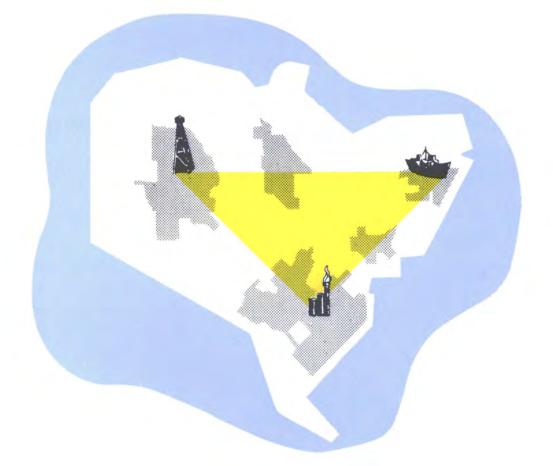


JEFFERSON-ORANGE COUNTIES REGIONAL TRANSPORTATION STUDY



1968 ANNUAL REPORT

CONDUCTED BY THE

TEXAS HIGHWAY DEPARTMENT JEFFE

IN COOPERATION WITH

JEFFERSON-ORANGE COUNTIES

ES

And

The Incorporated Cities Of

Beaumont Bevil Oaks Griffing Park Groves Lakeview Nederland Orange Pear Ridge Pine Forest Pinehurst AND THE

DEPT. OF TRANSPORTATION Federal Highway Administration Bureau of Public Roads

> Port Arthur Port Neches Rose Hill Acres Vidor West Orange

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Introduction

On July 9, 1963, the Cities and Counties of the Jefferson-Orange Regional Transportation Study and the Texas Highway Department, in cooperation with the United States Department of Transportation, Bureau of Public Roads, initiated a long-range, comprehensive transportation plan for the Study Area.

This study resulted in the plan that was published on December 30, 1966. entitled the Jefferson-Orange Regional Transportation Study, Volume 2, Regional Transportation Plan 1963-1985. Volume I reported on the Origin-Destination Survey conducted in 1963. Volume II contained the recommended plan which was developed to serve the present and future transportation needs of the Study Area. It should be reiterated that no attempt was made to assign responsibilities for the financing or implementation of various recommended facilities nor was the location of various facilities, shown as part of the agreed-upon plan, exact in nature. In many instances considerable additional detailed study will be necessary prior to the determination of the exact location of many of these facilities.

The Cities of Beaumont, Orange, and Port Arthur, and the Counties of Jefferson and Orange, and the State of Texas, acting through its State Highway Engineer, entered into an agreement on September 11, 1967, regarding the Continuing Phase of the Jefferson-Orange Regional Transportation Study. In addition, agreements, relative to this continuing study, which pledge the support and cooperation of the Cities of Bevil Oaks, Griffing Park, Groves, Lakeview, Nederland, Pear Ridge, Pine Forest, Pinehurst, Port Neches, Rose Hill Acres, Vidor, and West Orange have been executed by the State of Texas and each of these communities.

The Continuing Phase Agreement between the Cities, Counties, and the State provided that the Cities appoint representatives to work in close cooperation with the Study Coordinator appointed by the Texas Highway Department. The Agreement also provides for the publication of an annual report.

In accordance with the terms of the above mentioned agreement, this annual report for 1968, will attempt to keep current the factors and developments which have occurred since the publication of Volume II.

The information in this report was prepared by the Study Coordinator under the direction and with the assistance of the Technical Committee with material contributed from the County Planners of Jefferson and Orange Counties, the City Planners of Beaumont, Orange and Port Arthur and the City Managers of Groves, Nederland and Port Neches. Other planning agencies in the Study Area, such as the Sabine-Neches Regional Planning Commission and the Urban Renewal Agency for Port Arthur have contributed to this report.

This report represents a Level 1-Routine Review and reappraisal of the planning process for this regional program.

SUMMARY OF REVIEW

- 1. The same economic growth pattern, that was foreseen by the original study for the Jefferson-Orange Region, will be maintained.
- 2. Employment, retail sales and income are maintaining the growth predicted by the original study.
- 3. Major industrial expansion has taken place since 1964.
- 4. Population estimates for 1968, in-

dicate that the projections contained in the original Transportation Plan are still valid.

- 5. Extensive changes in land use have taken place since 1964. Industrial, commercial and residential development has occurred throughout the region.
- 6. The Texas Highway Department has updated traffic volume counts throughout the Study Area.
- 7. The public transit systems of Beaumont and Port Arthur show a sizeable decline of passenger useage.
- 8. Parking in the Central Business Districts of Beaumont, Orange and Port Arthur has improved since 1964, and remains adequate.
- 9. There has been a decline in transportation by railway, both passenger and freight, in the Jefferson-

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Orange Region.

- 10. Cargo tonnage handled by the ports of the area has increased since the original report.
- The Jefferson County Airport expects an increase of 12% per year of air traffic through their facility.
- 12. The Cities of the Jefferson-Orange Region are continuing to revise existing community controls and are actively reviewing and adopting codes and ordinances.
- Parks, playgrounds and schools of the Jefferson-Orange Region have expanded since 1964, due to new construction and consolidation.
- 14. The thoroughfare improvements, that were recommended by the Jefferson-Orange Regional Transportation Plan, are being accomplished.

Economic Factors

The Jefferson-Orange Regional Transportation Study Plan included an economic base study, the purpose of which was to observe, analyze, and evaluate the economic conditions and potential of the region. This economic base study was prepared for the Transportation Plan in 1964 by the Industrial Economics Research Division, Texas Engineering Experimental Station, Texas A & M University. The study concluded with the following summary: "Economic activity forecasts show increases in all catagories. Retail sales, income. effective buying power, and the number of retail outlets are expected to increase."

This conclusion was based on economic

observations made in 1964. Since that date, an evaluation of the economy of the Jefferson-Orange Region was made and the conclusion is reached that the same growth pattern, foreseen by the original study, will be maintained. Current indicators of a steady growth in the three major cities of Beaumont, Port Arthur, and Orange are shown in Tables 1, 2 and 3.

Rates of growth in employment, retail sales and income, according to estimates by the Texas Employment Commission and Sales Management Magazine, are maintaining the growth which would allow them to reach the totals projected for them in the target year 1985.

