroads -- Chapter 8 Highway Policy*. Texas A&M University Press.

Surface Transportation Policy Project. 1994. *Special Report: ISTEA Year Three*. A publication of the Surface Transportation Policy Project.

Texas Comptroller of Public Accounts. 1994. *Fiscal Notes*. A Newsletter of the Texas Comptroller of Public Accounts.

Texas Department of Transportation. 1994. *IH 35 Feasibility Study*. A Feasibility Study by the Texas Department of Transportation in Cooperation with the Austin Transportation Study.

Texas Department of Transportation. 1994. *U.S. 183 Update*. A Quarterly Publication of the Texas Department of Transportation's Austin District Office.

Texas Department of Transportation. 1994. *SH 130 - Scoping Meeting*. A Description of the SH 130 Project by the Texas Department of Transportation in Cooperation with the Austin Transportation Study.

The Arizpe Group, Inc. 1992. *Traffic Impact Analysis for Light Rail Transit*. A Final Report Submitted by The Arizpe Group, Inc. in Association with Barton-Aschman Associates, Inc. and Nelson/Nygaard Consulting Associates.

Transportation Research Board. 1986. *Transportation Research Record 1054 - Transit Terminals: Planning and Design Elements*. A Transportation Research Record Published by the Transportation Research Board, National Research Council.

Tri-Met. 1993. *Tri-Met Strategic Plan 1993-1998*. A Strategic Plan Adopted by the Tri-Met Board of Directors, March 1993.

U.S. Department of Transportation, Maritime Administration. 1993. *Marad '93*. The Maritime Administration 1993 Annual Report -- Published by the U.S. Department of Transportation.

U.S. Department of Transportation. 1991. *Land Transportation Access to Ports and Marine Terminals*. Opportunities and Challenges for Ports under the Intermodal Surface Transportation Efficiency Act of 1991 -- A Publication of the U.S. Department of Transportation.

Van Meter, Bill and Walker, Gregory. 1992. *Survey of Airport Rapid Transit Services*. A Report Prepared by RTD, Systems Planning and Research and Product Management Divisions.

Public Transportation Element (Section 4.2)

Capital Metropolitan Transportation Authority. 1994. *Five Year Service Plan*.

University of Texas at Austin. 1994. *Five Year Service Plan*.

Congestion Demand Management Element (Section 4.3)

Austin Transportation Study. 1994. *Congestion Management System Work Plan-Review Draft*.

City of Austin, Department of Public Works and Transportation. 1993-1994. *Levels of Traffic Congestion*. On going data collected for the Austin Transportation Study.

City of Austin, Department of Public Works and Transportation. 1994. *Congestion Management Techniques-Review Draft*. March.

Texas Transportation Institute. 1993. *Urban Travel in Texas*. April.

Texas Transportation Institute. 1994. *Congestion Management-State of the Practice Report-Draft*. February.

Bicycle/Pedestrian/Trail Element (Section 4.4)

Bicycle

American Association of State Highway and Transportation Officials (AASHTO). 1991. *Guide to the Development of Bicycle Facilities*. Washington DC. August.

Bicycle Federation of America. 1992. *What Needs to be Done to Promote Bicycling and Walking?* FHWA National Bicycling and Walking Study, Federal Highway Administration, Case study No. 5. February.

City and County of Denver: Public Works Department. 1993. *Denver Bicycle Master Plan*.

City of Austin. 1980. *Austin Bikeway Plan*.

City of Austin. 1980. *Bikeway Design Manual*.

City of Austin. 1994. *Land Development Code*.

City of Austin. 1994. *Transportation Criteria Manual*.

City of Austin, Bicycle Safety and Mobility Task Force. 1992. *Final Report*.

City of Austin, Department of Traffic and Transportation. 1972. *Proposed Austin Bicycle Plan*. April.

City of Austin, Urban Transportation Department. 1986. *Neighborhood Traffic Management Program*. June.

