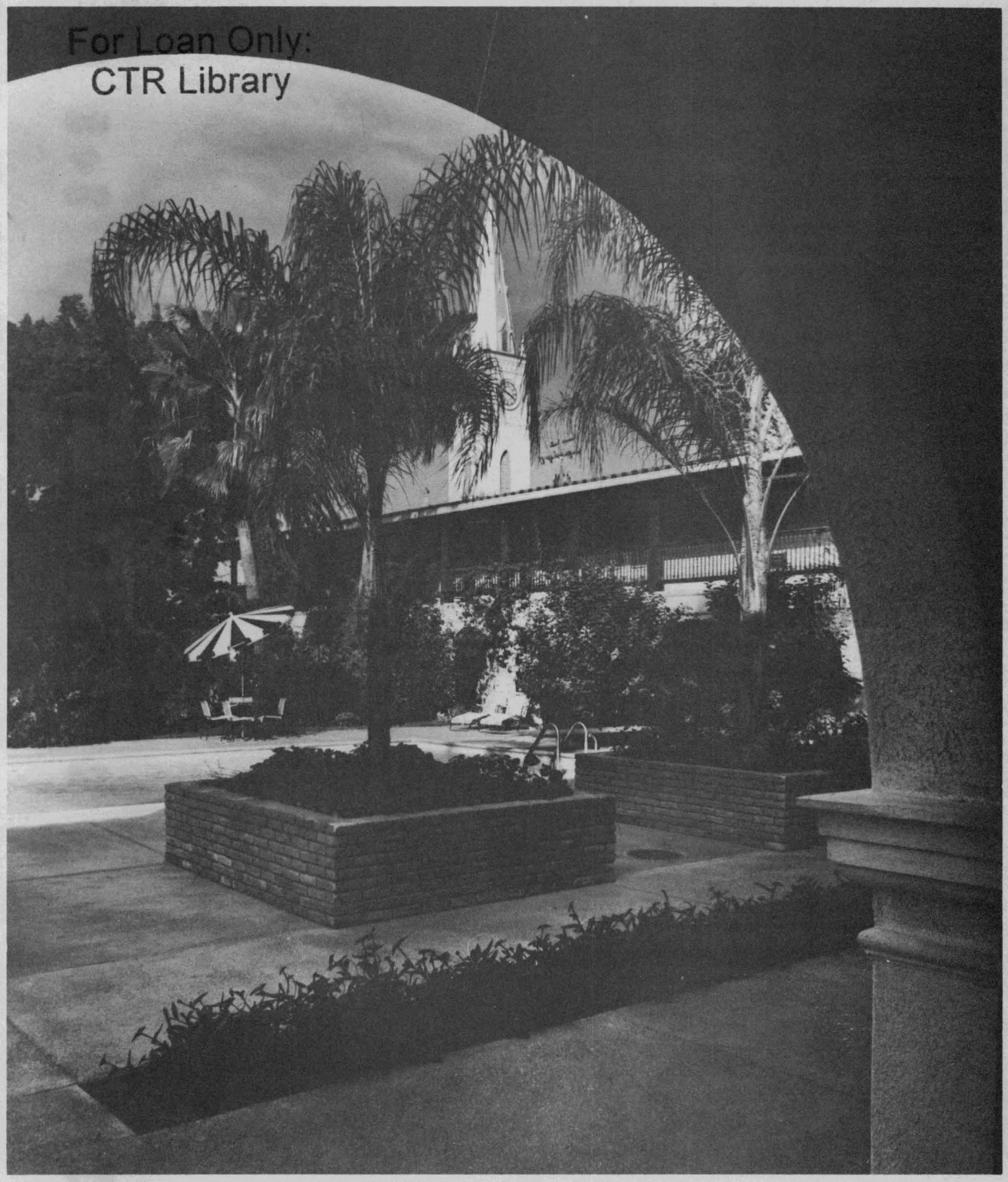

TRANSPORTATION PLAN

LAREDO

Urban Transportation Study

1964 - 1985

VOLUME 2

LAREDO

Urban Transportation Study

Transportation Plan

Volume 2 1964 - 1985

Sponsoring Agencies

CITY OF LAREDO WEBB COUNTY

TEXAS HIGHWAY DEPARTMENT

In Cooperation With

U. S. DEPARTMENT of TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

BUREAU of PUBLIC ROADS

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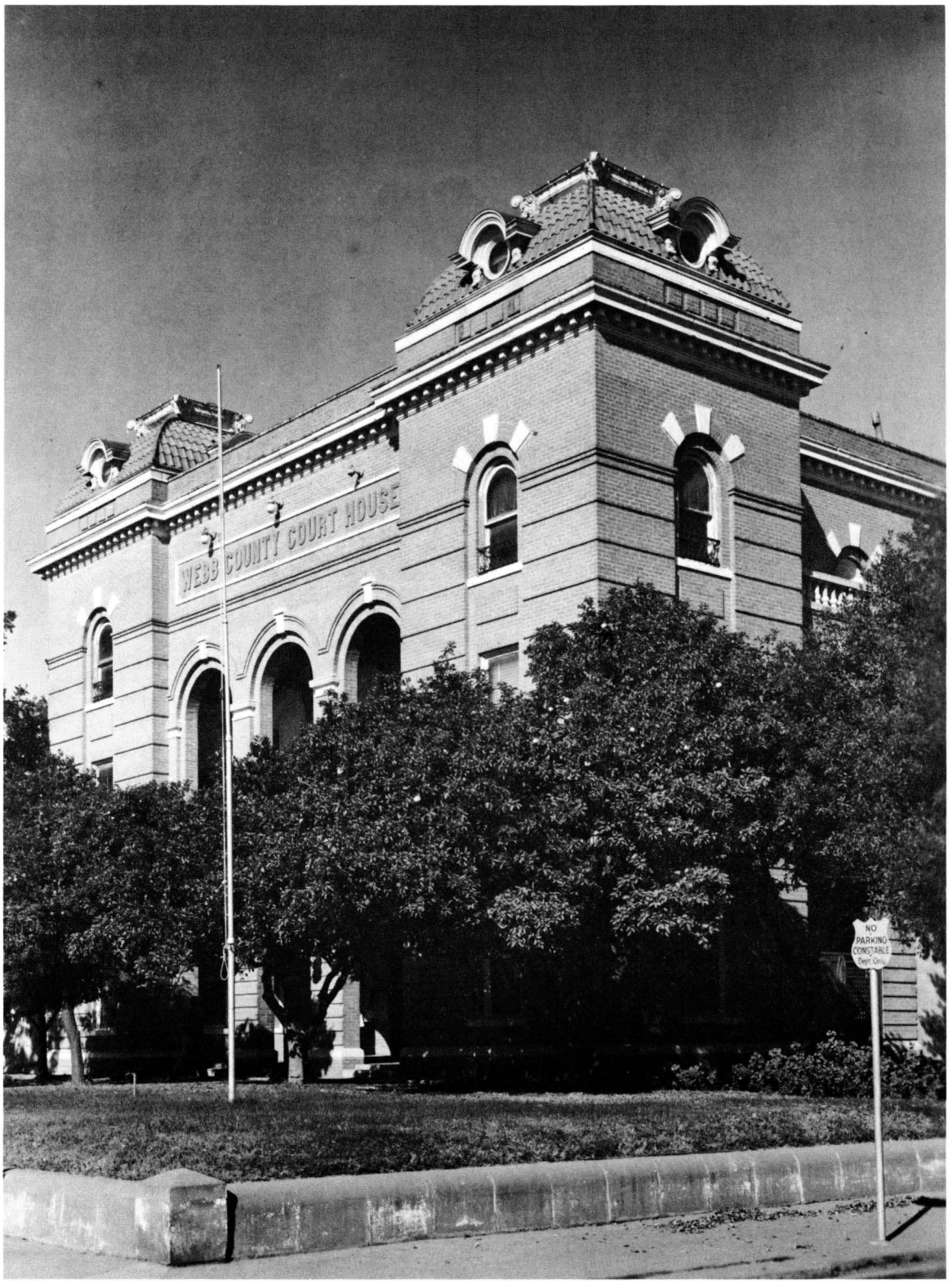
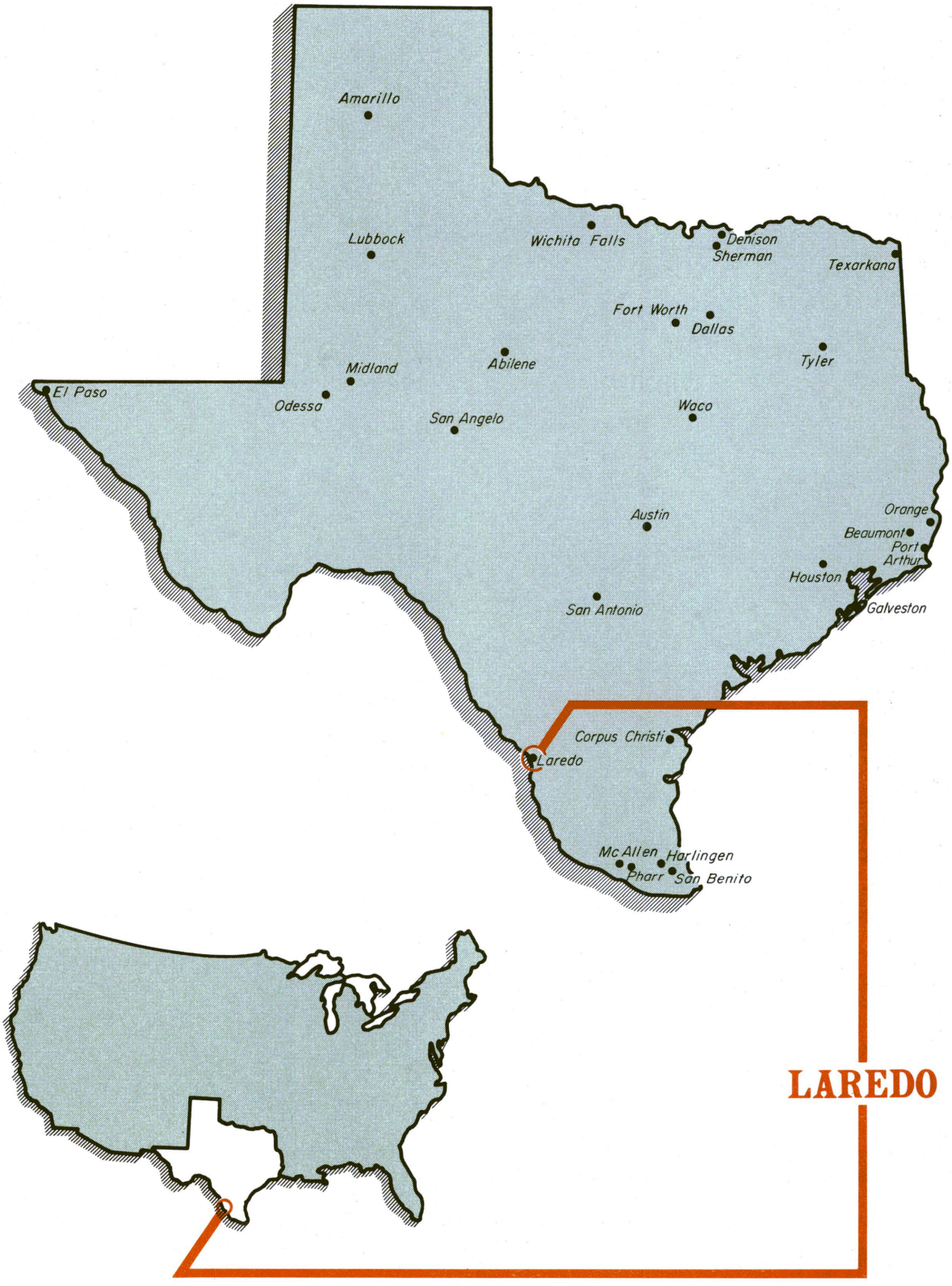

WEBB COUNTY COURT HOUSE
NO PARKING CONSTABLE

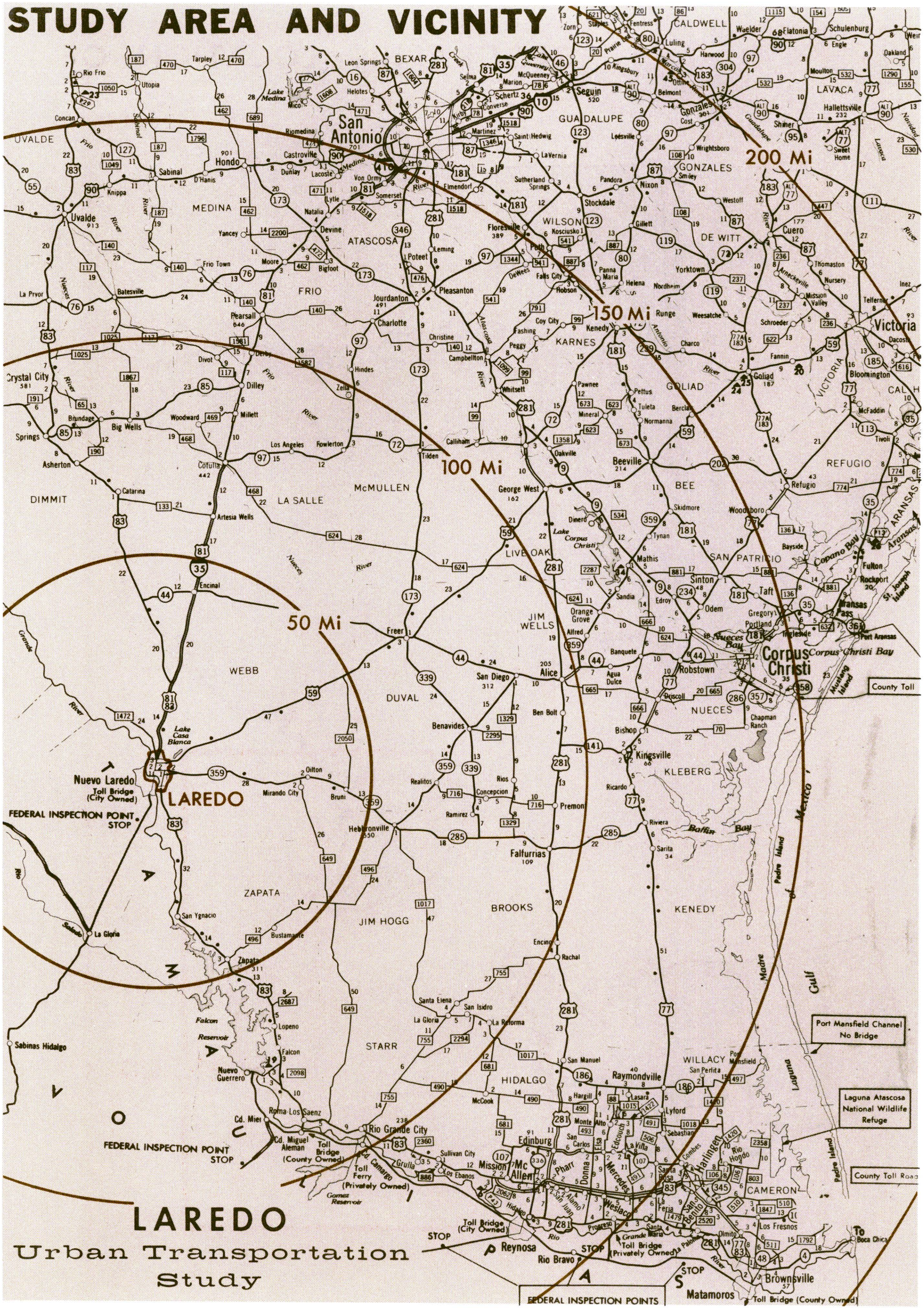
Geographic Location

Laredo, the county seat of Webb County, is one of the oldest settlements in the State of Texas. It is located on the Rio Grande River in a tropical, semi-arid region. It is the southern terminus of Interstate Highway 35, an important railroad center and the largest port of entry on the Mexican border.

GEOGRAPHIC LOCATION OF



STUDY AREA AND VICINITY



INTRODUCTION

The daily movement of people and goods in urban areas has become one of the most difficult and complex problems facing public officials today, primarily due to rapid population growth and increased private motor vehicle ownership and usage. As this trend of urbanization grows and develops, it becomes apparent that there must be an adequate transportation system that will best meet future community needs.

The Federal Aid Highway Act of 1962, Section 134, recognizing the necessity for systematic and long-range planning, provides as follows:

> "It is declared to be in the national interest to encourage and promote the development of transportation systems embracing various modes of transport in a manner that will serve the States and local communities efficiently and effectively. To accomplish this objective the Secretary shall cooperate with the States, as authorized in this title, in the development of long-range highway plans and programs which are properly coordinated with plans for improvements in other affected forms of transportation and which are formulated with due consideration to their probable effect on the future development of urban areas of more than fifty thousand population. After July 1, 1965, the Secretary shall not approve under Section 105 of this title any program for projects in any urban area of more than fifty thousand population unless he finds that such projects are based on a continuing comprehensive transportation planning process carried on cooperatively by States and local communities in conformance with the objectives stated in this section."

In accordance with this Act, the City of Laredo, the County of Webb, and the Texas Highway Department, in cooperation with the Bureau of Public Roads, initiated a cooperative, comprehensive transportation study for the Laredo Area.

The officials of the City of Laredo, recognizing the advantages of comprehensive planning, completed an Area Development Plan in 1964 for Laredo and its environment. This was accomplished under Section 701 of the Housing Act of 1954, as amended, which has three general objectives, namely, to help the City solve existing problems, to guide future growth towards specific goals, and to use available resources for the betterment of the people. This Area Development Plan prepared by Caudill, Rowlett & Scott, Consultants, has been of great value in the preparation of the Laredo Urban Transportation Study. To avoid duplication of work, a very large portion of the existing and projected data and statistics presented in the "701" plan has been used in the chapters "Economic Factors", "Land Use", and "Population", with a few additions and minor changes.

The Transportation Plan as presented in this report was developed by a cooperative effort between the local governments and the Texas Highway Department. It is recommended that the local governments and the State Highway Commission accept this plan as a long range transportation plan to be used as a guide for future developments and improvements to the transportation system. The plan is based primarily on projected traffic needs cooperatively determined by the several government agencies and with careful consideration of other facets affecting transportation. This plan can be accomplished in stages as funds become available. It is recognized that the planning

process must be continuous, that revisions of the plan as necessary to adjust to unanticipated developments are to be expected, and that such revisions will be cooperatively developed.

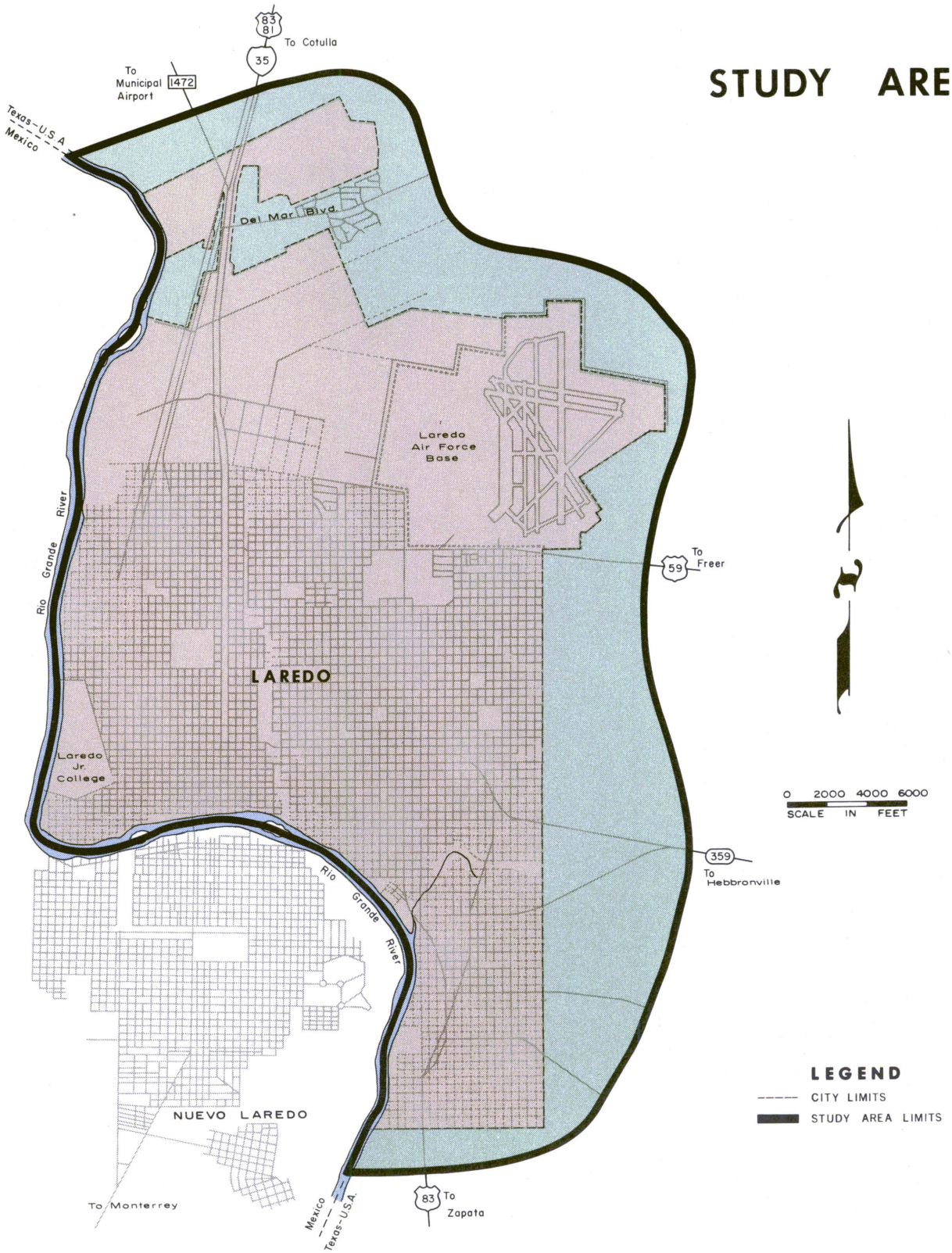
The plan agreed upon was developed to serve the present and future needs of this area to 1985. No attempt was made to assign responsibilities for the financing or implementing of the various recommended facilities. This study does not change the traditional responsibilities regarding these matters, and the determination as to how a particular recommended facility is to be financed will be a matter to be determined by the officials of the various agencies charged with such responsibility.

It must be emphasized that the location of various facilities shown as a part of the plan agreed upon is not exact. The alignments as shown represent general routes for the various facilities. In many instances, considerable additional detailed study will be necessary prior to the determination of the exact locations of these facilities. The timing of detailed studies and selection of the exact locations will be done at a later date, depending upon the priority of the future facility and other considerations. In the instance of a low priority facility, the determination of the exact route may not be made for several years.

Commerce, transportation and cultural exchange between the United States and the Republic of Mexico are concentrated at nine international gateways which penetrate the 1,600 mile border. Laredo is one of the largest of these gateways, and here a continuous flow of goods and people meets and passes on to the interiors of two nations. Border traffic, an element requiring added concentration and planning for the Study Area, has played an important part in the development of the area and will be even more important in the forecasting of future urban development and travel demands.

The Laredo Urban Transportation Plan is presented in two volumes. The first volume covered the findings of the 1964 Origin and Destination Survey conducted and published by the Planning Survey Division, Texas Highway Department, Austin, Texas. Volume 2 includes all basic elements for the determination of future traffic needs and a long range transportation plan.

The Transportation Study Area is shown in Figure 1. This area includes the area within the corporate limits of Laredo and the additional area which is expected to be developed by the forecast year of 1985.



LAREDO
Urban Transportation Study

Figure 1

PART I

Basic Elements

Economic Factors

ECONOMIC FACTORS

INTRODUCTION

The particular purpose of the Economic Study as it relates to the Laredo Urban Transportation Study is to analyze, to evaluate in view of old and new developments, and to determine the economic conditions that have shaped and are shaping the Laredo Area. The results of such a study were used in forecasting population, land use, and trip patterns. This study is needed to investigate the economic forces which have contributed to Laredo's growth and to determine what effects these and other economic factors will have on the area's future.

HISTORY AND LOCATION

Laredo, County Seat of Webb County, is one of the oldest settlements in the State of Texas. It is located on the Rio Grande and is surrounded by a tropical, semi-arid region. It is the southern terminus of Interstate Highway 35, an important railroad center, and the largest port of entry on the Mexican Border.

The City of Laredo has a part in U.S. history which is unique. Not only is this City the oldest independent City in the State of Texas, but it has been under the flags of seven separate and distinct nations. These nations were Spain, France, Mexico, the Republic of Texas, the Confederacy, the United States and the "Republic of the Rio Grande". Laredo was the Capitol City of the short-lived but lusty "Republic of the Rio Grande".

Laredo was first colonized in 1755 by Tomas Sanchez. The name Laredo was selected in honor of the Spanish City, Laredo, in the Province of Santander, Spain. Laredo was founded as a settlement and not as a garrison, having as its nucleus the San Agustin Plaza. It is the oldest continuous settlement in Texas. In 1767, by a Public Act known as the "Vicita-General", the Spanish Crown gave "exidos" of four square leagues of land to the inhabitants of Laredo, having the principal plaza of the town for a center. This Act established the City and caused its boundaries to be surveyed and marked. A large portion of the City of Laredo was laid out in 1767 on a grid pattern with very small blocks and narrow streets. The resulting partitioning of land exists to this date.

POPULATION

The 1964 population in the Study Area was approximately 69,000 with an estimated forecast of 74,456 in 1970 and 96,000 in 1985. Its commerce is highly dependent on international trade, being in close proximity to the City of Nuevo Laredo, Mexico, which had a population in 1964 of 96,000 and which is expected to grow to some 180,000 by 1985.

Population change is generally recognized as a basic factor in analyzing the economy, because population represents not only a market for goods and services, but also a supply of labor for the production of goods and services.

CLIMATE, FLOODING AND LIVING CONDITIONS

The climate and living conditions of the region are important considerations of population change and for planning to meet the requirements of settlement.

ECONOMIC FACTORS

The following characteristics are most likely to affect Laredo Area during the planning period to the year 1985.

The Laredo-Webb County temperature is classified as subtropical, with an average daily mean of 57.6 degrees in January and 87.7 degrees in August. The record high temperature was 115 degrees in June of 1942, and a low of 18 degrees in February, 1951. The average growing season is 293 days starting in February and ending in November. The average annual temperature is 74.3 degrees.

The normal yearly rainfall in Webb County is 19.49 inches. Only four measurable snows have occurred in the past 20 years.

The Rio Grande Basin is the largest in Texas and at times has experienced the greatest recorded floods. At other times it has recorded the longest dry periods. Runoff rates for the Texas portion of the basin vary from zero to 50 acre feet per square mile annually. The use of Rio Grande waters in Texas is regulated by international treaty with Mexico; its flows are shared by the two countries. The water supply potential of the basin is being developed, but is limited by both climate and rainfall.

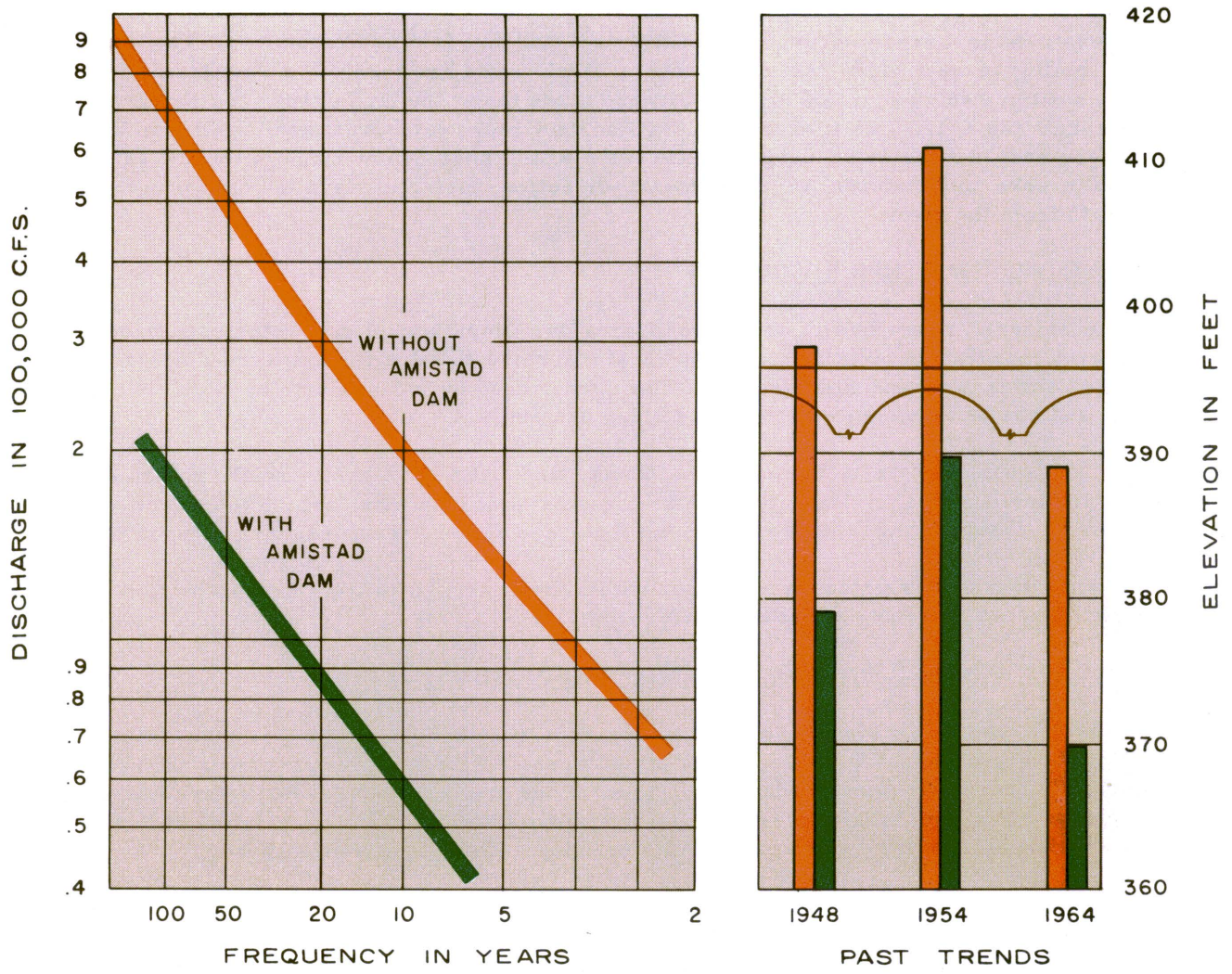
In the Laredo area several small tributaries enter the Rio Grande, the larger of which are the Chacon Creek, which feeds Lake Casa Blanca, and the Santa Isabel Creek. Local flooding is partly the result of action by the Rio Grande and partly the inability of local creeks to discharge their runoff as water rises in the Rio Grande. Although the flooding problems are local, the source of the problem has its root in the thousands of miles of Rio Grande tributaries that extend through West Texas into New Mexico and Mexico.

Several proposals of the "701" plan devised in 1964-65 would locate urban improvements at elevations below known flood levels. Flood elevations can be related to frequency of occurrence, based upon past history, and expressed by how often a flood of given intensity is most likely to happen.

A major consideration of the potential use of flood plains is the Amistad Dam, presently well under construction, and which will be a key to flooding of the Rio Grande at Laredo. Scheduled for completion about 1970, this dam will impound and regulate the flow of the Rio Grande above its location, which is near Del Rio, Texas. Between the dam and Laredo, the watershed to the Rio Grande is constricted to a narrow zone with the two major Texas tributaries, the Pecos and Devil's River, located upriver from the dam.

The flood frequency curve for the Rio Grande at Laredo and, thus, the development of its frontage, will be changed by the upriver dam. Based upon studies conducted by the International Boundary and Water Commission the flood curve, with and without the dam, has been plotted and is shown as Figure 2. Relating this information to the flood profile elevation best known, the International Bridge with a Mean Sea Level elevation of 395.87 feet, a second diagram interprets the elevations before and after construction of the Amistad Dam. As an example, a flood of the magnitude of the one that occurred in 1964 will have a frequency of once every 100 years after the dam is built, rather than every 8-1/2 years (about 12 times every 100 years) without the dam.

FLOOD FREQUENCY



STATISTICS TAKEN FROM AREA DEVELOPMENT PLAN

LEGEND: WITHOUT AMISTAD WITH AMISTAD

LAREDO
Urban Transportation Study

Figure 2

ECONOMIC FACTORS

TOPOGRAPHY

Elevations in Laredo range between 400 feet and 600 feet above sea level. The terrain is rolling except along the river, where level tracts are found. The Rio Grande forms the west and south boundaries of the City and tends to cut the land deeper as it progresses through the City. Two tributaries, the Zacate Creek on the west and the Chacon Creek on the east, cut the relief perpendicular to the Rio Grande. A low ridge is formed between the creeks and extends in a northeast direction, rising in elevation as it progresses north from the river.

MINERAL AND OTHER RESOURCES

The mineral resources of the Laredo area are clay, natural gas, petroleum, sand and gravel. Laboratory tests disclose that local clays are suitable for brick, roof tile, flower pots, sewer pipe and similar uses. The clay is used by local industries, with the crude oil and gas being marketed at other refining centers.

Cannel coal may be found in Webb County and could be of commercial value to some industries, but the availability of natural gas as an inexpensive fuel for the area and the cost of transporting coal to other markets are factors which restrict its production.

The natural gas is processed and used within the County, with the crude oil being transported to out-of-county refineries for processing.

EMPLOYMENT - ECONOMIC TRENDS AND REQUIREMENTS

People are attracted to Laredo for many reasons, primarily because the greatest number of job opportunities are found in urban areas. With more people comes the need to obtain more services and goods. Some of these goods are used locally; others are made for sale at other centers. The result has been an economy with diversification of industry and economic activity, which can provide sound growth in the decades ahead.

The economic process is used to transform the resources of the region and the crafts of its people into articles that can be used locally and for export. Land, machines and transportation systems are each a part of the process and a link which ties planning and the economic development of the region together. These components must be fitted into the City and in turn, shape its parts.

The income of family groups has been selected as representative of the trend most affecting the local economy. The median family income in the State of Texas from 1960 to 1985 is expected to increase 95.8% from about $4,800 to about $9,400 in constant 1957-1959 dollars. The family income in the Study Area is expected to increase slightly faster than those in the State, from approximately $2,950 in 1960 to about $6,000 in 1985, which is a 103.3% increase. At present, the median family income in Laredo is somewhat below that of the State as reflected by Table 1, and local effort should be directed towards improving the economic base of Laredo, which is fundamental to income growth.

Economic development is receiving concentrated attention in Laredo from local, state and federal levels. Incomes should grow, and the effect of new capital should be reflected within the City--by new housing, streets, utilities, and in park and recreational facilities.

ECONOMIC FACTORS

TABLE 1

TRENDS IN FAMILY INCOME - LAREDO
METROPOLITAN AREA

	1950		1960		1950 - 1960 Change
	No. Families	Percent of Total	No. Families	Percent of Total	in percent of Total
$ 0 - 999	3,155	28.9	1.949	14.7	- 14.2
1,000 - 1,999	3,460	31.7	2,762	20.8	- 10.9
2,000 - 2,999	1,740	15.9	2,023	15.2	- 0.7
3,000 - 3,999	1,040	9.5	1,666	12.6	3.1
4,000 - 4,999	605	5.5	1,355	10.2	4.7
5,000 - 5,999	207	1.9	1,016	7.6	5.7
6,000 - 6,999	255	2.3	680	5.1	2.8
7,000 - 7,999			525	4.0	
8,000 - 8,999	185	1.8	320	2.4	0.6
9,000 - 9,999			228	1.7	
10,000 & Over	270	2.5	749	5.6	3.1
Median income families	$1.617		$2,952		82.6
State Average	$2,716		$4,884		79.8
Laredo percent of State	59.5		60.4		

Source: Statistics taken from Area Development Plan

ECONOMIC FACTORS

The labor force represents the manpower resources of the Laredo area. The trends that can be keyed to the labor force for analyses are reviewed below.

In 1950, approximately 30 percent of Laredo's population was in the labor force, and in 1960, the same percentage of the population was in the labor force. This ratio of labor force to total population is reported in Table 2. Table 3 shows the projection of the total labor force through 1985. Assuming that the ratio of labor force to total population remains the same, the population of the Laredo Metropolitan Area would reach 92,240 by 1985.

TABLE 2

RATIO OF LABOR FORCE TO POPULATION

	LAREDO				WEBB COUNTY	
	1950		1960		1960	
	Number	Percent	Number	Percent	Number	Percent
Total population	51,910		60,678		64,791	
Labor Force:						
Employed	14,091		15,257		16,369	
Unemployed	1,413	9.1*	1,839	10.2*	1,891	9.4*
Armed Forces	5		1,019		1,839	
TOTAL LABOR FORCE	15,509	29.9**	18,115	29.9**	20,099	31.0**

* Percent of Total Labor Force
** Percent of Total Population

Source: Statistics taken from Area Development Plan

TABLE 3

MANPOWER REQUIREMENTS : LAREDO METROPOLITAN AREA

	1970		1980		1985	
	Number	Percent	Number	Percent	Number	Percent
Manpower Requirements						
Estimated Labor Force	22,770		25,920		27,580	
Employed	21,400	94.0	24,750	95.5	26,340	95.5
Unemployed	1,370	6.0	1,170	4.5	1,240	4.5

Source: Statistics taken from Area Development Plan

ECONOMIC FACTORS

Table 4 reflects Employment Characteristics for the Laredo Metropolitan Area for the period 1950 to 1960, dealing only with those persons 14 years of age and over. It may be noted that unemployment for both males and females rose during that period of time.

TABLE 4

EMPLOYMENT CHARACTERISTICS
LAREDO METROPOLITAN AREA

	1950		1960	
	Males	Females	Males	Females
Persons 14 years & over	17,429	19,945	19,039	21,694
Labor Force	12,801	4,665	14,532	5,567
Armed Forces	---	---	1,818	---
Civilian Labor Force	12,796	4,664	12,714	5,567
Employed	11,628	4,353	11,322	5,047
Unemployed	1,168	311	1,390	499
Percent unemployed*	9.1	6.7	10.9	8.9
Not in Labor Force	4,628	15,280	4,507	16,127
Inmates of institutions	137	37	66	16
Enrolled in school	---	----	2,146	2,416
With children under 6 yrs	---	----	---	4,856
Married-husband present	---	----	---	4,470
65 years old & over	223	86	1,157	2,046
Percent in school*	---	---	11.3	11.1
Percent 65 years & Over	1.3	0.4	6.1	9.4

* Percent of persons 14 years & over

Source: Statistics taken from Area Development Plan

Unemployment is greatest in the farm and general labor classes, but is almost as great among the craftsmen and operative workers. One element contributing to unemployment in the area is lack of education. Table 5 shows Educational Characteristics in Webb County for 1960, reflecting school enrollment for that year and the number of school years completed for persons 25 years of age and over. This table reveals that in this group the median school years completed is 6.7.

TABLE 5
EDUCATIONAL CHARACTERISTICS
WEBB COUNTY - 1960

YEARS OF SCHOOL COMPLETED		NUMBER	PERCENT	
Persons 25 years old and over		29,375	100.0	
No school years completed		4,096	13.9	
Elementary	1-4 years	7,202	24.5	
	5-7 years	5,876	20.0	
	8 years	1,752	5.9	
High School:				
	1-3 years	3,029	10.3	
	4 years	4,013	13.7	
College:	1-3 years	1,873	6.4	
	4 years or more	1,534	5.2	
Median school years completed		6.7		
SCHOOL ENROLLMENT		**NUMBER**	**PERCENT***	**PERCENT****
Total Enrolled, 5 to 34 years old		17,943		
Kindergarten		575	3.2	
Public		184		32.0
Elementary (1 to 8 years)		13,240	73.8	
Public		11,111		83.9
High School (1 to 4 years)		3,372	18.8	
Public		2,975		88.2
College		756	4.2	

* Percent of Total Enrolled
** Percent of each group in public school

Source: Statistics taken from Area Development Plan

At least two important events must occur if a better utilization of human skills is to take place by 1985. New jobs must be created to reduce unemployment, and part of the labor force must be retrained to perform new skills. The greatest local problem will probably remain in finding jobs for farm and unskilled labor.

Employment by occupation defines the skill of persons within the industrial groups. The comparative skills of employed and unemployed persons in 1960 are shown in Table 6. Operative and kindred workers who represent deliverymen, taxicab, truck and other drivers, and industrial and service operators constitute the city's largest occupational groups. Clerical work represents the second largest category followed by craftsmen, managers, officials and proprietors.

ECONOMIC FACTORS

TABLE 6

EMPLOYMENT BY MAJOR OCCUPATION
LAREDO METROPOLITAN AREA - 1960

	Employed		Unemployed		
	Male	Female	Male	Female	TOTAL
Professional, technical & kindred workers	654	699	11	--	1,364
Farmers and farm managers	197	---	23	--	220
Managers, officials & Proprietors (except farm)	1,540	310	13	--	1,863
Clerical & kindred workers	959	1,215	36	63	2,273
Sales workers	681	702	28	66	1,477
Craftsmen, foremen & kindred workers	1,910	42	244	8	2,204
Operatives & kindred workers	1,787	344	224	77	2,432
Private household workers	26	704	--	59	789
Service workers (except household)	892	646	66	70	1,674
Farm laborers & Foremen	1,319	203	361	44	1,927
Laborers, except farm & mine	1,072	20	291	7	1,390
Occupations not reported	285	162	30	43	520
SUB-TOTALS	11,322	5,047	1,327	437	18,133

Source: U.S. Census - Economic characteristics

ECONOMIC FACTORS

The effective use of labor force characteristics as indicators of urban growth and industrial space requirements is aided by analyzing goods production and service employment. Goods production or basic employment is geared to area resources, while service employment relates to area growth and expansion. Both must be considered if the labor force ratios of total population growth are to be realistic. Table 7 reports basic and service employment in 1950 and 1960, and a projection of employment in 1985. Currently the ratio of service to base employees is too high due to the small amount of basic employment in the area. The 1985 projection assumes that through careful economic planning a more balanced situation will result. It should be noted that Table 7 compares the ratio of service to basic employment, and not total employment to total population. Figure 3 shows the existing and the projected employed labor force.

