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16. Abstract <p>This project examined barrier-separated high-occupancy vehicle lane (HOV) travel time savings during incident conditions in Houston, Texas. Travel time studies, due to cost and manpower, are typically conducted infrequently and under non-incident conditions. Due to the high occurrence of incidents in large urban areas, travel time studies conducted under non-incident conditions underestimate the benefit of HOV lanes. During 2003, only an average of 17 percent of AM peak and 10 percent of PM peak periods were found to be incident free in the four HOV corridors studied: I-10 Katy, I-45 North, I-45 Gulf, and US-59 Southwest Freeways. Characteristics of the 9506 incidents reviewed from the incident database are detailed by corridor and direction, cross-section location, severity, number of vehicles, time of day, day of week, month of year, and weather conditions. A total of 341 incidents in these corridors were identified for further analysis and stratified into an incident matrix for each corridor with the extent of lane blockage versus duration of incident.</p> <p>Historical Automatic Vehicle Identification (AVI) data for these incident peak periods were analyzed using a Travel Time Generator software program developed in this project. This software used the AVI data to calculate segment and corridor mainlane and HOV lane travel times for 5-minute periods during the AM peak (6:00 – 9:00 AM) and PM peak periods (3:30 – 6:30 PM). Travel time savings during incident conditions were compared to non-incident conditions for the range of incidents in the matrix. The additional benefit of HOV lane travel time savings during incident conditions over non-incident travel time savings was estimated at 74 percent combining all corridors and peak periods. An important benefit of HOV lanes is shown in the travel time graphs detailing mainlane and HOV lane travel time comparisons for the range of incidents in the matrices. In comparison to average travel time savings over the entire 3-hour peak period, maximum travel time savings during incident conditions ranged up to 64 minutes in the AM peak and 49.5 minutes in the PM peak. An analysis of the entire year of 2003 AVI data (incident and non-incident conditions) estimated the benefit of HOV lanes in these four corridors during the combined AM and PM peak periods at approximately \$146,000 per day or approximately \$38 million per year. The Katy Freeway HOV lane showed the greatest incident and non-incident savings at nearly \$80,000 per day or \$20.5 million per year.</p>					
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**QUANTIFICATION OF INCIDENT AND NON-INCIDENT TRAVEL TIME
SAVINGS FOR BARRIER-SEPARATED HIGH-OCCUPANCY VEHICLE
(HOV) LANES IN HOUSTON, TEXAS**

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I. INTRODUCTION

The first high-occupancy vehicle (HOV) lane in Houston, Texas, was implemented in 1979 as a contraflow lane in the I-45 North Freeway corridor. Since then, the Houston HOV lane system has developed into approximately 94 centerline miles of one-lane, reversible, barrier-separated HOV lanes and approximately 11 miles of buffer-separated HOV lanes. Across the United States, there are presently more than 130 HOV lane facilities in operation in over 23 urban areas (1).

Reasons for implementing HOV lanes in specific corridors vary greatly. One commonly cited goal of HOV lanes, however, is to increase person movement in the corridor. By offering travel time savings and travel time reliability, HOV lanes offer an incentive for users to move from single occupant vehicles to higher occupancy vehicles. However, there are many demonstrated approaches and measures of effectiveness criteria for evaluating specific HOV lane facilities. Evaluations of HOV lane facilities are often conducted as initial before/after implementation studies or on a periodic basis to assess operations and occupancy requirements. Ongoing evaluation of HOV lane facilities is typically limited due to limited funding and manpower resources. The continuing evaluation of the Houston HOV lane system by the Texas Department of Transportation (TxDOT) and Metropolitan Transit Authority of Harris County (METRO) represents one of the most robust evaluation programs in the country.

Numerous objectives and performance measures have been recommended for evaluating the effectiveness of HOV lanes. One of the primary objectives is that an HOV lane should provide travel time savings and a more reliable, consistent trip time than the adjacent general purpose mainlanes. This savings is typically quantified on a limited basis by comparing peak period, peak direction travel times of the HOV lane with those of the adjacent mainlanes. While a number of methods exists for performing travel time studies, perhaps the most common is the manual travel time run, utilizing the average car technique or floating car technique. Because these studies are time and labor intensive, they are typically only carried out on a limited basis, such as when an HOV lane goes into operation or before/after operational changes are made to HOV lane eligibility criteria. Because limited data are collected and desired to be representative of “typical” conditions, data are typically collected during non-incident, non-event (i.e., bad weather) conditions.

OVERVIEW AND BACKGROUND

The development of this research project was largely based on experience in the Houston urban area, where the occurrence of days with peak period mainlane incidents is more commonplace than the occurrence of days with incident-free peak periods. During peak periods when traffic demand is high and congestion builds, incidents can have a significant effect on freeway operations. This condition potentially increases the benefit of HOV lanes on travel time savings. While most previous HOV travel time studies focus on quantifying the travel time savings of HOV lanes during non-incident conditions, this project focused on examining the relationship between HOV lane travel time savings and a range of freeway mainlane incident conditions.

The primary goal of this research project was to enhance the understanding of potential HOV lane travel time savings. Specifically, the methodology used should be able to more clearly quantify the increased travel time savings that HOV lanes provide during mainlane incident conditions. A major emphasis of this project is to determine the travel time savings provided by HOV lanes for a variety of mainlane incidents, segregated by both incident duration and extent (number) of lane and/or shoulder blockage. This project will also quantify non-incident travel time savings as a basis for comparison. Four Houston area freeway corridors with HOV lanes were evaluated in this research: I-10 Katy Freeway, I-45 North Freeway, I-45 Gulf Freeway, and US-59 Southwest Freeway.

The extensive database on incidents and travel times developed by Houston's transportation management center (TMC), Houston TranStar, provides a unique opportunity to conduct this project. Houston TranStar uses real-time information collected from intelligent transportation systems (ITS) such as traffic volumes, freeway speeds, and weather conditions, etc. to more efficiently operate and manage the roadway infrastructure. Two components of the Houston Transtar ITS program were key to the evaluations performed under this research project. These components are the Regional Incident Management System (RIMS) database and the Automatic Vehicle Identification (AVI) system. Real-time incident status information is entered into the RIMS database by freeway traffic management operators and is subsequently delivered to the traveling public in real time through various media. The AVI system is comprised of vehicle mounted transponders and antenna readers located along the freeway mainlanes and HOV lanes, which are connected to a computerized analysis and reporting system. This system calculates travel times and speeds along segments of freeways and HOV lanes in real time and also delivers this information to the traveling public in real time through various media. While both systems provide information in real time, both systems also continuously archive historical data in separate databases. Historical data from the year 2003 from the RIMS and AVI systems provided the data used for analysis in this research.

LITERATURE REVIEW

Shrank and Lomax, in the Urban Roadway Congestion Annual Report, state that an examination of travel trends in the 75 largest urban areas in the nation showed the following:

- Trip travel times have increased 180 percent since 1992 in areas with populations less than 500,000.
- Trip travel times have increased over 250 percent in areas with populations between 500,000 and three million.
- These increased travel times result in motorist delay rising from 750 million hours in 1982 to over 3.6 billion hours in 2000 (2).

The cost of traffic congestion in Texas alone is estimated to exceed \$6 billion per year, with five urban areas in Texas (Houston, Dallas, Austin, Laredo, and McAllen) being identified in the top 20 fastest growing cities in the nation (2).

Several TMCs are operational in Texas: Houston (TranStar), Dallas (DalTrans), Fort Worth (TransVision), San Antonio (TransGuide), and El Paso (TransVista). The backbone of

these centers is the information collected to operate and manage the roadway infrastructure more efficiently. Intelligent transportation systems are incorporated into the transportation management centers and provide real-time information such as traffic volumes, freeway speeds, and incident detection. These measures help in the management of congestion by providing the operators of the systems the information to make informed decisions on many freeway operation strategies (such as ramp metering and incident management). This information is also used by planners and operations personnel to make long-term decisions about how to operate the freeway system.

High-occupancy vehicle lanes have been implemented in numerous locations around the country and in two major urban areas in Texas (Houston and Dallas). Existing projects vary in terms of design, operating strategies, and utilization rates; however, research by Stockton et al. concluded that the main objectives that communities considering or having implemented HOV lanes seek to realize with this transportation alternative are:

- increasing the roadway person movement in the corridor,
- improving bus transit operations, and
- improving total roadway efficiency (3).

Stockton et al. also identified a number of constraints as needing to be met to increase the likelihood of the success of the facility. These constraints are:

- no negative impact on adjacent general purpose lanes,
- cost effective in comparison with other transportation alternatives,
- public acceptance maintained, and
- favorable or neutral impact on air quality and fuel consumption (3).

Houston and Dallas have implemented HOV lanes as a means of increasing person movement capacity of freeway corridors, improving bus operations, and reducing emissions and energy consumption. Additionally, HOV lanes have been or are being considered in other Texas urban areas.

In Houston, HOV lanes were first implemented beginning with a 9-mile contraflow lane in the I-45 North Freeway corridor. The contraflow lane borrowed a freeway lane in the off-peak direction for bus-only use. Since the 1980s, TxDOT in cooperation with METRO in Houston and TxDOT and the Dallas Area Rapid Transit (DART) agency in Dallas have implemented approximately 106 miles of barrier-separated HOV lanes and 37 lane miles of concurrent-flow lanes. The Houston HOV lane system covers six radial freeway corridors and is comprised of approximately 94 centerline miles of barrier-separated HOV lanes and 11 miles of concurrent-flow HOV lanes. In December 2003, the Houston HOV lane system was measured as serving 39,958 daily weekday vehicle trips and 127,895 daily weekday person trips (4). The Dallas HOV lane system covers four major freeway corridors and is comprised of 11.7 centerline miles of barrier-separated HOV lanes and 28.3 lane-miles of concurrent-flow HOV lanes. In December 2003, the Dallas HOV lane system was measured as serving 46,105 daily weekday vehicle trips and 101,151 daily weekday passenger trips (5).

The importance of travel time savings and trip reliability for users of an HOV lane system is seen through public opinion surveys of HOV lane users. TTI conducted public opinion surveys in 1986 and 1990 to ascertain what factors influenced carpoolers to use the I-10 Katy Freeway HOV lane and I-45 North Freeway HOV lane. The participants reported that the primary factors were 1) faster travel times; 2) to avoid driving in congested mainlanes; 3) having a reliable trip time; 4) having time to relax; and 5) saving money (2). A similar survey conducted by TTI in 1999 with 284 users of the Houston HOV lane system asked them to indicate which factors were important to their decision to commute using the Houston HOV lanes. Responses were summarized as follows (participants were allowed to check more than one selection) (6):

- Save time, shorter travel times – 70 percent,
- Convenience – 34 percent,
- Safety – 27 percent,
- Travel time reliability – 18 percent, and
- Save money – 11 percent.

NCHRP Report 414: HOV Systems Manual is a commonly cited resource for information on HOV lane design, operation, and evaluation. The report contains a chapter entitled “Monitoring and Evaluating HOV Lane Facilities.” One reason given for the importance of evaluating facilities is to quantify the benefits provided from the facility and determine if the goals and objectives of the facility are being met. The results of these evaluations can then be used at the planning level to calibrate simulation models. The results can also be used at the operations level decision process to make operational or design changes to the facility. For example, high violation rates may induce greater enforcement. High utilization and falling HOV lane speeds may require changes in occupancy requirements to restore the facility to free flow conditions. Evaluations may also be linked to funding requirements by various agencies or perhaps on a voluntary basis to help justify future HOV lane facilities. Table 1 presents suggested HOV lane objectives to be evaluated as well as recommended measures of effectiveness to be used in these evaluations (7).

This research project focuses on the third objective in Table 1: “The HOV facility should provide travel time savings and a more reliable trip time to HOVs utilizing the facility.” The measures of effectiveness recommended by the HOV Systems Manual are that the “1) Peak-period, peak direction travel time in the HOV lane(s) should be less than the adjacent general purpose freeway lanes; and 2) Increase in travel time reliability for vehicles using the HOV lane” (7). Travel time data are stated in the Manual to be the second most common type of information needed to evaluate HOV lane facilities. In addition to quantifying the travel time savings and reliability over the mainlane data, travel time data are beneficial for other evaluations including benefit cost studies, estimating fuel consumption, air quality impacts, and mainlane freeway operations. The HOV Systems Manual states that HOV facilities should provide 1 minute/mile in travel time savings over the mainlanes and a total trip travel time savings of at least 5 minutes with a desirable total trip travel time savings of 8 minutes (7).

Table 1. Suggested Objectives and Measures of Effectiveness.

Objective	Measures of Effectiveness
<ul style="list-style-type: none"> • The HOV facility should improve the capability of a congested freeway corridor to move more people by increasing the number of persons per vehicle. • The HOV facility should increase the operating efficiency of bus service in the freeway corridor. • The HOV facility should provide travel time savings and a more reliable trip time to HOVs utilizing the facility. • The HOV facility should have favorable impacts on air quality and energy consumption. • The HOV facility should increase the per-lane efficiency of the total freeway corridor. • The HOV facility should not unduly impact the operation of the freeway general purpose lanes. • The HOV facility should be safe and should not unduly impact the safety of the freeway general purpose lanes. • The HOV facility should have public support. • The HOV facility should be a cost-effective transportation improvement. 	<ul style="list-style-type: none"> • Actual and percent increase in the person-movement efficiency. • Actual and percent increase in average vehicle occupancy rate. • Actual and percent increase in carpools and vanpools. • Actual and percent increase in bus riders. • Improvement in vehicle productivity (operating cost per vehicle kilometer, operating cost per passenger, operating cost per passenger-kilometer). • Improved bus schedule adherence (on-time performance). • Improved bus safety (accident rates). • Peak-period, peak-direction travel time in the HOV lane(s) should be less than the adjacent general purpose freeway lanes. • Increase in travel time reliability for vehicles using the HOV lane(s). • Reduction in emissions. • Reduction in total fuel consumption. • Reduction in the growth of vehicle-kilometers of travel (VKT) and vehicle-hours of travel (VHT). • Improvement in the peak-hour per-lane efficiency of the total facility. • The level of service in the freeway general purpose lanes should not decline. • Number and severity of accidents for HOV and general purpose lanes. • Accident rate per 100 million vehicle-kilometers of travel. • Accident rate per million passenger-kilometers of travel. • Support for the facility among users, non-users, general public, and policymakers. • Violation rates (percent of vehicles not meeting the occupancy requirement). • Benefit-cost ratio.

Source: NCHRP Report 414: HOV Systems Manual (7).

Travel time (by definition) is the measure of the time taken for vehicles to traverse a specified distance. This distance is often over a specific roadway segment or in the case of HOV lanes, typically the limits of the facility. Travel time data have traditionally been collected by one of the following techniques including (8):

- Direct Observation Method – observers with a good vantage point measure the time taken by passing vehicles to traverse between two locations a known distance apart. This technique is limited to short sections (less than ½ mile) and requires good visibility.
- License Plate Method – observers use video cameras and stopwatches at the beginning and ending of the test section. License plates and times in and out of the section are reduced at the office. While not requiring a test vehicle, data reduction is time consuming.
- Average Vehicle Method – observers in test vehicles travel in the traffic stream logging time and location data. Manual methods of recording the data may include physically writing the data on the data collection sheet. Alternatively, a distance measuring instrument (DMI) with a vehicle sensor and connection to a laptop can automatically log the data in a text file. The DMI typically records time, speed, and distance twice a second. The test vehicle is typically driven using one of the three following techniques:
 - Average car technique – driver maneuvers the test vehicle at his/her estimation of the average speed of the traffic stream.
 - Floating car technique – driver maneuvers the test vehicle, attempting to pass as many vehicles as pass the test vehicle.
 - Maximum car technique – driver maneuvers the test vehicle at the posted speed limit unless impeded by traffic or safety conditions.

Travel time studies were conducted between 1992 and 1997 as part of an annual TxDOT research project entitled “An Evaluation of HOV Lanes in Texas.” Travel times were compared between HOV lanes and mainlanes in multiple Houston and Dallas freeway corridors. In the Houston evaluation, test vehicles traveled through the test section on 30-minute headways during the AM and PM peak periods (6:00 to 9:30 AM and 3:30 to 7:00 PM, respectively) in the peak direction of travel. This typically required approximately two to four test vehicles depending on the length of the run and prevailing traffic speeds. This resulted in a sample size of typically eight travel time runs for each AM and PM peak period for each corridor. Travel time savings in 1997 in Houston for the AM peak hour ranged from 2 minutes to 18 minutes with corresponding person-minutes saved of 8750 and 42,760 minutes, respectively. Similarly, travel time savings for the PM peak hour ranged from 2 minutes to 18 minutes with corresponding person minutes saved of 6420 and 42,410 minutes, respectively (3). These travel time comparisons were made using the floating car method in conjunction with a laptop computer to record the data.

A newer technique for collecting travel time data is the use of AVI equipment. AVI data are collected electronically as vehicle-mounted transponders pass under AVI antennas. The data are sent to a computer server where the travel time data for individual probe vehicles are processed and aggregated to yield space mean speeds based on the average travel times of

vehicles in a segment. The AVI system provides a wealth of historical and real-time data. It may also eliminate or reduce the need to manually collect data (depending on AVI coverage area and desired test area), greatly reducing data collection time and costs. Another benefit is the sample size of AVI readings aggregated in the travel time and space mean speed data. Numerous vehicles typically make up each sample versus a single or small number of test vehicles in the case of the average car method. One limitation of an AVI system is the high initial capital costs and continuing maintenance costs which make its current deployment limited to certain major urban areas such as Houston. AVI data, however, offer more robust data and the flexibility to analyze travel time performance in a variety of ways without the burdening costs and time required to collect manual data. The quantity of AVI data available is mainly due to excellent tag penetration because of Houston-area toll facilities.

The manual Houston travel time studies conducted for TxDOT between 1992 and 1997 were conservative in the delay savings estimation that HOV lanes provide, as they were conducted during time periods when general purpose lanes were incident free and weather conditions were favorable, i.e., no major rain events. Because of the high frequency of incidents on the Houston freeway mainlanes, these travel time studies may underestimate the true benefit of the HOV lane because they did not incorporate the higher delay savings theoretically provided by the HOV lanes during mainlane incidents. While mainlane incidents may cause minor delays during off-peak travel times, the impact of incidents on the mainlanes during peak period traffic can be significant in terms of motorist travel time delay.

In 1994, Turner et al. analyzed Houston AVI data to evaluate the effectiveness of HOV lanes to provide travel time savings and travel time reliability in three major freeway corridors. The results of this analysis showed that, over an eight-month period, the HOV lanes provided travel time savings of up to 17 minutes per trip. Turner's reliability evaluation also showed that the HOV lanes provided more reliable trip times than the mainlanes. Day to day standard deviations in speeds in the general purpose lanes ranged from 4.0 to 11.9 mph in comparison with the standard deviations in speeds in the HOV lane ranging from 0.4 to 4.1 mph (9).

STUDY GOALS AND METHODOLOGY

This project examines the following issues:

- What are the travel time savings of HOV lanes in Houston during non-incident conditions?
- What are the travel time savings of HOV lanes in Houston during various mainlane incident conditions?
- How can quantification of HOV lane travel time savings be improved by taking into account the additional savings provided during mainlane incident conditions?

The methodology of the project is summarized as follows:

- Identify Houston freeway incidents documented in 2003 using the RIMS database.

- Characterize these incidents by corridor, direction of travel, type, severity, location, number of vehicles, weather conditions, time of day, day of week, month of year, and method detected.
- Develop an incident matrix using parameters affecting delay savings such as duration of incident, extent of roadway blockage, location of incident, time of day, time of year, corridor characteristics, etc.
- Identify candidate incidents from all 2003 incidents in the database for analysis using filtering criteria.
- Classify candidate incidents into the incident matrix for each corridor.
- Utilize historical AVI data to make mainlane/HOV lane travel time comparisons during matrix incidents to determine average delay savings and maximum delay savings for each cell in the matrix.
- Estimate annual average HOV lane travel time savings taking into consideration non-incident conditions and mainlane incident conditions.

II. HOUSTON FREEWAY CORRIDOR CHARACTERISTICS

The Houston HOV lane system covers six major freeway corridors and is comprised of approximately 94 miles of one-lane reversible barrier-separated HOV lanes and 11 miles of concurrent-flow lanes. These corridors include the I-10 Katy Freeway, I-45 North Freeway, I-45 Gulf Freeway, US-59 Southwest Freeway, US-59 Eastex Freeway, and US-290 Northwest Freeway. [Figure 1](#) illustrates the present status of HOV lane development in Houston.

FREEWAY CHARACTERISTICS

This project included examination of four of the six HOV lane corridors. These facilities include the Katy, North, Gulf, and Southwest Freeway corridors. Each of these corridors has a unique history and different physical characteristics. Design standards have evolved over time and resulted in a freeway system with distinct operating characteristics for each component. Changes in growth patterns within the Houston area have caused planners to shift their focus to various areas over time. The HOV lane system has developed over the years as well, and a variety of ramp treatments are used to enter and exit the HOV lanes. The HOV lane in each corridor is a single reversible lane located in the median of the freeway that operates inbound in the morning and outbound in the afternoon. The HOV lane is separated from the mainlanes by concrete barriers. [Figure 2](#) shows the typical freeway/HOV lane cross section in Houston. The lane is approximately 20 feet in width allowing for vehicles to pass a stalled vehicle (including buses) pulled over to the side. In some cases, retrofitting the freeways to include HOV lanes has also contributed to geometric configurations that, under today's standards, may not be considered ideal. The following sections briefly describe the limits of the corridors, population trends, geometric characteristics, and HOV lane history for each freeway in this project.

The Katy Freeway

The Katy Freeway is the portion of I-10 extending from downtown Houston to northern Fort Bend and southern Waller County. This facility provides access to the city of Katy, Memorial Park, and Houston's downtown central business district (CBD). This freeway corridor is sometimes referred to as the "energy corridor" [\(10\)](#). As part of Fort Bend's growth during the period 1990 to 2002, the City of Katy experienced a 48 percent growth. Waller County's 46 percent growth also contributed to increased traffic congestion on the Katy Freeway [\(11\)](#).

The six-lane section from I-610 West Loop to Katy opened in the mid 1960s. In December 1968, the 10-lane section of Katy Freeway from downtown to the West Loop 610 opened. Forty years later, the six-lane section still exists, along with four frontage road lanes, but it is currently undergoing the largest freeway expansion project in Houston's history, with over 1000 businesses and residences being affected in order to purchase needed right of way. Construction of the single, barrier-separated HOV lane eliminated the left shoulders while the 12-foot mainlanes have 11-foot asphalt right shoulders [\(12\)](#). Ramp spacing is approximately 1.7 ramps per mile, or 0.9 interchanges per mile. The Katy Freeway carries approximately 232,000 vehicles per day or 38,650 vehicles per day per lane. Traffic on this facility consists of about 7 percent trucks [\(13\)](#).

Status of HOV Lane Development

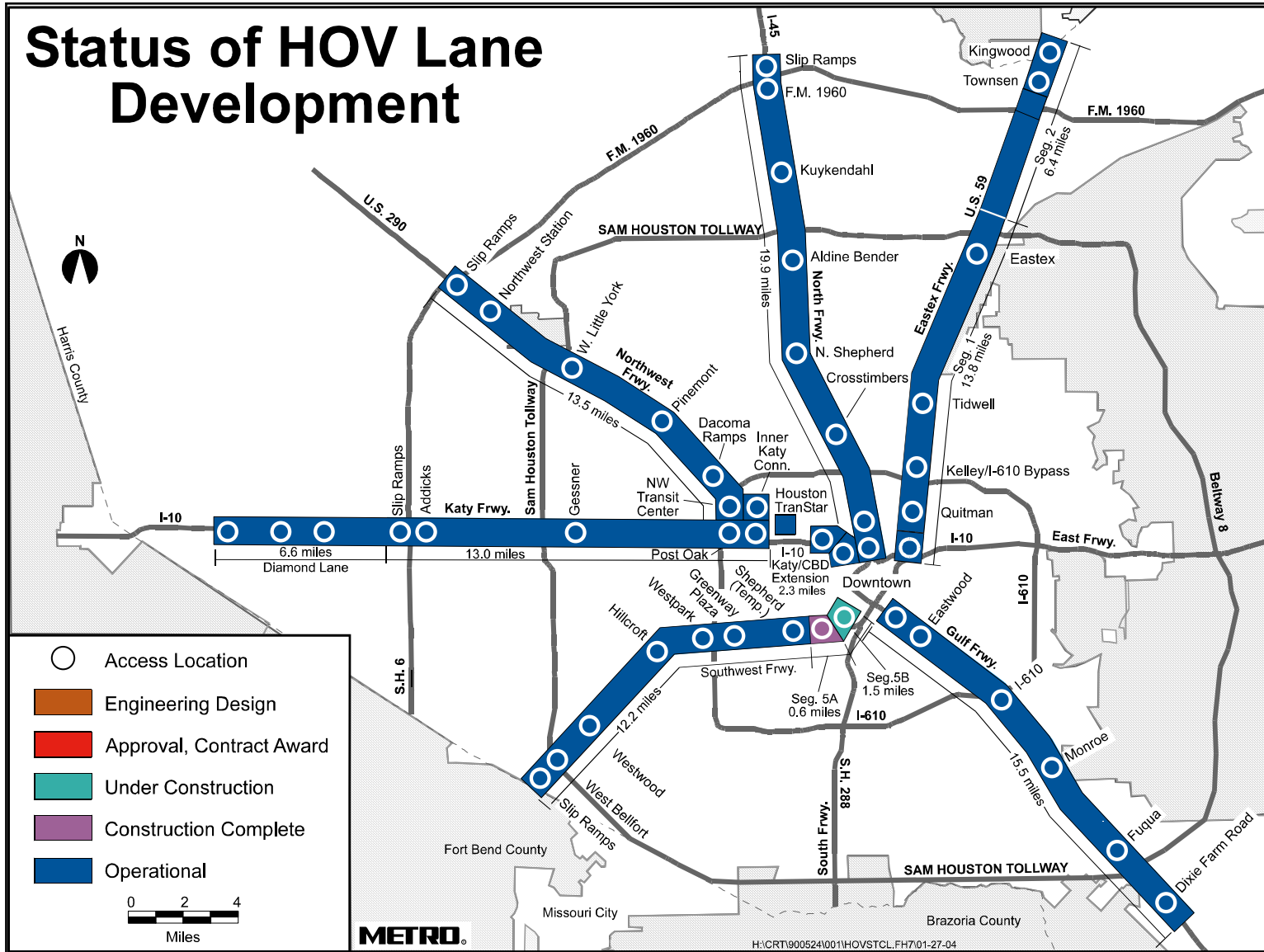


Figure 1. Status of HOV Lane Development.





Figure 2. Houston Barrier-Separated HOV Lane Cross Section.

Katy Freeway HOV lane operation began in October 1984, with limits at Post Oak Road and Gessner Road. Only buses and vanpools were permitted until April of 1985 when carpools with 4+ commuters were authorized to use the facility. Over the next 19 years, various changes were made to occupancy requirements and hours of operation. In May of 1985, the HOV lane was extended to Beltway 8. In 1987, it was extended again to State Highway 6. The eastern extension, from Post Oak Road to about 1 mile east of I-610, opened in January 1990, extending the length of the HOV lane to approximately 12.6 miles (10). The Katy HOV lane in December 2003 was measured as serving approximately 9500 vehicles per day and approximately 29,600 daily person-trips (4). The original plans for the current expansion called for the Katy Freeway corridor to be widened to include eight mainlanes, two diamond lanes, two barrier-separated HOV lanes, and six frontage road lanes, for a total of 18 lanes. However, the 18-lane scenario was modified by removing the two barrier-separated HOV lanes and replacing them with four tollway managed lanes, bringing the lane total to 20 (14). This construction will be complete in 2009.

The North Freeway

The North Freeway is the portion of I-45 extending north from downtown Houston to Montgomery County. This facility provides access to Bush Intercontinental Airport, The Woodlands, and Conroe. Montgomery County is the nation's 30th fastest growing county, and it experienced 80 percent growth during the period 1990 to 2002, with Conroe contributing 27 percent growth. The Woodlands experienced 109 percent growth during the period from 1990 to 2000 (11, 15).

The section of I-45 from downtown to North Loop 610 opened in 1962, followed quickly by the northern section from North Loop 610 to Montgomery County. More improvements during the 1980s and 1990s resulted in a cross section that includes 10 lanes north of the Sam

Houston Tollway and six lanes south of the Tollway (10). It also has four frontage road lanes, and one barrier-separated reversible HOV lane located within the 20-foot mainlane median. The mainlanes are 12 feet in width and have 8- to 12-foot right concrete shoulders (12). Ramp spacing is approximately 1.7 ramps per mile, or 1.0 interchanges per mile. The mainlanes carry about 271,000 vehicles per day or 33,875 vehicles per day per lane, of which approximately 8 percent are trucks (13).

The North Freeway was the first Houston freeway to integrate an HOV lane facility. In 1979, buses and vanpools began operating in a contraflow lane that extended from downtown Houston to N. Shepherd. One lane in the off-peak direction was marked off with pylons, and buses and HOV vehicles were allowed to drive in the peak flow direction on the “wrong” side of the freeway. In 1981, concurrent-flow lanes were added to extend the facility to West Road. In 1984, the existing HOV facility was converted to a barrier-separated facility from downtown to N. Shepherd. In 1990, the HOV lane was extended to Aldine Bender and carpools were permitted on the facility. Two subsequent extensions brought the HOV lane terminus to FM 1960 in 1998, extending the length of the HOV lane to approximately 19 miles in length (4). In December 2003, the North Freeway HOV lane was measured as serving approximately 7950 vehicles per day and over 28,500 daily person-trips (4).

The Gulf Freeway

The Gulf Freeway is the portion of I-45 extending south from downtown Houston to Galveston Island. It provides access to many destinations including Galveston beaches, Space Center Houston, William P. Hobby Airport, and Galveston County (10). Although the population of Galveston County increased only 15.1 percent from 1990 to 2000, several communities experienced significant growth. Kemah, Tiki Island, Dickinson, Jamaica Beach, and League City contributed approximately 113, 89, 80, 72, and 51 percent, respectively, during that same period (16).

The Gulf Freeway was Houston’s first freeway with the first section opened to traffic in September 1948. By 1952, the Gulf Freeway was a freeway or divided highway all the way to Galveston Island. For the next 16 years there were no major improvements to the Gulf Freeway. With the completion of various improvement projects that began in 1968, the Gulf Freeway finally became a limited access facility to Galveston Island around 1980. Construction continued during the 30-year period from 1968 to 1998, when the facility attained its existing geometry (10). The Gulf Freeway has six mainlanes and six frontage road lanes along the entire length of the study area. Median width varies from 20 to 28 feet, but also contains the barrier-separated HOV lane. The mainlanes have 12-foot lanes with 8- to 10-foot right asphalt shoulders (12). Ramp spacing is approximately 2.5 ramps per mile or 1.2 interchanges per mile. The mainlanes carry about 207,000 vehicles per day or 34,500 vehicles per day per lane. Traffic on this facility consists of approximately 5 percent trucks (13).

In May of 1988, the Gulf Freeway barrier-separated HOV lane began operation from downtown Houston to Broadway Boulevard for buses, vanpools, and 2+ carpools. Extensions in 1994 and 1997 brought the HOV lane to its current terminus at FM 1959, extending the HOV

lane to approximately 15 miles in length (10). As of December 2003, the Gulf Freeway HOV lane serves over 5850 vehicles per day and over 18,000 daily person-trips (4).

The Southwest Freeway

The Southwest Freeway is the portion of US-59 south of downtown to Fort Bend County. This facility provides access to the City of Sugar Land, City of Missouri City, City of Stafford, City of Bellaire, the Galleria/Uptown business district, Rice University, Houston's Museum District, Minute Maid Park, the George R. Brown Convention Center, and other downtown Houston CBD destinations.

Demographics indicate that communities along the Southwest Freeway are among the fastest growing in the nation. Fort Bend County is the nation's 15th fastest growing county in the United States. During the period from 1990 to 2002, the population grew approximately 77 percent. Individual cities such as Sugar Land, Missouri City, and Stafford experienced growth of approximately 43, 46, and 94 percent, respectively (11).

The Southwest Freeway was designed during the era of the 55 mph national speed limit, so it typically has lower design speeds than other Houston freeways. For most of its length, west of the Sam Houston Tollway, the facility has eight mainlanes, six frontage road lanes, and one barrier-separated reversible HOV lane located within the 20-foot median. The mainlanes are 12 feet in width and have 8-foot concrete shoulders (12). Ramp spacing is approximately 2.0 ramps per mile, or 0.7 interchanges per mile (17). The mainlanes carry about 298,000 vehicles per day or 37,250 vehicles per day per lane. Traffic on this facility consists of approximately 5 percent trucks (13).

The Southwest Freeway HOV lane began operation from Shepherd to West Bellfort in January 1993. In November 1996, the HOV lane was extended to the permanent slip ramps located near the Harris/Fort Bend County line, approximately 1 mile south of Beltway 8, bringing the facility to a length of approximately 12 miles. In 2003, approximately 9 miles of buffer-separated HOV lanes were added to the southern portion of the barrier-separated HOV lane extending the facility from the county line to SH 6. As of December 2003, the Southwest Freeway HOV lane serves approximately 7400 vehicles per day and over 23,000 person-trips (4).

SUMMARY

The freeway and traffic characteristics described in this section are summarized in Table 2. The average annual daily traffic (ADT) for the mainlanes was estimated from averaging the weekday ADTs along the length of the study area. Although the holidays were excluded, there were still days that had atypical traffic, such as the days between Christmas and New Year's Day.

Table 2. Summary of Freeway and HOV Lane Traffic Characteristics, 2003.

Characteristics	Freeway			
	Gulf	Katy	North	Southwest
<i>Mainlanes</i>				
ADT*	207,000	232,000	271,000	298,000
Number of Lanes	6	6	8	8
ADT per Lane	34,500	38,650	33,875	37,250
Location of Data	Airport	Blalock	Tidwell	Hillcroft
Lane Width	12'	12'	12'	12'
Left Shoulder	Varies 0-12'	Varies 0-2'	Varies 0-2'	Varies 8-12'
Right Shoulder	Varies 8'-10'	Varies 8'-11'	Varies 8'-12'	8'
Ramp Spacing	2.5/mile	1.7/mile	1.7/mile	2.0/mile
Interchange Spacing	1.2/mile	0.9/mile	1.0/mile	0.7/mile
Posted Speed	60/65 MPH	60 MPH	60/65 MPH	60 MPH
Percent Trucks**	5%	7%	8%	5%
Peak Hour Factor	0.97 AM 0.98 PM	0.99 AM 0.96 PM	0.91 AM 0.98 PM	0.96 AM 0.98 PM
<i>HOV Lane</i>				
ADT***	5,874	9,474	7,949	7,407
Hours of Operation	5-11 AM 2-8 PM	5-11 AM 2-8 PM	5-11 AM 2-8 PM	5-11 AM 2-8 PM
Occupancy Requirements	2+	3+ 6:45-8:00 AM 5:00-6:00 PM 2+ other times	2+	2+
AM Peak Period	6:00-9:30 AM	6:00-9:30 AM	6:00-9:30 AM	6:00-9:30 AM
PM Peak Period	3:30-7:00 PM	3:30-7:00 PM	3:30-7:00 PM	3:30-7:00 PM
Length	15.0 mi	12.6 mi	19.3 mi	12.0 mi
Lane Width	12'	12'	12'	12'
Left Shoulder	4'	4'	4'	4'
Right Shoulder	4'	4'	4'	4'
Average Access Spacing	2.5 miles	2.5 miles	2.1 miles	1.7 miles
Speed Limit	60 mph	65 mph	65 mph	65 mph
Percent Buses***	2.5	2.4	3.7	3.3
<i>Traffic</i>				
Driver Population Factor	1.0	1.0	1.0	1.0
Terrain	Level	Level	Level	Level

*Mainlane ADT data derived from TxDOT's 2002 Houston District Highway Traffic Data (18).

**Classification data based on TTI 24 hour classification report (19).

***HOV lane data from December 2003 Houston HOV Lane Quarterly Report (4).

III. CHARACTERISTICS OF HOUSTON FREEWAY INCIDENTS – 2003

The Houston freeway system largely consists of radial freeways and concentric loops. Major radial freeways include the I-10 Katy Freeway, I-10 East Freeway, I-45 North Freeway, I-45 Gulf Freeway, US-59 Southwest Freeway, US-59 Eastex Freeway, US-290 Northwest Freeway, and SH-288 South Freeway. Loop freeways include the inner I-610 Loop, Beltway 8 (Sam Houston Tollway), and a partially constructed outer loop SH-99 (Grand Parkway). SH-6/FM-1960 is a partial loop serving North and West Houston. The status of the Houston HOV lane system is highlighted in [Figure 1](#) with the HOV lanes shown as bold lines and the circles within representing HOV lane access points. The HOV lane system consists of a one-lane barrier-separated reversible HOV lane located in the center of the freeway cross section in the I-10 Katy Freeway, I-45 North Freeway, I-45 Gulf Freeway, US-59 Southwest Freeway, US-59 Eastex Freeway, and US-290 Northwest Freeway corridors. References to freeway corridors throughout the remainder of the report will primarily be done using the freeway names, i.e., Katy Freeway to reference the I-10 Katy Freeway.

Freeway incident management in Houston is one of the functions of Houston TranStar, the regional traffic management center. The center is a partnership between four Houston-area agencies: TxDOT, METRO, City of Houston, and Harris County. Part of the incident management program at Houston TranStar is the logging of incidents in the Regional Incident Management System database. Operators use this system to document the various phases of an incident, in most cases making multiple entries per incident, e.g., when an incident is detected; when there is a change in the status of the incident, such as moving the incident from the mainlanes to a shoulder; and when the incident is cleared.

Researchers conducted an analysis of incidents logged in the RIMS database for the Houston-area freeway system during 2003. The database contained a total of 31,687 entries. These entries correspond to 9506 individual incidents. This chapter of the report examines various characteristics of these incidents.

RIMS USAGE

Numerous agencies have access to the RIMS database including TxDOT, METRO, the City of Houston, Texas Department of Public Safety (DPS), Harris County, and the Red Cross; however, a review of the 2003 database entries showed that TxDOT operators entered 92.5 percent of the traffic incidents, and the METRO Police Department entered the remaining 7.5 percent of incidents. TxDOT operators try to log incident data within 2 minutes of detection. Verification times vary, but the average time is reported to be less than 5 minutes. There are three overlapping shifts for TxDOT RIMS database operators who monitor the closed circuit television (CCTV) cameras 24 hours a day, year round. There are usually two to three people per shift; but the evening and weekend shifts have reduced staff levels of one or two persons. All incidents may not be accounted for in the database during reduced staff shifts due to other operator responsibilities. A delay in logging incident data may also occur with lower staffing levels.

The 11 ways incidents are reported to be detected and the number and percentage of incidents each system accounts for is presented in [Table 3](#). The bulk of incidents, 83 percent, are detected through the use of CCTV cameras that are usually set in “tour” mode and continuously rotate from camera to camera every few seconds. METRO detects the second largest group of incidents at 5 percent, usually call-ins from bus drivers to the dispatch operators on the TranStar floor. Commercial traffic services also located on the TranStar floor identify approximately 4 percent of incidents, and citizens using the “call-map” cellular hotline to report incidents account for approximately 3 percent of incidents reported.

Table 3. Incidents by Method of Detection.

System or Agency	Number Detected	Percentage of Total (%)
Aerial Surveillance	1	< 1%
Automated Detection	30	< 1%
CCTV	7,871	83
Citizen	258	3
Commercial Traffic Services	365	4
Fleet Operators	1	< 1%
MAP	92	1
METRO	522	5
Police	300	3
Other Public Agencies	44	< 1%
Other	22	< 1%
Total	9,506	100

INCIDENTS BY CORRIDOR AND DIRECTION

The distribution of incidents by freeway corridor and direction of travel is shown in [Table 4](#). The table is divided into roadways with HOV lanes (upper portion of the table) and roadways without HOV lanes (lower portion of the table). The percentage column indicates the percentage of incidents out of the total 9506 incidents that occurred on each roadway. This information is presented graphically in [Figure 3](#) for roadways with HOV lanes and [Figure 4](#) for roadways without HOV lanes.

Of the corridors without HOV lanes shown in [Figure 4](#), the I-610 West Loop experiences an unusually high number of incidents. This section of roadway is very close to the Galleria area and is known for its high traffic volumes and congestion, which has only been exacerbated by major freeway reconstruction during 2003. Beltway 8 experienced a lower number of incidents than might have been expected. This may be due in part to the fact that Houston TranStar’s CCTV surveillance system does not include most of this facility. Future plans call for TxDOT to install 80+ cameras and 13 dynamic message signs on the Beltway. There is also no present camera coverage on SH-249, US-90, and US-90A.

The focus of this research was on corridors with HOV lanes. These corridors account for approximately 69 percent of all incidents logged in the RIMS database in 2003, corresponding to 6547 of the 9506 incidents logged in the system. On HOV corridors, the Katy and North Freeway corridors accounted for approximately 16 percent of incidents each, the Gulf Freeway

Table 4. Number of Incidents Recorded by Roadway Direction.

Roadways with and without HOV Lanes	Direction of Roadway				Total Incidents	% of Total Number
	Eastbound	Northbound	Southbound	Westbound		
I-10 Katy	723			559	1,282	13.5
I-10 Katy HOV	118			99	217	2.3
I-45 Gulf		748	500		1,248	13.1
I-45 Gulf HOV		64	24		88	0.9
I-45 North		692	597		1,289	13.6
I-45 North HOV		144	58		202	2.1
US-290 Northwest	313			194	507	5.3
US-290 Northwest HOV	71			53	124	1.3
US-59 Eastex		162	139		301	3.2
US-59 Eastex HOV		22	16		38	0.4
US-59 Southwest		717	387		1,104	11.6
US-59 Southwest HOV		92	55		147	1.5
Totals with HOV Lanes	1,225	2,641	1,776	905	6,547	68.8
Beltway 8 East*		5	1		6	0.1
Beltway 8 North*	50			42	92	1.0
Beltway 8 South*	8			6	14	0.1
Beltway 8 West*		11	7		18	0.2
Hardy Toll Road*		4	2		6	0.1
I-10 East*	248			225	473	5.0
I-610 East Loop*		118	96		214	2.3
I-610 North Loop*	199			198	397	4.2
I-610 South Loop*	232			156	388	4.1
I-610 West Loop*		486	439		925	9.7
SH-146*		10	4		14	0.1
SH-225*	63			84	147	1.5
SH-249*		1			1	0.0
SH-288*		166	90		256	2.7
US-90*	2				2	0.0
US-90A*	5			1	6	0.1
Totals without HOV Lanes	807	801	639	712	2,959	31.2
Totals with and without HOV Lanes	2,032	3,442	2,415	1,617	9,506	100.0

*Roadways without HOV Lanes

corridor 14 percent, Southwest Freeway corridor 13 percent, Northwest Freeway corridor almost 7 percent, and Eastex Freeway corridor about 4 percent. The low number of incidents in the Eastex Freeway is partially due to less coverage of the CCTV surveillance system, fewer lane miles of roadway, and excess mainlane capacity due to recent reconstruction of the freeway. CCTV surveillance is currently being installed from downtown to I-610 North Loop which will expand coverage in the corridor from the present coverage of I-610 North Loop to FM 1960. Table 5 presents incidents as a function of annual ADT and lane miles of roadway for the six HOV corridors (12). ADT volumes shown in Table 5 were taken from the 2002 District Highway Traffic Map for the Houston District (18). This table shows that the Southwest Freeway corridor experiences the highest number of incidents per 100 million vehicle miles traveled.

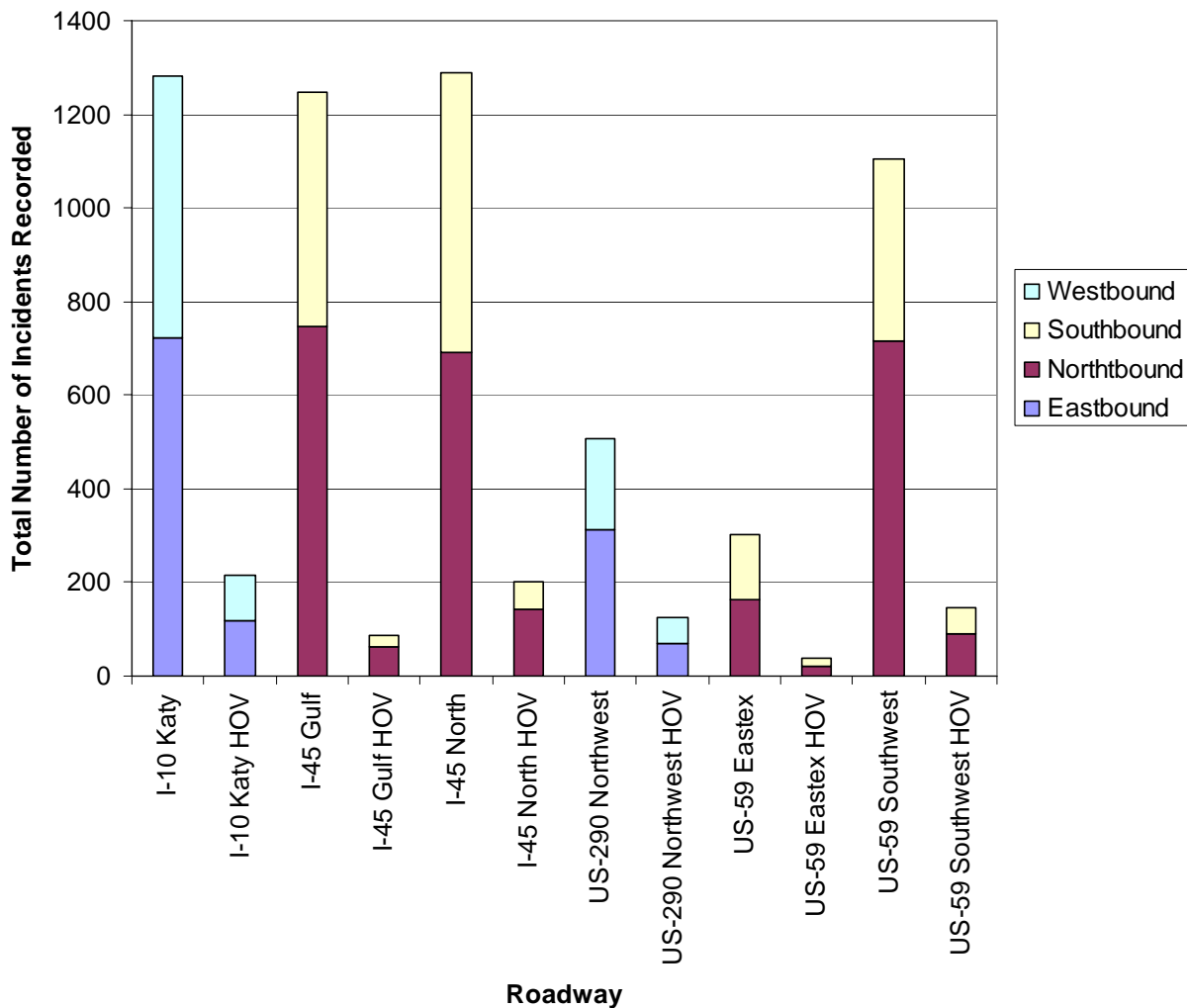


Figure 3. Number of Incidents Recorded on Roadways with HOV Facilities.

INCIDENTS BY LOCATION

The locations of incidents in the RIMS database are classified as occurring on the mainlanes, shoulder, ramp, frontage road, HOV lane, a combination of these locations, or no lanes at all. [Table 6](#) presents the distribution of incidents by location for the 9506 incidents in the database.

Nearly two-thirds of all incidents were located on the mainlanes and/or shoulders. This research excluded incidents not located on the mainlanes or shoulders. The next most common incident location (at 10 percent) was HOV lanes. The majority of the HOV lane incidents involve stalled/disabled vehicles. The one-lane reversible HOV lane is wide enough to allow traffic to pass a stalled vehicle pulled over to the side of the HOV lane. The most common type of multiple vehicle incidents on the HOV lanes includes rear-end collisions and sideswipe

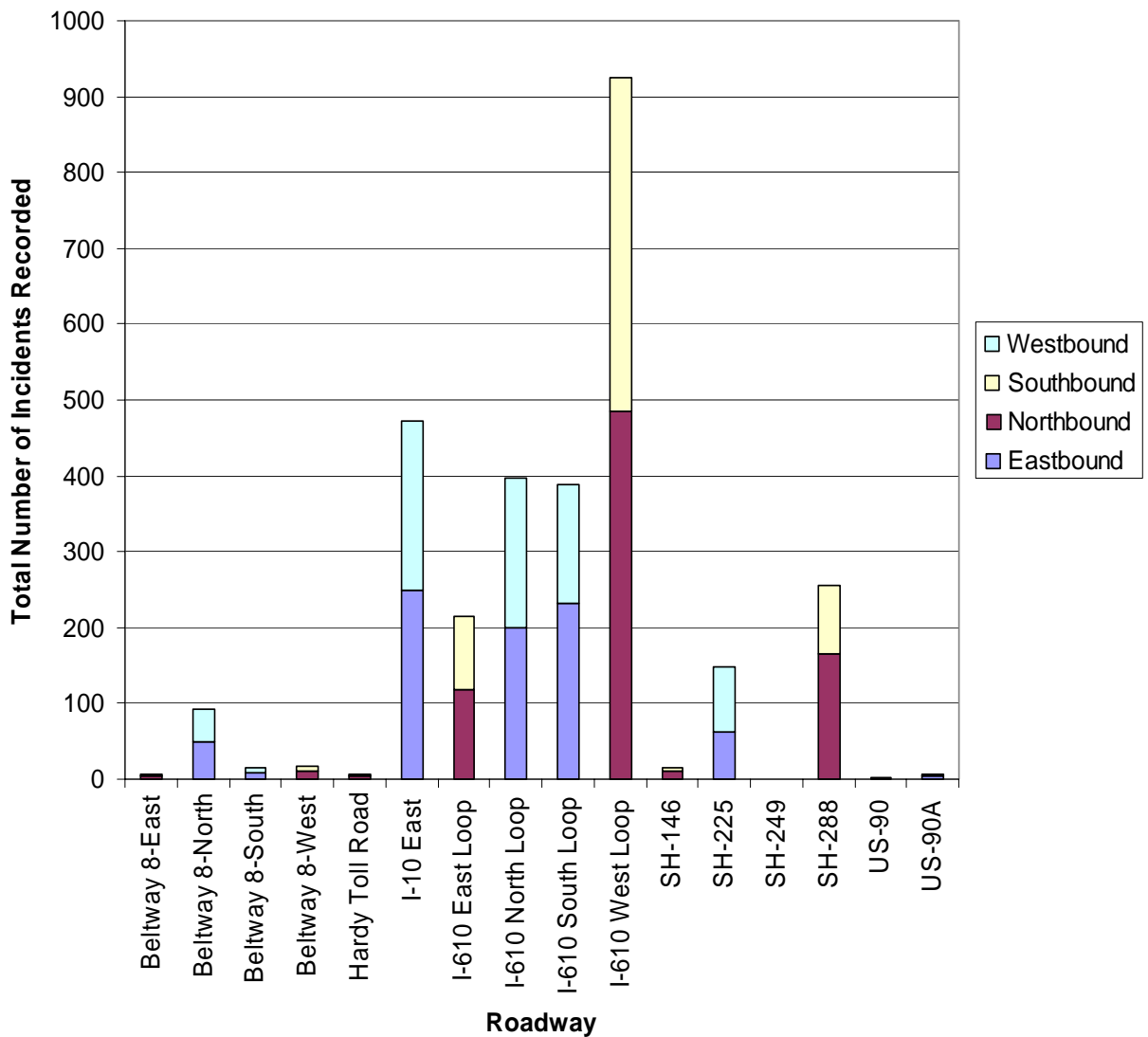


Figure 4. Number of Incidents Recorded on Roadways without HOV Facilities.

Table 5. Annual Average Incident Rate Per 100 Million Vehicle Miles Traveled.

Roadway	Annual Number of Incidents	Annual ADT	Centerline Miles	Incidents Per 100 Million VMT
I-10 Katy	1,499	232,000	26.5	47.90
I-45 Gulf	1,336	207,000	21.0	48.07
I-45 North	1,491	271,000	23.0	64.12
US-290 Northwest	631	198,000	18.0	25.33
US-59 Eastex	339	175,000	19.5	11.10
US-59 Southwest	1,251	298,000	16.5	82.47
Total	6,547	1,381,000	124.5	

Table 6. Incidents by Location.

Location of Incident	Total Number of Incidents	Percentage of Incidents
Mainlane(s)	3,330	35%
Mainlane(s) and shoulder(s)	1,505	16%
Shoulder(s)	1,119	12%
HOV lane	968	10%
Frontage road	866	9%
No lanes blocked	814	8%
Ramp(s)	565	6%
Combination (other than mainlanes and shoulders)	339	4%
Total	9,506	100%

collisions at merge/diverge access locations. Approximately 8 percent of incidents were not reported to block any type of lane or shoulder. The most common examples of these types of incidents include debris on the roadway and weather-related incidents such as flooding.

INCIDENTS BY SEVERITY

Incidents are classified by Houston TranStar operators as minor, major, and fatality. The distinction between minor and major incidents is often that minor incidents involve property damage only, whereas major incidents also involve injuries. TxDOT officials also commented that minor incidents usually do not block more than one lane, are often already moved to the shoulder by the time they are detected, and usually clear in 5 to 10 minutes. Major incidents typically involve lane closures, a long clearance time, and the presence of emergency medical services (EMS) and/or fire department on the scene. [Figure 5](#) shows the distribution of incidents by severity classification. Approximately 76 percent of recorded incidents were classified as minor, 24 percent as major, and a fraction of 1 percent as fatality.

INCIDENTS BY NUMBER OF VEHICLES

The distribution of freeway incidents in 2003 with respect to number of vehicles involved is presented in [Figure 6](#). Approximately 13 percent involved no vehicles, 31 percent involved one vehicle, 42 percent involved two vehicles, 11 percent involved three vehicles, 2 percent involved four vehicles, and 1 percent involved five or more vehicles. A review of the incidents involving zero vehicles revealed that approximately 71 percent of these incidents did in fact involve one or more vehicles. Of the 1280 incidents reported to involve zero vehicles, only about 365 incidents appear not to involve vehicles. These incidents involved roadway debris (153), other (104), high water (100), lost load (5), ice on roadway (2), and construction (1). The remaining 71 percent of incidents involving zero vehicles appear to be improperly entered into the database with these incidents involving hazmat, heavy trucks, stalls, buses, vehicle fires, and accidents. Reviewing these incidents it appears that approximately one-third of those incidents involved one vehicle and two-thirds of those incidents involved two or more vehicles. With an adjustment for these incidents, the distribution with respect to number of vehicles would be 4 percent involving zero vehicles, 34 percent involving one vehicle, 48 percent involving two vehicles, 11 percent involving three vehicles, 2 percent involving four vehicles, and 1 percent involving five or more vehicles.

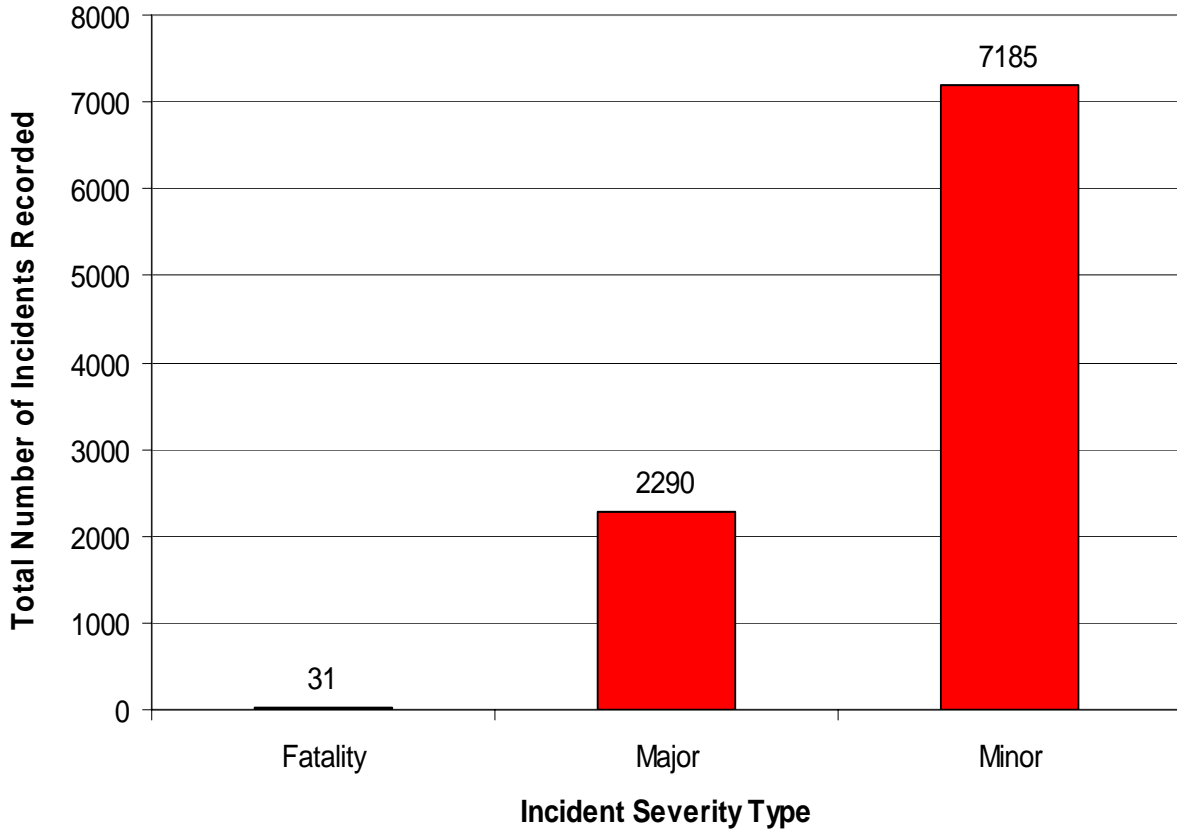


Figure 5. Number of Incidents Recorded by Severity.

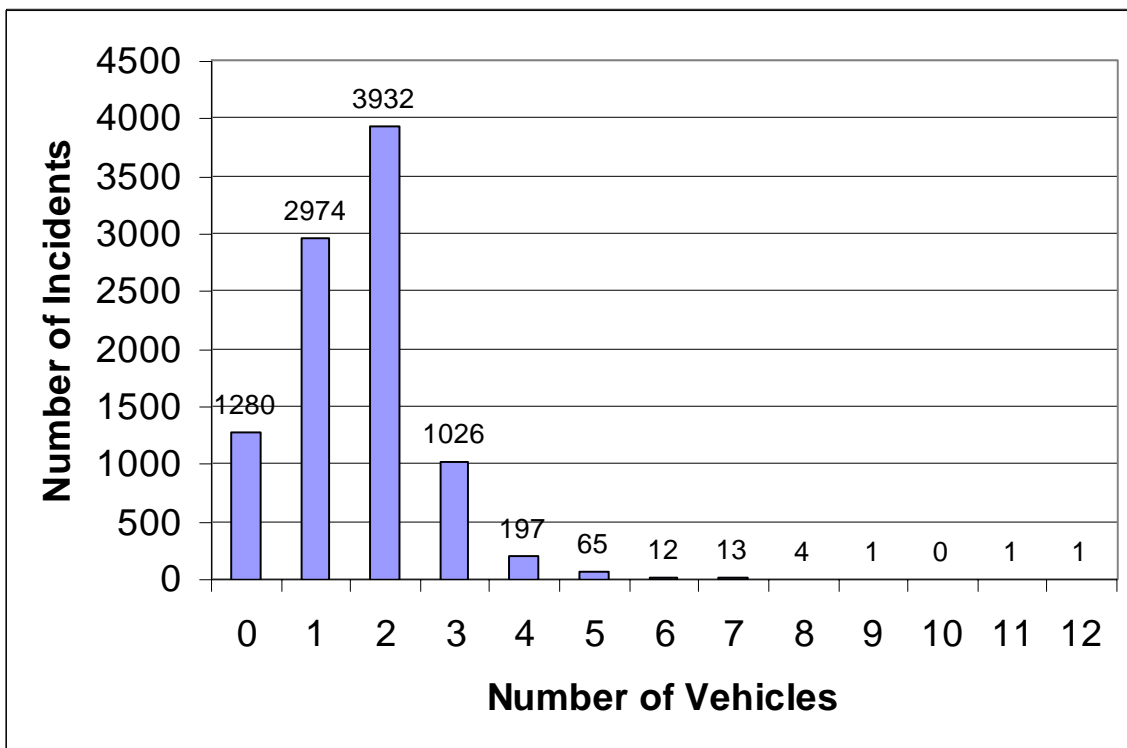


Figure 6. Number of Incidents by Number of Vehicles Involved.

INCIDENTS BY TIME OF DAY

The distribution of freeway incidents in 2003 with respect to time of day is presented in [Figure 7](#). The graph is similar in shape to what one would expect when looking at a 24-hour volume distribution, i.e., the graph peaks during the AM and PM peak periods with a dip during midday and a falloff on the tails. As expected, a rise in the number of incidents occurs in the peak periods when general traffic delays and congestion occur and vehicle exposure is at its highest. The peak number of incidents in the morning occurred between 7:00 and 8:00 AM at nearly 800 incidents, while the peak number of incidents in the evening occurred between 5:00 and 6:00 PM at approximately 1000 incidents.

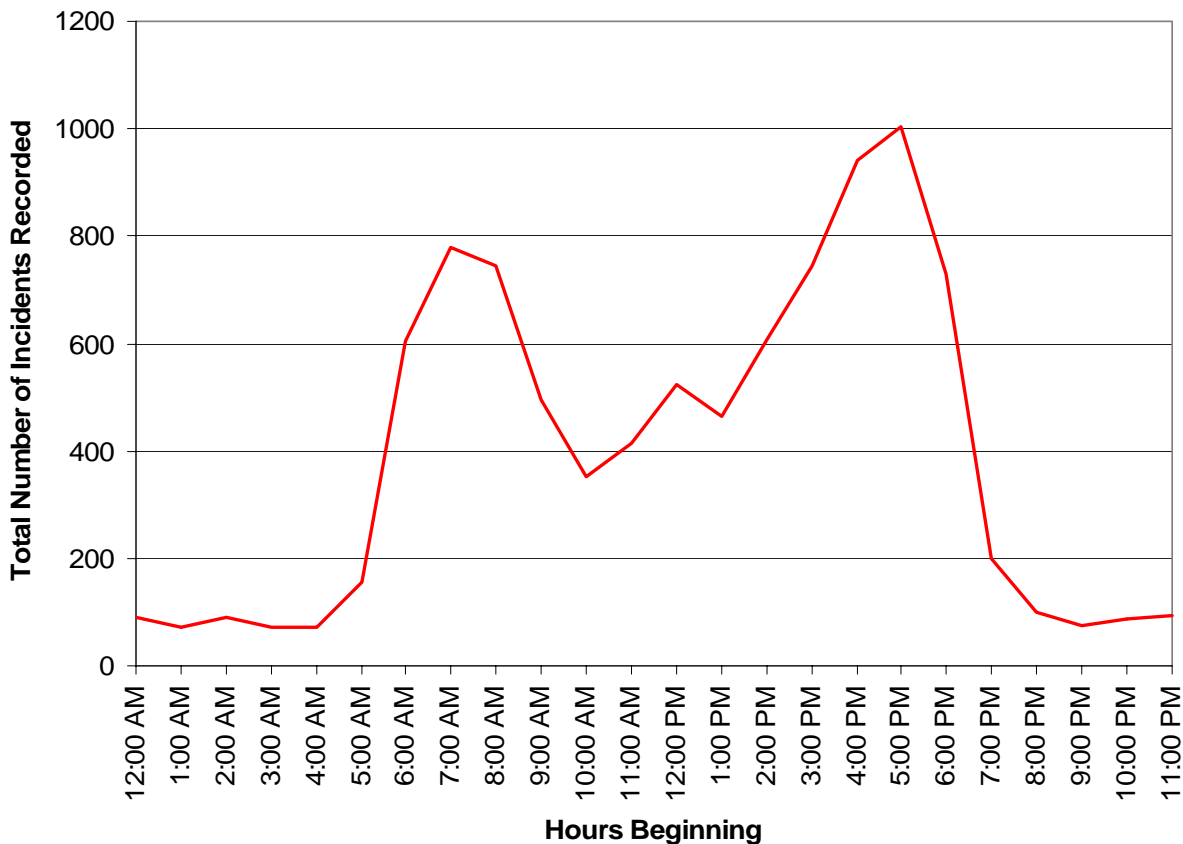


Figure 7. Number of Incidents Recorded by Time of Day.

INCIDENTS BY DAY OF WEEK

The distribution of freeway incidents in 2003 with respect to day of week is presented in [Figure 8](#). As expected, weekday incidents are more prevalent than weekend incidents. There seems to be little difference in number of incidents among weekdays. The lower number of incidents occurring on weekends is largely due to lower levels of traffic congestion and the

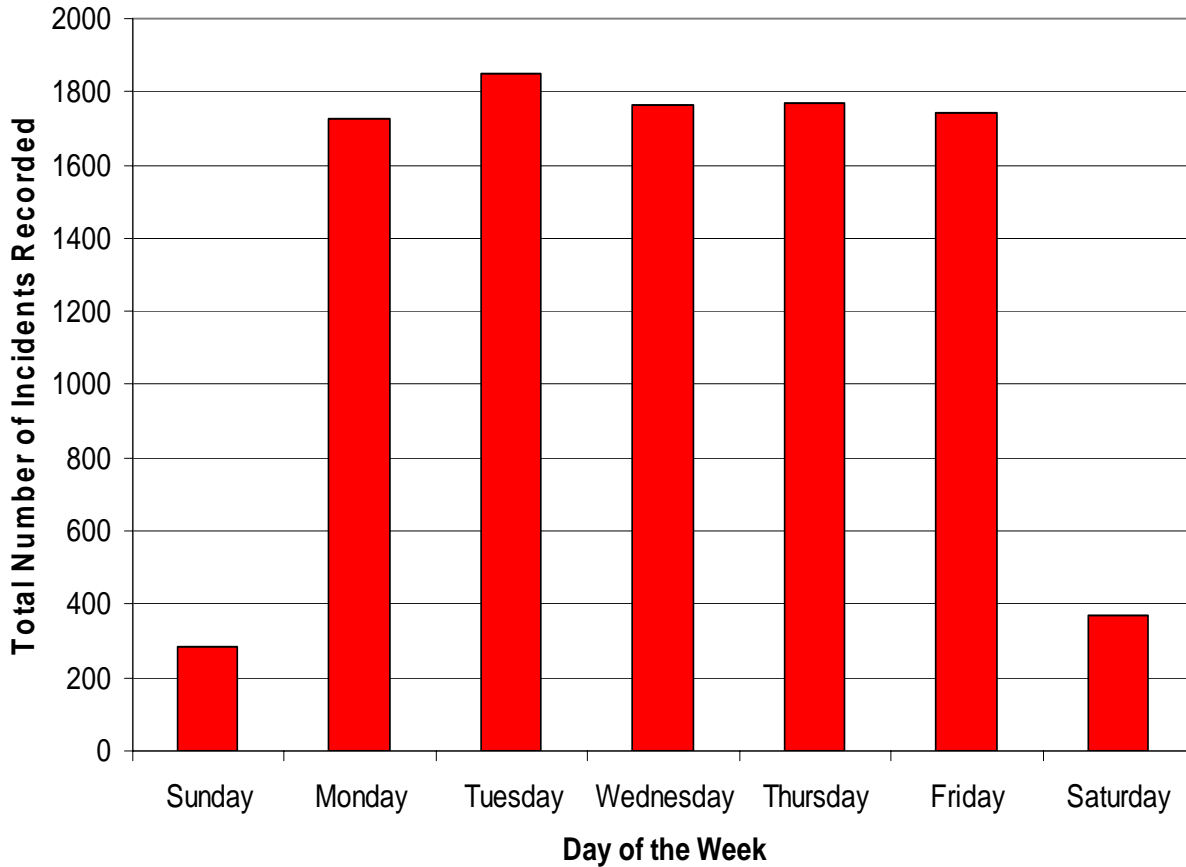


Figure 8. Number of Incidents Recorded by Day of the Week.

absence of work-related commute trips. Some weekend incidents may not be entered into the database due to lower TMC staffing levels and, subsequently, higher TMC operator workloads at Houston TranStar. Weekend operators are asked to handle other responsibilities including answering TxDOT district-related telephone calls, maintenance deficiencies, and traffic signal complaints, in addition to monitoring cameras, the AVI speed map, and logging of traffic incidents.

INCIDENTS BY MONTH OF YEAR

The distribution of freeway incidents for 2003 by month of year is presented in [Figure 9](#). In general, the number of incidents logged increased during the year. One factor that contributed to the lower number of incidents logged at the beginning of the year was a maintenance issue. During January and February, some of the CCTV cameras were not working properly, reducing the number of incidents that could be observed, verified, and subsequently logged into the RIMS database. Improvements in maintenance contracts have drastically improved CCTV camera maintenance and operation. Staffing level of RIMS operators is also a factor in the number of incidents that are logged. There are presently more cameras than can be monitored by a single operator, especially during peak traffic and inclement weather conditions. The number of operators was increased during the year, helping to explain the increased number of incidents

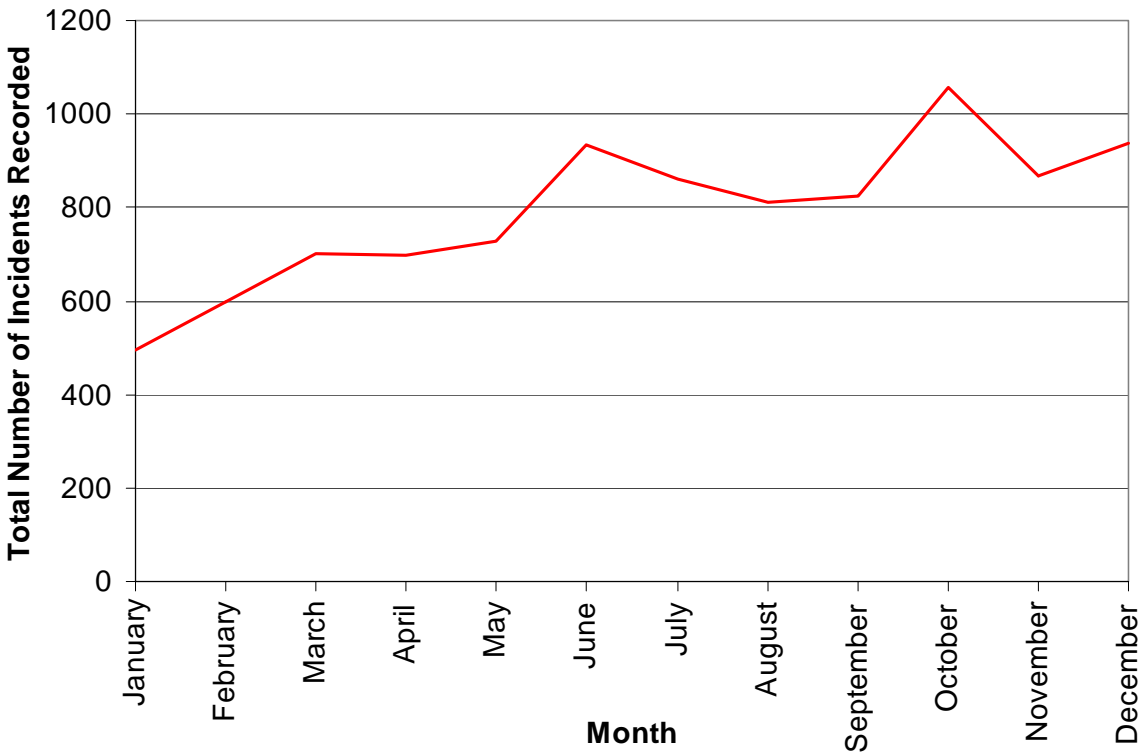


Figure 9. Number of Incidents Recorded by Month.

logged. An additional operator was added to the staff in late February, and two additional operators were added in October. A third factor in the monthly incident trend is weather conditions. June and July were particularly rainy months and precipitation on roadways may have led to an unusually high number of incidents during those months. Several high rain/flooding events also occurred in October, which in conjunction with additional operators may account for the spike in incidents logged that month.

INCIDENTS BY WEATHER CONDITION

A number of incidents were reported as occurring during abnormal weather events. Weather categories available in the RIMS database include rain, snow/ice, hail, fog, high wind, dust, smoke, and other weather conditions. A total of 493 incidents during 2003 were documented as occurring during one of the weather conditions. From [Figure 10](#) it can be seen that rain is the prevalent weather condition at 468 incidents. Fog was the second most common weather condition, at 19 incidents, while high wind, ice, and smoke were involved in three, two, and one incident, respectively. Weather and rain trends help explain some of the peak incident days in the RIMS incident data, such as October 9 and November 17, when major flooding occurred throughout the city and an unusually high level of traffic incidents occurred.

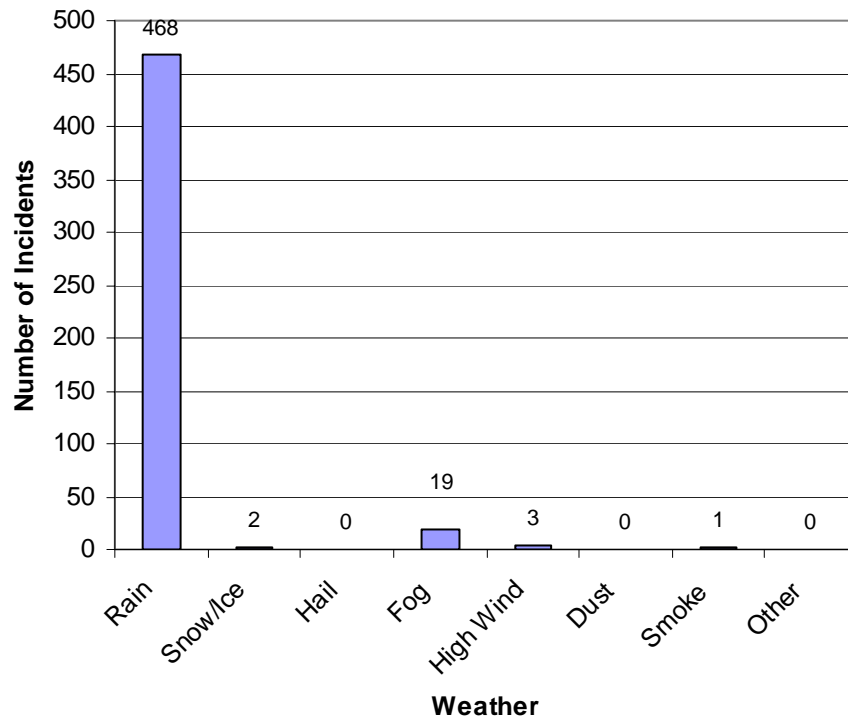


Figure 10. Number of Incidents Recorded by Weather Condition.

IV. HOUSTON AVI SYSTEM AND TRAVEL TIME GENERATOR SOFTWARE ANALYSIS

The researchers used Houston's AVI system as the data source for the analysis of travel times and speeds presented in this project. AVI-based data are ideal for providing direct travel time computations between two points on a roadway. The TxDOT-installed AVI system has been operational in the Houston area since 1993. Since that time, coverage has gradually expanded to include more than 230 directional freeway miles and 61 HOV lane miles. The system is equipped with over 240 individual reader "checkpoints." Today, approximately 65 percent of Houston-area freeways are instrumented with AVI sensors, with coverage focused on the busiest corridors.

The AVI system uses vehicles equipped with transponder tags as probes. The Houston system uses tags distributed by the Harris County Toll Road Authority's (HCTRA) "EZ-Tag" toll collection system. In order to calculate reliable travel times using transponder tags, a sufficient number of tagged vehicles must be present along the instrumented roadways. With HCTRA's existing tag infrastructure, the Houston area has excellent tag penetration (or density), with more than 1 million tags distributed throughout the region. Transponder tag readers or checkpoints are placed at approximately 1.2- to 5.0-mile intervals along the freeway and tollway system.

To obtain complete cross-section coverage, the AVI readers have an array of antennas that span the entire cross section of a roadway (in some cases using a single sign bridge and in other cases multiple sign bridges) to capture all lanes. The readers detect probe vehicles as they pass checkpoints within the system. The tag identification number, reader location identifier, and the exact date and time are transmitted wirelessly to a tag reader each time a probe vehicle passes a checkpoint. Upon receiving tag reads, the reader sends them to an AVI data processing software component over a dial-up telephone line. As a tagged vehicle passes successive reader locations along a route, the data processing component is able to determine accurate point-to-point travel times and speeds using the unique identification of the transponder tag. Tag read data are confidential and used anonymously for the purpose of developing travel time and speed data. This information is provided to personnel at Houston TranStar, for use in detecting freeway congestion, and to the public through media reports, displays on selected roadside electronic message signs, and on the Houston TranStar website (<http://traffic.houstontranstar.org>). The AVI system architecture is shown in Figure 11.

OPERATIONS ISSUES

The AVI system requires regular maintenance to function effectively. While the central processing components require a limited amount of maintenance, the field components tend to need tuning more frequently. TxDOT currently partners with a contractor to maintain the field components. Most maintenance issues involve communications failures or equipment breakdowns. Typical field maintenance activities include troubleshooting communications, troubleshooting phone and power outages, and investigating construction interruptions. The most frequent maintenance activity is resetting the dial-up modems that the readers use to communicate with the host system.

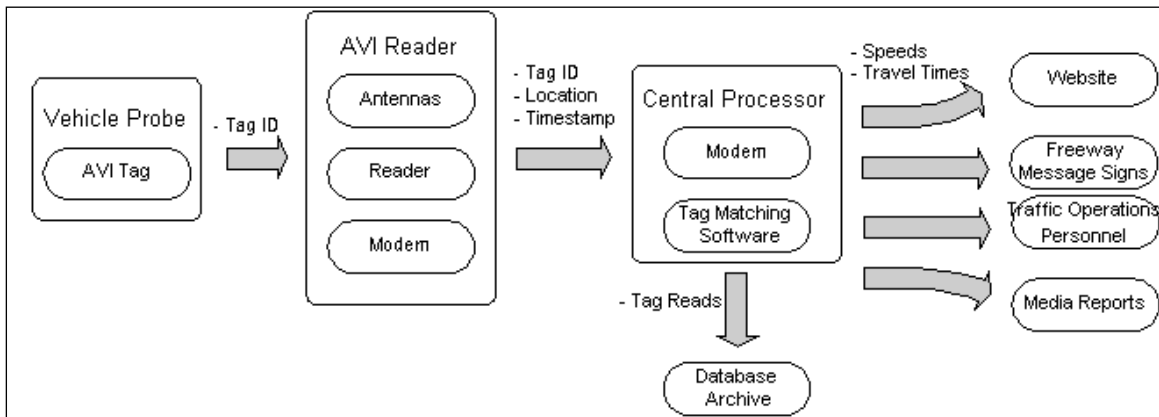


Figure 11. AVI System Architecture.

Such interruptions are typically short, lasting less than 24 hours. However, some outages can last longer, such as severed power or phone lines. In addition, some readers, especially those located on HOV lanes, require the use of a bucket truck to access and, therefore take more time to troubleshoot. Of course, most field maintenance issues result in missing data for a section of roadway during the time of the interruption.

MISSING DATA

The magnitude of the issue of missing AVI data was not fully understood until the researchers undertook the actual analysis of incidents. Although most of the AVI readers in a corridor could be operating and communicating fine, for the requirements of this project, one or more readers being out for an extended period of time rendered the data unusable for this analysis. For the data analyzed in the freeway corridor sections studied in this research, approximately 72 percent of the mainlane AVI data were usable, whereas only 35 percent of the HOV lane AVI data were usable. The reliability of AVI readers on the HOV lane system varied by corridor with the Southwest HOV being the least reliable and Katy and Northwest Freeways being the most reliable, presumably due to the implementation of the QuickRide program. QuickRide allows 2-person carpools to use the HOV lane during 3+ occupancy requirement time periods for a fee. This program relies on the AVI system for billing purposes, so AVI readers in these HOV lane corridors are given higher priority for maintenance. The reliability of the AVI system is discussed further in [Chapter VIII](#) of this report.

While field maintenance issues are a significant cause of missing data, the limitations of the current communications system are also a source of problems. Currently, most of the AVI system sends tag reads over dial-up telephone lines. When a reader reads a tag, it places the tag in memory and immediately initiates a call to the host computer. To prevent data loss, the reader's memory stores the tag in a "circular queue" of 100 tag reads. Once the reader's memory reaches 100 tag reads, it removes the oldest tag reads as each new tag is read. If the reader is able to connect to the host, it continues sending tags as long as they are being read for up to 1 minute. Each tag sent to the host is cleared from memory, freeing space for new tags in the reader queue. When no tags are being read or 1 minute of connection time has occurred, the reader disconnects and begins the process again.

There are currently 160 field sites dialing into 106 phone lines. Because there are more phones lines in the field than at the host, readers frequently receive busy signals and must redial. The longer it takes a reader to successfully connect and send tags to the host, the more likely it is that the tag queue will fill and that reads will be overwritten. This problem is especially common at readers that read a high volume of tags where the queue fills very quickly, sometimes within seconds. In these cases, tags are overwritten even without busy signals. Because readers are only permitted to stay connected for 1 minute, the problem is somewhat circumvented as this function allows other readers to connect. However, many tag reads are lost as a result of being overwritten in memory because of the phone line limitation. The communications problems are a result of the enormous growth of tag penetration in the Houston region since the initial installation of the AVI system. At the time of installation, the number of phone lines was more than sufficient to handle the volume of calls coming in from the readers. With the growth and expansion of the toll road infrastructure and popularity of automatic toll collection, the number of tagged vehicles in the Houston region has grown phenomenally since the initial deployment of the system. The high number of tags has resulted in an overload of the dial-up system in many cases. Currently, a wireless communications system is being installed at some reader locations that will provide more bandwidth and lessen this problem.

DATA ARCHIVAL AND ANALYSIS

Since its inception in 1993, data from the Houston AVI system has been archived by TTI. Each individual tag read is archived in a binary database. The archived data include each tag’s identification number, the location of the tag read, and the exact date and time the tag was read. The data archive enables historical data to be analyzed and presented in aggregate form on the Houston TranStar website along with other real-time data.

Determining travel times between AVI readers involves matching tags that pass successive reader locations. With accurate distances between the reader locations, average vehicle speeds and travel times can easily be obtained. Utilizing SAS Institute’s Analytics Software Development Package, TTI developed a routine that determines travel times between AVI readers using archived raw tag read data. First, the routine reads each raw tag read into memory. After the raw tag data are read, the tag reads are “matched” between successive readers. Using the distance between each reader, the travel time and speed are calculated and the results are output to a dataset. For this project, individual travel times and speeds were aggregated into 5-minute averages. A 5-minute average is an average of all speed and travel time samples for a freeway segment during a given 5-minute interval. [Figure 12](#) is a sample of a dataset containing 5-minute averages for an AVI reader segment.

	READDATE	TIMEPER1	STARTCP	ENDCP	DIST	_FREQ_	TRAVTIME	STD_DEV	SPEED
1	15857	0	0	1	3.95	13	214	16.896745249	66.448598131
2	15857	300	0	1	3.95	15	215.466666667	7.308181977	65.996287129
3	15857	600	0	1	3.95	12	208.916666667	17.547122703	68.065416833
4	15857	900	0	1	3.95	13	205.30769231	17.080127904	69.261895841
5	15857	1200	0	1	3.95	8	205.5	23.850726254	69.197080292

Figure 12. Sample AVI 5-Minute Averages.

The first two columns are the date and time in SAS offset format. Note that the time reflects the number of seconds after midnight. For example, “0” represents 12:00 AM and “300”

represents 12:05 AM. Since the averages are aggregated into 5-minute intervals, each row represents a 5-minute period, beginning at the time indicated in column two. The third and fourth columns represent the starting and ending reader location numbers, respectively. The fifth column is the distance, in miles, between the readers. The sixth column is the number of samples used in the average, followed by the travel time, in seconds, the standard deviation of the travel time, and the average speed in miles per hour.

For this project, archived tag data from all of 2003 were utilized. To present an accurate depiction of typical peak period conditions, weekends and holidays were excluded from the analysis; however, some non-typical days such as the day after Thanksgiving and the week between Christmas and New Year’s Day remain in the database. Each day’s data are contained in a separate dataset like the example shown in [Figure 12](#).

TRAVEL TIME GENERATOR SOFTWARE

AVI data provide travel times on predetermined roadway segments based on the location of the readers. For this project, it was required that travel times be calculated for entire freeway corridors rather than for individual AVI reader segments. [Figure 13](#) shows the difference between the project requirements and what AVI data provide by default.

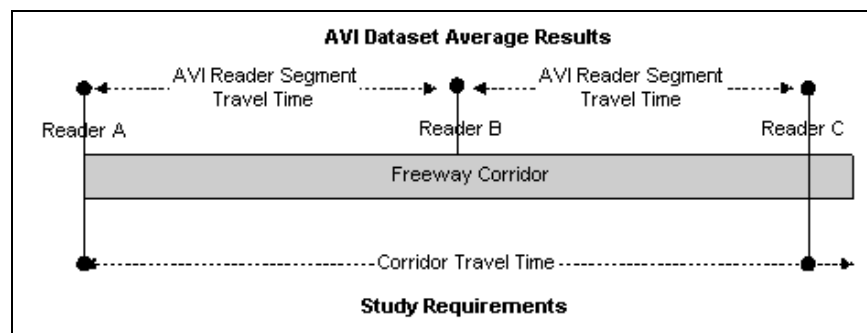


Figure 13. AVI Travel Time Data Versus Project Requirements.

The freeway corridor shown in [Figure 13](#) contains three AVI reader locations resulting in two AVI reader segments: A to B and B to C. By matching AVI tag reads, a travel time average can be calculated for each segment. The archived, AVI-based travel time data contain roadway segment travel times in this format, based on the location of the readers. For this project, a true travel time was required from Reader A, to a location downstream of Reader C. As a result, the AVI-based travel time data do not directly correlate to the data required in the project. First of all, the start and end points of the corridor are not the same as the start and end points of the AVI reader locations. Secondly, adding together link-based travel times from the two AVI segments depicted in [Figure 13](#) does not necessarily represent the true travel time of a probe vehicle traversing the entire freeway corridor. This is because of the difference in time that the probe vehicles pass each reader. Assume a probe vehicle begins at Reader A at 12:00, passes Reader B at 12:05, and reaches Reader C at 12:10. Adding together aggregated 5-minute averages from 12:00 to 12:05 for each segment will not result in an accurate depiction of a travel time for the entire corridor since the probe began traversing the second segment at 12:05. A more accurate method to represent a true travel time is to add together averages from 12:00 for the first segment

and 12:05 for the second segment. This method can be described as a “built-up” AVI travel time, and it consists of aggregating multiple AVI segments and adding each segment travel time to the previous start time. Using the raw AVI data, tags *could* be matched between Reader A and Reader C; however, the data sample sizes would be much lower since many vehicle probes could exit the freeway between those readers.

In order to produce “built-up” travel times for entire freeway corridors using existing AVI data, TTI developed a software component that utilizes the logic mentioned above. The component was designed with the following requirements.

- 1) Aggregate existing AVI-based link travel times into 5-minute averages to produce a “built-up” travel time report along a freeway corridor.
- 2) Provide the user with the ability to enter factors that can be used in travel time calculations to compensate for the differences between AVI start and end points and project corridor start and end points.
- 3) Compensate for missing AVI data by averaging existing speeds from adjacent time periods for the specific link missing.
- 4) Produce an on-screen and delimited output file for each travel time generated, making it simple to import the data into external programs such as Microsoft Excel.
- 5) Provide the user with an easy-to-use, web-based interface with the ability to configure the travel time reports by corridor, direction, AVI segments used, date, and start time.

The component was developed using Microsoft ASP.NET, an applications development framework for the web. It accesses the travel time datasets generated by SAS using Open Database Connectivity (ODBC). The application can be accessed from any approved network client using a standard web browser such as Microsoft Internet Explorer. The user interface of the Travel Time Generator component is shown in [Figure 14](#).

Users are given the option to choose a freeway corridor, facility type (mainlanes or HOV), and direction of travel. AVI segments for the selected corridor then appear automatically. A factor textbox for each AVI segment allows users to customize the percentage of a travel time that is used in generating the report. This aids in compensating for the difference in start and end points between AVI segments and the corridor. For example, in [Figure 15](#) (bottom row), 44 percent of the Barker-Cypress to Eldridge travel time is used in the calculation, 100 percent of the middle segments are used, and 36 percent of I-610 to T.C. Jester is used. In this case, the project corridor began downstream of the beginning of the first AVI segment and ended before the end of the last AVI segment. These segment factors define data within the limits of the HOV lane, i.e., western extension to eastern extension. More information on the development of AVI segment factors is presented in the following section. The user can then select the date and time range from which to generate the report. Currently, reports can be generated for the time periods used in this study: either 6:00 AM to 9:00 AM or 3:30 PM to 6:30 PM.

Travel Time Generator - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media

Address http://localhost/traveltimegenerator/

Travel Time Generator

Corridor I-10 Katy

Facility Type FWY

Direction Eastbound

Segments	Factor
Barker Cypress to Eldridge	0.44
Eldridge to Sam Houston Tlwy	1.00
Sam Houston Tlwy to Blalock	1.00
Blalock to I-610	1.00
I-610 to T.C. Jester	0.36

Date January 20 2003

Time Range 06:00 AM to 08:55 AM

Generate Report Reset

Figure 14. Travel Time Generator User Interface.

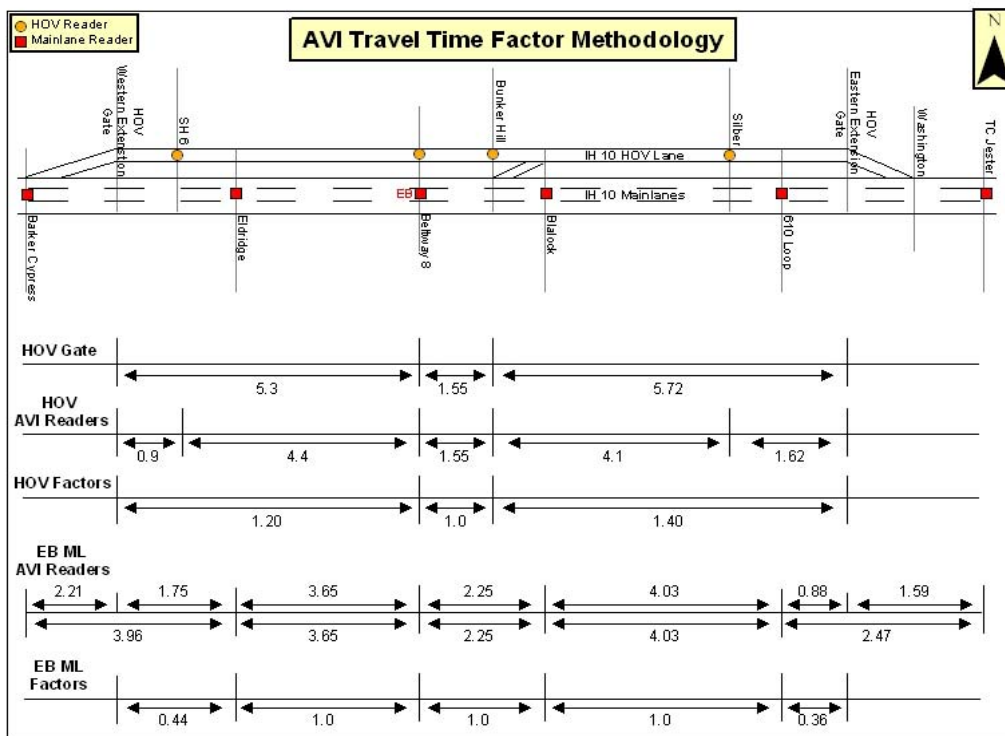


Figure 15. AVI Travel Time Factor Methodology.

When the user clicks the “Generate Report” button, the application begins building travel time reports based on the inputs from the form. Using the aggregated, 5-minute travel time averages, the application adds together travel times from all the AVI segments specified on the form and multiplies each one by the segment percentage factor using the built-up method described earlier.

Figure 16 shows the resulting Travel Time Generator summary report. This summary shows the travel times for the corridor for each 5-minute period start time as well as an hourly average travel time. The summary report is followed by a detailed view of each 5-minute travel time summary. Each detailed view shows the AVI sensor locations, start times, AVI segment distances, travel times, speeds, data sample sizes, and standard deviations of the travel times, as shown in Figure 17. To compensate for missing data in an AVI segment, the application searches for existing data up to 15 minutes before and after the missing data appear for that specific segment. Each travel time found during those time periods is averaged to use in place of the missing data. In Figure 17, on the 6:05 AM report, the data on the AVI segment from Blalock to I-610 are missing. In this case, travel times were found in the adjacent 10-minute time periods and averaged to fill the gap. The report indicates that the data were generated using this technique by highlighting the line in gray.

I-10 Katy HOV EB - SH 6 to Silber on Monday 1/20/2003 from 6:00 AM to 8:55 AM													
Start Time	6:00	6:05	6:10	6:15	6:20	6:25	6:30	6:35	6:40	6:45	6:50	6:55	Average
Travel Time	11:26	11:23	11:47	12:18	12:03	12:09	12:10	12:06	12:15	11:52	12:20	12:00	11:59
Start Time	7:00	7:05	7:10	7:15	7:20	7:25	7:30	7:35	7:40	7:45	7:50	7:55	Average
Travel Time	11:25	11:38	11:34	11:18	11:10	11:14	11:43	11:08	11:19	11:21	11:32	11:46	11:26
Start Time	8:00	8:05	8:10	8:15	8:20	8:25	8:30	8:35	8:40	8:45	8:50	8:55	Average
Travel Time	11:37	11:28	11:28	11:36	11:57	11:57	11:04	11:26	11:01	11:11	11:08	11:32	11:27

Figure 16. Travel Time Generator Onscreen Summary Report.

For each report generated by the user, two text files are saved containing the data in the report. The files consist of the report summary and the report details, respectively. Each file is space and comma delimited, making it easy to import into a database or spreadsheet for further analysis. The filenames are uniquely generated using the corridor, facility type, and date to prevent them from being overwritten each time the software is used.

6:05 AM Report						
Sensor Locations	Start Time (h:mm)	Distance (mi.)	Travel Time (m:ss)	Speed (mph)	Sample Size	Standard Deviation
Barker Cypress to Eldridge	6:05 AM	1.74	1:30	70	24	13
Eldridge to Sam Houston Tlwy	6:05 AM	3.65	3:10	69	14	16
Sam Houston Tlwy to Blalock	6:05 AM	2.25	1:57	69	1	0
Blalock to I-610	6:05 AM	4.05	4:07	59	2	19
I-610 to T.C. Jester	6:05 AM	0.88	0:49	65	7	9
Route Totals		12.57	11:33	65	48	

6:10 AM Report						
Sensor Locations	Start Time (h:mm)	Distance (mi.)	Travel Time (m:ss)	Speed (mph)	Sample Size	Standard Deviation
Barker Cypress to Eldridge	6:10 AM	1.74	1:38	64	15	13
Eldridge to Sam Houston Tlwy	6:10 AM	3.65	3:15	67	21	17
Sam Houston Tlwy to Blalock	6:10 AM	2.25	1:48	75	3	8
Blalock to I-610	6:10 AM	4.05	4:14	57	2	16
I-610 to T.C. Jester	6:10 AM	0.88	0:48	66	10	10
Route Totals		12.57	11:43	64	51	

Figure 17. Travel Time Generator Detailed Report.

DEVELOPMENT OF AVI SEGMENT FACTORS

As mentioned in the previous section, one issue encountered for comparing HOV lane travel times with mainlane travel times is the fact the AVI readers are not always at the same locations for the HOV lane and mainlanes and are never at the limits of the HOV lane, which is the desired corridor length for this project. The segment factors were created to adjust travel times for the exterior links in the corridor for the HOV lane and mainlanes to create an estimate of the travel time for the limits of the HOV lane. The HOV lane AVI readers are located within some distance inside the limits of the HOV lane; thus, the travel time between the actual readers is not representative of the travel time desired for facility, i.e., from HOV gate to HOV gate. The mainlane readers may be located at different places than the HOV lane readers, but there is always a reader upstream and downstream of the HOV lane limits. Thus, using the upstream reader would over-represent the travel time, while using the downstream reader would underestimate the travel time for comparable HOV gate to HOV gate travel times.

As shown previously, [Figure 15](#) graphically represents how researchers used segment factors to extrapolate travel times for both the HOV lane and mainlanes to be representative of HOV gate to HOV gate travel times (labeled Eastern Extension gate and Western Extension gate). The top of the figure illustrates the Katy Freeway eastbound mainlanes and HOV lane, showing the location of the HOV entrance and exit gates as well as major cross streets. There are four AVI readers on the Katy HOV lane located at SH-6, Beltway 8, Bunker Hill, and Silber.

As seen in the line labeled “HOV AVI Readers,” the SH-6 reader is located 0.9 mile east of the Western gate while the Silber reader is located 1.62 miles west of the Eastern gate. The segment factors are then used to extrapolate the equivalent travel times for the exterior links for the desired distance. The actual link between the HOV lane AVI readers between SH-6 and Beltway 8 is 4.4 miles. The desired distance from the HOV lane gate to Beltway 8 is 5.3 miles, thus a segment factor of 1.2 is used ($5.3/4.4 = 1.2$). All interior segments have a factor of 1.0 since the actual travel time for the entire segment is used for calculating the corridor travel time. The actual link between the HOV lane AVI readers between Bunker Hill and Silber is 4.1 miles. The desired distance from Bunker Hill to the Eastern gate is a distance of 5.72 miles, thus a segment factor of 1.40 is used ($5.72/4.1 = 1.40$).

Factors greater than 1.0 are used for the HOV lanes to extend the distance represented by the travel time to the limits of the HOV lane. Since there are readers on the mainlanes upstream and downstream of the HOV limits, mainlane segment factors less than 1.0 were calculated to use the portion of the travel time representative of the location of the HOV lane gate within the segment. [Tables 7 and 8](#) show the factors calculated for the Katy HOV lane and mainlane segment links in both directions. Similar tables for the other three corridors in this project are provided in [Appendix A](#). These factors were incorporated into the development of the Travel Time Generator.

Table 7. Katy HOV Lane Segment Factors – HOV Gate to HOV Gate.

Segment	EB HOV Lane			WB HOV Lane		
	Segment Length	Modified Length	Segment Factor	Segment Length	Modified Length	Segment Factor
SH 6 to Tollway	4.40	5.30	1.20	4.40	5.30	1.20
Tollway to Bunker Hill	1.55	1.55	1.00	1.55	1.55	1.00
Bunker Hill to Silber	4.10	5.72	1.40	4.10	5.72	1.40

Table 8. Katy Mainlane Segment Factors – HOV Gate to HOV Gate.

Segment	EB Mainlanes			WB Mainlanes		
	Segment Length	Modified Length	Segment Factor	Segment Length	Modified Length	Segment Factor
Barker Cypress to Eldridge	3.96	1.75	0.44	4.50	2.29	0.51
Eldridge to Tollway	3.65	3.65	1.00	2.90	2.90	1.00
Tollway to Blalock	2.25	2.25	1.00	2.90	2.90	1.00
Blalock to Loop 610	4.03	4.03	1.00	3.65	3.65	1.00
Loop 610 to TC Jester	2.47	0.88	0.36	2.40	0.81	0.34

V. DEVELOPMENT OF INCIDENT MATRIX

A significant portion of this research project involved quantifying HOV lane travel time savings during mainlane incident conditions. The goal was to be able to quantify the savings for a range of incident types by categorizing incidents to analyze into an incident matrix. A number of factors were considered in the development of the incident matrix. Factors impacting delay savings that were considered in the development of the incident matrix include:

- time of day,
- time of year,
- longitudinal location of incident,
- cross-section location of incident,
- number of lanes blocked,
- duration of incident, and
- corridor characteristics.

It was determined that the primary factors that should be used in the incident matrix were incident duration and extent of blockage. The remaining factors were taken into consideration through the analysis methodology. [Table 9](#) presents the incident matrix developed as a function of duration of incident and extent of blockage. The categories for Lanes Blocked initially included a 3+ Mainlanes column; however, due to the scarcity of 3+ mainlanes blocked incidents, they were combined with the 2 Mainlanes column to form a 2+ column. Although using five incident duration categories in the matrix could result in empty or small sample size cells, it was determined in sponsor meetings that the incident duration categories should not be reduced. The following paragraphs in this section describe how researchers accounted for the remaining aforementioned incident factors.

Table 9. Incident Matrix.

Incident Duration	Lanes Blocked		
	Shoulder	1 Mainlane	2+ Mainlanes
0-15			
16-30			
31-45			
46-60			
60+			

The time of day an incident occurs is highly correlated with the extent of the impact that can be expected on resulting congestion and delay. Incidents occurring during off-peak hours have much less impact on traffic operations for a given type incident than if the same incident occurred during peak hours. For this reason, researchers decided to focus on incidents occurring during the peak hours. Based on traffic data from the Houston area, the peak hours were defined as 6:00 to 9:00 AM and 3:30 to 6:30 PM.

The time an incident occurs within the peak period can also have an impact on the delay experienced by the motorist. Incidents occurring during the middle of the peak period have a much greater impact than those occurring at the end of the peak period. Initially, a window of

influence was investigated; however, it was difficult to determine when the influence of the incident ended. In most cases, it was difficult to determine if the speeds ever returned to “normal” congestion. Therefore, researchers analyzed travel times during the entire peak period, 6:00 to 9:00 AM and 3:30 to 6:30 PM.

Time of year as an influencing factor is largely a function of whether school is in session or not. Mainlane travel times when school is out of session are typically lower than when school is in session. To account for these potential differences, a comparison using non-incident travel time data was made to determine if mainlane travel times when school was in session or out of session were statistically significant or not. The results of this analysis are reported in [Chapter VII](#) of this report. The purpose of this analysis was to determine if researchers should split the incident matrix into two matrices, one containing incidents occurring when school is in session and one containing incidents occurring when school is out of session.

The longitudinal location of incidents was also considered a factor. Incidents outside the limits of the HOV lane facility were not considered in this analysis, as their impact on operations within the limits of the facility would typically be negligible except for cases involving severe incidents. A major incident upstream of the study limits would actually serve as a bottleneck, reducing mainlane demand in the study section, actually lowering mainlane travel time. A major incident downstream of the study limits would only impact operations within the study section if queuing backed up into the study section. These incidents, as well as incidents occurring outside of HOV lane hours of operation, were eliminated from consideration in the filtering process of identifying candidate incidents. Researchers also decided to eliminate incidents from consideration that occurred in the initial section of the analysis corridor as potential incident queuing would not be captured and, thus, the full extent of mainlane delay due to the incident not captured. Researchers examined each corridor individually to establish this upstream buffer area. In general, this buffer area was approximately the first 1-mile section from the upstream corridor limit.

The location of an incident with respect to cross section is categorized in the incident database as a shoulder, one or more mainlanes, an HOV lane, ramp or interchange, frontage road, or combination thereof. Some number of incidents were logged as not blocking any lanes at all, whether a result of operator action (omitting the incident location during logging the incident), weather-related event such as flooding, or debris on the roadway that physically may not block a lane of traffic. The focus of this research was limited to incidents occurring on the mainlanes and shoulders of the mainlanes. A relatively small percentage of incidents occurred on ramps and frontage roads, but as the nature of their impact on travel time savings between HOV lanes and mainlanes is, in general, less than for that of incidents occurring on mainlanes and mainlane shoulders, they were not examined in this project. Similarly, a small percentage of incidents involving multiple roadway categories were not included in the analysis as the relationships with delay savings are obscured by the multitude of combinations and relatively small sample size associated with each type of combination, i.e., ramp and frontage road, mainlane and frontage road. Incidents occurring on the HOV lane were also not included in the analysis since the focus of this project was determining the travel time savings provided by the HOV lane during mainlane incidents.

It was also thought that differences in corridor characteristics could be a factor in the delay savings provided by the HOV lane and the only way to account for these differences was to analyze each corridor separately. Corridor differences that could impact delay savings include:

- length of HOV lane facility,
- location of HOV lane access points,
- mainlane/HOV lane speed limits (not the same),
- corridor alignment, and
- mainlane/HOV ADTs.

VI. SELECTION OF CANDIDATE INCIDENTS

A total of 31,687 entries were made in the RIMS database during 2003. Eliminating 22,181 multiple records resulted in a total of 9506 individual incidents. The multiple records are used to record stages of an incident, such as when the incident is detected, when the status of the number of lanes blocked changes, and when the incident is cleared. A unique incident identification number is assigned to each incident, and multiple entries under this identification number can be made to note the changes in the incident. A comparison with Department of Public Safety accident records was used to verify the frequency of incidents logged in the database.

A two-part process was used to filter the pool of incidents down to the incidents suitable for analysis in this research. [Table 10](#) details the first process used to identify candidate incidents for further analysis. This process filtered the pool of incidents from 9506 incidents down to 1036 incidents for further consideration, representing approximately 11 percent of the total incidents logged in 2003.

Table 10. Data Reduction Technique to Identify Candidate Incidents.

Action	Number of Incidents Eliminated	Percent of Incidents Eliminated	Number of Remaining Incidents
Number of individual incidents in 2003 RIMS database			9,506
Incidents on roadways without HOV lanes	- 2,959	31%	6,547
Incidents on roadways with HOV lanes, but occurring outside of HOV hours of operation	- 1,094	12%	5,453
Incidents on roadways with HOV lanes, during HOV hours of operation, but occurring outside the limits of the HOV lane	- 1,148	12%	4,305
Incidents on roadways with HOV lanes, during HOV hours of operation, within the limits of the HOV lane, but occurring in the opposite direction of flow of the HOV lane	- 1,537	16%	2,768
Incidents on HOV lanes	- 655	7%	2,113
Incidents in US-59 Eastex and US-290 Northwest Freeway corridors	- 252	3%	1,861
Incidents on both shoulders and mainlanes	- 235	2%	1,626
Incidents on neither shoulders nor mainlanes	- 491	5%	1,135
Incidents on combination of shoulder or mainlanes with ramps, frontage road, HOV lane, or occurring on the weekend	- 99	1%	1,036
Total Candidate Incidents: incidents occurring on roadways with HOV lanes, during HOV hours of operation, within the limits of the HOV lane, in the direction of flow of the HOV lane, on roadway mainlane(s) or shoulder, on weekdays, in the Katy, North, Gulf, and Southwest freeway corridors			1,036
Total	8,470	89%	1,036

[Table 10](#) shows the step by step process used in this first filter process. Incidents were removed that occurred on corridors without HOV lanes and corridors that had HOV lanes, but outside the hours of operation of the HOV lane, outside the limits of the HOV lane, and occurring in the opposite direction of flow of the HOV lane. Incidents from the US-59 Eastex and US-290 Northwest corridors were also eliminated due to the low number of incidents logged in those corridors. Incidents that did not occur on the mainlanes or shoulders of the mainlanes

were also eliminated as those categories were eliminated from consideration during the development of the incident matrix.

The resulting distribution of 1036 incidents by corridor and extent of blockage is shown in [Table 11](#). The decision to remove US-59 Eastex and US-290 Northwest Freeway corridors from the analysis was largely due to the limited number of incidents in the database for these corridors. Using the same selection criteria used to identify the incidents in the four corridors in [Table 11](#), the resulting candidate incidents for these two corridors were identified as shown in [Table 12](#). Due to the limited sample of candidate incidents identified, insufficient incidents would exist to fill out the incident matrix for these corridors. The candidate incidents for the four corridors in [Table 11](#) represent 89 percent of the candidate incidents for all six corridors.

Table 11. Candidate Incidents from First Filter Process for Study Corridors.

Corridor	Shoulder	1 Mainlane	2+ Mainlanes	Total
I-10 Katy	56	173	22	251
I-45 North	82	205	48	335
I-45 Gulf	55	137	26	218
US-59 Southwest	70	135	27	232
Total	263	650	123	1,036

Table 12. Candidate Incidents from First Filter Process for Non-Study Corridors.

Corridor	Shoulder	1 Mainlane	2+ Mainlanes	Total
US-59 Eastex	10	9	11	30
US-290 Northwest	21	69	14	104
Total	31	78	25	134

The candidate incidents in [Table 11](#) were subsequently filtered through a second process to identify the incidents that were subsequently analyzed in this research. As described in the Development of the Incident Matrix section of this report ([Chapter V](#)), researchers focused on incidents occurring and cleared within the AM peak period of 6:00 to 9:00 AM and the PM peak period of 3:30 to 6:30 PM. Thus, incidents occurring during the off-peak hours were filtered out. Also, as the full impact of incidents occurring during the analysis peak period, but cleared outside of the peak period, would not be captured, only incidents occurring and cleared during the peak period were analyzed. Another step in this filtering process as also described in [Chapter V](#) of this report was to eliminate incidents from the analysis that occurred in the initial section of the study corridor (typically approximately 1 mile) as incident-related queuing would potentially not be fully captured. In a small number of cases, multiple candidate incidents occurred within the same peak period and same corridor. Only the most major of the multiple incidents were analyzed in this project. The final step of the second filtering process was to eliminate incidents for which advocate AVI data were not available. The missing AVI data were especially a problem on the HOV lanes due to reasons described previously in the AVI System and Travel Time Generator section ([Chapter IV](#)).

[Table 13](#) shows number of incidents by corridor that were filtered out during the second filtering process. The order shown in the table is the order incidents were filtered, i.e., first for off-peak, then longitudinal location (initial section of corridor), then for multiple incidents, and

Table 13. Incidents Removed During Secondary Filtering Process.

Corridor	Candidate Incidents	Removed Off Peak		Removed Longitudinal		Multiple Incidents		Incomplete Mainlane AVI Data		Total Removed		Total Remaining	
	#	#	%	#	%	#	%	#	%	#	%	#	%
Katy	251	115	46	13	5	15	6	29	12	172	69	79	31
North	335	139	41	31	9	23	7	37	11	230	69	105	31
Gulf	218	92	42	3	1	11	5	23	11	129	59	89	41
Southwest	232	99	43	15	6	12	5	38	16	164	71	68	29
Total	1,036	445	43	62	6	61	6	127	12	695	67	341	33

finally for inadequate mainlane AVI data. A total of 127 incidents of the 1036 sample were removed due to inadequate mainlane AVI data.

Tables 14 through 17 show the incidents remaining after the filtering process as categorized into the incident matrix for each corridor. A total of 341 incidents were analyzed in this research. The total number of incidents analyzed by corridor was:

- Katy Freeway Corridor – 79 incidents,
- North Freeway Corridor – 105 incidents,
- Gulf Freeway Corridor – 89 incidents, and
- Southwest Freeway Corridor – 68 incidents.

Table 14. Katy Analysis Incident Matrix.

Incident Duration	Lanes Blocked		
	Shoulder	1 Mainlane	2+ Mainlanes
0-15	5	25	3
16-30	5	11	1
31-45	3	12	0
46-60	0	6	2
60+	3	2	1

Table 15. North Analysis Incident Matrix.

Incident Duration	Lanes Blocked		
	Shoulder	1 Mainlane	2+ Mainlanes
0-15	7	40	2
16-30	10	20	5
31-45	3	10	2
46-60	1	0	1
60+	2	1	1

Table 16. Gulf Analysis Incident Matrix.

Incident Duration	Lanes Blocked		
	Shoulder	1 Mainlane	2+ Mainlanes
0-15	11	29	4
16-30	9	19	1
31-45	2	8	0
46-60	1	4	0
60+	1	0	0

Table 17. Southwest Analysis Incident Matrix.

Incident Duration	Lanes Blocked		
	Shoulder	1 Mainlane	2+ Mainlanes
0-15	9	22	1
16-30	5	16	1
31-45	2	5	3
46-60	2	2	0
60+	0	0	0

VII. ANALYSIS OF NON-INCIDENT TRAVEL TIMES FOR SCHOOL DAYS VERSUS NON-SCHOOL DAYS

Prior to conducting the analysis of travel times during mainlane incident conditions, researchers explored the impact of school being in or out of session on mainlane travel times. Only travel time data on non-incident days for both the HOV and mainlanes were used in this comparison to eliminate the impact of incidents on travel times. Researchers identified the AM and PM peak periods during 2003 for each corridor in which an incident neither occurred on the HOV lane or the mainlanes.

The premise for this comparison was the possibility that travel times are statistically significantly different on the mainlanes when school is in or out of session. In the event the differences are statistically significantly different, researchers proposed splitting the matrix for each corridor into two matrices. The reasoning behind this decision would be to isolate the impact of incidents on travel times rather than obscure them with other significant travel time factors. For example, the potential exists that a travel time savings provided by the HOV lane on a minor incident day when school is out of session could be less than the travel time savings provided on a non-incident day when school is in session. The HOV lane would still be providing a savings over the mainlanes during incident conditions, but this difference could be obscured if the impact of whether school was in session or not was significant.

Table 18 shows the number of non-incident peak periods by corridor for the AM peak period or the PM peak period that were incident free on both the HOV lane and mainlanes. It is not the number of days that were incident free in both the AM and PM peak periods on the same day. Using data for days that were either incident free in the AM or PM peak period expanded the data sample available to analyze.

Table 18. Non-Incident Days Used in School Open/School Closed Comparison.

	Katy		North		Gulf		Southwest	
	AM	PM	AM	PM	AM	PM	AM	PM
Total Non-Incident Peak Periods	124	103	141	105	146	111	161	123
Weekend Days	81	68	85	73	89	73	96	81
Conflict Days	7	10	9	10	10	10	17	14
Total Non-Incident Weekday Peak Periods	36	25	47	22	47	28	48	28
School Open	24	20	33	17	28	19	34	18
School Closed	12	5	14	5	19	9	14	10

The first row of data in Table 18 shows the total number of non-incident AM or PM peak periods. From these days the number of non-incident weekend days (second row) were eliminated as all HOV lanes with the exception of the Katy HOV lane are closed on weekends. The third row shows the number of conflict days eliminated. Conflict days include days where the HOV lanes are closed due to major holidays such as New Year’s Day, Memorial Day, July 4th, Labor Day, Thanksgiving, and Christmas Day as well as days where conflicting school schedules existed, i.e., some schools in the corridor were in session, while others were closed. The fourth row shows the total number of incident-free weekday peak periods. The non-incident peak periods are categorized in the bottom two rows as school open and school closed. As seen

in the last two rows of [Table 18](#), the sample size of peak periods that were incident free during 2003 is very small. Only 17 percent of AM weekday peak periods were incident free, while only 10 percent of weekday PM peak periods were incident free. Researchers ran the Travel Time Generator for each of these days and performed the following statistical analyses. As occurred during the filtering process to identify candidate incidents, some of these non-incident days could not be analyzed due to missing AVI data.

METHODOLOGY

Statistical analyses were performed to determine whether school days had a significant effect on travel times for four corridors in Houston (Katy Freeway, Gulf Freeway, North Freeway, and Southwest Freeway). Travel times for morning (6:00 AM to 9:00 AM) and evening (3:30 PM to 6:30 PM) peak periods displayed roughly parabolic (quadratic) patterns of increase and subsequent decrease. The effect of school days was determined to magnify these patterns; i.e., the magnitude of the increase/decrease in travel times is larger with respect to start time on days in which schools are open. This effect of school days is almost entirely restricted to morning peak periods. Although evening peak period travel times were found to differ significantly between school days and non-school days for the Southwest Freeway, no statistically significant difference was found in the Gulf and North corridors.

The 5-minute data for travel times were aggregated into 30-minute data. These 30-minute data were computed using a weighted average, where the weights were the number of AVI observations comprising each 5-minute travel time. Any missing observations remaining after aggregation were interpolated by using the average travel time for the appropriate peak period (AM/PM) and school day status (in/out).

Since travel times are strongly correlated with start times, a univariate analysis of variance analysis (ANOVA) would be inappropriate. The correlation structure of the data strongly violates the sphericity assumption, which requires that the correlations between observations in each combination of school day and start time be similar. Since the data could not be assumed to comply with the sphericity assumption for ANOVA analysis, multivariate repeated measures model was thus used for the analysis, with the repeated variable being time; the only other factor included in the model was school day. Each corridor and peak period within the corridor was analyzed separately; this was done more for ease in interpretation. The Katy Freeway corridor could only be analyzed for the morning peak, as insufficient data were available for the evening peak period due to missing AVI data.

RESULTS

The results of the multivariate repeated measures analyses appear in [Table 19](#). The p -values in the table denote the probability that there is no interaction between school days and start time. In other words, if school days have no effect on travel time, then the variation in travel time with respect to start time should be the same whether school is in session or not. Any p -values in the table less than 0.05 can be considered evidence that school days are influencing travel time; these significant values are shown in bold. Note that all morning peak period travel times are significantly influenced by school days; this effect is most pronounced for the North

Table 19. Results of Tests for Effects of School Days on Travel Times.

Corridor	Peak Period	P-values for the Effect School × Start Time	Type of School Effect
Katy	AM	0.0381	Multiplicative
Gulf	AM	0.0171	Multiplicative
	PM	0.1278	None
North	AM	0.0019	Multiplicative
	PM	0.7006	None
Southwest	AM	0.0379	Multiplicative
	PM	0.0198	Multiplicative

Freeway. Nearly all of the evening peak period travel times are unaffected by school days, with the exception of the Southwest Freeway corridor.

DISCUSSION OF RESULTS

Figures 18 through 24 are presented to clarify the nature of the effect of school days on travel times during non-incident conditions in each of the studied corridors. All figures show the average travel times (in seconds) observed as a function of trip start time for both school days (squares) and non-school days (circles). Start times proceed in 5-minute increments.

As previously mentioned, school days interact with start time to influence travel times during the morning peak periods. This interaction acts to exacerbate the effect of start time; i.e., the increase in travel time normally due to start time is magnified when schools are in session. This magnifying effect is most acute during the “peak of the peak period,” and it is attenuated significantly at the shoulders of the peaks. Since this synergistic effect of school days is not constant across all start times, the effect of school days cannot be interpreted as a “level-shift,” or a simple additive effect. This behavior can be most clearly seen in Figures 19, 21, and 23. Note in these figures how travel times beginning from approximately 7:00 AM to 8:00 AM are disproportionately greater for school days versus non-school days, and how the increase in travel times is less pronounced toward the shoulders of the AM peak periods. To a lesser extent, such behavior can be seen in Figure 19 for the Gulf Freeway morning peak as well.

Figures 20 and 22 illustrate the absence of any significant effect of school days on evening travel times for the Gulf and North Freeways. Note that while the afternoon travel times for the Gulf Freeway are nearly coincident, some difference (which is not, however, statistically significant) is seen for those of the North Freeway. The jaggedness of some lines in these figures is an artifact caused by missing AVI data, and should not be interpreted as an effect of school days. Figure 24 shows the afternoon travel times for the Southwest Freeway. Travel time differences between school days and non-school days are sufficiently large to be significant here (unlike the afternoon travel times for the North Freeway), and appear almost to be a level shift, with the exception of the earliest start times.

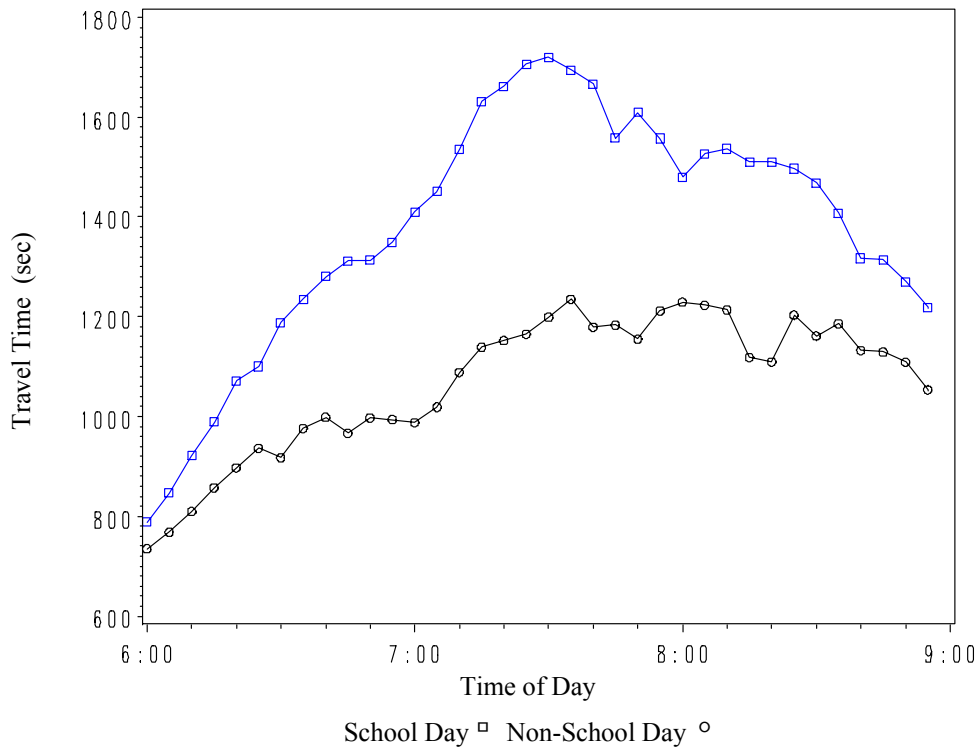


Figure 18. Katy Freeway Mainlane AM Peak Non-Incident Travel Times.

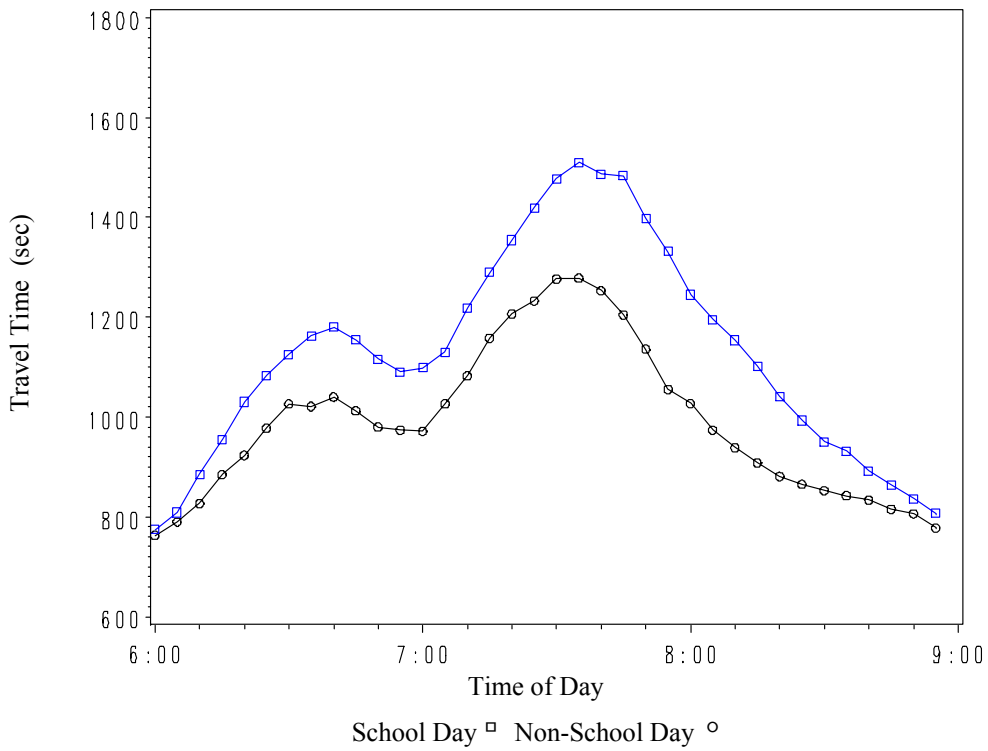


Figure 19. Gulf Freeway Mainlane AM Peak Non-Incident Travel Times.

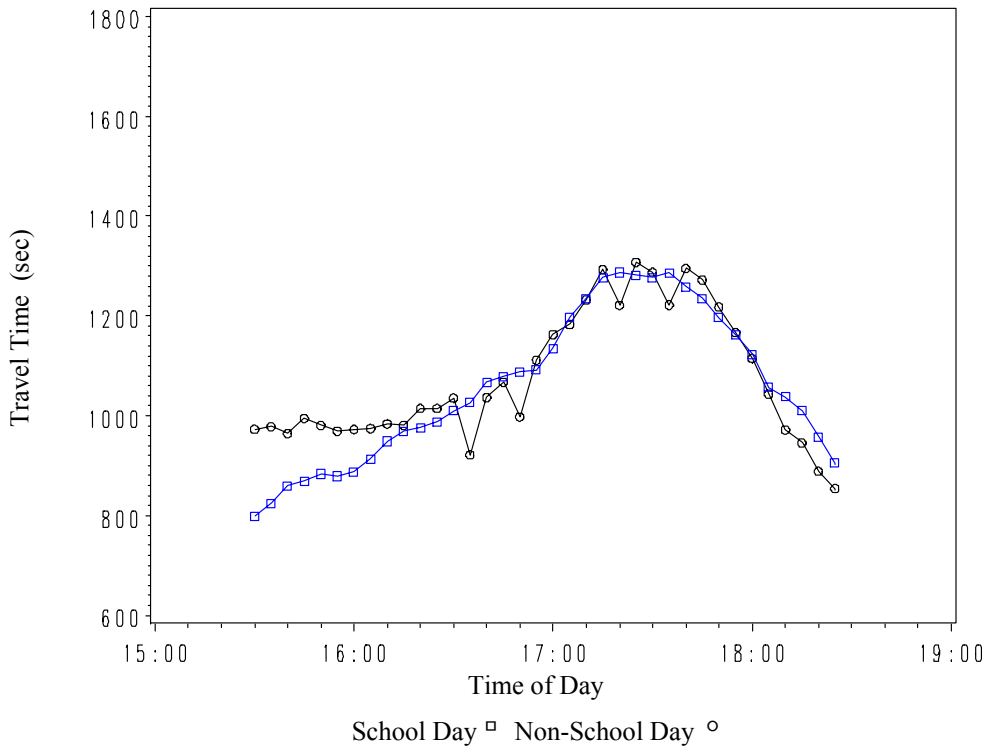


Figure 20. Gulf Freeway Mainlane PM Peak Non-Incident Travel Times.

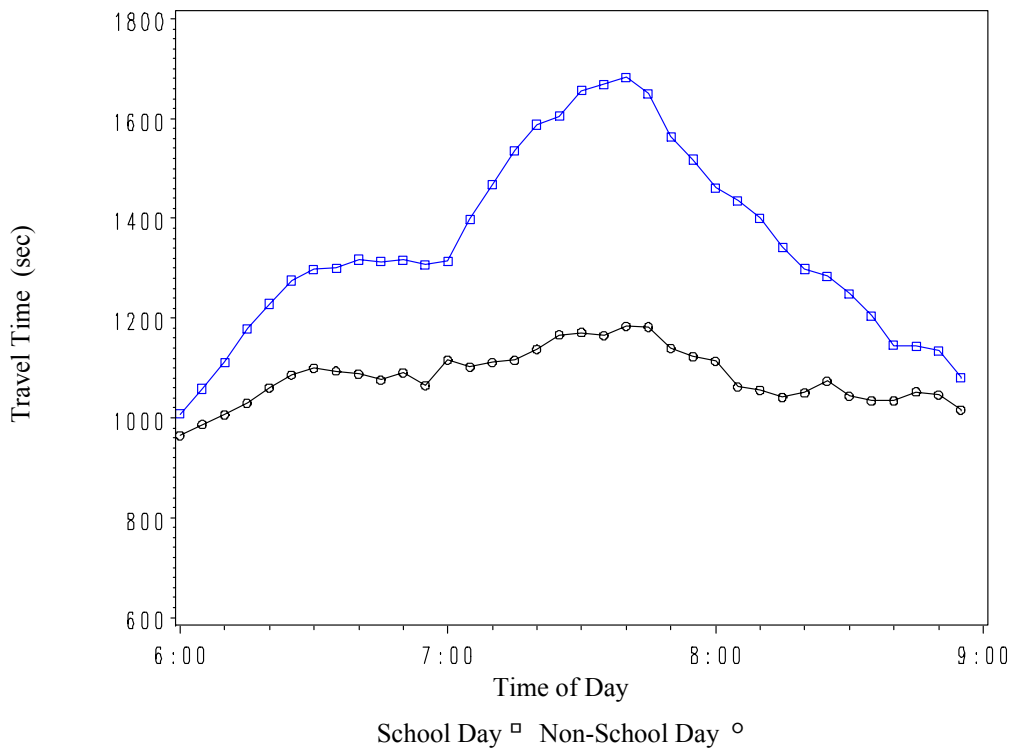


Figure 21. North Freeway Mainlane AM Peak Non-Incident Travel Times.

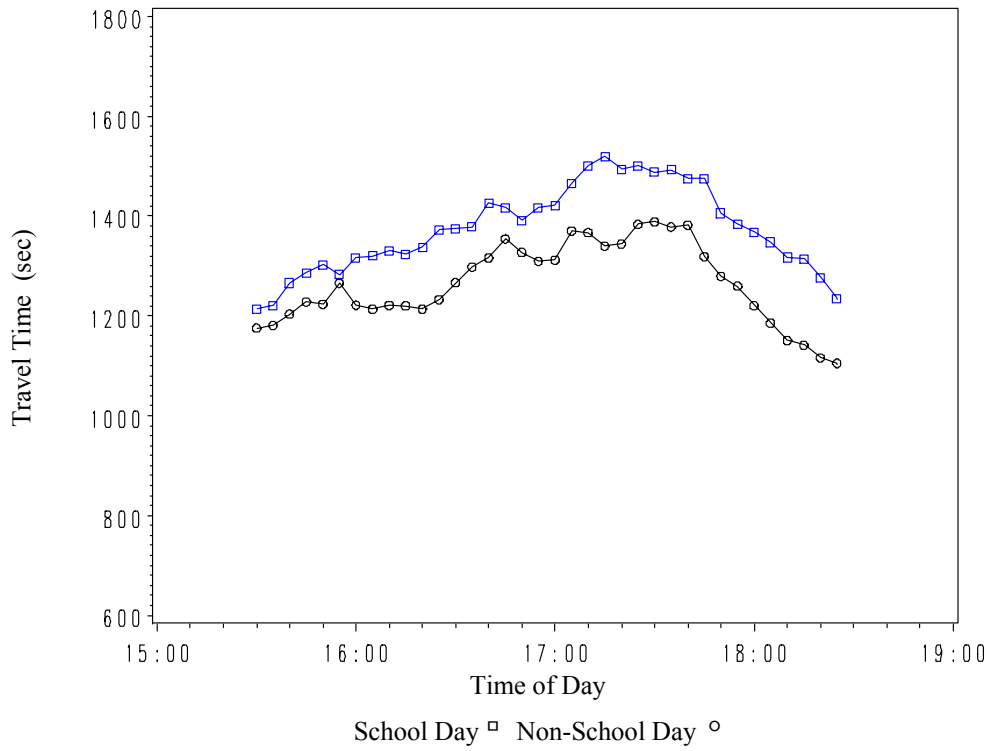


Figure 22. North Freeway Mainlane PM Peak Non-Incident Travel Times.

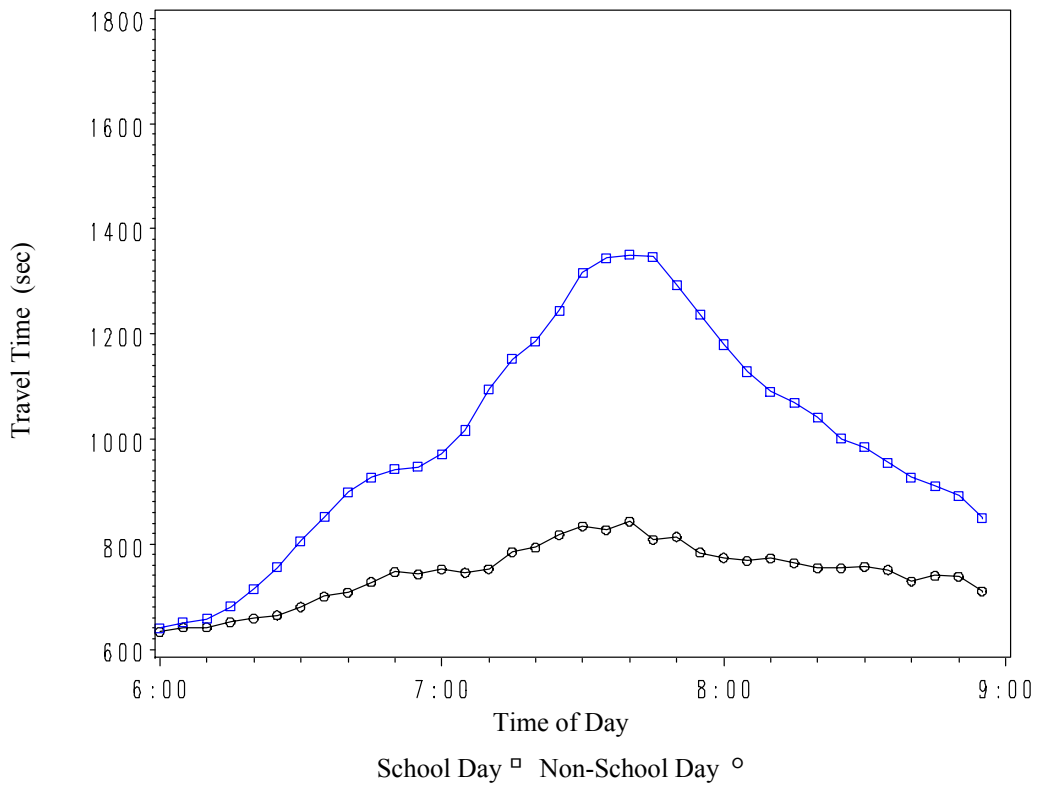


Figure 23. Southwest Freeway Mainlane AM Peak Non-Incident Travel Times.

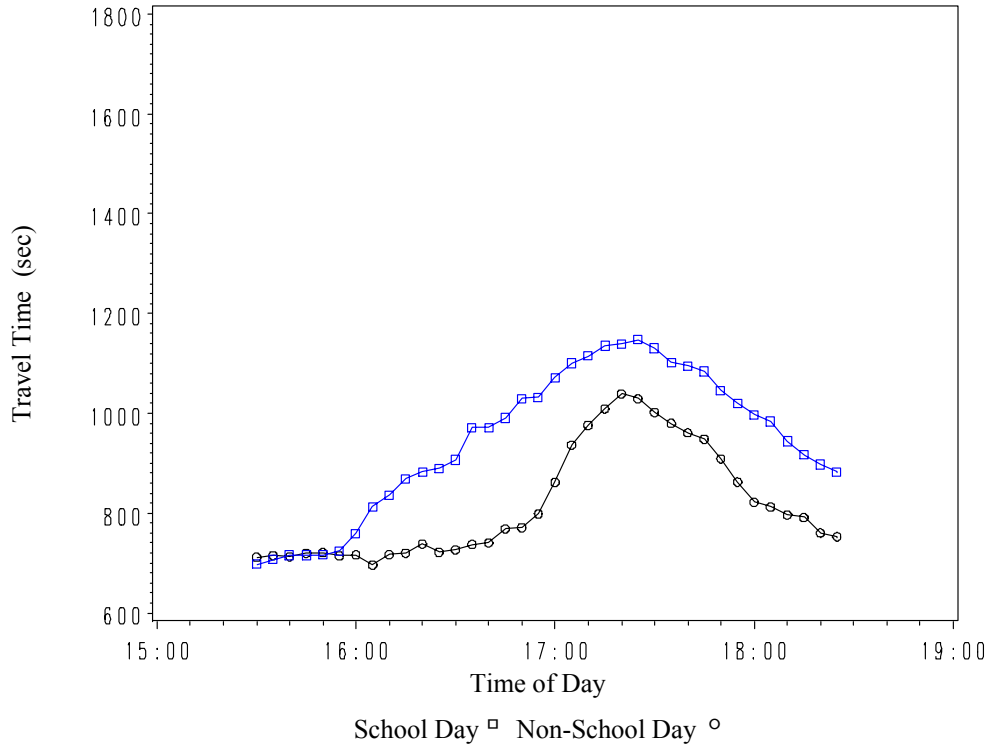


Figure 24. Southwest Freeway Mainlane PM Peak Non-Incident Travel Times.

Based on the results of this analysis, the initial matrix will be split into four incident matrices per corridor. The initial combined matrix will also be analyzed. The five matrices are:

- AM School In,
- AM School Out,
- PM School In,
- PM School Out, and
- Combined.

VIII. ANALYSIS, METHODOLOGY, AND RESULTS

The Travel Time Generator was run for the peak periods of the days of each incident in each cell of the corridor matrices. The information was displayed on-screen and written to text files, which were used by a semi-automated process to summarize the information further. The Travel Time Generator produces two types of files: a detailed report file and a summary file. The detailed report files were used to determine if AVI data were available for all corridor segments during the peak periods analyzed. These files also revealed whether missing data were a result of a temporary outage or lack of transponder readings during a given 5-minute period, or if a reader was out for an extended period of time. As mentioned earlier, data quality was an issue, so several ways of imputing or estimating the missing data were devised to maximize the number of peak periods included in the analysis. Where data were missing for up to several 5-minute time periods, the gaps in the data were filled in by averaging speeds and travel times for the missing segment using the data for the same segment from adjacent time periods. These imputed data were flagged for documentation. A maximum limit of up to ± 15 minutes was used for this type of data smoothing. Where larger gaps in the data existed, an "NA" indicator was placed in the report in the missing segments and time periods.

DATA QUERY AND DATA FILES

The Travel Time Generator was used to produce the data files for individual incidents that were used in the analysis. The detailed report file mirrors the information shown on-screen, which shows the 5-minute period data by segment as shown in Figure 25. By columns, the report shows the limits of the segment, start time of the time period, length of the segment in miles, travel time in minutes, speed in mph, number of AVI tag reads in the sample making up the average, standard deviation of speed, and a flag if the sample was estimated based on the aforementioned averaging technique. The detailed report contains a table as shown for the 06:00 5-minute time period in Figure 25 for each 5-minute time period during the peak period. The detailed report was mainly used to determine trends of segment outages and quality control.

06:00 AM Report							
	Time	Dist	TTime	Spd	Samp	Std	Flag
Barker Cypress to Eldridge	6:00 AM	1.74	2:33	41	11	8	0
Eldridge to Sam Houston Tlwy	6:00 AM	3.65	4:03	54	11	4	0
Sam Houston Tlwy to Blalock	6:00 AM	2.25	2:18	59	12	5	1
Blalock to I-610	6:00 AM	4.05	4:01	60	21	14	0
I-610 to T.C. Jester	6:00 AM	0.88	00:48	66	18	6	0
Route Totals		12.57	13:43	55	73		1

Figure 25. Illustration of Part of an Individual Incident Detailed Report.

The other report generated by the Travel Time Generator software is an incident summary report. The report summarizes the route totals (from the bottom row of each 5-minute table in the individual incident detailed report) for each 5-minute period in the peak period. An example of part of a summary report is shown in Figure 26. The actual files contain all the data between 6:00 to 9:00 AM and 3:30 to 6:30 PM. The file contains header data identifying the facility name, limits, facility

Freeway Name, I-10 Katy					
Limit, Barker Cypress to T.C. Jester					
Freeway Type, FWY					
Direction, EB					
Date, 05/08/2003					
Time, 06:00 AM to 08:55 AM					
Time,	Distance,	TravelTime,	Speed,	Sample,	GeneratedData
06:00 AM,	12.57,	823,	55	73,	1
06:05 AM,	12.57,	880,	51,	72,	2
06:10 AM,	12.57,	919,	49,	65,	1
06:15 AM,	12.57,	964,	47,	102,	0
06:20 AM,	12.57,	1090,	42,	44,	0
06:25 AM,	12.57,	1154,	39,	72,	0
06:30 AM,	12.57,	1095,	41,	32,	0

Figure 26. Illustration of an Individual Incident Summary Report.

type, direction of travel, date, and time period. The data elements are similar to the detailed report, with columns showing time period start time, length of segment (which is corridor length in this table since it is a summation of all segments in the analysis for a particular corridor), travel time in seconds, speed in mph, number of AVI tag reads making up the sample, and a sum of the number of segments that had estimated data (denoted as “GeneratedData”). Generating the summary reports was the beginning of the data reduction process.

An analysis of the individual incident summary report files revealed the extent of missing AVI data as shown in [Table 20](#). This table shows the percentage of peak period summary report data that were available for the analysis. The summary report data categorized as “good” had no missing data for any of the 5-minute time periods. The “usable” data were summary reports that had data missing from 12 or less 5-minute time periods, and “bad” data were files that had more than 12 missing time periods. As seen in [Table 20](#), the mainlane data were more reliable with an average of approximately 72 percent of the peak period data being good/usable, whereas only approximately 36 percent of the HOV data were good/usable. The Katy Freeway HOV AVI readers performed at a much higher level than the other corridors as seen in [Table 20](#). Approximately 74 percent of Katy HOV lane AVI data was good/usable, whereas the reliability of other HOV corridor AVI readers produced files that ranged from 9.5 percent good/usable on the Southwest Freeway to 37 percent on the Gulf Freeway. The increased reliability of readers and data on the Katy HOV lane is attributed to the QuickRide program, which uses the AVI readers for billing data of program participants. The readers on the Katy Freeway received higher maintenance priority due to the QuickRide program.

Table 20. Analysis of Mainlane and HOV Travel Time Summary Report Data.

Corridor	Mainlane				HOV			
	% Good	% Usable	% Bad	% Analyzed	% Good	% Usable	% Bad	% Analyzed
Katy	62.9	9.7	27.4	72.6	72.3	1.7	26.1	73.9
North	63.2	9.9	26.9	73.1	0.0	25.1	74.9	25.1
Gulf	70.2	9.2	20.6	79.4	0.8	36.1	63.1	36.9
Southwest	50.4	11.6	38.0	62.0	0.0	9.5	90.5	9.5
Average	61.7	10.1	28.2	71.8	18.3	18.1	63.6	36.4

Development of HOV Lane Baseline Travel Time Curves

Researchers initially intended to compare mainlane and HOV lane travel time data for the same day that each mainlane incident occurred. Because of the extent of HOV lane AVI data missing, we were unable to make this comparison, as the sample size of incident days with both good/usable mainlane and HOV lane data on the same day would have drastically reduced the analysis sample size. In response, researchers created a set of baseline HOV lane travel time data files and curves to use in comparison with individual incident mainlane travel times.

A combination of the HOV lane data files were averaged together, which represented HOV lane travel times during mainlane incident conditions and used for the travel time comparison. For example, the data from the 6:00 AM 5-minute time period for all HOV files during mainlane incident conditions that contained data in this cell were averaged together to create the baseline speed and travel time for each time period and segment. Although the data were averaged to create the baseline HOV lane travel times, the sample size of data available was still limited with the exception of the Katy HOV lane; however, the variability of travel times on the HOV lanes is low, thus it is still assumed to be representative.

The effects of HOV rubbernecking of mainlane incidents were assumed to be localized and have minimal effect on the overall HOV corridor travel time. However, to account for the potential rubbernecking effect, available HOV lane data during mainlane incidents were used in the development of the baseline curves. In the case of the Southwest Freeway, there were still time periods with data not available even using the averaging technique. A “best fit” line was used with the existing data points to create the baseline used for the Southwest Freeway HOV lane travel times.

Summarization of Files

Once the individual detailed report and summary files were generated, they were stored in a directory structure that mirrors the incident matrix. As previously mentioned, incidents were classified for each corridor into five matrices:

- AM School In,
- AM School Out,
- PM School In,
- PM School Out, and
- Combined.

The directory folders corresponded to the cells of each incident matrix and consisted of mainlane incident travel time data to be compared with the corresponding HOV travel time data. Each cell in the corridor matrices was comprised of data from 0 to 40 incidents. As mentioned, the original intention was to compare the mainlane incident travel time data with the HOV travel time data for the same day. Due to the large volume of data, a semi-automated process was developed utilizing several different Excel macros and templates to more efficiently analyze the data. Initially, an Excel macro was developed to compare each 5-minute period of the mainlane travel time to the HOV travel time for the same day. From these 5-minute differences, a range of statistics was generated including the average, maximum, minimum, and the area between the two curves. The differences in travel time were written to a file, and the difference from a particular cell was gathered

and averaged. Due to the limited HOV lane AVI data, this process was later adjusted to incorporate the comparison of the difference between the average mainlane travel times during mainlane incidents in a cell to a baseline HOV travel time in the corresponding cell.

Mainlane versus HOV Lane Travel Time Comparison

After the summarization of data files, a series of graphs and tables were developed to aid in the travel time analysis. One table and two graphs were developed to represent the average mainlane and HOV lane travel time data for each cell in each corridor matrix. Examples of the table and two graphs are shown in [Table 21](#) and [Figures 27 and 28](#).

The travel time comparison table shows the freeway travel time, HOV travel time, a travel time comparison, and the area between the two travel time curves. A summary of the average, maximum, and minimum travel time differences, standard deviation, and area between the curves is shown at the bottom of the table. [Figure 27](#) shows the mainlane and HOV travel time during the AM peak period. [Figure 28](#) shows the difference between the two curves, i.e., the travel time savings provided by the HOV lane. These graphs are very beneficial in determining the travel time difference trends. The average travel time differences in the tables tend to wash out the appearance of savings in the travel time difference due to the fact that it is the average over the entire 3-hour peak period, rather than only peak hour savings as reported in some studies, or the maximum travel time savings. For this reason, the maximum travel time savings values shown in the table and the graphs of travel time differences are useful in showing how HOV lane benefits are often much greater than the reported average savings.

An area method of delay calculation was used to calculate the area between the mainlane and the HOV travel time curves. Integration by parts was used to determine the area using the calculated difference between the two lines as the “Y” value and the 5-minute time period for the “X.” This shape is a trapezoid, so $X*Y/2$ was used to determine the area for each segment, and the segments were totaled to determine the total area under the curve for the peak period. The area method provides the most analytical method for measuring the difference between the two curves, but it is less intuitive than the maximum, minimum, and average travel time measure. This method does hold promise and with time might be utilized in future comparisons.

If the mainlane travel time is less than the HOV travel time, the values are negative and thus, are shown below the HOV lane curve. This occasionally occurs at the beginning or ending of a peak period where the mainlanes operate at free-flow conditions. Additionally, even though the HOV lane would be operating at free-flow conditions during those time periods as well, the one-lane design of the HOV lane prevents vehicles from passing slower moving vehicles. The full set of tables and graphs for each analysis cell of each corridor matrix is contained in [Appendix B](#). For ease of locating the tables and graphs for a particular matrix cell, the first page in [Appendix B](#) presents the matrix for each corridor with the page number of the graph associated with each cell. Cells that contained no incidents that could be used in the analysis are indicated with an “NA” in the cell.

Table 21. Travel Time Comparison Table.