Fletcher, Ellen. *Bicycle Parking*. 1993. Santa Clara Valley Bicycle Association (original publisher).

Goldsmith, Stewart. 1992. *Reasons Why Bicycling and Walking are not Being Used More Extensively as Travel Modes*. FHWA National Bicycling and Walking Study, Case Study #1, U.S. Department of Transportation, Federal Highway Administration, Publication No. FHWA-PD-92-041.

Herman, Michele, et al. 1993. *Bicycle Blueprint: A Plan to Bring Bicycling Into the Mainstream in New York City*. New York: Transportation Alternatives.

Joint Transportation Study Office. 1975. *Austin Area Bicycle System: Interim Report*. May.

King County. 1993. *King County Non-motorized Transportation Plan Draft*. March.

Komanoff, Charles and Roelofs, Cora. 1993. *The Environmental Benefits of Bicycling and Walking*. FHWA Case Study #15. US Department of Transportation, Federal Highway Administration. January.

Lowe, Marcia D. 1990. "Alternatives to the Automobile: Transport for Livable Cities." *Eskistics* 344. Sept/Oct.

MacKenzie, James, Dower, Roger, and Chen, Donald. 1992. *The Going Rate: What it Really Costs to Drive*. World Resources Institute.

Metropolitan Washington Council of Governments. 1991. *The Bicycle Element of the Long-Range Transportation Plan for the National Capital Region*. Draft. November.

Oregon Department of Transportation. 1992. *1992 Oregon Bicycle Plan*. July.

Ronkin, Michael. 1993. *Beyond Bicycle Routes: Building a System of Bikeways*. Pro Bike News 13.8: 4-5.

Schueler, Vince. 1993. "The Full Costs of Commuting", *Bicycle Forum* 33. August.

Sorton, Alex. 1993. *Program of Instruction for the Bicycle Planning and Facility Workshop*. Evanston: Northwestern University.

Wilkinson, W.C., Clarke, A., et. al. 1994. *Selecting Roadway Design Treatments to Accommodate Bicyclists*. FHWA, Report No. FHWA-RD-92-073. January.

Pedestrian

City of Austin. 1986. *Neighborhood Traffic Management Program*. The Urban Transportation Department. June.

City of Austin. 1978. *Proposed Austin Pedestrianway Plan*. May.

City of Portland. 1993. *Reclaiming Our Streets. A Community Action Plan*. Portland, Oregon. February.

Federal Highway Administration. 1991. *National Bicycle and Walking Study, Interim Report*. No. FHWA-PD-92003. November.

National Highway Institute. 1994. *Pedestrian and Bicycle Planning Under ISTEA*. No. FHWA-HI-94-028. June.

Pedestrian Federation of America. 1991. *The Pedestrian Agenda*. Papers from the 12 International Pedestrian Conference. Bethesda, MD. October.

Trails

AASHTO Task Force on Geometric Design. 1991. *Guide for Development Bicycle Facilities*. American Association of State Highway and Transportation Officials: Washington D.C. August.

City of Denton. 1993. *Trail Plan*. Denton, Texas.

Gabler, Bill. 1994. Personal Interview. Engineer Technician, Travis County Public Improvements and Transportation Department. April.

Kelton, Betzi. 1994. Personal Interview. Planner II, Travis County Public Improvements and Transportation Department. April.

Lewis, Roger. 1994. Personal Interview. Planner, Lower Colorado River Authority (LCRA). April.

Rails-to-Trails Conservancy. 1993. *Trails For The Twenty First Century*. Island Press: Washington D.C.

Smith, Butch. 1994. Personal Interview. Planner, Austin Parks and Recreation Department. April.

- Texas Parks and Wildlife Department. 1990. *1990 Texas Outdoor Recreation Plan*.
- Texas Parks and Wildlife Department, Public Lands Division. 1992. *The 1991 Texas Trails Study*. April.
- Travis County, Public Improvements and Transportation Department. 1984. *Standards for Construction Of Streets And Drainage In Subdivisions*. January.
- Travis County, Public Improvements and Transportation Department. 1987. *Travis County Regulations For Flood Plain Management And Guidelines And Procedures For Development Permits*. September.

