

APPENDIX M

November 14, 2000 HGAC Memo,
*Analysis of Difference in Year 2007 Forecasted VMT Between That Developed
for Original Attainment SIP and That Developed for Proposed Revised Attainment*

Houston/Galveston Attainment Demonstration and
Post-1999 Rate-of-Progress SIP

December 2000

MEMORANDUM

Date: November 14, 2000
To: Revised Attainment SIP Travel Modeling Project File
From: Andy Mullins
CC: Alan Clark
Re: Analysis of difference in Year 2007 forecasted VMT between that developed for original Attainment SIP and that developed for proposed revised Attainment

The travel demand forecasting for the year 2007 developed in support of an MTP conformity analysis is also being used by the TNRCC as input to Attainment SIP revisions currently underway. The year 2007 forecasted average non-summer weekday vehicle miles of travel (VMT) for the region is approximately 129 million VMT. This figure is 10 million less than the year 2007 forecasted average non-summer weekday VMT for the region provided to TNRCC in 1998 during the original Attainment SIP development work.

Staff has been comparing each of the analyses in an attempt to understand the reasons for this change in VMT. In summary, we have determined that the drop in forecasted 2007 regional weekday VMT of 10 million VMT (7.2%) is mainly due to two differences between the analysis. These are 1) change to forecasted year 2007 regional demographics, and 2) change to the structure of the model set used to forecast VMT.

Subsequent to the development of the year 2007 forecasted VMT for the original attainment SIP, H-GAC developed new regional forecasts. These forecasts were ultimately disaggregated to the traffic zone-level and served as input to the travel forecasts developed for the current MTP conformity analysis and proposed revised Attainment SIP. The attached tables show a comparison of the two forecasts for the region at the county level. In addition to showing the higher level of forecasted regional employment, the forecast indicates a more balanced ratio of jobs to households in some of the fast-growing suburban counties of the region as compared to the old forecast.

These forecasts, when input to the travel models result in average trip lengths, particularly of home-based non-work trips. Total person minutes of travel is roughly 2% lower based upon the new forecasted demographics, in spite of the higher level of forecasted employment. This change in demographics explains about two to three percent of the overall seven percent change in VMT.

Most of the remainder of the overall seven percent (10 million VMT) is attributable to a change in the structure of the regional travel model set. In late 1998, subsequent to the development of the year 2007 travel forecasts used as input to the original Attainment SIP, H-GAC modified the structure of the Houston-Galveston Regional Travel Models to include a formal modal choice model. Although the model was validated to match observed regional trips by mode, the model estimates of auto occupancy by trip length vary from those assumed in the process it replaced. This has the effect of reducing the vehicle minutes and, hence the vehicle miles of travel.

Other differences in the two analyses, such as different assumptions on the presumed regional transportation system, played a very minor role in the overall change in forecasted year 2007 VMT.

Comparison of "New" and "Old" Houston-Galveston Regional Household Forecasts

<i>County</i>	<i>Household Population Forecasts</i>		<i>Households Forecasts</i>	
	<i>New</i>	<i>Old</i>	<i>New</i>	<i>Old</i>
<i>Harris</i>	3,488,275	3,505,573	1,349,786	1,371,040
<i>Montgomery</i>	365,702	335,491	138,274	126,017
<i>Waller</i>	35,838	26,783	13,753	10,283

<i>Fort Bend</i>	423,092	421,332	145,036	146,653
<i>Brazoria</i>	235,817	274,169	87,160	102,216
<i>Galveston</i>	282,315	292,384	112,302	116,472
<i>Chambers</i>	26,901	28,844	9,819	10,559
<i>Liberty</i>	79,583	66,395	29,847	25,166
<i>Total</i>	<i>4,937,523</i>	<i>4,950,971</i>	<i>1,885,977</i>	<i>1,908,406</i>

Comparison of “New” and “Old” Houston-Galveston Regional Employment Forecasts

<i>County</i>	<i>Wage & Salary Employment Forecasts</i>	
	<i>New</i>	<i>Old</i>
<i>Harris</i>	2,124,053	2,025,123
<i>Montgomery</i>	123,101	94,441
<i>Waller</i>	11,720	12,606
<i>Fort Bend</i>	137,419	103,487
<i>Brazoria</i>	94,788	95,032
<i>Galveston</i>	100,152	116,752
<i>Chambers</i>	10,871	9,419
<i>Liberty</i>	20,042	23,630
<i>Total</i>	<i>2,622,146</i>	<i>2,480,490</i>