Freeway Name	I-10 Katy							
Limit	SH 6 to Silber							
Freeway Type	FWY-HOV							
Direction	EB							
Date								
Time	06:00 AM to 08:55 AM							
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA		
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE	
6:00 AM	12.57	13:25	11:41	104.6	01:45	0.0		0:00:00
6:05 AM	12.57	14:42	11:51	170.9	02:51	688.8		0:11:29
6:10 AM	12.57	14:54	12:00	173.5	02:54	861.0		0:14:21
6:15 AM	12.57	16:30	12:15	254.6	04:15	1,070.4		0:17:50
6:20 AM	12.57	18:33	12:36	357.2	05:57	1,529.6		0:25:30
6:25 AM	12.57	20:03	13:03	420.2	07:00	1,943.5		0:32:23
6:30 AM	12.57	23:55	13:21	634.3	10:34	2,636.1		0:43:56
6:35 AM	12.57	24:52	13:54	657.2	10:57	3,228.7		0:53:49
6:40 AM	12.57	23:16	14:17	538.8	08:59	2,990.0		0:49:50
6:45 AM	12.57	25:59	14:38	680.6	11:21	3,048.6		0:50:49
6:50 AM	12.57	24:39	14:13	626.8	10:27	3,268.4		0:54:28
6:55 AM	12.57	26:52	13:33	799.7	13:20	3,566.1		0:59:26
7:00 AM	12.57	27:51	12:43	907.9	15:08	4,268.9		1:11:09
7:05 AM	12.57	29:23	12:38	1,005.2	16:45	4,782.5		1:19:43
7:10 AM	12.57	30:55	12:27	1,107.9	18:28	5,282.5		1:28:03
7:15 AM	12.57	33:04	12:16	1,247.8	20:48	5,889.1		1:38:09
7:20 AM	12.57	33:03	12:26	1,237.5	20:37	6,213.1		1:43:33
7:25 AM	12.57	35:30	12:33	1,376.6	22:57	6,535.1		1:48:55
7:30 AM	12.57	35:01	12:39	1,342.5	22:22	6,797.6		1:53:18
7:35 AM	12.57	36:25	12:34	1,431.0	23:51	6,933.7		1:55:34
7:40 AM	12.57	34:26	12:25	1,321.4	22:01	6,881.1		1:54:41
7:45 AM	12.57	34:42	12:27	1,334.7	22:15	6,640.4		1:50:40
7:50 AM	12.57	33:04	12:28	1,236.4	20:36	6,427.8		1:47:08
7:55 AM	12.57	30:35	12:32	1,082.9	18:03	5,798.3		1:36:38
8:00 AM	12.57	31:01	12:51	1,089.4	18:09	5,430.7		1:30:31
8:05 AM	12.57	30:53	12:43	1,089.6	18:10	5,447.3		1:30:47
8:10 AM	12.57	27:28	12:35	892.3	14:52	4,954.6		1:22:35
8:15 AM	12.57	28:18	12:42	935.6	15:36	4,569.7		1:16:10
8:20 AM	12.57	26:10	12:35	814.8	13:35	4,375.9		1:12:56
8:25 AM	12.57	26:42	12:33	849.1	14:09	4,159.6		1:09:20
8:30 AM	12.57	25:17	12:08	788.4	13:08	4,093.6		1:08:14
8:35 AM	12.57	24:55	12:12	762.9	12:43	3,878.2		1:04:38
8:40 AM	12.57	26:01	12:03	837.2	13:57	4,000.1		1:06:40
8:45 AM	12.57	23:59	12:01	718.4	11:58	3,889.0		1:04:49
8:50 AM	12.57	23:15	12:02	673.2	11:13	3,479.1		0:57:59
8:55 AM	12.57	21:15	11:54	560.5	09:21	3,084.4		0:51:24

	sec	dd:hh:mm:ss
MAX DIFF	1,431.0	23:51
MIN DIFF	104.6	01:45
AVG DIFF	835.0	13:55
STD DEV	366.4	06:06
TOT AREA	148,643.7	01:17:17:24

I- 10 KATY FREEWAY AM EB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS

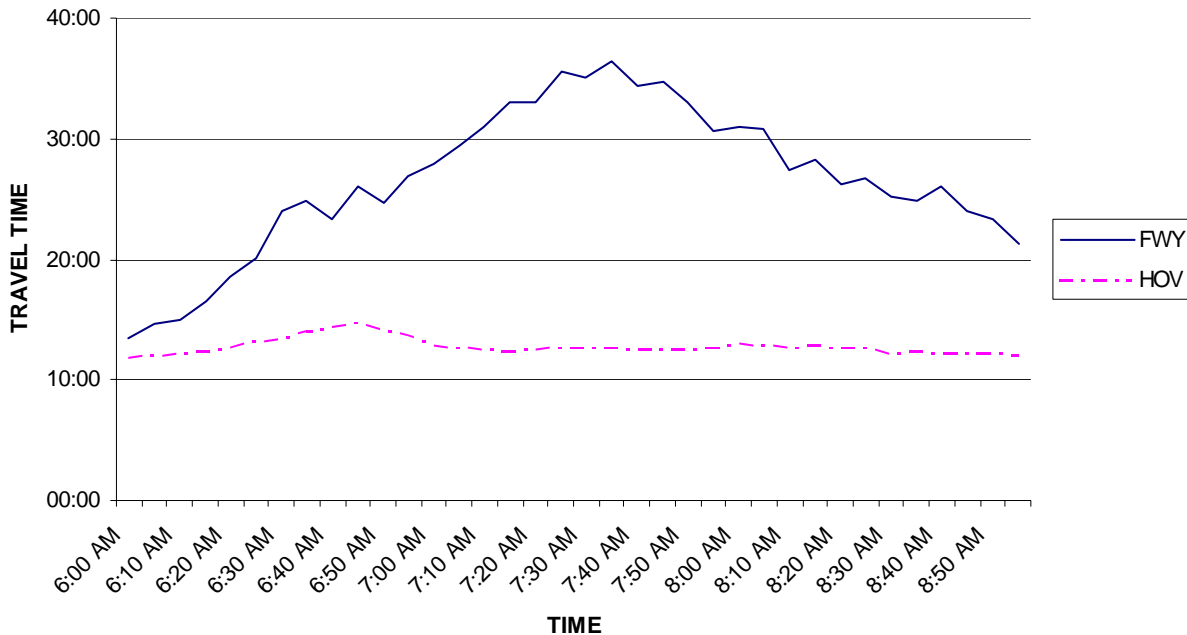


Figure 27. Mainlane Versus HOV Lane Travel Times.

I- 10 KATY FREEWAY AM EB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS

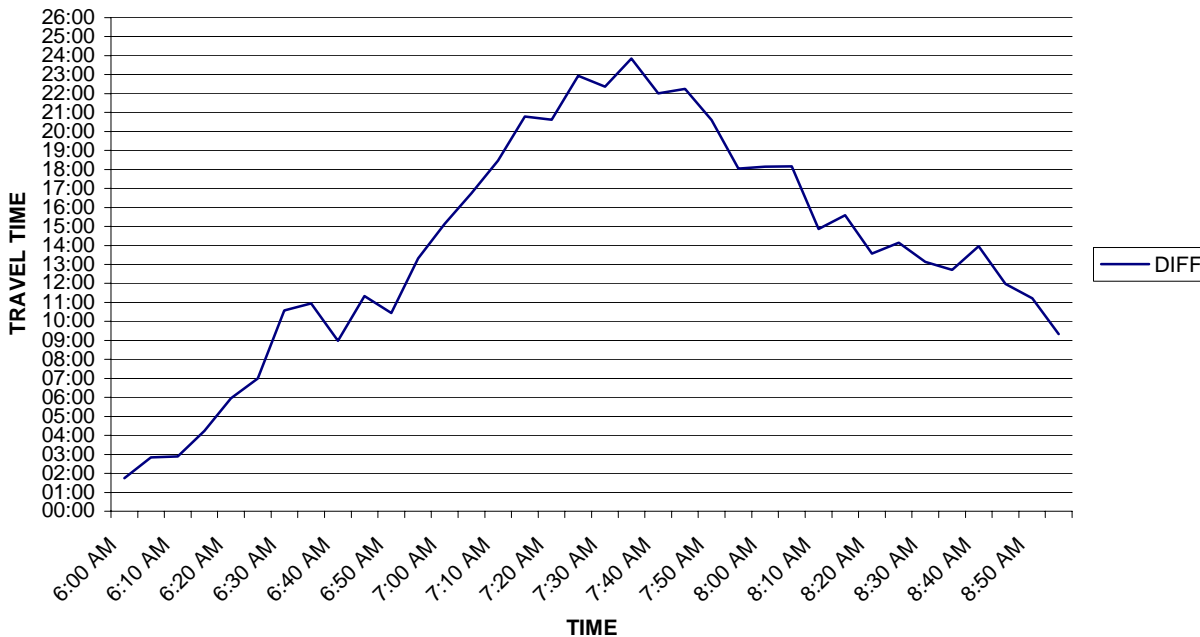


Figure 28. HOV Lane Travel Time Savings.

RESULTS

A series of incident matrix summary tables were developed to summarize the average, average maximum, average minimum, and standard deviation of mainlane/HOV lane travel time differences for each cell in the matrix. Each corridor has a series of five associated tables:

- AM School In,
- AM School Out,
- PM School In,
- PM School Out, and
- Combined Weighted Averages.

The tables take the form of the incident matrix and summarize the data from the incidents analyzed in each cell. Each table is stratified by the type of incident with respect to extent of blockage: shoulder blocked, one mainlane blocked, or two or more mainlanes blocked, and the extent of duration of the incident. For convenience and comparison, the non-incident travel time average, maximum, minimum, and standard deviation differences are presented below each table. [Tables 22 to 26](#) show the results of the analysis of the Katy Freeway incident matrix. The combined weighted average table combined the data on a weighted basis from the other four tables for the corridor, i.e., AM school in, AM school out, PM school in, and PM school out. The tables for the other corridors are shown in [Appendix C](#) and are subdivided by freeway corridor, AM and PM peak period, and whether school is in session or not. The general trends indicated that the Katy HOV had the greatest time savings both in the AM and PM peak periods.

Table 22. Katy Freeway HOV Travel Time Savings (AM-School In).

LANES BLOCKED															
Incident Duration	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	3	13:55	23:51	01:45	06:06	3	17:46	36:35	01:55	10:46	0				
16-30	1	15:54	25:28	01:50	07:23	3	16:53	31:44	01:48	08:27	0				
31-45	0					4	19:16	30:22	01:33	08:16	0				
46-60	0					0					1	16:31	28:08	02:26	07:21
61+	0					1	14:29	25:19	02:01	06:27	1	35:21	1:04:05	00:57	19:11
Avg		14:25	24:15	01:46	06:26		17:47	31:58	01:46	08:50		25:56	46:06	01:42	13:16
% Diff		33%	50%	-9%	65%		64%	98%	-9%	127%		139%	186%	-12%	241%
NON-INCIDENT															
	INC	AVG	MAX	MIN	DEV										
	24	10:51	16:08	01:56	03:53										

Table 23. Katy Freeway HOV Travel Time Savings (AM-School Out).

LANES BLOCKED															
Incident Duration	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	0					3	13:14	19:04	03:13	04:03	0				
16-30	0					1	13:56	24:49	00:13	07:19	0				
31-45	0					1	02:51	14:52	-01:07	03:36	0				
46-60	0					0					0				
61+	0					0					0				
Avg							11:18	19:22	01:45	04:37					
% Diff							76%	112%	30%	99%					
NON-INCIDENT															
	INC	AVG	MAX	MIN	DEV										
	11	06:26	09:07	01:21	02:19										

Table 24. Katy Freeway HOV Travel Time Savings (PM-School In).

LANES BLOCKED																
Incident	SHOULDER					1 MAINLANE					2+ MAINLANES					
	Duration	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
	min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
	0-15	2	27:54	44:24	15:15	09:02	13	17:41	27:44	10:04	05:48	2	20:15	33:44	08:29	08:55
	16-30	3	12:28	22:04	06:40	04:20	4	23:44	35:18	11:30	07:57	0				
	31-45	3	19:57	32:00	10:26	07:26	4	21:05	26:49	09:56	05:07	0				
	46-60	0					5	24:28	36:23	11:03	07:39	1	17:46	24:44	04:13	06:32
	61+	2	17:30	28:41	09:51	05:40	1	11:20	21:15	04:26	05:00	0				
	Avg		18:48	30:50	10:09	06:28		20:06	30:05	10:14	06:20		19:26	30:44	07:04	08:08
	% Diff		10%	12%	25%	4%		18%	10%	27%	2%		14%	12%	-13%	31%
	NON-INCIDENT															
		INC	AVG	MAX	MIN	DEV										
		20	17:05	27:26	08:05	06:12										

Table 25. Katy Freeway HOV Travel Time Savings (PM-School Out).

LANES BLOCKED																
Incident	SHOULDER					1 MAINLANE					2+ MAINLANES					
	Duration	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
	min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
	0-15	0					1	18:23	32:26	06:42	08:45	1	24:37	40:28	09:50	08:45
	16-30	1	10:33	20:38	05:13	04:34	3	11:45	20:59	04:27	05:07	1	28:20	08:40	05:53	21:02
	31-45	0					3	23:31	49:26	08:50	14:07	0				
	46-60	0					1	25:20	49:01	02:09	15:16	0				
	61+	1	10:24	18:35	-01:52	06:15	0					0				
	Avg		10:29	19:36	01:40	05:24		18:41	36:36	06:05	10:13		26:28	54:34	07:52	14:54
	% Diff		-31%	-31%	-66%	-29%		22%	28%	26%	34%		73%	91%	62%	95%
	NON-INCIDENT															
		INC	AVG	MAX	MIN	DEV										
		5	15:17	28:34	04:51	07:39										

As noted previously, some of the cells contain no data or only a few incidents are shown (“Inc” in the tables indicates the number of incidents analyzed in each cell). Some of the reasons for the low number of usable incidents include:

- incidents occurred outside of the peak period,
- incident occurrence and clearance not contained within the peak period,
- more than one incident occurred during the peak period (only the more severe was used),
- incident occurred at the beginning of the study section, and
- missing or incomplete AVI data.

Each of the incident summary tables provides a weighted non-incident average. The comparison can be made of the weighted average non-incident travel time difference with the incident condition travel time difference in the matrix. As expected, in most cases the incident travel time difference is greater than the non-incident travel time difference. However, in a few cells, the difference is minimal or even negative. Potential explanations include:

- low sample size of incidents in many cells (sometimes only one or two incidents),
- low sample size of non-incident peak periods available to create baselines,
- weather conditions during incidents and non-incident travel times not accounted for,
- even though holidays were excluded in the analysis, incidents analyzed on days around holidays could under-represent typical HOV lane delay savings,
- mainlane incidents occurring during the fringes of the peak period may have little impact on overall HOV lane peak period travel time savings,
- mainlane incidents could have been missed, i.e., not logged in the RIMS database and data from that day used in the non-incident travel time average,
- outer portions of the freeway corridors often experience high speeds and low congestion on mainlanes, and
- incidents in the opposite direction and the effect of rubberneckers in the peak direction were not taken into account for non-incident days.

Certain aspects of using the HOV lane (believed to be relatively insignificant) are not taken into account such as:

- additional time it takes to get onto the HOV lane,
- time required to pick up a carpooler, and
- time required to drop off the carpooler.

Several other considerations include:

- incident detection and clearance times reported in the RIMS database time may not be exact,
- TMC operators are monitoring many incidents, answering calls from the public, deploying messages to the dynamic message signs (DMSs), recording deficiencies, as well as other tasks, and may not log all incidents, and

- motorists may realize much higher travel time savings than the average values typically reported, especially during incident conditions and the peak of the peak period.

Results by Corridor

This section discusses some of the results obtained by corridor. To gain insight into each corridor, see the section on Freeway Corridor Characteristics ([Chapter II](#)), which provides some general information on number of lanes, traffic volumes, etc. The following observations were made by analyzing the graphs in [Appendix B](#). The summary tables provide more gross statistics and are good for averages, but the detail provided in the graphs truly shows the benefit of the HOV lane travel over the mainlanes by time of day. As expected, HOV lane travel time savings during the shoulders of the peak period are often lower than average; however, it is considered that travel time reliability more than makes up for any marginal savings.

Katy Freeway Corridor

The Katy Freeway AM peak period HOV lane and mainlanes have approximately equal travel times at the beginning of the peak period. The travel time difference gradually grows to about 20 minutes for a one-lane blocked incident and then drops to about an 8-minute difference at about 9:00 AM. The PM peak period starts with a travel time difference of approximately 10 minutes and gradually increases to about 35 minutes. Mainlane travel times do not fully recover to free flow until after the PM peak period. The travel time difference at the beginning and ending of the peak period indicates that the entire peak period is not fully captured by the analysis time period for the Katy Freeway. This indicates that there is almost always a benefit in taking the Katy HOV lane.

When comparing the one-lane blocked incident average AM peak travel time, there is an approximate 7-minute time savings when using the HOV lane over the normal travel non-incident time savings. The savings when compared with non-incident days ranged from 33 percent to 139 percent additional savings during the AM peak. The PM showed less percent increase, but still showed significant time savings over the non-incident travel time. The Katy HOV lane showed the most travel time savings for both incident and non-incident conditions compared with the other three corridor facilities.

Combining the AM and PM peak period data to develop a combined weighted average resulted in a 12.5-minute average travel time savings over the mainlane during non-incident conditions as previously shown in [Table 26](#). An additional 4.0- to 10.5-minute travel time savings is realized for the range of shoulder, one lane blocked, and multiple lanes blocked. Thus, average peak period travel time savings during incident conditions ranged from approximately 16.5 minutes to 23.0 minutes. As noted previously, this average is over the entire 3-hour peak period. Maximum travel time savings calculated during incident conditions were much higher, ranging up to a high of 1 hour and 4 minutes during the AM peak period and a high of 49.5 minutes in the PM peak period.

North Freeway Corridor

Similar to the Katy corridor, the North Freeway mainlane and HOV lane AM peak period travel times are approximately equal at the beginning of the peak period. HOV lane travel time savings climb during incident conditions to approximately 14.5 minutes, then decrease to about a 7-minute time savings by the end of the peak period. PM peak period speeds during incident conditions show an average 5-minute HOV lane savings at the start of the peak, which gradually rises to almost 9 minutes, then drops again to about 5 minutes at the end of the peak period. Travel time savings do not appear to be greatly beneficial due to the long length of the corridor and the recent completion of freeway expansion projects, reducing the travel times on the mainlane and, thus, the travel time savings of the HOV facility. However, like the Katy freeway, the peak period is spread wider than the analysis peak period. This indicates that there is traffic congestion before and after the analysis peak period that was not captured as a benefit.

The North Freeway HOV lane shows an additional average of 2 to 8 minutes of travel time savings in the AM peak period over non-incident travel time savings. The PM peak period showed less of a travel time savings with approximately less than 1 minute to about 3 minutes additional travel time savings on average. [Table 27](#) displays that when combining all the time periods together, an overall average travel time savings of 4 minutes is realized by taking the HOV lane on non-incident days and an additional 2- to 5-minute travel time savings if the HOV is utilized during incident days. The North Freeway is one of the longest HOV facilities in Houston, and completion of freeway expansion projects in recent years has diluted some of the HOV benefit realized in previous years. Maximum travel time savings calculated during incident conditions were much higher, ranging up to a high of 43.5 minutes during the AM peak period and a high of approximately 21 minutes in the PM peak period.

Gulf Freeway Corridor

The Gulf Freeway experiences a more defined peak period with less peak spreading. While the mainlanes and the HOV lane have approximately the same travel times in the beginning of the AM peak period, the travel time difference quickly rises during incident conditions, then plateaus during the middle of the peak with approximately 14-minute HOV lane savings, then drops rapidly with the mainlanes almost completely recovering to free flow at the end of the AM peak period. At the beginning of the PM peak period, mainlanes and HOV lane travel times are nearly identical. HOV travel time savings then steadily rise during incident conditions to approximately 15-minute savings, then decrease rapidly and again the mainlanes almost fully recover to free flow conditions by the end of the peak period.

The AM peak period HOV lane average travel time savings during incident conditions ranged from 2 to 11 minutes of additional travel time savings over non-incident travel time savings. The PM peak period travel time average savings during incident conditions ranged from a few seconds to almost 4 minutes of additional travel time savings. [Table 28](#) displays that when combining all time periods, an average savings of 4 to 8 minutes is realized by taking the HOV lane on non-incident days and an additional 2 to 10 minutes savings if utilized on incident days. Maximum travel time savings calculated during incident conditions were much higher,

Table 27. North Freeway HOV Travel Time Savings (Combined Weighted Averages).

LANES BLOCKED															
Incident	SHOULDER					1 MAINLANE					2+ MAINLANES				
Duration	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	7	06:23	11:53	01:44	02:38	40	04:46	07:30	01:26	01:39	2	09:40	16:50	00:32	04:12
16-30	9	06:36	10:06	01:37	02:17	20	09:25	14:34	00:40	03:58	5	05:25	16:03	-00:44	04:52
31-45	3	07:01	09:13	04:00	01:16	10	08:02	12:46	02:56	02:30	2	10:13	21:51	03:56	05:08
46-60	1	03:53	13:52	-00:42	02:46	0					1	09:54	24:57	-00:08	06:44
61+	2	02:24	05:08	-00:34	01:37	1	02:26	10:48	-01:24	02:57	1	21:36	43:34	02:22	11:46
Avg		06:05	10:16	01:41	02:13		06:30	10:17	01:23	02:27		08:57	20:33	00:56	05:35
% Diff		56%	62%	141%	63%		66%	63%	99%	79%		129%	225%	-3%	310%
NON-INCIDENT															
	INC	AVG	MAX	MIN	DEV										
	69	03:55	06:19	00:42	54:17										

Table 28. Gulf Freeway HOV Travel Time Savings (Combined Weighted Averages).

LANES BLOCKED															
Incident	SHOULDER					1 MAINLANE					2+ MAINLANES				
Duration	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	11	06:29	13:40	00:21	03:32	29	07:17	12:26	01:36	03:23	4	16:57	23:23	03:13	04:39
16-30	9	05:59	11:14	-00:16	03:14	19	11:02	20:38	00:24	05:41	1	04:04	11:38	-01:39	03:57
31-45	2	04:52	12:00	-01:05	03:25	8	13:56	23:53	-00:06	06:41	0				
46-60	1	05:44	15:39	-01:41	04:43	4	10:38	21:51	00:05	05:21	0				
61+	1	04:57	12:35	-00:52	04:11	0					0				
Avg		06:04	12:39	-00:08	03:29		09:35	17:11	00:53	04:41		14:22	21:02	02:14	04:31
% Diff		49%	54%	-38%	47%		135%	110%	513%	97%		252%	157%	-1138%	90%
NON-INCIDENT															
	INC	AVG	MAX	MIN	DEV										
	75	04:05	08:12	-00:13	02:23										

ranging up to a high of 33 minutes during the AM peak period and a high of 17.5 minutes in the PM peak period.

Southwest Freeway Corridor

The Southwest Freeway AM peak period travel times show the mainlanes actually have lower travel times than the HOV lane at the beginning of the peak period, or a negative travel time benefit exists. The AM peak period travel time difference during incident conditions increases to approximately 14 minutes and then settles back down to having only a marginal benefit of about 2 or 3 minutes difference at the end of the peak period. The PM peak period has almost the identical numerical levels, but with a slightly more even or normal distribution, as opposed to skewed to the right that most of the other travel time difference curves have. Substantial benefits are still returned over the peak period, but the travel time savings does not have a large peaking characteristic. Recent mainlane expansion projects at the outer limits of the facility have reduced mainlane congestion and potentially HOV lane travel time savings as compared to preconstruction savings.

The Southwest Freeway AM peak period shows an average of 0.0 to 6.5 minutes of travel time savings over the mainlanes during incident conditions compared with 0.0 to 3.5 minutes of savings during non-incident conditions. The PM showed a greater difference between incident and non-incident conditions, yet the overall savings ranged from 0.5 to nearly 3.0 minutes of savings during non-incident conditions and 2.0 to 6.5 minutes of savings during incident conditions. As shown in [Table 29](#), the Southwest Freeway HOV lane has the least travel time benefit of the four facilities examined with a combined peak period average savings of only 2 minutes on non-incident days and over 4.5 minutes savings on incident days. Maximum travel time savings calculated during incident conditions were much higher, ranging up to a high of 20 minutes during the AM peak period and a high of 20 minutes in the PM peak period.

Corridors Combined

The summary tables for the four corridors were further aggregated to combine the incident matrix summary data from all freeways, as shown in [Tables 30 to 34](#). This combined average table dilutes much of the savings that are depicted in the graphs during the maximum peaks or through a large portion of the peak period. The tables still retain incident duration and lanes blocked structure for the following conditions:

- AM School In,
- AM School Out,
- PM School In, and
- PM School Out.

[Table 35](#) provides a summary of data from [Tables 30 to 34](#). This table combines all data from the four corridors and across incident duration, but keeps it stratified by AM and PM peak period and number of lanes blocked.

Table 30. Combined Corridors HOV Travel Time Savings (AM-School In).

LANES BLOCKED															
Incident Duration	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	10	09:19	17:48	00:12	04:58	38	06:24	12:12	-01:10	03:45	6	13:11	19:08	01:59	04:00
16-30	11	07:39	12:34	00:30	03:20	36	10:22	17:41	00:21	04:55	1	10:22	34:43	-01:10	10:37
31-45	1	10:25	19:54	-01:10	05:57	14	15:22	24:04	01:48	06:17	1	10:11	28:57	00:10	08:41
46-60	2	03:17	11:25	-01:12	03:03	4	09:57	21:23	00:02	05:23	2	13:13	26:32	01:09	07:02
61+	0					1	14:29	25:19	02:01	06:27	2	28:29	53:49	01:39	15:29
Avg	24	08:06	14:58	00:09	04:06	93	09:31	16:39	00:18	04:41	12	15:15	28:16	01:26	07:22
% Diff		36%	44%	394%	48%		60%	61%	844%	68%		157%	173%	4484%	165%
NON-INCIDENT															
	INC	AVG	MAX	MIN	DEV										
	113	05:57	10:22	00:02	02:47										

Table 31. Combined Corridors HOV Travel Time Savings (AM-School Out).

LANES BLOCKED															
Incident Duration	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	2	05:49	12:44	01:03	03:24	21	05:08	09:55	00:18	02:41	0	00:00	00:00	00:00	00:00
16-30	3	03:12	08:26	-00:44	02:12	12	09:50	20:33	-00:27	06:29	1	01:14	09:13	-02:18	03:24
31-45	0	00:00	00:00	00:00	00:00	5	04:28	11:53	-00:44	03:20	2	04:33	19:05	-01:47	06:12
46-60	0	00:00	00:00	00:00	00:00	0	00:00	00:00	00:00	00:00	0	00:00	00:00	00:00	00:00
61+	3	03:15	07:37	-00:40	02:28	0	00:00	00:00	00:00	00:00	0	00:00	00:00	00:00	00:00
Avg	8	03:52	09:12	-00:16	02:36	38	06:31	13:32	-00:05	03:58	3	03:26	15:48	-01:57	05:16
% Diff		49%	80%	-49%	71%		151%	165%	-85%	162%		32%	210%	271%	247%
NON-INCIDENT															
	INC	AVG	MAX	MIN	DEV										
	63	02:36	05:06	-00:31	01:31										

Table 32. Combined Corridors HOV Travel Time Savings (PM-School In).

LANES BLOCKED															
Incident Duration	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	14	08:28	15:24	03:06	03:30	37	09:33	14:35	04:30	03:20	3	14:56	27:14	08:29	07:25
16-30	12	07:13	13:51	02:05	03:24	10	08:42	14:34	04:16	03:41	4	04:37	11:52	-00:37	03:41
31-45	9	10:21	17:31	04:32	03:59	12	10:42	16:43	03:51	03:39	1	10:15	14:44	07:42	01:35
46-60	1	06:02	12:14	00:47	02:58	6	14:34	25:24	11:03	05:48	1	17:46	24:44	04:13	06:32
61+	2	17:30	28:41	09:51	05:40	2	06:53	16:01	04:26	03:58	0				
Avg	38	08:56	16:02	03:25	03:41	67	11:48	18:20	05:16	04:04	9	10:51	19:31	02:56	05:07
% Diff		23%	36%	31%	31%		62%	56%	102%	44%		49%	66%	13%	82%
NON-INCIDENT															
	INC	AVG	MAX	MIN	DEV										
	75	07:17	11:45	02:36	02:49										

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Table 33. Combined Corridors HOV Travel Time Savings (PM-School Out).

LANES BLOCKED															
Incident Duration	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	6	04:18	09:11	-00:16	02:39	20	09:47	17:14	03:49	04:08	1	24:37	40:28	09:50	08:45
16-30	2	11:01	20:09	04:00	05:00	8	08:25	15:45	02:12	04:03	2	17:38	40:47	03:25	12:08
31-45	0	00:00	00:00	00:00	00:00	4	18:59	40:57	06:30	11:28	1	06:26	20:09	-01:08	07:20
46-60	1	05:44	15:39	-01:41	04:43	2	13:25	27:19	00:48	08:38	0	00:00	00:00	00:00	00:00
61+	1	10:24	18:35	-01:52	06:15	0	00:00	00:00	00:00	00:00	0	00:00	00:00	00:00	00:00
Avg	10	06:24	12:58	00:17	03:41	34	10:45	20:16	03:34	05:14	4	16:35	35:33	03:53	10:05
% Diff		8%	14%	-81%	22%		82%	78%	138%	74%		181%	213%	159%	235%
NON-INCIDENT															
	INC	AVG	MAX	MIN	DEV										
	28	05:54	11:22	01:30	03:01										

Table 34. Combined Corridors HOV Travel Time Savings (Combined Weighted Averages).

LANES BLOCKED															
Incident	SHOULDER					1 MAINLANE					2+ MAINLANES				
Duration	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	32	07:47	14:49	01:26	03:48	116	08:07	13:57	02:19	03:33	10	15:23	24:20	03:52	05:39
16-30	28	07:14	13:13	01:18	03:22	66	10:09	17:58	01:04	04:59	8	08:18	21:41	-00:44	06:34
31-45	10	10:22	17:46	03:58	04:11	35	13:02	22:21	02:50	05:44	5	07:11	20:24	00:38	06:00
46-60	4	04:35	12:41	-00:55	03:27	12	16:08	28:03	04:34	06:45	3	14:44	25:56	-00:08	06:52
61+	6	09:12	16:28	02:38	04:10	3	09:25	19:07	-01:24	04:48	2	28:29	53:49	01:39	15:29
Avg	80	07:52	14:39	01:40	03:42	232	09:52	17:09	02:09	04:28	28	12:46	25:09	01:54	06:49
% Diff		42%	52%	125%	46%		78%	78%	188%	77%		130%	161%	155%	169%
	NON-INCIDENT														
	INC	AVG	MAX	MIN	DEV										
	279	05:33	09:39	00:45	02:32										

Table 35. Average of Combined Corridors HOV Travel Time Savings.

Peak Period/ School	Lanes Blocked													
	None		Shoulder				1 Mainlane				2 Mainlanes			
	Inc	Avg	Inc	Avg	Diff	% Diff	Inc	Avg	Diff	% Diff	Inc	Avg	Diff	% Diff
AM School In	113	05:57	24	08:06	02:09	36%	93	09:31	03:35	60%	12	15:15	09:19	157%
AM School Out	63	02:36	8	03:52	01:17	49%	38	06:31	03:56	151%	3	03:26	00:51	32%
PM School In	75	07:17	38	08:56	01:39	23%	67	11:48	04:31	62%	9	10:51	03:34	49%
PM School Out	28	05:54	10	06:24	00:30	8%	34	10:45	04:51	82%	4	16:35	10:41	181%
Weighted Averages	279	05:33	80	07:52	02:19	42%	232	09:52	04:20	78%	28	12:46	07:13	130%

The AM School In condition had almost 6 minutes of HOV travel time savings for non-incident days and an additional 36 to 157 percent (2:09 to 9:19 minutes) additional benefit during incident conditions. During AM School Out conditions, an average of 2:36 minutes of savings were realized during non-incident days and a range of 51 seconds to 3:56 minutes additional benefit during incident conditions. The PM School In time period had a 7:17 minute non-incident average travel time savings for the HOV lanes over the mainlanes. An additional 23 to 62 percent travel time savings (1:39 to 4:31 minutes) is realized during incident conditions. The PM School Out time period had a 5:54 minute average travel time savings during non-incident conditions. An additional travel time savings during incidents ranged from 0:30 to 10:45 minutes over mainlane travel times (8 to 181 percent).

The final comparison is shown in [Table 36](#), which combines data from all time periods, corridors, and extent of blockage and compares average non-incident HOV travel time savings and HOV lane travel time savings during incident conditions. This global summary shows the additional benefit of the HOV lane on incident days as compared with non-incident days, with 9:38 minutes in average peak period HOV lane travel time savings during incident conditions as compared to 5:33 minutes average non-incident travel time savings, a 74 percent additional savings during incident conditions over non-incident conditions.

Table 36. Weighted Average of All Corridors, All Time Periods, All Blockage Types.

Number of Incidents	Non-Incident Travel Time	Number of Incidents	All Incidents Included Travel Time	Travel Time Difference	Percent Difference
279	05:33	340	09:38	04:05	74%

IX. QUANTIFICATION OF INCIDENT/NON-INCIDENT HOV LANE DELAY SAVINGS

The final task of this project was to estimate the annual savings, in terms of dollars, provided by Houston HOV lanes due to travel time savings. This calculation was done using the entire 2003 year of AVI data, excluding weekends and holidays. Thus, both incident and non-incident conditions are accounted for in this calculation. [Table 37](#) presents the results of this task. Average annual peak period travel times for the mainlanes and HOV lanes were compared to quantify the average annual travel time savings for each of the four HOV lane corridors for the AM and PM peak periods. These travel time savings are the average savings over the 3-hour AM or PM peak periods. The average number of HOV person trips shown are based on the average of manual HOV counts performed by TTI during March, June, September, and December 2003.

Estimated dollar savings were determined by multiplying average HOV lane travel time savings by a dollar value of time. The value of time used was originally derived by TTI in 1985 using a speed-choice model. The value includes the driver's time, vehicle operating costs, accident costs, and traffic violation costs. The 1985 value was determined to be \$8.03 per person-hour. This figure has been updated annually based on the consumer price index (CPI). For 2003, the average value of time was calculated at \$13.56 per person-hour ([20](#)). The dollar savings are first shown in terms of daily peak period savings (next to last column) and converted to annual savings (last column) by multiplying the daily savings by the number of non-holiday weekdays (253 days).

The average daily directional peak period savings ranged from around \$8,300 to over \$50,000 per corridor. By far, the Katy Freeway HOV lane produced the most savings in both the AM and PM peak periods, with approximately \$81,000 per day in savings. The Southwest Freeway HOV lane had the least amount of savings during both the AM and PM peak periods, averaging around \$18,000 per day. The research estimates that the HOV lane savings for the four freeways combined exceeds \$149,000 per day, resulting in almost \$38 million per year in travel time savings.

Table 37. Quantification of Houston HOV Lane Annual Savings.

Freeway	Direction	Peak Period*	Mainlane Peak Pd. Travel Time	HOV Peak Pd. Travel Time	Peak Pd. Travel Time Savings	Percent Difference	Average Peak Pd. HOV	Average Peak Pd. Savings	Average Peak Pd. Savings	Average Peak Pd. Savings	Annual Savings
			(min)	(min)	(min)		Person-Trips	(min)	(hrs)	(\$)**	(\$)
North	SB	AM	24.27	19.73	4.54	18.7	13,037	59,175	986	\$13,374	\$3,383,505
North	NB	PM	23.64	18.59	5.05	21.4	12,316	62,238	1,037	\$14,066	\$3,558,626
Gulf	NB	AM	20.66	14.49	6.17	29.9	8,684	53,612	894	\$12,116	\$3,065,401
Gulf	SB	PM	20.32	14.21	6.11	30.1	7,534	46,024	767	\$10,401	\$2,631,543
Katy	EB	AM	24.77	12.90	11.87	47.9	11,478	136,285	2,271	\$30,800	\$7,792,514
Katy	WB	PM	32.18	13.40	18.78	58.4	11,822	222,031	3,701	\$50,179	\$12,695,308
Southwest	EB	AM	18.04	13.67	4.37	24.2	10,143	44,321	739	\$10,017	\$2,534,178
Southwest	WB	PM	17.33	13.40	3.93	22.7	9,421	37,064	618	\$8,376	\$2,119,251
TOTALS							84,435		11,012	\$149,329	\$37,780,326

* Peak periods are 6:00 to 9:00 AM & 3:30 to 6:30 PM

** = avg. peak period savings (hours) × \$13.56/hr value of time savings

X. CONCLUSIONS

PROJECT SUMMARY

This research project examined barrier-separated HOV lane travel time savings during incident conditions in Houston, Texas. Travel time studies, due to cost and manpower, are typically conducted infrequently, under non-incident conditions, and with limited data. The goal of this project was to examine HOV lane travel time savings over the mainlanes during a range of incident conditions using data from the Houston TranStar RIMS incident database and historical AVI data from the year 2003. These extensive databases provide a unique opportunity to conduct this project.

A review of the RIMS database revealed that a total of 9506 incidents were logged in the database in 2003. Researchers characterized these incidents by numerous characteristics such as by corridor and direction, location, severity, number of vehicles, time of day, day of week, month of year, weather conditions, reporting agency, and manner of detection. Researchers then reviewed these incidents to identify incidents for analysis. An initial filtering process reduced this sample to 1036 candidate incidents. A second filtering process reduced this sample to 468 incidents occurring on the I-10 Katy, I-45 North, I-45 Gulf, and US-59 Southwest Freeway mainlanes.

An incident matrix was developed to quantify the HOV travel time savings for a range of incident conditions. A number of factors influencing incident-related delay were considered for the matrix. The resulting incident matrix is based on incident duration (0 to 15 min, 16 to 30 min, 31 to 45 min, 46 to 60 min, or 61+ min) and extent of lane blockage (shoulder only, 1 mainlane blocked, or 2+ mainlanes blocked). Other influencing factors considered were accounted for through the methodology used in the analysis.

One of the influencing factors considered was time of year, largely a function of whether school is in session or not. An analysis of travel times on the mainlanes was conducted to determine if speeds on the mainlanes were statistically significantly different when school was in session or out of session. Only non-incident data were used to remove any impact of mainlane incidents on travel times. The resulting analysis showed speeds were statistically significantly different in all four corridors during the AM peak period, but had mixed results by corridor in the PM peak period.

As a result, what was intended to be a single incident matrix for each corridor was divided into four matrices in addition to a combined matrix:

- AM School In Incident Matrix,
- AM School Out Incident Matrix,
- PM School In Incident Matrix,
- PM School Out Incident Matrix, and
- Combined Incident Matrix.

Although splitting the matrix into four matrices diluted the sample size in each matrix, this was done in an attempt to isolate the impact of different peaking characteristics of the AM and PM peak periods as well as whether school was in session or not on travel time savings. All incidents in a corridor were also analyzed in a single combined matrix as originally envisioned. Incidents in each corridor were stratified into the five matrices based on incident duration and extent of blockage.

Researchers developed a Travel Time Generator software program to query the historical AVI data from 2003 for the peak periods of the incidents analyzed, on a matrix cell by cell basis. The software produces AVI segment travel times for the mainlanes and HOV lanes and aggregates the data into corridor travel times using a built-up travel time algorithm. Travel times were produced for every 5-minute period during the AM peak period, 6:00 to 9:00 AM, and the PM peak period, 3:30 to 6:30 PM.

A review of individual incident detailed report files revealed an issue with missing data in the historical AVI database. In some cases, a temporary reader outage or lack of tag reads resulted in small time frames of missing data, whereas longer term reader outages of hours or days resulted in the data not being able to be used. AVI reader outages can be tied to a number of issues, including power and phone line outages, communication failures, and equipment breakdowns as discussed in [Chapter IV](#). A review of AVI data for the peak periods queried resulted in 72 percent of the mainlane AVI data being usable, whereas only 36 percent of HOV lane AVI data were usable. In most cases, when data were not usable for this project, most readers in the corridor were still functioning and communicating properly. However, if one or two segments were out for an extended period of time, the data became unusable based on the requirements for this project. TxDOT is currently testing wireless communications at some reader locations to increase bandwidth and communication reliability to the host system.

Researchers eliminated 127 of the 468 incidents identified for analysis due to incomplete mainlane AVI data. Thus, a total of 341 incidents were analyzed in this project. Initially, researchers intended to compare mainlane and HOV lane travel times, both for the same day peak period for each incident. The lack of available HOV lane AVI data, however, required researchers to create a set of baseline HOV lane data sets and curves for comparison for each corridor by averaging all usable data during the mainlane incident peak periods analyzed.

The data from the 341 incidents were analyzed using Excel macros developed for this project. Data for the mainlane travel times for the incidents in each matrix cell were averaged and compared with the baseline HOV lane travel times. A travel time comparison table (including maximum, minimum, average, and standard deviation travel time summary statistics), graph of HOV lane and mainlane travel times during the peak period, and graph of the travel time difference between the HOV lane and mainlanes during the peak period were produced for each cell of each matrix in each corridor and provided in [Appendix B](#). Several other sets of summary tables were also prepared as seen in the Results section of this report ([Chapter VIII](#)) and include non-incident travel time savings as a measure for comparison with the travel time savings during incident conditions.

FINDINGS

A number of findings from this research project are summarized below.

- Travel savings of HOV lanes in Houston during non-incident conditions underestimate the true savings of the HOV lanes due to the high occurrence of incident days. A review of the incident database found that, on average, only 17 percent of AM weekday peak periods and only 10 percent of PM weekday peak periods were incident free in each corridor.
- A review of the 9506 incidents in the database showed that:
 - Sixteen percent occurred in the Katy corridor, 16 percent in the North corridor, 14 percent in the Gulf corridor, and 13 percent in the Southwest corridor. Less than 7 percent and 4 percent, respectively, occurred in the Northwest and Eastex corridors. The remaining 31 percent of incidents occurred in non-HOV lane corridors.
 - Nearly two-thirds of incidents involved the mainlanes and/or shoulders. HOV lanes accounted for 10 percent, frontage roads 9 percent, ramps 6 percent, and combinations other than mainlanes and shoulders 4 percent. Nine percent did not block any lanes (debris and weather incident).
 - Seventy-six percent were classified as minor, 24 percent major, and <1 percent fatality.
 - Four percent involved zero vehicles, 34 percent one vehicle, 48 percent two vehicles, 11 percent three vehicles, 2 percent four vehicles, and 1 percent five or more vehicles.
 - Peak incidents by time of day occurred between 7:00 to 8:00 AM with nearly 800 incidents and 5:00 to 6:00 PM with approximately 1000 incidents.
 - No significant difference in the distribution of incidents by day of week was found.
 - Four hundred ninety-three incidents were associated with weather conditions: 468 rain, 19 fog, 3 high wind, 2 ice, and 1 smoke.
- A total of 341 incidents were identified through the filtering process for analysis in this research (a full description of the filtering process is described in [Chapter VI](#)). Due to the size of the incident matrix, sample size in matrix cells was small. Any future research along these lines should use multiple years worth of data to increase sample size and significance of findings.
- Incidents in four Houston corridors with HOV lanes were analyzed in this research: I-10 Katy, I-45 North, I-45 Gulf, and US-59 Southwest. US-59 Eastex and US-290 Northwest are also Houston corridors with HOV lanes, but they experienced significantly fewer incidents than the other four corridors and were not included in this analysis due to small incident sample size.

- For the requirements of this project, approximately 72 percent of mainlane AVI data were usable, whereas only 36 percent of HOV lane AVI data were usable. Baseline data sets and curves were developed for the corridor HOV lanes by averaging all usable HOV lane peak period data during the incident conditions analyzed. Improvements in AVI reader maintenance and increased bandwidth for reader communications with the host system will increase the availability of data in the database for future use.
- An analysis of mainlane travel times in the four corridors when school was in session or out of session on non-incident days found that travel times were statistically significantly different ($p < 0.05$) in all corridors for the AM peak period and mixed for the PM peak period. Thus, incidents were analyzed separately for AM, PM, school in, and school out, as well as combined conditions.
- Average travel time savings during incident conditions ranged from 3.5 minutes to 16.5 minutes, an increase of 8 percent to 181 percent compared to non-incident average travel times for those conditions (AM or PM peak period, school in or school out). This benefit is the average travel time savings over the 3-hour AM or PM peak period.
- One of the more important benefits of HOV lanes is travel time reliability, which is clearly shown in the mainlane versus HOV lane travel time graphs provided in [Appendix B](#).
- As would be expected and is shown in the mainlane versus HOV lane travel time graphs, travel time savings are dependent on time of departure. While only marginal savings may be realized in the shoulders of the peak, higher than average savings are realized during the peak of the peak periods.
- Maximum travel time savings, in addition to travel time reliability, perhaps hold more promise in demonstrating the benefits of HOV lanes than average travel time savings over an entire 3-hour peak period. Maximum travel time savings provided by HOV lanes during incident conditions ranged up to 64 minutes in the AM peak and 49.5 minutes in the PM peak period. The Katy HOV lane provided the highest travel time savings during both incident and non-incident conditions.
- Combining all corridors and AM and PM peak periods, average peak period HOV lane travel time savings during incident conditions were estimated at 9.6 minutes compared to non-incident travel time savings of 5.6 minutes, a difference of approximately 4 minutes or 74 percent.
- All 2003 AVI data (including incident and non-incident conditions) were analyzed to estimate the dollar amount value of HOV lane travel time savings. Using a value of time of \$13.56 per person hour, HOV lane travel time savings for the four corridors were estimated at approximately \$149,000 per day or almost \$38 million per year.

The Katy HOV lane produced the highest savings at approximately \$81,000 per day, while the Southwest HOV lane produced the lowest at approximately \$18,000 per day.

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APPENDIX A

TABLES OF AVI SEGMENT FACTORS FOR

I-45 NORTH FREEWAY,

I-45 GULF FREEWAY, and

US-59 SOUTHWEST FREEWAY

North SB HOV – HOV Gate to Quitman St.

Segment	Segment Length	Modified Length	Factor
FM 1960 to Aldine Bender	7.00	7.14	1.02
Aldine Bender to Shepherd	3.60	3.60	1.00
Shepherd to Crosstimbers	4.60	4.60	1.00
Crosstimbers to I-10	3.35	2.73	0.81

North NB HOV – Quitman St. to HOV Gate

Segment	Segment Length	Modified Length	Factor
I-10 to Crosstimbers	3.35	2.73	0.81
Crosstimbers to Shepherd	4.60	4.60	1.00
Shepherd to Aldine Bender	3.60	3.60	1.00
Aldine Bender to FM 1960	7.00	7.14	1.02

North SB Mainlanes – HOV Gate to Quitman St.

Segment	Segment Length	Modified Length	Factor
FM 1960 to Aldine Bender	7.00	7.14	1.02
Aldine Bender to Shepherd	3.60	3.60	1.00
Shepherd to Crosstimbers	4.60	4.60	1.00
Crosstimbers to Quitman	2.50	2.73	1.09

North NB Mainlanes – Quitman St. to HOV Gate

Segment	Segment Length	Modified Length	Factor
Quitman to Crosstimbers	2.50	2.73	1.09
Crosstimbers to Shepherd	4.60	4.60	1.00
Shepherd to Aldine Bender	3.60	3.60	1.00
Aldine Bender to FM 1960	7.00	7.14	1.02

Gulf SB HOV – Scott St. to HOV Gate

Segment	Segment Length	Modified Length	Factor
Scott to Wayside	2.55	2.35	0.92
Wayside to Woodridge	1.60	1.60	1.00
Woodridge to Broadway	1.30	1.30	1.00
Broadway to Monroe	2.20	2.20	1.00
Monroe to Edgebrook	2.50	2.50	1.00
Edgebrook to Fuqua	1.65	3.78	2.29

Gulf NB HOV – HOV Gate to Scott St.

Segment	Segment Length	Modified Length	Factor
Fuqua to Edgebrook	1.65	3.78	2.29
Edgebrook to Monroe	2.50	2.50	1.00
Monroe to Broadway	2.20	2.20	1.00
Broadway to Woodridge	1.30	1.30	1.00
Woodridge to Wayside	1.60	1.60	1.00
Wayside to Scott	2.55	2.35	0.92

Gulf SB Mainlanes – Scott St. to HOV Gate

Segment	Segment Length	Modified Length	Factor
Scott to Wayside	2.55	2.35	0.92
Wayside to Woodridge	1.60	1.60	1.00
Woodridge to Broadway	1.30	1.30	1.00
Broadway to Monroe	2.20	2.20	1.00
Monroe to Edgebrook	2.50	2.50	1.00
Edgebrook to Fuqua	1.65	1.65	1.00
Fuqua to Dixie Farm Rd	2.80	2.13	0.76

Gulf NB Mainlanes – HOV Gate to Scott St.

Segment	Segment Length	Modified Length	Factor
Dixie Farm Rd to Fuqua	2.80	2.13	0.76
Fuqua to Edgebrook	1.65	1.65	1.00
Edgebrook to Monroe	2.50	2.50	1.00
Monroe to Broadway	2.20	2.20	1.00
Broadway to Woodridge	1.30	1.30	1.00
Woodridge to Wayside	1.60	1.60	1.00
Wayside to Scott	2.55	2.35	0.92

Southwest SB HOV Lane – HOV Gate to HOV Gate

Segment	Segment Length	Modified Length	Factor
Newcastle to Loop 610	1.35	3.48	2.58
Loop 610 to Hillcroft	1.60	1.60	1.00
Hillcroft to Bissonnet	5.10	6.90	1.35

Southwest NB HOV Lane – HOV Gate to HOV Gate

Segment	Segment Length	Modified Length	Factor
Bissonnet to Hillcroft	5.10	6.90	1.35
Hillcroft to Loop 610	1.60	1.60	1.00
Loop 610 to Newcastle	1.35	3.48	2.58

Southwest SB Mainlanes – HOV Gate to HOV Gate

Segment	Segment Length	Modified Length	Factor
Fannin to Newcastle	4.25	2.13	0.50
Newcastle to Loop 610	1.35	1.35	1.00
Loop 610 to Hillcroft	1.60	1.60	1.00
Hillcroft to Bissonnet	5.10	5.10	1.00
Bissonnet to Wilcrest	1.61	1.80	1.12

Southwest NB Mainlanes – HOV Gate to HOV Gate

Segment	Segment Length	Modified Length	Factor
Wilcrest to Bissonnet	1.61	1.80	1.12
Bissonnet to Hillcroft	5.10	5.10	1.00
Hillcroft to Loop 610	1.60	1.60	1.00
Loop 610 to Newcastle	1.35	1.35	1.00
Newcastle to Fannin	4.25	2.13	0.50

APPENDIX B

GRAPHS AND TABLES
FOR
AVERAGE INCIDENT DAYS BY CELL

Note: Microsoft Excel is unable to display negative time and uses multiple pound signs to denote negative time i.e., #####.

I-10 Katy Fwy.

Incident Duration	Lanes Blocked					
	Shoulder		1 Mainlane		2+ Mainlanes	
AM	School In	School Out	School In	School Out	School In	School Out
0-15	B-4	NA	B-20	B-28	NA	NA
16-30	B-6	NA	B-22	B-30	NA	NA
31-45	NA	NA	B-24	B-32	NA	NA
46-60	NA	NA	NA	NA	B-52	NA
61+	NA	NA	B-26	NA	B-54	NA
PM						
0-15	B-8	NA	B-34	B-44	B-56	B-60
16-30	B-10	B-16	B-36	B-46	NA	B-62
31-45	B-12	NA	B-38	B-48	NA	NA
46-60	NA	NA	B-40	B-50	B-58	NA
61+	B-14	B-18	B-42	NA	NA	NA

I-45 North Fwy.

Incident Duration	Lanes Blocked					
	Shoulder		1 Mainlane		2+ Mainlanes	
AM	School In	School Out	School In	School Out	School In	School Out
0-15	B-64	NA	B-80	B-86	B-104	NA
16-30	B-66	B-70	B-82	B-88	B-106	B-114
31-45	NA	NA	B-84	B-90	B-108	NA
46-60	B-68	NA	NA	NA	B-110	NA
61+	NA	B-72	NA	NA	B-112	NA
PM						
0-15	B-74	NA	B-92	B-100	B-116	NA
16-30	B-76	NA	B-94	B-102	B-118	NA
31-45	B-78	NA	B-96	NA	B-120	NA
46-60	NA	NA	NA	NA	NA	NA
61+	NA	NA	B-98	NA	NA	NA

I-45 Gulf Fwy.

Incident Duration	Lanes Blocked					
	Shoulder		1 Mainlane		2+ Mainlanes	
AM	School In	School Out	School In	School Out	School In	School Out
0-15	B-122	B-126	B-140	B-148	B-166	NA
16-30	B-124	NA	B-142	B-150	NA	NA
31-45	NA	NA	B-144	NA	NA	NA
46-60	NA	NA	B-146	NA	NA	NA
61+	NA	B-128	NA	NA	NA	NA
PM						
0-15	B-130	B-136	B-152	B-160	NA	NA
16-30	B-132	NA	B-154	B-162	B-168	NA
31-45	B-134	NA	B-156	B-164	NA	NA
46-60	NA	B-138	B-158	NA	NA	NA
61+	NA	NA	NA	NA	NA	NA

US-59 Southwest Fwy.

Incident Duration	Lanes Blocked					
	Shoulder		1 Mainlane		2+ Mainlanes	
AM	School In	School Out	School In	School Out	School In	School Out
0-15	B-170	B-178	B-194	B-200	B-218	NA
16-30	B-172	B-180	B-196	B-202	NA	NA
31-45	B-174	NA	NA	B-204	NA	B-220
46-60	B-176	NA	B-198	NA	NA	NA
61+	NA	NA	NA	NA	NA	NA
PM						
0-15	B-182	B-190	B-206	B-212	NA	NA
16-30	B-184	B-192	B-208	B-214	NA	B-222
31-45	B-186	NA	B-210	NA	NA	B-224
46-60	B-188	NA	NA	B-216	NA	NA
61+	NA	NA	NA	NA	NA	NA

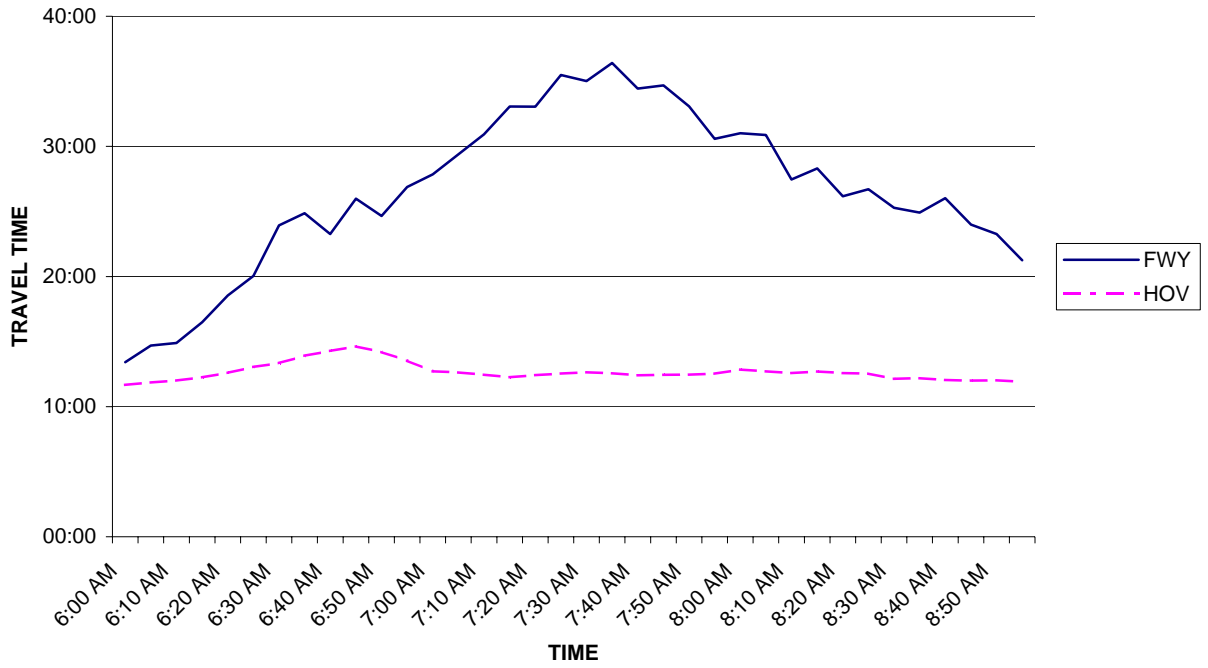
Freeway N I-10 Katy
 Limit SH 6 to Silber
 Freeway Type FWY-HOV
 Direction EB

Date
 Time 06:00 AM to 08:55 AM

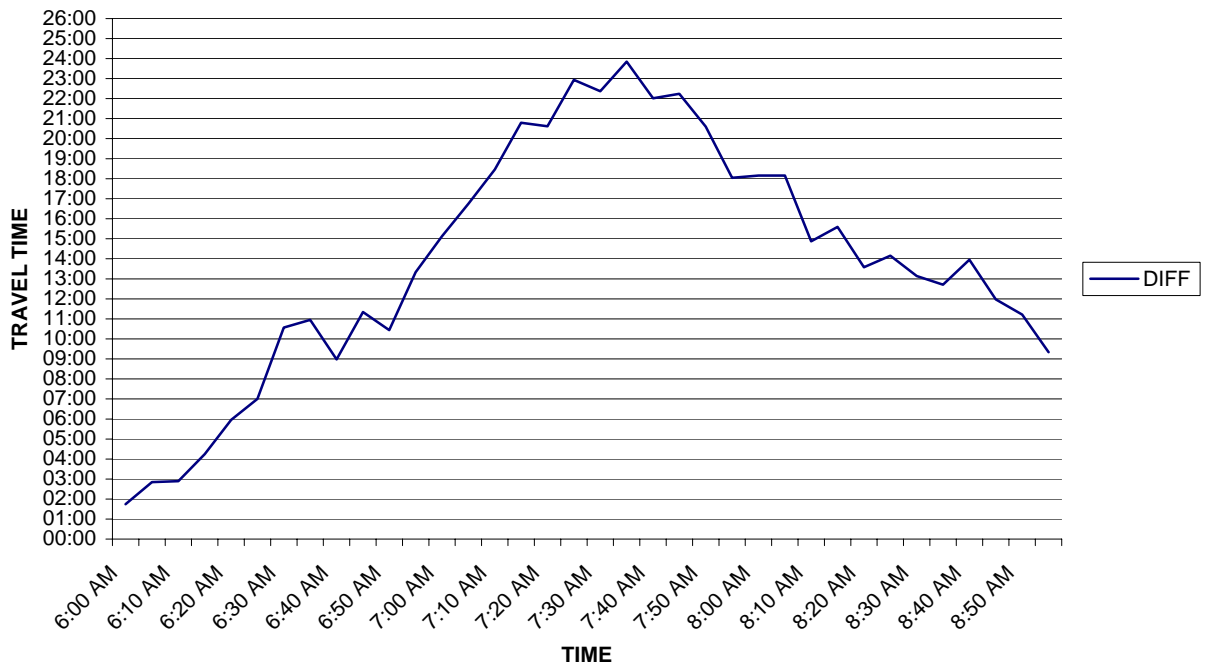
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	12.57	13:25	11:41	104.6	01:45	0.0	0:00:00
6:05 AM	12.57	14:42	11:51	170.9	02:51	688.8	0:11:29
6:10 AM	12.57	14:54	12:00	173.5	02:54	861.0	0:14:21
6:15 AM	12.57	16:30	12:15	254.6	04:15	1,070.4	0:17:50
6:20 AM	12.57	18:33	12:36	357.2	05:57	1,529.6	0:25:30
6:25 AM	12.57	20:03	13:03	420.2	07:00	1,943.5	0:32:23
6:30 AM	12.57	23:55	13:21	634.3	10:34	2,636.1	0:43:56
6:35 AM	12.57	24:52	13:54	657.2	10:57	3,228.7	0:53:49
6:40 AM	12.57	23:16	14:17	538.8	08:59	2,990.0	0:49:50
6:45 AM	12.57	25:59	14:38	680.6	11:21	3,048.6	0:50:49
6:50 AM	12.57	24:39	14:13	626.8	10:27	3,268.4	0:54:28
6:55 AM	12.57	26:52	13:33	799.7	13:20	3,566.1	0:59:26
7:00 AM	12.57	27:51	12:43	907.9	15:08	4,268.9	1:11:09
7:05 AM	12.57	29:23	12:38	1,005.2	16:45	4,782.5	1:19:43
7:10 AM	12.57	30:55	12:27	1,107.9	18:28	5,282.5	1:28:03
7:15 AM	12.57	33:04	12:16	1,247.8	20:48	5,889.1	1:38:09
7:20 AM	12.57	33:03	12:26	1,237.5	20:37	6,213.1	1:43:33
7:25 AM	12.57	35:30	12:33	1,376.6	22:57	6,535.1	1:48:55
7:30 AM	12.57	35:01	12:39	1,342.5	22:22	6,797.6	1:53:18
7:35 AM	12.57	36:25	12:34	1,431.0	23:51	6,933.7	1:55:34
7:40 AM	12.57	34:26	12:25	1,321.4	22:01	6,881.1	1:54:41
7:45 AM	12.57	34:42	12:27	1,334.7	22:15	6,640.4	1:50:40
7:50 AM	12.57	33:04	12:28	1,236.4	20:36	6,427.8	1:47:08
7:55 AM	12.57	30:35	12:32	1,082.9	18:03	5,798.3	1:36:38
8:00 AM	12.57	31:01	12:51	1,089.4	18:09	5,430.7	1:30:31
8:05 AM	12.57	30:53	12:43	1,089.6	18:10	5,447.3	1:30:47
8:10 AM	12.57	27:28	12:35	892.3	14:52	4,954.6	1:22:35
8:15 AM	12.57	28:18	12:42	935.6	15:36	4,569.7	1:16:10
8:20 AM	12.57	26:10	12:35	814.8	13:35	4,375.9	1:12:56
8:25 AM	12.57	26:42	12:33	849.1	14:09	4,159.6	1:09:20
8:30 AM	12.57	25:17	12:08	788.4	13:08	4,093.6	1:08:14
8:35 AM	12.57	24:55	12:12	762.9	12:43	3,878.2	1:04:38
8:40 AM	12.57	26:01	12:03	837.2	13:57	4,000.1	1:06:40
8:45 AM	12.57	23:59	12:01	718.4	11:58	3,889.0	1:04:49
8:50 AM	12.57	23:15	12:02	673.2	11:13	3,479.1	0:57:59
8:55 AM	12.57	21:15	11:54	560.5	09:21	3,084.4	0:51:24

	sec	dd:hh:mm:ss
MAX DIFF	1,431.0	23:51
MIN DIFF	104.6	01:45
AVG DIFF	835.0	13:55
STD DEV	366.4	06:06
TOT AREA	148,643.7	01:17:17:24

I- 10 KATY FREEWAY AM EB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS



I- 10 KATY FREEWAY AM EB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS



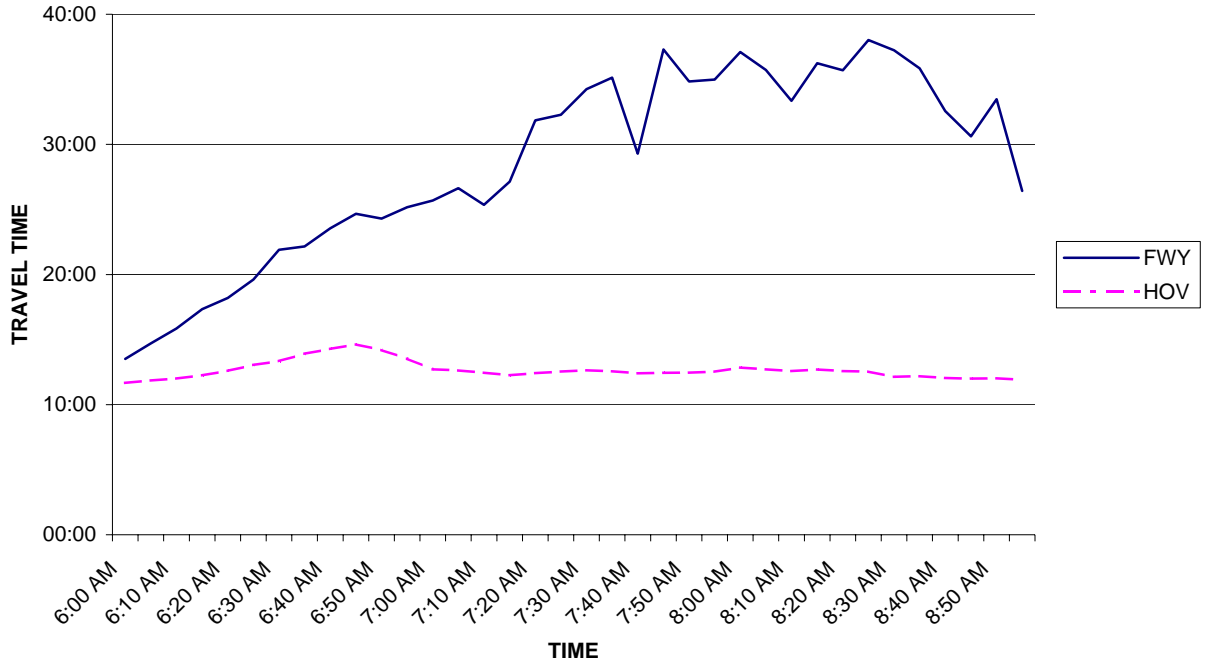
Freeway N I-10 Katy
 Limit SH 6 to Silber
 Freeway T: FWY-HOV
 Direction EB
 Date

Time 06:00 AM to 08:55 AM

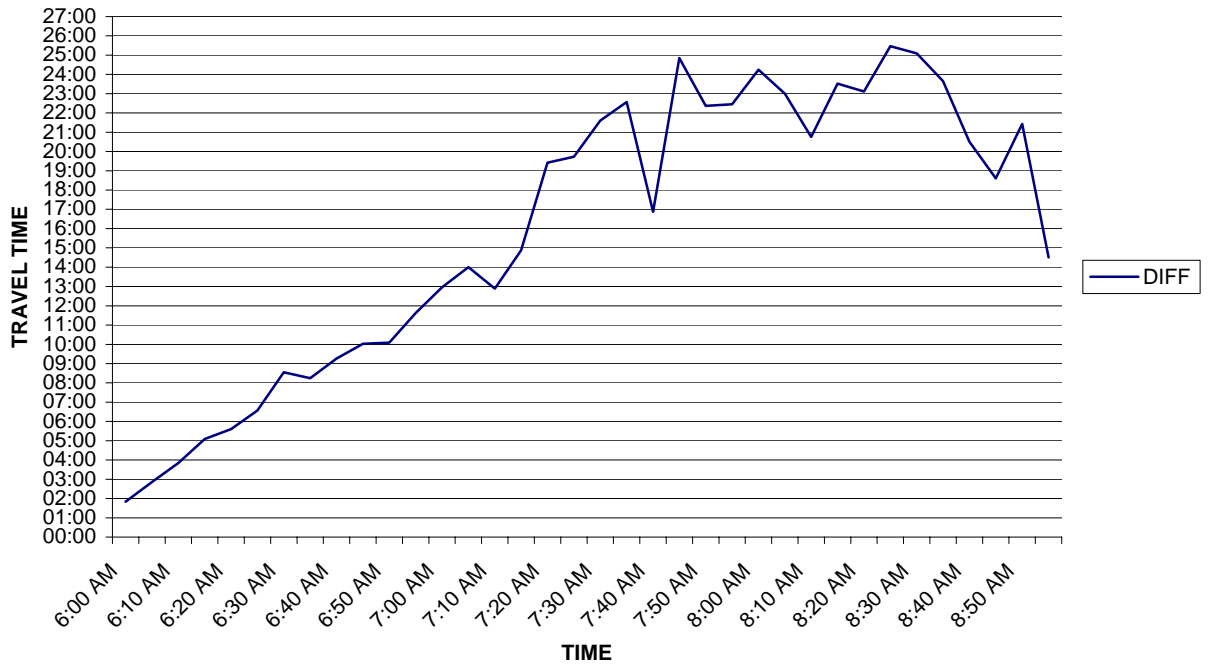
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
6:00 AM	12.57	13:31	11:41	110.3	01:50	0.0	0:00:00
6:05 AM	12.57	14:43	11:51	171.5	02:52	704.6	0:11:45
6:10 AM	12.57	15:51	12:00	230.5	03:51	1,005.1	0:16:45
6:15 AM	12.57	17:21	12:15	305.6	05:06	1,340.4	0:22:20
6:20 AM	12.57	18:12	12:36	336.2	05:36	1,604.6	0:26:45
6:25 AM	12.57	19:37	13:03	393.8	06:34	1,825.1	0:30:25
6:30 AM	12.57	21:54	13:21	512.9	08:33	2,267.0	0:37:47
6:35 AM	12.57	22:09	13:54	494.5	08:15	2,518.7	0:41:59
6:40 AM	12.57	23:33	14:17	556.2	09:16	2,626.7	0:43:47
6:45 AM	12.57	24:40	14:38	601.9	10:02	2,895.3	0:48:15
6:50 AM	12.57	24:18	14:13	605.4	10:05	3,018.4	0:50:18
6:55 AM	12.57	25:10	13:33	697.4	11:37	3,257.0	0:54:17
7:00 AM	12.57	25:41	12:43	777.5	12:58	3,687.2	1:01:27
7:05 AM	12.57	26:38	12:38	840.2	14:00	4,044.2	1:07:24
7:10 AM	12.57	25:21	12:27	773.5	12:54	4,034.2	1:07:14
7:15 AM	12.57	27:08	12:16	892.1	14:52	4,164.1	1:09:24
7:20 AM	12.57	31:51	12:26	1,165.5	19:25	5,143.9	1:25:44
7:25 AM	12.57	32:17	12:33	1,183.9	19:44	5,873.4	1:37:53
7:30 AM	12.57	34:15	12:39	1,296.5	21:36	6,200.9	1:43:21
7:35 AM	12.57	35:08	12:34	1,354.0	22:34	6,626.2	1:50:26
7:40 AM	12.57	29:17	12:25	1,012.1	16:52	5,915.3	1:38:35
7:45 AM	12.57	37:18	12:27	1,491.1	24:51	6,257.9	1:44:18
7:50 AM	12.57	34:50	12:28	1,342.1	22:22	7,082.8	1:58:03
7:55 AM	12.57	34:59	12:32	1,346.9	22:27	6,722.5	1:52:03
8:00 AM	12.57	37:06	12:51	1,454.7	24:15	7,004.1	1:56:44
8:05 AM	12.57	35:43	12:43	1,379.9	23:00	7,086.4	1:58:06
8:10 AM	12.57	33:21	12:35	1,245.6	20:46	6,563.8	1:49:24
8:15 AM	12.57	36:14	12:42	1,411.6	23:32	6,643.0	1:50:43
8:20 AM	12.57	35:42	12:35	1,386.8	23:07	6,995.9	1:56:36
8:25 AM	12.57	38:01	12:33	1,528.1	25:28	7,287.1	2:01:27
8:30 AM	12.57	37:14	12:08	1,505.7	25:06	7,584.5	2:06:24
8:35 AM	12.57	35:51	12:12	1,419.2	23:39	7,312.4	2:01:52
8:40 AM	12.57	32:34	12:03	1,230.5	20:31	6,624.3	1:50:24
8:45 AM	12.57	30:37	12:01	1,116.4	18:36	5,867.3	1:37:47
8:50 AM	12.57	33:28	12:02	1,285.9	21:26	6,005.8	1:40:06
8:55 AM	12.57	26:25	11:54	870.5	14:31	5,391.1	1:29:51

	sec	dd:hh:mm:ss
MAX DIFF	1,528.1	25:28
MIN DIFF	110.3	01:50
AVG DIFF	953.5	15:54
STD DEV	443.2	07:23
TOT AREA	169,181.2	01:22:59:41

I- 10 KATY FREEWAY AM EB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS



I- 10 KATY FREEWAY AM EB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS

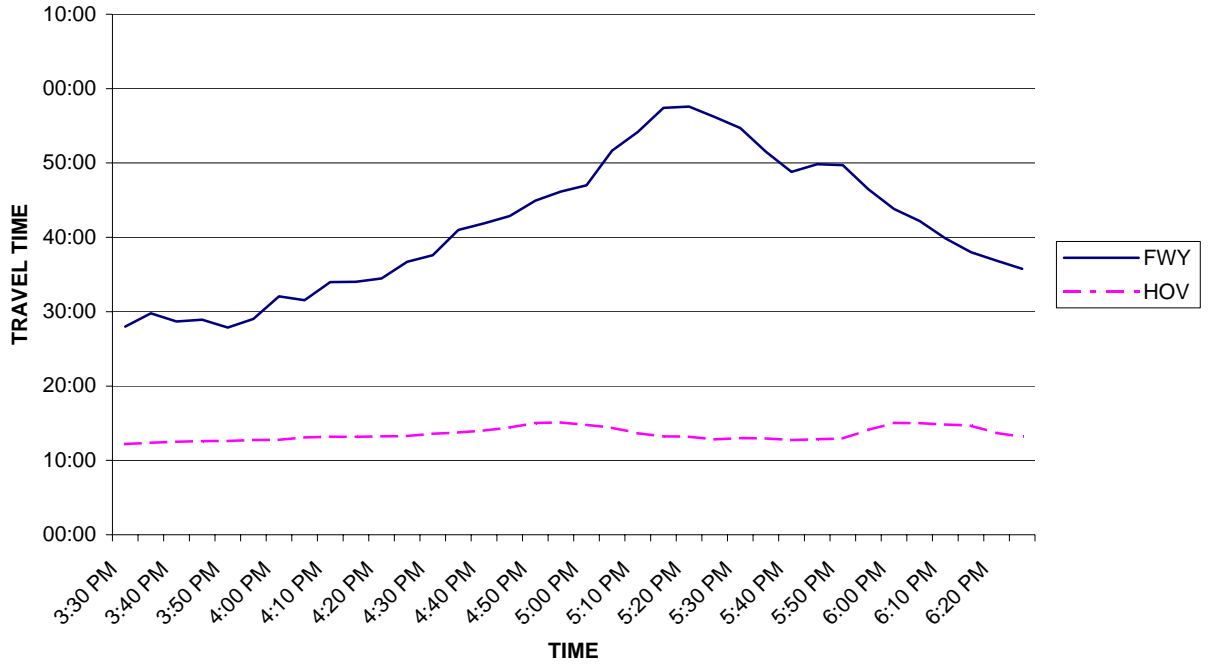


Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway Type HOV
 Direction WB
 Date
 Time 03:30 PM to 06:25 PM

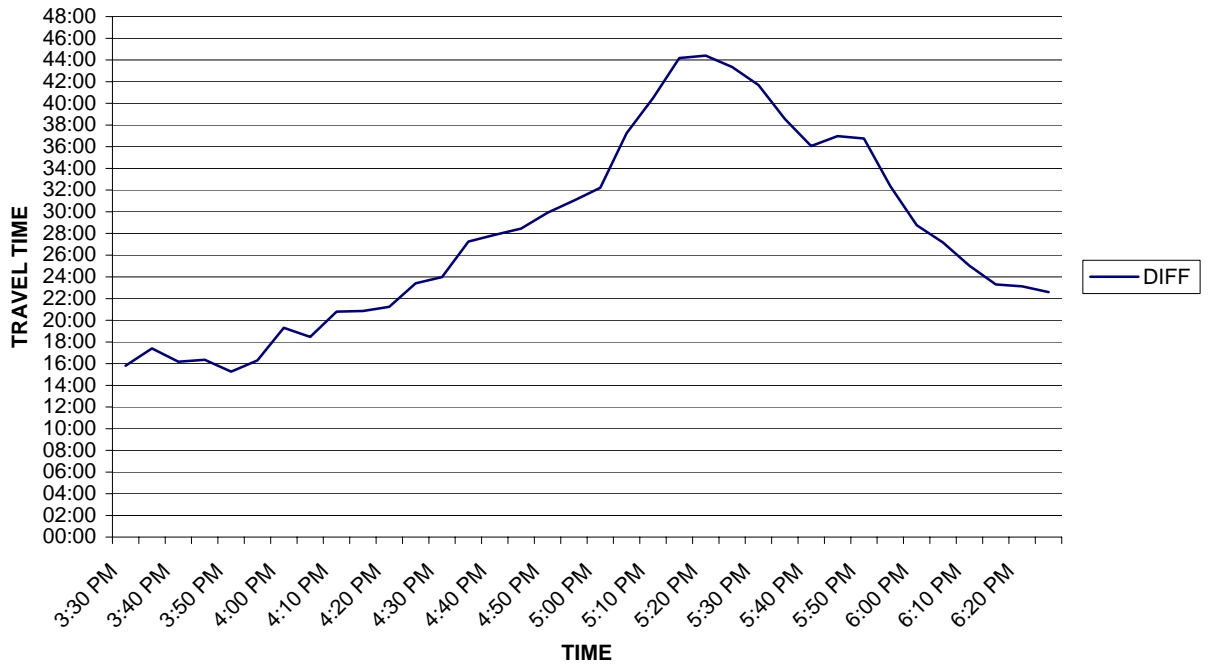
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	12.57	28:01	12:13	948.2	15:48	0.0	0:00:00
3:35 PM	12.57	29:47	12:23	1,044.5	17:24	4,981.6	1:23:02
3:40 PM	12.57	28:41	12:31	970.7	16:11	5,037.8	1:23:58
3:45 PM	12.57	28:56	12:35	981.5	16:21	4,880.3	1:21:20
3:50 PM	12.57	27:52	12:37	915.4	15:15	4,742.1	1:19:02
3:55 PM	12.57	29:02	12:44	978.2	16:18	4,734.0	1:18:54
4:00 PM	12.57	32:04	12:46	1,158.4	19:18	5,341.4	1:29:01
4:05 PM	12.57	31:33	13:05	1,107.9	18:28	5,665.6	1:34:26
4:10 PM	12.57	34:00	13:12	1,247.8	20:48	5,889.3	1:38:09
4:15 PM	12.57	34:01	13:10	1,251.3	20:51	6,247.8	1:44:08
4:20 PM	12.57	34:29	13:14	1,274.6	21:15	6,314.8	1:45:15
4:25 PM	12.57	36:42	13:17	1,405.1	23:25	6,699.1	1:51:39
4:30 PM	12.57	37:35	13:35	1,439.6	24:00	7,111.6	1:58:32
4:35 PM	12.57	41:00	13:45	1,634.6	27:15	7,685.5	2:08:05
4:40 PM	12.57	41:52	14:00	1,672.0	27:52	8,266.5	2:17:46
4:45 PM	12.57	42:52	14:25	1,706.7	28:27	8,446.8	2:20:47
4:50 PM	12.57	44:55	15:01	1,794.2	29:54	8,752.3	2:25:52
4:55 PM	12.57	46:09	15:07	1,862.0	31:02	9,140.5	2:32:20
5:00 PM	12.57	46:59	14:47	1,932.2	32:12	9,485.5	2:38:06
5:05 PM	12.57	51:40	14:25	2,235.4	37:15	10,419.0	2:53:39
5:10 PM	12.57	54:10	13:40	2,429.6	40:30	11,662.5	3:14:23
5:15 PM	12.57	57:25	13:14	2,650.7	44:11	12,700.8	3:31:41
5:20 PM	12.57	57:35	13:11	2,663.9	44:24	13,286.4	3:41:26
5:25 PM	12.57	56:11	12:50	2,601.3	43:21	13,162.8	3:39:23
5:30 PM	12.57	54:42	13:00	2,501.6	41:42	12,757.1	3:32:37
5:35 PM	12.57	51:31	12:57	2,313.3	38:33	12,037.3	3:20:37
5:40 PM	12.57	48:48	12:44	2,163.5	36:04	11,192.0	3:06:32
5:45 PM	12.57	49:50	12:51	2,218.9	36:59	10,955.9	3:02:36
5:50 PM	12.57	49:42	12:56	2,205.7	36:46	11,061.3	3:04:21
5:55 PM	12.57	46:28	14:06	1,941.3	32:21	10,367.4	2:52:47
6:00 PM	12.57	43:48	15:02	1,725.6	28:46	9,167.3	2:32:47
6:05 PM	12.57	42:11	15:01	1,630.1	27:10	8,389.1	2:19:49
6:10 PM	12.57	39:52	14:50	1,501.6	25:02	7,829.0	2:10:29
6:15 PM	12.57	38:00	14:41	1,398.3	23:18	7,249.6	2:00:50
6:20 PM	12.57	36:52	13:43	1,388.2	23:08	6,966.3	1:56:06
6:25 PM	12.57	35:45	13:09	1,355.7	22:36	6,859.8	1:54:20

	sec	dd:hh:mm:ss
MAX DIFF	2,663.9	44:24
MIN DIFF	915.4	15:15
AVG DIFF	1,673.6	27:54
STD DEV	541.6	09:02
TOT AREA	295,485.5	03:10:04:46

I- 10 KATY FREEWAY PM WB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS



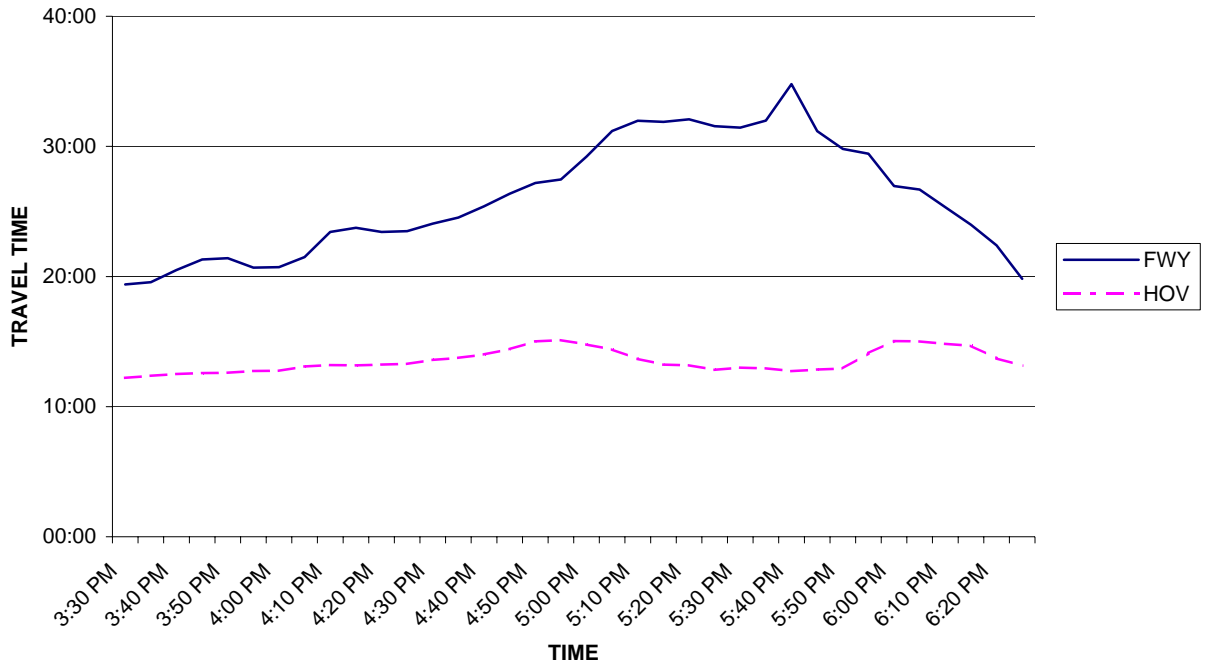
Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway T: HOV
 Direction WB
 Date

Time 03:30 PM to 06:25 PM

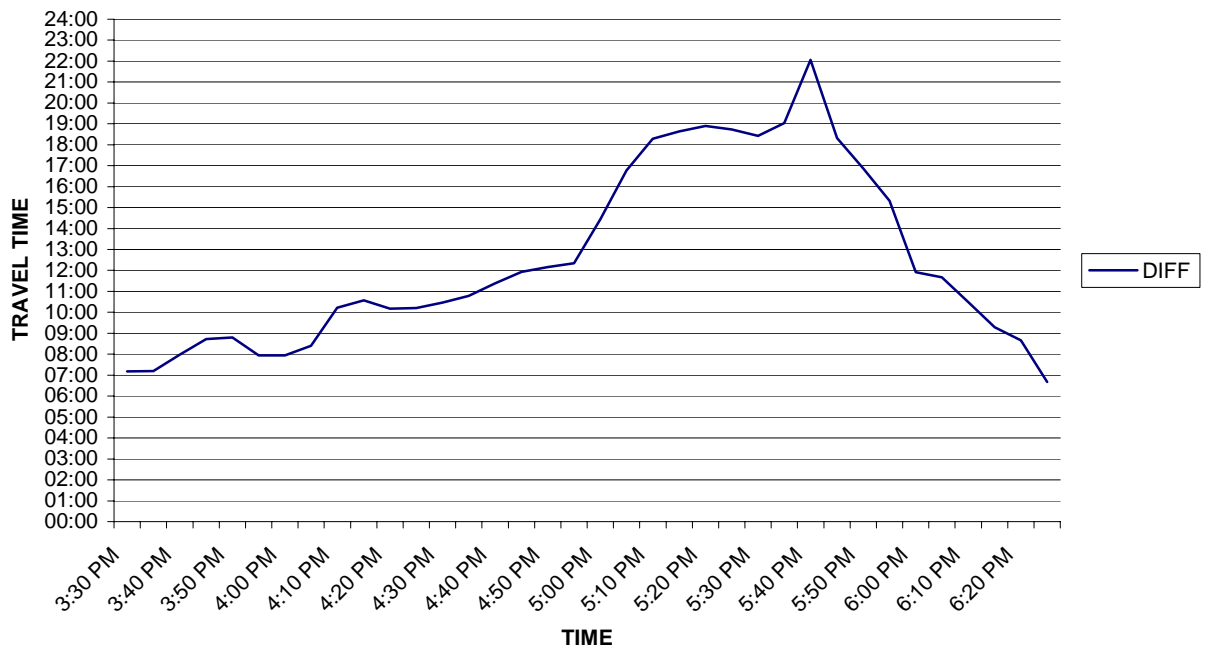
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	12.57	19:24	12:13	431.2	07:11	0.0 0:00:00
3:35 PM	12.57	19:34	12:23	431.8	07:12	2,157.5 0:35:57
3:40 PM	12.57	20:29	12:31	478.5	07:58	2,275.7 0:37:56
3:45 PM	12.57	21:19	12:35	523.6	08:44	2,505.3 0:41:45
3:50 PM	12.57	21:24	12:37	527.7	08:48	2,628.4 0:43:48
3:55 PM	12.57	20:41	12:44	476.7	07:57	2,511.1 0:41:51
4:00 PM	12.57	20:43	12:46	477.0	07:57	2,384.3 0:39:44
4:05 PM	12.57	21:30	13:05	504.6	08:25	2,454.0 0:40:54
4:10 PM	12.57	23:25	13:12	613.6	10:14	2,795.5 0:46:36
4:15 PM	12.57	23:44	13:10	634.1	10:34	3,119.4 0:51:59
4:20 PM	12.57	23:25	13:14	610.6	10:11	3,111.8 0:51:52
4:25 PM	12.57	23:29	13:17	612.4	10:12	3,057.5 0:50:57
4:30 PM	12.57	24:03	13:35	627.9	10:28	3,100.8 0:51:41
4:35 PM	12.57	24:32	13:45	646.8	10:47	3,186.8 0:53:07
4:40 PM	12.57	25:24	14:00	683.2	11:23	3,324.8 0:55:25
4:45 PM	12.57	26:21	14:25	716.0	11:56	3,498.0 0:58:18
4:50 PM	12.57	27:11	15:01	730.0	12:10	3,615.2 1:00:15
4:55 PM	12.57	27:28	15:07	740.7	12:21	3,676.8 1:01:17
5:00 PM	12.57	29:13	14:47	866.2	14:26	4,017.2 1:06:57
5:05 PM	12.57	31:11	14:25	1,006.4	16:46	4,681.5 1:18:01
5:10 PM	12.57	31:58	13:40	1,097.6	18:18	5,260.0 1:27:40
5:15 PM	12.57	31:53	13:14	1,118.7	18:39	5,540.8 1:32:21
5:20 PM	12.57	32:05	13:11	1,133.5	18:54	5,630.5 1:33:51
5:25 PM	12.57	31:33	12:50	1,123.6	18:44	5,642.8 1:34:03
5:30 PM	12.57	31:26	13:00	1,105.9	18:26	5,573.8 1:32:54
5:35 PM	12.57	31:59	12:57	1,141.8	19:02	5,619.3 1:33:39
5:40 PM	12.57	34:47	12:44	1,323.5	22:03	6,163.3 1:42:43
5:45 PM	12.57	31:10	12:51	1,099.4	18:19	6,057.1 1:40:57
5:50 PM	12.57	29:48	12:56	1,011.7	16:52	5,277.5 1:27:58
5:55 PM	12.57	29:26	14:06	919.8	15:20	4,828.6 1:20:29
6:00 PM	12.57	26:57	15:02	714.6	11:55	4,086.0 1:08:06
6:05 PM	12.57	26:41	15:01	700.1	11:40	3,536.6 0:58:57
6:10 PM	12.57	25:20	14:50	630.1	10:30	3,325.3 0:55:25
6:15 PM	12.57	23:58	14:41	557.3	09:17	2,968.4 0:49:28
6:20 PM	12.57	22:23	13:43	519.7	08:40	2,692.5 0:44:52
6:25 PM	12.57	19:49	13:09	400.2	06:40	2,299.8 0:38:20

	sec	dd:hh:mm:ss
MAX DIFF	1,323.5	22:03
MIN DIFF	400.2	06:40
AVG DIFF	748.2	12:28
STD DEV	260.2	04:20
TOT AREA	132,603.4	01:12:50:03

I- 10 KATY FREEWAY PM WB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS



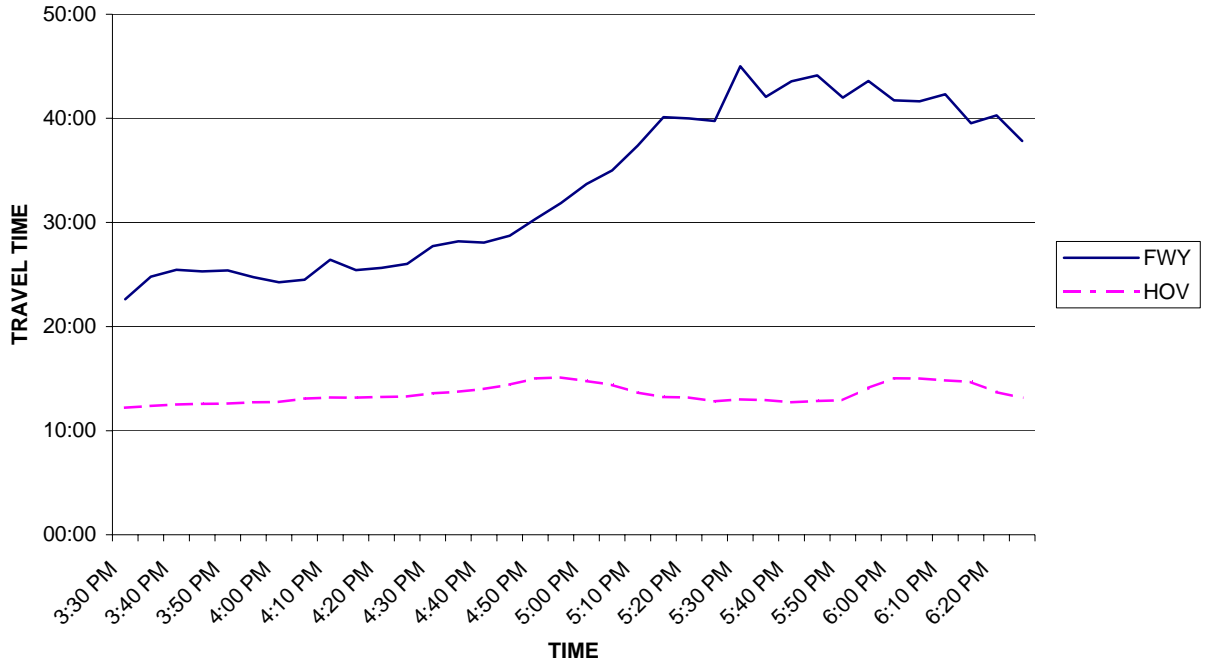
Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway T: HOV
 Direction WB
 Date

Time 03:30 PM to 06:25 PM

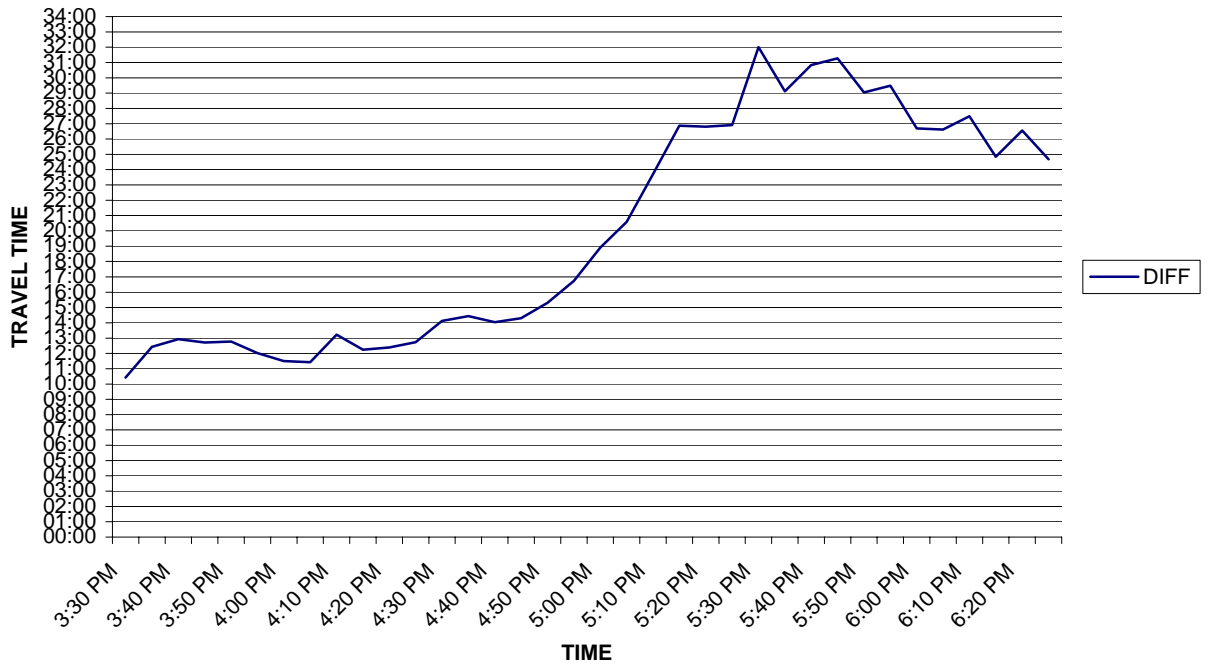
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	12.57	22:38	12:13	625.5	10:26	0.0 0:00:00
3:35 PM	12.57	24:48	12:23	745.8	12:26	3,428.3 0:57:08
3:40 PM	12.57	25:27	12:31	776.2	12:56	3,804.8 1:03:25
3:45 PM	12.57	25:18	12:35	763.0	12:43	3,847.8 1:04:08
3:50 PM	12.57	25:23	12:37	766.7	12:47	3,824.2 1:03:44
3:55 PM	12.57	24:46	12:44	721.4	12:01	3,720.3 1:02:00
4:00 PM	12.57	24:16	12:46	690.0	11:30	3,528.5 0:58:48
4:05 PM	12.57	24:31	13:05	685.6	11:26	3,439.0 0:57:19
4:10 PM	12.57	26:25	13:12	793.3	13:13	3,697.2 1:01:37
4:15 PM	12.57	25:25	13:10	734.5	12:14	3,819.4 1:03:39
4:20 PM	12.57	25:38	13:14	743.6	12:24	3,695.2 1:01:35
4:25 PM	12.57	26:01	13:17	764.4	12:44	3,770.0 1:02:50
4:30 PM	12.57	27:43	13:35	847.6	14:08	4,030.0 1:07:10
4:35 PM	12.57	28:11	13:45	866.1	14:26	4,284.3 1:11:24
4:40 PM	12.57	28:03	14:00	842.8	14:03	4,272.3 1:11:12
4:45 PM	12.57	28:44	14:25	858.4	14:18	4,253.0 1:10:53
4:50 PM	12.57	30:20	15:01	918.4	15:18	4,441.8 1:14:02
4:55 PM	12.57	31:52	15:07	1,004.7	16:45	4,807.6 1:20:08
5:00 PM	12.57	33:41	14:47	1,134.5	18:55	5,348.0 1:29:08
5:05 PM	12.57	35:00	14:25	1,235.1	20:35	5,924.0 1:38:44
5:10 PM	12.57	37:23	13:40	1,422.6	23:43	6,644.2 1:50:44
5:15 PM	12.57	40:07	13:14	1,612.4	26:52	7,587.4 2:06:27
5:20 PM	12.57	40:00	13:11	1,608.5	26:49	8,052.2 2:14:12
5:25 PM	12.57	39:45	12:50	1,614.9	26:55	8,058.6 2:14:19
5:30 PM	12.57	45:01	13:00	1,920.3	32:00	8,838.0 2:27:18
5:35 PM	12.57	42:04	12:57	1,747.1	29:07	9,168.5 2:32:48
5:40 PM	12.57	43:34	12:44	1,850.0	30:50	8,992.8 2:29:53
5:45 PM	12.57	44:08	12:51	1,876.5	31:17	9,316.3 2:35:16
5:50 PM	12.57	41:59	12:56	1,743.0	29:03	9,048.8 2:30:49
5:55 PM	12.57	43:35	14:06	1,769.1	29:29	8,780.3 2:26:20
6:00 PM	12.57	41:44	15:02	1,601.9	26:42	8,427.7 2:20:28
6:05 PM	12.57	41:38	15:01	1,597.4	26:37	7,998.3 2:13:18
6:10 PM	12.57	42:19	14:50	1,649.1	27:29	8,116.1 2:15:16
6:15 PM	12.57	39:32	14:41	1,490.8	24:51	7,849.6 2:10:50
6:20 PM	12.57	40:17	13:43	1,593.7	26:34	7,711.3 2:08:31
6:25 PM	12.57	37:50	13:09	1,480.7	24:41	7,686.0 2:08:06

	sec	dd:hh:mm:ss
MAX DIFF	1,920.3	32:00
MIN DIFF	625.5	10:26
AVG DIFF	1,197.1	19:57
STD DEV	445.5	07:26
TOT AREA	210,211.3	02:10:23:31

I- 10 KATY FREEWAY PM WB SHOULDER SCHOOL IN 31-45 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB SHOULDER SCHOOL IN 31-45 MINUTE INCIDENTS

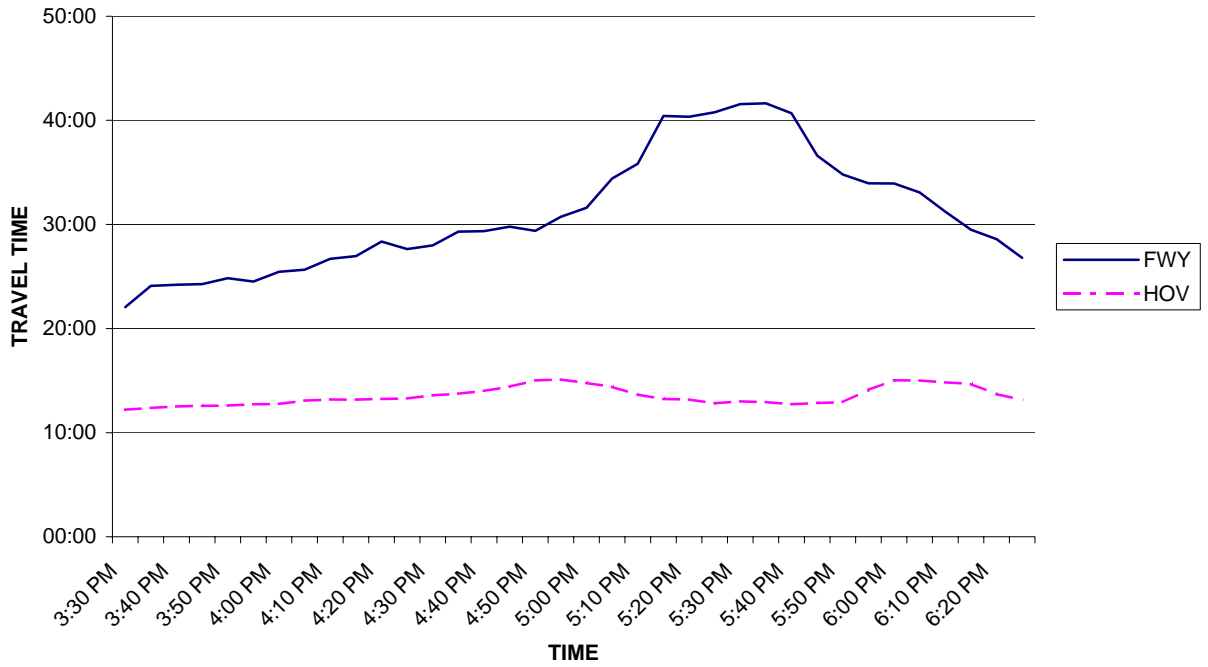


Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway Type HOV
 Direction WB
 Date
 Time 03:30 PM to 06:25 PM

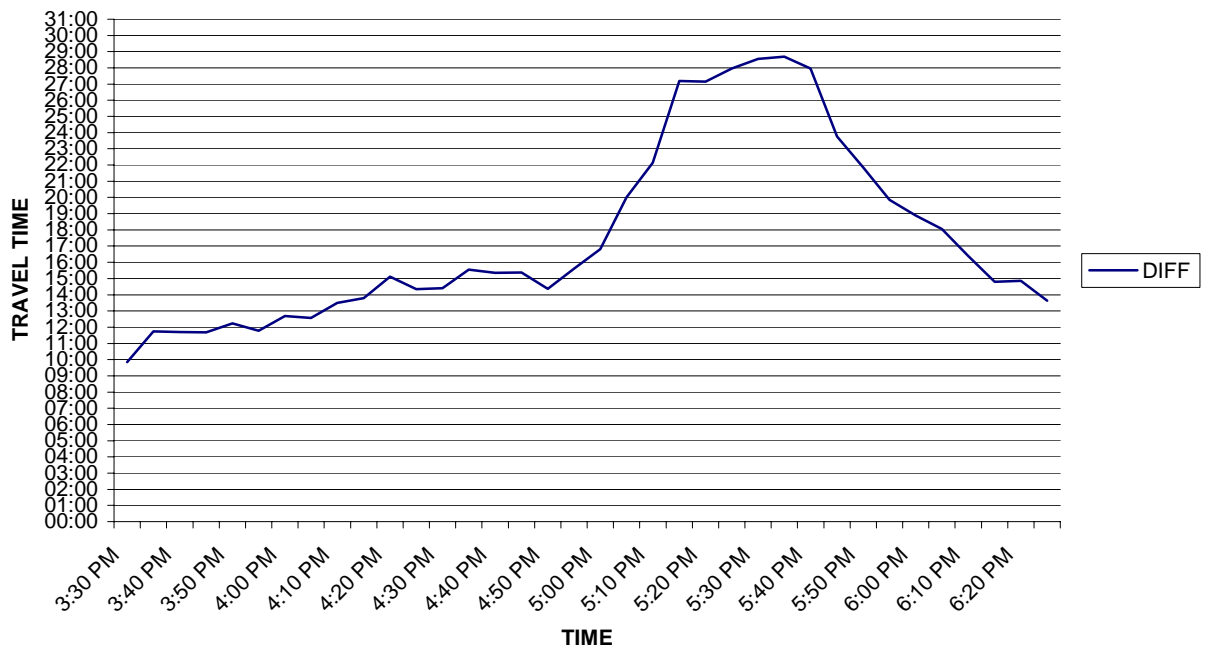
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	12.57	22:04	12:13	590.7	09:51	0.0	0:00:00
3:35 PM	12.57	24:07	12:23	704.0	11:44	3,236.6	0:53:57
3:40 PM	12.57	24:13	12:31	702.2	11:42	3,515.3	0:58:35
3:45 PM	12.57	24:16	12:35	701.5	11:41	3,509.0	0:58:29
3:50 PM	12.57	24:50	12:37	733.9	12:14	3,588.4	0:59:48
3:55 PM	12.57	24:32	12:44	707.2	11:47	3,602.8	1:00:03
4:00 PM	12.57	25:27	12:46	760.9	12:41	3,670.1	1:01:10
4:05 PM	12.57	25:39	13:05	753.9	12:34	3,786.9	1:03:07
4:10 PM	12.57	26:42	13:12	810.3	13:30	3,910.5	1:05:10
4:15 PM	12.57	26:57	13:10	827.3	13:47	4,094.0	1:08:14
4:20 PM	12.57	28:21	13:14	907.1	15:07	4,336.0	1:12:16
4:25 PM	12.57	27:38	13:17	861.1	14:21	4,420.4	1:13:40
4:30 PM	12.57	28:00	13:35	864.1	14:24	4,312.9	1:11:53
4:35 PM	12.57	29:19	13:45	933.6	15:34	4,494.3	1:14:54
4:40 PM	12.57	29:22	14:00	921.0	15:21	4,636.5	1:17:17
4:45 PM	12.57	29:48	14:25	922.2	15:22	4,608.0	1:16:48
4:50 PM	12.57	29:23	15:01	862.2	14:22	4,461.0	1:14:21
4:55 PM	12.57	30:44	15:07	937.0	15:37	4,498.0	1:14:58
5:00 PM	12.57	31:35	14:47	1,008.7	16:49	4,864.3	1:21:04
5:05 PM	12.57	34:25	14:25	1,200.4	20:00	5,522.8	1:32:03
5:10 PM	12.57	35:50	13:40	1,329.1	22:09	6,323.8	1:45:24
5:15 PM	12.57	40:25	13:14	1,631.2	27:11	7,400.8	2:03:21
5:20 PM	12.57	40:21	13:11	1,629.9	27:10	8,152.6	2:15:53
5:25 PM	12.57	40:47	12:50	1,677.3	27:57	8,267.8	2:17:48
5:30 PM	12.57	41:33	13:00	1,713.1	28:33	8,475.9	2:21:16
5:35 PM	12.57	41:39	12:57	1,721.3	28:41	8,586.0	2:23:06
5:40 PM	12.57	40:42	12:44	1,677.5	27:58	8,497.0	2:21:37
5:45 PM	12.57	36:37	12:51	1,425.4	23:45	7,757.1	2:09:17
5:50 PM	12.57	34:47	12:56	1,311.2	21:51	6,841.3	1:54:01
5:55 PM	12.57	33:57	14:06	1,190.8	19:51	6,254.9	1:44:15
6:00 PM	12.57	33:56	15:02	1,133.6	18:54	5,811.0	1:36:51
6:05 PM	12.57	33:05	15:01	1,083.6	18:04	5,542.9	1:32:23
6:10 PM	12.57	31:14	14:50	983.6	16:24	5,167.8	1:26:08
6:15 PM	12.57	29:30	14:41	888.3	14:48	4,679.6	1:18:00
6:20 PM	12.57	28:35	13:43	891.7	14:52	4,450.0	1:14:10
6:25 PM	12.57	26:48	13:09	818.2	13:38	4,274.8	1:11:15

	sec	dd:hh:mm:ss
MAX DIFF	1,721.3	28:41
MIN DIFF	590.7	09:51
AVG DIFF	1,050.4	17:30
STD DEV	340.4	05:40
TOT AREA	185,550.5	02:03:32:31

I- 10 KATY FREEWAY PM WB SHOULDER SCHOOL IN 61+ MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB SHOULDER SCHOOL IN 61+ MINUTE INCIDENTS



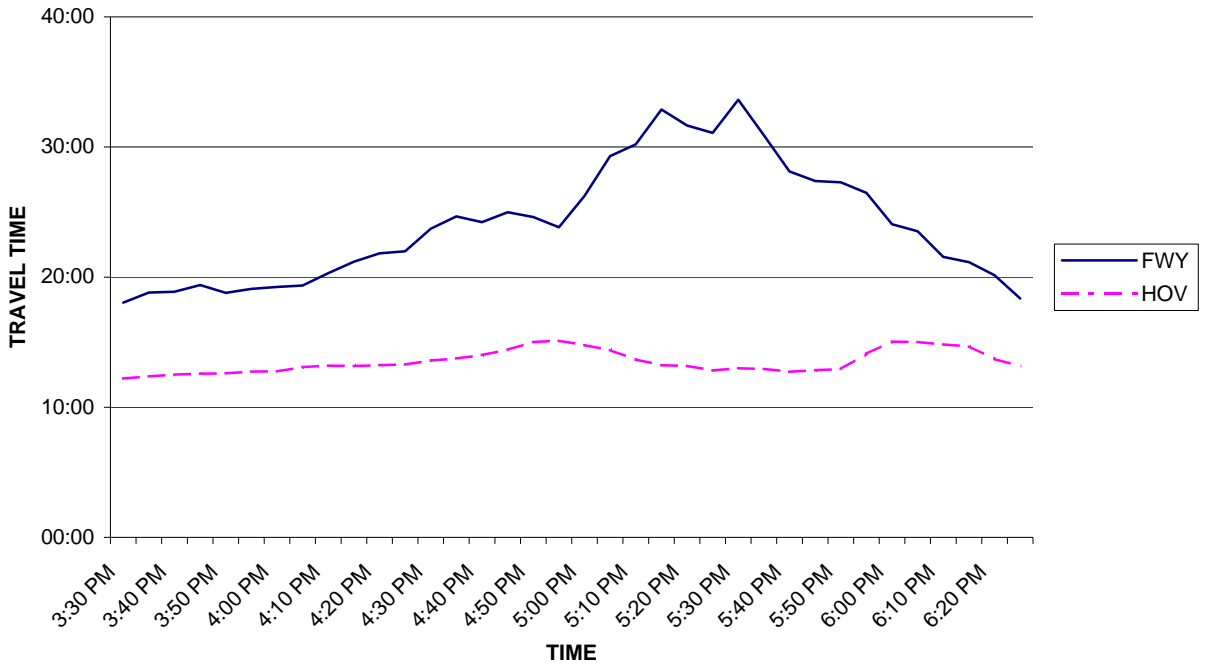
Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway Type HOV
 Direction WB
 Date

Time 03:30 PM to 06:25 PM

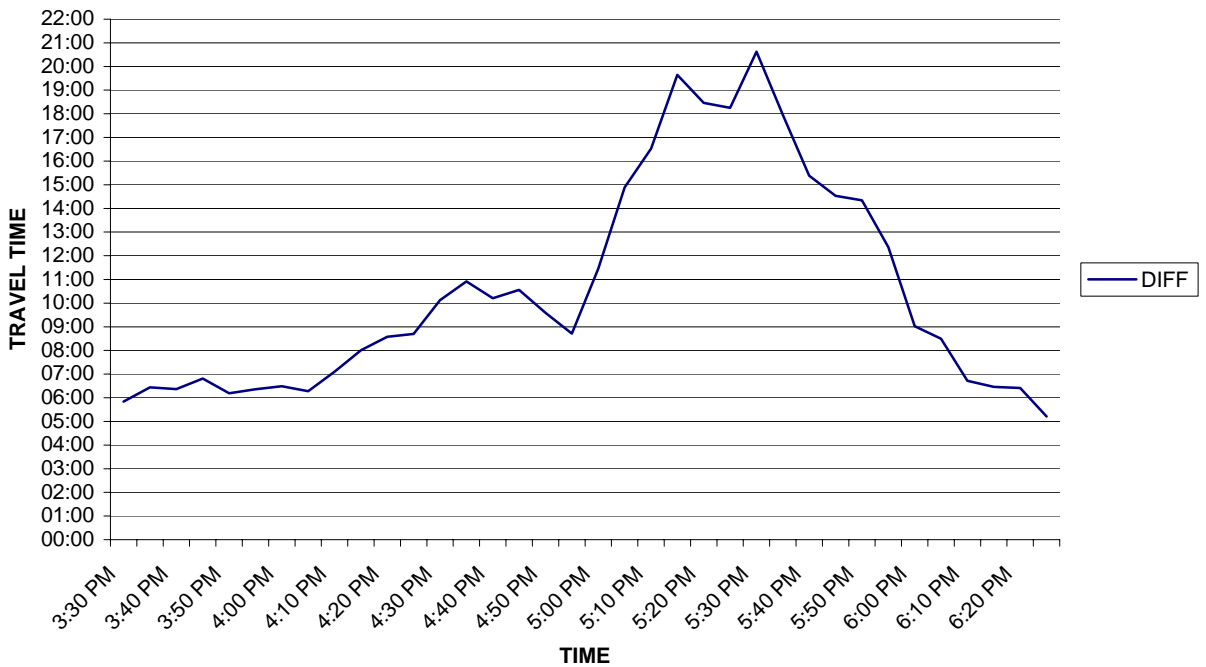
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	12.57	18:03	12:13	350.2	05:50	0.0	0:00:00
3:35 PM	12.57	18:49	12:23	386.5	06:26	1,841.6	0:30:42
3:40 PM	12.57	18:53	12:31	382.2	06:22	1,921.5	0:32:01
3:45 PM	12.57	19:24	12:35	409.0	06:49	1,977.8	0:32:58
3:50 PM	12.57	18:48	12:37	371.4	06:11	1,950.9	0:32:31
3:55 PM	12.57	19:06	12:44	381.7	06:22	1,882.8	0:31:23
4:00 PM	12.57	19:15	12:46	389.4	06:29	1,927.6	0:32:08
4:05 PM	12.57	19:22	13:05	376.9	06:17	1,915.6	0:31:56
4:10 PM	12.57	20:18	13:12	426.3	07:06	2,008.0	0:33:28
4:15 PM	12.57	21:11	13:10	480.8	08:01	2,267.8	0:37:48
4:20 PM	12.57	21:49	13:14	514.6	08:35	2,488.5	0:41:28
4:25 PM	12.57	21:59	13:17	522.1	08:42	2,591.6	0:43:12
4:30 PM	12.57	23:43	13:35	607.6	10:08	2,824.1	0:47:04
4:35 PM	12.57	24:40	13:45	655.1	10:55	3,156.8	0:52:37
4:40 PM	12.57	24:13	14:00	612.5	10:13	3,169.0	0:52:49
4:45 PM	12.57	24:59	14:25	633.7	10:34	3,115.5	0:51:56
4:50 PM	12.57	24:37	15:01	575.7	09:36	3,023.5	0:50:24
4:55 PM	12.57	23:50	15:07	523.0	08:43	2,746.8	0:45:47
5:00 PM	12.57	26:14	14:47	687.2	11:27	3,025.5	0:50:26
5:05 PM	12.57	29:18	14:25	893.4	14:53	3,951.5	1:05:51
5:10 PM	12.57	30:12	13:40	991.6	16:32	4,712.5	1:18:32
5:15 PM	12.57	32:53	13:14	1,178.7	19:39	5,425.8	1:30:26
5:20 PM	12.57	31:39	13:11	1,107.9	18:28	5,716.4	1:35:16
5:25 PM	12.57	31:05	12:50	1,095.3	18:15	5,507.8	1:31:48
5:30 PM	12.57	33:38	13:00	1,237.6	20:38	5,832.1	1:37:12
5:35 PM	12.57	30:54	12:57	1,076.8	17:57	5,786.0	1:36:26
5:40 PM	12.57	28:07	12:44	923.0	15:23	4,999.5	1:23:20
5:45 PM	12.57	27:23	12:51	871.9	14:32	4,487.1	1:14:47
5:50 PM	12.57	27:17	12:56	860.7	14:21	4,331.3	1:12:11
5:55 PM	12.57	26:28	14:06	741.8	12:22	4,006.1	1:06:46
6:00 PM	12.57	24:04	15:02	541.6	09:02	3,208.5	0:53:28
6:05 PM	12.57	23:31	15:01	510.1	08:30	2,629.1	0:43:49
6:10 PM	12.57	21:33	14:50	403.1	06:43	2,282.8	0:38:03
6:15 PM	12.57	21:09	14:41	387.8	06:28	1,977.1	0:32:57
6:20 PM	12.57	20:08	13:43	384.7	06:25	1,931.3	0:32:11
6:25 PM	12.57	18:22	13:09	312.7	05:13	1,743.5	0:29:04

	sec	dd:hh:mm:ss
MAX DIFF	1,237.6	20:38
MIN DIFF	312.7	05:13
AVG DIFF	633.4	10:33
STD DEV	273.8	04:34
TOT AREA	112,363.0	01:07:12:43

I- 10 KATY FREEWAY PM WB SHOULDER SCHOOL OUT 16-30 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB SHOULDER SCHOOL OUT 16-30 MINUTE INCIDENTS

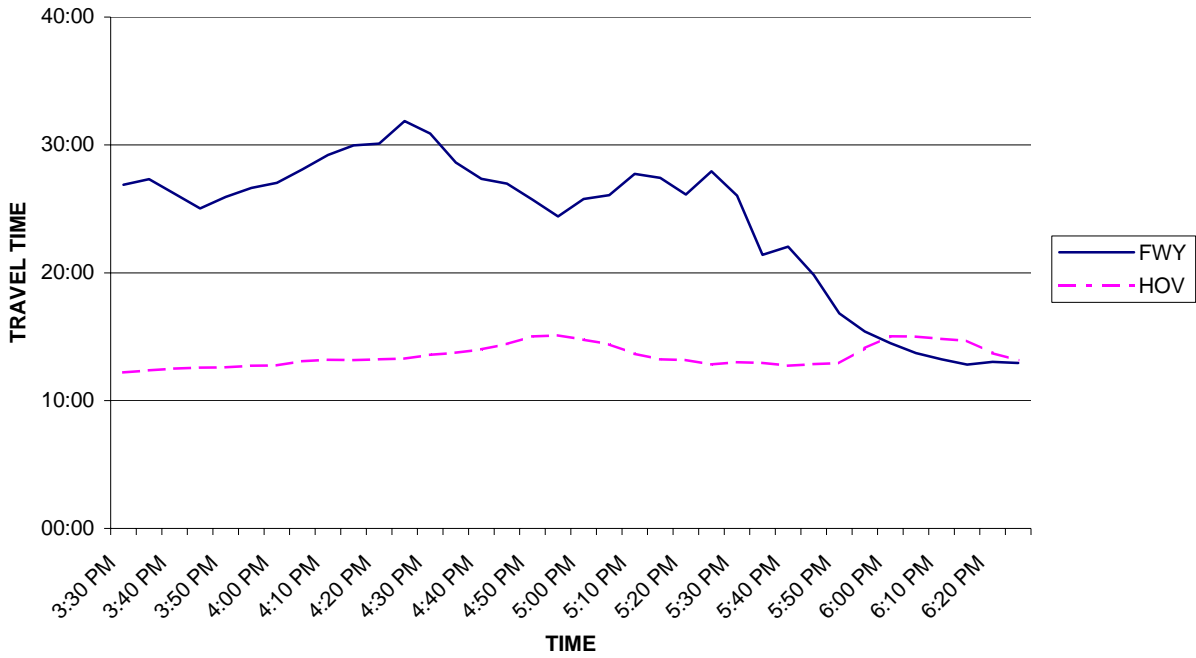


Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway Type HOV
 Direction WB
 Date
 Time 03:30 PM to 06:25 PM

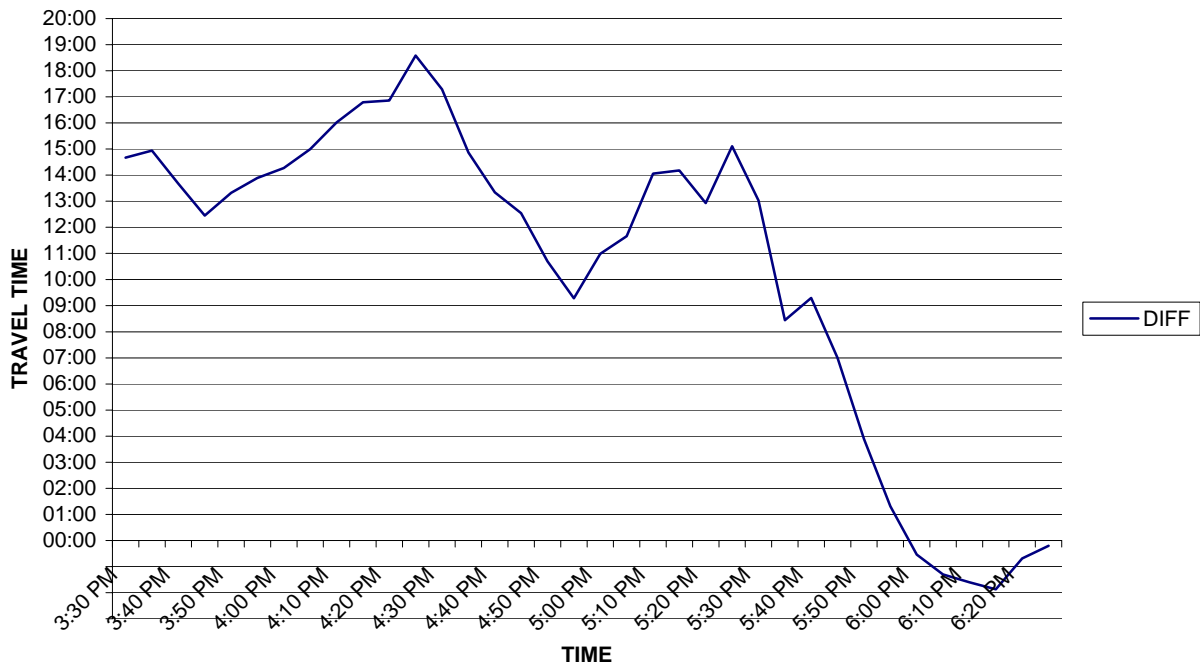
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	12.57	26:53	12:13	880.2	14:40	0.0	0:00:00
3:35 PM	12.57	27:19	12:23	896.5	14:56	4,441.6	1:14:02
3:40 PM	12.57	26:11	12:31	820.2	13:40	4,291.5	1:11:32
3:45 PM	12.57	25:02	12:35	747.0	12:27	3,917.8	1:05:18
3:50 PM	12.57	25:56	12:37	799.4	13:19	3,865.9	1:04:26
3:55 PM	12.57	26:38	12:44	833.7	13:54	4,082.8	1:08:03
4:00 PM	12.57	27:02	12:46	856.4	14:16	4,225.1	1:10:25
4:05 PM	12.57	28:05	13:05	899.9	15:00	4,390.6	1:13:11
4:10 PM	12.57	29:13	13:12	961.3	16:01	4,653.0	1:17:33
4:15 PM	12.57	29:58	13:10	1,007.8	16:48	4,922.8	1:22:03
4:20 PM	12.57	30:06	13:14	1,011.6	16:52	5,048.5	1:24:09
4:25 PM	12.57	31:52	13:17	1,115.1	18:35	5,316.6	1:28:37
4:30 PM	12.57	30:53	13:35	1,037.6	17:18	5,381.6	1:29:42
4:35 PM	12.57	28:37	13:45	892.1	14:52	4,824.3	1:20:24
4:40 PM	12.57	27:21	14:00	800.5	13:21	4,231.5	1:10:32
4:45 PM	12.57	26:58	14:25	752.7	12:33	3,883.0	1:04:43
4:50 PM	12.57	25:43	15:01	641.7	10:42	3,486.0	0:58:06
4:55 PM	12.57	24:24	15:07	557.0	09:17	2,996.8	0:49:57
5:00 PM	12.57	25:46	14:47	659.2	10:59	3,040.5	0:50:40
5:05 PM	12.57	26:04	14:25	699.4	11:39	3,396.5	0:56:37
5:10 PM	12.57	27:44	13:40	843.6	14:04	3,857.5	1:04:18
5:15 PM	12.57	27:25	13:14	850.7	14:11	4,235.8	1:10:36
5:20 PM	12.57	26:07	13:11	775.9	12:56	4,066.4	1:07:46
5:25 PM	12.57	27:56	12:50	906.3	15:06	4,205.3	1:10:05
5:30 PM	12.57	26:02	13:00	781.6	13:02	4,219.6	1:10:20
5:35 PM	12.57	21:24	12:57	506.8	08:27	3,221.0	0:53:41
5:40 PM	12.57	22:02	12:44	558.0	09:18	2,662.0	0:44:22
5:45 PM	12.57	19:51	12:51	419.9	07:00	2,444.6	0:40:45
5:50 PM	12.57	16:50	12:56	233.7	03:54	1,633.8	0:27:14
5:55 PM	12.57	15:25	14:06	78.8	01:19	781.1	0:13:01
6:00 PM	12.57	14:30	15:02	-32.4	#####	116.0	0:01:56
6:05 PM	12.57	13:43	15:01	-78.0	#####	-275.9	#####
6:10 PM	12.57	13:14	14:50	-96.0	#####	-434.8	#####
6:15 PM	12.57	12:49	14:41	-112.2	#####	-520.4	#####
6:20 PM	12.57	13:02	13:43	-41.3	#####	-383.8	#####
6:25 PM	12.57	12:57	13:09	-12.3	#####	-134.0	#####

	sec	dd:hh:mm:ss
MAX DIFF	1,115.1	18:35
MIN DIFF	-112.2	#####
AVG DIFF	623.7	10:24
STD DEV	375.0	06:15
TOT AREA	110,090.5	01:06:34:51

I- 10 KATY FREEWAY PM WB SHOULDER SCHOOL OUT 61+ MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB SHOULDER SCHOOL OUT 61+ MINUTE INCIDENTS



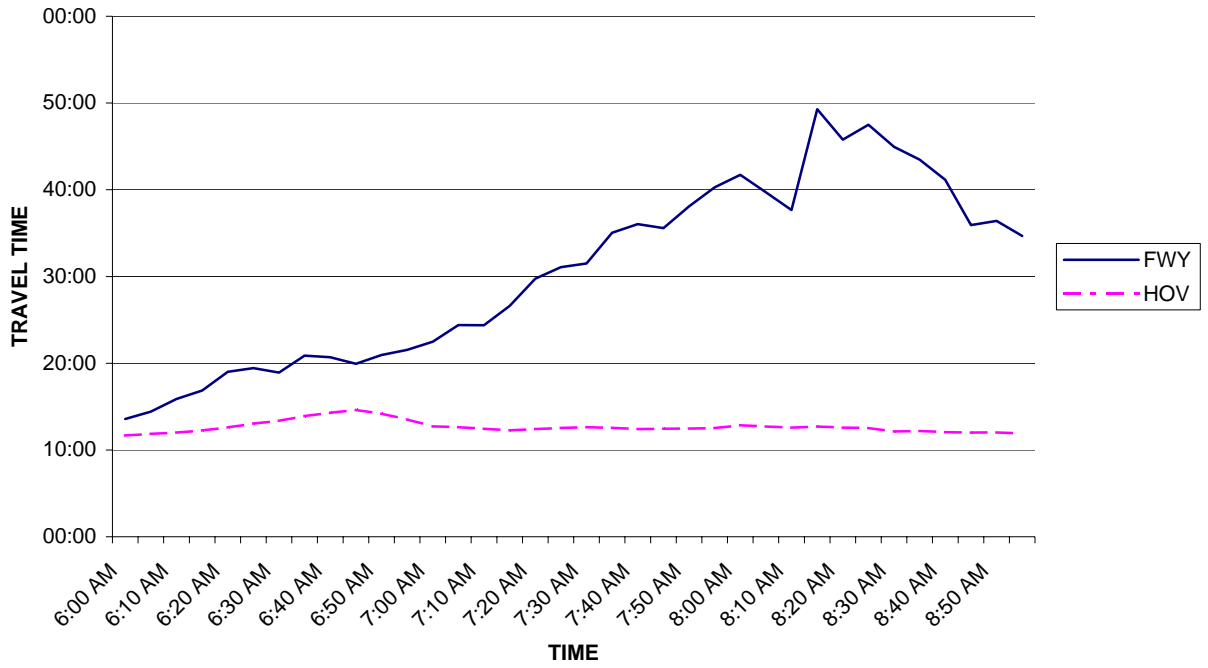
Freeway N I-10 Katy
 Limit SH 6 to Silber
 Freeway T: FWY-HOV
 Direction EB
 Date

Time 06:00 AM to 08:55 AM

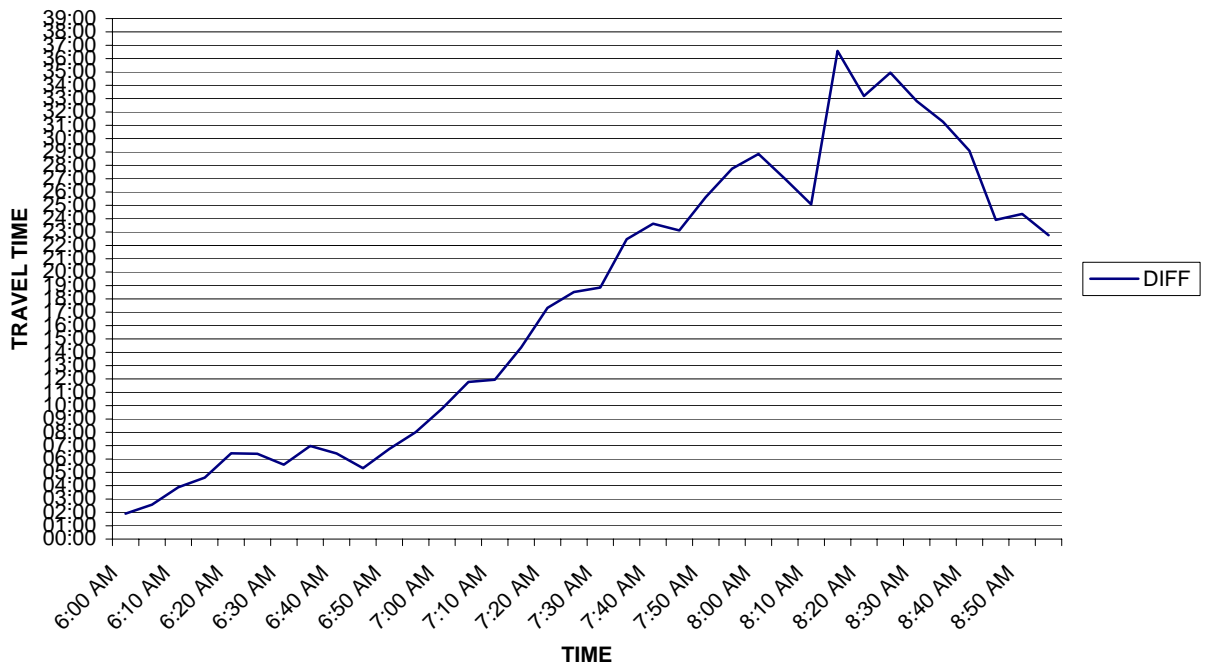
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE	
6:00 AM	12.57	13:35	11:41	114.6	01:55	0.0	0:00:00
6:05 AM	12.57	14:26	11:51	154.5	02:35	672.9	0:11:13
6:10 AM	12.57	15:54	12:00	233.2	03:53	969.3	0:16:09
6:15 AM	12.57	16:52	12:15	276.3	04:36	1,273.7	0:21:14
6:20 AM	12.57	19:01	12:36	385.5	06:26	1,654.6	0:27:35
6:25 AM	12.57	19:27	13:03	383.8	06:24	1,923.5	0:32:03
6:30 AM	12.57	18:56	13:21	334.9	05:35	1,797.0	0:29:57
6:35 AM	12.57	20:53	13:54	418.5	06:59	1,883.7	0:31:24
6:40 AM	12.57	20:42	14:17	385.2	06:25	2,009.2	0:33:29
6:45 AM	12.57	19:57	14:38	318.9	05:19	1,760.3	0:29:20
6:50 AM	12.57	20:58	14:13	405.4	06:45	1,810.9	0:30:11
6:55 AM	12.57	21:33	13:33	480.4	08:00	2,214.5	0:36:54
7:00 AM	12.57	22:30	12:43	586.5	09:47	2,667.2	0:44:27
7:05 AM	12.57	24:24	12:38	706.5	11:46	3,232.5	0:53:53
7:10 AM	12.57	24:24	12:27	716.5	11:57	3,557.5	0:59:18
7:15 AM	12.57	26:37	12:16	861.4	14:21	3,944.9	1:05:45
7:20 AM	12.57	29:45	12:26	1,039.8	17:20	4,753.1	1:19:13
7:25 AM	12.57	31:04	12:33	1,110.9	18:31	5,376.8	1:29:37
7:30 AM	12.57	31:30	12:39	1,131.1	18:51	5,605.1	1:33:25
7:35 AM	12.57	35:02	12:34	1,348.0	22:28	6,197.9	1:43:18
7:40 AM	12.57	36:02	12:25	1,417.4	23:37	6,913.6	1:55:14
7:45 AM	12.57	35:35	12:27	1,387.7	23:08	7,012.9	1:56:53
7:50 AM	12.57	38:05	12:28	1,537.1	25:37	7,311.9	2:01:52
7:55 AM	12.57	40:17	12:32	1,665.3	27:45	8,005.8	2:13:26
8:00 AM	12.57	41:43	12:51	1,731.7	28:52	8,492.4	2:21:32
8:05 AM	12.57	39:43	12:43	1,619.6	27:00	8,378.1	2:19:38
8:10 AM	12.57	37:40	12:35	1,504.6	25:05	7,810.5	2:10:10
8:15 AM	12.57	49:17	12:42	2,194.6	36:35	9,248.0	2:34:08
8:20 AM	12.57	45:47	12:35	1,991.8	33:12	10,465.9	2:54:26
8:25 AM	12.57	47:30	12:33	2,097.1	34:57	10,222.1	2:50:22
8:30 AM	12.57	44:57	12:08	1,968.7	32:49	10,164.5	2:49:24
8:35 AM	12.57	43:28	12:12	1,876.2	31:16	9,612.4	2:40:12
8:40 AM	12.57	41:09	12:03	1,745.5	29:05	9,054.3	2:30:54
8:45 AM	12.57	35:56	12:01	1,434.9	23:55	7,951.1	2:12:31
8:50 AM	12.57	36:24	12:02	1,461.9	24:22	7,242.0	2:00:42
8:55 AM	12.57	34:40	11:54	1,365.5	22:46	7,068.6	1:57:49

	sec	dd:hh:mm:ss
MAX DIFF	2,194.6	36:35
MIN DIFF	114.6	01:55
AVG DIFF	1,066.4	17:46
STD DEV	646.0	10:46
TOT AREA	188,258.7	02:04:17:39

I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS



I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS



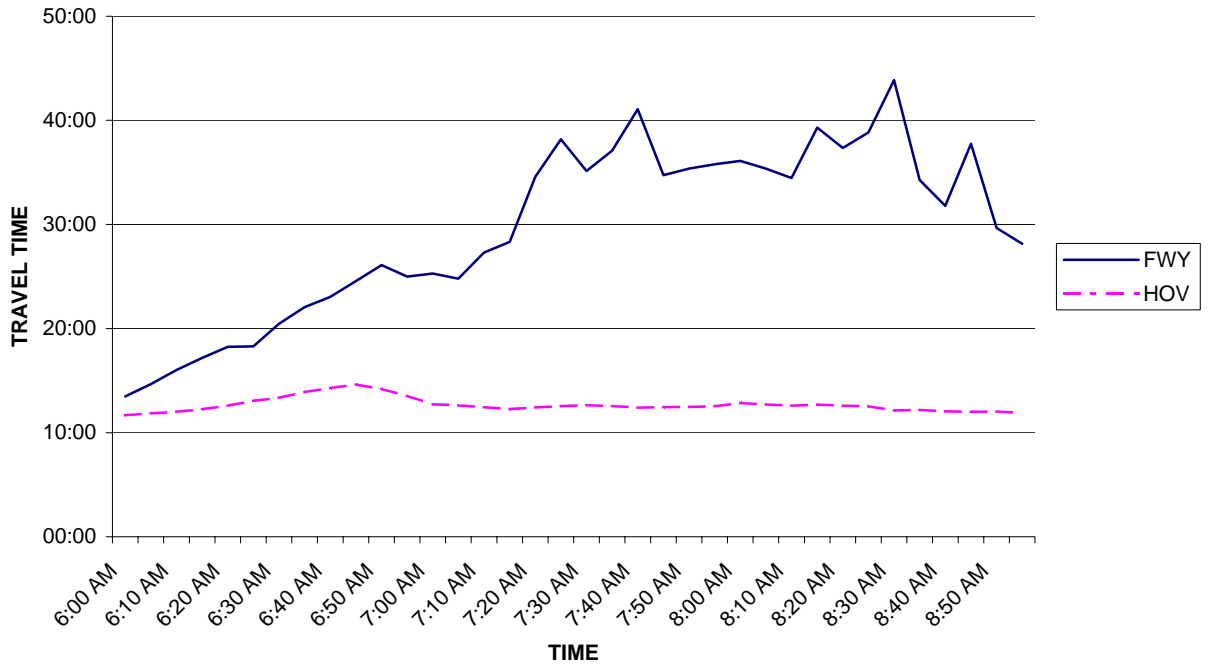
Freeway N I-10 Katy
 Limit SH 6 to Silber
 Freeway Type FWY-HOV
 Direction EB
 Date

Time 06:00 AM to 08:55 AM

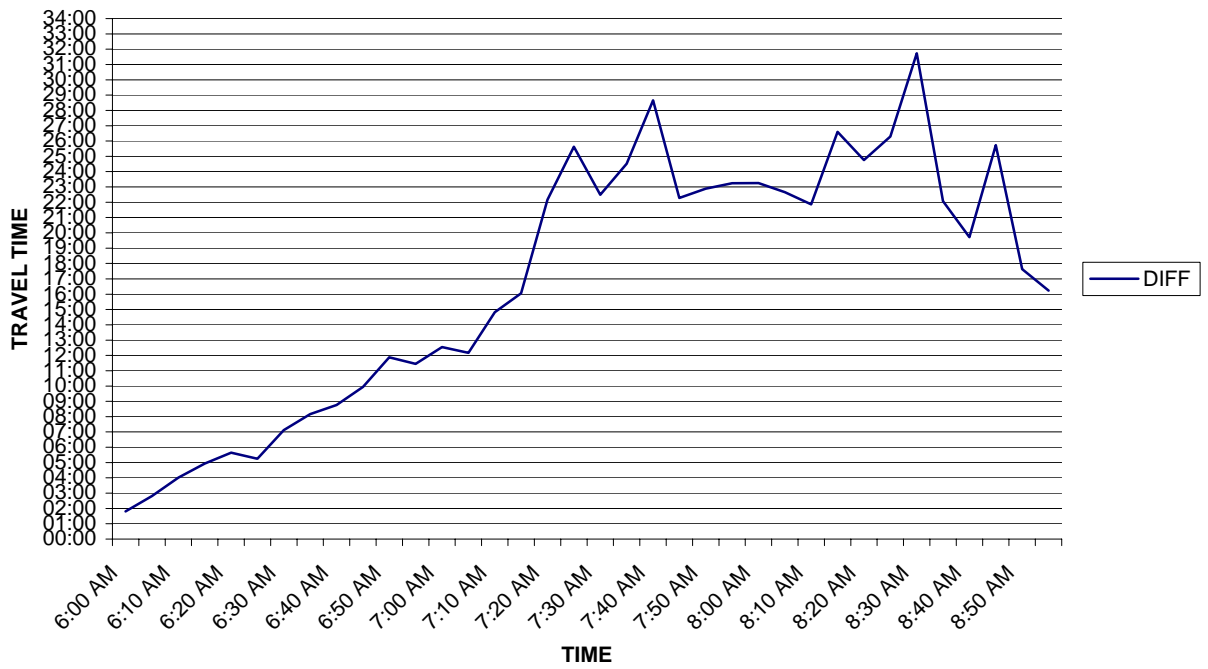
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	12.57	13:29	11:41	108.3	01:48	0.0	0:00:00
6:05 AM	12.57	14:40	11:51	168.5	02:49	692.1	0:11:32
6:10 AM	12.57	16:01	12:00	240.9	04:01	1,023.5	0:17:03
6:15 AM	12.57	17:11	12:15	296.0	04:56	1,342.1	0:22:22
6:20 AM	12.57	18:15	12:36	338.9	05:39	1,587.1	0:26:27
6:25 AM	12.57	18:18	13:03	315.2	05:15	1,635.1	0:27:15
6:30 AM	12.57	20:28	13:21	426.9	07:07	1,855.3	0:30:55
6:35 AM	12.57	22:04	13:54	489.9	08:10	2,292.0	0:38:12
6:40 AM	12.57	23:03	14:17	525.8	08:46	2,539.2	0:42:19
6:45 AM	12.57	24:34	14:38	596.4	09:56	2,805.7	0:46:46
6:50 AM	12.57	26:05	14:13	712.9	11:53	3,273.4	0:54:33
6:55 AM	12.57	25:00	13:33	687.0	11:27	3,499.9	0:58:20
7:00 AM	12.57	25:16	12:43	753.0	12:33	3,600.2	1:00:00
7:05 AM	12.57	24:48	12:38	730.2	12:10	3,708.0	1:01:48
7:10 AM	12.57	27:17	12:27	889.9	14:50	4,050.0	1:07:30
7:15 AM	12.57	28:19	12:16	963.4	16:03	4,633.2	1:17:13
7:20 AM	12.57	34:35	12:26	1,329.8	22:10	5,733.1	1:35:33
7:25 AM	12.57	38:11	12:33	1,537.9	25:38	7,169.3	1:59:29
7:30 AM	12.57	35:08	12:39	1,349.5	22:29	7,218.4	2:00:18
7:35 AM	12.57	37:05	12:34	1,471.0	24:31	7,051.2	1:57:31
7:40 AM	12.57	41:05	12:25	1,719.8	28:40	7,976.9	2:12:57
7:45 AM	12.57	34:44	12:27	1,337.1	22:17	7,642.1	2:07:22
7:50 AM	12.57	35:22	12:28	1,373.6	22:54	6,776.5	1:52:57
7:55 AM	12.57	35:47	12:32	1,394.6	23:15	6,920.4	1:55:20
8:00 AM	12.57	36:07	12:51	1,395.2	23:15	6,974.5	1:56:14
8:05 AM	12.57	35:22	12:43	1,359.2	22:39	6,886.0	1:54:46
8:10 AM	12.57	34:27	12:35	1,312.0	21:52	6,678.0	1:51:18
8:15 AM	12.57	39:18	12:42	1,596.1	26:36	7,270.1	2:01:10
8:20 AM	12.57	37:21	12:35	1,485.8	24:46	7,704.6	2:08:25
8:25 AM	12.57	38:51	12:33	1,577.7	26:18	7,658.8	2:07:39
8:30 AM	12.57	43:52	12:08	1,903.7	31:44	8,703.6	2:25:04
8:35 AM	12.57	34:16	12:12	1,324.2	22:04	8,069.9	2:14:30
8:40 AM	12.57	31:47	12:03	1,183.2	19:43	6,268.5	1:44:28
8:45 AM	12.57	37:45	12:01	1,543.9	25:44	6,817.7	1:53:38
8:50 AM	12.57	29:40	12:02	1,057.9	17:38	6,504.5	1:48:25
8:55 AM	12.57	28:09	11:54	974.2	16:14	5,080.2	1:24:40

	sec	dd:hh:mm:ss
MAX DIFF	1,903.7	31:44
MIN DIFF	108.3	01:48
AVG DIFF	1,013.0	16:53
STD DEV	506.9	08:27
TOT AREA	179,641.2	02:01:54:01

I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS



I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS

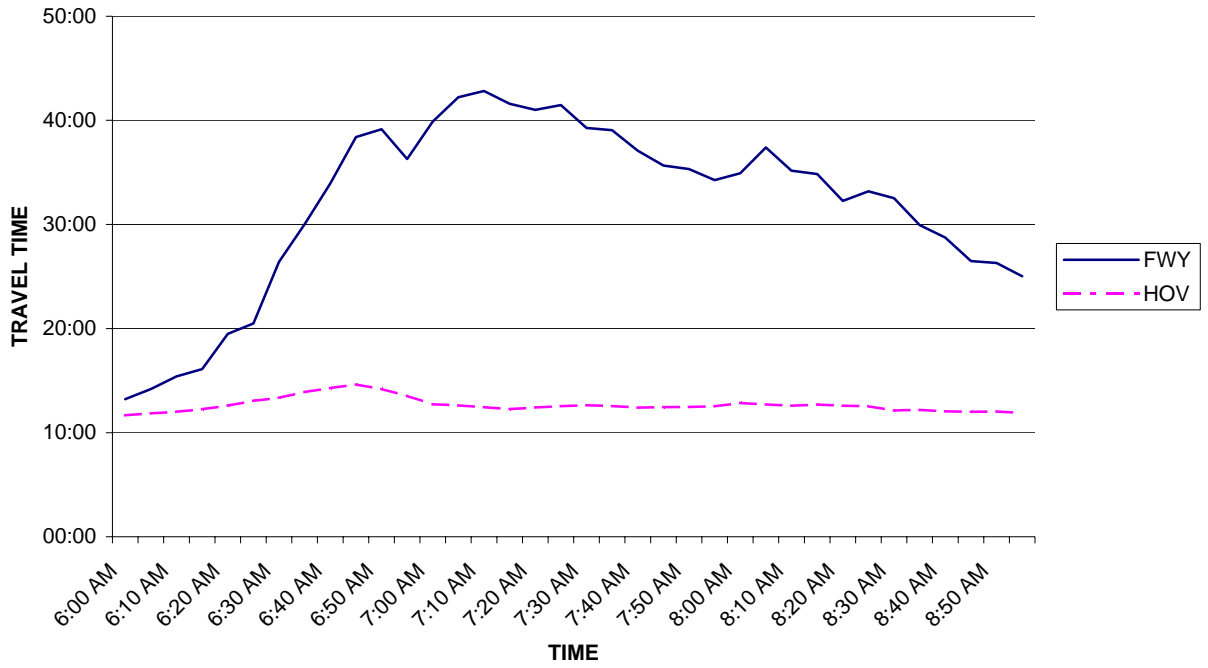


Freeway N I-10 Katy
 Limit SH 6 to Silber
 Freeway Type FWY-HOV
 Direction EB
 Date
 Time 06:00 AM to 08:55 AM