Freight Movement Element (Section 4.6)

- Amarillo Municipal Code. *Article III. Hazardous Cargo Transportation*.
- Association of American Railroads. 1994. *Railroad Information Handbook*.
- Association of Central Oklahoma Governments. 1994. *Unified Planning Work Program (FYE 1994) Task #2.02, Subtask 7: Goods Movement Trucking Industry Survey*.
- Association of American Railroads. 1993. *High-Speed Rail Passenger and Freight Services: Opportunities for Partnership*. A Policy Statement of the American Railroad Industry.
- Federal Highway Administration. 1991. *Assessment of Border Crossings and Transportation Corridors for North American Trade*. A Publication of the U.S. Department of Transportation, Federal Highway Administration.
- Giermanski, Jim. 1994. *Standards as Non-Tariff Barriers: NAFTA's Impact*. Texas A&M University.
- Giermanski, Jim and Neipert, David. 1994. *Overweights to Pay the Price*. Texas A&M University.
- Giermanski, Jim. 1994. *The Impact of NAFTA on U.S.-Mexico Commercial and Border Zones and the Potential Consequences to the Border*. Texas A&M University.
- HDR Engineering, Inc. 1994. *Review, Analysis & Recommendations for Capital Metro Downtown Trackage*. A Report by HDR Engineering, Inc.
- IVHS America. 1992. *Strategic Plan for Intelligent Vehicle-Highway Systems in the United States*. A Publication of the Intelligent Vehicle-Highway Society of America.
- Middle Rio Grande Council of Governments. 1993. *Commercial Vehicle Network for The Albuquerque Urban Area*.
- Railroad Commission of Texas. 1993. *Motor Transportation Regulations and General and Special Rules of Practice and Procedure*.
- Patrick, J. Michael. 1994. *U.S.-Mexico Trade Patterns Under NAFTA*. Texas A&M University.
- Patrick, J. Michael. 1994. *The Impact of NAFTA on Border Maquiladora and Industrial Activity*. Texas A&M University.
- Texas Department of Transportation. 1993. *Overview Environmental Assessment for the Proposed IH 35 Alternative Facility From IH 35 North of SH 195 To IH 10 North of*

Seguin Williamson, Travis, Caldwell, and Guadalupe Counties. A Publication of the Texas Department of Transportation, Federal Highway Administration.

Texas Department of Transportation. 1980. *1980 Texas Manual on Uniform Traffic Control Devices for Streets and Highways Manual No. 901022.* A Publication of the Texas Department of Transportation.

Texas Department of Transportation. 1993. *Vehicle Classification Report.*

Texas Department of Transportation, Division of Transportation Planning. June, 1994. *Statewide Variations in Traffic Volumes Report.*

Texas Department of Public Safety. 1993-1994. *Texas Traffic Laws 1993-1994.*

Texas Department of Transportation, Division of Transportation Planning. June, 1994. *Automatic Recorder Traffic Data Report.*