TABLE 1

Year	Bank Deposits	Building Permits	Postal Receipts	Electrical Connections	Telephone Connections	Port Tonnage
icai	(000)	(000)	(000)	Connections	Gomeetions	Tomage
1958	\$145,387	\$20.467	\$1,345	38,179	52,030	N/A
1959	152, 215	21,133	1,489	38,695	54,300	N/A
1960	158,309	18,767	1,550	39,285	56,155	N/A
1961	172, 374	23,409	1,565	40,007	58,820	N/A
1962	178,654	15,931	1,613	40,659	60,964	N/A
1963	187, 351	13,714	1,906	40,444	57,780	607,485
1964	201,734	15,683	1, 955	40,455	58,596	746,467
1965	218,560	17,252	2,010	40,836	60,167	784,686
1966	240,121	15,892	2,095	41,547	63,054	840,113
1967	257,423	19,617	2,192	41,826	65,905	840,860

CITY OF BEAUMONT ECONOMIC INDICES

Source: Industrial Department - Beaumont Chamber of Commerce

TABLE 2

	Assessed	Bank	Building	Postal	Electrical*	Telephone*	Port
Year	Valuation	Deposits	Permits	Receipts	Connections	Connections	Tonnage
	(000)	(000)	(000)		,		(000)
1960	\$131 , 884	\$74,557	\$ 9,689	\$782,011	33,539	36,305	28,207
1961	145,674	77,886	7,452	679,870	34,033	37,163	25,579
1962	145,943	83,021	10,190	606,390	34,123	37,717	25,685
1963	150,504	91,102	7,345	765,725	34,252	38,054	28,721
1964	150,432	90,431	5,941	747,287	34,333	38,595	27,513
1965	149 , 795	109,712	5,993	776,297	34,750	39,521	25,413
1966	15 8, 990	111,474	5,559	813,037	35,035	40,500	N/A
1967	158,891	123,974	9,745	817,208	35,225	42,093	N/A

CITY OF PORT ARTHUR ECONOMIC INDICES

* Includes Port Arthur, Port Acres, Griffing Park, Lakeview and Pear Ridge.

Source: Port Arthur Chamber of Commerce

TABLE 3

CITY OF ORANGE ECONOMIC INDICES

		Bank & Savings					
	Assessed	& Loan	Building	Postal	Electrical	Telephone	Port
Year	Valuation	Deposits	Permits	Receipts	Connections	Connections	Tonnage
	(000)	(000)	(000)				
1959	\$47 , 380	\$35,183	\$7,133	\$230,722	12,401	15,652	944,282
1960	4 8, 086	41,631	3,902	242,605	12,803	16,663	1,022,784
1961	50,542	43,809	3,562	236,187	13,145	17,367	1,152,407
1962	54,900	50,729	4,540	251,971	13,311	17,932	1,232,400
1963	56,628	53,964	3,620	261,747	13,421	18,447	1,105,383
1964	56,883	60,905	2,377	392,822*	13,675	19,318	1, 186, 450
1965	57,924	70,895	2,195	396,932	14,005	20,721	1,144,176
1966	59,217	73,570	2,204	419,945	14,346	22, 274	N/A
1967	61,714	N/A	N/A	N/A	14,652	N/A	N/A

* Beginning with Fiscal Year 1964, Post Offices were allowed additional Revenue credit for miscellaneous nonpostal receipts and money order fees, resulting in increasing postal revenue.

Source: Orange Chamber of Commerce

INDUSTRIAL EXPANSION

Since the region is highly industrialized, a review of the industrial expansion is necessary to show the continuous growth. Since 1964, when the last economic base study was made, several industries have expanded and increased the capacity of their operation. Also, new firms have entered the industrial complex already existing in the region. The following projects, which are in progress or recently completed, show the major industrial expansion in the area.

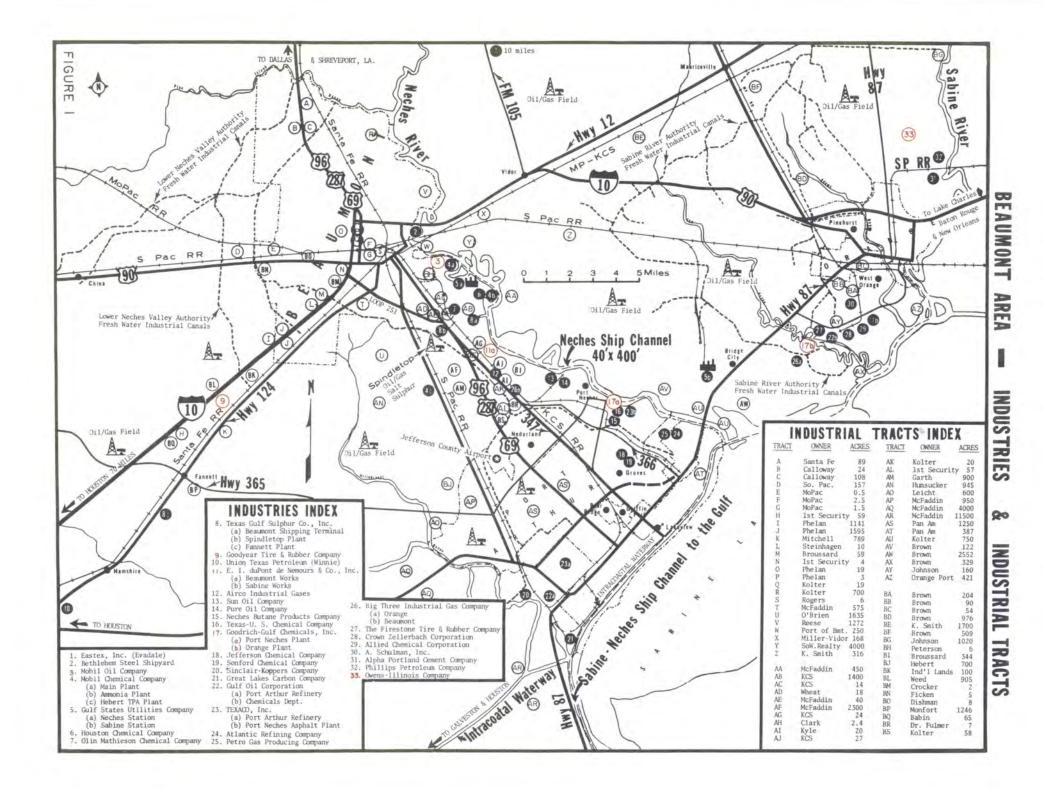
- 1. Mobil Oil Company The \$80 million refinery expansion started in 1966, and is expected to more than double the capacity of the gas plant.
- 2. Owens-Illinois, Inc. This could be

considered as one of the largest industrial additions in the area. The company is expected to produce 900 tons per day of pulp and paper products. When in operation, the mill will add \$17 million annually to the economy of Texas and Louisiana. The plant will employ approximately 650 employees and is located on a 12,000 acre site on the Sabine River north of Orange.

- 3. E.I. du Pont de Nemours The company is a multi-million dollar methanol plant in Jefferson County, which will be the largest in the world. It will have a capacity of 200 million gallons per year.
- 4. <u>Goodyear Tire & Rubber Company</u> -A \$4 million expansion to increase the capacity of the Polyisoprene



⁺Texas Industrial Expansion, March 1967, Bureau of BusinessResearch, University of Texas



production from 28,000 long tons annually to 45,000.

5. Goodrich Gulf Chemicals - The company started production in early 1967. The new facility employs over 250 persons and occupies about 50 acres of land southwest of Orange. Also, the company is constructing a plant near Port Neches to produce raw material used in the production of polyisoprene rubber.