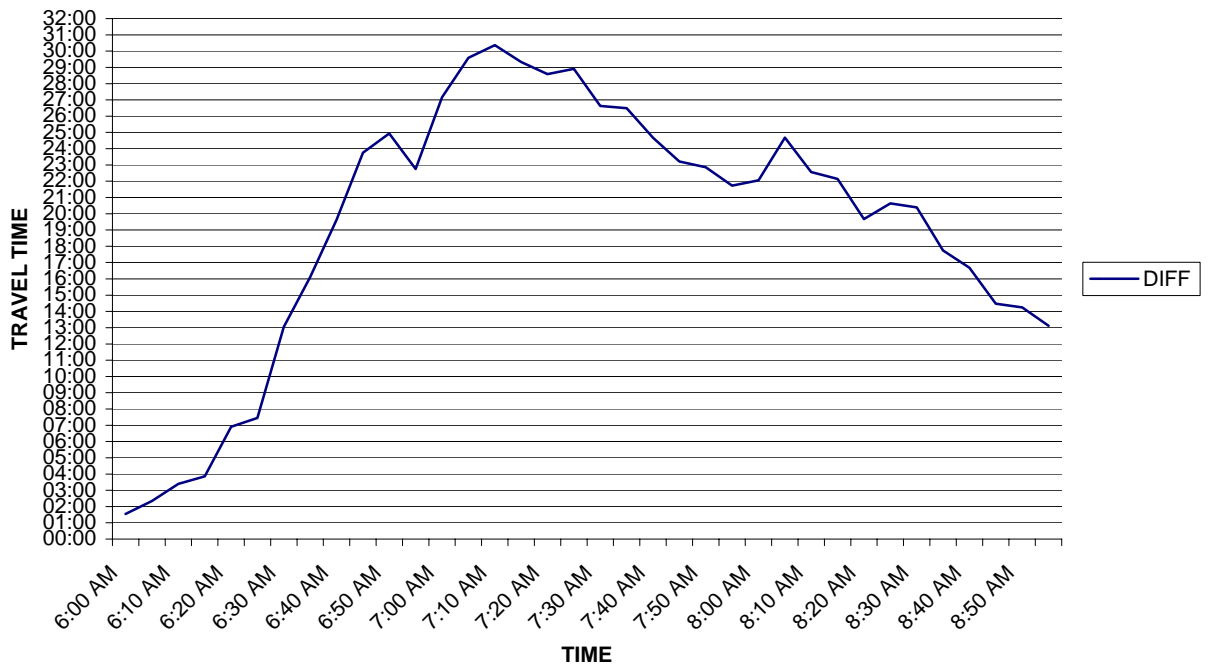
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	12.57	13:14	11:41	93.0	01:33	0.0	0:00:00
6:05 AM	12.57	14:12	11:51	140.5	02:21	583.8	0:09:44
6:10 AM	12.57	15:24	12:00	203.9	03:24	861.0	0:14:21
6:15 AM	12.57	16:07	12:15	231.6	03:52	1,088.7	0:18:09
6:20 AM	12.57	19:30	12:36	414.2	06:54	1,614.6	0:26:55
6:25 AM	12.57	20:30	13:03	446.8	07:27	2,152.6	0:35:53
6:30 AM	12.57	26:24	13:21	782.9	13:03	3,074.5	0:51:14
6:35 AM	12.57	30:01	13:54	966.8	16:07	4,374.3	1:12:54
6:40 AM	12.57	33:55	14:17	1,178.2	19:38	5,362.3	1:29:22
6:45 AM	12.57	38:23	14:38	1,425.2	23:45	6,508.4	1:48:28
6:50 AM	12.57	39:08	14:13	1,495.9	24:56	7,302.8	2:01:43
6:55 AM	12.57	36:17	13:33	1,364.9	22:45	7,152.0	1:59:12
7:00 AM	12.57	39:53	12:43	1,629.8	27:10	7,486.6	2:04:47
7:05 AM	12.57	42:14	12:38	1,775.7	29:36	8,513.6	2:21:54
7:10 AM	12.57	42:50	12:27	1,822.3	30:22	8,994.8	2:29:55
7:15 AM	12.57	41:36	12:16	1,760.1	29:20	8,956.0	2:29:16
7:20 AM	12.57	41:01	12:26	1,715.0	28:35	8,687.7	2:24:48
7:25 AM	12.57	41:28	12:33	1,734.6	28:55	8,624.0	2:23:44
7:30 AM	12.57	39:16	12:39	1,597.7	26:38	8,330.9	2:18:51
7:35 AM	12.57	39:03	12:34	1,589.5	26:30	7,968.1	2:12:48
7:40 AM	12.57	37:05	12:25	1,480.4	24:40	7,674.6	2:07:55
7:45 AM	12.57	35:40	12:27	1,392.8	23:13	7,182.9	1:59:43
7:50 AM	12.57	35:20	12:28	1,371.6	22:52	6,910.9	1:55:11
7:55 AM	12.57	34:15	12:32	1,303.4	21:43	6,687.5	1:51:27
8:00 AM	12.57	34:55	12:51	1,323.4	22:03	6,567.2	1:49:27
8:05 AM	12.57	37:24	12:43	1,480.6	24:41	7,010.2	1:56:50
8:10 AM	12.57	35:09	12:35	1,354.1	22:34	7,086.9	1:58:07
8:15 AM	12.57	34:51	12:42	1,328.3	22:08	6,706.2	1:51:46
8:20 AM	12.57	32:16	12:35	1,180.5	19:41	6,272.1	1:44:32
8:25 AM	12.57	33:11	12:33	1,238.3	20:38	6,047.1	1:40:47
8:30 AM	12.57	32:32	12:08	1,223.2	20:23	6,153.9	1:42:34
8:35 AM	12.57	29:56	12:12	1,064.5	17:44	5,719.3	1:35:19
8:40 AM	12.57	28:44	12:03	1,001.0	16:41	5,163.7	1:26:04
8:45 AM	12.57	26:29	12:01	868.4	14:28	4,673.6	1:17:54
8:50 AM	12.57	26:17	12:02	855.1	14:15	4,308.9	1:11:49
8:55 AM	12.57	25:02	11:54	787.3	13:07	4,106.1	1:08:26

	sec	dd:hh:mm:ss
MAX DIFF	1,822.3	30:22
MIN DIFF	93.0	01:33
AVG DIFF	1,156.2	19:16
STD DEV	496.1	08:16
TOT AREA	205,907.7	02:09:11:48

I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS



I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS

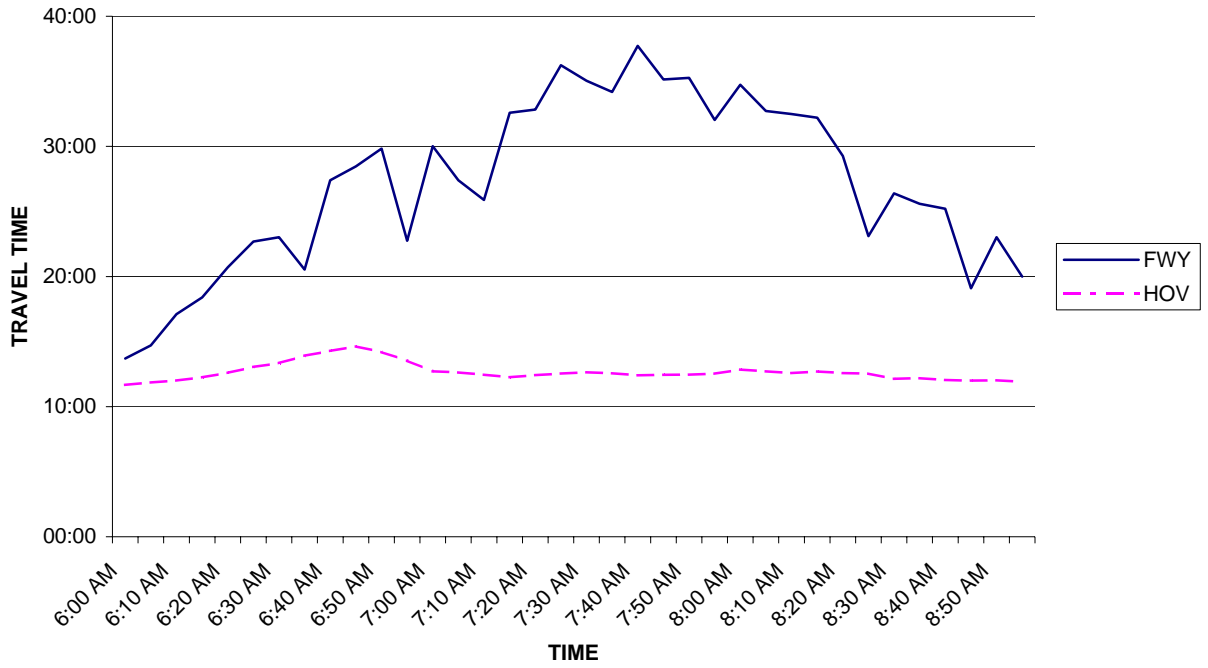


Freeway N I-10 Katy
 Limit SH 6 to Silber
 Freeway Type FWY-HOV
 Direction EB
 Date
 Time 06:00 AM to 08:55 AM

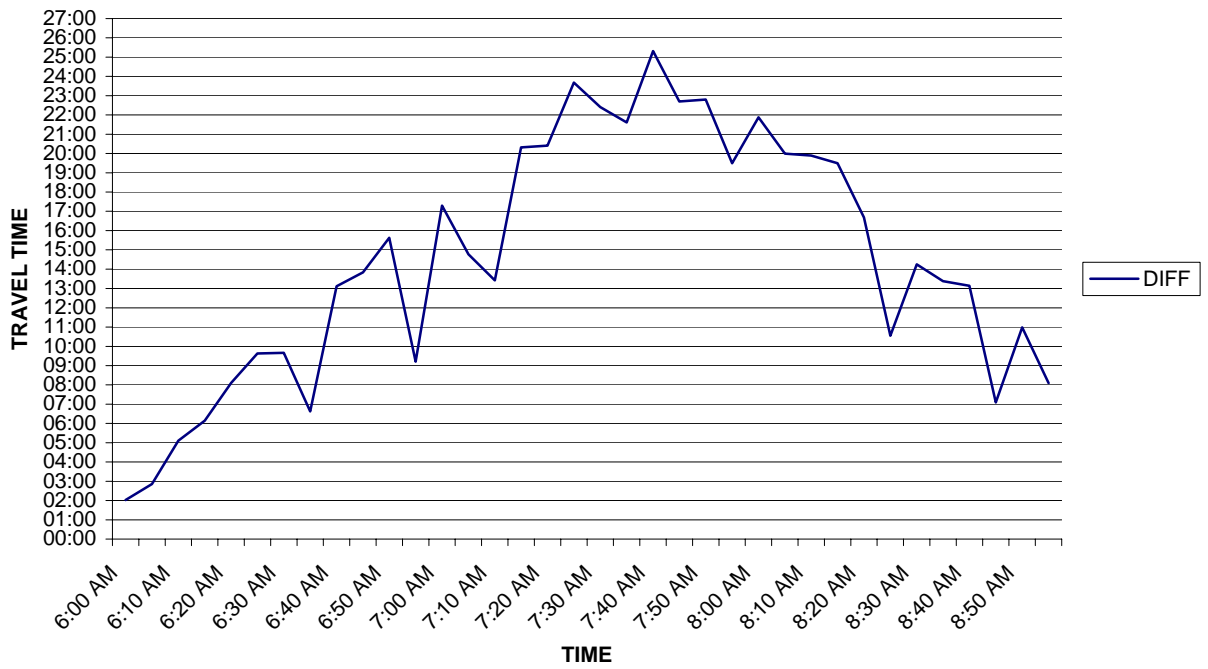
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	12.57	13:42	11:41	121.3	02:01	0.0	0:00:00
6:05 AM	12.57	14:43	11:51	171.5	02:52	732.1	0:12:12
6:10 AM	12.57	17:07	12:00	306.5	05:07	1,195.1	0:19:55
6:15 AM	12.57	18:24	12:15	368.6	06:09	1,687.9	0:28:08
6:20 AM	12.57	20:42	12:36	486.2	08:06	2,137.1	0:35:37
6:25 AM	12.57	22:41	13:03	577.8	09:38	2,660.1	0:44:20
6:30 AM	12.57	23:01	13:21	579.9	09:40	2,894.5	0:48:14
6:35 AM	12.57	20:32	13:54	397.5	06:38	2,443.7	0:40:44
6:40 AM	12.57	27:24	14:17	787.2	13:07	2,961.7	0:49:22
6:45 AM	12.57	28:28	14:38	829.9	13:50	4,042.8	1:07:23
6:50 AM	12.57	29:50	14:13	937.4	15:37	4,418.4	1:13:38
6:55 AM	12.57	22:45	13:33	552.4	09:12	3,724.5	1:02:04
7:00 AM	12.57	30:01	12:43	1,037.5	17:18	3,974.7	1:06:15
7:05 AM	12.57	27:24	12:38	886.2	14:46	4,809.2	1:20:09
7:10 AM	12.57	25:53	12:27	805.5	13:26	4,229.2	1:10:29
7:15 AM	12.57	32:35	12:16	1,219.1	20:19	5,061.6	1:24:22
7:20 AM	12.57	32:50	12:26	1,224.5	20:24	6,108.9	1:41:49
7:25 AM	12.57	36:14	12:33	1,420.9	23:41	6,613.4	1:50:13
7:30 AM	12.57	35:03	12:39	1,344.5	22:24	6,913.4	1:55:13
7:35 AM	12.57	34:11	12:34	1,297.0	21:37	6,603.7	1:50:04
7:40 AM	12.57	37:44	12:25	1,519.1	25:19	7,040.3	1:57:20
7:45 AM	12.57	35:09	12:27	1,362.1	22:42	7,202.9	2:00:03
7:50 AM	12.57	35:16	12:28	1,368.1	22:48	6,825.3	1:53:45
7:55 AM	12.57	32:02	12:32	1,169.9	19:30	6,345.0	1:45:45
8:00 AM	12.57	34:44	12:51	1,312.7	21:53	6,206.6	1:43:27
8:05 AM	12.57	32:43	12:43	1,199.9	20:00	6,281.4	1:44:41
8:10 AM	12.57	32:29	12:35	1,193.6	19:54	5,983.8	1:39:44
8:15 AM	12.57	32:12	12:42	1,169.6	19:30	5,908.0	1:38:28
8:20 AM	12.57	29:16	12:35	1,000.8	16:41	5,425.9	1:30:26
8:25 AM	12.57	23:06	12:33	633.1	10:33	4,084.6	1:08:05
8:30 AM	12.57	26:23	12:08	854.7	14:15	3,719.5	1:01:59
8:35 AM	12.57	25:35	12:12	803.2	13:23	4,144.9	1:09:05
8:40 AM	12.57	25:12	12:03	788.5	13:08	3,979.3	1:06:19
8:45 AM	12.57	19:06	12:01	425.4	07:05	3,034.8	0:50:35
8:50 AM	12.57	23:01	12:02	658.9	10:59	2,710.8	0:45:11
8:55 AM	12.57	20:00	11:54	485.5	08:06	2,861.1	0:47:41

	sec	dd:hh:mm:ss
MAX DIFF	1,519.1	25:19
MIN DIFF	121.3	02:01
AVG DIFF	869.4	14:29
STD DEV	386.8	06:27
TOT AREA	154,966.2	01:19:02:46

I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL IN 61+ MINUTE INCIDENTS



I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL IN 61+ MINUTE INCIDENTS



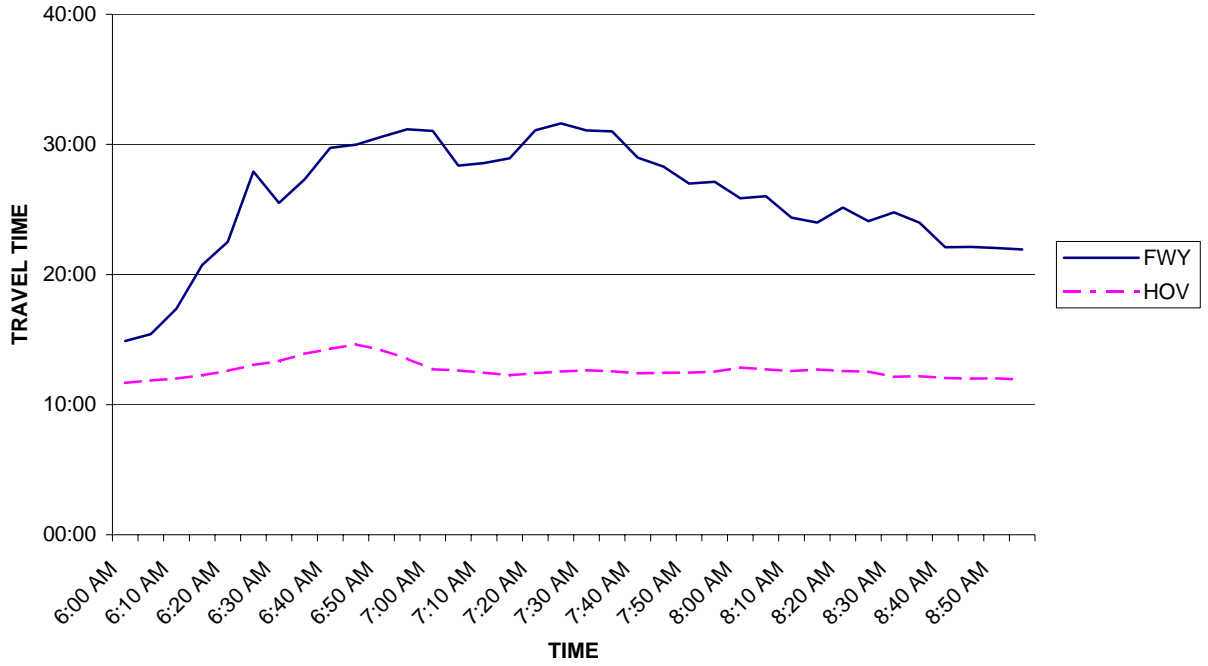
Freeway N I-10 Katy
 Limit SH 6 to Silber
 Freeway T: FWY-HOV
 Direction EB
 Date

Time 06:00 AM to 08:55 AM

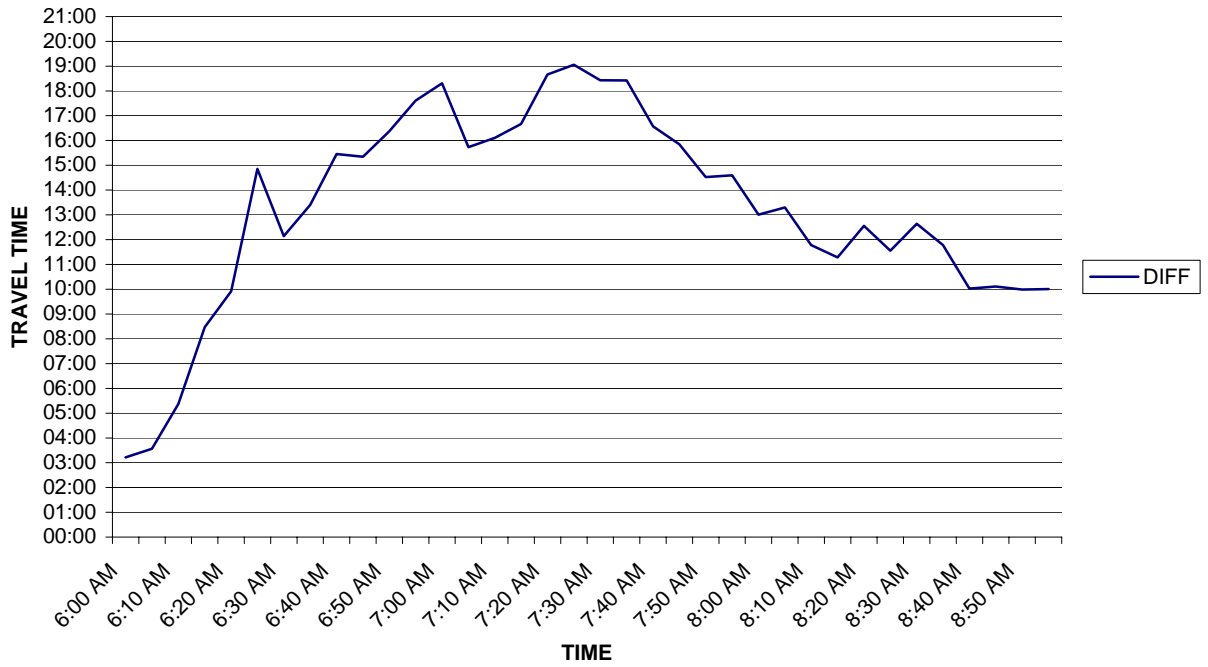
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE	
6:00 AM	12.57	14:54	11:41	193.0	03:13	0.0	0:00:00
6:05 AM	12.57	15:25	11:51	213.9	03:34	1,017.1	0:16:57
6:10 AM	12.57	17:23	12:00	322.5	05:23	1,341.0	0:22:21
6:15 AM	12.57	20:44	12:15	508.3	08:28	2,077.1	0:34:37
6:20 AM	12.57	22:31	12:36	595.2	09:55	2,758.8	0:45:59
6:25 AM	12.57	27:54	13:03	891.2	14:51	3,716.0	1:01:56
6:30 AM	12.57	25:30	13:21	728.6	12:09	4,049.5	1:07:29
6:35 AM	12.57	27:18	13:54	803.9	13:24	3,831.2	1:03:51
6:40 AM	12.57	29:44	14:17	927.2	15:27	4,327.5	1:12:08
6:45 AM	12.57	29:59	14:38	920.6	15:21	4,619.4	1:16:59
6:50 AM	12.57	30:35	14:13	982.4	16:22	4,757.6	1:19:18
6:55 AM	12.57	31:09	13:33	1,056.7	17:37	5,097.8	1:24:58
7:00 AM	12.57	31:02	12:43	1,098.5	18:19	5,388.1	1:29:48
7:05 AM	12.57	28:22	12:38	943.8	15:44	5,105.9	1:25:06
7:10 AM	12.57	28:34	12:27	966.5	16:07	4,775.9	1:19:36
7:15 AM	12.57	28:56	12:16	1,000.1	16:40	4,916.6	1:21:57
7:20 AM	12.57	31:05	12:26	1,119.8	18:40	5,299.8	1:28:20
7:25 AM	12.57	31:37	12:33	1,143.6	19:04	5,658.4	1:34:18
7:30 AM	12.57	31:04	12:39	1,105.8	18:26	5,623.4	1:33:43
7:35 AM	12.57	31:00	12:34	1,105.7	18:26	5,528.7	1:32:09
7:40 AM	12.57	28:59	12:25	994.1	16:34	5,249.4	1:27:29
7:45 AM	12.57	28:18	12:27	950.7	15:51	4,862.1	1:21:02
7:50 AM	12.57	26:59	12:28	871.4	14:31	4,555.3	1:15:55
7:55 AM	12.57	27:08	12:32	875.6	14:36	4,367.5	1:12:48
8:00 AM	12.57	25:52	12:51	780.4	13:00	4,139.9	1:09:00
8:05 AM	12.57	26:01	12:43	797.9	13:18	3,945.6	1:05:46
8:10 AM	12.57	24:22	12:35	706.6	11:47	3,761.3	1:02:41
8:15 AM	12.57	23:59	12:42	676.9	11:17	3,458.9	0:57:39
8:20 AM	12.57	25:08	12:35	753.1	12:33	3,575.1	0:59:35
8:25 AM	12.57	24:06	12:33	693.1	11:33	3,615.4	1:00:15
8:30 AM	12.57	24:47	12:08	758.4	12:38	3,628.6	1:00:29
8:35 AM	12.57	23:59	12:12	706.9	11:47	3,663.2	1:01:03
8:40 AM	12.57	22:05	12:03	601.8	10:02	3,271.8	0:54:32
8:45 AM	12.57	22:07	12:01	606.8	10:07	3,021.5	0:50:21
8:50 AM	12.57	22:02	12:02	599.6	10:00	3,015.8	0:50:16
8:55 AM	12.57	21:55	11:54	600.5	10:01	3,000.2	0:50:00

	sec	dd:hh:mm:ss
MAX DIFF	1,143.6	19:04
MIN DIFF	193.0	03:13
AVG DIFF	794.5	13:14
STD DEV	243.2	04:03
TOT AREA	141,021.2	01:15:10:21

I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS



I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS



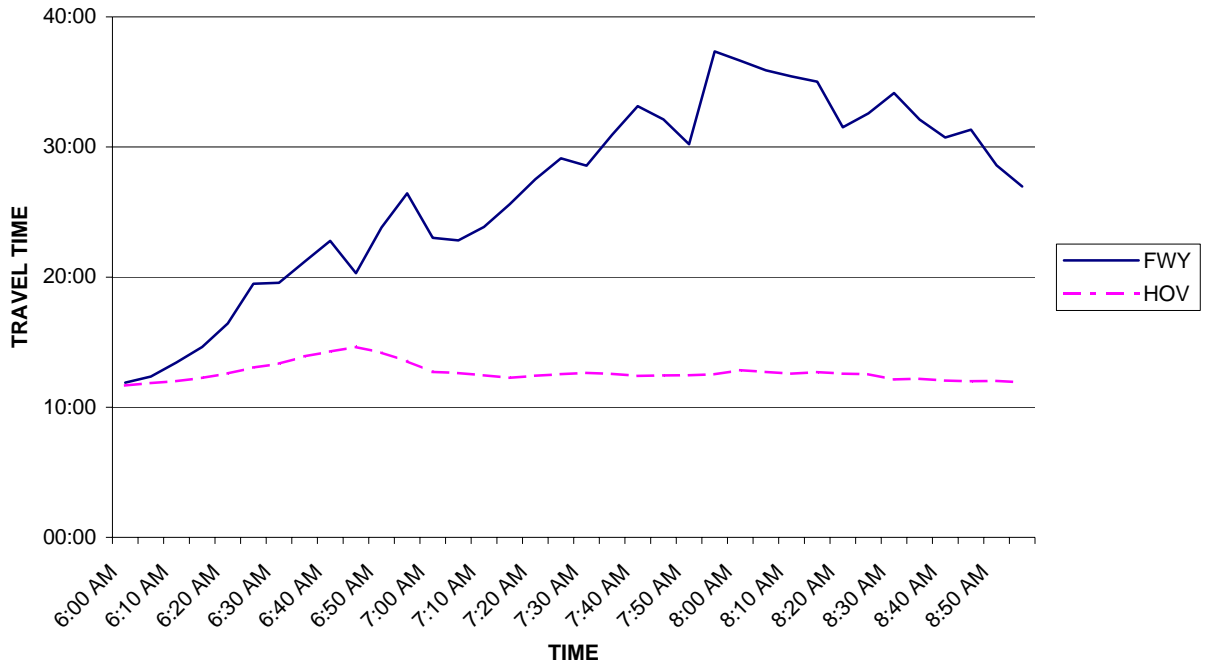
Freeway N I-10 Katy
 Limit SH 6 to Silber
 Freeway T: FWY-HOV
 Direction EB
 Date

Time 06:00 AM to 08:55 AM

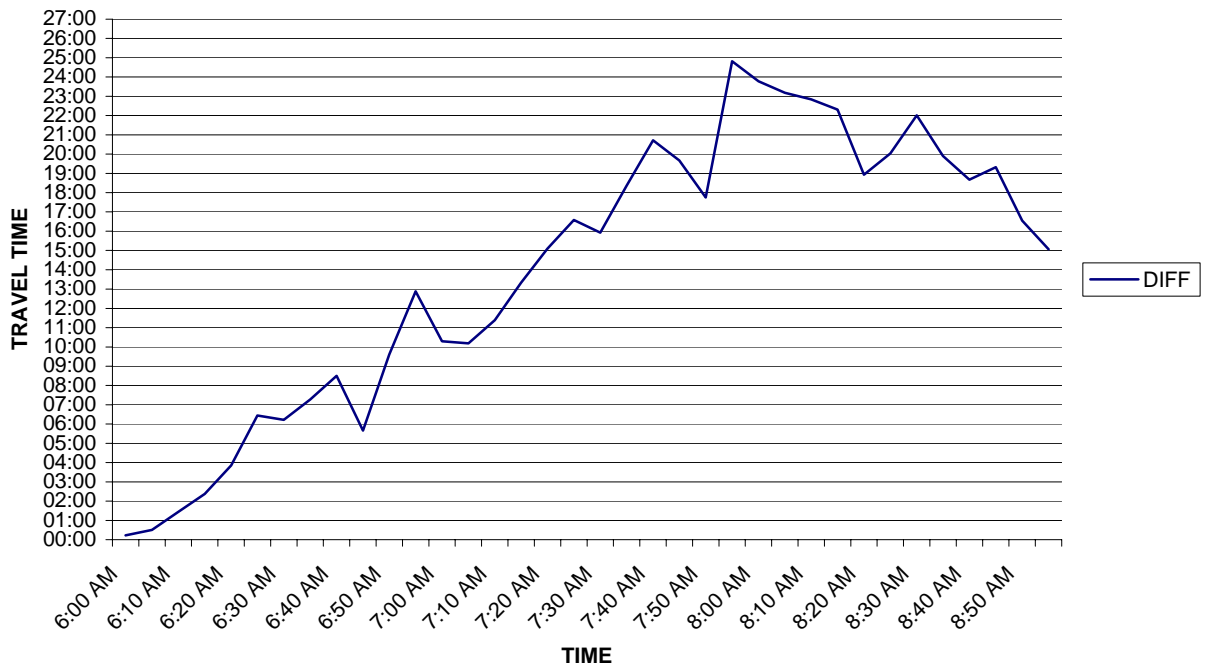
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	12.57	11:54	11:41	13.3	00:13	0.0	0:00:00
6:05 AM	12.57	12:22	11:51	30.5	00:31	109.6	0:01:50
6:10 AM	12.57	13:27	12:00	86.5	01:27	292.6	0:04:53
6:15 AM	12.57	14:38	12:15	142.6	02:23	572.9	0:09:33
6:20 AM	12.57	16:27	12:36	231.2	03:51	934.6	0:15:35
6:25 AM	12.57	19:30	13:03	386.8	06:27	1,545.1	0:25:45
6:30 AM	12.57	19:34	13:21	372.9	06:13	1,899.5	0:31:39
6:35 AM	12.57	21:11	13:54	436.5	07:17	2,023.7	0:33:44
6:40 AM	12.57	22:47	14:17	510.2	08:30	2,366.7	0:39:27
6:45 AM	12.57	20:18	14:38	339.9	05:40	2,125.3	0:35:25
6:50 AM	12.57	23:49	14:13	576.4	09:36	2,290.9	0:38:11
6:55 AM	12.57	26:26	13:33	773.4	12:53	3,374.5	0:56:14
7:00 AM	12.57	23:01	12:43	617.5	10:18	3,477.2	0:57:57
7:05 AM	12.57	22:49	12:38	611.2	10:11	3,071.7	0:51:12
7:10 AM	12.57	23:51	12:27	683.5	11:24	3,236.7	0:53:57
7:15 AM	12.57	25:36	12:16	800.1	13:20	3,709.1	1:01:49
7:20 AM	12.57	27:31	12:26	905.5	15:05	4,263.9	1:11:04
7:25 AM	12.57	29:08	12:33	994.9	16:35	4,750.9	1:19:11
7:30 AM	12.57	28:34	12:39	955.5	15:55	4,875.9	1:21:16
7:35 AM	12.57	30:56	12:34	1,102.0	18:22	5,143.7	1:25:44
7:40 AM	12.57	33:08	12:25	1,243.1	20:43	5,862.8	1:37:43
7:45 AM	12.57	32:07	12:27	1,180.1	19:40	6,057.9	1:40:58
7:50 AM	12.57	30:13	12:28	1,065.1	17:45	5,612.8	1:33:33
7:55 AM	12.57	37:21	12:32	1,488.9	24:49	6,385.0	1:46:25
8:00 AM	12.57	36:38	12:51	1,426.7	23:47	7,289.1	2:01:29
8:05 AM	12.57	35:54	12:43	1,390.9	23:11	7,043.9	1:57:24
8:10 AM	12.57	35:26	12:35	1,370.6	22:51	6,903.8	1:55:04
8:15 AM	12.57	35:01	12:42	1,338.6	22:19	6,773.0	1:52:53
8:20 AM	12.57	31:31	12:35	1,135.8	18:56	6,185.9	1:43:06
8:25 AM	12.57	32:35	12:33	1,202.1	20:02	5,844.6	1:37:25
8:30 AM	12.57	34:09	12:08	1,320.7	22:01	6,307.0	1:45:07
8:35 AM	12.57	32:06	12:12	1,194.2	19:54	6,287.4	1:44:47
8:40 AM	12.57	30:44	12:03	1,120.5	18:41	5,786.8	1:36:27
8:45 AM	12.57	31:20	12:01	1,159.4	19:19	5,699.8	1:35:00
8:50 AM	12.57	28:35	12:02	992.9	16:33	5,380.8	1:29:41
8:55 AM	12.57	26:58	11:54	903.5	15:04	4,741.1	1:19:01

	sec	dd:hh:mm:ss
MAX DIFF	1,488.9	24:49
MIN DIFF	13.3	00:13
AVG DIFF	836.2	13:56
STD DEV	438.5	07:19
TOT AREA	148,226.2	01:17:10:26

I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS



I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS

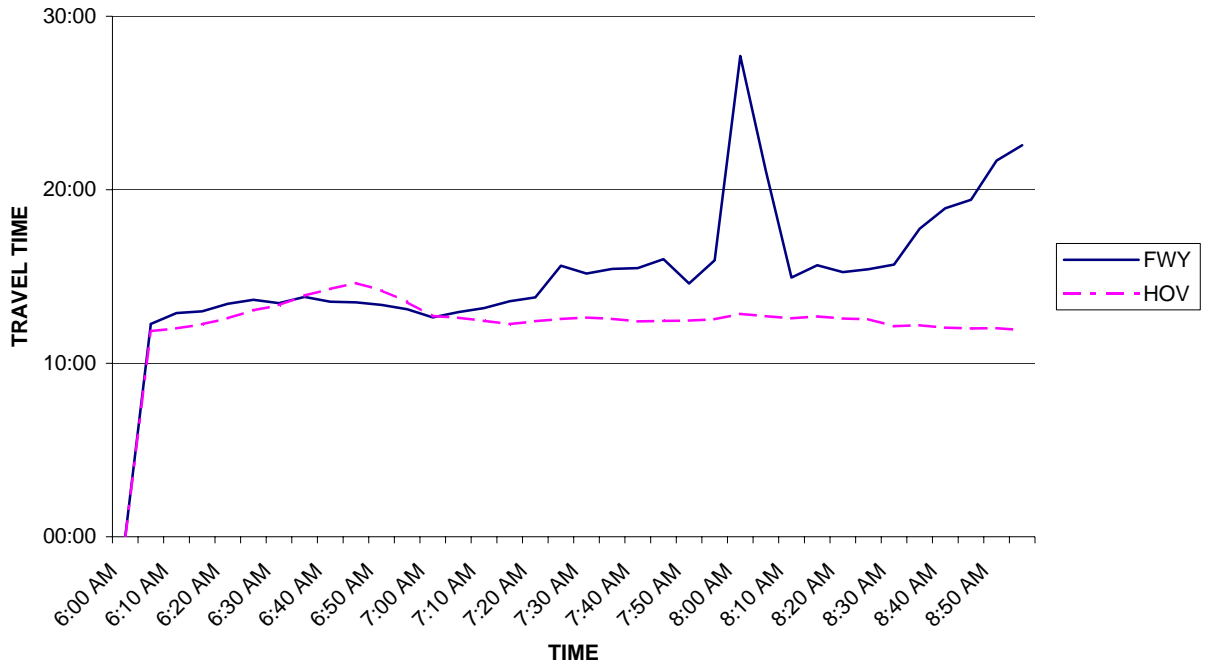


Freeway N I-10 Katy
 Limit SH 6 to Silber
 Freeway Type FWY-HOV
 Direction EB
 Date
 Time 06:00 AM to 08:55 AM

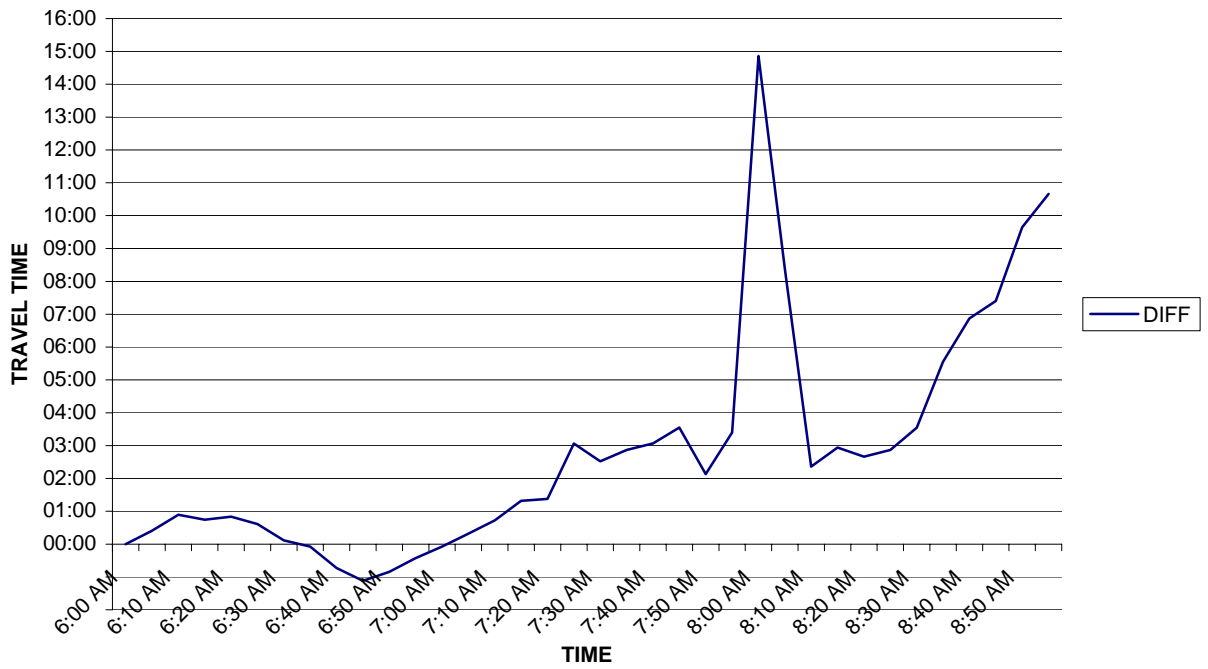
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	12.57	00:00	00:00	0.0	00:00	0.0	0:00:00
6:05 AM	12.57	12:16	11:51	24.5	00:25	61.3	0:01:01
6:10 AM	12.57	12:54	12:00	53.5	00:54	195.1	0:03:15
6:15 AM	12.57	13:00	12:15	44.6	00:45	245.4	0:04:05
6:20 AM	12.57	13:26	12:36	50.2	00:50	237.1	0:03:57
6:25 AM	12.57	13:40	13:03	36.8	00:37	217.6	0:03:38
6:30 AM	12.57	13:28	13:21	6.9	00:07	109.5	0:01:49
6:35 AM	12.57	13:50	13:54	-4.5	#####	6.2	0:00:06
6:40 AM	12.57	13:33	14:17	-43.8	#####	-120.8	#####
6:45 AM	12.57	13:31	14:38	-67.1	#####	-277.2	#####
6:50 AM	12.57	13:22	14:13	-50.6	#####	-294.1	#####
6:55 AM	12.57	13:07	13:33	-25.6	#####	-190.5	#####
7:00 AM	12.57	12:39	12:43	-4.5	#####	-75.3	#####
7:05 AM	12.57	12:57	12:38	19.2	00:19	36.7	0:00:37
7:10 AM	12.57	13:11	12:27	43.5	00:44	156.7	0:02:37
7:15 AM	12.57	13:35	12:16	79.1	01:19	306.6	0:05:07
7:20 AM	12.57	13:48	12:26	82.5	01:22	403.9	0:06:44
7:25 AM	12.57	15:37	12:33	183.9	03:04	665.9	0:11:06
7:30 AM	12.57	15:10	12:39	151.5	02:31	838.4	0:13:58
7:35 AM	12.57	15:26	12:34	172.0	02:52	808.7	0:13:29
7:40 AM	12.57	15:29	12:25	184.1	03:04	890.3	0:14:50
7:45 AM	12.57	16:00	12:27	213.1	03:33	992.9	0:16:33
7:50 AM	12.57	14:36	12:28	128.1	02:08	852.8	0:14:13
7:55 AM	12.57	15:56	12:32	203.9	03:24	830.0	0:13:50
8:00 AM	12.57	27:43	12:51	891.7	14:52	2,739.1	0:45:39
8:05 AM	12.57	21:05	12:43	501.9	08:22	3,483.9	0:58:04
8:10 AM	12.57	14:57	12:35	141.6	02:22	1,608.8	0:26:49
8:15 AM	12.57	15:39	12:42	176.6	02:57	795.5	0:13:16
8:20 AM	12.57	15:15	12:35	159.8	02:40	840.9	0:14:01
8:25 AM	12.57	15:25	12:33	172.1	02:52	829.6	0:13:50
8:30 AM	12.57	15:41	12:08	212.7	03:33	962.0	0:16:02
8:35 AM	12.57	17:45	12:12	333.2	05:33	1,364.9	0:22:45
8:40 AM	12.57	18:56	12:03	412.5	06:52	1,864.3	0:31:04
8:45 AM	12.57	19:25	12:01	444.4	07:24	2,142.3	0:35:42
8:50 AM	12.57	21:41	12:02	578.9	09:39	2,558.3	0:42:38
8:55 AM	12.57	22:34	11:54	639.5	10:40	3,046.1	0:50:46

	sec	dd:hh:mm:ss
MAX DIFF	891.7	14:52
MIN DIFF	-67.1	#####
AVG DIFF	170.7	02:51
STD DEV	215.8	03:36
TOT AREA	29,132.9	00:08:05:33

I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL OUT 31-45 MINUTE INCIDENTS



I- 10 KATY FREEWAY AM EB ONE LANE SCHOOL OUT 31-45 MINUTE INCIDENTS

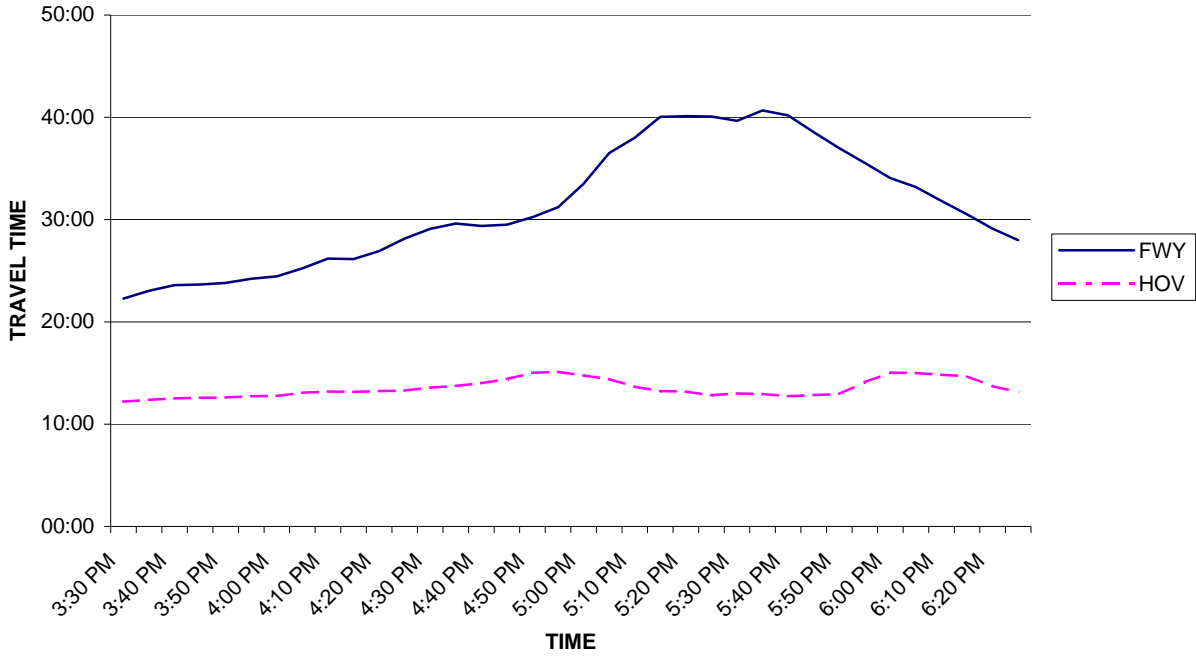


Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway T₁ HOV
 Direction WB
 Date
 Time 03:30 PM to 06:25 PM

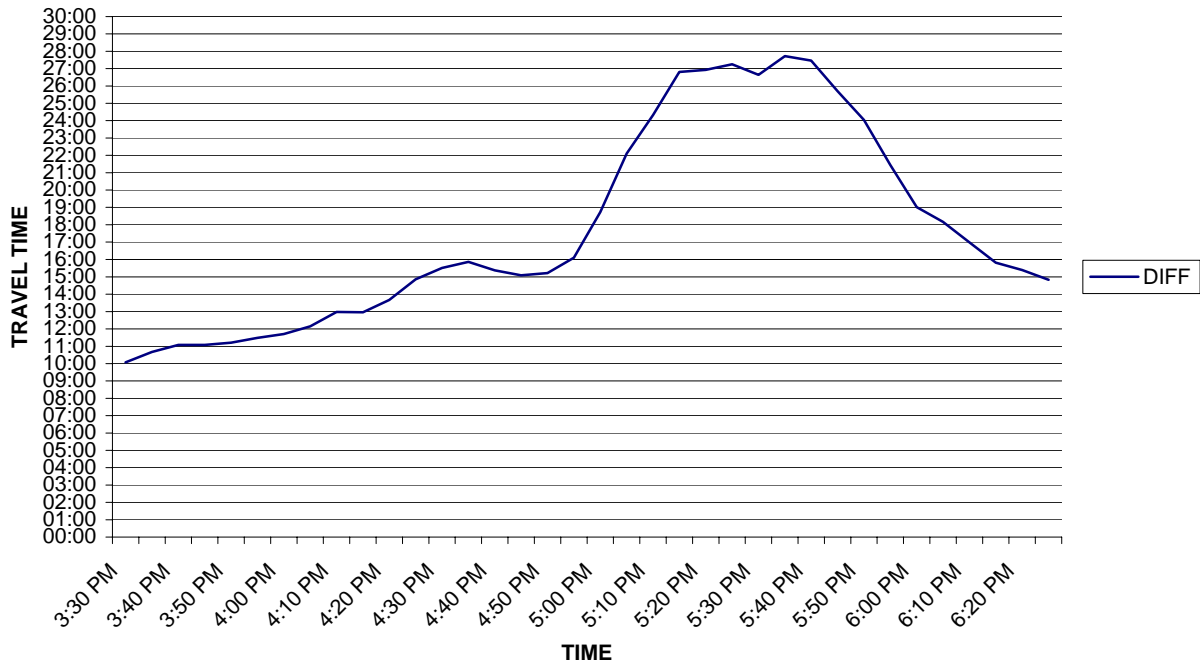
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	12.57	22:17	12:13	604.3	10:04	0.0	0:00:00
3:35 PM	12.57	23:03	12:23	640.5	10:40	3,111.8	0:51:52
3:40 PM	12.57	23:36	12:31	665.0	11:05	3,263.6	0:54:24
3:45 PM	12.57	23:40	12:35	664.7	11:05	3,324.3	0:55:24
3:50 PM	12.57	23:49	12:37	672.7	11:13	3,343.6	0:55:44
3:55 PM	12.57	24:13	12:44	689.2	11:29	3,404.7	0:56:45
4:00 PM	12.57	24:28	12:46	702.5	11:43	3,479.2	0:57:59
4:05 PM	12.57	25:14	13:05	729.0	12:09	3,578.7	0:59:39
4:10 PM	12.57	26:11	13:12	779.0	12:59	3,769.9	1:02:50
4:15 PM	12.57	26:08	13:10	777.7	12:58	3,891.8	1:04:52
4:20 PM	12.57	26:55	13:14	820.6	13:41	3,995.8	1:06:36
4:25 PM	12.57	28:08	13:17	891.5	14:52	4,280.3	1:11:20
4:30 PM	12.57	29:06	13:35	930.3	15:30	4,554.5	1:15:55
4:35 PM	12.57	29:37	13:45	951.8	15:52	4,705.2	1:18:25
4:40 PM	12.57	29:23	14:00	922.2	15:22	4,685.0	1:18:05
4:45 PM	12.57	29:30	14:25	904.9	15:05	4,567.8	1:16:08
4:50 PM	12.57	30:14	15:01	912.5	15:13	4,543.7	1:15:44
4:55 PM	12.57	31:13	15:07	965.8	16:06	4,695.8	1:18:16
5:00 PM	12.57	33:31	14:47	1,123.7	18:44	5,223.8	1:27:04
5:05 PM	12.57	36:31	14:25	1,326.6	22:07	6,125.7	1:42:06
5:10 PM	12.57	38:00	13:40	1,459.8	24:20	6,966.0	1:56:06
5:15 PM	12.57	40:03	13:14	1,608.8	26:49	7,671.5	2:07:52
5:20 PM	12.57	40:07	13:11	1,615.6	26:56	8,061.0	2:14:21
5:25 PM	12.57	40:05	12:50	1,635.3	27:15	8,127.2	2:15:27
5:30 PM	12.57	39:39	13:00	1,598.8	26:39	8,085.2	2:14:45
5:35 PM	12.57	40:41	12:57	1,663.6	27:44	8,156.0	2:15:56
5:40 PM	12.57	40:12	12:44	1,647.8	27:28	8,278.3	2:17:58
5:45 PM	12.57	38:33	12:51	1,542.2	25:42	7,974.8	2:12:55
5:50 PM	12.57	36:59	12:56	1,442.3	24:02	7,461.3	2:04:21
5:55 PM	12.57	35:33	14:06	1,286.4	21:26	6,821.9	1:53:42
6:00 PM	12.57	34:03	15:02	1,140.7	19:01	6,067.7	1:41:08
6:05 PM	12.57	33:11	15:01	1,090.2	18:10	5,577.2	1:32:57
6:10 PM	12.57	31:49	14:50	1,018.8	16:59	5,272.6	1:27:53
6:15 PM	12.57	30:30	14:41	948.9	15:49	4,919.2	1:21:59
6:20 PM	12.57	29:07	13:43	923.5	15:23	4,680.9	1:18:01
6:25 PM	12.57	27:59	13:09	889.9	14:50	4,533.5	1:15:34

	sec	dd:hh:mm:ss
MAX DIFF	1,663.6	27:44
MIN DIFF	604.3	10:04
AVG DIFF	1,060.7	17:41
STD DEV	348.1	05:48
TOT AREA	187,199.3	02:03:59:59

I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS

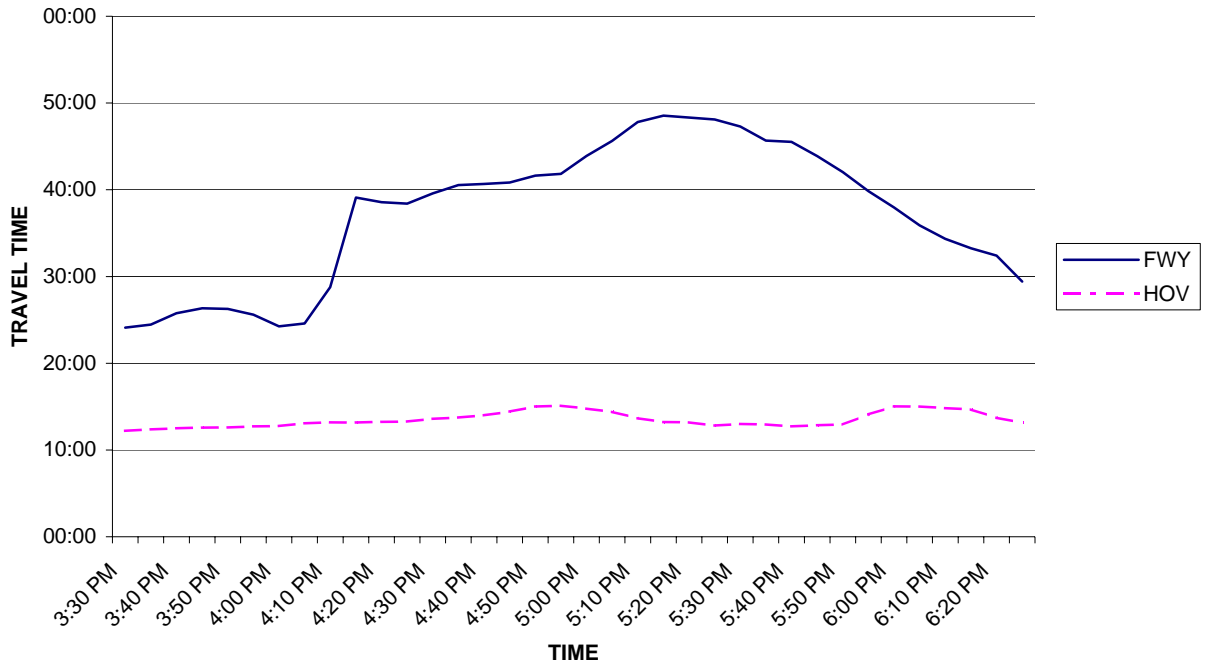


Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway T₁ HOV
 Direction WB
 Date
 Time 03:30 PM to 06:25 PM

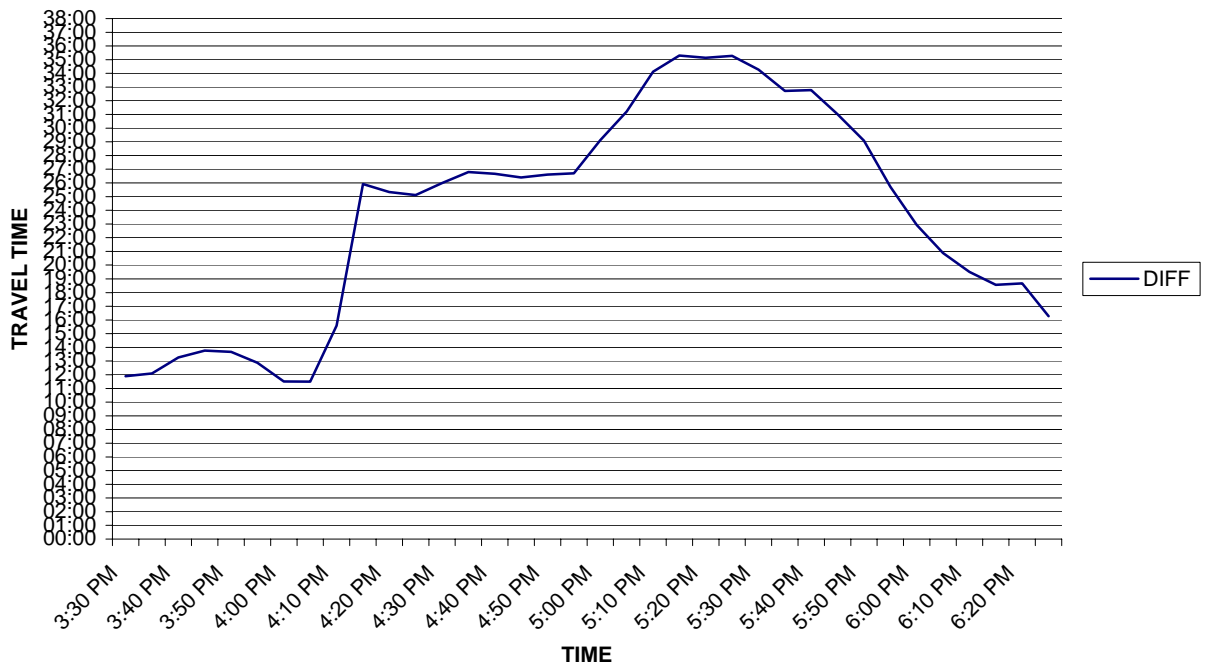
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION ARE	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	12.57	24:07	12:13	713.9	11:54	0.0	0:00:00
3:35 PM	12.57	24:28	12:23	725.8	12:06	3,599.1	0:59:59
3:40 PM	12.57	25:47	12:31	795.8	13:16	3,804.0	1:03:24
3:45 PM	12.57	26:21	12:35	826.3	13:46	4,055.3	1:07:35
3:50 PM	12.57	26:17	12:37	820.1	13:40	4,115.9	1:08:36
3:55 PM	12.57	25:37	12:44	772.7	12:53	3,981.9	1:06:22
4:00 PM	12.57	24:16	12:46	690.4	11:30	3,657.6	1:00:58
4:05 PM	12.57	24:35	13:05	690.2	11:30	3,451.5	0:57:31
4:10 PM	12.57	28:47	13:12	935.6	15:36	4,064.7	1:07:45
4:15 PM	12.57	39:06	13:10	1,555.3	25:55	6,227.3	1:43:47
4:20 PM	12.57	38:34	13:14	1,519.9	25:20	7,687.9	2:08:08
4:25 PM	12.57	38:23	13:17	1,506.6	25:07	7,566.0	2:06:06
4:30 PM	12.57	39:35	13:35	1,559.6	26:00	7,665.4	2:07:45
4:35 PM	12.57	40:32	13:45	1,607.6	26:48	7,918.0	2:11:58
4:40 PM	12.57	40:40	14:00	1,599.8	26:40	8,018.4	2:13:38
4:45 PM	12.57	40:50	14:25	1,584.2	26:24	7,959.9	2:12:40
4:50 PM	12.57	41:38	15:01	1,596.5	26:36	7,951.6	2:12:32
4:55 PM	12.57	41:49	15:07	1,602.3	26:42	7,996.8	2:13:17
5:00 PM	12.57	43:54	14:47	1,747.0	29:07	8,373.0	2:19:33
5:05 PM	12.57	45:38	14:25	1,872.9	31:13	9,049.6	2:30:50
5:10 PM	12.57	47:48	13:40	2,047.6	34:08	9,801.3	2:43:21
5:15 PM	12.57	48:32	13:14	2,118.0	35:18	10,413.9	2:53:34
5:20 PM	12.57	48:20	13:11	2,108.6	35:09	10,566.4	2:56:06
5:25 PM	12.57	48:07	12:50	2,117.0	35:17	10,564.0	2:56:04
5:30 PM	12.57	47:17	13:00	2,056.9	34:17	10,434.6	2:53:55
5:35 PM	12.57	45:40	12:57	1,963.1	32:43	10,049.8	2:47:30
5:40 PM	12.57	45:31	12:44	1,967.0	32:47	9,825.1	2:43:45
5:45 PM	12.57	43:52	12:51	1,861.1	31:01	9,570.3	2:39:30
5:50 PM	12.57	42:02	12:56	1,745.4	29:05	9,016.3	2:30:16
5:55 PM	12.57	39:50	14:06	1,543.6	25:44	8,222.4	2:17:02
6:00 PM	12.57	37:58	15:02	1,375.4	22:55	7,297.3	2:01:37
6:05 PM	12.57	35:54	15:01	1,252.8	20:53	6,570.4	1:49:30
6:10 PM	12.57	34:20	14:50	1,170.3	19:30	6,057.8	1:40:58
6:15 PM	12.57	33:15	14:41	1,114.1	18:34	5,710.9	1:35:11
6:20 PM	12.57	32:24	13:43	1,120.5	18:40	5,586.3	1:33:06
6:25 PM	12.57	29:26	13:09	977.0	16:17	5,243.5	1:27:24

	sec	dd:hh:mm:ss
MAX DIFF	2,118.0	35:18
MIN DIFF	690.2	11:30
AVG DIFF	1,423.9	23:44
STD DEV	476.7	07:57
TOT AREA	252,073.6	02:22:01:14

I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS



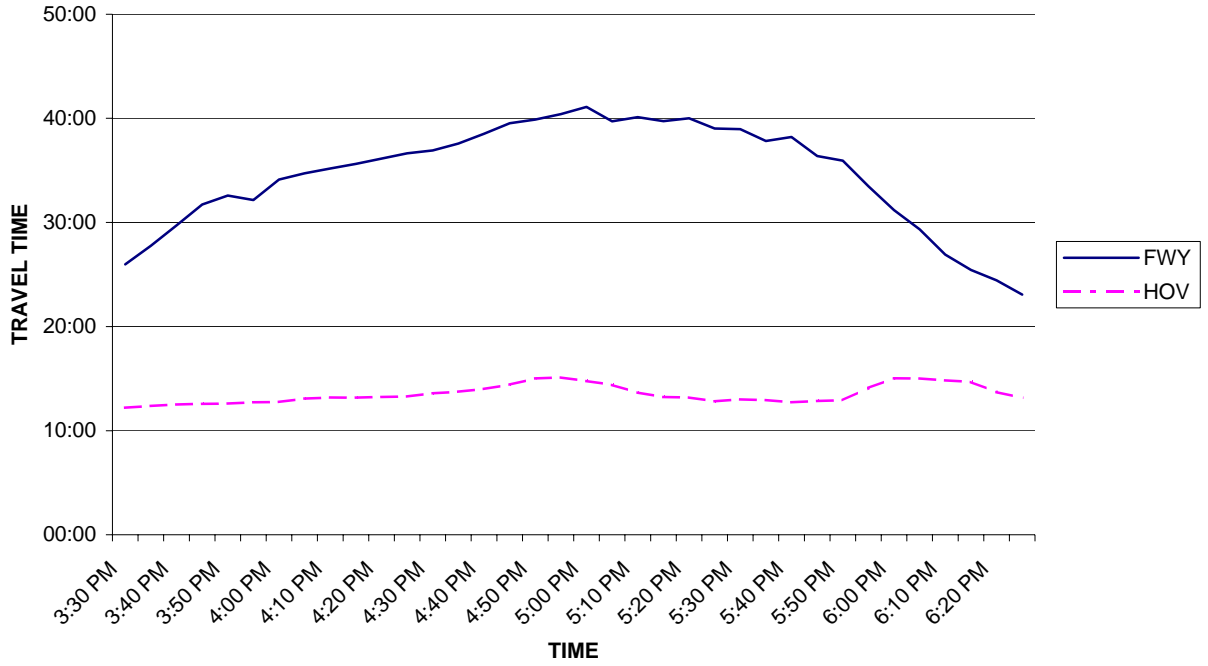
Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway T₁ HOV
 Direction WB
 Date

Time 03:30 PM to 06:25 PM

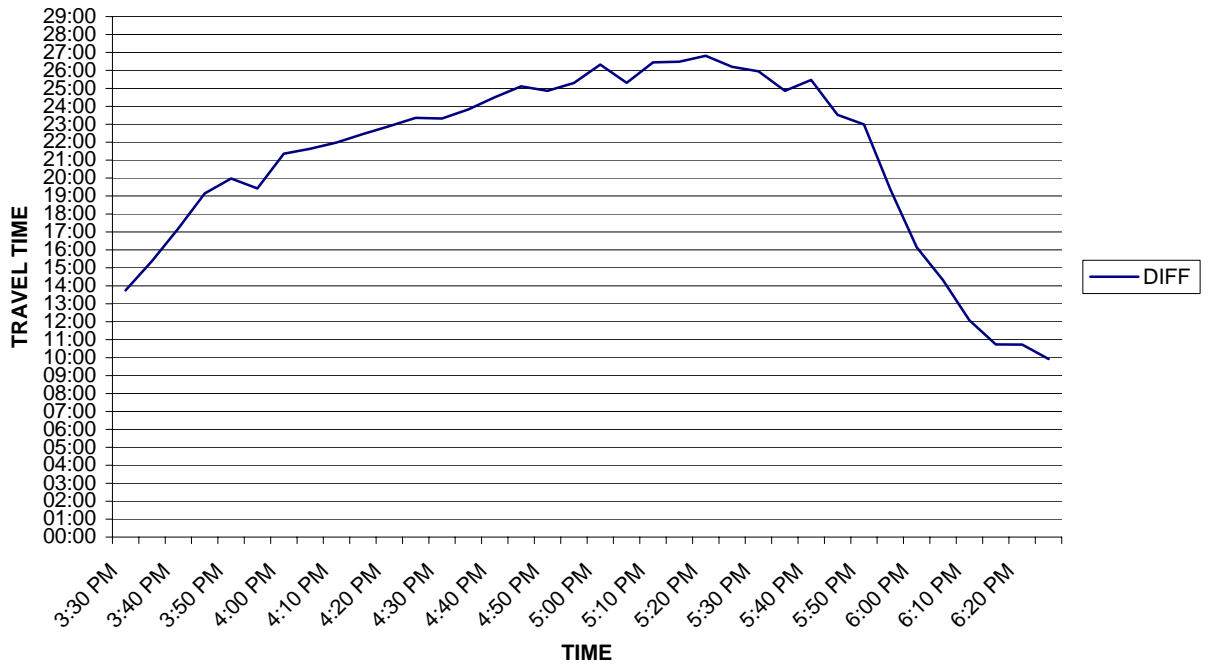
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION ARE	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	12.57	25:58	12:13	825.2	13:45	0.0	0:00:00
3:35 PM	12.57	27:45	12:23	922.5	15:22	4,369.1	1:12:49
3:40 PM	12.57	29:43	12:31	1,031.9	17:12	4,885.9	1:21:26
3:45 PM	12.57	31:44	12:35	1,148.7	19:09	5,451.5	1:30:52
3:50 PM	12.57	32:35	12:37	1,198.4	19:58	5,867.8	1:37:48
3:55 PM	12.57	32:09	12:44	1,165.2	19:25	5,909.0	1:38:29
4:00 PM	12.57	34:07	12:46	1,281.6	21:22	6,117.0	1:41:57
4:05 PM	12.57	34:43	13:05	1,298.2	21:38	6,449.4	1:47:29
4:10 PM	12.57	35:10	13:12	1,318.8	21:59	6,542.4	1:49:02
4:15 PM	12.57	35:38	13:10	1,347.6	22:28	6,665.9	1:51:06
4:20 PM	12.57	36:08	13:14	1,373.6	22:54	6,802.9	1:53:23
4:25 PM	12.57	36:38	13:17	1,401.3	23:21	6,937.3	1:55:37
4:30 PM	12.57	36:55	13:35	1,399.4	23:19	7,001.6	1:56:42
4:35 PM	12.57	37:35	13:45	1,429.6	23:50	7,072.4	1:57:52
4:40 PM	12.57	38:31	14:00	1,470.3	24:30	7,249.6	2:00:50
4:45 PM	12.57	39:32	14:25	1,506.7	25:07	7,442.4	2:04:02
4:50 PM	12.57	39:53	15:01	1,492.0	24:52	7,496.6	2:04:57
4:55 PM	12.57	40:25	15:07	1,518.0	25:18	7,524.9	2:05:25
5:00 PM	12.57	41:06	14:47	1,579.5	26:19	7,743.6	2:09:04
5:05 PM	12.57	39:43	14:25	1,518.4	25:18	7,744.6	2:09:05
5:10 PM	12.57	40:07	13:40	1,586.9	26:27	7,763.1	2:09:23
5:15 PM	12.57	39:44	13:14	1,589.2	26:29	7,940.1	2:12:20
5:20 PM	12.57	40:00	13:11	1,609.1	26:49	7,995.8	2:13:16
5:25 PM	12.57	39:02	12:50	1,572.0	26:12	7,952.8	2:12:33
5:30 PM	12.57	38:58	13:00	1,557.4	25:57	7,823.4	2:10:23
5:35 PM	12.57	37:49	12:57	1,492.1	24:52	7,623.5	2:07:03
5:40 PM	12.57	38:13	12:44	1,528.5	25:29	7,551.4	2:05:51
5:45 PM	12.57	36:23	12:51	1,411.9	23:32	7,350.9	2:02:31
5:50 PM	12.57	35:56	12:56	1,379.7	23:00	6,978.8	1:56:19
5:55 PM	12.57	33:28	14:06	1,162.1	19:22	6,354.3	1:45:54
6:00 PM	12.57	31:11	15:02	968.4	16:08	5,326.0	1:28:46
6:05 PM	12.57	29:20	15:01	859.6	14:20	4,569.8	1:16:10
6:10 PM	12.57	26:55	14:50	724.8	12:05	3,960.9	1:06:01
6:15 PM	12.57	25:26	14:41	644.3	10:44	3,422.8	0:57:03
6:20 PM	12.57	24:27	13:43	644.0	10:44	3,220.6	0:53:41
6:25 PM	12.57	23:05	13:09	595.7	09:56	3,099.1	0:51:39

	sec	dd:hh:mm:ss
MAX DIFF	1,609.1	26:49
MIN DIFF	595.7	09:56
AVG DIFF	1,265.3	21:05
STD DEV	306.8	05:07
TOT AREA	224,206.8	02:14:16:47

I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS



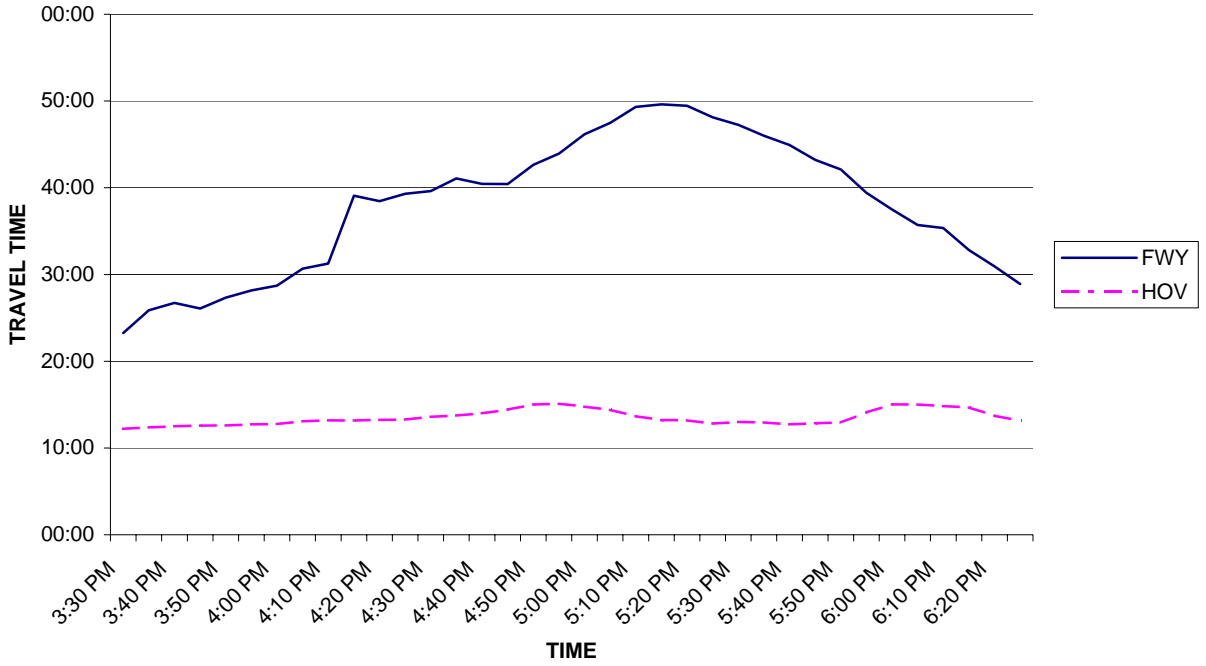
Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway T: HOV
 Direction WB
 Date

Time 03:30 PM to 06:25 PM

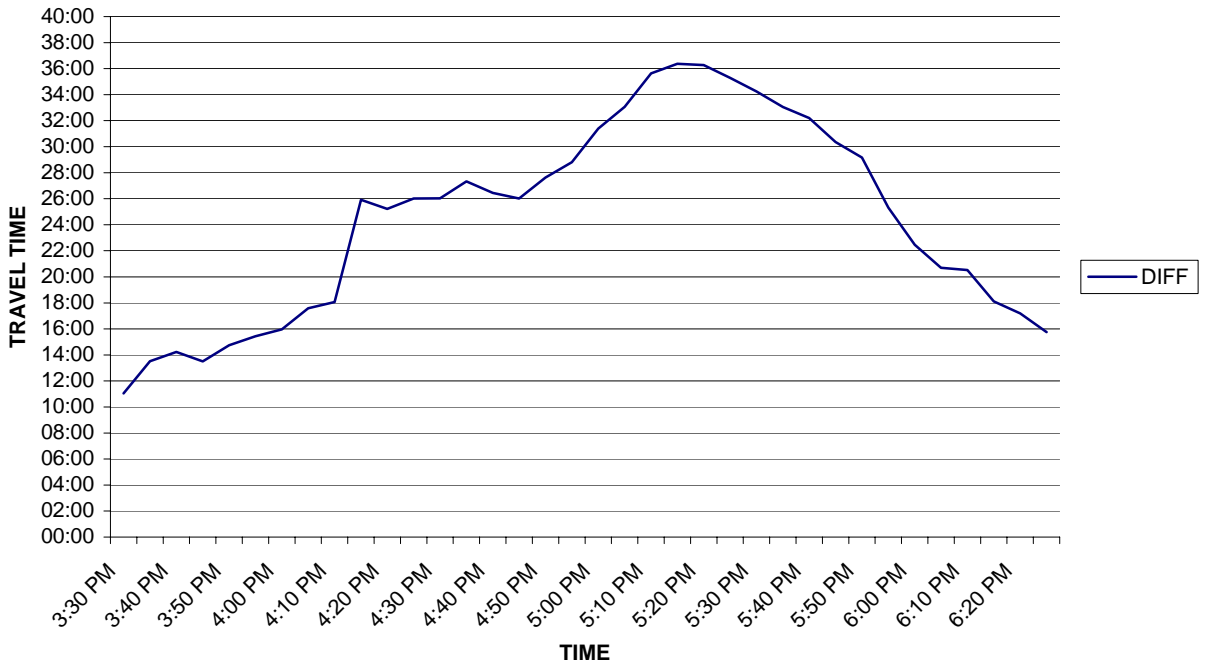
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA CURVE
3:30 PM	12.57	23:16	12:13	663.0	11:03	0.0	0:00:00
3:35 PM	12.57	25:54	12:23	811.2	13:31	3,685.4	1:01:25
3:40 PM	12.57	26:45	12:31	853.7	14:14	4,162.1	1:09:22
3:45 PM	12.57	26:05	12:35	810.2	13:30	4,159.6	1:09:20
3:50 PM	12.57	27:21	12:37	884.7	14:45	4,237.1	1:10:37
3:55 PM	12.57	28:10	12:44	926.0	15:26	4,526.5	1:15:27
4:00 PM	12.57	28:44	12:46	958.1	15:58	4,710.1	1:18:30
4:05 PM	12.57	30:40	13:05	1,055.2	17:35	5,033.1	1:23:53
4:10 PM	12.57	31:16	13:12	1,084.1	18:04	5,348.0	1:29:08
4:15 PM	12.57	39:05	13:10	1,555.0	25:55	6,597.6	1:49:58
4:20 PM	12.57	38:27	13:14	1,513.0	25:13	7,670.0	2:07:50
4:25 PM	12.57	39:18	13:17	1,561.3	26:01	7,685.6	2:08:06
4:30 PM	12.57	39:37	13:35	1,561.6	26:02	7,807.1	2:10:07
4:35 PM	12.57	41:05	13:45	1,639.7	27:20	8,003.3	2:13:23
4:40 PM	12.57	40:27	14:00	1,586.7	26:27	8,066.0	2:14:26
4:45 PM	12.57	40:26	14:25	1,560.7	26:01	7,868.5	2:11:08
4:50 PM	12.57	42:39	15:01	1,657.7	27:38	8,046.0	2:14:06
4:55 PM	12.57	43:56	15:07	1,728.8	28:49	8,466.3	2:21:06
5:00 PM	12.57	46:10	14:47	1,883.2	31:23	9,030.0	2:30:30
5:05 PM	12.57	47:29	14:25	1,984.0	33:04	9,668.0	2:41:08
5:10 PM	12.57	49:19	13:40	2,138.4	35:38	10,306.0	2:51:46
5:15 PM	12.57	49:37	13:14	2,182.7	36:23	10,802.8	3:00:03
5:20 PM	12.57	49:27	13:11	2,176.3	36:16	10,897.4	3:01:37
5:25 PM	12.57	48:08	12:50	2,117.9	35:18	10,735.3	2:58:55
5:30 PM	12.57	47:15	13:00	2,054.8	34:15	10,431.6	2:53:52
5:35 PM	12.57	46:00	12:57	1,983.0	33:03	10,094.5	2:48:14
5:40 PM	12.57	44:56	12:44	1,932.2	32:12	9,788.0	2:43:08
5:45 PM	12.57	43:13	12:51	1,821.7	30:22	9,384.6	2:36:25
5:50 PM	12.57	42:06	12:56	1,750.1	29:10	8,929.3	2:28:49
5:55 PM	12.57	39:25	14:06	1,518.6	25:19	8,171.6	2:16:12
6:00 PM	12.57	37:30	15:02	1,347.4	22:27	7,165.0	1:59:25
6:05 PM	12.57	35:42	15:01	1,241.3	20:41	6,471.6	1:47:52
6:10 PM	12.57	35:21	14:50	1,231.5	20:31	6,181.8	1:43:02
6:15 PM	12.57	32:48	14:41	1,087.2	18:07	5,796.6	1:36:37
6:20 PM	12.57	30:55	13:43	1,031.9	17:12	5,297.8	1:28:18
6:25 PM	12.57	28:55	13:09	945.5	15:46	4,943.5	1:22:24

	sec	dd:hh:mm:ss
MAX DIFF	2,182.7	36:23
MIN DIFF	663.0	11:03
AVG DIFF	1,467.7	24:28
STD DEV	458.9	07:39
TOT AREA	260,167.6	03:00:16:08

I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL IN 46-60 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL IN 46-60 MINUTE INCIDENTS

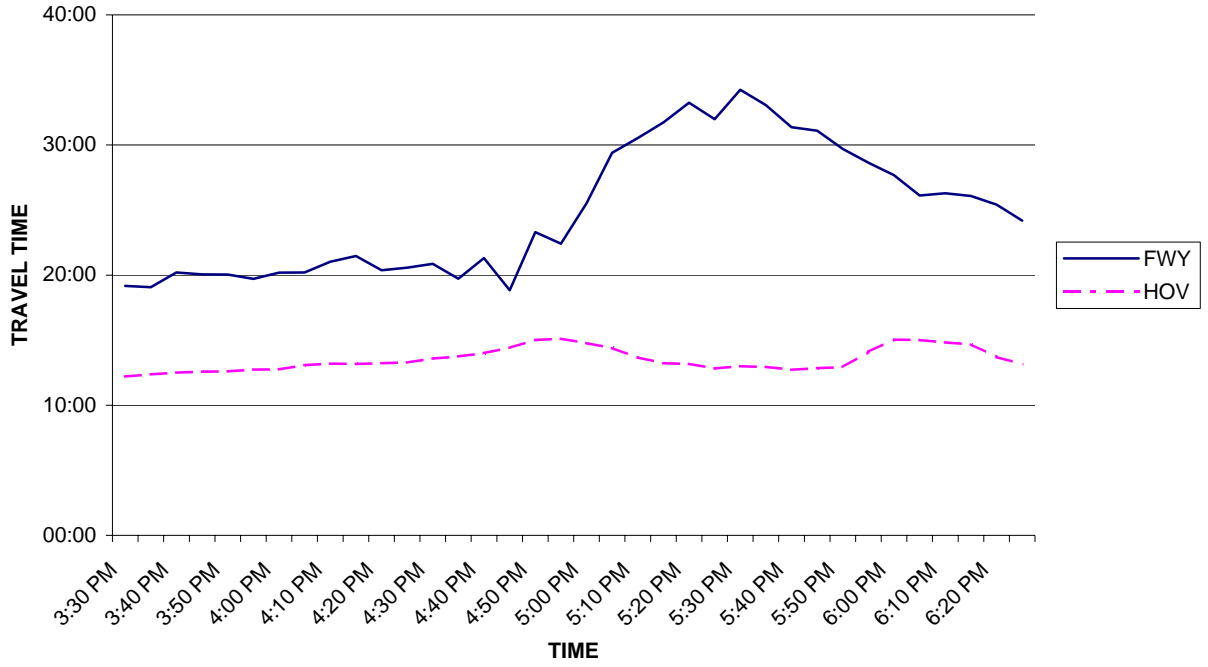


Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway Type HOV
 Direction WB
 Date
 Time 03:30 PM to 06:25 PM

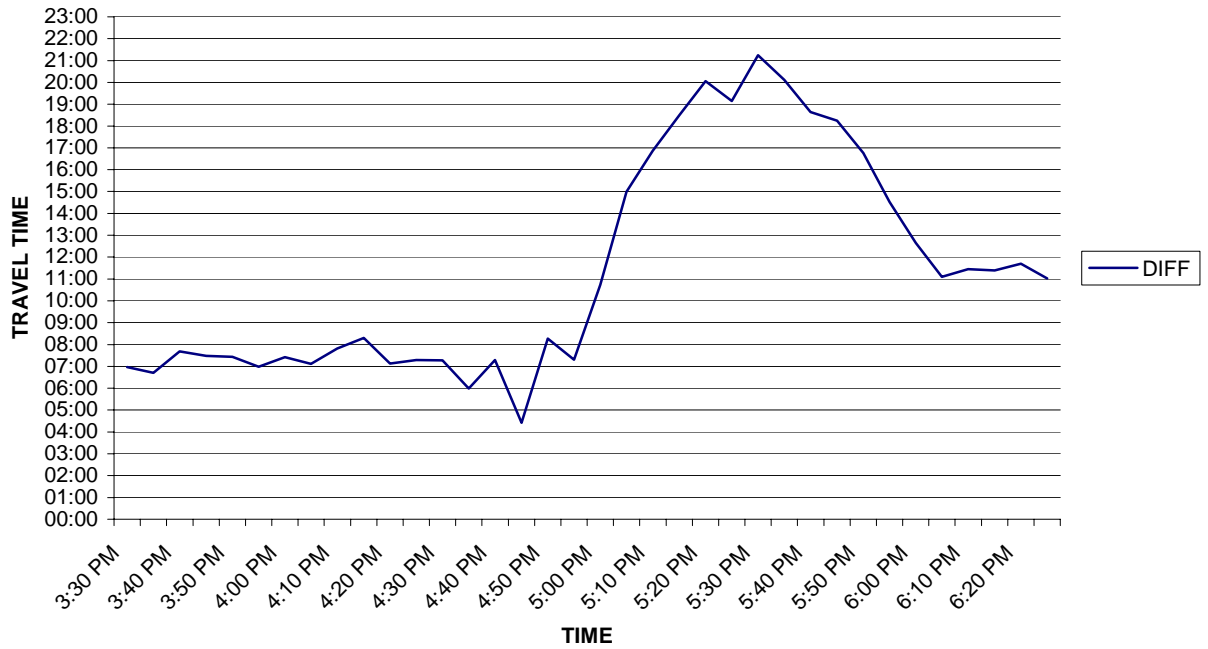
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	12.57	19:11	12:13	418.2	06:58	0.0	0:00:00
3:35 PM	12.57	19:05	12:23	402.5	06:42	2,051.6	0:34:12
3:40 PM	12.57	20:12	12:31	461.2	07:41	2,159.0	0:35:59
3:45 PM	12.57	20:04	12:35	449.0	07:29	2,275.3	0:37:55
3:50 PM	12.57	20:03	12:37	446.4	07:26	2,238.4	0:37:18
3:55 PM	12.57	19:43	12:44	418.7	06:59	2,162.8	0:36:03
4:00 PM	12.57	20:11	12:46	445.4	07:25	2,160.1	0:36:00
4:05 PM	12.57	20:12	13:05	426.9	07:07	2,180.6	0:36:21
4:10 PM	12.57	21:01	13:12	469.3	07:49	2,240.5	0:37:20
4:15 PM	12.57	21:28	13:10	497.8	08:18	2,417.8	0:40:18
4:20 PM	12.57	20:22	13:14	427.6	07:08	2,313.5	0:38:33
4:25 PM	12.57	20:34	13:17	437.1	07:17	2,161.6	0:36:02
4:30 PM	12.57	20:52	13:35	436.6	07:17	2,184.1	0:36:24
4:35 PM	12.57	19:44	13:45	359.1	05:59	1,989.3	0:33:09
4:40 PM	12.57	21:18	14:00	437.5	07:18	1,991.5	0:33:12
4:45 PM	12.57	18:51	14:25	265.7	04:26	1,758.0	0:29:18
4:50 PM	12.57	23:18	15:01	496.7	08:17	1,906.0	0:31:46
4:55 PM	12.57	22:25	15:07	438.0	07:18	2,336.8	0:38:57
5:00 PM	12.57	25:31	14:47	644.2	10:44	2,705.5	0:45:06
5:05 PM	12.57	29:24	14:25	899.4	14:59	3,859.0	1:04:19
5:10 PM	12.57	30:32	13:40	1,011.6	16:52	4,777.5	1:19:38
5:15 PM	12.57	31:44	13:14	1,109.7	18:30	5,303.3	1:28:23
5:20 PM	12.57	33:15	13:11	1,203.9	20:04	5,783.9	1:36:24
5:25 PM	12.57	31:59	12:50	1,149.3	19:09	5,882.8	1:38:03
5:30 PM	12.57	34:15	13:00	1,274.6	21:15	6,059.6	1:41:00
5:35 PM	12.57	33:04	12:57	1,206.8	20:07	6,203.5	1:43:23
5:40 PM	12.57	31:22	12:44	1,118.0	18:38	5,812.0	1:36:52
5:45 PM	12.57	31:06	12:51	1,094.9	18:15	5,532.1	1:32:12
5:50 PM	12.57	29:42	12:56	1,005.7	16:46	5,251.3	1:27:31
5:55 PM	12.57	28:38	14:06	871.8	14:32	4,693.6	1:18:14
6:00 PM	12.57	27:41	15:02	758.6	12:39	4,076.0	1:07:56
6:05 PM	12.57	26:07	15:01	666.1	11:06	3,561.6	0:59:22
6:10 PM	12.57	26:17	14:50	687.1	11:27	3,382.8	0:56:23
6:15 PM	12.57	26:05	14:41	683.8	11:24	3,427.1	0:57:07
6:20 PM	12.57	25:25	13:43	701.7	11:42	3,463.8	0:57:44
6:25 PM	12.57	24:11	13:09	661.7	11:02	3,408.5	0:56:49

	sec	dd:hh:mm:ss
MAX DIFF	1,274.6	21:15
MIN DIFF	265.7	04:26
AVG DIFF	680.1	11:20
STD DEV	300.4	05:00
TOT AREA	119,710.5	01:09:15:10

I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL IN 61+ MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL IN 61+ MINUTE INCIDENTS

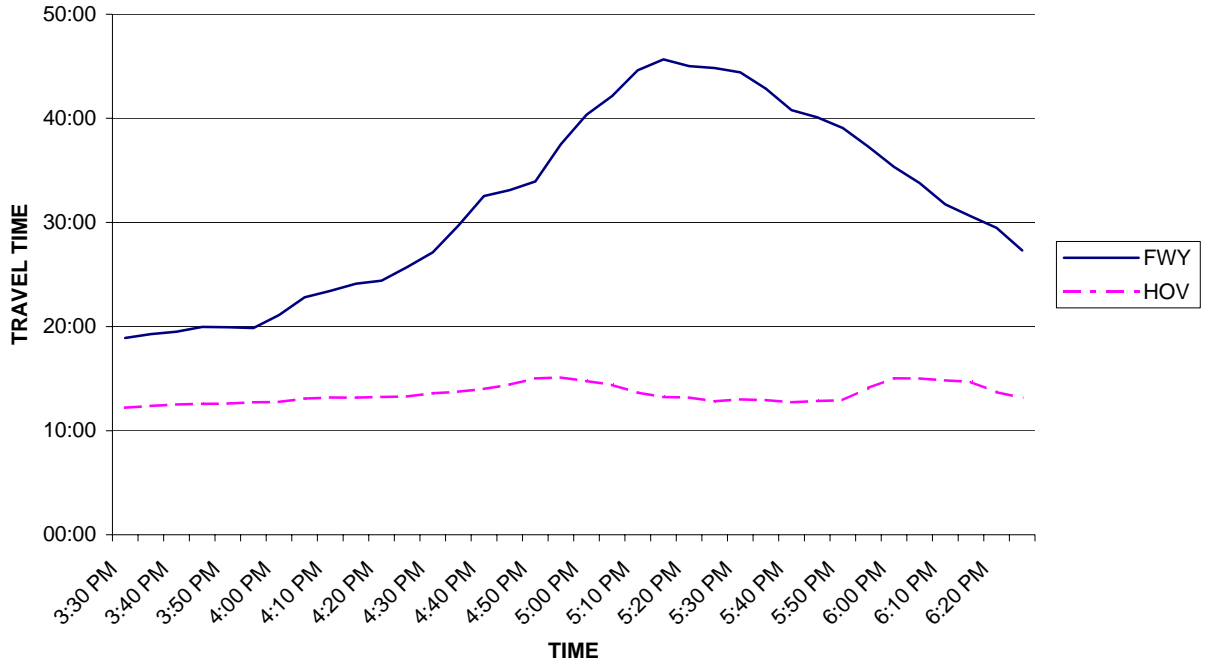


Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway Type HOV
 Direction WB
 Date
 Time 03:30 PM to 06:25 PM

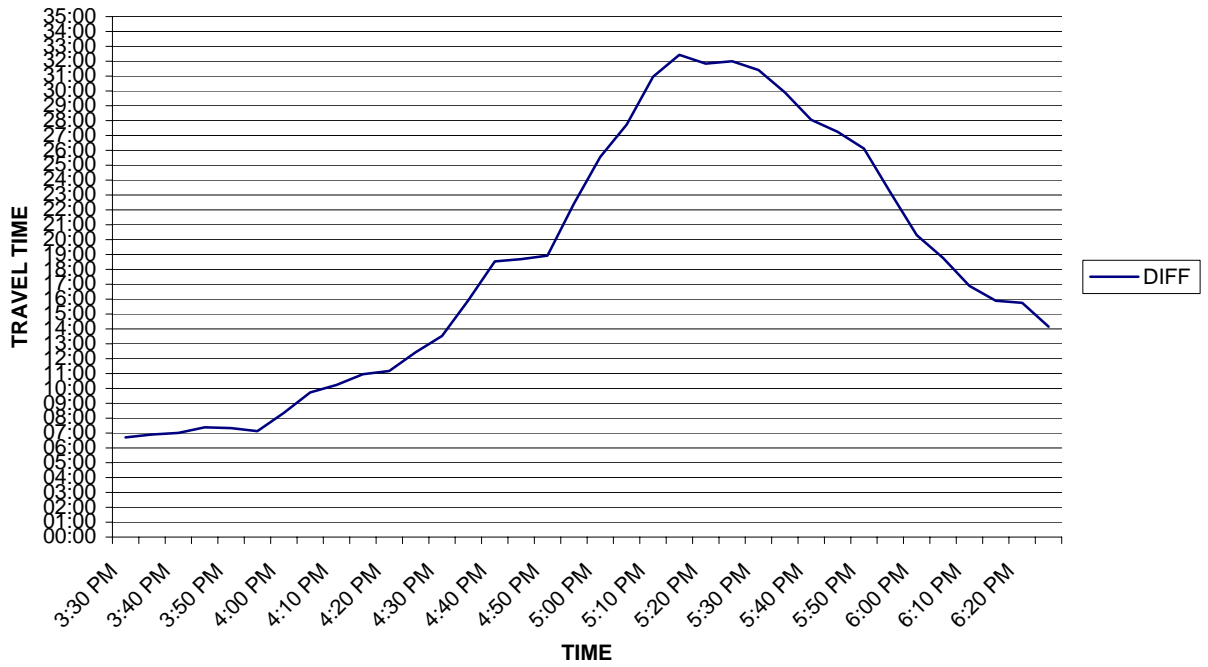
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	12.57	18:55	12:13	402.4	06:42	0.0	0:00:00
3:35 PM	12.57	19:17	12:23	414.3	06:54	2,041.6	0:34:02
3:40 PM	12.57	19:31	12:31	420.2	07:00	2,086.1	0:34:46
3:45 PM	12.57	19:58	12:35	443.3	07:23	2,158.6	0:35:59
3:50 PM	12.57	19:56	12:37	439.7	07:20	2,207.5	0:36:48
3:55 PM	12.57	19:52	12:44	427.5	07:08	2,168.2	0:36:08
4:00 PM	12.57	21:07	12:46	501.0	08:21	2,321.4	0:38:41
4:05 PM	12.57	22:49	13:05	583.6	09:44	2,711.5	0:45:11
4:10 PM	12.57	23:26	13:12	614.0	10:14	2,993.8	0:49:54
4:15 PM	12.57	24:07	13:10	657.3	10:57	3,178.2	0:52:58
4:20 PM	12.57	24:25	13:14	670.6	11:11	3,319.8	0:55:20
4:25 PM	12.57	25:43	13:17	745.7	12:26	3,540.8	0:59:01
4:30 PM	12.57	27:07	13:35	811.8	13:32	3,893.7	1:04:54
4:35 PM	12.57	29:41	13:45	956.3	15:56	4,420.1	1:13:40
4:40 PM	12.57	32:32	14:00	1,112.0	18:32	5,170.7	1:26:11
4:45 PM	12.57	33:06	14:25	1,120.9	18:41	5,582.2	1:33:02
4:50 PM	12.57	33:56	15:01	1,135.0	18:55	5,639.8	1:34:00
4:55 PM	12.57	37:31	15:07	1,344.5	22:24	6,198.8	1:43:19
5:00 PM	12.57	40:21	14:47	1,533.9	25:34	7,195.9	1:59:56
5:05 PM	12.57	42:09	14:25	1,664.4	27:44	7,995.7	2:13:16
5:10 PM	12.57	44:37	13:40	1,857.1	30:57	8,803.8	2:26:44
5:15 PM	12.57	45:40	13:14	1,945.9	32:26	9,507.4	2:38:27
5:20 PM	12.57	45:01	13:11	1,910.4	31:50	9,640.5	2:40:41
5:25 PM	12.57	44:50	12:50	1,920.1	32:00	9,576.1	2:39:36
5:30 PM	12.57	44:25	13:00	1,884.6	31:25	9,511.7	2:38:32
5:35 PM	12.57	42:51	12:57	1,793.8	29:54	9,196.0	2:33:16
5:40 PM	12.57	40:48	12:44	1,683.7	28:04	8,693.7	2:24:54
5:45 PM	12.57	40:07	12:51	1,635.4	27:15	8,297.5	2:18:18
5:50 PM	12.57	39:04	12:56	1,567.7	26:08	8,007.5	2:13:28
5:55 PM	12.57	37:16	14:06	1,390.1	23:10	7,394.5	2:03:14
6:00 PM	12.57	35:20	15:02	1,217.9	20:18	6,520.2	1:48:40
6:05 PM	12.57	33:47	15:01	1,126.2	18:46	5,860.4	1:37:40
6:10 PM	12.57	31:44	14:50	1,014.2	16:54	5,351.1	1:29:11
6:15 PM	12.57	30:35	14:41	954.1	15:54	4,920.9	1:22:01
6:20 PM	12.57	29:29	13:43	945.2	15:45	4,748.3	1:19:08
6:25 PM	12.57	27:19	13:09	849.5	14:10	4,486.8	1:14:47

	sec	dd:hh:mm:ss
MAX DIFF	1,945.9	32:26
MIN DIFF	402.4	06:42
AVG DIFF	1,102.6	18:23
STD DEV	522.4	08:42
TOT AREA	195,340.5	02:06:15:41

I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS



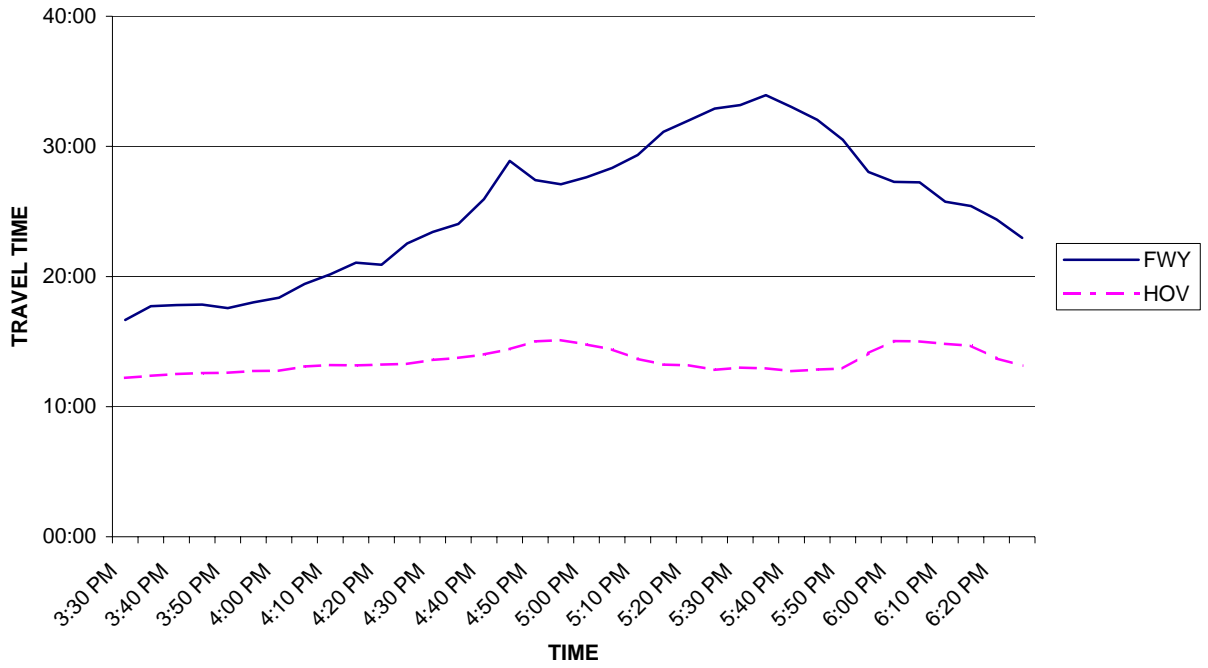
Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway T: HOV
 Direction WB
 Date

Time 03:30 PM to 06:25 PM

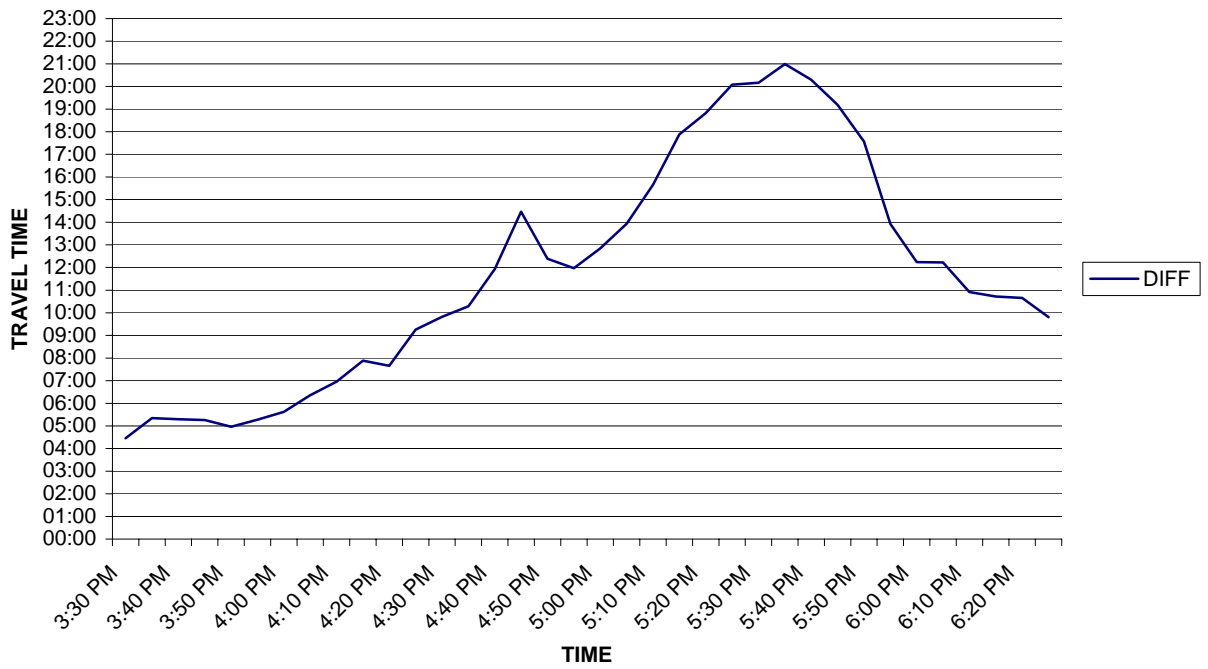
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	12.57	16:40	12:13	267.2	04:27	0.0 0:00:00
3:35 PM	12.57	17:43	12:23	320.8	05:21	1,470.0 0:24:30
3:40 PM	12.57	17:49	12:31	317.8	05:18	1,596.5 0:26:36
3:45 PM	12.57	17:51	12:35	315.6	05:16	1,583.6 0:26:24
3:50 PM	12.57	17:34	12:37	297.7	04:58	1,533.4 0:25:33
3:55 PM	12.57	18:01	12:44	316.7	05:17	1,536.1 0:25:36
4:00 PM	12.57	18:23	12:46	337.4	05:37	1,635.1 0:27:15
4:05 PM	12.57	19:26	13:05	381.4	06:21	1,796.9 0:29:57
4:10 PM	12.57	20:09	13:12	417.8	06:58	1,998.0 0:33:18
4:15 PM	12.57	21:03	13:10	473.1	07:53	2,227.3 0:37:07
4:20 PM	12.57	20:54	13:14	459.6	07:40	2,331.8 0:38:52
4:25 PM	12.57	22:32	13:17	555.6	09:16	2,537.9 0:42:18
4:30 PM	12.57	23:25	13:35	589.6	09:50	2,862.9 0:47:43
4:35 PM	12.57	24:03	13:45	617.6	10:18	3,018.0 0:50:18
4:40 PM	12.57	25:56	14:00	715.8	11:56	3,333.6 0:55:34
4:45 PM	12.57	28:53	14:25	868.0	14:28	3,959.7 1:06:00
4:50 PM	12.57	27:25	15:01	743.2	12:23	4,028.1 1:07:08
4:55 PM	12.57	27:05	15:07	718.0	11:58	3,653.0 1:00:53
5:00 PM	12.57	27:38	14:47	770.9	12:51	3,722.2 1:02:02
5:05 PM	12.57	28:21	14:25	836.1	13:56	4,017.3 1:06:57
5:10 PM	12.57	29:20	13:40	939.6	15:40	4,439.2 1:13:59
5:15 PM	12.57	31:07	13:14	1,072.7	17:53	5,030.8 1:23:51
5:20 PM	12.57	32:00	13:11	1,129.2	18:49	5,504.7 1:31:45
5:25 PM	12.57	32:55	12:50	1,204.9	20:05	5,835.3 1:37:15
5:30 PM	12.57	33:10	13:00	1,209.9	20:10	6,037.1 1:40:37
5:35 PM	12.57	33:57	12:57	1,259.5	20:59	6,173.5 1:42:54
5:40 PM	12.57	33:02	12:44	1,218.0	20:18	6,193.7 1:43:14
5:45 PM	12.57	32:02	12:51	1,151.4	19:11	5,923.4 1:38:43
5:50 PM	12.57	30:31	12:56	1,054.3	17:34	5,514.2 1:31:54
5:55 PM	12.57	28:02	14:06	835.8	13:56	4,725.3 1:18:45
6:00 PM	12.57	27:16	15:02	734.1	12:14	3,924.8 1:05:25
6:05 PM	12.57	27:14	15:01	733.4	12:13	3,668.7 1:01:09
6:10 PM	12.57	25:45	14:50	655.1	10:55	3,471.1 0:57:51
6:15 PM	12.57	25:25	14:41	643.5	10:43	3,246.3 0:54:06
6:20 PM	12.57	24:23	13:43	639.4	10:39	3,207.1 0:53:27
6:25 PM	12.57	22:58	13:09	588.7	09:49	3,070.2 0:51:10

	sec	dd:hh:mm:ss
MAX DIFF	1,259.5	20:59
MIN DIFF	267.2	04:27
AVG DIFF	705.3	11:45
STD DEV	306.9	05:07
TOT AREA	124,806.3	01:10:40:06

I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS



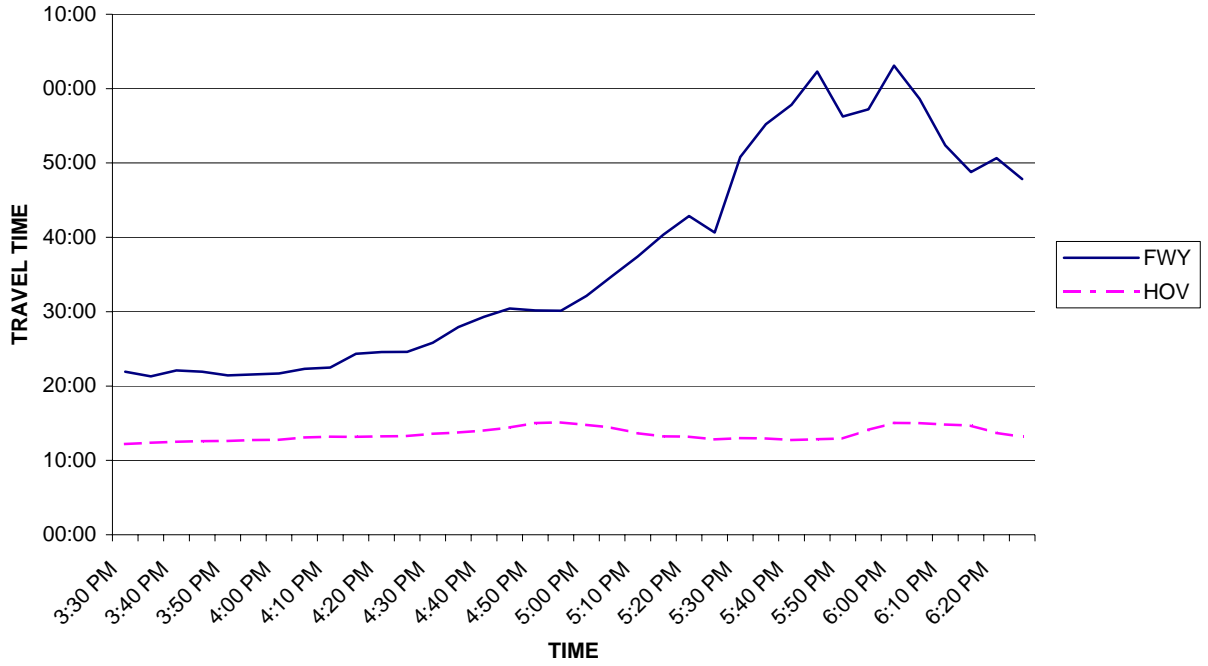
Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway T: HOV
 Direction WB
 Date

Time 03:30 PM to 06:25 PM

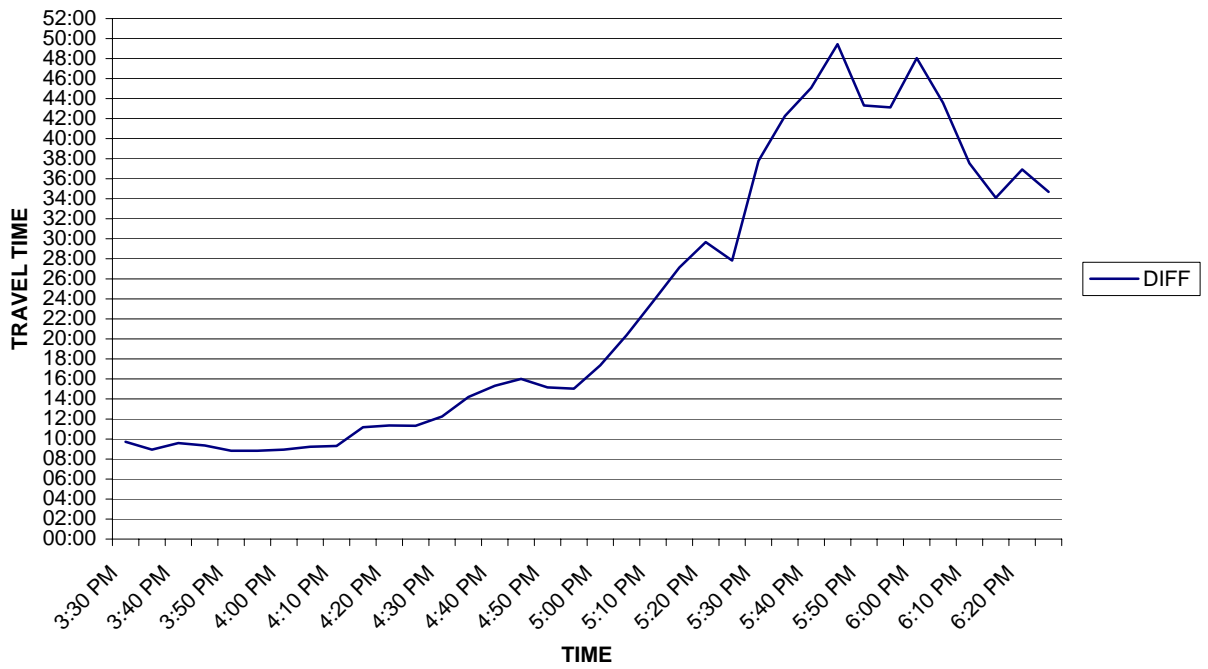
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	12.57	21:56	12:13	583.2	09:43	0.0 0:00:00
3:35 PM	12.57	21:19	12:23	536.1	08:56	2,798.3 0:46:38
3:40 PM	12.57	22:07	12:31	576.2	09:36	2,780.7 0:46:21
3:45 PM	12.57	21:56	12:35	561.0	09:21	2,842.8 0:47:23
3:50 PM	12.57	21:27	12:37	530.1	08:50	2,727.5 0:45:28
3:55 PM	12.57	21:34	12:44	529.7	08:50	2,649.4 0:44:09
4:00 PM	12.57	21:42	12:46	536.7	08:57	2,666.0 0:44:26
4:05 PM	12.57	22:19	13:05	553.9	09:14	2,726.5 0:45:26
4:10 PM	12.57	22:30	13:12	558.6	09:19	2,781.3 0:46:21
4:15 PM	12.57	24:21	13:10	670.5	11:10	3,072.8 0:51:13
4:20 PM	12.57	24:35	13:14	680.9	11:21	3,378.5 0:56:18
4:25 PM	12.57	24:37	13:17	679.7	11:20	3,401.6 0:56:42
4:30 PM	12.57	25:50	13:35	734.6	12:15	3,535.8 0:58:56
4:35 PM	12.57	27:57	13:45	852.1	14:12	3,966.8 1:06:07
4:40 PM	12.57	29:20	14:00	919.2	15:19	4,428.2 1:13:48
4:45 PM	12.57	30:26	14:25	960.7	16:01	4,699.7 1:18:20
4:50 PM	12.57	30:11	15:01	909.4	15:09	4,675.2 1:17:55
4:55 PM	12.57	30:09	15:07	901.7	15:02	4,527.6 1:15:28
5:00 PM	12.57	32:09	14:47	1,042.2	17:22	4,859.7 1:21:00
5:05 PM	12.57	34:48	14:25	1,223.7	20:24	5,664.8 1:34:25
5:10 PM	12.57	37:25	13:40	1,424.9	23:45	6,621.7 1:50:22
5:15 PM	12.57	40:22	13:14	1,627.4	27:07	7,630.8 2:07:11
5:20 PM	12.57	42:51	13:11	1,780.2	29:40	8,518.9 2:21:59
5:25 PM	12.57	40:39	12:50	1,669.3	27:49	8,623.6 2:23:44
5:30 PM	12.57	50:48	13:00	2,267.6	37:48	9,842.1 2:44:02
5:35 PM	12.57	55:14	12:57	2,536.3	42:16	12,009.8 3:20:10
5:40 PM	12.57	57:49	12:44	2,705.0	45:05	13,103.3 3:38:23
5:45 PM	12.57	02:18	12:51	2,966.4	49:26	14,178.4 3:56:18
5:50 PM	12.57	56:16	12:56	2,599.2	43:19	13,913.8 3:51:54
5:55 PM	12.57	57:14	14:06	2,587.3	43:07	12,966.1 3:36:06
6:00 PM	12.57	03:06	15:02	2,883.1	48:03	13,676.0 3:47:56
6:05 PM	12.57	58:37	15:01	2,615.6	43:36	13,746.6 3:49:07
6:10 PM	12.57	52:23	14:50	2,253.1	37:33	12,171.5 3:22:52
6:15 PM	12.57	48:47	14:41	2,045.3	34:05	10,745.9 2:59:06
6:20 PM	12.57	50:39	13:43	2,215.7	36:56	10,652.5 2:57:32
6:25 PM	12.57	47:50	13:09	2,080.7	34:41	10,741.0 2:59:01

	sec	dd:hh:mm:ss
MAX DIFF	2,966.4	49:26
MIN DIFF	529.7	08:50
AVG DIFF	1,411.0	23:31
STD DEV	847.3	14:07
TOT AREA	247,324.7	02:20:42:05

I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL OUT 31-45 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL OUT 31-45 MINUTE INCIDENTS



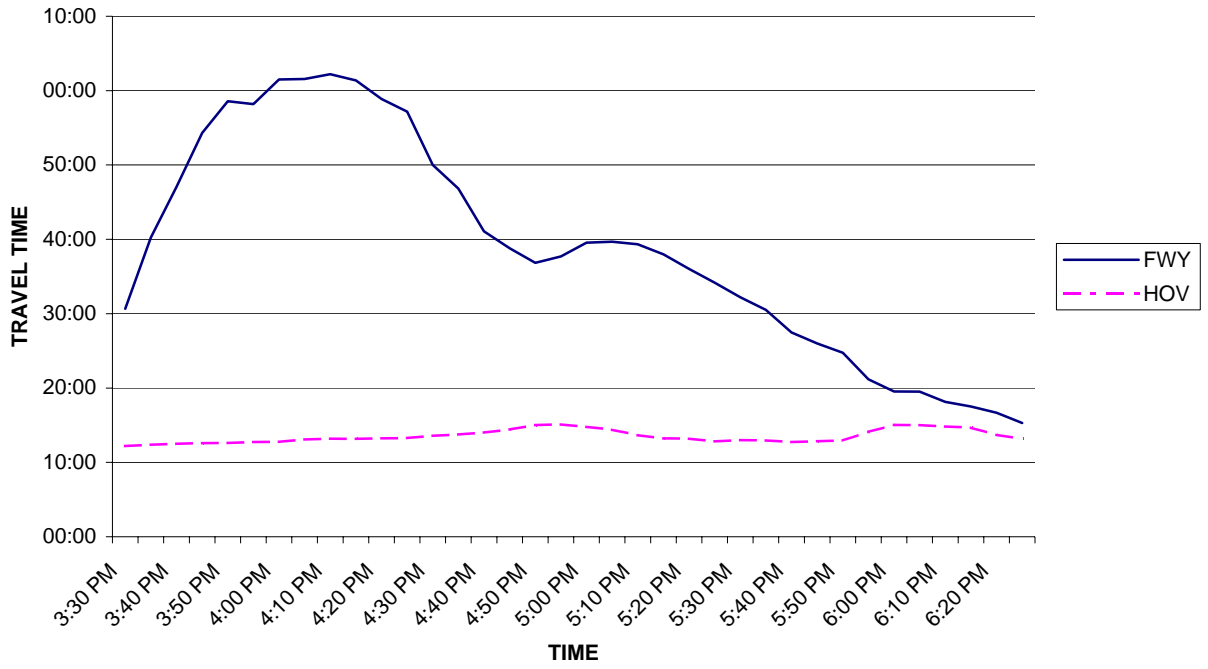
Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway T: HOV
 Direction WB
 Date

Time 03:30 PM to 06:25 PM

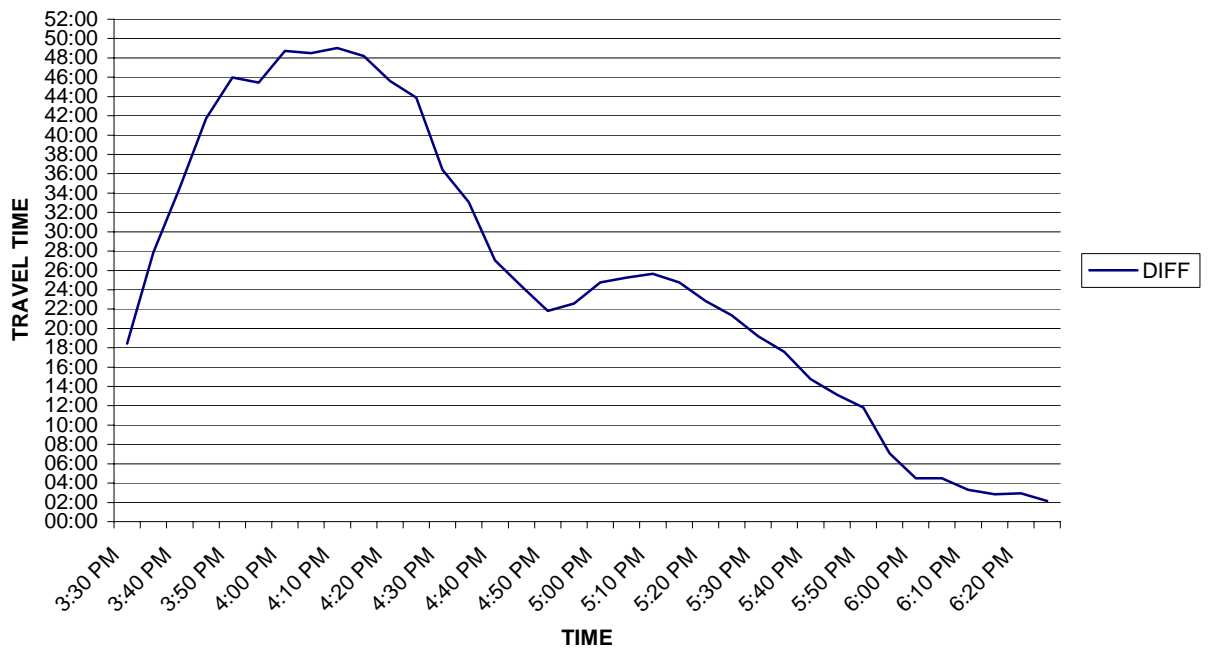
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA	SECTION AREA
3:30 PM	12.57	30:40	12:13	1,107.2	18:27	0.0	0:00:00	
3:35 PM	12.57	40:14	12:23	1,671.5	27:51	6,946.6	1:55:47	
3:40 PM	12.57	47:02	12:31	2,071.2	34:31	9,356.5	2:35:57	
3:45 PM	12.57	54:19	12:35	2,504.0	41:44	11,437.8	3:10:38	
3:50 PM	12.57	58:35	12:37	2,758.4	45:58	13,155.9	3:39:16	
3:55 PM	12.57	58:11	12:44	2,726.7	45:27	13,712.8	3:48:33	
4:00 PM	12.57	01:30	12:46	2,924.4	48:44	14,127.6	3:55:28	
4:05 PM	12.57	01:34	13:05	2,908.9	48:29	14,583.1	4:03:03	
4:10 PM	12.57	02:13	13:12	2,941.3	49:01	14,625.5	4:03:46	
4:15 PM	12.57	01:22	13:10	2,891.8	48:12	14,582.8	4:03:03	
4:20 PM	12.57	58:52	13:14	2,737.6	45:38	14,073.5	3:54:34	
4:25 PM	12.57	57:10	13:17	2,633.1	43:53	13,426.6	3:43:47	
4:30 PM	12.57	50:01	13:35	2,185.6	36:26	12,046.6	3:20:47	
4:35 PM	12.57	46:49	13:45	1,984.1	33:04	10,424.3	2:53:44	
4:40 PM	12.57	41:04	14:00	1,623.5	27:04	9,019.0	2:30:19	
4:45 PM	12.57	38:48	14:25	1,462.7	24:23	7,715.5	2:08:36	
4:50 PM	12.57	36:50	15:01	1,308.7	21:49	6,928.5	1:55:29	
4:55 PM	12.57	37:42	15:07	1,355.0	22:35	6,659.3	1:50:59	
5:00 PM	12.57	39:33	14:47	1,486.2	24:46	7,103.0	1:58:23	
5:05 PM	12.57	39:40	14:25	1,515.4	25:15	7,504.0	2:05:04	
5:10 PM	12.57	39:20	13:40	1,539.6	25:40	7,637.5	2:07:17	
5:15 PM	12.57	37:59	13:14	1,484.7	24:45	7,560.8	2:06:01	
5:20 PM	12.57	36:01	13:11	1,369.9	22:50	7,136.4	1:58:56	
5:25 PM	12.57	34:11	12:50	1,281.3	21:21	6,627.8	1:50:28	
5:30 PM	12.57	32:13	13:00	1,152.6	19:13	6,084.6	1:41:25	
5:35 PM	12.57	30:31	12:57	1,053.8	17:34	5,516.0	1:31:56	
5:40 PM	12.57	27:30	12:44	886.0	14:46	4,849.5	1:20:50	
5:45 PM	12.57	26:00	12:51	788.9	13:09	4,187.1	1:09:47	
5:50 PM	12.57	24:46	12:56	709.7	11:50	3,746.3	1:02:26	
5:55 PM	12.57	21:11	14:06	424.8	07:05	2,836.1	0:47:16	
6:00 PM	12.57	19:33	15:02	270.6	04:31	1,738.5	0:28:59	
6:05 PM	12.57	19:32	15:01	271.1	04:31	1,354.1	0:22:34	
6:10 PM	12.57	18:09	14:50	199.1	03:19	1,175.3	0:19:35	
6:15 PM	12.57	17:32	14:41	170.8	02:51	924.6	0:15:25	
6:20 PM	12.57	16:41	13:43	177.7	02:58	871.3	0:14:31	
6:25 PM	12.57	15:18	13:09	128.7	02:09	766.0	0:12:46	

	sec	dd:hh:mm:ss
MAX DIFF	2,941.3	49:01
MIN DIFF	128.7	02:09
AVG DIFF	1,519.6	25:20
STD DEV	916.1	15:16
TOT AREA	270,440.5	03:03:07:21

I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL OUT 46-60 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB ONE LANE SCHOOL OUT 46-60 MINUTE INCIDENTS



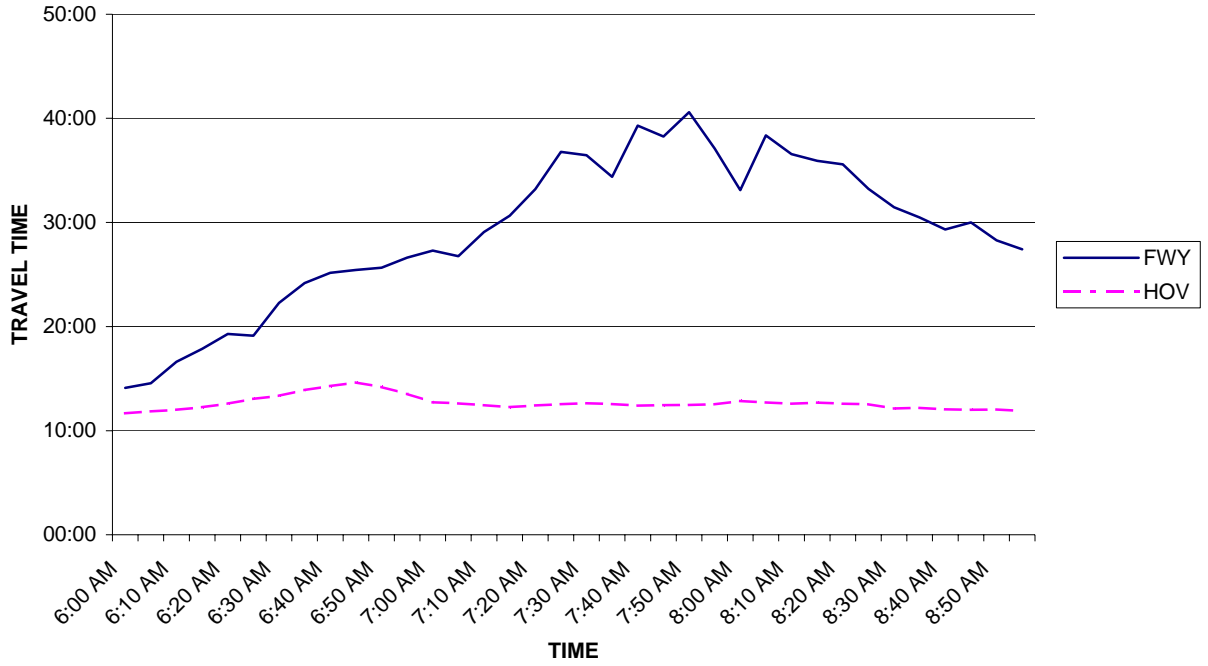
Freeway N I-10 Katy
 Limit SH 6 to Silber
 Freeway Type FWY-HOV
 Direction EB

Date
 Time 06:00 AM to 08:55 AM

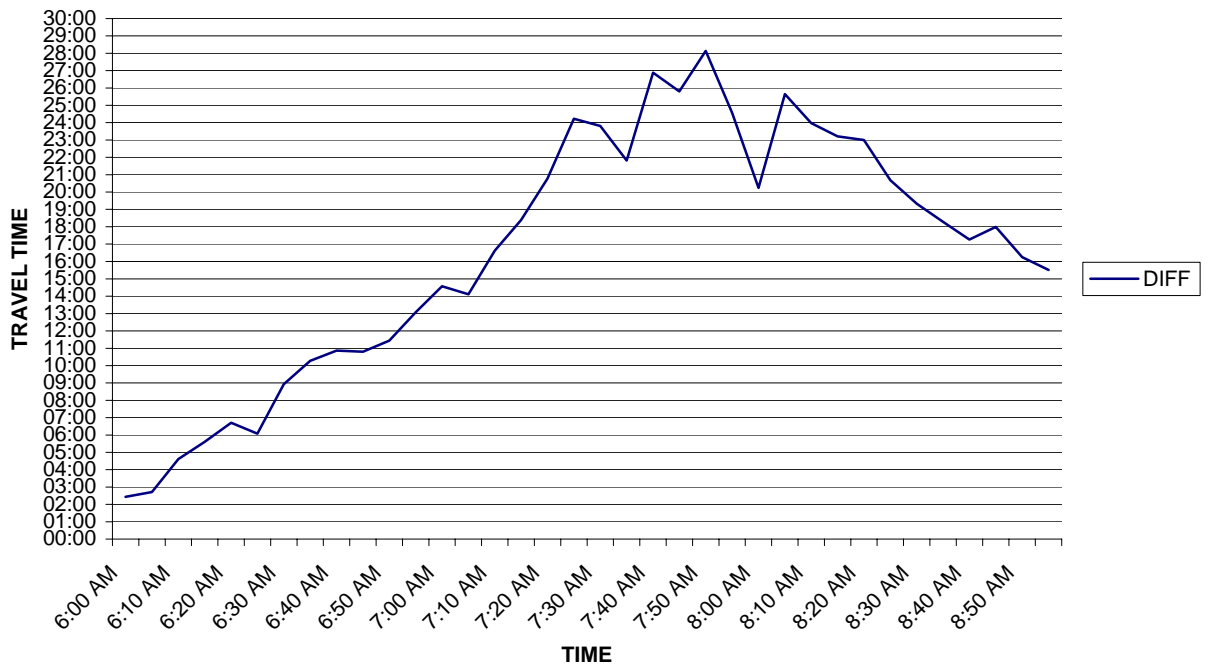
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
6:00 AM	12.57	14:07	11:41	146.3	02:26	0.0	0:00:00
6:05 AM	12.57	14:34	11:51	162.5	02:43	772.1	0:12:52
6:10 AM	12.57	16:37	12:00	276.5	04:37	1,097.6	0:18:18
6:15 AM	12.57	17:52	12:15	336.6	05:37	1,532.9	0:25:33
6:20 AM	12.57	19:18	12:36	402.2	06:42	1,847.1	0:30:47
6:25 AM	12.57	19:08	13:03	364.8	06:05	1,917.6	0:31:58
6:30 AM	12.57	22:17	13:21	535.9	08:56	2,252.0	0:37:32
6:35 AM	12.57	24:11	13:54	616.5	10:17	2,881.2	0:48:01
6:40 AM	12.57	25:09	14:17	652.2	10:52	3,171.7	0:52:52
6:45 AM	12.57	25:26	14:38	647.9	10:48	3,250.3	0:54:10
6:50 AM	12.57	25:39	14:13	686.4	11:26	3,335.9	0:55:36
6:55 AM	12.57	26:37	13:33	784.4	13:04	3,677.0	1:01:17
7:00 AM	12.57	27:18	12:43	874.5	14:35	4,147.2	1:09:07
7:05 AM	12.57	26:45	12:38	847.2	14:07	4,304.2	1:11:44
7:10 AM	12.57	29:05	12:27	997.5	16:38	4,611.7	1:16:52
7:15 AM	12.57	30:39	12:16	1,103.1	18:23	5,251.6	1:27:32
7:20 AM	12.57	33:12	12:26	1,246.5	20:46	5,873.9	1:37:54
7:25 AM	12.57	36:47	12:33	1,453.9	24:14	6,750.9	1:52:31
7:30 AM	12.57	36:27	12:39	1,428.5	23:48	7,205.9	2:00:06
7:35 AM	12.57	34:23	12:34	1,309.0	21:49	6,843.7	1:54:04
7:40 AM	12.57	39:18	12:25	1,613.1	26:53	7,305.3	2:01:45
7:45 AM	12.57	38:15	12:27	1,548.1	25:48	7,902.9	2:11:43
7:50 AM	12.57	40:36	12:28	1,688.1	28:08	8,090.3	2:14:50
7:55 AM	12.57	37:06	12:32	1,473.9	24:34	7,905.0	2:11:45
8:00 AM	12.57	33:06	12:51	1,214.7	20:15	6,721.6	1:52:02
8:05 AM	12.57	38:22	12:43	1,538.9	25:39	6,883.9	1:54:44
8:10 AM	12.57	36:34	12:35	1,438.6	23:59	7,443.8	2:04:04
8:15 AM	12.57	35:55	12:42	1,392.6	23:13	7,078.0	1:57:58
8:20 AM	12.57	35:35	12:35	1,379.8	23:00	6,930.9	1:55:31
8:25 AM	12.57	33:14	12:33	1,241.1	20:41	6,552.1	1:49:12
8:30 AM	12.57	31:28	12:08	1,159.7	19:20	6,002.0	1:40:02
8:35 AM	12.57	30:29	12:12	1,097.2	18:17	5,642.4	1:34:02
8:40 AM	12.57	29:19	12:03	1,035.5	17:15	5,331.8	1:28:52
8:45 AM	12.57	30:00	12:01	1,079.4	17:59	5,287.3	1:28:07
8:50 AM	12.57	28:17	12:02	974.9	16:15	5,135.8	1:25:36
8:55 AM	12.57	27:25	11:54	930.5	15:31	4,763.6	1:19:24

	sec	dd:hh:mm:ss
MAX DIFF	1,688.1	28:08
MIN DIFF	146.3	02:26
AVG DIFF	991.1	16:31
STD DEV	441.0	07:21
TOT AREA	175,701.2	02:00:48:21

I- 10 KATY FREEWAY AM EB 2+ MAIN LANES SCHOOL IN 46-60 MINUTE INCIDENTS



I- 10 KATY FREEWAY AM EB 2+ MAIN LANES SCHOOL IN 46-60 MINUTE INCIDENTS

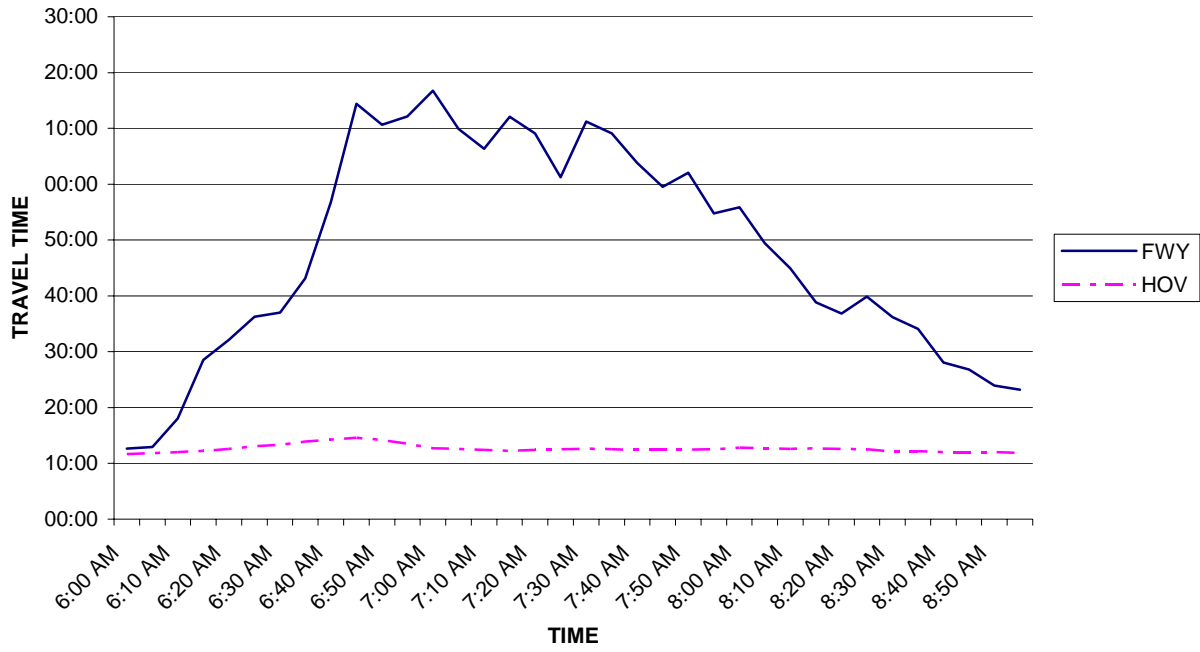


Freeway N I-10 Katy
 Limit SH 6 to Silber
 Freeway Type FWY-HOV
 Direction EB
 Date
 Time 06:00 AM to 08:55 AM

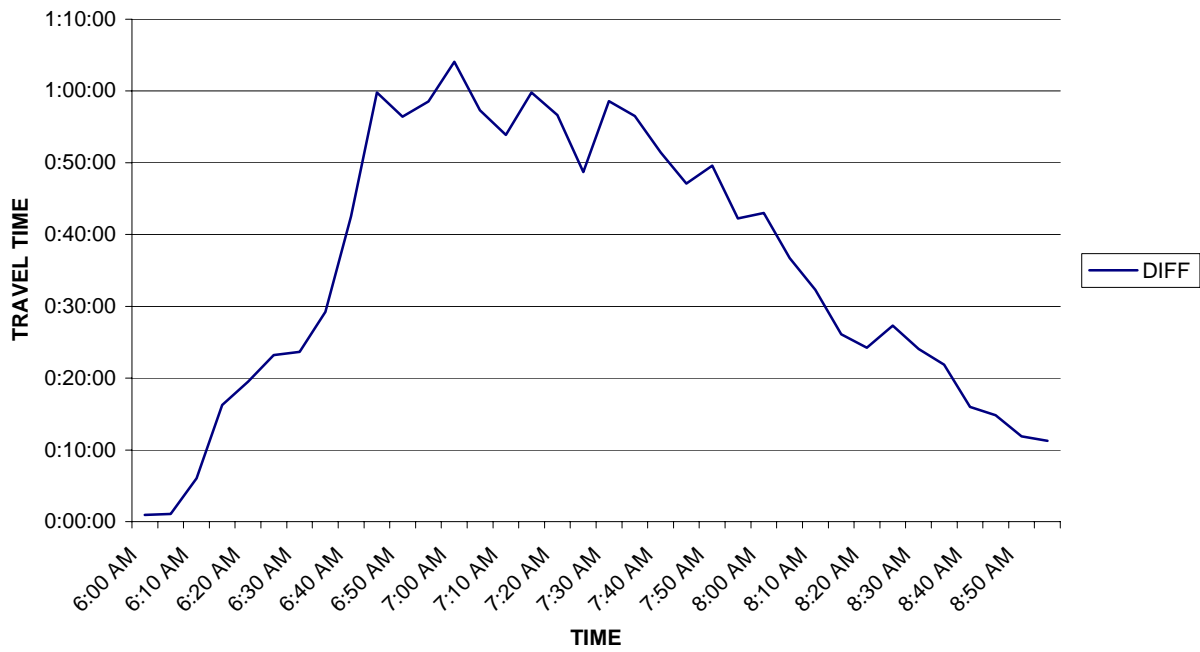
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	12.57	12:38	11:41	57.3	00:57	0.0	0:00:00
6:05 AM	12.57	12:56	11:51	64.5	01:05	304.6	0:05:05
6:10 AM	12.57	18:04	12:00	363.5	06:04	1,070.1	0:17:50
6:15 AM	12.57	28:32	12:15	976.6	16:17	3,350.4	0:55:50
6:20 AM	12.57	32:07	12:36	1,171.2	19:31	5,369.6	1:29:30
6:25 AM	12.57	36:15	13:03	1,391.8	23:12	6,407.6	1:46:48
6:30 AM	12.57	37:02	13:21	1,420.9	23:41	7,032.0	1:57:12
6:35 AM	12.57	43:08	13:54	1,753.5	29:14	7,936.2	2:12:16
6:40 AM	12.57	56:47	14:17	2,550.2	42:30	10,759.2	2:59:19
6:45 AM	12.57	14:26	14:38	3,587.9	59:48	15,345.3	4:15:45
6:50 AM	12.57	10:37	14:13	3,384.4	56:24	17,430.9	4:50:31
6:55 AM	12.57	12:07	13:33	3,514.4	58:34	17,247.0	4:47:27
7:00 AM	12.57	16:48	12:43	3,844.5	04:05	18,397.2	5:06:37
7:05 AM	12.57	09:55	12:38	3,437.2	57:17	18,204.2	5:03:24
7:10 AM	12.57	06:20	12:27	3,232.5	53:53	16,674.2	4:37:54
7:15 AM	12.57	12:04	12:16	3,588.1	59:48	17,051.6	4:44:12
7:20 AM	12.57	09:04	12:26	3,398.5	56:38	17,466.4	4:51:06
7:25 AM	12.57	01:16	12:33	2,922.9	48:43	15,803.4	4:23:23
7:30 AM	12.57	11:14	12:39	3,515.5	58:35	16,095.9	4:28:16
7:35 AM	12.57	09:04	12:34	3,390.0	56:30	17,263.7	4:47:44
7:40 AM	12.57	03:51	12:25	3,086.1	51:26	16,190.3	4:29:50
7:45 AM	12.57	59:33	12:27	2,826.1	47:06	14,780.4	4:06:20
7:50 AM	12.57	02:04	12:28	2,976.1	49:36	14,505.3	4:01:45
7:55 AM	12.57	54:47	12:32	2,534.9	42:15	13,777.5	3:49:38
8:00 AM	12.57	55:52	12:51	2,580.7	43:01	12,789.1	3:33:09
8:05 AM	12.57	49:25	12:43	2,201.9	36:42	11,956.4	3:19:16
8:10 AM	12.57	44:54	12:35	1,938.6	32:19	10,351.3	2:52:31
8:15 AM	12.57	38:50	12:42	1,567.6	26:08	8,765.5	2:26:06
8:20 AM	12.57	36:50	12:35	1,454.8	24:15	7,555.9	2:05:56
8:25 AM	12.57	39:51	12:33	1,638.1	27:18	7,732.1	2:08:52
8:30 AM	12.57	36:13	12:08	1,444.7	24:05	7,707.0	2:08:27
8:35 AM	12.57	34:05	12:12	1,313.2	21:53	6,894.9	1:54:55
8:40 AM	12.57	28:04	12:03	960.5	16:01	5,684.3	1:34:44
8:45 AM	12.57	26:50	12:01	889.4	14:49	4,624.8	1:17:05
8:50 AM	12.57	23:57	12:02	714.9	11:55	4,010.8	1:06:51
8:55 AM	12.57	23:11	11:54	676.5	11:17	3,478.6	0:57:59

	sec	dd:hh:mm:ss
MAX DIFF	3,844.5	04:05
MIN DIFF	57.3	00:57
AVG DIFF	2,121.4	35:21
STD DEV	1,150.7	19:11
TOT AREA	380,013.7	04:09:33:34

I- 10 KATY FREEWAY AM EB 2+ MAIN LANES SCHOOL IN 61+ MINUTE INCIDENTS



I- 10 KATY FREEWAY AM EB 2+ MAIN LANES SCHOOL IN 61+ MINUTE INCIDENTS



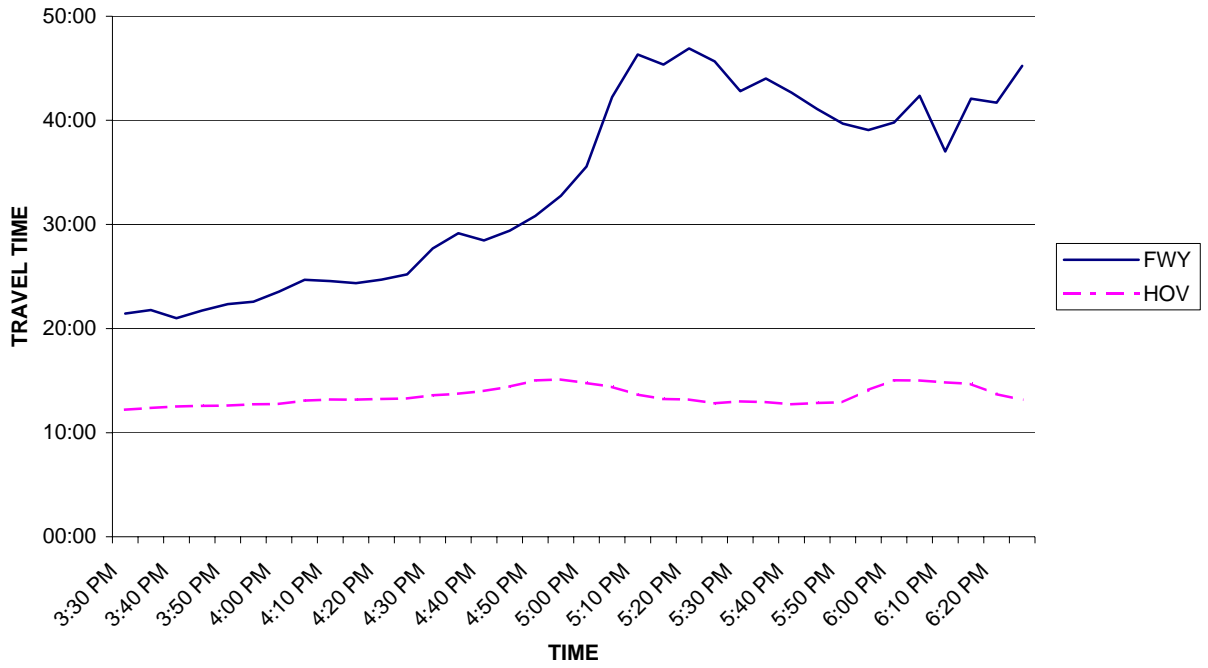
Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway T: HOV
 Direction WB
 Date

Time 03:30 PM to 06:25 PM

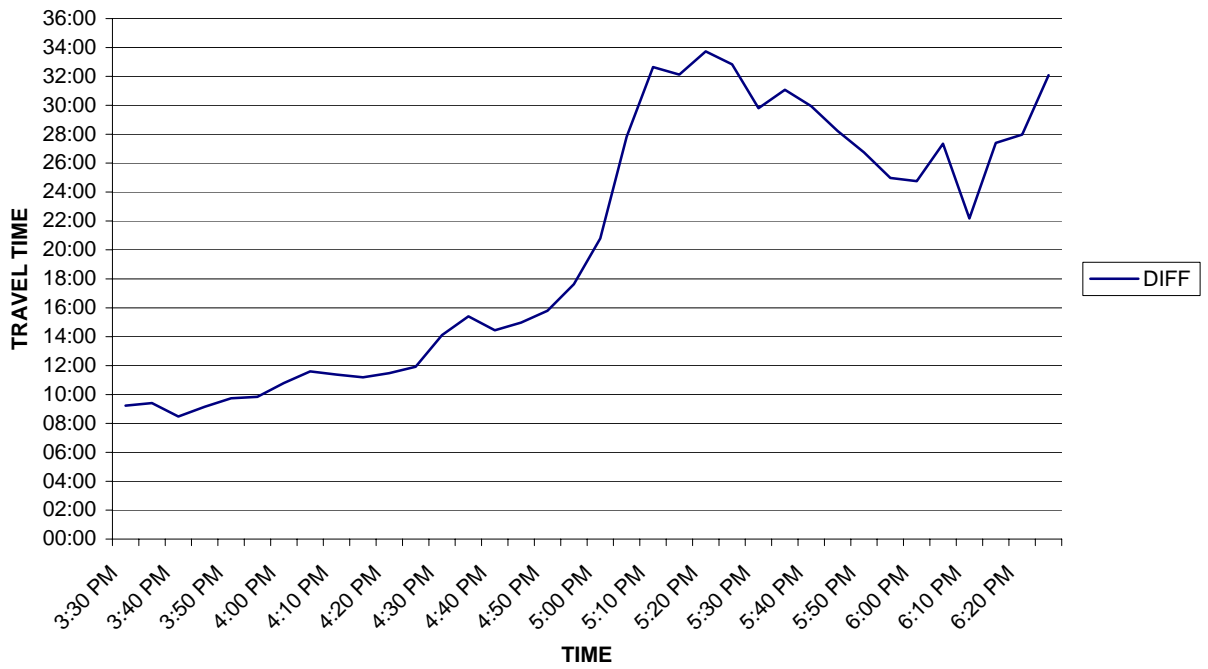
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
3:30 PM	12.57	21:27	12:13	554.2	09:14	0.0	0:00:00
3:35 PM	12.57	21:48	12:23	565.0	09:25	2,797.9	0:46:38
3:40 PM	12.57	21:00	12:31	509.2	08:29	2,685.3	0:44:45
3:45 PM	12.57	21:45	12:35	549.5	09:09	2,646.5	0:44:06
3:50 PM	12.57	22:21	12:37	584.4	09:44	2,834.6	0:47:15
3:55 PM	12.57	22:35	12:44	590.7	09:51	2,937.8	0:48:58
4:00 PM	12.57	23:33	12:46	647.4	10:47	3,095.1	0:51:35
4:05 PM	12.57	24:41	13:05	696.4	11:36	3,359.4	0:55:59
4:10 PM	12.57	24:34	13:12	682.8	11:23	3,448.0	0:57:28
4:15 PM	12.57	24:22	13:10	671.8	11:12	3,386.5	0:56:27
4:20 PM	12.57	24:43	13:14	688.6	11:29	3,401.0	0:56:41
4:25 PM	12.57	25:13	13:17	715.6	11:56	3,510.4	0:58:30
4:30 PM	12.57	27:42	13:35	846.6	14:07	3,905.4	1:05:05
4:35 PM	12.57	29:10	13:45	924.6	15:25	4,428.0	1:13:48
4:40 PM	12.57	28:28	14:00	867.0	14:27	4,479.0	1:14:39
4:45 PM	12.57	29:24	14:25	898.7	14:59	4,414.3	1:13:34
4:50 PM	12.57	30:49	15:01	947.7	15:48	4,616.0	1:16:56
4:55 PM	12.57	32:45	15:07	1,058.0	17:38	5,014.3	1:23:34
5:00 PM	12.57	35:34	14:47	1,247.2	20:47	5,763.0	1:36:03
5:05 PM	12.57	42:15	14:25	1,669.9	27:50	7,292.8	2:01:33
5:10 PM	12.57	46:20	13:40	1,959.1	32:39	9,072.5	2:31:12
5:15 PM	12.57	45:22	13:14	1,927.7	32:08	9,717.0	2:41:57
5:20 PM	12.57	46:55	13:11	2,023.9	33:44	9,878.9	2:44:39
5:25 PM	12.57	45:40	12:50	1,970.3	32:50	9,985.3	2:46:25
5:30 PM	12.57	42:48	13:00	1,788.1	29:48	9,395.9	2:36:36
5:35 PM	12.57	44:02	12:57	1,864.3	31:04	9,131.0	2:32:11
5:40 PM	12.57	42:40	12:44	1,796.5	29:56	9,152.0	2:32:32
5:45 PM	12.57	41:05	12:51	1,693.9	28:14	8,725.9	2:25:26
5:50 PM	12.57	39:41	12:56	1,605.2	26:45	8,247.5	2:17:28
5:55 PM	12.57	39:04	14:06	1,498.3	24:58	7,758.6	2:09:19
6:00 PM	12.57	39:48	15:02	1,485.6	24:46	7,459.8	2:04:20
6:05 PM	12.57	42:22	15:01	1,640.6	27:21	7,815.4	2:10:15
6:10 PM	12.57	37:00	14:50	1,330.6	22:11	7,427.8	2:03:48
6:15 PM	12.57	42:05	14:41	1,643.8	27:24	7,435.9	2:03:56
6:20 PM	12.57	41:42	13:43	1,678.7	27:59	8,306.3	2:18:26
6:25 PM	12.57	45:14	13:09	1,924.7	32:05	9,008.5	2:30:09

	sec	dd:hh:mm:ss
MAX DIFF	2,023.9	33:44
MIN DIFF	509.2	08:29
AVG DIFF	1,215.2	20:15
STD DEV	535.5	08:55
TOT AREA	212,533.0	02:11:02:13

