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November 20, 2002

Mr. Alan Clark
Executive Director
Houston-Galveston Area Council
7721 Washington Avenue
Houston, Texas 77007

Re: Congestion Mitigation Analysis for State Highway 99 (Grand Parkway)
Segments E, F-1, F-2, and G

Dear Mr. Clark:

Please find attached for your review and comment the Congestion Mitigation Analysis (CMA) for State Highway 99 (Grand Parkway), Segments E, F-1, F-2, and G. The CMA was formerly known as the Single-Occupant Vehicle (SOV) analysis, which is required for added capacity projects that are subject to state and federal review and approvals. Because the Grand parkway is a new location facility, the CMA was prepared on all parallel facilities that are being relieved. The CMA will be included in the Draft Environmental Impact Statements for Segments E, F-1, F-2, and G. The CMA has been coordinated with and reviewed by H-GAC staff in the Transportation Department (Mr. Michael C.E. Onuogu).

If you have any questions, please feel free to contact me at 281/579-4597.

Sincerely,

MICHAEL BAKER JR., INC.

Robb H. Fishman, AICP/REM
Manager, Environmental Services Group

Attachment

Cc: Mr. David Gornet, P.E., Grand Parkway Association
Mr. Lee Gibbons, FHWA
Mr. Michael C.E. Onuogu, H-GAC
Mr. Carol W. Nixon, P.E., TxDOT - Houston District
Mr. Bob Arroyave, Brown and Gay
Mr. Glen Graham, PBS&J

Congestion Mitigation Analysis (CMA)

For

State Highway 99 (Grand Parkway)

Segments E, F-1, F-2, and G

Prepared for:

Houston-Galveston Area Council

P.O. Box 22777

Houston, TX 77227-2777

Prepared by:

Michael Baker Jr., Inc.

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November 2002

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Vision 2020 Plan Projects for Roadways Parallel to the Proposed SH 99/Grand Parkway (Segments E, F-1, F-2, and G)

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I. FINDINGS

This document contains a Congestion Mitigation Analysis (CMA) for Segments E, F-1, F-2, and G of State Highway 99 (the Grand Parkway), from IH 10 to US 59, in Harris and Montgomery Counties, Texas. The CMA was formerly known as the Single-Occupant Vehicle (SOV) analysis, which is required for added capacity projects that are subject to state and federal review and approvals.

Because the Grand Parkway is a new facility, CMA should be performed on the parallel facilities that are being relieved. The parallel facilities that will experience some level of relief by the construction of the proposed Grand Parkway are presented in Table 1; broken down into the segment study areas.

TABLE 1
PARALLEL FACILITIES EXPECTED TO BENEFIT FROM
THE CONSTRUCTION OF THE GRAND PARKWAY

Segment	Roadway	From	To
E	Katy Hockley Rd	IH 10	Roberts Rd
	Barker Cypress Rd	IH 10	US 290
	SH 6	IH 10	US 290
F-1	FM 1960	US 290	SH 249
	Louetta Rd	Telge Rd	SH 249
	Spring Cypress Rd	Telge Rd	SH 249
	Cypresswood Dr	US 290	SH 249
	FM 2920	US 290	SH 249
	Boudreaux Rd	Telge Rd	SH 249
F-2	FM 1960	SH 249	IH 45
	Louetta Rd	SH 249	IH 45
	Spring Cypress Rd	SH 249	IH 45
	Cypresswood Dr	SH 249	IH 45
	FM 2920	SH 249	Spring Cypress Rd
	Boudreaux Rd	SH 249	Kuykendahl Rd
	Spring Stuebner Rd	Kuykendahl Rd	IH 45
G	FM 1960	IH 45	US 59
	Cypresswood Dr	IH 45	FM 1960

Source: Michael Baker Jr., Inc.; November 2002.