TABLE 7

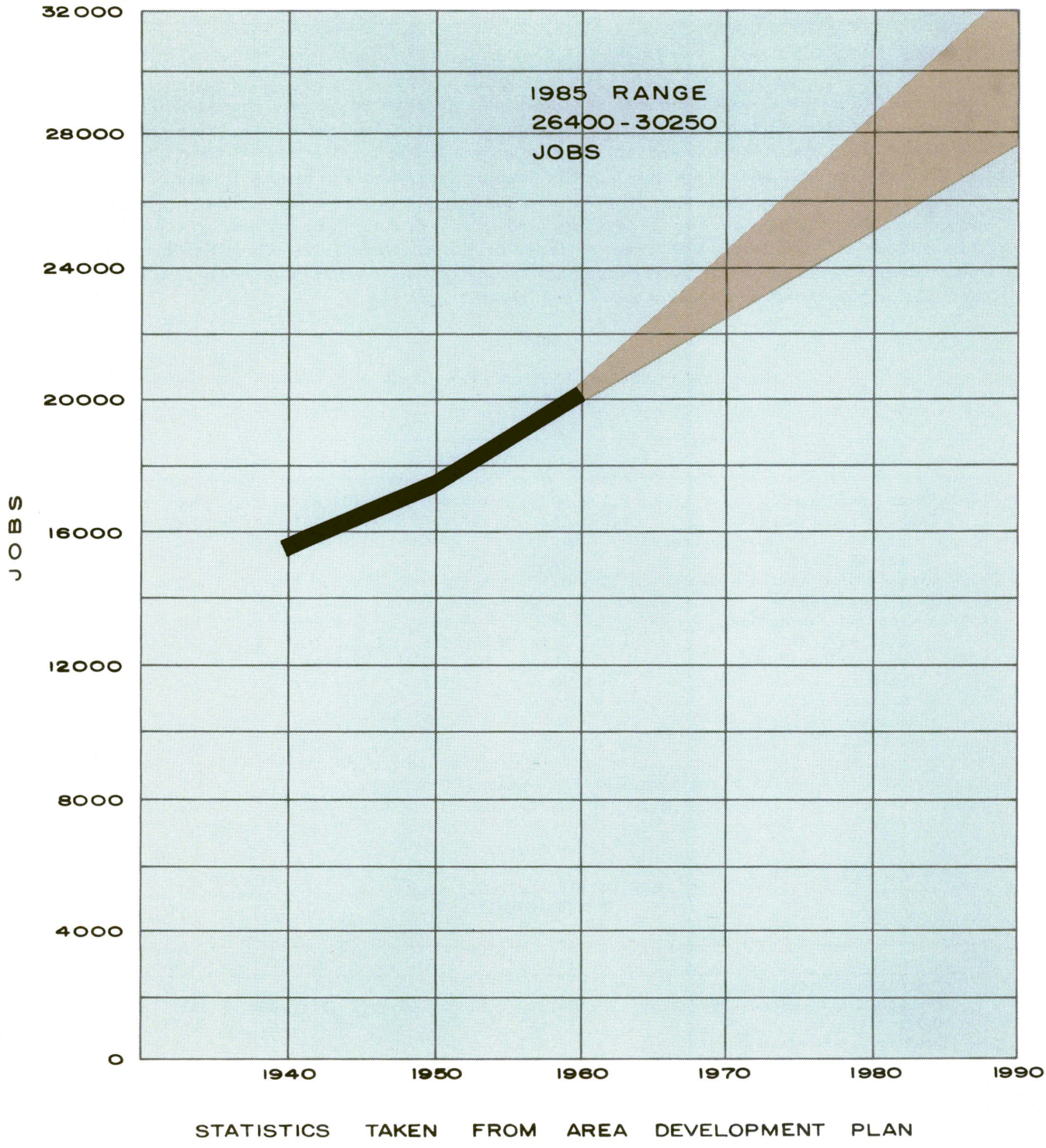
GOODS PRODUCTION AND SERVICE EMPLOYMENT
LAREDO METROPOLITAN AREA

	1950		1960		1985	
	Number	Percent	Number	Percent	Number	Percent
Basic Employment:						
Agriculture	3,060	19.1	1,865	11.3	1,500	5.7
Mining	284	1.8	215	1.3	200	0.7
Manufacturing	919	5.8	1,039	6.3	2,960	11.2
Tourism	230	1.4	270	1.6	1,850	7.0
Government & all others	3,247	20.3	3,010	18.4	4,900	18.6
Total Base	7,740	48.4	6,399	39.1	11,410	43.2
Service Employment:						
Retail trade	3,166	19.8	3,537	21.6	5,550	21.1
Wholesale trade	812	5.1	804	4.9	1,670	6.4
All other service	4,263	26.7	5,629	34.4	7,710	29.3
Total services	8,241	51.6	9,970	60.9	14,930	56.8
TOTAL	15,981		16,369		26,340	100.0
Ratio of service to base employment	1.06		1.56		1.31	

*Allowances for: Education, construction, transportation, entertainment and government.

Source: Statistics taken from Area Development Plan

EMPLOYED LABOR FORCE



STATISTICS TAKEN FROM AREA DEVELOPMENT PLAN

LAREDO
Urban Transportation
Study

Figure 3

ECONOMIC FACTORS

AGRICULTURE

Agriculture, a traditional segment of the economic base of Laredo and Webb County, occupies a major portion of the County's geographic area, but assumes a lesser role in terms of job opportunities and in dollars added to the local economy. Cattle, goats, vegetables, melons and sorghums are the leading livestock and crop products of Webb County. The Study Area's agricultural economy is growing in value of farm produce sold, but decreasing in crop production and number of farm operators and laborers. The outlook is for a further decrease in farm employment and relatively little change in the value of farm products. The important trends in Webb County's general farm characteristics are shown in Tables 8 and 9 through the year 1964.

TABLE 8

FARM CHARACTERISTICS 1950 - 1964
IN WEBB COUNTY

	1950	1954	1958	1964
County Area(acres)	2,108,800	2,108,800	2,108,800	2,107,520
Land in Farms(acres)	1,697,153	1,737,460	1,273,231	1,356,276
County Area in Farms (percent)	80.5	82.4	60.4	64.4
Number of farms	327	277	190	182
Average size of farms (acres)	5,190.1	6,272.4	6,706.5	7,452
Land Use(acres)				
Cropland harvested	15,568	1,181	8,456	10,475
Total pastured	1,642,103	1,698,853	1,240,164	1,312,681
Total cropland	159,814	183,097	181,197	- - -
Irrigated land	9,300	10,591	7,521	11,094
Farm operators				
Residing on farm	149	110	52	66
Not residing on farm	168	166	125	101

Source: Statistics taken from Area Development Plan

TABLE 9

VALUE OF FARM PRODUCTS SOLD
IN WEBB COUNTY

	1949	1954	1959	1964
Livestock & livestock products				
Livestock & livestock products	$3,506,219	$3,539,304	$5,555,726	$3,929,129
Dairy products	336,640	331,153	126,850	167,256
Poultry & poultry products	29,279	149,610	46,381	136,859
Sub Total	$3,872,138	$4,020,067	$5,728,957	$4,233,244
Crops				
Vegetables	$1,202,249	$1,529,916	$1,777,524	$3,308,832
Fruits & nuts	26,476	8,236	5,440	1,800
Horticultural	3,021	8,025	300	1,764
All Other	311,253	217,368	281,378	212,813
Sub Total	$1,542,999	$1,763,545	$2,064,642	$3,525,209
Value of all products	$5,415,137	$5,783,612	$7,793,599	$7,758,453

Source: Statistics taken from Area Development Plan

ECONOMIC FACTORS

The availability of water for irrigation is a most important factor in increased farm production. The acreage of irrigated farm land in Webb County decreased between 1954 and 1958, but increased in 1964. Acreages for selected crops remained quite consistent, but sizeable reductions in the vegetable acreage occurred. Other factors important to increased farm production include the regulation of farm labor, urbanization and growth in competitive farm areas. Only negligible agricultural acreage will be lost to urbanization in Webb County through 1985. High labor costs and limited water supplies are expected to keep agriculture at or below its 1960 percentage level. It is not anticipated that Amistad Dam will alleviate this situation.

MANUFACTURING

Manufacturing employment in Laredo for the twenty-year period from 1940 to 1960 rose 20 percent; between 1950 and 1960 the rise was 11.5 percent. Food products, apparel fabrication, printing and publishing, and machinery, in the order listed, were the most important manufacturing groups reported in 1960. In 1962, the order was apparel fabrication, food, printing and primary metals. Only eight firms employed over 25 persons. The distribution of employment in the industrial groups for the census dates of 1940 through 1960 is shown in Table 10. The twenty-year trend as reflected by comparative employment shows no major change in industrial groups or new industries. Currently most of the County's industries are located in Laredo.

TABLE 10

EMPLOYMENT BY MANUFACTURING GROUP FOR LAREDO

	1940	1950	1960
Furniture, lumber & wood products	24	45	37
Primary metal	123	74	41
Fabricated metals	--	6	8
Machinery	22	21	65
Electrical machinery	--	3	4
Motor vehicles	5	7	3
Transportation equipment	--	--	16
Other durable	--	46	49
Food & Kindred products	246	306	364
Textiles, Mill Products	6	79	--
Apparel & Other Fabrication	143	172	230
Printing & Publishing	98	97	170
Chemical & Allied	6	10	5
Other non-durable goods	60	16	12
Industries not specified	19	7	0
TOTAL	752	889	1,004

Source: Statistics taken from Area Development Plan and City Planning Commission

Employment in manufacturing in 1963 represented 6.3 percent of the employed labor force and should increase to 12.0 percent by 1985.

Some of the problems encountered in locating and establishing new industry in the Study Area are as follows:

1. Characteristics of the region and limited source of water;

2. The training and composition of the labor force;

3. Availability of raw materials for both extractor refining and end product manufacturing;

4. Limitation of regional markets; and

5. The necessity of shipping in raw materials, and shipping manufactured products to outside markets.

There is not a shortage of land suitable for industrial purposes in Laredo; in fact, the Texas-Mexican Railroad, the Missouri Pacific Railroad and the Del Mar Corporation have each designated tracts for this purpose. A healthy and vigorous attitude towards area economic development exists, which is the first step in extending utilities to the industrial sites. A continued growth in manufacturing can be anticipated, with most industrial groups retaining the same proportion to the local population they now hold. With greater emphasis on economic development, manufacturing employment could easily account for a greater ratio of total employment. The growth potential of industrial groups appears to be in apparel fabrication, chemical and allied products and selected durable goods. In planning a sound economy for the Study Area, and one which will utilize the resources of the region and its labor force, careful consideration should be given to industry and manufacturing.

TOURISM

Laredo is attractive to the tourist, being situated on the gateway to Mexico, and it has become the leading point-of-entry for Mexico-bound tourists. As a result, the Study Area has a growing tourist industry which should not be overlooked in long-range planning for the area.

The recent completion of a large tourist and convention center has stimulated convention activities. The estimated dollar value added by tourist and convention activities due to the new center is 15 million annually. There is also local interest in gaining a large portion of the long-term winter tourist trade, and providing for tourist trade necessitates development of local resources for this purpose. This requires, in particular: (1) Restoration of the San Agustin Plaza Area; (2) Development of the riverfront; (3) Development of a park system and the construction of certain sports facilities; and (4) Identification of the winter tourist and needs of the retirement age group, and specifically designed facilities to provide for these needs. These are some of the recommendations found in the "701" Study which should help and encourage the tourist industry.

BORDER TRAFFIC

The flow of goods and people through the Laredo Gateway affects land usage, streets and other facilities of the area. The City of Laredo, as well as the entire Study Area and its commerce, are highly dependent on international trade. There is practically a steady flow of people and vehicles crossing the international bridge located almost downtown in the City of Laredo. Table 11 reflects the number of persons and vehicles crossing at the Laredo Bridge and duties collected at Laredo Customs Service.

TABLE 11

TRENDS IN INTERNATIONAL TRAFFIC

	1950	1955	1960	1961	1962	1963	1964
Bridge Crossings (U.S. to Mexico)							
Persons	4,082,231	4,844,772	5,978,459	6,239,705	6,472,356	6,603,239	7,243,627
Vehicles	893,682	1,337,656	1,626,502	1,711,713	1,835,407	1,917,754	2,115,174
(Mexico to U.S.)							
Persons	2,242,196	6,942,334	8,402,336	9,573,107	9,869,626	9,845,955	9,914,551
Vehicles	843,256	1,388,467	1,848,514	2,011,713	2,248,611	1,999,823	2,098,093
Tourist Crossings							
Persons	128,821	141,107	139,083	145,089	170,253	106,899*	164,395
Vehicles	41,701	51,057	54,308	53,734	56,071	28,298*	53,517
Rail Freight (Carload)							
Southbound	21,948	27,975	27,803	26,187	26,205	34,350	35,217
Northbound		22,266	10,931	9,974	11,221	8,871	8,578
Duties Collected at Laredo Customs Service	$3,248,870	$4,553,640	$6,136,762	$5,616,908	$6,040,580	$7,332,470	$7,774,012

*Traffic detoured to other border points on account of extensive construction work in progress during 1963 on Nuevo Laredo to Monterrey, Mexico highway.

Source: City Planning Commission

ECONOMIC FACTORS

Imports and exports play an important part in the economy of both the United States and Mexico. The leading imports from Mexico are non-metallic minerals; animals and animal products - edible; vegetable food products and beverages, and metal and its products except machinery and vehicles.

The leading exports to Mexico are machinery and vehicles; chemicals and related products; non-metallic minerals, and metal and its products.

The total of all imports in 1964 amounted to $174,800,000, whereas in 1965 it had risen to $188,800,000. The total of all exports in 1964 amounted to $706,900,000 and had risen to $765,500,000 by 1965.

GOVERNMENT OFFICES AND MILITARY

Government employees, including personnel in Customs, International Boundary and Water Commission, Immigration, and Laredo Air Force Base are an identifiable unit of local employment. Governmental employees, together with construction workers and persons employed in transportation, communications, and education, account for approximately 20 percent of today's employment. Jobs in government should increase with growth in the area, although the local economy has little control over governmental employment. The 1985 employment level should be 63 percent above the present level, according to the twenty-year forecast.

CONSTRUCTION

Construction dollars are divided between local and outside investors. If only building construcion is considered, little is added to the local economy. However, with highway and other area construction the value becomes more important. In the ten-year period from 1950 to 1960, construction employment increased 48.9 percent over the 1950 level. In 1960 there were about 1,050 persons employed in construction. Looking to the future, a healthy or improving local economy will result in expanded construction activity.

ECONOMIC FACTORS

Lack of industrial construction having retarded the overall development of Laredo, local, state and federal sources are working to devise a program which will improve the situation, and construction employment should increase.

RETAIL AND WHOLESALE TRADE

Retail trade activity in Laredo accounts for a substantial part of local employment and contributes some outside dollars to the local economy. Within Laredo's economy more than 90 percent of the buying income reported was for the purchase of retail commodities. The buying and sales characteristics for the State, Webb County and several counties in South Texas are given in Table 12.

TABLE 12

RATIO OF BUYING INCOME TO
RETAIL SALES
1962

County	Effective* Buying Income	Retail* Sales	Difference	Sales Percent Income
Webb	$ 4,159	$ 3,785	$ 374	90.7
Hidalgo	4,173	3,779	394	90.5
Nueces	5,845	4,259	1,586	72.8
Bexar	6,035	3,786	2,249	62.7
State	$ 5,937	$ 4,055	$1,882	68.3

* Per household

Source: Survey of Buying Power, Sales Management, 1963.

In too many households in the Study Area very little working capital remains once the necessities have been provided. Time and community effort concentrated on improving the local economic base are again the essential ingredients needed to achieve a better relationship between income and working capital.

The City's retail patterns are unique, and not all facets of the trade permit easy identification. Only those trends relative to urban planning were researched in depth. The comparative scale of retail trade is as follows:

Employment
Webb County
1960

Employed Labor Force	16,369
In Retail Trade	3,537
Percent	21%

ECONOMIC FACTORS

The volume of sales from all retail establishments as reported by Sales Management for Webb County was $57,904,000 as of June 10, 1962; for Laredo retail sales amounted to $56,917,000.

Growth in retail sales and employment is contingent upon increases in area population and in the goods-producing industries. Employment in retail trade by 1985 should account for over 2,000 new jobs, but will represent a smaller percent of total employment. Employment resulting from retailing activities is one of the most important elements in the local economy.

Tables 13 and 14 are included to indicate important trade characteristics. Table 13 reports the number of retail establishments and the increase between 1954 and 1963, and Table 14 reflects the trends by Kind of Business and the Distribution of Sales between 1958 and 1963.

The wholesale trade is experiencing certain changes and a centralization of outlets which will eventually provide services to a wider radius of rural communities. This trend will work to Laredo's advantage. The essential urban ingredients for wholesaling activities are a good transportation system, storage space and outlets. The factors most likely to influence the wholesale trade and planning for such a system are: 1) the movement of goods through Laredo and Nuevo Laredo; 2) urbanization, primarily in Mexico; and 3) adequate, unrestricted and efficient movement on all transportation systems.

Table 13

RETAIL TRADE CHARACTERISTICS
LAREDO METROPOLITAN AREA

	1954	1958	1963	Percent Change 1958 - 1963
Establishments				
Total	517	531	565	6.4
Sales				
Total, all Establishments	$47,280,000	$59,745,000	$80,387,000	34.6
Payroll				
Annual	4,363,000	5,933,000	8,419,000	41.9
Paid employees				
Total	2,640	3,223	NA	22.1
Full week	2,304	2,801	3,563	27.2

Source: Statistics taken from Area Development Plan & City Planning Commission

TABLE 14

RETAIL TRADE BY KIND OF BUSINESS

Kind of Business	1958 Number of Establishments	1958 Sales (1,000)	1963 Number of Establishments	1963 Sales (1,000)
Lumber, building materials, hardware, farm equip. & dealers	27	$ 4,191	21	$ 3,430
General merchandise stores	21	10,063	22	12,505
Food Stores	129	13,258	142	14,854
Automotive dealers	25	7,060	31	9,177
Gasoline service stations	54	4,157	64	5,174
Apparel, accessory stores	49	10,595	57	20,164
Furniture, home furnishings, equipment	22	2,535	19	2,930
Eating, drinking places	118	2,683	115	2,819
Drug Stores, proprietary stores	11	1,973	12	3,478
Other Retail Stores	57	2,987	61	5,581
Non-Store Retailers	18	243	21	275
TOTAL	531	$59,745	565	$80,387

Source: Statistics taken from Area Development Plan & City Planning Commission

Table 15 reports wholesale trade for the years 1954, 1958 and 1963.

TABLE 15

WHOLESALE TRADE & SELECTED SERVICES CHARACTERISTICS 1954 - 1963

Wholesale Trade:	1954	1958	1963	1954	1958	1963
		Webb County			Laredo	
Establishments	80	86	87	76	84	86
Active proprietors	72	81	78	70	D	78
Paid Employees	515	579	546	505	D	D
Annual Payroll *	$ 1,251	$ 1,556	$ 1,629	$ 1,225	D	D
Annual Sales	22,274	38,113	32,319	21,794	D	D

(D) Withheld to avoid disclosure
* (1,000)

Source: 1954 - 1958 - 1963 Census of Business-Wholesale Trade, Selected Services

ECONOMIC FACTORS

TRANSPORTATION

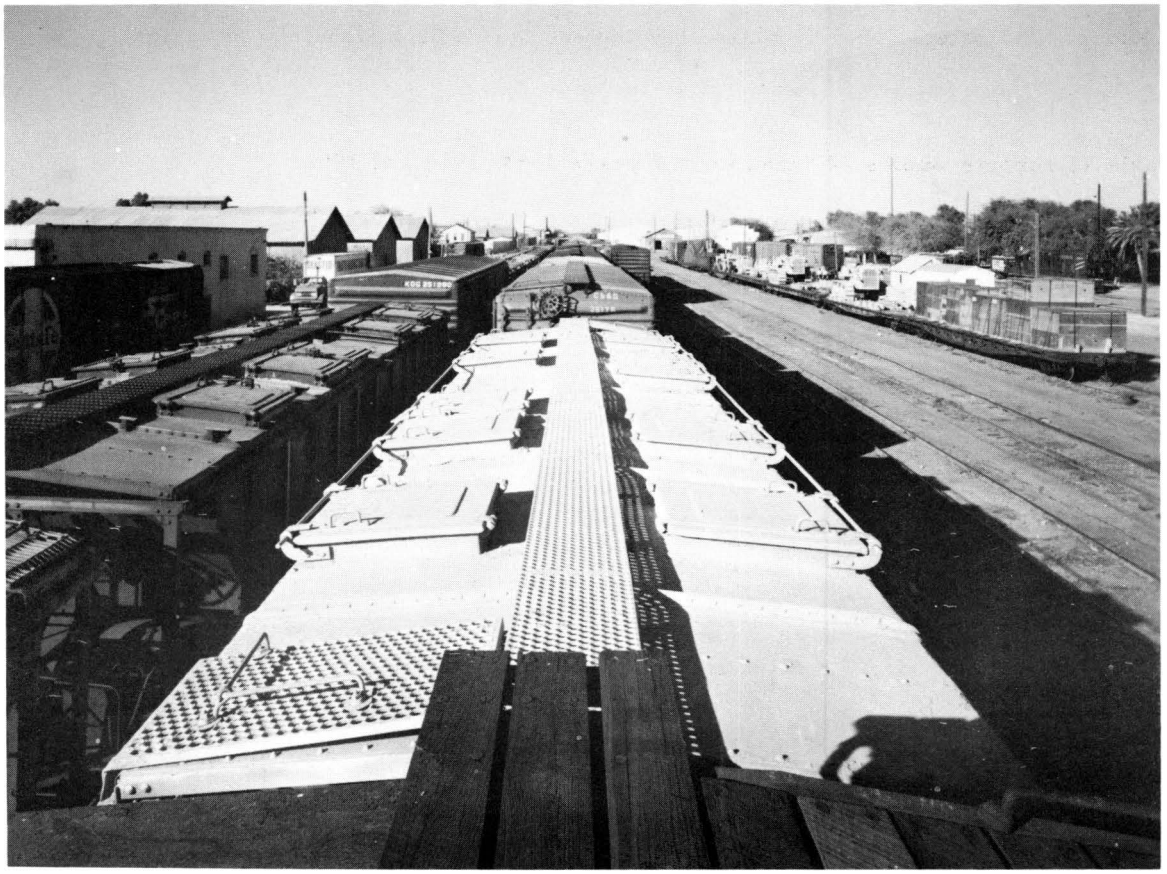
Most surface transportation systems serving Laredo also lead to the international gateway. The following contribute most to the flow of goods and people between the United States and the Republic of Mexico:

HIGHWAYS: Interstate Highway 35 connects Fort Williams, Ontario, Canada, with Mexico City via Duluth, Minneapolis - St. Paul, Des Moines, Kansas City, Oklahoma City, Dallas, San Antonio and Laredo. South of the border, the connecting highway (Mexico Route 85) is the southern extension of the Pan American Highway. U.S. Highways 59 and 83 are other major north-south connecting links culminating at the border.

RAILROADS: The Texas-Mexican Railroad is Laredo's tie with Corpus Christi and the Gulf of Mexico. The Missouri Pacific Railroad provides a vast network of connecting railroad links. Both railroads connect with the National Railroads of Mexico.

AIR SERVICE: Texas International serves Laredo and connects with most air terminals in Texas. The CIA Mexicana de Aviacion operates from a terminal in Nuevo Laredo and provides service to Mexico City and other points in Mexico.

MOTOR FREIGHT: The Study Area is further served by three motor freight common carriers which operate fifty units.



ECONOMIC FACTORS

MOTOR VEHICLE REGISTRATION

The Study Area had approximately 24,743 vehicles registered in 1964. Projecting this figure to 1985, it is estimated that total vehicular registration will climb to 65,247. As shown in Table 16, passenger car and total motor vehicle registration has increased at a fairly steady pace. The 1964 vehicle ownership ratio was 0.36 per capita and is estimated to rise to 0.61 per capita in 1985.

TABLE 16

POPULATION, MOTOR VEHICLE REGISTRATION AND VEHICLE OWNERSHIP PER CAPITA FOR WEBB COUNTY

1920 - 1985

YEAR	POPULATION	TOTAL VEHICLES REGISTERED	VEHICLE OWNERSHIP PER CAPITA
1920	29,152	not available	not available
1922	31,748	2,141	0.07
1930	42,128	6,395	0.15
1940	45,916	7,607	0.17
1950	56,141	12,179	0.22
1960	64,791	19,635	0.30
1964	69,623 *	24,743	0.36
1970	74,456 *	37,707 *	0.51
1985	99,800 **	65,247 *	0.65

NOTES:

* Estimate taken from the Population Chapter as approved by the Advisory Committee

** "Population Projections for Texas SMSA 1970" by Sanford Labovitz. "Texas Business Review", March 1962

ECONOMIC FACTORS

The following Tables 17 and 18, and Figures 4 and 5, reflect postal receipts and utility connections to the year 1964 and are included here as indicatory of economic activity.

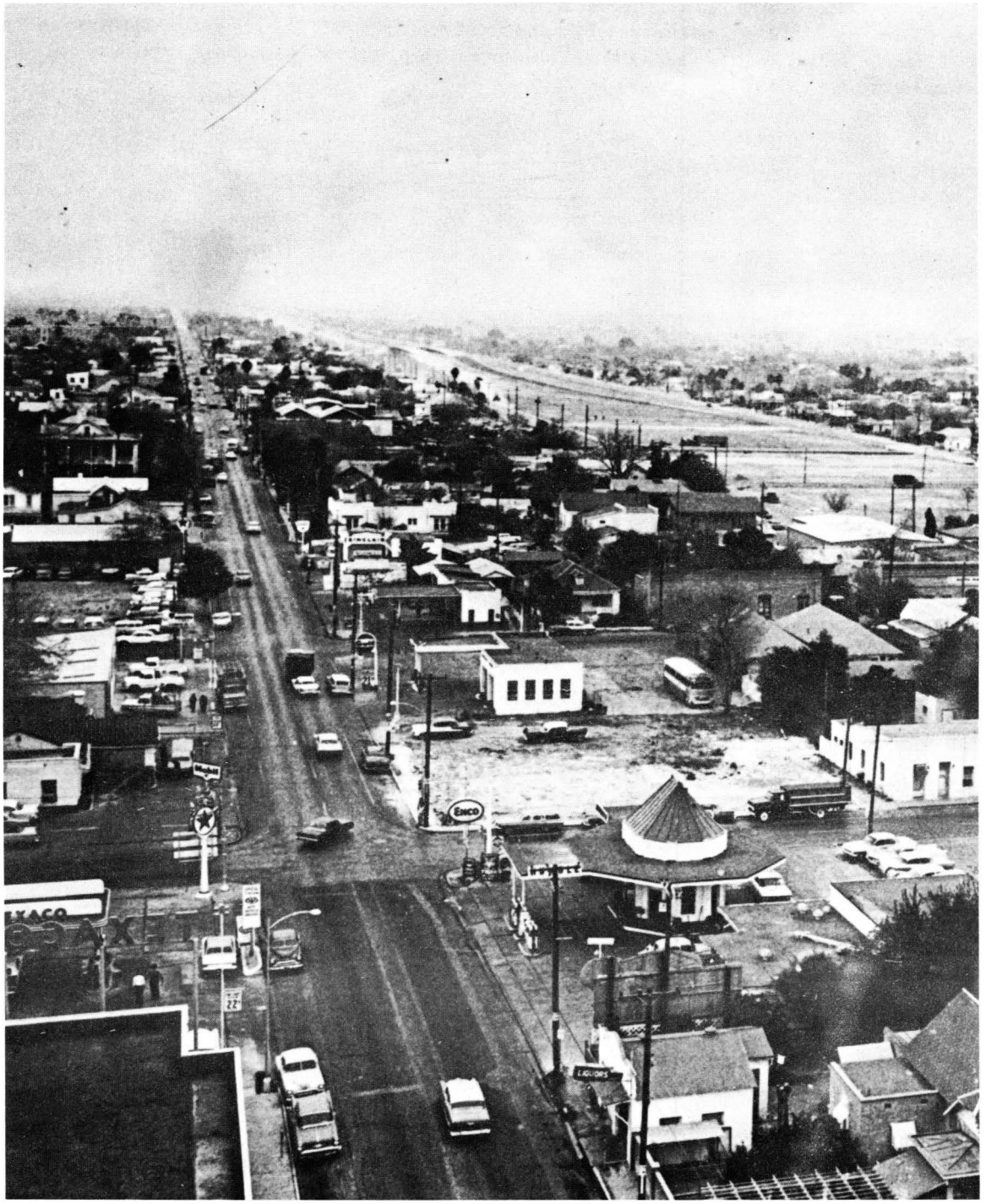


TABLE 17

POSTAL RECEIPTS

1945	$269,376.16
1946	187,970.51
1947	189,315.94
1948	203,610.80
1949	220,841.60
1950	222,412.36
1951	248,695.97
1952	277,408.75
1953	302,829.73
1954	304,874.14
1955	311,587.41
1956	327,981.68
1957	335,864.31
1958	365,407.09
1959	390,213.13
1960	423,125.00
1961	434,098.46
1962	442,916.87
1963	533,666.67
1964	560,116.02

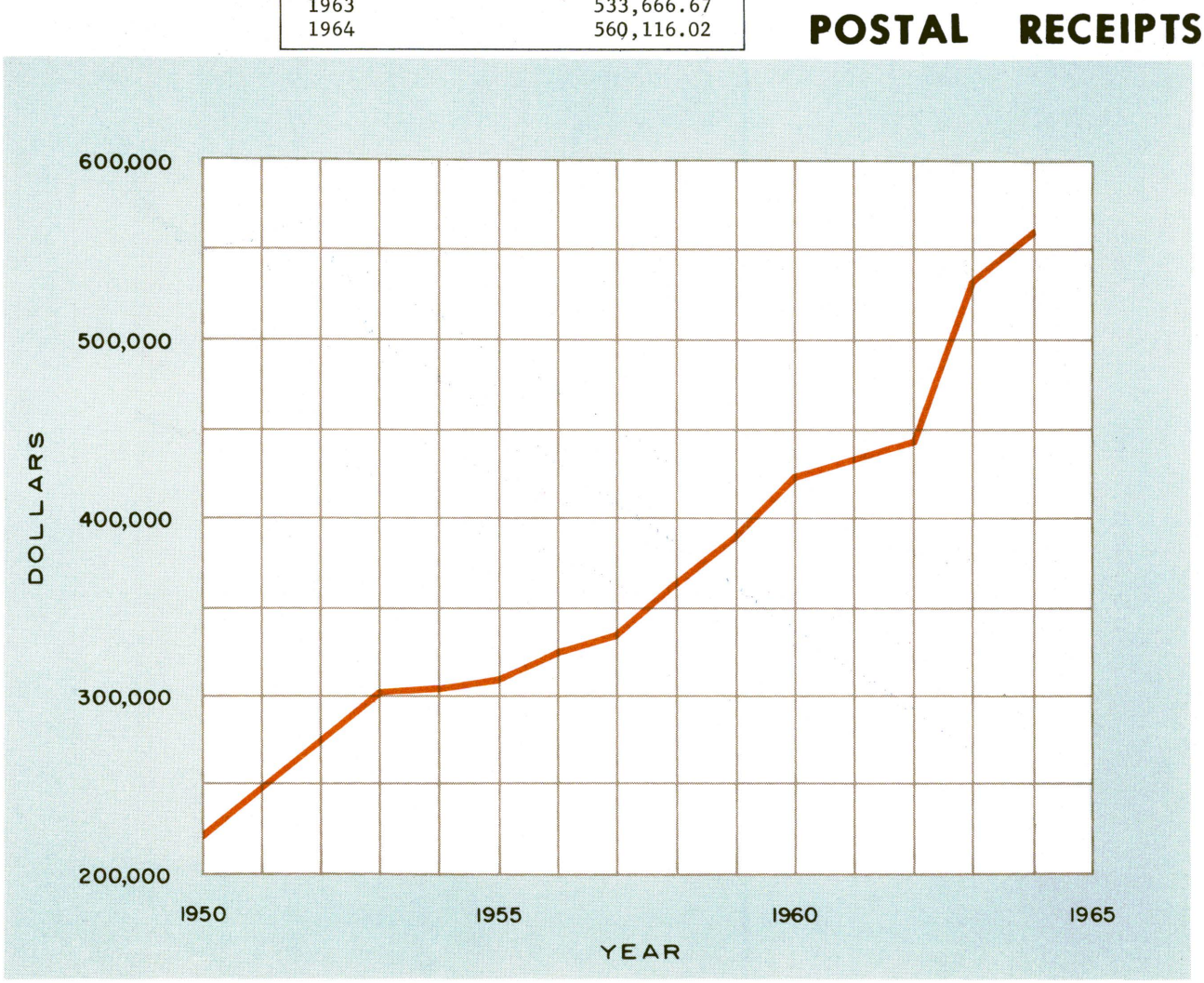


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Figure 4

TABLE 18

UTILITY CONNECTIONS

	1950	1955	1960	1961	1963	1964
Water	8,489	9,825	11,698	11,838	12,148	12,484
Gas	9,031	10,576	12,493	12,508	13,016	13,370
Light	10,356	11,876	14,484	14,270	14,947	15,405
Telephone	7,838	10,752	13,661	15,171	14,729	15,646

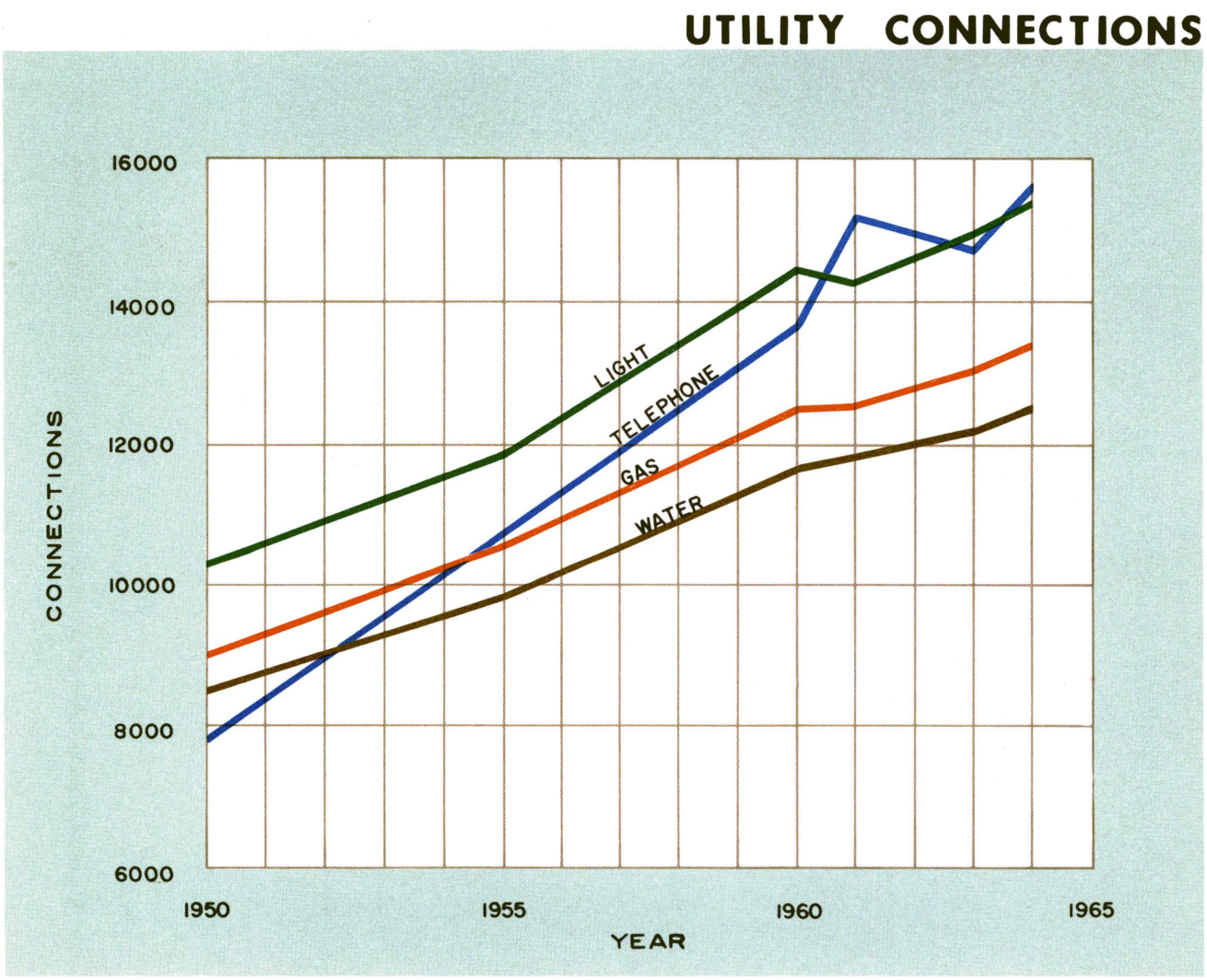

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Figure 5

ECONOMIC FACTORS

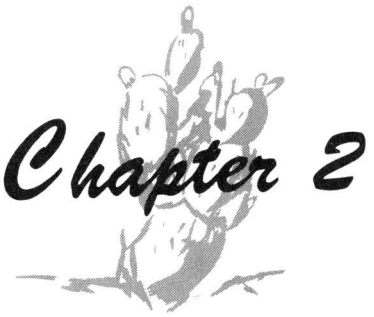
SUMMARY

Laredo, with its unique setting, tropical atmosphere, Laredo Air Force Base, proximity to Old Mexico, and many other assets previously discussed, has increased employment opportunities in the basic industries - - agriculture, manufacturing, government and tourism. Agriculture, to a great extent, is expected to stay at or below its 1964 level due to high labor costs and a limited water supply. Since the local economy has little control over governmental employment, although Laredo is attractive to these agencies, manufacturing and tourism should be prime considerations in forecasting future requirements, conditions and transportation planning.

Since there is no shortage of land suitable for industrial purposes, other hindrances could be overcome by careful study and planning as to type of industry desirable and suitable to conditions existing in the Study Area.

Tourism should probably receive prime consideration in planning transportation services for the Study Area, and with emphasis placed on this activity, increased construction, retail sales, manufacturing and other economic opportunities will result.

Population



POPULATION

INTRODUCTION

The purposes of this chapter are to present a projection of population, its distribution and forecast in Webb County and the Laredo Study Area to the year 1985. Except for the information on census tracts, most other information in this chapter has been obtained from the Laredo Area Development Plan.

Population growth, in part, occurs because of growth in the local economy. The economy changes because of raw material markets, transportation and other factors. Since the recent trend of urban growth in the United States indicates that over two-thirds of the people now live in metropolitan areas, it is reasonable to assume that these areas can expect to at least double their population by the year 2,000. The Study Area will need to formulate plans which will take into consideration each of the growth influences and to establish a range which should be representative of the area's future population.

HISTORY

Laredo can report population figures for 1760, 1860, and 1960; however, most increases in population have occurred since 1910. In 1910, the population was 14,855; in 1960 Laredo's population was 60,678. The 1960 population of Webb County was 64,791. Referring to Table 19, Laredo and Webb County have grown at a greater rate from 1940 to 1950 than in any other decade. This growth pattern might be attributed to local economic activity created by the Laredo Air Force Base during that period.

PROJECTIONS

In forecasting future population growth for Ladedo and Webb County, it should be noted that careful study and consideration has been given to population trends in the past, and projections have been made with optimistic assumptions as to local, state and national economic conditions, and national and international affairs. The population range forecast for 1985 planning stage is:

	Webb County	City of Laredo
Low	92,900	85,500
Medium	100,000	89,900
High	106,600	103,100

Trends in the past and anticipated future population are plotted in Figure 6. Should the population increase faster than is anticipated, the proposals of the plan would be realized at an earlier date. If growth is slower than expected, the period when certain facilities are needed would be extended. These facts do not affect the usefulness of the forecast as a planning guide. Figure 7 shows trends in the past concerning school-age children, retirement age and labor force, and projects the anticipated population in these categories to the year 1985.

