PROPOSED TRINITY ROUTE -DALLAS TO FORT WORTH-

Funding and Traffic Analysis

The Trinity Route proposal of a new traffic facility between the cities of Dallas and Ft. Worth can be considered in the light of (1) future traffic demands on the 1990 road system in the corridor and (2) present Highway Department construction authorizations and obligations in Dallas and Tarrant counties.

I. Basic Assumptions Governing This Analysis

Certain basic assumptions were made in performing this funding and traffic analysis, as follows:

- (1) The funding base for highway projects remains the same.
 - State funds available for highway development will continue to increase at the same rate.
 - The Federal Highway Trust Fund and the State of Texas' allocation of available highway funds continues as it presently exists.
 - The State gasoline tax and the Highway Department's portion continues at the same rate as it exists today.
- (2) No further inflation factor is experienced on right of way or construction costs.
- (3) No new construction authorizations and obligations are made and the development of previous commitments is as follows:
 - Existing Dallas Ft. Worth toll road becomes a free facility.

- Interstate Highway 20 is completed before 1990 from west of Ft. Worth to east of Dallas.
- All committed projects, including Loop 9, are still included as part of previously authorized system.
- All Interstate Highway facilities are <u>not</u> complete before 1977 but are complete by 1990.
- The Trinity Route is not advanced in the priority listing of projects above any of those previously authorized and obligated.
- (4) No provision for additional capacity on existing facilities in the corridor is undertaken unless included in existing authorizations and obligations.
- (5) No local or national emergency or change in lifestyle will arise which would abnormally restrict the use of motor vehicles. This assumes also that the present energy shortage is of short-term duration and that upon recovery, the availability of motor fuels will be such as to impose no changes in vehicle travel, occupancy rate, or fuel tax receipts.

II. 1990 Traffic System Estimates

Using the new 1990 series of traffic assignments being developed at this time by the Dallas-Fort Worth Regional Transportation Study, an analysis was made of the traffic corridors affected by the proposed Trinity Route. Figures 1, 2, and 3 show the anticipated 1990 traffic demand for the system in the immediate vicinity of the proposed route. Figure 1 shows traffic in the corridor without the Trinity Route facility; Figure 2, the traffic with the Trinity facility as a toll road; Figure 3, the traffic with the Trinity facility as a free facility. The following table briefly summarizes the relationship between the 1990 traffic estimates and the 1990 capacities for each corridor.