Section 10

Index

10.0 INDEX TO POLICIES

Policy Topic	Policy #	Section/Page
Air Quality		
- Ozone Advisory program	B-4	4.3-3
- roadways	D-2	4.5-4
Airport		
- intermodal access	C-1	4.1-6
- intermodal scheduling	C-3	4.1-6
- passenger and freight signage	C-4	4.1-7
- shuttles	C-2	4.1-6
AMATP		
- agency responsibilities	A-8	4.1-3
- implementation		
Bicycles		
- balance with automobiles	A-8	4.4-7
- comprehensive program and goals	A-1	4.4-3
- data for safety and usage	C-3	4.4-9
- design standards	A-10, Attachment A	4.4-7, 4.4-12
- education and training	B-1, B-3	4.4-8
- FHWA standards	A-4, Figure 4.4-1	4.4-3, 4.4-4
- facilities on improved roadways	A-3	4.4-3
- facility maintenance	E-1	4.4-10
- funding	A-7	4.4-7
- incentives	A-2	4.4-3
- interface with transit	A-13, C-2	4.4-7, 4.4-9
- local plans	A-11, C-1	4.4-7, 4.4-9
- metropolitan route system	A-5, Figure 4.4-2	4.4-5, 4.4-6
- priority for facilities	A-12	4.4-7
- recommendations from bicyclists	A-6	4.4-3
- safety and law enforcement	D-1, D-2	4.4-10
- Share the Road campaign	B-2	4.4-8
- shower and storage facilities	C-8	4.4-10
- subdivision development regulations	C-7	4.4-10
Compact City		
- activity centers and alternative travel	A-1	4.5-3
- focused growth	B-1	4.2-6
- infill development	A-2	4.5-3
Congestion/Demand Management		
- travel demand reduction measures	B-1 to B-7	4.3-3
see also: Congestion Management System; Roadways; Trip Reduction Program.		
Congestion Management System		
- federal funding	A-3	4.3-3
- local coordination	A-2	4.3-3
- regional system	A-1	4.3-3
Collector Street Plan	C-1	4.5-3
Commuter Education Program	B-4	4.3-3
Environmental Sensitivity, see Roadways		

Fixed Guideway		
- Fixed Guideway Network 2020	Figure 4.2-5	4.2-16
- support for system	B-2	4.1-5
Freight		
- alternative roadway and rail routes	C-1 to C-4	4.6-5
- further studies	E-1 to E-4	4.6-6
- hazardous materials	B-3	4.6-5
- interchange improvements	D-1 to D-3	4.6-6
- operational policies	B-1 to B-2	4.6-5
- relocation of UPRR	A-3	4.6-5
see also: State Highway 130		
Growth Management	B-5	4.3-3
High Occupancy Vehicle (HOV)		
- lanes	C-4	4.3-9
- Park/Bike-and-Ride lots	B-3	4.1-5
- preferential treatment	C-1	4.2-7
- priority for roadway improvements	B-1	4.5-3
- public/private sector initiatives	C-3	4.2-7
Infill Development		
- public/private cooperation	B-3	4.2-6
- utilization of existing roadways	A-2	4.5-3
Intelligent Transportation System (ITS)	C-5	4.3-9
Intermodalism		
- bicycles and pedestrians	C-2	4.4-9
- ISTEA funding	B-1	4.1-5
- roadways	A-3	4.4-3
- transfer centers	C-5	4.2-7
see also: Airport		
Land Use		
- coordination with local jurisdictions	A-3	4.1-1
- focused growth	B-1	4.2-6
- monitoring system	A-6	4.1-2
- review by Capital Metro	B-2	4.2-6
- transit corridors	B-4	4.2-7
see also: Compact City; Monitoring Program; Infill Development.		
Light Rail, see Transit		
Local Transportation Plans		
- compatibility with AMATP	A-1	4.1-1
see also: Population/Employment Forecasts		
Management Systems	A-7	4.1-2
Mixed-use Development	C-4	4.2-7
Monitoring Program		
- regional monitoring	A-6	4.1-2
Multi-purpose Activity Centers	A-5	4.1-2
Park, Bike-and-Ride Lots		
- access	B-3	4.1-5