POPULATION

TABLE 19

POPULATION GROWTH

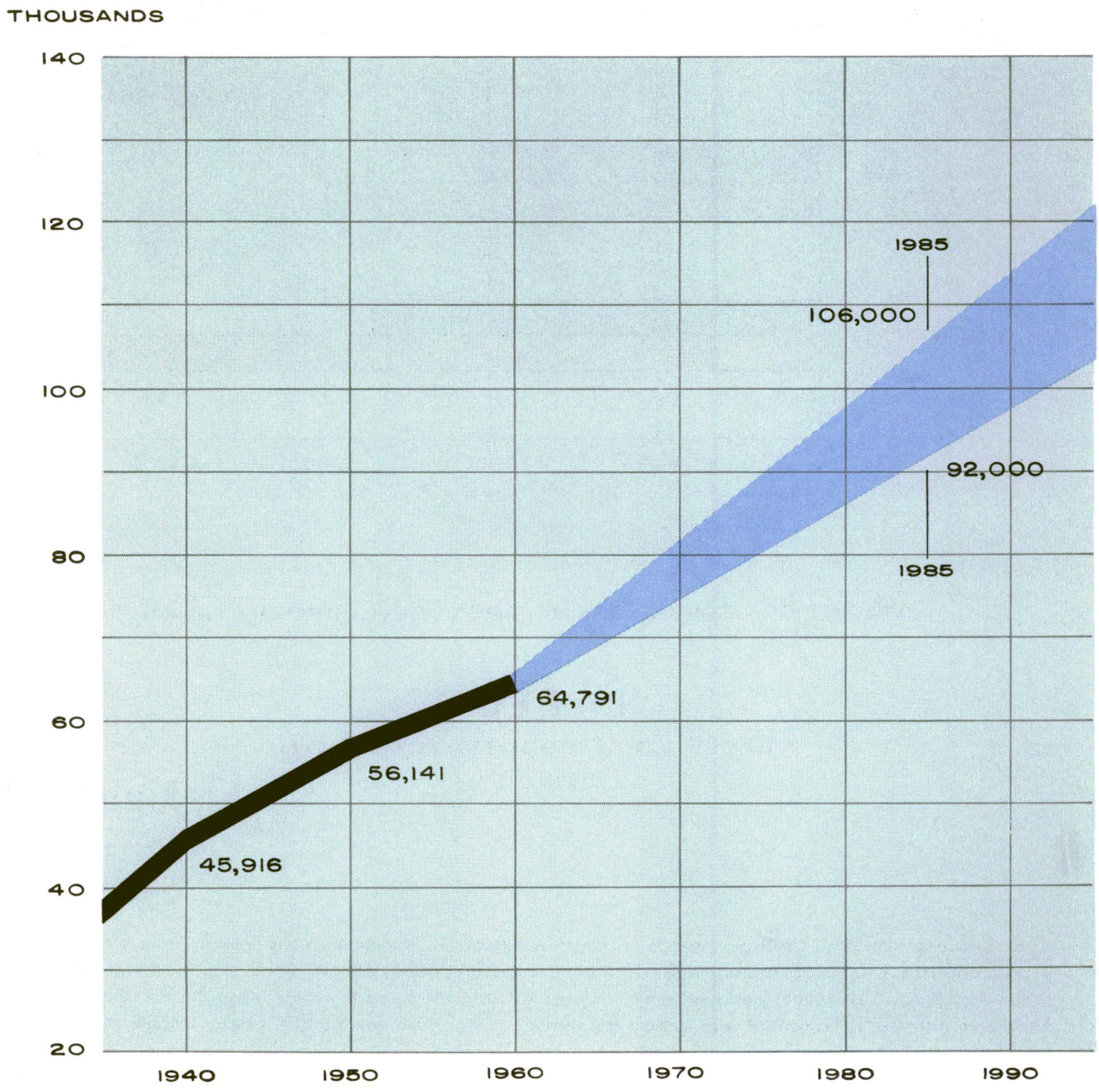
YEAR	POPULATION
1755	25
1757	85
1767	120
1778	200
1789	770 (+ 110 Indians)
1819	1,418
1823	2,052
1831	1,698
1835	1,750
1845	1,885
1850	1,879
1870	2,046
1880	3,531
1890	11,319
1900	13,429
1910	14,855
1920	22,710
1930	32,618
1940	39,274
1942	45,498
1950	51,910
1960	60,678
1962	62,404 (Chamber of Commerce Estimate)

During the period 1950 to 1960 Laredo's population growth percentage decreased, as was the general trend in most Texas cities.

	Number			Percentage Change	
	1940	1950	1960	40-50	50-60
Webb Co.	45,916	56,141	64,791	22.3	15.4
Laredo	39,274	51,910	60,678	32.2	16.9
Outside City	6,642	4,231	4,113	-36.3	-2.8

Source: Statistics taken from Area Development Plan

POPULATION GROWTH



STATISTICS TAKEN FROM AREA DEVELOPMENT PLAN

LAREDO

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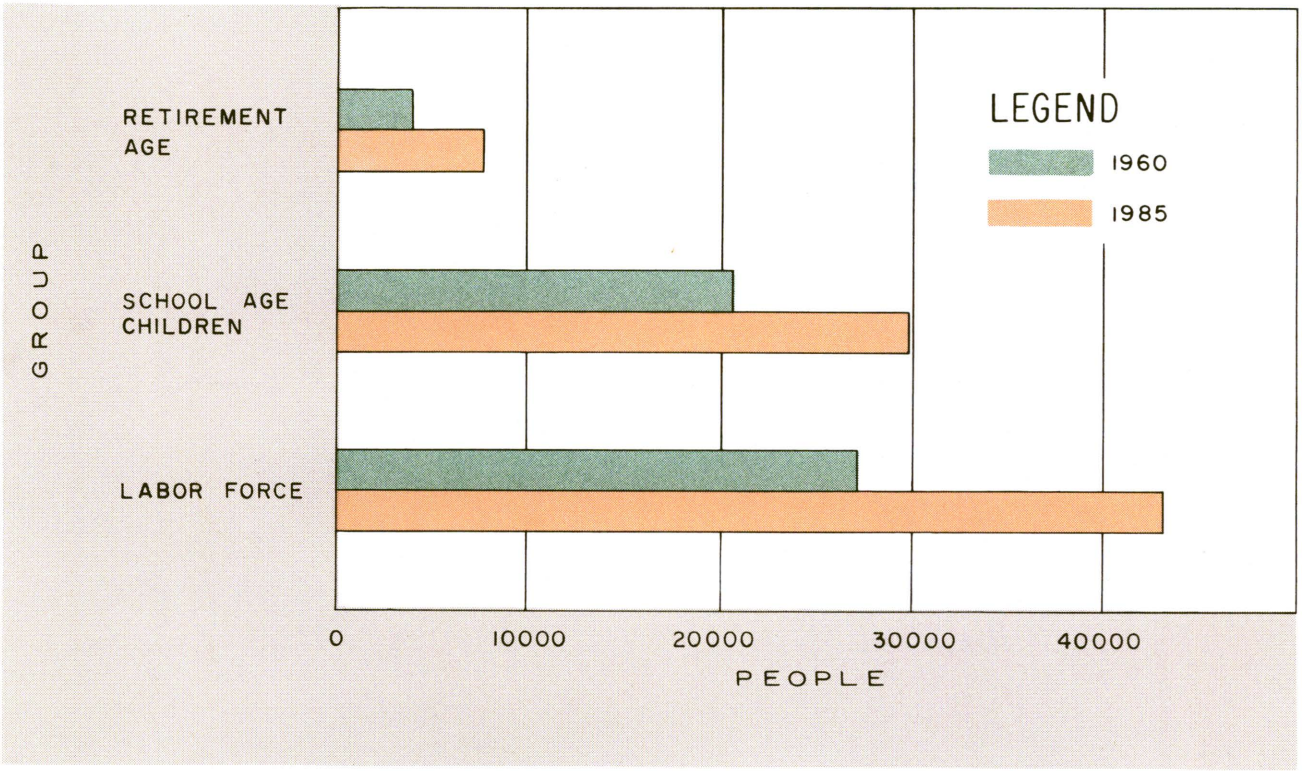
Figure 6

VARIOUS POPULATION GROUP TRENDS



STATISTICS TAKEN FROM AREA DEVELOPMENT PLAN

LAREDO
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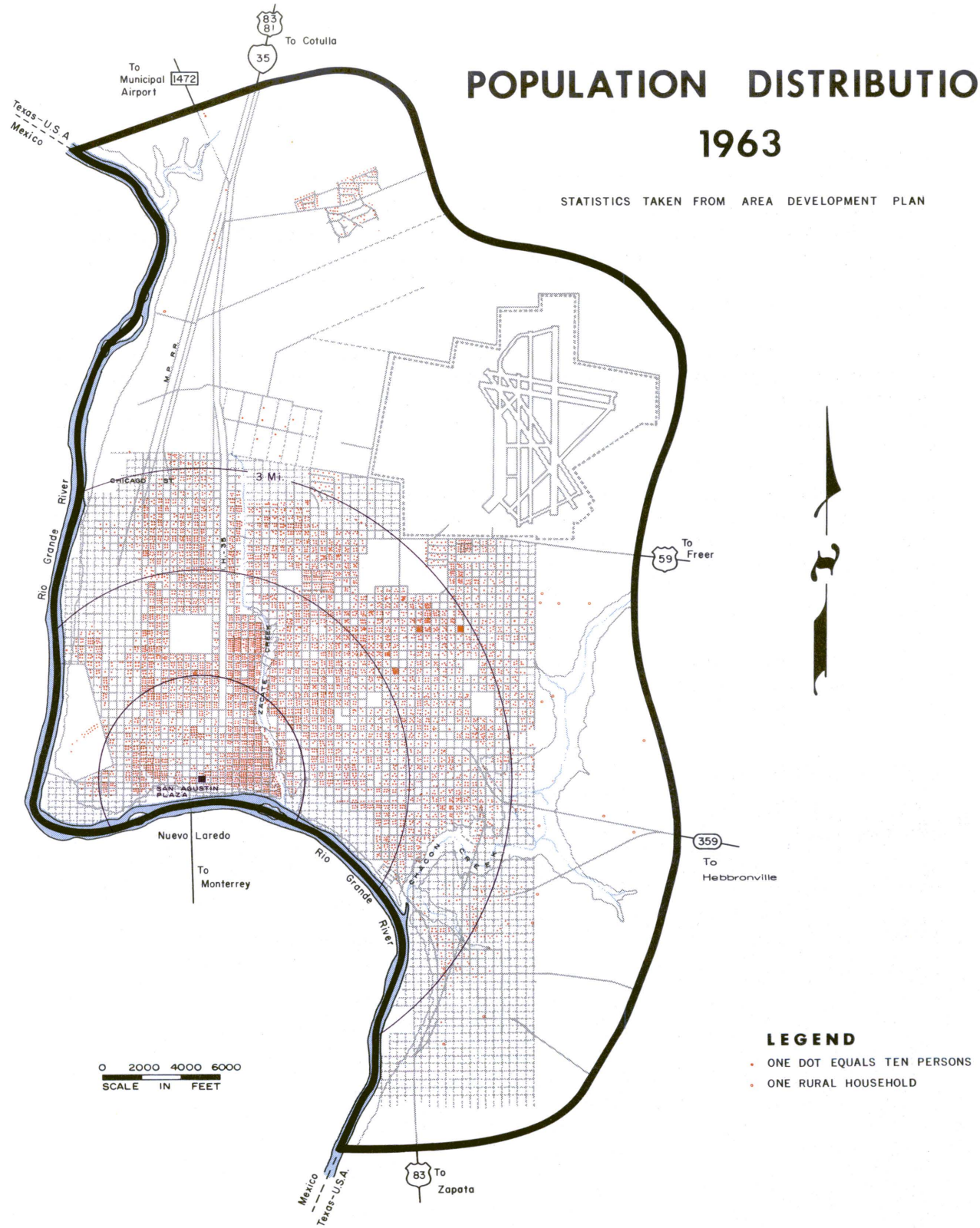
Figure 7

Age Groups: In 1960 the age groups by percentage of all persons in the Study Area were: pre-school, 15.2 percent; school age, 33.0 percent; young labor force, 24.6 percent; mature labor force, 20.6 percent; retired age, 6.5 percent. By 1985 the mature labor force should decrease and the retirement age group increase. Small changes should occur in the other groups.

Other traits or characteristics of Laredo's population are: it is below State average in number of school years completed; 99.6 percent of the population is white, and over 80 percent have Spanish surnames; 55.4 percent of the population five years old and older lived in the same house in 1960 as was occupied in 1955; and the population per household is higher than in most areas, at 4.26 persons.

The present population of Laredo is primarily contained within a two-mile radius of the central business district to the north and east. Very few people live south of Chacon Creek on the south, or north of Chicago Street on the north. The distribution of population in 1963 is shown in Figure 8. Reference to this figure reveals that over 90 percent of



LAREDO
Urban Transportation Study

Figure 8

the population in the area was living within a three-mile radius extending north and east of the San Agustin Plaza. Some other facts revealed by this map are the concentration of population west of Zacate Creek to the Missouri Pacific Railroad track; the extent to which people have located in the creek bottoms; and the variation in density from block to block and from area to area.

The population density is a major consideration in the sizing of urban facilities and in determining environmental conditions. A map reporting Laredo's existing densities is shown in Figure 9, which indicates a high concentration of people along the west side of Zacate Creek and in selected blocks north and west of the central business district.

The map referred to above indicates the densities formed by the existing housing pattern for Laredo. The unit on which the densities are based is the city block. All undeveloped land, and land in streets, parks, schools and neighborhood shopping areas, has been excluded. The highest density is found within a mile and one-half radius of the San Agustin Plaza, and the greatest concentration of people is located immediately west of Zacate Creek. At this location people are living in one, two and multi-family units. The high density is often the result of one and two-family units placed on very small tracts, which has in turn caused inadequate lot area per unit and excessive lot coverage. This is a problem peculiar to this area, and one which has required consultation and study on the part of the community's city planners.

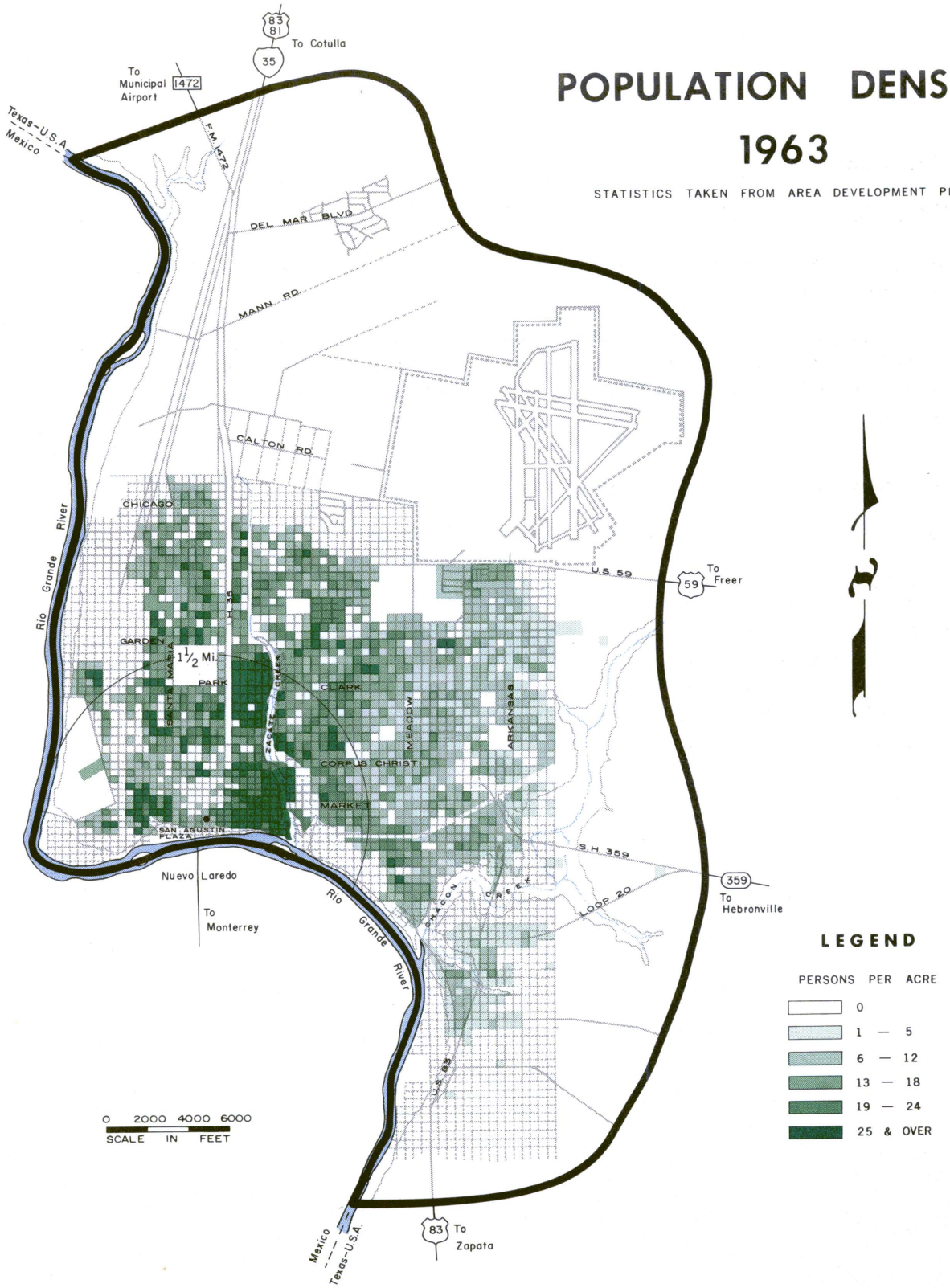


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Figure 9

POPULATION

FORECAST - 1960-1985

Three methods have been used in forecasting population increases for the Laredo Metropolitan Area.

Method Number 1: Method Number 1 assumes that increases in county population will be equal to the rate of increase during the period 1950 - 1960, and that the urbanizing area contiguous to the City of Laredo will be annexed as it develops.

	1950	1960	1970	1980	1985
Webb County (Laredo SMSA)	56,141	64,791	74,768	86,282	92,900
Laredo	51,912	60,678	70,932	82,919	89,900
Outside City	4,229	4,113	3,836	3,363	3,000

Method Number 2: Method Number 2 assumes that the county's average change differential of 18.8 percent per ten year period will remain constant (average percent increase between 1940 and 1960) and that the city's boundary does not change. When this factor is applied to the 1960 population, it produces the following:

	Webb County	Laredo % of Webb County	Laredo
1960	64,790	93.6	60,678
1965	70,880	91.9	65,178
1970	76,970	90.5	69,658
1975	84,200	89.1	75,060
1980	91,440	88.0	80,468
1985	100,000	85.5	85,500

POPULATION

Method Number 3: Method Number 3 is based upon the ratio of the Webb County population to the forecasted Texas population. The forecast also assumes that urban development adjacent to the City of Laredo will become a part of the corporate area.

	State of Texas	Ratio Webb Co. % to State	Webb Co. Population	Ratio Laredo % to State	Laredo Population
1940	6,414,824	.00715	45,916	.00612	39,274
1950	7,711,194	.00728	56,141	.00673	51,910
1960	9,579,677	.00676	64,791	.00633	60,678
1965	10,548,600	.00672	70,820	.00638	66,300
1970	11,500,000*	.00670	77,050	.00643	73,945
1975	12,569,300*	.00685	86,120	.00658	82,680
1980	14,000,000*	.00680	95,200	.00653	91,420
1985	15,230,000*	.00700	106,600	.00676	103,100

*Forecast by the Texas Research League

The forecasts as derived from the various methods show the following results:

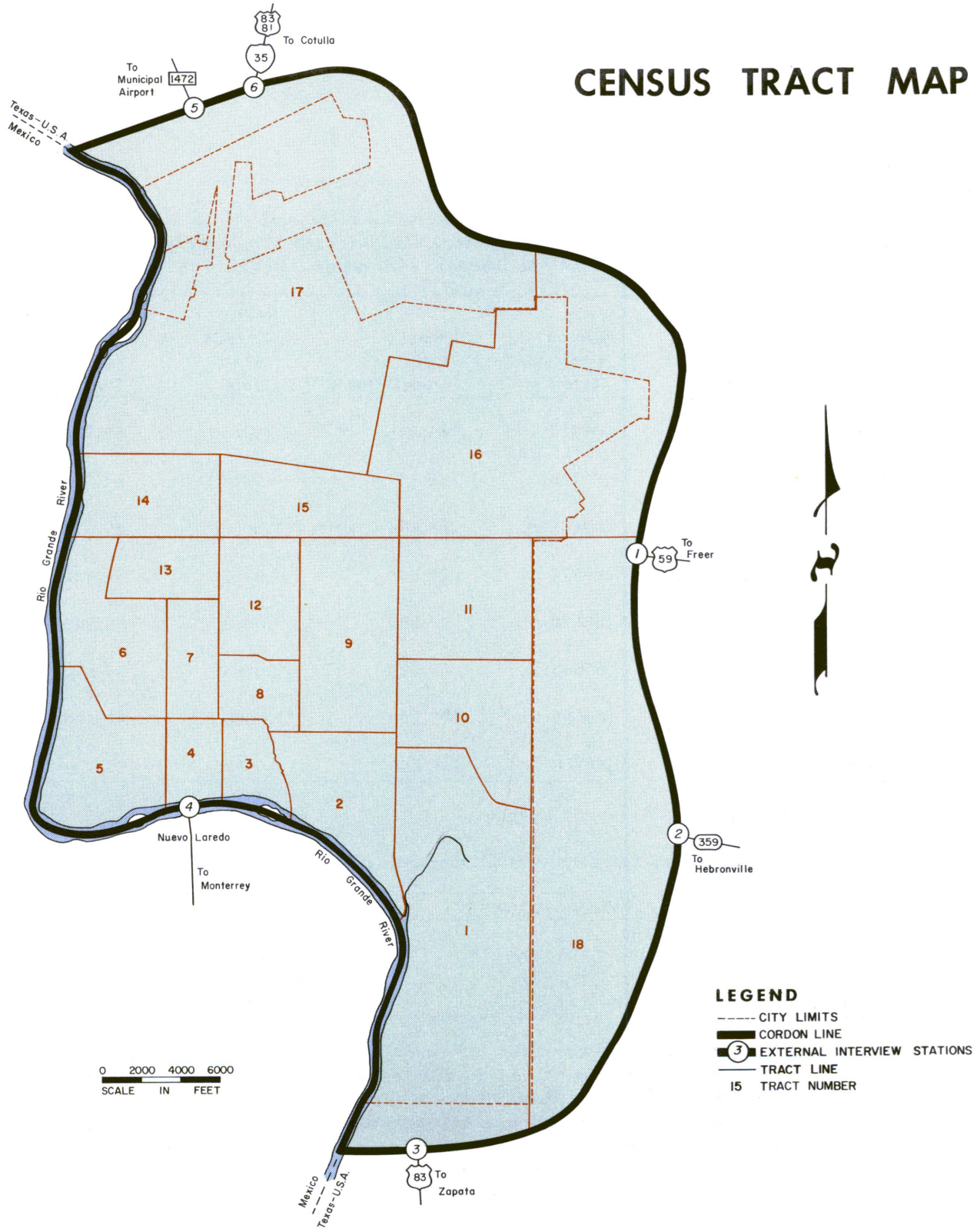
	WEBB COUNTY	CITY OF LAREDO
Method No. 1	92,900	89,900
Method No. 2	100,000	85,500
Method No. 3	106,600	103,100
Averages	99,800	92,800

The difference of 17,600 between the low and the high forecast for the City of Laredo may seem too high; however, these forecasts are made from 1960, the last census year, and 1985, the target year. It is felt that a spread of 700 per year is not excessive. The Chapter on Economics indicates a Manpower requirement for the City of Laredo for the year 1985 of approximately 27,580. Assuming that the ratio of labor force to population in 1985 will be approximately the same as for the years 1950 and 1960, this labor force would support a population of 92,240.

AGE GROUP COMPOSITION, WEBB COUNTY, 1950 - 1985

An investigation of the composition of the population by age, sex, mobility and other trends can provide information which allows a more accurate determination of future classrooms, housing and other facilities to be made. The principal source of information concerning population trends is the census. The eighteen census tracts in the Study Area are shown in Figure 10. Table 20 reflects estimated population to the year 1985, by census tracts, with percent of change from 1965 to 1985. There are, however, population

CENSUS TRACT MAP



LAREDO

Urban Transportation Study

Figure 10

TABLE 20

POPULATION CHARACTERISTICS BY CENSUS TRACTS

STUDY AREA

TRACT NO.	POPULATION 1960	ESTIMATED POPULATION 1964	ESTIMATED POPULATION 1985	PERCENT OF CHANGE 1964-1985
1	3460	4387	6920	+ 57.7
2	4743	4838	6640	+ 37.2
3	4382	4338	3527	- 18.7
4	1564	1237	1238	0
5	3314	3347	3976	+ 18.8
6	4439	4550	6437	+ 41.5
7	4170	3039	3685	+ 21.3
8	3822	3669	3211	- 12.5
9	9299	10778	15575	+ 44.5
10	3828	4181	6167	+ 47.5
11	3738	4577	7644	+ 67.0
12	5432	5765	6801	+ 18.0
13	3315	3905	5304	+ 35.8
14	2974	3212	3866	+ 20.4
15	2152	2907	5751	+ 97.8
16	46	714*	1142*	+ 60.0
17	NA	844*	6970*	+ 725.8
18	NA	110*	1746*	+ 1487.3
TOTALS	60,678	66,398	96,600	+ 45.5

*Population estimates for portion of census tract in Study Area only.

Source: City Planning Commission

characteristics in Laredo not easily identified by the ordinary census reporting procedures. The fact that the city is on an international transportation route exerts certain influence on the growth and patterns of the area. The problem that is peculiar to Laredo is the seasonal movement of a part of its resident population. Many farm laborers and family units spend only part of each year in the county, and this is reflected in local school enrollments and in labor force. It is also possible that the census interview has, in some instances, failed to identify the complete movement of people to and from Webb County. Interviews with school, employment and customs officials were held in an effort to develop the actual characteristics of the area.

The Bureau of the Census has, at each recent census, reported the number of persons, male and female, by each year of age between one and twenty-one, and by five year groups ranging from five to eighty-five years of age. The Laredo Study is concerned with the division of age groups identified as: Pre-School, School Age, Young Labor, Mature Labor, and Retirement Age. The distribution of age groups in the 1950 and 1960 census and a forecast of the composition through 1985 is reported in Tables 21 and 22. In Table 21 the composition is shown as the numerical distribution of the population and in Table 22 as a percentage distribution.

TABLE 21

AGE GROUP COMPOSITION - LAREDO COUNTY
1950 - 1985

AGE GROUP	1950	1960	1970	1980	1985
Pre-School					
0-4	7,571	9,202	10,320	11,740	12,640
School Age					
5-9	5,958	7,960	8,970	10,360	11,150
10-14	5,090	6,974	8,600	10,270	11,050
15-19	4,631	5,443	6,730	7,250	7,710
Young Labor					
20-39	14,801	14,692	18,990	21,570	23,230
Mature Labor					
40-64	11,155	12,442	15,700	18,380	19,690
Retirement					
65+	2,704	3,965	5,460	6,730	7,430
TOTAL	51,910	60,688	74,770	86,300	92,900

Source: Statistics taken from Area Development Plan

TABLE 22

AGE GROUP PERCENTAGE DISTRIBUTION
LAREDO COUNTY 1960 - 1985

AGE GROUPS	1950	1960	1970	1980	1985
Pre-School 0-4	14.6	15.2	13.8	13.6	13.6
School Age					
5-9	11.4	13.1	12.0	12.0	12.0
10-14	9.8	11.5	11.5	11.9	11.9
15-19	8.9	9.0	9.0	8.4	8.3
Young Labor					
20-39	28.5	24.2	25.4	25.0	25.0
Mature Labor					
40-64	21.6	20.5	21.0	21.3	21.2
Retirement					
65+	5.2	6.5	7.3	7.8	8.0

Source: Statistics taken from Area Development Plan

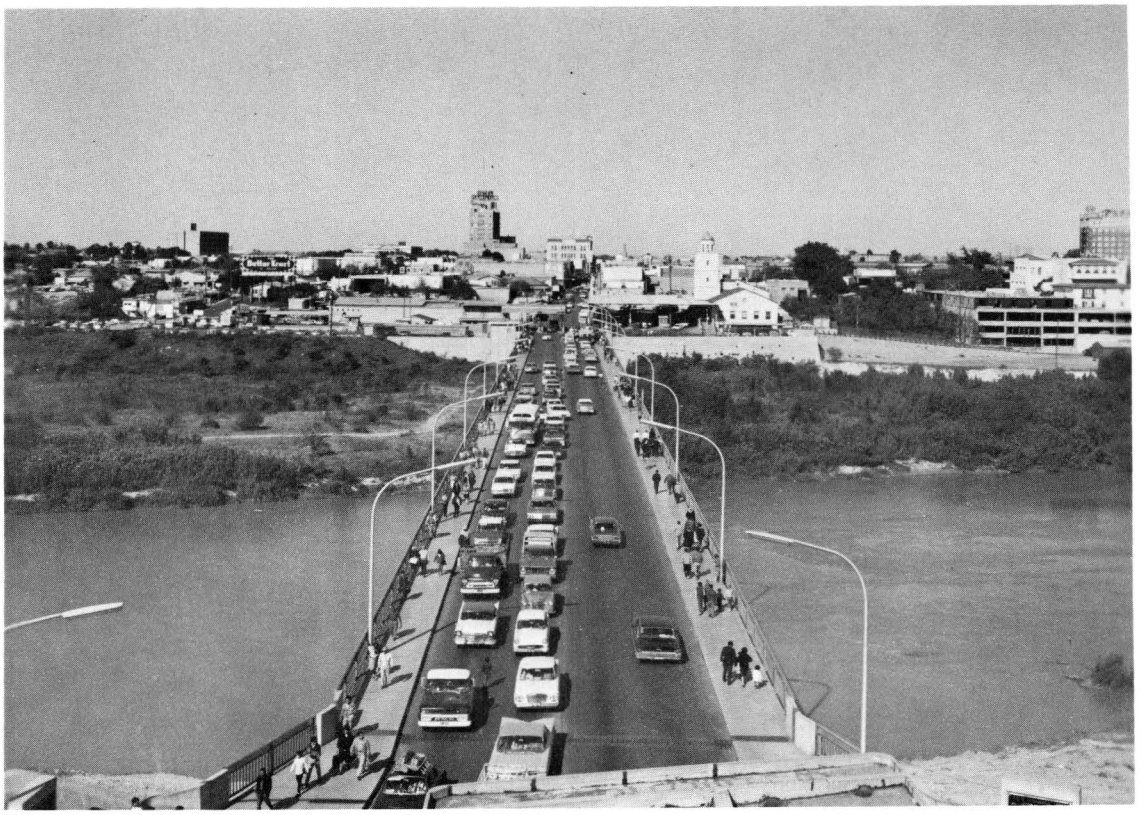
POPULATION

Several trends are indicated by changes forecasted in age composition. The pre-school and school age groups are expected to decrease as a percentage of the total population; the labor force distribution reflects a small increase, and the retirement age group a noticeable increase. Coupled with the anticipated changes are the planning implications that facilities used by people over 20 years of age will increase above the 1960 level. This is particularly true for recreation and housing demands for persons over 65.

CONCLUSIONS AND RECOMMENDATIONS

The Advisory Committee reviewed the population forecasts for the Laredo Area Development Plan and compared them to the projected population arrived at by the City Planning Commission in their census tract projections. The committee's considered opinion is that the findings are within a reasonable range and that the census tract projections are more suitable for future use insofar as Urban Transportation Planning is concerned. Also, it was decided that the slightly higher figure was more adequate for Transportation Planning. The Advisory Committee recommends that for planning purposes a population of 96,600 in the Study Area be used for the target year of 1985.

It is realized by the Committee that these projected figures are subject to review and possible revision. It will be necessary to keep constant watch over growth as it occurs and to adjust the projections periodically, particularly in view of problems discussed in this chapter which are unique to the Study Area.



Land Use

LAND USE

INTRODUCTION

A Land Use study should provide those responsible for developing a coordinated urban transportation plan with the information necessary to project anticipated future land usage in the Study Area to 1985. This information should be analyzed to determine the ratio of future land usage to future population, and should permit each classification of land use to be related to major streets, railroads, drainage areas, topography, and to other physical characteristics of the area. The reference "Land Use" may be defined as the identification of the urban activity that occupies or is intended for a given part of an urban area. The amount of land in each use classfication can be related to the number of people expected to occupy the land at some future date. Land use analysis is one of the most basic tools necessary in planning and forecasting future urban requirements.

OBJECTIVES

One objective of the Laredo Land Use Plan is to contain future urban development within geographic limits sufficient to provide enough area for expected increases in population, business and industrial growth, yet compact enough to prevent uneconomical sprawl or scattered pockets of isolated development. Safe and attractive residential neighborhoods should be developed, and old and new neighborhoods protected from the adverse effect of incompatible land uses and physical barriers.

Those areas for commercial and industrial development which are best suited for these activities should be preserved because of location, economic potential, and relation to utilities and transportation facilities.

Such a land use plan should serve as a guide for the effective planning of other elements of the urban area, which are the circulation system, public facilities (such as schools and parks); utilities and sanitation systems; residential development, and business and industrial districts. In order to effectively plan future traffic patterns, it is necessary to develop a land use forecast based on present land use requirements, with particular attention given to past and potential factors influencing growth, and to provide sufficient analysis to permit objective local conclusions to be reached.

PRESENT USE OF LAND IN THE LAREDO AREA

The 1963 survey of land use in the Study Area is shown in Figure 11. The Study Area consists of approximately 18,000 acres of land, of which 9,051 acres are within the city limits. In the City 63 percent of the area is developed and 37 percent is vacant or agricultural. Residential land usage accounts for 45 percent of the total developed area. The pattern of existing land use as of 1963 is shown in Table 23.

Land usage in Laredo has been influenced by the following factors: the location of the Rio Grande, the original San Agustin settlement, railroads, utility extensions, state highways, and the International Bridge location. Much of the resulting development has established good land use patterns. However, the most serious problems are: mixed industrial and residential usage adjacent to the rail trackage; strip commercial development along the major state highway routes; some undesirable intrusion of business into residential neighborhoods; and some development in the river flood plain and in the creek bottoms.

TABLE 23

COMPARATIVE LAND USE CHARACTERISTICS
LAREDO

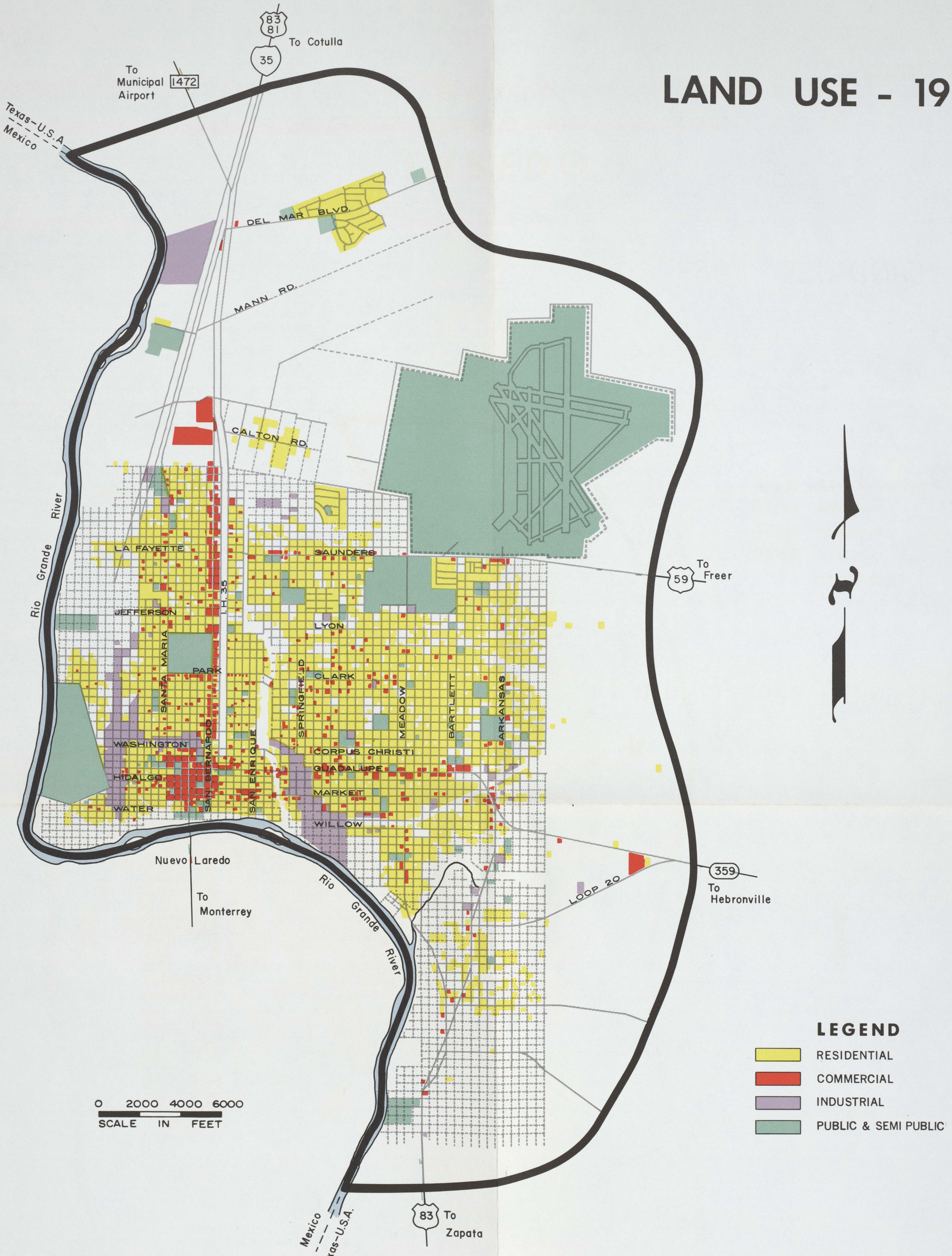
	1958				1963				CHANGE 1963-1985		
Land Use	Area Acres	Percent of All Development	Percent of Incorp. City Area	Acres Per 100 Persons	Area Acres	Percent of All Development	Percent of Incorp. City Area	Acres Per 100 Persons	Acres Per 100 Persons	Additional Area Req.	Estimated Area
Residential	1,620.2	39.5	18.3	2.79	2,583	44.8	28.3	4.10	4.80	1,847	4,430
Retail	174.4	4.2	1.9	0.42	366	6.3	4.0	0.58	0.60	187	553
Commercial	70.9	1.7	0.8								
Industrial	102.6	2.5	1.2	0.18	162	2.8	1.8	0.26	0.49	298	460
Public and Semi-Public	301.4	7.3	3.4	0.52	617	10.7	6.8	0.97	2.13	1,658	1,960
Streets	1,727.4	42.0	19.5	2.98	1,920	33.4	21.2	3.02	2.80	660	2,580
Railroads	115.5	2.8	1.4	0.20	116	2.0	1.3	0.18	0.17	40	156
TOTAL URBAN	4,112.4	100.0	46.5	7.09	5,764	100.0	63.4	9.11	10.99	4,690	10,139
Vacant and Agricultural	4,737.6		53.5		3,287		36.6				
INCORPORATED CITY AREA	8,850.0		100.0		9,051		100.0				
ESTIMATED 1958 POPULATION = 58,000					ESTIMATED 1963 POPULATION = 63,500				ESTIMATED 1985 POPULATION = 92,200		

Source: Statistics taken from Area Development Plan

LAND USE - 1963

Figure 11

LAND USE - 1963



LAREDO
Urban Transportation Study

Figure 11

LAND USE

The original platting of the City of Laredo, which was accomplished by a Public Act dated 1767, has not yet been fully developed. Most of the City was laid out on a grid pattern with very small blocks and narrow streets. This arrangement, coupled with the high density resulting from one, two and multi-family units being placed on very small tracts, has produced unique development patterns in Laredo.

One of the most serious local situations injurious to the public health and safety of the people of Laredo is the ratio of dwelling units to lot area. Basic city block dimensions in Laredo were established almost 200 years ago. These blocks have been divided into 6, 8, 10, 12, and more building lots. The normal block length is 277.78 feet. As the number of block divisions increases, the size of the lots decreases, resulting in a higher density. Lots containing more than one living structure, with resulting overcrowded conditions, exist in some areas of Laredo. In some instances the spacing of dwelling units, not the net population density, is the source of substandard living conditions. The basis of this problem is found in the absence of municipal zoning, minimum housing standards and site planning. A map reflecting Population Density, 1963, is shown on Figure 9.

There are 18 census tracts in the Study Area, as shown in Chapter II, Figure 10. The sale line on this map is the boundary of the Study Area. Table 24 depicts Land Use Tabulation by Tracts as of 1964, showing number of acres in residential, commercial, industrial and public or semi-public land, and total or net area of developed acres in the Study Area.

Residential development in the Study Area, which includes one, two and multi-family structures, occupies 44.8 percent of the City's developed area. Most of the two and multi-family structures in the City are located in public housing projects and in areas of sub-standard dwellings. Although the ratio of two and multi-family developments is expected to increase, the past practice of placing several one-family homes on one lot has been restricted, resulting in an increase in the ratio of residential land requirements.

Commercial development occupies 6.3 percent of the City's developed area. In addition to the central area, major business activity is found along San Bernardo Avenue and Guadalupe Street. The City's industrial development occupies 2.8 percent of the developed area. These uses are concentrated at the Missouri Pacific Railroad Yards near Fort McIntosh, and adjacent to the Texas-Mexican Railroad south of Guadalupe Street.

Because of its location on an international boundary, Laredo has more land in government operations than do many cities. The largest public areas in the City are the Fort McIntosh Area and the Laredo Air Force Base. The public use areas of Laredo are equal to 10.7 percent of the total development.

Many homes remain in the three-block area bordering the retail core, and pedestrian, vehicular, and service truck congestion in that area is a major problem.

LAND USE FORECAST

Many factors should be taken into consideration when designating communities and neighborhoods, and when planning future development of the services required by such a plan. The use of existing developed urban land is expected to change by 1985, with most of the presently platted, yet undeveloped blocks, suitable for residential development, being improved by that date. In addition, new areas of development located in North Central

TABLE 24

LAND USE TABULATION BY TRACTS - 1964
IN ACRE

Tract No.	Residential	Commercial	Industrial	Public Semi-Public	Total Developed (Net Area)
1	26.8	4.4	1.4	10.0	42.6
2	144.0	23.0	110.8	17.5	295.3
3	78.2	13.6	4.8	2.4	99.0
4	24.5	72.4	1.8	22.6	121.3
5	100.0	42.5	21.0	124.0	287.5
6	84.2	5.8	72.4	104.3	266.7
7	101.0	43.0	-0-	61.0	205.0
8	132.3	22.7	16.4	16.2	187.6
9	502.3	39.9	6.3	94.4	642.9
10	336.6	16.5	6.2	61.5	420.8
11	317.5	9.9	2.6	89.9	419.9
12	194.0	13.0	-0-	24.0	231.0
13	138.8	48.0	-0-	28.4	215.2
14	164.0	32.0	8.0	22.0	226.0
15	155.0	45.7	2.6	40.5	243.8
TOTALS	2499.2	432.4	254.3	718.7	3904.6

NOTE: Tract 16 is the Laredo Air Force Base. Tracts 17 and 18 not included due to being mostly outside of the Study Area.