I- 10 KATY FREEWAY PM WB 2+ MAIN LANES SCHOOL IN 0-15 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB 2+ MAIN LANES SCHOOL IN 0-15 MINUTE INCIDENTS



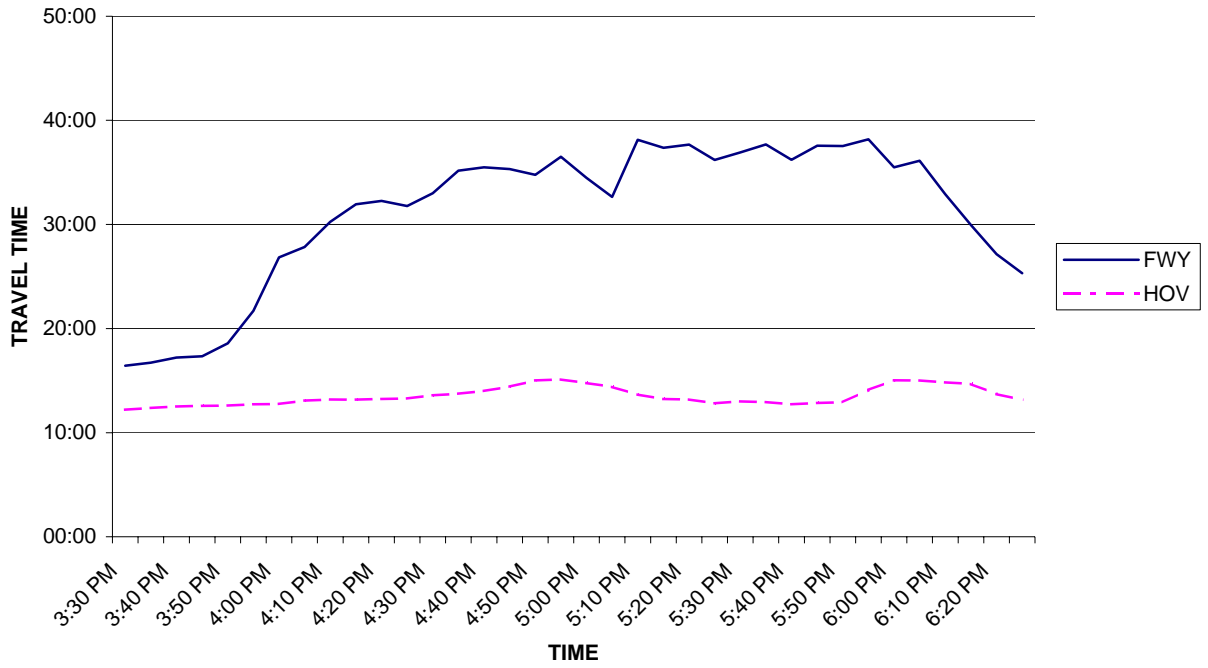
Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway Type HOV
 Direction WB
 Date

Time 03:30 PM to 06:25 PM

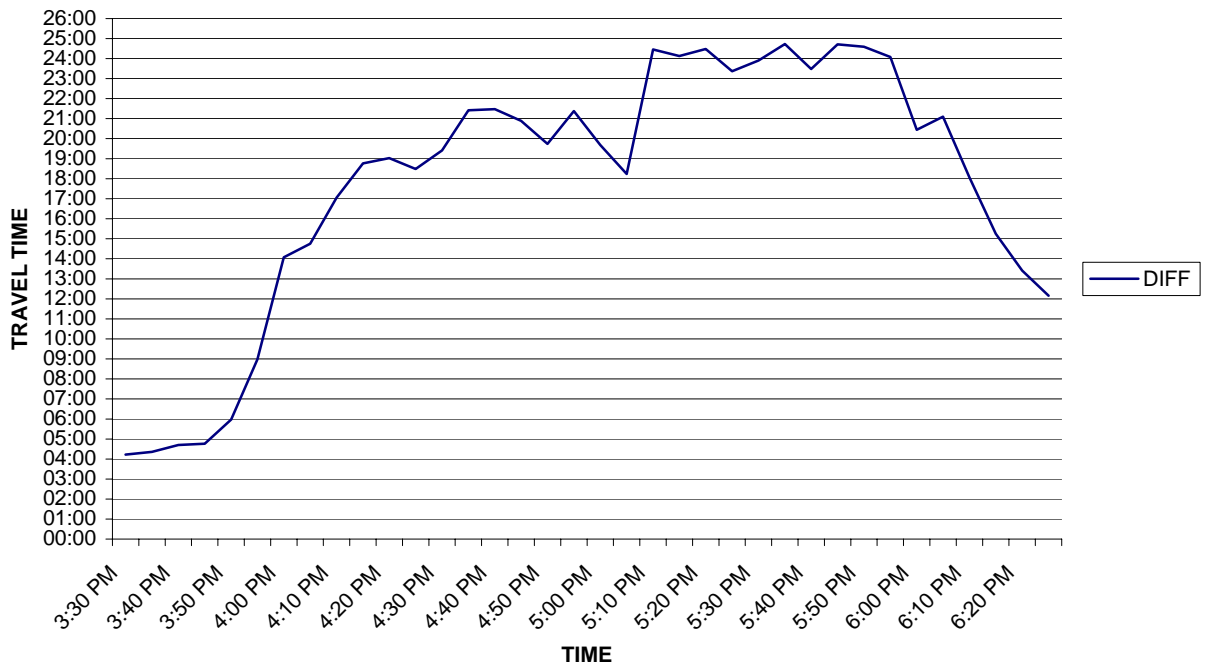
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	12.57	16:26	12:13	253.2	04:13	0.0	0:00:00
3:35 PM	12.57	16:44	12:23	261.5	04:21	1,286.6	0:21:27
3:40 PM	12.57	17:13	12:31	282.2	04:42	1,359.0	0:22:39
3:45 PM	12.57	17:21	12:35	286.0	04:46	1,420.3	0:23:40
3:50 PM	12.57	18:35	12:37	358.4	05:58	1,610.9	0:26:51
3:55 PM	12.57	21:43	12:44	538.7	08:59	2,242.8	0:37:23
4:00 PM	12.57	26:50	12:46	844.4	14:04	3,457.6	0:57:38
4:05 PM	12.57	27:50	13:05	884.9	14:45	4,323.1	1:12:03
4:10 PM	12.57	30:15	13:12	1,023.3	17:03	4,770.5	1:19:30
4:15 PM	12.57	31:56	13:10	1,125.8	18:46	5,372.8	1:29:33
4:20 PM	12.57	32:16	13:14	1,141.6	19:02	5,668.5	1:34:28
4:25 PM	12.57	31:46	13:17	1,109.1	18:29	5,626.6	1:33:47
4:30 PM	12.57	33:00	13:35	1,164.6	19:25	5,684.1	1:34:44
4:35 PM	12.57	35:10	13:45	1,285.1	21:25	6,124.3	1:42:04
4:40 PM	12.57	35:29	14:00	1,288.5	21:29	6,434.0	1:47:14
4:45 PM	12.57	35:19	14:25	1,253.7	20:54	6,355.5	1:45:56
4:50 PM	12.57	34:46	15:01	1,184.7	19:45	6,096.0	1:41:36
4:55 PM	12.57	36:30	15:07	1,283.0	21:23	6,169.3	1:42:49
5:00 PM	12.57	34:28	14:47	1,181.2	19:41	6,160.5	1:42:40
5:05 PM	12.57	32:39	14:25	1,094.4	18:14	5,689.0	1:34:49
5:10 PM	12.57	38:08	13:40	1,467.6	24:28	6,405.0	1:46:45
5:15 PM	12.57	37:22	13:14	1,447.7	24:08	7,288.3	2:01:28
5:20 PM	12.57	37:40	13:11	1,468.9	24:29	7,291.4	2:01:31
5:25 PM	12.57	36:12	12:50	1,402.3	23:22	7,177.8	1:59:38
5:30 PM	12.57	36:55	13:00	1,434.6	23:55	7,092.1	1:58:12
5:35 PM	12.57	37:41	12:57	1,483.8	24:44	7,296.0	2:01:36
5:40 PM	12.57	36:13	12:44	1,409.0	23:29	7,232.0	2:00:32
5:45 PM	12.57	37:34	12:51	1,482.9	24:43	7,229.6	2:00:30
5:50 PM	12.57	37:32	12:56	1,475.7	24:36	7,396.3	2:03:16
5:55 PM	12.57	38:11	14:06	1,444.8	24:05	7,301.1	2:01:41
6:00 PM	12.57	35:29	15:02	1,226.6	20:27	6,678.5	1:51:18
6:05 PM	12.57	36:07	15:01	1,266.1	21:06	6,231.6	1:43:52
6:10 PM	12.57	32:54	14:50	1,084.1	18:04	5,875.3	1:37:55
6:15 PM	12.57	29:56	14:41	914.8	15:15	4,997.1	1:23:17
6:20 PM	12.57	27:08	13:43	804.7	13:25	4,298.8	1:11:39
6:25 PM	12.57	25:19	13:09	729.7	12:10	3,836.0	1:03:56

	sec	dd:hh:mm:ss
MAX DIFF	1,483.8	24:44
MIN DIFF	253.2	04:13
AVG DIFF	1,066.3	17:46
STD DEV	392.4	06:32
TOT AREA	189,478.0	02:04:37:58

I- 10 KATY FREEWAY PM WB 2+ MAIN LANES SCHOOL IN 46-60 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB 2+ MAIN LANES SCHOOL IN 46-60 MINUTE INCIDENTS

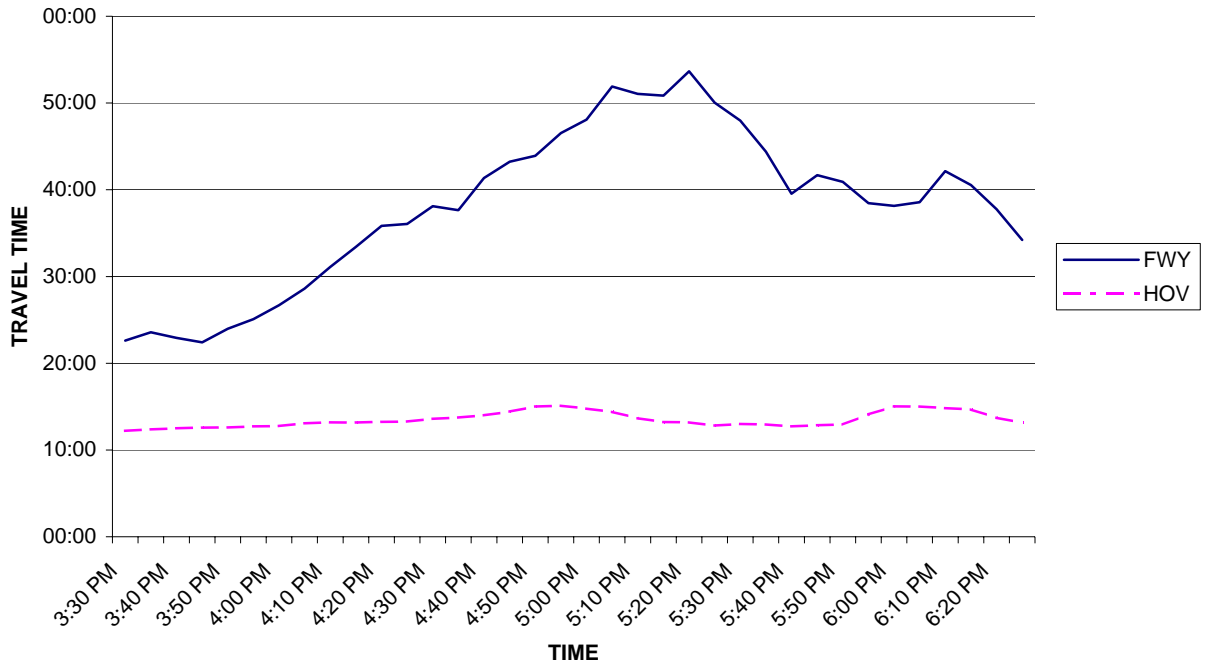


Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway Type HOV
 Direction WB
 Date
 Time 03:30 PM to 06:25 PM

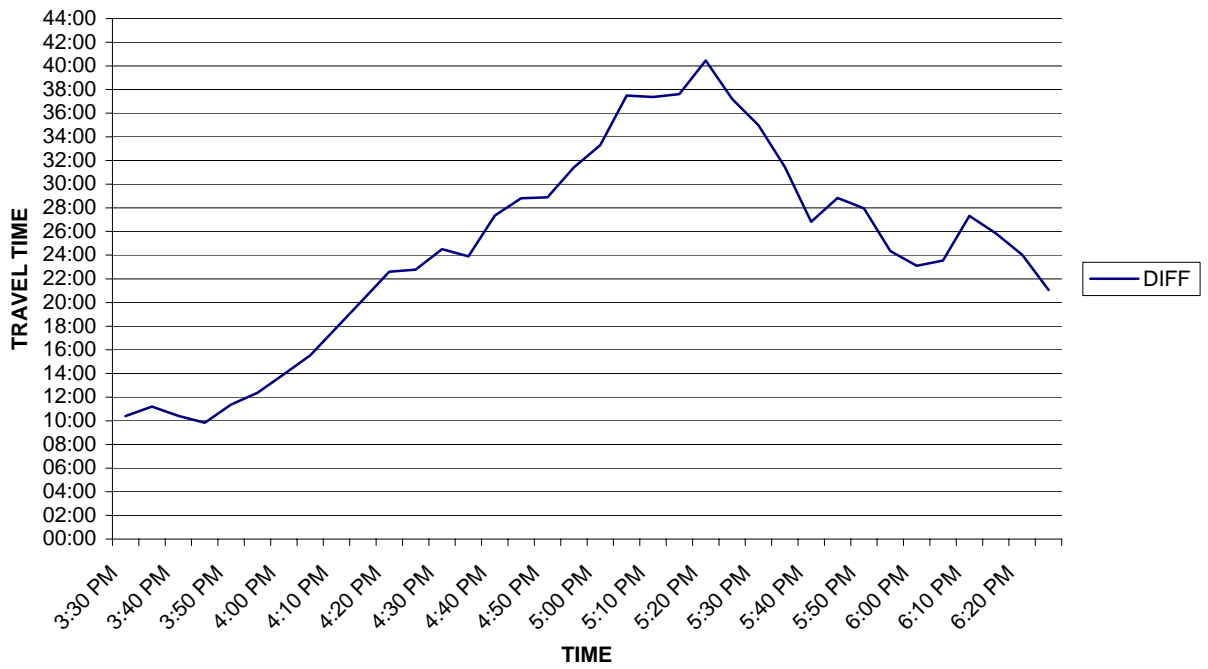
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	12.57	22:37	12:13	624.2	10:24	0.0	0:00:00
3:35 PM	12.57	23:35	12:23	672.5	11:12	3,241.6	0:54:02
3:40 PM	12.57	22:56	12:31	625.2	10:25	3,244.0	0:54:04
3:45 PM	12.57	22:25	12:35	590.0	09:50	3,037.8	0:50:38
3:50 PM	12.57	23:59	12:37	682.4	11:22	3,180.9	0:53:01
3:55 PM	12.57	25:06	12:44	741.7	12:22	3,560.3	0:59:20
4:00 PM	12.57	26:42	12:46	836.4	13:56	3,945.1	1:05:45
4:05 PM	12.57	28:37	13:05	931.9	15:32	4,420.6	1:13:41
4:10 PM	12.57	31:05	13:12	1,073.3	17:53	5,013.0	1:23:33
4:15 PM	12.57	33:25	13:10	1,214.8	20:15	5,720.3	1:35:20
4:20 PM	12.57	35:50	13:14	1,355.6	22:36	6,426.0	1:47:06
4:25 PM	12.57	36:03	13:17	1,366.1	22:46	6,804.1	1:53:24
4:30 PM	12.57	38:06	13:35	1,470.6	24:31	7,091.6	1:58:12
4:35 PM	12.57	37:39	13:45	1,434.1	23:54	7,261.8	2:01:02
4:40 PM	12.57	41:21	14:00	1,640.5	27:21	7,686.5	2:08:06
4:45 PM	12.57	43:14	14:25	1,728.7	28:49	8,423.0	2:20:23
4:50 PM	12.57	43:55	15:01	1,733.7	28:54	8,656.0	2:24:16
4:55 PM	12.57	46:32	15:07	1,885.0	31:25	9,046.8	2:30:47
5:00 PM	12.57	48:05	14:47	1,998.2	33:18	9,708.0	2:41:48
5:05 PM	12.57	51:54	14:25	2,249.4	37:29	10,619.0	2:56:59
5:10 PM	12.57	51:03	13:40	2,242.6	37:23	11,230.0	3:07:10
5:15 PM	12.57	50:51	13:14	2,256.7	37:37	11,248.3	3:07:28
5:20 PM	12.57	53:39	13:11	2,427.9	40:28	11,711.4	3:15:11
5:25 PM	12.57	50:02	12:50	2,232.3	37:12	11,650.3	3:14:10
5:30 PM	12.57	47:59	13:00	2,098.6	34:59	10,827.1	3:00:27
5:35 PM	12.57	44:24	12:57	1,886.8	31:27	9,963.5	2:46:03
5:40 PM	12.57	39:33	12:44	1,609.0	26:49	8,739.5	2:25:39
5:45 PM	12.57	41:41	12:51	1,729.9	28:50	8,347.1	2:19:07
5:50 PM	12.57	40:54	12:56	1,677.7	27:58	8,518.8	2:21:59
5:55 PM	12.57	38:27	14:06	1,460.8	24:21	7,846.1	2:10:46
6:00 PM	12.57	38:08	15:02	1,385.6	23:06	7,116.0	1:58:36
6:05 PM	12.57	38:34	15:01	1,413.1	23:33	6,996.6	1:56:37
6:10 PM	12.57	42:09	14:50	1,639.1	27:19	7,630.3	2:07:10
6:15 PM	12.57	40:32	14:41	1,550.8	25:51	7,974.6	2:12:55
6:20 PM	12.57	37:45	13:43	1,441.7	24:02	7,481.3	2:04:41
6:25 PM	12.57	34:13	13:09	1,263.7	21:04	6,763.5	1:52:43

	sec	dd:hh:mm:ss
MAX DIFF	2,427.9	40:28
MIN DIFF	590.0	09:50
AVG DIFF	1,476.9	24:37
STD DEV	525.2	08:45
TOT AREA	261,130.5	03:00:32:10

I- 10 KATY FREEWAY PM WB 2+ MAIN LANES SCHOOL OUT 0-15 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB 2+ MAIN LANES SCHOOL OUT 0-15 MINUTE INCIDENTS



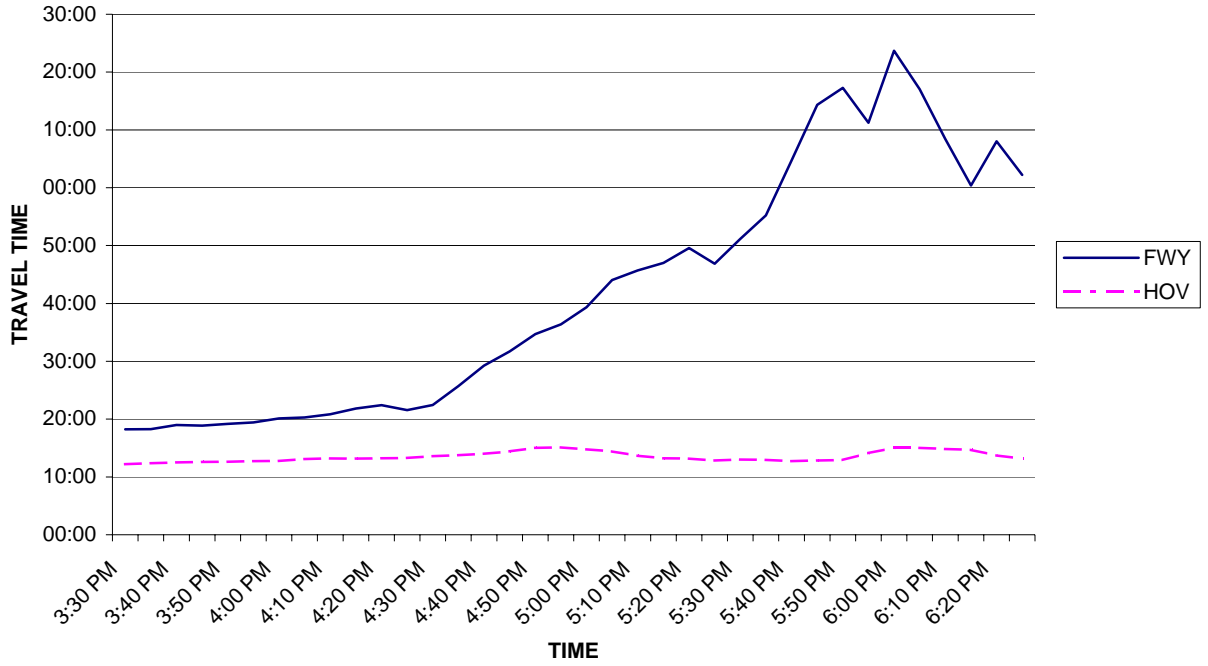
Freeway N I-10 Katy
 Limit Silber to SH 6
 Freeway T: HOV
 Direction WB
 Date

Time 03:30 PM to 06:25 PM

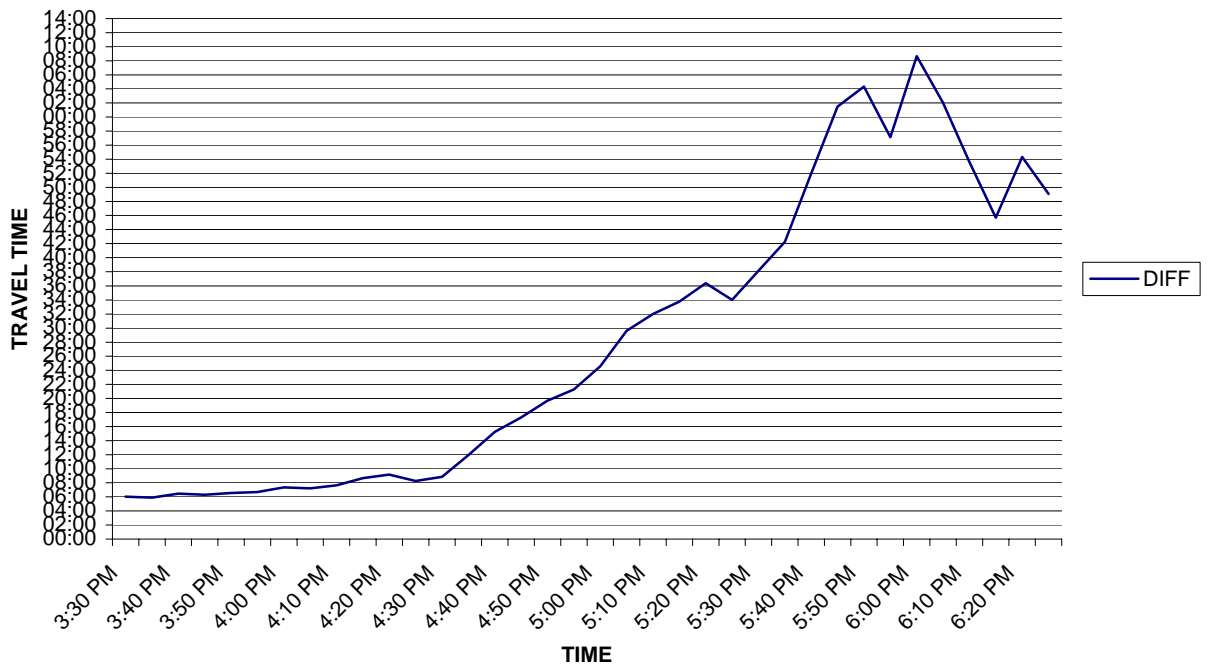
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	12.57	18:14	12:13	361.2	06:01	0.0 0:00:00
3:35 PM	12.57	18:16	12:23	353.5	05:53	1,786.6 0:29:47
3:40 PM	12.57	18:59	12:31	388.2	06:28	1,854.0 0:30:54
3:45 PM	12.57	18:53	12:35	378.0	06:18	1,915.3 0:31:55
3:50 PM	12.57	19:10	12:37	393.4	06:33	1,928.4 0:32:08
3:55 PM	12.57	19:26	12:44	401.7	06:42	1,987.8 0:33:08
4:00 PM	12.57	20:07	12:46	441.4	07:21	2,107.6 0:35:08
4:05 PM	12.57	20:18	13:05	432.9	07:13	2,185.6 0:36:26
4:10 PM	12.57	20:51	13:12	459.3	07:39	2,230.5 0:37:10
4:15 PM	12.57	21:51	13:10	520.8	08:41	2,450.3 0:40:50
4:20 PM	12.57	22:25	13:14	550.6	09:11	2,678.5 0:44:38
4:25 PM	12.57	21:33	13:17	496.1	08:16	2,616.6 0:43:37
4:30 PM	12.57	22:27	13:35	531.6	08:52	2,569.1 0:42:49
4:35 PM	12.57	25:42	13:45	717.1	11:57	3,121.8 0:52:02
4:40 PM	12.57	29:15	14:00	914.5	15:15	4,079.0 1:07:59
4:45 PM	12.57	31:43	14:25	1,037.7	17:18	4,880.5 1:21:20
4:50 PM	12.57	34:43	15:01	1,181.7	19:42	5,548.5 1:32:29
4:55 PM	12.57	36:23	15:07	1,276.0	21:16	6,144.3 1:42:24
5:00 PM	12.57	39:22	14:47	1,475.2	24:35	6,878.0 1:54:38
5:05 PM	12.57	44:03	14:25	1,778.4	29:38	8,134.0 2:15:34
5:10 PM	12.57	45:42	13:40	1,921.6	32:02	9,250.0 2:34:10
5:15 PM	12.57	47:00	13:14	2,025.7	33:46	9,868.3 2:44:28
5:20 PM	12.57	49:34	13:11	2,182.9	36:23	10,521.4 2:55:21
5:25 PM	12.57	46:51	12:50	2,041.3	34:01	10,560.3 2:56:00
5:30 PM	12.57	51:09	13:00	2,288.6	38:09	10,824.6 3:00:25
5:35 PM	12.57	55:13	12:57	2,535.8	42:16	12,061.0 3:21:01
5:40 PM	12.57	04:41	12:44	3,117.0	51:57	14,132.0 3:55:32
5:45 PM	12.57	14:21	12:51	3,689.9	01:30	17,017.1 4:43:37
5:50 PM	12.57	17:17	12:56	3,860.7	04:21	18,876.3 5:14:36
5:55 PM	12.57	11:15	14:06	3,428.8	57:09	18,223.6 5:03:44
6:00 PM	12.57	23:42	15:02	4,119.6	08:40	18,871.0 5:14:31
6:05 PM	12.57	17:03	15:01	3,722.1	02:02	19,604.1 5:26:44
6:10 PM	12.57	08:27	14:50	3,217.1	53:37	17,347.8 4:49:08
6:15 PM	12.57	00:23	14:41	2,741.8	45:42	14,897.1 4:08:17
6:20 PM	12.57	08:02	13:43	3,258.7	54:19	15,001.3 4:10:01
6:25 PM	12.57	02:13	13:09	2,943.7	49:04	15,506.0 4:18:26

	sec	dd:hh:mm:ss
MAX DIFF	4,119.6	08:40
MIN DIFF	353.5	05:53
AVG DIFF	1,699.6	28:20
STD DEV	1,261.9	21:02
TOT AREA	297,658.0	03:10:40:58

I- 10 KATY FREEWAY PM WB 2+ MAIN LANES SCHOOL OUT 16-30 MINUTE INCIDENTS



I- 10 KATY FREEWAY PM WB 2+ MAIN LANES SCHOOL OUT 16-30 MINUTE INCIDENTS

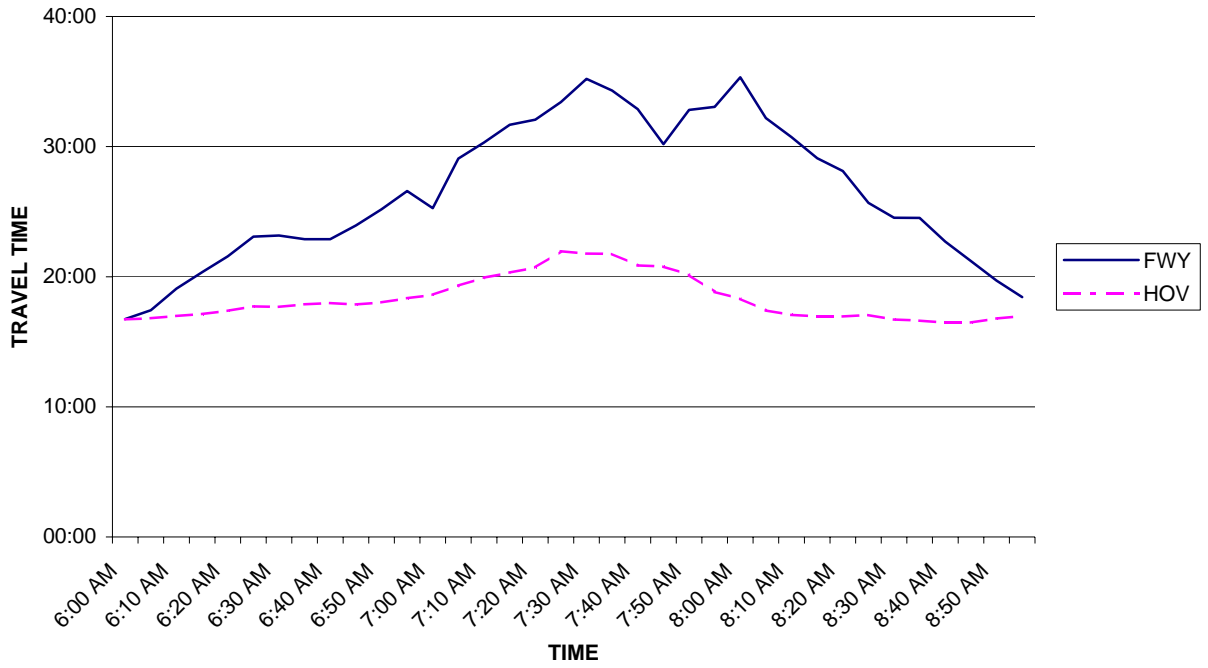


Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway Type FWY-HOV
 Direction SB
 Date
 Time 06:00 AM to 08:55 AM

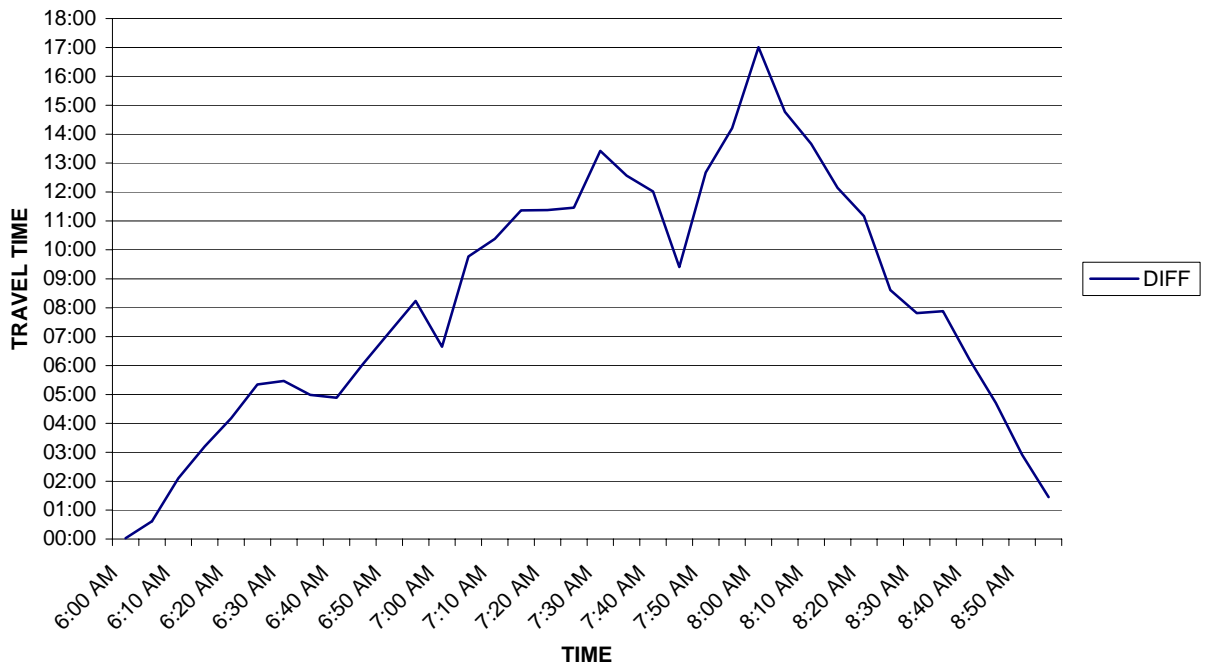
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION	SECTION AREA
Time	Distance	TravelTime	TravelTime	TravelTime	DIFF CUR	DIFF CURVE
6:00 AM	18.07	16:45	16:43	1.5	00:02	0.0 0:00:00
6:05 AM	18.07	17:26	16:49	36.8	00:37	95.8 0:01:36
6:10 AM	18.07	19:05	16:59	126.4	02:06	407.9 0:06:48
6:15 AM	18.07	20:20	17:08	192.4	03:12	797.0 0:13:17
6:20 AM	18.07	21:33	17:23	250.7	04:11	1,107.8 0:18:28
6:25 AM	18.07	23:04	17:44	320.8	05:21	1,428.6 0:23:49
6:30 AM	18.07	23:10	17:41	328.1	05:28	1,622.1 0:27:02
6:35 AM	18.07	22:52	17:53	299.2	04:59	1,568.2 0:26:08
6:40 AM	18.07	22:52	17:59	293.2	04:53	1,480.8 0:24:41
6:45 AM	18.07	23:56	17:52	363.5	06:04	1,641.7 0:27:22
6:50 AM	18.07	25:11	18:02	428.8	07:09	1,980.6 0:33:01
6:55 AM	18.07	26:35	18:21	494.2	08:14	2,307.3 0:38:27
7:00 AM	18.07	25:16	18:37	399.1	06:39	2,233.1 0:37:13
7:05 AM	18.07	29:04	19:18	586.1	09:46	2,462.9 0:41:03
7:10 AM	18.07	30:18	19:56	622.7	10:23	3,022.0 0:50:22
7:15 AM	18.07	31:40	20:19	681.8	11:22	3,261.4 0:54:21
7:20 AM	18.07	32:05	20:42	682.7	11:23	3,411.3 0:56:51
7:25 AM	18.07	33:25	21:58	687.4	11:27	3,425.2 0:57:05
7:30 AM	18.07	35:12	21:47	805.4	13:25	3,732.0 1:02:12
7:35 AM	18.07	34:18	21:45	754.0	12:34	3,898.4 1:04:58
7:40 AM	18.07	32:53	20:52	721.1	12:01	3,687.6 1:01:28
7:45 AM	18.07	30:11	20:47	564.1	09:24	3,213.0 0:53:33
7:50 AM	18.07	32:50	20:09	760.6	12:41	3,311.8 0:55:12
7:55 AM	18.07	33:03	18:51	852.6	14:13	4,032.9 1:07:13
8:00 AM	18.07	35:20	18:19	1,020.5	17:01	4,682.7 1:18:03
8:05 AM	18.07	32:12	17:25	886.3	14:46	4,767.1 1:19:27
8:10 AM	18.07	30:44	17:04	819.9	13:40	4,265.6 1:11:06
8:15 AM	18.07	29:06	16:57	728.6	12:09	3,871.2 1:04:31
8:20 AM	18.07	28:07	16:57	670.0	11:10	3,496.5 0:58:16
8:25 AM	18.07	25:41	17:04	517.0	08:37	2,967.4 0:49:27
8:30 AM	18.07	24:32	16:43	468.8	07:49	2,464.5 0:41:04
8:35 AM	18.07	24:31	16:38	473.1	07:53	2,354.8 0:39:15
8:40 AM	18.07	22:42	16:29	372.8	06:13	2,114.8 0:35:15
8:45 AM	18.07	21:11	16:29	282.6	04:43	1,638.6 0:27:19
8:50 AM	18.07	19:42	16:48	174.8	02:55	1,143.4 0:19:03
8:55 AM	18.07	18:26	16:59	86.9	01:27	654.0 0:10:54

	sec	dd:hh:mm:ss
MAX DIFF	1,020.5	17:01
MIN DIFF	1.5	00:02
AVG DIFF	493.2	08:13
STD DEV	262.4	04:22
TOT AREA	88,549.9	01:00:35:50

I- 45 NORTH FREEWAY AM SB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS



I- 45 NORTH FREEWAY AM SB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS



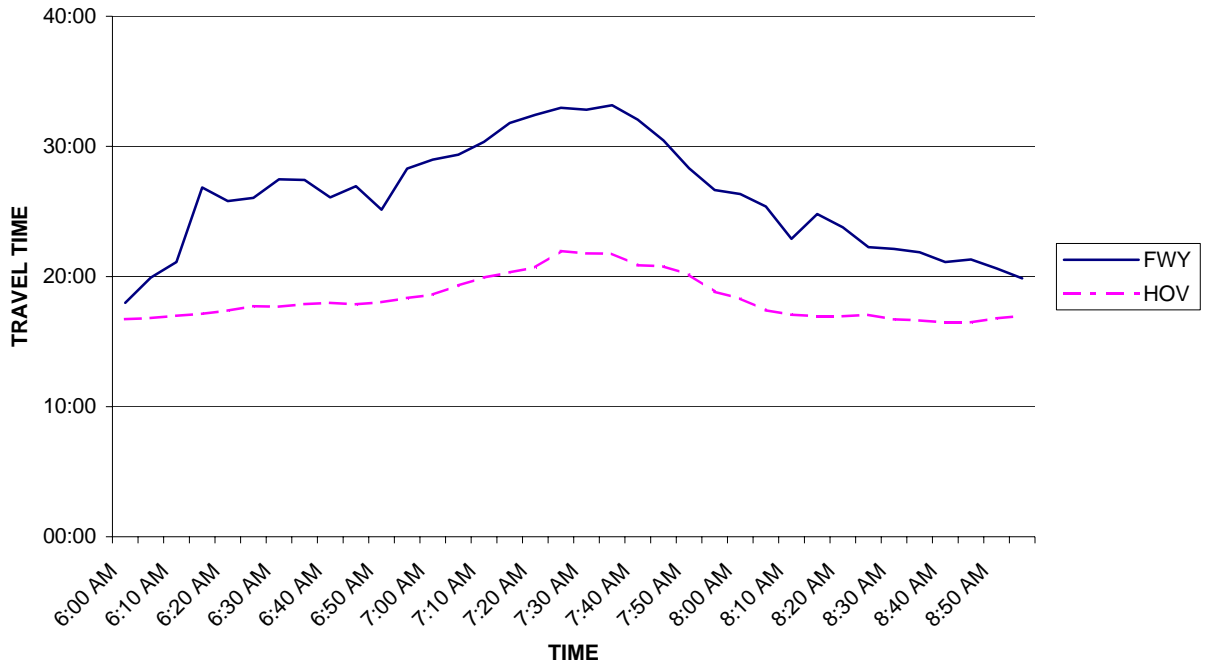
Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway Type FWY-HOV
 Direction SB
 Date

Time 06:00 AM to 08:55 AM

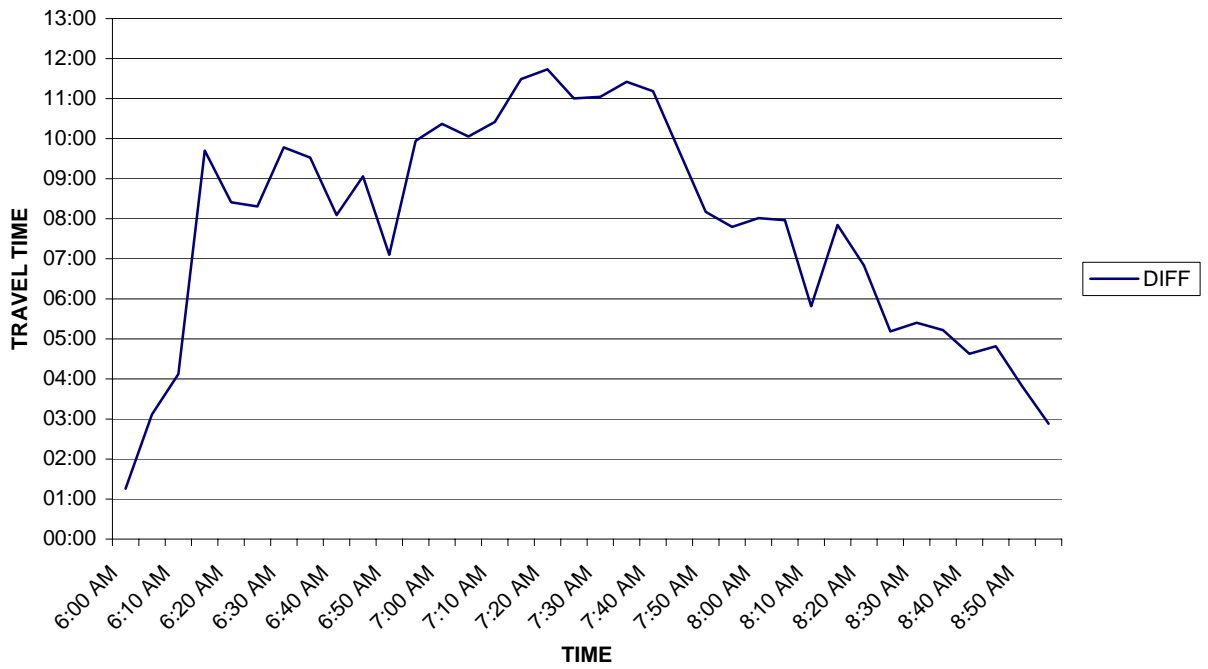
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION	SECTION AREA
Time	Distance	TravelTime	TravelTime	TravelTime	DIFF CUR	DIFF CURVE
6:00 AM	18.07	17:59	16:43	75.5	01:16	0.0 0:00:00
6:05 AM	18.07	19:56	16:49	186.8	03:07	655.8 0:10:56
6:10 AM	18.07	21:06	16:59	247.3	04:07	1,085.1 0:18:05
6:15 AM	18.07	26:50	17:08	582.1	09:42	2,073.5 0:34:33
6:20 AM	18.07	25:48	17:23	504.8	08:25	2,717.3 0:45:17
6:25 AM	18.07	26:02	17:44	498.5	08:18	2,508.1 0:41:48
6:30 AM	18.07	27:28	17:41	587.0	09:47	2,713.6 0:45:14
6:35 AM	18.07	27:25	17:53	571.7	09:32	2,896.7 0:48:17
6:40 AM	18.07	26:05	17:59	485.5	08:05	2,642.8 0:44:03
6:45 AM	18.07	26:56	17:52	543.5	09:04	2,572.4 0:42:52
6:50 AM	18.07	25:08	18:02	426.0	07:06	2,423.8 0:40:24
6:55 AM	18.07	28:18	18:21	596.8	09:57	2,556.9 0:42:37
7:00 AM	18.07	28:59	18:37	622.3	10:22	3,047.6 0:50:48
7:05 AM	18.07	29:22	19:18	603.3	10:03	3,064.0 0:51:04
7:10 AM	18.07	30:21	19:56	625.2	10:25	3,071.4 0:51:11
7:15 AM	18.07	31:48	20:19	689.3	11:29	3,286.4 0:54:46
7:20 AM	18.07	32:26	20:42	703.9	11:44	3,483.2 0:58:03
7:25 AM	18.07	32:58	21:58	660.4	11:00	3,410.8 0:56:51
7:30 AM	18.07	32:49	21:47	662.7	11:03	3,307.6 0:55:08
7:35 AM	18.07	33:10	21:45	685.2	11:25	3,369.7 0:56:10
7:40 AM	18.07	32:03	20:52	671.3	11:11	3,391.2 0:56:31
7:45 AM	18.07	30:28	20:47	580.9	09:41	3,130.5 0:52:11
7:50 AM	18.07	28:19	20:09	490.3	08:10	2,678.0 0:44:38
7:55 AM	18.07	26:39	18:51	467.7	07:48	2,394.9 0:39:55
8:00 AM	18.07	26:20	18:19	481.0	08:01	2,371.7 0:39:32
8:05 AM	18.07	25:23	17:25	477.8	07:58	2,397.1 0:39:57
8:10 AM	18.07	22:53	17:04	349.1	05:49	2,067.4 0:34:27
8:15 AM	18.07	24:48	16:57	470.6	07:51	2,049.2 0:34:09
8:20 AM	18.07	23:47	16:57	410.0	06:50	2,201.5 0:36:41
8:25 AM	18.07	22:15	17:04	311.3	05:11	1,803.1 0:30:03
8:30 AM	18.07	22:07	16:43	324.3	05:24	1,589.0 0:26:29
8:35 AM	18.07	21:51	16:38	313.3	05:13	1,594.1 0:26:34
8:40 AM	18.07	21:06	16:29	277.7	04:38	1,477.6 0:24:38
8:45 AM	18.07	21:18	16:29	289.1	04:49	1,417.1 0:23:37
8:50 AM	18.07	20:37	16:48	229.1	03:49	1,295.4 0:21:35
8:55 AM	18.07	19:52	16:59	172.9	02:53	1,004.8 0:16:45

	sec	dd:hh:mm:ss
MAX DIFF	703.9	11:44
MIN DIFF	75.5	01:16
AVG DIFF	468.7	07:49
STD DEV	168.5	02:49
TOT AREA	83,749.2	00:23:15:49

I- 45 NORTH FREEWAY AM SB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS



I- 45 NORTH FREEWAY AM SB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS

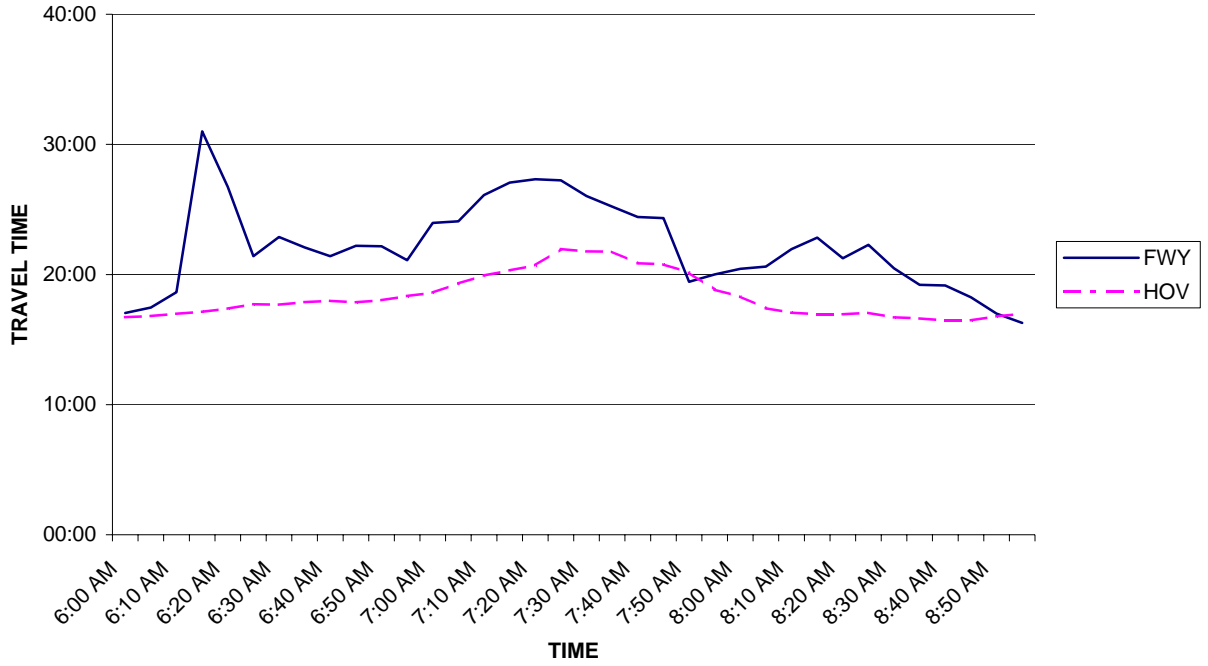


Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway T₁ FWY-HOV
 Direction SB
 Date
 Time 06:00 AM to 08:55 AM

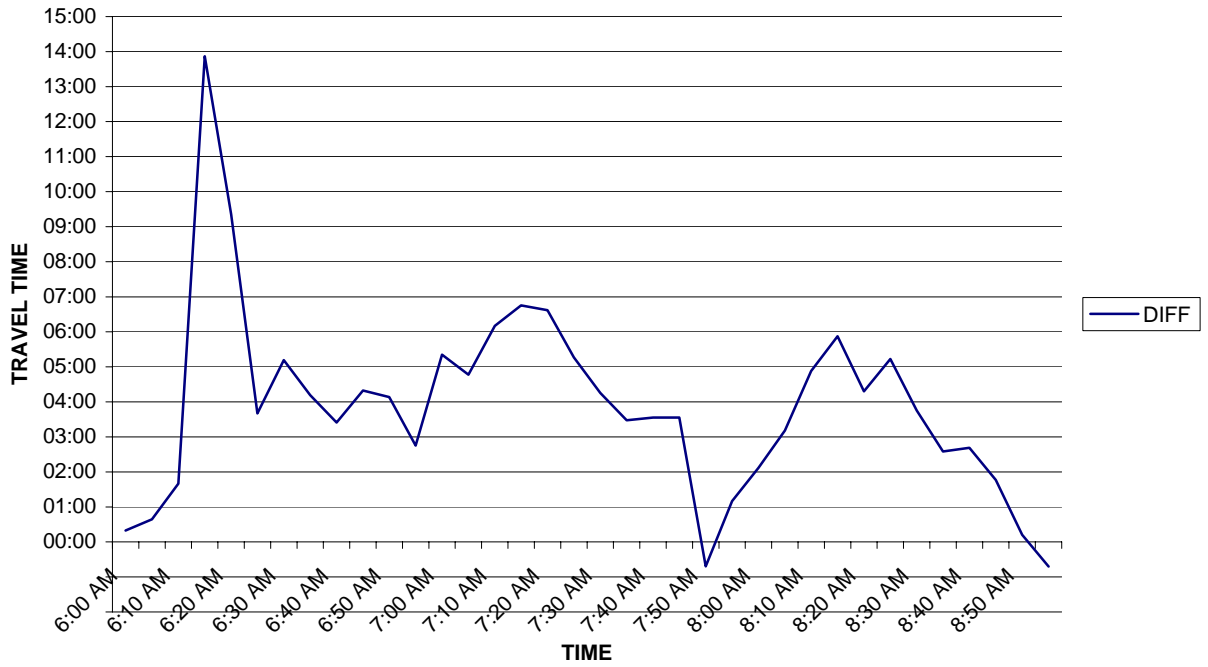
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION	SECTION AREA
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CUR\DIFF CURVE
6:00 AM	18.07	17:03	16:43	19.5	00:20	0.0 0:00:00
6:05 AM	18.07	17:28	16:49	38.8	00:39	145.8 0:02:26
6:10 AM	18.07	18:39	16:59	99.9	01:40	346.6 0:05:47
6:15 AM	18.07	31:00	17:08	831.9	13:52	2,329.5 0:38:49
6:20 AM	18.07	26:44	17:23	561.2	09:21	3,482.8 0:58:03
6:25 AM	18.07	21:24	17:44	220.3	03:40	1,953.6 0:32:34
6:30 AM	18.07	22:53	17:41	311.6	05:12	1,329.6 0:22:10
6:35 AM	18.07	22:05	17:53	251.7	04:12	1,408.2 0:23:28
6:40 AM	18.07	21:24	17:59	204.7	03:25	1,140.8 0:19:01
6:45 AM	18.07	22:12	17:52	259.5	04:20	1,160.4 0:19:20
6:50 AM	18.07	22:10	18:02	248.3	04:08	1,269.4 0:21:09
6:55 AM	18.07	21:06	18:21	165.2	02:45	1,033.5 0:17:14
7:00 AM	18.07	23:58	18:37	321.1	05:21	1,215.6 0:20:16
7:05 AM	18.07	24:05	19:18	286.6	04:47	1,519.1 0:25:19
7:10 AM	18.07	26:06	19:56	370.2	06:10	1,642.0 0:27:22
7:15 AM	18.07	27:04	20:19	405.3	06:45	1,938.9 0:32:19
7:20 AM	18.07	27:19	20:42	397.2	06:37	2,006.3 0:33:26
7:25 AM	18.07	27:14	21:58	316.4	05:16	1,783.9 0:29:44
7:30 AM	18.07	26:02	21:47	255.4	04:15	1,429.5 0:23:49
7:35 AM	18.07	25:13	21:45	208.5	03:28	1,159.7 0:19:20
7:40 AM	18.07	24:25	20:52	213.1	03:33	1,053.8 0:17:34
7:45 AM	18.07	24:20	20:47	213.1	03:33	1,065.5 0:17:46
7:50 AM	18.07	19:27	20:09	-41.9	#####	428.0 0:07:08
7:55 AM	18.07	20:01	18:51	70.1	01:10	70.4 0:01:10
8:00 AM	18.07	20:26	18:19	127.0	02:07	492.7 0:08:13
8:05 AM	18.07	20:36	17:25	190.8	03:11	794.6 0:13:15
8:10 AM	18.07	21:57	17:04	292.9	04:53	1,209.4 0:20:09
8:15 AM	18.07	22:50	16:57	352.6	05:53	1,613.7 0:26:54
8:20 AM	18.07	21:15	16:57	258.0	04:18	1,526.5 0:25:26
8:25 AM	18.07	22:17	17:04	313.5	05:13	1,428.6 0:23:49
8:30 AM	18.07	20:28	16:43	225.3	03:45	1,347.0 0:22:27
8:35 AM	18.07	19:13	16:38	155.1	02:35	951.1 0:15:51
8:40 AM	18.07	19:10	16:29	161.3	02:41	791.1 0:13:11
8:45 AM	18.07	18:15	16:29	106.1	01:46	668.6 0:11:09
8:50 AM	18.07	17:00	16:48	12.3	00:12	295.9 0:04:56
8:55 AM	18.07	16:17	16:59	-42.1	#####	-74.7 #####

	sec	dd:hh:mm:ss
MAX DIFF	831.9	13:52
MIN DIFF	-42.1	#####
AVG DIFF	232.8	03:53
STD DEV	166.2	02:46
TOT AREA	41,957.4	00:11:39:17

I- 45 NORTH FREEWAY AM SB SHOULDER SCHOOL IN 46-60 MINUTE INCIDENTS



I- 45 NORTH FREEWAY AM SB SHOULDER SCHOOL IN 46-60 MINUTE INCIDENTS



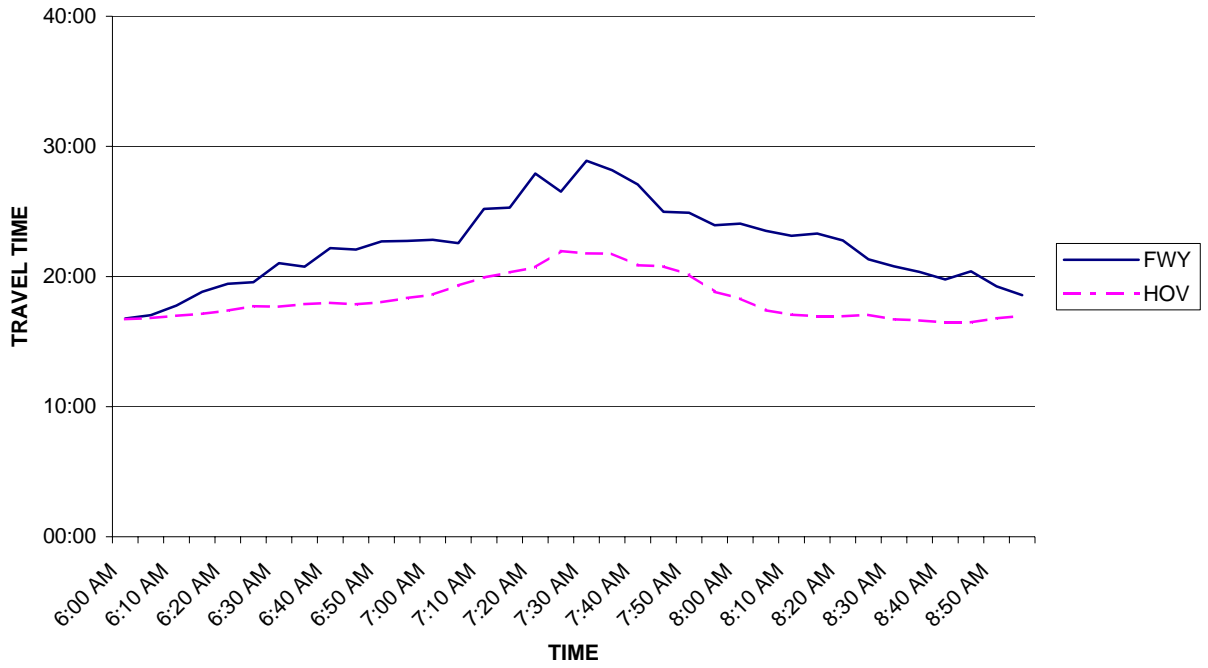
Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway Type FWY-HOV
 Direction SB
 Date

Time 06:00 AM to 08:55 AM

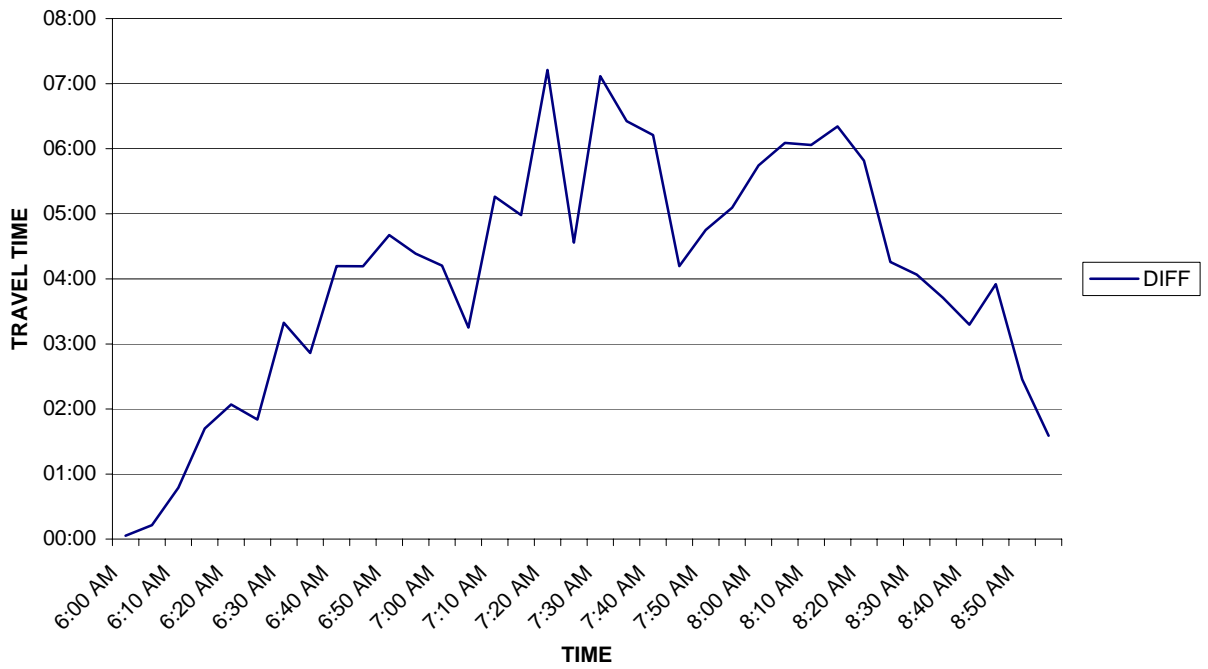
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION	SECTION AREA
Time	Distance	TravelTime	TravelTime	TravelTime	DIFF CUR	DIFF CURVE
6:00 AM	18.07	16:46	16:43	3.0	00:03	0.0 0:00:00
6:05 AM	18.07	17:02	16:49	12.8	00:13	39.5 0:00:40
6:10 AM	18.07	17:46	16:59	47.4	00:47	150.4 0:02:30
6:15 AM	18.07	18:50	17:08	101.9	01:42	373.2 0:06:13
6:20 AM	18.07	19:27	17:23	124.2	02:04	565.3 0:09:25
6:25 AM	18.07	19:34	17:44	110.3	01:50	586.1 0:09:46
6:30 AM	18.07	21:01	17:41	199.6	03:20	774.6 0:12:55
6:35 AM	18.07	20:45	17:53	171.7	02:52	928.2 0:15:28
6:40 AM	18.07	22:11	17:59	251.7	04:12	1,058.3 0:17:38
6:45 AM	18.07	22:04	17:52	251.5	04:12	1,257.9 0:20:58
6:50 AM	18.07	22:42	18:02	280.3	04:40	1,329.4 0:22:09
6:55 AM	18.07	22:44	18:21	263.2	04:23	1,358.5 0:22:39
7:00 AM	18.07	22:49	18:37	252.1	04:12	1,288.1 0:21:28
7:05 AM	18.07	22:33	19:18	195.1	03:15	1,117.9 0:18:38
7:10 AM	18.07	25:12	19:56	315.7	05:16	1,277.0 0:21:17
7:15 AM	18.07	25:17	20:19	298.8	04:59	1,536.4 0:25:36
7:20 AM	18.07	27:55	20:42	432.7	07:13	1,828.8 0:30:29
7:25 AM	18.07	26:31	21:58	273.4	04:33	1,765.2 0:29:25
7:30 AM	18.07	28:54	21:47	426.9	07:07	1,750.7 0:29:11
7:35 AM	18.07	28:10	21:45	385.5	06:25	2,030.9 0:33:51
7:40 AM	18.07	27:04	20:52	372.6	06:13	1,895.1 0:31:35
7:45 AM	18.07	24:59	20:47	251.6	04:12	1,560.5 0:26:01
7:50 AM	18.07	24:54	20:09	285.1	04:45	1,341.8 0:22:22
7:55 AM	18.07	23:56	18:51	305.6	05:06	1,476.6 0:24:37
8:00 AM	18.07	24:04	18:19	344.5	05:45	1,625.2 0:27:05
8:05 AM	18.07	23:30	17:25	365.3	06:05	1,774.6 0:29:35
8:10 AM	18.07	23:08	17:04	363.4	06:03	1,821.9 0:30:22
8:15 AM	18.07	23:18	16:57	380.6	06:21	1,860.0 0:31:00
8:20 AM	18.07	22:46	16:57	349.0	05:49	1,824.0 0:30:24
8:25 AM	18.07	21:19	17:04	255.5	04:15	1,511.1 0:25:11
8:30 AM	18.07	20:46	16:43	243.8	04:04	1,248.2 0:20:48
8:35 AM	18.07	20:20	16:38	222.6	03:43	1,166.1 0:19:26
8:40 AM	18.07	19:46	16:29	197.8	03:18	1,051.1 0:17:31
8:45 AM	18.07	20:24	16:29	235.1	03:55	1,082.4 0:18:02
8:50 AM	18.07	19:15	16:48	147.3	02:27	955.9 0:15:56
8:55 AM	18.07	18:34	16:59	95.4	01:35	606.5 0:10:07

	sec	dd:hh:mm:ss
MAX DIFF	432.7	07:13
MIN DIFF	3.0	00:03
AVG DIFF	244.8	04:05
STD DEV	111.8	01:52
TOT AREA	43,817.4	00:12:10:17

I- 45 NORTH FREEWAY AM SB SHOULDER SCHOOL OUT 16-30 MINUTE INCIDENTS



I- 45 NORTH FREEWAY AM SB SHOULDER SCHOOL OUT 16-30 MINUTE INCIDENTS



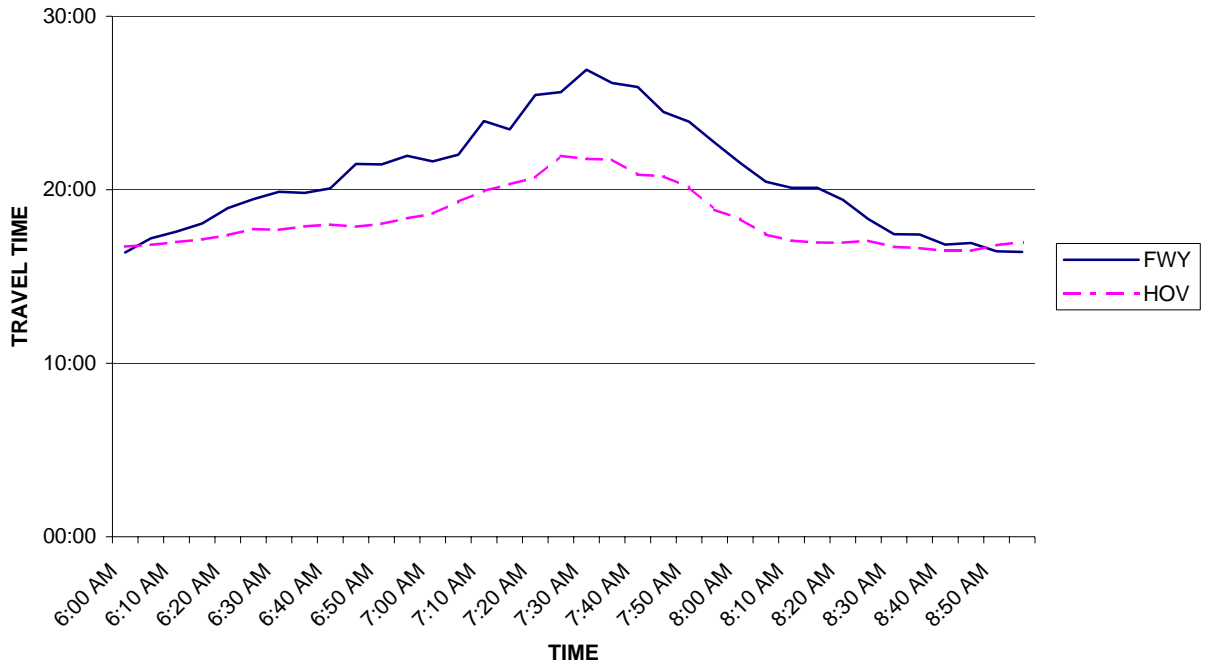
Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway Type FWY-HOV
 Direction SB
 Date

Time 06:00 AM to 08:55 AM

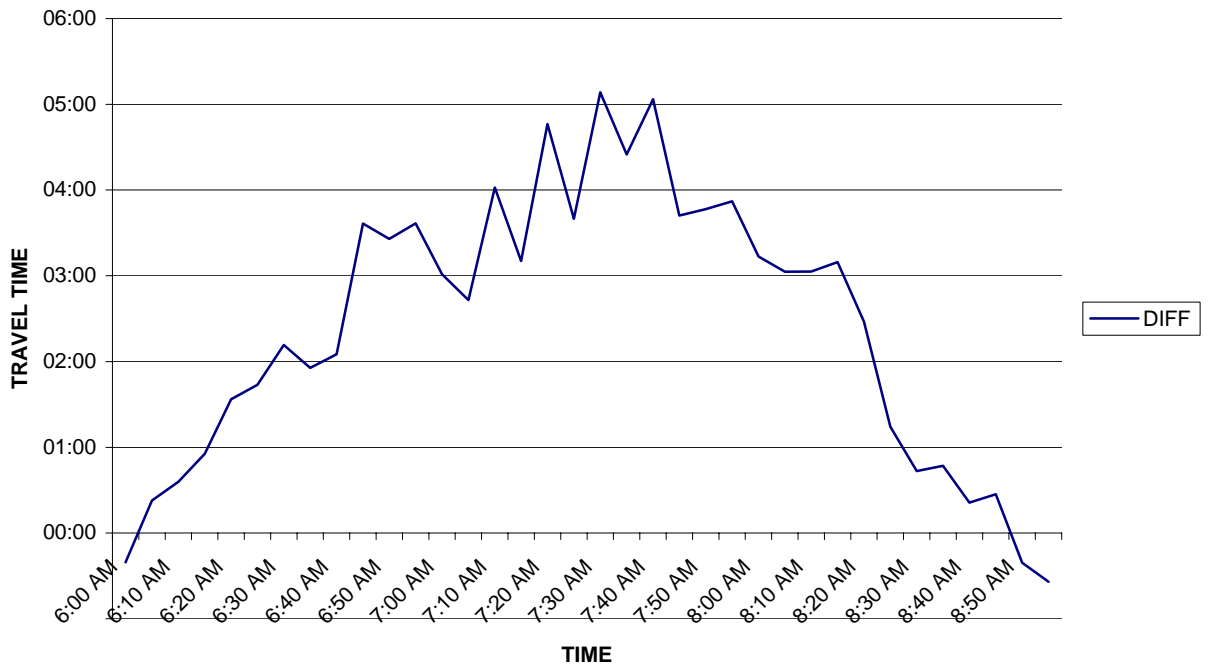
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION	SECTION AREA
Time	Distance	TravelTime	TravelTime	TravelTime	DIFF CUR	DIFF CURVE
6:00 AM	18.07	16:23	16:43	-20.5	#####	0.0 0:00:00
6:05 AM	18.07	17:12	16:49	22.8	00:23	5.8 0:00:06
6:10 AM	18.07	17:35	16:59	35.9	00:36	146.6 0:02:27
6:15 AM	18.07	18:03	17:08	55.4	00:55	228.2 0:03:48
6:20 AM	18.07	18:56	17:23	93.7	01:34	372.8 0:06:13
6:25 AM	18.07	19:27	17:44	103.8	01:44	493.6 0:08:14
6:30 AM	18.07	19:53	17:41	131.6	02:12	588.4 0:09:48
6:35 AM	18.07	19:49	17:53	115.7	01:56	618.2 0:10:18
6:40 AM	18.07	20:05	17:59	125.2	02:05	602.1 0:10:02
6:45 AM	18.07	21:29	17:52	216.5	03:37	854.2 0:14:14
6:50 AM	18.07	21:27	18:02	205.8	03:26	1,055.6 0:17:36
6:55 AM	18.07	21:57	18:21	216.7	03:37	1,056.0 0:17:36
7:00 AM	18.07	21:38	18:37	181.1	03:01	994.3 0:16:34
7:05 AM	18.07	22:01	19:18	163.1	02:43	860.4 0:14:20
7:10 AM	18.07	23:57	19:56	241.7	04:02	1,012.0 0:16:52
7:15 AM	18.07	23:29	20:19	190.3	03:10	1,080.1 0:18:00
7:20 AM	18.07	25:28	20:42	286.2	04:46	1,191.3 0:19:51
7:25 AM	18.07	25:37	21:58	219.9	03:40	1,265.2 0:21:05
7:30 AM	18.07	26:55	21:47	308.4	05:08	1,320.7 0:22:01
7:35 AM	18.07	26:10	21:45	265.0	04:25	1,433.4 0:23:53
7:40 AM	18.07	25:56	20:52	303.6	05:04	1,421.3 0:23:41
7:45 AM	18.07	24:29	20:47	222.1	03:42	1,314.3 0:21:54
7:50 AM	18.07	23:55	20:09	226.6	03:47	1,121.8 0:18:42
7:55 AM	18.07	22:43	18:51	232.1	03:52	1,146.6 0:19:07
8:00 AM	18.07	21:32	18:19	193.5	03:14	1,063.9 0:17:44
8:05 AM	18.07	20:28	17:25	182.8	03:03	940.9 0:15:41
8:10 AM	18.07	20:07	17:04	182.9	03:03	914.4 0:15:14
8:15 AM	18.07	20:07	16:57	189.6	03:10	931.2 0:15:31
8:20 AM	18.07	19:25	16:57	148.0	02:28	844.0 0:14:04
8:25 AM	18.07	18:18	17:04	74.5	01:14	556.1 0:09:16
8:30 AM	18.07	17:26	16:43	43.3	00:43	294.5 0:04:54
8:35 AM	18.07	17:25	16:38	47.1	00:47	226.1 0:03:46
8:40 AM	18.07	16:50	16:29	21.3	00:21	171.1 0:02:51
8:45 AM	18.07	16:56	16:29	27.1	00:27	121.1 0:02:01
8:50 AM	18.07	16:27	16:48	-20.8	#####	15.9 0:00:16
8:55 AM	18.07	16:25	16:59	-34.1	#####	-137.2 #####

	sec	dd:hh:mm:ss
MAX DIFF	308.4	05:08
MIN DIFF	-34.1	#####
AVG DIFF	144.4	02:24
STD DEV	96.8	01:37
TOT AREA	26,124.9	00:07:15:25

I- 45 NORTH FREEWAY AM SB SHOULDER SCHOOL OUT 61+ MINUTE INCIDENTS



I- 45 NORTH FREEWAY AM SB SHOULDER SCHOOL OUT 61+ MINUTE INCIDENTS



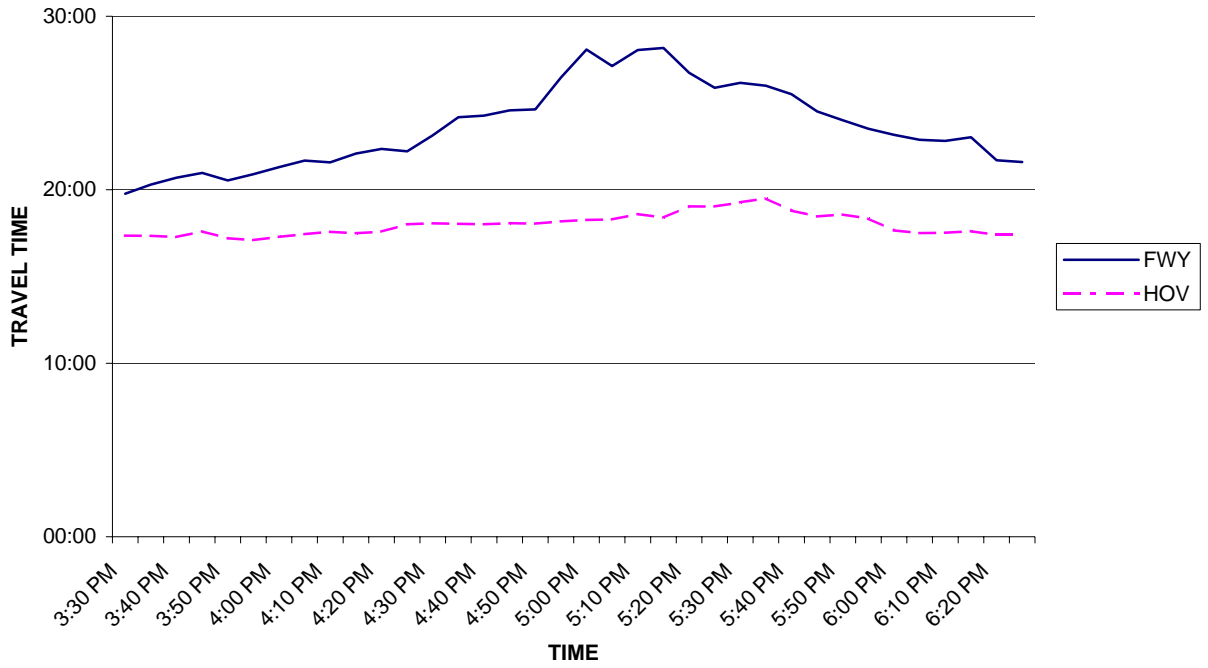
Freeway N I-45 North
 Limit Quitman to FM 1960
 Freeway Type FWY-HOV
 Direction NB
 Date

Time 03:30 PM to 06:25 PM

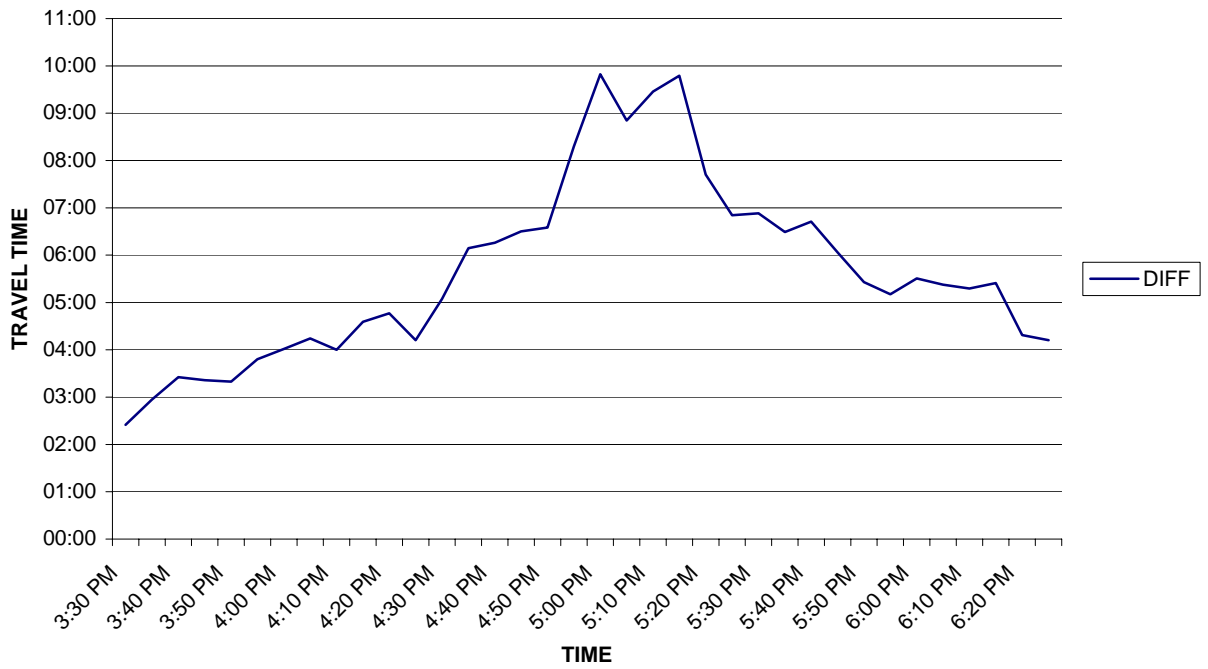
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	18.07	19:46	17:21	145.0	02:25	0.0	0:00:00
3:35 PM	18.07	20:18	17:21	176.9	02:57	804.7	0:13:25
3:40 PM	18.07	20:42	17:16	205.5	03:25	956.0	0:15:56
3:45 PM	18.07	20:58	17:36	201.6	03:22	1,017.6	0:16:58
3:50 PM	18.07	20:32	17:12	199.6	03:20	1,003.0	0:16:43
3:55 PM	18.07	20:54	17:06	228.2	03:48	1,069.7	0:17:50
4:00 PM	18.07	21:18	17:17	241.2	04:01	1,173.6	0:19:34
4:05 PM	18.07	21:41	17:26	254.4	04:14	1,239.1	0:20:39
4:10 PM	18.07	21:35	17:34	240.2	04:00	1,236.5	0:20:36
4:15 PM	18.07	22:05	17:30	275.7	04:36	1,289.6	0:21:30
4:20 PM	18.07	22:21	17:35	286.3	04:46	1,405.0	0:23:25
4:25 PM	18.07	22:13	18:01	252.3	04:12	1,346.6	0:22:27
4:30 PM	18.07	23:08	18:04	304.6	05:05	1,392.4	0:23:12
4:35 PM	18.07	24:11	18:02	368.9	06:09	1,683.8	0:28:04
4:40 PM	18.07	24:16	18:01	375.7	06:16	1,861.4	0:31:01
4:45 PM	18.07	24:35	18:05	390.0	06:30	1,914.3	0:31:54
4:50 PM	18.07	24:38	18:03	395.0	06:35	1,962.5	0:32:43
4:55 PM	18.07	26:28	18:11	497.8	08:18	2,231.9	0:37:12
5:00 PM	18.07	28:05	18:16	589.4	09:49	2,718.0	0:45:18
5:05 PM	18.07	27:08	18:17	530.9	08:51	2,800.6	0:46:41
5:10 PM	18.07	28:03	18:36	567.6	09:28	2,746.0	0:45:46
5:15 PM	18.07	28:11	18:23	587.7	09:48	2,888.1	0:48:08
5:20 PM	18.07	26:45	19:02	462.2	07:42	2,624.7	0:43:45
5:25 PM	18.07	25:53	19:02	410.6	06:51	2,182.1	0:36:22
5:30 PM	18.07	26:10	19:17	413.1	06:53	2,059.4	0:34:19
5:35 PM	18.07	26:00	19:30	389.3	06:29	2,006.2	0:33:26
5:40 PM	18.07	25:30	18:48	402.4	06:42	1,979.3	0:32:59
5:45 PM	18.07	24:31	18:28	363.5	06:03	1,914.7	0:31:55
5:50 PM	18.07	24:00	18:34	325.9	05:26	1,723.3	0:28:43
5:55 PM	18.07	23:31	18:20	310.5	05:11	1,590.9	0:26:31
6:00 PM	18.07	23:10	17:40	330.7	05:31	1,603.0	0:26:43
6:05 PM	18.07	22:53	17:30	322.6	05:23	1,633.3	0:27:13
6:10 PM	18.07	22:49	17:31	317.8	05:18	1,601.1	0:26:41
6:15 PM	18.07	23:01	17:37	324.7	05:25	1,606.4	0:26:46
6:20 PM	18.07	21:42	17:23	258.7	04:19	1,458.6	0:24:19
6:25 PM	18.07	21:36	17:23	252.2	04:12	1,277.3	0:21:17

	sec	dd:hh:mm:ss
MAX DIFF	589.4	09:49
MIN DIFF	145.0	02:25
AVG DIFF	338.9	05:39
STD DEV	115.9	01:56
TOT AREA	60,000.8	00:16:40:01

I- 45 NORTH FREEWAY PM NB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS



I- 45 NORTH FREEWAY PM NB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS



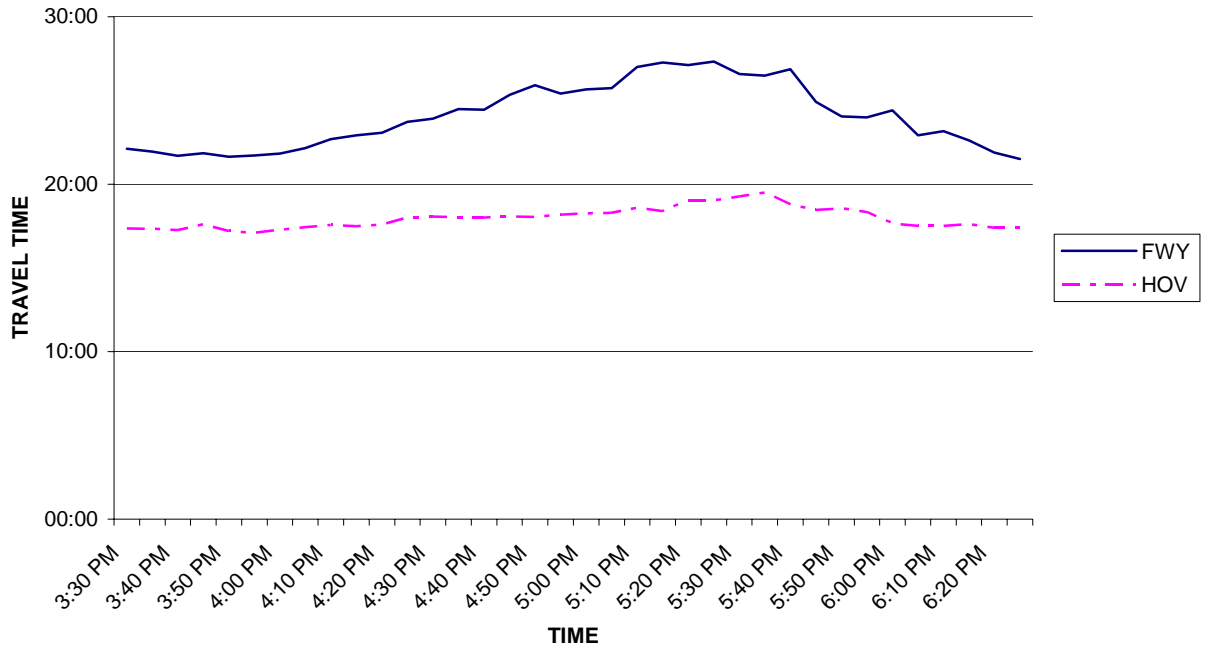
Freeway N I-45 North
 Limit Quitman to FM 1960
 Freeway T: FWY-HOV
 Direction NB
 Date

Time 03:30 PM to 06:25 PM

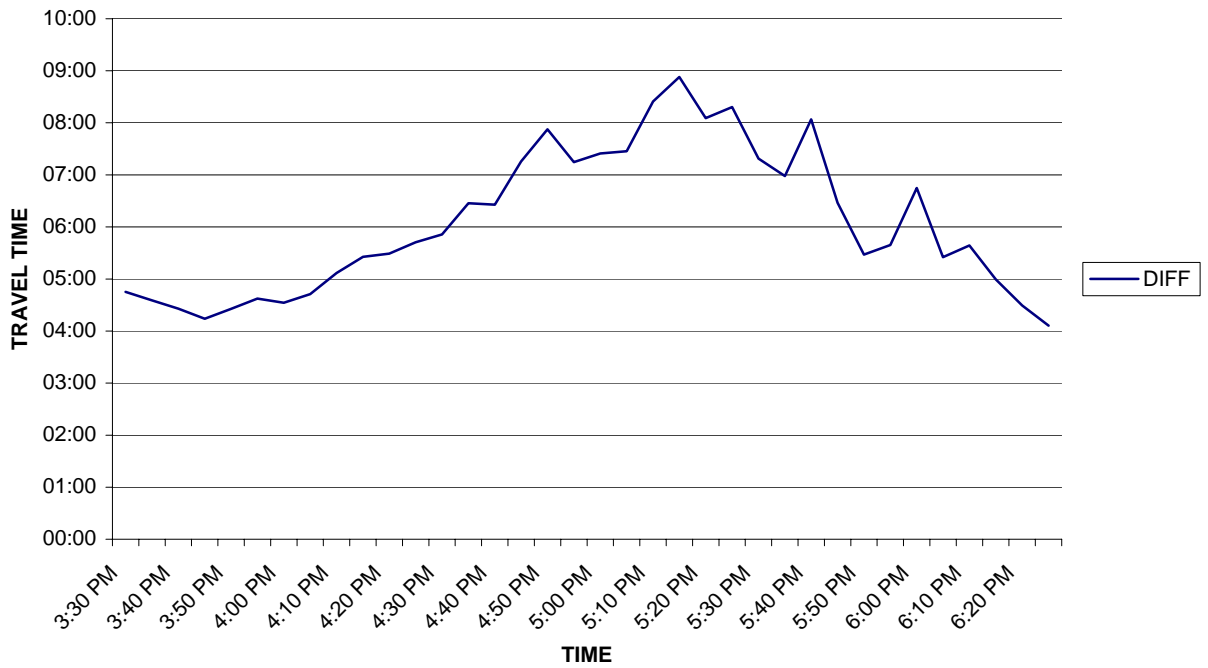
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	18.07	22:07	17:21	285.2	04:45	0.0	0:00:00
3:35 PM	18.07	21:56	17:21	275.5	04:35	1,401.7	0:23:22
3:40 PM	18.07	21:42	17:16	265.9	04:26	1,353.4	0:22:33
3:45 PM	18.07	21:51	17:36	254.3	04:14	1,300.3	0:21:40
3:50 PM	18.07	21:38	17:12	265.6	04:26	1,299.7	0:21:40
3:55 PM	18.07	21:43	17:06	277.6	04:38	1,358.0	0:22:38
4:00 PM	18.07	21:50	17:17	272.7	04:33	1,375.6	0:22:56
4:05 PM	18.07	22:09	17:26	282.6	04:43	1,388.2	0:23:08
4:10 PM	18.07	22:41	17:34	306.9	05:07	1,473.8	0:24:34
4:15 PM	18.07	22:55	17:30	325.5	05:25	1,580.9	0:26:21
4:20 PM	18.07	23:04	17:35	329.1	05:29	1,636.5	0:27:16
4:25 PM	18.07	23:43	18:01	342.3	05:42	1,678.6	0:27:59
4:30 PM	18.07	23:55	18:04	351.2	05:51	1,733.9	0:28:54
4:35 PM	18.07	24:29	18:02	387.2	06:27	1,846.1	0:30:46
4:40 PM	18.07	24:26	18:01	385.6	06:26	1,932.1	0:32:12
4:45 PM	18.07	25:20	18:05	435.4	07:15	2,052.6	0:34:13
4:50 PM	18.07	25:55	18:03	472.5	07:53	2,269.8	0:37:50
4:55 PM	18.07	25:25	18:11	434.7	07:15	2,268.1	0:37:48
5:00 PM	18.07	25:40	18:16	444.7	07:25	2,198.7	0:36:39
5:05 PM	18.07	25:45	18:17	447.3	07:27	2,230.0	0:37:10
5:10 PM	18.07	27:01	18:36	504.7	08:25	2,380.0	0:39:40
5:15 PM	18.07	27:16	18:23	532.9	08:53	2,594.2	0:43:14
5:20 PM	18.07	27:08	19:02	485.4	08:05	2,545.8	0:42:26
5:25 PM	18.07	27:20	19:02	498.1	08:18	2,458.8	0:40:59
5:30 PM	18.07	26:35	19:17	438.7	07:19	2,342.2	0:39:02
5:35 PM	18.07	26:29	19:30	418.6	06:59	2,143.3	0:35:43
5:40 PM	18.07	26:52	18:48	484.0	08:04	2,256.5	0:37:36
5:45 PM	18.07	24:55	18:28	387.8	06:28	2,179.5	0:36:19
5:50 PM	18.07	24:02	18:34	328.0	05:28	1,789.5	0:29:49
5:55 PM	18.07	24:00	18:20	339.2	05:39	1,667.9	0:27:48
6:00 PM	18.07	24:24	17:40	404.8	06:45	1,860.0	0:31:00
6:05 PM	18.07	22:55	17:30	325.2	05:25	1,825.0	0:30:25
6:10 PM	18.07	23:10	17:31	338.5	05:38	1,659.1	0:27:39
6:15 PM	18.07	22:36	17:37	299.7	05:00	1,595.4	0:26:35
6:20 PM	18.07	21:53	17:23	269.5	04:30	1,422.9	0:23:43
6:25 PM	18.07	21:30	17:23	246.3	04:06	1,289.4	0:21:29

	sec	dd:hh:mm:ss
MAX DIFF	532.9	08:53
MIN DIFF	246.3	04:06
AVG DIFF	365.1	06:05
STD DEV	84.2	01:24
TOT AREA	64,387.3	00:17:53:07

I- 45 NORTH FREEWAY AM NB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS



I- 45 NORTH FREEWAY PM NB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS



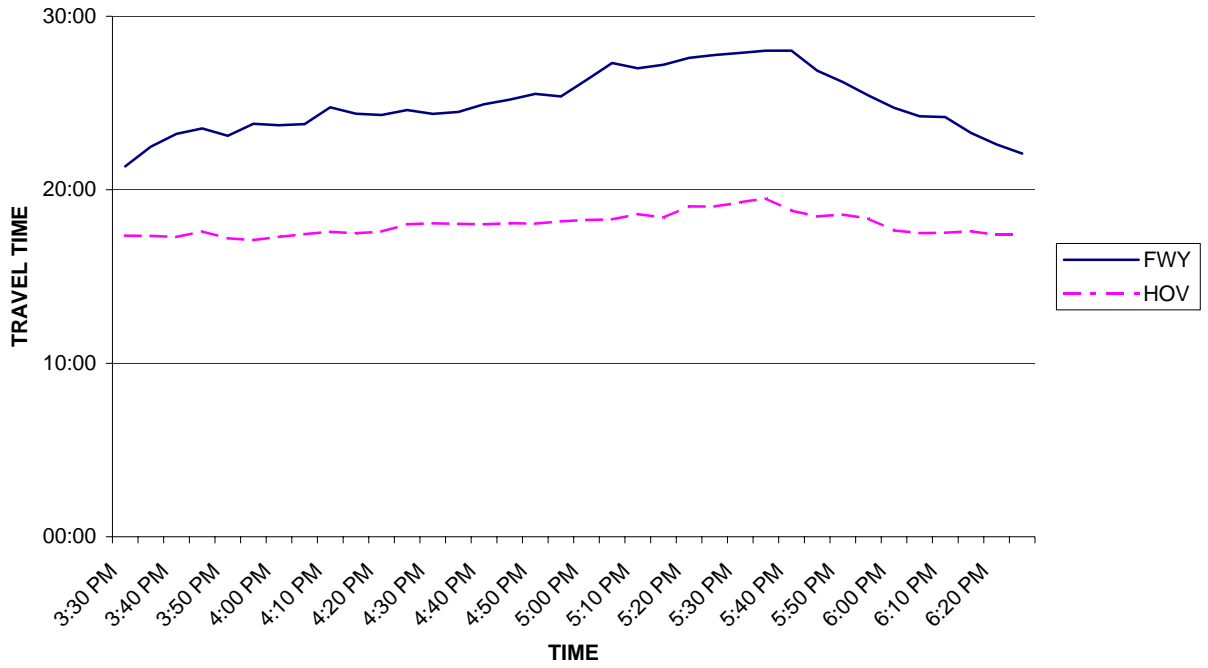
Freeway N I-45 North
 Limit Quitman to FM 1960
 Freeway T: FWY-HOV
 Direction NB
 Date

Time 03:30 PM to 06:25 PM

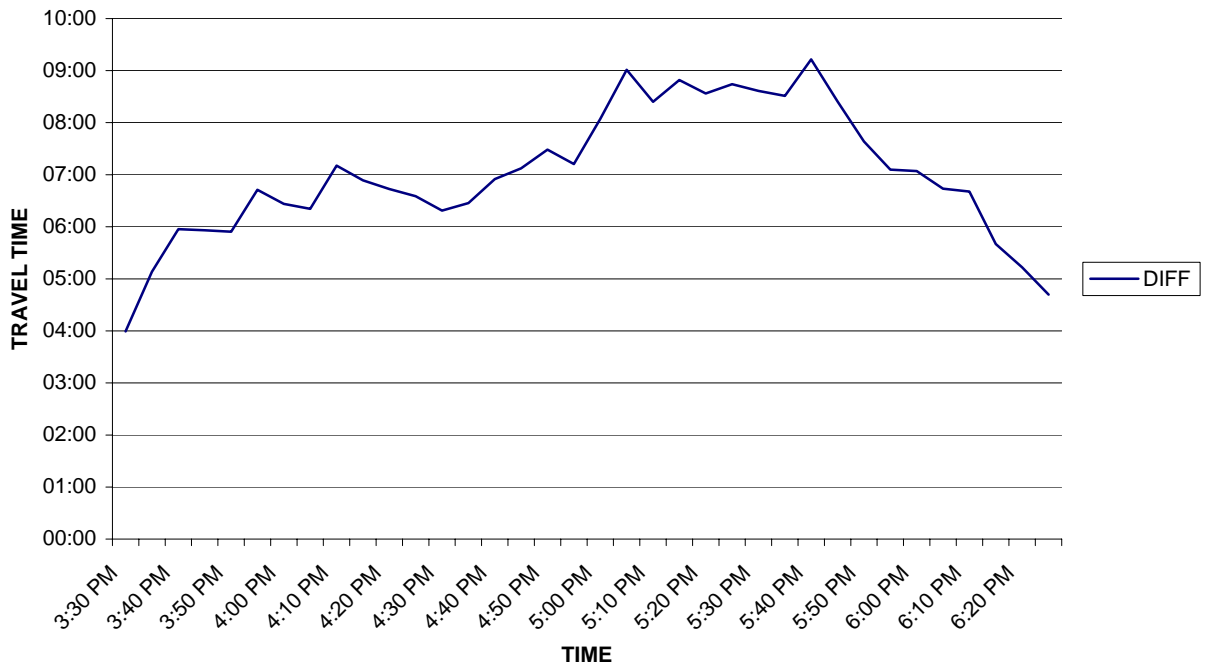
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
3:30 PM	18.07	21:21	17:21	239.6	04:00	0.0	0:00:00
3:35 PM	18.07	22:29	17:21	308.1	05:08	1,369.2	0:22:49
3:40 PM	18.07	23:13	17:16	357.2	05:57	1,663.4	0:27:43
3:45 PM	18.07	23:32	17:36	355.9	05:56	1,782.8	0:29:43
3:50 PM	18.07	23:07	17:12	354.3	05:54	1,775.5	0:29:36
3:55 PM	18.07	23:48	17:06	402.6	06:43	1,892.2	0:31:32
4:00 PM	18.07	23:43	17:17	386.3	06:26	1,972.2	0:32:52
4:05 PM	18.07	23:47	17:26	380.6	06:21	1,917.4	0:31:57
4:10 PM	18.07	24:45	17:34	430.6	07:11	2,028.0	0:33:48
4:15 PM	18.07	24:23	17:30	413.5	06:53	2,110.1	0:35:10
4:20 PM	18.07	24:18	17:35	403.5	06:43	2,042.3	0:34:02
4:25 PM	18.07	24:36	18:01	395.3	06:35	1,996.9	0:33:17
4:30 PM	18.07	24:22	18:04	378.6	06:19	1,934.7	0:32:15
4:35 PM	18.07	24:29	18:02	387.2	06:27	1,914.4	0:31:54
4:40 PM	18.07	24:56	18:01	415.0	06:55	2,005.4	0:33:25
4:45 PM	18.07	25:12	18:05	427.4	07:07	2,106.0	0:35:06
4:50 PM	18.07	25:32	18:03	448.8	07:29	2,190.7	0:36:31
4:55 PM	18.07	25:23	18:11	432.4	07:12	2,203.1	0:36:43
5:00 PM	18.07	26:20	18:16	484.4	08:04	2,292.0	0:38:12
5:05 PM	18.07	27:18	18:17	540.9	09:01	2,563.3	0:42:43
5:10 PM	18.07	27:00	18:36	504.1	08:24	2,612.5	0:43:32
5:15 PM	18.07	27:12	18:23	529.3	08:49	2,583.3	0:43:03
5:20 PM	18.07	27:36	19:02	513.7	08:34	2,607.4	0:43:27
5:25 PM	18.07	27:46	19:02	524.5	08:44	2,595.5	0:43:15
5:30 PM	18.07	27:53	19:17	516.7	08:37	2,603.0	0:43:23
5:35 PM	18.07	28:01	19:30	510.9	08:31	2,569.1	0:42:49
5:40 PM	18.07	28:01	18:48	553.0	09:13	2,659.8	0:44:20
5:45 PM	18.07	26:52	18:28	504.5	08:24	2,643.7	0:44:04
5:50 PM	18.07	26:13	18:34	458.3	07:38	2,407.0	0:40:07
5:55 PM	18.07	25:26	18:20	425.8	07:06	2,210.4	0:36:50
6:00 PM	18.07	24:44	17:40	424.2	07:04	2,125.0	0:35:25
6:05 PM	18.07	24:14	17:30	403.8	06:44	2,070.0	0:34:30
6:10 PM	18.07	24:12	17:31	400.5	06:41	2,010.8	0:33:31
6:15 PM	18.07	23:17	17:37	340.0	05:40	1,851.3	0:30:51
6:20 PM	18.07	22:37	17:23	313.2	05:13	1,632.9	0:27:13
6:25 PM	18.07	22:05	17:23	281.9	04:42	1,487.8	0:24:48

	sec	dd:hh:mm:ss
MAX DIFF	553.0	09:13
MIN DIFF	239.6	04:00
AVG DIFF	420.7	07:01
STD DEV	76.4	01:16
TOT AREA	74,429.0	00:20:40:29

I- 45 NORTH FREEWAY PM NB SHOULDER SCHOOL IN 31-45 MINUTE INCIDENTS



I- 45 NORTH FREEWAY PM NB SHOULDER SCHOOL IN 31-45 MINUTE INCIDENTS



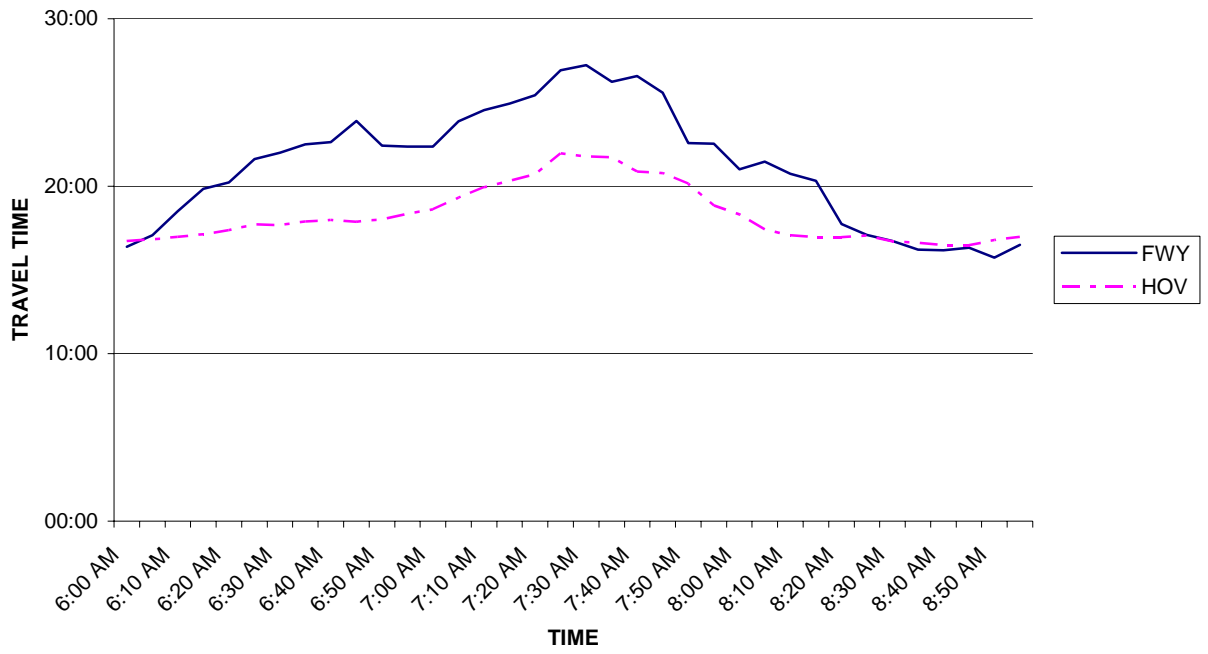
Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway T: FWY-HOV
 Direction SB
 Date

Time 06:00 AM to 08:55 AM

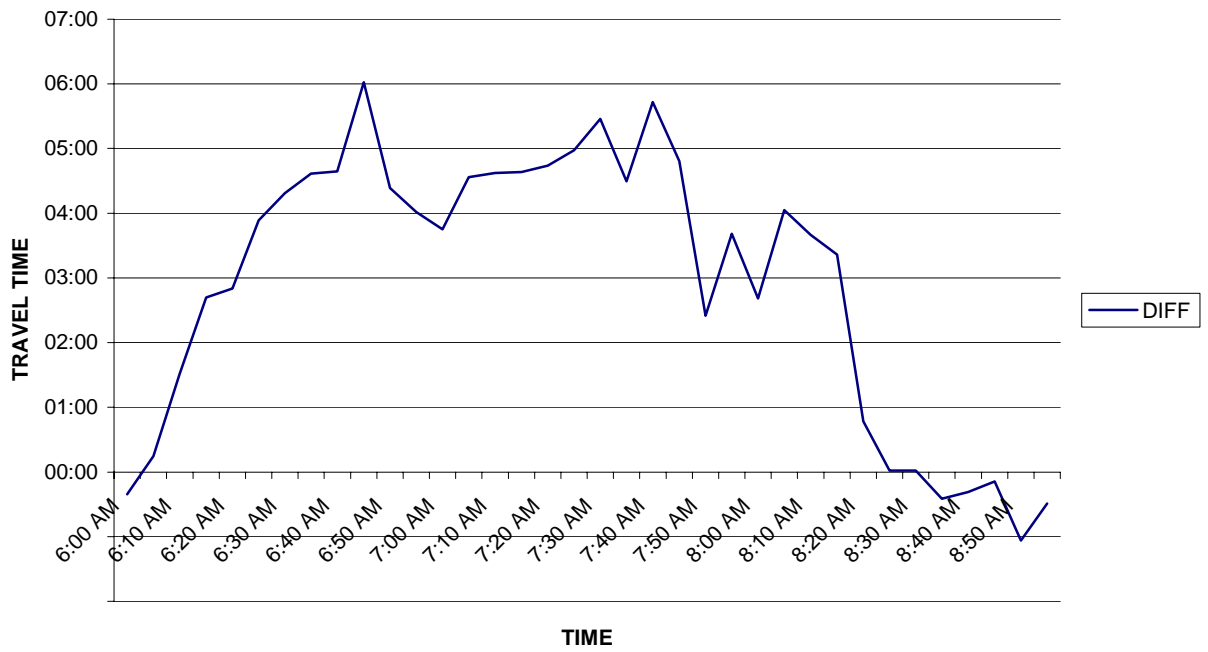
DIFFERENCE	FWY(mm:ss)	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION	SECTION AREA
Time	Distance	TravelTime	TravelTime	TravelTime	DIFF CUR'	DIFF CURVE
6:00 AM	18.07	16:23	16:43	-20.5	#####	0.0 0:00:00
6:05 AM	18.07	17:04	16:49	14.8	00:15	-14.2 #####
6:10 AM	18.07	18:30	16:59	90.9	01:31	264.1 0:04:24
6:15 AM	18.07	19:50	17:08	161.9	02:42	632.0 0:10:32
6:20 AM	18.07	20:13	17:23	170.2	02:50	830.3 0:13:50
6:25 AM	18.07	21:37	17:44	233.3	03:53	1,008.6 0:16:49
6:30 AM	18.07	22:00	17:41	258.6	04:19	1,229.6 0:20:30
6:35 AM	18.07	22:30	17:53	276.7	04:37	1,338.2 0:22:18
6:40 AM	18.07	22:38	17:59	278.7	04:39	1,388.3 0:23:08
6:45 AM	18.07	23:54	17:52	361.5	06:01	1,600.4 0:26:40
6:50 AM	18.07	22:25	18:02	263.3	04:23	1,561.9 0:26:02
6:55 AM	18.07	22:22	18:21	241.2	04:01	1,261.0 0:21:01
7:00 AM	18.07	22:22	18:37	225.1	03:45	1,165.6 0:19:26
7:05 AM	18.07	23:52	19:18	273.6	04:34	1,246.6 0:20:47
7:10 AM	18.07	24:33	19:56	277.2	04:37	1,377.0 0:22:57
7:15 AM	18.07	24:57	20:19	278.3	04:38	1,388.9 0:23:09
7:20 AM	18.07	25:26	20:42	284.2	04:44	1,406.3 0:23:26
7:25 AM	18.07	26:56	21:58	298.4	04:58	1,456.4 0:24:16
7:30 AM	18.07	27:14	21:47	327.4	05:27	1,564.5 0:26:04
7:35 AM	18.07	26:14	21:45	269.5	04:29	1,492.2 0:24:52
7:40 AM	18.07	26:35	20:52	343.1	05:43	1,531.3 0:25:31
7:45 AM	18.07	25:35	20:47	288.1	04:48	1,578.0 0:26:18
7:50 AM	18.07	22:34	20:09	145.1	02:25	1,083.0 0:18:03
7:55 AM	18.07	22:32	18:51	221.1	03:41	915.4 0:15:15
8:00 AM	18.07	21:00	18:19	161.0	02:41	955.2 0:15:55
8:05 AM	18.07	21:28	17:25	242.8	04:03	1,009.6 0:16:50
8:10 AM	18.07	20:44	17:04	219.9	03:40	1,156.9 0:19:17
8:15 AM	18.07	20:19	16:57	201.6	03:22	1,053.7 0:17:34
8:20 AM	18.07	17:44	16:57	47.0	00:47	621.5 0:10:21
8:25 AM	18.07	17:05	17:04	1.5	00:01	121.1 0:02:01
8:30 AM	18.07	16:44	16:43	1.3	00:01	7.0 0:00:07
8:35 AM	18.07	16:13	16:38	-24.9	#####	-58.9 #####
8:40 AM	18.07	16:10	16:29	-18.7	#####	-108.9 #####
8:45 AM	18.07	16:20	16:29	-8.9	#####	-68.9 #####
8:50 AM	18.07	15:44	16:48	-63.8	#####	-181.6 #####
8:55 AM	18.07	16:30	16:59	-29.1	#####	-232.2 #####

	sec	dd:hh:mm:ss
MAX DIFF	361.5	06:01
MIN DIFF	-63.8	#####
AVG DIFF	174.8	02:55
TOT AREA	31,579.9	00:08:46:20
STD DEV	128.8	02:09

I-45 NORTH FREEWAY AM SB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS



I-45 NORTH FREEWAY AM SB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS

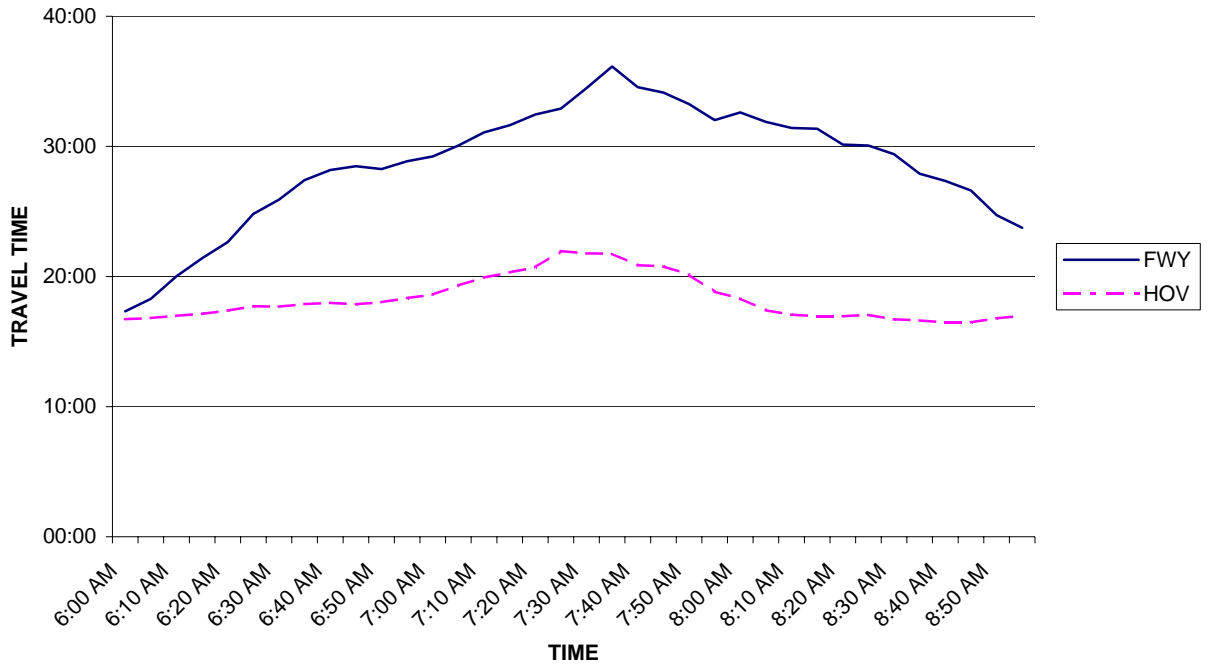


Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway T: FWY-HOV
 Direction SB
 Date
 Time 06:00 AM to 08:55 AM

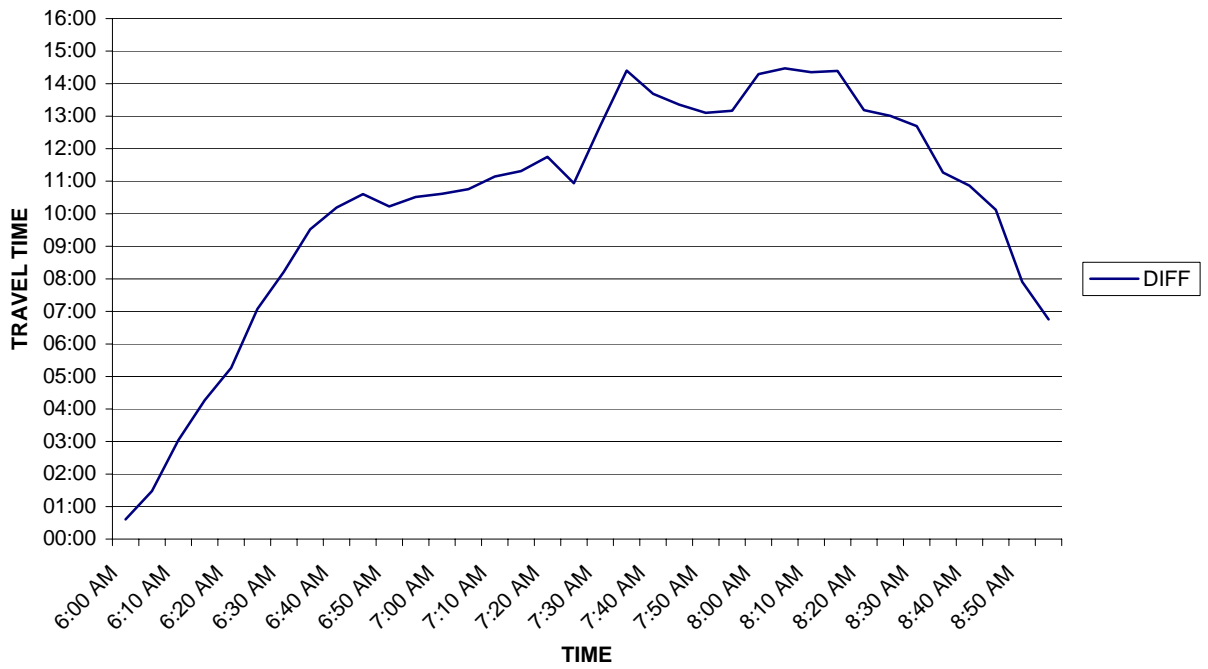
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	18.07	17:20	16:43	36.2	00:36	0.0	00:00
6:05 AM	18.07	18:18	16:49	88.5	01:28	311.6	05:12
6:10 AM	18.07	20:02	16:59	182.5	03:03	677.4	11:17
6:15 AM	18.07	21:24	17:08	256.2	04:16	1,096.8	18:17
6:20 AM	18.07	22:39	17:23	316.0	05:16	1,430.5	23:51
6:25 AM	18.07	24:48	17:44	424.7	07:05	1,851.7	30:52
6:30 AM	18.07	25:54	17:41	492.8	08:13	2,293.6	38:14
6:35 AM	18.07	27:25	17:53	571.3	09:31	2,660.0	44:20
6:40 AM	18.07	28:11	17:59	611.5	10:11	2,956.9	49:17
6:45 AM	18.07	28:29	17:52	636.3	10:36	3,119.6	52:00
6:50 AM	18.07	28:15	18:02	613.5	10:14	3,124.6	52:05
6:55 AM	18.07	28:52	18:21	631.0	10:31	3,111.3	51:51
7:00 AM	18.07	29:14	18:37	636.7	10:37	3,169.3	52:49
7:05 AM	18.07	30:04	19:18	645.3	10:45	3,205.2	53:25
7:10 AM	18.07	31:05	19:56	668.7	11:09	3,285.1	54:45
7:15 AM	18.07	31:38	20:19	678.8	11:19	3,368.9	56:09
7:20 AM	18.07	32:27	20:42	705.0	11:45	3,459.6	57:40
7:25 AM	18.07	32:54	21:58	656.4	10:56	3,403.5	56:43
7:30 AM	18.07	34:29	21:47	762.3	12:42	3,546.8	59:07
7:35 AM	18.07	36:09	21:45	864.0	14:24	4,065.8	07:46
7:40 AM	18.07	34:33	20:52	821.2	13:41	4,213.1	10:13
7:45 AM	18.07	34:08	20:47	801.3	13:21	4,056.4	07:36
7:50 AM	18.07	33:15	20:09	786.1	13:06	3,968.5	06:08
7:55 AM	18.07	32:01	18:51	789.9	13:10	3,940.0	05:40
8:00 AM	18.07	32:37	18:19	857.8	14:18	4,119.1	08:39
8:05 AM	18.07	31:53	17:25	868.3	14:28	4,315.0	11:55
8:10 AM	18.07	31:25	17:04	861.1	14:21	4,323.3	12:03
8:15 AM	18.07	31:21	16:57	863.7	14:24	4,311.9	11:52
8:20 AM	18.07	30:08	16:57	791.3	13:11	4,137.3	08:57
8:25 AM	18.07	30:04	17:04	780.5	13:01	3,929.5	05:29
8:30 AM	18.07	29:24	16:43	761.6	12:42	3,855.3	04:15
8:35 AM	18.07	27:54	16:38	676.0	11:16	3,594.0	59:54
8:40 AM	18.07	27:21	16:29	652.0	10:52	3,320.0	55:20
8:45 AM	18.07	26:36	16:29	607.4	10:07	3,148.4	52:28
8:50 AM	18.07	24:42	16:48	474.7	07:55	2,705.2	45:05
8:55 AM	18.07	23:44	16:59	405.3	06:45	2,199.9	36:40

	sec	dd:hh:mm:ss
MAX DIFF	868.3	14:28
MIN DIFF	36.2	00:36
AVG DIFF	618.8	10:19
STD DEV	220.6	03:41
TOT AREA	110,275.1	01:06:37:55

I- 45 NORTH FREEWAY AM SB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS



I- 45 NORTH FREEWAY AM SB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS



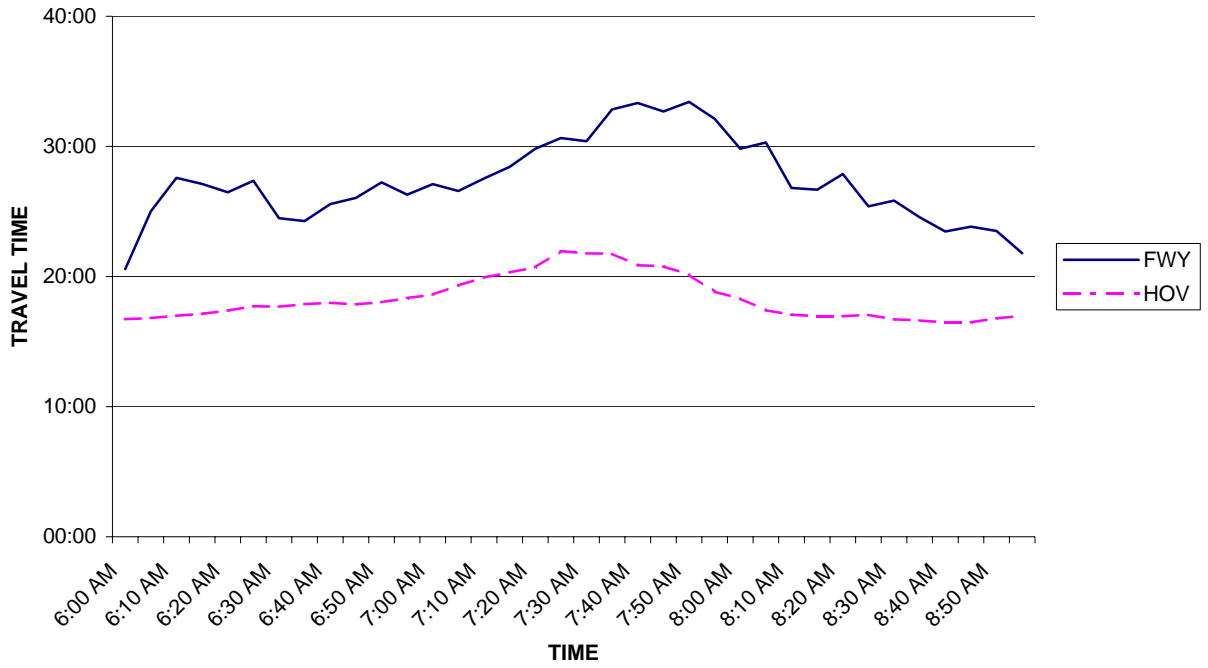
Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway T: FWY-HOV
 Direction SB
 Date

Time 06:00 AM to 08:55 AM

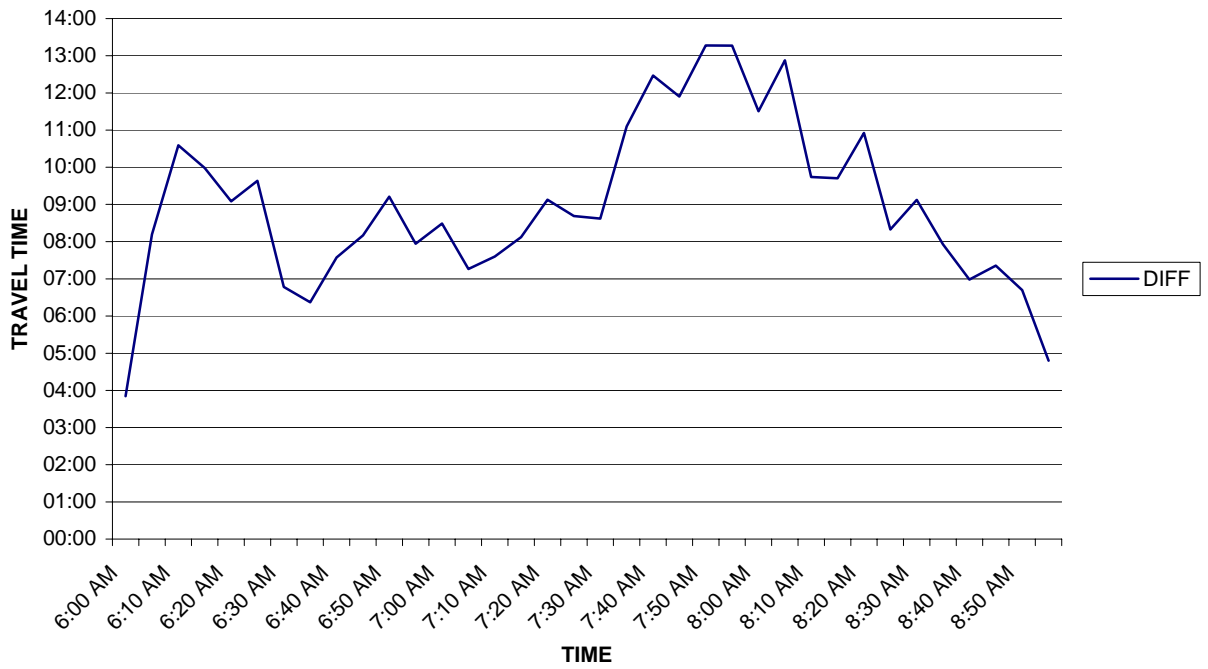
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE	
6:00 AM	18.07	20:34	16:43	230.7	03:51	0.0	0:00:00
6:05 AM	18.07	25:01	16:49	491.6	08:12	1,805.8	0:30:06
6:10 AM	18.07	27:35	16:59	635.5	10:35	2,817.6	0:46:58
6:15 AM	18.07	27:07	17:08	598.7	09:59	3,085.5	0:51:25
6:20 AM	18.07	26:28	17:23	545.2	09:05	2,859.8	0:47:40
6:25 AM	18.07	27:22	17:44	578.1	09:38	2,808.1	0:46:48
6:30 AM	18.07	24:29	17:41	407.2	06:47	2,463.1	0:41:03
6:35 AM	18.07	24:16	17:53	382.3	06:22	1,973.7	0:32:54
6:40 AM	18.07	25:34	17:59	454.5	07:34	2,091.8	0:34:52
6:45 AM	18.07	26:03	17:52	490.1	08:10	2,361.4	0:39:21
6:50 AM	18.07	27:14	18:02	552.7	09:13	2,606.9	0:43:27
6:55 AM	18.07	26:17	18:21	476.6	07:57	2,573.0	0:42:53
7:00 AM	18.07	27:06	18:37	509.3	08:29	2,464.6	0:41:05
7:05 AM	18.07	26:34	19:18	435.8	07:16	2,362.6	0:39:23
7:10 AM	18.07	27:32	19:56	456.0	07:36	2,229.5	0:37:10
7:15 AM	18.07	28:26	20:19	487.1	08:07	2,357.9	0:39:18
7:20 AM	18.07	29:49	20:42	547.6	09:08	2,586.8	0:43:07
7:25 AM	18.07	30:39	21:58	521.2	08:41	2,671.9	0:44:32
7:30 AM	18.07	30:24	21:47	517.2	08:37	2,596.0	0:43:16
7:35 AM	18.07	32:51	21:45	666.1	11:06	2,958.2	0:49:18
7:40 AM	18.07	33:20	20:52	748.1	12:28	3,535.3	0:58:55
7:45 AM	18.07	32:41	20:47	714.1	11:54	3,655.5	1:00:56
7:50 AM	18.07	33:26	20:09	796.7	13:17	3,777.0	1:02:57
7:55 AM	18.07	32:07	18:51	796.5	13:16	3,982.9	1:06:23
8:00 AM	18.07	29:49	18:19	690.4	11:30	3,717.2	1:01:57
8:05 AM	18.07	30:18	17:25	772.6	12:53	3,657.6	1:00:58
8:10 AM	18.07	26:48	17:04	584.3	09:44	3,392.4	0:56:32
8:15 AM	18.07	26:40	16:57	582.4	09:42	2,916.7	0:48:37
8:20 AM	18.07	27:52	16:57	655.4	10:55	3,094.5	0:51:34
8:25 AM	18.07	25:23	17:04	499.7	08:20	2,887.6	0:48:08
8:30 AM	18.07	25:50	16:43	547.3	09:07	2,617.5	0:43:37
8:35 AM	18.07	24:33	16:38	475.5	07:55	2,557.1	0:42:37
8:40 AM	18.07	23:28	16:29	418.9	06:59	2,236.1	0:37:16
8:45 AM	18.07	23:50	16:29	441.1	07:21	2,150.1	0:35:50
8:50 AM	18.07	23:30	16:48	401.9	06:42	2,107.4	0:35:07
8:55 AM	18.07	21:47	16:59	288.1	04:48	1,724.8	0:28:45

	sec	dd:hh:mm:ss
MAX DIFF	796.7	13:17
MIN DIFF	230.7	03:51
AVG DIFF	538.8	08:59
STD DEV	133.0	02:13
TOT AREA	95,683.9	01:02:34:44

I- 45 NORTH FREEWAY AM SB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS



I- 45 NORTH FREEWAY AM SB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS



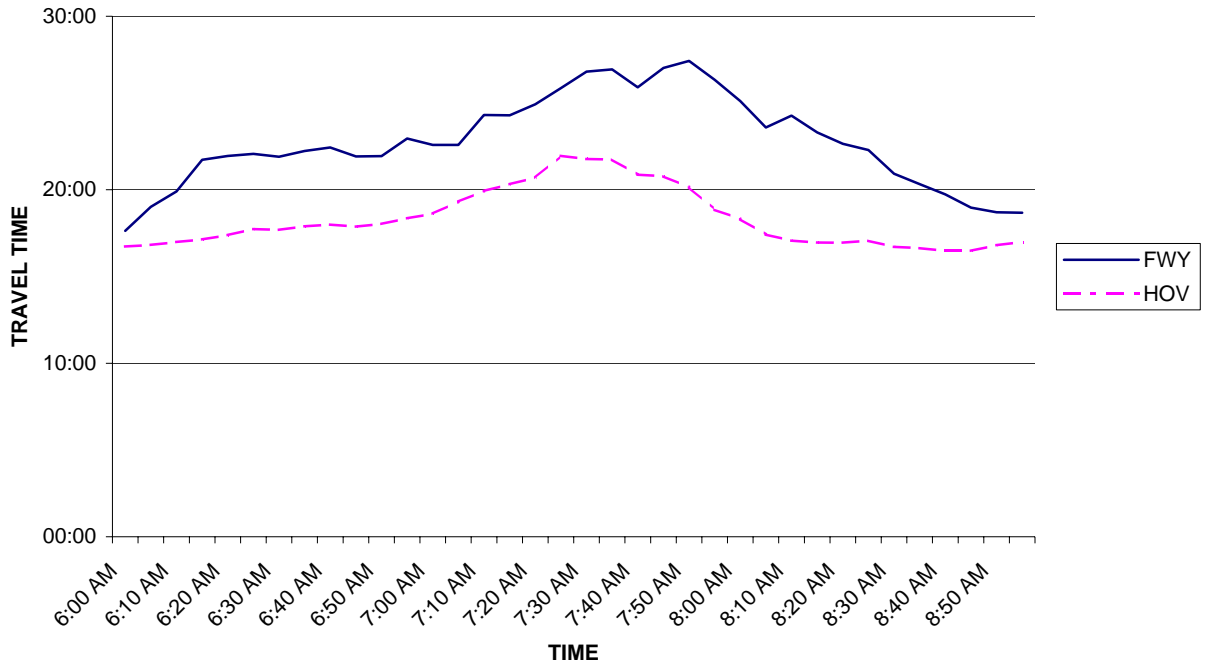
Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway Type FWY-HOV
 Direction SB
 Date

Time 06:00 AM to 08:55 AM

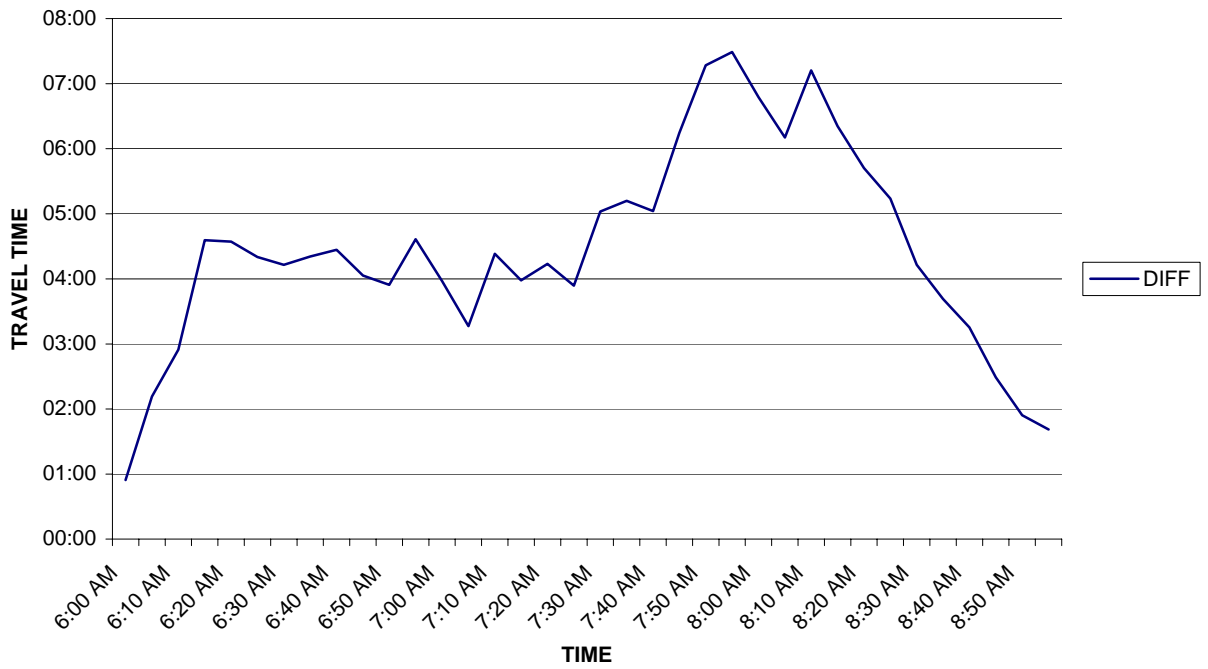
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	Travel time	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	18.07	17:38	16:43	54.5	00:55	0.0	0:00:00
6:05 AM	18.07	19:01	16:49	131.5	02:12	465.1	0:07:45
6:10 AM	18.07	19:54	16:59	174.7	02:55	765.5	0:12:46
6:15 AM	18.07	21:44	17:08	275.7	04:36	1125.9	0:18:46
6:20 AM	18.07	21:57	17:23	274.3	04:34	1374.9	0:22:55
6:25 AM	18.07	22:04	17:44	260.1	04:20	1336.1	0:22:16
6:30 AM	18.07	21:54	17:41	252.9	04:13	1282.5	0:21:22
6:35 AM	18.07	22:14	17:53	260.5	04:21	1283.5	0:21:24
6:40 AM	18.07	22:26	17:59	266.8	04:27	1318.3	0:21:58
6:45 AM	18.07	21:55	17:52	242.9	04:03	1274.3	0:21:14
6:50 AM	18.07	21:56	18:02	234.5	03:55	1193.7	0:19:54
6:55 AM	18.07	22:57	18:21	276.5	04:36	1277.5	0:21:17
7:00 AM	18.07	22:35	18:37	238.1	03:58	1286.3	0:21:26
7:05 AM	18.07	22:35	19:18	196.4	03:16	1086.3	0:18:06
7:10 AM	18.07	24:19	19:56	263.1	04:23	1148.8	0:19:09
7:15 AM	18.07	24:17	20:19	238.6	03:59	1254.2	0:20:54
7:20 AM	18.07	24:56	20:42	253.8	04:14	1230.9	0:20:31
7:25 AM	18.07	25:51	21:58	233.8	03:54	1218.9	0:20:19
7:30 AM	18.07	26:49	21:47	302.0	05:02	1339.5	0:22:19
7:35 AM	18.07	26:56	21:45	311.9	05:12	1534.7	0:25:35
7:40 AM	18.07	25:54	20:52	302.5	05:03	1536.0	0:25:36
7:45 AM	18.07	27:01	20:47	374.4	06:14	1692.3	0:28:12
7:50 AM	18.07	27:26	20:09	436.9	07:17	2028.4	0:33:48
7:55 AM	18.07	26:20	18:51	449.2	07:29	2215.4	0:36:55
8:00 AM	18.07	25:07	18:19	407.6	06:48	2142.0	0:35:42
8:05 AM	18.07	23:36	17:25	370.4	06:10	1945.0	0:32:25
8:10 AM	18.07	24:16	17:04	432.2	07:12	2006.5	0:33:27
8:15 AM	18.07	23:18	16:57	380.9	06:21	2032.7	0:33:53
8:20 AM	18.07	22:39	16:57	342.1	05:42	1807.5	0:30:08
8:25 AM	18.07	22:18	17:04	314.0	05:14	1640.4	0:27:20
8:30 AM	18.07	20:56	16:43	252.9	04:13	1417.3	0:23:37
8:35 AM	18.07	20:19	16:38	221.5	03:42	1186.1	0:19:46
8:40 AM	18.07	19:44	16:29	195.3	03:15	1042.2	0:17:22
8:45 AM	18.07	18:58	16:29	149.3	02:29	861.5	0:14:22
8:50 AM	18.07	18:42	16:48	114.3	01:54	658.8	0:10:59
8:55 AM	18.07	18:40	16:59	101.1	01:41	538.5	0:08:58

	sec	dd:hh:mm:ss
MAX DIFF	449.2	07:29
MIN DIFF	54.5	00:55
AVG DIFF	266.3	04:26
STD DEV	94.2	01:34
TOT AREA	47,547.4	00:13:12:27

I- 45 NORTH FREEWAY AM SB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS



I- 45 NORTH FREEWAY AM SB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS

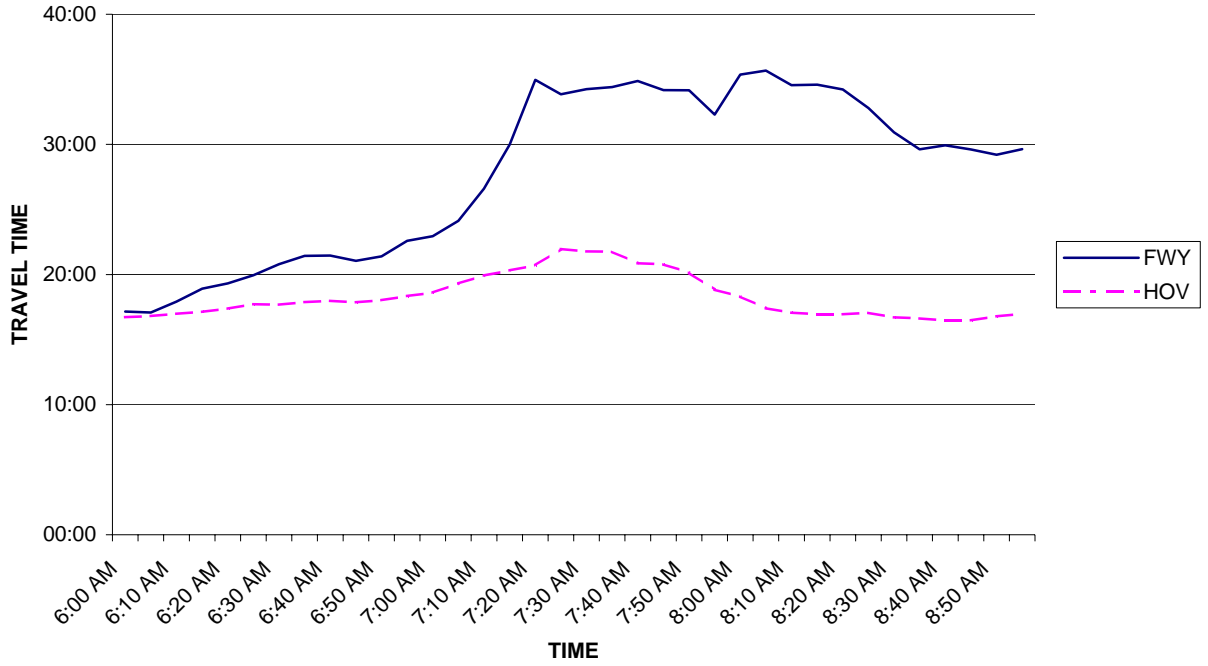


Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway T: FWY-HOV
 Direction SB
 Date
 Time 06:00 AM to 08:55 AM

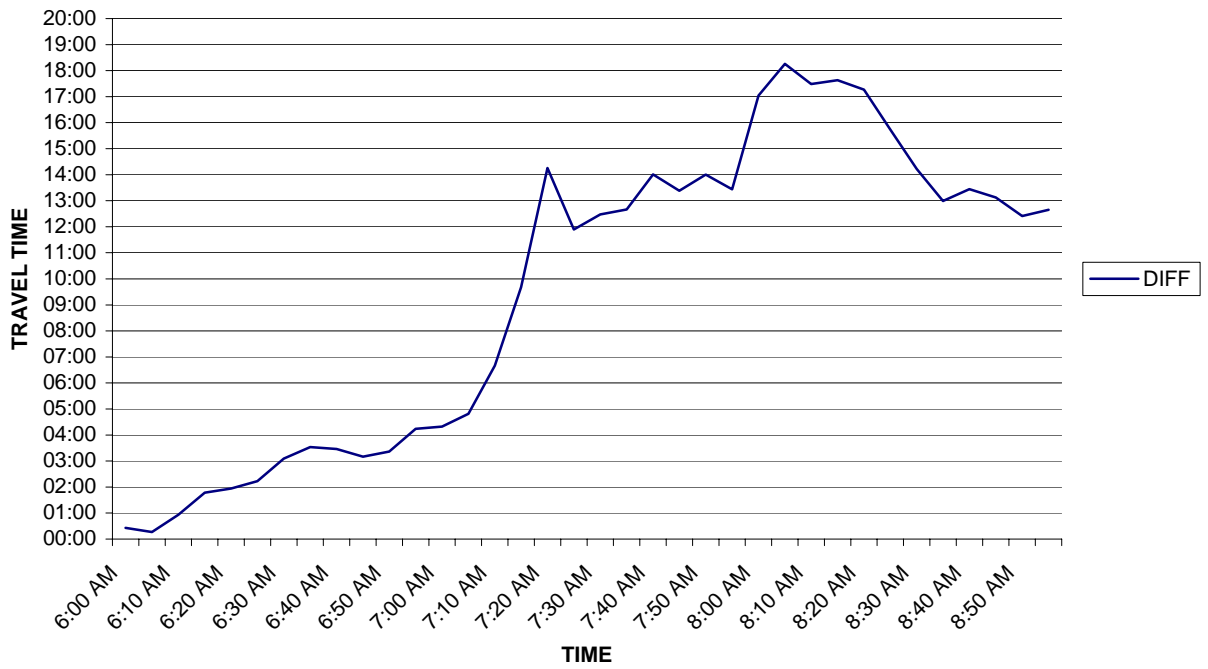
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	18.07	17:09	16:43	25.8	00:26	0.0	0:00:00
6:05 AM	18.07	17:05	16:49	16.3	00:16	105.2	0:01:45
6:10 AM	18.07	17:55	16:59	56.1	00:56	181.0	0:03:01
6:15 AM	18.07	18:55	17:08	107.2	01:47	408.2	0:06:48
6:20 AM	18.07	19:20	17:23	116.7	01:57	559.7	0:09:20
6:25 AM	18.07	19:57	17:44	133.8	02:14	626.1	0:10:26
6:30 AM	18.07	20:47	17:41	185.6	03:06	798.4	0:13:18
6:35 AM	18.07	21:26	17:53	212.2	03:32	994.4	0:16:34
6:40 AM	18.07	21:27	17:59	207.9	03:28	1050.2	0:17:30
6:45 AM	18.07	21:03	17:52	190.0	03:10	994.8	0:16:35
6:50 AM	18.07	21:24	18:02	202.0	03:22	980.0	0:16:20
6:55 AM	18.07	22:35	18:21	254.4	04:14	1141.0	0:19:01
7:00 AM	18.07	22:56	18:37	259.6	04:20	1284.9	0:21:25
7:05 AM	18.07	24:07	19:18	288.8	04:49	1371.0	0:22:51
7:10 AM	18.07	26:36	19:56	400.2	06:40	1722.6	0:28:43
7:15 AM	18.07	30:00	20:19	580.8	09:41	2452.6	0:40:53
7:20 AM	18.07	34:57	20:42	855.4	14:15	3590.7	0:59:51
7:25 AM	18.07	33:52	21:58	713.9	11:54	3923.3	1:05:23
7:30 AM	18.07	34:15	21:47	748.4	12:28	3655.7	1:00:56
7:35 AM	18.07	34:24	21:45	760.0	12:40	3770.9	1:02:51
7:40 AM	18.07	34:53	20:52	840.7	14:01	4001.8	1:06:42
7:45 AM	18.07	34:10	20:47	803.1	13:23	4109.7	1:08:30
7:50 AM	18.07	34:09	20:09	840.3	14:00	4108.7	1:08:29
7:55 AM	18.07	32:17	18:51	806.4	13:26	4116.8	1:08:37
8:00 AM	18.07	35:22	18:19	1,022.8	17:03	4572.9	1:16:13
8:05 AM	18.07	35:41	17:25	1,095.6	18:16	5295.9	1:28:16
8:10 AM	18.07	34:33	17:04	1,049.2	17:29	5361.9	1:29:22
8:15 AM	18.07	34:36	16:57	1,058.1	17:38	5268.1	1:27:48
8:20 AM	18.07	34:13	16:57	1,036.3	17:16	5235.8	1:27:16
8:25 AM	18.07	32:47	17:04	944.0	15:44	4950.5	1:22:31
8:30 AM	18.07	30:56	16:43	853.1	14:13	4492.6	1:14:53
8:35 AM	18.07	29:37	16:38	779.4	12:59	4081.1	1:08:01
8:40 AM	18.07	29:56	16:29	806.8	13:27	3965.5	1:06:05
8:45 AM	18.07	29:36	16:29	787.5	13:07	3985.7	1:06:26
8:50 AM	18.07	29:12	16:48	744.8	12:25	3879.0	1:04:39
8:55 AM	18.07	29:38	16:59	759.1	12:39	3759.6	1:02:40

	sec	dd:hh:mm:ss
MAX DIFF	1,095.6	18:16
MIN DIFF	16.3	00:16
AVG DIFF	570.6	09:31
STD DEV	358.3	05:58
TOT AREA	100,796.3	01:03:59:56