The CMA focuses on the congestion mitigation measures programmed for those facilities listed in the table. The analysis shows that, by the year 2025, the Level of Mobility (LOM) for these roadways will deteriorate enough to justify added

capacity. Even the implementation of Transportation Control Measures (TCM), which are described in the following section, will not have sufficient impact to maintain acceptable levels of mobility without added capacity. It can be concluded that the construction of the Grand Parkway from IH 10 to US 59 is justified, consistent with the Congestion Management System (CMS) Plan of the Houston-Galveston Area Council (H-GAC) and contingent to the considerations described herein.

II. BACKGROUND

The current Congestion Management System (CMS) plan for the Houston-Galveston area [1] was adopted in October 1997. The CMS requires the performance of a CMA on significant added capacity roadway projects. CMA was formerly known as SOV Analysis. It is the stated policy of the CMS to apply cost-effective Travel Demand Management (TDM) and Transportation System Management (TSM) measures as the first component of all congestion reduction strategies. Added capacity roadway projects, such as the Grand Parkway, are justified only if cost-effective travel demand and transportation system management strategies fail to reduce vehicular congestion to acceptable (or tolerable) levels.

III. PROJECT DESCRIPTION

The purpose of the proposed Grand Parkway project is to develop an interstate quality circumferential highway facility to provide access to radial freeways and serve as a third loop around the City of Houston. With a total length of over 170-miles, the development of the full Grand Parkway will require construction in a number of phases. As Segments of Independent Utility (SIU's), Sections E, F-1, F-2, and G are being developed at this time to address regional and local transportation needs. The study area for the Grand Parkway Environmental Impact Statements (EIS's) are all located within Harris and Montgomery Counties, outside the Northern portion of the Houston metropolitan area. The project limits of this study extend from IH 10 (Katy Freeway) to US 59 (Eastex Freeway), approximately a 52-mile corridor that traverses suburban and rural areas. Approximately 40-miles are located in Harris County and 12-miles in Montgomery County. The project will reduce the through radial traffic from the current freeway system (i.e., IH 10, US 290, SH 249, IH 45, and US 59) and will provide a needed transportation service in the study area to help reduce regional and local traffic congestion.

The Grand Parkway was included in recent Federal transportation legislation including the 1995 National Highway System designation, established by the 1991 ISTEA, the NAFTA, and TEA-21. At the state level, the Grand Parkway is included in the current STIP for funding between 2000 and 2007. The Grand Parkway is also identified in the 2022 Metropolitan Transportation Plan (H-GAC, 2000). Segments E, F-1, F-2, and G are consistent with Harris and Montgomery County improvements programs and are included in the City of Houston's Major Thoroughfare and Freeway Plan. As such, the proposed action will serve to function as a critical link in the regional and local transportation system that will serve travel,

economic, development and commercial demands of the region. Construction of the proposed Grand Parkway in Segment E, F-1, F-2 and G would provide circumferential linkage between western and northern Harris and southern Montgomery counties including linkage between IH 10, US 290, SH 249, IH 45, and US 59. The lead agency for this project is the Texas Department of Transportation (TxDOT) and the funding source is the Federal Highway Administration (FHWA).

The proposed action has been designed as a 4-mainlane at-grade controlled access freeway with intermittent frontage roads located within a 400-foot right-of-way (ROW). The 400-foot ROW can accommodate one of the following typical roadway sections: 4-mainlane section without frontage roads, 4-mainlane section with frontage roads, and 4-mainlane section with exit and entrance ramps.

The existing roadways that are being studied have different configurations varying from 8-lane divided arterial urban sections to 2-lane undivided rural sections. Table 2 presents the configurations for the parallel facilities that will be affected by the construction of the Grand Parkway.