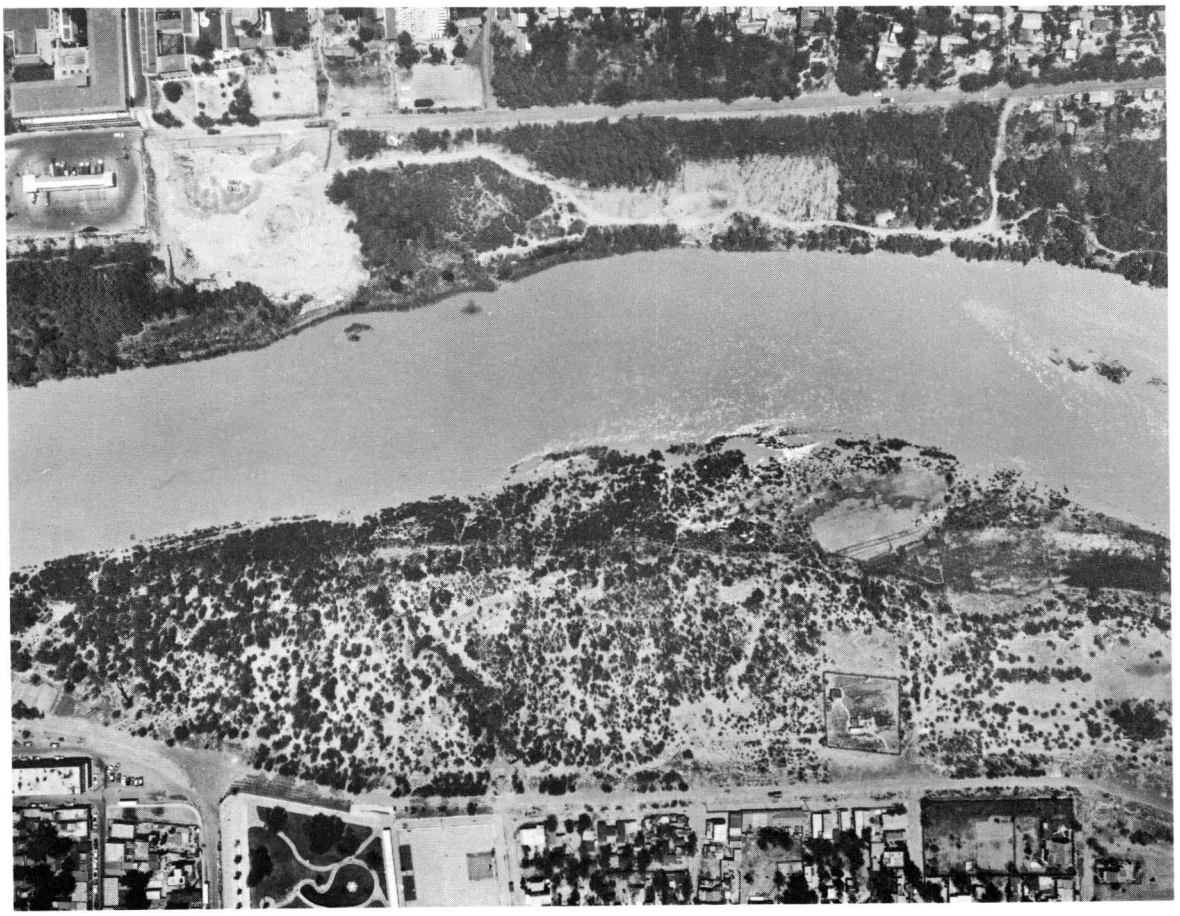
Source: City Planning Commission

and South Laredo are anticipated. More of the remaining residential area south of LaFayette Street between Zacate Creek and the Rio Grande which remains residential is expected to increase in density, which implies a greater percentage of two and multi-family structures.

In the Study Area, the new neighborhoods should concentrate their businesses at one location. An Office-Professional Use Plan should be incorporated to achieve a better transition between residential and industrial uses. The trend in the home-store commercial center should be largely replaced with planned shopping centers, and these locations should attempt to create better order through off-street parking, service areas and other provisions. Planned industrial districts should replace the current haphazard spot developments, resulting in an increase in the ratio of land use.

The problem flood plain, creek bottoms and river frontage will become a part of a public open space and public park program. Currently this land is primarily classified as vacant. Purchase of selected areas for open space planning and more adequate schools, churches and other public land sites will also increase the ratio of urban land usage.

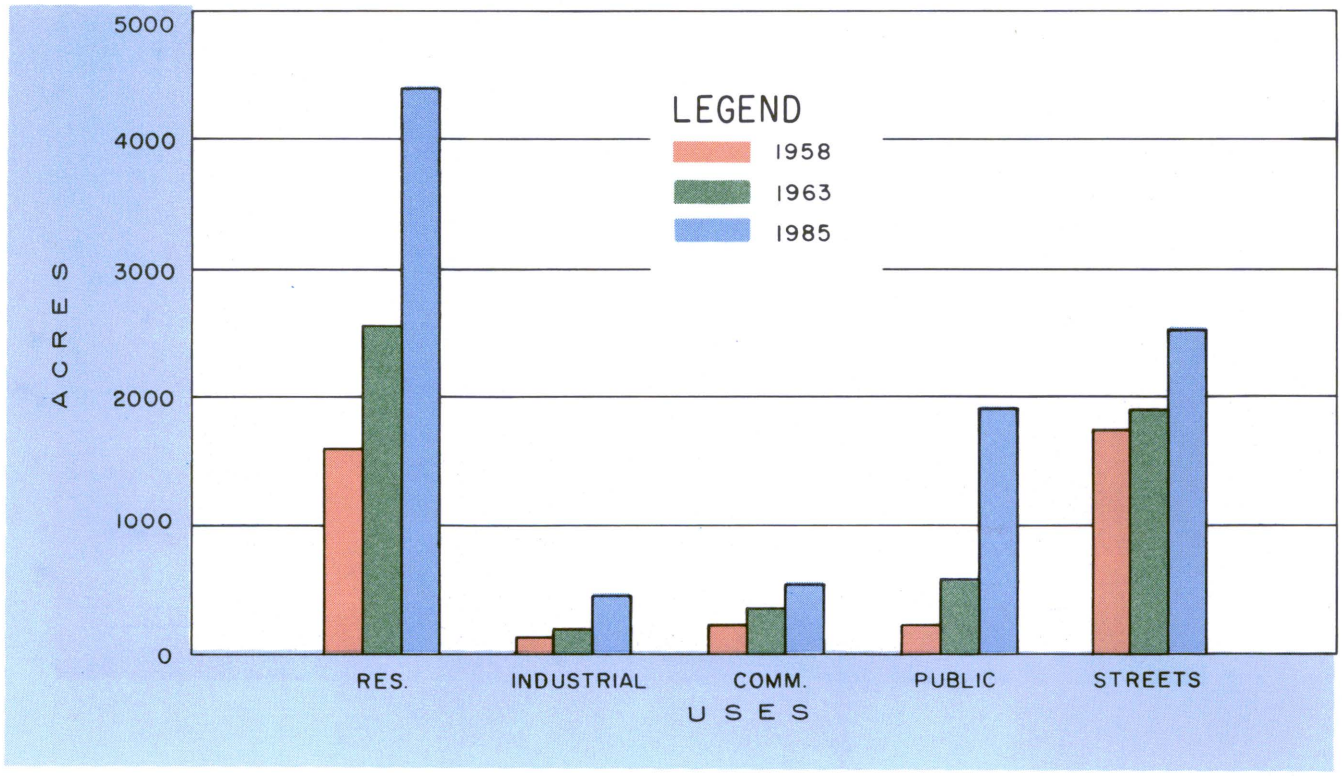
One category for which the ratio of land to total population should be decreased is streets. The vacating of some dedicated but unused rights-of-way and more efficient subdivision platting can be used to accomplish this objective.



LAND USE

Figure 12 provides a scale of urban land use trends relating to Laredo and vicinity. It may be noted from this figure that public usage of land for purposes such as parks, playgrounds, churches and other public and semi-public facilities increased considerably from 1958 to 1963, and due consideration must be given to the overall community value of these land uses in providing a plan suitable for the Study Area, which will break up the monotony of residential development, reduce population densities, and provide much needed open space for recreational and other uses.

AREA LAND USE TRENDS



STATISTICS TAKEN FROM AREA DEVELOPMENT PLAN

LAREDO
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Study

Figure 12

LAND USE

The future land use forecast is based on the past and present land requirements, taking into consideration past and potential factors influencing growth and development. The land use forecast provides a basis for estimating traffic generation and future travel patterns. The Laredo City Planning Department will project the distribution of the various land use types by five-year increments for periodic comparison of the estimated land uses to the actual development.

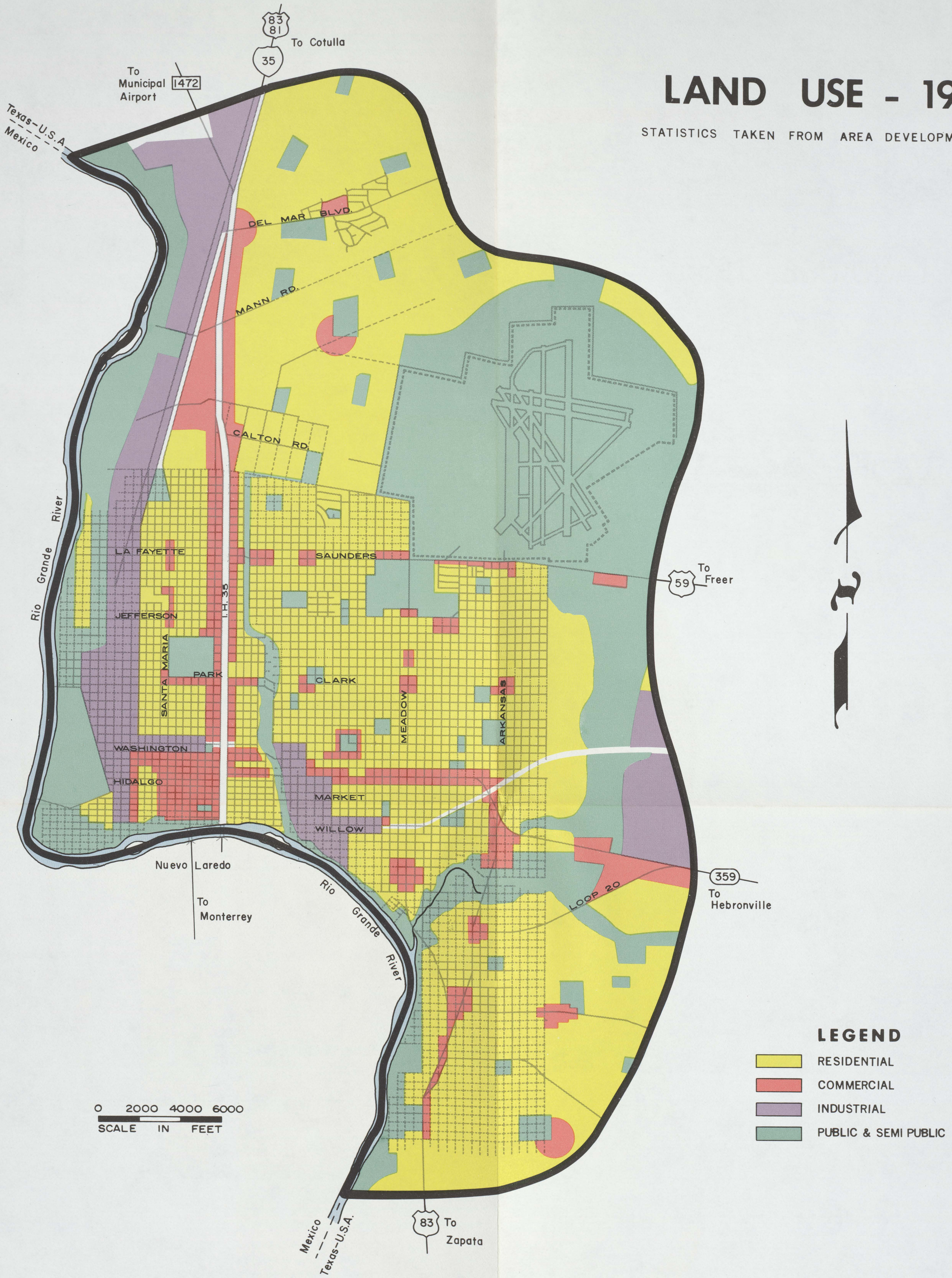
Figure 13 depicts the projected land use for 1985 within the Study Area, as determined by the Consultants in the preparation of the Laredo Area Development Plan.

LAND USE - 1985

Figure 13

LAND USE - 1985

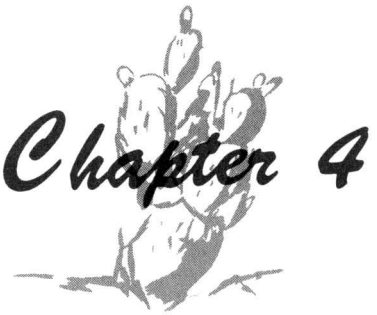
STATISTICS TAKEN FROM AREA DEVELOPMENT PLAN



LAREDO
Urban Transportation Study

Figure 13

Transportation Facilities



TRANSPORTATION FACILITIES

EXISTING STREET USE

This chapter is concerned with an inventory of existing transportation facilities to provide information on physical features and operational characteristics of the major street and highway system.

The existing street use map of the Laredo Urban Transportation Study is shown in Figure 14.

The National Committee on Urban Transportation * recommends the following four categories for classification of street use:

1. Expressways: These multi-lane divided facilities are designed to carry large volumes of traffic at high speeds and are characterized by some degree of access control. Expressways are primarily intended to serve long trips.

2. Major Arterials: This class of streets brings traffic to and from the expressways and serves those major movements of traffic within or through the Metropolitan area not served by expressways. Major arterials interconnect the principal traffic generators within the city and the important rural routes. Major arterials handle trips between different areas of the city and should form a reasonably integrated system. The length of the typical trip on the system will usually exceed one mile.

   Truck and bus routes, as well as State and Federal numbered routes, are usually located on major arterials. Commuting and work trips, which tend to be longer than shopping trips, also concentrate on these routes. The concentration of through traffic, in most cases, results in having these streets designated as through streets.

   These arterials are usually provided with traffic aids such as progressive traffic signal systems and lane markings. Major arterials mainly serve to move traffic, but they also perform a secondary land service function. Although traffic volume cannot be considered a criterion in itself, these routes often are the most heavily used in the city, with daily traffic volumes usually exceeding 3,500 vehicles per day. The abutting property usually has free access, with parking and loading being restricted or prohibited as required to improve capacity.

3. Collector: These streets serve internal traffic movement in specific areas or subdivisions of the city, and connect the areas with major arterials. They do not handle long trips and are not necessarily continuous for great lengths. A street of several miles in length may be serving as a collector rather than a major arterial if the predominant use is to reach the next junction with a major arterial and there turn off. Collectors seldom carry state or federal numbered routes, although they may connect less important roads with the major arterial system. Collectors may be used for bus or truck movements to penetrate an area and give direct service to that area, but they are rarely used for through routes. Collectors are in-

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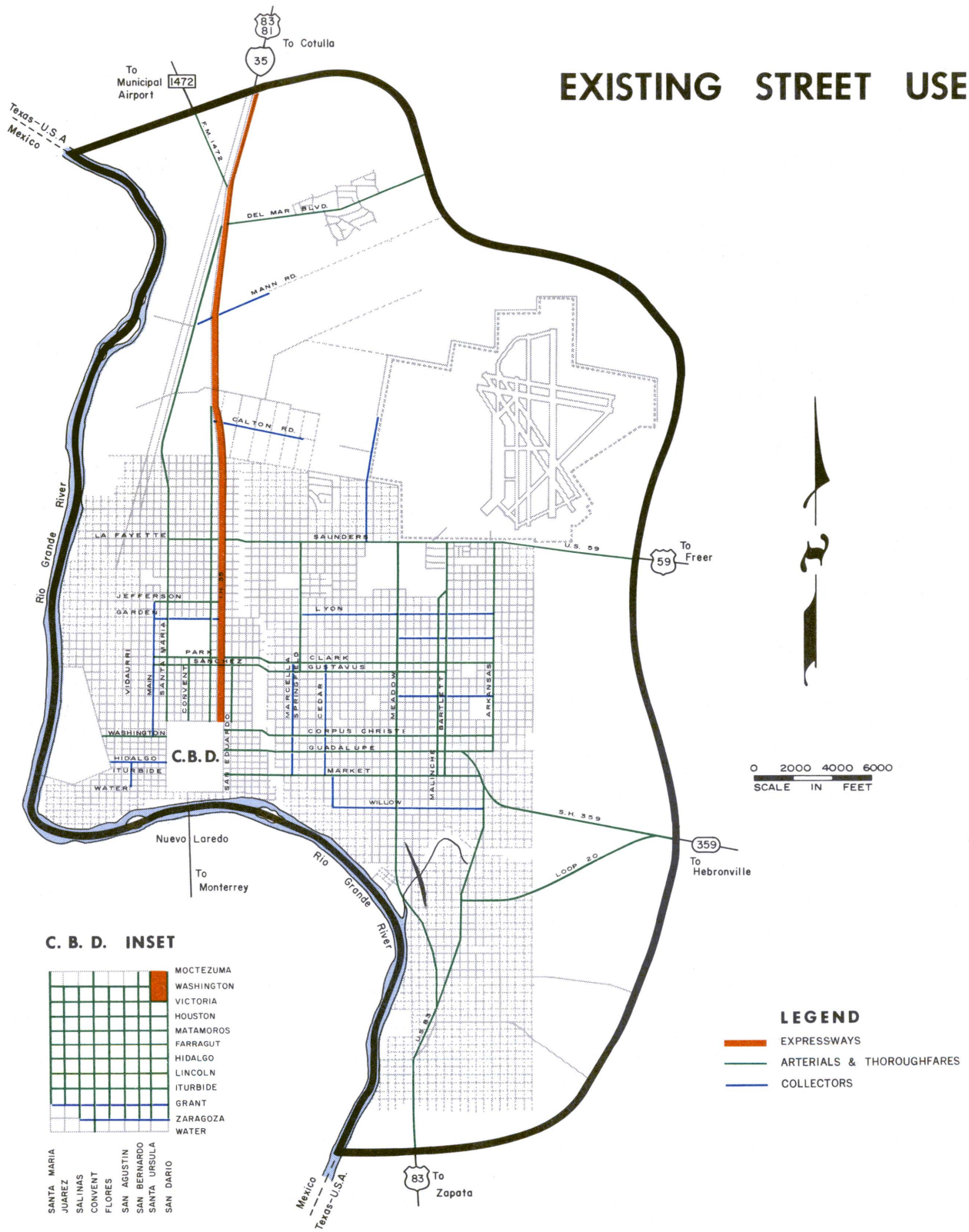
* Determining Street Use, Procedure Manual 1A, Public Administration Service, 1958.



LAREDO
Urban Transportation Study

Figure 14

tended to supply abutting property with the same degree of land service as local streets, and also serve the local traffic. They usually carry daily volumes of 1,500 to 3,500 vehicles. The principal difference between collectors and major arterials is the length of the trip they accommodate.

4. Local: The Local Street System provides easy access to the immediately adjacent land and also connects with the Collector Streets. It comprises a large percentage of the total street mileage, but carries a small proportion of the vehicle miles of travel. The design of the local street system may vary to accommodate the adjacent land uses such as residential, commercial and industrial.

Table 25 shows the division of street mileages in the Laredo Urban Transportation Study area and compares it to the suggested National Committee on Urban Transportation street classification for cities of 25,000 to 150,000 population.* Table 26 is the summary of the existing streets in the area.

EXISTING STREET INVENTORY AND CAPACITY STUDY

The Area Development Plan for Laredo in Webb County, developed by Caudill, Rowlett & Scott, Consultant Engineers under the H. H. F. A. Section 701 Program, has a detailed inventory of many of the most important streets in Laredo and a capacity determination on these streets by sections. Table 27 shows this inventory. From this information and the traffic count made for the O & D Study by Planning and Survey Division, Texas Highway Department, a "Congestion Index" was determined for each of the fifteen most congested intersections in the city.

*Standards for Street Facilities and Services, Procedure Manual 7A, Public Administration Service, 1958.

TABLE 25

DIVISION OF STREET MILEAGE

Classification Of Street	Suggested *NCUT Percent	Laredo Urban Transportation Study	
		Miles	Percent
Expressways	0 - 5	5.5	1.2
Arterials & Collectors	20 - 30	86.8	19.6
Local	70 - 80	350.0	79.2
TOTALS	100	442.3	100.0

* (NCUT) National Committee on Urban Transportation

TABLE 26

SUMMARY OF EXISTING STREETS

Classification	Laredo UTS Area (Miles)
Expressways	5.5
Arterials	62.3
CBD Arterials	11.4
Collectors	13.1
Local	350.0
Total	442.3 Miles

This total does not include streets and roads in Laredo Air Force Base and in Fort McIntosh.
SOURCE: City Planning and Zoning Commission & Area Development Plan

Of the 442 miles in the Study Area, some 18 miles are in the State Highway System as follows:

IH 35	5.5 Miles
US 59	3.3
US 83	3.2
SH 359	1.6
US 83 & SH 359	2.2
Loop 20	1.7
FM 1472	0.7
TOTAL	18.2 Miles

TABLE 27

STREET INVENTORY - LAREDO

Street	Limits	Width in Feet	Parking	Left Turns	Signal	Stop	Bus Stop	One Way	Capacity
Zaragosa	Juarez to Salinas	25	Yes	Yes	No	No	No	No	740
	Salinas to Convent	25	½	No	No	Yes	No	No	405
	Convent to Flores	20	½	Yes	No	No	No	No	740
	Flores to San Agustin	48	½	Yes	No	No	No	No	382
	San Agustin to San Bdo	27	Yes	No	No	No	No	No	810
	San Bdo to Sta Ursula	27	Yes	Yes	No	No	No	No	740
Grant	Sta Maria to Salinas	28	Yes	Yes	No	No	No	No	740
	Salinas to Convent	23	No	No	Yes	No	Yes	No	473
	Convent to Flores	23	½	No	No	No	No	Yes	997
	Flores to San Agustin	43	½	No	No	No	No	Yes	2480
	San Agustin to San Bdo	23	No		Yes	No	No	Yes	525
	San Bdo to Sta Ursula	23	Yes	No	No	No	No	No	810
Iturbide	Sta. Maria to Juarez	26	Yes	Yes	No	No	No	No	740
	Juarez to Salinas	26	Yes	No	No	No	No	Yes	926
	Salinas to Convent	26	½	No	Yes	No	No	Yes	407
	Convent to Flores	29	Yes	No	Yes	No	Yes	Yes	330
	Flores to San Agustin	32	Yes	No	Yes	No	Yes	Yes	268
	San Agustin to San Bdo	26	½	No	No	No	Yes	Yes	1085
	San Bdo to Sta. Ursula	26	Yes	Yes	No	No	Yes	No	651
Lincoln	Sta Maria to Juarez	23	Yes	Yes	No	Yes	No	Yes	356
	Juarez to Salinas	23	Yes	No	Yes	No	Yes	Yes	207
	Salinas to Convent	23	½	No	Yes	No	No	Yes	329
	Convent to Flores	23	½	No	Yes	No	No	Yes	329
	Flores to San Agustin	47	Yes	No	Yes	No	Yes	Yes	566
	San Agustin to San Bdo	23	½	Yes	No	Yes	Yes	Yes	438
	San Bdo to Sta Ursula	20	½	Yes	No	No	No	Yes	760
Hidalgo	Sta Maria to Juarez	23	Yes	Yes	No	No	No	Yes	713
	Juarez to Salinas	23	Yes	No	Yes	No	No	Yes	235
	Salinas to Convent	23	½	No	Yes	No	No	Yes	329
	Convent to Flores	23	½	No	Yes	No	No	Yes	329
	Flores to San Agustin	50	Yes	Yes	Yes	No	No	Yes	693
	W. ½ San Agustin to San Bdo	25	½	No	Yes	No	Yes	Yes	335
	E. ½ San Agustin to San Bdo	36	Yes	No	No	No	Yes	Yes	369
	San Bdo to Sta Ursula	25	½	No	Yes	No	Yes	Yes	894
Farragut	Sta Maria to Juarez	24	½	Yes	No	No	Yes	No	651
	Juarez to Salinas	42	Yes	No	Yes	No	Yes	No	428
	Salinas to Convent	34	Yes	No	Yes	No	Yes	No	301
	Convent to Flores	34	Yes	No	Yes	No	Yes	No	301
	Flores to San Agustin	29	Yes	No	Yes	No	Yes	Yes	330
	San Agustin to San Bdo	23	Yes	No	Yes	No	Yes	Yes	207
	San Bdo to Sta Ursula	23	½	Yes	No	No	Yes	Yes	877
Juarez	Farragut to Matamoros	30	Yes	No	Yes	No	No	Yes	399
	Matamoros to Houston	27	½	No	No	Yes	No	No	405
	Houston to Victoria	27	Yes	No	No	Yes	No	No	405
	Victoria to Washington	40	Yes	No	No	Yes	No	No	690
	Washington to Moctezuma	40	Yes	No	No	Yes	No	No	690
Salinas	Water to Zaragoza	22	No	No	No	Yes	No	No	815
	Zaragoza to Grant	26	No	No	No	Yes	No	No	815
	Grant to Iturbide	23	No	No	No	Yes	No	No	815
	Iturbide to Lincoln	26	Yes	No	Yes	No	No	Yes	305
	Lincoln to Hidalgo	25	Yes	No	Yes	No	Yes	Yes	268
	Hidalgo to Farragut	26	Yes	No	Yes	No	Yes	Yes	268
	Farragut to Matamoros	50	Yes	No	Yes	No	Yes	Yes	609
	Matamoros to Houston	23	½	No	No	Yes	No	Yes	498
	Houston to Victoria	23	Yes	No	No	Yes	No	Yes	356
	Victoria to Washington	40	Yes	No	No	Yes	No	No	690
	Washington to Moctezuma	40	Yes	No	No	No	No	No	380

TABLE 27 CONTINUED

Street	Limits	Width in Feet	Parking	Left Turns	Signal	Stop	Bus Stop	One Way	Capacity
Convent	Water to Zaragoza	40	½	Yes	No	No	Yes	No	100
	Zaragoza to Grant	40	½	No	Yes	No	Yes	No	400
	Grant to Iturbide	30	No	No	Yes	No	No	No	537
	Iturbide to Lincoln	30	No	No	Yes	No	Yes	No	473
	Lincoln to Hidalgo	30	No	No	Yes	No	Yes	No	473
	Hidalgo to Farragut	30	No	No	Yes	No	Yes	No	473
	Farragut to Matamoros	30	No	No	Yes	No	Yes	No	473
	Matamoros to Houston	28	No	No	Yes	No	Yes	No	473
	Houston to Victoria	28	No	No	Yes	No	Yes	No	473
	Victoria to Washington	38	Yes	No	Yes	No	Yes	No	297
	Washington to Moctezuma	38	Yes	No	No	No	Yes	No	902
Flores	Zaragoza to Grant	46	½	No	No	Yes	No	No	834
	Grant to Iturbide	30	Yes	No	Yes	No	No	Yes	399
	Iturbide to Lincoln	30	Yes	No	Yes	No	No	Yes	399
	Lincoln to Hidalgo	60	Yes	Yes	Yes	No	Yes	Yes	726
	Hidalgo to Farragut	30	Yes	No	Yes	No	Yes	Yes	351
	S. ½ Farragut to Matamoros	38	½	No	Yes	No	Yes	Yes	367
	N. ½ Farragut to Matamoros	30	½	No	Yes	No	Yes	Yes	235
	Matamoros to Houston	30	Yes	No	No	No	No	Yes	1210
	Houston to Victoria	30	½	No	No	Yes	No	Yes	775
	Victoria to Washington	40	Yes	No	No	Yes	No	No	690
	Washington to Moctezuma	40	Yes	No	No	Yes	No	No	690
San Agustin	Zaragoza to Grant	50	½	No	No	Yes	No	Yes	1450
	Grant to Iturbide	26	½	No	Yes	No	No	Yes	407
	Iturbide to Lincoln	26	½		Yes	No	No	Yes	407
Matamoros	Sta Maria to Juarez	30	Yes	No	Yes	No	Yes	No	235
	Juarez to Salinas	50	½	No	Yes	No	Yes	No	540
	Salinas to Convent	30	No	No	Yes	No	No	No	537
	Convent to Flores	30	No	No	Yes	No	No	No	537
	Flores to San Agustin	30	No	No	Yes	No	Yes	No	473
	San Agustin to San Bdo	30	No	No	Yes	No	Yes	No	473
	San Bdo to Sta Ursula	30	No	No	No	No	Yes	No	1434
Houston	Sta Maria to Juarez	40	Yes	Yes	Yes	No	No	No	412
	Juarez to Salinas	40	Yes	Yes	No	No	No	No	1250
	Salinas to Convent	40	Yes	No	Yes	No	No	No	455
	Convent to Flores	40	Yes	Yes	No	No	No	No	1250
	Flores to San Agustin	50	½	No	No	Yes	No	No	930
	San Agustin to San Bdo	40	½	No	Yes	No	Yes	No	400
	San Bdo to Sta Ursula	40	Yes	Yes	No	No	No		1250
Victoria	Sta Maria to Juarez	40	Yes	Yes	Yes	No	No	No	412
	Juarez to Salinas	40	Yes	Yes	No	No	No	No	1250
	Salinas to Convent	40	Yes	No	Yes	No	No	No	455
	Convent to Flores	40	Yes	Yes	No	No	No	No	1250
	Flores to San Agustin	50	Yes	Yes	No	No	No	No	1690
	San Agustin to San Bdo	40	Yes	No	Yes	No	No	No	455
	San Bdo to Sta Ursula	40	Yes	Yes	No	No	No	No	1250
Washington	Sta Maria to Juarez	40	Yes	No	Yes	No	No	No	455
	Juarez to Salinas	40	Yes	Yes	No	No	No	No	1250
	Salinas to Convent	40	Yes	No	Yes	No	No	No	455
	Convent to Flores	40	Yes	Yes	No	No	No	No	1250
	Flores to San Agustin	40	Yes	No	Yes	No	No	No	455
	San Agustin to San Bdo	40	Yes	No	Yes	No	No	No	455
	San Bdo to Sta Ursula	40	Yes	Yes	No	No	No	No	1250
Sta Maria	Grant to Iturbide	20	Yes	Yes	No	Yes	No	No	370
	Iturbide to Lincoln	26	Yes	Yes	No	No	Yes	No	651
	Lincoln to Hidalgo	30	Yes	No	No	Yes	Yes	No	356
	Hidalgo to Farragut	30	Yes	No	No	Yes	Yes	No	356
	Farragut to Matamoros	30	Yes	No	Yes	No	Yes	No	235
	Matomoros to Houston	30	Yes	No	Yes	No	Yes	No	235
	Houston to Victoria	30	Yes	No	Yes	No	Yes	No	235
	Victoria to Washington	30	Yes	No	Yes	No	Yes	No	235
	Washington to Moctezuma	30	Yes	Yes	No	No	Yes	No	651

TABLE 27 CONTINUED

Street	Limits	Width in Feet	Parking	Left Turns	Signal	Stop	Bus Stop	One Way	Capacity
Juarez	Grant to Iturbide	20	Yes	Yes	No	No	Yes	No	651
	Iturbide to Lincoln	20	Yes	No	No	Yes	Yes	No	356
	Lincoln to Hidalgo	20	½	No	No	Yes	No	No	405
	Hidalgo to Farragut	20	No	No	No	Yes	No	No	815
Seymour	Rosario to Market	30	No	No	No	Yes	No	No	650
	Rosario to Chihuahua		No	Yes	No	No	No	No	1170
	Chihuahua to Guadalupe		No	No	Yes	No	No	No	429
	Guadalupe to Laredo		No	Yes	No	No	No	No	1170
	Laredo to Corpus Christi		No	No	Yes	No	No	No	429
	Corpus Christi to Musser		No	Yes	No	No	No	No	1170
	Musser to Gustavus		No	No	Yes	No	No	No	429
	Gustavus to Clark		No	No	Yes	No	Yes	No	377
	Clark to Stewart		No	Yes	No	Yes	Yes	No	514
Lyon	Maryland to Springfield	28	Yes	No	No	Yes	No	No	650
	Maryland to Seymour	28	Yes	Yes	No	No	No	No	1170
	Seymour to Meadow	28	Yes	No	No	Yes	No	No	650
	Mendiola to Meadow	28	Yes	No	No	Yes	No	No	650
	Mendiola to Urbahn	28	Yes	Yes	No	No	No	No	1170
	Urbahn to Malinche	28	Yes	No	No	Yes	No	No	650
	Malinche to Bartlett	28	Yes	No	No	Yes	No	No	650
	Jarvis to Bartlett	28	Yes	No	No	Yes	No	No	650
	Jarvis to Louisiana	28	Yes	Yes	No	No	No	No	1170
	Louisiana to Arkansas	28	Yes	No	No	Yes	No	No	650
Sanchez	Flores to Convent	28	Yes	No	No	Yes	No	No	470
	Flores to San Agustin	28	Yes	Yes	No	No	No	No	770
	San Agustin to San Bdo	28	Yes	No	Yes	No	No	No	310
	Sta Ursula to San Bdo	28	Yes	No	Yes	No	No	No	310
	Sta Ursula to San Dario	28	Yes	Yes	No	No	No	No	770
	San Dario to San Edwardo	28	Yes	No	Yes	No	No	No	310
	San Edwardo to San Francisco	28	Yes	No	Yes	No	Yes	No	272
	San Francisco to San George	28	Yes	Yes	No	No	Yes	No	677
	San George to San Enrique	28	Yes	No	Yes	No	Yes	No	272
	San Enrique to Marcella	28	Yes	Yes	No	No	Yes	No	677
	Marcella to Loring	28	Yes	Yes	No	No	Yes	No	1029
	Loring to Seymour	28	Yes	No	Yes	No	Yes	No	377
	Seymour to Meadow	28	Yes	No	Yes	No	No	No	429
	Meadow to Urbahn	28	Yes	Yes	No	No	No	No	1170
	Urbahn to Malinche	28	Yes	No	No	Yes	No	No	429
	Malinche to Bartlett	28	Yes	No	No	Yes	No	No	650
	Bartlett to Martin	28	Yes	Yes	No	No	No	No	1170
Corpus Christi	Marcella to Lexington	40	Yes	Yes	No	No	Yes	No	1496
	Lexington to Cedar	40	Yes	No	Yes	No	Yes	No	545
	Cedar to Loring	40	Yes	Yes	No	No	Yes	No	1496
	Loring to Seymour	40	Yes	No	Yes	No	Yes	No	545
	Seymour to Meadow	40	Yes	No	Yes	No	Yes	No	545
Saunders	San Francisco to Springfield	40	No	Yes	No	No	No	No	170
	Springfield to Buena Vista	40	No	Yes	No	No	Yes	No	1495
Springfield	Gustavus to Clark	28	Yes	No	Yes	Yes	Yes	No	377
	Clark to Travis	28	Yes	Yes	No	No	Yes	No	1029
	Travis to Saunders	28	Yes	No	No	Yes	Yes	No	572
Cedar	Market to Chihuahua	20	No	Yes	No	No	No	No	1170
	Chihuahua to Guadalupe	20	No	No	Yes	No	No	No	429
	Guadalupe to Corpus Christi	20	No	No	Yes	No	Yes	No	377
	Corpus Christi to Musser	20	No	Yes	No	No	Yes	No	1029
	Musser to Gustavus	20	No	No	No	Yes	Yes	No	572
	Gustavus to Clark	20	No	No	No	Yes	Yes	No	572

TABLE 27 CONTINUED

Street	Limits	Width in Feet	Parking	Left Turns	Signal	Stop	Bus Stop	One Way	Capacity
Meadow	Chacon Creek to Cortez	36	Yes	Yes	No	No	Yes	No	1309
	Cortez to Market		Yes	No	Yes	No	Yes	No	478
	Market to Chihuahua		Yes	Yes	No	No	Yes	No	1309
	Chihuahua to Guadalupe		Yes	Yes	Yes	No	Yes	No	432
	Guadalupe to Laredo		Yes	Yes	No	No	Yes	No	1309
	Laredo to Corpus Christi		Yes	Yes	Yes	No	Yes	No	432
	Corpus Christi to Musser		Yes	Yes	No	No	No	No	1488
	Musser to Gustavus		Yes	No	Yes	No	No	No	543
	Gustavus to Okane		Yes	Yes	No	No	No	No	1488
	Okane to Saunders		Yes	Yes	No	Yes	No	No	744
Malinche	Market to Chihuahua	31	Yes	Yes	No	No	No	No	1223
	Chihuahua to Guadalupe	31	Yes	No	No	Yes	No	No	675
	Guadalupe to Laredo	31	Yes	Yes	No	No	No	No	1223
	Laredo to Corpus Christi	31	Yes	No	No	Yes	No	No	675
	Corpus Christi to Musser	31	Yes	Yes	No	No	No	No	1223
	Musser to Gustavus	31	Yes	No	No	Yes	No	No	675
	Gustavus to Clark	31	Yes	No	Yes	No	No	No	445
	Clark to Plum	31	Yes	No		Yes	No	No	675
Bartlett	Market to Chihuahua	31	Yes	Yes	No	No	No	No	1223
	Chihuahua to Guadalupe	31	Yes	No	No	Yes	No	No	679
	Guadalupe to Guerrero	31	Yes	Yes	No	No	No	No	1223
	Guerrero to Lane	31	Yes	No	Yes	No	No	No	448
	Lane to Musser	31	Yes	Yes	No	No	No	No	1223
	Musser to Gustavus	31	Yes	No	No	Yes	No	No	679
	Gustavus to Clark	31	Yes	No	Yes	No	No	No	448
	Clark to Travis	31	Yes	Yes	No	No	No	No	1223
	Travis to Saunders	31	Yes	No	No	Yes	No	No	679
Arkansas	Laredo to Guadalupe	26	No	No	No	No	No	No	1300
	Guadalupe to Travis	26	No	Yes	No	No	No	No	1170
	Travis to Saunders	26	No	No	No	Yes	No	No	650
Park	San Dario to San	66	Yes	No	Yes	No	Yes	No	781
	San Edwardo to San Francisco	66	Yes	No	Yes	No	Yes	No	781
	San Francisco to San Leonardo	66	Yes	Yes	No	No	No	No	2346
	San Leonardo to Marcella	66	Yes	Yes	No	No	No	No	2346
San Edwardo	Zaragoza to Lincoln	23	Yes	No	No	Yes	No	No	470
	Lincoln to Hidalgo	23	Yes	Yes	No	No	No	No	770
	Hidalgo to Farragut	23	Yes	Yes	No	No	Yes	No	677
	Farragut to Matamoros	30	Yes	No	Yes	No	Yes	No	272
	Matamoros to Houston	30	Yes	Yes	No	No	Yes	No	677
	Houston to Victoria	35	Yes	Yes	No	No	Yes	No	897
	Victoria to Washington	35	Yes	No	Yes	No	Yes	No	360
	Washington to Monctezuma	35	Yes	Yes	No	No	Yes	No	897
	Moctezuma to Garcia	28	No	Yes	No	No	Yes	No	1179
	Garcia to Callaghan	28	No	No	Yes	No	Yes	No	473
	Callaghan to Garza	28	No	Yes	No	No	Yes	No	1179
	Garza to Sanchez	28	No	No	Yes	No	Yes	No	473
	Sanchez to Park	28	No	No	Yes	No	No	No	537
Marcella	Market to Chihuahua	28	No	Yes	No	No	No	No	1340
	Chihuahua to Guadalupe	28	No	No	Yes	No	No	No	537
	Guadalupe to Corpus Christi	28	No	No	Yes	No	Yes	No	473
	Corpus Christi to Musser	28	No	Yes	No	No	Yes	No	1179
	Musser to Gustavus	28	No	No	No	Yes	Yes	No	473
Washington and Corpus Christi	Sta Ursula to San Dario	40	Yes	Yes	No	No	No	No	1270
	San Dario to San Edwardo	40	Yes	No	Yes	No	No	No	508
	San Edwardo to Sanders	40	Yes	Yes	No	No	Yes	No	1117
	Sanders to Marcella	40	Yes	No	Yes	No	Yes	No	447