I- 45 NORTH FREEWAY AM SB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS



I- 45 NORTH FREEWAY AM SB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS

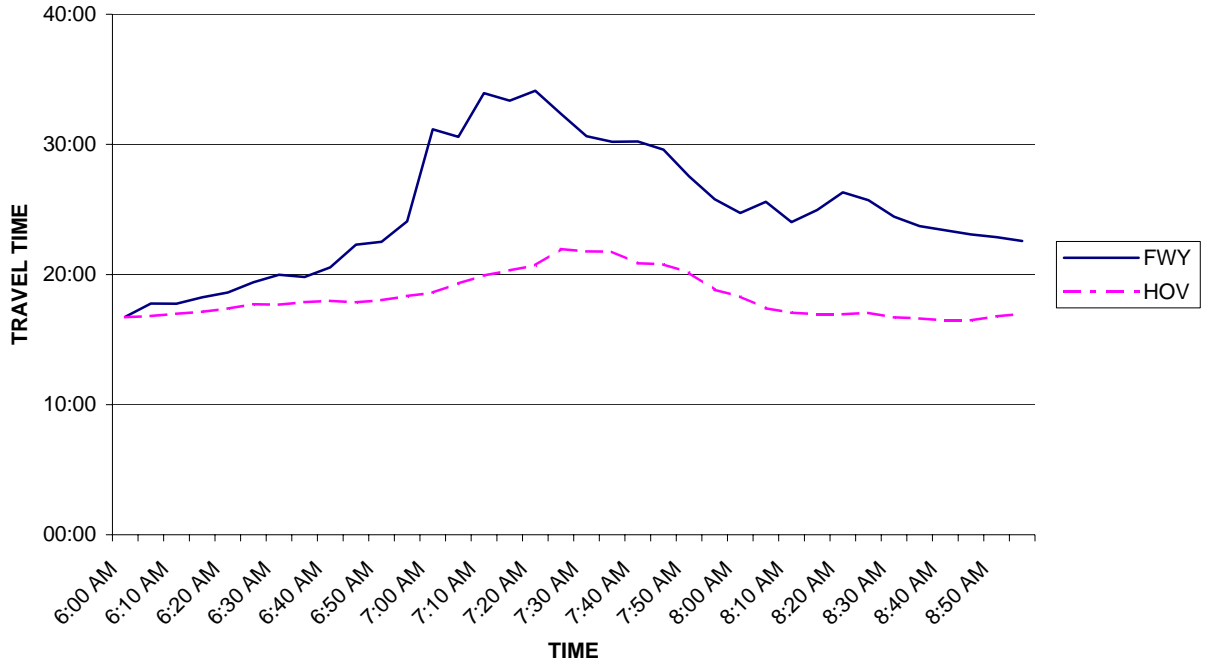


Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway T: FWY-HOV
 Direction SB
 Date
 Time 06:00 AM to 08:55 AM

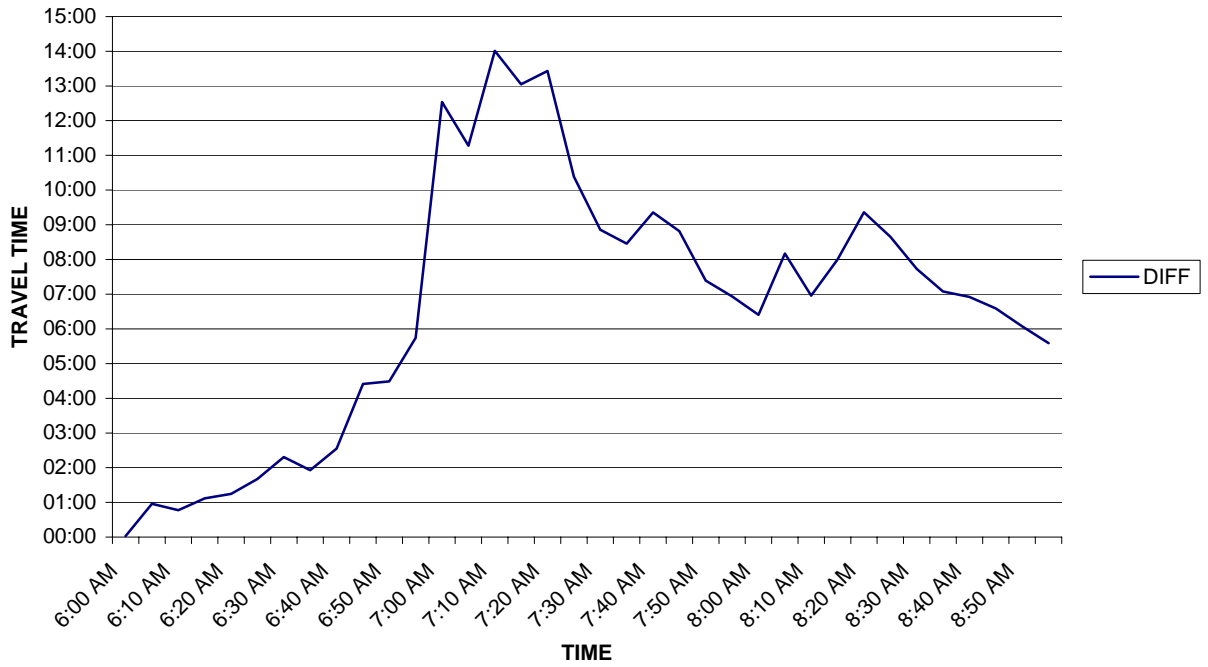
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	18.07	16:45	16:43	1.5	00:02	0.0	0:00:00
6:05 AM	18.07	17:47	16:49	57.5	00:57	147.5	0:02:27
6:10 AM	18.07	17:46	16:59	46.5	00:47	259.9	0:04:20
6:15 AM	18.07	18:15	17:08	66.9	01:07	283.7	0:04:44
6:20 AM	18.07	18:38	17:23	74.8	01:15	354.5	0:05:54
6:25 AM	18.07	19:24	17:44	100.6	01:41	438.6	0:07:19
6:30 AM	18.07	20:00	17:41	138.3	02:18	597.1	0:09:57
6:35 AM	18.07	19:49	17:53	115.7	01:56	634.8	0:10:35
6:40 AM	18.07	20:32	17:59	153.0	02:33	671.7	0:11:12
6:45 AM	18.07	22:17	17:52	264.8	04:25	1,044.6	0:17:25
6:50 AM	18.07	22:31	18:02	269.3	04:29	1,335.2	0:22:15
6:55 AM	18.07	24:05	18:21	344.5	05:45	1,534.4	0:25:34
7:00 AM	18.07	31:09	18:37	752.4	12:32	2,742.2	0:45:42
7:05 AM	18.07	30:35	19:18	676.6	11:17	3,572.5	0:59:32
7:10 AM	18.07	33:57	19:56	840.9	14:01	3,793.7	1:03:14
7:15 AM	18.07	33:22	20:19	783.0	13:03	4,059.7	1:07:40
7:20 AM	18.07	34:08	20:42	805.9	13:26	3,972.1	1:06:12
7:25 AM	18.07	32:21	21:58	623.4	10:23	3,573.1	0:59:33
7:30 AM	18.07	30:38	21:47	531.4	08:51	2,887.0	0:48:07
7:35 AM	18.07	30:12	21:45	507.5	08:27	2,597.2	0:43:17
7:40 AM	18.07	30:13	20:52	561.4	09:21	2,672.2	0:44:32
7:45 AM	18.07	29:36	20:47	528.8	08:49	2,725.5	0:45:26
7:50 AM	18.07	27:33	20:09	443.7	07:24	2,431.4	0:40:31
7:55 AM	18.07	25:47	18:51	416.4	06:56	2,150.4	0:35:50
8:00 AM	18.07	24:43	18:19	384.3	06:24	2,001.8	0:33:22
8:05 AM	18.07	25:35	17:25	490.2	08:10	2,186.3	0:36:26
8:10 AM	18.07	24:02	17:04	417.6	06:58	2,269.4	0:37:49
8:15 AM	18.07	24:57	16:57	479.9	08:00	2,243.7	0:37:24
8:20 AM	18.07	26:19	16:57	561.7	09:22	2,604.0	0:43:24
8:25 AM	18.07	25:43	17:04	519.1	08:39	2,702.0	0:45:02
8:30 AM	18.07	24:26	16:43	463.7	07:44	2,457.0	0:40:57
8:35 AM	18.07	23:43	16:38	424.8	07:05	2,221.1	0:37:01
8:40 AM	18.07	23:24	16:29	415.3	06:55	2,100.3	0:35:00
8:45 AM	18.07	23:04	16:29	395.5	06:35	2,027.0	0:33:47
8:50 AM	18.07	22:52	16:48	364.6	06:05	1,900.1	0:31:40
8:55 AM	18.07	22:34	16:59	335.4	05:35	1,749.9	0:29:10

	sec	dd:hh:mm:ss
MAX DIFF	840.9	14:01
MIN DIFF	1.5	00:02
AVG DIFF	398.8	06:39
STD DEV	230.0	03:50
TOT AREA	70,941.2	00:19:42:21

I- 45 NORTH FREEWAY AM SB ONE LANE SCHOOL OUT 31-45 MINUTE INCIDENTS



I- 45 NORTH FREEWAY AM SB ONE LANE SCHOOL OUT 31-45 MINUTE INCIDENTS



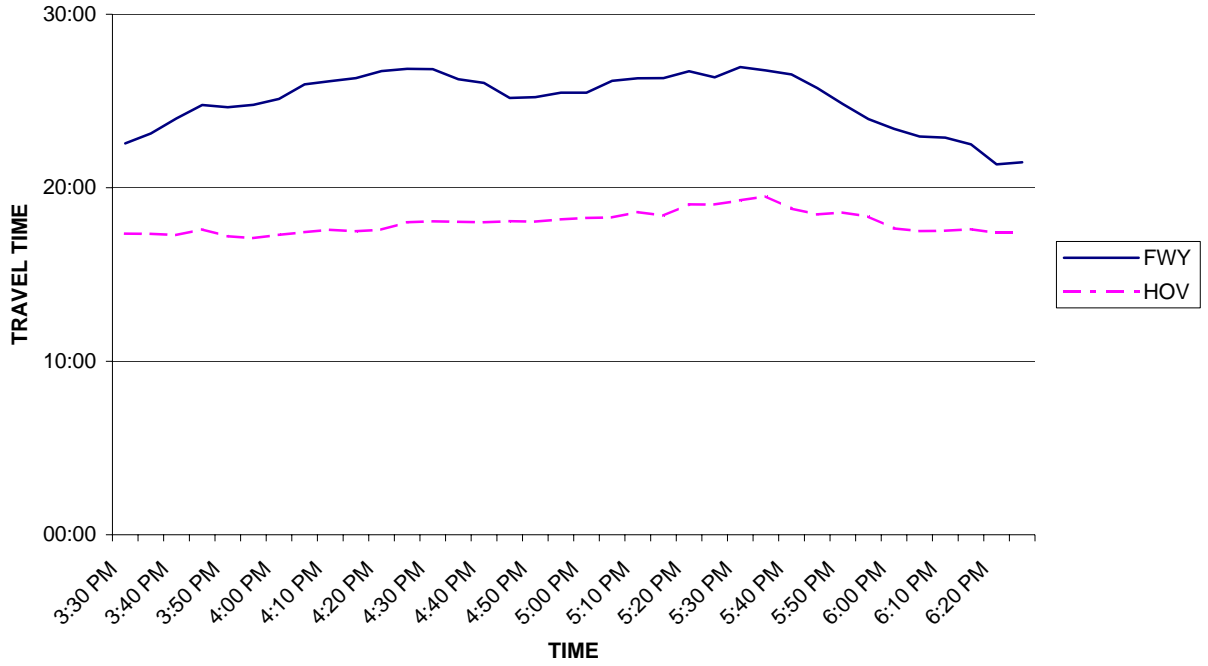
Freeway N I-45 North
 Limit Quitman to FM 1960
 Freeway T: FWY-HOV
 Direction NB
 Date

Time 03:30 PM to 06:25 PM

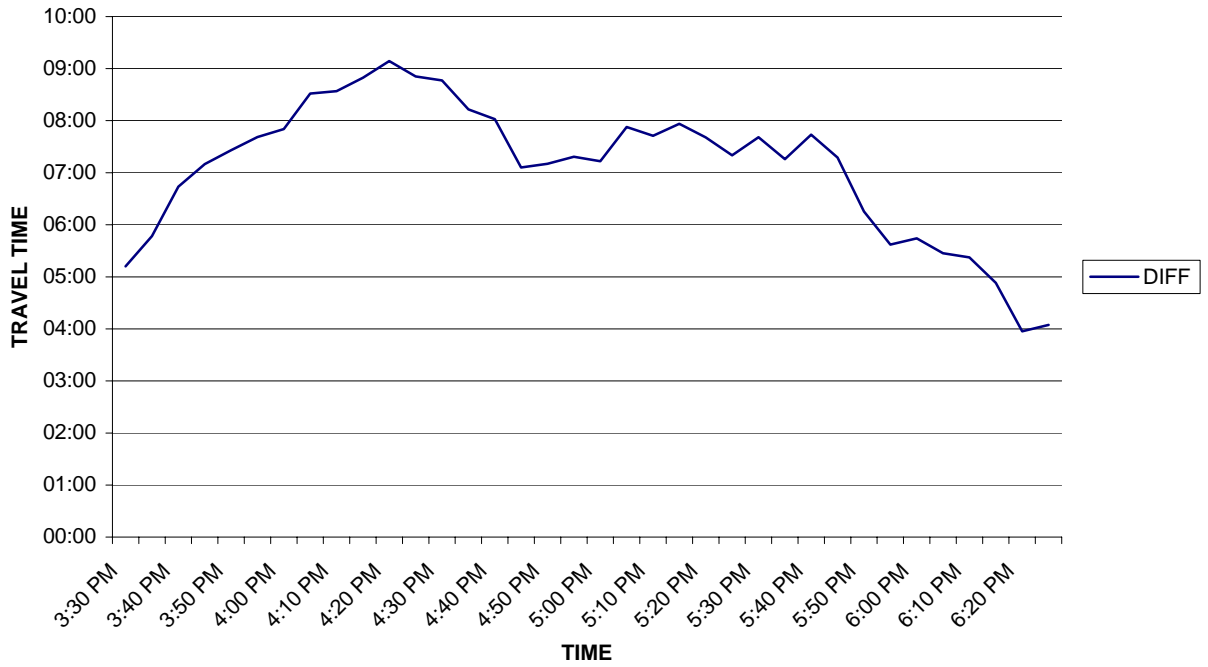
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE	
3:30 PM	18.07	22:33	17:21	312.0	05:12	0.0	0:00:00
3:35 PM	18.07	23:08	17:21	346.9	05:47	1,647.4	0:27:27
3:40 PM	18.07	24:00	17:16	403.9	06:44	1,877.0	0:31:17
3:45 PM	18.07	24:46	17:36	429.9	07:10	2,084.3	0:34:44
3:50 PM	18.07	24:38	17:12	446.0	07:26	2,189.6	0:36:30
3:55 PM	18.07	24:47	17:06	461.1	07:41	2,267.8	0:37:48
4:00 PM	18.07	25:07	17:17	470.4	07:50	2,328.8	0:38:49
4:05 PM	18.07	25:58	17:26	511.3	08:31	2,454.1	0:40:54
4:10 PM	18.07	26:09	17:34	514.1	08:34	2,563.4	0:42:43
4:15 PM	18.07	26:19	17:30	529.6	08:50	2,609.4	0:43:29
4:20 PM	18.07	26:44	17:35	548.7	09:09	2,695.8	0:44:56
4:25 PM	18.07	26:52	18:01	530.9	08:51	2,699.0	0:44:59
4:30 PM	18.07	26:50	18:04	526.4	08:46	2,643.4	0:44:03
4:35 PM	18.07	26:15	18:02	493.1	08:13	2,548.7	0:42:29
4:40 PM	18.07	26:02	18:01	481.7	08:02	2,437.0	0:40:37
4:45 PM	18.07	25:11	18:05	426.1	07:06	2,269.5	0:37:50
4:50 PM	18.07	25:13	18:03	430.4	07:10	2,141.1	0:35:41
4:55 PM	18.07	25:29	18:11	438.5	07:18	2,172.1	0:36:12
5:00 PM	18.07	25:29	18:16	433.3	07:13	2,179.5	0:36:20
5:05 PM	18.07	26:10	18:17	472.7	07:53	2,265.0	0:37:45
5:10 PM	18.07	26:19	18:36	462.6	07:43	2,338.3	0:38:58
5:15 PM	18.07	26:19	18:23	476.4	07:56	2,347.5	0:39:07
5:20 PM	18.07	26:43	19:02	460.8	07:41	2,343.0	0:39:03
5:25 PM	18.07	26:22	19:02	440.1	07:20	2,252.4	0:37:32
5:30 PM	18.07	26:58	19:17	460.9	07:41	2,252.7	0:37:33
5:35 PM	18.07	26:46	19:30	435.7	07:16	2,241.5	0:37:22
5:40 PM	18.07	26:32	18:48	463.9	07:44	2,249.0	0:37:29
5:45 PM	18.07	25:45	18:28	437.6	07:18	2,253.7	0:37:34
5:50 PM	18.07	24:50	18:34	375.4	06:15	2,032.4	0:33:52
5:55 PM	18.07	23:58	18:20	337.1	05:37	1,781.3	0:29:41
6:00 PM	18.07	23:24	17:40	344.2	05:44	1,703.4	0:28:23
6:05 PM	18.07	22:57	17:30	327.2	05:27	1,678.6	0:27:59
6:10 PM	18.07	22:53	17:31	322.3	05:22	1,623.8	0:27:04
6:15 PM	18.07	22:30	17:37	293.2	04:53	1,538.8	0:25:39
6:20 PM	18.07	21:21	17:23	237.2	03:57	1,326.1	0:22:06
6:25 PM	18.07	21:28	17:23	244.7	04:05	1,204.7	0:20:05

	sec	dd:hh:mm:ss
MAX DIFF	548.7	09:09
MIN DIFF	237.2	03:57
AVG DIFF	425.7	07:06
STD DEV	80.6	01:21
TOT AREA	75,240.0	00:20:54:00

I- 45 NORTH FREEWAY PM NB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS



I- 45 NORTH FREEWAY PM NB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS



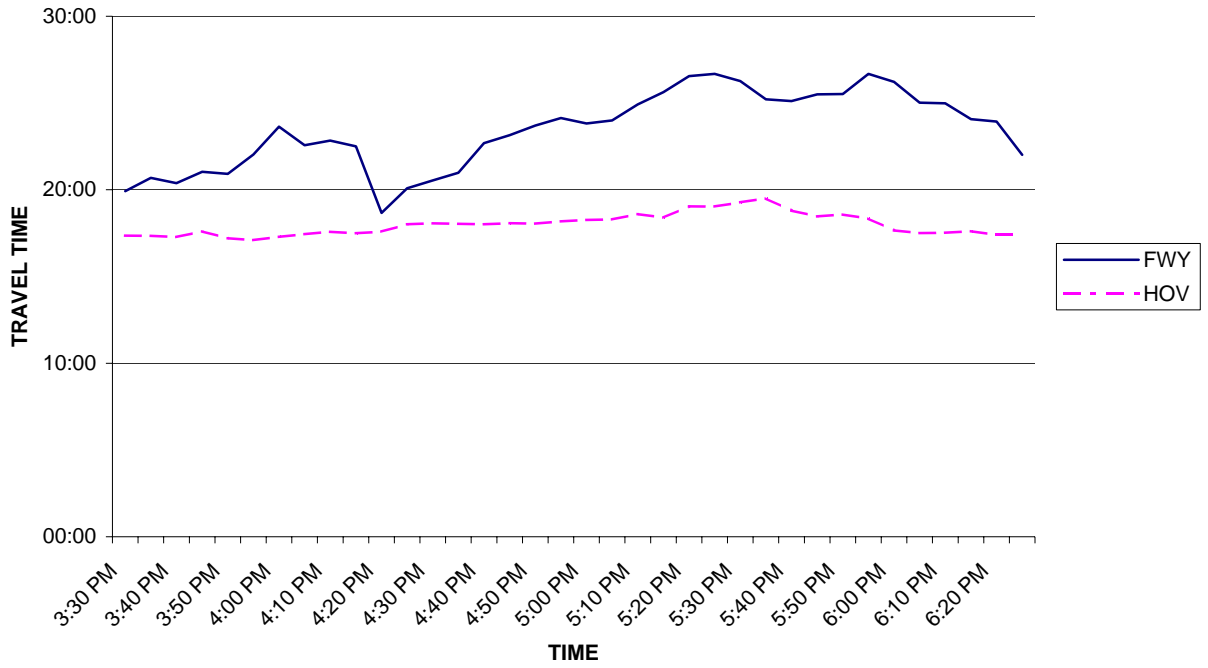
Freeway N I-45 North
 Limit Quitman to FM 1960
 Freeway T: FWY-HOV
 Direction NB
 Date

Time 03:30 PM to 06:25 PM

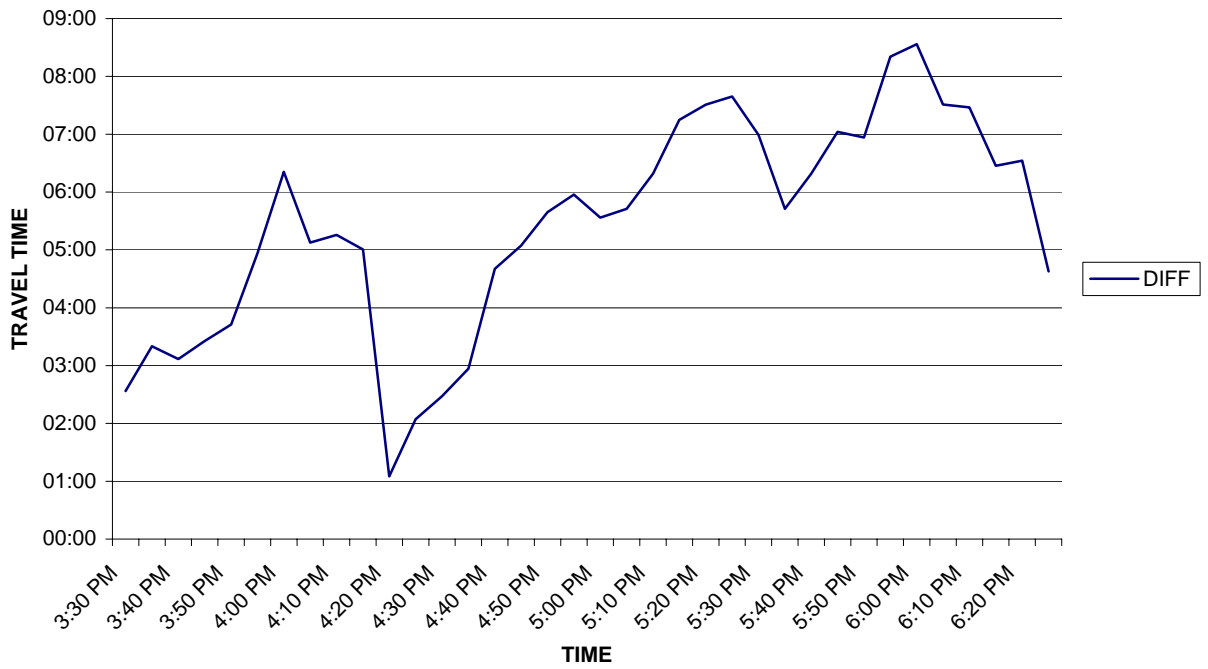
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	18.07	19:55	17:21	153.6	02:34	0.0	0:00:00
3:35 PM	18.07	20:41	17:21	200.1	03:20	884.2	0:14:44
3:40 PM	18.07	20:23	17:16	186.9	03:07	967.5	0:16:08
3:45 PM	18.07	21:02	17:36	205.6	03:26	981.1	0:16:21
3:50 PM	18.07	20:55	17:12	222.6	03:43	1,070.5	0:17:51
3:55 PM	18.07	22:02	17:06	296.2	04:56	1,297.2	0:21:37
4:00 PM	18.07	23:38	17:17	381.0	06:21	1,693.1	0:28:13
4:05 PM	18.07	22:34	17:26	307.6	05:08	1,721.6	0:28:42
4:10 PM	18.07	22:50	17:34	315.6	05:16	1,558.0	0:25:58
4:15 PM	18.07	22:30	17:30	300.5	05:00	1,540.1	0:25:40
4:20 PM	18.07	18:40	17:35	65.1	01:05	914.0	0:15:14
4:25 PM	18.07	20:05	18:01	124.3	02:04	473.6	0:07:54
4:30 PM	18.07	20:32	18:04	148.2	02:28	681.4	0:11:21
4:35 PM	18.07	20:59	18:02	176.9	02:57	812.8	0:13:33
4:40 PM	18.07	22:41	18:01	280.3	04:40	1,142.9	0:19:03
4:45 PM	18.07	23:09	18:05	304.4	05:04	1,461.8	0:24:22
4:50 PM	18.07	23:42	18:03	339.2	05:39	1,609.0	0:26:49
4:55 PM	18.07	24:08	18:11	357.4	05:57	1,741.4	0:29:01
5:00 PM	18.07	23:49	18:16	333.4	05:33	1,727.0	0:28:47
5:05 PM	18.07	24:00	18:17	342.6	05:43	1,690.0	0:28:10
5:10 PM	18.07	24:55	18:36	379.1	06:19	1,804.2	0:30:04
5:15 PM	18.07	25:38	18:23	434.9	07:15	2,035.0	0:33:55
5:20 PM	18.07	26:33	19:02	450.7	07:31	2,214.1	0:36:54
5:25 PM	18.07	26:41	19:02	459.1	07:39	2,274.6	0:37:55
5:30 PM	18.07	26:16	19:17	419.4	06:59	2,196.3	0:36:36
5:35 PM	18.07	25:13	19:30	342.6	05:43	1,904.9	0:31:45
5:40 PM	18.07	25:07	18:48	379.0	06:19	1,804.0	0:30:04
5:45 PM	18.07	25:30	18:28	422.5	07:02	2,003.7	0:33:24
5:50 PM	18.07	25:31	18:34	416.7	06:57	2,097.8	0:34:58
5:55 PM	18.07	26:41	18:20	500.5	08:21	2,292.9	0:38:13
6:00 PM	18.07	26:13	17:40	513.5	08:33	2,535.0	0:42:15
6:05 PM	18.07	25:01	17:30	450.8	07:31	2,410.8	0:40:11
6:10 PM	18.07	24:59	17:31	447.8	07:28	2,246.6	0:37:27
6:15 PM	18.07	24:04	17:37	387.3	06:27	2,087.9	0:34:48
6:20 PM	18.07	23:56	17:23	392.5	06:33	1,949.6	0:32:30
6:25 PM	18.07	22:01	17:23	277.6	04:38	1,675.3	0:27:55

	sec	dd:hh:mm:ss
MAX DIFF	513.5	08:33
MIN DIFF	65.1	01:05
AVG DIFF	325.4	05:25
STD DEV	112.8	01:53
TOT AREA	57,499.8	00:15:58:20

I- 45 NORTH FREEWAY PM NB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS



I- 45 NORTH FREEWAY PM NB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS

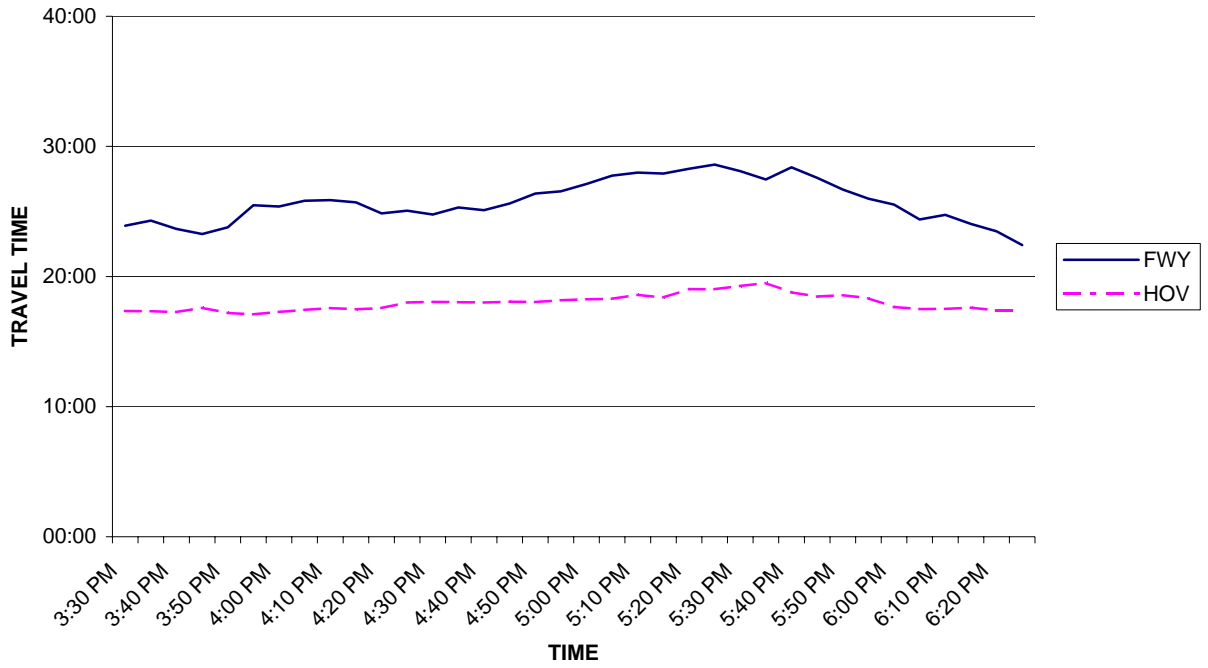


Freeway N I-45 North
 Limit Quitman to FM 1960
 Freeway T: FWY-HOV
 Direction NB
 Date
 Time 03:30 PM to 06:25 PM

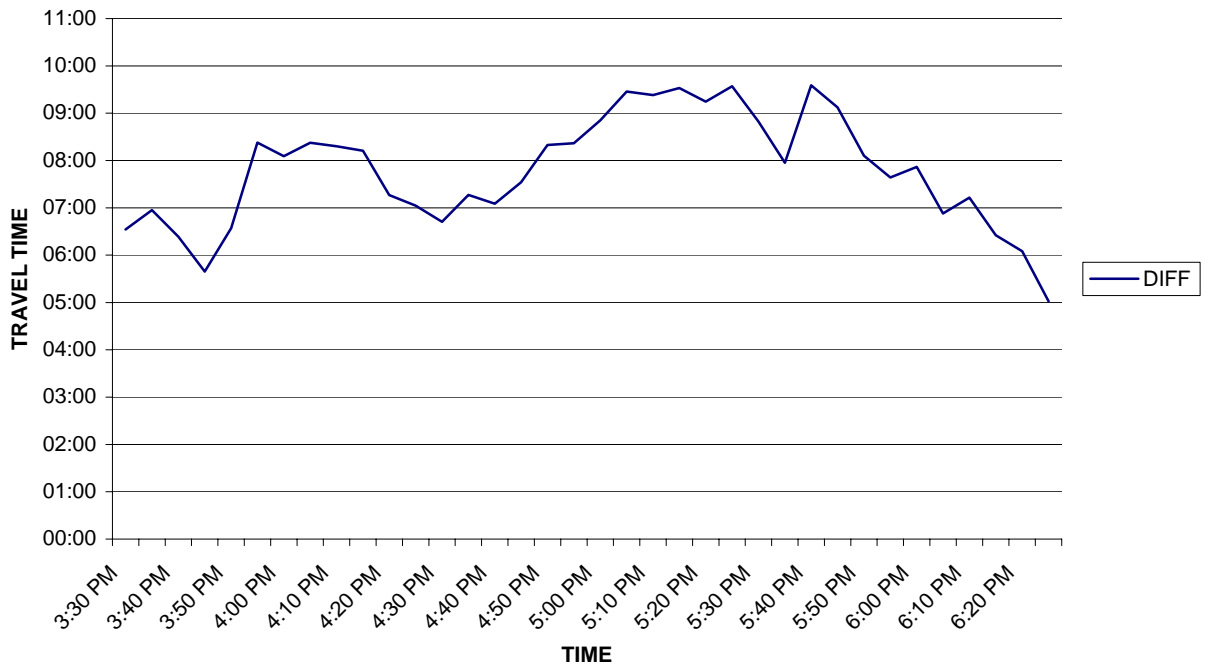
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
3:30 PM	18.07	23:54	17:21	392.6	06:33	0.0	0:00:00
3:35 PM	18.07	24:18	17:21	417.1	06:57	2,024.2	0:33:44
3:40 PM	18.07	23:39	17:16	383.4	06:23	2,001.3	0:33:21
3:45 PM	18.07	23:15	17:36	339.1	05:39	1,806.1	0:30:06
3:50 PM	18.07	23:47	17:12	394.1	06:34	1,833.0	0:30:33
3:55 PM	18.07	25:29	17:06	502.7	08:23	2,242.2	0:37:22
4:00 PM	18.07	25:22	17:17	485.5	08:06	2,470.6	0:41:11
4:05 PM	18.07	25:49	17:26	502.6	08:23	2,470.3	0:41:10
4:10 PM	18.07	25:53	17:34	498.1	08:18	2,501.7	0:41:42
4:15 PM	18.07	25:42	17:30	492.5	08:12	2,476.3	0:41:16
4:20 PM	18.07	24:51	17:35	436.1	07:16	2,321.5	0:38:41
4:25 PM	18.07	25:03	18:01	422.8	07:03	2,147.3	0:35:47
4:30 PM	18.07	24:46	18:04	402.2	06:42	2,062.6	0:34:23
4:35 PM	18.07	25:18	18:02	436.4	07:16	2,096.5	0:34:57
4:40 PM	18.07	25:06	18:01	425.3	07:05	2,154.2	0:35:54
4:45 PM	18.07	25:37	18:05	452.4	07:32	2,194.3	0:36:34
4:50 PM	18.07	26:22	18:03	499.7	08:20	2,380.3	0:39:40
4:55 PM	18.07	26:33	18:11	501.9	08:22	2,503.9	0:41:44
5:00 PM	18.07	27:07	18:16	530.9	08:51	2,582.0	0:43:02
5:05 PM	18.07	27:45	18:17	567.6	09:28	2,746.3	0:45:46
5:10 PM	18.07	27:59	18:36	563.1	09:23	2,826.7	0:47:07
5:15 PM	18.07	27:55	18:23	571.9	09:32	2,837.5	0:47:17
5:20 PM	18.07	28:17	19:02	554.7	09:15	2,816.6	0:46:57
5:25 PM	18.07	28:36	19:02	574.1	09:34	2,822.1	0:47:02
5:30 PM	18.07	28:06	19:17	529.4	08:49	2,758.8	0:45:59
5:35 PM	18.07	27:27	19:30	477.1	07:57	2,516.2	0:41:56
5:40 PM	18.07	28:23	18:48	575.5	09:35	2,631.5	0:43:51
5:45 PM	18.07	27:35	18:28	547.5	09:07	2,807.4	0:46:47
5:50 PM	18.07	26:40	18:34	486.2	08:06	2,584.1	0:43:04
5:55 PM	18.07	25:59	18:20	458.5	07:39	2,361.7	0:39:22
6:00 PM	18.07	25:31	17:40	472.0	07:52	2,326.3	0:38:46
6:05 PM	18.07	24:23	17:30	412.8	06:53	2,212.0	0:36:52
6:10 PM	18.07	24:44	17:31	432.8	07:13	2,114.1	0:35:14
6:15 PM	18.07	24:02	17:37	385.3	06:25	2,045.4	0:34:05
6:20 PM	18.07	23:29	17:23	365.0	06:05	1,875.8	0:31:16
6:25 PM	18.07	22:25	17:23	301.6	05:02	1,666.5	0:27:47

	sec	dd:hh:mm:ss
MAX DIFF	575.5	09:35
MIN DIFF	301.6	05:02
AVG DIFF	466.4	07:46
STD DEV	71.4	01:11
TOT AREA	82,217.3	00:22:50:17

I- 45 NORTH FREEWAY PM NB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS



I- 45 NORTH FREEWAY PM NB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS



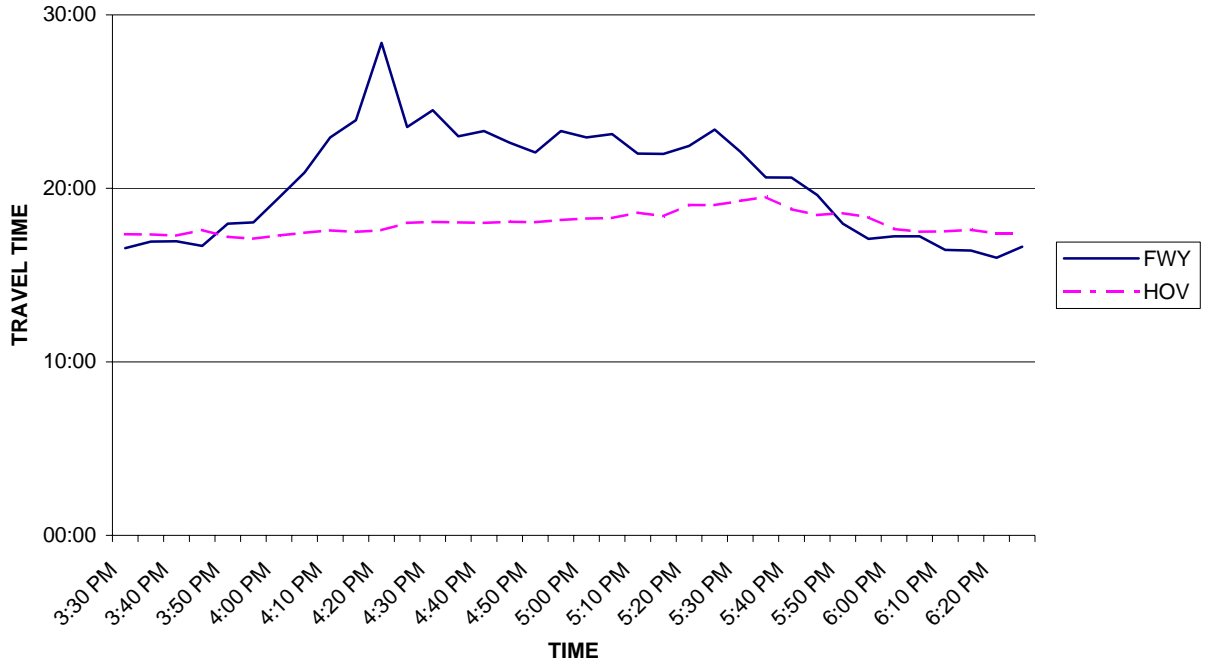
Freeway N I-45 North
 Limit Quitman to FM 1960
 Freeway T: FWY-HOV
 Direction NB
 Date

Time 03:30 PM to 06:25 PM

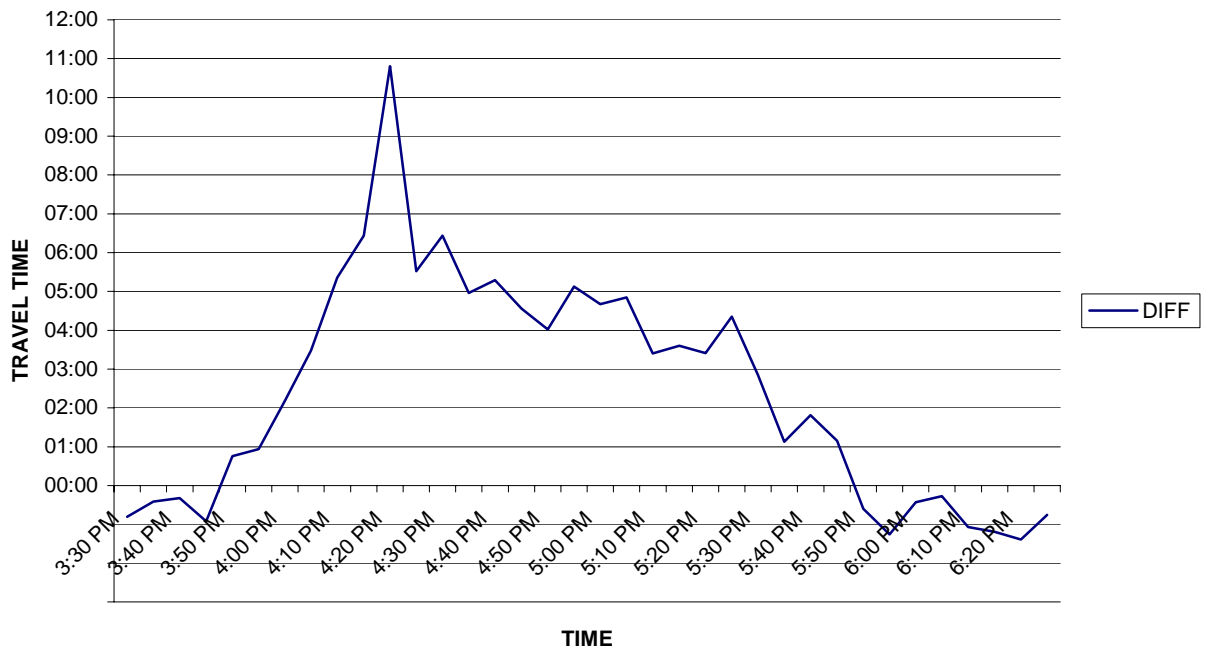
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	18.07	16:33	17:21	-48.4	#####	0.0 0:00:00
3:35 PM	18.07	16:56	17:21	-24.9	#####	-183.3 #####
3:40 PM	18.07	16:57	17:16	-19.1	#####	-110.0 #####
3:45 PM	18.07	16:41	17:36	-55.4	#####	-186.4 #####
3:50 PM	18.07	17:58	17:12	45.6	00:46	-24.5 #####
3:55 PM	18.07	18:02	17:06	56.2	00:56	254.7 0:04:15
4:00 PM	18.07	19:28	17:17	131.0	02:11	468.1 0:07:48
4:05 PM	18.07	20:55	17:26	208.6	03:29	849.1 0:14:09
4:10 PM	18.07	22:56	17:34	321.6	05:22	1,325.5 0:22:05
4:15 PM	18.07	23:56	17:30	386.5	06:26	1,770.1 0:29:30
4:20 PM	18.07	28:23	17:35	648.1	10:48	2,586.5 0:43:06
4:25 PM	18.07	23:32	18:01	331.3	05:31	2,448.6 0:40:49
4:30 PM	18.07	24:30	18:04	386.2	06:26	1,793.9 0:29:54
4:35 PM	18.07	23:00	18:02	297.9	04:58	1,710.3 0:28:30
4:40 PM	18.07	23:18	18:01	317.3	05:17	1,537.9 0:25:38
4:45 PM	18.07	22:38	18:05	273.4	04:33	1,476.8 0:24:37
4:50 PM	18.07	22:04	18:03	241.2	04:01	1,286.5 0:21:27
4:55 PM	18.07	23:18	18:11	307.4	05:07	1,371.4 0:22:51
5:00 PM	18.07	22:56	18:16	280.4	04:40	1,469.5 0:24:30
5:05 PM	18.07	23:08	18:17	290.6	04:51	1,427.5 0:23:47
5:10 PM	18.07	22:00	18:36	204.1	03:24	1,236.7 0:20:37
5:15 PM	18.07	21:59	18:23	215.9	03:36	1,050.0 0:17:30
5:20 PM	18.07	22:27	19:02	204.7	03:25	1,051.6 0:17:32
5:25 PM	18.07	23:23	19:02	261.1	04:21	1,164.6 0:19:25
5:30 PM	18.07	22:07	19:17	170.4	02:50	1,078.8 0:17:59
5:35 PM	18.07	20:38	19:30	67.6	01:08	594.9 0:09:55
5:40 PM	18.07	20:37	18:48	109.0	01:49	441.5 0:07:21
5:45 PM	18.07	19:37	18:28	69.5	01:09	446.2 0:07:26
5:50 PM	18.07	17:58	18:34	-36.3	#####	82.8 0:01:23
5:55 PM	18.07	17:05	18:20	-75.5	#####	-279.6 #####
6:00 PM	18.07	17:14	17:40	-25.5	#####	-252.5 #####
6:05 PM	18.07	17:14	17:30	-16.2	#####	-104.2 #####
6:10 PM	18.07	16:27	17:31	-64.2	#####	-200.9 #####
6:15 PM	18.07	16:25	17:37	-71.7	#####	-339.6 #####
6:20 PM	18.07	16:00	17:23	-83.5	#####	-387.9 #####
6:25 PM	18.07	16:38	17:23	-45.4	#####	-322.3 #####

	sec	dd:hh:mm:ss
MAX DIFF	648.1	10:48
MIN DIFF	-83.5	#####
AVG DIFF	146.1	02:26
STD DEV	176.5	02:57
TOT AREA	26,532.3	00:07:22:12

I- 45 NORTH FREEWAY PM NB ONE LANE SCHOOL IN 61+ MINUTE INCIDENTS



I- 45 NORTH FREEWAY PM NB ONE LANE SCHOOL IN 61+ MINUTE INCIDENTS

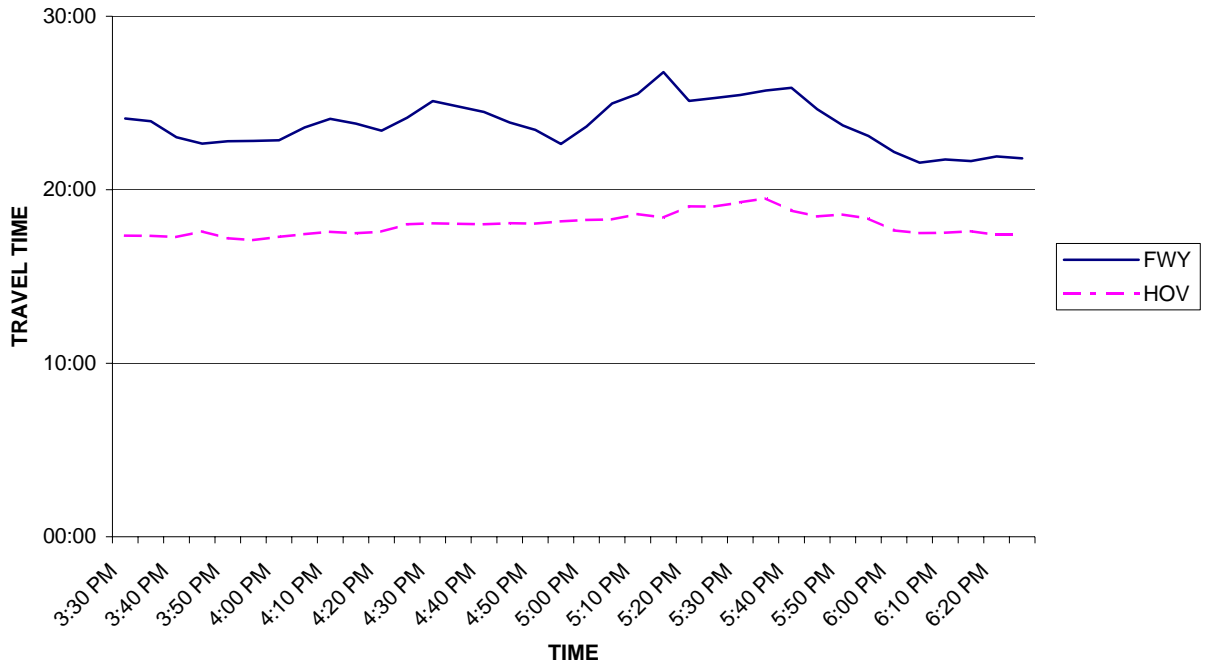


Freeway N I-45 North
 Limit Quitman to FM 1960
 Freeway Type FWY-HOV
 Direction NB
 Date
 Time 03:30 PM to 06:25 PM

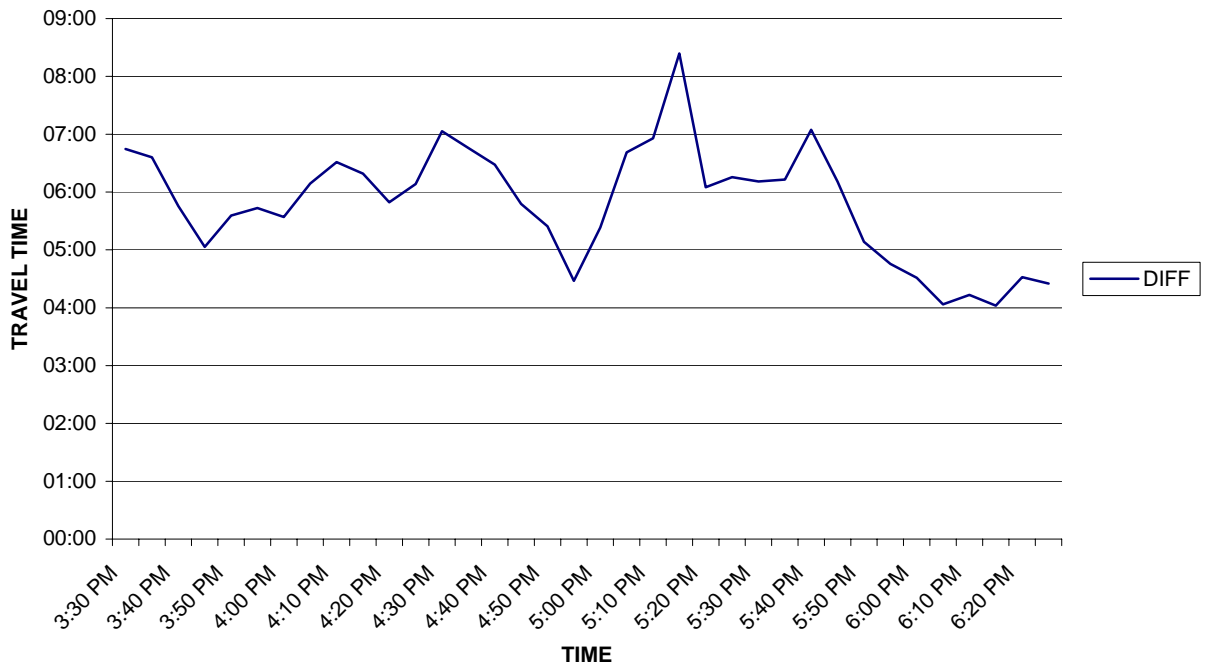
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	18.07	24:06	17:21	404.7	06:45	0.0	0:00:00
3:35 PM	18.07	23:57	17:21	396.1	06:36	2,002.2	0:33:22
3:40 PM	18.07	23:01	17:16	345.4	05:45	1,853.8	0:30:54
3:45 PM	18.07	22:40	17:36	303.1	05:03	1,621.1	0:27:01
3:50 PM	18.07	22:48	17:12	335.6	05:36	1,596.8	0:26:37
3:55 PM	18.07	22:49	17:06	343.4	05:43	1,697.6	0:28:18
4:00 PM	18.07	22:51	17:17	334.2	05:34	1,693.9	0:28:14
4:05 PM	18.07	23:35	17:26	368.8	06:09	1,757.4	0:29:17
4:10 PM	18.07	24:06	17:34	391.1	06:31	1,899.6	0:31:40
4:15 PM	18.07	23:49	17:30	379.1	06:19	1,925.5	0:32:05
4:20 PM	18.07	23:24	17:35	349.5	05:49	1,821.5	0:30:21
4:25 PM	18.07	24:09	18:01	368.3	06:08	1,794.4	0:29:54
4:30 PM	18.07	25:07	18:04	423.1	07:03	1,978.4	0:32:58
4:35 PM	18.07	24:48	18:02	405.7	06:46	2,071.9	0:34:32
4:40 PM	18.07	24:29	18:01	388.5	06:28	1,985.4	0:33:05
4:45 PM	18.07	23:52	18:05	347.8	05:48	1,840.5	0:30:41
4:50 PM	18.07	23:27	18:03	324.5	05:25	1,680.7	0:28:01
4:55 PM	18.07	22:39	18:11	268.1	04:28	1,481.4	0:24:41
5:00 PM	18.07	23:39	18:16	323.2	05:23	1,478.3	0:24:38
5:05 PM	18.07	24:59	18:17	401.3	06:41	1,811.3	0:30:11
5:10 PM	18.07	25:32	18:36	415.9	06:56	2,042.9	0:34:03
5:15 PM	18.07	26:47	18:23	503.8	08:24	2,299.2	0:38:19
5:20 PM	18.07	25:07	19:02	365.0	06:05	2,172.0	0:36:12
5:25 PM	18.07	25:17	19:02	375.5	06:15	1,851.3	0:30:51
5:30 PM	18.07	25:28	19:17	371.1	06:11	1,866.3	0:31:06
5:35 PM	18.07	25:43	19:30	372.9	06:13	1,859.9	0:31:00
5:40 PM	18.07	25:53	18:48	424.7	07:05	1,994.0	0:33:14
5:45 PM	18.07	24:38	18:28	370.8	06:11	1,988.7	0:33:09
5:50 PM	18.07	23:43	18:34	308.3	05:08	1,697.8	0:28:18
5:55 PM	18.07	23:06	18:20	285.5	04:46	1,484.6	0:24:45
6:00 PM	18.07	22:10	17:40	271.0	04:31	1,391.3	0:23:11
6:05 PM	18.07	21:34	17:30	243.7	04:04	1,286.6	0:21:27
6:10 PM	18.07	21:45	17:31	253.3	04:13	1,242.5	0:20:42
6:15 PM	18.07	21:39	17:37	242.3	04:02	1,239.2	0:20:39
6:20 PM	18.07	21:55	17:23	271.7	04:32	1,285.0	0:21:25
6:25 PM	18.07	21:49	17:23	265.3	04:25	1,342.3	0:22:22

	sec	dd:hh:mm:ss
MAX DIFF	503.8	08:24
MIN DIFF	242.3	04:02
AVG DIFF	348.4	05:48
STD DEV	59.8	01:00
TOT AREA	61,035.3	00:16:57:15

I- 45 NORTH FREEWAY PM NB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS



I- 45 NORTH FREEWAY PM NB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS



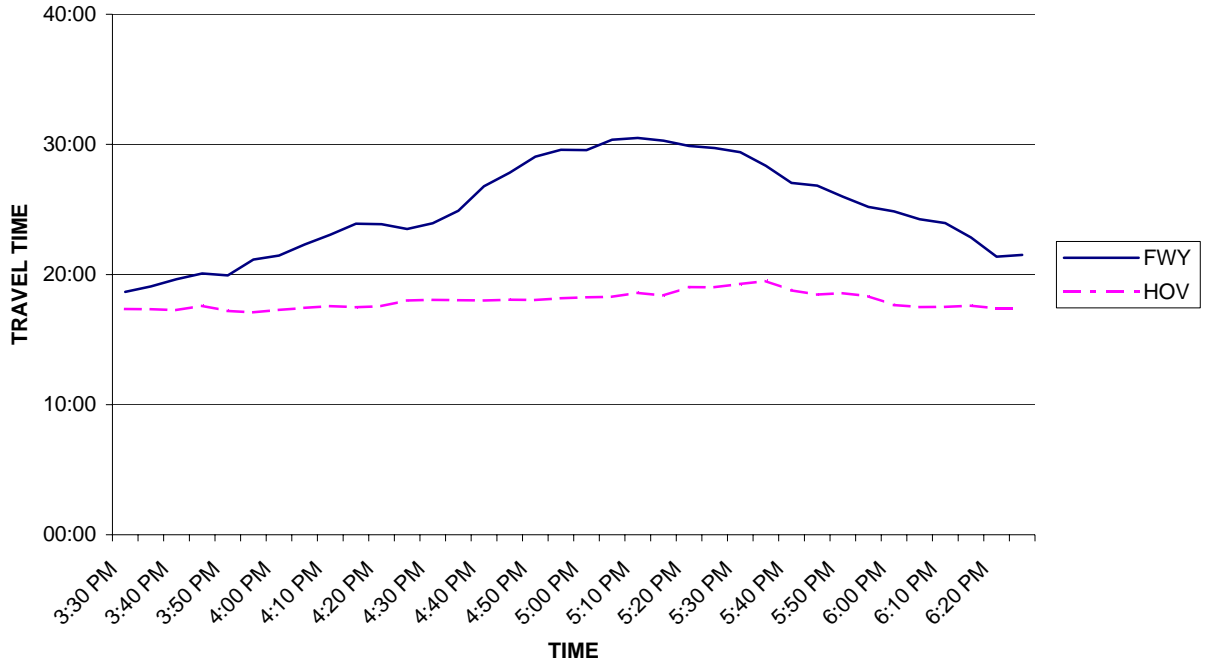
Freeway N I-45 North
 Limit Quitman to FM 1960
 Freeway T: FWY-HOV
 Direction NB
 Date

Time 03:30 PM to 06:25 PM

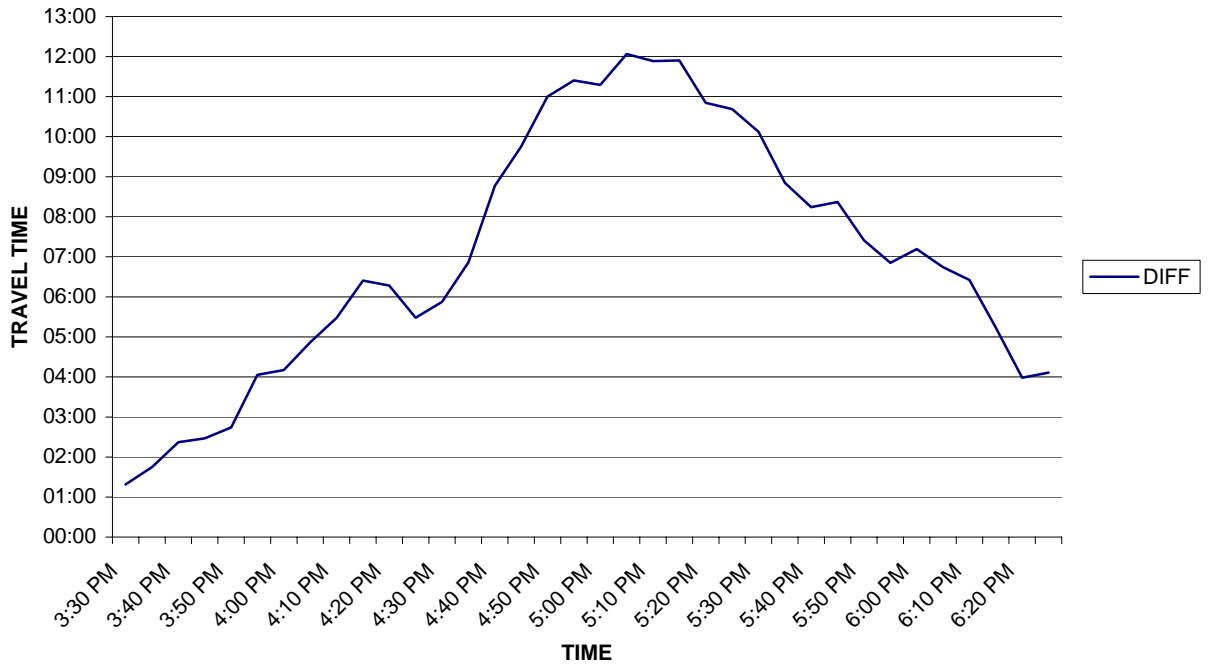
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION AREA DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	18.07	18:40	17:21	78.9	01:19	0.0 0:00:00
3:35 PM	18.07	19:06	17:21	104.8	01:45	459.2 0:07:39
3:40 PM	18.07	19:38	17:16	142.2	02:22	617.5 0:10:18
3:45 PM	18.07	20:04	17:36	147.9	02:28	725.3 0:12:05
3:50 PM	18.07	19:57	17:12	164.3	02:44	780.5 0:13:01
3:55 PM	18.07	21:09	17:06	243.2	04:03	1,018.8 0:16:59
4:00 PM	18.07	21:27	17:17	250.3	04:10	1,233.9 0:20:34
4:05 PM	18.07	22:18	17:26	292.0	04:52	1,355.7 0:22:36
4:10 PM	18.07	23:03	17:34	328.6	05:29	1,551.3 0:25:51
4:15 PM	18.07	23:54	17:30	384.5	06:24	1,782.6 0:29:43
4:20 PM	18.07	23:52	17:35	377.1	06:17	1,904.0 0:31:44
4:25 PM	18.07	23:30	18:01	329.0	05:29	1,765.3 0:29:25
4:30 PM	18.07	23:56	18:04	352.6	05:53	1,703.9 0:28:24
4:35 PM	18.07	24:54	18:02	411.5	06:52	1,910.3 0:31:50
4:40 PM	18.07	26:47	18:01	526.3	08:46	2,344.6 0:39:05
4:45 PM	18.07	27:50	18:05	585.1	09:45	2,778.5 0:46:18
4:50 PM	18.07	29:03	18:03	660.2	11:00	3,113.2 0:51:53
4:55 PM	18.07	29:35	18:11	684.4	11:24	3,361.4 0:56:01
5:00 PM	18.07	29:33	18:16	677.7	11:18	3,405.3 0:56:45
5:05 PM	18.07	30:21	18:17	723.9	12:04	3,504.2 0:58:24
5:10 PM	18.07	30:29	18:36	713.4	11:53	3,593.3 0:59:53
5:15 PM	18.07	30:17	18:23	714.3	11:54	3,569.2 0:59:29
5:20 PM	18.07	29:53	19:02	650.7	10:51	3,412.4 0:56:52
5:25 PM	18.07	29:43	19:02	641.5	10:41	3,230.5 0:53:50
5:30 PM	18.07	29:24	19:17	607.4	10:07	3,122.2 0:52:02
5:35 PM	18.07	28:21	19:30	530.9	08:51	2,845.8 0:47:26
5:40 PM	18.07	27:02	18:48	494.3	08:14	2,563.1 0:42:43
5:45 PM	18.07	26:50	18:28	502.1	08:22	2,491.2 0:41:31
5:50 PM	18.07	25:59	18:34	444.7	07:25	2,367.0 0:39:27
5:55 PM	18.07	25:11	18:20	410.8	06:51	2,138.8 0:35:39
6:00 PM	18.07	24:51	17:40	431.5	07:11	2,105.8 0:35:06
6:05 PM	18.07	24:15	17:30	404.5	06:44	2,090.0 0:34:50
6:10 PM	18.07	23:57	17:31	385.5	06:25	1,975.0 0:32:55
6:15 PM	18.07	22:51	17:37	314.0	05:14	1,748.8 0:29:09
6:20 PM	18.07	21:22	17:23	238.8	03:59	1,382.1 0:23:02
6:25 PM	18.07	21:30	17:23	246.6	04:07	1,213.6 0:20:14

	sec	dd:hh:mm:ss
MAX DIFF	723.9	12:04
MIN DIFF	78.9	01:19
AVG DIFF	422.1	07:02
STD DEV	190.4	03:10
TOT AREA	75,164.0	00:20:52:44

I- 45 NORTH FREEWAY PM NB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS



I- 45 NORTH FREEWAY PM NB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS

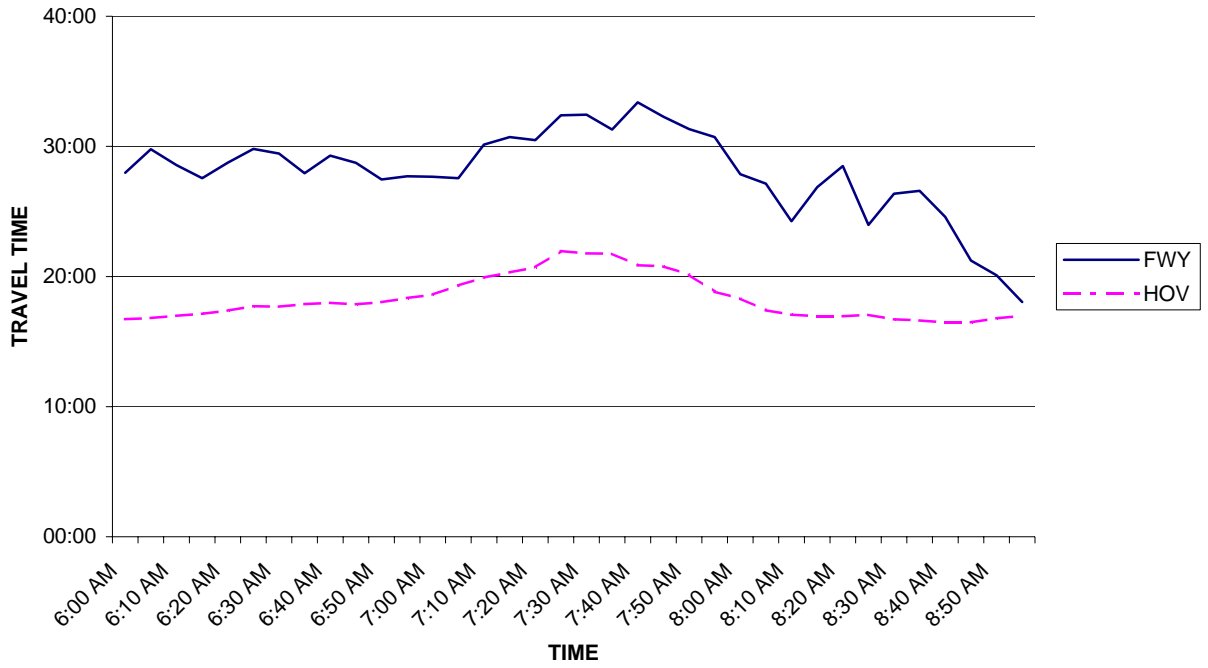


Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway Type FWY-HOV
 Direction SB
 Date
 Time 06:00 AM to 08:55 AM

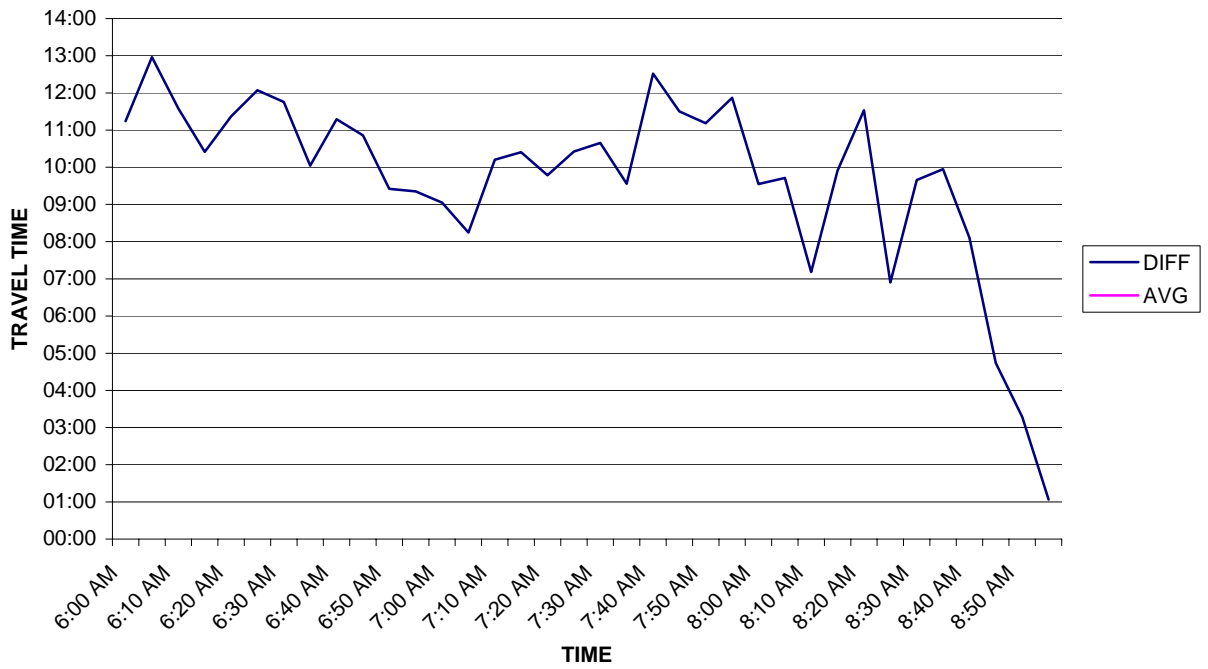
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION	SECTION AREA
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CUR' DIFF CURVE
6:00 AM	18.07	27:58	16:43	674.5	11:15	0.0 0:00:00
6:05 AM	18.07	29:47	16:49	777.8	12:58	3,630.8 1:00:31
6:10 AM	18.07	28:34	16:59	694.9	11:35	3,681.6 1:01:22
6:15 AM	18.07	27:33	17:08	624.9	10:25	3,299.5 0:54:59
6:20 AM	18.07	28:45	17:23	682.2	11:22	3,267.8 0:54:28
6:25 AM	18.07	29:48	17:44	724.3	12:04	3,516.1 0:58:36
6:30 AM	18.07	29:27	17:41	705.6	11:46	3,574.6 0:59:35
6:35 AM	18.07	27:56	17:53	602.7	10:03	3,270.7 0:54:31
6:40 AM	18.07	29:17	17:59	677.7	11:18	3,200.8 0:53:21
6:45 AM	18.07	28:44	17:52	651.5	10:52	3,322.9 0:55:23
6:50 AM	18.07	27:27	18:02	565.3	09:25	3,041.9 0:50:42
6:55 AM	18.07	27:42	18:21	561.2	09:21	2,816.0 0:46:56
7:00 AM	18.07	27:40	18:37	543.1	09:03	2,760.6 0:46:01
7:05 AM	18.07	27:33	19:18	494.6	08:15	2,594.1 0:43:14
7:10 AM	18.07	30:08	19:56	612.2	10:12	2,767.0 0:46:07
7:15 AM	18.07	30:43	20:19	624.3	10:24	3,091.4 0:51:31
7:20 AM	18.07	30:29	20:42	587.2	09:47	3,028.8 0:50:29
7:25 AM	18.07	32:23	21:58	625.4	10:25	3,031.4 0:50:31
7:30 AM	18.07	32:26	21:47	639.4	10:39	3,162.0 0:52:42
7:35 AM	18.07	31:18	21:45	573.5	09:33	3,032.2 0:50:32
7:40 AM	18.07	33:23	20:52	751.1	12:31	3,311.3 0:55:11
7:45 AM	18.07	32:17	20:47	690.1	11:30	3,603.0 1:00:03
7:50 AM	18.07	31:20	20:09	671.1	11:11	3,403.0 0:56:43
7:55 AM	18.07	30:43	18:51	712.1	11:52	3,457.9 0:57:38
8:00 AM	18.07	27:52	18:19	573.0	09:33	3,212.7 0:53:33
8:05 AM	18.07	27:08	17:25	582.8	09:43	2,889.6 0:48:10
8:10 AM	18.07	24:15	17:04	430.9	07:11	2,534.4 0:42:14
8:15 AM	18.07	26:52	16:57	594.6	09:55	2,563.7 0:42:44
8:20 AM	18.07	28:29	16:57	692.0	11:32	3,216.5 0:53:36
8:25 AM	18.07	23:58	17:04	414.5	06:54	2,766.1 0:46:06
8:30 AM	18.07	26:22	16:43	579.3	09:39	2,484.5 0:41:24
8:35 AM	18.07	26:35	16:38	597.1	09:57	2,941.1 0:49:01
8:40 AM	18.07	24:35	16:29	486.3	08:06	2,708.6 0:45:09
8:45 AM	18.07	21:13	16:29	284.1	04:44	1,926.1 0:32:06
8:50 AM	18.07	20:05	16:48	197.3	03:17	1,203.4 0:20:03
8:55 AM	18.07	18:03	16:59	63.9	01:04	652.8 0:10:53

	sec	dd:hh:mm:ss
MAX DIFF	777.8	12:58
MIN DIFF	63.9	01:04
AVG DIFF	582.3	09:42
TOT AREA	102,964.9	01:04:36:05
STD DEV	149.5	02:30

I-45 NORTH FREEWAY AM SB SCHOOL IN 2+ LANES 0-15 MINUTE INCIDENTS



I-45 NORTH FREEWAY AM SB SCHOOL IN 2+ LANES 0-15 MINUTE INCIDENTS

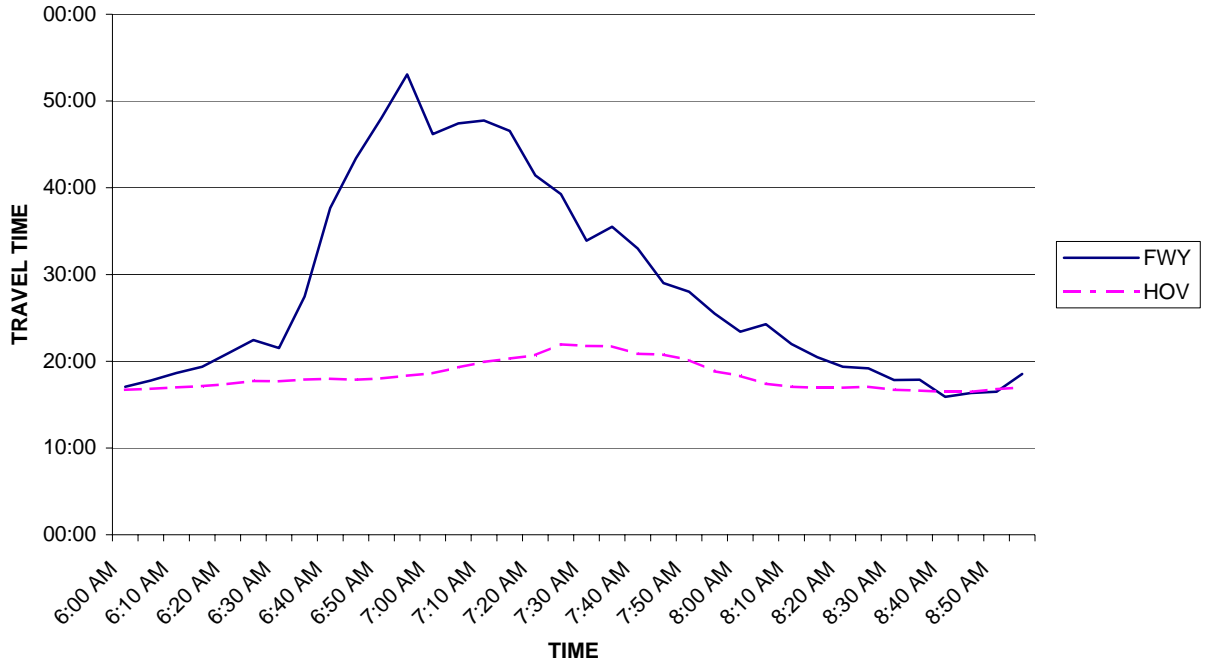


Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway Type FWY-HOV
 Direction SB
 Date
 Time 06:00 AM to 08:55 AM

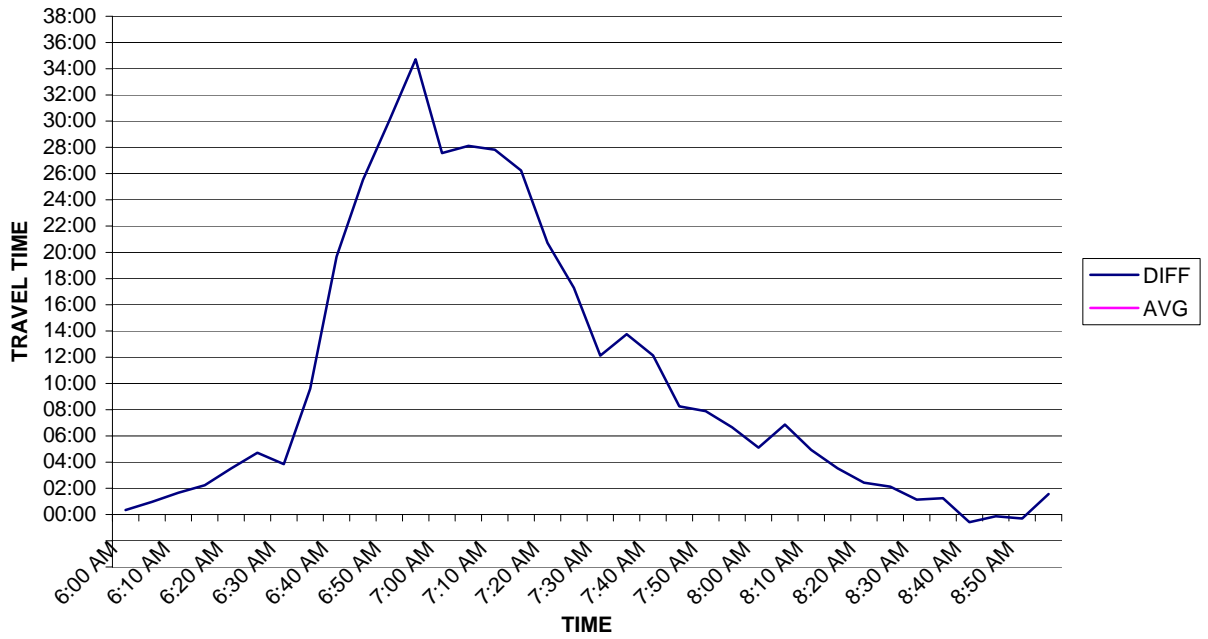
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION	SECTION AREA
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CUR' DIFF CURVE
6:00 AM	18.07	17:04	16:43	20.5	00:21	0.0 0:00:00
6:05 AM	18.07	17:47	16:49	57.8	00:58	195.8 0:03:16
6:10 AM	18.07	18:39	16:59	99.9	01:40	394.1 0:06:34
6:15 AM	18.07	19:22	17:08	133.9	02:14	584.5 0:09:44
6:20 AM	18.07	20:54	17:23	211.2	03:31	862.8 0:14:23
6:25 AM	18.07	22:27	17:44	283.3	04:43	1,236.1 0:20:36
6:30 AM	18.07	21:32	17:41	230.6	03:51	1,284.6 0:21:25
6:35 AM	18.07	27:29	17:53	575.7	09:36	2,015.7 0:33:36
6:40 AM	18.07	37:40	17:59	1,180.7	19:41	4,390.8 1:13:11
6:45 AM	18.07	43:24	17:52	1,531.5	25:31	6,780.4 1:53:00
6:50 AM	18.07	48:04	18:02	1,802.3	30:02	8,334.4 2:18:54
6:55 AM	18.07	53:04	18:21	2,083.2	34:43	9,713.5 2:41:54
7:00 AM	18.07	46:11	18:37	1,654.1	27:34	9,343.1 2:35:43
7:05 AM	18.07	47:25	19:18	1,686.6	28:07	8,351.6 2:19:12
7:10 AM	18.07	47:45	19:56	1,669.2	27:49	8,389.5 2:19:50
7:15 AM	18.07	46:33	20:19	1,574.3	26:14	8,108.9 2:15:09
7:20 AM	18.07	41:25	20:42	1,243.2	20:43	7,043.8 1:57:24
7:25 AM	18.07	39:16	21:58	1,038.4	17:18	5,703.9 1:35:04
7:30 AM	18.07	33:54	21:47	727.4	12:07	4,414.5 1:13:34
7:35 AM	18.07	35:30	21:45	825.5	13:45	3,882.2 1:04:42
7:40 AM	18.07	33:00	20:52	728.1	12:08	3,883.8 1:04:44
7:45 AM	18.07	29:02	20:47	495.1	08:15	3,058.0 0:50:58
7:50 AM	18.07	28:02	20:09	473.1	07:53	2,420.5 0:40:21
7:55 AM	18.07	25:30	18:51	399.1	06:39	2,180.4 0:36:20
8:00 AM	18.07	23:25	18:19	306.0	05:06	1,762.7 0:29:23
8:05 AM	18.07	24:17	17:25	411.8	06:52	1,794.6 0:29:55
8:10 AM	18.07	22:00	17:04	295.9	04:56	1,769.4 0:29:29
8:15 AM	18.07	20:29	16:57	211.6	03:32	1,268.7 0:21:09
8:20 AM	18.07	19:23	16:57	146.0	02:26	894.0 0:14:54
8:25 AM	18.07	19:11	17:04	127.5	02:07	683.6 0:11:24
8:30 AM	18.07	17:51	16:43	68.3	01:08	489.5 0:08:09
8:35 AM	18.07	17:53	16:38	75.1	01:15	358.6 0:05:59
8:40 AM	18.07	15:54	16:29	-34.7	#####	101.1 0:01:41
8:45 AM	18.07	16:21	16:29	-7.9	#####	-106.4 #####
8:50 AM	18.07	16:30	16:48	-17.8	#####	-64.1 #####
8:55 AM	18.07	18:33	16:59	93.9	01:34	190.3 0:03:10

	sec	dd:hh:mm:ss
MAX DIFF	2,083.2	34:43
MIN DIFF	-34.7	#####
AVG DIFF	622.2	10:22
TOT AREA	111,714.9	01:07:01:55
STD DEV	637.4	10:37

I-45 NORTH FREEWAY AM SB SCHOOL IN 2+ LANES 16-30 MINUTE INCIDENTS



I-45 NORTH FREEWAY AM SB SCHOOL IN 2+ LANES 16-30 MINUTE INCIDENTS

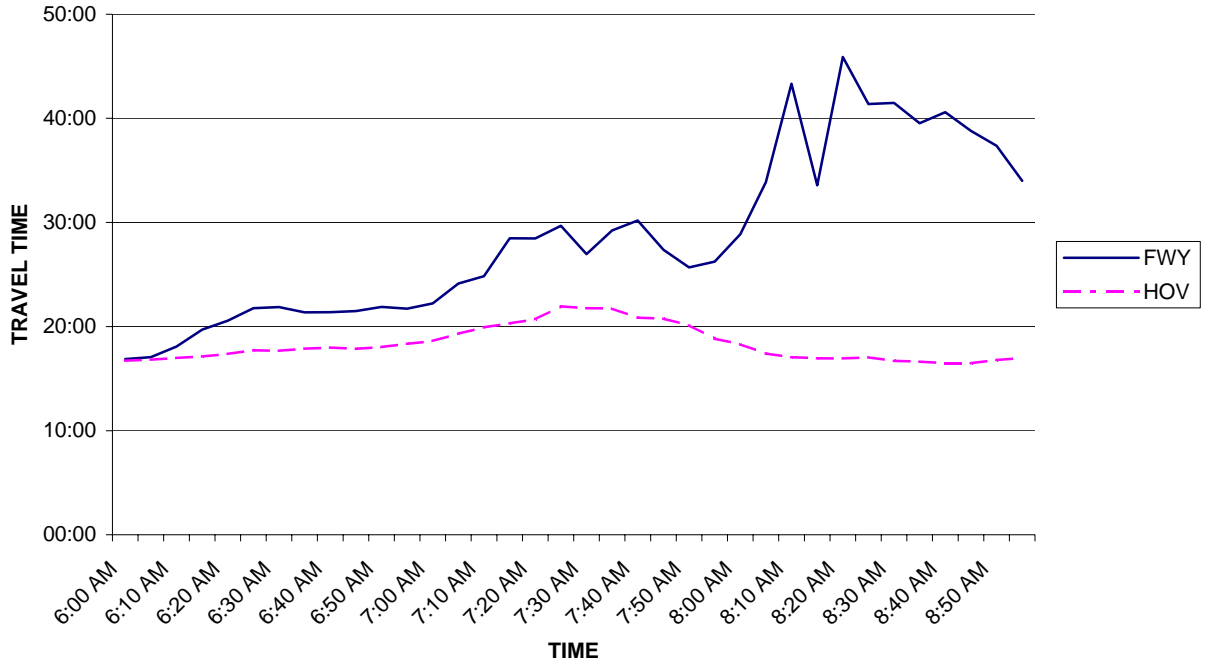


Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway Type FWY-HOV
 Direction SB
 Date
 Time 06:00 AM to 08:55 AM

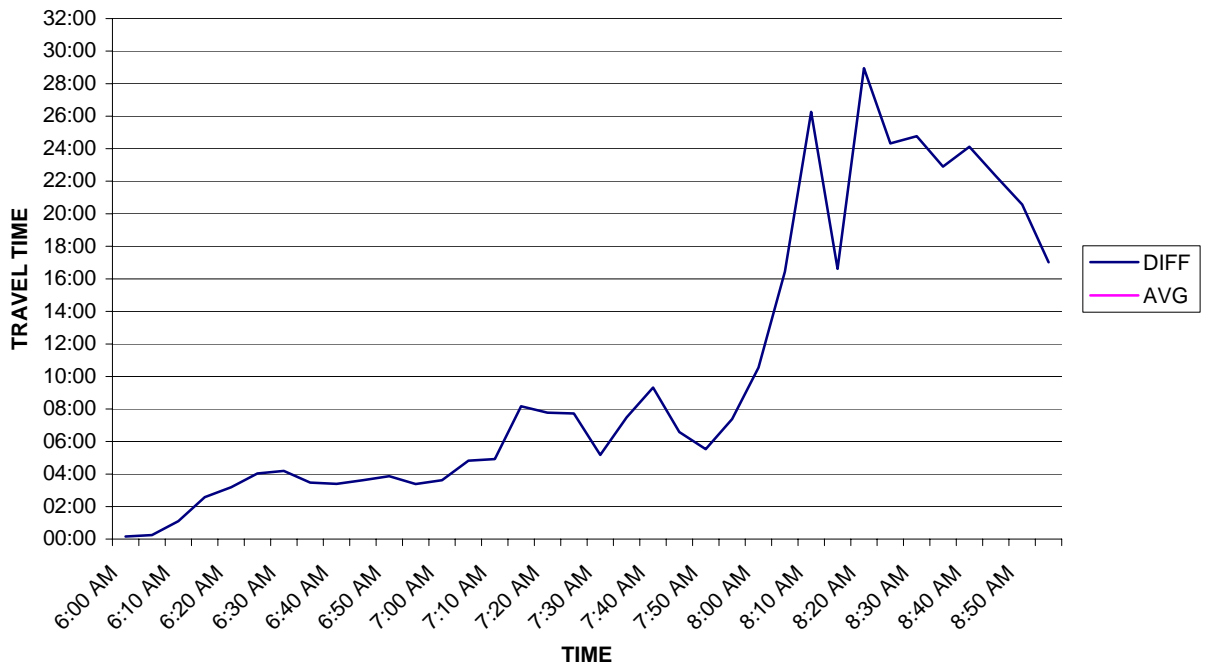
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION	SECTION AREA
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CUR' DIFF CURVE
6:00 AM	18.07	16:53	16:43	9.5	00:10	0.0 0:00:00
6:05 AM	18.07	17:04	16:49	14.8	00:15	60.8 0:01:01
6:10 AM	18.07	18:05	16:59	65.9	01:06	201.6 0:03:22
6:15 AM	18.07	19:43	17:08	154.9	02:35	552.0 0:09:12
6:20 AM	18.07	20:34	17:23	191.2	03:11	865.3 0:14:25
6:25 AM	18.07	21:46	17:44	242.3	04:02	1,083.6 0:18:04
6:30 AM	18.07	21:53	17:41	251.6	04:12	1,234.6 0:20:35
6:35 AM	18.07	21:22	17:53	208.7	03:29	1,150.7 0:19:11
6:40 AM	18.07	21:23	17:59	203.7	03:24	1,030.8 0:17:11
6:45 AM	18.07	21:30	17:52	217.5	03:38	1,052.9 0:17:33
6:50 AM	18.07	21:54	18:02	232.3	03:52	1,124.4 0:18:44
6:55 AM	18.07	21:44	18:21	203.2	03:23	1,088.5 0:18:09
7:00 AM	18.07	22:14	18:37	217.1	03:37	1,050.6 0:17:31
7:05 AM	18.07	24:08	19:18	289.6	04:50	1,266.6 0:21:07
7:10 AM	18.07	24:51	19:56	295.2	04:55	1,462.0 0:24:22
7:15 AM	18.07	28:29	20:19	490.3	08:10	1,963.9 0:32:44
7:20 AM	18.07	28:28	20:42	466.2	07:46	2,391.3 0:39:51
7:25 AM	18.07	29:41	21:58	463.4	07:43	2,323.9 0:38:44
7:30 AM	18.07	26:57	21:47	310.4	05:10	1,934.5 0:32:14
7:35 AM	18.07	29:14	21:45	449.5	07:29	1,899.7 0:31:40
7:40 AM	18.07	30:11	20:52	559.1	09:19	2,521.3 0:42:01
7:45 AM	18.07	27:22	20:47	395.1	06:35	2,385.5 0:39:46
7:50 AM	18.07	25:41	20:09	332.1	05:32	1,818.0 0:30:18
7:55 AM	18.07	26:14	18:51	443.1	07:23	1,937.9 0:32:18
8:00 AM	18.07	28:52	18:19	633.0	10:33	2,690.2 0:44:50
8:05 AM	18.07	33:52	17:25	986.8	16:27	4,049.6 1:07:30
8:10 AM	18.07	43:20	17:04	1575.9	26:16	6,406.9 1:46:47
8:15 AM	18.07	33:34	16:57	996.6	16:37	6,431.2 1:47:11
8:20 AM	18.07	45:54	16:57	1737.0	28:57	6,834.0 1:53:54
8:25 AM	18.07	41:23	17:04	1459.5	24:19	7,991.1 2:13:11
8:30 AM	18.07	41:29	16:43	1486.3	24:46	7,364.5 2:02:44
8:35 AM	18.07	39:32	16:38	1374.1	22:54	7,151.1 1:59:11
8:40 AM	18.07	40:36	16:29	1447.3	24:07	7,053.6 1:57:34
8:45 AM	18.07	38:48	16:29	1339.1	22:19	6,966.1 1:56:06
8:50 AM	18.07	37:22	16:48	1234.3	20:34	6,433.4 1:47:13
8:55 AM	18.07	34:00	16:59	1020.9	17:01	5,637.8 1:33:58

	sec	dd:hh:mm:ss
MAX DIFF	1737.0	28:57
MIN DIFF	9.5	00:10
AVG DIFF	611.0	10:11
TOT AREA	107409.9	01:05:50:10
STD DEV	520.6	08:41

I-45 NORTH FREEWAY AM SB SCHOOL IN 2+ LANES 31-45 MINUTE INCIDENTS



I-45 NORTH FREEWAY AM SB SCHOOL IN 2+ LANES 31-45 MINUTE INCIDENTS

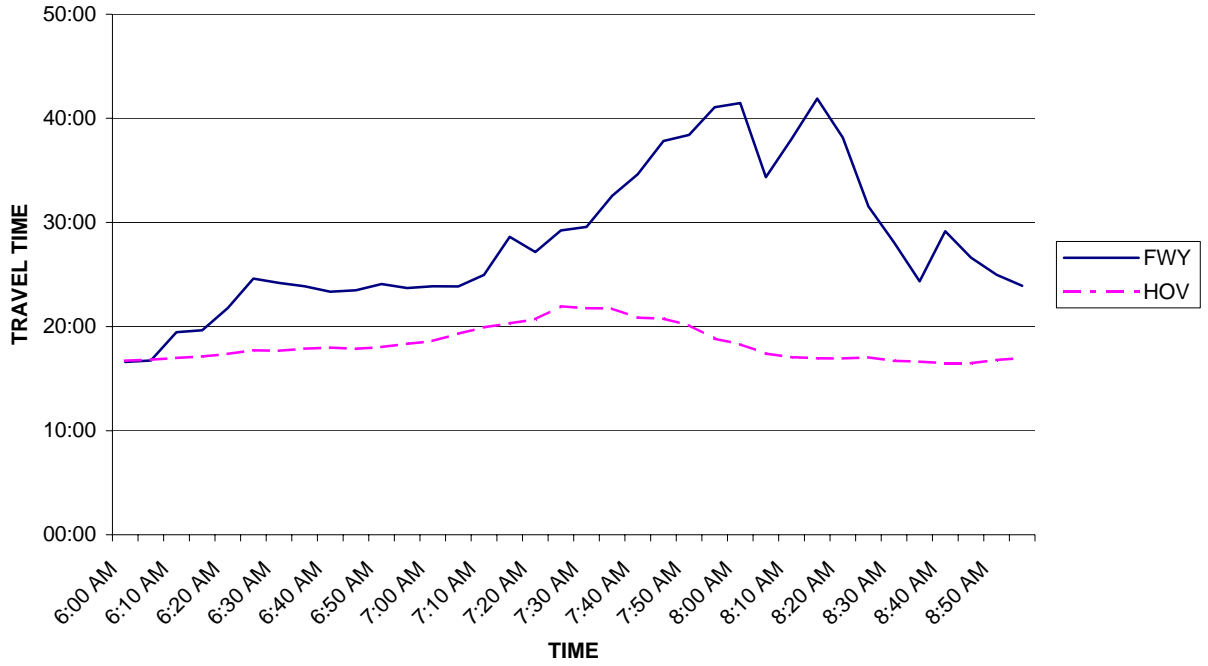


Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway Type FWY-HOV
 Direction SB
 Date
 Time 06:00 AM to 08:55 AM

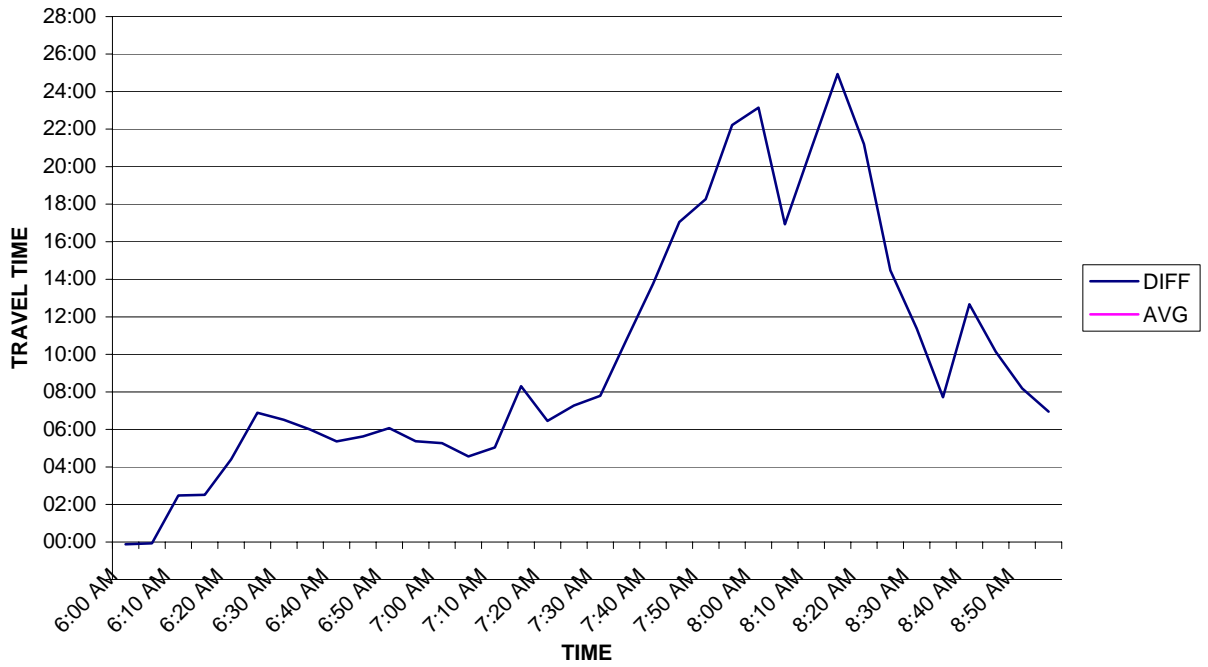
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION	SECTION AREA
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CUR' DIFF CURVE
6:00 AM	18.07	16:36	16:43	-7.5	#####	0.0 0:00:00
6:05 AM	18.07	16:45	16:49	-4.2	#####	-29.2 #####
6:10 AM	18.07	19:28	16:59	148.9	02:29	361.6 0:06:02
6:15 AM	18.07	19:39	17:08	150.9	02:31	749.5 0:12:29
6:20 AM	18.07	21:47	17:23	264.2	04:24	1,037.8 0:17:18
6:25 AM	18.07	24:37	17:44	413.3	06:53	1,693.6 0:28:14
6:30 AM	18.07	24:12	17:41	390.6	06:31	2,009.6 0:33:30
6:35 AM	18.07	23:53	17:53	359.7	06:00	1,875.7 0:31:16
6:40 AM	18.07	23:21	17:59	321.7	05:22	1,703.3 0:28:23
6:45 AM	18.07	23:30	17:52	337.5	05:38	1,647.9 0:27:28
6:50 AM	18.07	24:06	18:02	364.3	06:04	1,754.4 0:29:14
6:55 AM	18.07	23:43	18:21	322.2	05:22	1,716.0 0:28:36
7:00 AM	18.07	23:53	18:37	316.1	05:16	1,595.6 0:26:36
7:05 AM	18.07	23:52	19:18	273.6	04:34	1,474.1 0:24:34
7:10 AM	18.07	24:58	19:56	302.2	05:02	1,439.5 0:24:00
7:15 AM	18.07	28:37	20:19	498.3	08:18	2,001.4 0:33:21
7:20 AM	18.07	27:09	20:42	387.2	06:27	2,213.8 0:36:54
7:25 AM	18.07	29:14	21:58	436.4	07:16	2,058.9 0:34:19
7:30 AM	18.07	29:34	21:47	467.4	07:47	2,259.5 0:37:39
7:35 AM	18.07	32:33	21:45	648.5	10:48	2,789.7 0:46:30
7:40 AM	18.07	34:38	20:52	826.1	13:46	3,686.3 1:01:26
7:45 AM	18.07	37:50	20:47	1,023.1	17:03	4,623.0 1:17:03
7:50 AM	18.07	38:25	20:09	1,096.1	18:16	5,298.0 1:28:18
7:55 AM	18.07	41:04	18:51	1,333.1	22:13	6,072.9 1:41:13
8:00 AM	18.07	41:28	18:19	1,389.0	23:09	6,805.2 1:53:25
8:05 AM	18.07	34:21	17:25	1,015.8	16:56	6,012.1 1:40:12
8:10 AM	18.07	38:01	17:04	1,256.9	20:57	5,681.9 1:34:42
8:15 AM	18.07	41:54	16:57	1,496.6	24:57	6,883.7 1:54:44
8:20 AM	18.07	38:09	16:57	1,272.0	21:12	6,921.5 1:55:21
8:25 AM	18.07	31:32	17:04	868.5	14:28	5,351.1 1:29:11
8:30 AM	18.07	28:05	16:43	682.3	11:22	3,877.0 1:04:37
8:35 AM	18.07	24:21	16:38	463.1	07:43	2,863.6 0:47:44
8:40 AM	18.07	29:09	16:29	760.3	12:40	3,058.6 0:50:59
8:45 AM	18.07	26:37	16:29	608.1	10:08	3,421.1 0:57:01
8:50 AM	18.07	24:59	16:48	491.3	08:11	2,748.4 0:45:48
8:55 AM	18.07	23:56	16:59	416.9	06:57	2,270.3 0:37:50

	sec	dd:hh:mm:ss
MAX DIFF	1,496.6	24:57
MIN DIFF	-7.5	#####
AVG DIFF	594.2	09:54
TOT AREA	105,927.4	01:05:25:27
STD DEV	403.9	06:44

I-45 NORTH FREEWAY AM SB SCHOOL IN 2+ LANES 46-60 MINUTE INCIDENTS



I-45 NORTH FREEWAY AM SB SCHOOL IN 2+ LANES 46-60 MINUTE INCIDENTS

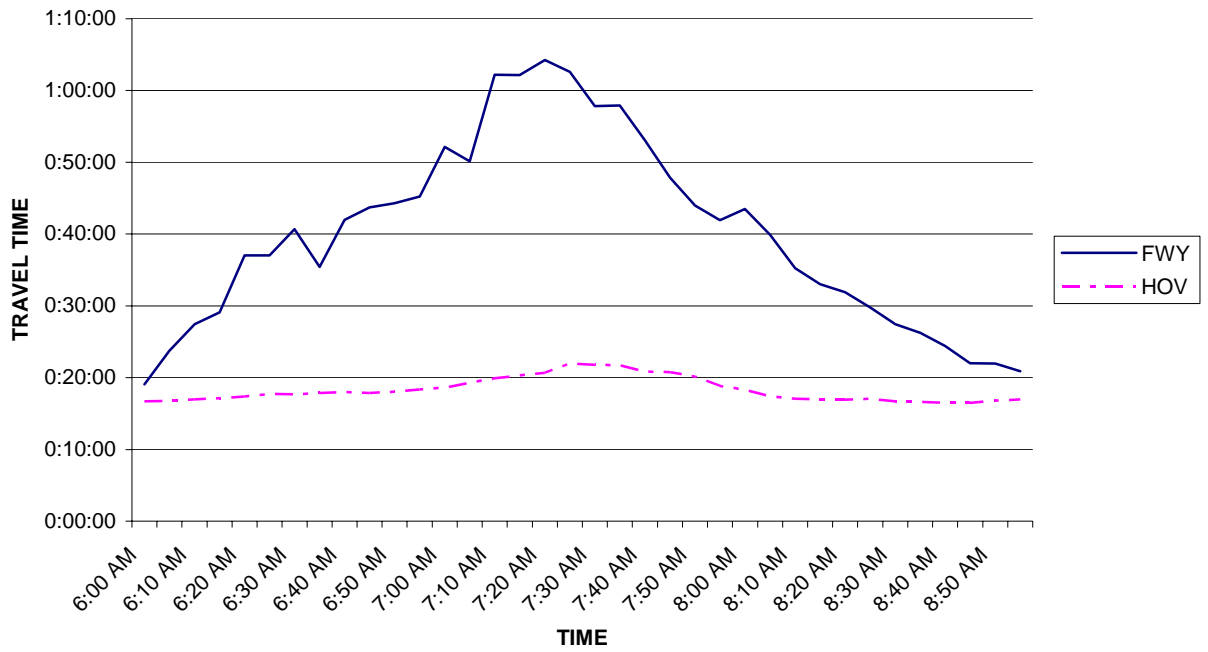


Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway Type FWY-HOV
 Direction SB
 Date
 Time 06:00 AM to 08:55 AM

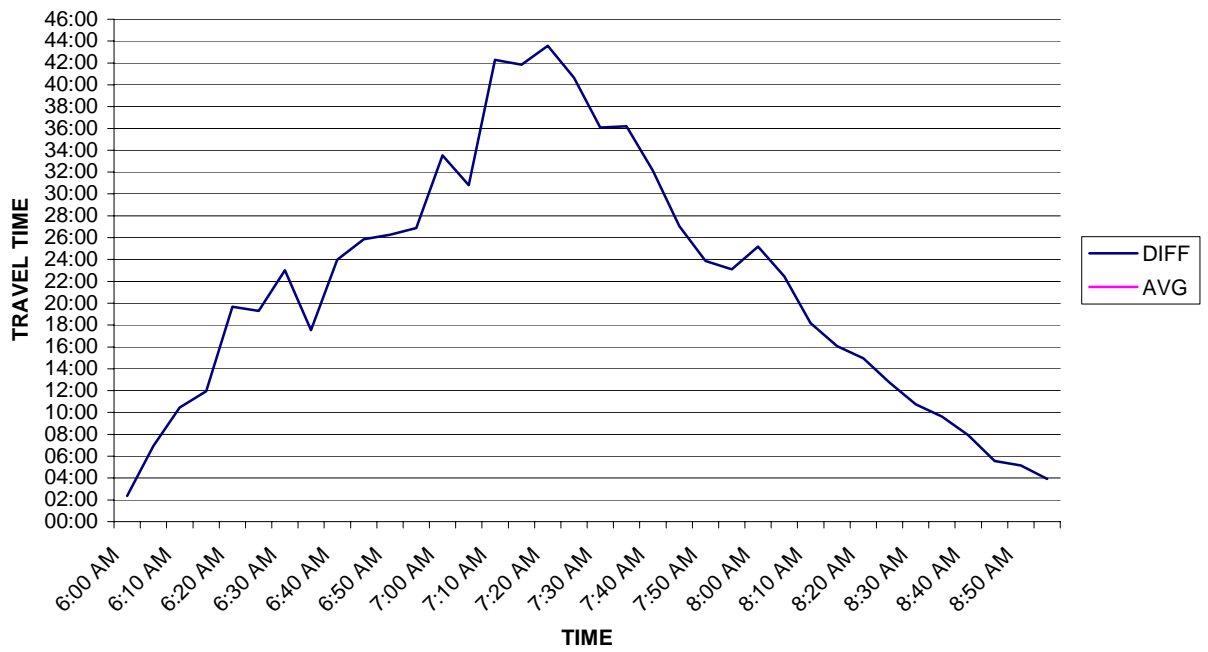
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION	SECTION AREA
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CUR' DIFF CURVE
6:00 AM	18.07	19:05	16:43	141.5	02:22	0.0 0:00:00
6:05 AM	18.07	23:46	16:49	416.8	06:57	1,395.8 0:23:16
6:10 AM	18.07	27:27	16:59	627.9	10:28	2,611.6 0:43:32
6:15 AM	18.07	29:05	17:08	716.9	11:57	3,362.0 0:56:02
6:20 AM	18.07	37:03	17:23	1,180.2	19:40	4,742.8 1:19:03
6:25 AM	18.07	37:01	17:44	1,157.3	19:17	5,843.6 1:37:24
6:30 AM	18.07	40:42	17:41	1,380.6	23:01	6,344.6 1:45:45
6:35 AM	18.07	35:25	17:53	1,051.7	17:32	6,080.7 1:41:21
6:40 AM	18.07	41:59	17:59	1,439.7	24:00	6,228.3 1:43:48
6:45 AM	18.07	43:44	17:52	1,551.5	25:52	7,477.9 2:04:38
6:50 AM	18.07	44:18	18:02	1,576.3	26:16	7,819.4 2:10:19
6:55 AM	18.07	45:13	18:21	1,612.2	26:52	7,971.0 2:12:51
7:00 AM	18.07	52:08	18:37	2,011.1	33:31	9,058.1 2:30:58
7:05 AM	18.07	50:07	19:18	1,848.6	30:49	9,649.1 2:40:49
7:10 AM	18.07	02:13	19:56	2,537.2	42:17	10,964.5 3:02:45
7:15 AM	18.07	02:10	20:19	2,511.3	41:51	12,621.4 3:30:21
7:20 AM	18.07	04:16	20:42	2,614.2	43:34	12,813.8 3:33:34
7:25 AM	18.07	02:36	21:58	2,438.4	40:38	12,631.4 3:30:31
7:30 AM	18.07	57:51	21:47	2,164.4	36:04	11,507.0 3:11:47
7:35 AM	18.07	57:57	21:45	2,172.5	36:12	10,842.2 3:00:42
7:40 AM	18.07	53:01	20:52	1,929.1	32:09	10,253.8 2:50:54
7:45 AM	18.07	47:51	20:47	1,624.1	27:04	8,883.0 2:28:03
7:50 AM	18.07	44:00	20:09	1,431.1	23:51	7,638.0 2:07:18
7:55 AM	18.07	41:57	18:51	1,386.1	23:06	7,042.9 1:57:23
8:00 AM	18.07	43:30	18:19	1,511.0	25:11	7,242.7 2:00:43
8:05 AM	18.07	39:52	17:25	1,346.8	22:27	7,144.6 1:59:05
8:10 AM	18.07	35:15	17:04	1,090.9	18:11	6,094.4 1:41:34
8:15 AM	18.07	33:02	16:57	964.6	16:05	5,138.7 1:25:39
8:20 AM	18.07	31:54	16:57	897.0	14:57	4,654.0 1:17:34
8:25 AM	18.07	29:47	17:04	763.5	12:43	4,151.1 1:09:11
8:30 AM	18.07	27:28	16:43	645.3	10:45	3,522.0 0:58:42
8:35 AM	18.07	26:16	16:38	578.1	09:38	3,058.6 0:50:59
8:40 AM	18.07	24:25	16:29	476.3	07:56	2,636.1 0:43:56
8:45 AM	18.07	22:02	16:29	333.1	05:33	2,023.6 0:33:44
8:50 AM	18.07	21:57	16:48	309.3	05:09	1,605.9 0:26:46
8:55 AM	18.07	20:54	16:59	234.9	03:55	1,360.3 0:22:40

	sec	dd:hh:mm:ss
MAX DIFF	2,614.2	43:34
MIN DIFF	141.5	02:22
AVG DIFF	1,296.4	21:36
TOT AREA	232,414.9	02:16:33:35
STD DEV	706.4	11:46

I-45 NORTH FREEWAY AM SB SCHOOL IN 2+ LANES 61+ MINUTE INCIDENTS



I-45 NORTH FREEWAY AM SB SCHOOL IN 2+ LANES 61+ MINUTE INCIDENTS

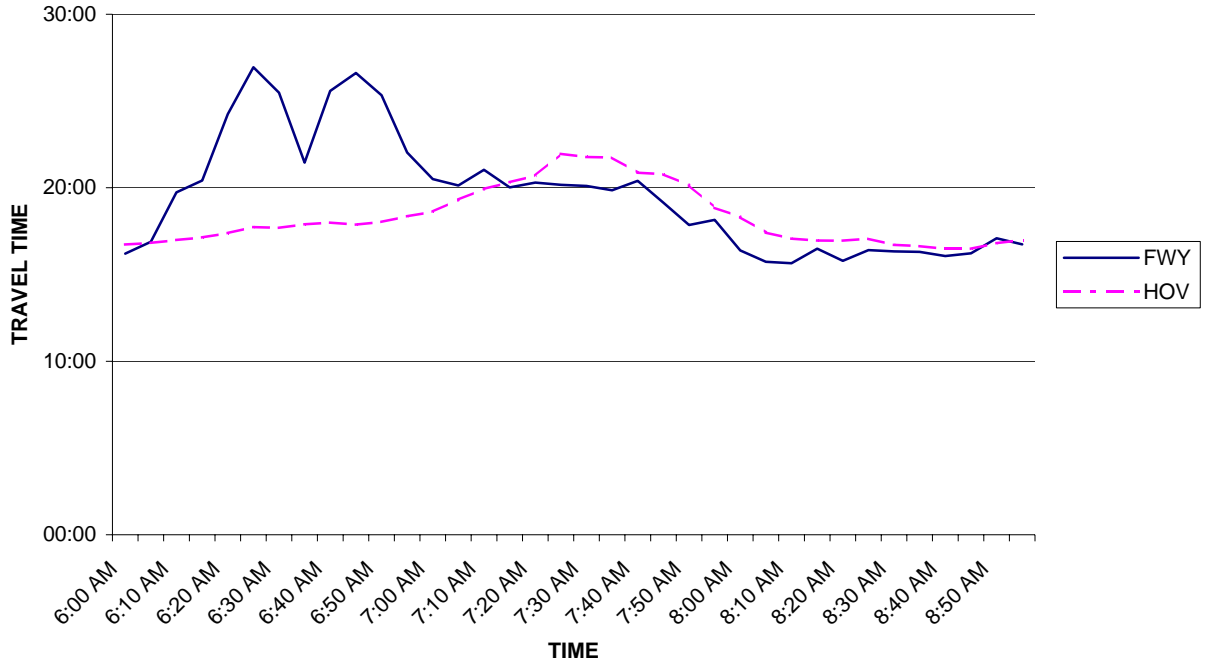


Freeway N I-45 North
 Limit FM 1960 to Quitman
 Freeway Type FWY-HOV
 Direction SB
 Date
 Time 06:00 AM to 08:55 AM

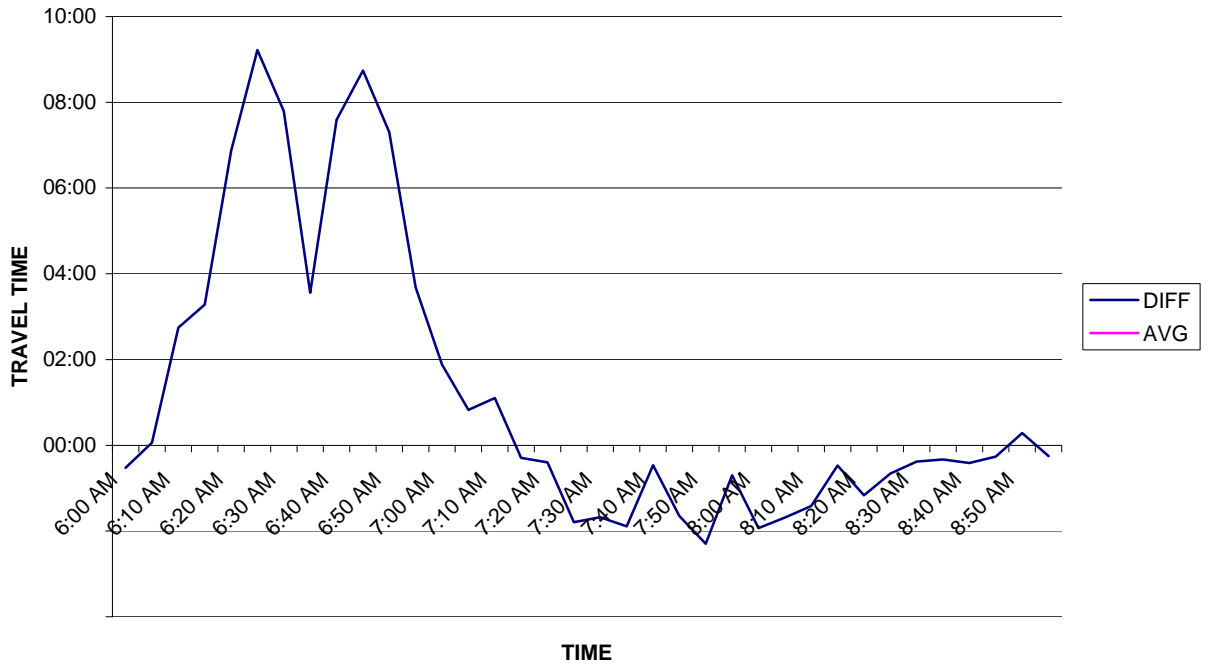
DIFFERENCE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION	SECTION AREA
Time	Distance	TravelTime	TravelTime	TravelTime	DIFF CUR	DIFF CURVE
6:00 AM	18.07	16:12	16:43	-31.5	#####	0.0 0:00:00
6:05 AM	18.07	16:53	16:49	3.8	00:04	-69.2 #####
6:10 AM	18.07	19:44	16:59	164.9	02:45	421.6 0:07:02
6:15 AM	18.07	20:25	17:08	196.9	03:17	904.5 0:15:04
6:20 AM	18.07	24:15	17:23	412.2	06:52	1,522.8 0:25:23
6:25 AM	18.07	26:57	17:44	553.3	09:13	2,413.6 0:40:14
6:30 AM	18.07	25:29	17:41	467.6	07:48	2,552.1 0:42:32
6:35 AM	18.07	21:27	17:53	213.7	03:34	1,703.2 0:28:23
6:40 AM	18.07	25:35	17:59	455.7	07:36	1,673.3 0:27:53
6:45 AM	18.07	26:37	17:52	524.5	08:45	2,450.4 0:40:50
6:50 AM	18.07	25:20	18:02	438.3	07:18	2,406.9 0:40:07
6:55 AM	18.07	22:02	18:21	221.2	03:41	1,648.5 0:27:29
7:00 AM	18.07	20:30	18:37	113.1	01:53	835.6 0:13:56
7:05 AM	18.07	20:08	19:18	49.6	00:50	406.6 0:06:47
7:10 AM	18.07	21:02	19:56	66.2	01:06	289.5 0:04:50
7:15 AM	18.07	20:01	20:19	-17.7	#####	121.4 0:02:01
7:20 AM	18.07	20:18	20:42	-23.8	#####	-103.7 #####
7:25 AM	18.07	20:10	21:58	-107.6	#####	-328.6 #####
7:30 AM	18.07	20:06	21:47	-100.6	#####	-520.5 #####
7:35 AM	18.07	19:51	21:45	-113.5	#####	-535.3 #####
7:40 AM	18.07	20:24	20:52	-27.9	#####	-353.7 #####
7:45 AM	18.07	19:08	20:47	-98.9	#####	-317.0 #####
7:50 AM	18.07	17:51	20:09	-137.9	#####	-592.0 #####
7:55 AM	18.07	18:09	18:51	-41.9	#####	-449.6 #####
8:00 AM	18.07	16:23	18:19	-116.0	#####	-394.8 #####
8:05 AM	18.07	15:44	17:25	-101.2	#####	-542.9 #####
8:10 AM	18.07	15:39	17:04	-85.1	#####	-465.6 #####
8:15 AM	18.07	16:29	16:57	-28.4	#####	-283.8 #####
8:20 AM	18.07	15:47	16:57	-70.0	#####	-246.0 #####
8:25 AM	18.07	16:24	17:04	-39.5	#####	-273.9 #####
8:30 AM	18.07	16:20	16:43	-22.7	#####	-155.5 #####
8:35 AM	18.07	16:18	16:38	-19.9	#####	-106.4 #####
8:40 AM	18.07	16:04	16:29	-24.7	#####	-111.4 #####
8:45 AM	18.07	16:13	16:29	-15.9	#####	-101.4 #####
8:50 AM	18.07	17:05	16:48	17.3	00:17	3.4 0:00:03
8:55 AM	18.07	16:44	16:59	-15.1	#####	5.3 0:00:05

MAX DIFF	553.3	09:13
MIN DIFF	-137.9	#####
AVG DIFF	73.8	01:14
TOT AREA	13,407.4	00:03:43:27
STD DEV	204.4	03:24

I-45 NORTH FREEWAY AM SB SCHOOL OUT 2+ LANES 16-30 MINUTE INCIDENTS



I-45 NORTH FREEWAY AM SB SCHOOL OUT 2+ LANES 16-30 MINUTE INCIDENTS

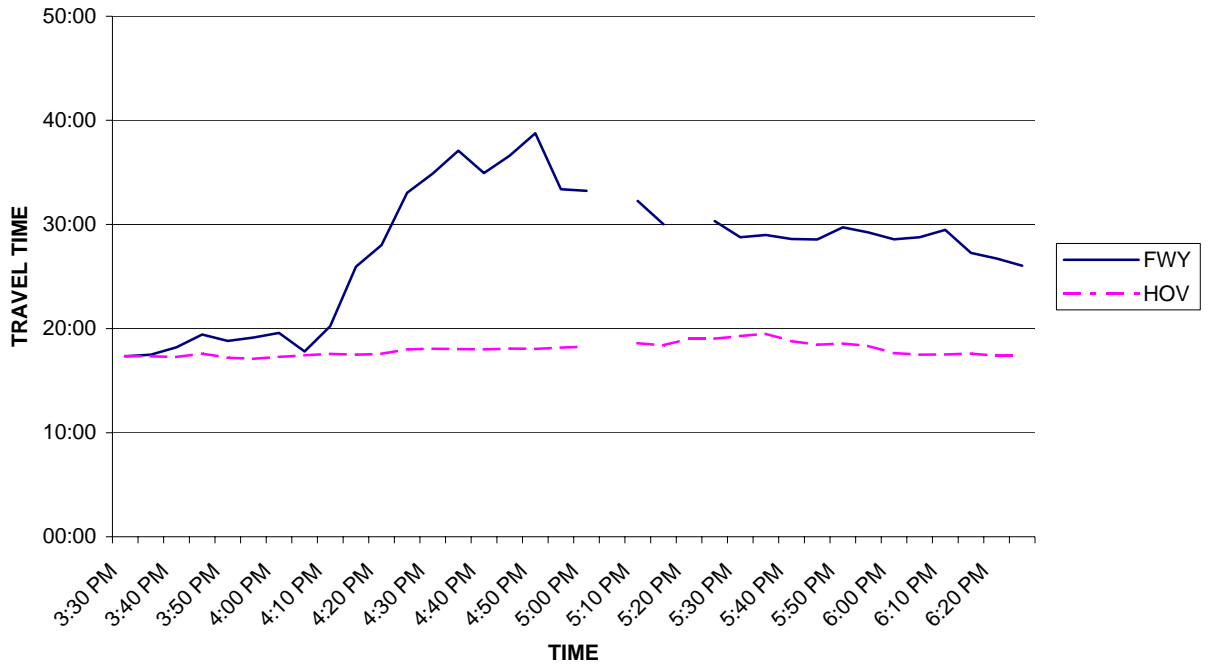


Freeway N I-45 North
 Limit Quitman to FM 1960
 Freeway Type FWY-HOV
 Direction NB
 Date
 Time 03:30 PM to 06:25 PM

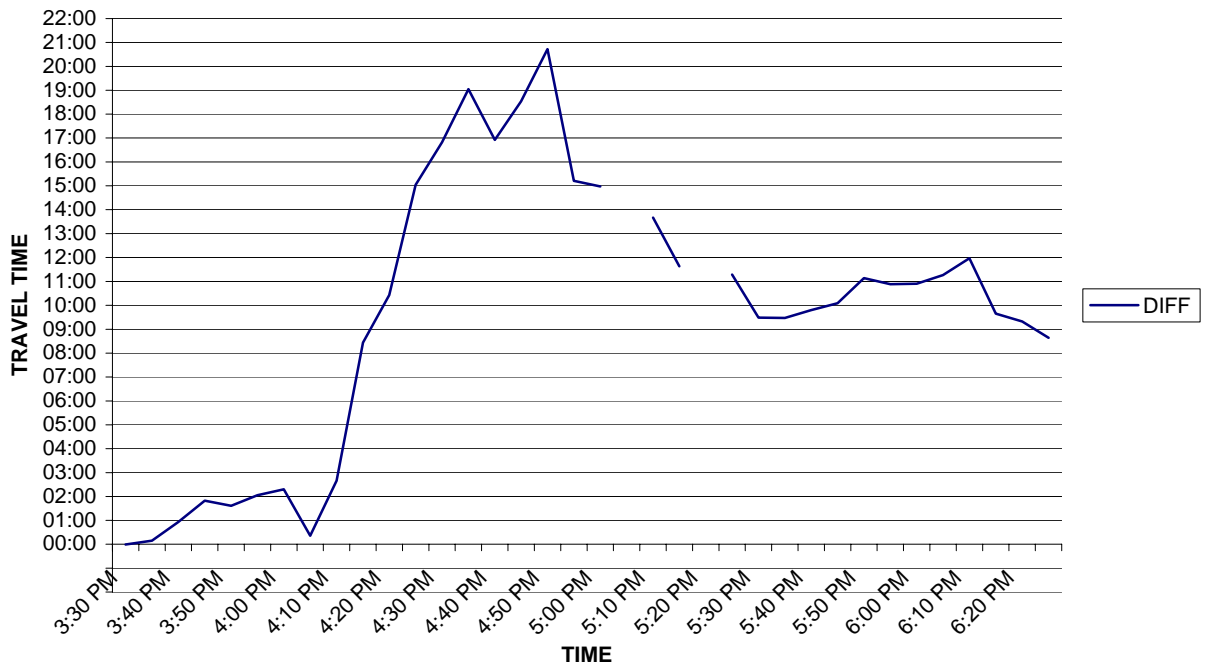
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	18.07	17:21	17:21	-0.4	#####	0.0	0:00:00
3:35 PM	18.07	17:30	17:21	9.1	00:09	21.7	0:00:22
3:40 PM	18.07	18:12	17:16	55.9	00:56	162.5	0:02:43
3:45 PM	18.07	19:26	17:36	109.6	01:50	413.6	0:06:54
3:50 PM	18.07	18:49	17:12	96.6	01:37	515.5	0:08:36
3:55 PM	18.07	19:09	17:06	123.2	02:03	549.7	0:09:10
4:00 PM	18.07	19:35	17:17	138.0	02:18	653.1	0:10:53
4:05 PM	18.07	17:48	17:26	21.6	00:22	399.1	0:06:39
4:10 PM	18.07	20:14	17:34	159.6	02:40	453.0	0:07:33
4:15 PM	18.07	25:56	17:30	506.5	08:26	1,665.1	0:27:45
4:20 PM	18.07	28:01	17:35	626.1	10:26	2,831.5	0:47:11
4:25 PM	18.07	33:03	18:01	902.3	15:02	3,821.1	1:03:41
4:30 PM	18.07	34:53	18:04	1,009.2	16:49	4,778.9	1:19:39
4:35 PM	18.07	37:05	18:02	1,142.9	19:03	5,380.3	1:29:40
4:40 PM	18.07	34:56	18:01	1,015.3	16:55	5,395.4	1:29:55
4:45 PM	18.07	36:37	18:05	1,112.4	18:32	5,319.3	1:28:39
4:50 PM	18.07	38:46	18:03	1,243.2	20:43	5,889.0	1:38:09
4:55 PM	18.07	33:23	18:11	912.4	15:12	5,388.9	1:29:49
5:00 PM	18.07	33:14	18:16	898.4	14:58	4,527.0	1:15:27
5:05 PM	18.07						
5:10 PM	18.07	32:16	18:36	820.1	13:40		
5:15 PM	18.07	30:01	18:23	697.9	11:38	3,795.0	1:03:15
5:20 PM	18.07		19:02				
5:25 PM	18.07	30:19	19:02	677.1	11:17		
5:30 PM	18.07	28:46	19:17	569.4	09:29	3,116.3	0:51:56
5:35 PM	18.07	28:59	19:30	568.6	09:29	2,844.9	0:47:25
5:40 PM	18.07	28:36	18:48	588.0	09:48	2,891.5	0:48:11
5:45 PM	18.07	28:33	18:28	605.5	10:05	2,983.7	0:49:44
5:50 PM	18.07	29:43	18:34	668.7	11:09	3,185.3	0:53:05
5:55 PM	18.07	29:14	18:20	653.5	10:54	3,305.4	0:55:05
6:00 PM	18.07	28:34	17:40	654.5	10:54	3,270.0	0:54:30
6:05 PM	18.07	28:46	17:30	675.8	11:16	3,325.8	0:55:26
6:10 PM	18.07	29:29	17:31	717.8	11:58	3,484.1	0:58:04
6:15 PM	18.07	27:16	17:37	579.3	09:39	3,242.9	0:54:03
6:20 PM	18.07	26:43	17:23	559.5	09:20	2,847.1	0:47:27
6:25 PM	18.07	26:02	17:23	518.6	08:39	2,695.3	0:44:55

	sec	dd:hh:mm:ss
MAX DIFF	1,243.2	20:43
MIN DIFF	-0.4	#####
AVG DIFF	577.5	09:38
STD DEV	354.8	05:55
TOT AREA	89,151.9	01:00:45:52

I- 45 NORTH FREEWAY PM NB 2+ MAIN LANES SCHOOL IN 0-15 MINUTE INCIDENTS



I- 45 NORTH FREEWAY PM NB 2+ MAIN LANES SCHOOL IN 0-15 MINUTE INCIDENTS



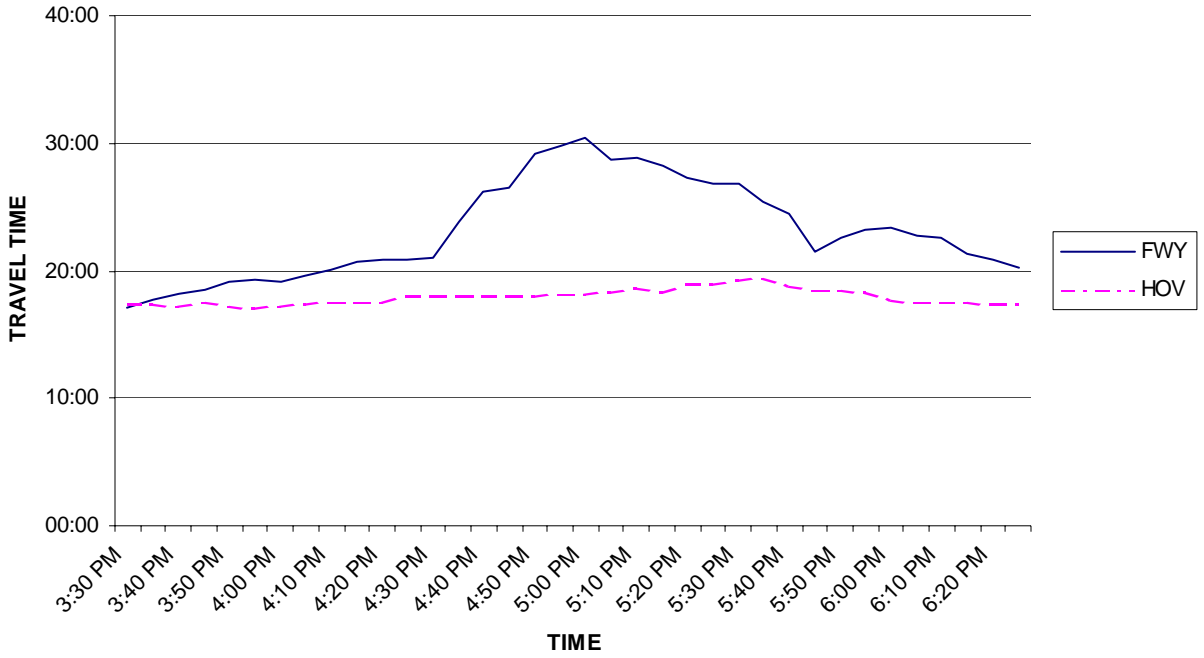
Freeway N I-45 North
 Limit Quitman to FM 1960
 Freeway T: FWY-HOV
 Direction NB
 Date

Time 03:30 PM to 06:25 PM

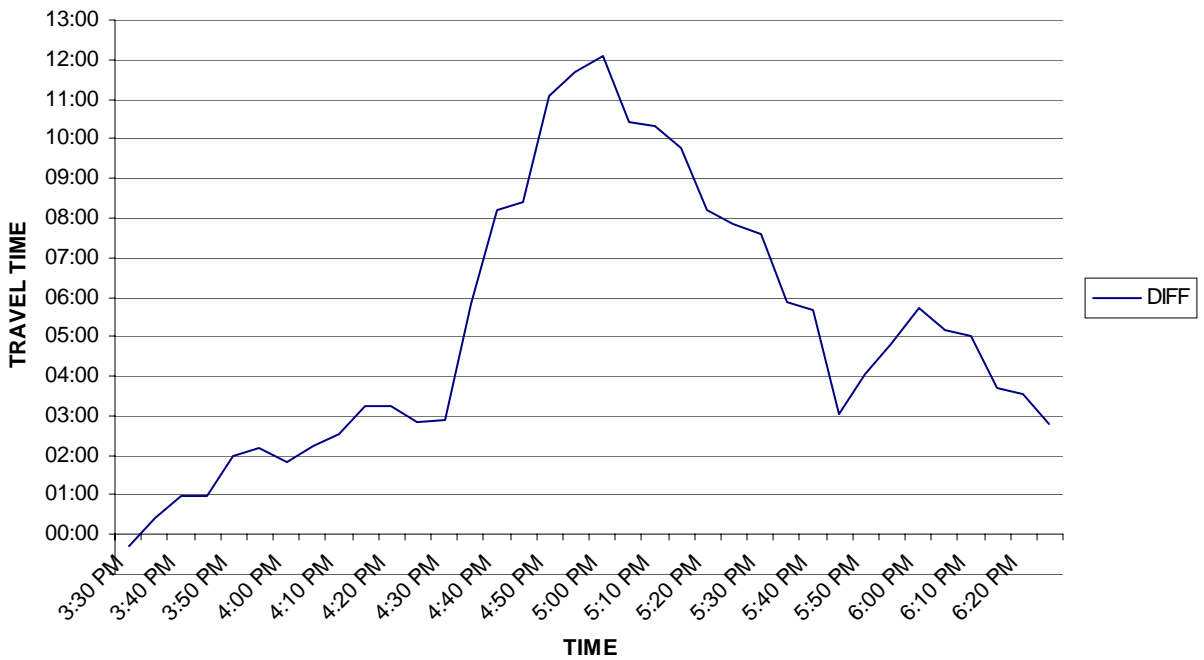
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
3:30 PM	18.07	17:05	17:21	-16.4	#####	0.0	0:00:00
3:35 PM	18.07	17:45	17:21	24.5	00:24	20.1	0:00:20
3:40 PM	18.07	18:15	17:16	58.9	00:59	208.4	0:03:28
3:45 PM	18.07	18:34	17:36	57.3	00:57	290.3	0:04:50
3:50 PM	18.07	19:11	17:12	118.3	01:58	438.9	0:07:19
3:55 PM	18.07	19:18	17:06	132.2	02:12	626.3	0:10:26
4:00 PM	18.07	19:05	17:17	108.3	01:48	601.4	0:10:01
4:05 PM	18.07	19:40	17:26	134.0	02:14	605.7	0:10:06
4:10 PM	18.07	20:07	17:34	152.2	02:32	715.5	0:11:55
4:15 PM	18.07	20:45	17:30	195.5	03:15	869.2	0:14:29
4:20 PM	18.07	20:49	17:35	193.8	03:14	973.1	0:16:13
4:25 PM	18.07	20:52	18:01	171.3	02:51	912.8	0:15:13
4:30 PM	18.07	20:58	18:04	173.9	02:54	863.0	0:14:23
4:35 PM	18.07	23:53	18:02	350.5	05:51	1,311.1	0:21:51
4:40 PM	18.07	26:12	18:01	491.6	08:12	2,105.4	0:35:05
4:45 PM	18.07	26:27	18:05	502.8	08:23	2,486.0	0:41:26
4:50 PM	18.07	29:09	18:03	665.8	11:06	2,921.5	0:48:42
4:55 PM	18.07	29:53	18:11	702.1	11:42	3,419.8	0:57:00
5:00 PM	18.07	30:21	18:16	725.7	12:06	3,569.5	0:59:30
5:05 PM	18.07	28:44	18:17	626.6	10:27	3,380.8	0:56:21
5:10 PM	18.07	28:55	18:36	618.7	10:19	3,113.3	0:51:53
5:15 PM	18.07	28:10	18:23	586.6	09:47	3,013.3	0:50:13
5:20 PM	18.07	27:15	19:02	492.4	08:12	2,697.4	0:44:57
5:25 PM	18.07	26:52	19:02	470.1	07:50	2,406.3	0:40:06
5:30 PM	18.07	26:53	19:17	456.4	07:36	2,316.3	0:38:36
5:35 PM	18.07	25:22	19:30	351.9	05:52	2,020.8	0:33:41
5:40 PM	18.07	24:28	18:48	339.7	05:40	1,729.0	0:28:49
5:45 PM	18.07	21:31	18:28	183.5	03:03	1,307.8	0:21:48
5:50 PM	18.07	22:36	18:34	242.0	04:02	1,063.7	0:17:44
5:55 PM	18.07	23:09	18:20	288.5	04:48	1,326.3	0:22:06
6:00 PM	18.07	23:24	17:40	344.0	05:44	1,581.3	0:26:21
6:05 PM	18.07	22:41	17:30	310.8	05:11	1,637.0	0:27:17
6:10 PM	18.07	22:31	17:31	300.2	05:00	1,527.5	0:25:27
6:15 PM	18.07	21:19	17:37	222.7	03:43	1,307.1	0:21:47
6:20 PM	18.07	20:56	17:23	212.8	03:33	1,088.8	0:18:09
6:25 PM	18.07	20:12	17:23	168.3	02:48	952.8	0:15:53

	sec	dd:hh:mm:ss
MAX DIFF	725.7	12:06
MIN DIFF	-16.4	#####
AVG DIFF	309.9	05:10
STD DEV	205.9	03:26
TOT AREA	55,407.3	00:15:23:27

I- 45 NORTH FREEWAY PM NB 2+ MAIN LANES SCHOOL IN 16-30 MINUTE INCIDENTS



I- 45 NORTH FREEWAY PM NB 2+ MAIN LANES SCHOOL IN 16-30 MINUTE INCIDENTS



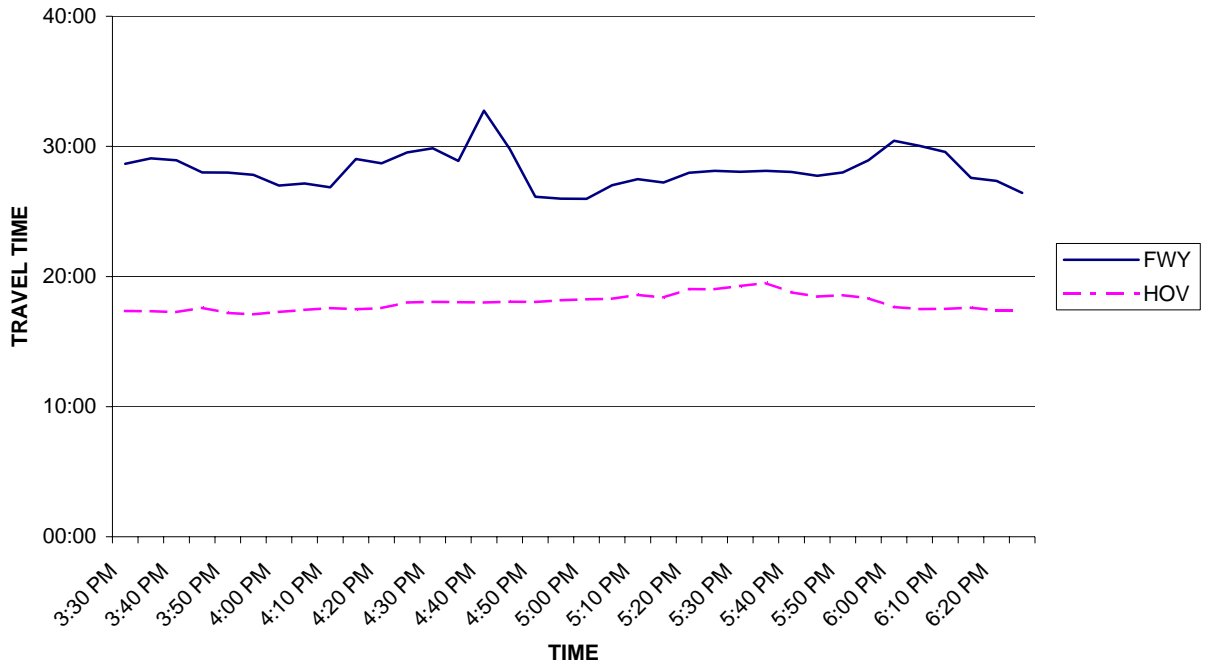
Freeway N I-45 North
 Limit Quitman to FM 1960
 Freeway T: FWY-HOV
 Direction NB
 Date

Time 03:30 PM to 06:25 PM

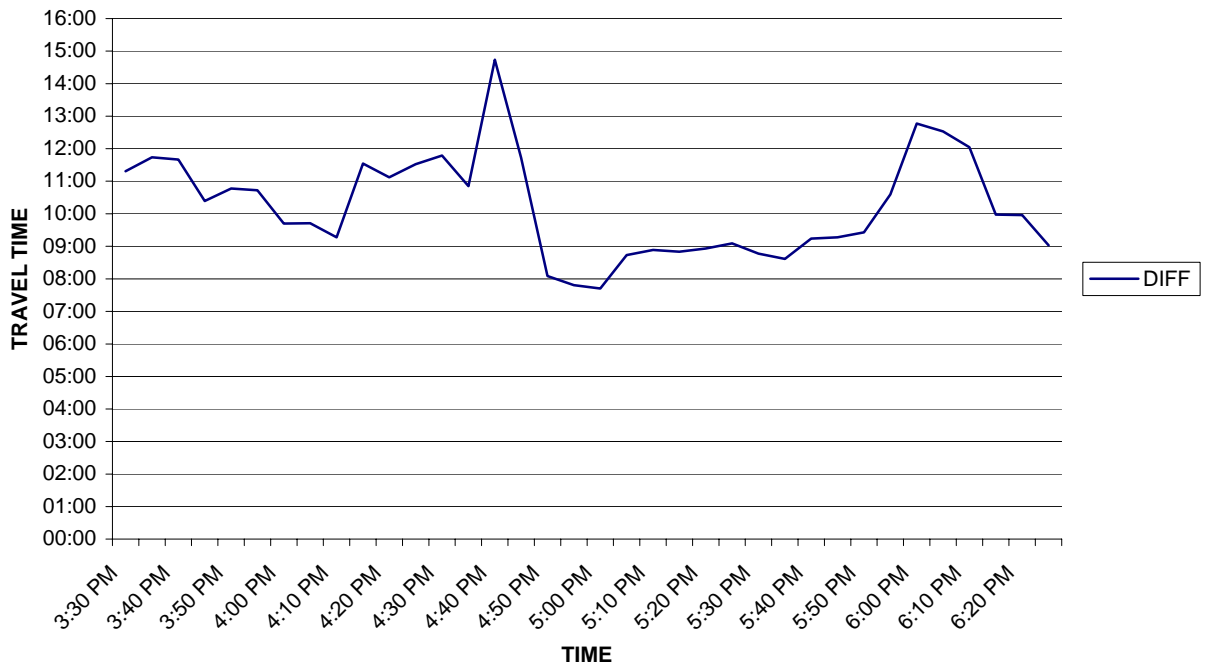
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	18.07	28:40	17:21	678.6	11:19	0.0	0:00:00
3:35 PM	18.07	29:05	17:21	704.1	11:44	3,456.7	0:57:37
3:40 PM	18.07	28:56	17:16	699.9	11:40	3,510.0	0:58:30
3:45 PM	18.07	28:00	17:36	623.6	10:24	3,308.6	0:55:09
3:50 PM	18.07	27:59	17:12	646.6	10:47	3,175.5	0:52:56
3:55 PM	18.07	27:49	17:06	643.2	10:43	3,224.7	0:53:45
4:00 PM	18.07	26:59	17:17	582.0	09:42	3,063.1	0:51:03
4:05 PM	18.07	27:09	17:26	582.6	09:43	2,911.6	0:48:32
4:10 PM	18.07	26:51	17:34	556.6	09:17	2,848.0	0:47:28
4:15 PM	18.07	29:02	17:30	692.5	11:32	3,122.6	0:52:03
4:20 PM	18.07	28:42	17:35	667.1	11:07	3,399.0	0:56:39
4:25 PM	18.07	29:32	18:01	691.3	11:31	3,396.1	0:56:36
4:30 PM	18.07	29:51	18:04	707.2	11:47	3,496.4	0:58:16
4:35 PM	18.07	28:53	18:02	650.9	10:51	3,395.3	0:56:35
4:40 PM	18.07	32:45	18:01	884.3	14:44	3,837.9	1:03:58
4:45 PM	18.07	29:48	18:05	703.4	11:43	3,969.3	1:06:09
4:50 PM	18.07	26:08	18:03	485.2	08:05	2,971.5	0:49:32
4:55 PM	18.07	25:59	18:11	468.4	07:48	2,383.9	0:39:44
5:00 PM	18.07	25:58	18:16	462.4	07:42	2,327.0	0:38:47
5:05 PM	18.07	27:01	18:17	523.6	08:44	2,465.0	0:41:05
5:10 PM	18.07	27:29	18:36	533.1	08:53	2,641.7	0:44:02
5:15 PM	18.07	27:13	18:23	529.9	08:50	2,657.5	0:44:17
5:20 PM	18.07	27:58	19:02	535.7	08:56	2,664.1	0:44:24
5:25 PM	18.07	28:07	19:02	545.1	09:05	2,702.1	0:45:02
5:30 PM	18.07	28:03	19:17	526.4	08:46	2,678.8	0:44:39
5:35 PM	18.07	28:07	19:30	516.6	08:37	2,607.4	0:43:27
5:40 PM	18.07	28:02	18:48	554.0	09:14	2,676.5	0:44:36
5:45 PM	18.07	27:44	18:28	556.5	09:16	2,776.2	0:46:16
5:50 PM	18.07	28:00	18:34	565.7	09:26	2,805.3	0:46:45
5:55 PM	18.07	28:56	18:20	635.5	10:36	3,002.9	0:50:03
6:00 PM	18.07	30:26	17:40	766.5	12:46	3,505.0	0:58:25
6:05 PM	18.07	30:02	17:30	751.8	12:32	3,795.8	1:03:16
6:10 PM	18.07	29:34	17:31	722.8	12:03	3,686.6	1:01:27
6:15 PM	18.07	27:35	17:37	598.3	09:58	3,302.9	0:55:03
6:20 PM	18.07	27:21	17:23	597.5	09:58	2,989.6	0:49:50
6:25 PM	18.07	26:25	17:23	541.6	09:02	2,847.8	0:47:28

	sec	dd:hh:mm:ss
MAX DIFF	884.3	14:44
MIN DIFF	462.4	07:42
AVG DIFF	614.7	10:15
STD DEV	94.6	01:35
TOT AREA	107,602.3	01:05:53:22

I- 45 NORTH FREEWAY PM NB 2+ MAIN LANES SCHOOL IN 31-45 MINUTE INCIDENTS



I- 45 NORTH FREEWAY PM NB 2+ MAIN LANES SCHOOL IN 31-45 MINUTE INCIDENTS

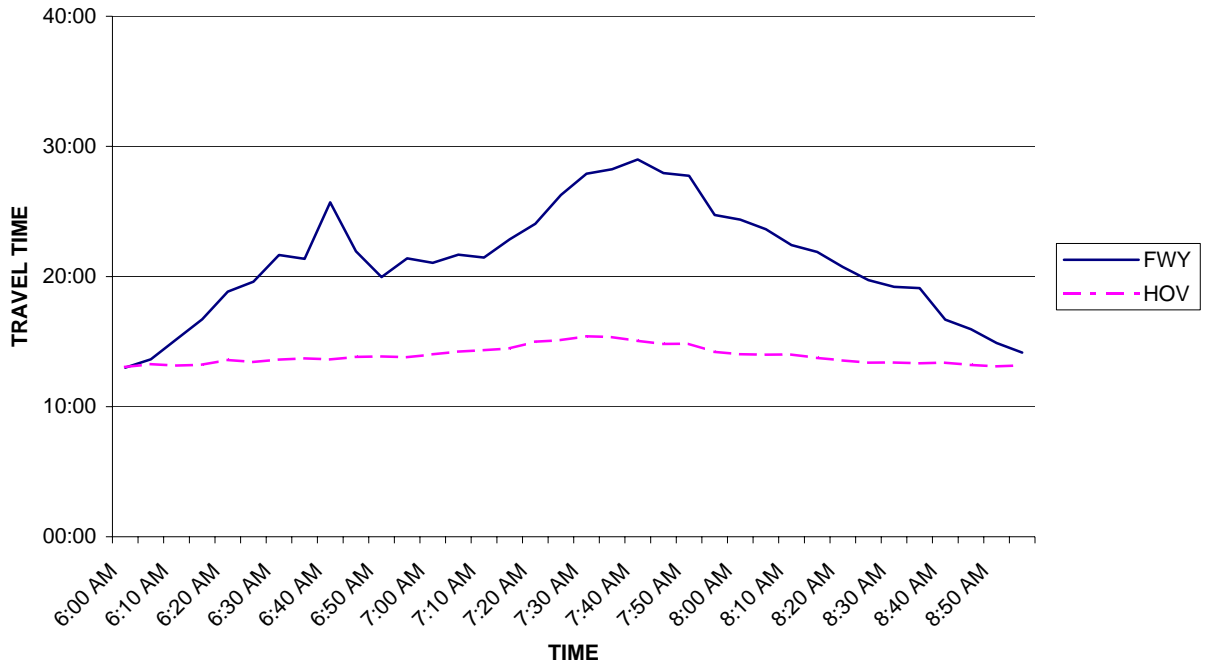


Freeway N I-45 Gulf
 Limit Dixie Farm Rd to Scott Street
 Freeway Type FWY-HOV
 Direction NB
 Date
 Time 06:00 AM to 08:55 AM