The above mentioned projects are a few which are included in the total industrial expansion in the area and other expansions were completed or soon will be completed. The scope of this review does not allow extensive details of all industrial expansions and projects to be mentioned. Figure 1 shows the locations of industries and industrial tracts in the area. The industrial expansion could be observed by comparing Figure 1 of this report to Figure 2, on page 14 of the Jefferson-Orange Regional Transportation Study Report. This type of expansion indicates a healthy economy

which could maintain the steady growth summarized in the Transportation Report.

The Jefferson-Orange Regional Transportation Study has not found it necessary to revise the recommended Transportation Plan in order to serve the industrial expansion reported above.

VEHICLE OWNERSHIP

As the economy grows, so does the number of vehicles and the number of vehicles per person. Figure 52 of the Plan Report showed the vehicle registration for Jefferson and Orange Counties from 1950 to the projected year 1985. New registration data shows that motor vehicle registration is increasing in Jefferson and Orange Counties as anticipated. Table 4 shows the past trends and projections in motor vehicle registrations.

The overall area indicators show the region progressing as was anticipated in 1964, when the initial Transportation Study was made.

TABLE 4

MOTOR VEHICLE REGISTRATION JEFFERSON AND ORANGE COUNTIES 1950-1985

	Regis	tration	Per (Capita
Year	Passenger	Total	Passenger	Total
1950	75,008	93,455	. 315	. 397
1960	114,208	148,675	. 373	.485
1961	118,485	154,498	.382	. 498
1962	122,695	159,901	. 391	.510
1963	125,586	164,315	.400	. 524
1964	129,151	169,981	.410	.540
1965	131,536	174,327	.421	.557
1966	135,840	182,075	.422	.565
1967	139,315	189,217	.428	.581
1985	314,550	411,775	.550	.720

Source: 1950-1967, Motor Vehicle Division, Texas Highway Department

Projections: Jefferson-Orange Regional Transportation Study

Population

Population estimates for the Jefferson-Orange Counties Regional Transportation Study were developed by the Study Office from data supplied by the Cities and Counties of the area and other sources such as the United States Bureau of Census, the Bureau of Business Research of the University of Texas and the Texas Employment Commission.

The rate of growth in recent years coupled with the prospects of job opportunities within the Study Area, points out the probability that the population projections adopted for the original Transportation Plan are still valid and should continue to be used as the basis for the continuing planning.

THE CITY OF BEAUMONT

The 1968 estimated population of 134,000 for the City of Beaumont indicated an increase of approximately 12% over the 1960 census figure of 119,175. Various methods of estimating the population for the City gave the following results: based on scholastics, 134,000; on Labor force 136,000; on telephones 193,000; on water meter connections 129,000; on gas meters 135,000; and by county versus city 135,000. The population estimate of 134,000 was considered more reliable because the scholastic formula contained accurate federal census and scholastic census data for the years 1960-1968.

THE CITY OF PORT ARTHUR

The study for Port Arthur including Griffing Park, Lakeview, and Pear Ridge, adopted an estimate of 87,000. The increase in population over the 1960 census of 76,262 is nearly 15%. The methods used for forecasting population for the Port Arthur Area are the same as those employed for the City of Beaumont and ranged from 84,650 to 95,765.

THE CITY OF ORANGE

Population estimates of the City of Orange, for 1968, were based on the County Engineer's population study completed this year. The estimated population is 32,538 for the City. The population increases in Orange have taken place, primarily, through the utilization of previously undeveloped areas to the North.

THE CITIES OF PINEHURST AND WEST ORANGE

Population increases in Pinehurst and West Orange have taken place with no increases in land area, yielding an increase in population density without utilizing additional undeveloped areas. The combined estimated population for these two Cities is 7,962 and is based on the County Engineer's population study.

THE CITIES OF GROVES, NEDER-LAND, AND PORT NECHES

Population estimates for Groves, Nederland and Port Neches were determined by using water meter connection formula. The results were checked by comparison with other methods and are as follows: Groves 18,800, Nederland 17,300 and Port Neches 11,300.

VIDOR AND BRIDGE CITY

An analysis of scholastics of the Vidor School District yielded an estimated population of 7,280 while the County Planner of Orange County estimated the population within the City Limits of Vidor to be 6,975. Therefore, our study estimates the population of Vidor to be 7,000 within the 5,800 acres that comprise the corporate limits. The 1968 population estimate for Bridge City was determined by the Orange County Planner to be 5,660 which is an increase of 21% over the 1960 Census figure of 4,677. The area included in this study of Bridge City is 4,700 acres and the resultant density is 1.2 people per acre, which happens to also be the density of the Vidor detailed study area.

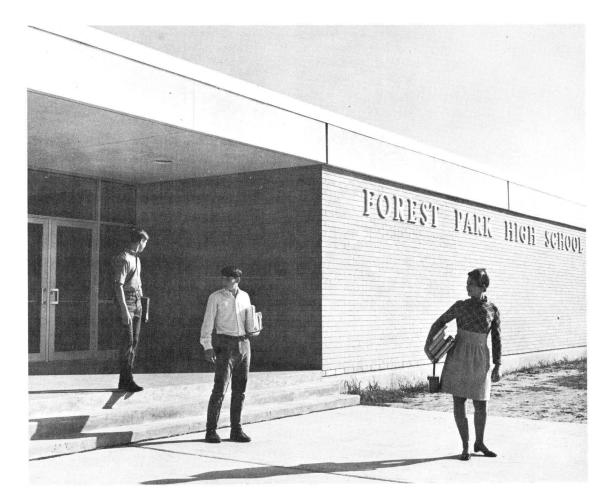
JEFFERSON COUNTY

The Study Office used several methods to determine the 1963 population of Jefferson County. Estimates based on births and deaths appeared to be too low while those based on automobile registrations were too high. The Jefferson County population based on a ratio to the urban population indicates 278,000 people for 1968. This increase of 13% since the 1960 Census appears to be reasonable.

ORANGE COUNTY

The study of the 1968 population of Orange County yielded totals from a low of 62,000 to a high of 88,000. The Orange County Planner estimated the population to be 73,000, which is an increase of 20% since the 1960 Census. This estimated increase seems to be justified due to the increase in Orange County industry and growth in the urbanized sections of the County.

For purposes of comparison, population estimates from the 1960 Census and those developed by the Study Office are presented in Table 5.



	1960 Census	1964 Study	1968 Study	1985 Projections
Beaumont	119,175	123,643	134,000	212,643
Bevil Oaks	350	446	550	1,400
Griffing Park	2,267	2,186	2,267	2,836
Groves	17,304	17,365	19,000	33,160
Lakeview	3,849	3,554	3,850	3,909
Nederland	12,636	14,609	17,300	26,872
Orange	26,040	28,445	32,538	54,790
Pear Ridge	3,470	3,831	3,770	4,881
Pine Forest	344	403	562	760
Pinehurst	1,703	2,095	2,060	8,030
Port Arthur	67,876	66,030	73,728	93,630
Port Neches	8,190	9,575	11,500	24,715
Rose Hill Acres	75	365	385	635
Vidor	4,938	6,000	7,000	14,872
West Orange	4,848	5,289	5,902	11,248
Bridge City	4,677	5,170	5,660	17,520
Jefferson County	245,659	252,000	278,000	511,901
Orange County	60,357	67,000	73,000	140,000
Two County Total	306,016	319,000	351,000	651,901

TABLE 5POPULATION ESTIMATES

Land Use

After the completion of the original study, it became apparent that detailed, accurate and current land use data would be required throughout the continuing phase of the Study. Therefore, the agreement, between the sponsoring agencies of the Continuing Study, placed the primary responsibility for maintaining current and updating of land use data with the Cities and Counties while, secondary responsibility was given to the Texas Highway Department. This agreement also directs that the Cities will make land use forecasts.