Parking		
- fees for SOVs	B-6	4.3-6
- management plan	C-2	4.2-7
Passenger Rail, see Transit		
Pedestrians		
- balance with automobiles	A-8	4.4-7
- crosswalk retrofitting	A-15	4.4-7
- comprehensive program and goals	A-1	4.4-3
- design standards	A-10, Attachment A	4.4-7, 4.4-12
- education	B-1, B-3	4.4-8
- facilities on improved roadways	A-3	4.4-3
- facility maintenance	E-2	4.4-10
- funding	A-7	4.4-7
- incentives	A-2	4.4-3
- local plans	C-1	4.4-9
- Pedestrian Activity Zones (PAZ)	C-5	4.4-9
- Pedestrian Coordinator position	A-14	4.4-7
- priority for facilities	A-12	4.4-7
- recommendations from pedestrians	A-6	4.4-3
- safety and law enforcement	D-1, D-2	4.4-10
- sidewalk connections	C-6	4.4-9
- sidewalk database	C-4	4.4-9
Population/Employment Forecasts	A-2	4.1-1
Project Implementation Programs	A-8	4.1-3
Public/Private Cooperation		
- development opportunities	B-3	4.2-6
- travel reduction initiatives	C-3	4.2-7
Roadways		
- access standards	B-3	4.5-3
- Adopted Roadway Plan	Figure 4.5-1	4.5-6
- Adopted Roadway Table	Table 4.5-1	4.5-7
- discouragement against widening	C-3	4.5-4
- Environmental Impact Statement (EIS)	D-2	4.5-4
- Functional Classification Criteria	Table 4.5-2	4.5-31
- environmental sensitivity	D-3	4.5-4
- incident management	C-2	4.3-6
- maintenance	B-2	4.5-3
- operational improvements	C-3	4.3-6
- Road Pricing Pilot Project	B-7	4.3-6
- Service and Design Standards	Table 4.5-3	4.5-32
- sound walls	D-1	4.5-4
see also: Compact City; High Occupancy Vehicle; State Highway 130; Traffic.		
Sidewalks, see Pedestrians		
Single Occupancy Vehicles (SOVs)		
- reduction in travel of SOVs	A-4	4.1-2
Sound Walls, see Roadways		
Special Transit Services, See Transit		

State Highway 130 (SH 130)		
- freight movement	A-1, A-2	4.6-5
- SH 130 "Vision"	E-1	4.5-4
Telecommuting		
- reduction in travel	A-4	4.1-2
	B-1 to B-3	4.3-3
Traffic		
- calming techniques	C-2	4.5-4
- Traffic Management Team	C-1	4.3-6
Trails		
- AMTC	A-9	4.4-7
- comprehensive program and goals	A-1	4.4-3
- design standards	A-10, Attachment A	4.4-7, 4.4-12
- education	B-1	4.4-8
- facility maintenance	E-3	4.4-11
- off-road trails plan	A-9	4.4-7
- priority for facilities	A-12	4.4-7
- subdivision development regulations	C-7	4.4-10
Transit		
- accessibility for elderly and disabled	E-2	4.2-10
- Adopted Transit Table	Table 4.2-2	4.2-12
- Capital Metro Service Area	Figure 4.2-1	4.2-3
- Description of Transit Service	Table 4.2-3	4.2-17
- environmental quality	A-2	4.2-6
- fare policies	E-3	4.2-10
- fixed guideway service	B-4, Figure 4.2-5	4.2-7, 4.2-16
- funding	D-1	4.2-10
- HOV usage	C-1	4.2-7
- Land Use Development Patterns	Table 4.2-1	4.2-8
- Long Term Transit Network	Figure 4.2-3	4.2-11
- neighborhood preservation	A-1	4.2-5
- passenger rail and terminal	B-4	4.1-6
- preferential treatment	C-1	4.2-7
- Principal Transit Corridors	Figure 4.2-2	4.2-9
- Ridership	Figure 4.2-4	4.2-15
- rural	E-4	4.2-10
- special transit services	E-1	4.2-10
see also: Land Use; Fixed Guideway; State Highway 130.		
Transportation Demand Management, see Congestion Demand Management		
Trip Reduction Program (V-Trip)		
- encouragement for V-Trip	B-2	4.3-3
- major employer participation	B-3	4.3-3
- pilot program	B-1	4.3-3
Utility Location	C-6	4.3-10
Walking, see Pedestrians		