TABLE 2
CONFIGURATIONS FOR ROADWAYS PARALLEL TO THE PROPOSED GRAND PARKWAY

Segment	Roadway	From	To	Classification	Urban or Rural	Number of Lanes	Divided	Center Turn Lane	Signalization along Segment
E	SH 6	IH 10	US 290	Principal Arterial	Urban	6	No	Yes	Yes
	Katy Hockley Rd	IH 10	Roberts Rd	Collector	Rural	2	No	No	No
	Barker Cypress Rd	IH 10	US 290	Collector	Urban	2/4	Yes	Yes	Yes
F-1	FM 1960	US 290	SH 249	Principal Arterial	Urban	6	No	Yes	Yes
	Louetta Rd	Telge Rd	SH 249	Collector	Urban	4	No	Yes	Yes
	Spring Cypress Rd	Telge Rd	SH 249	Collector	Rural	2	No	No	No
	Cypresswood Dr	Eldridge	SH 249	Collector	Urban	4	No	Yes	Yes
	FM 2920	US 290	SH 249	Collector	Rural	2/4	No	Yes	Yes
	Boudreaux Rd	Telge Rd	SH 249	Collector	Rural	2	No	No	No
F-2	FM 1960	SH 249	IH 45	Principal Arterial	Urban	6	No	Yes	Yes
	Louetta Rd	SH 249	IH 45	Collector	Urban	4	Yes	Yes	Yes
	Spring Cypress Rd	SH 249	IH 45	Collector	Rural	2/4	No	No	Yes
	Cypresswood Dr	SH 249	IH 45	Collector	Urban	4	Yes	No	Yes
	FM 2920	SH 249	Spring Cypress Rd	Collector	Rural	4	No	Yes	Yes
	Boudreaux Rd	SH 249	Kuykendahl Rd	Collector	Rural	2	No	No	Yes
	Spring Stuebner Rd	Kuykendahl Rd	IH 45	Collector	Rural	2	No	No	Yes
G	FM 1960	IH 45	US 59	Principal Arterial	Urban	6/8	No	Yes	Yes
	Cypresswood Dr	IH 45	FM 1960	Collector	Rural	4	Yes	No	Yes

Source: Michael Baker Jr., Inc.; November 2002.

The Texas Department of Transportation plans to widen many of these facilities by the study year, 2025. These improvements are discussed further in Section VI.

IV. TRAFFIC AND LEVEL OF MOBILITY (LOM)

Four Levels of Mobility (LOM) used to define congestion were developed by the H-GAC Travel Modeling Committee in 1997 and approved by the Technical Advisory Committee (TAC). Table 3 illustrates these levels of mobility. Roadway segments, which fall above the Tolerable Level (i.e. Volume/Capacity Ratio ≥ 0.85) are considered congested and added-capacity solutions for these roadways are considered to be justified.

TABLE 3
SUMMARY OF LEVELS OF MOBILITY (LOM)

Level of Mobility	Volume/Capacity (V/C) Ratio
Tolerable	< 0.85
Moderate	≥ 0.85 < 1.00
Serious	≥ 1.00 < 1.25
Severe	≥ 1.25

H-GAC's modeling staff developed Capacity Tables, using the standard Highway Capacity Manual [2] procedures for different facility types and number of lanes. These Capacity Tables use a Saturation Flow Rate, which is adjusted by using several traffic-related factors to obtain the capacity of the roadway. These factors are:

- ◆ Percent Trucks
- ◆ Percent Left-Turns
- ◆ Number of Lanes
- ◆ Lane Utilization Factor
- ◆ Peak Hour Factor
- ◆ Peak Hour Directional Factors
- ◆ Traffic Signal Timing (Green/Cycle-Length Ratio or G/C Ratio)

These values were all incorporated into a transportation demand model developed by H-GAC for the Houston-Galveston area. Based on the model, capacity tables for the facilities parallel to Segments E, F-1, F-2, and G were developed for the “no-build” conditions in the year 2025.

The “no-build” condition for the year 2025 assumes that none of the proposed segments (E, F-1, F-2, and G) of the Grand Parkway will be built. In addition, the “no-build” scenario includes all major added capacity improvements included in the Vision 2020 Plan [3] for the existing parallel facilities, as well as any planned extensions. The improvements incorporated into the “no-build” condition include all of the planned Transportation Control Measures (TCM's), for example, the installation of a changeable lane assignment system (FM 1960), grade separated interchanges (FM 1960), the installation of arterial traffic management systems (FM 2920), and minor widening projects (SH 6). In Section VI, [Table 4](#) lists the major planned roadway improvements for the facilities parallel to the proposed Grand Parkway, as well as the resulting v/c ratio and LOM.