The concerned agencies are all cooperating in this task and a summary of land use changes, by area, follows.

THE CITY OF BEAUMONT

There has been significant land use development or change in the City of Beaumont since the original study in 1963.

One area that has experienced great change is the Lamar State College of Technology campus and neighborhood. Several apartment complexes have been constructed in this area and the School building facilities are rapidly expanding. The removal of single family residences adjacent to Lamar Tech has been accomplished to permit present and future campus expansion.

Three hundred and twenty-five single family residences have been constructed in west Beaumont in addition to several apartment complexes.

An eighty acre shopping center is planned in the vacinity of Eastex Freeway and Crow Road. This area could undergo drastic land use change as the shopping center develops.

The Planning Department of the City of Beaumont is currently in the process

of developing a complete land use inventory and anticipates that this inventory will be completed in 1969.

THE CITY OF PORT ARTHUR

Land Use in Port Arthur has changed a great deal since 1963. Large areas have changed into parts of the Hurricane Protection System in the Southern part of the County as rights-of-way and borrow areas. One airport on U.S. Highway 69 has been abandoned, and heavy industrial demands have used up vacant lands. New streets have been added and others closed in the Urban Renewal Project areas. The agricultural land area has been reduced due to commercial and industrial area demands. The Port of Port Arthur will be completed in 1969 and is using a large part of lands made available from the Downtown Urban Renewal Project.

The Urban Renewal Project Number One is the residential area generally described as being bounded by 19th Street on the North, the K.C.S. Railroad on the East, Thomas Boulevard on the South and Terminal Road on the West. The Downtown Project is to include the new Governmental Complex of City-County office buildings in addition to the Port facilities. The Governmental Complex will replace the old residential area between Houston, Lake Shore, Austin and Fourth Streets.

A continuing expansion of commercial and multi-family facilities has been occurring in the Park Place section of the City. Included in this expansion has been a new theater, various retail outlets, hospital buildings and apartments.

The shopping centers and commercial development along Gulfway Drive and State Highway 347 have continued to en-

large and to absorb vacant land.

The Planning Department of the City of Port Arthur has completed a new land use survey and is currently inventorying this data.

The demand for land in the future is expected to be vigorous for use by industrial concerns and residential homebuilders.

THE CITY OF GROVES

Land Use changes in the City of Groves since 1964 have mostly been the establishment of new commercial business locations. New shopping centers and apartment complexes have been constructed along State Highway 73 and Cleveland Street. A large church was constructed on State Highway 347. In addition to commercial development along the highways going through the City, many retail outlets have been built along 39th, Cleveland, Monroe, Main and Washington Streets. Residential development has continued to fill up vacant space as predicted in the original study.

THE CITY OF NEDERLAND

Since 1963, there has been a continued growth of single family residential land use, within the City of Nederland, necessary to provide homes for the estimated increase of 18.5 per cent population during this same period of time.

The most significant change has been the development of shopping centers and other retail establishments along Nederland Avenue, especially the area from U.S. Highway 69, 96 and 287 to Twenty-first Street. The construction of a large shopping center has recently been completed at the intersection of Nederland Avenue and Twin City Highway and could develop into a major traffic generator affecting a large area of the City. A large motor hotel has been constructed on U.S. Highway 69, 96 and 287 north of the Nederland Avenue intersection. Another major development has been the construction of a new grade school.

The land use development in Nederland appears to be following the pattern forecasted in the original plan.

THE CITY OF PORT NECHES

Major land use changes have occurred in Port Neches since the original 1964 Study. Commercial and industrial development has begun in the extreme southeastern section of the City in an area that until recently had been zoned as residential. The area adjacent to Farm Road 365 from State Highway 347 to Farm Road 366 is developing as commercial and industrial land use. An important addition to the Cities educational and public facilities has been the construction and operation of the George T. Boyd Memorial Library.

JEFFERSON COUNTY

Since the original study a number of developments have taken place within the various cities of Jefferson County which changed the land use and could affect the Transportation Plan. However, the area outside corporate limits has had very little change since 1964. One area, adjacent to Interstate Highway 10 and State Highway 124 near Cheek, has had considerable industrial development and this development is expected to continue.

The Cities of Jefferson County all indicate a healthy growth of commercial land use. Of major interest has been the changes accomplished in the area of the Lamar State College of Technology in Beaumont, the Hurricane Protection System and Urban Renewal Projects in Port Arthur and the shopping center development throughout the County. Land use maps and records which document the changes in land use are on file in the planning departments of the agencies of the Study Area and the Study Office.

THE CITY OF ORANGE

Within the area of Orange, West Orange and Pinehurst, the largest areas of Commercial Development seem to be along IH 10 and 16th St. (State 87). Commercialization along IH 10 is occurring in Orange, just as it has in all urban areas. These developments are primarily motels, restaurants, and other travel-oriented establishments.

The area along 16th Street from Park Avenue to Burton Avenue is developing commercially, due to recent re-zoning action. Primarily, these businesses cater to the abbutting and nearby residential areas, by providing shops, service stations and stores. A rather large shopping center is due to begin construction within several months at 16th Street and IH 10.

In addition, some new development has taken place along MacArthur, Strickland, and Brown Drives; but it does not, at this time, seem to be to the extent indicated by the 1985 land use map.

These are the primary areas of commercial development, although some new offices have been built along Park Avenue from 7th to 15th St., and some development has occurred in the Central Business District.

In the past five years several new residential sub-divisions have been built in each of the three cities comprising the Orange Area. New subdivisions are also dotting the area North of Orange, primarily as a result of the Owens-Illinois Paper Mill location.

Although no new parklands have been

acquired by the cities, since the original land use studies were made, the existing areas are being more evenly utilized. The Orange Y.M.C.A. has acquired and is building on a tract located at Wickard Drive and West Park. This structure will provide all the services normally associated with the ''Y''. An area under IH 10 at the Sabine River has been developed for boat launching facilities.

THE CITY OF VIDOR

There have been significant changes of land use in the Vidor Area. Commercial development along Farm Road 105 continues in the same pattern as was evident in 1963. Some of the major developments include a large bank, a centrally located shopping center, several neighborhood shopping centers, a new City Hall and numerous retail outlets. The coustruction of single family residential dewllings has continued at a rapid pace in an effort to provide homes for the estimated population increase of forty-three per cent since 1960.