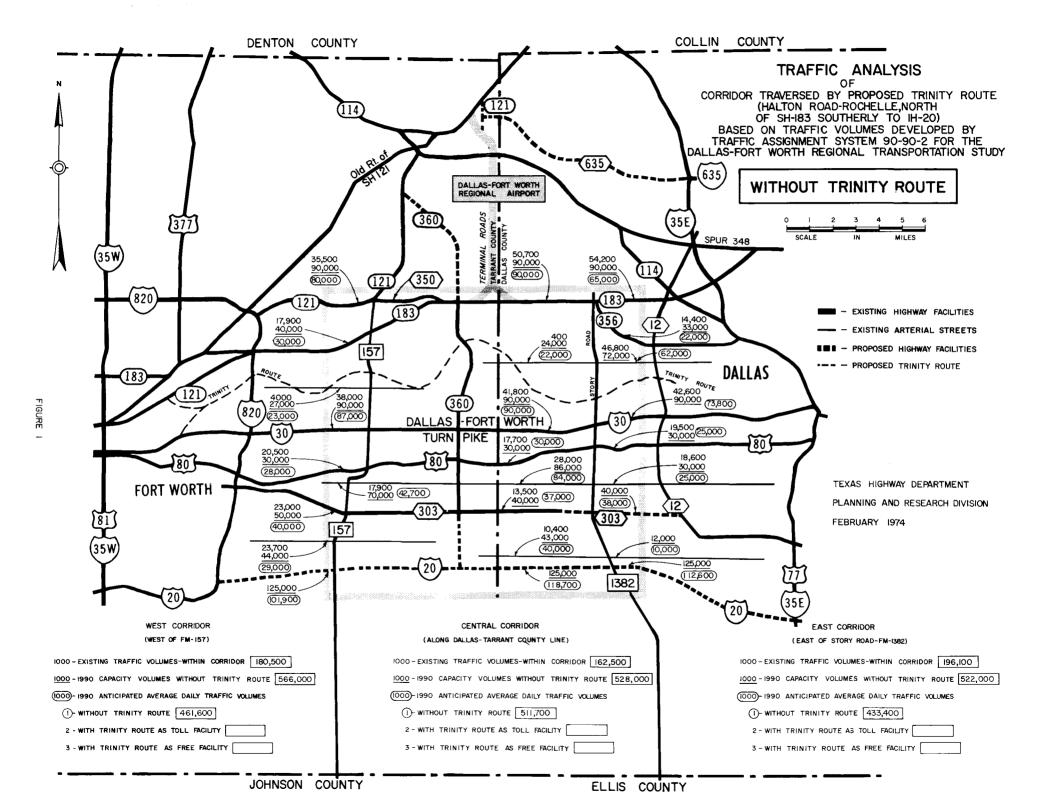
TABLE A

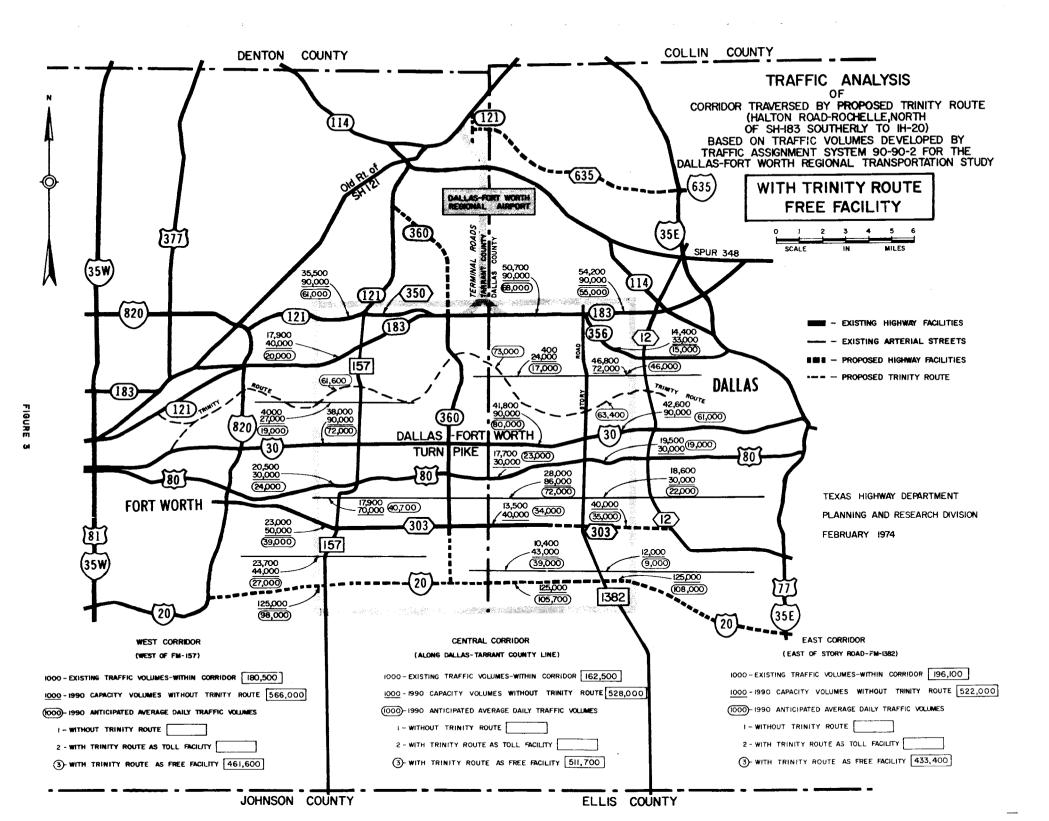
Traffic Corridors	Corridor Traffic Volumes			
Shown on		* 1990	* 1990	
Figures 1, 2, and 3	Existing	Estimated	Capacity	
East	196, 100	433, 400	522,000	
Central	162, 500	511, 700	528, 000	
West	180,500	461,600	566,000	

^{* 1990} Corridor traffic estimates and capacities are for existing and committed facilities only and do not include Trinity Route.

The data in this table and the following maps indicate that by the year 1990, traffic facilities in the central corridor between Dallas and Fort Worth will be operating at or near capacity. Therefore, the construction of either a toll road by the Texas Turnpike Authority, as proposed by their consultant's December 1973 report, or a free road by the Texas

Highway Department would provide additional capacity in the corridor, as well as improve the level of service on the other traffic facilities in the corridor. It should be noted that traffic projections used in the consultant's report were developed prior to the 1990 series of traffic assignments used herein. An explanation of the traffic assignments used by the Highway Department for this current report is included in the appendix.