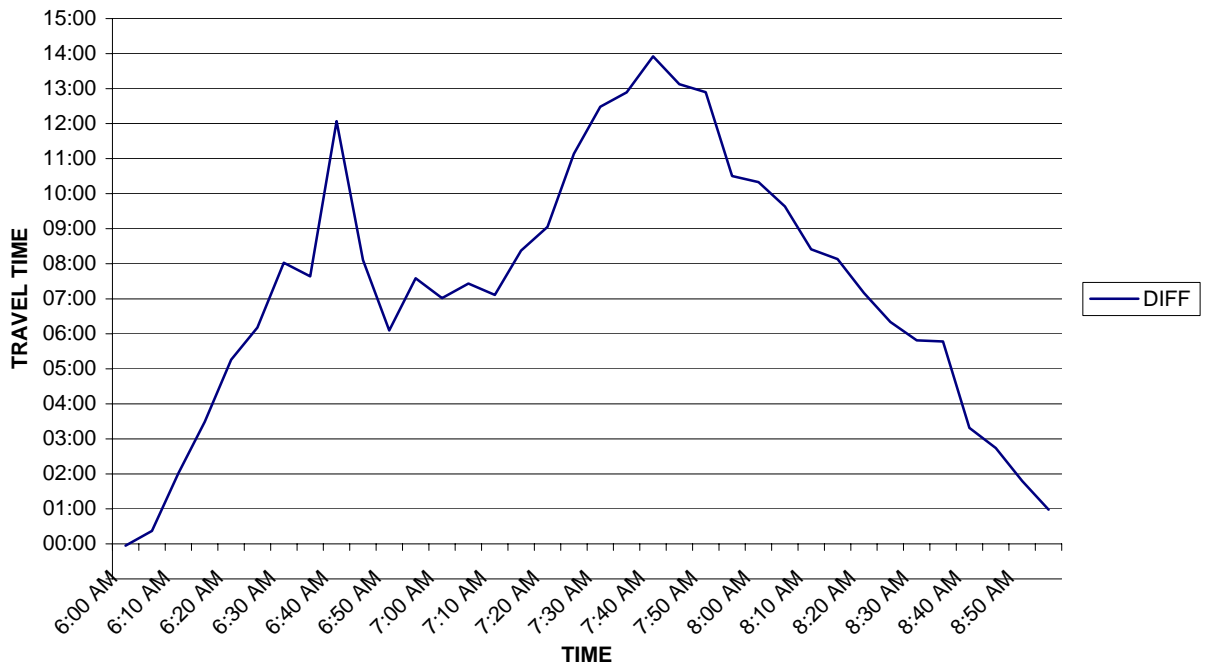
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	13.73	13:00	13:03	-2.9	#####	0.0	0:00:00
6:05 AM	13.73	13:38	13:16	22.2	00:22	48.1	0:00:48
6:10 AM	13.73	15:11	13:10	120.9	02:01	357.7	0:05:58
6:15 AM	13.73	16:43	13:13	209.3	03:29	825.6	0:13:46
6:20 AM	13.73	18:51	13:35	315.6	05:16	1,312.3	0:21:52
6:25 AM	13.73	19:37	13:26	370.7	06:11	1,715.8	0:28:36
6:30 AM	13.73	21:39	13:37	481.5	08:02	2,130.7	0:35:31
6:35 AM	13.73	21:21	13:43	458.3	07:38	2,349.5	0:39:10
6:40 AM	13.73	25:42	13:38	724.3	12:04	2,956.5	0:49:16
6:45 AM	13.73	21:56	13:50	486.2	08:06	3,026.3	0:50:26
6:50 AM	13.73	19:58	13:52	365.9	06:06	2,130.3	0:35:30
6:55 AM	13.73	21:24	13:48	455.2	07:35	2,052.9	0:34:13
7:00 AM	13.73	21:03	14:01	421.3	07:01	2,191.3	0:36:31
7:05 AM	13.73	21:40	14:14	446.2	07:26	2,168.9	0:36:09
7:10 AM	13.73	21:27	14:21	426.7	07:07	2,182.3	0:36:22
7:15 AM	13.73	22:51	14:28	502.5	08:22	2,323.0	0:38:43
7:20 AM	13.73	24:03	15:00	543.1	09:03	2,614.1	0:43:34
7:25 AM	13.73	26:16	15:07	668.2	11:08	3,028.5	0:50:28
7:30 AM	13.73	27:54	15:25	749.0	12:29	3,543.0	0:59:03
7:35 AM	13.73	28:15	15:21	773.5	12:54	3,806.2	1:03:26
7:40 AM	13.73	29:00	15:04	835.4	13:55	4,022.2	1:07:02
7:45 AM	13.73	27:57	14:49	787.6	13:08	4,057.3	1:07:37
7:50 AM	13.73	27:44	14:50	773.8	12:54	3,903.5	1:05:04
7:55 AM	13.73	24:44	14:13	630.3	10:30	3,510.4	0:58:30
8:00 AM	13.73	24:22	14:02	619.9	10:20	3,125.6	0:52:06
8:05 AM	13.73	23:38	14:00	578.0	09:38	2,994.8	0:49:55
8:10 AM	13.73	22:25	14:00	504.5	08:24	2,706.3	0:45:06
8:15 AM	13.73	21:53	13:45	488.0	08:08	2,481.3	0:41:21
8:20 AM	13.73	20:43	13:33	429.9	07:10	2,294.8	0:38:15
8:25 AM	13.73	19:44	13:23	380.3	06:20	2,025.6	0:33:46
8:30 AM	13.73	19:13	13:24	348.8	05:49	1,822.8	0:30:23
8:35 AM	13.73	19:07	13:20	346.9	05:47	1,739.4	0:28:59
8:40 AM	13.73	16:42	13:23	198.9	03:19	1,364.6	0:22:45
8:45 AM	13.73	15:57	13:13	164.4	02:44	908.3	0:15:08
8:50 AM	13.73	14:54	13:06	107.8	01:48	680.6	0:11:21
8:55 AM	13.73	14:10	13:11	58.7	00:59	416.1	0:06:56

	sec	dd:hh:mm:ss
MAX DIFF	835.4	13:55
MIN DIFF	-2.9	#####
AVG DIFF	438.6	07:19
STD DEV	227.0	03:47
TOT AREA	78,816.2	00:21:53:36

I- 45 GULF FREEWAY AM NB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS



I- 45 GULF FREEWAY AM NB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS

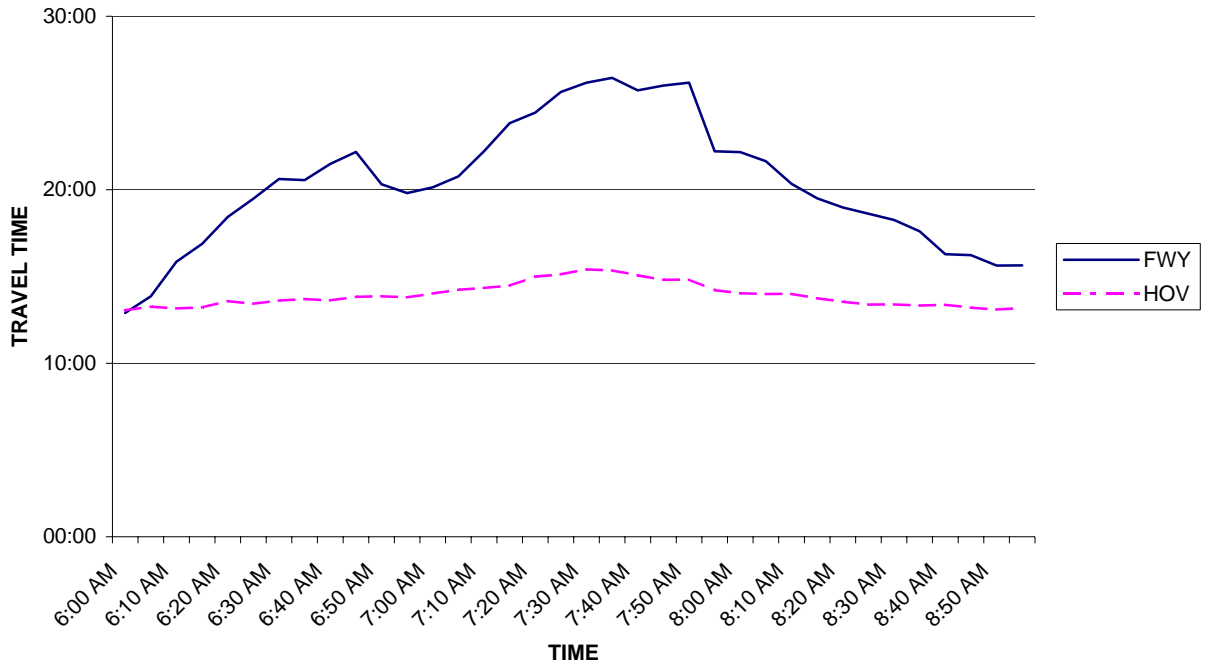


Freeway N I-45 Gulf
 Limit Dixie Farm Rd to Scott Street
 Freeway Type FWY-HOV
 Direction NB
 Date
 Time 06:00 AM to 08:55 AM

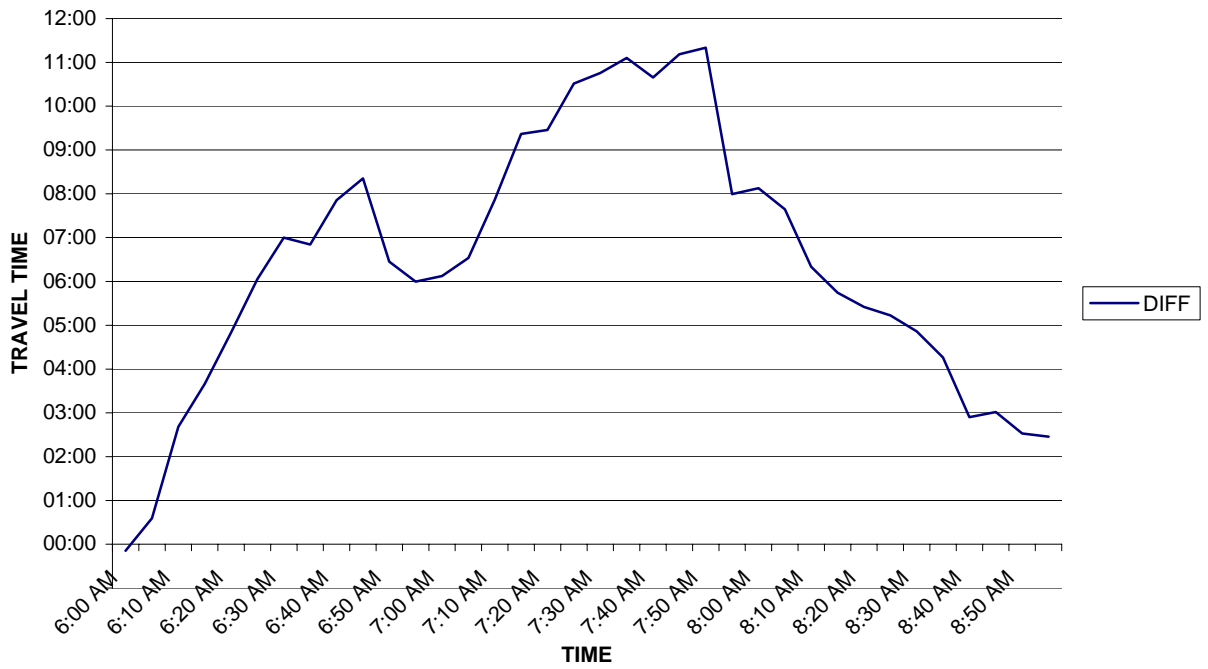
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
6:00 AM	13.73	12:54	13:03	-9.0	#####	0.0 0:00:00
6:05 AM	13.73	13:52	13:16	35.6	00:36	66.4 0:01:06
6:10 AM	13.73	15:51	13:10	160.9	02:41	491.2 0:08:11
6:15 AM	13.73	16:53	13:13	219.7	03:40	951.4 0:15:51
6:20 AM	13.73	18:26	13:35	290.3	04:50	1,275.0 0:21:15
6:25 AM	13.73	19:29	13:26	363.3	06:03	1,634.1 0:27:14
6:30 AM	13.73	20:37	13:37	419.9	07:00	1,958.0 0:32:38
6:35 AM	13.73	20:33	13:43	410.5	06:51	2,076.0 0:34:36
6:40 AM	13.73	21:29	13:38	471.3	07:51	2,204.6 0:36:45
6:45 AM	13.73	22:11	13:50	500.9	08:21	2,430.6 0:40:31
6:50 AM	13.73	20:19	13:52	386.9	06:27	2,219.7 0:37:00
6:55 AM	13.73	19:48	13:48	360.0	06:00	1,867.2 0:31:07
7:00 AM	13.73	20:08	14:01	367.3	06:07	1,818.2 0:30:18
7:05 AM	13.73	20:46	14:14	392.1	06:32	1,898.7 0:31:39
7:10 AM	13.73	22:13	14:21	472.1	07:52	2,160.6 0:36:01
7:15 AM	13.73	23:51	14:28	562.0	09:22	2,585.3 0:43:05
7:20 AM	13.73	24:27	15:00	567.5	09:27	2,823.7 0:47:04
7:25 AM	13.73	25:38	15:07	631.1	10:31	2,996.4 0:49:56
7:30 AM	13.73	26:10	15:25	645.6	10:46	3,191.6 0:53:12
7:35 AM	13.73	26:27	15:21	666.1	11:06	3,279.1 0:54:39
7:40 AM	13.73	25:44	15:04	639.5	10:39	3,263.9 0:54:24
7:45 AM	13.73	26:00	14:49	671.2	11:11	3,276.5 0:54:37
7:50 AM	13.73	26:10	14:50	680.1	11:20	3,378.1 0:56:18
7:55 AM	13.73	22:13	14:13	479.6	08:00	2,899.3 0:48:19
8:00 AM	13.73	22:10	14:02	487.6	08:08	2,418.1 0:40:18
8:05 AM	13.73	21:39	14:00	458.8	07:39	2,365.8 0:39:26
8:10 AM	13.73	20:20	14:00	380.0	06:20	2,096.9 0:34:57
8:15 AM	13.73	19:30	13:45	344.7	05:45	1,811.7 0:30:12
8:20 AM	13.73	18:59	13:33	325.1	05:25	1,674.4 0:27:54
8:25 AM	13.73	18:37	13:23	313.6	05:14	1,596.9 0:26:37
8:30 AM	13.73	18:15	13:24	291.6	04:52	1,513.2 0:25:13
8:35 AM	13.73	17:36	13:20	255.9	04:16	1,368.9 0:22:49
8:40 AM	13.73	16:17	13:23	174.2	02:54	1,075.4 0:17:55
8:45 AM	13.73	16:14	13:13	181.2	03:01	888.5 0:14:49
8:50 AM	13.73	15:38	13:06	151.9	02:32	832.6 0:13:53
8:55 AM	13.73	15:39	13:11	147.5	02:28	748.4 0:12:28

	sec	dd:hh:mm:ss
MAX DIFF	680.1	11:20
MIN DIFF	-9.0	#####
AVG DIFF	386.0	06:26
STD DEV	182.0	03:02
TOT AREA	69,136.4	00:19:12:16

I- 45 GULF FREEWAY AM NB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS



I- 45 GULF FREEWAY AM NB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS



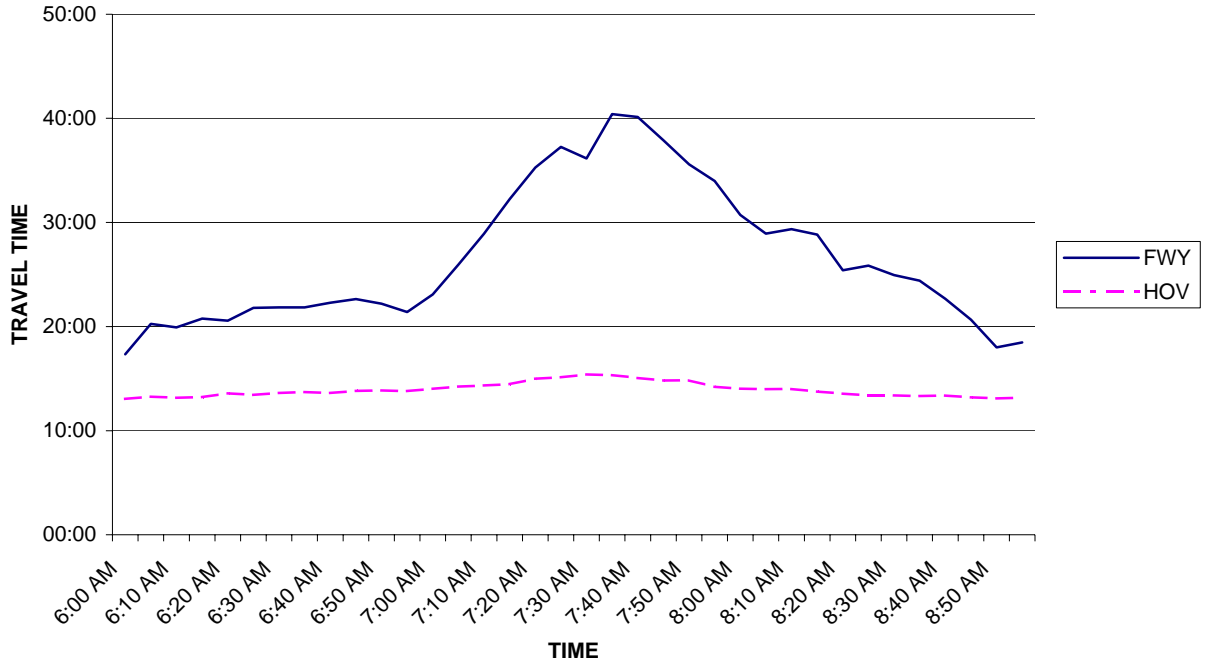
Freeway N I-45 Gulf
 Limit Dixie Farm Rd to Scott Street
 Freeway T: FWY-HOV
 Direction NB

Date
 Time 06:00 AM to 08:55 AM

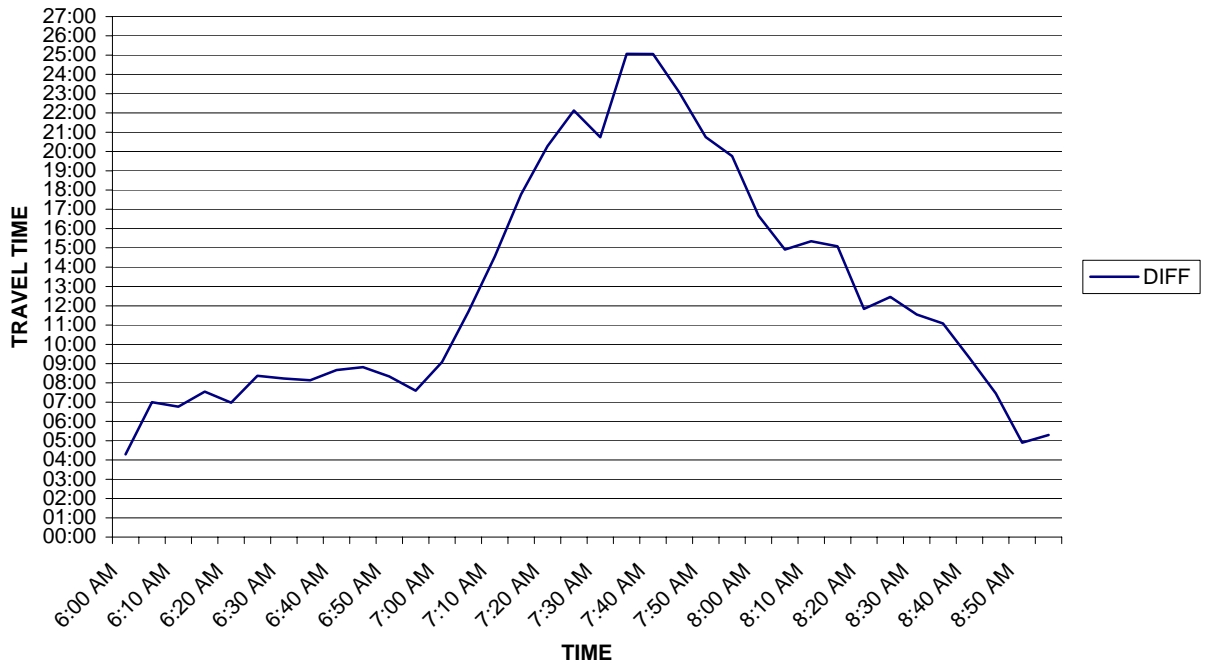
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
6:00 AM	13.73	17:21	13:03	257.8	04:18	0.0	0:00:00
6:05 AM	13.73	20:16	13:16	419.8	07:00	1,693.9	0:28:14
6:10 AM	13.73	19:56	13:10	405.9	06:46	2,064.3	0:34:24
6:15 AM	13.73	20:46	13:13	452.7	07:33	2,146.4	0:35:46
6:20 AM	13.73	20:34	13:35	418.6	06:59	2,178.1	0:36:18
6:25 AM	13.73	21:48	13:26	502.1	08:22	2,301.6	0:38:22
6:30 AM	13.73	21:51	13:37	493.9	08:14	2,489.9	0:41:30
6:35 AM	13.73	21:51	13:43	488.3	08:08	2,455.4	0:40:55
6:40 AM	13.73	22:18	13:38	520.3	08:40	2,521.5	0:42:01
6:45 AM	13.73	22:39	13:50	529.2	08:49	2,623.8	0:43:44
6:50 AM	13.73	22:12	13:52	499.9	08:20	2,572.8	0:42:53
6:55 AM	13.73	21:24	13:48	455.7	07:36	2,389.1	0:39:49
7:00 AM	13.73	23:06	14:01	544.8	09:05	2,501.3	0:41:41
7:05 AM	13.73	25:56	14:14	701.9	11:42	3,116.8	0:51:57
7:10 AM	13.73	28:54	14:21	873.4	14:33	3,938.1	1:05:38
7:15 AM	13.73	32:15	14:28	1,066.5	17:47	4,849.7	1:20:50
7:20 AM	13.73	35:16	15:00	1,216.5	20:16	5,707.4	1:35:07
7:25 AM	13.73	37:15	15:07	1,327.6	22:08	6,360.1	1:46:00
7:30 AM	13.73	36:09	15:25	1,244.3	20:44	6,429.7	1:47:10
7:35 AM	13.73	40:25	15:21	1,503.9	25:04	6,870.4	1:54:30
7:40 AM	13.73	40:08	15:04	1,503.7	25:04	7,518.9	2:05:19
7:45 AM	13.73	37:53	14:49	1,383.9	23:04	7,219.0	2:00:19
7:50 AM	13.73	35:35	14:50	1,244.8	20:45	6,571.8	1:49:32
7:55 AM	13.73	33:59	14:13	1,185.6	19:46	6,076.2	1:41:16
8:00 AM	13.73	30:43	14:02	1,000.6	16:41	5,465.6	1:31:06
8:05 AM	13.73	28:55	14:00	895.0	14:55	4,738.9	1:18:59
8:10 AM	13.73	29:21	14:00	920.5	15:21	4,538.8	1:15:39
8:15 AM	13.73	28:50	13:45	904.7	15:05	4,562.9	1:16:03
8:20 AM	13.73	25:24	13:33	710.6	11:51	4,038.2	1:07:18
8:25 AM	13.73	25:51	13:23	747.6	12:28	3,645.6	1:00:46
8:30 AM	13.73	24:57	13:24	693.1	11:33	3,602.0	1:00:02
8:35 AM	13.73	24:25	13:20	664.9	11:05	3,395.2	0:56:35
8:40 AM	13.73	22:41	13:23	558.2	09:18	3,057.9	0:50:58
8:45 AM	13.73	20:40	13:13	447.4	07:27	2,514.2	0:41:54
8:50 AM	13.73	18:00	13:06	294.1	04:54	1,853.9	0:30:54
8:55 AM	13.73	18:29	13:11	318.0	05:18	1,530.3	0:25:30

	sec	dd:hh:mm:ss
MAX DIFF	1,503.9	25:04
MIN DIFF	257.8	04:18
AVG DIFF	761.0	12:41
STD DEV	366.8	06:07
TOT AREA	135,539.5	01:13:39:00

I- 45 GULF FREEWAY AM NB SHOULDER SCHOOL OUT 0-15 MINUTE INCIDENTS



I- 45 GULF FREEWAY AM NB SHOULDER SCHOOL OUT 0-15 MINUTE INCIDENTS



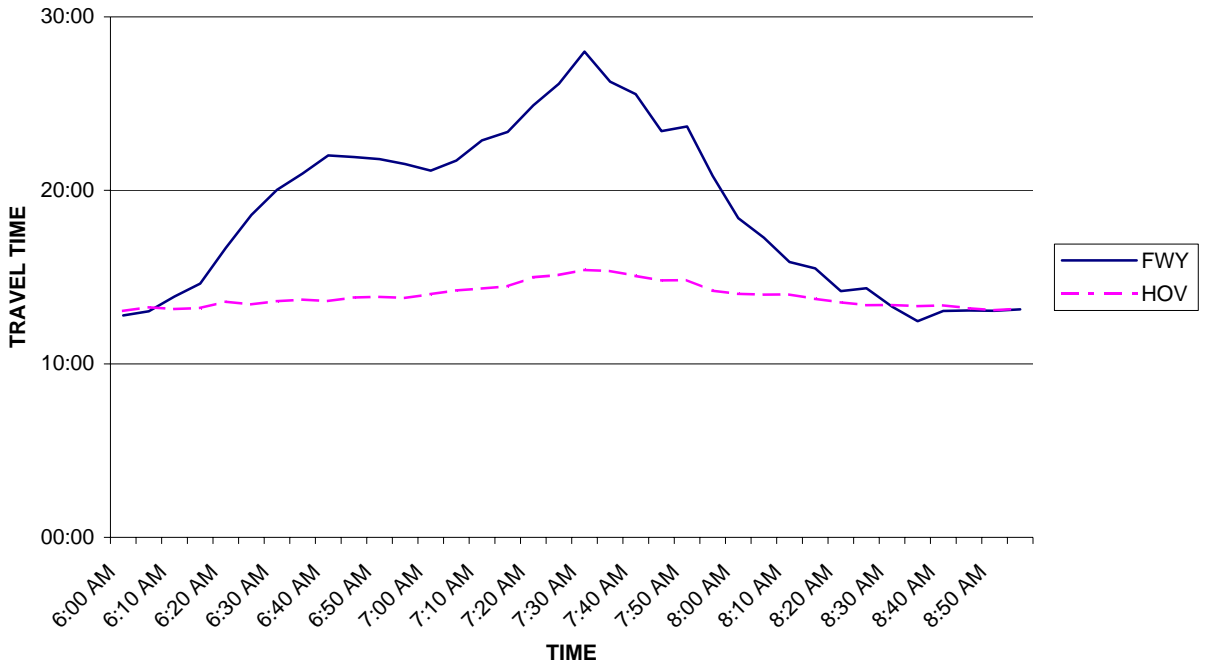
Freeway N I-45 Gulf
 Limit Dixie Farm Rd to Scott Street
 Freeway T: FWY-HOV
 Direction NB

Date
 Time 06:00 AM to 08:55 AM

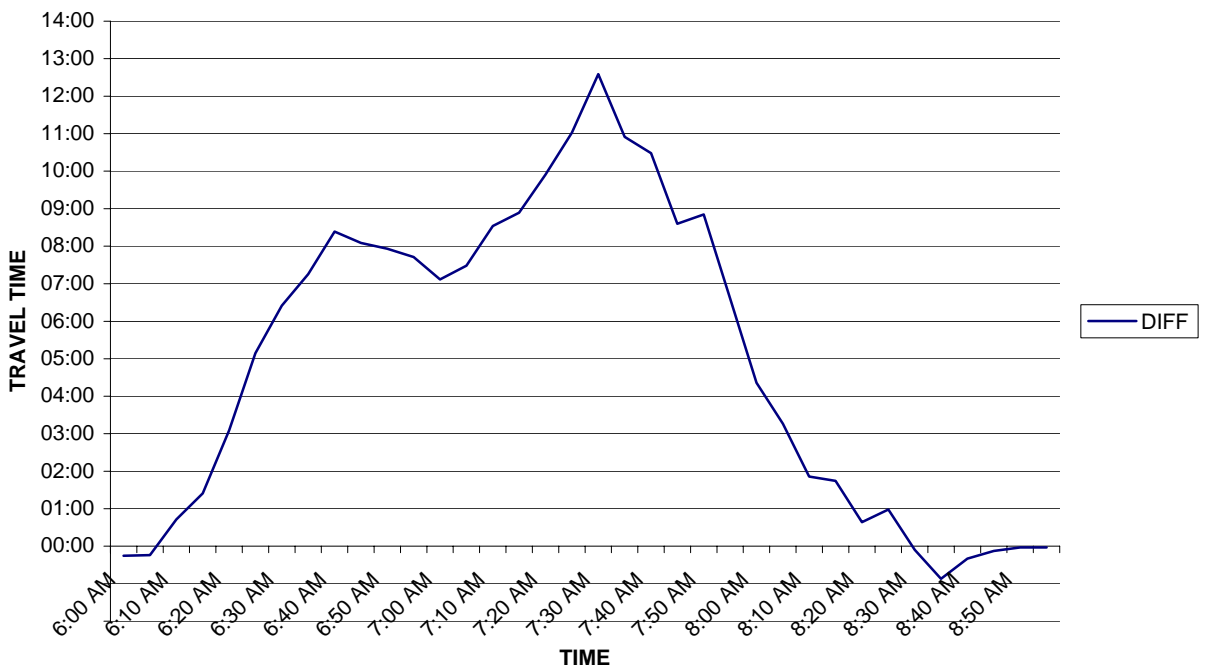
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA DIFF CURVE
6:00 AM	13.73	12:48	13:03	-15.3	#####	0.0	0:00:00
6:05 AM	13.73	13:02	13:16	-14.2	#####	-73.6	#####
6:10 AM	13.73	13:53	13:10	42.9	00:43	71.8	0:01:12
6:15 AM	13.73	14:38	13:13	84.7	01:25	318.9	0:05:19
6:20 AM	13.73	16:41	13:35	185.6	03:06	675.6	0:11:16
6:25 AM	13.73	18:35	13:26	309.1	05:09	1,236.6	0:20:37
6:30 AM	13.73	20:02	13:37	384.9	06:25	1,734.9	0:28:55
6:35 AM	13.73	20:58	13:43	435.3	07:15	2,050.4	0:34:10
6:40 AM	13.73	22:01	13:38	503.3	08:23	2,346.5	0:39:06
6:45 AM	13.73	21:55	13:50	485.2	08:05	2,471.3	0:41:11
6:50 AM	13.73	21:48	13:52	475.9	07:56	2,402.8	0:40:03
6:55 AM	13.73	21:31	13:48	462.7	07:43	2,346.6	0:39:07
7:00 AM	13.73	21:08	14:01	426.8	07:07	2,223.8	0:37:04
7:05 AM	13.73	21:43	14:14	448.9	07:29	2,189.3	0:36:29
7:10 AM	13.73	22:53	14:21	512.4	08:32	2,403.1	0:40:03
7:15 AM	13.73	23:22	14:28	533.5	08:53	2,614.7	0:43:35
7:20 AM	13.73	24:54	15:00	594.5	09:54	2,819.9	0:47:00
7:25 AM	13.73	26:09	15:07	661.6	11:02	3,140.1	0:52:20
7:30 AM	13.73	28:00	15:25	755.3	12:35	3,542.2	0:59:02
7:35 AM	13.73	26:16	15:21	654.9	10:55	3,525.4	0:58:45
7:40 AM	13.73	25:33	15:04	628.7	10:29	3,208.9	0:53:29
7:45 AM	13.73	23:25	14:49	515.9	08:36	2,861.5	0:47:42
7:50 AM	13.73	23:41	14:50	530.8	08:51	2,616.8	0:43:37
7:55 AM	13.73	20:50	14:13	396.6	06:37	2,318.7	0:38:39
8:00 AM	13.73	18:24	14:02	261.6	04:22	1,645.6	0:27:26
8:05 AM	13.73	17:16	14:00	196.0	03:16	1,143.9	0:19:04
8:10 AM	13.73	15:52	14:00	111.5	01:51	768.8	0:12:49
8:15 AM	13.73	15:30	13:45	104.7	01:45	540.4	0:09:00
8:20 AM	13.73	14:12	13:33	38.6	00:39	358.2	0:05:58
8:25 AM	13.73	14:22	13:23	58.6	00:59	243.1	0:04:03
8:30 AM	13.73	13:18	13:24	-5.9	#####	132.0	0:02:12
8:35 AM	13.73	12:28	13:20	-52.1	#####	-144.8	#####
8:40 AM	13.73	13:03	13:23	-19.8	#####	-179.6	#####
8:45 AM	13.73	13:05	13:13	-7.6	#####	-68.3	#####
8:50 AM	13.73	13:04	13:06	-1.9	#####	-23.6	#####
8:55 AM	13.73	13:09	13:11	-2.0	#####	-9.7	#####

	sec	dd:hh:mm:ss
MAX DIFF	755.3	12:35
MIN DIFF	-52.1	#####
AVG DIFF	296.7	04:57
STD DEV	250.5	04:11
TOT AREA	53,452.0	00:14:50:52

I- 45 GULF FREEWAY AM NB SHOULDER SCHOOL OUT 61+ MINUTE INCIDENTS



I- 45 GULF FREEWAY AM NB SHOULDER SCHOOL OUT 61+ MINUTE INCIDENTS

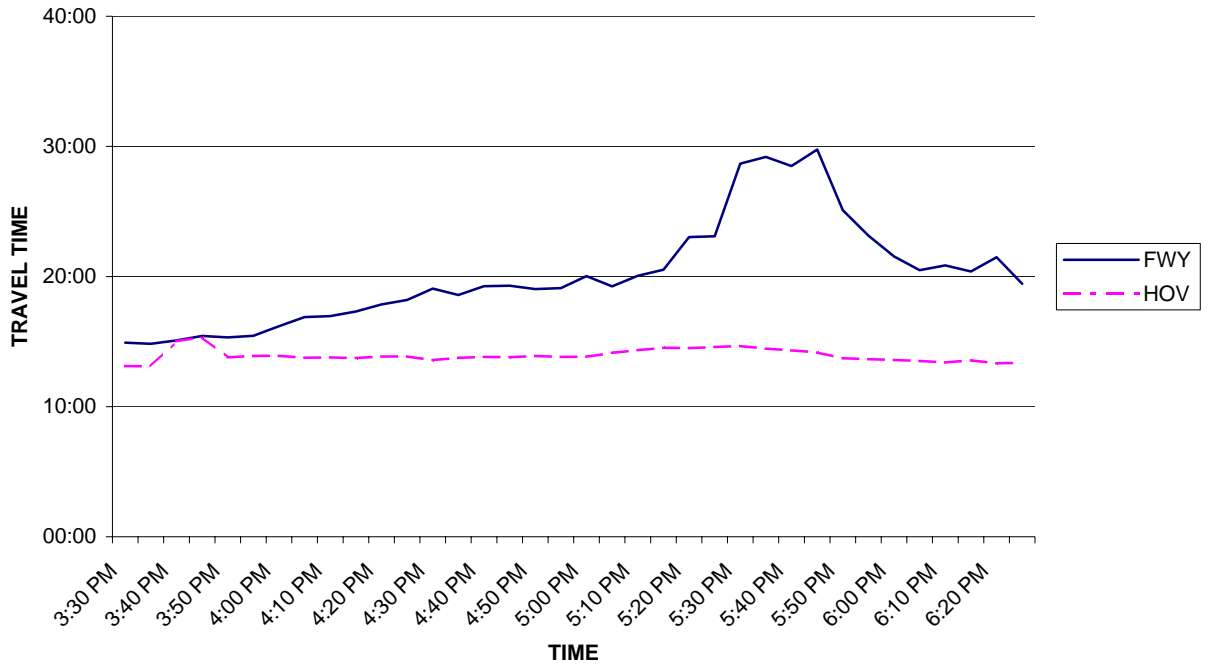


Freeway N I-45 Gulf
 Limit Scott Street to Dixie Farm Rd
 Freeway Type FWY
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

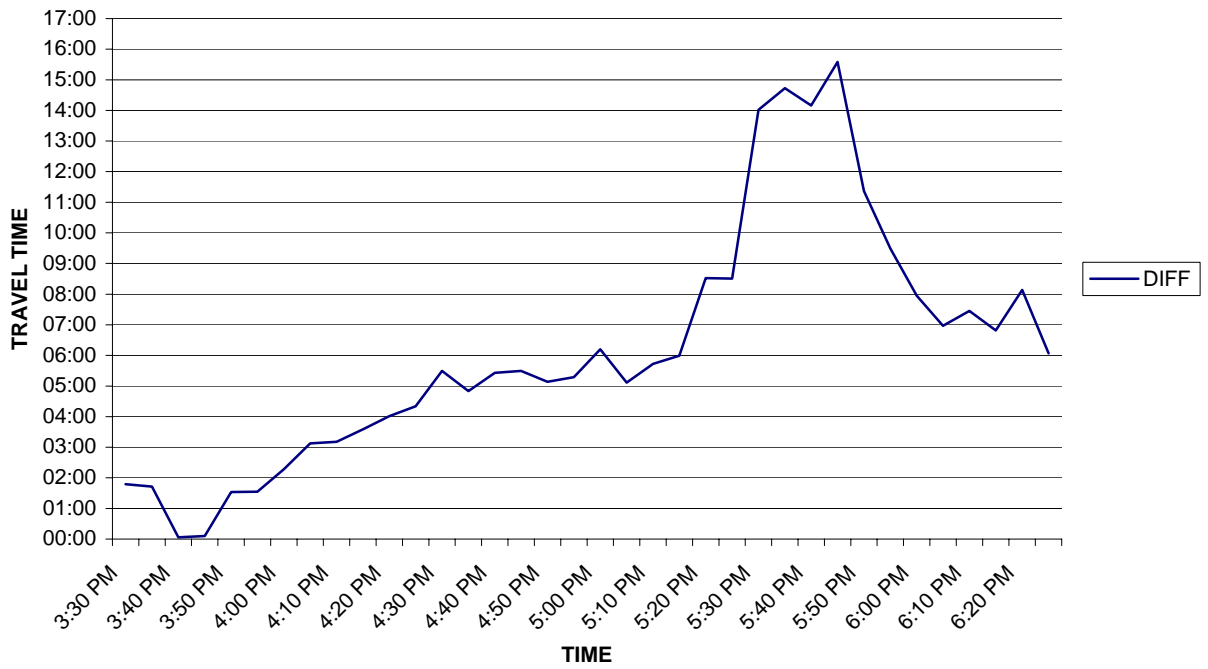
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	13.73	14:55	13:08	107.5	01:48	0.0	0:00:00
3:35 PM	13.73	14:50	13:07	103.0	01:43	526.3	0:08:46
3:40 PM	13.73	15:06	15:02	3.5	00:03	266.3	0:04:26
3:45 PM	13.73	15:26	15:20	6.0	00:06	23.8	0:00:24
3:50 PM	13.73	15:20	13:48	92.1	01:32	245.2	0:04:05
3:55 PM	13.73	15:27	13:54	92.7	01:33	461.9	0:07:42
4:00 PM	13.73	16:11	13:55	136.7	02:17	573.5	0:09:34
4:05 PM	13.73	16:53	13:46	187.6	03:08	810.8	0:13:31
4:10 PM	13.73	16:58	13:47	190.8	03:11	946.1	0:15:46
4:15 PM	13.73	17:19	13:44	215.0	03:35	1,014.7	0:16:55
4:20 PM	13.73	17:52	13:51	240.8	04:01	1,139.7	0:19:00
4:25 PM	13.73	18:12	13:52	260.3	04:20	1,252.7	0:20:53
4:30 PM	13.73	19:05	13:35	329.6	05:30	1,474.6	0:24:35
4:35 PM	13.73	18:35	13:45	290.1	04:50	1,549.2	0:25:49
4:40 PM	13.73	19:16	13:50	325.8	05:26	1,539.8	0:25:40
4:45 PM	13.73	19:18	13:48	329.8	05:30	1,639.0	0:27:19
4:50 PM	13.73	19:03	13:54	308.5	05:08	1,595.7	0:26:36
4:55 PM	13.73	19:07	13:50	317.5	05:17	1,564.8	0:26:05
5:00 PM	13.73	20:02	13:50	372.0	06:12	1,723.7	0:28:44
5:05 PM	13.73	19:15	14:08	306.9	05:07	1,697.3	0:28:17
5:10 PM	13.73	20:04	14:20	343.4	05:43	1,625.9	0:27:06
5:15 PM	13.73	20:31	14:32	359.4	05:59	1,757.1	0:29:17
5:20 PM	13.73	23:02	14:30	511.6	08:32	2,177.6	0:36:18
5:25 PM	13.73	23:06	14:35	510.5	08:31	2,555.4	0:42:35
5:30 PM	13.73	28:41	14:39	841.2	14:01	3,379.2	0:56:19
5:35 PM	13.73	29:12	14:28	883.7	14:44	4,312.1	1:11:52
5:40 PM	13.73	28:30	14:20	849.9	14:10	4,333.8	1:12:14
5:45 PM	13.73	29:45	14:10	935.1	15:35	4,462.5	1:14:22
5:50 PM	13.73	25:06	13:44	682.1	11:22	4,043.0	1:07:23
5:55 PM	13.73	23:09	13:39	569.3	09:29	3,128.5	0:52:08
6:00 PM	13.73	21:33	13:35	477.2	07:57	2,616.3	0:43:36
6:05 PM	13.73	20:29	13:31	418.0	06:58	2,238.0	0:37:18
6:10 PM	13.73	20:51	13:24	447.3	07:27	2,163.3	0:36:03
6:15 PM	13.73	20:23	13:34	408.9	06:49	2,140.6	0:35:41
6:20 PM	13.73	21:28	13:20	488.4	08:08	2,243.4	0:37:23
6:25 PM	13.73	19:27	13:23	364.1	06:04	2,131.4	0:35:31

	sec	dd:hh:mm:ss
MAX DIFF	935.1	15:35
MIN DIFF	3.5	00:03
AVG DIFF	369.6	06:10
STD DEV	239.3	03:59
TOT AREA	65,353.2	00:18:09:13

I- 45 GULF FREEWAY PM SB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS



I- 45 GULF FREEWAY PM SB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS

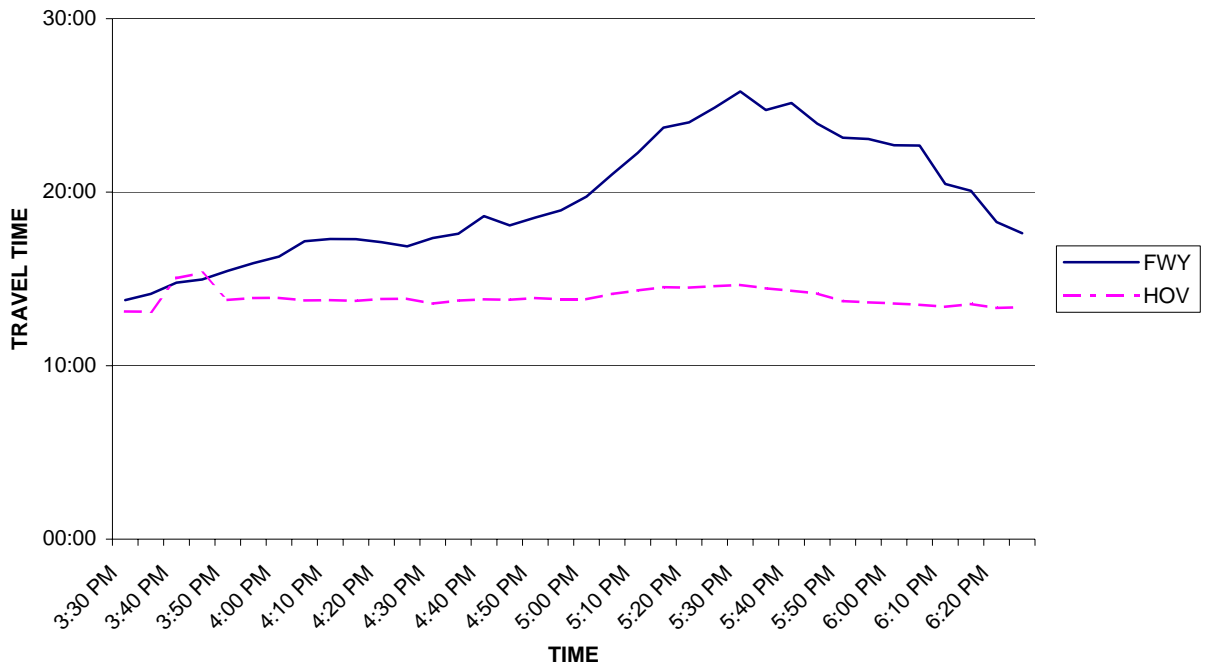


Freeway N I-45 Gulf
 Limit Scott Street to Dixie Farm Rd
 Freeway Type FWY
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

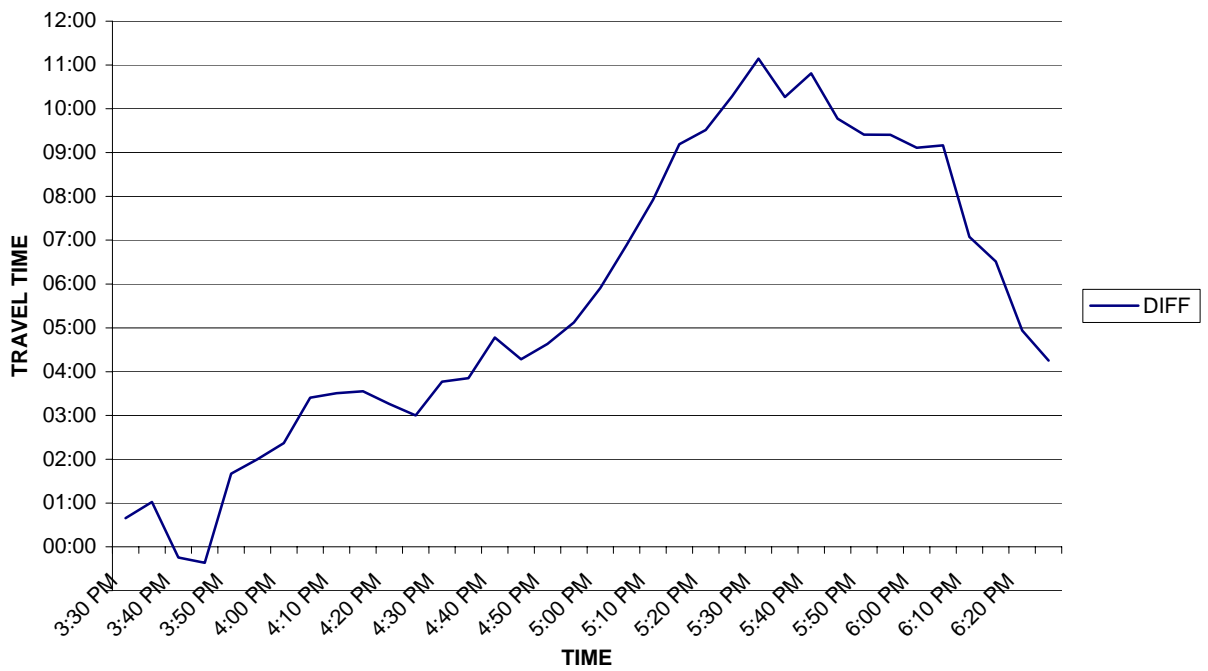
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	13.73	13:47	13:08	39.4	00:39	0.0 0:00:00
3:35 PM	13.73	14:08	13:07	61.4	01:01	252.0 0:04:12
3:40 PM	13.73	14:48	15:02	-14.6	#####	117.1 0:01:57
3:45 PM	13.73	14:58	15:20	-21.9	#####	-91.3 #####
3:50 PM	13.73	15:28	13:48	100.2	01:40	195.7 0:03:16
3:55 PM	13.73	15:54	13:54	120.1	02:00	550.8 0:09:11
4:00 PM	13.73	16:17	13:55	142.2	02:22	655.7 0:10:56
4:05 PM	13.73	17:10	13:46	204.5	03:24	866.6 0:14:27
4:10 PM	13.73	17:18	13:47	210.6	03:31	1,037.8 0:17:18
4:15 PM	13.73	17:17	13:44	213.1	03:33	1,059.4 0:17:39
4:20 PM	13.73	17:07	13:51	195.8	03:16	1,022.2 0:17:02
4:25 PM	13.73	16:52	13:52	180.1	03:00	939.7 0:15:40
4:30 PM	13.73	17:21	13:35	226.3	03:46	1,016.1 0:16:56
4:35 PM	13.73	17:36	13:45	231.2	03:51	1,143.7 0:19:04
4:40 PM	13.73	18:37	13:50	286.9	04:47	1,295.3 0:21:35
4:45 PM	13.73	18:05	13:48	256.9	04:17	1,359.7 0:22:40
4:50 PM	13.73	18:32	13:54	278.0	04:38	1,337.3 0:22:17
4:55 PM	13.73	18:57	13:50	307.5	05:07	1,463.7 0:24:24
5:00 PM	13.73	19:45	13:50	354.6	05:55	1,655.2 0:27:35
5:05 PM	13.73	21:02	14:08	413.5	06:54	1,920.3 0:32:00
5:10 PM	13.73	22:16	14:20	475.4	07:55	2,222.2 0:37:02
5:15 PM	13.73	23:43	14:32	551.5	09:11	2,567.1 0:42:47
5:20 PM	13.73	24:01	14:30	571.0	09:31	2,806.3 0:46:46
5:25 PM	13.73	24:52	14:35	617.3	10:17	2,970.8 0:49:31
5:30 PM	13.73	25:48	14:39	668.7	11:09	3,214.9 0:53:35
5:35 PM	13.73	24:44	14:28	616.2	10:16	3,212.3 0:53:32
5:40 PM	13.73	25:08	14:20	648.6	10:49	3,162.0 0:52:42
5:45 PM	13.73	23:57	14:10	586.6	09:47	3,088.0 0:51:28
5:50 PM	13.73	23:08	13:44	564.6	09:25	2,878.0 0:47:58
5:55 PM	13.73	23:04	13:39	564.5	09:24	2,822.7 0:47:03
6:00 PM	13.73	22:42	13:35	546.7	09:07	2,778.0 0:46:18
6:05 PM	13.73	22:41	13:31	550.0	09:10	2,741.8 0:45:42
6:10 PM	13.73	20:28	13:24	424.5	07:05	2,436.3 0:40:36
6:15 PM	13.73	20:04	13:34	390.7	06:31	2,038.0 0:33:58
6:20 PM	13.73	18:16	13:20	296.5	04:57	1,717.9 0:28:38
6:25 PM	13.73	17:38	13:23	255.3	04:15	1,379.4 0:22:59

	sec	dd:hh:mm:ss
MAX DIFF	668.7	11:09
MIN DIFF	-21.9	#####
AVG DIFF	336.5	05:36
STD DEV	203.7	03:24
TOT AREA	59,832.4	00:16:37:12

I- 45 GULF FREEWAY PM SB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS



I- 45 GULF FREEWAY PM SB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS

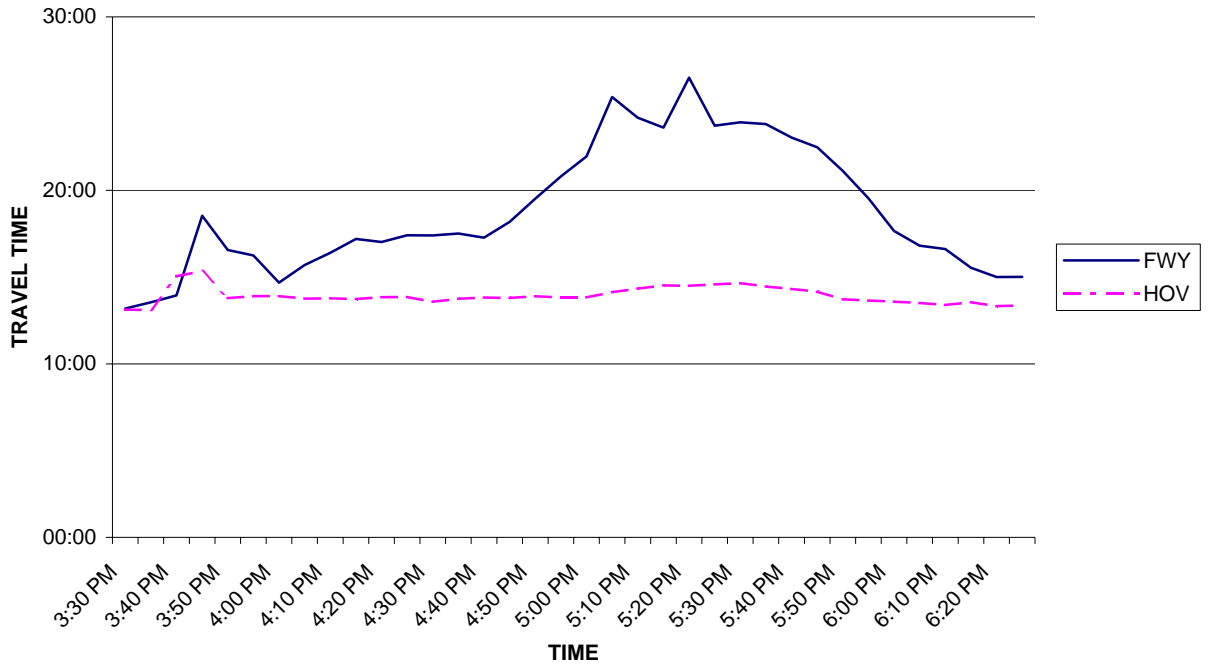


Freeway N I-45 Gulf
 Limit Scott Street to Dixie Farm Rd
 Freeway Type FWY
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

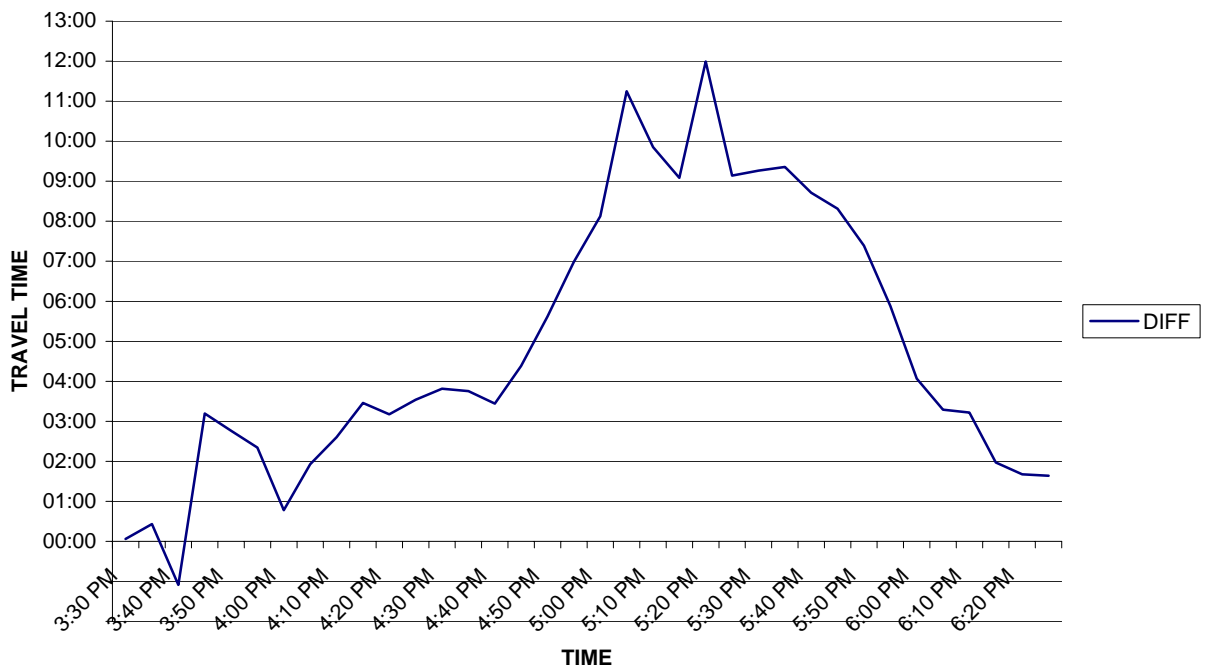
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	13.73	13:11	13:08	3.7	00:04	0.0 0:00:00
3:35 PM	13.73	13:33	13:07	26.0	00:26	74.3 0:01:14
3:40 PM	13.73	13:57	15:02	-65.2	#####	-97.9 #####
3:45 PM	13.73	18:32	15:20	191.7	03:12	316.3 0:05:16
3:50 PM	13.73	16:34	13:48	165.9	02:46	893.9 0:14:54
3:55 PM	13.73	16:15	13:54	140.7	02:21	766.5 0:12:47
4:00 PM	13.73	14:41	13:55	46.9	00:47	468.9 0:07:49
4:05 PM	13.73	15:41	13:46	115.8	01:56	406.6 0:06:47
4:10 PM	13.73	16:23	13:47	156.3	02:36	680.3 0:11:20
4:15 PM	13.73	17:12	13:44	207.7	03:28	910.1 0:15:10
4:20 PM	13.73	17:02	13:51	190.7	03:11	995.9 0:16:36
4:25 PM	13.73	17:24	13:52	212.4	03:32	1,007.7 0:16:48
4:30 PM	13.73	17:24	13:35	228.9	03:49	1,103.3 0:18:23
4:35 PM	13.73	17:30	13:45	225.3	03:45	1,135.5 0:18:55
4:40 PM	13.73	17:17	13:50	206.6	03:27	1,079.8 0:18:00
4:45 PM	13.73	18:11	13:48	263.1	04:23	1,174.4 0:19:34
4:50 PM	13.73	19:31	13:54	337.3	05:37	1,501.1 0:25:01
4:55 PM	13.73	20:48	13:50	419.0	06:59	1,890.7 0:31:31
5:00 PM	13.73	21:57	13:50	487.5	08:07	2,266.2 0:37:46
5:05 PM	13.73	25:23	14:08	674.9	11:15	2,906.1 0:48:26
5:10 PM	13.73	24:11	14:20	591.3	09:51	3,165.5 0:52:45
5:15 PM	13.73	23:37	14:32	545.1	09:05	2,840.9 0:47:21
5:20 PM	13.73	26:30	14:30	719.6	12:00	3,161.8 0:52:42
5:25 PM	13.73	23:44	14:35	548.4	09:08	3,170.0 0:52:50
5:30 PM	13.73	23:55	14:39	556.0	09:16	2,760.9 0:46:01
5:35 PM	13.73	23:50	14:28	561.5	09:22	2,793.8 0:46:34
5:40 PM	13.73	23:03	14:20	522.7	08:43	2,710.5 0:45:10
5:45 PM	13.73	22:29	14:10	498.8	08:19	2,553.7 0:42:34
5:50 PM	13.73	21:07	13:44	443.4	07:23	2,355.5 0:39:15
5:55 PM	13.73	19:33	13:39	353.2	05:53	1,991.4 0:33:11
6:00 PM	13.73	17:40	13:35	244.0	04:04	1,493.0 0:24:53
6:05 PM	13.73	16:48	13:31	197.5	03:17	1,103.8 0:18:24
6:10 PM	13.73	16:37	13:24	193.3	03:13	977.0 0:16:17
6:15 PM	13.73	15:32	13:34	118.3	01:58	779.0 0:12:59
6:20 PM	13.73	15:00	13:20	100.6	01:41	547.2 0:09:07
6:25 PM	13.73	15:01	13:23	98.5	01:38	497.6 0:08:18

	sec	dd:hh:mm:ss
MAX DIFF	719.6	12:00
MIN DIFF	-65.2	#####
AVG DIFF	292.4	04:52
STD DEV	205.3	03:25
TOT AREA	52,381.1	00:14:33:01

I- 45 GULF FREEWAY PM SB SHOULDER SCHOOL IN 31-45 MINUTE INCIDENTS



I- 45 GULF FREEWAY PM SB SHOULDER SCHOOL IN 31-45 MINUTE INCIDENTS

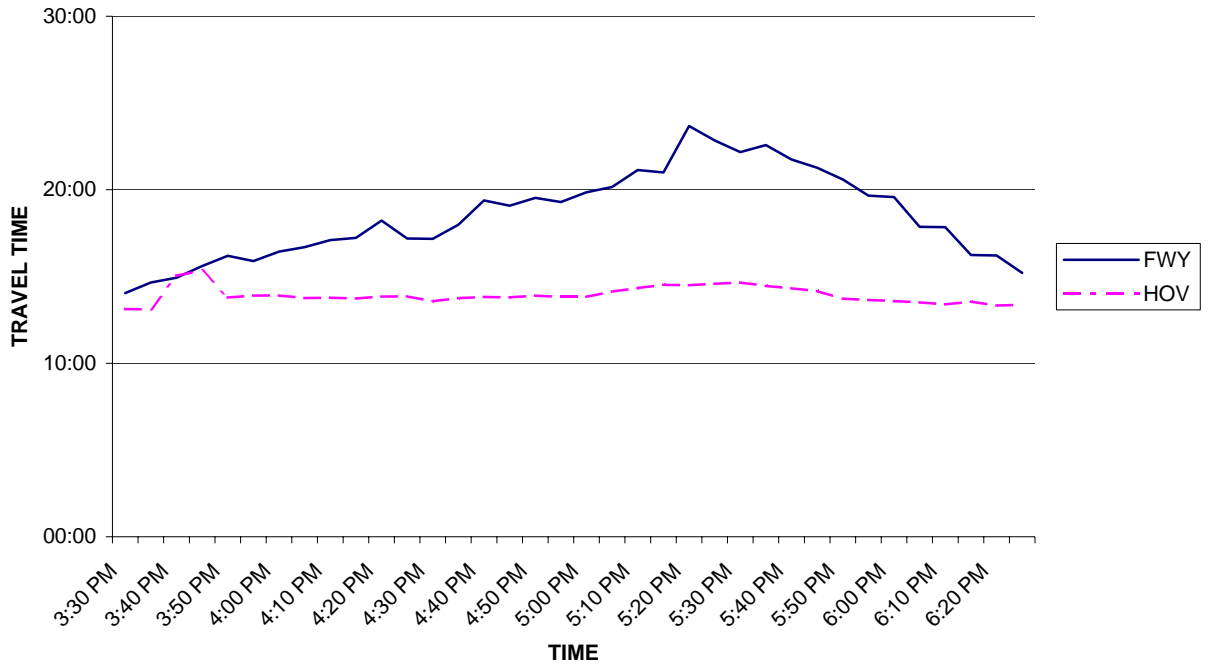


Freeway N I-45 Gulf
 Limit Scott Street to Dixie Farm Rd
 Freeway Type FWY
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

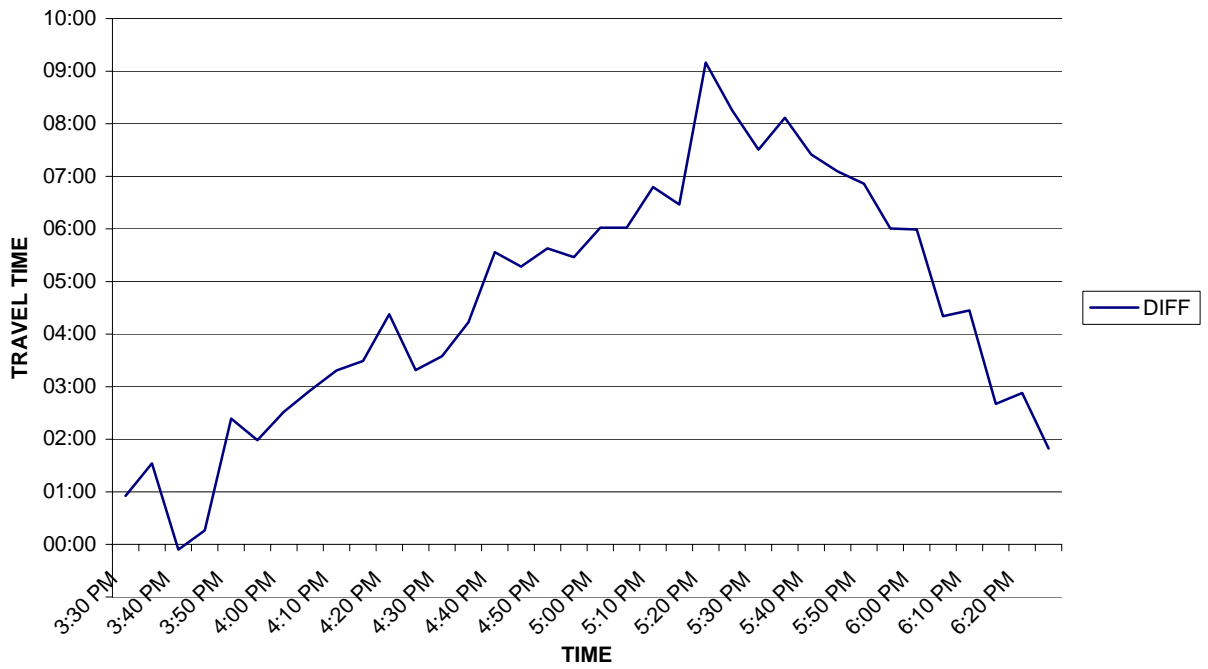
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	13.73	14:03	13:08	55.5	00:55	0.0 0:00:00
3:35 PM	13.73	14:39	13:07	92.5	01:32	369.9 0:06:10
3:40 PM	13.73	14:56	15:02	-5.9	#####	216.5 0:03:36
3:45 PM	13.73	15:36	15:20	15.9	00:16	25.0 0:00:25
3:50 PM	13.73	16:11	13:48	143.7	02:24	398.9 0:06:39
3:55 PM	13.73	15:53	13:54	119.0	01:59	656.5 0:10:56
4:00 PM	13.73	16:26	13:55	151.4	02:31	675.8 0:11:16
4:05 PM	13.73	16:41	13:46	175.8	02:56	817.9 0:13:38
4:10 PM	13.73	17:06	13:47	198.6	03:19	935.9 0:15:36
4:15 PM	13.73	17:14	13:44	209.5	03:29	1,020.1 0:17:00
4:20 PM	13.73	18:14	13:51	262.7	04:23	1,180.3 0:19:40
4:25 PM	13.73	17:11	13:52	198.9	03:19	1,154.0 0:19:14
4:30 PM	13.73	17:10	13:35	214.9	03:35	1,034.6 0:17:15
4:35 PM	13.73	17:59	13:45	253.5	04:14	1,171.1 0:19:31
4:40 PM	13.73	19:23	13:50	333.4	05:33	1,467.3 0:24:27
4:45 PM	13.73	19:05	13:48	316.9	05:17	1,625.7 0:27:06
4:50 PM	13.73	19:32	13:54	337.8	05:38	1,636.7 0:27:17
4:55 PM	13.73	19:17	13:50	327.7	05:28	1,663.8 0:27:44
5:00 PM	13.73	19:51	13:50	361.3	06:01	1,722.4 0:28:42
5:05 PM	13.73	20:09	14:08	361.4	06:01	1,806.7 0:30:07
5:10 PM	13.73	21:08	14:20	407.8	06:48	1,923.0 0:32:03
5:15 PM	13.73	21:00	14:32	387.8	06:28	1,989.0 0:33:09
5:20 PM	13.73	23:40	14:30	549.9	09:10	2,344.3 0:39:04
5:25 PM	13.73	22:50	14:35	495.4	08:15	2,613.1 0:43:33
5:30 PM	13.73	22:10	14:39	450.5	07:31	2,364.6 0:39:25
5:35 PM	13.73	22:35	14:28	486.8	08:07	2,343.1 0:39:03
5:40 PM	13.73	21:45	14:20	444.9	07:25	2,329.2 0:38:49
5:45 PM	13.73	21:16	14:10	425.6	07:06	2,176.2 0:36:16
5:50 PM	13.73	20:35	13:44	411.7	06:52	2,093.0 0:34:53
5:55 PM	13.73	19:40	13:39	360.4	06:00	1,930.2 0:32:10
6:00 PM	13.73	19:35	13:35	359.3	05:59	1,799.3 0:29:59
6:05 PM	13.73	17:51	13:31	260.5	04:20	1,549.5 0:25:49
6:10 PM	13.73	17:51	13:24	267.1	04:27	1,318.9 0:21:59
6:15 PM	13.73	16:14	13:34	160.5	02:41	1,069.0 0:17:49
6:20 PM	13.73	16:13	13:20	172.9	02:53	833.4 0:13:53
6:25 PM	13.73	15:12	13:23	109.5	01:49	705.8 0:11:46

	sec	dd:hh:mm:ss
MAX DIFF	549.9	09:10
MIN DIFF	-5.9	#####
AVG DIFF	274.3	04:34
STD DEV	142.1	02:22
TOT AREA	48,960.5	00:13:36:00

I- 45 GULF FREEWAY PM SB SHOULDER SCHOOL OUT 0-15 MINUTE INCIDENTS



I- 45 GULF FREEWAY PM SB SHOULDER SCHOOL OUT 0-15 MINUTE INCIDENTS



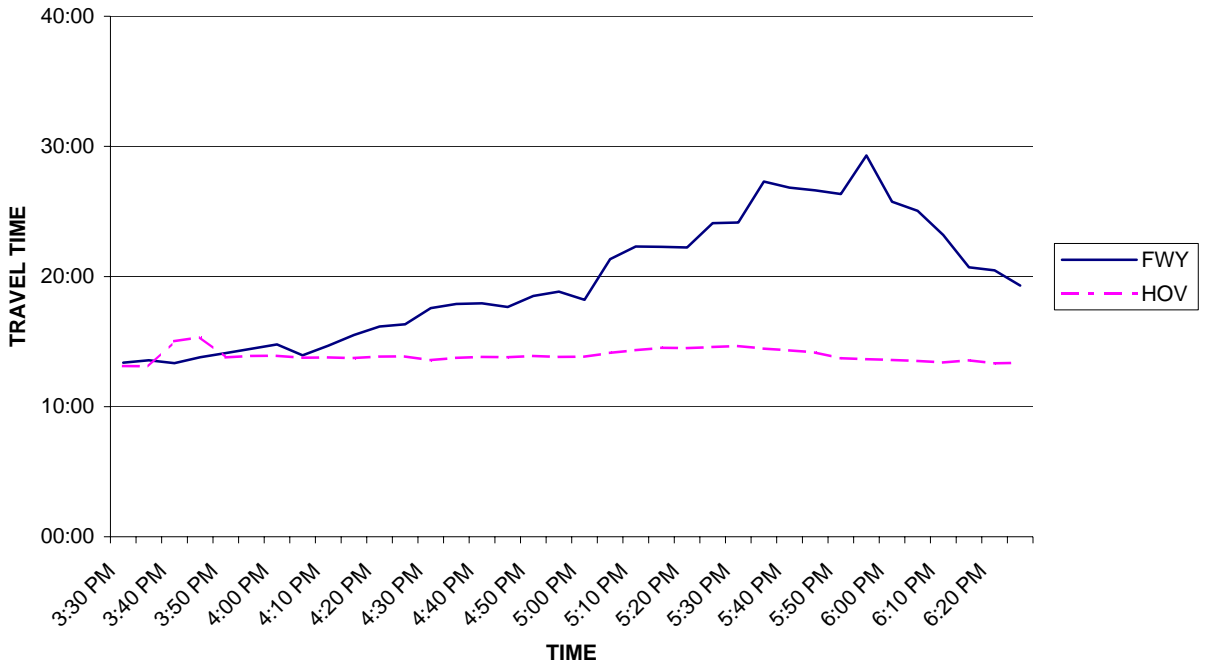
Freeway N I-45 Gulf
 Limit Scott Street to Dixie Farm Rd
 Freeway T: FWY
 Direction SB
 Date

Time 03:30 PM to 06:25 PM

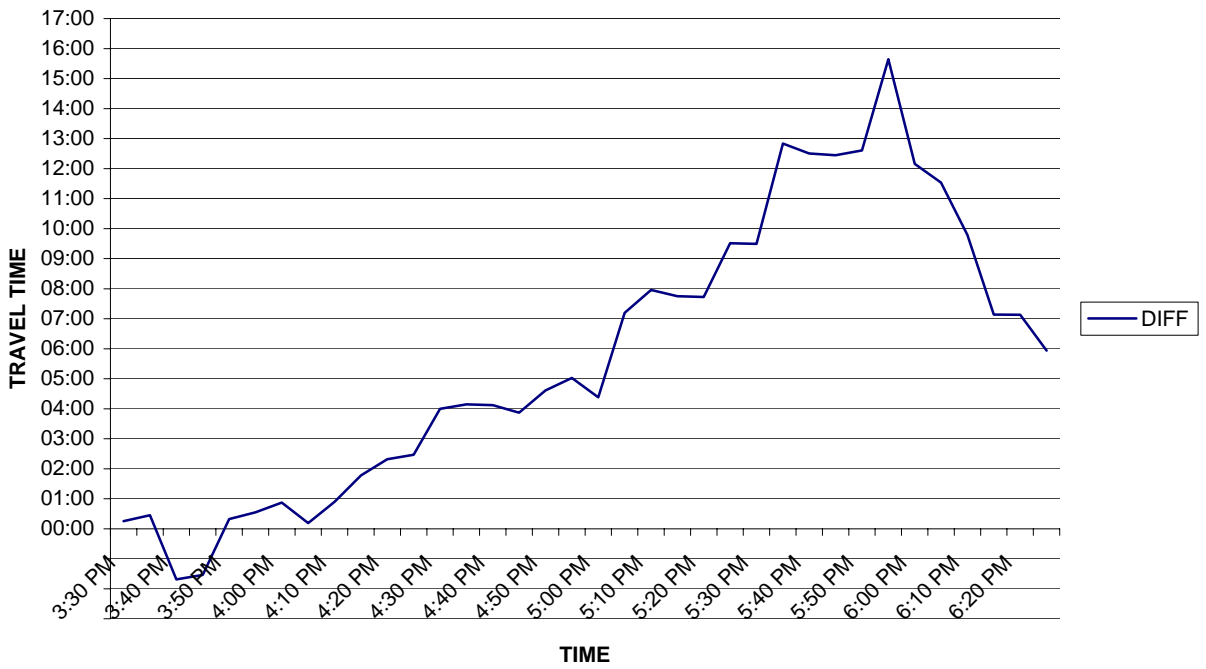
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA	SECTION AREA
3:30 PM	13.73	13:23	13:08	15.2	00:15	0.0	0:00:00	
3:35 PM	13.73	13:34	13:07	27.0	00:27	105.5	0:01:45	
3:40 PM	13.73	13:21	15:02	-101.2	#####	-185.4	#####	
3:45 PM	13.73	13:48	15:20	-92.3	#####	-483.8	#####	
3:50 PM	13.73	14:07	13:48	19.4	00:19	-182.3	#####	
3:55 PM	13.73	14:27	13:54	32.7	00:33	130.3	0:02:10	
4:00 PM	13.73	14:47	13:55	52.4	00:52	212.7	0:03:33	
4:05 PM	13.73	13:57	13:46	11.3	00:11	159.1	0:02:39	
4:10 PM	13.73	14:41	13:47	53.8	00:54	162.8	0:02:43	
4:15 PM	13.73	15:31	13:44	106.7	01:47	401.4	0:06:41	
4:20 PM	13.73	16:10	13:51	139.2	02:19	614.7	0:10:15	
4:25 PM	13.73	16:20	13:52	147.9	02:28	717.7	0:11:58	
4:30 PM	13.73	17:35	13:35	239.9	04:00	969.6	0:16:10	
4:35 PM	13.73	17:54	13:45	248.8	04:09	1,221.7	0:20:22	
4:40 PM	13.73	17:57	13:50	247.1	04:07	1,239.8	0:20:40	
4:45 PM	13.73	17:40	13:48	232.1	03:52	1,198.2	0:19:58	
4:50 PM	13.73	18:31	13:54	276.8	04:37	1,272.3	0:21:12	
4:55 PM	13.73	18:51	13:50	301.5	05:01	1,445.7	0:24:06	
5:00 PM	13.73	18:13	13:50	263.0	04:23	1,411.2	0:23:31	
5:05 PM	13.73	21:20	14:08	431.9	07:12	1,737.3	0:28:57	
5:10 PM	13.73	22:18	14:20	477.8	07:58	2,274.2	0:37:54	
5:15 PM	13.73	22:17	14:32	465.1	07:45	2,357.1	0:39:17	
5:20 PM	13.73	22:14	14:30	463.6	07:44	2,321.8	0:38:42	
5:25 PM	13.73	24:06	14:35	570.9	09:31	2,586.3	0:43:06	
5:30 PM	13.73	24:09	14:39	569.5	09:30	2,850.9	0:47:31	
5:35 PM	13.73	27:18	14:28	770.0	12:50	3,348.8	0:55:49	
5:40 PM	13.73	26:50	14:20	750.2	12:30	3,800.5	1:03:20	
5:45 PM	13.73	26:37	14:10	746.8	12:27	3,742.5	1:02:22	
5:50 PM	13.73	26:20	13:44	756.4	12:36	3,758.0	1:02:38	
5:55 PM	13.73	29:18	13:39	938.7	15:39	4,237.7	1:10:38	
6:00 PM	13.73	25:45	13:35	729.5	12:10	4,170.5	1:09:30	
6:05 PM	13.73	25:03	13:31	692.0	11:32	3,553.8	0:59:14	
6:10 PM	13.73	23:11	13:24	587.3	09:47	3,198.3	0:53:18	
6:15 PM	13.73	20:42	13:34	428.3	07:08	2,539.0	0:42:19	
6:20 PM	13.73	20:28	13:20	428.1	07:08	2,140.9	0:35:41	
6:25 PM	13.73	19:19	13:23	356.5	05:56	1,961.4	0:32:41	

	sec	dd:hh:mm:ss
MAX DIFF	938.7	15:39
MIN DIFF	-101.2	#####
AVG DIFF	344.0	05:44
STD DEV	283.0	04:43
TOT AREA	60,989.9	00:16:56:30

I- 45 GULF FREEWAY PM SB SHOULDER SCHOOL OUT 46-60 MINUTE INCIDENTS



I- 45 GULF FREEWAY PM SB SHOULDER SCHOOL OUT 46-60 MINUTE INCIDENTS

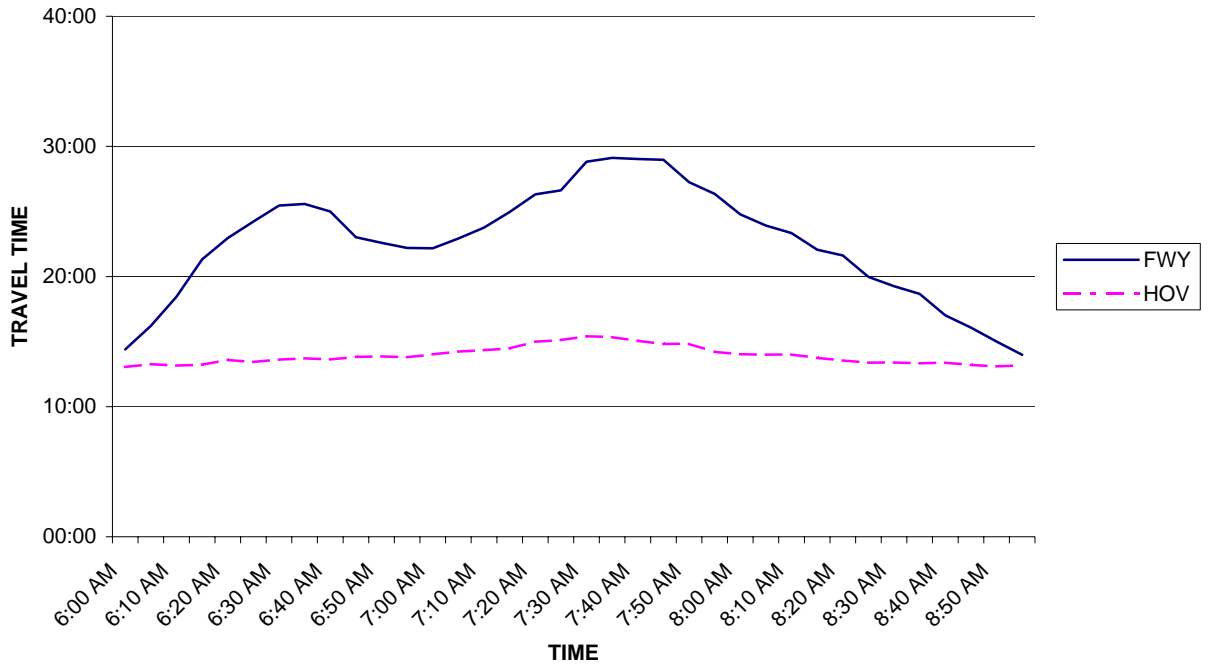


Freeway N I-45 Gulf
 Limit Dixie Farm Rd to Scott Street
 Freeway T: FWY-HOV
 Direction NB
 Date
 Time 06:00 AM to 08:55 AM

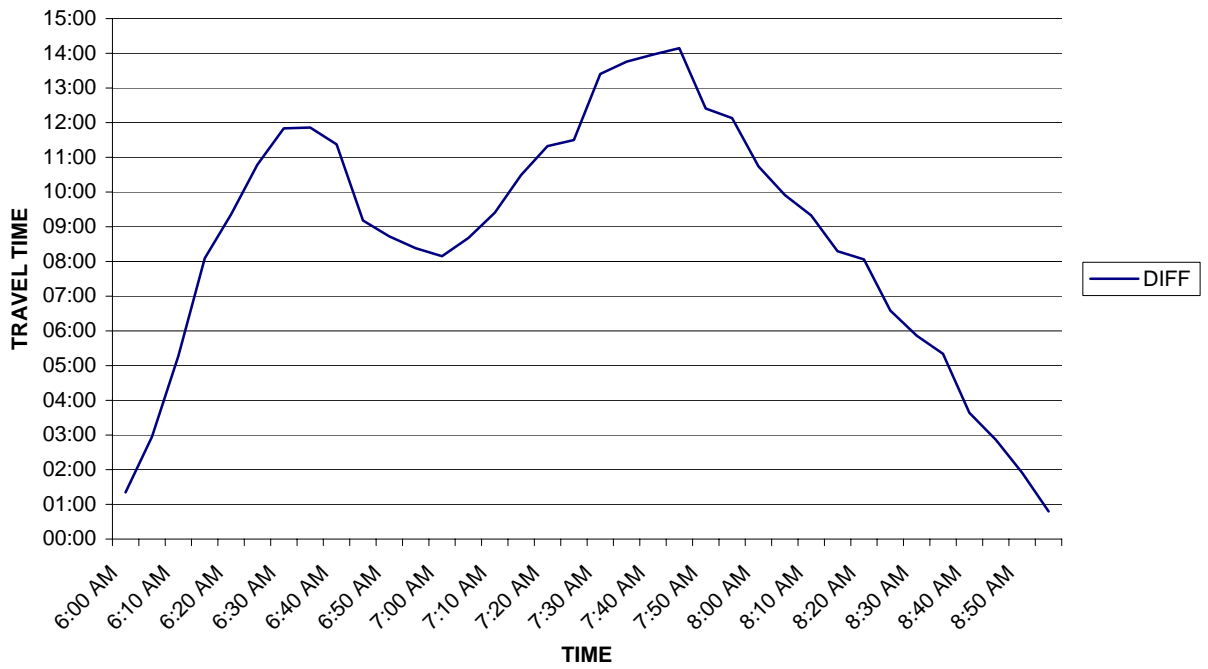
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION ARE	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE	
6:00 AM	13.73	14:24	13:03	80.9	01:21	0.0	0:00:00
6:05 AM	13.73	16:13	13:16	176.9	02:57	644.5	0:10:44
6:10 AM	13.73	18:27	13:10	316.7	05:17	1,234.0	0:20:34
6:15 AM	13.73	21:19	13:13	485.4	08:05	2,005.3	0:33:25
6:20 AM	13.73	22:57	13:35	561.6	09:22	2,617.5	0:43:38
6:25 AM	13.73	24:13	13:26	647.4	10:47	3,022.4	0:50:22
6:30 AM	13.73	25:27	13:37	710.2	11:50	3,394.0	0:56:34
6:35 AM	13.73	25:34	13:43	711.7	11:52	3,554.8	0:59:15
6:40 AM	13.73	25:00	13:38	682.4	11:22	3,485.3	0:58:05
6:45 AM	13.73	23:01	13:50	550.8	09:11	3,083.1	0:51:23
6:50 AM	13.73	22:35	13:52	523.3	08:43	2,685.3	0:44:45
6:55 AM	13.73	22:11	13:48	502.9	08:23	2,565.5	0:42:45
7:00 AM	13.73	22:10	14:01	489.0	08:09	2,479.7	0:41:20
7:05 AM	13.73	22:55	14:14	520.7	08:41	2,524.3	0:42:04
7:10 AM	13.73	23:45	14:21	564.5	09:24	2,712.9	0:45:13
7:15 AM	13.73	24:58	14:28	629.3	10:29	2,984.4	0:49:44
7:20 AM	13.73	26:19	15:00	679.5	11:19	3,272.0	0:54:32
7:25 AM	13.73	26:37	15:07	690.1	11:30	3,423.9	0:57:04
7:30 AM	13.73	28:49	15:25	804.3	13:24	3,735.9	1:02:16
7:35 AM	13.73	29:07	15:21	825.6	13:46	4,074.7	1:07:55
7:40 AM	13.73	29:02	15:04	837.9	13:58	4,158.7	1:09:19
7:45 AM	13.73	28:58	14:49	848.8	14:09	4,216.8	1:10:17
7:50 AM	13.73	27:15	14:50	744.5	12:24	3,983.2	1:06:23
7:55 AM	13.73	26:21	14:13	727.8	12:08	3,680.7	1:01:21
8:00 AM	13.73	24:47	14:02	644.4	10:44	3,430.6	0:57:11
8:05 AM	13.73	23:55	14:00	594.9	09:55	3,098.3	0:51:38
8:10 AM	13.73	23:20	14:00	559.6	09:20	2,886.3	0:48:06
8:15 AM	13.73	22:03	13:45	497.7	08:18	2,643.1	0:44:03
8:20 AM	13.73	21:37	13:33	483.6	08:04	2,453.2	0:40:53
8:25 AM	13.73	19:59	13:23	395.4	06:35	2,197.4	0:36:37
8:30 AM	13.73	19:16	13:24	351.9	05:52	1,868.1	0:31:08
8:35 AM	13.73	18:41	13:20	320.6	05:21	1,681.1	0:28:01
8:40 AM	13.73	17:01	13:23	218.4	03:38	1,347.4	0:22:27
8:45 AM	13.73	16:04	13:13	171.9	02:52	975.8	0:16:16
8:50 AM	13.73	15:00	13:06	114.6	01:55	716.2	0:11:56
8:55 AM	13.73	13:59	13:11	47.9	00:48	406.2	0:06:46

	sec	dd:hh:mm:ss
MAX DIFF	848.8	14:09
MIN DIFF	47.9	00:48
AVG DIFF	519.8	08:40
STD DEV	222.0	03:42
TOT AREA	93,242.7	01:01:54:03

I- 45 GULF FREEWAY AM NB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS



I- 45 GULF FREEWAY AM NB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS



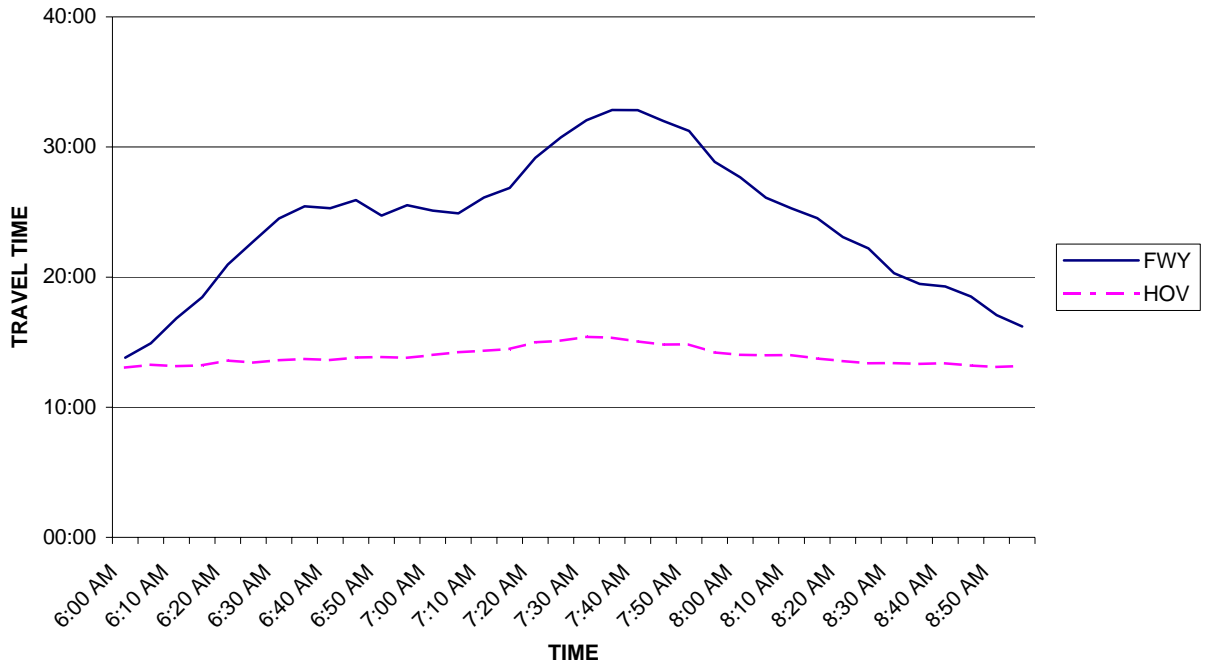
Freeway N I-45 Gulf
 Limit Dixie Farm Rd to Scott Street
 Freeway T: FWY-HOV
 Direction NB
 Date

Time 06:00 AM to 08:55 AM

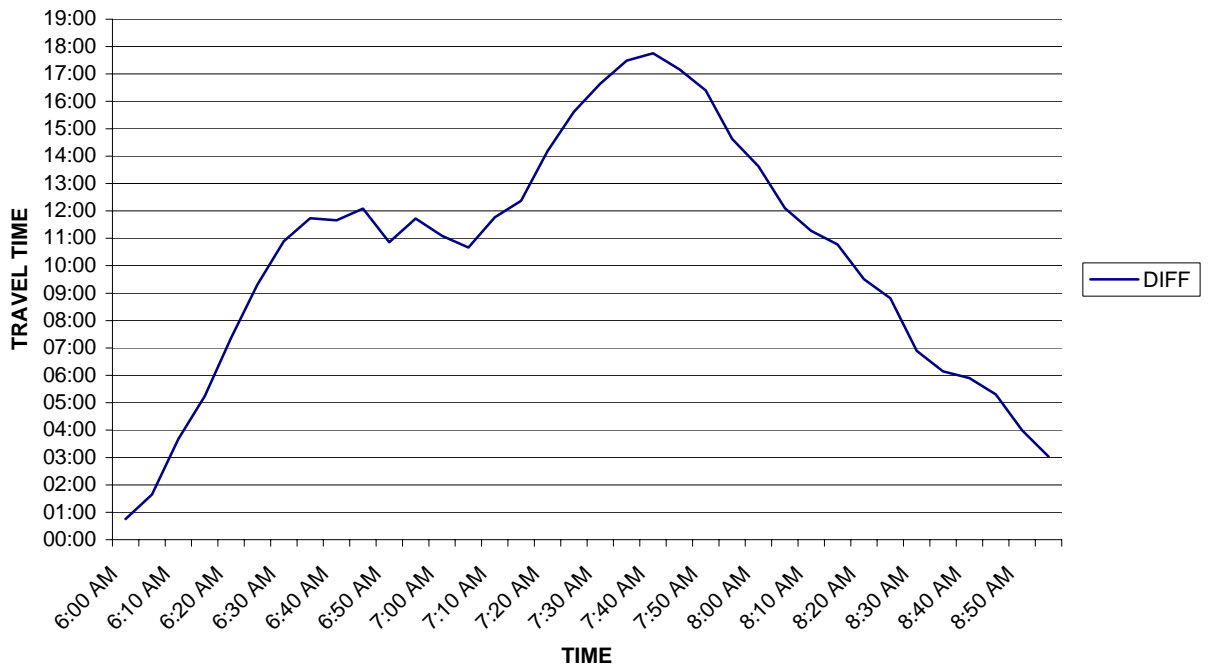
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
6:00 AM	13.73	13:49	13:03	45.3	00:45	0.0	0:00:00
6:05 AM	13.73	14:55	13:16	98.7	01:39	360.1	0:06:00
6:10 AM	13.73	16:51	13:10	220.4	03:40	798.0	0:13:18
6:15 AM	13.73	18:28	13:13	314.4	05:14	1,337.2	0:22:17
6:20 AM	13.73	20:58	13:35	442.4	07:22	1,892.1	0:31:32
6:25 AM	13.73	22:45	13:26	558.8	09:19	2,503.1	0:41:43
6:30 AM	13.73	24:30	13:37	653.3	10:53	3,030.4	0:50:30
6:35 AM	13.73	25:27	13:43	703.9	11:44	3,393.1	0:56:33
6:40 AM	13.73	25:17	13:38	699.5	11:39	3,508.4	0:58:28
6:45 AM	13.73	25:55	13:50	724.9	12:05	3,561.1	0:59:21
6:50 AM	13.73	24:43	13:52	651.3	10:51	3,440.7	0:57:21
6:55 AM	13.73	25:31	13:48	703.2	11:43	3,386.2	0:56:26
7:00 AM	13.73	25:07	14:01	665.3	11:05	3,421.2	0:57:01
7:05 AM	13.73	24:54	14:14	640.0	10:40	3,263.2	0:54:23
7:10 AM	13.73	26:07	14:21	706.0	11:46	3,364.9	0:56:05
7:15 AM	13.73	26:51	14:28	742.3	12:22	3,620.8	1:00:21
7:20 AM	13.73	29:10	15:00	850.8	14:11	3,982.8	1:06:23
7:25 AM	13.73	30:44	15:07	937.0	15:37	4,469.4	1:14:29
7:30 AM	13.73	32:04	15:25	998.9	16:39	4,839.7	1:20:40
7:35 AM	13.73	32:50	15:21	1,049.2	17:29	5,120.2	1:25:20
7:40 AM	13.73	32:50	15:04	1,065.5	17:46	5,286.8	1:28:07
7:45 AM	13.73	31:59	14:49	1,030.4	17:10	5,239.8	1:27:20
7:50 AM	13.73	31:14	14:50	984.1	16:24	5,036.3	1:23:56
7:55 AM	13.73	28:51	14:13	878.0	14:38	4,655.2	1:17:35
8:00 AM	13.73	27:40	14:02	817.5	13:38	4,238.6	1:10:39
8:05 AM	13.73	26:06	14:00	726.2	12:06	3,859.1	1:04:19
8:10 AM	13.73	25:17	14:00	676.3	11:16	3,506.1	0:58:26
8:15 AM	13.73	24:32	13:45	646.5	10:47	3,307.0	0:55:07
8:20 AM	13.73	23:04	13:33	570.9	09:31	3,043.6	0:50:44
8:25 AM	13.73	22:13	13:23	529.2	08:49	2,750.2	0:45:50
8:30 AM	13.73	20:18	13:24	413.8	06:54	2,357.5	0:39:18
8:35 AM	13.73	19:29	13:20	368.7	06:09	1,956.3	0:32:36
8:40 AM	13.73	19:17	13:23	354.2	05:54	1,807.3	0:30:07
8:45 AM	13.73	18:31	13:13	318.4	05:18	1,681.5	0:28:01
8:50 AM	13.73	17:05	13:06	239.4	03:59	1,394.5	0:23:14
8:55 AM	13.73	16:13	13:11	181.9	03:02	1,053.3	0:17:33

	sec	dd:hh:mm:ss
MAX DIFF	1,065.5	17:46
MIN DIFF	45.3	00:45
AVG DIFF	616.9	10:17
STD DEV	275.9	04:36
TOT AREA	110,465.7	01:06:41:06

I- 45 GULF FREEWAY AM NB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS



I- 45 GULF FREEWAY AM NB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS

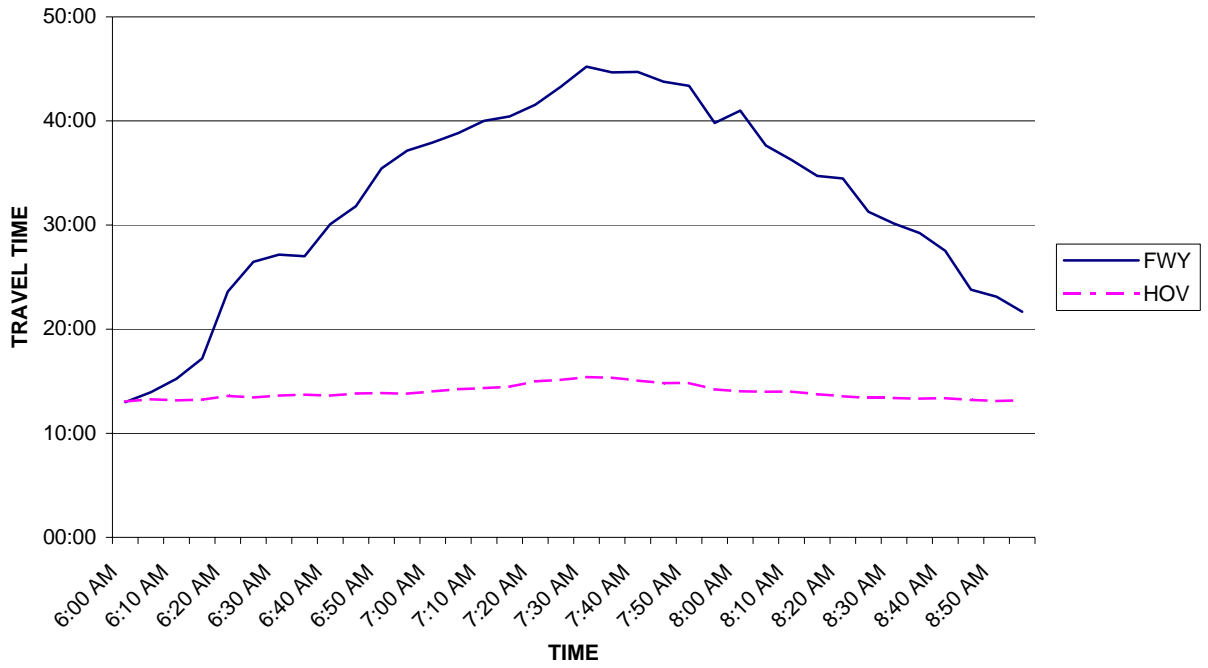


Freeway N I-45 Gulf
 Limit Dixie Farm Rd to Scott Street
 Freeway Type FWY-HOV
 Direction NB
 Date
 Time 06:00 AM to 08:55 AM

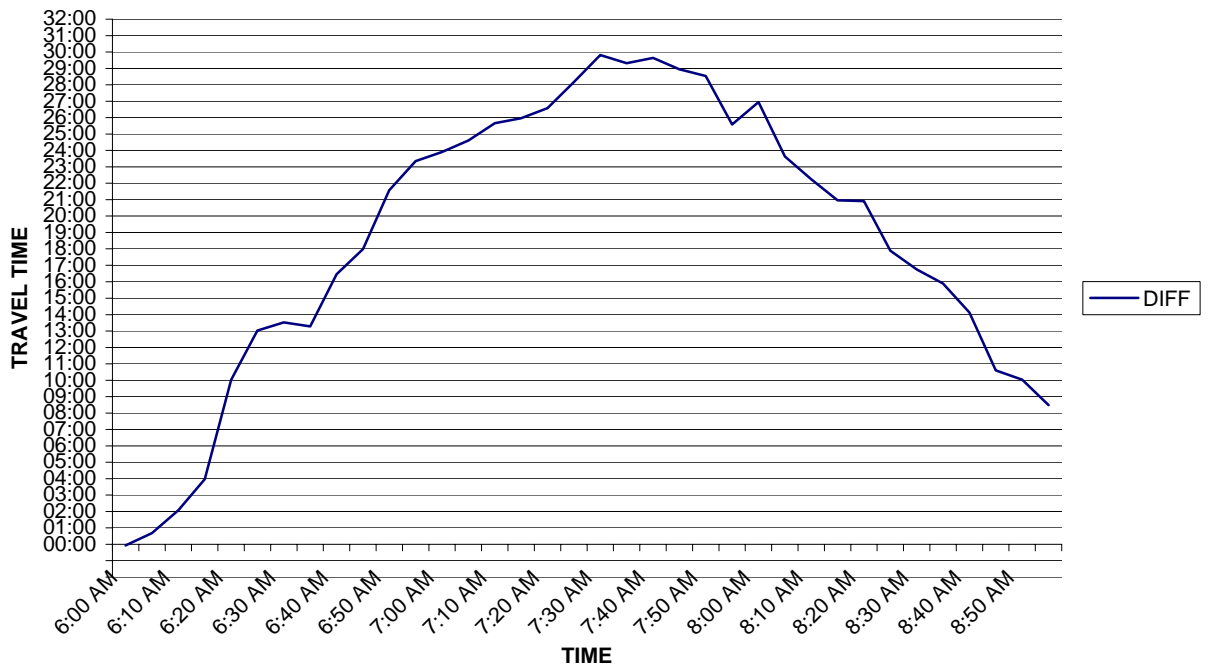
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
6:00 AM	13.73	12:59	13:03	-4.0	#####	0.0 0:00:00
6:05 AM	13.73	13:57	13:16	40.8	00:41	92.0 0:01:32
6:10 AM	13.73	15:15	13:10	124.4	02:04	413.1 0:06:53
6:15 AM	13.73	17:11	13:13	237.9	03:58	905.8 0:15:06
6:20 AM	13.73	23:37	13:35	601.8	10:02	2,099.2 0:34:59
6:25 AM	13.73	26:28	13:26	782.1	13:02	3,459.6 0:57:40
6:30 AM	13.73	27:09	13:37	811.9	13:32	3,984.9 1:06:25
6:35 AM	13.73	27:00	13:43	797.3	13:17	4,022.9 1:07:03
6:40 AM	13.73	30:05	13:38	987.3	16:27	4,461.5 1:14:21
6:45 AM	13.73	31:49	13:50	1,079.0	17:59	5,165.8 1:26:06
6:50 AM	13.73	35:27	13:52	1,294.5	21:35	5,933.8 1:38:54
6:55 AM	13.73	37:09	13:48	1,400.9	23:21	6,738.6 1:52:19
7:00 AM	13.73	37:56	14:01	1,434.6	23:55	7,088.8 1:58:09
7:05 AM	13.73	38:51	14:14	1,476.5	24:36	7,277.8 2:01:18
7:10 AM	13.73	40:00	14:21	1,539.8	25:40	7,540.6 2:05:41
7:15 AM	13.73	40:26	14:28	1,557.7	25:58	7,743.7 2:09:04
7:20 AM	13.73	41:34	15:00	1,594.7	26:35	7,880.9 2:11:21
7:25 AM	13.73	43:18	15:07	1,690.4	28:10	8,212.6 2:16:53
7:30 AM	13.73	45:14	15:25	1,788.9	29:49	8,698.2 2:24:58
7:35 AM	13.73	44:40	15:21	1,759.1	29:19	8,869.9 2:27:50
7:40 AM	13.73	44:43	15:04	1,778.7	29:39	8,844.4 2:27:24
7:45 AM	13.73	43:46	14:49	1,737.1	28:57	8,789.5 2:26:30
7:50 AM	13.73	43:22	14:50	1,712.2	28:32	8,623.3 2:23:43
7:55 AM	13.73	39:48	14:13	1,535.0	25:35	8,118.2 2:15:18
8:00 AM	13.73	40:59	14:02	1,617.0	26:57	7,880.1 2:11:20
8:05 AM	13.73	37:38	14:00	1,418.2	23:38	7,587.9 2:06:28
8:10 AM	13.73	36:15	14:00	1,334.7	22:15	6,882.3 1:54:42
8:15 AM	13.73	34:43	13:45	1,257.5	20:57	6,480.4 1:48:00
8:20 AM	13.73	34:28	13:33	1,255.0	20:55	6,281.2 1:44:41
8:25 AM	13.73	31:16	13:23	1,073.0	17:53	5,820.1 1:37:00
8:30 AM	13.73	30:08	13:24	1,004.5	16:45	5,194.0 1:26:34
8:35 AM	13.73	29:14	13:20	953.9	15:54	4,896.2 1:21:36
8:40 AM	13.73	27:31	13:23	848.2	14:08	4,505.4 1:15:05
8:45 AM	13.73	23:48	13:13	635.8	10:36	3,710.2 1:01:50
8:50 AM	13.73	23:08	13:06	602.1	10:02	3,094.9 0:51:35
8:55 AM	13.73	21:40	13:11	509.4	08:29	2,778.8 0:46:19

	sec	dd:hh:mm:ss
MAX DIFF	1,788.9	29:49
MIN DIFF	-4.0	#####
AVG DIFF	1,118.6	18:39
STD DEV	525.3	08:45
TOT AREA	200,076.4	02:07:34:36

I- 45 GULF FREEWAY AM NB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS



I- 45 GULF FREEWAY AM NB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS

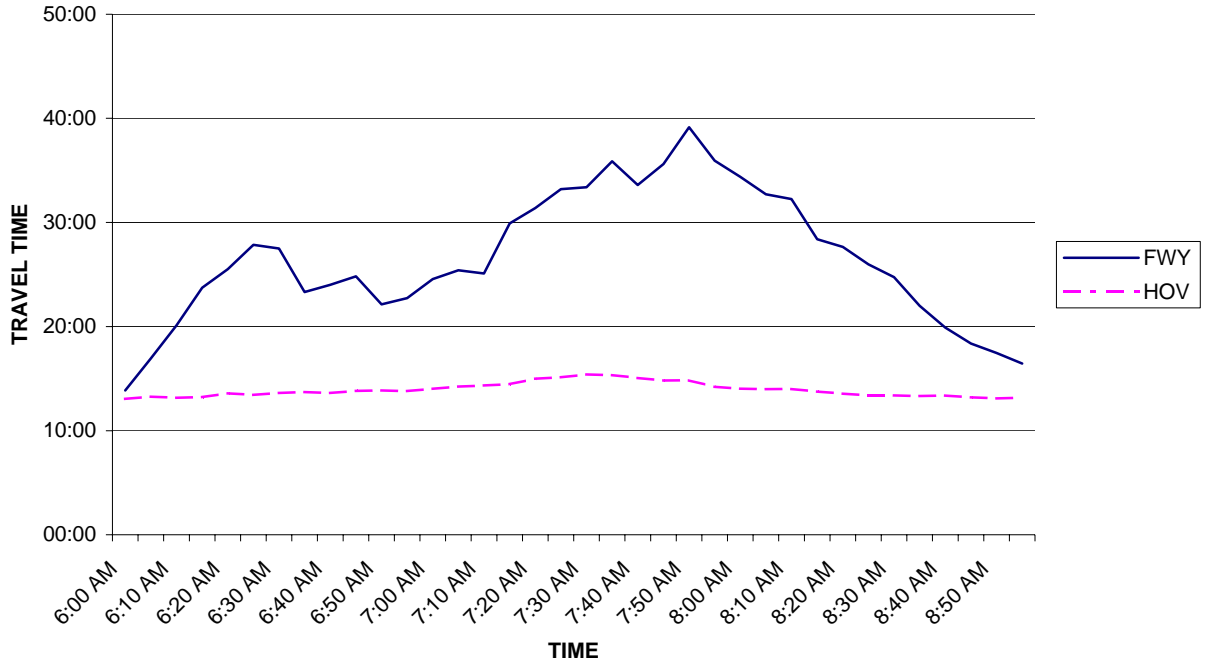


Freeway N I-45 Gulf
 Limit Dixie Farm Rd to Scott Street
 Freeway Type FWY-HOV
 Direction NB
 Date
 Time 06:00 AM to 08:55 AM

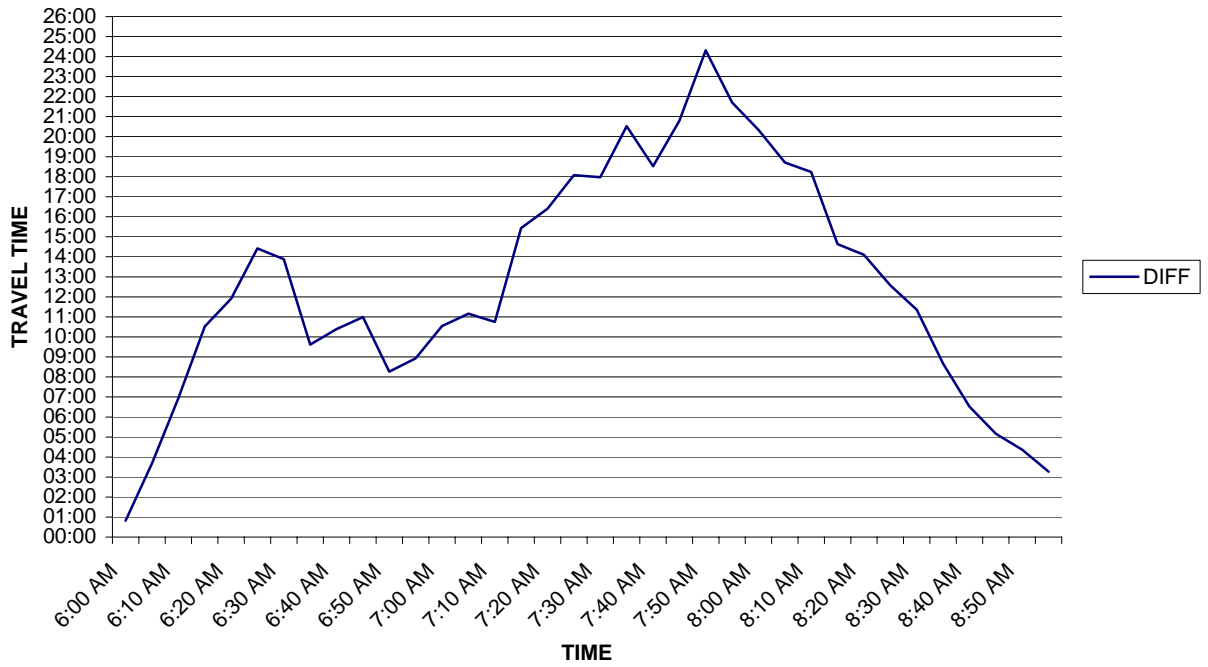
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	13.73	13:52	13:03	49.1	00:49	0.0	0:00:00
6:05 AM	13.73	16:57	13:16	220.5	03:40	673.9	0:11:14
6:10 AM	13.73	20:07	13:10	416.6	06:57	1,592.7	0:26:33
6:15 AM	13.73	23:45	13:13	631.3	10:31	2,619.8	0:43:40
6:20 AM	13.73	25:30	13:35	714.9	11:55	3,365.6	0:56:06
6:25 AM	13.73	27:51	13:26	865.1	14:25	3,949.9	1:05:50
6:30 AM	13.73	27:30	13:37	832.9	13:53	4,244.9	1:10:45
6:35 AM	13.73	23:20	13:43	576.9	09:37	3,524.5	0:58:45
6:40 AM	13.73	24:01	13:38	623.6	10:24	3,001.5	0:50:01
6:45 AM	13.73	24:50	13:50	659.9	11:00	3,208.8	0:53:29
6:50 AM	13.73	22:08	13:52	496.3	08:16	2,890.3	0:48:10
6:55 AM	13.73	22:44	13:48	536.0	08:56	2,580.8	0:43:01
7:00 AM	13.73	24:34	14:01	632.8	10:33	2,922.1	0:48:42
7:05 AM	13.73	25:24	14:14	669.9	11:10	3,256.8	0:54:17
7:10 AM	13.73	25:06	14:21	645.0	10:45	3,287.3	0:54:47
7:15 AM	13.73	29:54	14:28	925.8	15:26	3,927.2	1:05:27
7:20 AM	13.73	31:23	15:00	983.8	16:24	4,774.1	1:19:34
7:25 AM	13.73	33:12	15:07	1,084.6	18:05	5,171.0	1:26:11
7:30 AM	13.73	33:23	15:25	1,078.6	17:59	5,408.0	1:30:08
7:35 AM	13.73	35:53	15:21	1,231.5	20:32	5,775.4	1:36:15
7:40 AM	13.73	33:36	15:04	1,111.7	18:32	5,858.0	1:37:38
7:45 AM	13.73	35:36	14:49	1,247.2	20:47	5,897.3	1:38:17
7:50 AM	13.73	39:09	14:50	1,458.8	24:19	6,765.2	1:52:45
7:55 AM	13.73	35:56	14:13	1,302.3	21:42	6,902.9	1:55:03
8:00 AM	13.73	34:23	14:02	1,220.2	20:20	6,306.4	1:45:06
8:05 AM	13.73	32:43	14:00	1,122.7	18:43	5,857.3	1:37:37
8:10 AM	13.73	32:15	14:00	1,094.5	18:15	5,542.9	1:32:23
8:15 AM	13.73	28:23	13:45	878.0	14:38	4,931.3	1:22:11
8:20 AM	13.73	27:39	13:33	845.6	14:06	4,309.0	1:11:49
8:25 AM	13.73	25:58	13:23	754.6	12:35	4,000.6	1:06:41
8:30 AM	13.73	24:46	13:24	681.8	11:22	3,591.1	0:59:51
8:35 AM	13.73	22:01	13:20	520.6	08:41	3,006.0	0:50:06
8:40 AM	13.73	19:54	13:23	391.6	06:32	2,280.4	0:38:00
8:45 AM	13.73	18:23	13:13	310.1	05:10	1,754.2	0:29:14
8:50 AM	13.73	17:28	13:06	261.8	04:22	1,429.7	0:23:50
8:55 AM	13.73	16:27	13:11	196.0	03:16	1,144.4	0:19:04

	sec	dd:hh:mm:ss
MAX DIFF	1,458.8	24:19
MIN DIFF	49.1	00:49
AVG DIFF	757.6	12:38
STD DEV	349.0	05:49
TOT AREA	135,751.2	01:13:42:31

I- 45 GULF FREEWAY AM NB ONE LANE SCHOOL IN 46-60 MINUTE INCIDENTS



I- 45 GULF FREEWAY AM NB ONE LANE SCHOOL IN 46-60 MINUTE INCIDENTS



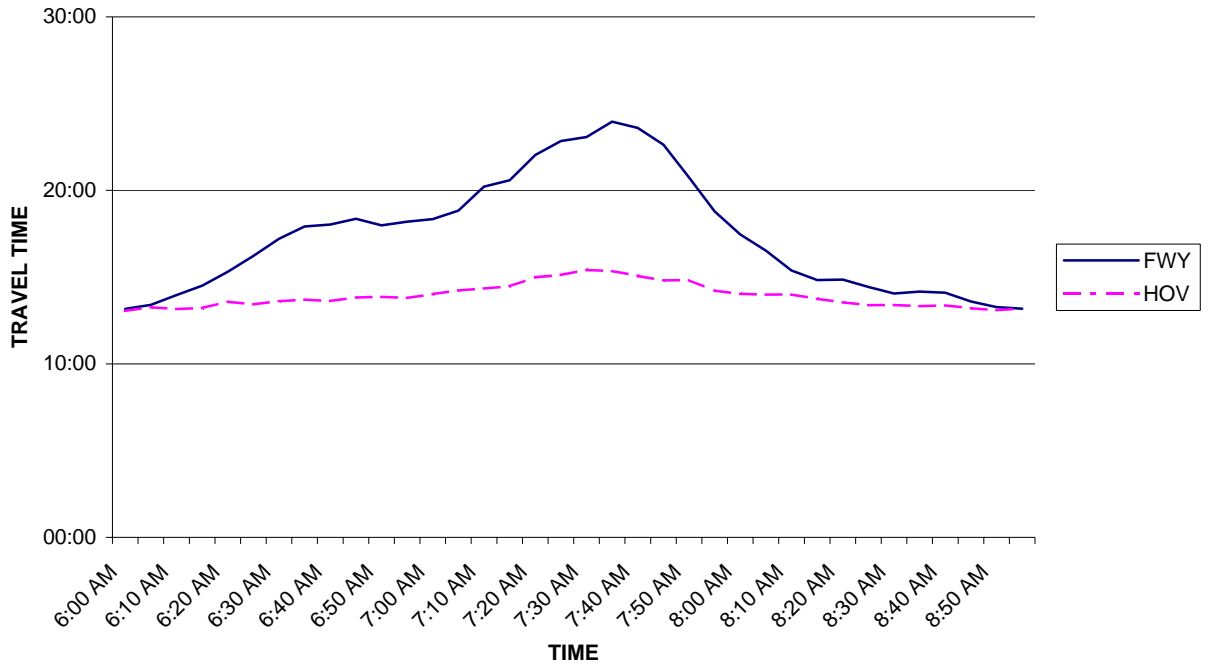
Freeway N I-45 Gulf
 Limit Dixie Farm Rd to Scott Street
 Freeway T: FWY-HOV
 Direction NB

Date
 Time 06:00 AM to 08:55 AM

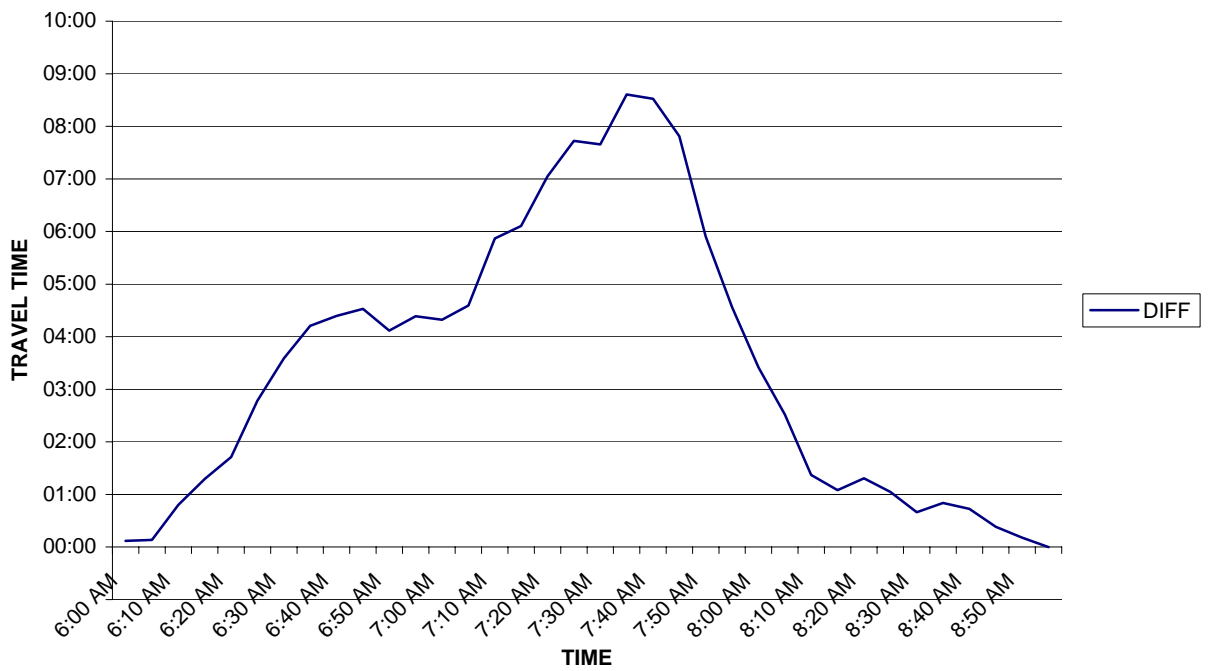
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
6:00 AM	13.73	13:10	13:03	7.1	00:07	0.0	0:00:00
6:05 AM	13.73	13:24	13:16	8.2	00:08	38.1	0:00:38
6:10 AM	13.73	13:58	13:10	48.1	00:48	140.6	0:02:21
6:15 AM	13.73	14:31	13:13	77.7	01:18	314.4	0:05:14
6:20 AM	13.73	15:18	13:35	102.7	01:43	451.0	0:07:31
6:25 AM	13.73	16:13	13:26	167.1	02:47	674.5	0:11:15
6:30 AM	13.73	17:12	13:37	215.2	03:35	955.7	0:15:56
6:35 AM	13.73	17:55	13:43	252.4	04:12	1,169.1	0:19:29
6:40 AM	13.73	18:02	13:38	263.8	04:24	1,290.6	0:21:31
6:45 AM	13.73	18:22	13:50	271.9	04:32	1,339.2	0:22:19
6:50 AM	13.73	17:59	13:52	246.9	04:07	1,297.0	0:21:37
6:55 AM	13.73	18:12	13:48	263.5	04:24	1,276.2	0:21:16
7:00 AM	13.73	18:21	14:01	259.5	04:19	1,307.6	0:21:48
7:05 AM	13.73	18:50	14:14	275.7	04:36	1,338.0	0:22:18
7:10 AM	13.73	20:13	14:21	352.0	05:52	1,569.2	0:26:09
7:15 AM	13.73	20:35	14:28	366.3	06:06	1,795.7	0:29:56
7:20 AM	13.73	22:02	15:00	422.8	07:03	1,972.8	0:32:53
7:25 AM	13.73	22:51	15:07	463.4	07:43	2,215.5	0:36:55
7:30 AM	13.73	23:04	15:25	459.5	07:40	2,307.2	0:38:27
7:35 AM	13.73	23:57	15:21	516.4	08:36	2,439.6	0:40:40
7:40 AM	13.73	23:36	15:04	511.5	08:32	2,569.6	0:42:50
7:45 AM	13.73	22:38	14:49	468.7	07:49	2,450.5	0:40:50
7:50 AM	13.73	20:44	14:50	354.2	05:54	2,057.3	0:34:17
7:55 AM	13.73	18:47	14:13	273.6	04:34	1,569.7	0:26:10
8:00 AM	13.73	17:27	14:02	205.0	03:25	1,196.6	0:19:57
8:05 AM	13.73	16:31	14:00	151.2	02:31	890.4	0:14:50
8:10 AM	13.73	15:23	14:00	82.3	01:22	583.8	0:09:44
8:15 AM	13.73	14:50	13:45	65.0	01:05	368.3	0:06:08
8:20 AM	13.73	14:52	13:33	78.4	01:18	358.6	0:05:59
8:25 AM	13.73	14:26	13:23	63.0	01:03	353.5	0:05:54
8:30 AM	13.73	14:03	13:24	39.6	00:40	256.5	0:04:17
8:35 AM	13.73	14:10	13:20	50.3	00:50	224.8	0:03:45
8:40 AM	13.73	14:06	13:23	43.6	00:44	234.6	0:03:55
8:45 AM	13.73	13:36	13:13	23.1	00:23	166.7	0:02:47
8:50 AM	13.73	13:16	13:06	10.6	00:11	84.3	0:01:24
8:55 AM	13.73	13:11	13:11	-0.2	#####	26.1	0:00:26

	sec	dd:hh:mm:ss
MAX DIFF	516.4	08:36
MIN DIFF	-0.2	#####
AVG DIFF	207.2	03:27
STD DEV	163.2	02:43
TOT AREA	37,283.1	00:10:21:23

I- 45 GULF FREEWAY AM NB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS



I- 45 GULF FREEWAY AM NB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS

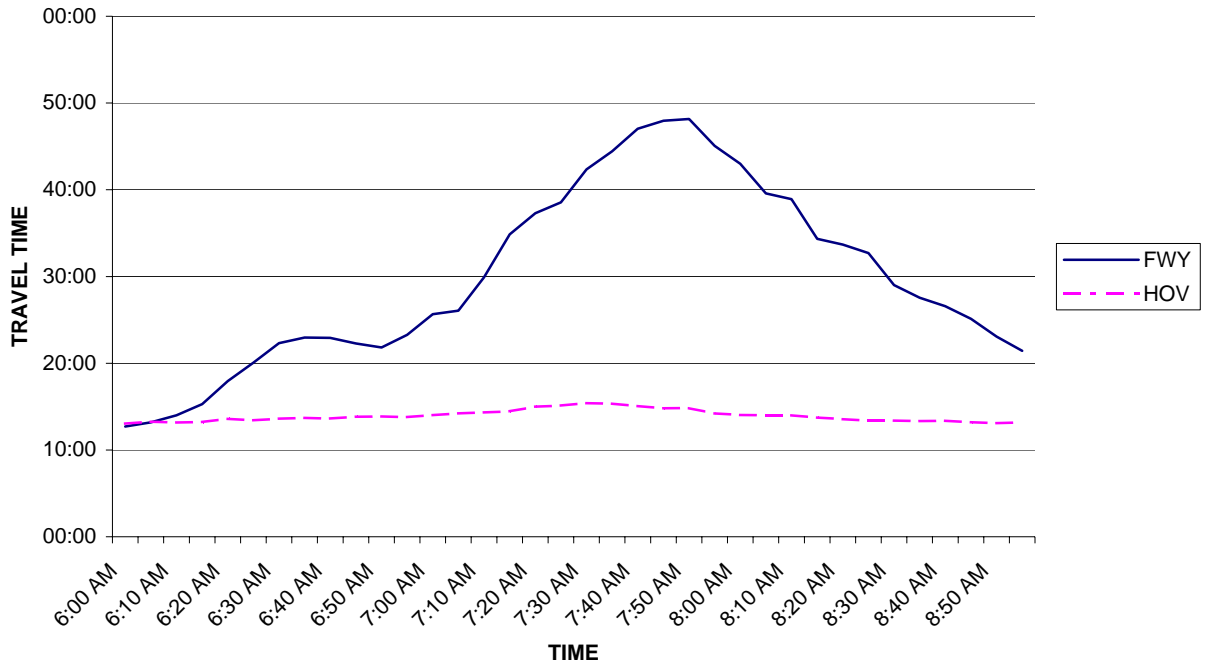


Freeway N I-45 Gulf
 Limit Dixie Farm Rd to Scott Street
 Freeway T₁ FWY-HOV
 Direction NB
 Date
 Time 06:00 AM to 08:55 AM

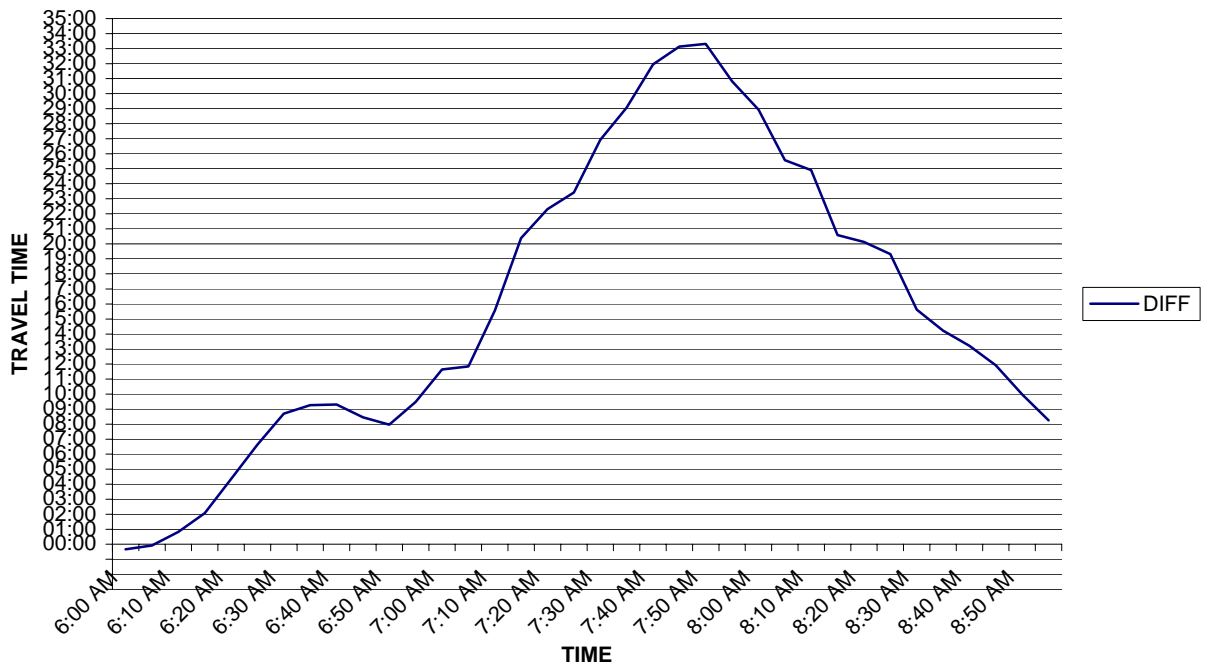
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	13.73	12:43	13:03	-20.0	#####	0.0	0:00:00
6:05 AM	13.73	13:11	13:16	-4.7	#####	-61.7	#####
6:10 AM	13.73	14:00	13:10	49.7	00:50	112.4	0:01:52
6:15 AM	13.73	15:18	13:13	124.4	02:04	435.2	0:07:15
6:20 AM	13.73	17:57	13:35	261.3	04:21	964.3	0:16:04
6:25 AM	13.73	20:04	13:26	398.3	06:38	1,649.1	0:27:29
6:30 AM	13.73	22:19	13:37	522.1	08:42	2,301.1	0:38:21
6:35 AM	13.73	22:59	13:43	556.0	09:16	2,695.4	0:44:55
6:40 AM	13.73	22:56	13:38	558.6	09:19	2,786.5	0:46:26
6:45 AM	13.73	22:17	13:50	507.2	08:27	2,664.4	0:44:24
6:50 AM	13.73	21:50	13:52	478.2	07:58	2,463.4	0:41:03
6:55 AM	13.73	23:17	13:48	569.0	09:29	2,617.9	0:43:38
7:00 AM	13.73	25:40	14:01	698.3	11:38	3,168.2	0:52:48
7:05 AM	13.73	26:05	14:14	710.4	11:50	3,521.8	0:58:42
7:10 AM	13.73	29:55	14:21	933.9	15:34	4,110.6	1:08:31
7:15 AM	13.73	34:51	14:28	1,222.8	20:23	5,391.5	1:29:52
7:20 AM	13.73	37:18	15:00	1,338.5	22:18	6,403.1	1:46:43
7:25 AM	13.73	38:33	15:07	1,405.3	23:25	6,859.5	1:54:20
7:30 AM	13.73	42:21	15:25	1,615.8	26:56	7,552.8	2:05:53
7:35 AM	13.73	44:26	15:21	1,744.6	29:05	8,401.0	2:20:01
7:40 AM	13.73	47:02	15:04	1,917.5	31:57	9,155.1	2:32:35
7:45 AM	13.73	47:58	14:49	1,988.4	33:08	9,764.6	2:42:45
7:50 AM	13.73	48:09	14:50	1,998.8	33:19	9,968.1	2:46:08
7:55 AM	13.73	45:03	14:13	1,849.6	30:50	9,621.2	2:40:21
8:00 AM	13.73	42:59	14:02	1,736.6	28:57	8,965.6	2:29:26
8:05 AM	13.73	39:35	14:00	1,534.5	25:35	8,177.7	2:16:18
8:10 AM	13.73	38:55	14:00	1,494.8	24:55	7,573.1	2:06:13
8:15 AM	13.73	34:20	13:45	1,234.9	20:35	6,824.2	1:53:44
8:20 AM	13.73	33:41	13:33	1,207.6	20:08	6,106.3	1:41:46
8:25 AM	13.73	32:42	13:23	1,158.9	19:19	5,916.2	1:38:36
8:30 AM	13.73	29:01	13:24	937.4	15:37	5,240.7	1:27:21
8:35 AM	13.73	27:34	13:20	854.2	14:14	4,478.9	1:14:39
8:40 AM	13.73	26:36	13:23	793.0	13:13	4,117.9	1:08:38
8:45 AM	13.73	25:08	13:13	715.4	11:55	3,771.0	1:02:51
8:50 AM	13.73	23:05	13:06	599.1	09:59	3,286.4	0:54:46
8:55 AM	13.73	21:27	13:11	495.5	08:15	2,736.5	0:45:37

	sec	dd:hh:mm:ss
MAX DIFF	1,998.8	33:19
MIN DIFF	-20.0	#####
AVG DIFF	949.6	15:50
STD DEV	599.9	10:00
TOT AREA	169,740.1	01:23:09:00

I- 45 GULF FREEWAY AM NB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS



I- 45 GULF FREEWAY AM NB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS

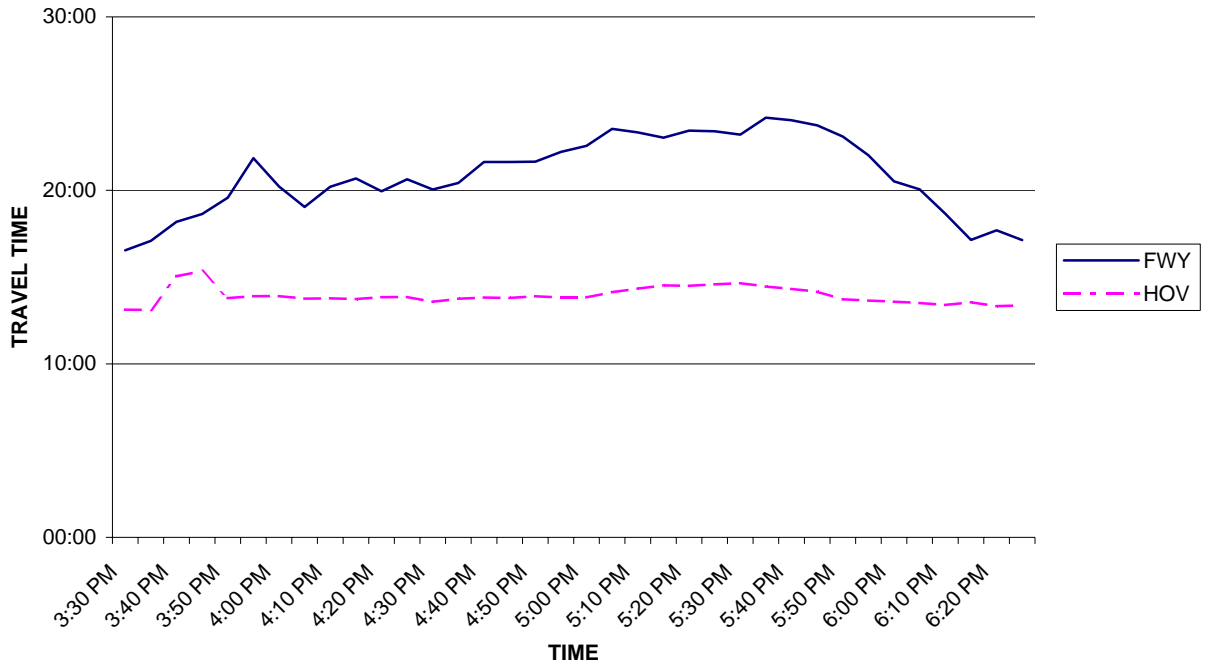


Freeway N I-45 Gulf
 Limit Scott Street to Dixie Farm Rd
 Freeway T: FWY
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

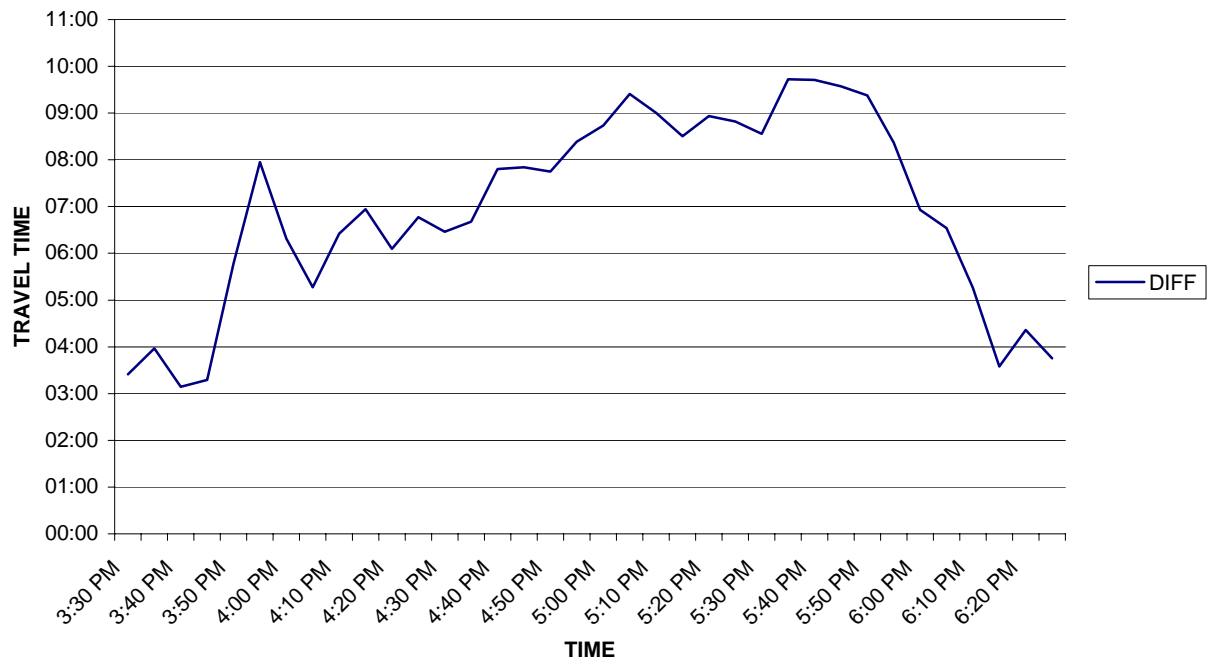
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
3:30 PM	13.73	16:33	13:08	204.9	03:25	0.0	0:00:00
3:35 PM	13.73	17:05	13:07	238.0	03:58	1,107.2	0:18:27
3:40 PM	13.73	18:11	15:02	188.8	03:09	1,067.1	0:17:47
3:45 PM	13.73	18:38	15:20	197.7	03:18	966.3	0:16:06
3:50 PM	13.73	19:34	13:48	346.9	05:47	1,361.4	0:22:41
3:55 PM	13.73	21:51	13:54	477.0	07:57	2,059.8	0:34:20
4:00 PM	13.73	20:14	13:55	378.9	06:19	2,139.8	0:35:40
4:05 PM	13.73	19:02	13:46	316.6	05:17	1,738.7	0:28:59
4:10 PM	13.73	20:12	13:47	385.2	06:25	1,754.4	0:29:14
4:15 PM	13.73	20:41	13:44	416.7	06:57	2,004.7	0:33:25
4:20 PM	13.73	19:56	13:51	365.7	06:06	1,955.9	0:32:36
4:25 PM	13.73	20:38	13:52	406.4	06:46	1,930.2	0:32:10
4:30 PM	13.73	20:03	13:35	387.6	06:28	1,985.0	0:33:05
4:35 PM	13.73	20:26	13:45	400.6	06:41	1,970.5	0:32:50
4:40 PM	13.73	21:38	13:50	468.1	07:48	2,171.9	0:36:12
4:45 PM	13.73	21:38	13:48	470.5	07:50	2,346.5	0:39:07
4:50 PM	13.73	21:39	13:54	464.8	07:45	2,338.2	0:38:58
4:55 PM	13.73	22:13	13:50	503.3	08:23	2,420.3	0:40:20
5:00 PM	13.73	22:34	13:50	524.0	08:44	2,568.3	0:42:48
5:05 PM	13.73	23:32	14:08	564.4	09:24	2,721.1	0:45:21
5:10 PM	13.73	23:21	14:20	540.3	09:00	2,761.7	0:46:02
5:15 PM	13.73	23:02	14:32	510.2	08:30	2,626.3	0:43:46
5:20 PM	13.73	23:26	14:30	536.1	08:56	2,616.0	0:43:36
5:25 PM	13.73	23:24	14:35	529.2	08:49	2,663.3	0:44:23
5:30 PM	13.73	23:13	14:39	513.3	08:33	2,606.3	0:43:26
5:35 PM	13.73	24:11	14:28	583.3	09:43	2,741.7	0:45:42
5:40 PM	13.73	24:03	14:20	582.7	09:43	2,915.1	0:48:35
5:45 PM	13.73	23:45	14:10	574.5	09:34	2,892.9	0:48:13
5:50 PM	13.73	23:06	13:44	562.7	09:23	2,843.0	0:47:23
5:55 PM	13.73	22:01	13:39	502.2	08:22	2,662.3	0:44:22
6:00 PM	13.73	20:31	13:35	415.7	06:56	2,294.7	0:38:15
6:05 PM	13.73	20:03	13:31	392.3	06:32	2,020.1	0:33:40
6:10 PM	13.73	18:40	13:24	315.8	05:16	1,770.4	0:29:30
6:15 PM	13.73	17:09	13:34	214.9	03:35	1,326.9	0:22:07
6:20 PM	13.73	17:42	13:20	261.8	04:22	1,191.8	0:19:52
6:25 PM	13.73	17:08	13:23	225.3	03:45	1,217.6	0:20:18

	sec	dd:hh:mm:ss
MAX DIFF	583.3	09:43
MIN DIFF	188.8	03:09
AVG DIFF	415.7	06:56
STD DEV	123.2	02:03
TOT AREA	73,756.9	00:20:29:17

I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS



I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS

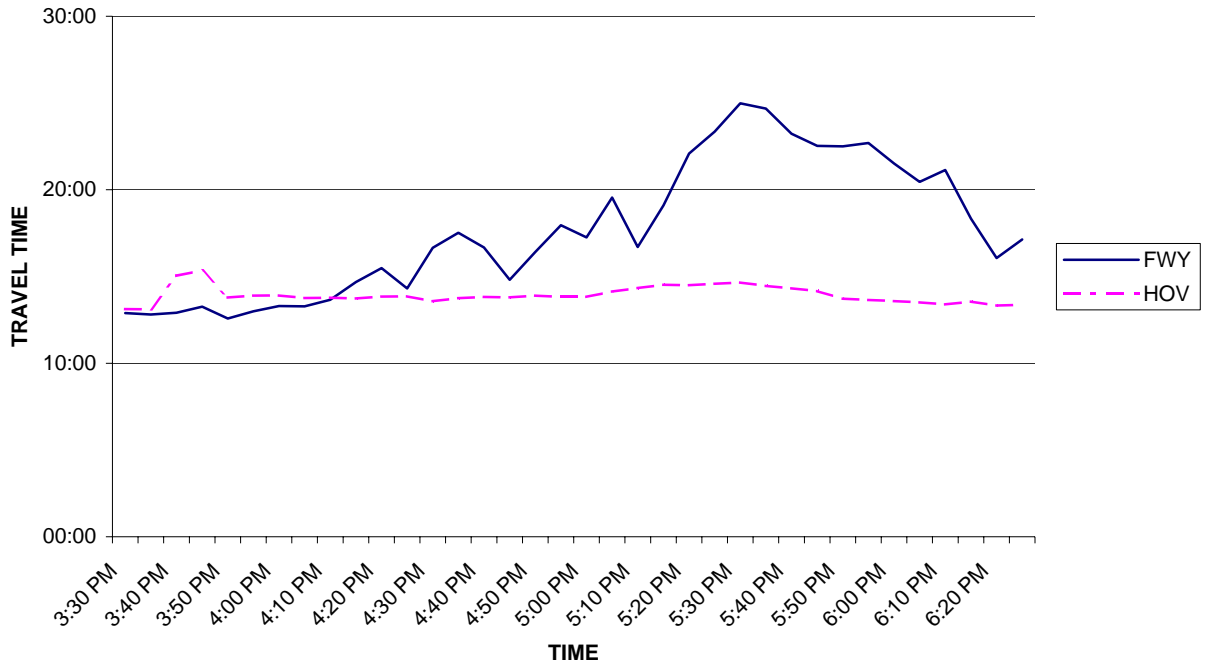


Freeway N I-45 Gulf
 Limit Scott Street to Dixie Farm Rd
 Freeway Type FWY
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

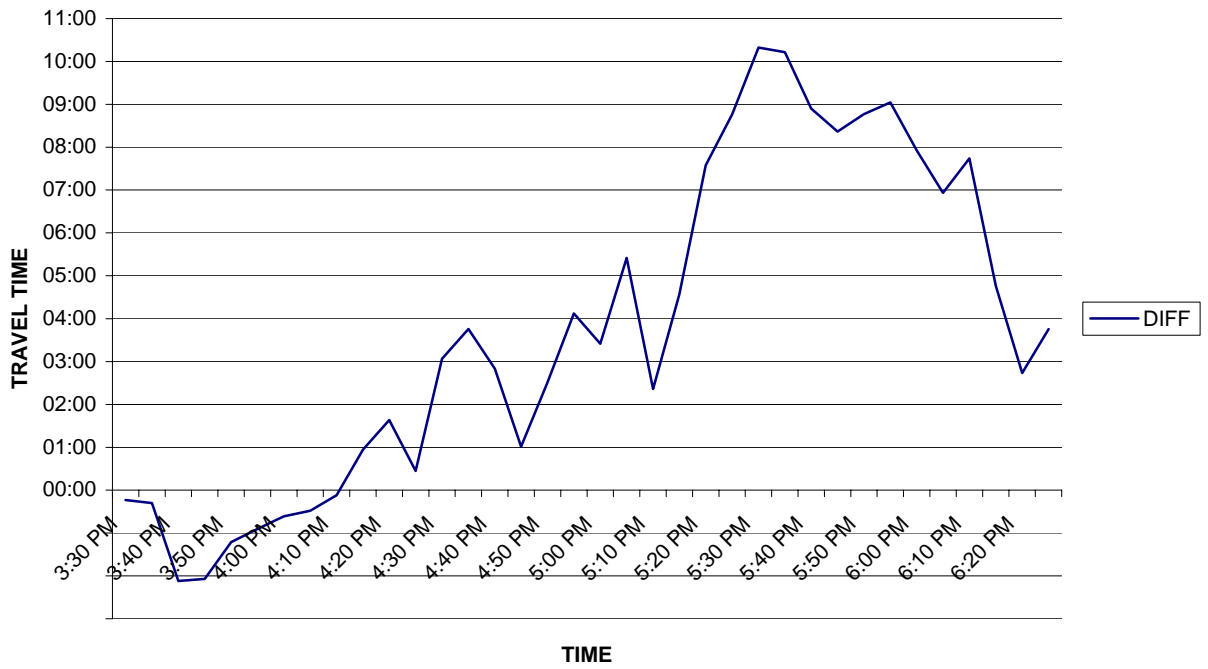
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	13.73	12:54	13:08	-13.8	#####	0.0 0:00:00
3:35 PM	13.73	12:49	13:07	-18.0	#####	-79.5 #####
3:40 PM	13.73	12:55	15:02	-127.2	#####	-362.9 #####
3:45 PM	13.73	13:16	15:20	-124.3	#####	-628.8 #####
3:50 PM	13.73	12:35	13:48	-72.6	#####	-492.3 #####
3:55 PM	13.73	13:00	13:54	-54.3	#####	-317.3 #####
4:00 PM	13.73	13:18	13:55	-36.6	#####	-227.3 #####
4:05 PM	13.73	13:17	13:46	-28.7	#####	-163.4 #####
4:10 PM	13.73	13:40	13:47	-7.2	#####	-89.7 #####
4:15 PM	13.73	14:41	13:44	56.7	00:57	123.9 0:02:04
4:20 PM	13.73	15:29	13:51	98.2	01:38	387.2 0:06:27
4:25 PM	13.73	14:19	13:52	26.9	00:27	312.7 0:05:13
4:30 PM	13.73	16:39	13:35	183.9	03:04	527.1 0:08:47
4:35 PM	13.73	17:31	13:45	225.8	03:46	1,024.2 0:17:04
4:40 PM	13.73	16:40	13:50	170.1	02:50	989.8 0:16:30
4:45 PM	13.73	14:49	13:48	61.1	01:01	578.2 0:09:38
4:50 PM	13.73	16:25	13:54	150.8	02:31	529.8 0:08:50
4:55 PM	13.73	17:57	13:50	247.5	04:07	995.7 0:16:36
5:00 PM	13.73	17:15	13:50	205.0	03:25	1,131.2 0:18:51
5:05 PM	13.73	19:33	14:08	324.9	05:25	1,324.8 0:22:05
5:10 PM	13.73	16:42	14:20	141.8	02:22	1,166.7 0:19:27
5:15 PM	13.73	19:06	14:32	274.1	04:34	1,039.6 0:17:20
5:20 PM	13.73	22:05	14:30	454.6	07:35	1,821.8 0:30:22
5:25 PM	13.73	23:21	14:35	525.9	08:46	2,451.3 0:40:51
5:30 PM	13.73	24:59	14:39	619.5	10:20	2,863.4 0:47:43
5:35 PM	13.73	24:41	14:28	613.0	10:13	3,081.3 0:51:21
5:40 PM	13.73	23:14	14:20	534.2	08:54	2,868.0 0:47:48
5:45 PM	13.73	22:32	14:10	501.8	08:22	2,590.0 0:43:10
5:50 PM	13.73	22:30	13:44	526.4	08:46	2,570.5 0:42:51
5:55 PM	13.73	22:42	13:39	542.7	09:03	2,672.7 0:44:33
6:00 PM	13.73	21:31	13:35	475.5	07:56	2,545.5 0:42:25
6:05 PM	13.73	20:27	13:31	416.0	06:56	2,228.8 0:37:09
6:10 PM	13.73	21:08	13:24	464.3	07:44	2,200.8 0:36:41
6:15 PM	13.73	18:20	13:34	286.3	04:46	1,876.5 0:31:16
6:20 PM	13.73	16:04	13:20	164.1	02:44	1,125.9 0:18:46
6:25 PM	13.73	17:08	13:23	225.5	03:45	973.9 0:16:14

	sec	dd:hh:mm:ss
MAX DIFF	619.5	10:20
MIN DIFF	-127.2	#####
AVG DIFF	223.2	03:43
STD DEV	228.9	03:49
TOT AREA	39,639.9	00:11:00:40