BRIDGE CITY

The development of commercial land uses along State Highway 87 and Farm Road 408 has persisted since 1963. Single family residential construction has continued to fill the ample vacant spaces provided by Bridge City.

ORANGE COUNTY

The major industrial change in land use, one that has had great impact on the whole county, has been the development of the Owens-Illinois area north of the City of Orange. This pulp and paper products company presently occupies 12,300 acres and employs approximately 300 people.

There has also been increased industrial development along Chemical Row (FM 1006), southwest of Orange, since the original study.

The most significant developments in Orange County are the Owens-Illinois Company construction and accompanying residential growth and expansion of the industries along Chemical ROW (FM 1006). Major changes within the Cities include commercial, residential and recreational development in the City of Orange and single family residential growth in Vidor and Bridge City.



Transportation Facilities

STREET CLASSIFICATION

With the exception of the addition of two streets in the City of Port Arthur, which are detailed below, there have been no changes to the system of thoroughfares indicated by Figures 24 through 29 in the Regional Transportation Plan other than changes in classification from major arterial to expressway for certain sections of U.S. Highway 69, 96 and 287, and State Highway 73.

Since publication of the original Plan, two thoroughfares, in the City of Port Arthur, have been added to the transportation system. These two proposed thoroughfares are 60th and 74th Streets.

As the need arises and upon the recommendation of the area's planners, new thoroughfares will be classified and studied for inclusion in the system.

STREET CAPACITY AND TRAFFIC VOLUMES

The intersection capacity problems, which were pointed out in the original plan, have been reviewed by the interested agencies. Several of these intersections have been reconstructed or changed by the completion of nearby railroad grade separations.

In an effort to study existing conditions, planners and officials of the Study Area, have requested the Texas Highway Department to update traffic counts throughout the area. This updating of traffic volumes took place during 1968.

ACCIDENT STUDY

Although accidents for the entire study area were analyzed, the following data is of major significance. In the original plan the Orange Area reported only one intersection which averaged thirteen or more annual accidents; this was 8th Street and Green Avenue. Early in 1967, a red overlap signal, which increases the clearance interval between green and red, was installed at this location in an effort to reduce the accidents which generally were of property damage severity. As may be seen from the following tabulation, the number of accidents since the installation of this signal is significantly lower than before, although they are still averaging sixteen accidents per year.

8th - Green Avenue

 $\frac{1963}{14} \frac{1964}{14} \frac{1965}{18} \frac{1966}{23} \frac{1967}{14} \frac{1968 (6 \text{ mos.})}{8}$

The Traffic Engineering Department of the City of Beaumont has set up a complete record of traffic accidents so that full advantage can be taken of the analysis of the accident records. These records and their analysis are proving to be invaluable inisolating the problem locations and pointing the way to the corrective measures that should be taken.

All six locations with thirteen or more accidents listed in the original plan are presently being corrected or planning is under way for their correction.

Fifteen of the twenty-three locations listed with seven or more accidents have been or are being corrected.

The following remedial action has been taken by the City of Port Arthur in an effort to reduce accidents at locations reported in the original transportation plan that averaged thirteen or more accidents per year. The City has installed new signals and signs at the intersection of Gulfway Drive (S.H. 87) and Woodworth Blvd. (U.S. 69, 96 & 287). New signals and flashing signs have been installed at the intersection of 39th Street and U.S. 69, 96 & 287. New signals are being designed for the intersection of 9th Avenue and Gulfway Drive.

The intersection of Farm Road 365 and U.S. 69, 96 & 287 had an average of 17 accidents per year for the period from 1959 through 1963. A newly constructed grade separation has alleviated this problem.

PUBLIC TRANSIT

The public transit systems of Beaumont and Port Arthur have had significant changes since 1964, as shown by the following data which points out a sizeable decline of passenger useage.

In 1963 the Beaumont City Lines, Inc. operated 25 buses on 5 routes for 2,500 daily miles and averaged carrying 6,522 daily passengers. This company currently operates 22 buses on 5 routes for 2,181 daily miles and averages 4,728 daily passengers. This decline in passenger usage amounts to 28% while the daily bus miles have only decreased 13%.

The Port Arthur Transit Corp. operated 19 buses on 6 routes for 1,257 daily miles while averaging 2,500 daily passengers in 1963. At the present time 19 buses still operate on 6 routes for approximately the same amount of daily miles, although the average daily passenger count has decreased to 1,600 which is a decline of 36%.

This decline of passenger useage occurred even though the transit companies tried to make their buses more attractive and comfortable by refurnishing and air conditioning.

In addition to the public transit offered

by the Beaumont and Port Arthur lines, there is intra-area and interstate service by the Greyhound and Continental Trailways Companies.

Greyhound has 16 scheduled runs of from 1 to 4 buses which enter and leave Beaumont daily. There are 23 Greyhound buses in and out of Port Arthur daily. In addition the Texas Bus Lines, operating out of Greyhound Stations, operates 7 daily buses from Beaumont to Port Arthur and 4 buses daily to Galveston from Beaumont.

Continental Trailways operates 12 runs daily through Beaumont. These runs have 1 to 4 buses on them and each bus has a capacity of 46 passengers.



TRAVEL TIME

The Study Office conducted a review of the findings of the Travel Time Study, which was reported in the original plan, during the month of June, 1968. A speed and delay study was made with a single vehicle making four trips over specific routes to obtain an average speed "run". The drivers were restricted by the same rules used in the original 1963 study. Different routes from the Beaumont, Orange and Port Arthur Central Business Districts to the Jefferson County Airport were tested and the results are shown in Tables 6, 7 and 8.

TABLE 6

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Via (Route Intersections)	Route Length (Miles)	Average Travel Time (Minutes)	Average Speed MPH
Main & Blanchette	<u></u>		
Blanchette & Sabine Pass Sabine Pass & Railroad (Spur 380)			
Spur 330 & Spindletop			
to Jefferson Co. Airport	10.7	17.9	36
Crockett & Park			
Park & Railroad (Spur 380)			
to Jefferson Co. Airport	10.8	18.3	35
Original 1963 Study	10.6	19.8	32

AVERAGE TRAVEL TIME BEAUMONT (From the Intersection Main and Crockett Streets)

TABLE 7

AVERAGE TRAVEL TIME PORT ARTHUR (From the Intersection of Proctor and Austin Streets)

Via (Route Intersections)	Route Length (Miles)	Average Travel Time (Minutes)	Average Speed (MPH)
Proctor & Woodworth to Jefferson Co. Airport	10.1	17.25	35.1
Proctor & Savannh Spur 251 & SH 73 SH 73 & US 69, 96 & 287 to Jefferson Co. Airport	11.0	17.25	38.3
Proctor & Ft. Worth Ft. Worth & SH 87 SH 87 and US 69, 96 & 287 to Jefferson Co. Airport	10.7	19.0	33.8
Original 1963 Study	9	16.3	33

TABLE 8

AVERAGE TRAVEL TIME ORANGE (From Orange County Courthouse)