V. CONGESTION REDUCTION STRATEGIES

It is the stated policy of the CMS to apply cost-effective travel demand and transportation system management measures as the first component of all congestion reduction strategies. Added capacity roadway projects are justified only if cost-effective travel demand and transportation system management strategies fail to reduce vehicular congestion to acceptable levels. Where demand or system management projects are feasible and cost-effective, project sponsors, or relevant implementing agencies, and the MPO must commit to their implementation or incorporated into a proposed added-capacity project as a pre-condition to federal funding assistance. Project design, concept, and scope must also be consistent with any selected management strategies.

The proposed and committed Transportation Control Measures (TCM's) in the vicinity of this project that are anticipated to have an effect on the Levels of Mobility are:

- ◆ The installation of a changeable lane assignment system on FM 1960 at the intersections of Kuykendahl Road and Stuebner Airline Road.
- ◆ The installation of an arterial traffic management system along segments of FM 2920.
- ◆ Construction of grade separated interchanges on FM 1960 at the intersections of Jones Road and Kuykendahl Road.

A list of these and all other proposed projects within the study area are included in the Appendix.

Turn lanes and signal system modernization will be part of the future widening of FM 1960, Louetta Road, Spring Cypress Road, Barker Cypress Road, and Cypresswood Drive, which are already programmed. Bicycle and pedestrian paths in the

area are not included in HGAC's Vision 2020 plan; the suburban to rural nature of the corridor is to serve long distance trips, and bicycle and pedestrian paths are not beneficial. The corridor is outside the Metro service area, and bus service is not planned by any of the local agencies in the area.

VI. ANALYSIS AND RESULTS

Two scenarios were analyzed to determine the effects of TCM improvements on roadways parallel to the proposed Grand Parkway in the year 2025. The "no-build" 2025 scenario represents a condition in which all major roadway improvements are in place, excluding TCM measures on existing parallel facilities and the Grand Parkway. The "Build-TCM" 2025 scenario represents a condition in which all projects are in place, including planned TCM improvements, but excluding the proposed Grand Parkway.

An analysis was performed for the "no-build" scenario on all parallel roadways expected to be impacted by the proposed Grand Parkway, and the results are presented in [Table 4](#). The 2025 v/c ratio shown in the table represents a weighted average of all the corresponding links from the H-GAC transportation demand model. The LOM on these roadways for the "no-build" condition, without TCM's, was determined and is presented in the far right column.

TABLE 4
2025 “NO-BUILD” MAJOR ROADWAY IMPROVEMENTS AND ANALYSIS RESULTS

Segment	Roadway	From	To	Major planned roadway improvements included in the Vision 2020 Plan	Weighted 2025 v/c ratio from roadway improvements	2025 LOM from roadway improvements
E	Katy Hockley Rd	IH 10	Roberts Rd	None	1.77	Severe
	Barker Cypress Rd	IH 10	US 290	Widen to four lanes where needed	1.09	Serious
	SH 6	IH 10	US 290	None	1.22	Serious
F-1	FM 1960	US 290	SH 249	None	1.00	Serious
	Louetta Rd	Telge Rd	SH 249	Construct a four-lane divided highway from Telge to Grant	0.98	Moderate
	Spring Cypress Rd	Telge Rd	SH 249	Widen to four-lanes with left-turn lanes at intersections and/or center left-turn lane	0.87	Moderate
	Cypresswood Dr	US 290	SH 249	Construct a new four-lane roadway from US 290 to Eldridge	0.80	Tolerable
	FM 2920	US 290	SH 249	None	1.53	Severe
	Boudreaux Rd	Telge Rd	SH 249	None	0.38	Tolerable
F-2	FM 1960	SH 249	IH 45	None	1.10	Serious
	Louetta Rd	SH 249	IH 45	None	1.05	Serious
	Spring Cypress Rd	SH 249	IH 45	None	1.03	Serious
	Cypresswood Dr	SH 249	IH 45	None	1.15	Serious
	FM 2920	SH 249	Spring Cypress Rd	None	1.29	Severe
	Boudreaux Rd	SH 249	Kuykendahl Rd	Realignment of existing roadway	0.79	Tolerable
	Spring Stuebner Rd	Kuykendahl Rd	IH 45	None	1.55	Severe
G	FM 1960	IH 45	US 59	Widen to a six-lane divided highway where needed	0.89	Moderate
	Cypresswood Dr	IH 45	FM 1960	None	0.84	Tolerable

Source: Michael Baker Jr., Inc.; November 2002.