III. Construction Funding Estimates

feasible.

If the Trinity Route were to be built as a free facility by the State Highway Department, consideration must be given to its effect on projects currently authorized and obligated by the Highway Commission for construction in Dallas and Tarrant Counties. Figure 4 shows a plot of (1) the past amount of construction funding for the State and for the combined two counties, (2) the projected amount of construction funding through the year 1990, and (3) currently authorized and obligated project commitments for the two counties. To the \$1,760,000,000 in current project authorizations and obligations for Dallas and Tarrant Counties through the year 1990 has been added (shown cross-hatched in Figure 4) the approximately \$226,000,000 for the proposed Trinity Route in the time span from 1982 to 1990. This approximate time span would be required for planning, right of way aquisition and construction. Project authorizations have been adjusted in Figure 4 in order to be compatible with an anticipated annual range or funding for the two counties of about 16% to 18% of the State-wide total. On this basis, and if the assumptions stated in Section I hold true, the construction of the Trinity Route as a free facility would appear

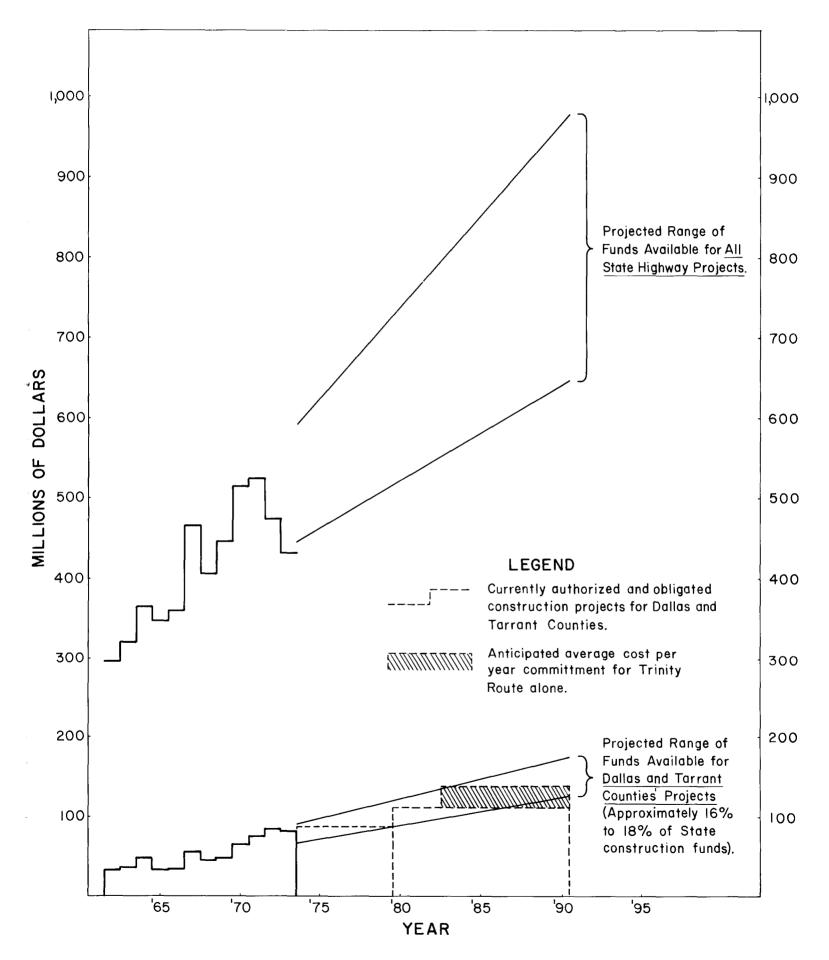


Figure 4

IV. Alternate Consideration

An alternative to construction of the complete Trinity Route could be construction of a two-lane free facility at a cost of approximately \$151,000,000, which would include the necessary right of way for construction of the ultimate facility at a later date. Such a consideration could provide greater flexibility in programming and permit the meeting of current project authorizations and obligations if the assumptions outlined in Section I do not hold true, to the detriment of the funding analyzed under Construction Funding Estimates.

However, it should be noted that the particular type of facility proposed for the Trinity Route does not lend itself to stage development because 1) there would be no continuous frontage roads which could be utilized in staging and 2) since a significant length of the project would be in the Trinity River flood plain, much of the grading and structures for the ultimate facility would be required initially.