Via (Route Intersections)	Route Length (Miles)	Average Travel Time (Minutes)	Average Speed (MPH)
Border (FM 1006) & Western FM 1006 & SH 87			
SH 87 & SH 73 SH 73 & US 69, 96 & 287			
to Jefferson Co. Airport	27.5	35.2	47
Border (FM 1006) & Western Western & SH 87			
SH 87 & SH 73 SH 73 & US 69, 96 & 287			
to Jefferson Co. Airport	25.6	37.0	41
7th & Green Green & 15th SH 87 & IH 10			
IH 10 & US 69, 96 & 287 to Jefferson Co. Airport	47.2	51.6	55
Original 1963 Study			
Via Beaumont-Main & Crockett	35.1	47.3	45
Original 1963 Study			
Via Pt. Arthur-Proctor & Ft. Worth	30.7	52.3	35

Analysis of these tables indicate that average travel time has decreased and average speed has increased considerable since the 1963 Study. This Study recommends that a travel time study, to include the total Study Area, be conducted in 1970.

Terminal And Transfer Facilitities

PARKING

In 1965 most of the parking meters in the Central Business District of the City of Orange were removed, on a trial basis, at the request of the downtown merchants. This effort met with a favorable response and approximately 75% of the parking meters and posts have been removed permanently, leaving the present condition as follows:

On	-Street	Off-St	reet
METERED	UNMETERED	PUBLIC H	RIVATE
61	543	678	452

There are no longer any commercial parking lots in the downtown area.

The City of Orange has improved several vacant areas in the CBD to provide free public parking, which will explain the increase in public off-street parking since 1963.

The City of Port Arthur has included extensive parking areas in the new downtown Urban Renewal Project Tex R-93. This study was made for the Governmental Complex and Port District and was completed November 15, 1966. There are 108.4 acres in the project which will contain the Post Office, Jefferson County Sub-Courthouse and City Hall with the balance of the property to be used by the Port of Port Arthur.

The original study pointed out the existence, for the most part, of adequate parking facilities provided in the Central Business District of the City of Beaumont. However, since the time of this study, additional off-street parking has been provided by local businesses to make shopping and parking easier in this area. Approximately eighty-five on-street parking spaces have been converted into space for moving vehicles and to provide adequate sight distance.

RAIL TRANSPORTATION

There has been significant change in the operations of the four railroad companies, which provide service to the Jefferson-Orange Area, since the original study. All four companies have constructed new terminals in Beaumont and the Kansas City Southern has a new terminal in Port Arthur. Many objectives of the Beaumont Railroad Plan, which was reported on in the Original Study, have been reached including the completion of the College Street and Railroad Avenue grade separation.

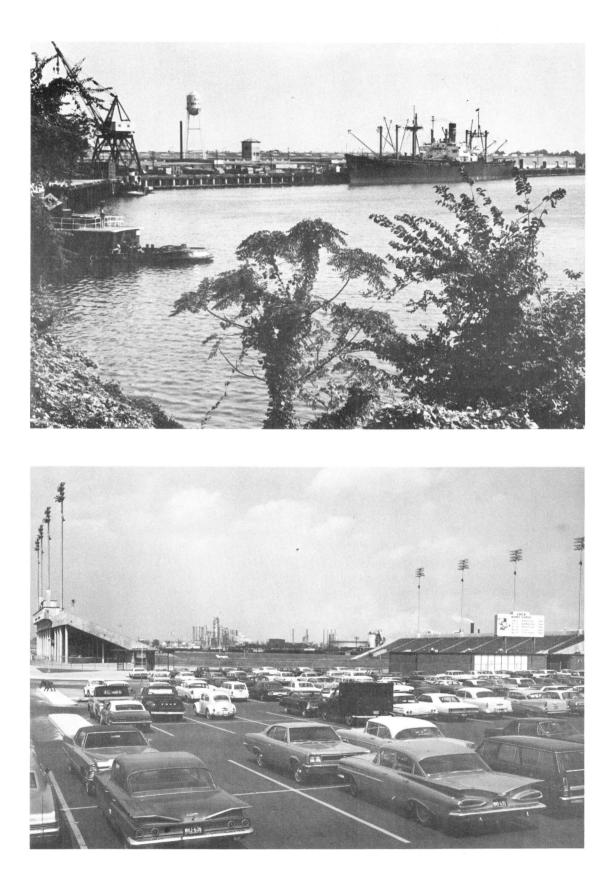
Passenger service by train has dropped from thirteen daily trains in 1963 to two in 1968. The two are Southern Pacific, Los Angeles to and from New Orleans, Sunset Limiteds.

The number of freight trains has decreased from thirty in 1963, to twentyfour in 1968.

Rail transportation for the City of Orange has changed slightly since 1963. At the present time there are only two Southern Pacific passenger trains which board at the Southern Pacific Depot on Green Avenue; six daily freight trains scheduled for Orange, which cross Green Avenue. The Missouri Pacific operation is virtually the same as it was in 1963.

PORTS

The Sabine-Neches Waterway, which includes Beaumont, Port Arthur, Orange and Sabine Pass Harbor, has had an increase of cargo tonnage between 1962 and 1966 of slightly over 11,000,000 short tons. Future water traffic and cargo tonnage will increase



as planned harbor facilities are constructed in Port Arthur.

Table 9 compares the commodity tonnage handled by the Sabine-Neches Waterway in 1962, which was included in the original plan, with commodities handled in 1966, which is the most current listing by the United States Army Corps of Engineers.

Tables 1 and 2, on pages 7 and 8 of this report, list port tonnage figures of much less magnitude than the tonnage reported in Table 9. The Sabine-Neches Waterway commodity survey includes all cargo handled by municipal, commercial and industrial facilities, while the tonnage reported in Tables 1 and 2 lists only the cargo handled by municipal ports.

AIR TRANSPORT

Jefferson-Orange Transportation service by air transport, through the Jefferson County Airport, amounts to 17 flights daily. Delta Airlines has 2 flights while the remaining 15 are by Texas International Airways. No flights originate at this Airport. This total of 17 arrivals and 17 departures is a decrease from 21 since 1963, due to the cancellation of service by Eastern Airlines.

In addition to the commercial service there is an average of 354 daily flights through the Jefferson County Airport by private planes. Private planes average 10,257 monthly flights through this Airport.

The Airport Management plans to add from 1,000 feet to 1,500 feet of runway to the existing total of 15,010 feet in future years. Management estimates of 12% increase per year of air traffic through this airport points out the need for increased facilities in the near future.