TABLE 27 CONTINUED

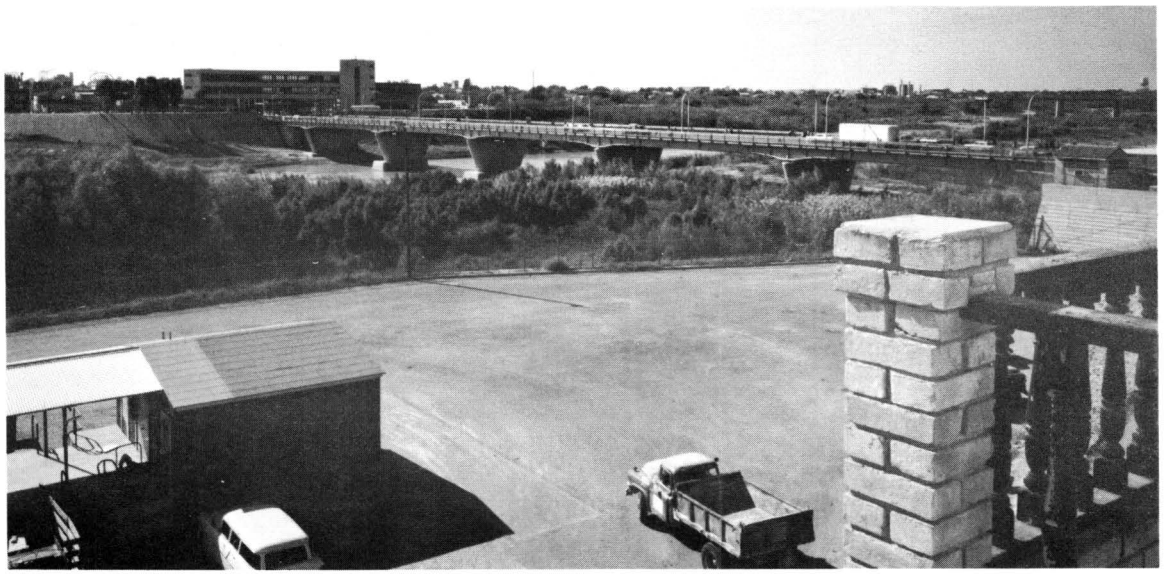
Street	Limits	Width in Feet	Parking	Left Turns	Signal	Stop	Bus Stop	One Way	Capacity
Matamoros	Sta Ursula to San Dario	30	Yes	Yes	No	No	No	No	770
and	San Dario to San Edwardo	30	Yes	No	Yes	No	No	No	310
Guadalupe	San Edwardo to Sanders	30	Yes	Yes	No	No	Yes	No	677
	Sanders to Marcella	30	Yes	No	Yes	No	Yes	No	272
Iturbide	Sta Ursula to Bridge	26	Yes	Yes	No	No	Yes	No	677
Market	Bridge to Marcella	30	Yes	Yes	No	No	Yes	No	677
Sta Maria	Park to Chicago	46	Yes	Yes	No	No	Yes	No	1738
Jefferson	Sta Maria to San Agustin	27	No	Yes	No	No	No	No	1170
	San Agustin to San Bdo	27	No	No	No	Yes	No	No	658
Jackson	Sta Maria to San Agustin	27	No	Yes	No	No	No	No	1170
	San Agustin to San Bdo	27	No	No	No	Yes	No	No	650
Lafayette	Sta Maria to San Agustin	27	No	Yes	No	No	No	No	1170
	San Agustin to San Bdo	40	No	No	Yes	No	No	No	429
	San Bdo to San Francisco	40	No	Yes	No	No	No	No	1170
San Agustin	Lincoln to Hidalgo	30	½	Yes	Yes	No	No	Yes	511
	Hidalgo to Farragut	26	½	No	Yes	No	Yes	Yes	358
	Farragut to Matamoros	26	Yes	No	Yes	No	No	Yes	305
	Matamoros to Houston	26	½	No	No	Yes	No	Yes	617
	Houston to Victoria	26	Yes	No	No	Yes	No	Yes	463
	Victoria to Washington	42	Yes	No	Yes	Yes	No	No	243
	Washington to Moctezuma	42	Yes		Yes	No	No	No	487
San Bernardo	Zaragoza to Grant	23	Yes	No	Yes	Yes	No	Yes	117
	Grant to Iturbide	23	Yes	No	Yes	No	No	Yes	235
	Iturbide to Lincoln	23	½	No	No	Yes	Yes	Yes	438
	Lincoln to Hidalgo	40	Yes	No	Yes	Yes	No	No	227
	Hidalgo to Farragut	40	½	No	Yes	No	No	No	455
	Farragut to Matamoros	40	Yes	No	Yes	No	Yes	No	400
	Matamoros to Houston	40	No	No	Yes	No	Yes	No	740
	Houston to Victoria	40	No	No	Yes	No	Yes	No	740
	Victoria to Washington	40	No	No	Yes	No	Yes	No	740
	Washington to Moctezuma	40	No	No	Yes	No	Yes	No	740
Sta Ursula	Zaragoza to Grant	26	Yes	No	No	Yes	No	No	405
	Grant to Iturbide	26	Yes	No	No	Yes	No	No	405
	Iturbide to Lincoln	26	Yes	No	No	Yes	No	No	405
	Lincoln to Hidalgo	26	Yes	No	No	Yes	No	No	405
	Hidalgo to Farragut	26	Yes	No	No	Yes	No	No	405
	Farragut to Matamoros	40	Yes	No	No	Yes	No	No	690
	Matamoros to Houston	26	Yes	No	No	Yes	No	No	405
	Houston to Victoria	26	Yes	No	No	Yes	No	No	405
	Victoria to Washington	38	Yes	No	No	Yes	No	No	633
	Washington to Moctezuma	38	Yes	No	No	Yes	No	No	633
Sta Maria	Moctezuma to Garza	38	Yes	Yes	No	No	Yes	No	1029
	Garza to Sanchez	38	Yes	No	Yes	No	Yes	No	339
	Sanchez to Park	38	Yes	No	Yes	No	Yes	No	339
Convent	Moctezuma to Benavides	40	Yes	Yes	No	No	Yes	No	1117
	Benavides to Garcia	40	Yes	No	No	Yes	Yes	No	368
	Garcia to Sanchez	40	Yes	Yes	No	No	Yes	No	1117
	Sanchez to Park	40	Yes	No	No	Yes	Yes	No	368
Park	Main to Davis	27	Yes	Yes	No	No	No	No	770
	Davis to Sta Maria	27	Yes	No	Yes	No	No	No	310
	Sta Maria to Convent	66	Yes	Yes	No	No	No	No	2346
	Convent to Flores	66	Yes	No	Yes	No	Yes	No	781
	Flores to San Agustin	66	Yes	Yes	No	No	Yes	No	2064
	San Agustin to San Bdo	66	Yes	No	Yes	No	Yes		781
	San Bdo to San Dario	66	Yes	Yes	No	No	Yes		2064
Corpus Christi	Meadow to Malinche	40	Yes	Yes	No	No	No	No	1702
	Malinche to Bartlett	40	Yes	No	No	Yes	No	No	940
Guadalupe	Marcella to E City Limits	30	Yes	Yes	No	No	Yes	No	1029

TABLE 27 CONTINUED

Street	Limits	Street in Width	Parking	Left Turning	Signal	Stop	Bus Stop	One Way	Capacity
Market	Marcello to Seymour	30	Yes	Yes	No	No	Yes	No	1029
	Seymour to Meadow	30	Yes	No	Yes	No	Yes	No	377
	Meadow to Texas	30	Yes	Yes	No	No	Yes	No	1029
	Texas to Hwy.	30	Yes	No	No	Yes	Yes	No	572
Clark	Marcello to Springfield	66	Yes	No	Yes	No	No	No	941
	Springfield to Loring	66	Yes	Yes	No	No	No		2586
	Loring to Seymour	66	Yes	No	Yes	No	No		941
	Seymour to Meadow	66	Yes	No	Yes	No	No		941
	Meadow to Urbahn	66	Yes	Yes	No	No	No		2586
	Urbahn to Malinche	66	Yes	No	No	Yes	No		1427
	Malinche to Bartlett	66	Yes	No	Yes	No	No		941
	Bartlett to Louisiana	66	Yes	Yes	No	No	No		2586
	Louisiana to Arkansas	66	Yes	No	No	Yes	No		1427
San Bernardo	Moctezuma to Garza	40	Yes	Yes	No	No	Yes		1117
	Garza to Sanchez	40	Yes	No	Yes	No	Yes		447
	Sanchez to Park	40	Yes	No	Yes	No	Yes		447
	Park to Alamo	10	Yes	Yes	No	No	Yes		1496
	Alamo to Madison	60	Yes	Yes	No	No	Yes		2164
	Madison to Lafayette	60	Yes	No	Yes	No	Yes		786
	Lafayette to Chicago	60	Yes	Yes	No	No	Yes		2164
	Chicago to Farias	60	Yes	Yes	No	No	No		2460

Source: Area Development Plan

Table 28 lists these intersections and the congestion index of each. The congestion index is simply the ratio of the computed practical capacity to the observed peak hour approach volume. Those approaches with a congestion index greater than 1.00 were considered adequate for present needs, with any remaining capacity available for future traffic growth. Index factors less than 1.00 indicate that the approach volume has exceeded practical capacity, and an existing overload is indicated, with congested operations in proportion to the degree of overloading.



TRANSPORTATION FACILITIES

Note that Table 27 does not indicate the existing right-of-way width of the various streets. The City of Laredo was laid out by the Spanish settlers according to their custom, so that most blocks are 100 varas (approximately 277.78') square, and most streets are 20 varas (approximately 55.56') wide. This pattern of street width holds true throughout the entire city with the following exceptions:

Interstate Highway 35 (approximately 355' right of way); San Bernardo Avenue, north of Moctezuma, 80' right of way; La Fayette-Saunders (U.S. 59) 70' right of way; Park-Clark Street 90' right of way; U.S. 83 and S.H. 359 to intersection of Martin Avenue and Guadalupe Street variable from 100' to 80' right of way.

TRAVEL TIME

The level of the service provided by a system of streets and highways is measured primarily by the overall travel time required to move between points of trip origin and destination. Overall travel time may be used as a criterion of the efficiency of the entire street and highway network, and as trips grow longer, overall travel time becomes an important measure of efficiency.

TABLE 28

FIFTEEN MOST CONGESTED INTERSECTIONS - LAREDO

INTERSECTION	DIRECTION OF TRAFFIC	PEAK HOUR TRAFFIC	PRACTICAL PEAK HOUR CAPACITY	CONGESTION INDEX
Guadalupe - Marcella	West	842	275	0.33
San Bernardo - Park	South	938	450	0.48
Corpus Christi - Marcella	West	771	450	0.58
Santa Maria - Houston	South	367	235	0.64
San Bernardo - Matamoros	South	595	400	0.67
Matamoros - San Bernardo	West	695	470	0.68
San Bernardo - Moctezuma	North	1066	740	0.69
San Bernardo - Victoria	North	932	740	0.79
Convent - Lincoln	North	587	475	0.81
Salinas - Hidalgo	North	337	275	0.82
Santa Maria - Farragut	North	279	235	0.84
Convent - Iturbide	North	557	475	0.85
Convent- Grant	South	624	550	0.88
Market- Marcella	West	769	680	0.88
Washington- Flores	East	490	450	0.92

Speed and Delay Studies were made on arterial streets and highways comprising the major thoroughfare system within the Study Area. Average travel times for each route were determined by the "floating car" method, in which the test car "floats" with traffic. A minimum of four trips were made over each route, and the average speeds were computed for both peak and off-peak hours. Causes of delay, such as traffic control devices, pedestrian crossing, parking maneuvers, turning movements, and other contributing causes of congestion, were recorded during the survey. Tables 30 and 31 show the results of these speed and delay studies.

The minimum overall speeds for each type of street as recommended by the National Committee on Urban Transportation are shown on the following table:

TABLE 29

MINIMUM DESIRABLE OPERATING CHARACTERISTICS
OF STREET TYPES *

Type of Street	Over-All Speed - M. P. H. Peak Hour	Off Peak Hour
Expressway	35	35-50
Major Arterial	25	25-35
Collector	20	20-25
Local	10	10-20

* National Committee on Urban Transportation - Procedural Manual 7A, Standards for Street Facilities and Services, 1958, Public Administration Service, Chicago, Illinois.

On Tables 30 and 31 there is no information on Interstate Highway 35. This is due to the fact that the speed and delay studies were made during construction of the major portion of Interstate Highway 35. Subsequent travel time observations on this freeway reveal that the traffic on this facility can attain and sustain a speed better than 35 MPH under all normal conditions.

Analysis of Tables 30 and 31 definitely establishes the fact that with very few exceptions, namely U.S. 59 - Saunders and U.S. 83 - Guadalupe, all major thoroughfares on which speed and delay studies were made do not meet the minimum requirements suggested by the National Committee on Urban Transportation.* There are several reasons for this deficiency. The streets are too narrow, the blocks are too short and available parking is too limited.

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*Standards for Street Facilities and Services, Procedure Manual 7A, Public Administration Service, 1958.

TABLE 30

LAREDO

SPEED AND DELAY ANALYSIS

OFF-PEAK HOUR
March, 1965
SUMMARY

Route No.	Street Name of Route	Route and Section Description Street Name of Section Termini	Miles	Time Secs.	Mins.	MPH
1	Park St., Clark St.	Santa Maria to Marcella	1.02	183	3.05	20
2	Washington, Corpus Christi	Santa Maria to Marcella	1.02	232	3.87	16
3	Victoria St.	Ft. McIntosh to San Enrique	1.26	280	4.67	16
4	Houston	Santa Maria to San Enrique	0.72	183	3.05	14
5	Matamoros, Guadalupe, US 83	Santa Maria to Meadow	4.59	618	10.3	27
6	Farragut	Santa Maria to San Enrique	0.72	217	3.62	12
7	Hidalgo	Ft. McIntosh to San Enrique	1.21	295	4.92	15
8	Lincoln	Santa Maria to San Enrique	0.72	196	3.27	13
9	Iturbide, Market	Santa Maria to Marcella	1.04	208	3.47	18
10	Grant	Santa Maria to San Enrique	0.72	180	3.00	14
11	Zaragosa	Salinas to San Enrique	0.60	170	2.83	13
12	Santa Maria	Grant to Park	1.02	270	4.50	14
13	Juarez	Grant to Washington	0.43	175	2.92	09
14	Salinas	Zaragosa to Washington	0.46	187	3.12	09

TABLE 30 CONTINUED

LAREDO

SPEED AND DELAY ANALYSIS

OFF-PEAK HOUR
March, 1965
SUMMARY

Route No.	Street Name of Route	Route and Section Description Street Name of Section Termini	Miles	Time Secs.	Mins.	MPH
15	Convent	Zaragosa to Park	1.05	294	4.90	13
16	Flores	Zaragosa to Washington	0.45	182	3.03	09
17	San Agustin	Zaragosa to Washington	0.45	175	2.92	09
18	San Bernardo, US 83 North	Zaragosa to US 59	2.00	398	6.63	18
19	Santa Ursula	Zaragosa to Washington	0.45	182	3.03	09
20	San Dario	Zaragosa to Washington	0.45	188	3.13	09
21	San Eduardo	Zaragosa to Washington	0.46	140	2.33	12
22	San Francisco	Zaragosa to Washington	0.46	191	3.18	09
23	San George	Zaragosa to Washington	0.45	172	2.87	09
24	San Enrique	Zaragosa to Washington	0.47	139	2.32	12
25	Marcella	Market to Clark	0.83	164	2.73	18
26	US 59, Saunders	US 83 to Arkansas	2.26	261	4.35	31
27	Meadows	Guadalupe to US 59	3.77	551	9.18	25
28	Guadalupe, Arkansas	US 83 to US 59	1.89	240	4.00	28

TABLE 31

LAREDO

SPEED AND DELAY ANALYSIS
PEAK HOUR
March, 1965
SUMMARY

Route No.	Street Name of Route	Route and Section Description Street Name of Section Termini	Miles	Time Secs.	Mins.	MPH
1	Park, Clark St.	Santa Maria to Marcella	1.02	180	3.00	20
2	Washington, Corpus Christi	Santa Maria to Marcella	1.02	216	3.60	17
3	Victoria St.	Santa Maria to San Eduardo	0.57	125	2.08	16
4	Houston	Santa Maria to San Eduardo	0.54	138	2.30	14
5	Matamoros, Guadalupe, US 83	Santa Maria to Marcella	1.06	237	3.95	16
6	Farragut	Santa Maria to San Eduardo	0.49	151	2.52	12
7	Hidalgo	Ft. McIntosh to San Enrique	1.21	333	5.55	13
8	Lincoln	Santa Maria to San Enrique	0.72	194	3.23	13
9	Iturbide, Market	Santa Maria to Marcella	1.03	228	3.80	16
10	Grant	Santa Maria to San Enrique	0.72	185	3.08	14
11	Zaragosa	Salinas to San Eduardo	0.42	121	2.02	13
12	Santa Maria	Grant to Park	1.02	276	4.60	13
13	Juarez	Grant to Washington	0.43	197	3.28	08
14	Salinas	Zaragosa to Washington	0.46	190	3.17	09
15	Convent	Zaragosa to Park	1.05	264	4.40	14

TABLE 31 CONTINUED

LAREDO

SPEED AND DELAY ANALYSIS
PEAK HOUR
March, 1965
SUMMARY

Route No.	Street Name of Route	Route and Section Description Street Name of Section Termini	Miles	Time Secs.	Time Mins.	MPH
18	San Bernardo	Lincoln to Park	0.90	192	3.20	17
21	San Eduardo	Zaragosa to Washington	0.46	144	2.40	12
24	San Enrique	Zaragosa to Washington	0.47	137	2.28	12
25	Marcella	Market to Clark	0.83	166	2.77	18
26	US 59, Saunders	US 83 to Arkansas	2.26	278	4.63	29

TRANSPORTATION FACILITIES

ACCIDENT STUDY

A factor affecting the level of service of any street system is the accident occurrence on the system. The overall service to be performed by the street system of a city is to provide a safe, convenient, and efficient means of moving people and goods. Information on the degree of safety afforded the users is necessary for a complete analysis of the system's performance. Accident records indicating high accident rates at certain locations are valuable in certain phases of traffic engineering for locating deficiencies in the system. More detailed analyses of accident information can usually aid in planning corrective measures.

The Police Department of the City of Laredo, assisted by the Planning Commission, has tabulated a comprehensive record of accidents within the Study Area from 1960 to 1965. Table 32 records the number of accidents for the twenty highest recorded principal intersections in the City, and Table 33 records the same information for the twenty highest recorded control sections in the City. These tables were prepared by the City Planning Engineer and include his recommendations for improving these hazardous locations.

Figure 15 is a graphic presentation of Table 32 showing Accidents Per Principal Intersection (annual average 1960 to 1965), and Figure 16 is a graphic presentation of Table 33 showing Accidents Per Control Section (annual per mile rate 1960 to 1965).

Table 34, compiled from the accident statistical data, is a summary of accidents in the 1960 to 1965 period by classification and cause. This tabulation indicates that the largest number of accidents involves property damage, and the most prominent cause is an improper start. These findings are not surprising, since the streets are narrow, speed is slow, and parking is limited.

Note that 25 percent of the recorded accidents are caused by pedestrian violations. This is due to the fact that "jay-walking" is universal; that there is no pedestrian light period at controlled intersections; and that not only are the streets narrow and inadequate, but the sidewalks are insufficient for the pedestrians.

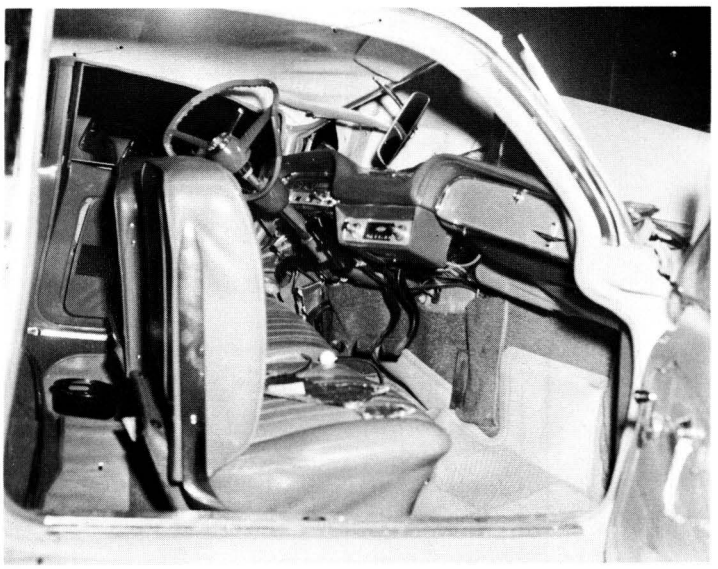


TABLE 32

A C C I D E N T A N A L Y S I S

TWENTY HIGHEST RECORDED PRINCIPAL INTERSECTIONS
1960-1965

INTERSECTION	RATING	NAME	NO. OF ACCIDENTS		ANNUAL AVERAGE	RECOMMENDATIONS
			DAY	NIGHT		
127	1	Park St. & San Bernardo Ave.	65	46	22.0	Channelize left turn movements; provide left turn sequence; mark lanes, stop lines, and crosswalks; provide black shield on signal head for westbound approach; provide additional side mount signal heads for double indication in all directions.
117	2	Matamoros & San Bernardo	72	25	19.4	One-way Matamoros east and eliminate left turns on northbound San Bernardo; separate left turn movement San Bernardo southbound to westbound Matamoros; mark lanes and stop lines and prohibit parking on both approaches on San Bernardo.
136	3	San Bernardo & Washington	61	30	18.2	Provide standard double indication of traffic signal and time sequence to allow an all-red interesection clearing cycle; provide separated left turn movement on northbound San Bernardo, Washington Sts; eliminate left turn southbound San Bernardo.
80	4	Houston & San Bernardo	62	27	17.8	Provide traffic signal in progressive sequence coordination with Houston-IH 35 intersections and Houston-San Bernardo intersection.
98	5	Lafayette & San Bernardo	42	46	17.6	Provide street lighting & channelization of left turn movements with separate turning sequence; coordinate IH 35 with this intersection for progressive timing; remove all parking from each block in all directions to provide lane manuevering.
116	6	Matamoros & San Eduardo	53	18	14.2	Eliminate left turns from southbound San Eduardo: one-waying of Matamoros should eliminate majority of left-turn problems, chief cause of accidents; provide pedestrian signals for benefit of school children.
30	7	Convent & Grant	44	26	14.0	Add pedestrian lights in all directions; eliminate parking on Grant at first 75' from intersection to free turning movements; provide adequate 24-hour signing for continuous left turn plus advance turning signs on Convent.
36	8	Corpus Christi & Cedar	43	22	13.0	Place advance warning signs on Corpus Christi with flashers due to lack of sight distance westbound plus high speed eastbound; remove parking from 100' to intersection on Corpus Christi to allow adequate vehicle stacking.
35	9	San Bernardo & Sanchez	41	22	12.6	Remove parking from 100' in all directions, including head-in parking on east approach Sanchez (make parallel off-street); provide double indication (2 heads) plus shields to improve signal visibility; provide storage lane for left turns on San Bernardo.
20	10	Convent & Park	49	13	12.4	Provide center median on Park with left turn slot, plus traffic signal with left turn indicators; provide more street lighting; remove parking from intersection ±75 feet to allow sight distance.

TABLE 32 CONTINUED

INTERSECTION	RATING	NAME	NO. OF ACCIDENTS		ANNUAL AVERAGE	RECOMMENDATIONS
			DAY	NIGHT		
96	11	Juarez & Lincoln	48	7	11.0	One-way Juarez southbound; eliminate parking 50' in all directions for sight distance: provide flasher with preference to Juarez.
74	12	Hidalgo & San Agustin	36	17	10.6	Provide pedestrian lights; provide island for left turns northbound on San Agustin; plus double signal indications in both approaches to intersection; remove bus stop to far corner.
31	13	Convent & Zaragosa	38	14	10.4	One-way Zaragosa eastbound; provide adequate and visible lane markings with arrow indications to various destinations; congestion at bridgehead of pedestrian traffic to be relieved by pedestrian lights.
134	14	San Bernardo & Chicago	37	15	10.4	Install traffic signal with time preference to San Bernardo.
137	15	San Bernardo & Victoria	42	10	10.4	Provide double signal indications in all directions; provide separate left turn sequence with protected channelization.
62	16	Guadalupe & Meadow	27	21	9.6	Provide 20,000-lumen lighting on both sides of Guadalupe; remove all parking between Seymour & Meadow on Guadalupe; provide curb on southeast corner of intersection to regulate ingress and egress from private supermarket at a point farthest away from intersection.
40	17	Farragut & San Agustin	35	11	9.2	Provide pedestrian lights and remove bus stop; provide no parking at least 2 meter spaces in all directions to allow sight distance and adequate turning room.
19	18	Clark Blvd. & Springfield	32	14	9.2	Provide left turn movement sequence on signal; complete left turn slot with barricade bump or acceptable substitute; mark stop lines & lane lines; provide flasher on Clark eastbound "caution signal ahead."
51	19	Flores & Lincoln	31	13	8.8	Provide island with traffic signal indication on left turning from Flores to Lincoln; provide pedestrian lights; improve lane marking; remove first 3 head-in spaces on Lincoln at City Hall for pedestrian use, thus cutting down on obstructions.
118	20	Matamoros & San Agustin	36	7	8.6	Remove one-side parking for 100 feet south of intersection for lane manuevering; provide pedestrian lights; provide proper one-way signing and lane marking; provide shields for traffic signals on Matamoros (to eliminate sun glare).

TABLE 33

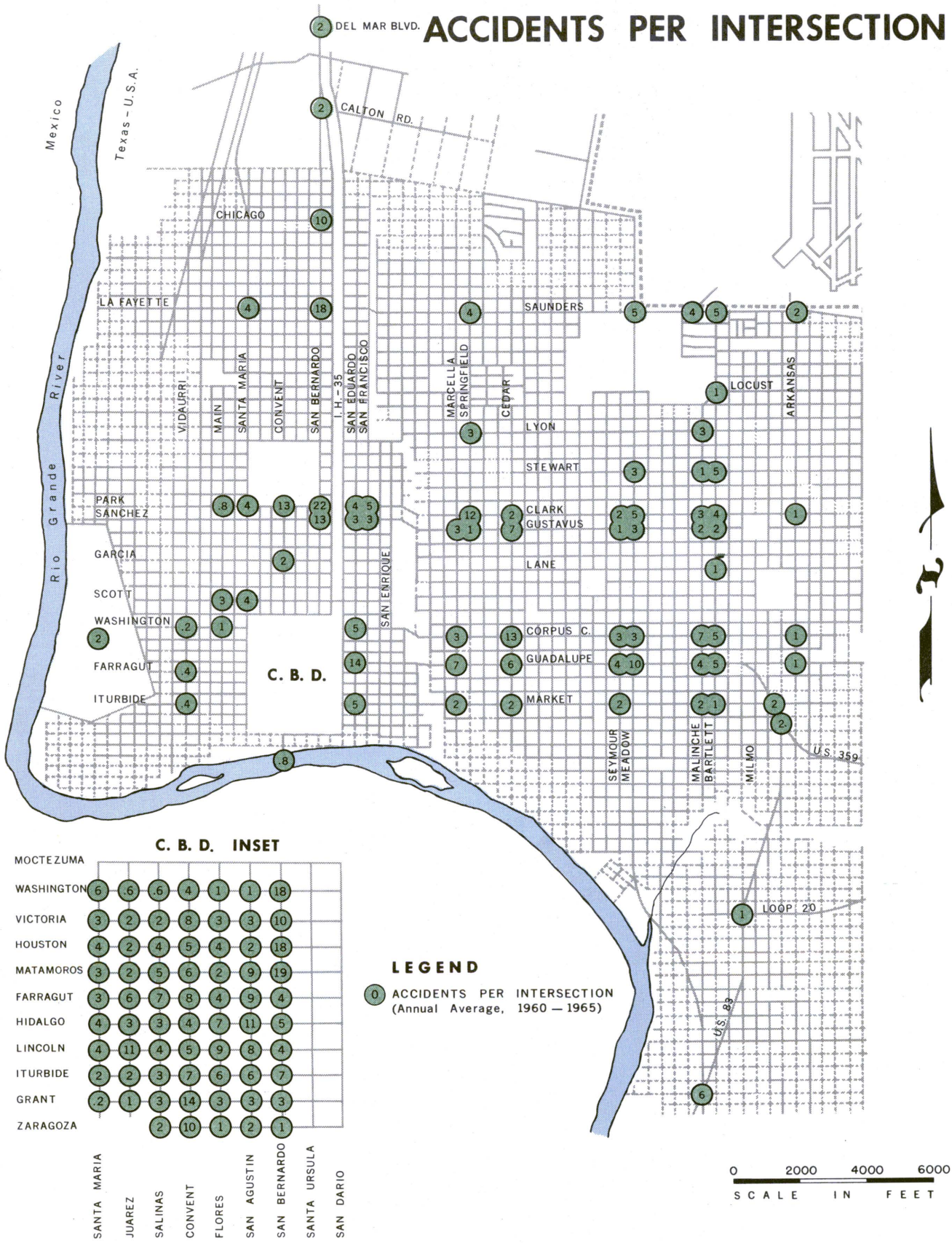
ACCIDENT ANALYSIS

TWENTY HIGHEST RECORDED CONTROL SECTIONS FOR 1960-65

CONTROL SECTION NUMBER	RATING	PRINCIPAL STREET	BETWEEN	NUMBER OF ACCIDENTS		ANNUAL ACCIDENTS PER MILE	RECOMMENDATIONS
				DAY	NIGHT		
C111	1	San Bernardo	Chicago & Sanchez	332	274	121	Provide traffic signal at Jefferson & San Bernardo and time for 35 mile speed from Sanchez to Chicago (recommended for traffic signal also); provide better street lighting; provide center median from Alamo to Chicago; provide lane marking and speed zoning to 35 mph.
C114	2	San Bernardo	Victoria & Zaragosa	200	71	108	Provide left turn lanes on San Bernardo and progressive timing of signals; eliminate all parking in San Bernardo from Lincoln to Victoria; one-way San Bernardo south from Lincoln to Zaragosa; provide traffic signal at San Bernardo and Iturbide.
C50	3	Grant	San Agustin & Salinas	54	26	80	Provide street lighting; remove parking from Salinas to Convent for proper lane manuevering for Convent turning traffic; provide adequate loading zones between Convent and Flores.
C112	4	San Bernardo	Sanchez & Washington	92	67	76	Provide lighting to standards; provide speed zone control; provide parking ban on all intersections for clearing sight distance; provide stop signs on all cross streets; improve approaches to San Bernardo on all side streets for proper braking and vehicle control.
C117	5	San Eduardo	Victoria & Zaragosa	124	45	68	Provide traffic signals at Victoria, Houston, Farragut, and Iturbide, interconnected for progressive movement; provide stop signs at Lincoln favoring San Eduardo; provide adequate street lighting.
C 64	6	Hidalgo	San Agustin & Salinas	52	16	68	Convert head-in parking at City Hall to parallel; provide interconnected progressive timing to move on Hidalgo; improve left turning situation at Flores by providing island plus lane lines and crosswalks: remove bus stop from south-east corner of San Agustin intersection to far corner (North-west).
C 36	7	Farragut	Flores & Salinas	26	6	64	Provide lane markings on Flores at Farragut for continuous right turning movement; provide pedestrian lights at Salinas, Convent, Flores and San Agustin; widen Farragut from Flores to San Agustin to 30'.
C 87	8	Lincoln	San Agustin & Salinas	47	16	63	Provide loading zones with regulated time in each block to remove double parking; provide pedestrian lights at Salinas, Convent and Flores, eventually close Lincoln to thru vehicular traffic in conformance to CBD Plans as indicated in Laredo Area Development Plan.
C 76	9	Iturbide	San Agustin & Salinas	37	14	51	Provide double indications of signals on approaches and pedestrian lights at San Agustin, Flores and Convent; eliminate double parking in 1100 and 1200 block by providing regulated loading zones.
C 97	10	Matamoros	San Eduardo & San Bernardo	37	10	47	Provide traffic signals at Santa Ursula and San Dario properly interconnected with San Eduardo and instersections west of San Bernardo to provide progressive movement towards east as one-way plan specifies.

TABLE 33 CONTINUED

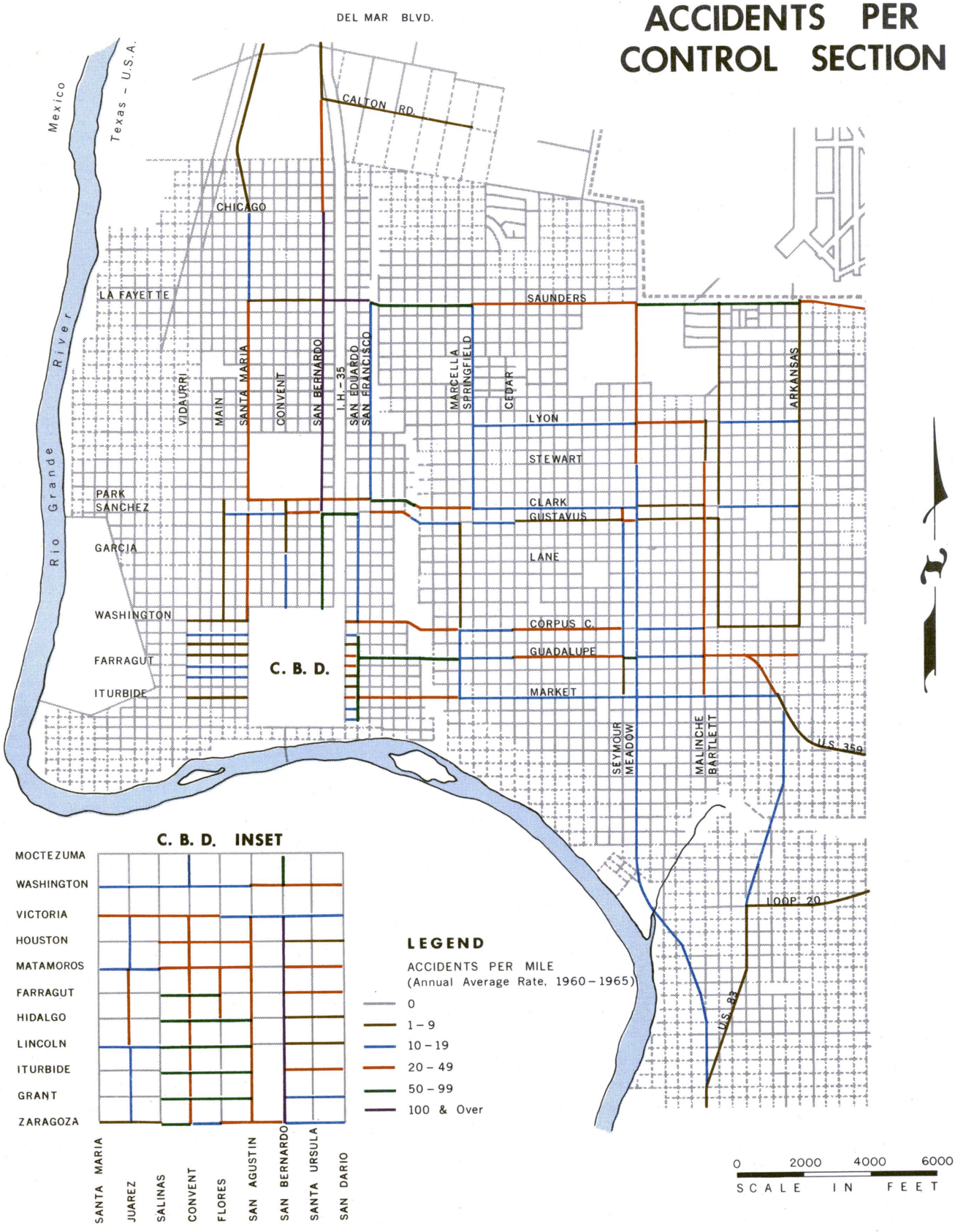
CONTROL SECTION NUMBER	RATING	PRINCIPAL STREET	BETWEEN	NUMBER OF ACCIDENTS		ANNUAL ACCIDENTS PER MILE	RECOMMENDATIONS
				DAY	NIGHT		
C 55	11	Guadalupe	Seymour & Cedar	64	49	45	Provide speed control provide access control; in 800 block (supermarket) and 1200 block (supermarket) provide 20,000-lumens street lighting to adequate standard on Guadalupe from Zacate Creek to Underpass; require church parking in 900 block to stay off-street during services.
C 108	12	San Agustin	Victoria & Zaragosa	164	50	43	Provide "Intersection clearing" at all points of conflict, beginning with Iturbide to Houston; provide adequate night lighting; provide pedestrian signal at Iturbide, Lincoln, Hidalgo, Farragut & Matamoros; remove 4-way stop at Houston and install traffic signal.
C 43	13	Flores	Matamoros & Hidalgo	16	5	42	Separate bus stop lane at Farragut; provide lane for continuous right turn lane; provide pedestrian lights at Matamoros, Farragut & Hidalgo.
C 70	14	Houston	San Agustin & Salinas	29	8	37	Provide signals at San Agustin, Flores, & Salinas, properly interconnected, plus street lighting.
C 74	15	Iturbide	San Eduardo & San Bernardo	18	12	30	Traffic signals at San Eduardo and San Bernardo
C 99	16	Matamoros	San Agustin & Salinas	22	7	29	One-way Matamoros eastbound; prohibit parking completely.
C 102	17	Meadow	Saunders & Stewart	16	6	28	Provide speed zone control; provide adequate street lighting.
C 105	18	Park	San Francisco & San Bernardo	21	11	28	Provide center median plus left turn slots with left turn indications; provide adequate street lighting.
C 123	19	Victoria	Santa Maria & Salinas	11	0	22	Remove parking from intersections for sight clearance of blind corners; provide lane markings & stop lines; provide adequate one-way signs at Salinas.
C 93	20	Malinche	Stewart & Market	65	42	21	Speed zone control; provide adequate street lighting; provide traffic signal at Corpus Christi intersection; provide "blind corner" controls by trimming vegetation and providing 24-hour stop signs (reflectorized).



LAREDO

Urban Transportation Study

Figure 15



LAREDO

Urban Transportation Study

Figure 16

TABLE 34

SUMMARY OF ACCIDENT ANALYSIS 1960-1965

Classification	Principal Intersection	Control Section	Total	Percent
Fatal	4	5	9	00.1
Personal Injury	630	597	1227	18.8
Property Damage	2798	2495	5293	81.1
Totals	3432	3097	6529	100.0
Causes				
Deficient Vehicle	78	52	130	2.0
Driver Deficiency	524	452	976	15.0
Pedestrian Violation	880	785	1665	25.5
Unsafe Velocity	493	415	908	13.9
Wrong Lane	46	25	71	1.1
Improper Start	1115	1018	2133	32.7
Disregard Controls	123	154	277	4.2
Blind Corner	66	49	115	1.8
Inadequate Controls	42	51	93	1.4
Inadequate Lighting and Signing	58	75	133	2.0
Miscellaneous	7	21	28	0.4
Totals	3432	3097	6529	100.0

The Twenty Highest Recorded Principal Intersections had 1298 accidents or 37.8% of the Total accidents at 160 Recorded Principal Intersections and the Twenty Highest Recorded Control Sections had 2162 accidents or 69.8% of the total accidents on 130 Recorded Control Sections.

TRAFFIC VOLUMES

Data on traffic volumes are essential for determining the present level of service provided by the existing transportation system. Traffic measurements are required in order that the planner can determine traffic flow and can apply corrective measures where needed. This traffic flow information is needed for planning, designing, and scheduling street improvement projects.

Traffic volumes vary from hour to hour, day to day, and month to month, but it is the average daily traffic throughout the year and traffic at certain peak hours which the normal counting program seeks to determine. Traffic Volume information was obtained from the 1964 Origin and Destination Survey covered in volume 1 of this report. Twenty-four hour traffic counts on major streets were collected at 380 stations within the study area. This information is shown graphically on the traffic volume map in Figure 17.

In addition to these traffic counts, a Central Business District cordon count was made at 30 stations in the perimeter of the Central Business District. These manual counts, taken between 7:00 A.M. and 6:00 P.M., show that a total of 60,673 vehicles cross the Central Business District cordon on an average week day.

TRAFFIC VOLUME MAP

Figure 17

TRAFFIC VOLUME MAP

0 2000 4000 6000
SCALE IN FEET

LEGEND

Less Than 100
500
1,000
5,000
10,000
20,000
30,000
40,000
50,000

1985 1964

VEHICLES

C. B. D. INSET

LAREDO
Urban Transportation Study

Figure 17

TRANSPORTATION FACILITIES

Six external interview stations were manned twenty-four hours for the external cordon count. These interviews recorded a total of 18,550 vehicles of all types entering and leaving the study area. Table number 35 is a record of the 1964 traffic counts at these external stations and comparable counts made in a 1954 Origin and Destination Survey and a 1966 count.

TABLE 35

ANNUAL AVERAGE 24-HOUR TRAFFIC COUNT EXTERNAL STATIONS

Station		1954 O & D Survey	1964 O & D Survey	1966 Count
No. 1	US 59	1475	2270	3280
No. 2	SH 359	730	740	780
No. 3	US 83	1670	1530	1550
No. 4	International Bridge	6590	10980	13810
No. 5	FM 1472	*	600	810
No. 6	IH 35	2700**	2430	2970
	TOTALS	13165	18550	23200

* No count made on FM 1472.

** This count was made on US 81 and US 83 below junction with FM 1472.

Average 24-Hour Traffic increase from 1954 to 1964, 5,385 or approximately 40.9%

Average 24-Hour Traffic increase from 1964 to 1966, 4,650 or approximately 25.1%

Traffic on International Bridge increased 100% from 1954 to 1966.

These statistics indicate that traffic volumes are increasing; that the major incoming traffic is over the International Bridge, which accounts for 59 percent of all incoming traffic; and that the traffic on International Bridge, I.H. 35, and U.S. 59 account for 85 percent of the total traffic volume at the external cordon.

As expected, the major traffic generators are the Central Business District and the areas immediately adjacent to it. Other significant traffic generators are the Laredo Air Force Base and the industrial area along the Texas-Mexican Railroad from Willow Street north to Corpus Christi Street east of Zacate Creek.

During the continuing phase of this study, a systematic traffic counting program shall be continued in order to evaluate each segment of the planned transportation network as soon as it is open to traffic.

BUS TRANSIT

A factor that may improve the level of service of the transportation system is mass transportation. Public transit is a most efficient means of moving large numbers of people from points of origin to one or more destinations. Public transit in Laredo has been more successful than in many cities, because the built-up area is compact and there is a

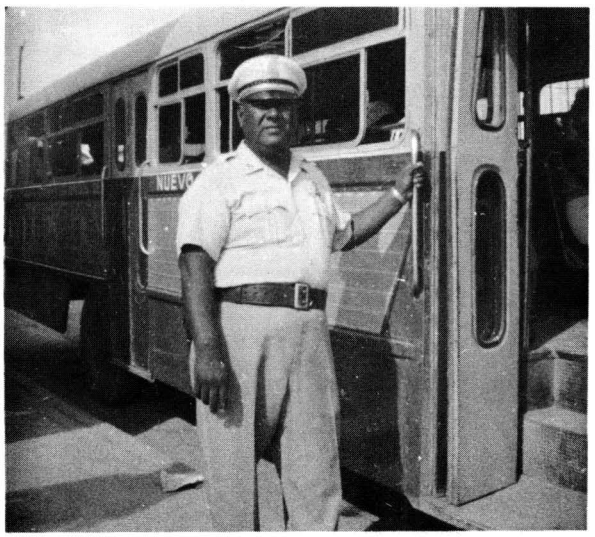
large employment concentration in the Central Business District. Also a large percentage of low income families in the area depend on public transit.