APPENDIX

- I. TRAFFIC ANALYSIS
- II. SUMMARY OF PAST EXPENDITURES (Dallas and Tarrant Counties)
- III. COMMITTED PROJECTS (Dallas and Tarrant Counties)

DALLAS-FORT WORTH REGIONAL TRANSPORTATION STUDY

Traffic Analysis of Corridor Traversed by Proposed Trinity Route

An analysis of corridor traffic volumes developed by the last series of 1985 traffic assignments, which were used on all previous studies of the area traversed by the proposed Trinity facility, indicated considerably higher corridor volumes than those developed by the new series of 1990 traffic assignments used in this report. The difference between the two series of traffic assignments are

- caused, primarily, by the following reasons:
 - 1. The 1/ (intensive study area) population estimate of 4, 202, 500 used on the 1985 assignment series, was developed using the 1960 census as a base and the growth trends experienced for the study area during the 1950-1960 decade and information obtained from the 1964 origin-destination survey. The 1990 population estimate of 3,888,000 for this same area was developed using the 1970 census as a base and trends for the area as indicated between the 1964 origin-destination survey and the present date. In addition, the 1985 series of traffic assignments included a reforecast of the number of trips in the study area; particularly in the area south of SH 183 and between IH 35W in Fort Worth and Loop 12 in Dallas. The increased number of trips resulting from this reforecast of certain areas, while not directly based on an increase in population, reflected either additional population (above the 4, 202, 500) or a large increase in trip rates. The 1985 traffic assignment series produced 13, 766, 000 vehicle trips as compared to the later 1990 series which produced 12,082,000 vehicle trips. A difference of some 1,684,000 less trips are now forecasted for 1985.
 - 2. The 1985 series of traffic assignments assumed only a transit service equal to that in place during the 1964 origin-destination survey. The 1990 series of traffic assignments, on the other hand, assumes a much higher level of transit service, especially within the corridor under study. A high speed TACV system, along with rubber-tired express bus service between the two major cities, is reflected in the 1990 estimates.

- 1/ Intensive Study Area includes all of Dallas and Tarrant Counties and small portions of the peripheral Countis of Collin, Denton, Ellis, Johnson, Kaufman, Parker and Rockwall.
- 3. In 1969, the new regional airport was estimated to attract approximately 180,000 vehicle trips daily in the year 1985. These were estimates of the number of employee vehicle trips, airport service vehicle trips and vehicle trips to serve air passengers as developed by airport officials and furnished the study office for Traffic Analysis. This figure was used in the last series of 1985 Traffic Assignments. The 1990 Traffic Assignment Series include a forecast of only 76,000 vehicle trips of the types mentioned above. These vehicle trip estimates were the result of a recent study made for the North Texas Council of Governments and furnished the Study Office for use in the 1990 Traffic Analysis.

It is believed the items outlined herein explain most of the differences between the two traffic assignment series. Item 1 (reduced population projection) probably accounts for the largest difference but the reduced airport attraction makes a significant difference also in this corridor. Note should be made that the 1990 series of traffic assignments are incomplete and that the information developed by these assignments is preliminary.

DALLAS-FORT WORTH REGIONAL TRANSPORTATION STUDY TRAFFIC ANALYSIS OF CORRIDOR TRAVERSED BY PROPOSED TRINITY ROUTE East Corridor (East of Story Road - FM 1382)

Haltom Road - Rochelle North of SH 183 Southerly to IH 20

		1990 Estimated		1990 Estimates $\frac{1}{2}$,
Street-Highway	Existing Volume	Practical Capacity	Without Trinity Facility	With Trinity as Toll Facility	With Trinity as Free Facility
Rochelle	11,800	12,000	12,000	12,000	11,000
SH 183	54,200	90,000	65,000	60,000	55,000
Grawyler	7,900	12,000	10,000	10,000	9,000
SH 356	14,400	33,000	22,000	19,000	15,000
Pioneer	2,800				
Rock Island	7,900	(0.000	40.000	32,000	26 000
Shady Grove	12,600	48,000	40,000	33,000	26,000
Hunter-Ferrell	3,800			}	
Proposed Trinity	-	_	-	28,400	63,400
Subtotal	115,400	195,000	149,000	162,400	179,400
Toll Road US 80 Jefferson	42,600 19,500 18,600	90,000 <u>3</u> / 30,000 30,000	73,800 <u>3</u> / 25,000 25,000	68,000 <u>3</u> / 23,000 23,000	61,000 <u>3</u> / 19,000 22,000
Subtotal	80,700	150,000	123,800	114,000	102,000
Spur 303 Mayfield IH 20		40,000 12,000 125,000 4/	38,000 10,000 112,600 <u>4</u> /	37,000 10,000 110,000 4/	35,000 9,000 108,000 4/
Subtotal	***	177,000	160,600	157,000	152,000
Corridor Totals	196,100	522,000	433,400 2/	433,400 2/	433,400 2/