	Tons Handled-1962 (Short Tons)	Tons Handled-1966 (Short Tons)
Petroleum, Crude	18,896,290	26,366,167
Gasoline	14,610,412	13,747,445
Distillate fuel oil	11,587,481	8,502,531
Residual fuel oil	3,981,785	3,458,152
Lubricating oil and greases	2,488,656	2,571,042
Kerosine	1,772,417	1,120,150
Shells, unmanufactured	1,387,494	1,814,582
Jet fuel, all types	1,228,497	1,334,370
Industrial chemicals	1,148,629	2,142,285
Wheat	1,138,248	3,577,181
Sulphur, liquid	1,077,743	1,440,188
Sulphur, dry	1,019,680	1,801,580
Other	8,470,500	11,787,588
TOTAL	68,508,825	79,663,161

TABLE 9 SABINE-NECHES WATERWAY COMMODITY SURVEY

Travel Patterns

Since the publication of the Jefferson-Orange Counties Regional Transportation Plan, no additional land use and traffic forecasts have been made. However, new traffic counts, that were made in 1968, provide a check on the 1964 base data.

The planners of the Study Area expect to develop new land use and traffic forecasts in the near future. The Study Office has maintained surveillance over areas of growth outside the Cordon Line of the original study. These areas have been surveyed for land use and number of houses, and trip analysis has been made using data from the 1963 Origin and Destination Survey of similar areas. In conjunction with these studies, new large scale maps of Southeast Hardin County have been developed by the Study Office.

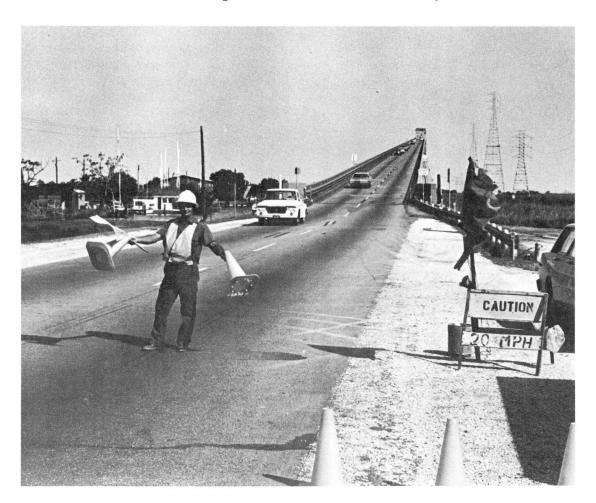


Traffic Engineering Features

The original plan showed four intersections within the Orange Area which required minor adjustments and the recommended improvement was to prohibit parking during peak hours. Three of these intersections were on Green Avenue. The City of Orange has removed parking on Green Avenue from 3rd to 16th Streets and has installed clearance interval signals at the 7th and 8th Street Intersections.

Fifty-five intersections, requiring minor improvements or adjustments were listed in the original plan, within the City of Beaumont. To date, the recommended improvements, and in some cases additional traffic engineering features, have been completed at thirty-two of the fifty-five locations. These improvements to traffic flow, other improvements as a result of accident studies, and the tremendous selective enforcement program by the Traffic Section of the Police Department have been the controlling factors that have held the Beaumont accident rate to a small decrease instead of the increase the national average is showing.

The only significant additional factors affecting traffic engineering are the addition of some new streets and the closing of others in Port Arthur's Urban Renewal Project Areas.



Community Controls

THE CRANGE AREA

The City of Orange is operating under virtually the same subdivision code as was reviewed in 1963. There have been some amendments, but the basic code remains the same. Neither West Orange nor Pinehurst, at this time, have subdivision ordinances, although there has been some talk of initiating these controls.

The City of Orange Planning Commission reviewed approximately 15 subdivisions. Of these about 1/3 have been reviewed under the City's extraterritorial jurisdiction. The majority of these subdivisions have developed in the past 2 years, and are either to the North of Orange or in the North part of Orange.

In 1965 Orange adopted a new zoning ordinance, which combined several zoning classifications and made some administrative revisions, but did not change the basic provisions. This remains the only zoning ordinance in effect in the Orange area.

THE CITY OF PORT ARTHUR

The City of Port Arthur will complete a Master Plan early in 1969. Included in this Plan will be new zoning and subdivision ordinances designed to take full advantage of long-range comprehensive planning by the interested governmental agencies.

THE CITY OF BEAUMONT

Since the publication of the Jefferson-Orange Regional Transportation Plan, the City of Beaumont has or is in the process of preparing additional codes dealing with minimum housing, trailer parks, trailer park subdivisions and amendments to the zoning ordinance.



Financial Resources

There has been no significant change in the Financial Resources of the participating agencies in the Study Area. Expenditures by the concerned agencies for maintenance, rights-of-way, construction and traffic controls are conforming to past patterns. A factor affecting financial resources, that will bear close scrutiny in the future, is the adoption of city sales taxes by some of the municipalities in the area.



Community Value Factors

THE ORANGE AREA

Since 1964, two new golf courses have been built and opened. The Dupont Employee's Recreation Association has built an 18 hole course at the intersection of FM 2177 and FM 1006. A nine hole Public Course has been built near Allie Paine Road, just West of the North City Limit Line. Also, as covered in the land use section, the YMCA is building a new facility on Wickard Drive and West Park Avenue.

The administration of the Orange area public schools has changed considerably since 1964. The West Orange-Cove Consolidated School District now includes the old Orange Independent School District. There is now a Little Cypress-Mauriceville Consolidated School District north of Orange, which is primarily due to the industrial development in that area. One other Consolidated School District in the area is the Orangefield-McLewis west of Orange.

THE CITY OF BEAUMONT

There have been significant changes in the facilities studied and classified as community value factors in the original plan. These changes include the expansion of the Lamar Tech Campus by approximately 60 acres, the elimination of Averill, Junker and Millard elementary school facilities, the development of Rogers Park in west Beaumont and the construction of the new Forest Park High School on the Old Sour Lake Road.

THE PORT ARTHUR AREA

It was brought out in the original plan of the Jefferson-Orange Regional Transportation Study that PortArthur would be in dire need of open spaces for park and playground purposes were it not for the existence of Pleasure Island. The potential of that area was never reached due to the uncertainty caused by the Bridge to Pleasure Island being struct by ships in the Sabine Neches Ship Channel.



In 1965 Jefferson County citizens approved a One and One-Half Million Dollar Bond Issue as its local share in participation with the Federal Government through the U.S. Corps of Engineers for the construction of a Fixed Span High Level Bridge over the Sabine Neches Ship Channel. This total project is estimated at approximately Eight Million Dollars and is presently under construction with completion time estimated as October, 1969. This bridge is located on Foley Avenue and is proposed to provide a link to a future southerly extension of the Spur 214 and State Highway 87 Interchange. Upon completion of this new High Level Bridge facility, both traffic patterns and land use development in the area should be affected to a great extent. It is expected that Pleasure Island will develop rapidly when this bridge is opened for traffic. Also this bridge will be another connecting link along with the Sabine Lake Causeway, which is operated jointly between Jefferson County and Cameron Parish, Louisiana, for another interstate connection between Louisiana and Texas.

The Transportation Plan

The Jefferson-Orange Regional Transportation Plan contained a recommended plan of thoroughfare improvements to be achieved by 1985. The status of these recommendations is listed below:

PROGRAMMED FOR CONSTRUCTION BY THE STATE HIGHWAY DEPART-MENT

Spur 380, from Threadneedle Street to Florida Avenue, in Beaumont, was completed as a six lane facility in 1968.