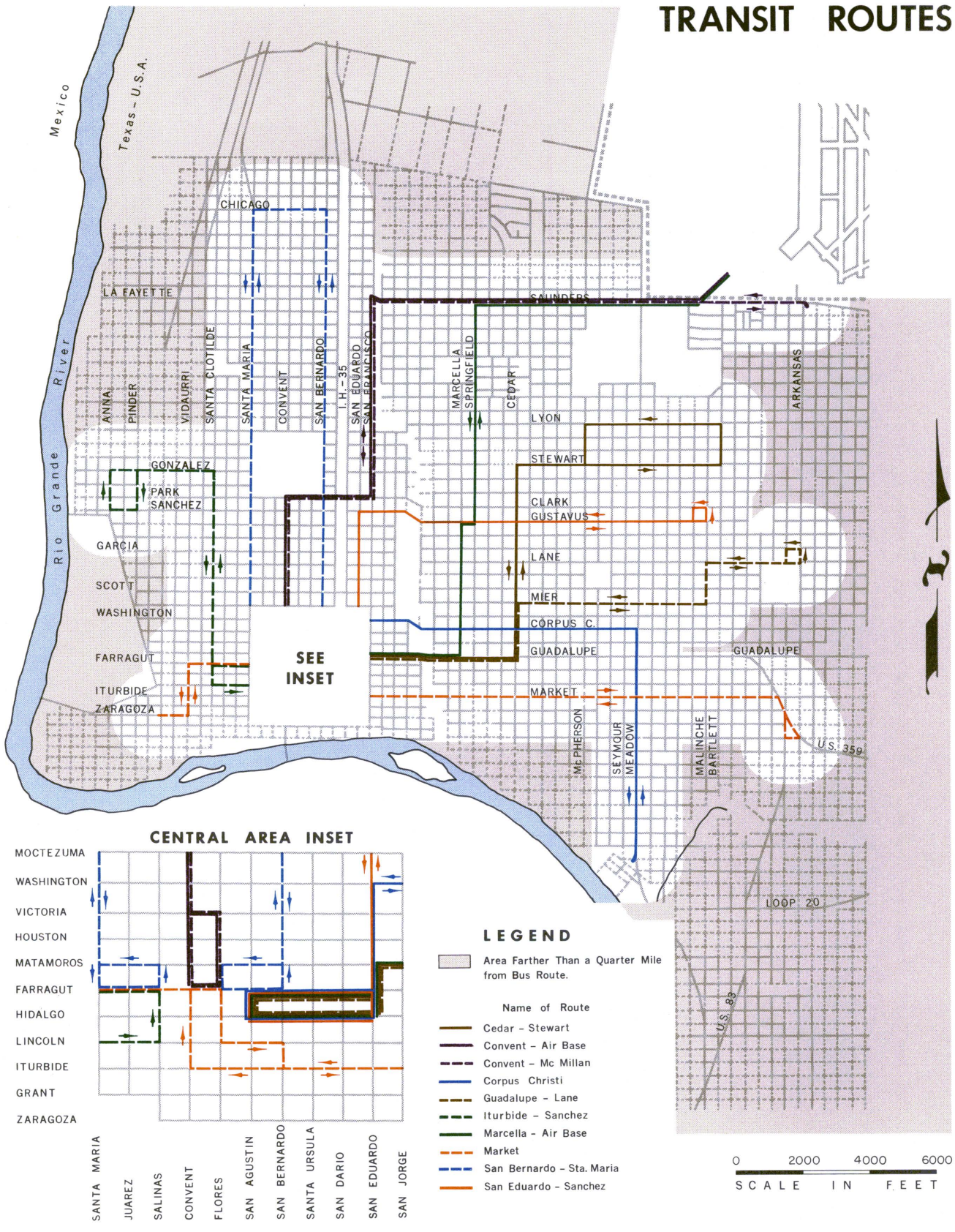
The origin and destination study reveals that of some 139,578 person trips made on an average day, approximately 13 percent (18,241) of the person trips were made by bus. This condition makes it advisable that, in a transportation study for this area, mass transit be considered, although it will not significantly influence the overall plan.

For many years, the Laredo Transportation System has provided excellent service at reasonable rates for the citizens of Laredo. Figure 18 is a graphic presentation of the present transit routes. In the fiscal year ending May 21, 1966, the system operated 986,139 revenue vehicle miles. The company operates some 30 buses (30 seat) and six school buses over some 70 route miles. The route times vary from 15 to 25 minutes one-way from terminal to terminal, and the bus schedules have a headway of 15 to 25 minutes. On special days, when extra crowds are expected, additional buses are put into service.

The narrow streets in the Central Business District, which have low capacities at best, are further congested by the numerous corner bus stops. It is difficult for traffic to pass these stops when the buses are receiving or delivering passengers. These narrow street widths also complicate the bus maneuvers, particularly at corners. To remedy this poor traffic situation, the City Planning Engineer has suggested that bus stops be relocated to certain existing plazas. This would not increase the bus patrons' walking distance appreciably, and it certainly would alleviate some of the serious traffic congestion in the Central Business District.

Economic, Population, Land Use and other data developed in this study indicate that no means of mass transit other than bus transit will be needed in the area prior to 1985. With the anticipated increased use of the automobile, even the bus transit should expect only a relatively modest increase in service. This increase is based on the extension of some routes, possible new routes, the addition of some larger buses, and schedule changes. The 1985 plan shown in Chapter XI of this report can adequately handle anticipated changes in the transit system.





LAREDO

Urban Transportation Study

Figure 18

Travel Patterns

TRAVEL PATTERNS

Travel patterns are a basic factor to be considered in the development of a future transportation system which will furnish an acceptable level of service. These patterns are established from factual information concerning the daily movement of people and goods into, within and through the Study Area. It is also necessary to determine the relationship between person and vehicular movements as related to the population distribution according to the different land uses. This information is needed for the location and design of economical travel facilities to serve efficiently the daily movement of people and goods.

An Origin & Destination Survey was made in 1964, and a complete account of this study is contained in Volume 1 of this report. The survey revealed the number of person and vehicular trips in and through the Study Area, modes of travel, time and travel patterns, trip purpose, household characteristics relating to travel, and the effect of various land uses upon the transportation network.

The findings of the Origin & Destination Survey established desire lines of travel within and through the Study Area. A desire line of travel is an imaginary straight line plotted without reference to actual routes of travel and drawn through the center of each survey district connecting trip origins and destinations. Relative volumes of travel are indicated by scaled bands of varying widths representing average weekday movements. Figure 19 shows the existing 1964 desire lines of travel throughout the Study Area as compared to the forecast desires of 1985.

The greatest concentration of large volume traffic movement, as indicated by the desire lines, is from the northern and eastern residential areas towards the Central Business District. The greatest concentration of residential land use activity is served by this corridor. Other major desire lines are the external traffic demands from the north and, to a lesser extent, from the southeast towards the Central Business District and International Bridge. The only major through-traffic desire line is north and south, representing the traffic movement through the City along the I.H. 35 corridor. The greatest concentration of traffic occurs at the Central Business District and the International Bridge, which connects the Laredo CBD with the Nuevo Laredo CBD. These desire lines of travel indicate graphically the concentration of travel desire in these areas.

The O & D Survey also provided data on current population and existing trip ends for each survey zone within the Study Area. The trips were subdivided into three trip purpose categories: "Home to Work", "Home to Other", and "Non-Home Based" trips. Present land use and population data were compiled by survey zone and projected to the year 1985. The anticipated land use changes and population projections are described in other chapters of this report.

The development of a transportation system that would efficiently serve the travel needs for the forecast year of 1985 was based upon a reasonable forecast of traffic volumes expected on the system. Forecasts of future trips were based on the anticipated changes in population and land use. The total population predicted for the Study Area for the target year was distributed throughout the entire area. This distribution was based on land use forecasts in each zone and the expected population densities within each zone. With the data on existing population, land use, and trip ends, and the projected population and land use forecasts in each zone, it was possible to forecast future trips by each of the three

purpose categories for each zone. An additional variable factor of 1.2 to 2.0 was included for each zone to adjust for the trend of increased automobile ownership and usage. This factor is a Vehicle Usage Factor recognizing certain trends in the usage of automobiles in the United States in recent years. These trends are as follows:

1. Increase in the number of automobiles per household or increase in the ratio of automobiles to persons.

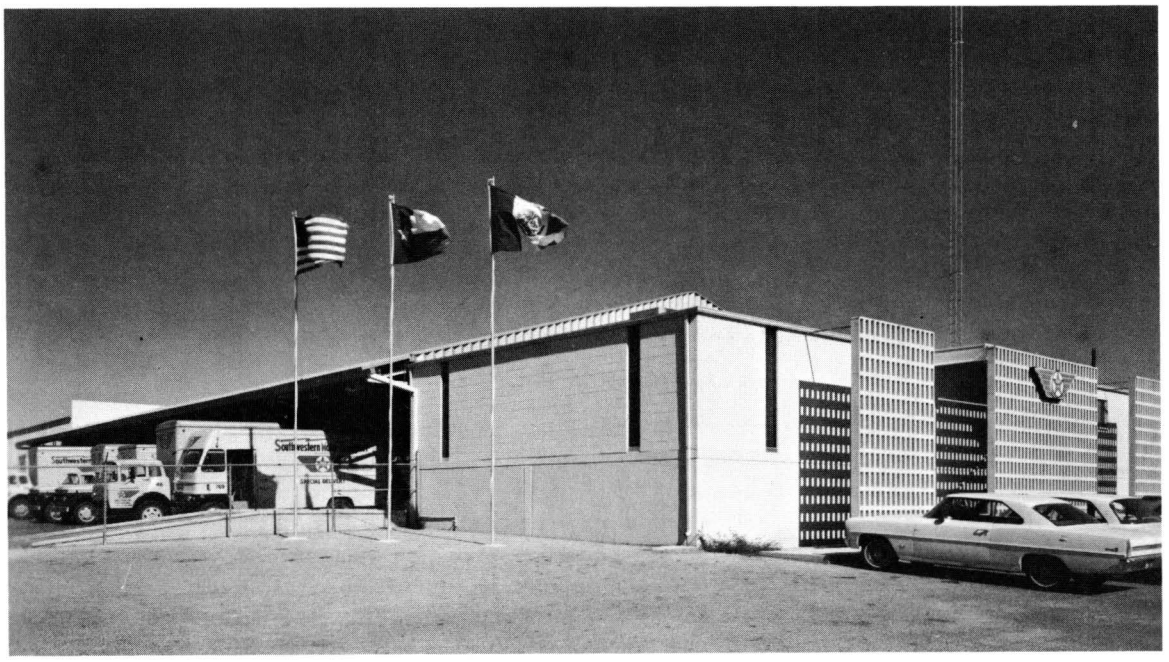
2. Increase in the use of the average automobile.

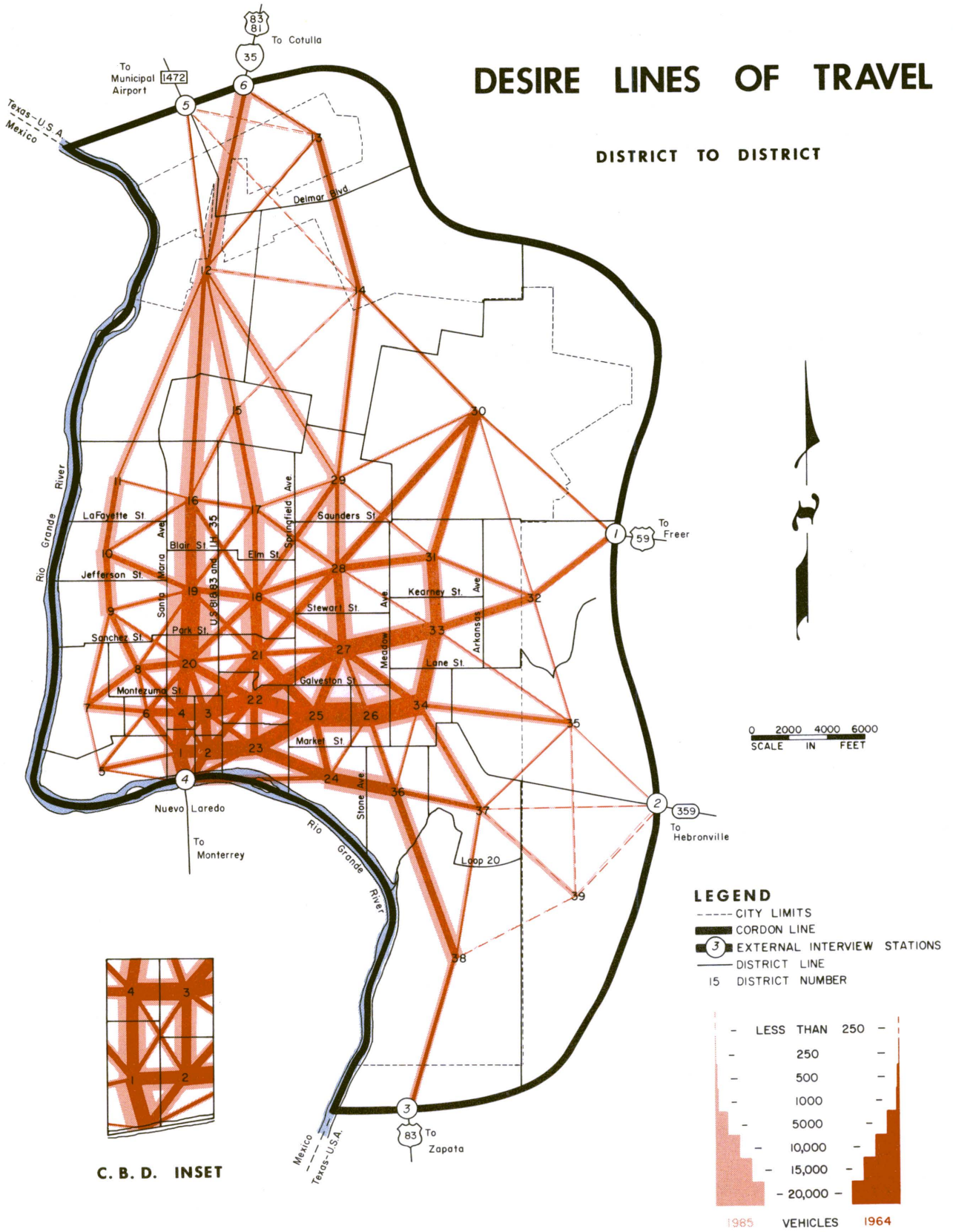
3. Increase in the standard of living or higher economic level.

In Texas, a factor of 1.20 to 1.25 has been used in the past to take care of the anticipated increased vehicle usage for a twenty-year projection. The higher values from 1.25 to 2.00 were obtained by projecting the family income within census tracts and comparing to the present family income. All traffic survey zones within a census tract used the same factor.

The method of making the zonal forecasts and the forecasted trips in each zone were reviewed and approved by the Technical Committee to assure complete agreement as to their reasonableness.

Distribution of trips over the existing and proposed transportation networks was made by electronic computer using the Fratar distribution formula. Speeds at which traffic can move over each link were programmed into the computer. The computer assigned the trips from a zone of origin to a zone of destination via the minimum time route between the two points. The traffic volumes on each link of the assigned network were obtained from a computer tabulation. With these assigned volumes and the known capacity of the various segments of the network, it was possible to evaluate the adequacy of the present transportation network.





LAREDO

Urban Transportation Study

Figure 19

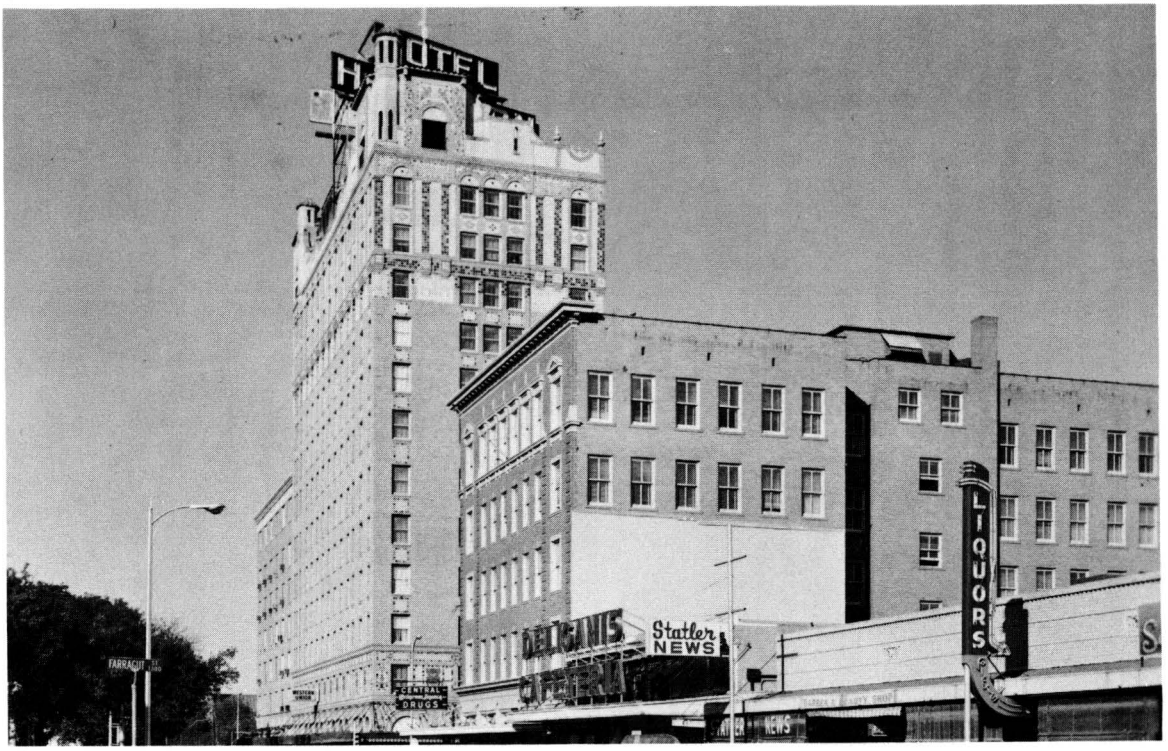
Terminal and Transfer Facilities

TERMINAL AND TRANSFER FACILITIES

The effectiveness and efficiency, of the urban transportation system depends, to a large measure, on the availability of adequate terminal and transfer facilities. Terminal and transfer facilities are as much a part of a sound transportation system as the streets and highways that carry moving traffic. To provide adequate service, not only must vehicle traffic be handled efficiently but adequate parking for automobiles must be available. In addition, there must be adequate terminal and transfer facilities for large commercial vehicle operations. Time lost due to inadequate parking or loading spaces may off-set any increase in service brought about by betterment of the street system.

PARKING

A limited parking survey has been made by the City Planning Commission, and a parking inventory of curb and off-street spaces was made as a part of the transportation study. These surveys were only made on the Central Business District. The Origin and Destination Study obtained Central Business District perimeter volume counts at 30 locations. The results of these counts are graphically shown on Figure 20 (Figure 13, Volume 1 - Origin and Destination Survey). The inventory on 58 blocks of the Central Business District reveals a total parking supply of 1,151 curb spaces and 1,419 off-street spaces within the area for a total of 2,570 existing parking spaces. Figure 21, prepared by the City Planning Commission, indicates 1,459 curb spaces and 1,641 off-street spaces for a total of 3,100 parking spaces. This difference is due to the fact that Figure 21 includes 20 more blocks east of San Bernardo. For the purpose of this report, the original 58 blocks of the Central Business District will be used.



C. B. D. CORDON COUNT - 1964

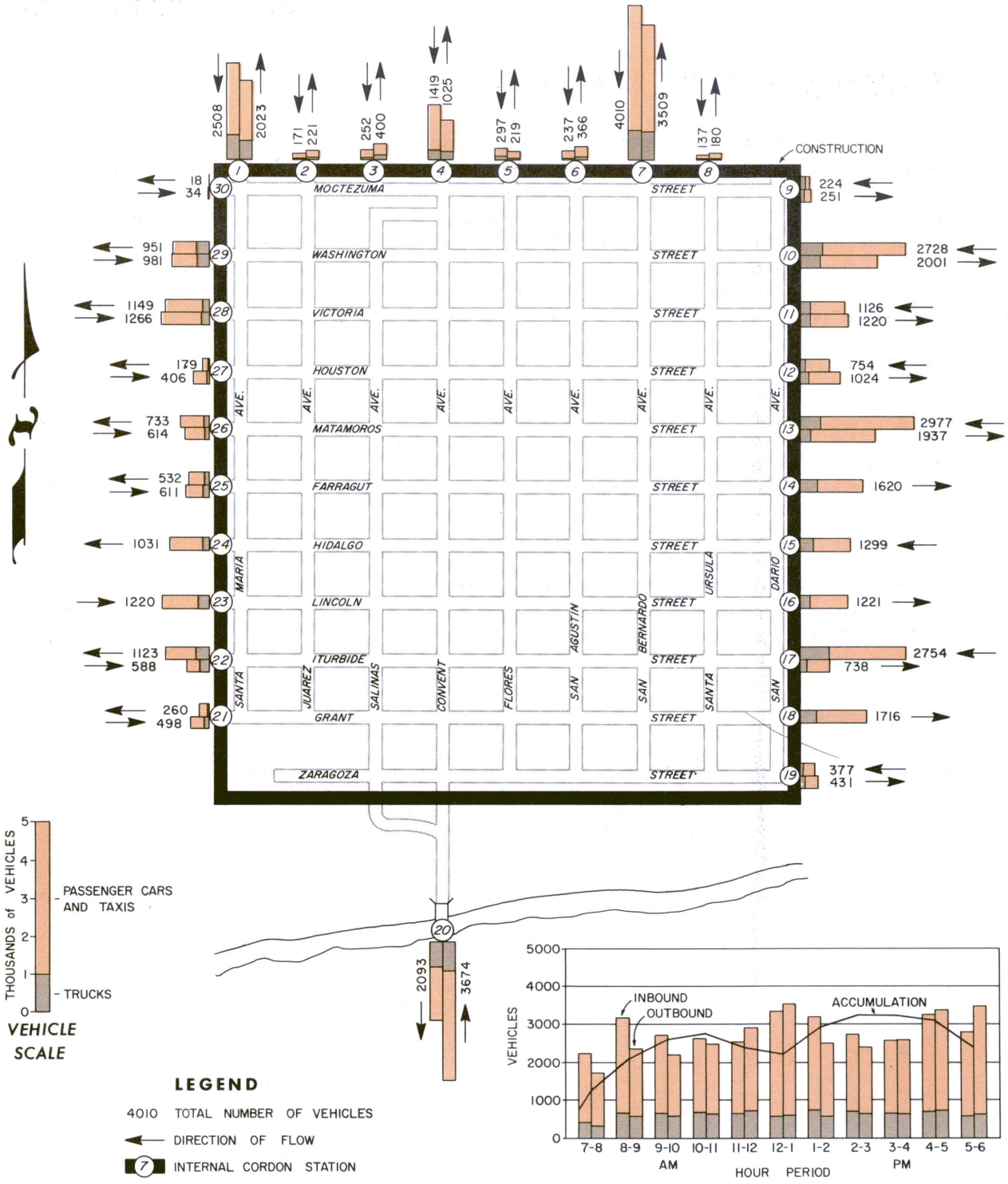


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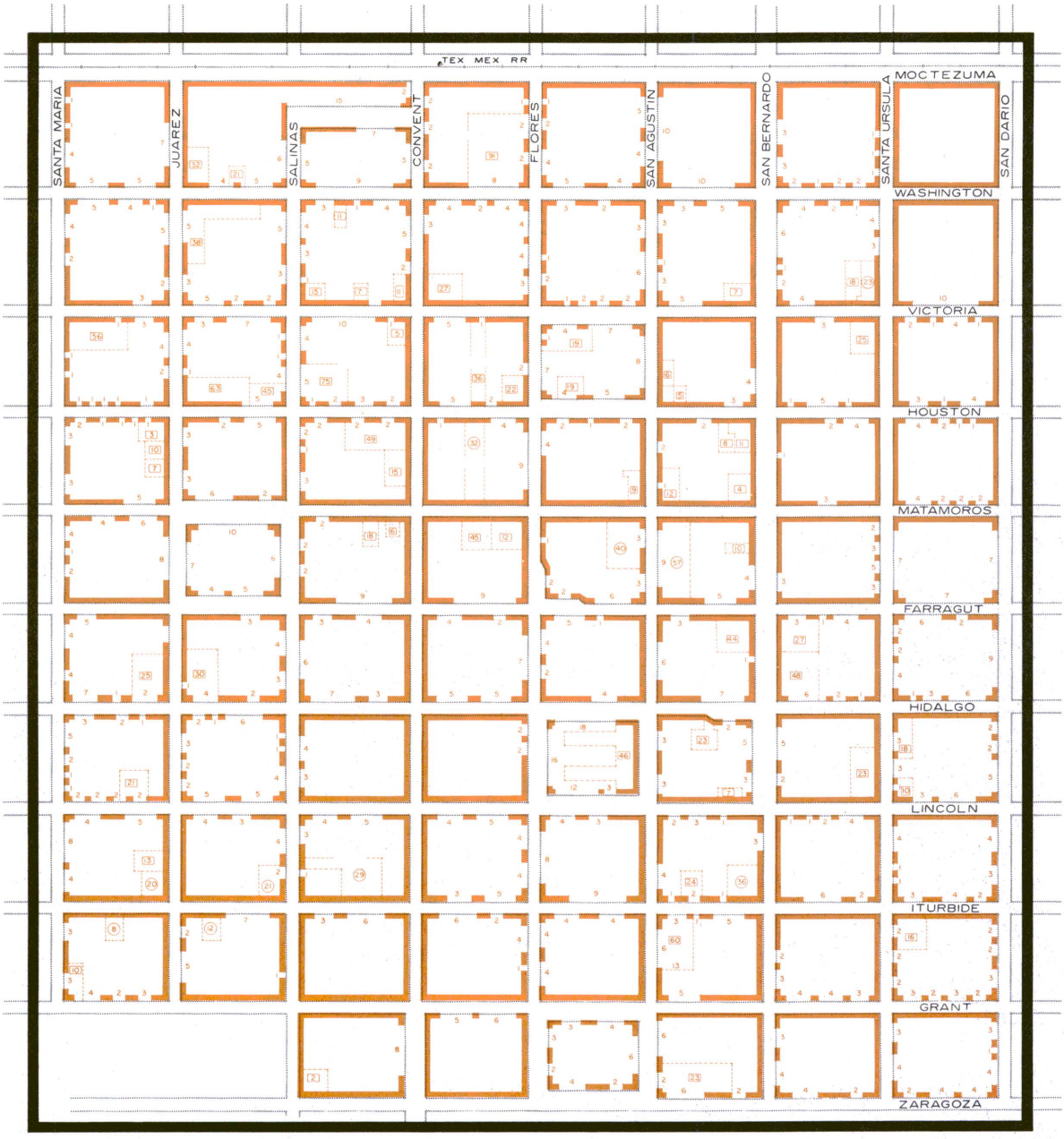
Figure 20

PARKING INVENTORY



LEGEND

- Prohibited Parking
- Curb Parking Spaces
- Capacity – Private Parking Lots
- Capacity – Public Parking Lots

0 100 200 300
SCALE IN FEET

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Figure 21

TERMINAL AND TRANSFER FACILITIES

Table 36 indicates the type of parking by purpose of trip found in the Origin and Destination Survey. Figure 22 is a graphic presentation of Table 36.

Table 37, "Average Length of Time Parked for Various Trip Purposes", was determined from "Parking Guide for Cities", Bureau of Public Roads, U.S. Department of Commerce, 1956; and the Corpus Christi, Wichita Falls, and Harlingen-San Benito Urban Transportation Studies.

From Table 36 and Table 37 the space-hour requirements may be determined. These results are tabulated on Table 38.

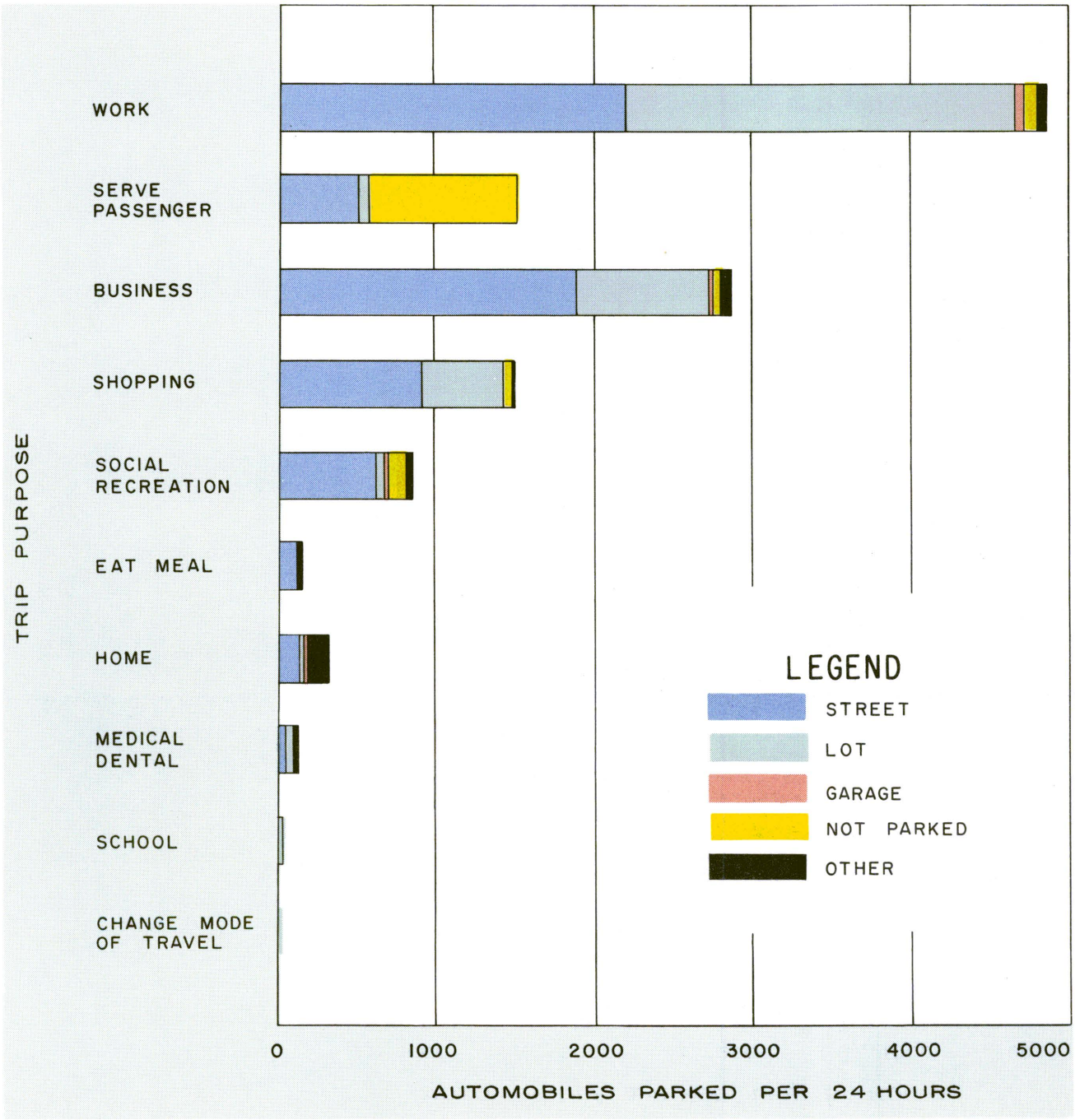
TABLE NO 36

TYPE of PARKING by PURPOSE of TRIP - 1964

INTERNAL AUTO DRIVERS WITH DESTINATIONS IN THE CENTRAL BUSINESS DISTRICT

TRIP PURPOSE TO	TYPE OF PARKING										
	NOT PARKED	STREET FREE	STREET METER	LOT FREE	LOT PAID	GARAGE FREE	GARAGE PAID	SERVICE REPAIRS	RES. PROPERTY	CRUISED	TOTAL
HOME	-	142	9	18	-	-	18	-	141	-	328
WORK	83	1,362	815	2,273	209	42	9	8	8	42	4,851
BUSINESS	68	858	1,001	832	27	17	-	1	33	20	2,857
MEDICAL -DENTAL	-	49	11	33	-	-	-	-	26	-	119
SCHOOL	-	-	-	16	-	-	-	-	-	-	16
SOCIAL - RECREATION	125	261	357	52	-	8	-	-	17	16	836
CHANGE TRAVEL MODE	-	-	-	8	-	-	-	-	-	-	8
EAT MEAL	-	94	25	8	-	-	-	-	9	-	136
SHOPPING	33	120	784	465	51	8	-	8	-	-	1,469
SERVE PASSENGERS	936	414	77	70	-	-	-	-	-	2	1,499
TOTAL	1,245	3,300	3,079	3,775	287	75	27	17	234	80	12,119
PERCENTAGE	10.3	27.2	25.4	31.2	2.4	0.6	0.2	0.1	1.9	0.7	100.0

AUTO DRIVER TRIPS
TO THE CENTRAL BUSINESS DISTRICT



LAREDO
Urban Transportation
Study

Figure 22

TABLE 37

AVERAGE LENGTH OF TIME PARKED FOR VARIOUS TRIP PURPOSES
(for cities in 50,000-100,000 population range)

TRIP PURPOSE	PARKING TIME (Hour for Each trip Purpose)
Work	3.8
Home	1.3
School	1.3
Social	1.3
Eat	1.0
Business	0.7
Shop	0.7
Medical	0.6
Service	0.6

Sources: "Parking Guide for Cities", BPR, Dept. of Commerce 1956, Corpus Christi UTS, Wichita Falls UTS, Harlingen-San Benito UTS

TABLE 38

AUTO DRIVERS TRIPS WITH DESTINATION WITHIN THE CBD
BY TRIP PURPOSE - 1964

Trip Purpose	Number of Trips	Space Hours	Percent of the Total Space-Hour Demand
Home	328	426	1.8
Work	4851	18434	77.9
Business	2857	2000	8.5
Medical	119	71	0.3
School	16	21	0.1
Social	836	1087	4.6
Change Travel Mode	8	8	0.0
Eat	136	136	0.6
Shop	1469	1028	4.3
Serve Passenger	1499	450	1.9
TOTALS	12119	23661	100.0

The internal cordon count was made between 7:00 A.M. and 6:00 P.M., and the total available spaces was determined to be 2,570, resulting in 28,270 space-hours available during an 11-hour period. Assuming an 80 percent efficiency factor, the available space-hours will be 22,616, or approximately 1,000 space-hours less than the present demands. This deficiency is based on 11-hour averages, and it is much greater at peak hours of demand. Some of the shortage is made up by parking on some 530 available spaces in the area immediately east of San Bernardo.

Table 39 gives a comparison of Laredo to other cities by trip purpose. The statistics for other cities outside of Texas in the 50,000 to 100,000 population group were taken from Parking Guide for Cities.

TABLE 39

DISTRIBUTION OF PARKING TRIPS
IN THE CBD BY TRIP PURPOSE

City Population Group	Percent Shopping	Percent Business	Percent Work	Percent Other
50,000 - 100,000(1)	30	30	17	23
LAREDO (64,311)	12	24	40	24

(1) Source: Parking Guide for Cities. BPR. U.S. Department of Commerce 1956

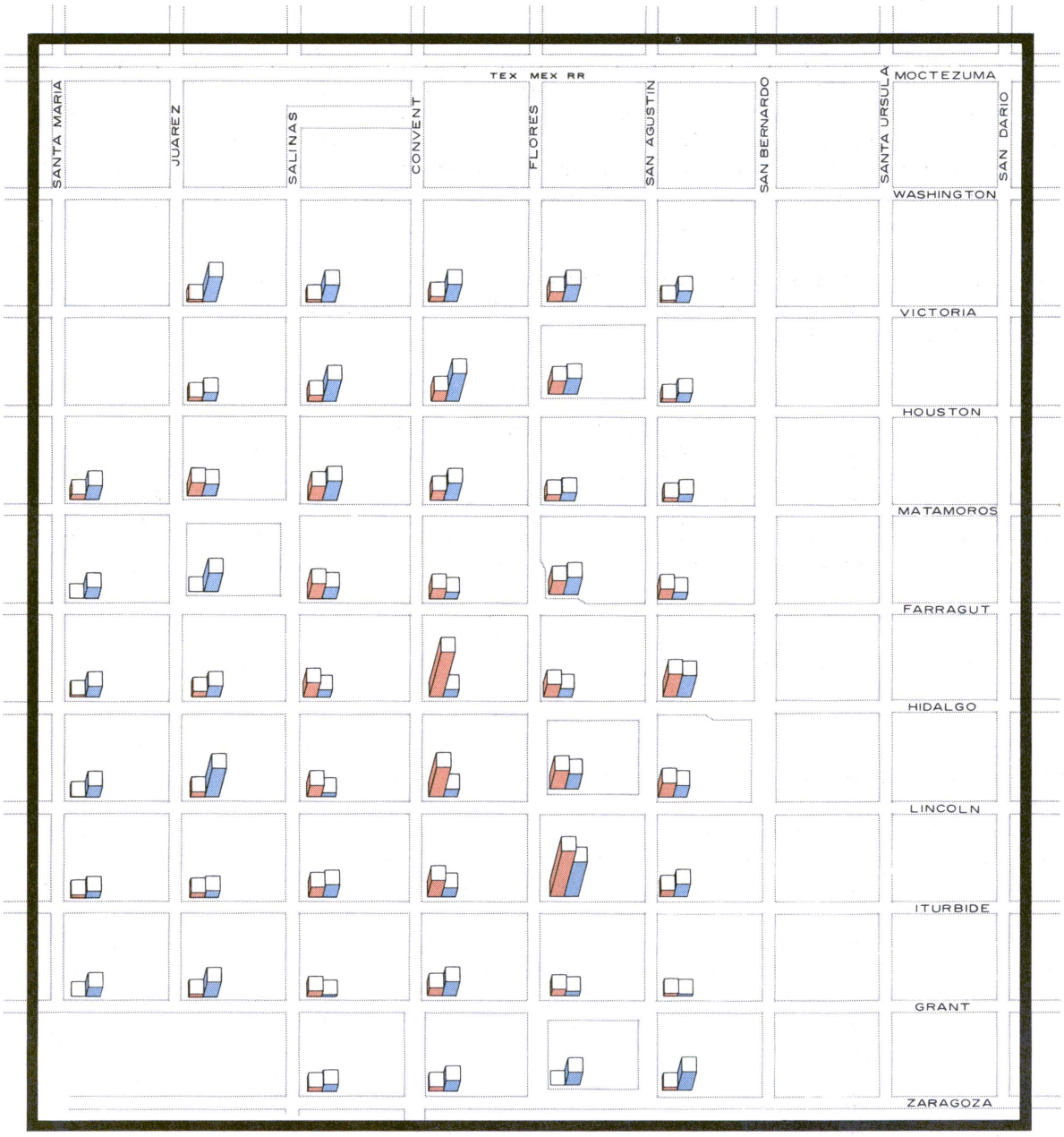
The trip purposes that generate traffic in the Laredo Central Business District are not in proportion to other cities its size. As shown in Table 39, 40 percent of the total trips are for purpose of work, compared to 17 percent for the average. The 40 percent work trips have a factor of 3.8 in converting trips to space-hours and actually amount to some 78 percent of the total space-hour demand. Twelve percent of the central business district trips in Laredo are for the purpose of shopping, compared to 30 percent for the average.

The projections of traffic requirements for 1985 made for this Study reveal that this deficiency will be seriously aggravated, not only because there will be much more demand, but also because there will be less supply of parking spaces in the Central Business District. Figures 23 and 24 represent data prepared by the City Planning Engineer and depict the parking situation for 1964 existing and 1985 expected traffic respectively. The parking problem in the Central Business District is very serious, and all indications are that unless the City takes vigorous steps to correct the existing deficiency and makes provisions to obtain much needed parking facilities for the present and future traffic demands, the situation may deteriorate to an extent that could cause economic distress.

RECOMMENDATIONS: One plan to provide additional parking spaces proposed by the City Planning Engineer is that when the City, County, and Federal Governmental Agencies are moved to a proposed Government Center, the facilities now occupied by these agencies will be converted to parking uses.

Another possible source of parking space may be available when Interstate Highway 35 is extended southward to the river. Schematics for this expressway anticipate twin overpasses over the Texas-Mexican Railroad at Moctezuma, and at Washington, Victoria, Houston, and Matamoros. The area under these overpasses between frontage streets may be used for additional parking facilities.