I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS



I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS

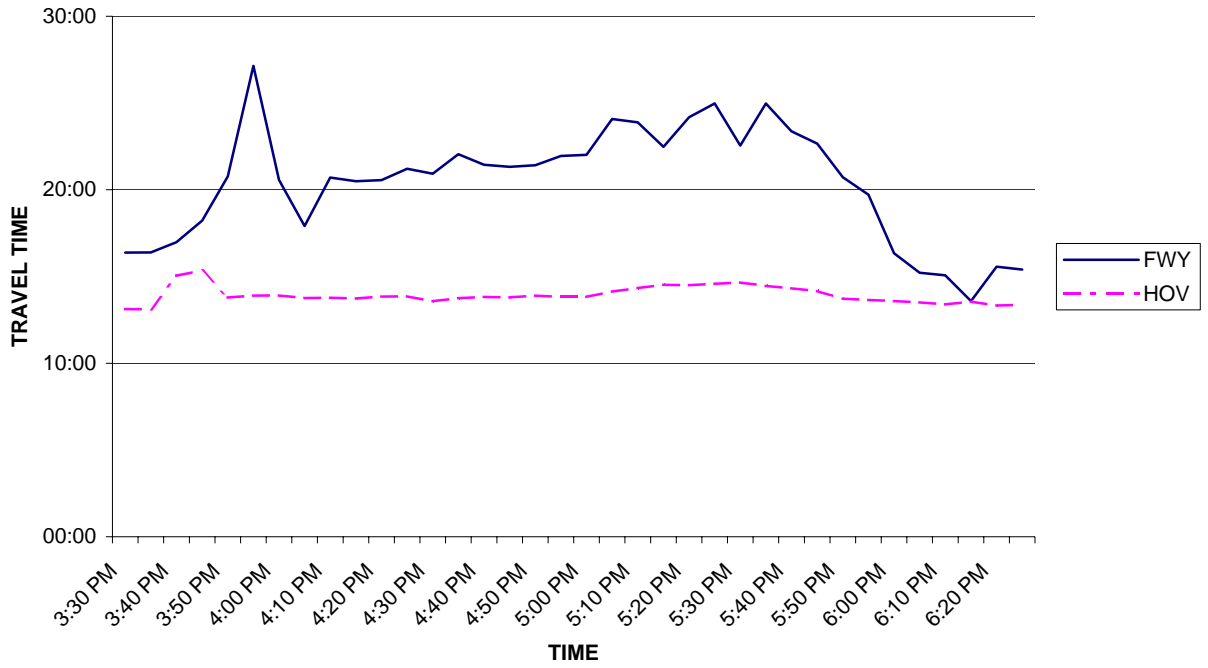


Freeway N I-45 Gulf
 Limit Scott Street to Dixie Farm Rd
 Freeway Type FWY
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

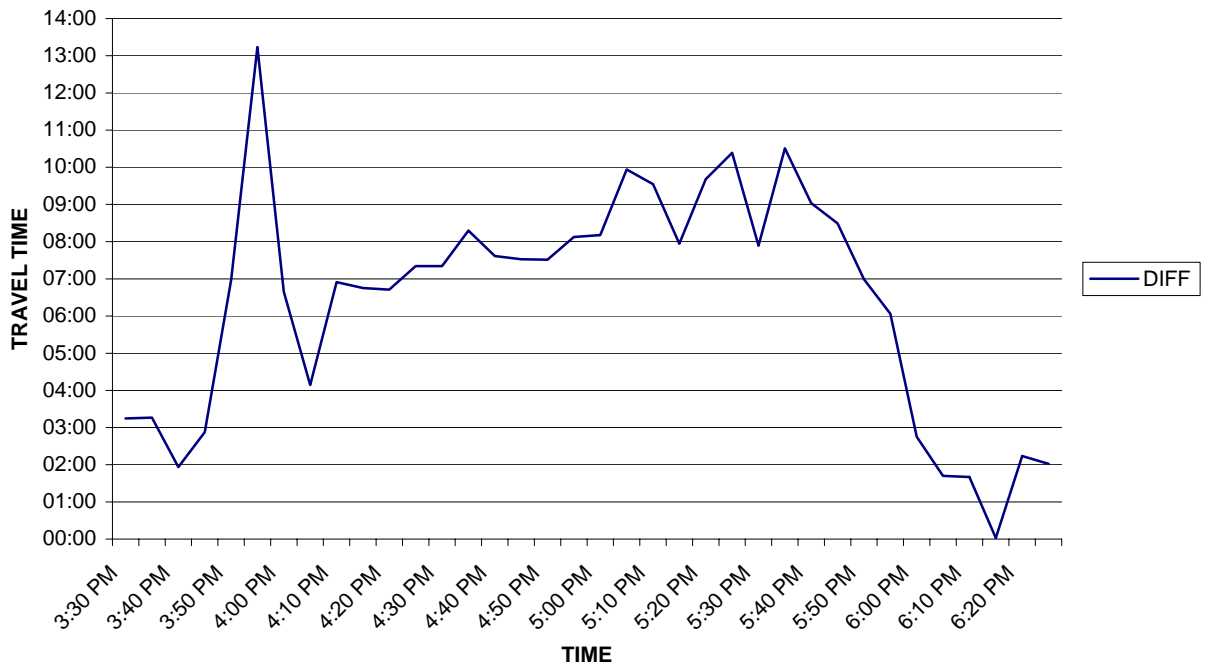
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	13.73	16:22	13:08	194.7	03:15	0.0	0:00:00
3:35 PM	13.73	16:23	13:07	196.0	03:16	976.8	0:16:17
3:40 PM	13.73	16:59	15:02	116.3	01:56	780.8	0:13:01
3:45 PM	13.73	18:13	15:20	172.7	02:53	722.5	0:12:03
3:50 PM	13.73	20:46	13:48	418.4	06:58	1,477.7	0:24:38
3:55 PM	13.73	27:08	13:54	794.2	13:14	3,031.5	0:50:31
4:00 PM	13.73	20:34	13:55	399.4	06:39	2,983.9	0:49:44
4:05 PM	13.73	17:55	13:46	248.8	04:09	1,620.4	0:27:00
4:10 PM	13.73	20:42	13:47	414.8	06:55	1,659.0	0:27:39
4:15 PM	13.73	20:30	13:44	405.2	06:45	2,050.1	0:34:10
4:20 PM	13.73	20:33	13:51	402.7	06:43	2,019.7	0:33:40
4:25 PM	13.73	21:12	13:52	440.4	07:20	2,107.7	0:35:08
4:30 PM	13.73	20:56	13:35	440.4	07:20	2,202.1	0:36:42
4:35 PM	13.73	22:03	13:45	497.8	08:18	2,345.5	0:39:05
4:40 PM	13.73	21:27	13:50	456.6	07:37	2,386.0	0:39:46
4:45 PM	13.73	21:19	13:48	451.6	07:32	2,270.7	0:37:51
4:50 PM	13.73	21:25	13:54	450.8	07:31	2,256.1	0:37:36
4:55 PM	13.73	21:57	13:50	487.5	08:07	2,345.7	0:39:06
5:00 PM	13.73	22:00	13:50	490.5	08:10	2,444.9	0:40:45
5:05 PM	13.73	24:05	14:08	596.4	09:56	2,717.3	0:45:17
5:10 PM	13.73	23:53	14:20	572.8	09:33	2,923.0	0:48:43
5:15 PM	13.73	22:29	14:32	476.6	07:57	2,623.4	0:43:43
5:20 PM	13.73	24:11	14:30	580.6	09:41	2,643.0	0:44:03
5:25 PM	13.73	24:59	14:35	623.4	10:23	3,010.0	0:50:10
5:30 PM	13.73	22:33	14:39	473.5	07:54	2,742.1	0:45:42
5:35 PM	13.73	24:59	14:28	630.5	10:31	2,760.0	0:46:00
5:40 PM	13.73	23:22	14:20	542.2	09:02	2,931.7	0:48:52
5:45 PM	13.73	22:40	14:10	509.3	08:29	2,628.7	0:43:49
5:50 PM	13.73	20:43	13:44	419.4	06:59	2,321.8	0:38:42
5:55 PM	13.73	19:43	13:39	363.7	06:04	1,957.7	0:32:38
6:00 PM	13.73	16:21	13:35	165.0	02:45	1,321.8	0:22:02
6:05 PM	13.73	15:13	13:31	102.0	01:42	667.6	0:11:08
6:10 PM	13.73	15:04	13:24	100.3	01:40	505.8	0:08:26
6:15 PM	13.73	13:36	13:34	1.8	00:02	255.2	0:04:15
6:20 PM	13.73	15:34	13:20	134.1	02:14	339.7	0:05:40
6:25 PM	13.73	15:24	13:23	121.5	02:01	638.9	0:10:39

	sec	dd:hh:mm:ss
MAX DIFF	794.2	13:14
MIN DIFF	1.8	00:02
AVG DIFF	385.9	06:26
STD DEV	186.3	03:06
TOT AREA	68,668.6	00:19:04:29

I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS



I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS

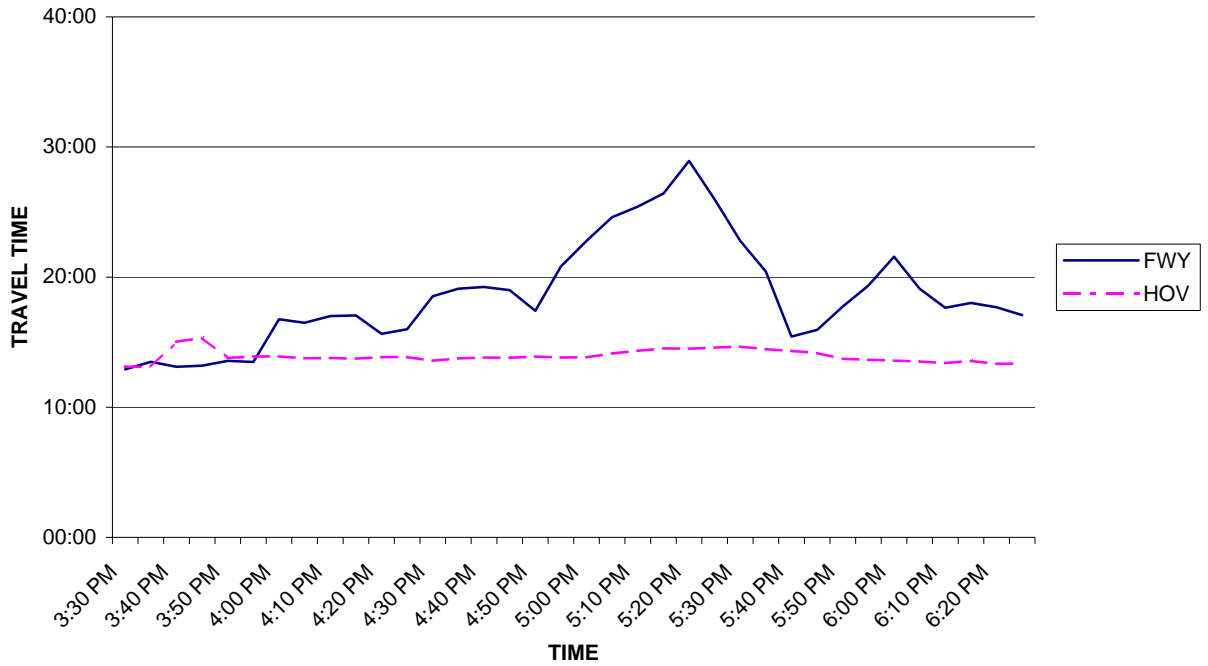


Freeway N I-45 Gulf
 Limit Scott Street to Dixie Farm Rd
 Freeway Type FWY
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

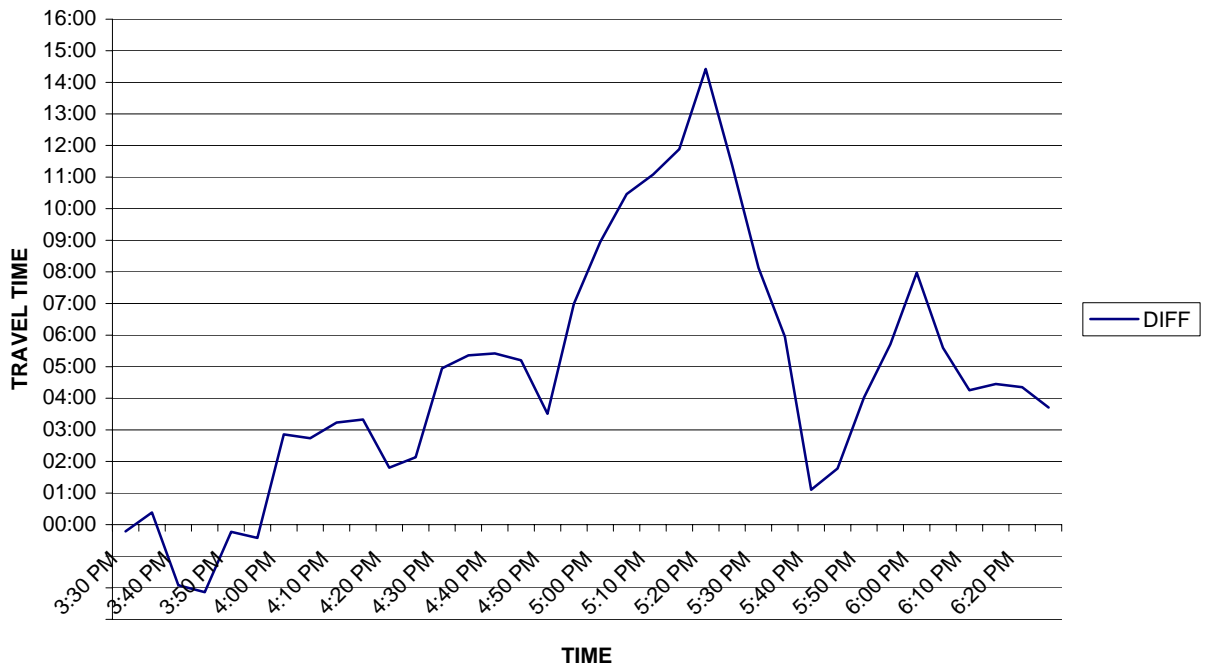
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	13.73	12:55	13:08	-12.8	#####	0.0 0:00:00
3:35 PM	13.73	13:30	13:07	23.0	00:23	25.5 0:00:25
3:40 PM	13.73	13:07	15:02	-115.2	#####	-230.4 #####
3:45 PM	13.73	13:12	15:20	-128.3	#####	-608.8 #####
3:50 PM	13.73	13:34	13:48	-13.6	#####	-354.8 #####
3:55 PM	13.73	13:29	13:54	-25.3	#####	-97.2 #####
4:00 PM	13.73	16:46	13:55	171.4	02:51	365.2 0:06:05
4:05 PM	13.73	16:30	13:46	164.3	02:44	839.1 0:13:59
4:10 PM	13.73	17:01	13:47	193.8	03:14	895.3 0:14:55
4:15 PM	13.73	17:04	13:44	199.7	03:20	983.9 0:16:24
4:20 PM	13.73	15:39	13:51	108.2	01:48	769.7 0:12:50
4:25 PM	13.73	16:00	13:52	127.9	02:08	590.2 0:09:50
4:30 PM	13.73	18:32	13:35	296.9	04:57	1,062.1 0:17:42
4:35 PM	13.73	19:07	13:45	321.8	05:22	1,546.7 0:25:47
4:40 PM	13.73	19:15	13:50	325.1	05:25	1,617.3 0:26:57
4:45 PM	13.73	19:00	13:48	312.1	05:12	1,593.2 0:26:33
4:50 PM	13.73	17:25	13:54	210.8	03:31	1,307.3 0:21:47
4:55 PM	13.73	20:49	13:50	419.5	06:59	1,575.7 0:26:16
5:00 PM	13.73	22:47	13:50	537.0	08:57	2,391.2 0:39:51
5:05 PM	13.73	24:36	14:08	627.9	10:28	2,912.3 0:48:32
5:10 PM	13.73	25:25	14:20	664.8	11:05	3,231.7 0:53:52
5:15 PM	13.73	26:25	14:32	713.1	11:53	3,444.6 0:57:25
5:20 PM	13.73	28:56	14:30	865.6	14:26	3,946.8 1:05:47
5:25 PM	13.73	25:58	14:35	682.9	11:23	3,871.3 1:04:31
5:30 PM	13.73	22:47	14:39	487.5	08:08	2,925.9 0:48:46
5:35 PM	13.73	20:25	14:28	357.0	05:57	2,111.3 0:35:11
5:40 PM	13.73	15:26	14:20	66.2	01:06	1,058.0 0:17:38
5:45 PM	13.73	15:57	14:10	106.8	01:47	432.5 0:07:12
5:50 PM	13.73	17:45	13:44	241.4	04:01	870.5 0:14:30
5:55 PM	13.73	19:22	13:39	342.7	05:43	1,460.2 0:24:20
6:00 PM	13.73	21:34	13:35	478.5	07:59	2,053.0 0:34:13
6:05 PM	13.73	19:07	13:31	336.0	05:36	2,036.3 0:33:56
6:10 PM	13.73	17:39	13:24	255.3	04:15	1,478.3 0:24:38
6:15 PM	13.73	18:01	13:34	267.3	04:27	1,306.5 0:21:46
6:20 PM	13.73	17:41	13:20	261.1	04:21	1,320.9 0:22:01
6:25 PM	13.73	17:05	13:23	222.5	03:42	1,208.9 0:20:09

	sec	dd:hh:mm:ss
MAX DIFF	865.6	14:26
MIN DIFF	-128.3	#####
AVG DIFF	280.4	04:40
STD DEV	237.9	03:58
TOT AREA	49,939.9	00:13:52:20

I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL IN 46-60 MINUTE INCIDENTS



I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL IN 46-60 MINUTE INCIDENTS

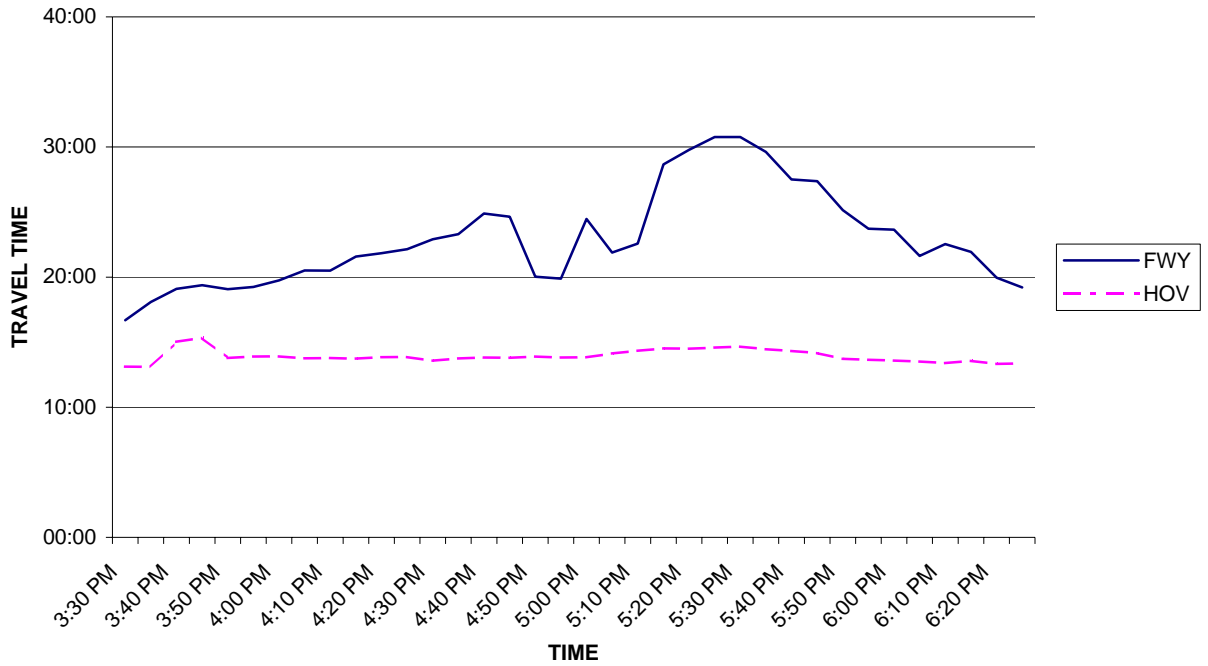


Freeway N I-45 Gulf
 Limit Scott Street to Dixie Farm Rd
 Freeway Type FWY
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

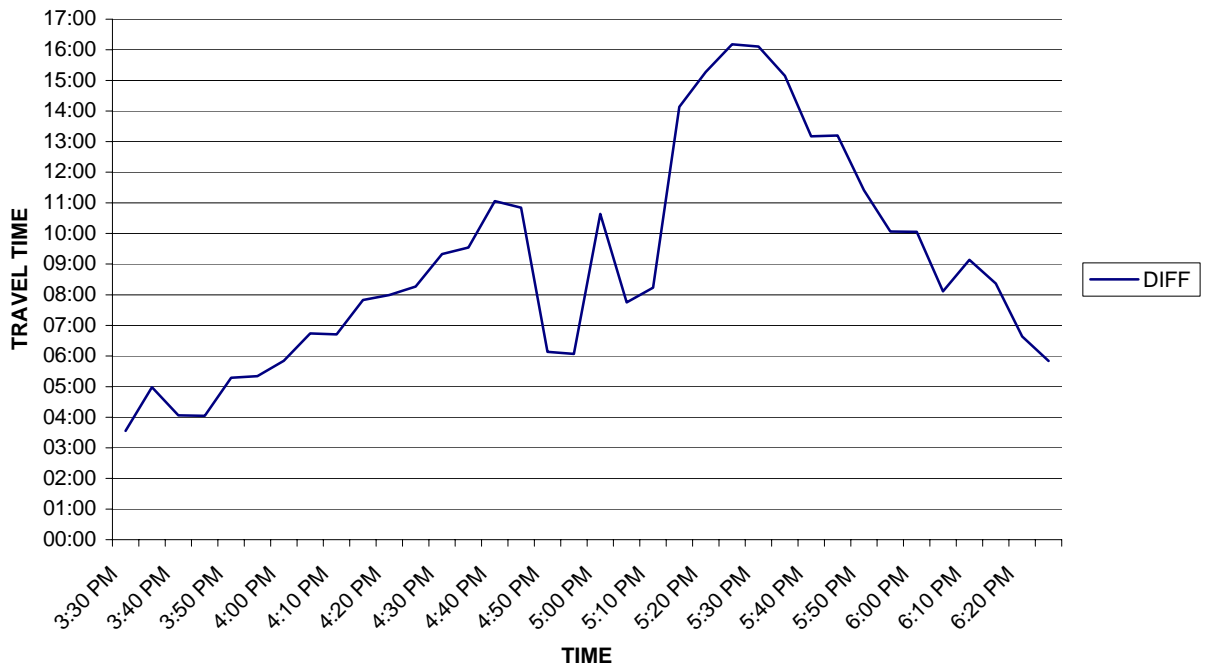
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	13.73	16:41	13:08	213.5	03:33	0.0	0:00:00
3:35 PM	13.73	18:06	13:07	299.0	04:59	1,281.1	0:21:21
3:40 PM	13.73	19:06	15:02	243.8	04:04	1,357.1	0:22:37
3:45 PM	13.73	19:23	15:20	242.7	04:03	1,216.3	0:20:16
3:50 PM	13.73	19:05	13:48	317.4	05:17	1,400.2	0:23:20
3:55 PM	13.73	19:15	13:54	320.7	05:21	1,595.3	0:26:35
4:00 PM	13.73	19:45	13:55	350.6	05:51	1,678.3	0:27:58
4:05 PM	13.73	20:30	13:46	404.3	06:44	1,887.2	0:31:27
4:10 PM	13.73	20:30	13:47	402.6	06:43	2,017.2	0:33:37
4:15 PM	13.73	21:34	13:44	469.9	07:50	2,181.2	0:36:21
4:20 PM	13.73	21:50	13:51	479.6	08:00	2,373.7	0:39:34
4:25 PM	13.73	22:08	13:52	496.3	08:16	2,439.7	0:40:40
4:30 PM	13.73	22:55	13:35	559.5	09:20	2,639.6	0:44:00
4:35 PM	13.73	23:18	13:45	572.6	09:33	2,830.2	0:47:10
4:40 PM	13.73	24:53	13:50	663.5	11:04	3,090.3	0:51:30
4:45 PM	13.73	24:38	13:48	650.5	10:51	3,285.2	0:54:45
4:50 PM	13.73	20:03	13:54	368.3	06:08	2,547.1	0:42:27
4:55 PM	13.73	19:54	13:50	364.2	06:04	1,831.3	0:30:31
5:00 PM	13.73	24:28	13:50	638.2	10:38	2,506.0	0:41:46
5:05 PM	13.73	21:53	14:08	465.2	07:45	2,758.4	0:45:58
5:10 PM	13.73	22:34	14:20	494.0	08:14	2,398.0	0:39:58
5:15 PM	13.73	28:40	14:32	848.1	14:08	3,355.2	0:55:55
5:20 PM	13.73	29:47	14:30	916.4	15:16	4,411.3	1:13:31
5:25 PM	13.73	30:46	14:35	970.9	16:11	4,718.3	1:18:38
5:30 PM	13.73	30:46	14:39	966.3	16:06	4,842.9	1:20:43
5:35 PM	13.73	29:37	14:28	909.0	15:09	4,688.3	1:18:08
5:40 PM	13.73	27:30	14:20	790.6	13:11	4,249.0	1:10:49
5:45 PM	13.73	27:22	14:10	792.0	13:12	3,956.5	1:05:56
5:50 PM	13.73	25:08	13:44	684.8	11:25	3,692.0	1:01:32
5:55 PM	13.73	23:43	13:39	603.9	10:04	3,221.7	0:53:42
6:00 PM	13.73	23:39	13:35	603.3	10:03	3,018.0	0:50:18
6:05 PM	13.73	21:38	13:31	486.8	08:07	2,725.3	0:45:25
6:10 PM	13.73	22:32	13:24	548.3	09:08	2,587.8	0:43:08
6:15 PM	13.73	21:56	13:34	502.1	08:22	2,626.0	0:43:46
6:20 PM	13.73	19:58	13:20	398.3	06:38	2,250.9	0:37:31
6:25 PM	13.73	19:13	13:23	350.3	05:50	1,871.4	0:31:11

	sec	dd:hh:mm:ss
MAX DIFF	970.9	16:11
MIN DIFF	213.5	03:33
AVG DIFF	538.5	08:59
STD DEV	212.8	03:33
TOT AREA	95,527.7	01:02:32:08

I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS



I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS

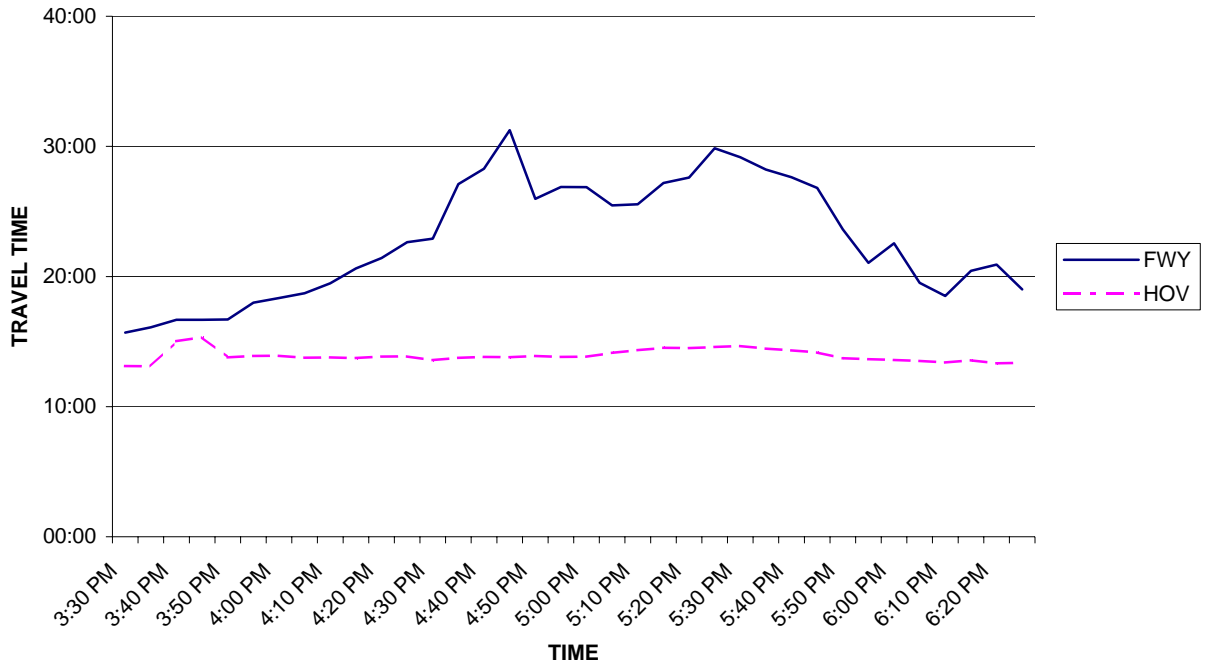


Freeway N I-45 Gulf
 Limit Scott Street to Dixie Farm Rd
 Freeway T₁ FWY
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

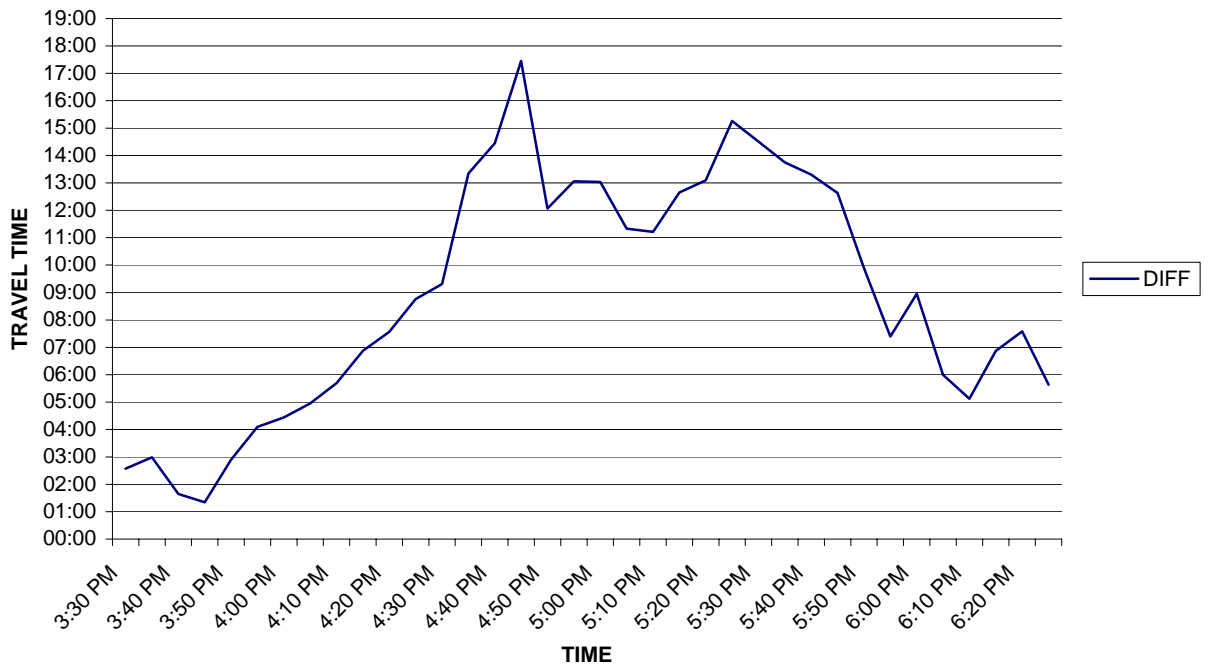
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION ARE	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	13.73	15:42	13:08	154.2	02:34	0.0	0:00:00
3:35 PM	13.73	16:06	13:07	179.0	02:59	833.0	0:13:53
3:40 PM	13.73	16:41	15:02	98.8	01:39	694.6	0:11:35
3:45 PM	13.73	16:41	15:20	80.7	01:21	448.8	0:07:29
3:50 PM	13.73	16:42	13:48	174.4	02:54	637.7	0:10:38
3:55 PM	13.73	18:00	13:54	245.7	04:06	1,050.3	0:17:30
4:00 PM	13.73	18:21	13:55	266.4	04:26	1,280.2	0:21:20
4:05 PM	13.73	18:43	13:46	297.3	04:57	1,409.1	0:23:29
4:10 PM	13.73	19:29	13:47	341.8	05:42	1,597.8	0:26:38
4:15 PM	13.73	20:37	13:44	412.7	06:53	1,886.4	0:31:26
4:20 PM	13.73	21:25	13:51	454.2	07:34	2,167.2	0:36:07
4:25 PM	13.73	22:38	13:52	525.9	08:46	2,450.2	0:40:50
4:30 PM	13.73	22:54	13:35	558.9	09:19	2,712.1	0:45:12
4:35 PM	13.73	27:06	13:45	800.8	13:21	3,399.2	0:56:39
4:40 PM	13.73	28:17	13:50	867.1	14:27	4,169.8	1:09:30
4:45 PM	13.73	31:15	13:48	1,047.1	17:27	4,785.7	1:19:46
4:50 PM	13.73	25:58	13:54	723.8	12:04	4,427.3	1:13:47
4:55 PM	13.73	26:53	13:50	783.5	13:03	3,768.2	1:02:48
5:00 PM	13.73	26:52	13:50	782.0	13:02	3,913.7	1:05:14
5:05 PM	13.73	25:28	14:08	679.9	11:20	3,654.8	1:00:55
5:10 PM	13.73	25:33	14:20	672.8	11:13	3,381.7	0:56:22
5:15 PM	13.73	27:11	14:32	759.1	12:39	3,579.6	0:59:40
5:20 PM	13.73	27:36	14:30	785.6	13:06	3,861.8	1:04:22
5:25 PM	13.73	29:51	14:35	915.9	15:16	4,253.8	1:10:54
5:30 PM	13.73	29:10	14:39	870.5	14:31	4,465.9	1:14:26
5:35 PM	13.73	28:13	14:28	825.0	13:45	4,238.8	1:10:39
5:40 PM	13.73	27:38	14:20	798.2	13:18	4,058.0	1:07:38
5:45 PM	13.73	26:48	14:10	757.8	12:38	3,890.0	1:04:50
5:50 PM	13.73	23:37	13:44	593.4	09:53	3,378.0	0:56:18
5:55 PM	13.73	21:03	13:39	443.7	07:24	2,592.7	0:43:13
6:00 PM	13.73	22:33	13:35	537.5	08:58	2,453.0	0:40:53
6:05 PM	13.73	19:31	13:31	360.0	06:00	2,243.8	0:37:24
6:10 PM	13.73	18:31	13:24	307.3	05:07	1,668.3	0:27:48
6:15 PM	13.73	20:26	13:34	412.3	06:52	1,799.0	0:29:59
6:20 PM	13.73	20:55	13:20	455.1	07:35	2,168.4	0:36:08
6:25 PM	13.73	19:01	13:23	338.5	05:38	1,983.9	0:33:04

	sec	dd:hh:mm:ss
MAX DIFF	1,047.1	17:27
MIN DIFF	80.7	01:21
AVG DIFF	536.3	08:56
STD DEV	264.0	04:24
TOT AREA	95,302.4	01:02:28:22

I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS



I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS

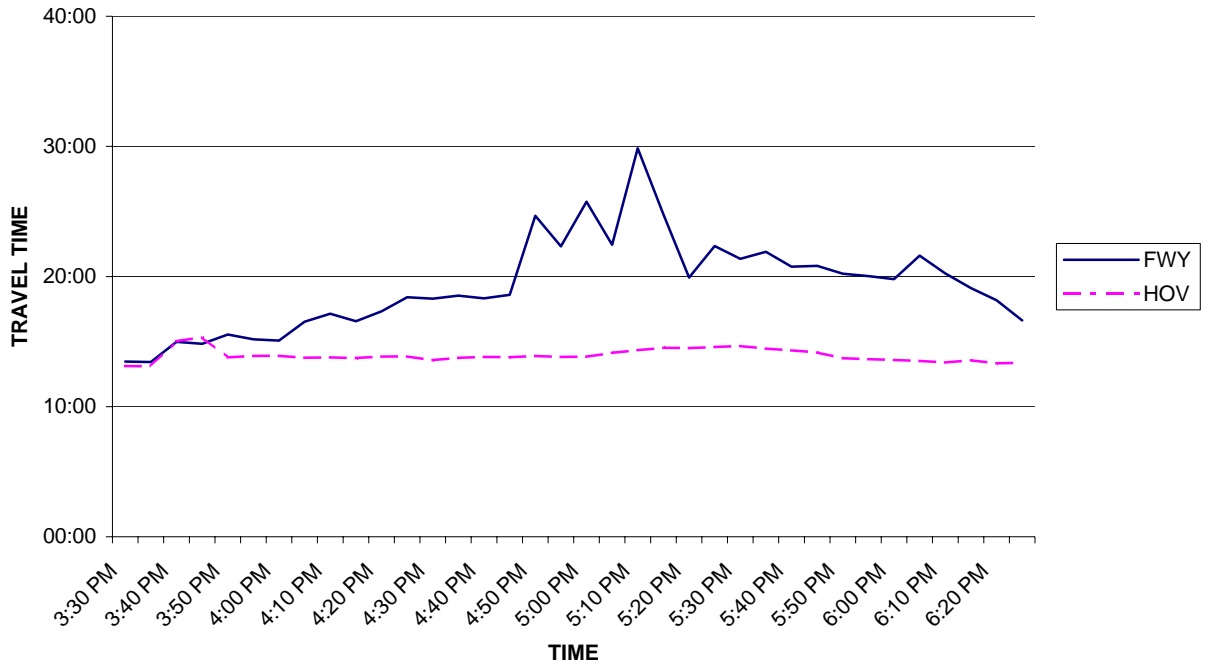


Freeway N I-45 Gulf
 Limit Scott Street to Dixie Farm Rd
 Freeway Type FWY
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

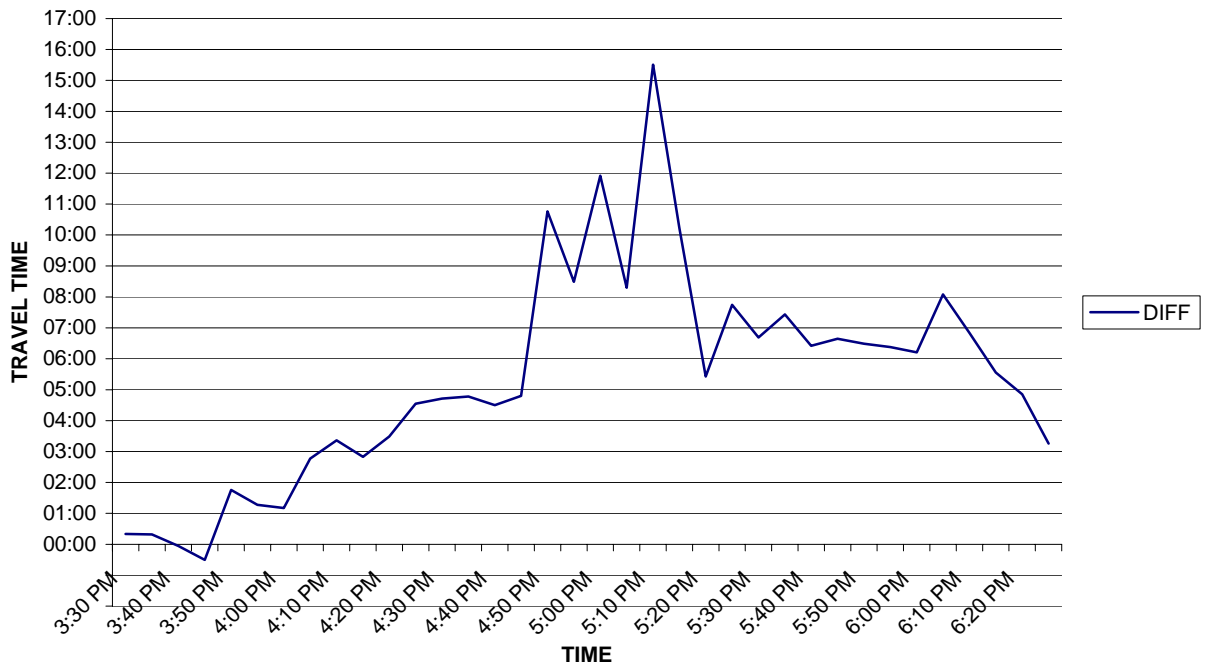
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	13.73	13:28	13:08	20.2	00:20	0.0	0:00:00
3:35 PM	13.73	13:26	13:07	19.0	00:19	98.0	0:01:38
3:40 PM	13.73	14:59	15:02	-3.2	#####	39.6	0:00:40
3:45 PM	13.73	14:50	15:20	-30.3	#####	-83.8	#####
3:50 PM	13.73	15:33	13:48	105.4	01:45	187.7	0:03:08
3:55 PM	13.73	15:11	13:54	76.7	01:17	455.3	0:07:35
4:00 PM	13.73	15:05	13:55	70.4	01:10	367.7	0:06:08
4:05 PM	13.73	16:32	13:46	166.3	02:46	591.6	0:09:52
4:10 PM	13.73	17:09	13:47	201.8	03:22	920.3	0:15:20
4:15 PM	13.73	16:34	13:44	169.7	02:50	928.9	0:15:29
4:20 PM	13.73	17:20	13:51	209.2	03:29	947.2	0:15:47
4:25 PM	13.73	18:25	13:52	272.9	04:33	1,205.2	0:20:05
4:30 PM	13.73	18:18	13:35	282.9	04:43	1,389.6	0:23:10
4:35 PM	13.73	18:32	13:45	286.8	04:47	1,424.2	0:23:44
4:40 PM	13.73	18:20	13:50	270.1	04:30	1,392.3	0:23:12
4:45 PM	13.73	18:36	13:48	288.1	04:48	1,395.7	0:23:16
4:50 PM	13.73	24:40	13:54	645.8	10:46	2,334.8	0:38:55
4:55 PM	13.73	22:19	13:50	509.5	08:29	2,888.2	0:48:08
5:00 PM	13.73	25:45	13:50	715.0	11:55	3,061.2	0:51:01
5:05 PM	13.73	22:26	14:08	497.9	08:18	3,032.3	0:50:32
5:10 PM	13.73	29:51	14:20	930.8	15:31	3,571.7	0:59:32
5:15 PM	13.73	24:46	14:32	614.1	10:14	3,862.1	1:04:22
5:20 PM	13.73	19:56	14:30	325.6	05:26	2,349.3	0:39:09
5:25 PM	13.73	22:20	14:35	464.9	07:45	1,976.3	0:32:56
5:30 PM	13.73	21:21	14:39	401.5	06:42	2,165.9	0:36:06
5:35 PM	13.73	21:54	14:28	446.0	07:26	2,118.8	0:35:19
5:40 PM	13.73	20:45	14:20	385.2	06:25	2,078.0	0:34:38
5:45 PM	13.73	20:49	14:10	398.8	06:39	1,960.0	0:32:40
5:50 PM	13.73	20:13	13:44	389.4	06:29	1,970.5	0:32:51
5:55 PM	13.73	20:02	13:39	382.7	06:23	1,930.2	0:32:10
6:00 PM	13.73	19:48	13:35	372.5	06:13	1,888.0	0:31:28
6:05 PM	13.73	21:36	13:31	485.0	08:05	2,143.8	0:35:44
6:10 PM	13.73	20:14	13:24	410.3	06:50	2,238.3	0:37:18
6:15 PM	13.73	19:07	13:34	333.3	05:33	1,859.0	0:30:59
6:20 PM	13.73	18:11	13:20	291.1	04:51	1,560.9	0:26:01
6:25 PM	13.73	16:38	13:23	195.5	03:15	1,216.4	0:20:16

	sec	dd:hh:mm:ss
MAX DIFF	930.8	15:31
MIN DIFF	-30.3	#####
AVG DIFF	322.2	05:22
STD DEV	211.3	03:31
TOT AREA	57,464.9	00:15:57:45

I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL OUT 31-45 MINUTE INCIDENTS



I- 45 GULF FREEWAY PM SB ONE LANE SCHOOL OUT 31-45 MINUTE INCIDENTS

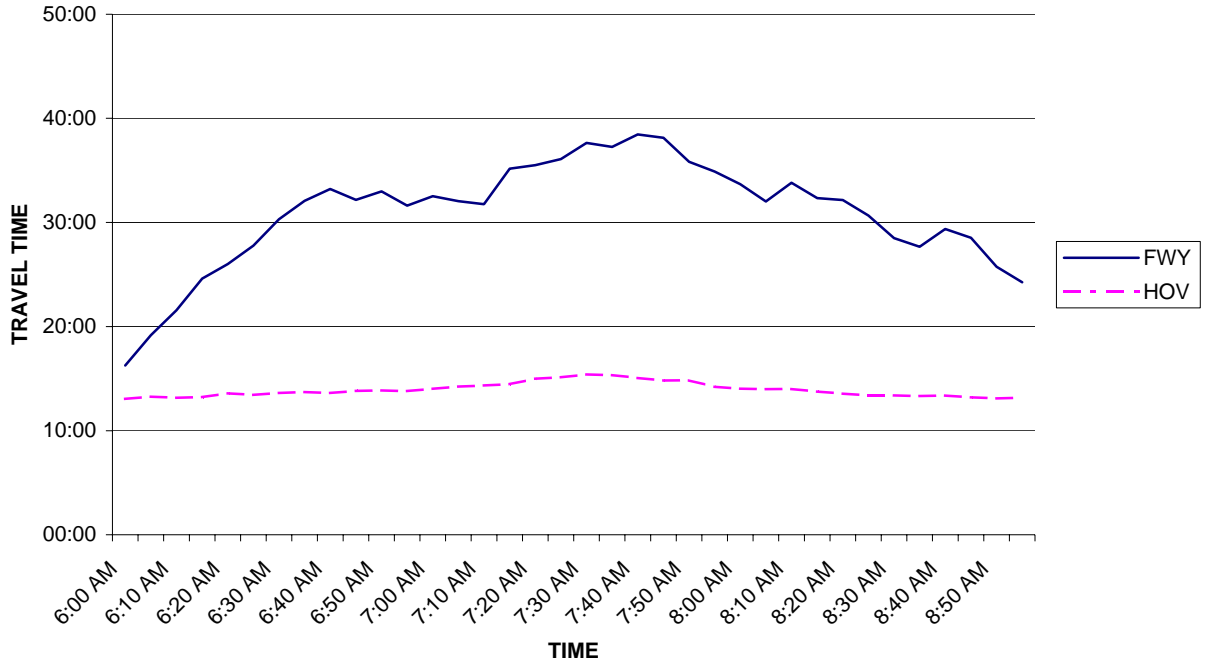


Freeway N I-45 Gulf
 Limit Dixie Farm Rd to Scott Street
 Freeway Type FWY-HOV
 Direction NB
 Date
 Time 06:00 AM to 08:55 AM

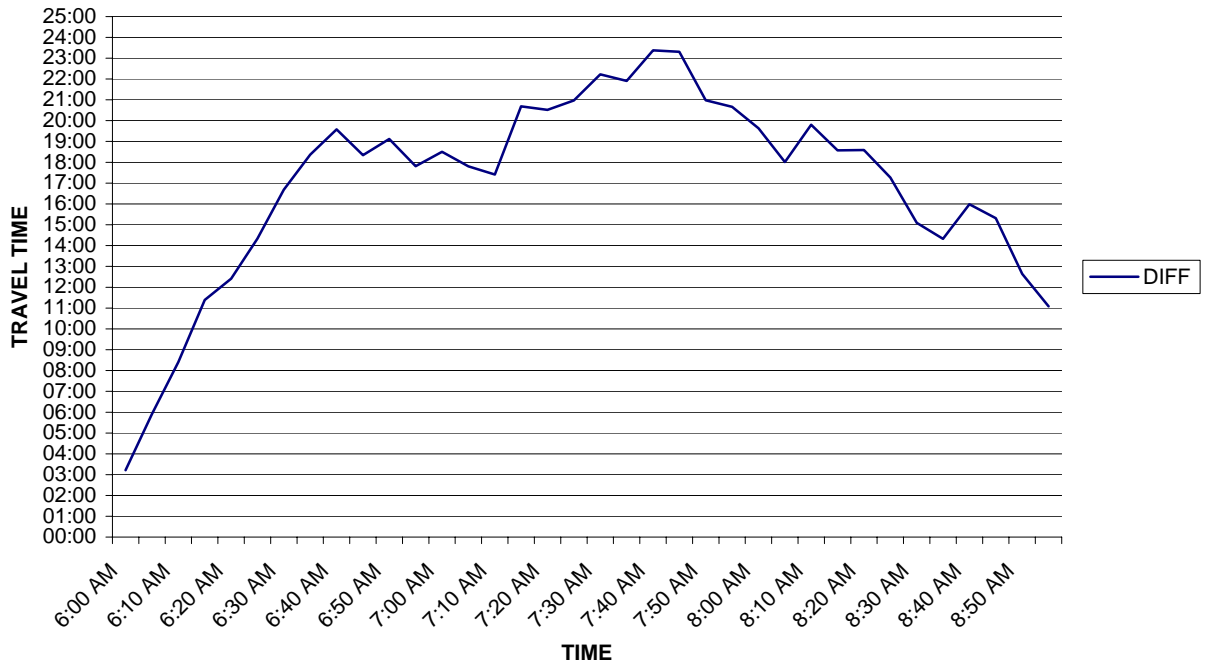
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	13.73	16:16	13:03	192.8	03:13	0.0	0:00:00
6:05 AM	13.73	19:11	13:16	354.6	05:55	1,368.3	0:22:48
6:10 AM	13.73	21:35	13:10	504.7	08:25	2,148.1	0:35:48
6:15 AM	13.73	24:37	13:13	683.4	11:23	2,970.2	0:49:30
6:20 AM	13.73	26:00	13:35	744.8	12:25	3,570.6	0:59:31
6:25 AM	13.73	27:46	13:26	859.8	14:20	4,011.6	1:06:52
6:30 AM	13.73	30:18	13:37	1,000.9	16:41	4,651.7	1:17:32
6:35 AM	13.73	32:05	13:43	1,102.0	18:22	5,257.2	1:27:37
6:40 AM	13.73	33:13	13:38	1,174.8	19:35	5,692.1	1:34:52
6:45 AM	13.73	32:10	13:50	1,100.7	18:21	5,688.8	1:34:49
6:50 AM	13.73	32:59	13:52	1,147.2	19:07	5,619.7	1:33:40
6:55 AM	13.73	31:37	13:48	1,068.7	17:49	5,539.7	1:32:20
7:00 AM	13.73	32:32	14:01	1,110.3	18:30	5,447.6	1:30:48
7:05 AM	13.73	32:02	14:14	1,068.1	17:48	5,446.2	1:30:46
7:10 AM	13.73	31:45	14:21	1,044.6	17:25	5,281.9	1:28:02
7:15 AM	13.73	35:10	14:28	1,241.5	20:41	5,715.3	1:35:15
7:20 AM	13.73	35:31	15:00	1,231.0	20:31	6,181.2	1:43:01
7:25 AM	13.73	36:06	15:07	1,258.3	20:58	6,223.3	1:43:43
7:30 AM	13.73	37:38	15:25	1,333.8	22:14	6,480.3	1:48:00
7:35 AM	13.73	37:16	15:21	1,314.6	21:55	6,621.0	1:50:21
7:40 AM	13.73	38:27	15:04	1,402.7	23:23	6,793.3	1:53:13
7:45 AM	13.73	38:08	14:49	1,398.7	23:19	7,003.4	1:56:43
7:50 AM	13.73	35:49	14:50	1,259.1	20:59	6,644.3	1:50:44
7:55 AM	13.73	34:53	14:13	1,239.9	20:40	6,247.5	1:44:07
8:00 AM	13.73	33:41	14:02	1,178.3	19:38	6,045.6	1:40:46
8:05 AM	13.73	32:01	14:00	1,080.8	18:01	5,647.7	1:34:08
8:10 AM	13.73	33:49	14:00	1,188.3	19:48	5,672.5	1:34:33
8:15 AM	13.73	32:20	13:45	1,114.7	18:35	5,757.3	1:35:57
8:20 AM	13.73	32:09	13:33	1,115.6	18:36	5,575.7	1:32:56
8:25 AM	13.73	30:39	13:23	1,035.9	17:16	5,378.7	1:29:39
8:30 AM	13.73	28:30	13:24	905.6	15:06	4,853.8	1:20:54
8:35 AM	13.73	27:40	13:20	859.4	14:19	4,412.7	1:13:33
8:40 AM	13.73	29:22	13:23	959.0	15:59	4,546.0	1:15:46
8:45 AM	13.73	28:31	13:13	918.7	15:19	4,694.2	1:18:14
8:50 AM	13.73	25:44	13:06	758.4	12:38	4,192.6	1:09:53
8:55 AM	13.73	24:16	13:11	665.3	11:05	3,559.0	0:59:19

	sec	dd:hh:mm:ss
MAX DIFF	1,402.7	23:23
MIN DIFF	192.8	03:13
AVG DIFF	1,017.1	16:57
STD DEV	279.2	04:39
TOT AREA	180,938.9	02:02:15:39

I- 45 GULF FREEWAY AM NB 2+ LANES SCHOOL IN 0-15 MINUTE INCIDENTS



I- 45 GULF FREEWAY AM NB 2+ LANES SCHOOL IN 0-15 MINUTE INCIDENTS

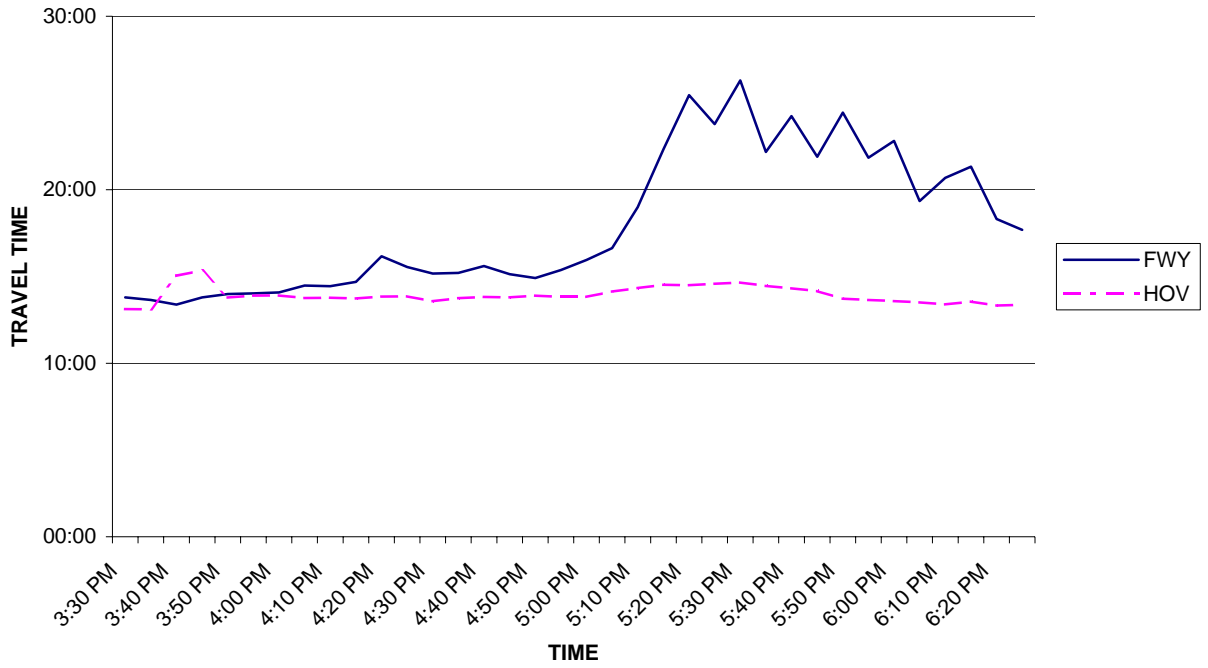


Freeway N I-45 Gulf
 Limit Scott Street to Dixie Farm Rd
 Freeway T: FWY
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

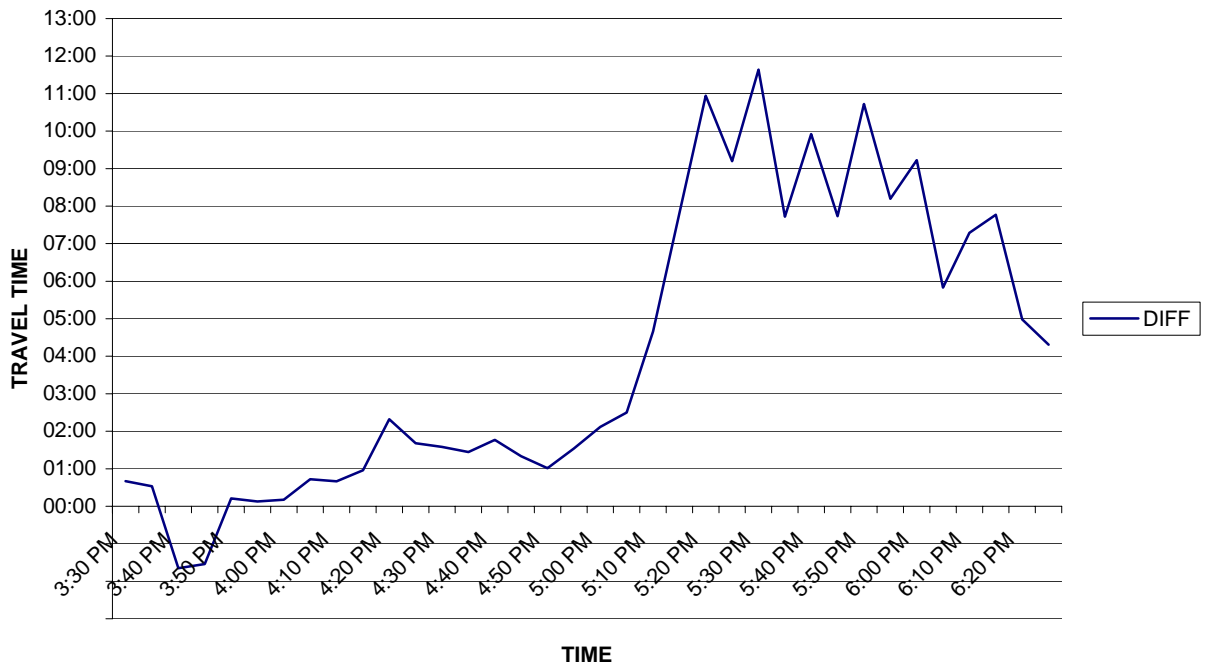
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	13.73	13:48	13:08	40.2	00:40	0.0	0:00:00
3:35 PM	13.73	13:39	13:07	32.0	00:32	180.5	0:03:01
3:40 PM	13.73	13:23	15:02	-99.2	#####	-167.9	#####
3:45 PM	13.73	13:48	15:20	-92.3	#####	-478.8	#####
3:50 PM	13.73	14:00	13:48	12.4	00:12	-199.8	#####
3:55 PM	13.73	14:02	13:54	7.7	00:08	50.3	0:00:50
4:00 PM	13.73	14:05	13:55	10.4	00:10	45.2	0:00:45
4:05 PM	13.73	14:29	13:46	43.3	00:43	134.1	0:02:14
4:10 PM	13.73	14:27	13:47	39.8	00:40	207.8	0:03:28
4:15 PM	13.73	14:42	13:44	57.7	00:58	243.9	0:04:04
4:20 PM	13.73	16:10	13:51	139.2	02:19	492.2	0:08:12
4:25 PM	13.73	15:33	13:52	100.9	01:41	600.2	0:10:00
4:30 PM	13.73	15:10	13:35	94.9	01:35	489.6	0:08:10
4:35 PM	13.73	15:12	13:45	86.8	01:27	454.2	0:07:34
4:40 PM	13.73	15:36	13:50	106.1	01:46	482.3	0:08:02
4:45 PM	13.73	15:08	13:48	80.1	01:20	465.7	0:07:46
4:50 PM	13.73	14:55	13:54	60.8	01:01	352.3	0:05:52
4:55 PM	13.73	15:22	13:50	92.5	01:32	383.2	0:06:23
5:00 PM	13.73	15:57	13:50	127.0	02:07	548.7	0:09:09
5:05 PM	13.73	16:38	14:08	149.9	02:30	692.3	0:11:32
5:10 PM	13.73	19:00	14:20	279.8	04:40	1,074.2	0:17:54
5:15 PM	13.73	22:20	14:32	468.1	07:48	1,869.6	0:31:10
5:20 PM	13.73	25:27	14:30	656.6	10:57	2,811.8	0:46:52
5:25 PM	13.73	23:47	14:35	551.9	09:12	3,021.3	0:50:21
5:30 PM	13.73	26:18	14:39	698.5	11:38	3,125.9	0:52:06
5:35 PM	13.73	22:11	14:28	463.0	07:43	2,903.8	0:48:24
5:40 PM	13.73	24:15	14:20	595.2	09:55	2,645.5	0:44:05
5:45 PM	13.73	21:54	14:10	463.8	07:44	2,647.5	0:44:07
5:50 PM	13.73	24:27	13:44	643.4	10:43	2,768.0	0:46:08
5:55 PM	13.73	21:51	13:39	491.7	08:12	2,837.7	0:47:18
6:00 PM	13.73	22:49	13:35	553.5	09:14	2,613.0	0:43:33
6:05 PM	13.73	19:21	13:31	350.0	05:50	2,258.8	0:37:39
6:10 PM	13.73	20:41	13:24	437.3	07:17	1,968.3	0:32:48
6:15 PM	13.73	21:20	13:34	466.3	07:46	2,259.0	0:37:39
6:20 PM	13.73	18:19	13:20	299.1	04:59	1,913.4	0:31:53
6:25 PM	13.73	17:41	13:23	258.5	04:18	1,393.9	0:23:14

	sec	dd:hh:mm:ss
MAX DIFF	698.5	11:38
MIN DIFF	-99.2	#####
AVG DIFF	243.5	04:04
STD DEV	236.8	03:57
TOT AREA	43,087.4	00:11:58:07

I- 45 GULF FREEWAY PM SB 2+ MAIN LANES SCHOOL IN 16-30 MINUTE INCIDENTS



I- 45 GULF FREEWAY PM SB 2+ MAIN LANES SCHOOL IN 16-30 MINUTE INCIDENTS

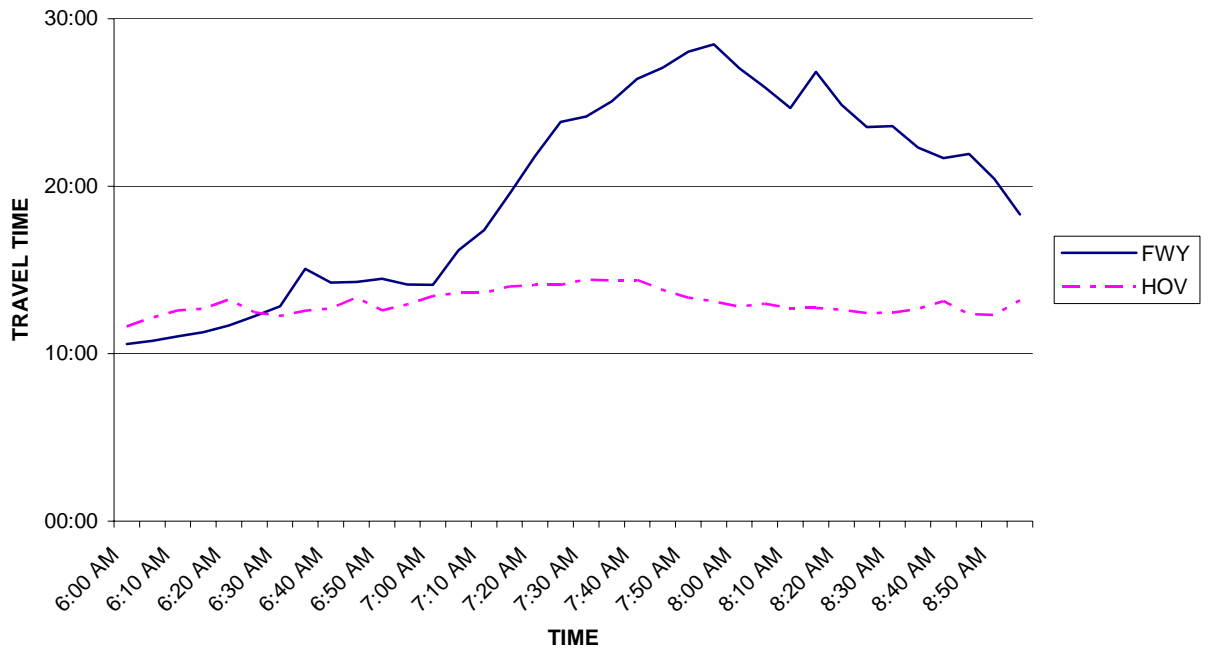


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway T: FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

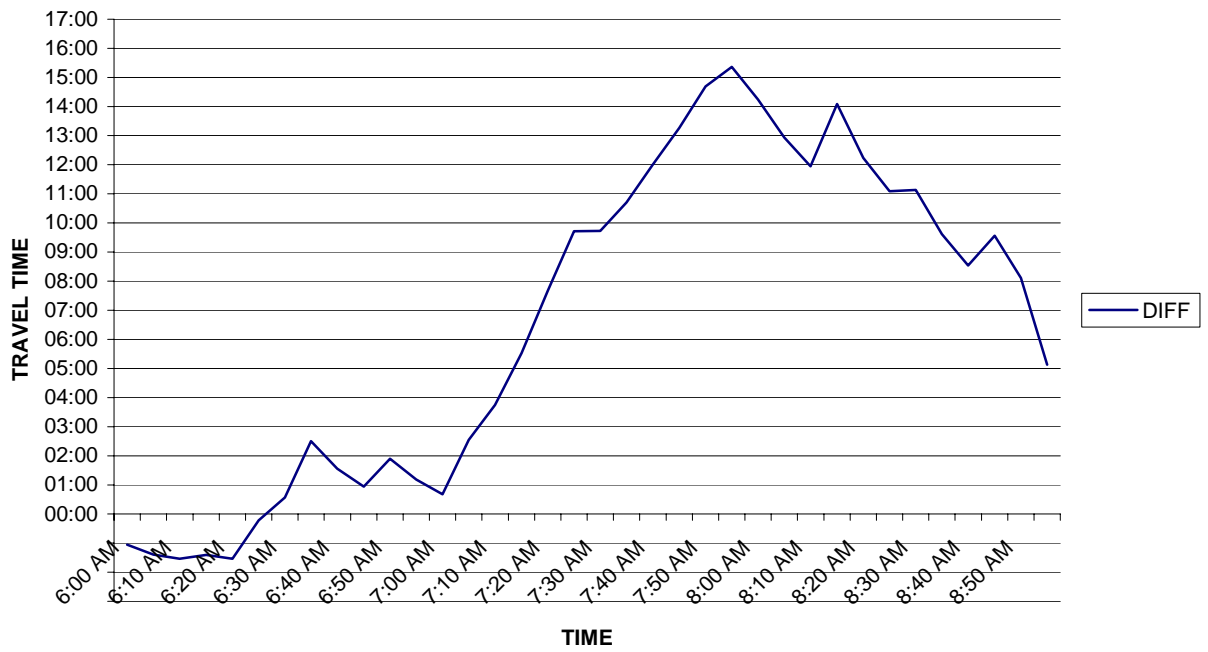
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA DIFF CURVE
6:00 AM	11.98	10:34	11:38	-63.5	#####	0.0 0:00:00
6:05 AM	11.98	10:46	12:10	-83.8	#####	-368.1 #####
6:10 AM	11.98	11:02	12:35	-92.5	#####	-440.6 #####
6:15 AM	11.98	11:17	12:41	-84.2	#####	-441.8 #####
6:20 AM	11.98	11:41	13:14	-92.1	#####	-440.8 #####
6:25 AM	11.98	12:15	12:28	-13.4	#####	-263.8 #####
6:30 AM	11.98	12:50	12:16	34.3	00:34	52.4 0:00:52
6:35 AM	11.98	15:04	12:34	150.4	02:30	461.9 0:07:42
6:40 AM	11.98	14:15	12:41	93.5	01:33	609.8 0:10:10
6:45 AM	11.98	14:18	13:21	56.8	00:57	375.7 0:06:16
6:50 AM	11.98	14:29	12:35	114.1	01:54	427.2 0:07:07
6:55 AM	11.98	14:08	12:57	71.3	01:11	463.5 0:07:44
7:00 AM	11.98	14:07	13:26	40.7	00:41	280.0 0:04:40
7:05 AM	11.98	16:10	13:38	152.7	02:33	483.6 0:08:04
7:10 AM	11.98	17:23	13:38	225.1	03:45	944.6 0:15:45
7:15 AM	11.98	19:33	14:01	331.6	05:32	1,391.6 0:23:12
7:20 AM	11.98	21:48	14:07	460.3	07:40	1,979.6 0:33:00
7:25 AM	11.98	23:50	14:07	582.6	09:43	2,607.2 0:43:27
7:30 AM	11.98	24:10	14:26	583.7	09:44	2,915.7 0:48:36
7:35 AM	11.98	25:05	14:23	642.4	10:42	3,065.2 0:51:05
7:40 AM	11.98	26:24	14:24	720.1	12:00	3,406.2 0:56:46
7:45 AM	11.98	27:04	13:49	796.0	13:16	3,790.3 1:03:10
7:50 AM	11.98	28:02	13:21	881.5	14:41	4,193.6 1:09:54
7:55 AM	11.98	28:29	13:07	921.7	15:22	4,507.8 1:15:08
8:00 AM	11.98	27:03	12:48	854.5	14:15	4,440.4 1:14:00
8:05 AM	11.98	25:56	13:00	775.9	12:56	4,075.9 1:07:56
8:10 AM	11.98	24:40	12:43	716.7	11:57	3,731.4 1:02:11
8:15 AM	11.98	26:50	12:44	845.6	14:06	3,905.6 1:05:06
8:20 AM	11.98	24:52	12:38	733.6	12:14	3,947.9 1:05:48
8:25 AM	11.98	23:31	12:26	665.4	11:05	3,497.5 0:58:17
8:30 AM	11.98	23:35	12:28	668.0	11:08	3,333.5 0:55:33
8:35 AM	11.98	22:18	12:41	577.3	09:37	3,113.2 0:51:53
8:40 AM	11.98	21:41	13:08	512.6	08:33	2,724.6 0:45:25
8:45 AM	11.98	21:55	12:21	574.0	09:34	2,716.4 0:45:16
8:50 AM	11.98	20:26	12:19	486.8	08:07	2,652.1 0:44:12
8:55 AM	11.98	18:19	13:11	308.0	05:08	1,987.1 0:33:07

	sec	dd:hh:mm:ss
MAX DIFF	921.7	15:22
MIN DIFF	-92.5	#####
AVG DIFF	393.0	06:33
STD DEV	339.9	05:40
TOT AREA	70,126.5	00:19:28:47

US-59 SW FREEWAY AM NB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS

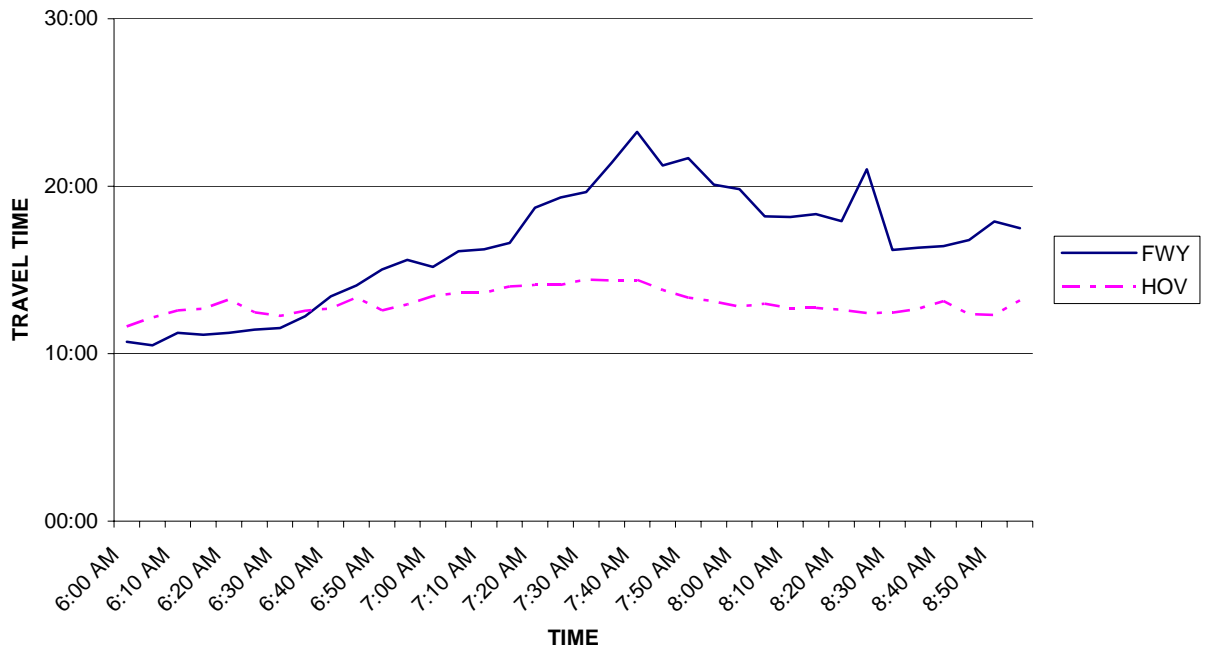


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway T: FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

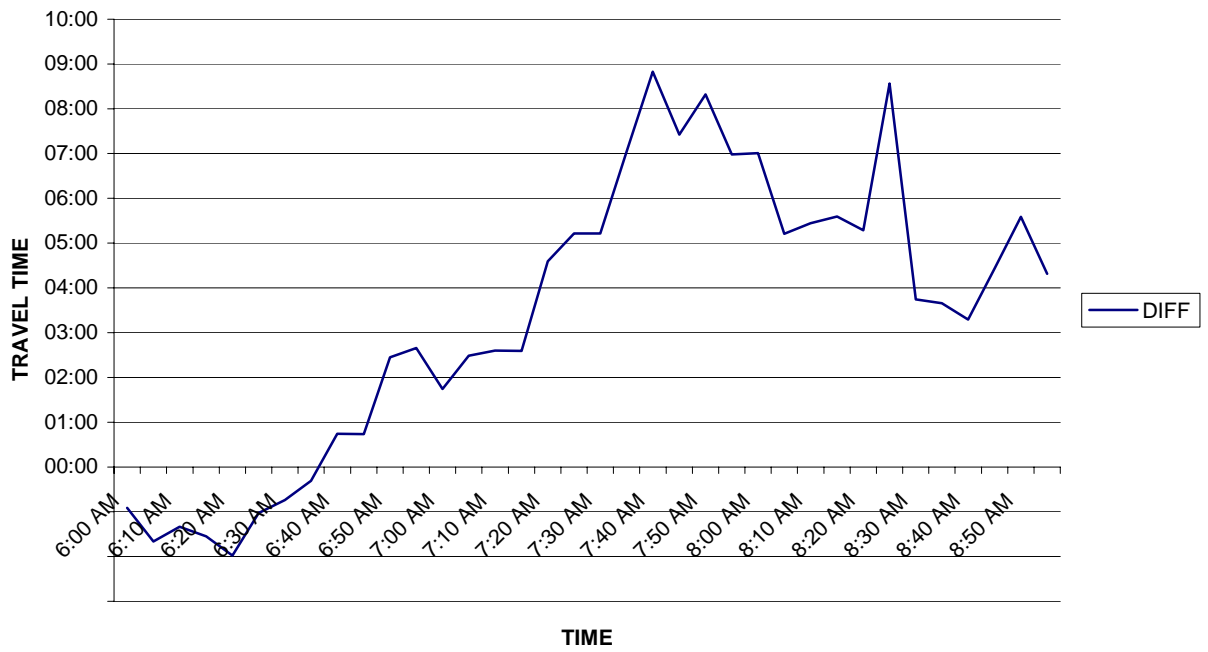
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF	SECTION AREA CURVE
6:00 AM	11.98	10:43	11:38	-55.0	#####	0.0	0:00:00
6:05 AM	11.98	10:30	12:10	-99.8	#####	-386.9	#####
6:10 AM	11.98	11:15	12:35	-80.0	#####	-449.4	#####
6:15 AM	11.98	11:08	12:41	-93.2	#####	-433.0	#####
6:20 AM	11.98	11:15	13:14	-118.6	#####	-529.6	#####
6:25 AM	11.98	11:26	12:28	-61.9	#####	-451.3	#####
6:30 AM	11.98	11:32	12:16	-44.2	#####	-265.1	#####
6:35 AM	11.98	12:15	12:34	-18.6	#####	-156.8	#####
6:40 AM	11.98	13:26	12:41	44.5	00:45	64.8	0:01:05
6:45 AM	11.98	14:05	13:21	44.3	00:44	222.0	0:03:42
6:50 AM	11.98	15:02	12:35	147.1	02:27	478.5	0:07:58
6:55 AM	11.98	15:36	12:57	159.3	02:39	766.0	0:12:46
7:00 AM	11.98	15:11	13:26	104.7	01:45	660.0	0:11:00
7:05 AM	11.98	16:07	13:38	149.2	02:29	634.8	0:10:35
7:10 AM	11.98	16:14	13:38	156.1	02:36	763.3	0:12:43
7:15 AM	11.98	16:37	14:01	155.6	02:36	779.1	0:12:59
7:20 AM	11.98	18:43	14:07	275.8	04:36	1,078.4	0:17:58
7:25 AM	11.98	19:20	14:07	313.1	05:13	1,472.2	0:24:32
7:30 AM	11.98	19:39	14:26	312.7	05:13	1,564.5	0:26:04
7:35 AM	11.98	21:25	14:23	422.4	07:02	1,837.7	0:30:38
7:40 AM	11.98	23:14	14:24	529.6	08:50	2,379.9	0:39:40
7:45 AM	11.98	21:14	13:49	445.5	07:26	2,437.8	0:40:38
7:50 AM	11.98	21:40	13:21	499.5	08:19	2,362.4	0:39:22
7:55 AM	11.98	20:06	13:07	418.7	06:59	2,295.3	0:38:15
8:00 AM	11.98	19:49	12:48	420.5	07:00	2,097.9	0:34:58
8:05 AM	11.98	18:12	13:00	312.4	05:12	1,832.2	0:30:32
8:10 AM	11.98	18:10	12:43	326.7	05:27	1,597.7	0:26:38
8:15 AM	11.98	18:20	12:44	335.6	05:36	1,655.6	0:27:36
8:20 AM	11.98	17:55	12:38	317.1	05:17	1,631.6	0:27:12
8:25 AM	11.98	21:00	12:26	513.9	08:34	2,077.5	0:34:37
8:30 AM	11.98	16:12	12:28	224.5	03:44	1,846.0	0:30:46
8:35 AM	11.98	16:20	12:41	219.3	03:39	1,109.5	0:18:29
8:40 AM	11.98	16:26	13:08	197.6	03:18	1,042.1	0:17:22
8:45 AM	11.98	16:47	12:21	266.0	04:26	1,158.9	0:19:19
8:50 AM	11.98	17:54	12:19	335.3	05:35	1,503.3	0:25:03
8:55 AM	11.98	17:30	13:11	259.0	04:19	1,485.8	0:24:46

	sec	dd:hh:mm:ss
MAX DIFF	529.6	08:50
MIN DIFF	-118.6	#####
AVG DIFF	203.7	03:24
STD DEV	191.7	03:12
TOT AREA	36,162.8	00:10:02:43

US-59 SW FREEWAY AM NB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS

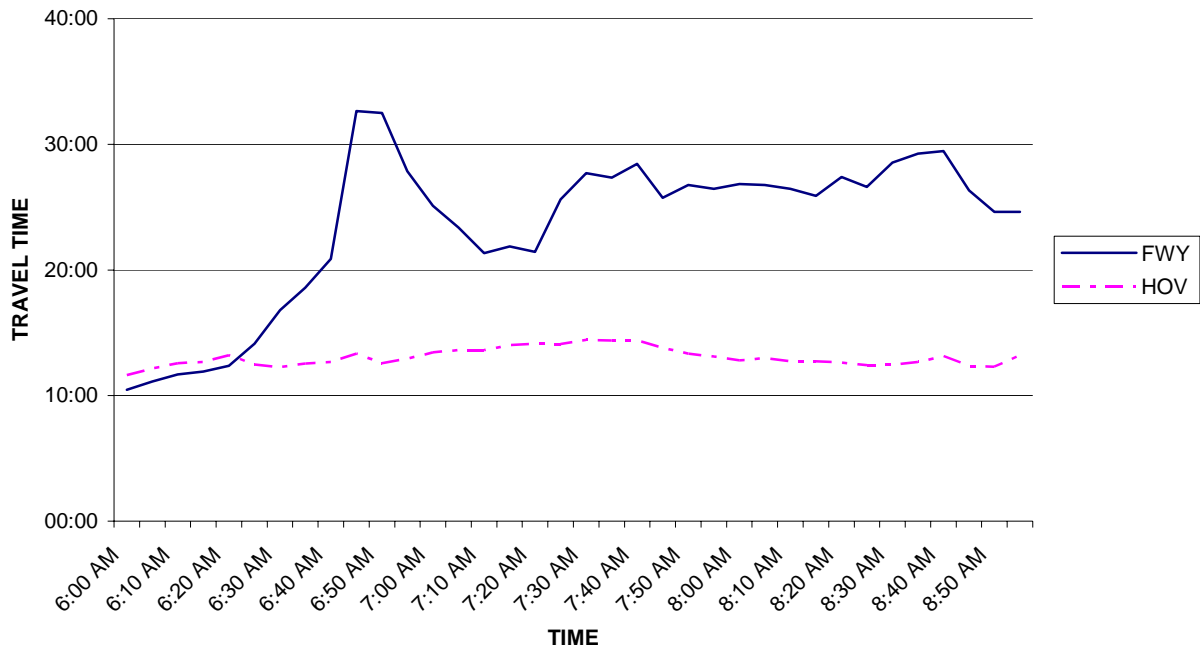


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway T: FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

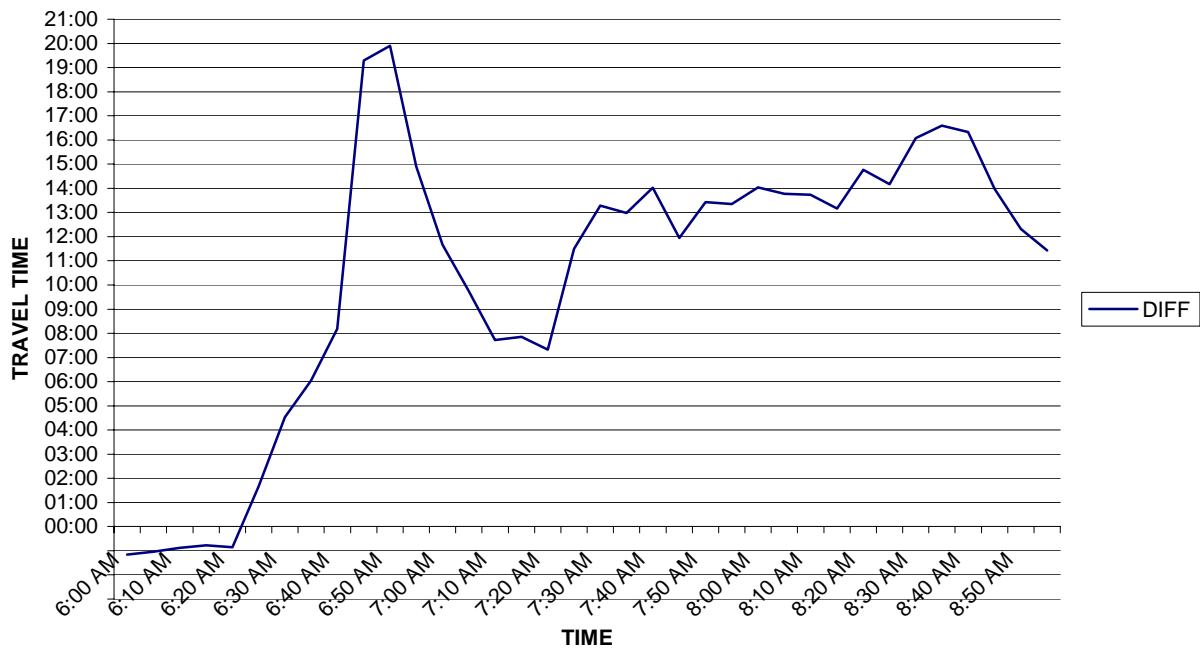
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA DIFF CURVE
6:00 AM	11.98	10:28	11:38	-70.0	#####	0.0 0:00:00
6:05 AM	11.98	11:07	12:10	-62.8	#####	-331.9 #####
6:10 AM	11.98	11:42	12:35	-53.0	#####	-289.4 #####
6:15 AM	11.98	11:55	12:41	-46.2	#####	-248.0 #####
6:20 AM	11.98	12:22	13:14	-51.6	#####	-244.6 #####
6:25 AM	11.98	14:08	12:28	100.1	01:40	121.2 0:02:01
6:30 AM	11.98	16:48	12:16	271.8	04:32	929.9 0:15:30
6:35 AM	11.98	18:36	12:34	362.4	06:02	1,585.7 0:26:26
6:40 AM	11.98	20:53	12:41	491.5	08:11	2,134.8 0:35:35
6:45 AM	11.98	32:38	13:21	1,157.3	19:17	4,122.0 1:08:42
6:50 AM	11.98	32:29	12:35	1,194.1	19:54	5,878.5 1:37:58
6:55 AM	11.98	27:51	12:57	894.3	14:54	5,221.0 1:27:01
7:00 AM	11.98	25:06	13:26	699.7	11:40	3,985.0 1:06:25
7:05 AM	11.98	23:23	13:38	585.2	09:45	3,212.3 0:53:32
7:10 AM	11.98	21:21	13:38	463.1	07:43	2,620.8 0:43:41
7:15 AM	11.98	21:53	14:01	471.6	07:52	2,336.6 0:38:57
7:20 AM	11.98	21:27	14:07	439.8	07:20	2,278.4 0:37:58
7:25 AM	11.98	25:37	14:07	690.1	11:30	2,824.7 0:47:05
7:30 AM	11.98	27:43	14:26	796.7	13:17	3,717.0 1:01:57
7:35 AM	11.98	27:21	14:23	778.4	12:58	3,937.7 1:05:38
7:40 AM	11.98	28:26	14:24	841.6	14:02	4,049.9 1:07:30
7:45 AM	11.98	25:45	13:49	716.5	11:56	3,895.3 1:04:55
7:50 AM	11.98	26:46	13:21	805.5	13:25	3,804.9 1:03:25
7:55 AM	11.98	26:28	13:07	800.7	13:21	4,015.3 1:06:55
8:00 AM	11.98	26:51	12:48	842.5	14:03	4,107.9 1:08:28
8:05 AM	11.98	26:46	13:00	826.4	13:46	4,172.2 1:09:32
8:10 AM	11.98	26:27	12:43	823.7	13:44	4,125.2 1:08:45
8:15 AM	11.98	25:54	12:44	789.6	13:10	4,033.1 1:07:13
8:20 AM	11.98	27:24	12:38	886.1	14:46	4,189.1 1:09:49
8:25 AM	11.98	26:36	12:26	849.9	14:10	4,340.0 1:12:20
8:30 AM	11.98	28:32	12:28	964.5	16:05	4,536.0 1:15:36
8:35 AM	11.98	29:16	12:41	995.3	16:35	4,899.5 1:21:39
8:40 AM	11.98	29:28	13:08	979.6	16:20	4,937.1 1:22:17
8:45 AM	11.98	26:19	12:21	838.0	13:58	4,543.9 1:15:44
8:50 AM	11.98	24:38	12:19	739.3	12:19	3,943.3 1:05:43
8:55 AM	11.98	24:37	13:11	686.0	11:26	3,563.3 0:59:23

	sec	dd:hh:mm:ss
MAX DIFF	1,194.1	19:54
MIN DIFF	-70.0	#####
AVG DIFF	624.9	10:25
STD DEV	357.4	05:57
TOT AREA	110,947.8	01:06:49:08

US-59 SW FREEWAY AM NB SHOULDER SCHOOL IN 31-45 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB SHOULDER SCHOOL IN 31-45 MINUTE INCIDENTS

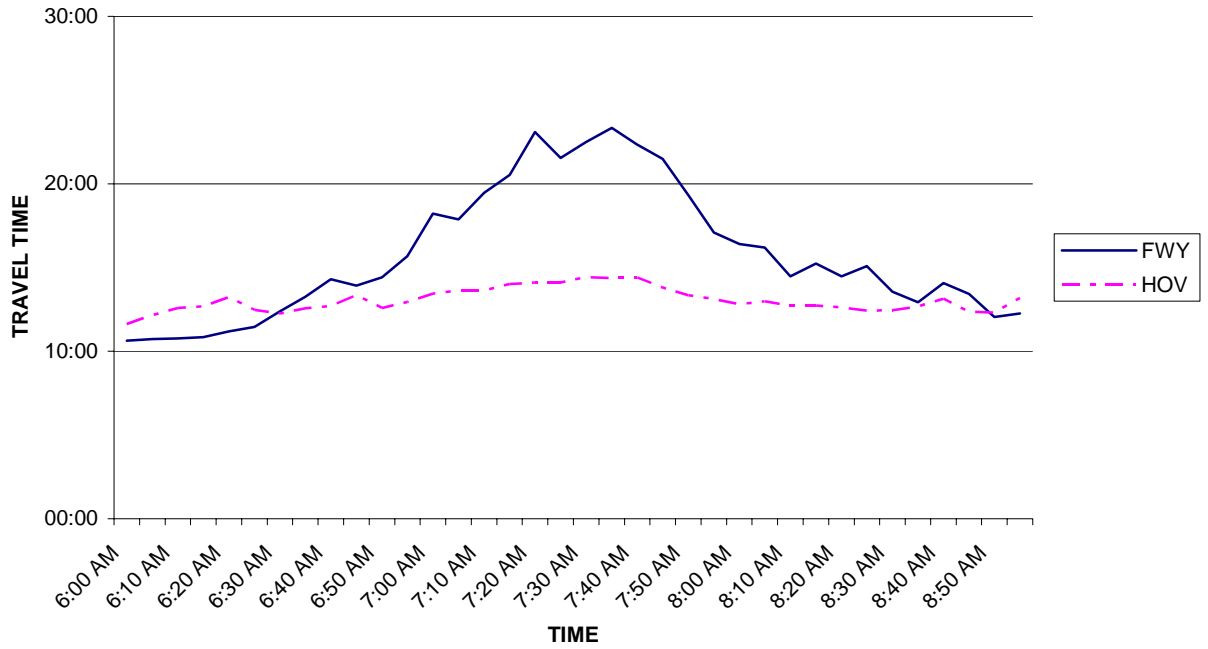


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway T: FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

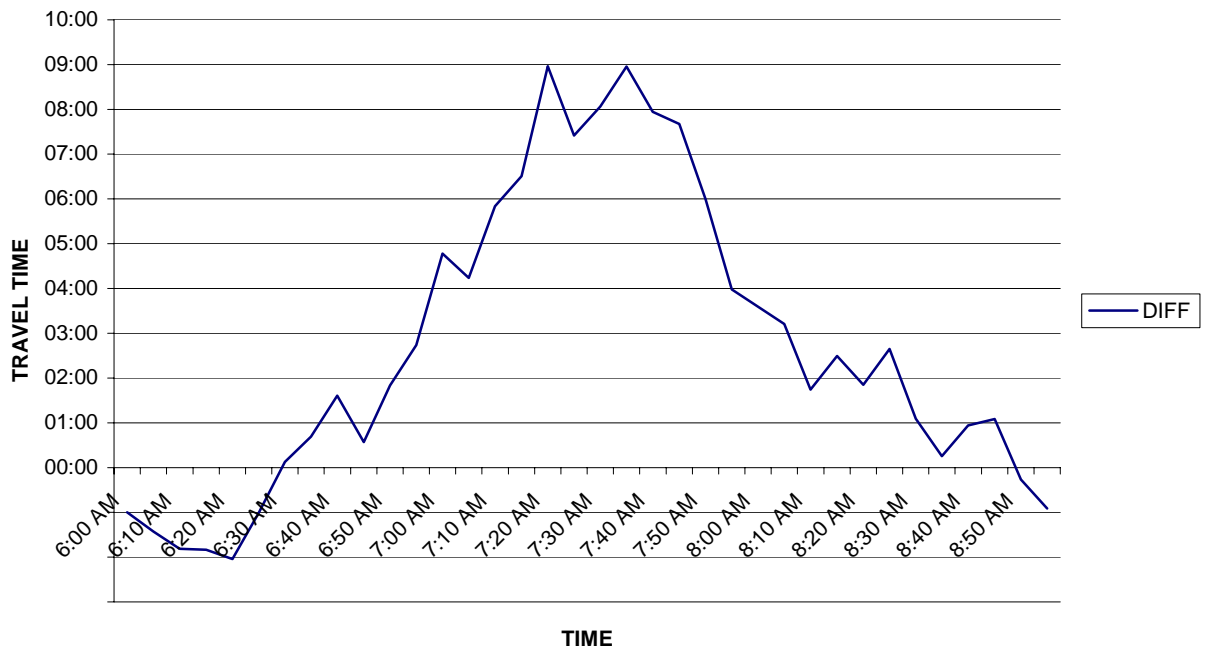
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
6:00 AM	11.98	10:38	11:38	-60.0	#####	0.0	0:00:00
6:05 AM	11.98	10:44	12:10	-85.8	#####	-364.4	#####
6:10 AM	11.98	10:46	12:35	-109.0	#####	-486.9	#####
6:15 AM	11.98	10:51	12:41	-110.2	#####	-548.0	#####
6:20 AM	11.98	11:11	13:14	-122.6	#####	-582.1	#####
6:25 AM	11.98	11:27	12:28	-60.9	#####	-458.8	#####
6:30 AM	11.98	12:24	12:16	7.8	00:08	-132.6	#####
6:35 AM	11.98	13:15	12:34	41.4	00:41	123.2	0:02:03
6:40 AM	11.98	14:18	12:41	96.5	01:37	344.8	0:05:45
6:45 AM	11.98	13:55	13:21	34.3	00:34	327.0	0:05:27
6:50 AM	11.98	14:25	12:35	110.1	01:50	361.0	0:06:01
6:55 AM	11.98	15:41	12:57	164.3	02:44	686.0	0:11:26
7:00 AM	11.98	18:13	13:26	286.7	04:47	1,127.5	0:18:48
7:05 AM	11.98	17:52	13:38	254.2	04:14	1,352.3	0:22:32
7:10 AM	11.98	19:28	13:38	350.1	05:50	1,510.8	0:25:11
7:15 AM	11.98	20:32	14:01	390.6	06:31	1,851.6	0:30:52
7:20 AM	11.98	23:05	14:07	537.8	08:58	2,320.9	0:38:41
7:25 AM	11.98	21:32	14:07	445.1	07:25	2,457.2	0:40:57
7:30 AM	11.98	22:30	14:26	483.7	08:04	2,322.0	0:38:42
7:35 AM	11.98	23:20	14:23	537.4	08:57	2,552.7	0:42:33
7:40 AM	11.98	22:21	14:24	476.6	07:57	2,534.9	0:42:15
7:45 AM	11.98	21:29	13:49	460.5	07:41	2,342.8	0:39:03
7:50 AM	11.98	19:20	13:21	359.5	05:59	2,049.9	0:34:10
7:55 AM	11.98	17:06	13:07	238.7	03:59	1,495.3	0:24:55
8:00 AM	11.98	16:24	12:48	215.5	03:35	1,135.4	0:18:55
8:05 AM	11.98	16:12	13:00	192.4	03:12	1,019.7	0:17:00
8:10 AM	11.98	14:28	12:43	104.7	01:45	742.7	0:12:23
8:15 AM	11.98	15:14	12:44	149.6	02:30	635.6	0:10:36
8:20 AM	11.98	14:29	12:38	111.1	01:51	651.6	0:10:52
8:25 AM	11.98	15:05	12:26	158.9	02:39	675.0	0:11:15
8:30 AM	11.98	13:33	12:28	65.5	01:06	561.0	0:09:21
8:35 AM	11.98	12:56	12:41	15.3	00:15	202.0	0:03:22
8:40 AM	11.98	14:05	13:08	56.6	00:57	179.6	0:03:00
8:45 AM	11.98	13:26	12:21	65.0	01:05	303.9	0:05:04
8:50 AM	11.98	12:03	12:19	-15.7	#####	123.3	0:02:03
8:55 AM	11.98	12:16	13:11	-55.0	#####	-176.7	#####

	sec	dd:hh:mm:ss
MAX DIFF	537.8	08:58
MIN DIFF	-122.6	#####
AVG DIFF	160.8	02:41
STD DEV	200.0	03:20
TOT AREA	29,240.3	00:08:07:20

US-59 SW FREEWAY AM NB SHOULDER SCHOOL IN 46-60 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB SHOULDER SCHOOL IN 46-60 MINUTE INCIDENTS

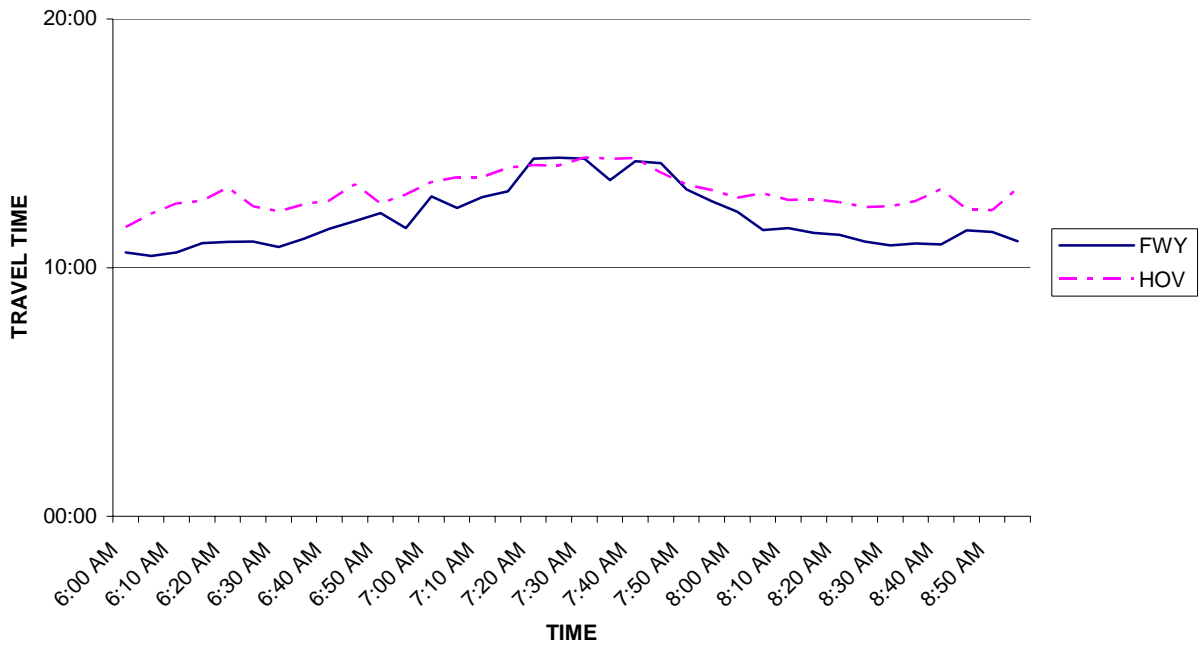


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway Type FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

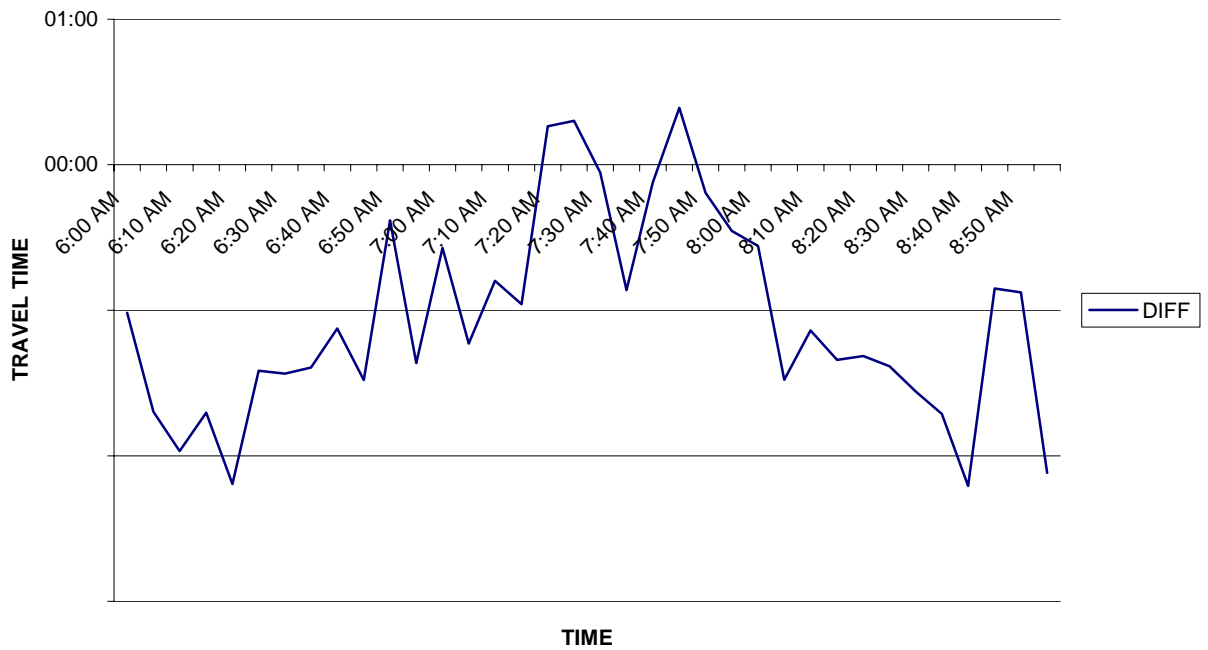
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
6:00 AM	11.98	10:37	11:38	-61.0	#####	0.0 0:00:00
6:05 AM	11.98	10:28	12:10	-101.8	#####	-406.9 #####
6:10 AM	11.98	10:37	12:35	-118.0	#####	-549.4 #####
6:15 AM	11.98	10:59	12:41	-102.2	#####	-550.5 #####
6:20 AM	11.98	11:02	13:14	-131.6	#####	-584.6 #####
6:25 AM	11.98	11:03	12:28	-84.9	#####	-541.3 #####
6:30 AM	11.98	10:50	12:16	-86.2	#####	-427.6 #####
6:35 AM	11.98	11:10	12:34	-83.6	#####	-424.3 #####
6:40 AM	11.98	11:34	12:41	-67.5	#####	-377.7 #####
6:45 AM	11.98	11:52	13:21	-88.7	#####	-390.5 #####
6:50 AM	11.98	12:12	12:35	-22.9	#####	-279.0 #####
6:55 AM	11.98	11:35	12:57	-81.7	#####	-261.5 #####
7:00 AM	11.98	12:52	13:26	-34.3	#####	-290.0 #####
7:05 AM	11.98	12:24	13:38	-73.8	#####	-270.2 #####
7:10 AM	11.98	12:50	13:38	-47.9	#####	-304.2 #####
7:15 AM	11.98	13:04	14:01	-57.4	#####	-263.4 #####
7:20 AM	11.98	14:23	14:07	15.8	00:16	-104.1 #####
7:25 AM	11.98	14:25	14:07	18.1	00:18	84.7 0:01:25
7:30 AM	11.98	14:23	14:26	-3.3	#####	37.0 0:00:37
7:35 AM	11.98	13:31	14:23	-51.6	#####	-137.3 #####
7:40 AM	11.98	14:17	14:24	-7.4	#####	-147.6 #####
7:45 AM	11.98	14:12	13:49	23.5	00:23	40.3 0:00:40
7:50 AM	11.98	13:09	13:21	-11.5	#####	29.9 0:00:30
7:55 AM	11.98	12:40	13:07	-27.3	#####	-97.2 #####
8:00 AM	11.98	12:15	12:48	-33.5	#####	-152.1 #####
8:05 AM	11.98	11:31	13:00	-88.6	#####	-305.3 #####
8:10 AM	11.98	11:35	12:43	-68.3	#####	-392.3 #####
8:15 AM	11.98	11:24	12:44	-80.4	#####	-371.9 #####
8:20 AM	11.98	11:19	12:38	-78.9	#####	-398.4 #####
8:25 AM	11.98	11:03	12:26	-83.1	#####	-405.0 #####
8:30 AM	11.98	10:54	12:28	-93.5	#####	-441.5 #####
8:35 AM	11.98	10:58	12:41	-102.7	#####	-490.5 #####
8:40 AM	11.98	10:56	13:08	-132.4	#####	-587.9 #####
8:45 AM	11.98	11:30	12:21	-51.0	#####	-458.6 #####
8:50 AM	11.98	11:26	12:19	-52.7	#####	-259.2 #####
8:55 AM	11.98	11:04	13:11	-127.0	#####	-449.2 #####

	sec	dd:hh:mm:ss
MAX DIFF	23.5	00:23
MIN DIFF	-132.4	#####
AVG DIFF	-63.3	#####
STD DEV	41.8	00:42
TOT AREA	-10,927.2	#####

US-59 SW FREEWAY AM NB SHOULDER SCHOOL OUT 0-15 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB SHOULDER SCHOOL OUT 0-15 MINUTE INCIDENTS

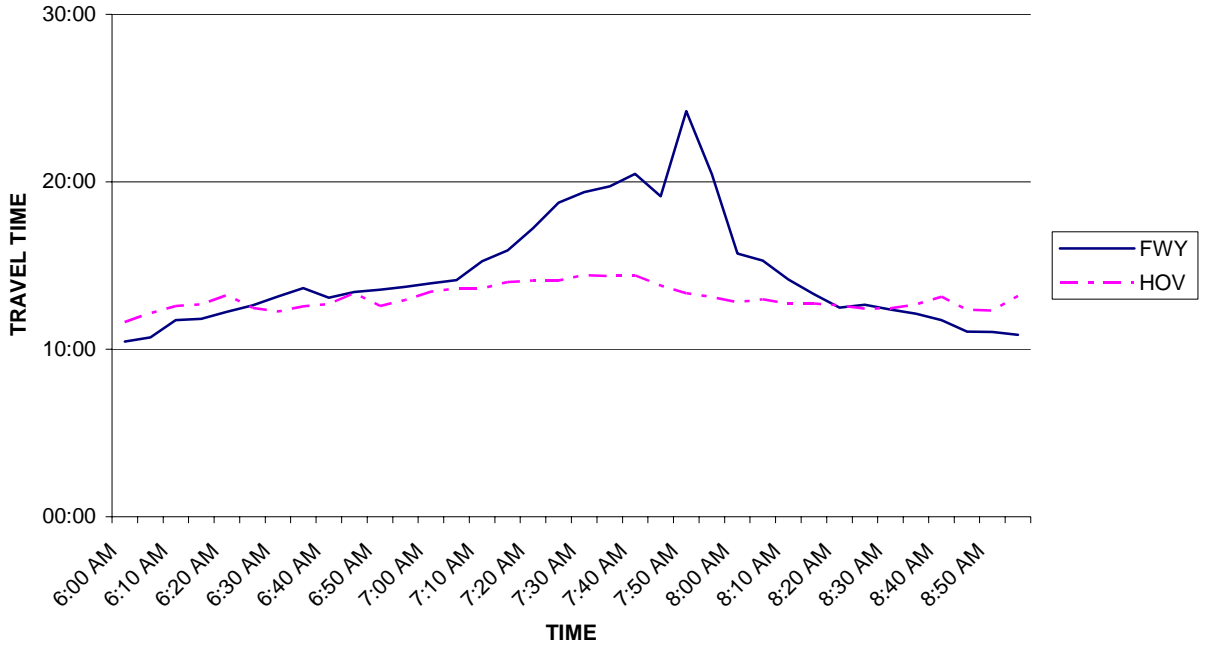


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway T: FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

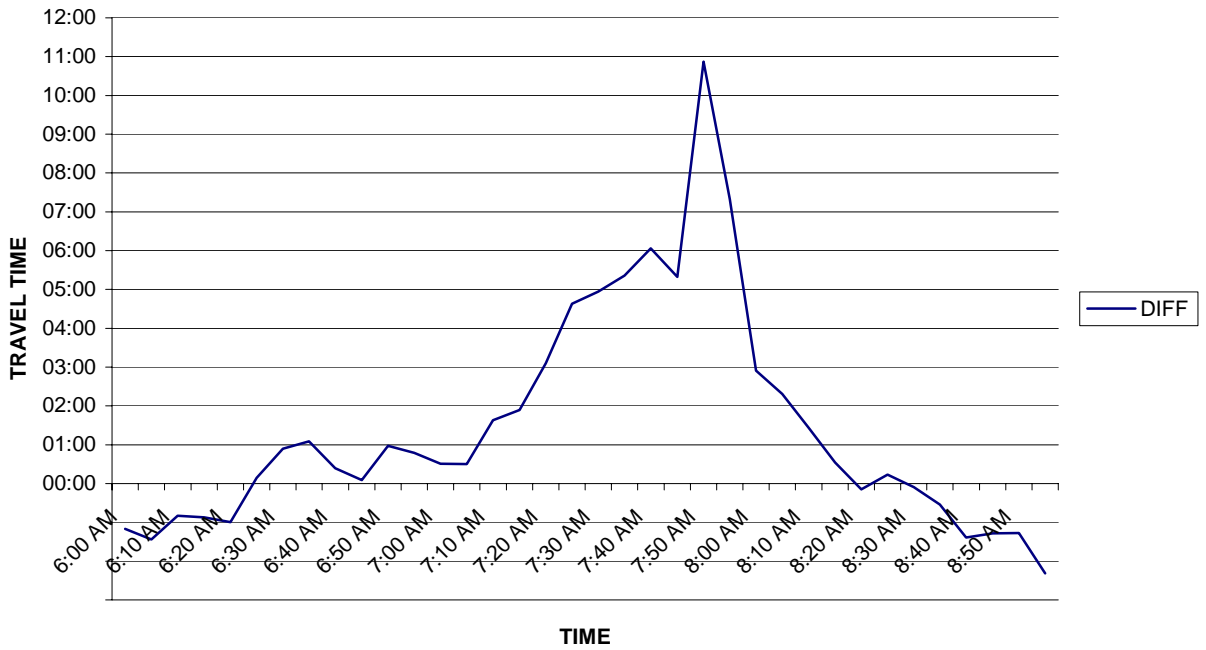
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA DIFF CURVE
6:00 AM	11.98	10:28	11:38	-70.0	#####	0.0 0:00:00
6:05 AM	11.98	10:43	12:10	-86.8	#####	-391.9 #####
6:10 AM	11.98	11:45	12:35	-50.0	#####	-341.9 #####
6:15 AM	11.98	11:49	12:41	-52.2	#####	-255.5 #####
6:20 AM	11.98	12:14	13:14	-59.6	#####	-279.6 #####
6:25 AM	11.98	12:37	12:28	9.1	00:09	-126.3 #####
6:30 AM	11.98	13:10	12:16	53.8	00:54	157.4 0:02:37
6:35 AM	11.98	13:39	12:34	65.4	01:05	298.2 0:04:58
6:40 AM	11.98	13:05	12:41	23.5	00:24	222.3 0:03:42
6:45 AM	11.98	13:26	13:21	5.3	00:05	72.0 0:01:12
6:50 AM	11.98	13:33	12:35	58.1	00:58	158.5 0:02:38
6:55 AM	11.98	13:44	12:57	47.3	00:47	263.5 0:04:24
7:00 AM	11.98	13:57	13:26	30.7	00:31	195.0 0:03:15
7:05 AM	11.98	14:08	13:38	30.2	00:30	152.3 0:02:32
7:10 AM	11.98	15:16	13:38	98.1	01:38	320.8 0:05:21
7:15 AM	11.98	15:55	14:01	113.6	01:54	529.1 0:08:49
7:20 AM	11.98	17:13	14:07	185.8	03:06	748.4 0:12:28
7:25 AM	11.98	18:45	14:07	278.1	04:38	1,159.7 0:19:20
7:30 AM	11.98	19:23	14:26	296.7	04:57	1,437.0 0:23:57
7:35 AM	11.98	19:44	14:23	321.4	05:21	1,545.2 0:25:45
7:40 AM	11.98	20:28	14:24	363.6	06:04	1,712.4 0:28:32
7:45 AM	11.98	19:08	13:49	319.5	05:19	1,707.8 0:28:28
7:50 AM	11.98	24:13	13:21	652.5	10:52	2,429.9 0:40:30
7:55 AM	11.98	20:27	13:07	439.7	07:20	2,730.3 0:45:30
8:00 AM	11.98	15:43	12:48	174.5	02:54	1,535.4 0:25:35
8:05 AM	11.98	15:18	13:00	138.4	02:18	782.2 0:13:02
8:10 AM	11.98	14:10	12:43	86.7	01:27	562.7 0:09:23
8:15 AM	11.98	13:17	12:44	32.6	00:33	298.1 0:04:58
8:20 AM	11.98	12:29	12:38	-8.9	#####	59.1 0:00:59
8:25 AM	11.98	12:40	12:26	13.9	00:14	12.5 0:00:12
8:30 AM	11.98	12:22	12:28	-5.5	#####	21.0 0:00:21
8:35 AM	11.98	12:08	12:41	-32.7	#####	-95.5 #####
8:40 AM	11.98	11:45	13:08	-83.4	#####	-290.4 #####
8:45 AM	11.98	11:04	12:21	-77.0	#####	-401.1 #####
8:50 AM	11.98	11:02	12:19	-76.7	#####	-384.2 #####
8:55 AM	11.98	10:52	13:11	-139.0	#####	-539.2 #####

	sec	dd:hh:mm:ss
MAX DIFF	652.5	10:52
MIN DIFF	-139.0	#####
AVG DIFF	86.0	01:26
STD DEV	172.9	02:53
TOT AREA	16,005.3	00:04:26:45

US-59 SW FREEWAY AM NB SHOULDER SCHOOL OUT 16-30 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB SHOULDER SCHOOL OUT 16-30 MINUTE INCIDENTS

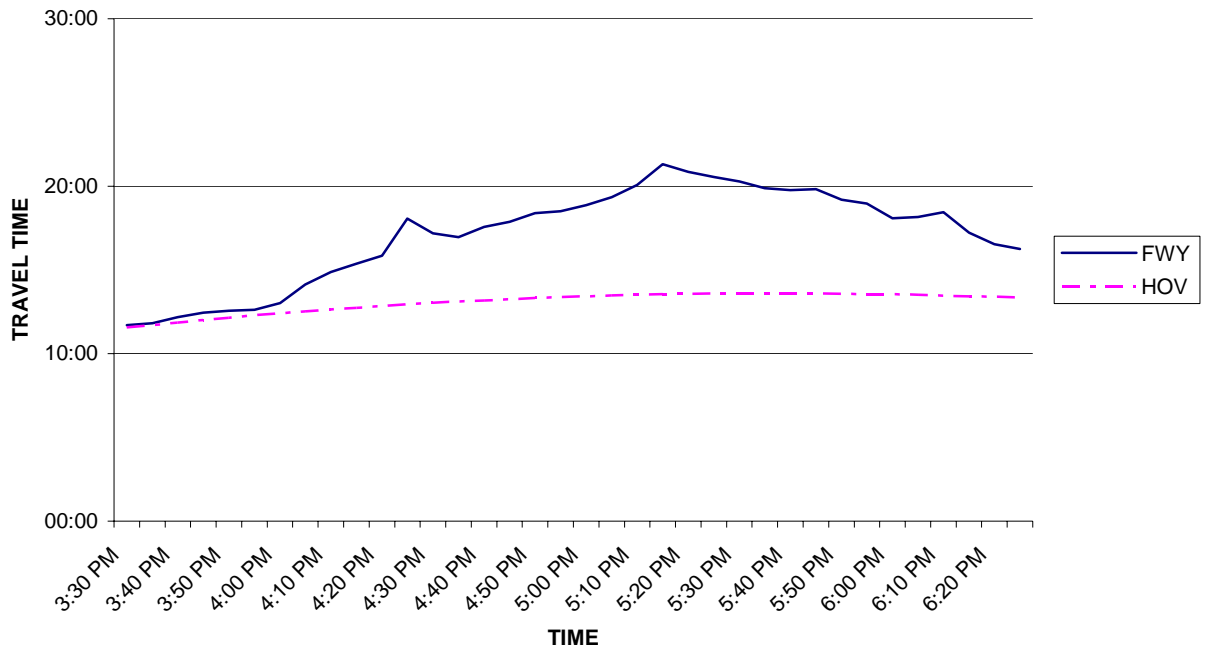


Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway Type FWY-HOV
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

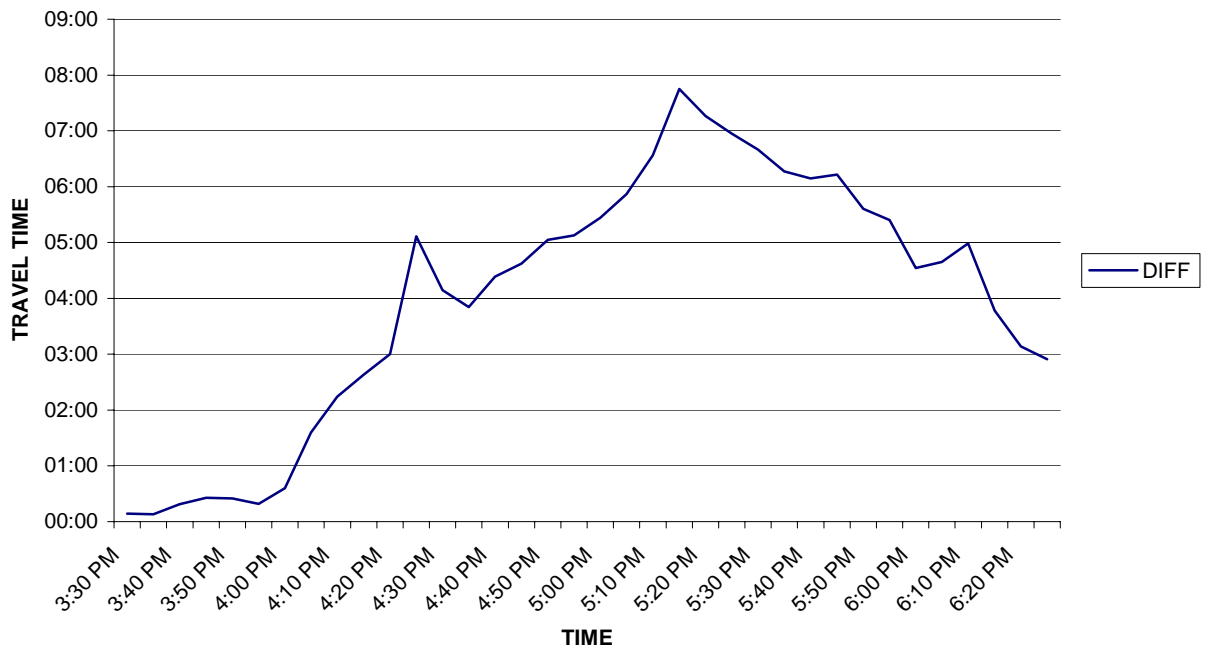
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	11.97	11:43	11:34	8.8	00:09	0.0	0:00:00
3:35 PM	11.97	11:50	11:42	7.8	00:08	41.3	0:00:41
3:40 PM	11.97	12:11	11:52	19.0	00:19	66.9	0:01:07
3:45 PM	11.97	12:27	12:01	25.8	00:26	111.9	0:01:52
3:50 PM	11.97	12:34	12:09	25.0	00:25	126.9	0:02:07
3:55 PM	11.97	12:37	12:18	19.3	00:19	110.6	0:01:51
4:00 PM	11.97	13:01	12:25	36.3	00:36	138.8	0:02:19
4:05 PM	11.97	14:08	12:32	96.0	01:36	330.6	0:05:31
4:10 PM	11.97	14:52	12:38	134.3	02:14	575.6	0:09:36
4:15 PM	11.97	15:22	12:44	158.0	02:38	730.6	0:12:11
4:20 PM	11.97	15:51	12:51	180.3	03:00	845.6	0:14:06
4:25 PM	11.97	18:03	12:57	306.5	05:07	1,216.9	0:20:17
4:30 PM	11.97	17:12	13:03	248.8	04:09	1,388.1	0:23:08
4:35 PM	11.97	16:57	13:07	230.5	03:50	1,198.1	0:19:58
4:40 PM	11.97	17:34	13:11	263.3	04:23	1,234.4	0:20:34
4:45 PM	11.97	17:52	13:15	277.5	04:37	1,351.9	0:22:32
4:50 PM	11.97	18:23	13:20	303.0	05:03	1,451.3	0:24:11
4:55 PM	11.97	18:30	13:23	307.5	05:07	1,526.3	0:25:26
5:00 PM	11.97	18:52	13:26	326.5	05:27	1,585.0	0:26:25
5:05 PM	11.97	19:21	13:29	352.0	05:52	1,696.3	0:28:16
5:10 PM	11.97	20:05	13:31	393.8	06:34	1,864.4	0:31:04
5:15 PM	11.97	21:18	13:33	465.3	07:45	2,147.5	0:35:47
5:20 PM	11.97	20:51	13:35	436.0	07:16	2,253.1	0:37:33
5:25 PM	11.97	20:33	13:36	417.0	06:57	2,132.5	0:35:33
5:30 PM	11.97	20:17	13:37	399.8	06:40	2,041.9	0:34:02
5:35 PM	11.97	19:53	13:37	376.3	06:16	1,940.0	0:32:20
5:40 PM	11.97	19:46	13:37	368.8	06:09	1,862.5	0:31:02
5:45 PM	11.97	19:49	13:36	373.0	06:13	1,854.4	0:30:54
5:50 PM	11.97	19:11	13:35	336.3	05:36	1,773.1	0:29:33
5:55 PM	11.97	18:58	13:34	324.3	05:24	1,651.3	0:27:31
6:00 PM	11.97	18:05	13:33	272.5	04:32	1,491.9	0:24:52
6:05 PM	11.97	18:10	13:31	279.0	04:39	1,378.8	0:22:59
6:10 PM	11.97	18:27	13:28	299.0	04:59	1,445.0	0:24:05
6:15 PM	11.97	17:13	13:26	227.0	03:47	1,315.0	0:21:55
6:20 PM	11.97	16:33	13:24	188.5	03:09	1,038.8	0:17:19
6:25 PM	11.97	16:15	13:21	174.5	02:54	907.5	0:15:08

	sec	dd:hh:mm:ss
MAX DIFF	465.3	07:45
MIN DIFF	7.8	00:08
AVG DIFF	240.5	04:00
STD DEV	138.1	02:18
TOT AREA	42,824.4	00:11:53:44

US-59 SW FREEWAY PM SB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB SHOULDER SCHOOL IN 0-15 MINUTE INCIDENTS



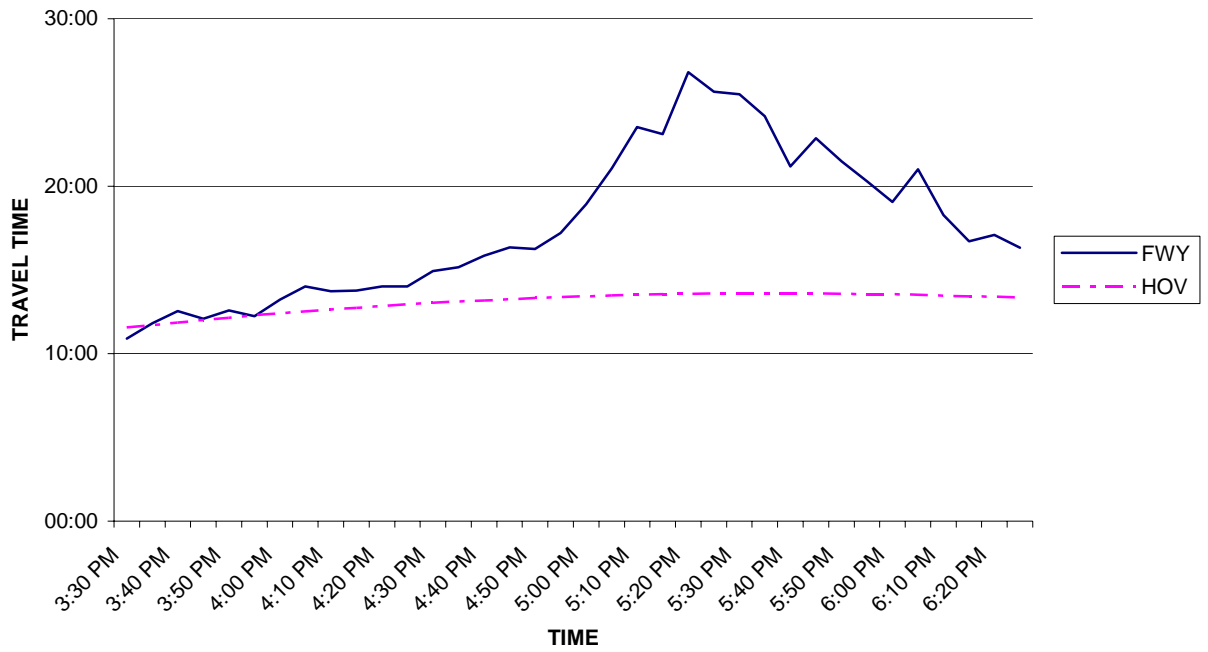
Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway T: FWY-HOV
 Direction SB
 Date

Time 03:30 PM to 06:25 PM

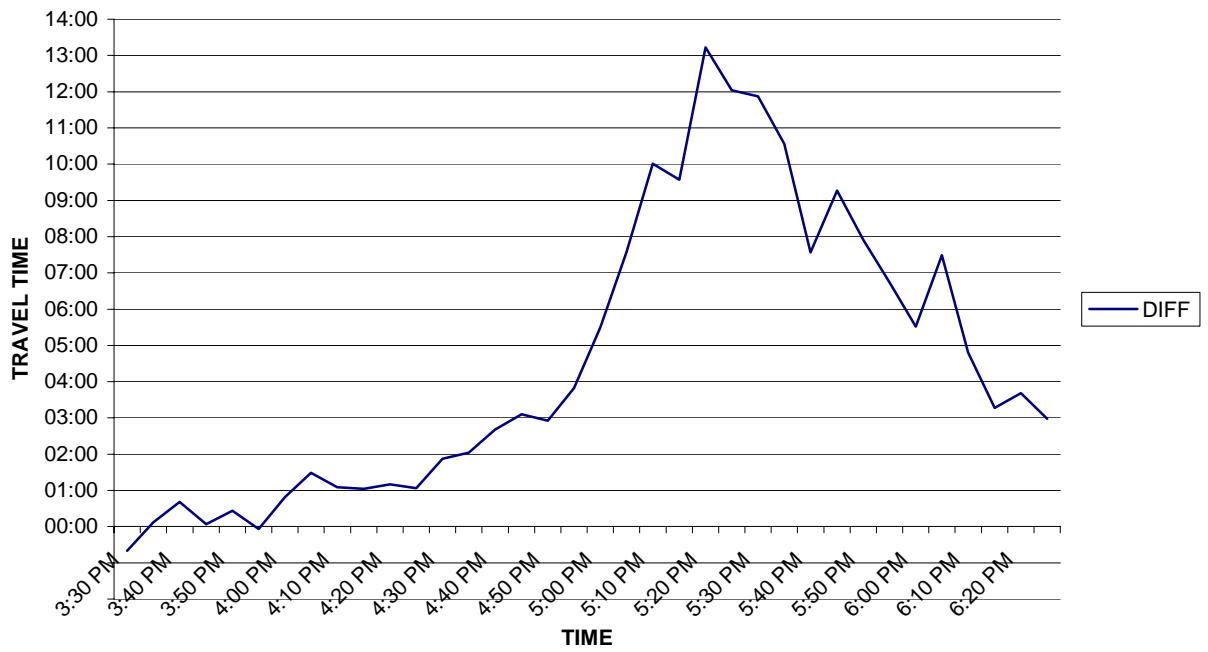
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
3:30 PM	11.97	10:54	11:34	-40.0	#####	0.0	0:00:00
3:35 PM	11.97	11:49	11:42	7.0	00:07	-82.5	#####
3:40 PM	11.97	12:33	11:52	41.0	00:41	120.0	0:02:00
3:45 PM	11.97	12:05	12:01	4.0	00:04	112.5	0:01:52
3:50 PM	11.97	12:35	12:09	26.0	00:26	75.0	0:01:15
3:55 PM	11.97	12:14	12:18	-4.0	#####	55.0	0:00:55
4:00 PM	11.97	13:14	12:25	49.0	00:49	112.5	0:01:52
4:05 PM	11.97	14:01	12:32	89.0	01:29	345.0	0:05:45
4:10 PM	11.97	13:43	12:38	65.5	01:06	386.3	0:06:26
4:15 PM	11.97	13:46	12:44	62.5	01:03	320.0	0:05:20
4:20 PM	11.97	14:01	12:51	70.0	01:10	331.3	0:05:31
4:25 PM	11.97	14:01	12:57	64.0	01:04	335.0	0:05:35
4:30 PM	11.97	14:56	13:03	112.5	01:53	441.3	0:07:21
4:35 PM	11.97	15:10	13:07	122.5	02:03	587.5	0:09:48
4:40 PM	11.97	15:51	13:11	160.5	02:40	707.5	0:11:47
4:45 PM	11.97	16:21	13:15	186.0	03:06	866.3	0:14:26
4:50 PM	11.97	16:15	13:20	175.5	02:55	903.8	0:15:04
4:55 PM	11.97	17:12	13:23	229.5	03:49	1,012.5	0:16:52
5:00 PM	11.97	18:56	13:26	329.5	05:30	1,397.5	0:23:17
5:05 PM	11.97	21:03	13:29	454.5	07:34	1,960.0	0:32:40
5:10 PM	11.97	23:31	13:31	600.5	10:00	2,637.5	0:43:57
5:15 PM	11.97	23:07	13:33	574.0	09:34	2,936.3	0:48:56
5:20 PM	11.97	26:49	13:35	793.5	13:14	3,418.8	0:56:59
5:25 PM	11.97	25:38	13:36	722.5	12:02	3,790.0	1:03:10
5:30 PM	11.97	25:30	13:37	712.5	11:52	3,587.5	0:59:48
5:35 PM	11.97	24:11	13:37	633.5	10:34	3,365.0	0:56:05
5:40 PM	11.97	21:11	13:37	454.0	07:34	2,718.8	0:45:19
5:45 PM	11.97	22:52	13:36	556.0	09:16	2,525.0	0:42:05
5:50 PM	11.97	21:29	13:35	474.5	07:54	2,576.3	0:42:56
5:55 PM	11.97	20:18	13:34	404.5	06:45	2,197.5	0:36:37
6:00 PM	11.97	19:04	13:33	331.0	05:31	1,838.8	0:30:39
6:05 PM	11.97	21:01	13:31	449.5	07:29	1,951.3	0:32:31
6:10 PM	11.97	18:17	13:28	288.5	04:48	1,845.0	0:30:45
6:15 PM	11.97	16:42	13:26	196.5	03:16	1,212.5	0:20:12
6:20 PM	11.97	17:05	13:24	221.0	03:41	1,043.8	0:17:24
6:25 PM	11.97	16:20	13:21	178.5	02:59	998.8	0:16:39

	sec	dd:hh:mm:ss
MAX DIFF	793.5	13:14
MIN DIFF	-40.0	#####
AVG DIFF	272.1	04:32
STD DEV	240.4	04:00
TOT AREA	48,628.8	00:13:30:29

US-59 SW FREEWAY PM SB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB SHOULDER SCHOOL IN 16-30 MINUTE INCIDENTS

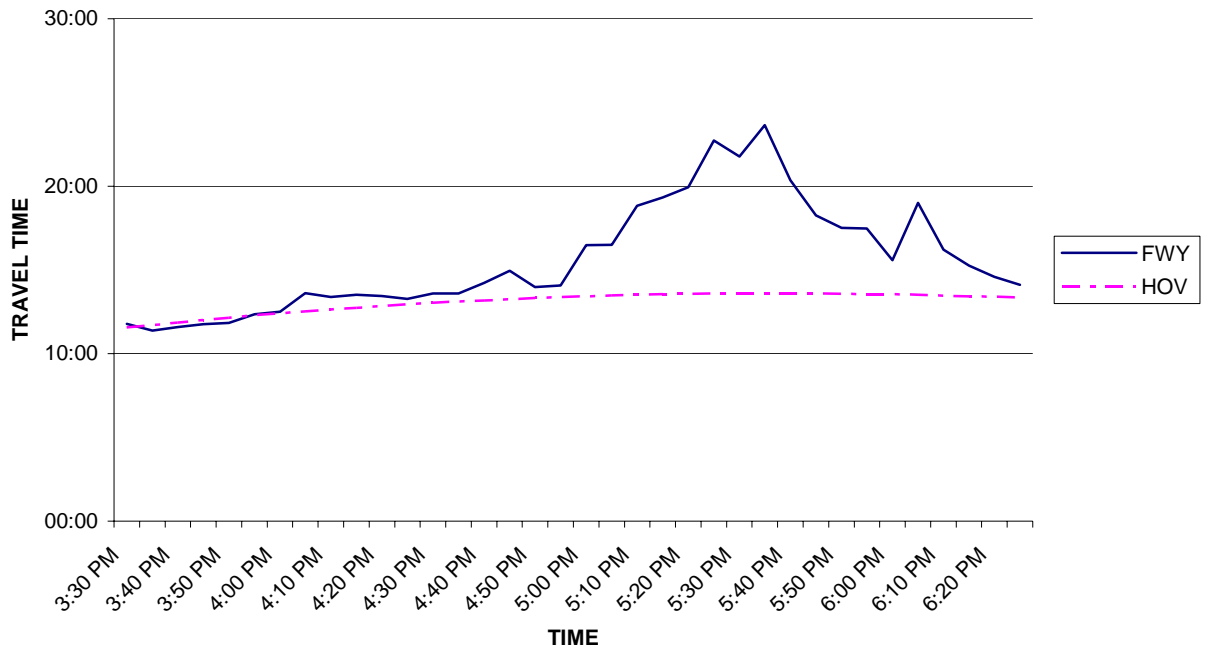


Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway T: FWY-HOV
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

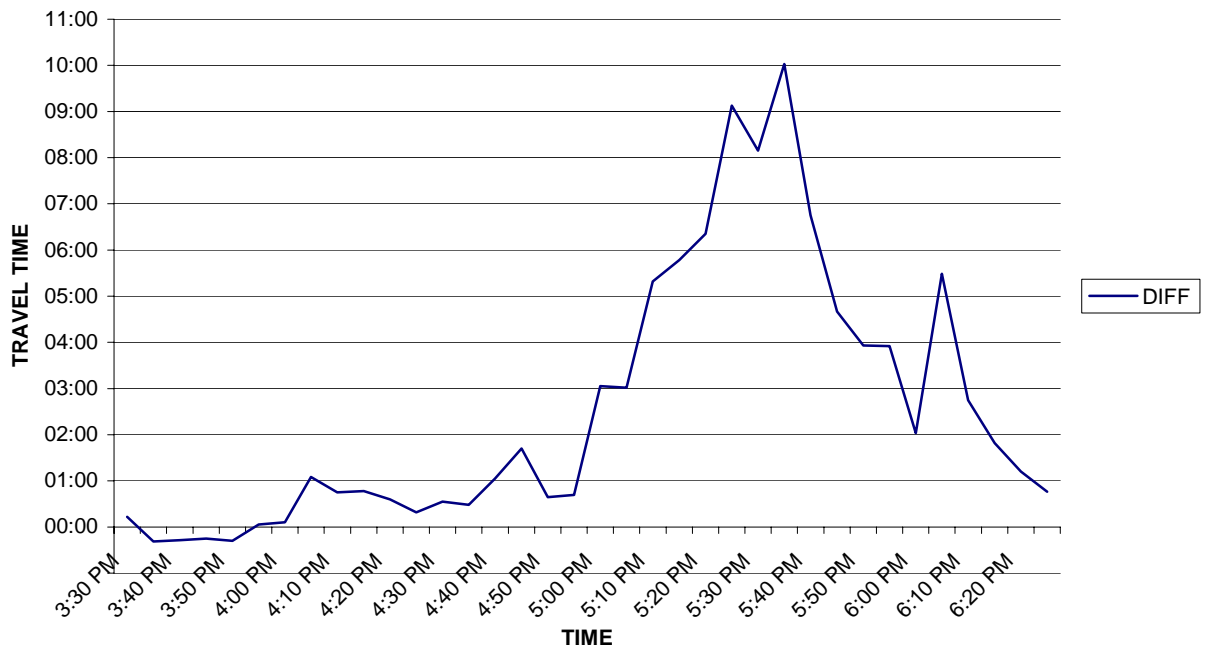
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
3:30 PM	11.97	11:47	11:34	13.0	00:13	0.0	0:00:00
3:35 PM	11.97	11:23	11:42	-19.0	#####	-15.0	#####
3:40 PM	11.97	11:35	11:52	-17.0	#####	-90.0	#####
3:45 PM	11.97	11:46	12:01	-15.0	#####	-80.0	#####
3:50 PM	11.97	11:51	12:09	-18.0	#####	-82.5	#####
3:55 PM	11.97	12:21	12:18	3.0	00:03	-37.5	#####
4:00 PM	11.97	12:31	12:25	6.0	00:06	22.5	0:00:23
4:05 PM	11.97	13:37	12:32	65.0	01:05	177.5	0:02:58
4:10 PM	11.97	13:23	12:38	45.0	00:45	275.0	0:04:35
4:15 PM	11.97	13:31	12:44	47.0	00:47	230.0	0:03:50
4:20 PM	11.97	13:27	12:51	36.0	00:36	207.5	0:03:28
4:25 PM	11.97	13:16	12:57	19.0	00:19	137.5	0:02:18
4:30 PM	11.97	13:36	13:03	33.0	00:33	130.0	0:02:10
4:35 PM	11.97	13:36	13:07	29.0	00:29	155.0	0:02:35
4:40 PM	11.97	14:14	13:11	63.0	01:03	230.0	0:03:50
4:45 PM	11.97	14:57	13:15	102.0	01:42	412.5	0:06:52
4:50 PM	11.97	13:59	13:20	39.0	00:39	352.5	0:05:52
4:55 PM	11.97	14:05	13:23	42.0	00:42	202.5	0:03:22
5:00 PM	11.97	16:29	13:26	183.0	03:03	562.5	0:09:23
5:05 PM	11.97	16:30	13:29	181.0	03:01	910.0	0:15:10
5:10 PM	11.97	18:50	13:31	319.0	05:19	1,250.0	0:20:50
5:15 PM	11.97	19:20	13:33	347.0	05:47	1,665.0	0:27:45
5:20 PM	11.97	19:56	13:35	381.0	06:21	1,820.0	0:30:20
5:25 PM	11.97	22:44	13:36	548.0	09:08	2,322.5	0:38:42
5:30 PM	11.97	21:46	13:37	489.0	08:09	2,592.5	0:43:13
5:35 PM	11.97	23:39	13:37	602.0	10:02	2,727.5	0:45:28
5:40 PM	11.97	20:22	13:37	405.0	06:45	2,517.5	0:41:58
5:45 PM	11.97	18:16	13:36	280.0	04:40	1,712.5	0:28:32
5:50 PM	11.97	17:31	13:35	236.0	03:56	1,290.0	0:21:30
5:55 PM	11.97	17:29	13:34	235.0	03:55	1,177.5	0:19:37
6:00 PM	11.97	15:35	13:33	122.0	02:02	892.5	0:14:53
6:05 PM	11.97	19:00	13:31	329.0	05:29	1,127.5	0:18:47
6:10 PM	11.97	16:13	13:28	165.0	02:45	1,235.0	0:20:35
6:15 PM	11.97	15:15	13:26	109.0	01:49	685.0	0:11:25
6:20 PM	11.97	14:36	13:24	72.0	01:12	452.5	0:07:32
6:25 PM	11.97	14:07	13:21	46.0	00:46	295.0	0:04:55

	sec	dd:hh:mm:ss
MAX DIFF	602.0	10:02
MIN DIFF	-19.0	#####
AVG DIFF	153.4	02:33
STD DEV	172.6	02:53
TOT AREA	27,462.5	00:07:37:42

US-59 SW FREEWAY PM SB SHOULDER SCHOOL IN 31-45 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB SHOULDER SCHOOL IN 31-45 MINUTE INCIDENTS



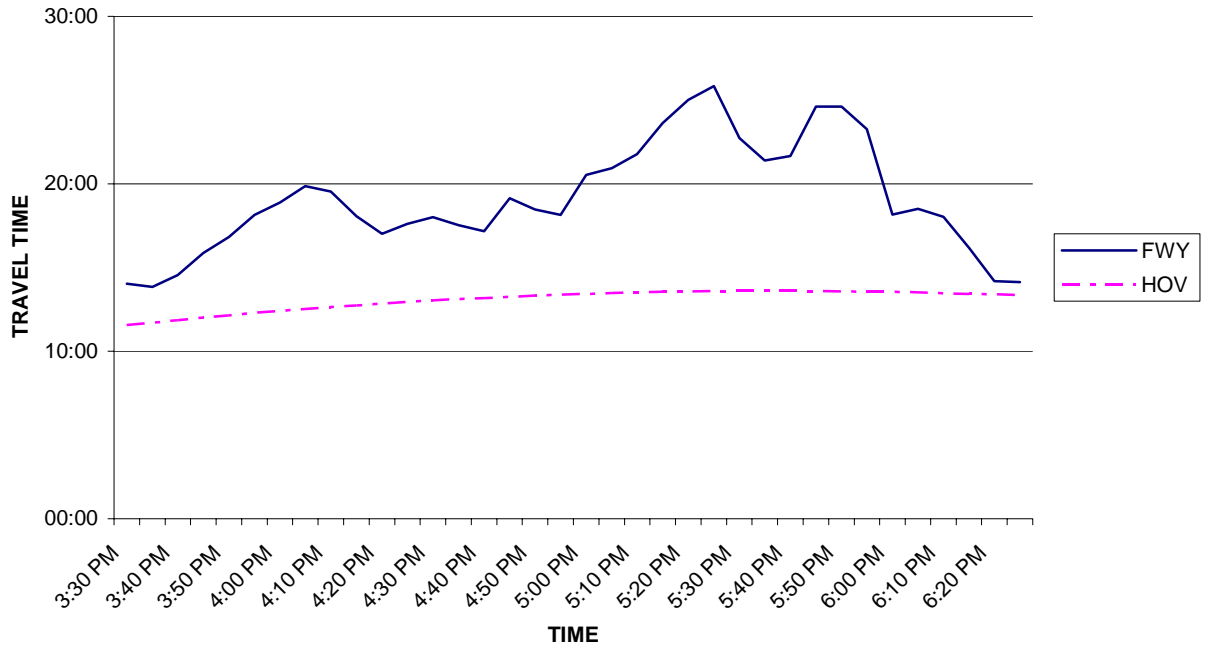
Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway T: FWY-HOV
 Direction SB
 Date