As shown in the table, a majority of the weighted v/c ratios for these facilities are over the acceptable “tolerable” LOM (0.84). Further analyses were conducted to conclude that of the 162 total roadway miles studied, 133 miles (82 percent) are expected to operate at a v/c ratio of 0.85 or above in the year 2025, even after the major planned roadway improvements are implemented.

For comparison, an analysis of the 2025 “Build- TCM” scenario was performed for the same roadways for which the “no-build” analysis was conducted. As mentioned previously, the “Build-TCM” scenario includes all of the TCM improvements mentioned in Section V. By using the TCM Analysis Tool, the congestion mitigation impact for the construction of a grade-separated interchange is 0.5 percent. The mitigation impacts for the installation of changeable lane assignment systems and traffic management systems is 1.45 percent, and 4.71 percent, respectively. [Table 5](#) presents all of the TCM projects anticipated to affect the v/c ratios of these roadways, as well as the resulting LOM.

TABLE 5**2025 “BUILD-TCM” TRANSPORTATION CONTROL MEASURE IMPROVEMENTS AND ANALYSIS RESULTS**

Segment	Roadway	From	To	TCM roadway improvements included in the Vision 2020 Plan	Weighted 2025 v/c ratio from TCM improvements	2025 LOM from TCM improvements
E	Katy Hockley Rd	IH 10	Roberts Rd	None	1.77	Severe
	Barker Cypress Rd	IH 10	US 290	None	1.09	Serious
	SH 6	IH 10	US 290	Const grade separated interchange w/access roads at FM 529; Const 4-lane bridge over IH 10	1.21	Serious
F-1	FM 1960	US 290	SH 249	Construct grade separated interchange @ Jones Road	1.00	Serious
	Louetta Rd	Telge Rd	SH 249	None	0.98	Moderate
	Spring Cypress Rd	Telge Rd	SH 249	None	0.87	Moderate
	Cypresswood Dr	US 290	SH 249	None	0.80	Tolerable
	FM 2920	US 290	SH 249	Install Arterial traffic management system	1.53	Severe
	Boudreaux Rd	Telge Rd	SH 249	None	0.38	Tolerable
F-2	FM 1960	SH 249	IH 45	Installation of changeable lane assignment system @ Kuykendahl and @ Stuebner Airline Road; Construct grade separated interchange @ Kuykendahl Rd	1.06	Serious
	Louetta Rd	SH 249	IH 45	None	1.05	Serious
	Spring Cypress Rd	SH 249	IH 45	None	1.03	Serious
	Cypresswood Dr	SH 249	IH 45	None	1.15	Serious
	FM 2920	SH 249	Spring Cypress Rd	Install Arterial traffic management system	1.23	Serious
	Boudreaux Rd	SH 249	Kuykendahl Rd	None	0.79	Tolerable
	Spring Stuebner Rd	Kuykendahl Rd	IH 45	None	1.55	Severe
G	FM 1960	IH 45	US 59	None	0.89	Moderate
	Cypresswood Dr	IH 45	FM 1960	None	0.84	Tolerable

Source: Michael Baker Jr., Inc.; November 2002.

As shown in the table, for the “build TCM” scenario, most calculated v/c ratios for these roadways are over the acceptable “tolerable” LOM (0.84). Furthermore, when examined more closely, it is anticipated that of the 162 miles of roadway studied, 132 miles (81%) would operate at a “moderate” LOM or worse. This means that while the v/c ratio might drop

slightly for certain segments of roadways when all TCMs are in place, only one mile of the 162 miles studied would experience an improved level of mobility.