PARKING DEMAND AND SUPPLY - 1964



0 100 200 300
SCALE IN FEET

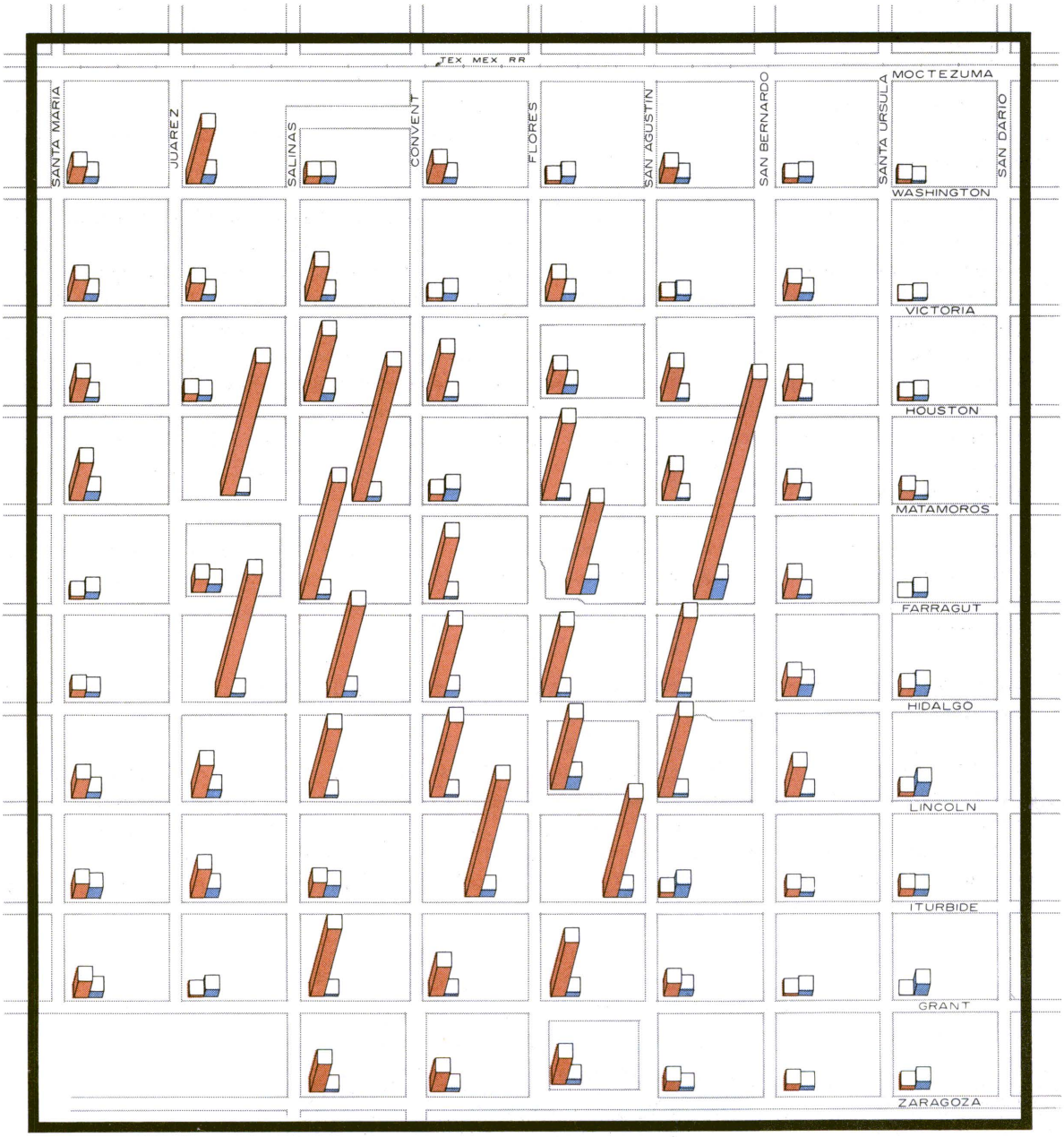
3000
2000
1000
0
SPACE HOURS
GRAPHIC SCALE

LEGEND
Average Space Hour Demand
Space Hour Supply

LAREDO
Urban Transportation Study

Figure 23

PARKING DEMAND AND SUPPLY - 1985



0 100 200 300
SCALE IN FEET

3000
2000
1000
0
SPACE HOURS
GRAPHIC SCALE

LEGEND
Average Space Hour Demand
Space Hour Supply

LAREDO
Urban Transportation Study

Figure 24

TERMINAL AND TRANSFER FACILITIES

TRUCK OPERATIONS

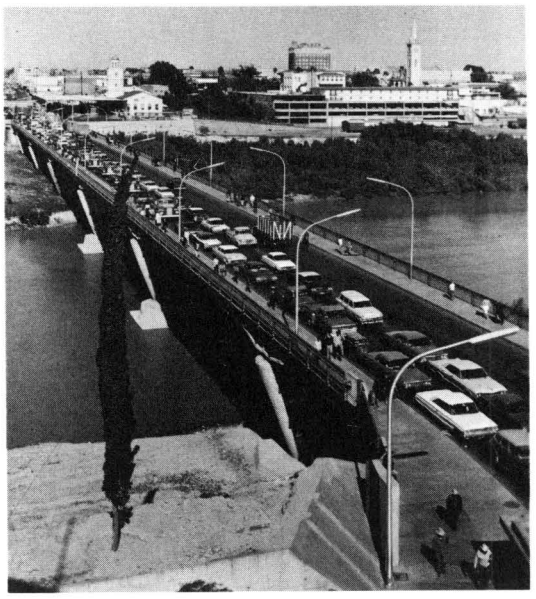
The lack of land use development control in the City of Laredo has created a very undesirable traffic condition due to truck operations. Figure 25 is a graphic presentation of the existing truck terminals within the City of Laredo.

Note that a large number of truck terminals are along the Texas-Mexican Railroad and the Missouri Pacific Railroad. The location of these terminals requires external truck traffic to traverse the built-up area of the City to get to these terminals. A large number of these truck centers along the Texas-Mexican Railroad east of Zacate Creek are vegetable sheds where the farm crops are processed for shipment. The work is seasonal, so this truck traffic does not present a year around problem; however, during the operation season, a large number of trucks loaded with crops cause a tremendous inconvenience to the daily traffic. The terminals on the southwestern portion are primarily freight forwarding agencies involved in international traffic. Some of the freight is received by truck from Mexico over the International Bridge and must traverse the CBD or streets in the vicinity of the CBD.

The City Planning Commission recommendation to remedy the problem caused by the high concentration of truck operations is to relocate the trucking centers in out-lying areas. A large number of vegetable sheds can be relocated along the Texas-Mexican Railroad in the easternmost portion of the City.

Some of these operations could also be located along the Missouri Pacific Railroad towards the northern portion of the City.

Another serious traffic problem caused by trucks is the servicing of stores in the Central Business District during business hours. There are very few servicing spaces, and the streets are so narrow that delivery vehicles invariably double-park and create serious traffic congestion. This unsatisfactory condition can be remedied by City Ordinances setting time periods before or after the daily traffic peak hours for delivery and service trucks to perform their operations.



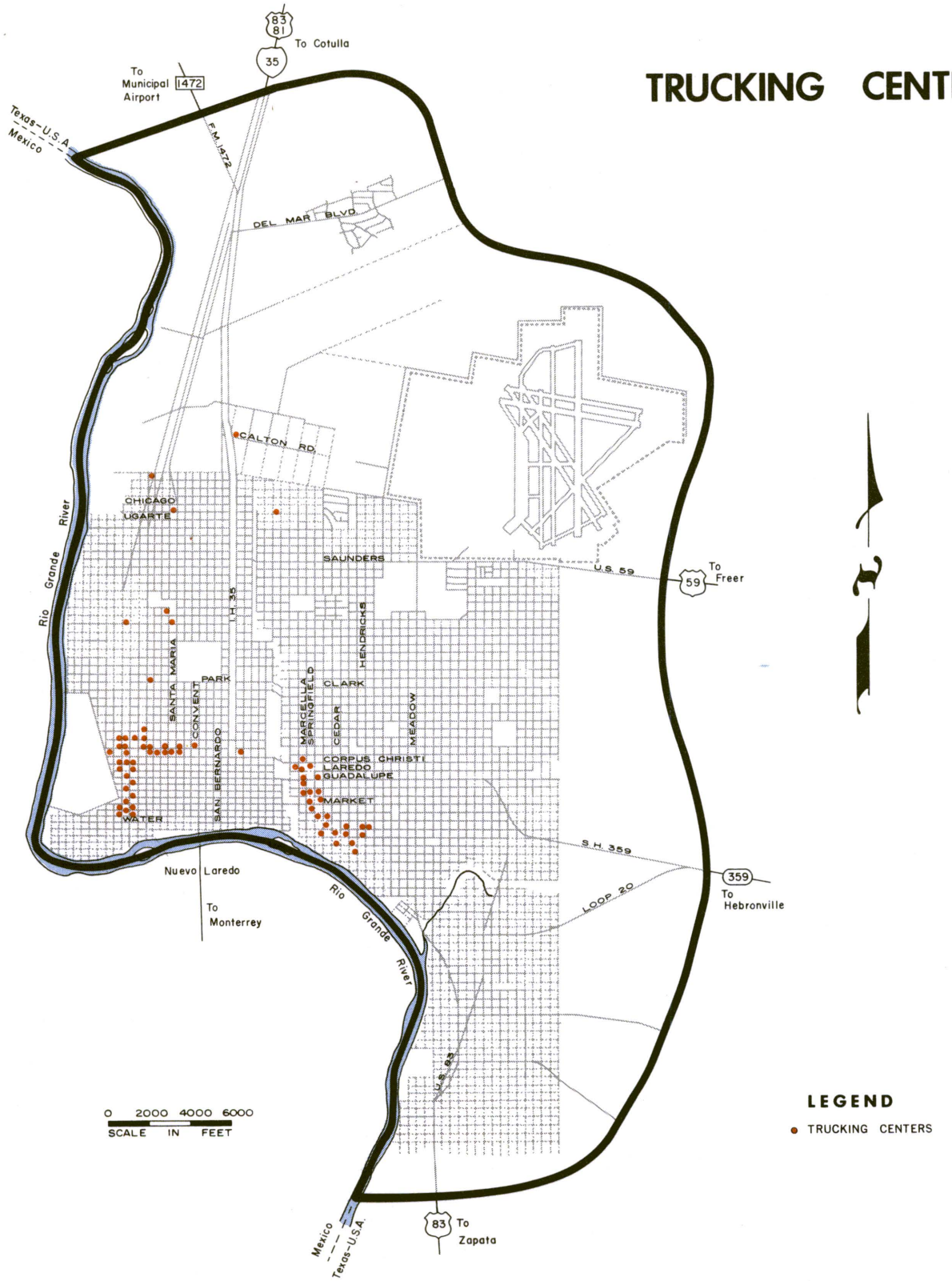


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Figure 25

Traffic Control Features

TRAFFIC CONTROL FEATURES

INTRODUCTION

Traffic engineering is devoted to the study and improvement of the traffic performance of streets, highways and terminal facilities. Its purpose is to achieve an efficient and economical flow of traffic while reducing traffic accidents and casualties. This is accomplished through the regulation and control of traffic streams and the proper planning and geometric design of transportation facilities.

TRAFFIC CONTROL MEASURES

Traffic control measures are techniques to improve traffic flow. These traffic control measures are usually encountered by motorists as limitations imposed upon their freedom of movement. Whether these limitations take the form of speed zones, one-way streets, prohibited parking, or a number of other regulations, they are imposed as limitations on the free movement of the individual in order to benefit the majority. The strict enforcement of traffic control measures does much to attain the objectives of traffic engineering. Without adequate enforcement of each traffic control measure, however, a general feeling of indifference develops, and a lack of compliance results. To insure adequate enforcement, there should be close cooperation between those officials enacting control measures and the various enforcement agencies.

PARKING CONTROL: One of the easiest and least expensive methods of increasing the capacity of existing streets is the restriction of on-street parking. Often, complete parking prohibition is not necessary, since peak traffic flows are normally limited to predictable morning and afternoon hours. By restricting parking during these peak-hours additional traffic lanes are provided to accommodate peak traffic flows, and yet curb parking is permitted to serve adjacent land uses during off-peak hours. Since the primary function of major thoroughfares and highways is to move traffic, on-street parking should always be considered as a secondary use and should be prohibited when it interferes with traffic movement. The City of Laredo has adequate on-street parking controls; but because of the limited street capacity and the lack of off-street parking facilities on-street parking hinders traffic flow in the Central Business District. This condition will be remedied only by more off-street parking facilities, and stricter enforcement of City Ordinances.

SPEED LIMIT CONTROL: Uncontrolled speed on streets and highways creates a significant accident potential. Drivers who are permitted to select their own speeds tend to drive at speeds ranging from very fast to very slow. This large speed differential along a selected route causes the more severe accidents.

Speeding is the primary cause of a relatively small number of accidents. Table 34, Chapter IV, indicates that less than 14 percent of all reported accidents from 1960 to 1965 were caused by unsafe speed. However, it is reasonable to assume that excessive speed for the conditions encountered was a contributing factor to the cause of the seriousness of the accidents.

Speed limits set at unreasonably low levels on major thoroughfares do not necessarily reduce the accident rate, but they do increase travel time and encourage speed violations. The City of Laredo for a long time has used speed zoning to prevent excessive and

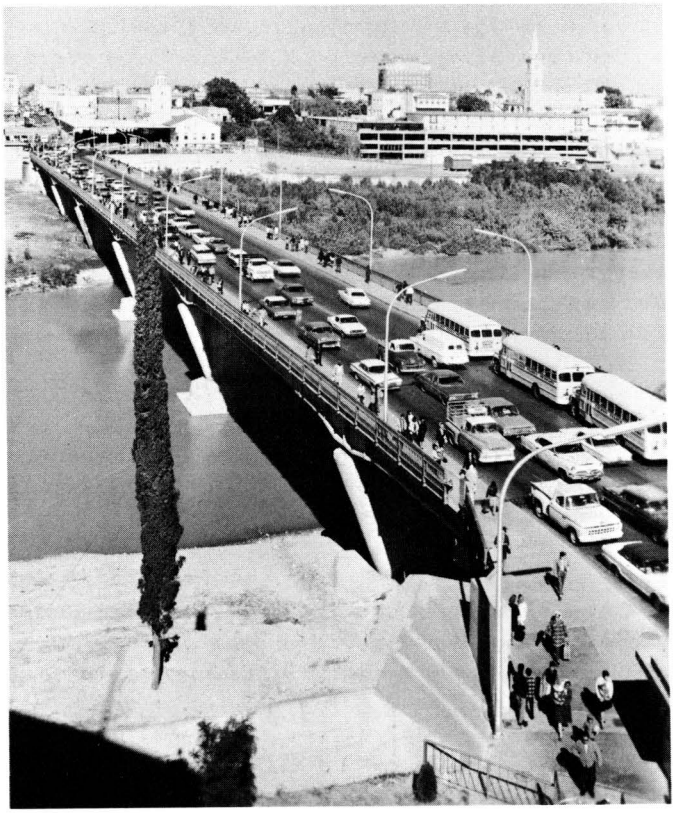
dangerous speeding. However, the time delay studies definitely indicate that the speed in the streets of Laredo is controlled primarily by the existing narrow streets and short city blocks, particularly in the highly concentrated Central Business District. The Interstate Highway 35 freeway recently completed permits speeds between a maximum of 60 MPH and a minimum of 40 MPH on the main lanes and a maximum of 30 MPH on the frontage roads.

TURNING MOVEMENT CONTROLS: The most difficult traffic movements to deal with successfully are the left turning movements. When conflicting with heavy opposing traffic, they lower intersection capacity by delaying major through traffic. This contributes to high accident rates. Additional signal phases to separate left-turning vehicles from the opposing through traffic often contribute to overall congestion and increase delays; however, they should be used where necessary to increase safety.

Frequently the only alternative remaining is to prohibit left turns during all or portions of the day. When this alternative is selected, another means must be provided to accommodate the demand for left turns--either at another intersection or by a circuitous right turn path.

There are many signalized intersections in the City of Laredo where the left turning movement is creating abnormal traffic congestion. The intersecting streets are not wide enough to provide left turn lanes.

In the Central Business District, the left-turning movement has been remedied by the use of one-way streets.



TRAFFIC CONTROL FEATURES

ONE-WAY STREETS: The use of one-way streets or one-way street systems fits a basic traffic engineering aim--to make the best use of existing facilities. One-way streets can effectively move larger volumes of traffic because of the changes they produce in travel characteristics. On one-way streets, intersectional conflicts are reduced, and opposing traffic is eliminated. This results in decreased accident potential and lower accident rates. Turning movements are no longer made in conflict with opposing traffic, permitting ease of movement within a one-way street system. One-way streets also take advantage of odd roadway widths and odd numbers of lanes. Also, parking and passing maneuvers are made less hazardous.

In solving congestion problems, the choice frequently lies between the installation of a one-way system or the application of parking restrictions. Although parking restrictions are favored in some instances, one-way streets offer greater possibilities for reduction of congestion and accidents and may, at the same time, permit curb parking.

The Laredo Central Business District now has some one-way streets that resulted from trial and error attempts to improve the circulation within the immediate downtown area. There has never been a complete one-way street plan developed which would alleviate the traffic problem existing in the Central Business District and the fringe areas around the Central Business District.

Such a plan is urgently needed to adequately analyze the other elements of the system, such as traffic control, signing and signals.

DESIGN AND PLANNING FEATURES

CHANNELIZATION: Many of the intersection and roadway design principles depend upon the use of channelization for their successful operation. Channelization generally involves the use of islands and markings to guide and protect traffic. It also provides "points of reference" within the intersectional area, which enable drivers to better predict the path and speed of other drivers, thus reducing accidents and congestion.

Channelizing islands may be traversable, deterring or barrier types. The choice of type depends upon a compromise between the hazard caused by the barrier and the importance of positive control of vehicle speeds and paths. In some instances, traversable islands are not too effective in that they have very little deterring effect, and strict enforcement is usually lacking.

In Laredo, channelization is not possible in the majority of the existing streets because of the narrow rights-of-way with the exception of Interstate Highway 35, which is a free-way with complete access control, and Clark Street, which has a ninety foot right-of-way.

LEFT-TURN LANES: The separation of heterogeneous traffic flows is one of the principles of intersection design. This is accomplished at intersections by providing separate lanes for turning vehicles. Left-turn lanes separate the slow-moving turning vehicles from the high-speed through traffic and provide storage for left turning vehicles. In addition to increasing intersection capacity, accident rates are usually reduced by the addition of separate left-turn lanes.

Left-turn lanes may be feasible in a few of the existing streets in Laredo, such as portions of San Bernardo, Saunders and Clark Streets.

TRAFFIC CONTROL FEATURES

ACCESS CONTROL: Controlling the spacing and location of intersections and driveways on a street or highway can greatly increase its capacity by reducing points of conflict and permitting increased speeds. Freeways, with full control of access, clearly illustrate the advantages of this design principle, however, on city streets which serve the dual purpose of traffic movement and access to adjacent property, complete access control is virtually impossible. Partial control can be obtained through regulations which limit the number of access points and by specifying the design.

The only transportation facility in Laredo with full control of access is Interstate Highway 35.

ILLUMINATION: The primary purpose of street and highway lighting in urban areas is to provide improved visibility conditions at night. Visibility distances at night are materially increased by the installation of fixed lighting. The contour and alignment of the roadway, and the location and identification of objects in the driver's path are revealed to the driver at a substantially greater distance than his own headlights would penetrate. At these distances, the lighted roadway also serves as a background to minimize the effect of opposing headlamps and to improve driver judgment of direction and speed of other vehicles. The economic benefits derived from adequate roadway illumination include improved business activity and reduced night-accident frequency. A significant fringe benefit is the crime-deterring effect of a well-lighted area.

The existing illumination in the Central Business District is adequate, but the fringes of the Central Business District and the residential areas have inadequate illumination.

TRAFFIC CONTROL DEVICES

SIGNS AND MARKINGS: Probably the most frequently encountered traffic control device is the traffic sign. In present day operations, traffic signs, complemented with the appropriate pavement markings, regulate the flow of traffic on all streets and highways, guide the driver along his route, and warn him of any impending danger along the way.

The effectiveness of these devices depends upon their ability to attract the driver's attention, to convey their meaning to the driver in time for him to act, and to command respect from him so that he takes proper corrective action. To be fully effective, signs and markings must be equally visible for night and day driving.

TRAFFIC SIGNALS: The primary function of a traffic signal is to assign the right-of-way to the various movements necessary at an intersection. In doing this, they exert a profound influence on traffic flow. Their optimum use reduces delays and congestion, reduces accident frequency, and increases capacity.

Figure 26 is a graphic presentation of the existing signals in the City of Laredo. The present traffic signal system is not efficient in handling the present day traffic load, and there is no flexibility due to the limited use of the master controller and the extensive use of out-dated secondary controllers. These secondary controllers do not provide flexibility and progression capacity. This condition limits practical capacity to such an extent that it becomes critical during peak hours. It is of the utmost urgency that the entire traffic signal system in the city be improved to provide better traffic flow.

LAREDO

Urban Transportation Study

Figure 26

TRAFFIC CONTROL FEATURES

SUMMARY AND RECOMMENDATIONS

From the foregoing, it is evident that there are a number of traffic control features that can be improved in the City of Laredo to alleviate the existing traffic conditions. The following are some of the recommendations made by the City Planning Engineer:

ONE-WAY STREETS: Due to the lack of adequate street width and a consequent lack of practical capacity, one-way streets in the fringe area of the Central Business District are recommended. The one-way pattern would be governed somewhat by the number and location of crossings over the Zacate Creek, with the Expressway flowpattern, and by the flow pattern within the Central Business District itself. Proper signing at each intersection is essential in the control of flow along all types of streets. In order to provide better approaches to the Central Business District, traffic controls are also recommended at intersections which will require attention when each of the new routes is opened to traffic. On-street parking in the Central Business District in conflict by traffic flow should be eliminated.

ISOLATED INTERSECTION CONTROL MEASURES: Traffic control of any kind must be justified before it can be accepted by the motorist and respected by the general public. A thorough check into each existing traffic control at isolated intersections revealed that several traffic signals exist at intersections where the traffic volume does not justify the control. An example is the intersection of San Enrique and Sanchez Streets. Traffic signals at Marcella and Corpus Christi and Marcella and Guadalupe should be revamped to permit eastbound traffic during the peak hour to move uninterrupted from the Central Business District. This means adding a timing device to extend the green time on the east-west artery to eighty percent of total cycle. Another intersection requiring extensive revamping is San Eduardo and Matamoros where left turn movements paralyze the traffic flow completely during peak hours. Making Matamoros a one-way street when the Houston bridge is opened will clear up the bulk of the problems at this intersection, but for the immediate future, it is recommended that no left turns westbound and southbound be permitted. The paving of Victoria and Houston from San Eduardo to San Enrique will reduce the activity at the intersection of San Eduardo and Washington, another heavily traversed intersection.

STREET LIGHTING: Additional street lighting in the fringe areas of the Central Business District is highly recommended, particularly on those streets which cross Zacate Creek. Many of the accidents in this zone occur during the dark hours, thereby making lighting a necessary safeguard. Present lighting of major streets is considered inadequate. At least twenty thousand lumens of light is required to provide sufficient lighting.

SCHOOLS AND SCHOOL ZONES: Schools within the residential areas are faced with traffic problems concerning child safety more than schools in the outlying areas. Elementary schools in this zone have students who must travel from one end of the zone to another, crossing several thoroughfares and secondary streets. It is necessary that school zones be properly identified and speed limits posted. Crosswalks should be clearly marked and maintained.

At Martin High School, traffic during the lunch hour and at the end of the school day is a serious problem. Parking of faculty and student cars inside the school grounds would aid in clearing up the parking problem in the Park-San Bernardo area. Another safety feature which would help is the construction of a loading ramp approximately sixteen feet wide along San Bernardo to permit school buses to load and unload while stopped inside the school grounds.

In addition, Park Street should be lane-marked to increase its carrying capacity. L. J. Christen School should have similar loading facilities as suggested for Martin High School, and because the student parking is not as great, the faculty parking problem could be minimized by requiring all parking to be inside the fence of the school. Central Elementary will be faced with unusually serious traffic problems upon completion of Interstate Highway 35. The school is adjacent to the freeway frontage road, which is presently being roped off for use as playground area. Special crossing provisions must be made to make use of the Central Plaza area, but still maintain San Dario open during critical traffic peak hours. This problem will require extensive study prior to the opening of the expressway.

TRAFFIC FLOW: Generally, traffic in Laredo flows at a slower rate than in most cities. A reason for this is the many points of conflict in any given route, due primarily to the very short blocks (and consequently many intersections) and to the problem of undesignated thoroughfares. In relation to the development of a major street system, the City of Laredo took preliminary steps to develop certain basic major streets during the paving program of 1958 and 1959. The fact remains that there are still many unpaved streets which could be used in distributing traffic and reducing the demand on certain existing streets. By the same token, any closing of minor unneeded streets would encourage intra-city travel on designated thoroughfares only.

Until the city develops a more fully self-supporting system of major streets, which ultimately will require more rights-of-way, the following recommendations with regard to traffic flow are: (1) provide an additional crossing on the Creek at Jefferson-Frost, to provide an east-west route to traffic leading to and from the Laredo Civic Center, (2) extend Springfield Avenue from Gustavus south to Guadalupe, and from Saunders north to Calton Road, to provide a means for intra-city travel south and north other than on the freeway, (3) provide paving on those streets which will tie in San Bernardo and the Interstate Highway 35 freeway, namely, Chicago, Ugarte, Pace, Madison, Baltimore, Constantinople, Garden, Sea, Poggenpohl, Gonzalez, Bruni and Benavides, (4) widen and resurface Garden to 40 feet to serve as the main entrance to the Civic Center and serve to distribute traffic from the Civic Center to other streets in the area, which also need to be improved to handle the high volume of traffic, (5) provide paving on Willow for truck traffic to come in from State Highway 359 and U.S. Highway 83 South from the Zapata Highway, (6) improve Sanchez from Convent to Main and each connection from Park to Sanchez along the City Park, for dissemination of traffic from the City Park, (7) widen and resurface Gustavus from Meadow to Ryan School, (8) provide paving on Elm from Arkansas to Bartlett, on Plum from Bartlett to Meadow, to serve a new generator, the Nixon High School-Hachar Park area, (9) improve Calton Road as a connector from San Bernardo to Springfield Road and eventually to McPherson Drive, (10) resurface Lafayette from San Bernardo to Santa Maria, (11) improve all streets within the Central Business District. If the improvements herein recommended are made, traffic flow in and around the city will be improved considerably for a few years.

SPEED ZONES: In order to make full use of street capacity, it is necessary to conduct speed studies of certain major thoroughfares other than those within the high-density areas. It is recommended that speed studies be conducted on the following heavily traveled streets to establish a more realistic speed zone:

a) Santa Maria, Park to Del Mar Boulevard
b) Saunders, (U.S. 59), City Limits to San Francisco
c) Zapata Highway, south city limits to 3 point area

d) Arkansas, Saunders to Corpus Christi
e) Clark Boulevard, Springfield to Arkansas
f) Springfield, Clark Boulevard to Saunders

Proper transition speed zones should be established where necessary. Speed zones around schools should be properly marked on the street pavement and by posting proper signs as specified in the Manual on Uniform Traffic Control Devices.* In addition to the above named streets, others should be investigated to provide the most effective speed limit possible for each particular location.

DESIGNATION OF THOROUGHFARES AND MINOR STREETS: In order to adequately enforce regulations and educate the driving public, it is essential that the City Council, through official action, designate the thoroughfares in the city as they may exist today. In this manner, proper stop signs on all minor cross streets can be erected to provide a safeguard in preventing accidents. Although most motorists in Laredo are familiar with the streets which are throughways and which carry a right-of-way privilege, this action is necessary to provide the motorist from out-of-town with some reasonable safeguards.

BUS STOPS: In the outlying area, in order not to obstruct or create a crossing hazard, it is recommended that buses of the Laredo Transportation System be required to stop on the far corner of any intersection, with proper bus stop signs installed.

RESTRICTED PARKING AREAS: There exist certain major areas of congestion and points of conflict in outlying areas in which the traffic flow is hindered by the lack of proper signing and enforcement. In order to facilitate traffic flow, it is recommended that parking be prohibited in the following zones:

1) Sanchez, between Zacate Creek bridge and San Bernardo
2) Park, one block north side, between San Leonardo and San Enrique
3) Guadalupe, between Marcella and Monterrey, both sides
4) Gustavus, Springfield to Sanders, both sides
5) San Bernardo, both sides, Matamoros to Moctezuma

In addition to the above full-time parking controls, there are several problems deserving a high priority which arise from one-of-a-kind or once-a-week type events. Of major concern would be the Sunday church services in various sections of the city. The most serious of these problems is at Blessed Sacrament Church, where a major thoroughfare is involved. There is plenty of off-street parking space, but the average churchgoer apparently prefers to park on the street, thereby reducing the traveling lane width considerably. It is recommended that signs be installed to instruct people to park within the confines of the vacant land, and that the church be requested to mark its parking lot for efficient use.

Another critical location is the Christ the King Church on Guadalupe, although, in this instance, there is very little off-street parking space.

It would best suit the situation to close off Tilden Street on Sunday mornings to prohibit parking on Guadalupe and permit traffic to flow uninterrupted.

* Manual on Uniform Traffic Control Devices for Streets and Highways, U.S. Department of Commerce, 1961

TRAFFIC CONTROL FEATURES

RAILROAD CROSSINGS: All railroad crossings at major streets or collector streets should be properly marked and signed, and well lighted by today's standards. It is recommended that mercury vapor lights be installed at all major street crossings, such as at Hendricks Avenue and the Texas-Mexican Railroad. The following intersections should be considered.

1) Convent at Moctezuma
2) Santa Maria at Moctezuma
3) San Eduardo at Moctezuma
4) Main at Moctezuma
5) Santa Maria at Pace
6) San Bernardo at Pace
7) McPherson at Olive
8) Market at Springfield
9) Market at Jarvis
10) Guadalupe at Marcella
11) Corpus Christi at Saunders
12) Victoria at Missouri-Pacific Yard
13) Hidalgo at Missouri-Pacific Yard
14) Zaragoza at Missouri-Pacific Yard

Also noted is the recommendation that coordination be achieved between traffic signals and railroad crossing warning lights at Marcella and Corpus Christi, Marcella and Guadalupe, and Marcella and Market, in order that a flashing red light will result in a continued red light for the east-west arteries. Stacking of cars closing up the intersection is the usual result from non-coordination of the intersection traffic signals.

LANE MARKINGS ON MAJOR STREETS: For safety and maximum capacity, the following streets should be marked in accordance with the provisions of the Manual on Uniform Traffic Control Devices:

Double Yellow Center Line with Lane Lines - Park, San Leonardo to Main

Lane Lines, with Left Turn Slots - Clark Boulevard, Zacate to Arkansas

Center Line with parking lanes (one side only) - Market, Monterrey to Bartlett
Corpus Christi, Zacate Creek to Arkansas
Bartlett, Market to Saunders
Malinche, Guadalupe to Stewart

Center line with parking lanes - Meadow, Saunders to Chacon Bridge
Arkansas, Guadalupe to Saunders
Santa Maria, Chicago to Iturbide
Washington, Zacate Creek to Vidaurri
Victoria Street, San Eduardo to MP tracks
Houston, San Eduardo to Santa Rita Avenue
Springfield, Gustavus to Saunders

Center Line Only - San Eduardo, Farragut to Park
Santa Maria, Iturbide to Grant
Sanchez, Convent to Zacate Creek
Seymour, Guadalupe to Stewart

SPECIAL SIGNS: Special signs should be erected to direct traffic to the International Bridge from highways leading into the city. This will eliminate the "obstacle course" which the tourist-motorist has to go through to reach his destination--sometimes a rather frustrating experience. Also, signs leading to the Laredo Municipal Airport with appropriate color scheme should be erected to facilitiate traffic movement to that facility.

Community Controls

COMMUNITY CONTROLS

> "Effective transportation planning requires adequate and properly exercised land use planning and controls. Highway development can be carried out as planned, largely because planning is accepted as a line function. Urban development, including land use, can be carried out as planned where the city planner is accepted as a part of the administrative team, when he has the authority of the administration behind him." - COMPREHENSIVE TRANSPORTATION PLANNING, - A MUST FOR LARGE AND SMALL CITIES, by E. H. Holmes, Director of Planning, Bureau of Public Roads, September 27, 1963.

To provide for the control of orderly development of an area, the community must have certain powers and techniques. The City Charter grants the local government adequate police powers for control and regulation of traffic, streets, drainage, sanitation, and some basic land use. The City of Laredo has not enacted a complete or "model" traffic ordinance. The regulation of traffic is done by resolution as necessary, and these resolutions are usually modeled after the "Model Traffic Ordinance", published by the National Committee on Uniform Traffic Laws and Ordinances. To properly control development, the local government should enact zoning ordinances, subdivision regulations, and building and traffic codes. Without these licensing powers and basic techniques, it is difficult to direct and regulate the development of a growing, living community in a manner that is beneficial for the inhabitants.

The most widely used tool now available for coordinating public and private development, consistent with land use plan proposals, is zoning. The area development plan for Laredo and Webb County, prepared by Caudill, Rowlett Scott under the Urban Planning Assistance Program, Section 701 of the Housing Act of 1954, approved by the City Planning and Zoning Commission and the Board of Aldermen, is a comprehensive plan for the improvement of existing conditions and the control of future developments to provide a better place to live. The City of Laredo does not have zoning ordinances at this time, and this lack of control has created a serious local problem due to the mixing of commercial, industrial, and residential land use. Also, this deficiency has created an over-crowding of homes on inadequate space.

Zoning can act to prevent the further loss of the City's economic and human values. More specifically, a zoning plan for Laredo can:

1. Provide well-located space for each land use type, but separate activities which might not exist harmoniously side by side.

2. Assure sufficient light, air, space and privacy through control of building heights and yard widths.

3. Reduce traffic congestion and danger on the streets by requiring off-street parking appropriate to the traffic generating character of adjacent uses.

4. Protect the public investment in schools, parks, public buildings and private homes.

5. Help stabilize land values for the protection of business and home owners who have, invested in, or desire to invest in local improvements.

6. Reduce overcrowding of dwellings to reduce health and sanitation problems result-from excessive lot development.

A closer look at existing development reveals several situations for which zoning can help to correct existing problems and prevent their occurrence in the future. Typical problem situations are:

1. The mixing of business and residential uses that occurs along San Bernardo Avenue and Guadalupe Street.

2. The inadequate transition between industrial development and homes bordering the Missouri Pacific Railroad east of Fort McIntosh and at the Texas-Mexican Railroad south of Guadalupe Street.

3. The lack of parking spaces in the central business district where cars, people, and service vehicles must all compete for space.

4. In Laredo the climate is subtropical; yet many people lack the economic means for summer air conditioning. Natural ventilation should be encouraged through the arrangement of streets and other improvements.

The City has an adequate sudivision ordinance supervised by the City Planning and Zoning Commission. This ordinance defines the techniques by which area development can be coordinated and improved through the review of subdivisions. The City does not have a complete building code, but it does have a plumber's and electrician's code to control those types of materials and workmanship.

In Appendix 3 of Volume 3 of the Area Development Plan--Laredo and Webb County, the Consultants have written a very thorough zoning ordinance for the City and strongly recommended that it be adopted. This ordinance is under study by the Board of Aldermen at this time.

Financial Resources

FINANCIAL RESOURCES

One of the more important factors of an urban transportation study is a study and analysis of financial resources. Information on expenditures for street and highway facilities is essential for the efficient management of the transportation system. Of prime importance in the selection of a transportation plan and the programs devised to implement this plan is the availability of adequate financial resources.

Actual expenditures for street and highway purposes in the city and county for the last ten years were obtained from the City, County, State and Federal governmental units. This data is shown in Tables 40 through 44. In addition to these tables, Tables 45 through 49 are included to indicate the financial status of the City of Laredo, and Table 50 is a capital improvements program recommended by the Area Development Plan.

Federal Government

Table 40- Federal Highway Funds Spent in Webb County

State Government

Table 41 - State Expenditures for Highway Construction in Webb County

Table 42 - State Highway Maintenance Expenditures in Webb County

Table 43 - R.O.W. Expenditures in Webb County

Webb County

Table 44 - Webb County Road & Bridge Expenditures

City of Laredo

Table 45 - Trends in Property Valuations for Levy and Collections

Table 46 - Trends in General Fund Accounts

Table 47 - General Obligation Bond Summary

Table 48 - General Obligation Bonds, Debt Service Requirements until Maturity

Table 49 - General Governmental Revenues, Expenditures and Deficiencies

Table 50 - Fund Source - Capital Improvements Program

TABLE 40

FEDERAL HIGHWAY FUNDS SPENT FOR WEBB COUNTY

FISCAL YEAR	AMOUNT
1954-55	$ 79,925.37
1955-56	0.00
1956-57	134,308.39
1957-58	1,803,056.07
1958-59	1,110,407.54
1959-60	1,183,598.65
1960-61	702,063.91
1961-62	1,151,918.79
1962-63	334,987.94
1963-64	1,794,609.96
TOTAL	$ 8,294,876.62

Source: District 21
Texas Highway Department

TABLE 41

STATE EXPENDITURES FOR HIGHWAY CONSTRUCTION FOR WEBB COUNTY

1954-1964

DATE	CONSTRUCTION
1954-55	$ 261,945.80
1955-56	213,781.77
1956-57	133,310.52
1957-58	661,547.20
1958-59	421,559.38
1959-60	666,182.38
1960-61	1,300,136.27
1961-62	811,270.78
1962-63	379,854.36
1963-64	762,046.11
TOTAL	$5,611,634.57

Source: District 21, Texas Highway Department

TABLE 42

STATE HIGHWAY MAINTENANCE EXPENDITURES IN WEBB COUNTY

Year	Miles of Divided Lane & Contr. Access Hwys.	Total Miles All Types Highways	Amount Spent for Maintenance
1955	0.00	236.40	$114,659.61
1956	0.00	236.40	103,727.76
1957	18.556	250.09	193,494.94
1958	18.556	259.68	214,569.00
1959	30.010	277.25	218,992.47
1960	32.132	277.48	229,375.37
1961	34.562	277.48	241,461.09
1962	34.562	279.70	216,184.69
1963	38.092	278.28	265,892.11
1964	37.772	277.72	285,884.99

Source: District 21, Texas Highway Dept.

TABLE 43

RIGHT-OF-WAY PROJECTS

EXPENDITURES - WEBB COUNTY

PROJECT NO.	LIMITS	CONTRACT AUTHORIZATION	AMOUNT AUTHORIZED	TOTAL PASSED FOR PAYMENT	BALANCE	
351-(9)-1	In Laredo From N. City Limits of Laredo, So. To Matamoros street					
9021-5-1	(11-30-66) Revisions withdrew $275,000.00)	3-27-57	$ 2,303,000.00	$ 2,264,475.27	$ 38,524.73	
351-(4)-2 9021-5-2	From 2.0 Mi N of U.S. 83 To 0.3 mi. South of U.S. 83	1-1-59	4,840.00	4,762.80	77.20	Project closed 11-19-65
351-(6)-3	From 4.9 Mi N of Laredo So (Sta. 140+08.5) To F.M. 1472 (Sta. 0+67.0)	11-30-56	8,100.00	8,012.62	87.38	Project closed 11-19-65
351-(7)-4	From F.M. 1472 So (Sta. 280+44) To N.C.L. of Laredo (Sta. 159+94.5)	11-30-56	448,500.00	447,239.35	1,260.65	
RW 8021-1-2	From 10.1 M.E. of U.S. 83 In Laredo To 2.0 Mi E. of Oilton	11-30-61	23,000.00	22,620.40	379.60	Project closed 2-25-66
RW 86-1-7	From E. C.L. of Laredo To 10.1 M. E of U.S. 83 in Laredo	12-30-58	21,800.00	20,947.54	852.46	Project closed 2-14-63
RW 86-1-8	From U.S. 83 in Laredo To E.C.L. of Laredo	12-30-59	12,500.00	9,147.01	3,352.99	Project closed 2-14-63
		TOTAL	$ 2,821,740.00	$ 2,777,204.99	$ 44,535.01	

Source: District 21, Texas Highway Department

TABLE 44

ROAD AND BRIDGE EXPENDITURES WEBB COUNTY

YEAR	NEW EQUIPMENT	CONSTRUCTION	MAINTENANCE	RIGHT OF WAY
1954	6,096	69,855	181,822	-
1955	1,574	23,829	222,396	-
1956	57,312	--	185,062	43,701
1957	--	--	133,384	180,294
1958	1,996	--	116,280	58,708
1959	14,789	--	143,949	11,348
1960	11,769	16,477	94,270	16,740
1961	86,382	--	108,290	3,858
1962	23,436	--	114,065	892
1963	29,656	--	92,008	31,710
1964	7,748	--	88,502	2,869
1965	34,306	64,313	96,446	23,264
TOTALS	275,064	174,474	1,576,474	373,384

Source: Webb County Auditor

Table 45

TRENDS IN PROPERTY VALUATIONS, TAX LEVY AND COLLECTIONS
LAREDO

Year	Valuation	Increase	Rate	Levy	Total Collection
1958-59	$46,279,652	$ 724,165	$2.15	$ 994,948	$ 929,941
1959-60	47,234,640	954,988	2.15	1,015,545	1,015,079
1960-61	48,422,392	1,187,752	2.15	1,041,081	1,076,973
1961-62	53,782,856	5,360,464	2.15	1,158,195	1,140,325
1962-63	55,810,794	2,027,938	2.15	1,199,932	1,188,658
1963-64	56,576,474	756,210	2.15	1,216,191	1,247,611
1964-65	59,076,500	2,500,000	2.15	1,270,200	1,251,500
1965-66	64,576,500	5,500,000	2.15	1,388,400	1,318,980
1966-67	67,876,500	3,300,000	2.25	1,527,220	1,450,860
1967-68	71,376,500	3,500,000	2.25	1,605,970	1,525,670
1968-69	75,076,500	3,700,000	2.30	1,726,759	1,640,420
1969-70	79,076,500	4,000,000	2.30	1,818,760	1,727,822
1970-71	83,100,000	4,023,500	2.30	1,911,300	1,815,735

Total Collections=Levy plus delinquent taxes collected.

Ratio of total collections to levy=95.0%

Source: City Planning Commission

TABLE 46

TRENDS IN GENERAL FUND ACCOUNTS

LAREDO

Receipts	Average 1958-1963	Fiscal Year 1963-1964	Average 1964-1971	Estimated Receipts 1964-1971
In Lieu of Taxes	$ 6,345	$ 7,565	$ 8,000	$ 48,000
Franchise Taxes	71,156	89,248	97,875	587,250
Licenses, Permits and Inspection Fees	15,365	21,595	24,300	145,800
Fines and Penalties	12,059	19,305	24,650	147,900
Occupation Taxes	8,753	9,906	10,800	64,800
Parking Meters	14,465	40,661	42,000	252,000
Miscellaneous	8,629	7,924	9,000	54,000
Total	$ 136,772	$ 196,204	$ 216,625	$1,299,750

Expenditures	Average 1958-1963	Fiscal Year 1963-1964	Average 1964-1971	Estimated Expenditures 1964 - 1971
General Government	$ 285,370	$ 383,932	$ 432,500*	$ 2,595,000
Public Safety	553,070	664,656	764,300	4,585,800
Streets and Sanitation	413,680	511,553	578,700	3,472,200
Health and Hospital	95,820	108,637	114,150	684,900
Public Welfare	32,880	59,213	74,500*	447,000
Total	$1,380,820	$1,727,991	$1,964,150	$11,784,900

* Should level off in the next 2 or 3 years after 1964.