^{1/} Based on corridor traffic volumes developed by Traffic Assignment System 90-90-2

^{2/ 15,000} trips reassigned to IH 635-SH 114 corridor

^{3/} Assumes Dallas-Fort Worth Turnpike (Toll Road) a free facility in 1990

^{4/} Assumes IH 20 between Dallas and Fort Worth constructed and open to traffic prior to 1990

DALLAS-FORT WORTH REGIONAL TRANSPORTATION STUDY TRAFFIC ANALYSIS OF CORRIDOR TRAVERSED BY PROPOSED TRINITY ROUTE Central Corridor (Along Dallas-Tarrant County Line) Haltom Road - Rochelle North of SH 183 Southerly to IH 20

		1990 Estimated	1990 Estimates $\frac{1}{2}$		
Street-Highway	Existing Volume	Practical Capacity	Without Trinity Facility	With Trinity as Toll Facility	With Trinity as Free Facility
Haltom-Northgate SH 183 Rock Island-Pipeline Proposed Trinity	50,700 400 -	12,000 90,000 12,000	10,000 90,000 12,000	10,000 81,000 11,000 30,000	9,000 68,000 8,000 73,000
Subtotal	51,100	114,000	112,000	132,000	158,000
Hunter-Ferrell Watson School Toll Road Tarrant Road March-Hill US 80 Abrams Subtotal	2,000 800 41,800 6,800 6,400 17,700 12,000	33,000 90,000 <u>3</u> / 23,000 30,000 30,000 206,000	32,000 90,000 <u>3</u> / 22,000 30,000 30,000 204,000	31,000 87,000 <u>3</u> / 21,000 28,000 28,000 195,000	28,000 80,000 <u>3</u> / 20,000 23,000 24,000
Park Row Spur 303 Arkansas Lane Mayfield IH 20 Subtotal	7,600 13,500 2,000 800 -	20,000 40,000 23,000 125,000 <u>4</u> / 208,000	20,000 37,000 20,000 118,700 4/	20,000 36,000 20,000 108,700 4/	20,000 34,000 19,000 105,700 <u>4</u> /
Corridor Totals	162,500	528,000	511,700 ² /	511,700 ² /	511,700 ² /

Based on corridor traffic volumes developed by Traffic Assignment System 90-90-2

^{25,000} trips reassigned to IH 635-SH 114 corridor

Assumes Dallas-Fort Worth Turnpike (Toll Road) a free facility in 1990

 $[\]frac{\overline{3}}{4}$ Assumes IH 20 between Dallas and Fort Worth constructed and open to traffic prior to 1990

DALLAS-FORT WORTH REGIONAL TRANSPORTATION STUDY TRAFFIC ANALYSIS OF CORRIDOR TRAVERSED BY PROPOSED TRINITY ROUTE West Corridor (West of FM 157)

Haltom Road - Rochelle North of SH 183 Southerly to IH 20

		1990 Estimated	1990 Estimates $\frac{1}{}$		
	Existing	Practical	Without Trinity	With Trinity as	With Trinity as
Street-Highway	Volume	Capacity	Facility	Toll Facility	Free Facility
Haltom Road	1,500	12,000	10,000	10,000	9,000
Spur 350	35,500	90,000	80,000	71,000	61,000
SH 183	17,900	40,000	30,000	27,000	20 ,0 00
Pipeline Road	2,500	15,000	13,000	12,100	10,000
Proposed Trinity	-	-	-	29,000	61,600
Subtotal	57,400	157,000	133,000	149,100	161,600
Hunter-Ferrell	-1				
Watson School Road	-	35,000	23,600	22,500	22,000
Proposed Unnamed Route	-	-			
Toll Road	38,000	90,000 <u>2</u> /	$87,000 \frac{2}{}$	77,000 $\frac{2}{}$	$72,000\frac{2}{}$
Randol Mill Abrams	1,300 16,600	35,000	19,100	19,000	18,000
US 80	20,500	30,000	28,000	26,000	24,000
Subtotal	76,400	190,000	157,700	144,500	136,000
Park Row	17,000	20,000	20,000	20,000	20,000
Spur 303	23,000	50,000	40,000	40,000	39,000
Arkansas Lane	6,500	30,000	,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	• • • • • • • • • • • • • • • • • • • •
Mayfield	-	24,000	9,000	8,000	7,000
Arbrook	200	21	, ,	•	• /
IH 20	-	$125,000\frac{3}{}$	101,900 <u>3</u> /	100,000 3/	98,000 <u>3</u> /
Subtotal	46,700	219,000	170,900	168,000	164,000
Corridor Totals	180,500	566,000	461,600	461,600	461,600