Table 6 compares the v/c ratios and Levels of Mobility for all of the roadways studied for both conditions, the “no-build” and “build-TCM” 2025 scenarios. Results that changed from the implementation of the TCM projects are in bold.

TABLE 6
COMPARISON OF “NO-BUILD” AND “BUILD TCM” 2025 SCENARIOS

Segment Study Area	Roadway	From	To	Weighted 2025 v/c ratio from only roadway improvements	2025 LOM from only roadway improvements	Weighted 2025 v/c ratio from roadway and TCM improvements	2025 LOM from roadway and TCM improvements
E	Katy Hockley Rd	IH 10	Roberts Rd	1.77	Severe	1.77	Severe
	Barker Cypress Rd	IH 10	US 290	1.09	Serious	1.09	Serious
	SH 6	IH 10	US 290	1.22	Serious	1.21	Serious
F-1	FM 1960	US 290	SH 249	1.00	Serious	1.00	Serious
	Louetta Rd	Telge Rd	SH 249	0.98	Moderate	0.98	Moderate
	Spring Cypress Rd	Telge Rd	SH 249	0.87	Moderate	0.87	Moderate
	Cypresswood Dr	US 290	SH 249	0.80	Tolerable	0.80	Tolerable
	FM 2920	US 290	SH 249	1.53	Severe	1.53	Severe
	Boudreaux Rd	Telge Rd	SH 249	0.38	Tolerable	0.38	Tolerable
F-2	FM 1960	SH 249	IH 45	1.10	Serious	1.06	Serious
	Louetta Rd	SH 249	IH 45	1.05	Serious	1.05	Serious
	Spring Cypress Rd	SH 249	IH 45	1.03	Serious	1.03	Serious
	Cypresswood Dr	SH 249	IH 45	1.15	Serious	1.15	Serious
	FM 2920	SH 249	Spring Cypress Rd	1.29	Severe	1.23	Serious
	Boudreaux Rd	SH 249	Kuykendahl Rd	0.79	Tolerable	0.79	Tolerable
	Spring Stuebner Rd	Kuykendahl Rd	IH 45	1.55	Severe	1.55	Severe
G	FM 1960	IH 45	US 59	0.89	Moderate	0.89	Moderate
	Cypresswood Dr	IH 45	FM 1960	0.84	Tolerable	0.84	Tolerable

Source: Michael Baker Jr., Inc.; November 2002.

The comparison in Table 6 shows that the implementation of TCM projects will not have a significant impact on the LOM of the studied roadways. The LOM will remain at unacceptable levels for most parallel roadways that are expected to be affected by the proposed Grand Parkway. Therefore added capacity solutions (e.g. The Grand Parkway) in this study area are justifiable.

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REFERENCES

- [1] Congestion Management System, Houston-Galveston Area Council, October 1997, Revised May 1998
- [2] Highway Capacity Manual, Special Report 209, 3rd Edition, Transportation Research Board, Washington D.C., Updated 1994
- [3] Vision 2020, Metropolitan Transportation Plan, Houston-Galveston Area Council, Adopted October 1997