The Interchange for U.S. Highway 69, 96 and 287, Spur 380 and State Highway 347 near the South City Limits of Beaumont will be completed by 1969.

PARTIALLY PROGRAMMED FOR CONSTRUCTION BY THE STATE HIGHWAY DEPARTMENT

U.S. Highway 90 from Jefferson-Liberty County Line east to four miles west of Beaumont will soon be completed as a four lane divided roadway for half of the total length of twelve miles. This is to a point approximately one mile west of China. The remaining six miles west to the County Line is scheduled to be let for construction in 1969.

U.S. Highway 69, 96 and 287 from French Road in Beaumont to a point north of Lucas Drive will be completed as an expressway in 1969 and a contract to construct the next section north to the L.N.V.A. Canal should follow.

State Highway 73 main lanes have been completed from U.S. Highway 69, 96 and 287 to 32nd Street and construction has begun on the section from 32nd Street to 25th Street.

RECOMMENDED IMPROVEMENTS

A contract to construct the main lanes of U.S. Highway 69, 96 and 287 from Spur 380 to the West Port Arthur Road will be awarded in 1969 with the remaining section to State Highway 124 to follow in the near future.

State Highway 62 in Orange County from Texla to the Orange-Newton County Line has been improved to a two lane, 24 foot wide, facility.

State Highway 87 from the City of Orange north to State Highway 12 is currently being reconstructed to a two lane facility with paved shoulders.

The City of Orange is currently acquiring sixty six (66) parcels or rightof-way which are needed to improve State Highway 87, Sixteenth Street. This proposed four (4) lanefacility will extend from MacArthur Drive northward to Interstate Highway 10.

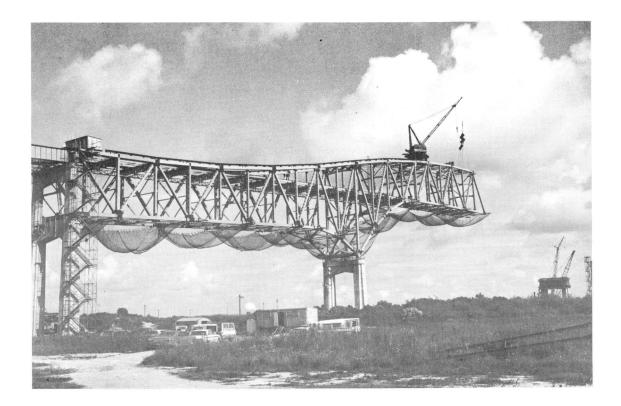
RECOMMENDED MAJOR THOROUGH-FARES TO BE CONSTRUCTED ON NEW LOCATIONS.

Langham Road from College Street to Washington Boulevard in Beaumont has been constructed as an open base roadway.

Dowlen Road from Delaware Street to Gladys Avenue in Beaumont has been improved.

Main Avenue in Port Arthur has been improved from State Highway 87 to Proctor Street Extension.

Development of the recommended thoroughfare in Port Arthur from State Highway 87 to the Louisiana Shortline on Pleasure Island has begun due to the construction, now in progress, of



a fixed span high level bridge over the Sabine Neches Ship Channel. This bridge is estimated to be completed by October, 1969.

A proposed \$28,000,000 Bond Issue was presented to the citizens of Jefferson County for a vote on December 14, 1968. A two-thirds majority vote in favor of the proposal was needed for approval. The total vote registered was 16,437 of which 10,029 votes were cast for and 6,408 against the Bond Issue. The 10,029 votes for the Bond Issue represented 61% of the total vote, or less than the required twothirds. County officials plan to call another election, on this same proposal, in March 1969.

A portion of the \$28,000,000 approximately \$6,577,500, was included for the purpose of developing highway projects in co-operation with the Texas Highway Department. The major portion, amounting to \$20,533,560, of this bond proposal, would be used for the construction of county roads and streets which for the most part were included in the Recommended Plan of the Jefferson-Orange Regional Transportation Study.

The Jefferson-Orange Regional Transportation Plan was used by County and City Agencies in formulating the improvements to be accomplished by the proposed \$28,000,000 Bond Issue. Meetings were held between the various organizations responsible for the Bond proposal and Highway Department personnel. This close co-operation insured synchronization of the improvements listed in the Bond Issue with those recommended by the Transportation Plan. Area news media made known the part played by the Transportation Plan as the basis for the improvements listed in the Bond Issue.

On August 14, 1968, Jefferson County Commissioners' Court sold the remaining \$2,000,000 from the \$10,400,-000 1957 Highway Bond Program. This \$2,000,000 will provide funds for purchase of right-of-way on State High-

way 87 from Farm Road 366 and State Highway 73 East to the Neches River at the Rainbow Bridge. This will provide the necessary right-of-way for the construction of the proposed new High Level Bridge to be built parallel to the Rainbow Bridge. Funds are also included for purchase of right-of-way on State Highway 73 from Taylors Bayou to the West Jefferson County Line. This project will provide the necessary right-of-way for developing State Highway 73 into an expressway facility in the future. Funds are also provided for the purchase of right-of-way on U.S. Highway 90 from just East of Nome, Texas, West to the West Jefferson County Line.

A transportation improvement program to be implemented in the next five years includes the following projects:

U.S. Highway 69, 96 and 287 from north of Lucas Drive in Beaumont will be constructed as an expressway to the L.N.V.A. Canal.

The main lanes of State Highway 73 from 25th Street in Groves to State Highway 87 will be completed.

Rights-of-way needed for the future

construction of a new bridge on State Highway 87 over the Neches River will be acquired.

U.S. Highway 69, 96 and 287 from Spur 380 to State Highway 124 in Beaumont will be completed as an expressway.

Scheduling of other State, County and City improvements recommended by the Transportation Plan depends upon the outcome of the proposed Jefferson County Road Bond Issue election.

Industry within the Study Area is served by thoroughfares that comprise this Transportation Plan. As the recommended plan is implemented, the quality of this service will improve.

The Port Arthur Urban Renewal Project Number 1 is served by Thomas Boulevard, Grannis Avenue, Terminal Road and State Highway 87 which are included in the Transportation Plan. Most of the Central Business District streets are involved in the Urban Renewal Project Number 2 and future planning on 7th Street, Gannis Avenue, Houston Avenue and the extension of Spur 214 will give consideration to the servicing of this area.

Continuing Transportation Planning

An agreement between all sponsoring agencies involved in the Jefferson-Orange Regional Transportation Study was fully executed and went into effect on September 11, 1967. This agreement shall be for a period of five years unless revised or extended by the interested agencies.

Guidance and direction of the continuing study will be furnished by the Coordinating Committee as was the case in the original study. A Study Coordinator has been appointed by the Texas Highway Department to work in close cooperation with representatives of the involved governmental units.

The study elements which made up the original study, shall continue to provide the basic data for the continuing transportation planning process and shall be maintained current or updated as necessary.