^{1/} Based on corridor traffic volumes developed by Traffic Assignment System 90-90-2

Assumes Dallas-Fort Worth Turnpike (Toll Road) a free facility in 1990
 Assumes IH 20 between Dallas and Fort Worth constructed and open to traffic prior to 1990

Summary of Total Federal and State Funds Expended For Purchase of Right of Way and Construction of Highways and Structures

	Tarrant County	Dallas County	<u>Total</u>
1965	\$10,151,969	\$23,309,7 52	\$33,461,721
1966	11,069,170	24,462,450	35,531,620
1967	14,566,698	40,924,090	55,490,788
1968	8,945,793	37,108,631	46,054,424
1969	11,417,800	37,725,534	49,143,334
1970	14,822,414	49,008,166	63,830,580
1971	28,261,662	47,314,680	75,576,342
1972	31,514,960	53,099,531	84,614,491
1973	27,886,834	54,016,583	81,903,417

PROJECTS AUTHORIZED AND OBLIGATED FOR CONSTRUCTION BY THE HIGHWAY COMMISSION

TARRANT COUNTY

rresent	
Construction Contract	Authorized and Ob

	Construction Contract	Authorized and Obligated		
		Right of Way	Construction	
7 . 820	\$23,213,069	\$ 4,427,000	\$ 25,210,000	
1H 20	22,294,553	5,900,000	47,704,000	
1 30	3,116,048	19,750,000	34,390,000	
IH 35W	12,752,749	18,230,000	15,750,000	
A 360	10,398,554	13,020,000	63,708,500	
1 121		63,000,000	140,000,000	
TOPICS	159,238		2,154,000	
1 s	784,604		2,085,000	
METRO.			5,831,000	
200p 635			1,300,000	
н 114	133,316	3,000,000	12,000,000	
us 287	4,183,189	500,000	8,569,000	
s 377		111,000	1,252,000	
SH 183	5,301,080		310,000	
JS 80	916,366			
iscellaneous			20,000,000	
™OTAL	\$83,252,766	\$127,938,000	\$380,263,500	
GRAND TOTAL	\$591,454,266			

PROJECTS AUTHORIZED AND OBLIGATED FOR CONSTRUCTION BY THE HIGHWAY COMMISSION

DALLAS COUNTY

	Present Construction Contract	Authorized and Obligated		
		Right of Way	Construction	
н 635	\$ 6,570,410	\$ 250,000	\$ 1,960,000	
IH 30	215,341	5,496,000	27,000,000	
1H 35E	11,744,303		6,594,000	
IH 20	40,855,097	12,000,000	36,000,000	
IH 45	22,051,446		1,284,000	
îн 345	12,208,822		46,000	
Loop 12	18,359,259	2,560,000	15,949,000	
SH 66		530,000	3,000,000	
us 67	3,009,665	450,000	20,000,000	
us 75	804,975		85,000,000	
SH 78		185,000	3,000,000	
Spur 354		1,100,000	5,970,000	
US 175	98,565			
Loop 9		74,000,000	600,000,000	
Spur 303		110,000	14,500,000	
Spur 484		405,000	18,000,000	
Loop 635		7,662,000	40,000,000	
SH 183	1,501,525	2,500,000	7,500,000	
SH 289		1,000,000	4,760,000	
SH 352		3,000,000	5,000,000	
Spur 366			26,000,000	
Spur 482			4,400,000	
Spur 348	4,570,546			
Spur 408	3,812,896		4,000,000	
FM	2,262,369			
Miscellaneous		-	3,000,000	
TOTAL	\$128,065,219	\$111,248,000	\$932, 963,000	

GRAND TOTAL \$1,172,276,219