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APPENDIX

APPENDIX

**VISION 2020 PLAN PROJECTS FOR ROADWAYS PARALLEL TO THE PROPOSED SH 99/GRAND PARKWAY
(SEGMENT E, F-1, F-2, AND G)**

Lead Agency	DUM Num	Proj Num	CSJ Number	County ID	Street	FR_Loc	TO_Loc	Project Description
Harris County	141	1996-0374- - XX		5	Spring Cypress	SH 249	FM 2920	Widen to 4-Ln w/ Ditches, Left Turn Lanes at Intersections, Bridges & Signals (10 Construction Segments)
Harris County	6022	1999-0245- - XX		5	Spring Cypress Rd.	N Eldridge	SH 249	Widen to 4-Ln Undiv Asphalt W/Ditches Add w/Center Left Turn Lane
TXDOT	311	HR0105	168505056	5	SH 6	0.644 KM N of FM 529	0.483 KM S of FM 529	Const 6-Ln. GSEP w/ Access Rds. @ FM 529
TXDOT	312	HR0106- -02	168505047	5	SH 6	0.6 MI N OF IH 10	0.5 MI S OF IH 10	Const 4-Ln Br over IH 10 & Park Row Blvd W/Access Ramp
Harris County	347	HR3640		5	Louetta Rd.	Telge	Grant	Const. 4-Ln Div.
TXDOT	10165	2001-0399- -02	294102039	5	FM 2920	Dowdell	Stuebner Airline	Install Arterial Traffic Management System
TXDOT	10166	2001-0400- -02	294102040	5	FM 2920	Cherry St.	FM 2978	Install Arterial Traffic Management System
TXDOT	10167	2001-0401- -02	294102041	5	FM 2920	Kuykendahl	IH 45 N	Install Arterial Traffic Management System
TXDOT	204	1994-0336- -XX	168503058	5	FM 1960	0.1 MI E OF Humble	0.3 MI W OF SAN JAC BR	Widen to 6-In Div w/C&G, TMS
TXDOT	212	1994-0569-A-02	168502035	5	FM 1960	0.14 KM E OF Humble Westfield Rd.	0.20 KM E OF LEE RD	Widen to 6-Ln Div w/C&G, Shoulders & Open Ditches w/RCP
TXDOT	330	HR0434	168503903	5	FM 1960	FM 2100	Harris/Liberty C/L	Widen to 4-Ln Div RUR
TXDOT	441	1999-0197- -00	168501079	5	FM 1960	@ Kuykendahl Rd.	@ Stuebner Airline Rd.	ITS: Installation of changeable Ln. Assignment System
TXDOT	5083	1996-0751- -XX	168501900	5	FM 1960	0.40 KM W of Jones Rd.	0.40 KM E OF JONES RD	CONST GSEP
TXDOT	7002	1999-0278- -02	168501082	5	FM 1960	@ Kuykendahl		Const. GSEP
Harris County	318	HR0115		5	Cypresswood Dr.	Cypress Rosehill	Eldridge	Const New 4-Ln Roadway
Harris County	9117	1996-0397- -XX		5	Cypresswood Dr.	S of Grant Rd.	E of Eldridge Pkwy N	Const. New 4-Ln Concrete Blvd. Section
TXDOT	539	1999-0215- -00	091271934	5	Boudreaux Rd.	0.76 KM W OF SH 249	1.07 KM E OF SH 249 (In Sections)	Realignment of Existing Boudreaux Rd. to Match Prop SH 249 OP
Harris	2614	HR0032		5	Barker Cypress	US 290	Cypresswood Dr.	RECONST RDWY

APPENDIX

**VISION 2020 PLAN PROJECTS FOR ROADWAYS PARALLEL TO THE PROPOSED SH 99/GRAND PARKWAY
(SEGMENT E, F-1, F-2, AND G)**

Lead Agency	DUM Num	Proj Num	CSJ Number	County ID	Street	FR_Loc	TO_Loc	Project Description
County					Rd.			
HARRIS CO	6004	1999-0227- - XX		5	Barker Cypress Rd.	Keith Harrow	W. Little York	Reconst to 4-Lns w/ Median and Turn Lns.
Harris County	8029	2000-0399- - XX		5	Barker Cypress Rd.	South Dr.	S of South Dr.	Widen to 4-Ln Conc Blvd. W/ C&G SS C&G SS
Harris County	8031	2000-0397- - XX		5	Barker Cypress Rd.	FM 529	West Little York Rd.	Widen to 4-Ln Asphalt Blvd.
Harris County	9071	1996-0394- - XX		5	Barker Cypress Rd.	1.8 MI S South Rd.	STA 110+00 - Phase II (West Rd.)	Widen to 4-Ln Concrete Blvd - Phase II

Source: Vision 2020, Metropolitan Transportation Plan, Houston-Galveston Area Council, Adopted October 1997.

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