Source: City Planning Commission

TABLE 47

GENERAL OBLIGATION BOND SUMMARY

LAREDO

Description	Original Issue	Outstanding 6-30-65	Requirements to 6-30-65 Principal	Interest
1936 Storm Sewer Bonds	$ 14,000	$ 500	$ 500	$ 23.75
1936 Sanitary Sewer Bonds	25,000	1,000	1,000	47.50
1936 Street Improvement Bonds	16,000	1,000	1,000	47.50
1937 Street Improvement Bonds	50,000	9,500	2,500	432.82
1937 Storm Sewer Bonds	90,000	11,000	5,000	380.00
1937 Incinerator Bonds	50,000	9,500	2,500	432.82
1939 Refunding Series "C"	88,000	5,000	5,000	100.00
1950 City Hall and Library Bonds	110,000	66,000	8,000	1,650.00
1950 City Hall and Library Bonds	85,000	10,000	10,000	137.50
1950 Street and Bridge Bonds	460,000	284,000	34,000	6,950.00
1956 Fire Station Bonds	250,000	250,000	-	7,862.50
1956 Equipment Bonds	149,000	74,000	35,000	2,767.50
1958 Improvement Bonds	1,575,000	1,550,000	5,000	58,680.00
1963 Airport Improvement Bonds	50,000	45,000	5,000	1,350.00
1963 Civic Center Bonds	650,000	650,000	-	23,975.00
1965 Airport and Civic Center Bonds	300,000	300,000	-	-
Total	$3,962,000	$3,266,500	$114,500	$104,836.89
Authorized But Not Issued				
1964 Street Improvement Bonds	$ 500,000			

Source: City Planning Commission

TABLE 48

GENERAL OBLIGATION BONDS
DEBT SERVICE REQUIREMENTS - UNTIL MATURITY

Fiscal Year	1. Requirements	2. Requirements
1965-66	$ 219,441	$ 230,734
1966-67	221,670	232,962
1967-68	222,743	234,036
1968-69	224,798	236,090
1969-70	221,560	237,853
1970-71	226,148	242,240
1971-72	225,870	241,763
1972-73	225,436	240,126
1973-74	224,612	240,105
1974-75	223,639	238,931
1975-76	222,675	237,768
1976-77	205,955	225,847
1977-78	204,900	224,393
1978-79	198,780	217,872
1979-80	192,660	216,353
1980-81	196,515	214,645
1981-82	194,965	212,730
1982-83	131,844	189,244
1983-84	127,281	182,031
1984-85	-	103,700
	$ 3,911,492	$ 4,399,423

1. Before sale of $300,000 Series 1965 Bonds.
2. After sale of $300,000 Series 1965 Bonds.

Source: City Planning Commission

TABLE 49

GENERAL GOVERNMENTAL
REVENUES, EXPENDITURES AND DEFICIENCIES
LAREDO

	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971
Revenues						
Property Taxes*	$1,088,246	$1,217,898	$1,291,634	$1,404,330	$1,489,969	$1,573,495
Other Sources**	198,500	202,800	212,625	216,800	228,000	241,025
Total	$1,286,746	$1,420,698	$1,504,259	$1,621,130	$1,717,969	$1,814,510
Expenditures						
Total Operating	$1,789,400	$1,859,900	$1,929,400	$2,004,400	$2,064,400	$2,137,400
Deficiency	$ 502,654	$ 439,202	$ 425,141	$ 383,270	$ 346,431	$ 322,890

*Distribution to General Fund - Based on Projection Table 45.
**Projection Table 46.

Source: City Planning Commission

TABLE 50

FUND SOURCE - CAPITAL IMPROVEMENTS PROGRAM - 1964

LAREDO

	Cost To City	Current Income	G. O. Bonds	Revenue Bonds	Funds Available
1. & 2. Streets	$ 756,650	$ 6,650	$ 750,000	$	$ 500,000
3. Street Signs, Lighting and Traffic Signals	204,400	24,400	180,000		
4. Bridges	820,250	5,250	45,000	770,000	
5. Airport	320,000	20,000	300,000		200,000
6. Civic Center	100,000		100,000		100,000
7. Fire Stations	141,000	41,000	100,000		
8. Library	125,000	25,000	100,000		
9. Government Center	135,000	35,000	100,000		
10. Central Laredo	30,000	30,000			
11. Waterworks	1,686,220	86,220		1,600,000	2,000,000
12. Sewers	657,000	12,000	600,000	45,000	45,000
13. Parks & Recreation	191,500	1,500	190,000		
	$5,167,020	$287,020	$2,465,000	$2,415,000	$2,845,000
Funds Available	2,845,000		800,000	2,045,000	
Needed	$2,322,020	$287,020	$1,665,000	$ 370,000	$2,845,000

Assumptions: The amount of general fund deficiency is expected to decrease as the city's tax base is increased and a higher levy is applied. However, no funds for pay-as-you-go improvements are anticipated.

The city has the legal and service margin to issue more general obligation bonds. The problem will be to keep the debt service requirements and general fund expenses in the proper balance.

Source: City Planning Commission

FINANCIAL RESOURCES

Since the designated study area boundaries are not concurrent with any other administrative or jurisdictional boundaries, there is no distinction between fund expenditures by any governmental units inside and outside the study area. This is not considered imperative, since expenditures during the last decade or so do not reflect anticipated expenditures in the area. This is caused by a heavy expenditure during this period on Interstate Highway 35, and little or no expenditure on other facilities in the area. An indicator of this is the record of right-of-way and construction expenditures on Interstate Highway 35 in the Study Area. Right-of-way expenditures for this project amounted to $2,264,475 for the period from 1957 to 1967, or approximately $226,448 per year. Construction expenditures on these projects amount to $3,943,761 for a period from 1961 to 1966, or approximately $788,762 per year.

Since the financing of the Interstate System is State and Federal, the amount of money necessary to complete the Interstate Highway to the Rio Grande is considered available. This would be approximately $5,000,000. It is assumed that new river crossings will be financed privately, and thus these funds will be available.

As shown in Table 46, the City spent an annual average of approximately $400,000 in the 1958 to 1963 period for streets and sanitation. Approximately 30 percent of this amount was for streets. Assuming a similar expenditure trend for the next twenty years would make approximately $2,400,000 available to help develop the 1985 transportation plan. In 1964, some street improvement bonds were passed amounting to $500,000 most of which have not been issued. These bonds, however, will be considered as part of the above mentioned $2,400,000.

Therefore, it appears that a minimum of $7,400,000 total revenue will be available to finance the plan to 1985.

Community Value Factors

COMMUNITY VALUE FACTORS

In the preparation and development of transportation plans, and the implementation of the transportation facilities resulting therefrom, it is essential that careful consideration be given to the community values which endow the citizenry of the study area with opportunities for education, cultural creativity, recreation and diversion in the pursuit of a good life for this and future generations. It is also significant that certain community landmarks and attractions must be carefully considered in this planning process if Laredo is to continue as a tourist and convention city.

Laredo's location on the Interstate Highway System at the crossroads of the Pan American Highway to Mexico and Latin America makes it imperative that proper attention be given to its international function and tie in with Nuevo Laredo, Tamaulipas, Mexico, its sister city. The rapidly growing international city of Los Dos Laredos (The Two Laredos) is fast becoming a mecca for tourists and weekend visitors, as well as offering for the local citizenry many opportunities for cultural and recreational interchange and social activities. Nuevo Laredo's many excellent tourist attractions, such as bullfights, charreadas, fiestas, night clubs, restaurants, and the blending of the Old World Enchantment of Old Mexico with that of the present day modern Mexico provide a truly enjoyable and picturesque community value for the Laredo people and tourists.

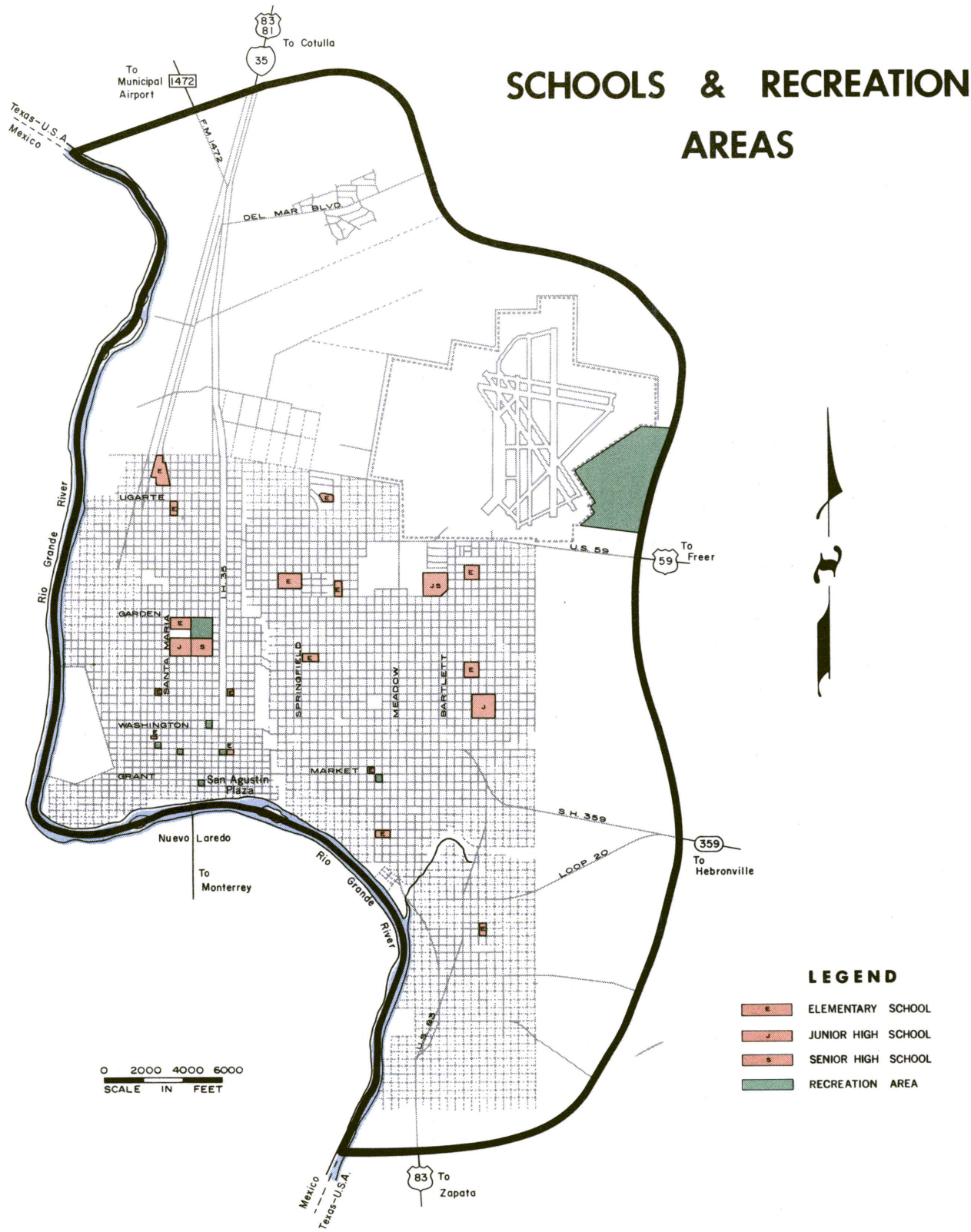
Many of the community value factors are discussed below, and those within the study area are also shown in Figure 27.

The San Agustin Historical Zone bounded by Convent, Grant, Santa Ursula, and the Rio Grande is the heart of Laredo, historically speaking, and provides a unique setting for the various buildings, commercial enterprises, and the famed San Agustin Church and Plaza, an attractive blending of the past and present. Several buildings of architectural significance are centered around the plaza and the Capitol of the Republic of the Rio Grande Museum.

Fort McIntosh, one of the early military establishments created during the Mexican-American war and located on the southwest corner of the city, is a historic landmark of great significance. It is also the site of Laredo Junior College, a community-sponsored liberal arts and vocational institution offering courses in business administration, education, social sciences, pre-engineering, data processing, nursing, and related fields.

Several nearby tourist attractions may be included within the influence of the Laredo area. The old Dolores Mission, some twenty-five miles south of Laredo along the Zapata-Brownsville highway, is a historic site, as are some interesting haciendas and large ranches in the area.

With increasing leisure time and mobility of the people continuously increasing, recreation is becoming more and more an important part of everyday urban life. The most significant fact that may be presented is that 90 percent of all American adults engage in some outdoor activity during the course of a year. The major demands of the "under-twelve" group is for such facilities as play lots for pre-school age, playgrounds or neighborhood parks, and open space for active games. For all ages, the four dominant activities are driving for pleasure, swimming, walking for pleasure and participating in outdoor games or sports. By 1976, according to the Outdoor Recreation Resources Review Commission, these activities will be participated in on 4.2 billion different occasions in



LAREDO

Urban Transportation Study

Figure 27

the U.S. and on 7.76 billion different occasions by the year 2000, more than triple the present rate.

Many excellent special recreation areas can be found within a short distance of Laredo. The Lake Casa Blanca area northeast of the city, which consists of a man-made water area encompassing some 500 acres and surrounding park areas totalling some 1500 acres, offers facilities for fishing, boating and water skiing, picnicing areas and playgrounds, public swimming pool and beach areas, nature trails, 18-hole golf course, tennis courts, and other recreation areas. Also a part of the overall Casa Blanca Lake recreation area is the Laredo International Fair & Exposition fairgrounds and horse racing facilities, which include rodeo grounds, stables, community and exhibit halls, and a race track. The Laredo Gun Club operates a rifle shooting range and clubhouse facilities across the highway from the International Fair and Exposition grounds, providing for the outdoor sportsman a complete array of facilities for this sport. A bowling alley and "soap box derby" downs, together with camping facilities scattered throughout the area, complete the extensive facilities which this huge recreation complex provides for the South Texas area.

Additional opportunities are offered for the hunter and fisherman. Webb County is one of the last frontiers where deer and wild javelina are still plentiful and attract sportsmen from all over the United States. The Sportsmen Club of Texas (SCOT) operates a hunting and fishing ranch in western Webb County, providing a unique attraction for tourists and sportsmen alike. There are also many other opportunities for the hunter in the form of wild turkey, quail, whitewing dove, plus such unusual game as bobcats, and coyotes.

For the fisherman, in addition to a number of fresh water tanks and lakes, Falcon Lake is just 50 miles south of Laredo. The Gulf of Mexico is approximately 2 1/2 hours from Laredo and offers excellent opportunities for salt-water fishing. The fresh water fishing offers bass, perch, and crappie, as well as channel, blue, and yellow catfish, while the salt water species make the gulf waters rate as one of the ten most attractive fishing spots in the world.

The development of Padre Island along the coast from Corpus Christi to Brownsville as one of the nation's "newest playgrounds" provides for South Texas a place of wholesome recreation and natural beauty, which, when fully developed, will provide a great attraction for visitors from the entire country.

Another important type of recreational facilities and services needed by a community is local facilities. Playgrounds or neighborhood parks, playfields, community parks and parkways all are important parts in a successful park system.

Laredo has within its existing park system a total of three playgrounds, six playfields, and three community parks, with a combined total of approximately 28 acres. In addition, the city operates a public swimming pool meeting AAU and Olympic standards and located in the center of the city, as part of the Civic Center Complex. These existing parks and facilities provide the citizens with such recreational activities as swimming, tennis courts, softball and baseball fields, shuffleboard courts, lighted little league ball parks, basketball, and playgrounds for tots.

Laredo is proud of its new Civic Center Complex, which consists of an auditorium seating 2,000, an exhibit and convention hall complete with catering facilities and seating

1400 people, and meeting rooms for conventions and public meetings. It is the site of the annual Washington's Birthday Celebration, a four-day festival honoring the Father of our Country, George Washington, on his birthday. It is also the site of various touring professional and local talent productions, socials, conventions, and assemblies, and serves as the center of most of Laredo's social activites.

The Laredo Public Library is located on the second floor of City Hall and contains approximately 50,000 volumes. These public library facilities are closely integrated with those of the school system to provide an extensive library service for the community.

The Laredo Boy's Club, including the main facilities, the southeast branch, and the proposed northwest center now in the planning stage, provides Laredo's youngsters with supervised activities in arts and crafts, sports, physical fitness, and related facilities. This is one of the most well-organized clubs in the country, and it contributes largely to the wholesome daily lives of the under-privileged boys in the community. It also provides summer camp for a large number of youngsters and sponsors such activities as basketball tournaments and leagues, softball, boxing, little league, and other organized sports.

Laredo and South Texas, with a 72-degree average temperature throughout the year, offer many benefits to winter tourists and visitors. Many people from all parts of the country regard Laredo as the mecca of winter residence, with its programs such as the Golden Age Club, the Laredo Chamber of Commerce winter visitor's socials and supervised activities, and special events during the Christmas holidays. Housing for winter tourists in the Laredo area has increased to a point where an adequate supply now exists.

The bicultural influence upon Laredo and its immediate environs is strongly demonstrated by its unique prize architectural designs of homes and commercial buildings. The Spanish pueblo design has been carried out in most new public buildings and schools, with the ultimate objective of creating a concept of the blending cultures as well as utilizing the maximum masonry-minimum glass design for air conditioning efficiency.

A major consideration in the planning of transportation facilities must be given to the high number of beautiful churches located throughout the city, which add significantly to the attractiveness and serenity of certain residential areas. Forty-five churches are available for the predominantly Christian populace, with 10 churches for Catholics and 33 for the Protestants. Many of the churches in Laredo have their own adjacent parochial schools with a total enrollment of 500. In addition, Ursuline Academy, operated by the Ursuline Order of Nuns, has an attractive school convent and grounds offering a complete curriculum for girls from grades 3 through 12. St. Joseph's Academy, located at the hilltop of one of Laredo's most attractive locations, offers for boys a complete curriculum for grades 3 through 12, including a well-rounded interscholastic sports program and intramural programs. This school is operated by the Marist Brothers and has an enrollment of approximately 360. Another parochial school offering academic and religious training from the kindergarten to the sixth grade is the Mary Help of Christians School in Del Mar Hills, which boasts of a new campus and a beautiful setting of buildings and facilities. A Methodist-sponsored institution with a long history of accomplishment is the Holding Institute, which recently built a new campus with modern buildings and facilities. This school caters to many students from Mexico and the surrounding Laredo area, and specializes in basic English and training geared to provide an accelerated education program for youths wishing to prepare for professional and vocational fields.

COMMUNITY VALUE FACTORS

There are two school districts within the Study Area, both of which offer excellent accredited programs. The Laredo Independent School District, with an enrollment of approximately 17,000, has sixteen elementary schools, two junior high schools and two high schools adequately located to serve the higher density area of Laredo. The United Consolidated School District, operating the balance of the county, offers a complete curriculum with its four elementary schools and the beautiful United Consolidated High School. A number of schools in both districts have gained distinction and recognition for architectural design and efficiency. The new J. W. Nixon Jr.-Sr. High School in northeast Laredo, with its beautiful campus and unique design, received an honorable mention from the American Institute of Architects during 1966, while the United Consolidated High School has gained national stature as being one of the few completely underground school buildings in this part of the country.

Laredo Junior College, located at Old Fort McIntosh, is presently undergoing a complete redevelopment which includes a series of ten new buildings to be clustered around a modern campus design recently adopted through a Master Plan prepared by outstanding campus planners. The first two of those buildings, the Dr. Leo Cigarroa Math-Science Building and the Harold Yeary Library, are located in the old parade grounds of the Fort and will feature the architectural design which has won many honors for Laredo. The college physical plant will become one of the most modern in South Texas when completed, and will be capable of an enrollment of 1,500 students, with courses offered in technical and professional fields, liberal arts and industries, and vocational training. This com-

munity college, established in 1945, provides the Laredo area with a high quality of higher education at a minimum of cost, making it possible for many students to continue their college careers at other colleges and universities in the State. Other institutions of higher learning close to the study area are Texas A & I University, located one and one-half hours to the east and offering a complete curriculum in liberal arts, agriculture and engineering; St. Mary's University, Our Lady of the Lake College, Incarnate Word, and San Antonio College, two and one-half hours to the north in San Antonio, offering a variety of curriculums for professional, vocational and technical careers; and a number of other fine colleges and universities located in Austin, Corpus Christi and the Rio Grande Valley. All of these facilities are fully accredited and are members of the Southern Association of Colleges and Secondary Schools.

Regarding cultural activities in the fine arts, Laredo boasts an excellent art association which annually hosts the Rio Grande Art Festival; the Laredo Lapidary Association, which has one of the finest collections of rare rock specimens and jewelry; and the Civic Music Association, which annually sponsors a variety of top musicals and concerts for the pleasure of the citizens of the two Laredos. A number of private dance studios and music instruction academies annually present concerts and recitals for the entertainment of the Laredo people, providing an opportunity for many youngsters to display their talents in dancing, music, little theatre and related fields.

The Washington's Birthday Celebration, which boasts of some very unique international functions, including a traditional "abrazo" ceremony between the United States and Mexican officials and the grand parade in which military and other marching units of both countries participate, is an annual tradition of great significance contributing towards the betterment of international relations between Mexico and the United States. Over 250,000 people enjoy the festivities highlighted by the Colonial Ball Pageant, the Noche Mexicana, the annual fireworks display and carnival attractions, and the President's luncheon, at which time a distinguished leader in South Texas is honored by the citizens of Laredo.

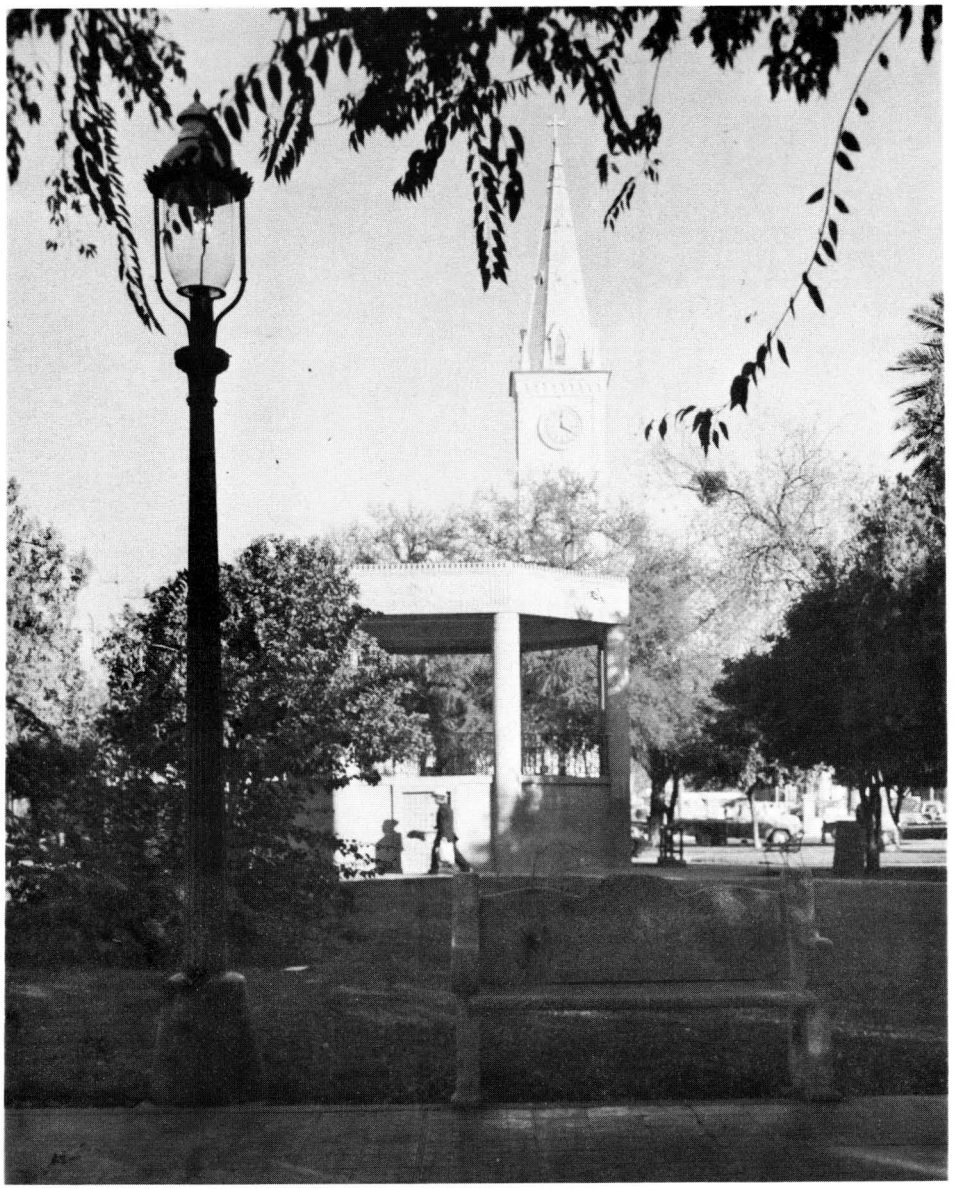
One of the biggest attractions in the State is the annual Border Olympics held at Laredo in early March. This brings together over 1500 athletes from most south-west colleges and universities, junior colleges and high schools, and is highlighted by participation of athletes from Mexico as well. The three-day track meet is complimented by a golf tournament which brings into Laredo some of the most promising high school and college golfers in the country. The track event is the first outdoor meet in the nation each year and brings a large number of tourists, as well as national publicity, to the Laredo area.

Another community value which must be considered is the San Bernardo motel strip, which represents a high investment in tourist and convention accommodations. This area includes some of the most modern types of motels and restaurants along the Interstate system. It should be carefully integrated into the community land use pattern, with adequate allowances made for its expansion.

Laredo Air Force Base, which has as its mission the training of pilots and navigators, is a strong asset to the economic and social activity of the area. The base provides a truly space age operation in the midst of the traditional Laredo atmosphere, with supersonic jets flying at mach speeds on the daily training missions. The base facility is one of the most productive in the Air Training Command in terms of flying time and accident-free training operations. The worth of this base to Laredo is exemplified by the consistent excellent relations with the business community. The Chamber of Commerce and

other groups select "Airman of the Month, Quarter and Year" for numerous prizes and awards, and the base, in turn, strongly supports the United Fund, the celebrations and festivities of the community, and other civic drives.

Transportation facilities should be designed not only for efficiency in the safe movement of traffic, but also with a constant effort toward the establishment of a facility in a system network that will be an asset to the overall life of the community. Present systems adequately serve the existing community, and future systems must be designed to continue this service. Dedication to total community improvement should be the goal and the ultimate accomplishment of transportation planning. The plan presented in this report should be an invaluable guide toward the attainment of this goal, since the basic components of its development are overall service and compatibility with the present and anticipated desires of the community.



PART II

Long Range Transportation Plan

Recommended Transportation Plan

RECOMMENDED TRANSPORTATION PLAN

The objective of an urban transportation plan is to provide the most desirable and efficient means of transporting people and goods within and through the Study Area with improvements planned for the next twenty years. A successful plan must be capable of expansion to meet the transportation needs of the area for a much longer period than twenty years and should provide maximum compatibility with other facets of community developments. In order to plan intelligently for the future, consideration must be given to past and present conditions. The studies that comprise this report and Volume 1, "Origin and Destination Survey," were designed to review the past, to survey present conditions and to provide a reasonable forecast of future development within the Study Area. Based on these studies, the transportation needs of the area can be anticipated, and a transportation plan devised accordingly.

The logical conclusions which can be made from the findings of the Laredo Urban Transportation Study are that the populace is primarily automobile-oriented, that there is suitable space available for anticipated growth, and that mass transit requirements will not significantly influence the development of the street system.

Since its inception, Laredo has been plagued by the lack of adequate development of its street system. Don Tomas Sanchez de Gallardo, the founder, received from the Spanish Crown a king's grant over 200 years ago. The entire township was parted into 100 vara blocks (277.78' x 277.38') and 20-vara wide streets, (55.56'), creating approximately 265 miles of streets, 3,300 intersections, and 3,300 blocks. Upon incorporation, the City of Laredo gained the responsibility of improving these streets, which were held to be public lands. Laredo has barely been able, on its low economic base and consequent low valuation on the ad valorem roll, to maintain the major streets and those which connect one part of the town with another. As an indication of this slow street improvement rate, it is a fact that of the existing 265 miles of streets at this late date, only about 100 miles are surfaced. Besides this unfortunate historical decision, the geographic location of the city does not lend itself to simple solutions for the traffic problems. The City is bounded on the west and much of the south by the Rio Grande, an international boundary; therefore, transportation access is limited to the north, the east, and the southeast of the developed area.

The first Origin and Destination Survey for the purpose of determining suitable streets and highways in the City of Laredo was made in 1929 by Mr. W. O. Washington and was assisted by the State Highway Department Planning Survey Division. At that time the findings indicated that the major highway requirements were a north-south road from the area in the vicinity of the International Bridge and an east-west road from the Central Business District. This report also suggested that provisions should be made for a north-south road in the eastern portion of the city to offer transit for the incoming traffic from the south and the east, north to the northern portions of the city, and thence west, to join the main north-south arterial. The City did not adopt this plan.

In 1955, a comprehensive Origin and Destination Survey was made by the Planning Survey Division of the Texas Highway Department, and a plan was developed for the highway requirements in Laredo. The main features found to be desirable by this study were the construction of a modern access-controlled expressway from the Central Business District to the north, and a similar installation to the east. The City approved the north-

south expressway, which has become the location of Interstate Highway 35, but it refused to accept the east-west expressway recommendation.

The 1964 Origin and Destination Survey made for the Laredo Urban Transportation Study Area verifies the 1955 findings for the north-south survey requirements; however, it does not justify an east-west expressway installation. This result is due to the fact that several east-west arterial routes have been constructed since 1955, but indicates that additional east-west arterial routes should be provided.

The size of the city and the established layout of the street system precluded major revisions to the existing street network. For this reason, major alternates to the adopted plan were not considered. However, individual streets and portions of the city were evaluated, and several alternate traffic assignments were utilized in determining the plan.

An assignment of anticipated 1985 traffic by computer process to the basic transportation system was the means of determining the future transportation requirements for the area. These findings lead to the development of the following Transportation Plan, which is illustrated in Figure 28.

1. The existing international bridge with its present approaches is not adequate to meet future transportation demands; therefore, Interstate Highway 35 should be extended to the International Boundary and a larger bridge constructed on the Rio Grande.

2. At least two additional east-west arterials will be required. These arterials should be Jefferson-Lyons, to provide for east-west traffic between Clark and Saunders, Houston connected to Guadalupe to provide one-way traffic on Matamoros and Houston west of Zacate Creek, and Victoria-Laredo to relieve congestion on Guadalupe and Corpus Christi. If necessary in the future, Corpus Christi and Laredo may become one-way arterials.

3. For the purpose of the Plan, the Central Business District is considered as bounded on the north by Moctezuma, on the south by Rio Grande, on the west by Santa Maria Avenue, and on the east by Interstate Highway 35. The traffic in this highly concentrated commercial area may be improved by one-way streets, with the exception of Convent for north-south traffic and Farragut for east-west traffic.

4. North and south arterials are provided at Arkansas, Bartlett, Meadow, and Springfield.

5. Riverside Drive on the western portion of the City from Jefferson south to Water Street is desired.

The above items are the major portions of the Transportation Plan. The estimated cost to complete the proposed transportation plan is presented in the following tables, 51 to 54, inclusive. This transportation plan is financially feasible, based on the estimated costs and anticipated financial resources.

TABLE 51

ESTIMATED COST TO COMPLETE IH 35 EXPRESSWAY FROM CALLAHAN STREET TO ITURBIDE STREET

STREET	LIMITS	LENGTH	ESTIMATED COST	
			R O W	CONSTRUCTION
IH 35	Full access controlled Expressway with Grade Separation at Tex-Mex. RR, Washington, Victoria, Houston, and Matamoras Streets	0.8 Mi.	$1,944,500.00	$2,960,000.00
	*Proposed International Bridge and Approaches			1,550,000.00

*Privately Financed by Laredo Bridge Co.

TABLE 52

ESTIMATED COST TO CONSTRUCT, RECONSTRUCT, RESURFACE, AND IMPROVE ARTERIAL STREETS PROPOSED IN THE 1985 PLAN

STREET	LIMITS FROM	TO	LENGTH(FT)	ESTIMATED COST ROW	CONSTRUCTION
Santa Maria Ave.	Grant St.	Water St.	500.	0.	17,400.
Santa Maria Ave.	Moctezuma St.	Park St.	2680.	0.	10,700.
Santa Maria Ave.	Pierce St.	Del Mar Blvd.	9960.	0.	44,700.
Springfield Ave.	Gustavus St.	Guadalupe St.	3265.	0.	30,300.
Springfield Ave.	Saunders St.	Calton Rd.	4245.	0.	36,000.
Hendricks Ave.	Market St.	Corpus Christi	1575.	0.	11,800.
Meadow Ave.	Saunders St.	Calton Rd.	4800.	0.	38,000.
Meadow Ave.	Chacon Cr.	U S 83	4600.	1,000.	42,000.
Arkansas Ave.	Guadalupe St.	S H 359	1320.	20,000.	82,000.
Calton Road	IH 35	McPherson Ave.	6200.	5,000.	55,800.
La Fayette St.	Santa Maria Ave.	San Bernardo	2130.	0.	16,600.
Jefferson-Lyon St.	Santa Maria Ave.	Springfield	5200.	10,000.	115,000.
Gustavus St.	Seymour Ave.	Arkansas Ave.	4330.	0.	27,000.
Washington St.	Main Ave.	Riverside Dr.	4000.	5,000.	160,000.
Corpus Christi St.	Meadow Ave.	Arkansas Ave.	4000.	0.	60,000.
Victoria-Laredo St.	San Bernardo Ave.	Arkansas Ave.	11900.	50,000.	200,000.
Houston St.	San Bernardo Ave.	Monterrey Ave.	3000.	75,000.	85,000.
Guadalupe St.	Malinche Ave.	Arkansas Ave.	2300.	0.	31,000.
Market St.	Bartlett Ave.	US 83	1110.	0.	8,700.
Grant St.	Connection to Iturbide St.		400.	2,000.	8,000.
Willow St.	Hendricks Ave.	SH 359	6000.	3,000.	50,000.
Jefferson St.	Riverside Dr.	Santa Maria Ave.	3660.	0.	30,000.
Park St.	Riverside Dr.	Santa Maria Ave.	3660.	0.	30,000.
Riverside Dr. Water St.	Jefferson St. South through Fort McIntosh and East along Water St. to San Enrique Ave.		18600.	16,000.	300,000.
		Total	109,435.	187,000.	1,490,000
			20.7 miles		

TABLE 53

ESTIMATED COST TO CONSTRUCT, RECONSTRUCT, RESURFACE, AND IMPROVE COLLECTOR AND LOCAL STREETS PROPOSED IN THE 1985 PLAN

STREET	LIMITS FROM	TO	LENGTH(FT)	ESTIMATED COST ROW	CONSTRUCTION
Mann Rd.	Santa Maria Ave.	San Bernardo Ave.	1400	0.	9,000.
Chicago St.	Santa Maria Ave.	IH 35	1925	0.	19,600.
Ugarte St.	San Bernardo Ave.	IH 35	275	0.	4,600.
Baltimore St.	San Bernardo Ave.	IH 35	275	0.	4,600.
Madison St.	San Bernardo Ave.	IH 35	275	0.	4,600.
Garden St.	Santa Maria Ave.	IH 35	2400	0.	21,000.
Coke St.	San Bernardo Ave.	IH 35	275	0.	4,600.
Scott St.	San Bernardo Ave.	IH 35	275	0.	4,600.
Vidaurri Ave.	Lincoln St.	Water St.	1200	0.	16,000.
Main Ave.	Scott St.	Park St.	2275	0.	14,800.
Convent Ave.	Park St.	Garden St.	1045	0.	7,800.
San Eduardo Ave.	Washington St.	Water St.	2700	0.	21,300.
San Enrique Ave.	Washinton St.	Water St.	2700	0.	21,300.
McPherson Ave.	Saunders St.	Calton Rd.	4800	0.	36,000.
		TOTALS	21820 4.1 miles	0.	189,800.

Note: No improvements are planned on the following Collector Streets:

Marcella Ave.
Cedar Ave.
Stewart St.
Lane St.

TABLE 54

SUMMARY OF COST ESTIMATES

TOTAL ESTIMATED COST:	LENGTH (MI)	R O W	CONSTRUCTION
IH 35 Expressway	0.8	$1,944,500.	$2,960,000
*International Bridge & Approaches			1,550,000
Arterials	20.7	187,000	1,490,000
Collector and Local Streets	4.1	0.	189,800
TOTALS	25.6	$2,131,500.	4,639,800
			2,131,500.
GRAND TOTAL			6,753,300

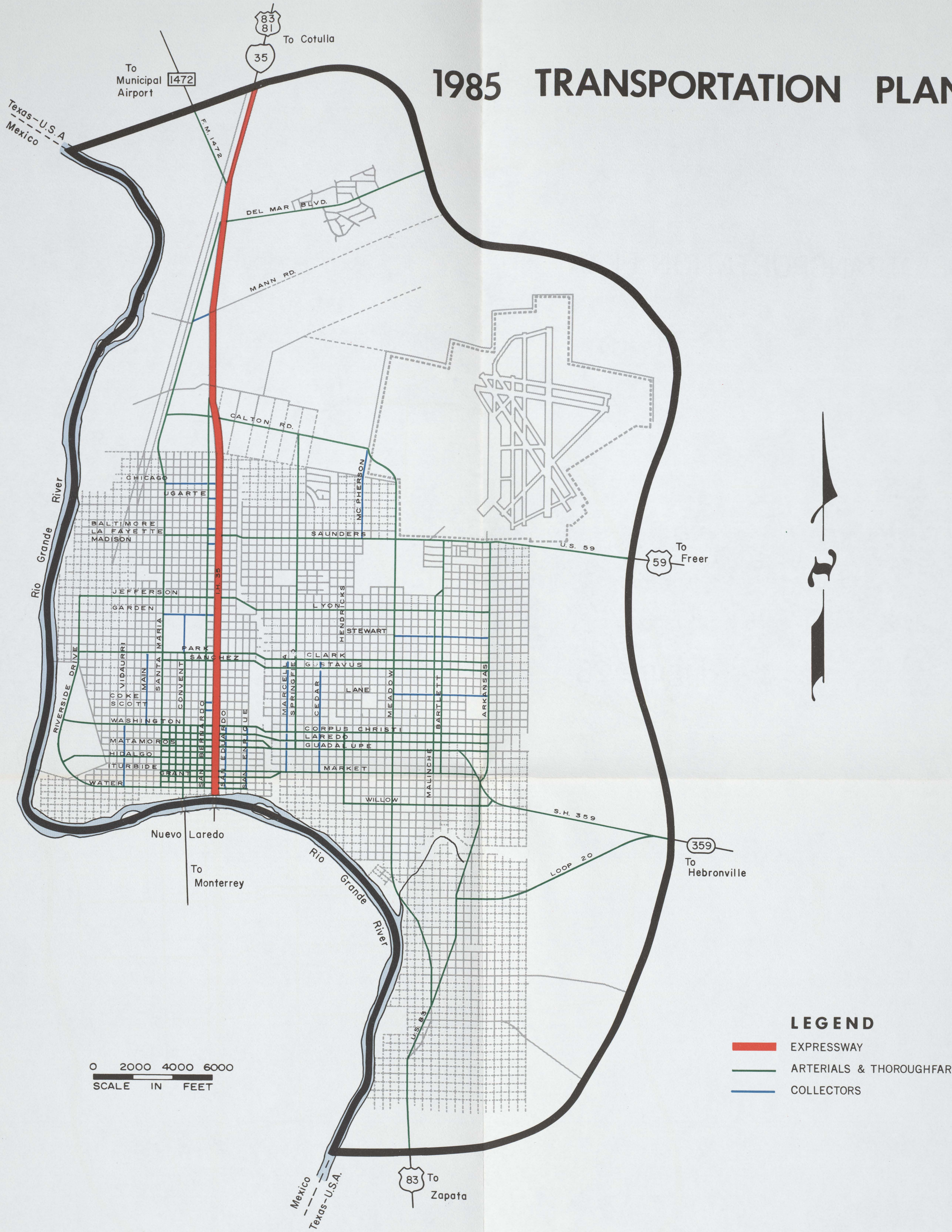
*privately financed, not included in total

As shown in Table 54 the total estimated cost of the plan is approximately 6,753,300 which is somewhat less than the $7,400,000 estimated to be available in Chapter IX. Therefore, the plan is considered financially feasible.

1985 TRANSPORTATION PLAN

Figure 28

1985 TRANSPORTATION PLAN



LAREDO
Urban Transportation Study

Figure 28

Continuing Transportation Planning

CONTINUING TRANSPORTATION PLANNING

All governmental agencies involved in the Laredo Urban Transportation Study realize that there is a necessity for the continuing requirement in Section 134 of the Federal-Aid Highway Act of 1962. The agreement entered into by these agencies only authorized execution of the initial phase and appropriated the necessary funds for that phase. It is recommended, therefore, that a similar agreement be entered into by the local governing bodies and the Texas Highway Department to authorize the continuing phase. This agreement should include administrative procedures for a continuing, cooperative planning process and an assignment of duties and responsibilities.

This agreement should be similar to the original agreement and should extend for a period of not less than five years. It should be written so that at any time prior to its expiration date the agreement could be extended, supplemented or renegotiated as necessary to meet changing conditions. Such changes in the agreement must, of course, be mutually agreeable. Any changes in regulations, requirements, or interpretations which would materially alter the amount of detail, of work, or of expense involved in any study element, or which would add any new element, should be considered a proper basis for renegotiation.

It is also recommended that an Advisory Committee with similar membership as the one now serving guide the continuing phase of the transportation study.

The studies made in the initial phase should be updated periodically or kept current, so that they will provide the basic data for the continuing phase. Forecasts and methods should be re-evaluated at least every five years, and new forecasts should be made for the next five years and twenty years. The land use plan and the transportation plan should be re-evaluated fully at least every ten years.

The plan must be reviewed continuously so that it will remain workable, and it should contain a considerable amount of flexibility so that it can be revised to meet the ever-changing conditions of urban development within the Study Area.