Time 03:30 PM to 06:25 PM

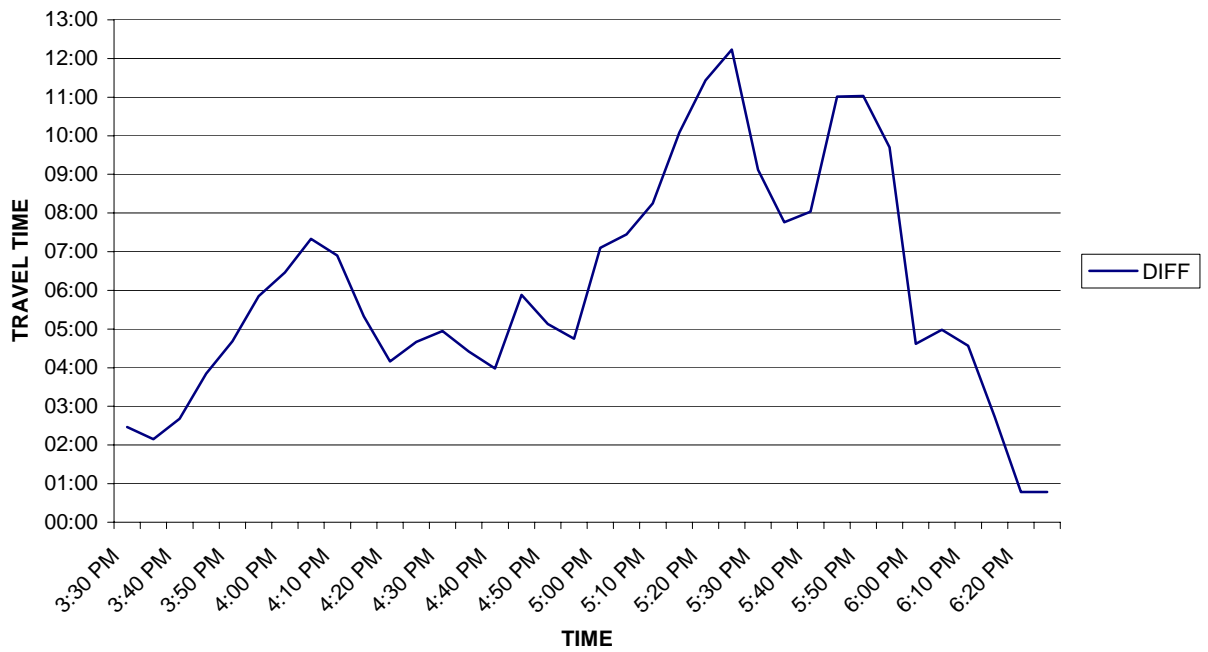
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA	SECTION AREA
3:30 PM	11.97	14:02	11:34	148.0	02:28	0.0	0:00:00	
3:35 PM	11.97	13:51	11:42	129.0	02:09	692.5	0:11:33	
3:40 PM	11.97	14:33	11:52	161.0	02:41	725.0	0:12:05	
3:45 PM	11.97	15:52	12:01	231.0	03:51	980.0	0:16:20	
3:50 PM	11.97	16:50	12:09	281.0	04:41	1,280.0	0:21:20	
3:55 PM	11.97	18:09	12:18	351.0	05:51	1,580.0	0:26:20	
4:00 PM	11.97	18:53	12:25	388.0	06:28	1,847.5	0:30:47	
4:05 PM	11.97	19:52	12:32	440.0	07:20	2,070.0	0:34:30	
4:10 PM	11.97	19:32	12:38	414.0	06:54	2,135.0	0:35:35	
4:15 PM	11.97	18:04	12:44	320.0	05:20	1,835.0	0:30:35	
4:20 PM	11.97	17:01	12:51	250.0	04:10	1,425.0	0:23:45	
4:25 PM	11.97	17:37	12:57	280.0	04:40	1,325.0	0:22:05	
4:30 PM	11.97	18:00	13:03	297.0	04:57	1,442.5	0:24:03	
4:35 PM	11.97	17:32	13:07	265.0	04:25	1,405.0	0:23:25	
4:40 PM	11.97	17:10	13:11	239.0	03:59	1,260.0	0:21:00	
4:45 PM	11.97	19:08	13:15	353.0	05:53	1,480.0	0:24:40	
4:50 PM	11.97	18:28	13:20	308.0	05:08	1,652.5	0:27:32	
4:55 PM	11.97	18:08	13:23	285.0	04:45	1,482.5	0:24:42	
5:00 PM	11.97	20:32	13:26	426.0	07:06	1,777.5	0:29:38	
5:05 PM	11.97	20:56	13:29	447.0	07:27	2,182.5	0:36:23	
5:10 PM	11.97	21:46	13:31	495.0	08:15	2,355.0	0:39:15	
5:15 PM	11.97	23:38	13:33	605.0	10:05	2,750.0	0:45:50	
5:20 PM	11.97	25:01	13:35	686.0	11:26	3,227.5	0:53:47	
5:25 PM	11.97	25:50	13:36	734.0	12:14	3,550.0	0:59:10	
5:30 PM	11.97	22:44	13:37	547.0	09:07	3,202.5	0:53:23	
5:35 PM	11.97	21:23	13:37	466.0	07:46	2,532.5	0:42:12	
5:40 PM	11.97	21:39	13:37	482.0	08:02	2,370.0	0:39:30	
5:45 PM	11.97	24:37	13:36	661.0	11:01	2,857.5	0:47:38	
5:50 PM	11.97	24:37	13:35	662.0	11:02	3,307.5	0:55:08	
5:55 PM	11.97	23:16	13:34	582.0	09:42	3,110.0	0:51:50	
6:00 PM	11.97	18:10	13:33	277.0	04:37	2,147.5	0:35:48	
6:05 PM	11.97	18:30	13:31	299.0	04:59	1,440.0	0:24:00	
6:10 PM	11.97	18:02	13:28	274.0	04:34	1,432.5	0:23:53	
6:15 PM	11.97	16:10	13:26	164.0	02:44	1,095.0	0:18:15	
6:20 PM	11.97	14:11	13:24	47.0	00:47	527.5	0:08:48	
6:25 PM	11.97	14:08	13:21	47.0	00:47	235.0	0:03:55	

	sec	dd:hh:mm:ss
MAX DIFF	734.0	12:14
MIN DIFF	47.0	00:47
AVG DIFF	362.3	06:02
STD DEV	177.9	02:58
TOT AREA	64,717.5	00:17:58:37

US-59 SW FREEWAY PM SB SHOULDER SCHOOL IN 46-60 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB SHOULDER SCHOOL IN 46-60 MINUTE INCIDENTS

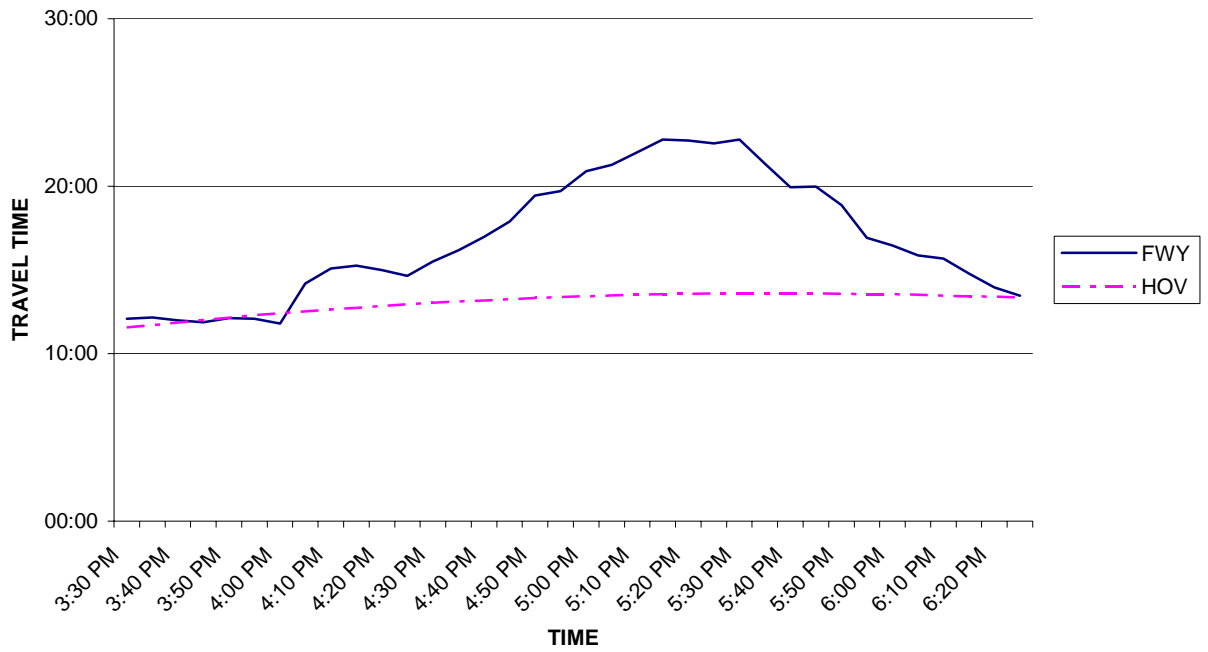


Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway Type FWY-HOV
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

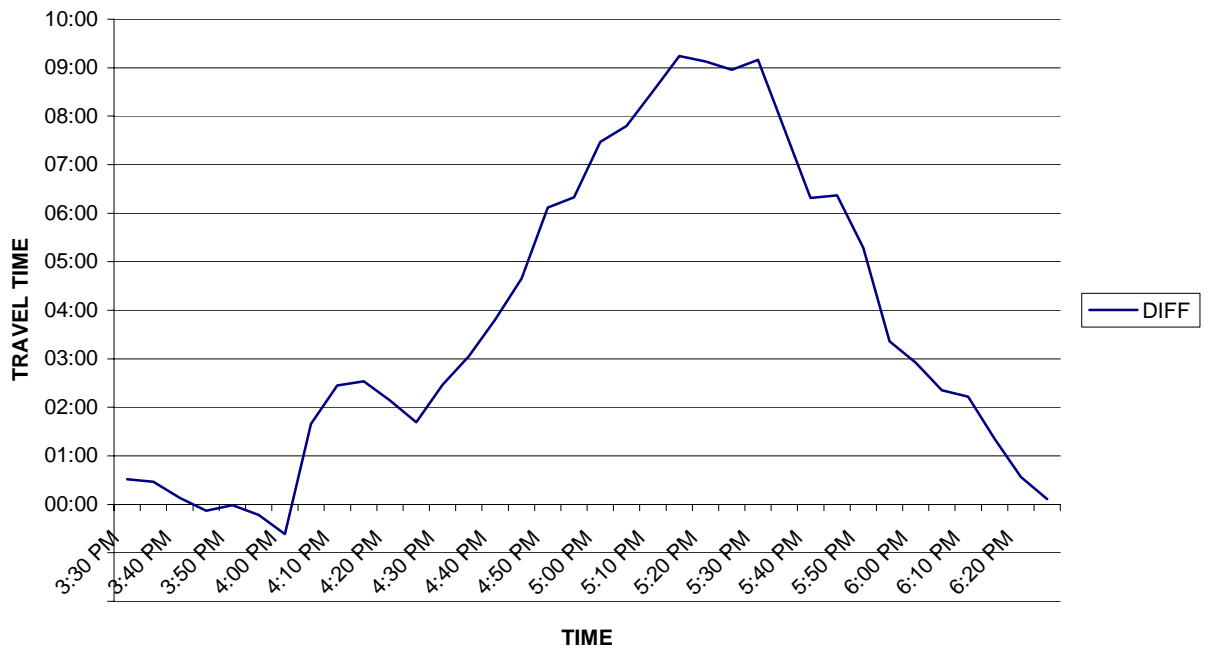
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	11.97	12:05	11:34	31.0	00:31	0.0 0:00:00
3:35 PM	11.97	12:10	11:42	28.0	00:28	147.5 0:02:28
3:40 PM	11.97	12:00	11:52	8.0	00:08	90.0 0:01:30
3:45 PM	11.97	11:53	12:01	-8.0	#####	0.0 #####
3:50 PM	11.97	12:08	12:09	-1.0	#####	-22.5 #####
3:55 PM	11.97	12:05	12:18	-13.0	#####	-35.0 #####
4:00 PM	11.97	11:48	12:25	-37.0	#####	-125.0 #####
4:05 PM	11.97	14:11	12:32	99.5	01:40	156.3 0:02:36
4:10 PM	11.97	15:05	12:38	147.0	02:27	616.3 0:10:16
4:15 PM	11.97	15:16	12:44	152.0	02:32	747.5 0:12:28
4:20 PM	11.97	15:00	12:51	128.5	02:08	701.3 0:11:41
4:25 PM	11.97	14:38	12:57	101.5	01:42	575.0 0:09:35
4:30 PM	11.97	15:31	13:03	148.0	02:28	623.8 0:10:24
4:35 PM	11.97	16:10	13:07	183.0	03:03	827.5 0:13:48
4:40 PM	11.97	16:59	13:11	228.0	03:48	1,027.5 0:17:08
4:45 PM	11.97	17:54	13:15	279.0	04:39	1,267.5 0:21:07
4:50 PM	11.97	19:27	13:20	367.0	06:07	1,615.0 0:26:55
4:55 PM	11.97	19:42	13:23	379.5	06:19	1,866.3 0:31:06
5:00 PM	11.97	20:54	13:26	448.0	07:28	2,068.8 0:34:29
5:05 PM	11.97	21:17	13:29	468.0	07:48	2,290.0 0:38:10
5:10 PM	11.97	22:01	13:31	510.5	08:30	2,446.3 0:40:46
5:15 PM	11.97	22:48	13:33	554.5	09:15	2,662.5 0:44:22
5:20 PM	11.97	22:43	13:35	548.0	09:08	2,756.3 0:45:56
5:25 PM	11.97	22:33	13:36	537.5	08:57	2,713.8 0:45:14
5:30 PM	11.97	22:47	13:37	550.0	09:10	2,718.8 0:45:19
5:35 PM	11.97	21:22	13:37	464.5	07:45	2,536.3 0:42:16
5:40 PM	11.97	19:56	13:37	379.0	06:19	2,108.8 0:35:09
5:45 PM	11.97	19:58	13:36	382.0	06:22	1,902.5 0:31:43
5:50 PM	11.97	18:52	13:35	317.0	05:17	1,747.5 0:29:07
5:55 PM	11.97	16:56	13:34	201.5	03:22	1,296.3 0:21:36
6:00 PM	11.97	16:28	13:33	175.0	02:55	941.3 0:15:41
6:05 PM	11.97	15:52	13:31	141.0	02:21	790.0 0:13:10
6:10 PM	11.97	15:41	13:28	133.0	02:13	685.0 0:11:25
6:15 PM	11.97	14:47	13:26	81.0	01:21	535.0 0:08:55
6:20 PM	11.97	13:58	13:24	34.0	00:34	287.5 0:04:47
6:25 PM	11.97	13:28	13:21	6.5	00:07	101.3 0:01:41

	sec	dd:hh:mm:ss
MAX DIFF	554.5	09:15
MIN DIFF	-37.0	#####
AVG DIFF	226.4	03:46
STD DEV	193.1	03:13
TOT AREA	40,666.3	00:11:17:46

US-59 SW FREEWAY PM SB SHOULDER SCHOOL OUT 0-15 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB SHOULDER SCHOOL OUT 0-15 MINUTE INCIDENTS



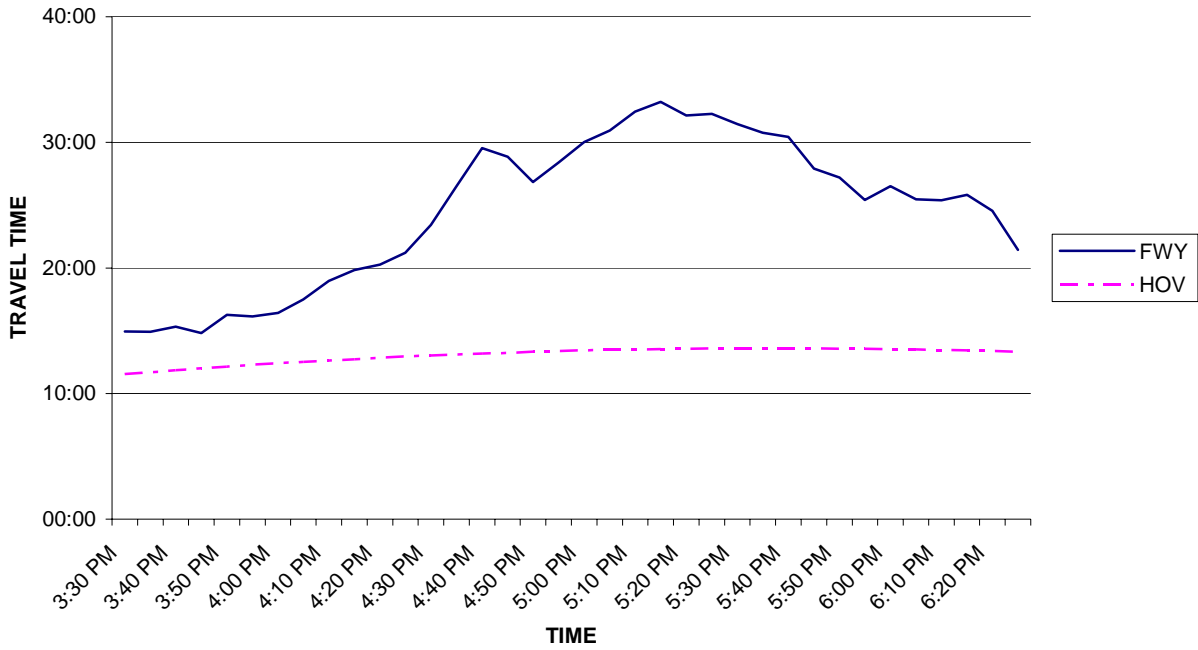
Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway T: FWY-HOV
 Direction SB
 Date

Time 03:30 PM to 06:25 PM

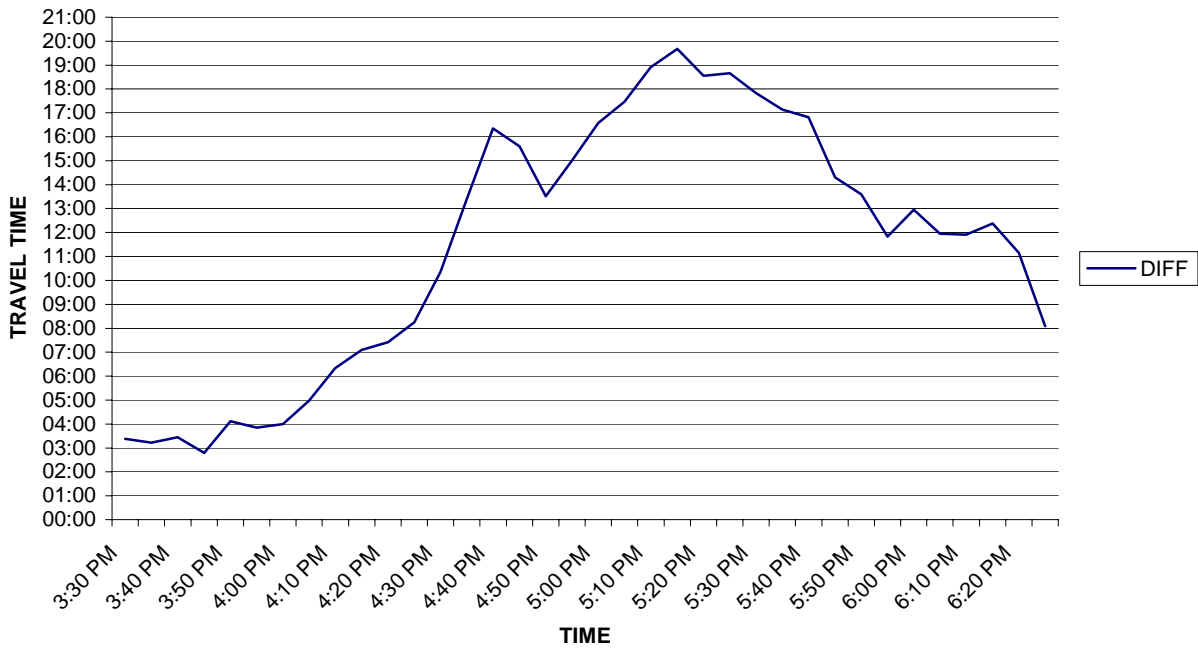
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA	SECTION AREA
3:30 PM	11.97	14:57	11:34	203.0	03:23	0.0	0:00:00	
3:35 PM	11.97	14:55	11:42	193.0	03:13	990.0	0:16:30	
3:40 PM	11.97	15:19	11:52	207.0	03:27	1,000.0	0:16:40	
3:45 PM	11.97	14:49	12:01	168.0	02:48	937.5	0:15:37	
3:50 PM	11.97	16:16	12:09	247.0	04:07	1,037.5	0:17:17	
3:55 PM	11.97	16:09	12:18	231.0	03:51	1,195.0	0:19:55	
4:00 PM	11.97	16:25	12:25	240.0	04:00	1,177.5	0:19:37	
4:05 PM	11.97	17:30	12:32	298.0	04:58	1,345.0	0:22:25	
4:10 PM	11.97	18:58	12:38	380.0	06:20	1,695.0	0:28:15	
4:15 PM	11.97	19:50	12:44	426.0	07:06	2,015.0	0:33:35	
4:20 PM	11.97	20:16	12:51	445.0	07:25	2,177.5	0:36:17	
4:25 PM	11.97	21:12	12:57	495.0	08:15	2,350.0	0:39:10	
4:30 PM	11.97	23:25	13:03	622.0	10:22	2,792.5	0:46:33	
4:35 PM	11.97	26:31	13:07	804.0	13:24	3,565.0	0:59:25	
4:40 PM	11.97	29:32	13:11	981.0	16:21	4,462.5	1:14:22	
4:45 PM	11.97	28:51	13:15	936.0	15:36	4,792.5	1:19:53	
4:50 PM	11.97	26:51	13:20	811.0	13:31	4,367.5	1:12:48	
4:55 PM	11.97	28:24	13:23	901.0	15:01	4,280.0	1:11:20	
5:00 PM	11.97	30:01	13:26	995.0	16:35	4,740.0	1:19:00	
5:05 PM	11.97	30:57	13:29	1,048.0	17:28	5,107.5	1:25:07	
5:10 PM	11.97	32:26	13:31	1,135.0	18:55	5,457.5	1:30:57	
5:15 PM	11.97	33:14	13:33	1,181.0	19:41	5,790.0	1:36:30	
5:20 PM	11.97	32:08	13:35	1,113.0	18:33	5,735.0	1:35:35	
5:25 PM	11.97	32:16	13:36	1,120.0	18:40	5,582.5	1:33:02	
5:30 PM	11.97	31:27	13:37	1,070.0	17:50	5,475.0	1:31:15	
5:35 PM	11.97	30:45	13:37	1,028.0	17:08	5,245.0	1:27:25	
5:40 PM	11.97	30:26	13:37	1,009.0	16:49	5,092.5	1:24:52	
5:45 PM	11.97	27:54	13:36	858.0	14:18	4,667.5	1:17:47	
5:50 PM	11.97	27:11	13:35	816.0	13:36	4,185.0	1:09:45	
5:55 PM	11.97	25:24	13:34	710.0	11:50	3,815.0	1:03:35	
6:00 PM	11.97	26:30	13:33	777.0	12:57	3,717.5	1:01:58	
6:05 PM	11.97	25:28	13:31	717.0	11:57	3,735.0	1:02:15	
6:10 PM	11.97	25:23	13:28	715.0	11:55	3,580.0	0:59:40	
6:15 PM	11.97	25:49	13:26	743.0	12:23	3,645.0	1:00:45	
6:20 PM	11.97	24:33	13:24	669.0	11:09	3,530.0	0:58:50	
6:25 PM	11.97	21:26	13:21	485.0	08:05	2,885.0	0:48:05	

	sec	dd:hh:mm:ss
MAX DIFF	1,181.0	19:41
MIN DIFF	168.0	02:48
AVG DIFF	688.3	11:28
STD DEV	326.1	05:26
TOT AREA	122,165.0	01:09:56:05

US-59 SW FREEWAY PM SB SHOULDER SCHOOL OUT 16-30 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB SHOULDER SCHOOL OUT 16-30 MINUTE INCIDENTS

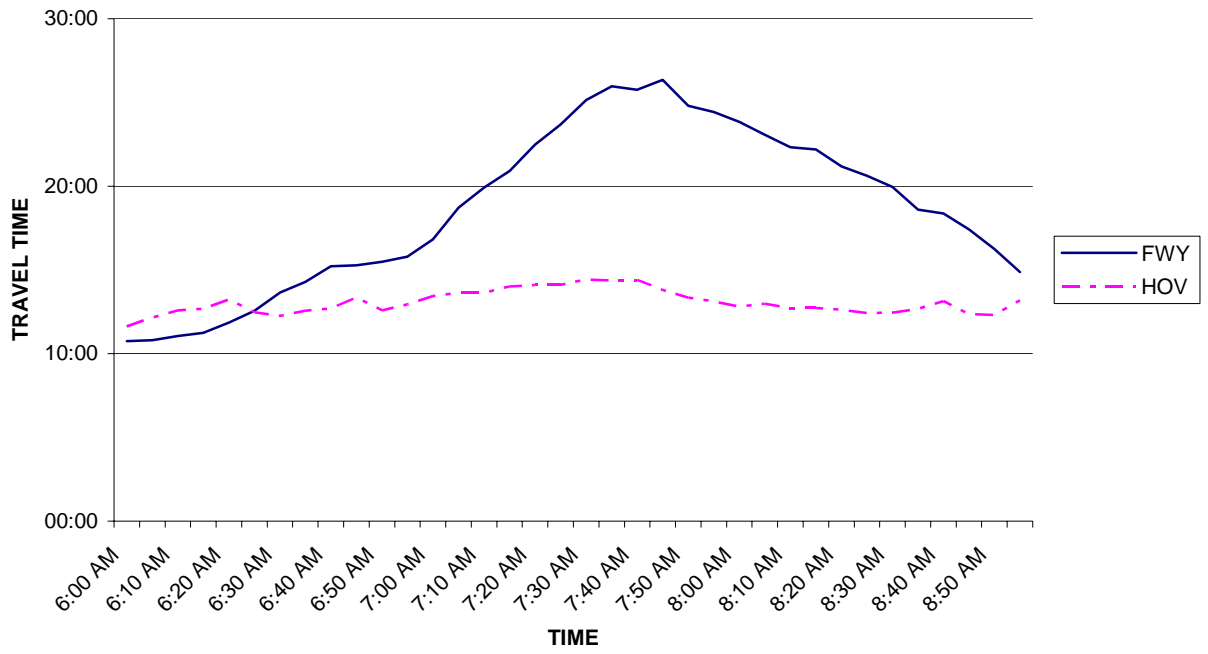


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway Type FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

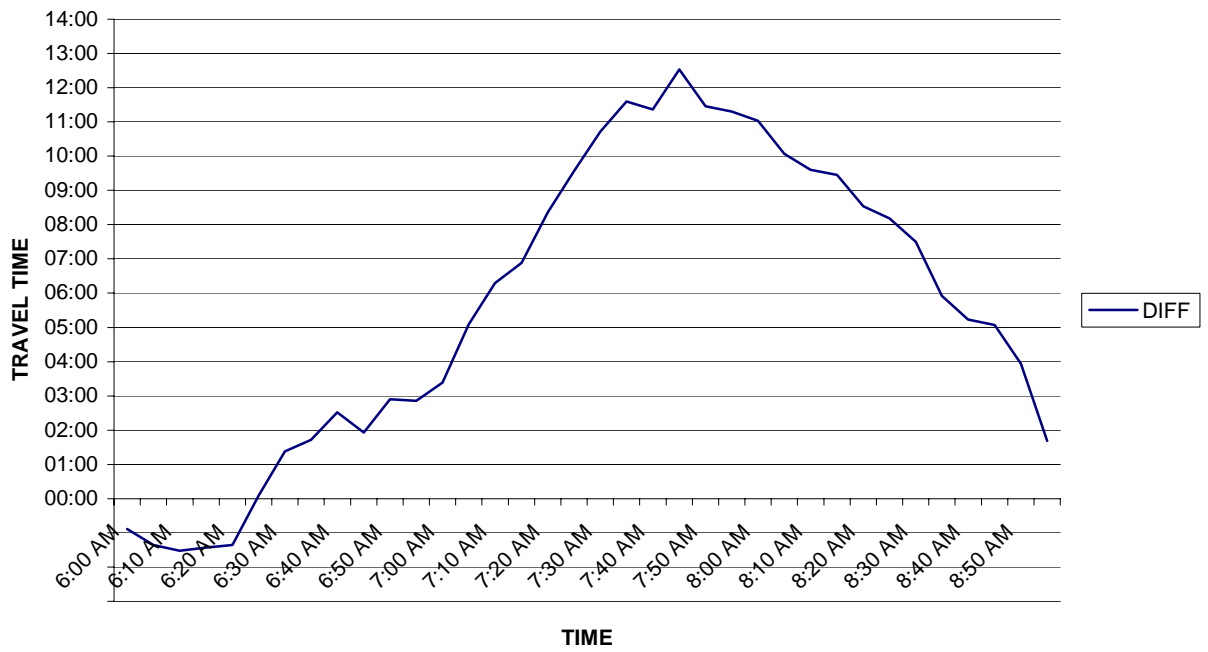
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
6:00 AM	11.98	10:45	11:38	-53.3	#####	0.0 0:00:00
6:05 AM	11.98	10:48	12:10	-81.6	#####	-337.3 #####
6:10 AM	11.98	11:04	12:35	-91.4	#####	-432.5 #####
6:15 AM	11.98	11:15	12:41	-85.8	#####	-443.0 #####
6:20 AM	11.98	11:52	13:14	-81.6	#####	-418.5 #####
6:25 AM	11.98	12:33	12:28	5.5	00:06	-190.2 #####
6:30 AM	11.98	13:39	12:16	83.0	01:23	221.3 0:03:41
6:35 AM	11.98	14:17	12:34	103.1	01:43	465.3 0:07:45
6:40 AM	11.98	15:13	12:41	151.4	02:31	636.3 0:10:36
6:45 AM	11.98	15:16	13:21	115.7	01:56	667.7 0:11:08
6:50 AM	11.98	15:29	12:35	174.0	02:54	724.2 0:12:04
6:55 AM	11.98	15:48	12:57	171.3	02:51	863.2 0:14:23
7:00 AM	11.98	16:49	13:26	203.1	03:23	936.1 0:15:36
7:05 AM	11.98	18:43	13:38	305.5	05:06	1,271.6 0:21:12
7:10 AM	11.98	19:55	13:38	377.5	06:18	1,707.6 0:28:28
7:15 AM	11.98	20:54	14:01	412.8	06:53	1,975.9 0:32:56
7:20 AM	11.98	22:29	14:07	501.4	08:21	2,285.5 0:38:06
7:25 AM	11.98	23:41	14:07	574.1	09:34	2,688.7 0:44:49
7:30 AM	11.98	25:09	14:26	642.6	10:43	3,041.6 0:50:42
7:35 AM	11.98	25:59	14:23	695.9	11:36	3,346.2 0:55:46
7:40 AM	11.98	25:46	14:24	681.9	11:22	3,444.6 0:57:25
7:45 AM	11.98	26:21	13:49	752.2	12:32	3,585.3 0:59:45
7:50 AM	11.98	24:48	13:21	687.5	11:27	3,599.2 0:59:59
7:55 AM	11.98	24:25	13:07	678.0	11:18	3,413.5 0:56:54
8:00 AM	11.98	23:50	12:48	661.6	11:02	3,349.0 0:55:49
8:05 AM	11.98	23:04	13:00	604.2	10:04	3,164.7 0:52:45
8:10 AM	11.98	22:19	12:43	576.0	09:36	2,950.5 0:49:11
8:15 AM	11.98	22:11	12:44	566.8	09:27	2,857.1 0:47:37
8:20 AM	11.98	21:10	12:38	512.4	08:32	2,698.1 0:44:58
8:25 AM	11.98	20:37	12:26	490.9	08:11	2,508.2 0:41:48
8:30 AM	11.98	19:57	12:28	449.8	07:30	2,351.7 0:39:12
8:35 AM	11.98	18:36	12:41	355.3	05:55	2,012.7 0:33:33
8:40 AM	11.98	18:22	13:08	313.7	05:14	1,672.5 0:27:52
8:45 AM	11.98	17:25	12:21	304.0	05:04	1,544.2 0:25:44
8:50 AM	11.98	16:15	12:19	236.3	03:56	1,350.8 0:22:31
8:55 AM	11.98	14:52	13:11	101.3	01:41	844.0 0:14:04

	sec	dd:hh:mm:ss
MAX DIFF	752.2	12:32
MIN DIFF	-91.4	#####
AVG DIFF	336.0	05:36
STD DEV	268.1	04:28
TOT AREA	60,355.6	00:16:45:56

US-59 SW FREEWAY AM NB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS

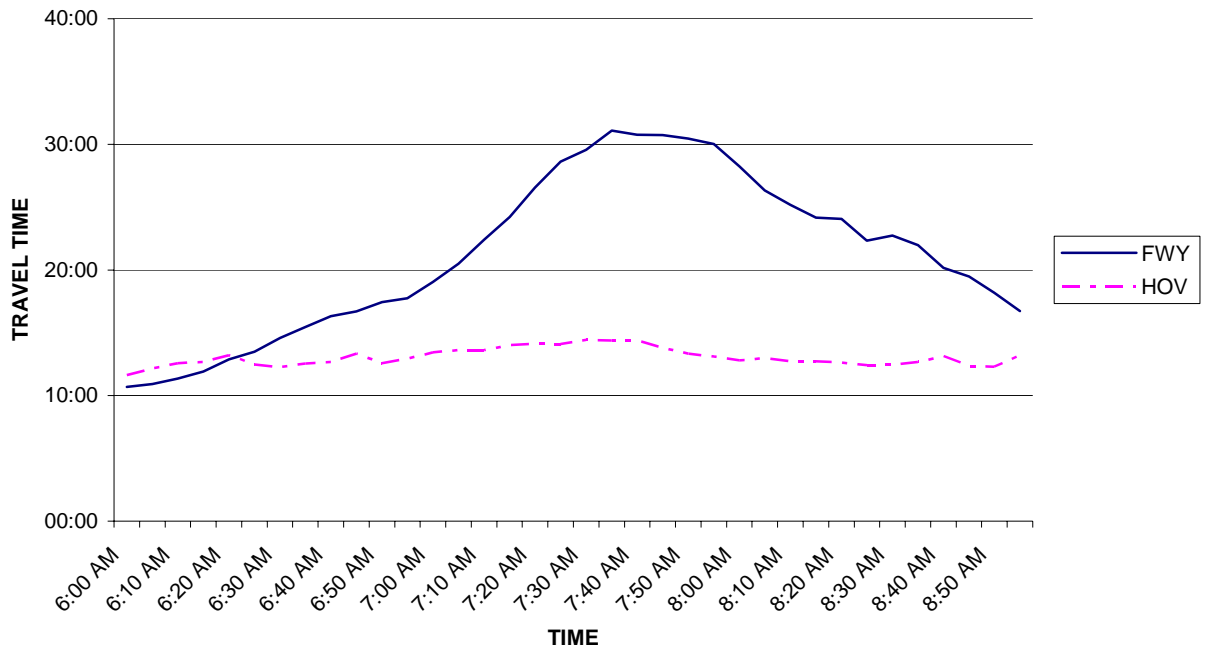


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway T: FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

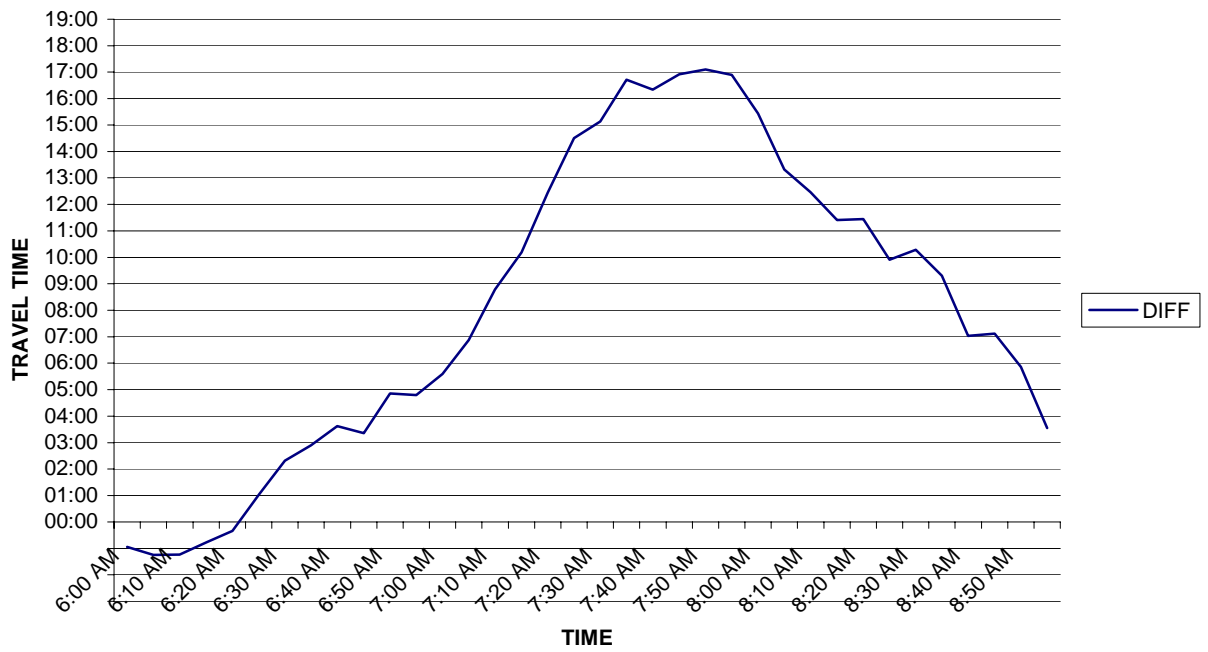
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA	SECTION AREA
6:00 AM	11.98	10:41	11:38	-57.0	#####	0.0	0:00:00
6:05 AM	11.98	10:55	12:10	-74.9	#####	-329.7	#####
6:10 AM	11.98	11:21	12:35	-74.1	#####	-372.6	#####
6:15 AM	11.98	11:55	12:41	-46.2	#####	-300.9	#####
6:20 AM	11.98	12:53	13:14	-20.6	#####	-167.1	#####
6:25 AM	11.98	13:30	12:28	61.8	01:02	103.0	0:01:43
6:30 AM	11.98	14:35	12:16	139.1	02:19	502.4	0:08:22
6:35 AM	11.98	15:27	12:34	173.7	02:54	782.0	0:13:02
6:40 AM	11.98	16:19	12:41	217.1	03:37	977.0	0:16:17
6:45 AM	11.98	16:42	13:21	201.7	03:22	1,047.0	0:17:27
6:50 AM	11.98	17:26	12:35	291.2	04:51	1,232.2	0:20:32
6:55 AM	11.98	17:44	12:57	287.7	04:48	1,447.3	0:24:07
7:00 AM	11.98	19:02	13:26	335.8	05:36	1,558.8	0:25:59
7:05 AM	11.98	20:30	13:38	412.7	06:53	1,871.4	0:31:11
7:10 AM	11.98	22:25	13:38	527.0	08:47	2,349.2	0:39:09
7:15 AM	11.98	24:13	14:01	611.2	10:11	2,845.4	0:47:25
7:20 AM	11.98	26:34	14:07	746.7	12:27	3,394.6	0:56:35
7:25 AM	11.98	28:37	14:07	870.0	14:30	4,041.6	1:07:22
7:30 AM	11.98	29:34	14:26	907.7	15:08	4,444.2	1:14:04
7:35 AM	11.98	31:05	14:23	1,002.9	16:43	4,776.4	1:19:36
7:40 AM	11.98	30:45	14:24	980.7	16:21	4,959.0	1:22:39
7:45 AM	11.98	30:44	13:49	1,015.0	16:55	4,989.3	1:23:09
7:50 AM	11.98	30:27	13:21	1,026.2	17:06	5,102.9	1:25:03
7:55 AM	11.98	30:01	13:07	1,014.1	16:54	5,100.7	1:25:01
8:00 AM	11.98	28:15	12:48	926.1	15:26	4,850.4	1:20:50
8:05 AM	11.98	26:19	13:00	799.4	13:19	4,313.6	1:11:54
8:10 AM	11.98	25:11	12:43	747.8	12:28	3,868.0	1:04:28
8:15 AM	11.98	24:09	12:44	684.8	11:25	3,581.7	0:59:42
8:20 AM	11.98	24:05	12:38	686.6	11:27	3,428.6	0:57:09
8:25 AM	11.98	22:20	12:26	594.3	09:54	3,202.3	0:53:22
8:30 AM	11.98	22:45	12:28	617.4	10:17	3,029.3	0:50:29
8:35 AM	11.98	21:59	12:41	558.0	09:18	2,938.5	0:48:59
8:40 AM	11.98	20:10	13:08	421.8	07:02	2,449.7	0:40:50
8:45 AM	11.98	19:28	12:21	427.4	07:07	2,123.0	0:35:23
8:50 AM	11.98	18:11	12:19	352.0	05:52	1,948.3	0:32:28
8:55 AM	11.98	16:44	13:11	213.3	03:33	1,413.0	0:23:33

	sec	dd:hh:mm:ss
MAX DIFF	1,026.2	17:06
MIN DIFF	-74.9	#####
AVG DIFF	488.3	08:08
STD DEV	357.2	05:57
TOT AREA	87,500.6	01:00:18:21

US-59 SW FREEWAY AM NB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS

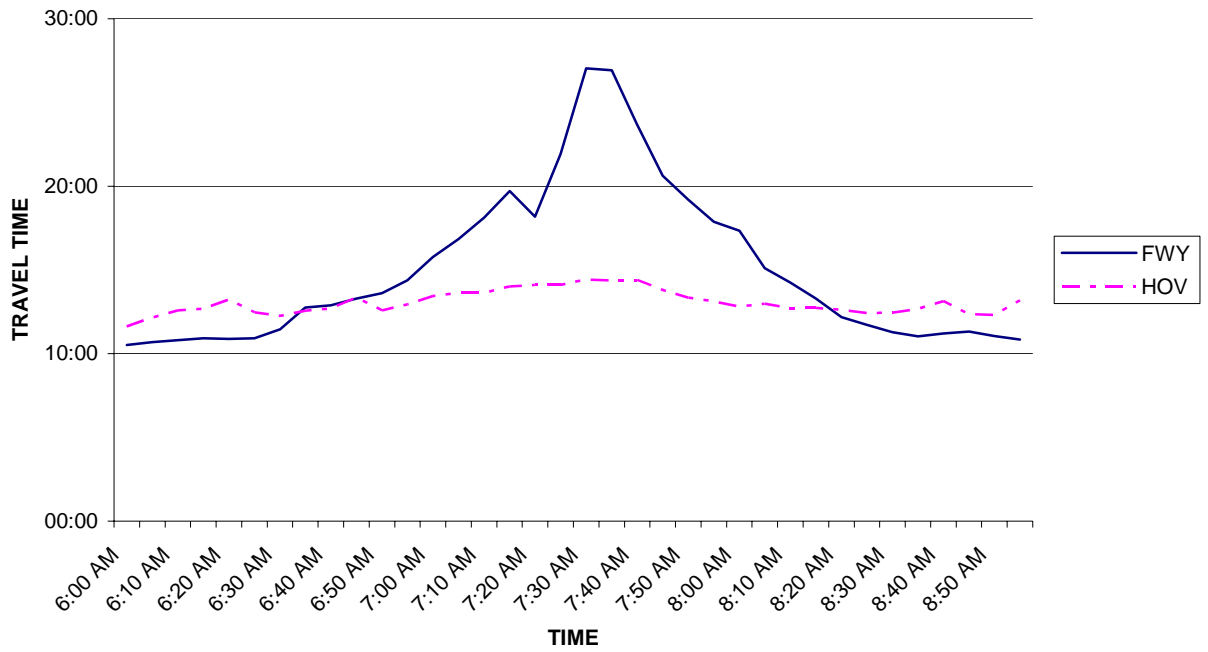


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway Type FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

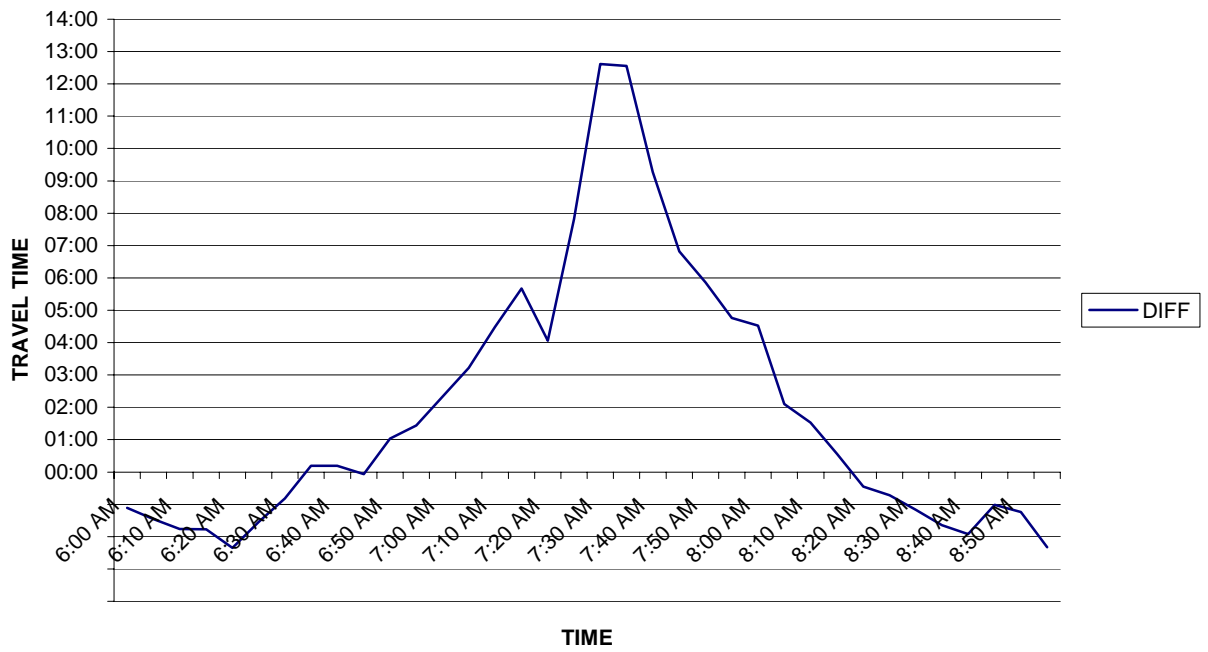
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
6:00 AM	11.98	10:31	11:38	-67.0	#####	0.0 0:00:00
6:05 AM	11.98	10:42	12:10	-87.8	#####	-386.9 #####
6:10 AM	11.98	10:49	12:35	-106.0	#####	-484.4 #####
6:15 AM	11.98	10:55	12:41	-106.2	#####	-530.5 #####
6:20 AM	11.98	10:53	13:14	-140.6	#####	-617.1 #####
6:25 AM	11.98	10:55	12:28	-92.9	#####	-583.8 #####
6:30 AM	11.98	11:27	12:16	-49.2	#####	-355.1 #####
6:35 AM	11.98	12:45	12:34	11.4	00:11	-94.3 #####
6:40 AM	11.98	12:53	12:41	11.5	00:11	57.3 0:00:57
6:45 AM	11.98	13:17	13:21	-3.7	#####	19.5 0:00:19
6:50 AM	11.98	13:37	12:35	62.1	01:02	146.0 0:02:26
6:55 AM	11.98	14:23	12:57	86.3	01:26	371.0 0:06:11
7:00 AM	11.98	15:46	13:26	139.7	02:20	565.0 0:09:25
7:05 AM	11.98	16:51	13:38	193.2	03:13	832.3 0:13:52
7:10 AM	11.98	18:07	13:38	269.1	04:29	1,155.8 0:19:16
7:15 AM	11.98	19:42	14:01	340.6	05:41	1,524.1 0:25:24
7:20 AM	11.98	18:11	14:07	243.8	04:04	1,460.9 0:24:21
7:25 AM	11.98	21:56	14:07	469.1	07:49	1,782.2 0:29:42
7:30 AM	11.98	27:03	14:26	756.7	12:37	3,064.5 0:51:04
7:35 AM	11.98	26:56	14:23	753.4	12:33	3,775.2 1:02:55
7:40 AM	11.98	23:41	14:24	556.6	09:17	3,274.9 0:54:35
7:45 AM	11.98	20:38	13:49	409.5	06:49	2,415.3 0:40:15
7:50 AM	11.98	19:12	13:21	351.5	05:51	1,902.4 0:31:42
7:55 AM	11.98	17:53	13:07	285.7	04:46	1,592.8 0:26:33
8:00 AM	11.98	17:20	12:48	271.5	04:31	1,392.9 0:23:13
8:05 AM	11.98	15:06	13:00	126.4	02:06	994.7 0:16:35
8:10 AM	11.98	14:15	12:43	91.7	01:32	545.2 0:09:05
8:15 AM	11.98	13:18	12:44	33.6	00:34	313.1 0:05:13
8:20 AM	11.98	12:11	12:38	-26.9	#####	16.6 0:00:17
8:25 AM	11.98	11:43	12:26	-43.1	#####	-175.0 #####
8:30 AM	11.98	11:17	12:28	-70.5	#####	-284.0 #####
8:35 AM	11.98	11:02	12:41	-98.7	#####	-423.0 #####
8:40 AM	11.98	11:13	13:08	-115.4	#####	-535.4 #####
8:45 AM	11.98	11:20	12:21	-61.0	#####	-441.1 #####
8:50 AM	11.98	11:04	12:19	-74.7	#####	-339.2 #####
8:55 AM	11.98	10:51	13:11	-140.0	#####	-536.7 #####

	sec	dd:hh:mm:ss
MAX DIFF	756.7	12:37
MIN DIFF	-140.6	#####
AVG DIFF	116.1	01:56
STD DEV	244.8	04:05
TOT AREA	21,415.3	00:05:56:55

US-59 SW FREEWAY AM NB ONE LANE SCHOOL IN 46-60 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB ONE LANE SCHOOL IN 46-60 MINUTE INCIDENTS

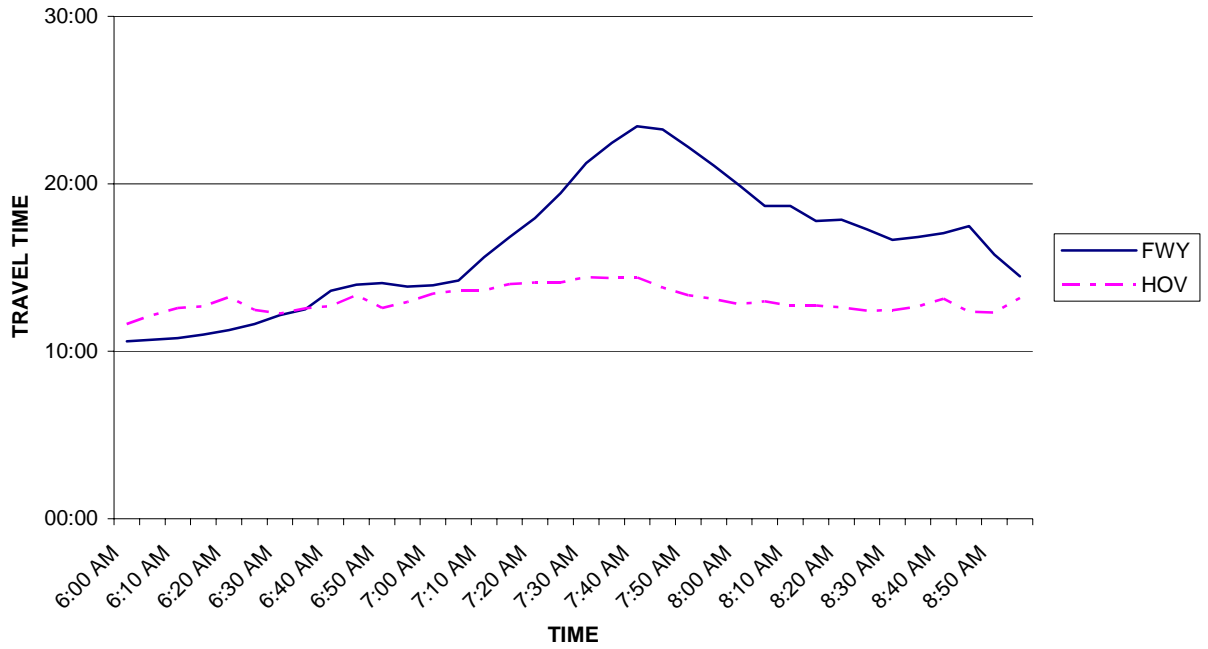


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway T₁ FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

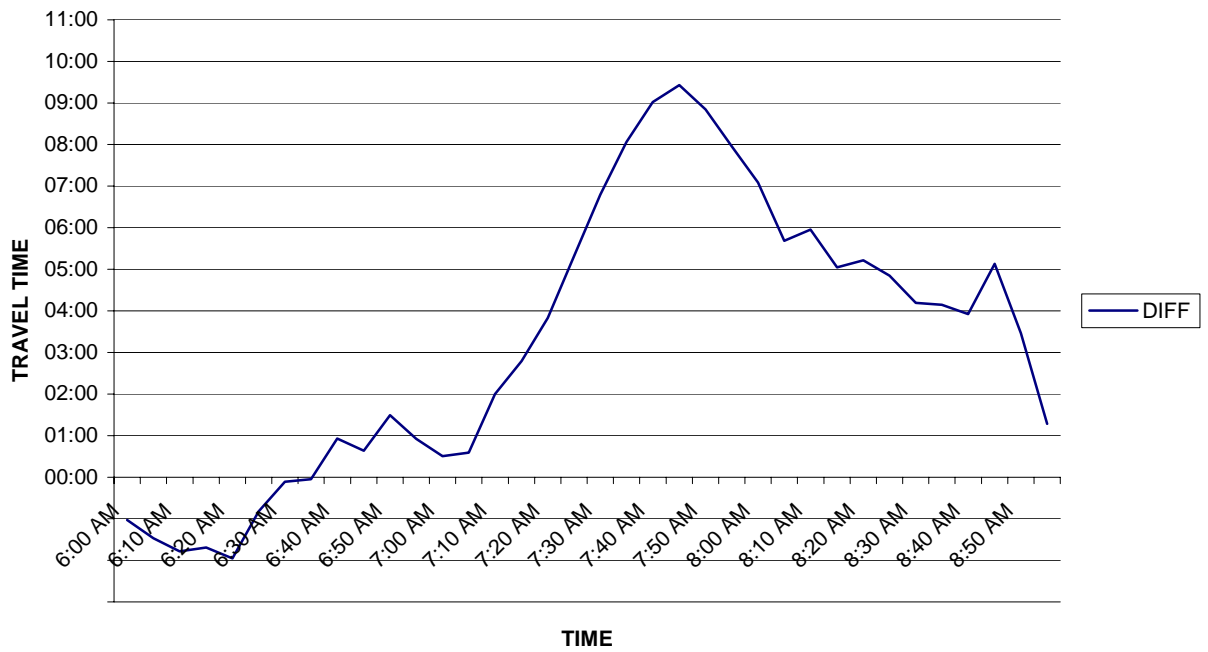
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	11.98	10:36	11:38	-61.8	#####	0.0	0:00:00
6:05 AM	11.98	10:42	12:10	-88.2	#####	-374.9	#####
6:10 AM	11.98	10:48	12:35	-107.2	#####	-488.4	#####
6:15 AM	11.98	11:00	12:41	-101.4	#####	-521.5	#####
6:20 AM	11.98	11:16	13:14	-117.4	#####	-547.1	#####
6:25 AM	11.98	11:38	12:28	-49.5	#####	-417.3	#####
6:30 AM	11.98	12:10	12:16	-6.6	#####	-140.1	#####
6:35 AM	11.98	12:31	12:34	-2.8	#####	-23.3	#####
6:40 AM	11.98	13:37	12:41	55.9	00:56	132.8	0:02:13
6:45 AM	11.98	13:59	13:21	38.1	00:38	235.0	0:03:55
6:50 AM	11.98	14:05	12:35	89.7	01:30	319.5	0:05:19
6:55 AM	11.98	13:52	12:57	55.5	00:55	363.0	0:06:03
7:00 AM	11.98	13:57	13:26	30.5	00:31	215.0	0:03:35
7:05 AM	11.98	14:13	13:38	35.4	00:35	164.8	0:02:45
7:10 AM	11.98	15:38	13:38	119.9	02:00	388.3	0:06:28
7:15 AM	11.98	16:49	14:01	167.8	02:48	719.1	0:11:59
7:20 AM	11.98	17:57	14:07	229.8	03:50	993.9	0:16:34
7:25 AM	11.98	19:26	14:07	319.1	05:19	1,372.2	0:22:52
7:30 AM	11.98	21:14	14:26	407.5	06:48	1,816.5	0:30:16
7:35 AM	11.98	22:26	14:23	483.6	08:04	2,227.7	0:37:08
7:40 AM	11.98	23:26	14:24	541.2	09:01	2,561.9	0:42:42
7:45 AM	11.98	23:14	13:49	565.9	09:26	2,767.8	0:46:08
7:50 AM	11.98	22:11	13:21	530.7	08:51	2,741.4	0:45:41
7:55 AM	11.98	21:05	13:07	477.3	07:57	2,519.8	0:42:00
8:00 AM	11.98	19:54	12:48	425.1	07:05	2,255.9	0:37:36
8:05 AM	11.98	18:41	13:00	341.2	05:41	1,915.7	0:31:56
8:10 AM	11.98	18:41	12:43	357.3	05:57	1,746.2	0:29:06
8:15 AM	11.98	17:47	12:44	302.8	05:03	1,650.1	0:27:30
8:20 AM	11.98	17:51	12:38	313.1	05:13	1,539.6	0:25:40
8:25 AM	11.98	17:17	12:26	290.7	04:51	1,509.5	0:25:09
8:30 AM	11.98	16:39	12:28	251.7	04:12	1,356.0	0:22:36
8:35 AM	11.98	16:50	12:41	248.9	04:09	1,251.5	0:20:51
8:40 AM	11.98	17:04	13:08	235.4	03:55	1,210.6	0:20:11
8:45 AM	11.98	17:29	12:21	307.8	05:08	1,357.9	0:22:38
8:50 AM	11.98	15:47	12:19	207.9	03:28	1,289.3	0:21:29
8:55 AM	11.98	14:28	13:11	77.0	01:17	712.3	0:11:52

	sec	dd:hh:mm:ss
MAX DIFF	565.9	09:26
MIN DIFF	-117.4	#####
AVG DIFF	193.7	03:14
STD DEV	204.3	03:24
TOT AREA	34,820.8	00:09:40:21

US-59 SW FREEWAY AM NB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS

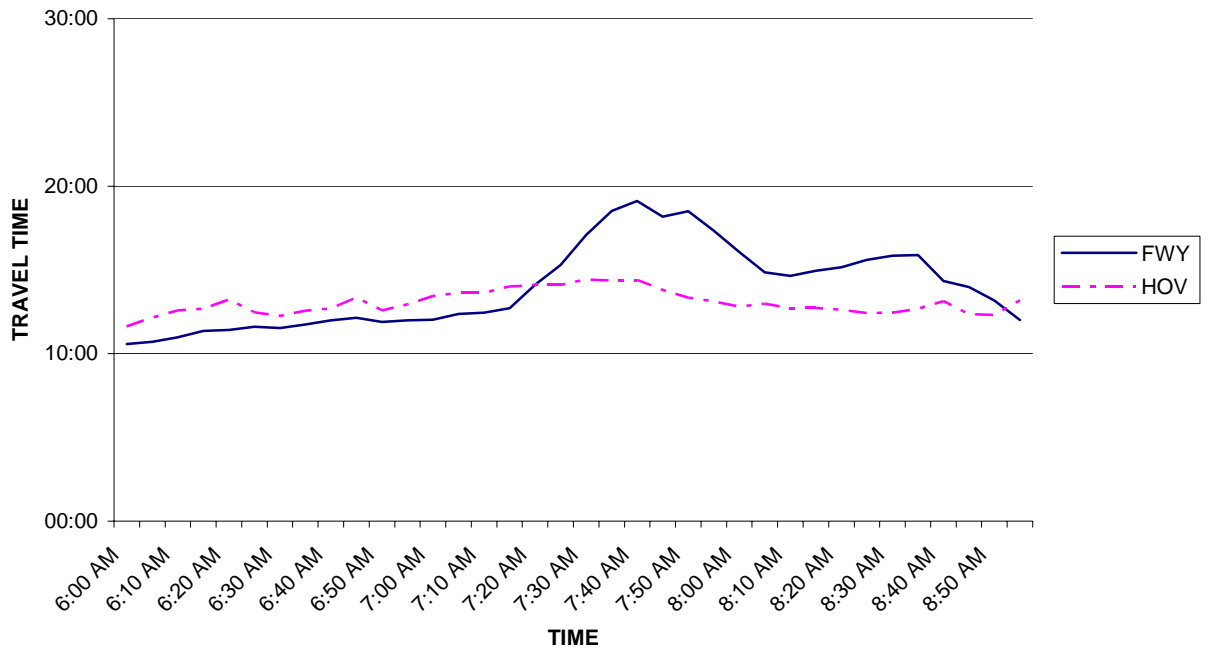


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway Type FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

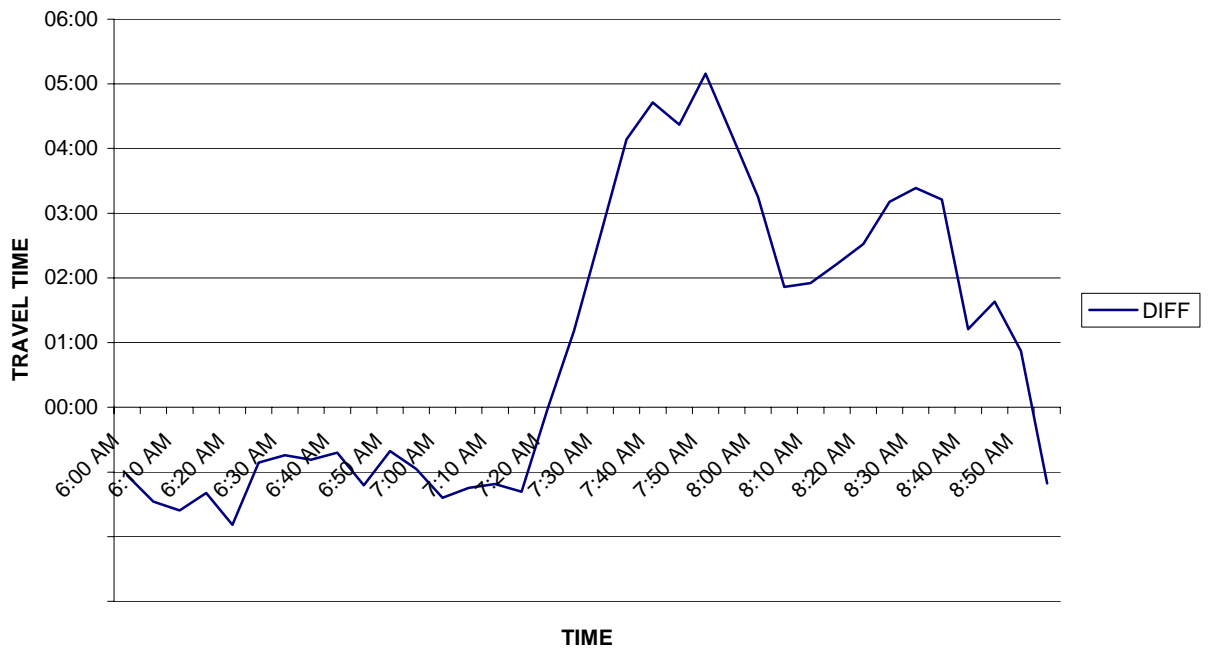
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
6:00 AM	11.98	10:35	11:38	-63.0	#####	0.0	0:00:00
6:05 AM	11.98	10:42	12:10	-87.4	#####	-376.0	#####
6:10 AM	11.98	10:59	12:35	-95.7	#####	-457.7	#####
6:15 AM	11.98	11:22	12:41	-79.5	#####	-438.0	#####
6:20 AM	11.98	11:25	13:14	-109.0	#####	-471.2	#####
6:25 AM	11.98	11:37	12:28	-51.2	#####	-400.5	#####
6:30 AM	11.98	11:32	12:16	-44.5	#####	-239.3	#####
6:35 AM	11.98	11:45	12:34	-48.6	#####	-232.7	#####
6:40 AM	11.98	11:59	12:41	-42.2	#####	-226.8	#####
6:45 AM	11.98	12:08	13:21	-72.4	#####	-286.4	#####
6:50 AM	11.98	11:54	12:35	-40.6	#####	-282.3	#####
6:55 AM	11.98	12:00	12:57	-57.0	#####	-244.0	#####
7:00 AM	11.98	12:02	13:26	-84.0	#####	-352.5	#####
7:05 AM	11.98	12:23	13:38	-74.8	#####	-396.8	#####
7:10 AM	11.98	12:27	13:38	-71.2	#####	-365.0	#####
7:15 AM	11.98	12:43	14:01	-78.1	#####	-373.4	#####
7:20 AM	11.98	14:06	14:07	-0.9	#####	-197.4	#####
7:25 AM	11.98	15:18	14:07	71.1	01:11	175.6	0:02:56
7:30 AM	11.98	17:05	14:26	159.0	02:39	575.3	0:09:35
7:35 AM	11.98	18:31	14:23	248.4	04:08	1,018.5	0:16:58
7:40 AM	11.98	19:07	14:24	282.9	04:43	1,328.2	0:22:08
7:45 AM	11.98	18:11	13:49	262.2	04:22	1,362.8	0:22:43
7:50 AM	11.98	18:30	13:21	309.5	05:09	1,429.1	0:23:49
7:55 AM	11.98	17:20	13:07	252.7	04:13	1,405.3	0:23:25
8:00 AM	11.98	16:04	12:48	195.2	03:15	1,119.6	0:18:40
8:05 AM	11.98	14:51	13:00	111.7	01:52	767.2	0:12:47
8:10 AM	11.98	14:39	12:43	115.4	01:55	567.7	0:09:28
8:15 AM	11.98	14:57	12:44	132.9	02:13	620.6	0:10:21
8:20 AM	11.98	15:09	12:38	151.4	02:31	710.8	0:11:51
8:25 AM	11.98	15:37	12:26	190.6	03:11	855.0	0:14:15
8:30 AM	11.98	15:51	12:28	203.5	03:24	985.2	0:16:25
8:35 AM	11.98	15:54	12:41	192.8	03:13	990.7	0:16:31
8:40 AM	11.98	14:21	13:08	72.6	01:13	663.4	0:11:03
8:45 AM	11.98	13:59	12:21	98.0	01:38	426.4	0:07:06
8:50 AM	11.98	13:11	12:19	52.3	00:52	375.8	0:06:16
8:55 AM	11.98	12:00	13:11	-70.5	#####	-45.4	#####

	sec	dd:hh:mm:ss
MAX DIFF	309.5	05:09
MIN DIFF	-109.0	#####
AVG DIFF	53.7	00:54
STD DEV	133.1	02:13
TOT AREA	9,991.5	00:02:46:32

US-59 SW FREEWAY AM NB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS

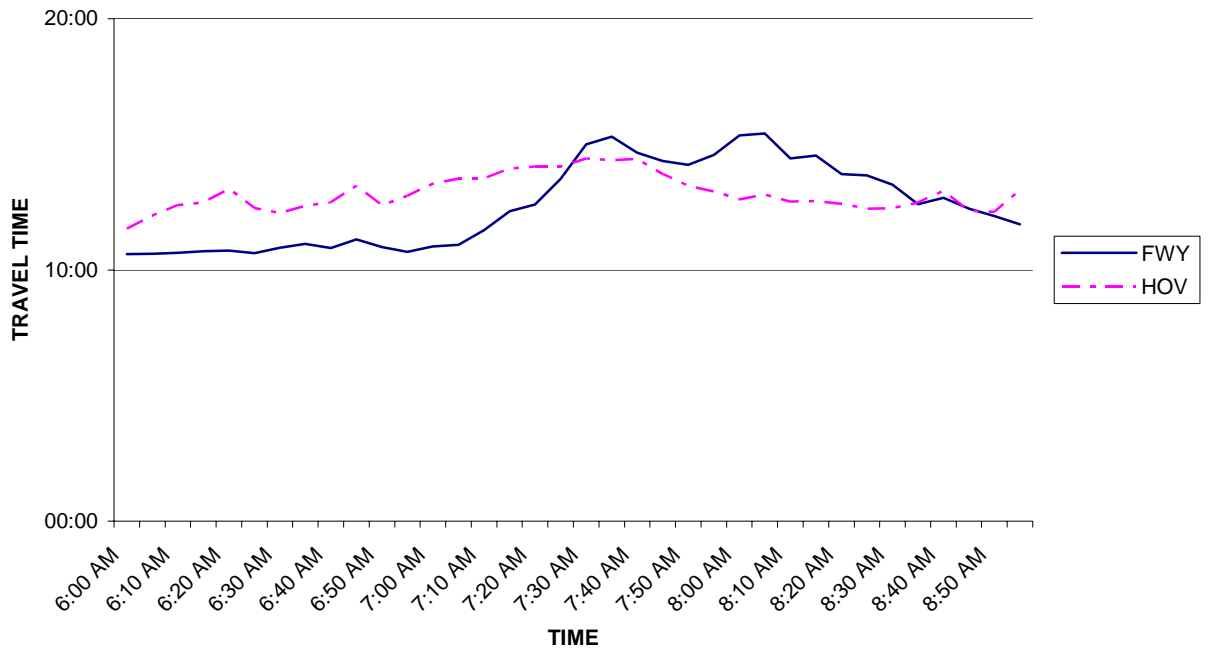


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway T: FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

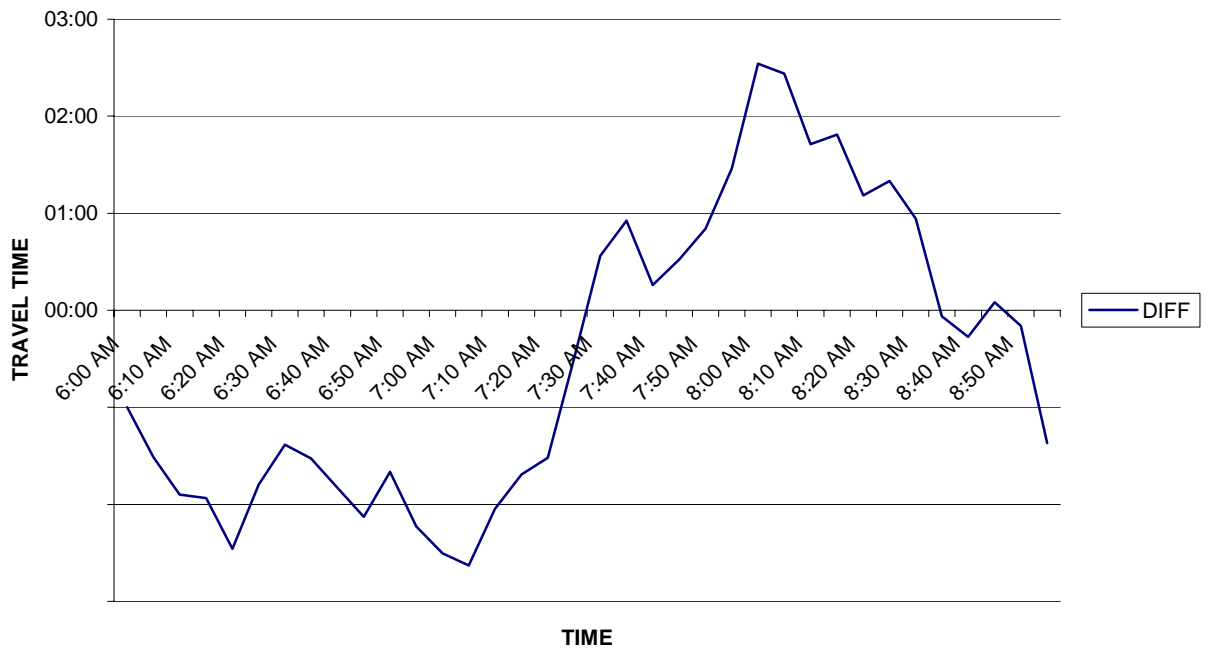
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
6:00 AM	11.98	10:38	11:38	-60.0	#####	0.0	0:00:00
6:05 AM	11.98	10:39	12:10	-90.8	#####	-376.9	#####
6:10 AM	11.98	10:41	12:35	-114.0	#####	-511.9	#####
6:15 AM	11.98	10:45	12:41	-116.2	#####	-575.5	#####
6:20 AM	11.98	10:46	13:14	-147.6	#####	-659.6	#####
6:25 AM	11.98	10:40	12:28	-107.9	#####	-638.8	#####
6:30 AM	11.98	10:53	12:16	-83.2	#####	-477.6	#####
6:35 AM	11.98	11:02	12:34	-91.6	#####	-436.8	#####
6:40 AM	11.98	10:52	12:41	-109.5	#####	-502.7	#####
6:45 AM	11.98	11:13	13:21	-127.7	#####	-593.0	#####
6:50 AM	11.98	10:55	12:35	-99.9	#####	-569.0	#####
6:55 AM	11.98	10:43	12:57	-133.7	#####	-584.0	#####
7:00 AM	11.98	10:56	13:26	-150.3	#####	-710.0	#####
7:05 AM	11.98	11:00	13:38	-157.8	#####	-770.2	#####
7:10 AM	11.98	11:35	13:38	-122.9	#####	-701.7	#####
7:15 AM	11.98	12:20	14:01	-101.4	#####	-560.9	#####
7:20 AM	11.98	12:36	14:07	-91.2	#####	-481.6	#####
7:25 AM	11.98	13:37	14:07	-29.9	#####	-302.8	#####
7:30 AM	11.98	15:00	14:26	33.7	00:34	9.5	0:00:09
7:35 AM	11.98	15:18	14:23	55.4	00:55	222.7	0:03:43
7:40 AM	11.98	14:40	14:24	15.6	00:16	177.4	0:02:57
7:45 AM	11.98	14:20	13:49	31.5	00:31	117.8	0:01:58
7:50 AM	11.98	14:11	13:21	50.5	00:50	204.9	0:03:25
7:55 AM	11.98	14:35	13:07	87.7	01:28	345.3	0:05:45
8:00 AM	11.98	15:21	12:48	152.5	02:32	600.4	0:10:00
8:05 AM	11.98	15:26	13:00	146.4	02:26	747.2	0:12:27
8:10 AM	11.98	14:26	12:43	102.7	01:43	622.7	0:10:23
8:15 AM	11.98	14:33	12:44	108.6	01:49	528.1	0:08:48
8:20 AM	11.98	13:49	12:38	71.1	01:11	449.1	0:07:29
8:25 AM	11.98	13:46	12:26	79.9	01:20	377.5	0:06:18
8:30 AM	11.98	13:24	12:28	56.5	00:56	341.0	0:05:41
8:35 AM	11.98	12:37	12:41	-3.7	#####	132.0	0:02:12
8:40 AM	11.98	12:52	13:08	-16.4	#####	-50.4	#####
8:45 AM	11.98	12:26	12:21	5.0	00:05	-28.6	#####
8:50 AM	11.98	12:09	12:19	-9.7	#####	-11.7	#####
8:55 AM	11.98	11:49	13:11	-82.0	#####	-229.2	#####

	sec	dd:hh:mm:ss
MAX DIFF	152.5	02:32
MIN DIFF	-157.8	#####
AVG DIFF	-29.2	#####
STD DEV	92.4	01:32
TOT AREA	-4,897.2	#####

US-59 SW FREEWAY AM NB ONE LANE SCHOOL OUT 31-45 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB ONE LANE SCHOOL OUT 31-45 MINUTE INCIDENTS

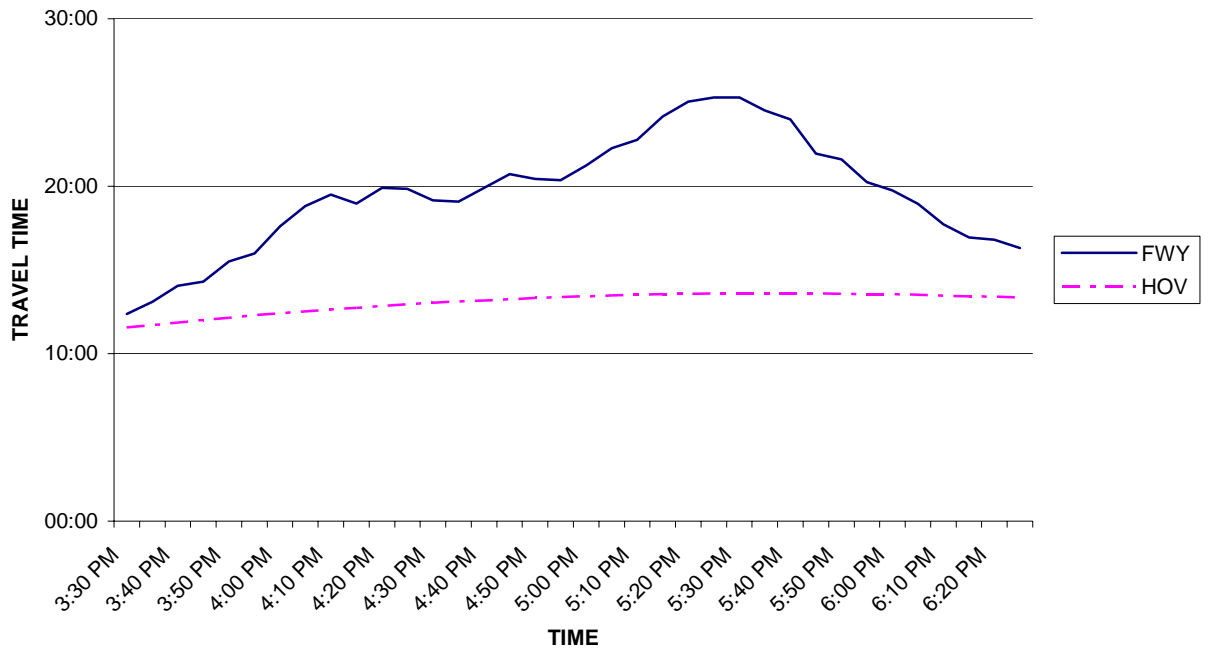


Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway Type FWY-HOV
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

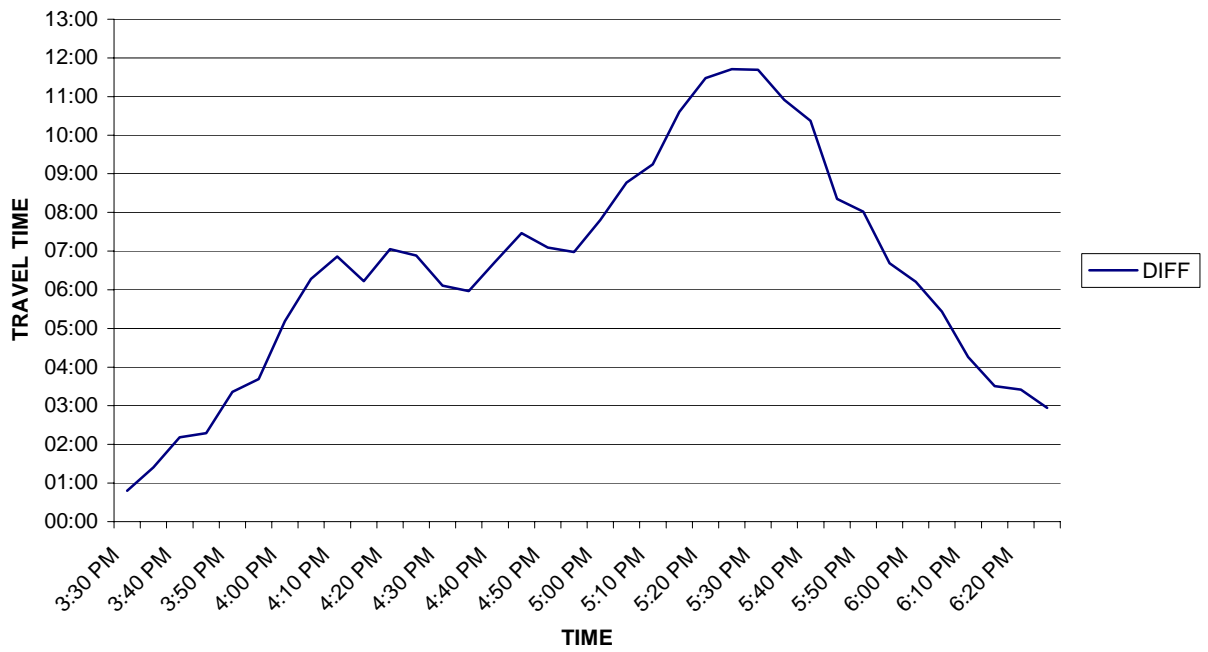
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	11.97	12:22	11:34	48.0	00:48	0.0	0:00:00
3:35 PM	11.97	13:06	11:42	84.4	01:24	331.1	0:05:31
3:40 PM	11.97	14:03	11:52	131.3	02:11	539.3	0:08:59
3:45 PM	11.97	14:19	12:01	137.6	02:18	672.1	0:11:12
3:50 PM	11.97	15:31	12:09	201.6	03:22	847.9	0:14:08
3:55 PM	11.97	16:00	12:18	221.6	03:42	1,057.9	0:17:38
4:00 PM	11.97	17:37	12:25	311.6	05:12	1,332.9	0:22:13
4:05 PM	11.97	18:49	12:32	376.7	06:17	1,720.7	0:28:41
4:10 PM	11.97	19:30	12:38	411.9	06:52	1,971.4	0:32:51
4:15 PM	11.97	18:57	12:44	373.3	06:13	1,962.9	0:32:43
4:20 PM	11.97	19:54	12:51	422.9	07:03	1,990.4	0:33:10
4:25 PM	11.97	19:50	12:57	413.3	06:53	2,090.4	0:34:50
4:30 PM	11.97	19:10	13:03	366.6	06:07	1,949.6	0:32:30
4:35 PM	11.97	19:05	13:07	357.9	05:58	1,811.1	0:30:11
4:40 PM	11.97	19:54	13:11	403.4	06:43	1,903.2	0:31:43
4:45 PM	11.97	20:43	13:15	447.7	07:28	2,127.9	0:35:28
4:50 PM	11.97	20:26	13:20	425.6	07:06	2,183.2	0:36:23
4:55 PM	11.97	20:21	13:23	418.4	06:58	2,110.0	0:35:10
5:00 PM	11.97	21:14	13:26	468.3	07:48	2,216.8	0:36:57
5:05 PM	11.97	22:16	13:29	526.6	08:47	2,487.1	0:41:27
5:10 PM	11.97	22:46	13:31	554.7	09:15	2,703.2	0:45:03
5:15 PM	11.97	24:09	13:33	636.1	10:36	2,977.1	0:49:37
5:20 PM	11.97	25:04	13:35	688.7	11:29	3,312.1	0:55:12
5:25 PM	11.97	25:18	13:36	702.4	11:42	3,477.9	0:57:58
5:30 PM	11.97	25:19	13:37	701.6	11:42	3,510.0	0:58:30
5:35 PM	11.97	24:32	13:37	654.7	10:55	3,390.7	0:56:31
5:40 PM	11.97	23:59	13:37	622.3	10:22	3,192.5	0:53:13
5:45 PM	11.97	21:57	13:36	501.1	08:21	2,808.6	0:46:49
5:50 PM	11.97	21:36	13:35	481.0	08:01	2,455.4	0:40:55
5:55 PM	11.97	20:15	13:34	401.0	06:41	2,205.0	0:36:45
6:00 PM	11.97	19:45	13:33	372.3	06:12	1,933.2	0:32:13
6:05 PM	11.97	18:57	13:31	326.1	05:26	1,746.1	0:29:06
6:10 PM	11.97	17:44	13:28	255.6	04:16	1,454.3	0:24:14
6:15 PM	11.97	16:57	13:26	210.7	03:31	1,165.7	0:19:26
6:20 PM	11.97	16:49	13:24	204.9	03:25	1,038.9	0:17:19
6:25 PM	11.97	16:18	13:21	177.0	02:57	954.6	0:15:55

	sec	dd:hh:mm:ss
MAX DIFF	702.4	11:42
MIN DIFF	48.0	00:48
AVG DIFF	390.0	06:30
STD DEV	177.0	02:57
TOT AREA	69,631.1	00:19:20:31

US-59 SW FREEWAY PM SB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB ONE LANE SCHOOL IN 0-15 MINUTE INCIDENTS

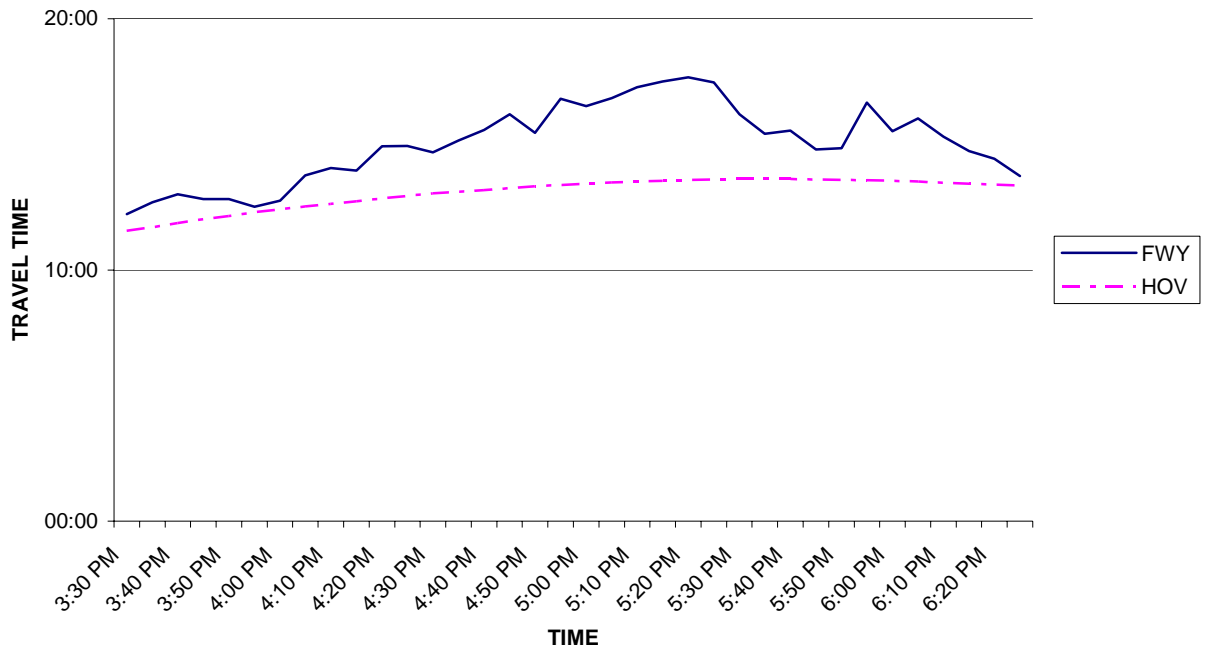


Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway Type FWY-HOV
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

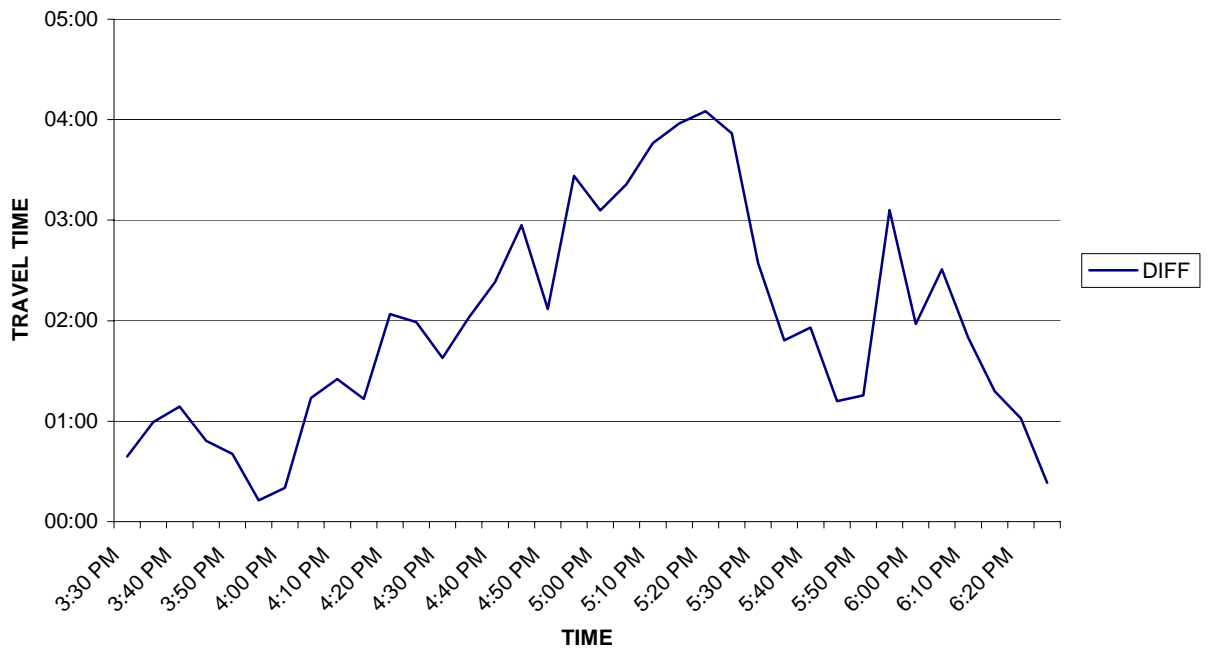
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	11.97	12:13	11:34	39.0	00:39	0.0	0:00:00
3:35 PM	11.97	12:41	11:42	59.5	01:00	246.3	0:04:06
3:40 PM	11.97	13:01	11:52	68.8	01:09	320.6	0:05:21
3:45 PM	11.97	12:49	12:01	48.3	00:48	292.5	0:04:52
3:50 PM	11.97	12:49	12:09	40.5	00:40	221.9	0:03:42
3:55 PM	11.97	12:31	12:18	12.8	00:13	133.1	0:02:13
4:00 PM	11.97	12:45	12:25	20.3	00:20	82.5	0:01:22
4:05 PM	11.97	13:46	12:32	74.0	01:14	235.6	0:03:56
4:10 PM	11.97	14:03	12:38	85.3	01:25	398.1	0:06:38
4:15 PM	11.97	13:57	12:44	73.3	01:13	396.3	0:06:36
4:20 PM	11.97	14:55	12:51	124.0	02:04	493.1	0:08:13
4:25 PM	11.97	14:56	12:57	119.3	01:59	608.1	0:10:08
4:30 PM	11.97	14:41	13:03	97.8	01:38	542.5	0:09:03
4:35 PM	11.97	15:09	13:07	121.8	02:02	548.8	0:09:09
4:40 PM	11.97	15:34	13:11	143.0	02:23	661.9	0:11:02
4:45 PM	11.97	16:12	13:15	177.0	02:57	800.0	0:13:20
4:50 PM	11.97	15:27	13:20	127.0	02:07	760.0	0:12:40
4:55 PM	11.97	16:49	13:23	206.5	03:27	833.8	0:13:54
5:00 PM	11.97	16:32	13:26	185.8	03:06	980.6	0:16:21
5:05 PM	11.97	16:50	13:29	201.5	03:21	968.1	0:16:08
5:10 PM	11.97	17:17	13:31	226.0	03:46	1,068.8	0:17:49
5:15 PM	11.97	17:31	13:33	237.8	03:58	1,159.4	0:19:19
5:20 PM	11.97	17:40	13:35	245.0	04:05	1,206.9	0:20:07
5:25 PM	11.97	17:28	13:36	231.8	03:52	1,191.9	0:19:52
5:30 PM	11.97	16:12	13:37	154.5	02:35	965.6	0:16:06
5:35 PM	11.97	15:25	13:37	108.3	01:48	656.9	0:10:57
5:40 PM	11.97	15:33	13:37	116.0	01:56	560.6	0:09:21
5:45 PM	11.97	14:48	13:36	72.0	01:12	470.0	0:07:50
5:50 PM	11.97	14:50	13:35	75.5	01:16	368.8	0:06:09
5:55 PM	11.97	16:40	13:34	186.0	03:06	653.8	0:10:54
6:00 PM	11.97	15:31	13:33	118.0	01:58	760.0	0:12:40
6:05 PM	11.97	16:02	13:31	150.7	02:31	671.7	0:11:12
6:10 PM	11.97	15:18	13:28	110.0	01:50	651.7	0:10:52
6:15 PM	11.97	14:44	13:26	78.0	01:18	470.0	0:07:50
6:20 PM	11.97	14:26	13:24	61.7	01:02	349.2	0:05:49
6:25 PM	11.97	13:44	13:21	23.3	00:23	212.5	0:03:33

	sec	dd:hh:mm:ss
MAX DIFF	245.0	04:05
MIN DIFF	12.8	00:13
AVG DIFF	117.2	01:57
STD DEV	66.0	01:06
TOT AREA	20,941.3	00:05:49:01

US-59 SW FREEWAY PM SB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB ONE LANE SCHOOL IN 16-30 MINUTE INCIDENTS



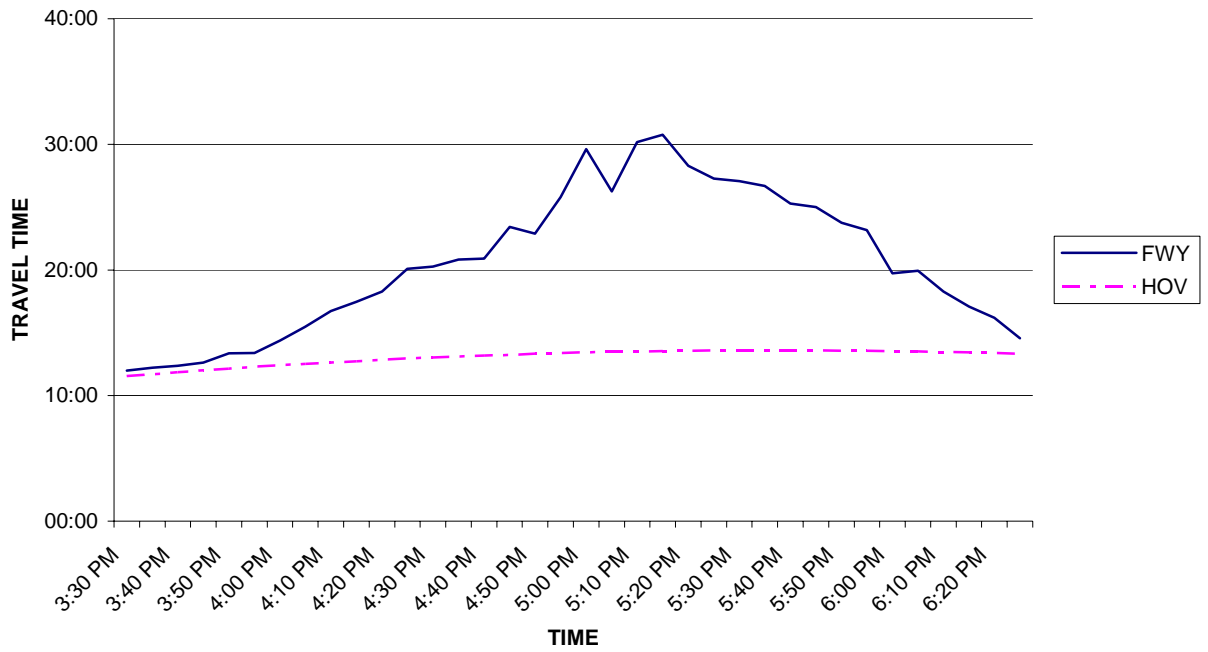
Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway T: FWY-HOV
 Direction SB
 Date

Time 03:30 PM to 06:25 PM

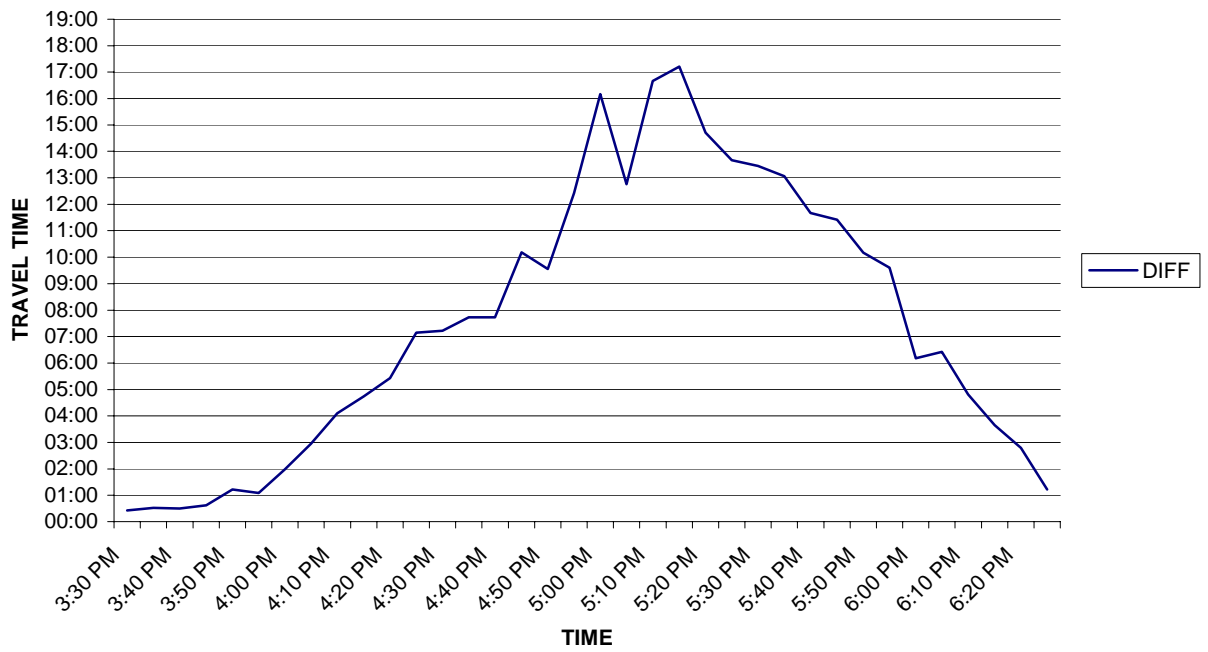
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
3:30 PM	11.97	11:59	11:34	25.3	00:25	0.0	0:00:00
3:35 PM	11.97	12:14	11:42	31.5	00:32	142.1	0:02:22
3:40 PM	11.97	12:22	11:52	30.0	00:30	153.8	0:02:34
3:45 PM	11.97	12:38	12:01	36.8	00:37	166.9	0:02:47
3:50 PM	11.97	13:22	12:09	73.5	01:13	275.6	0:04:36
3:55 PM	11.97	13:23	12:18	65.3	01:05	346.9	0:05:47
4:00 PM	11.97	14:24	12:25	118.8	01:59	460.0	0:07:40
4:05 PM	11.97	15:29	12:32	176.8	02:57	738.8	0:12:19
4:10 PM	11.97	16:44	12:38	245.8	04:06	1,056.3	0:17:36
4:15 PM	11.97	17:29	12:44	284.5	04:45	1,325.6	0:22:06
4:20 PM	11.97	18:17	12:51	325.8	05:26	1,525.6	0:25:26
4:25 PM	11.97	20:06	12:57	428.8	07:09	1,886.3	0:31:26
4:30 PM	11.97	20:16	13:03	433.5	07:14	2,155.6	0:35:56
4:35 PM	11.97	20:50	13:07	463.5	07:43	2,242.5	0:37:22
4:40 PM	11.97	20:55	13:11	463.5	07:44	2,317.5	0:38:37
4:45 PM	11.97	23:26	13:15	611.0	10:11	2,686.3	0:44:46
4:50 PM	11.97	22:54	13:20	573.7	09:34	2,961.7	0:49:22
4:55 PM	11.97	25:48	13:23	745.0	12:25	3,296.7	0:54:57
5:00 PM	11.97	29:37	13:26	970.5	16:10	4,288.8	1:11:29
5:05 PM	11.97	26:15	13:29	765.7	12:46	4,340.4	1:12:20
5:10 PM	11.97	30:11	13:31	1,000.0	16:40	4,414.2	1:13:34
5:15 PM	11.97	30:46	13:33	1,032.7	17:13	5,081.7	1:24:42
5:20 PM	11.97	28:18	13:35	882.8	14:43	4,788.5	1:19:49
5:25 PM	11.97	27:16	13:36	819.8	13:40	4,256.3	1:10:56
5:30 PM	11.97	27:04	13:37	807.0	13:27	4,066.9	1:07:47
5:35 PM	11.97	26:41	13:37	784.0	13:04	3,977.5	1:06:18
5:40 PM	11.97	25:17	13:37	700.3	11:40	3,710.6	1:01:51
5:45 PM	11.97	25:01	13:36	685.0	11:25	3,463.1	0:57:43
5:50 PM	11.97	23:45	13:35	610.3	10:10	3,238.1	0:53:58
5:55 PM	11.97	23:10	13:34	576.0	09:36	2,965.6	0:49:26
6:00 PM	11.97	19:44	13:33	371.0	06:11	2,367.5	0:39:28
6:05 PM	11.97	19:56	13:31	385.0	06:25	1,890.0	0:31:30
6:10 PM	11.97	18:17	13:28	289.0	04:49	1,685.0	0:28:05
6:15 PM	11.97	17:05	13:26	219.5	03:39	1,271.3	0:21:11
6:20 PM	11.97	16:12	13:24	168.0	02:48	968.8	0:16:09
6:25 PM	11.97	14:34	13:21	73.0	01:13	602.5	0:10:02

	sec	dd:hh:mm:ss
MAX DIFF	1,032.7	17:13
MIN DIFF	25.3	00:25
AVG DIFF	452.0	07:32
STD DEV	313.4	05:13
TOT AREA	81,114.6	00:22:31:55

US-59 SW FREEWAY PM SB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB ONE LANE SCHOOL IN 31-45 MINUTE INCIDENTS

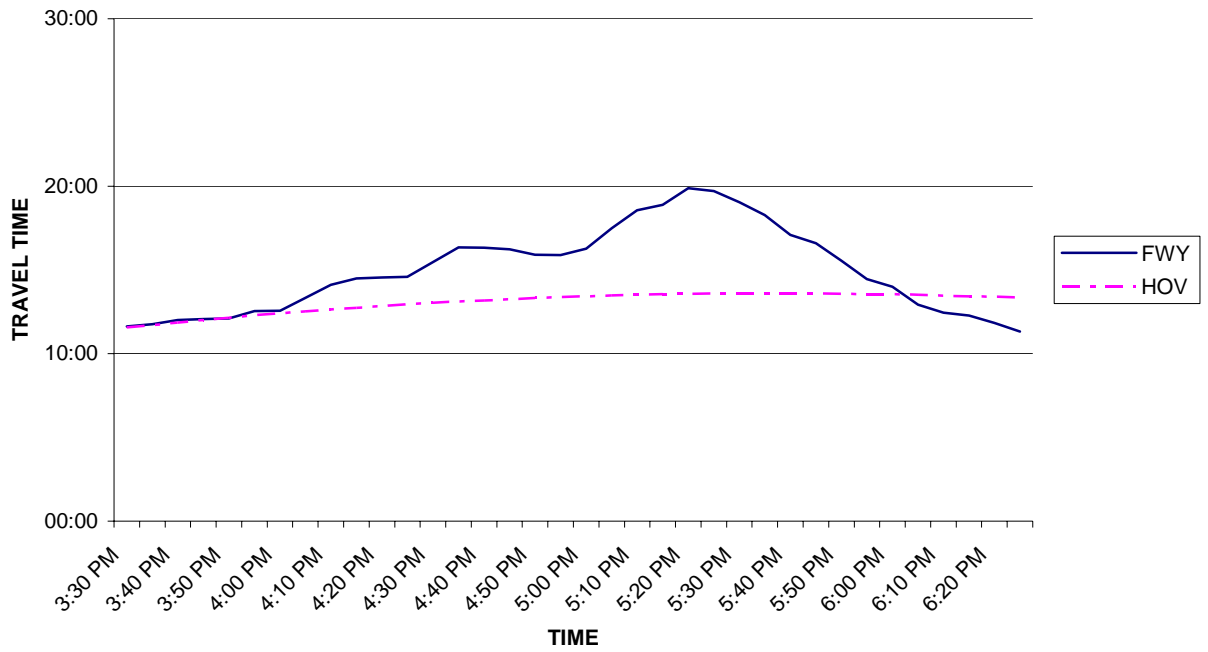


Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway Type FWY-HOV
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

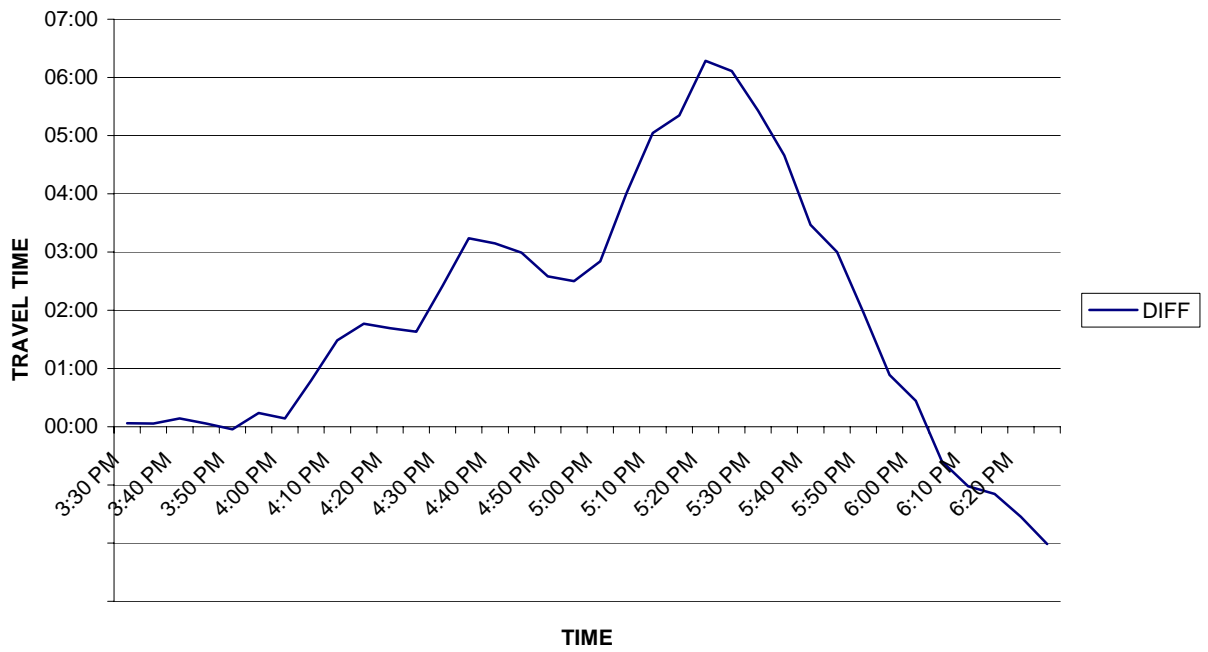
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	11.97	11:38	11:34	3.7	00:04	0.0 0:00:00
3:35 PM	11.97	11:45	11:42	3.3	00:03	17.5 0:00:18
3:40 PM	11.97	12:01	11:52	8.7	00:09	30.0 0:00:30
3:45 PM	11.97	12:04	12:01	3.3	00:03	30.0 0:00:30
3:50 PM	11.97	12:06	12:09	-2.7	#####	1.7 0:00:02
3:55 PM	11.97	12:32	12:18	14.3	00:14	29.2 0:00:29
4:00 PM	11.97	12:34	12:25	8.7	00:09	57.5 0:00:57
4:05 PM	11.97	13:19	12:32	47.3	00:47	140.0 0:02:20
4:10 PM	11.97	14:07	12:38	89.0	01:29	340.8 0:05:41
4:15 PM	11.97	14:30	12:44	106.0	01:46	487.5 0:08:08
4:20 PM	11.97	14:33	12:51	101.7	01:42	519.2 0:08:39
4:25 PM	11.97	14:35	12:57	98.0	01:38	499.2 0:08:19
4:30 PM	11.97	15:28	13:03	145.0	02:25	607.5 0:10:08
4:35 PM	11.97	16:21	13:07	194.3	03:14	848.3 0:14:08
4:40 PM	11.97	16:20	13:11	189.0	03:09	958.3 0:15:58
4:45 PM	11.97	16:14	13:15	179.3	02:59	920.8 0:15:21
4:50 PM	11.97	15:55	13:20	155.0	02:35	835.8 0:13:56
4:55 PM	11.97	15:53	13:23	150.0	02:30	762.5 0:12:42
5:00 PM	11.97	16:16	13:26	170.3	02:50	800.8 0:13:21
5:05 PM	11.97	17:30	13:29	240.7	04:01	1,027.5 0:17:08
5:10 PM	11.97	18:34	13:31	302.7	05:03	1,358.3 0:22:38
5:15 PM	11.97	18:54	13:33	320.7	05:21	1,558.3 0:25:58
5:20 PM	11.97	19:52	13:35	377.3	06:17	1,745.0 0:29:05
5:25 PM	11.97	19:43	13:36	366.7	06:07	1,860.0 0:31:00
5:30 PM	11.97	19:03	13:37	325.7	05:26	1,730.8 0:28:51
5:35 PM	11.97	18:17	13:37	279.7	04:40	1,513.3 0:25:13
5:40 PM	11.97	17:05	13:37	208.0	03:28	1,219.2 0:20:19
5:45 PM	11.97	16:36	13:36	180.0	03:00	970.0 0:16:10
5:50 PM	11.97	15:33	13:35	118.0	01:58	745.0 0:12:25
5:55 PM	11.97	14:27	13:34	53.3	00:53	428.3 0:07:08
6:00 PM	11.97	14:00	13:33	26.7	00:27	200.0 0:03:20
6:05 PM	11.97	12:55	13:31	-35.7	#####	-22.5 #####
6:10 PM	11.97	12:27	13:28	-61.3	#####	-242.5 #####
6:15 PM	11.97	12:17	13:26	-69.3	#####	-326.7 #####
6:20 PM	11.97	11:51	13:24	-93.0	#####	-405.8 #####
6:25 PM	11.97	11:20	13:21	-121.0	#####	-535.0 #####

	sec	dd:hh:mm:ss
MAX DIFF	377.3	06:17
MIN DIFF	-121.0	#####
AVG DIFF	113.4	01:53
STD DEV	133.2	02:13
TOT AREA	20,710.0	00:05:45:10

US-59 SW FREEWAY PM SB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB ONE LANE SCHOOL OUT 0-15 MINUTE INCIDENTS

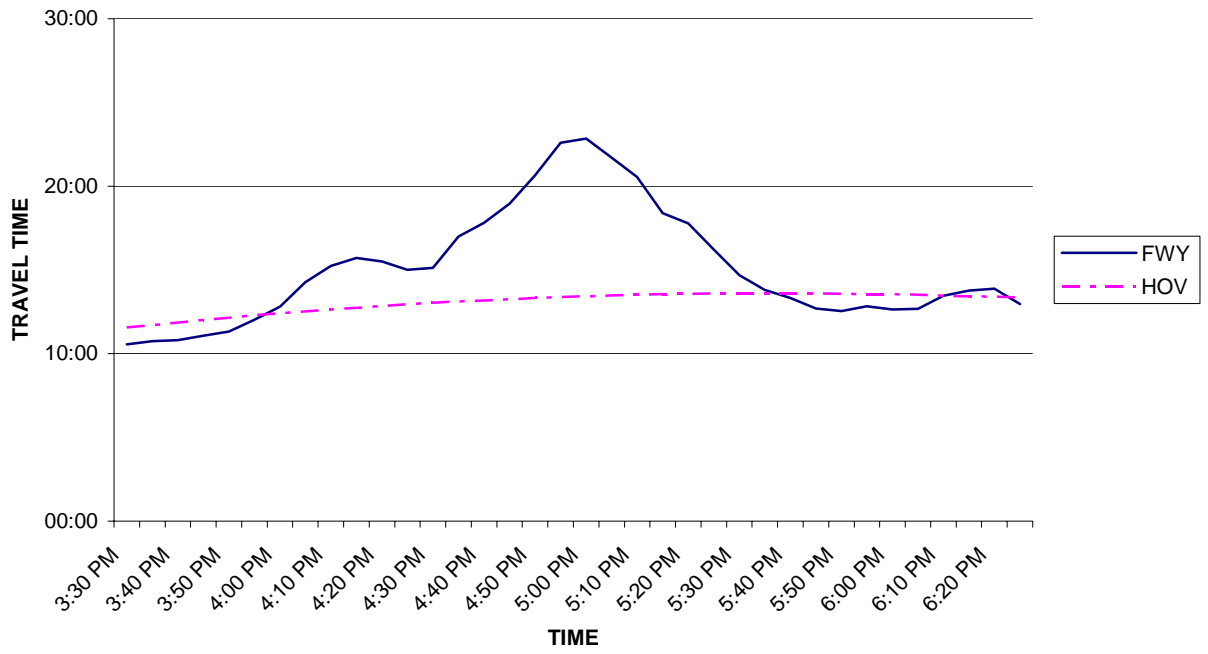


Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway T₁ FWY-HOV
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

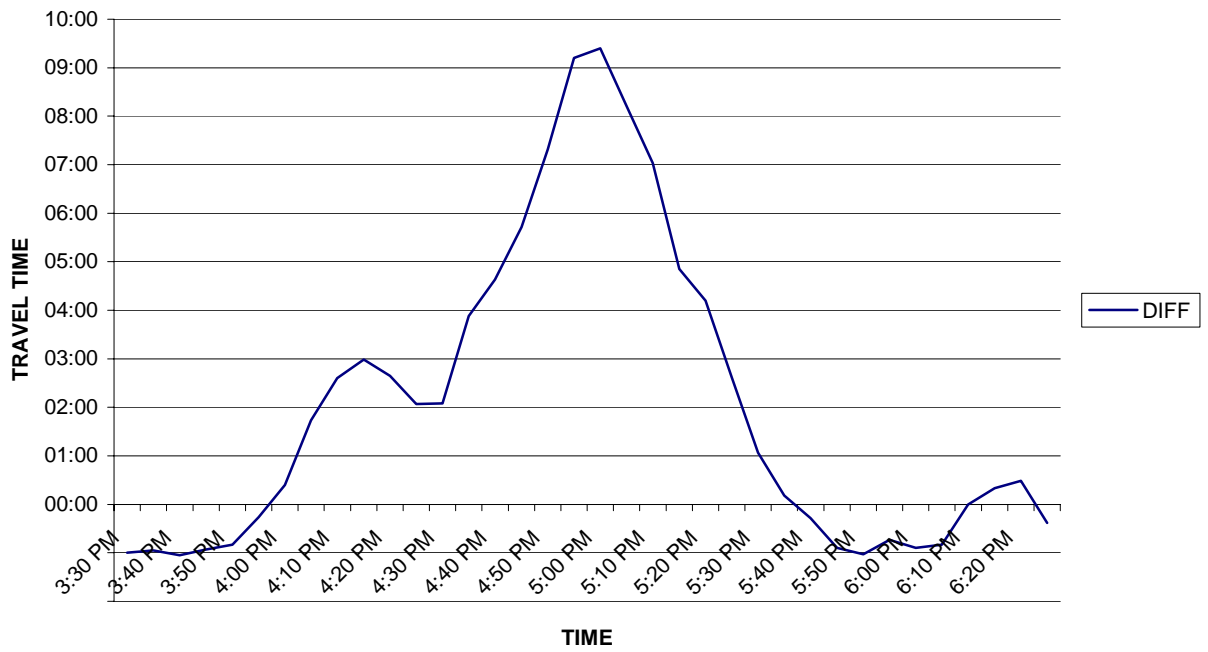
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
3:30 PM	11.97	10:34	11:34	-60.0	#####	0.0 0:00:00
3:35 PM	11.97	10:45	11:42	-57.0	#####	-292.5 #####
3:40 PM	11.97	10:49	11:52	-63.0	#####	-300.0 #####
3:45 PM	11.97	11:05	12:01	-56.0	#####	-297.5 #####
3:50 PM	11.97	11:19	12:09	-50.0	#####	-265.0 #####
3:55 PM	11.97	12:02	12:18	-16.0	#####	-165.0 #####
4:00 PM	11.97	12:49	12:25	24.0	00:24	20.0 0:00:20
4:05 PM	11.97	14:16	12:32	104.0	01:44	320.0 0:05:20
4:10 PM	11.97	15:14	12:38	156.0	02:36	650.0 0:10:50
4:15 PM	11.97	15:43	12:44	179.0	02:59	837.5 0:13:57
4:20 PM	11.97	15:30	12:51	159.0	02:39	845.0 0:14:05
4:25 PM	11.97	15:01	12:57	124.0	02:04	707.5 0:11:48
4:30 PM	11.97	15:08	13:03	125.0	02:05	622.5 0:10:23
4:35 PM	11.97	17:00	13:07	233.0	03:53	895.0 0:14:55
4:40 PM	11.97	17:49	13:11	278.0	04:38	1,277.5 0:21:17
4:45 PM	11.97	18:58	13:15	343.0	05:43	1,552.5 0:25:52
4:50 PM	11.97	20:39	13:20	439.0	07:19	1,955.0 0:32:35
4:55 PM	11.97	22:35	13:23	552.0	09:12	2,477.5 0:41:17
5:00 PM	11.97	22:50	13:26	564.0	09:24	2,790.0 0:46:30
5:05 PM	11.97	21:42	13:29	493.0	08:13	2,642.5 0:44:02
5:10 PM	11.97	20:33	13:31	422.0	07:02	2,287.5 0:38:07
5:15 PM	11.97	18:24	13:33	291.0	04:51	1,782.5 0:29:42
5:20 PM	11.97	17:47	13:35	252.0	04:12	1,357.5 0:22:37
5:25 PM	11.97	16:13	13:36	157.0	02:37	1,022.5 0:17:02
5:30 PM	11.97	14:41	13:37	64.0	01:04	552.5 0:09:12
5:35 PM	11.97	13:48	13:37	11.0	00:11	187.5 0:03:08
5:40 PM	11.97	13:20	13:37	-17.0	#####	-15.0 #####
5:45 PM	11.97	12:42	13:36	-54.0	#####	-177.5 #####
5:50 PM	11.97	12:33	13:35	-62.0	#####	-290.0 #####
5:55 PM	11.97	12:50	13:34	-44.0	#####	-265.0 #####
6:00 PM	11.97	12:39	13:33	-54.0	#####	-245.0 #####
6:05 PM	11.97	12:41	13:31	-50.0	#####	-260.0 #####
6:10 PM	11.97	13:28	13:28	0.0	00:00	-125.0 #####
6:15 PM	11.97	13:46	13:26	20.0	00:20	50.0 0:00:50
6:20 PM	11.97	13:53	13:24	29.0	00:29	122.5 0:02:03
6:25 PM	11.97	12:58	13:21	-23.0	#####	15.0 0:00:15

	sec	dd:hh:mm:ss
MAX DIFF	564.0	09:24
MIN DIFF	-63.0	#####
AVG DIFF	122.6	02:03
STD DEV	191.2	03:11
TOT AREA	22,272.5	00:06:11:12

US-59 SW FREEWAY PM SB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB ONE LANE SCHOOL OUT 16-30 MINUTE INCIDENTS

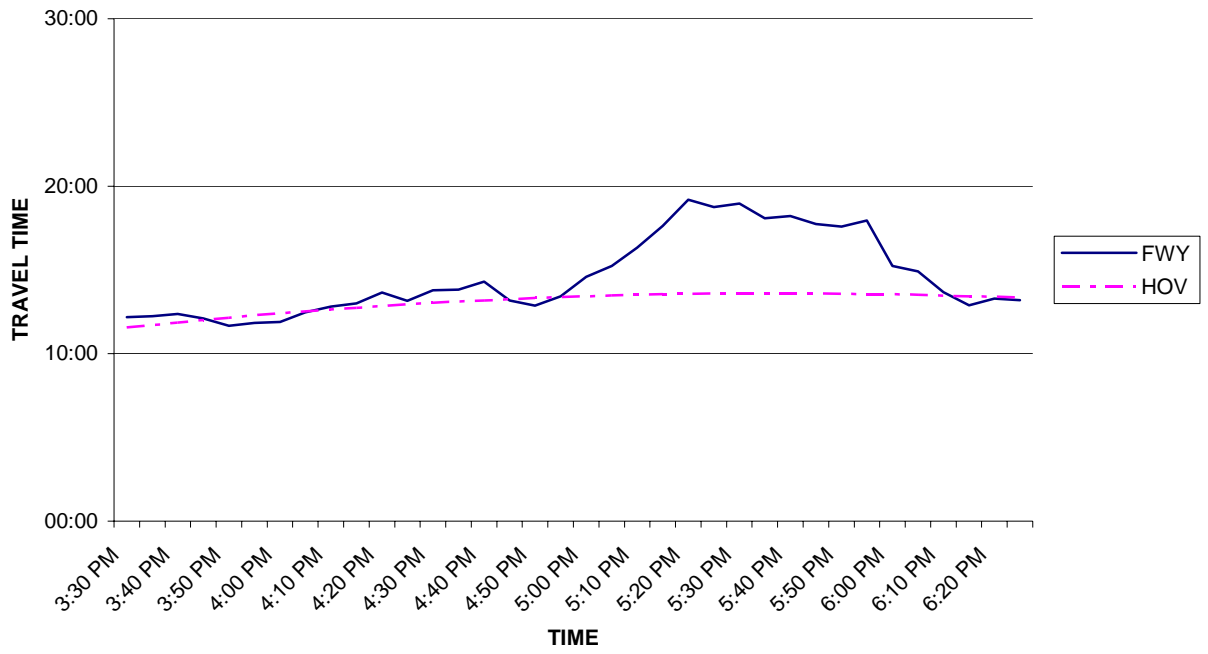


Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway T: FWY-HOV
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

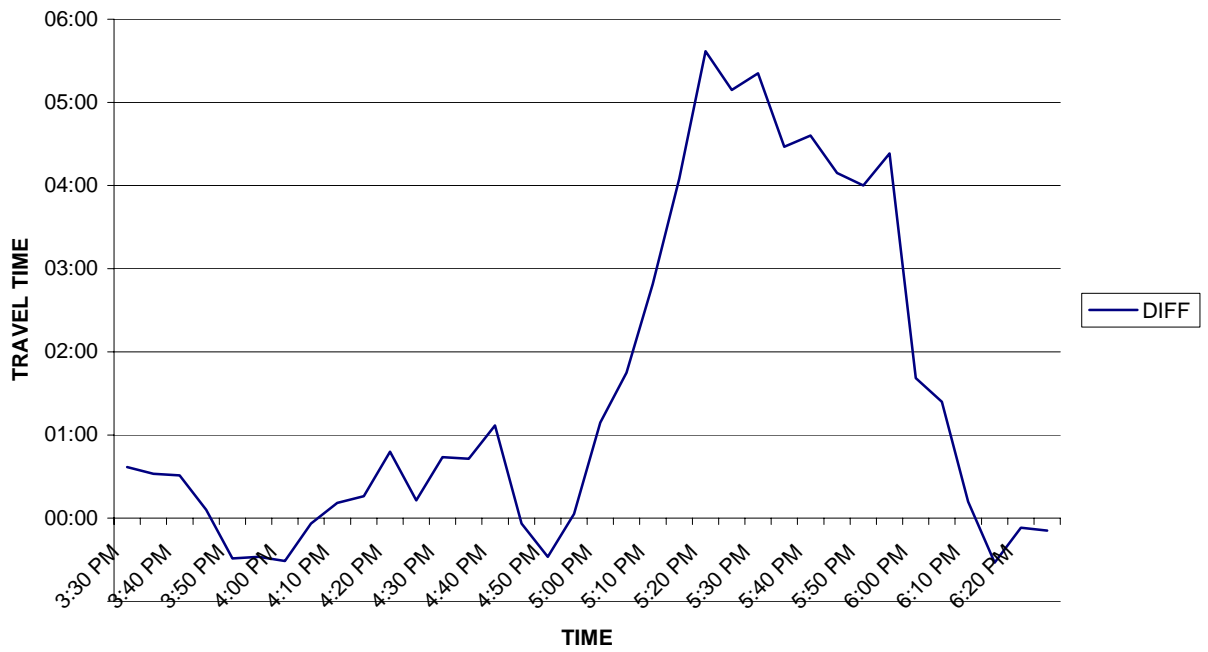
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
3:30 PM	11.97	12:11	11:34	37.0	00:37	0.0	0:00:00
3:35 PM	11.97	12:14	11:42	32.0	00:32	172.5	0:02:53
3:40 PM	11.97	12:23	11:52	31.0	00:31	157.5	0:02:37
3:45 PM	11.97	12:07	12:01	6.0	00:06	92.5	0:01:32
3:50 PM	11.97	11:40	12:09	-29.0	#####	-57.5	#####
3:55 PM	11.97	11:50	12:18	-28.0	#####	-142.5	#####
4:00 PM	11.97	11:54	12:25	-31.0	#####	-147.5	#####
4:05 PM	11.97	12:28	12:32	-4.0	#####	-87.5	#####
4:10 PM	11.97	12:49	12:38	11.0	00:11	17.5	0:00:17
4:15 PM	11.97	13:00	12:44	16.0	00:16	67.5	0:01:08
4:20 PM	11.97	13:39	12:51	48.0	00:48	160.0	0:02:40
4:25 PM	11.97	13:10	12:57	13.0	00:13	152.5	0:02:33
4:30 PM	11.97	13:47	13:03	44.0	00:44	142.5	0:02:23
4:35 PM	11.97	13:50	13:07	43.0	00:43	217.5	0:03:37
4:40 PM	11.97	14:18	13:11	67.0	01:07	275.0	0:04:35
4:45 PM	11.97	13:11	13:15	-4.0	#####	157.5	0:02:37
4:50 PM	11.97	12:52	13:20	-28.0	#####	-80.0	#####
4:55 PM	11.97	13:26	13:23	3.0	00:03	-62.5	#####
5:00 PM	11.97	14:35	13:26	69.0	01:09	180.0	0:03:00
5:05 PM	11.97	15:14	13:29	105.0	01:45	435.0	0:07:15
5:10 PM	11.97	16:20	13:31	169.0	02:49	685.0	0:11:25
5:15 PM	11.97	17:38	13:33	245.0	04:05	1,035.0	0:17:15
5:20 PM	11.97	19:12	13:35	337.0	05:37	1,455.0	0:24:15
5:25 PM	11.97	18:45	13:36	309.0	05:09	1,615.0	0:26:55
5:30 PM	11.97	18:58	13:37	321.0	05:21	1,575.0	0:26:15
5:35 PM	11.97	18:05	13:37	268.0	04:28	1,472.5	0:24:32
5:40 PM	11.97	18:13	13:37	276.0	04:36	1,360.0	0:22:40
5:45 PM	11.97	17:45	13:36	249.0	04:09	1,312.5	0:21:52
5:50 PM	11.97	17:35	13:35	240.0	04:00	1,222.5	0:20:22
5:55 PM	11.97	17:57	13:34	263.0	04:23	1,257.5	0:20:57
6:00 PM	11.97	15:14	13:33	101.0	01:41	910.0	0:15:10
6:05 PM	11.97	14:55	13:31	84.0	01:24	462.5	0:07:42
6:10 PM	11.97	13:40	13:28	12.0	00:12	240.0	0:04:00
6:15 PM	11.97	12:54	13:26	-32.0	#####	-50.0	#####
6:20 PM	11.97	13:17	13:24	-7.0	#####	-97.5	#####
6:25 PM	11.97	13:12	13:21	-9.0	#####	-40.0	#####

	sec	dd:hh:mm:ss
MAX DIFF	337.0	05:37
MIN DIFF	-32.0	#####
AVG DIFF	89.6	01:30
STD DEV	119.6	02:00
TOT AREA	16,065.0	00:04:27:45

US-59 SW FREEWAY PM SB ONE LANE SCHOOL OUT 46-60 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB ONE LANE SCHOOL OUT 46-60 MINUTE INCIDENTS

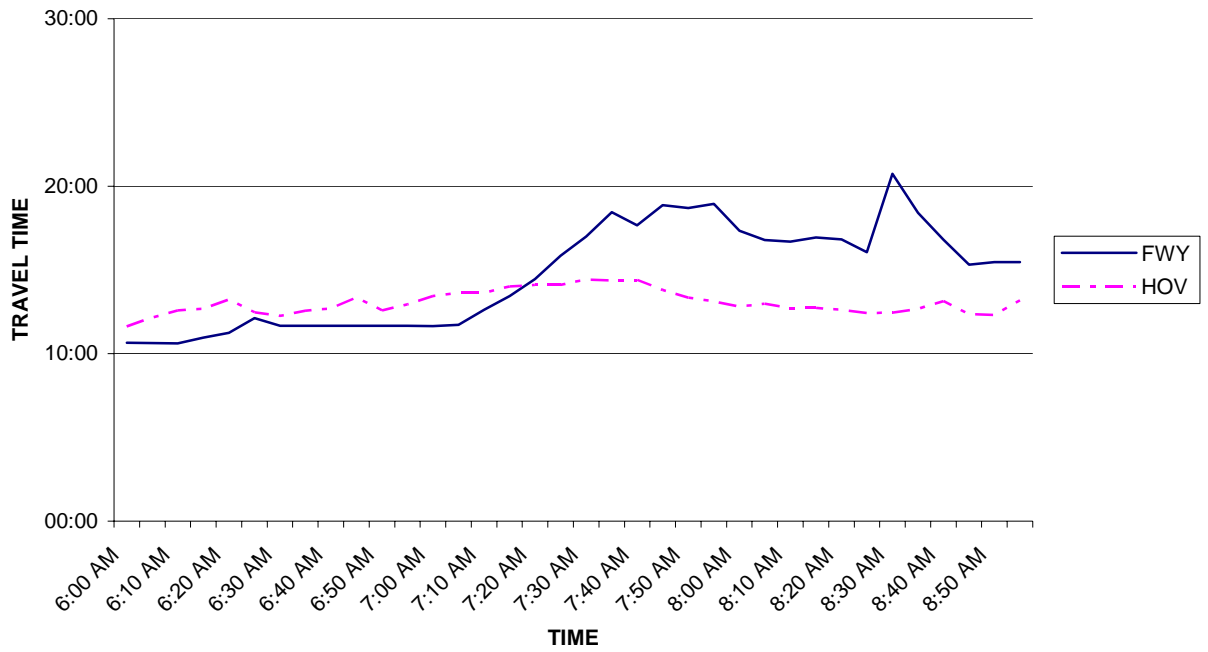


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway T: FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

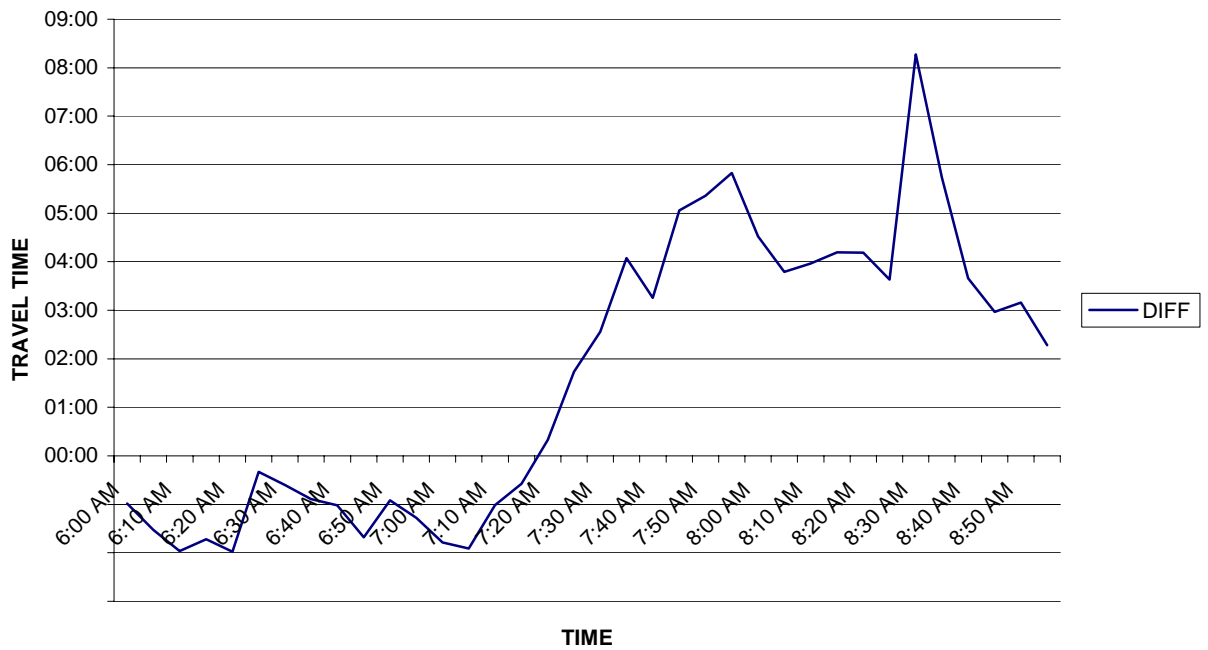
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA DIFF CURVE
6:00 AM	11.98	10:39	11:38	-59.0	#####	0.0	0:00:00
6:05 AM	11.98	10:38	12:10	-91.8	#####	-376.9	#####
6:10 AM	11.98	10:37	12:35	-118.0	#####	-524.4	#####
6:15 AM	11.98	10:58	12:41	-103.2	#####	-553.0	#####
6:20 AM	11.98	11:15	13:14	-118.6	#####	-554.6	#####
6:25 AM	11.98	12:08	12:28	-19.9	#####	-346.3	#####
6:30 AM	11.98	11:40	12:16	-36.2	#####	-140.1	#####
6:35 AM	11.98	11:40	12:34	-53.6	#####	-224.3	#####
6:40 AM	11.98	11:40	12:41	-61.5	#####	-287.7	#####
6:45 AM	11.98	11:40	13:21	-100.7	#####	-405.5	#####
6:50 AM	11.98	11:40	12:35	-54.9	#####	-389.0	#####
6:55 AM	11.98	11:40	12:57	-76.7	#####	-329.0	#####
7:00 AM	11.98	11:39	13:26	-107.3	#####	-460.0	#####
7:05 AM	11.98	11:43	13:38	-114.8	#####	-555.2	#####
7:10 AM	11.98	12:37	13:38	-60.9	#####	-439.2	#####
7:15 AM	11.98	13:27	14:01	-34.4	#####	-238.4	#####
7:20 AM	11.98	14:27	14:07	19.8	00:20	-36.6	#####
7:25 AM	11.98	15:51	14:07	104.1	01:44	309.7	0:05:10
7:30 AM	11.98	17:00	14:26	153.7	02:34	644.5	0:10:44
7:35 AM	11.98	18:27	14:23	244.4	04:04	995.2	0:16:35
7:40 AM	11.98	17:40	14:24	195.6	03:16	1,099.9	0:18:20
7:45 AM	11.98	18:52	13:49	303.5	05:03	1,247.8	0:20:48
7:50 AM	11.98	18:42	13:21	321.5	05:21	1,562.4	0:26:02
7:55 AM	11.98	18:57	13:07	349.7	05:50	1,677.8	0:27:58
8:00 AM	11.98	17:20	12:48	271.5	04:31	1,552.9	0:25:53
8:05 AM	11.98	16:47	13:00	227.4	03:47	1,247.2	0:20:47
8:10 AM	11.98	16:41	12:43	237.7	03:58	1,162.7	0:19:23
8:15 AM	11.98	16:56	12:44	251.6	04:12	1,223.1	0:20:23
8:20 AM	11.98	16:49	12:38	251.1	04:11	1,256.6	0:20:57
8:25 AM	11.98	16:04	12:26	217.9	03:38	1,172.5	0:19:32
8:30 AM	11.98	20:44	12:28	496.5	08:16	1,786.0	0:29:46
8:35 AM	11.98	18:25	12:41	344.3	05:44	2,102.0	0:35:02
8:40 AM	11.98	16:48	13:08	219.6	03:40	1,409.6	0:23:30
8:45 AM	11.98	15:19	12:21	178.0	02:58	993.9	0:16:34
8:50 AM	11.98	15:28	12:19	189.3	03:09	918.3	0:15:18
8:55 AM	11.98	15:28	13:11	137.0	02:17	815.8	0:13:36

	sec	dd:hh:mm:ss
MAX DIFF	496.5	08:16
MIN DIFF	-118.6	#####
AVG DIFF	97.3	01:37
STD DEV	175.1	02:55
TOT AREA	17,317.8	00:04:48:38

US-59 SW FREEWAY AM NB 2+ LANES SCHOOL IN 0-15 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB 2+ LANES SCHOOL IN 0-15 MINUTE INCIDENTS

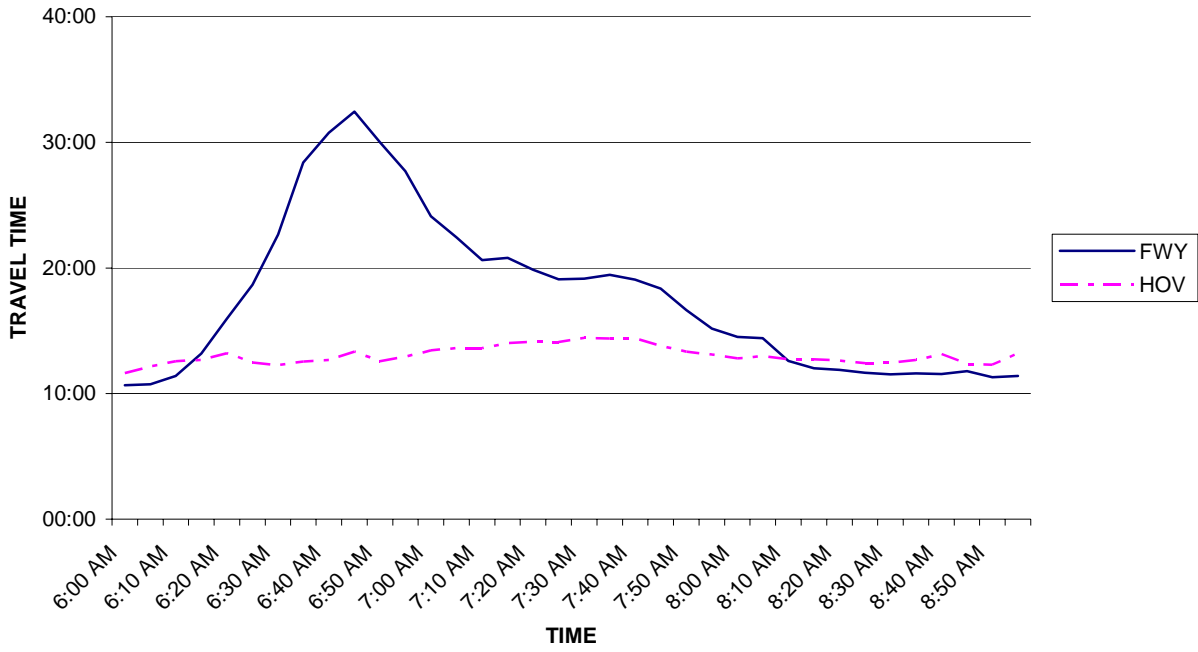


Freeway N US-59 Southwest
 Limit Wilcrest to Fannin
 Freeway Type FWY-HOV
 Direction NB
 Date 01/23/2003
 Time 06:00 AM to 08:55 AM

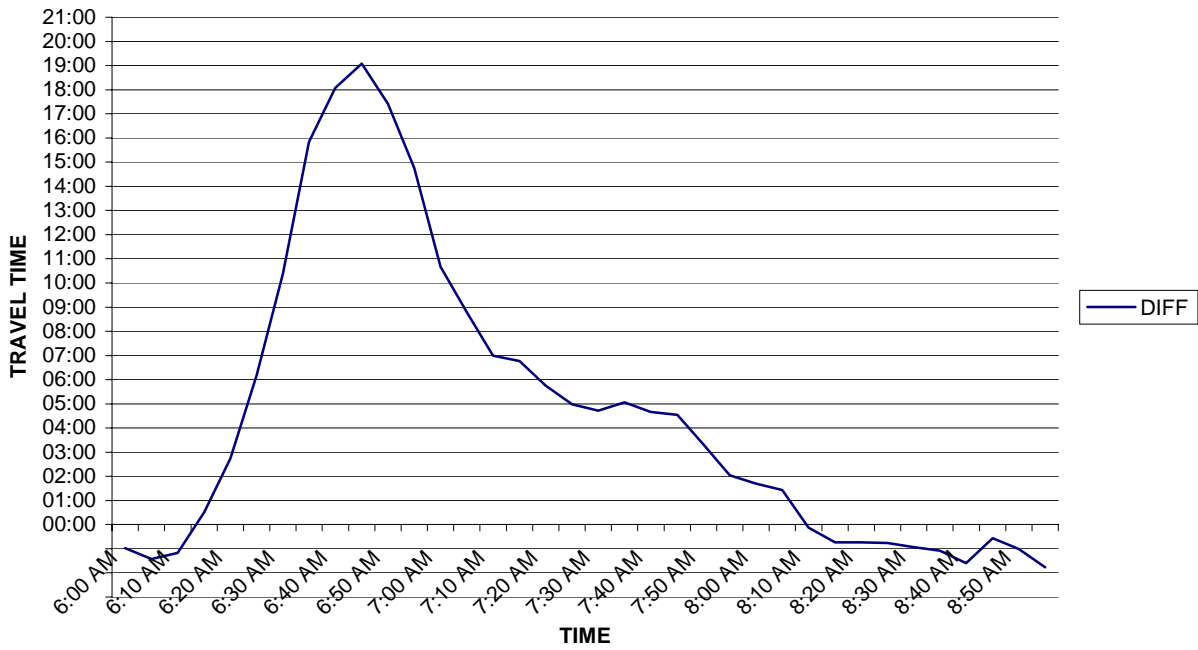
AVERAGE Time	FWY Distance	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION ARE DIFF CURVE	SECTION AREA DIFF CURVE
6:00 AM	11.98	10:39	11:38	-58.5	#####	0.0 0:00:00
6:05 AM	11.98	10:45	12:10	-85.3	#####	-359.4 #####
6:10 AM	11.98	11:24	12:35	-70.5	#####	-389.4 #####
6:15 AM	11.98	13:11	12:41	30.3	00:30	-100.5 #####
6:20 AM	11.98	15:59	13:14	164.9	02:45	487.9 0:08:08
6:25 AM	11.98	18:40	12:28	371.6	06:12	1,341.2 0:22:21
6:30 AM	11.98	22:40	12:16	623.3	10:23	2,487.4 0:41:27
6:35 AM	11.98	28:23	12:34	949.9	15:50	3,933.2 1:05:33
6:40 AM	11.98	30:46	12:41	1,084.5	18:04	5,086.1 1:24:46
6:45 AM	11.98	32:26	13:21	1,145.3	19:05	5,574.5 1:32:54
6:50 AM	11.98	30:00	12:35	1,045.1	17:25	5,476.0 1:31:16
6:55 AM	11.98	27:41	12:57	884.8	14:45	4,824.8 1:20:25
7:00 AM	11.98	24:07	13:26	640.7	10:41	3,813.8 1:03:34
7:05 AM	11.98	22:26	13:38	527.7	08:48	2,921.1 0:48:41
7:10 AM	11.98	20:37	13:38	419.6	07:00	2,368.3 0:39:28
7:15 AM	11.98	20:48	14:01	406.6	06:47	2,065.4 0:34:25
7:20 AM	11.98	19:52	14:07	344.8	05:45	1,878.4 0:31:18
7:25 AM	11.98	19:05	14:07	298.6	04:59	1,608.5 0:26:48
7:30 AM	11.98	19:09	14:26	283.2	04:43	1,454.5 0:24:14
7:35 AM	11.98	19:26	14:23	303.9	05:04	1,467.7 0:24:28
7:40 AM	11.98	19:04	14:24	279.6	04:40	1,458.7 0:24:19
7:45 AM	11.98	18:21	13:49	272.5	04:32	1,380.3 0:23:00
7:50 AM	11.98	16:40	13:21	199.0	03:19	1,178.6 0:19:39
7:55 AM	11.98	15:10	13:07	122.7	02:03	804.1 0:13:24
8:00 AM	11.98	14:31	12:48	102.0	01:42	561.7 0:09:22
8:05 AM	11.98	14:25	13:00	85.9	01:26	469.7 0:07:50
8:10 AM	11.98	12:36	12:43	-7.3	#####	196.4 0:03:16
8:15 AM	11.98	12:00	12:44	-43.9	#####	-128.1 #####
8:20 AM	11.98	11:53	12:38	-44.4	#####	-220.9 #####
8:25 AM	11.98	11:41	12:26	-45.6	#####	-225.0 #####
8:30 AM	11.98	11:32	12:28	-56.0	#####	-254.0 #####
8:35 AM	11.98	11:36	12:41	-64.7	#####	-301.8 #####
8:40 AM	11.98	11:33	13:08	-95.4	#####	-400.4 #####
8:45 AM	11.98	11:47	12:21	-34.0	#####	-323.6 #####
8:50 AM	11.98	11:18	12:19	-60.7	#####	-236.7 #####
8:55 AM	11.98	11:24	13:11	-106.5	#####	-417.9 #####

	sec	dd:hh:mm:ss
MAX DIFF	1,145.3	19:05
MIN DIFF	-106.5	#####
AVG DIFF	272.6	04:33
STD DEV	371.7	06:12
TOT AREA	49,480.3	00:13:44:40

US-59 SW FREEWAY AM NB 2+ LANES SCHOOL OUT 31-45 MINUTE INCIDENTS



US-59 SW FREEWAY AM NB 2+ LANES SCHOOL OUT 31-45 MINUTE INCIDENTS



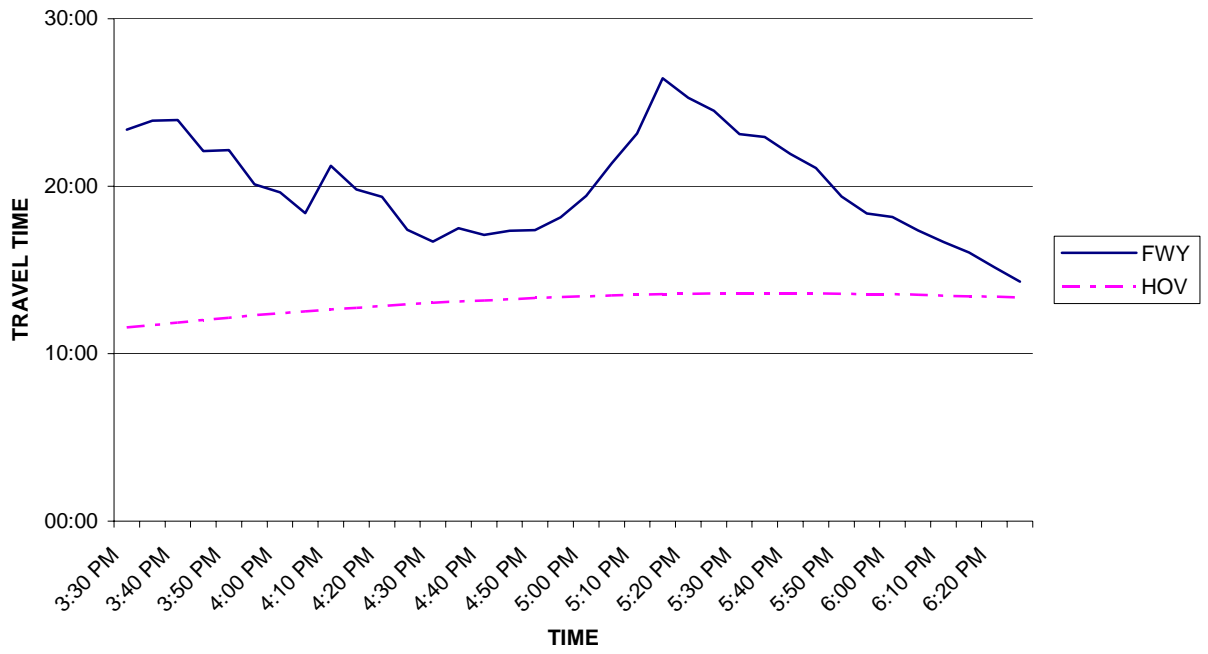
Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway T: FWY-HOV
 Direction SB

Date
 Time 03:30 PM to 06:25 PM

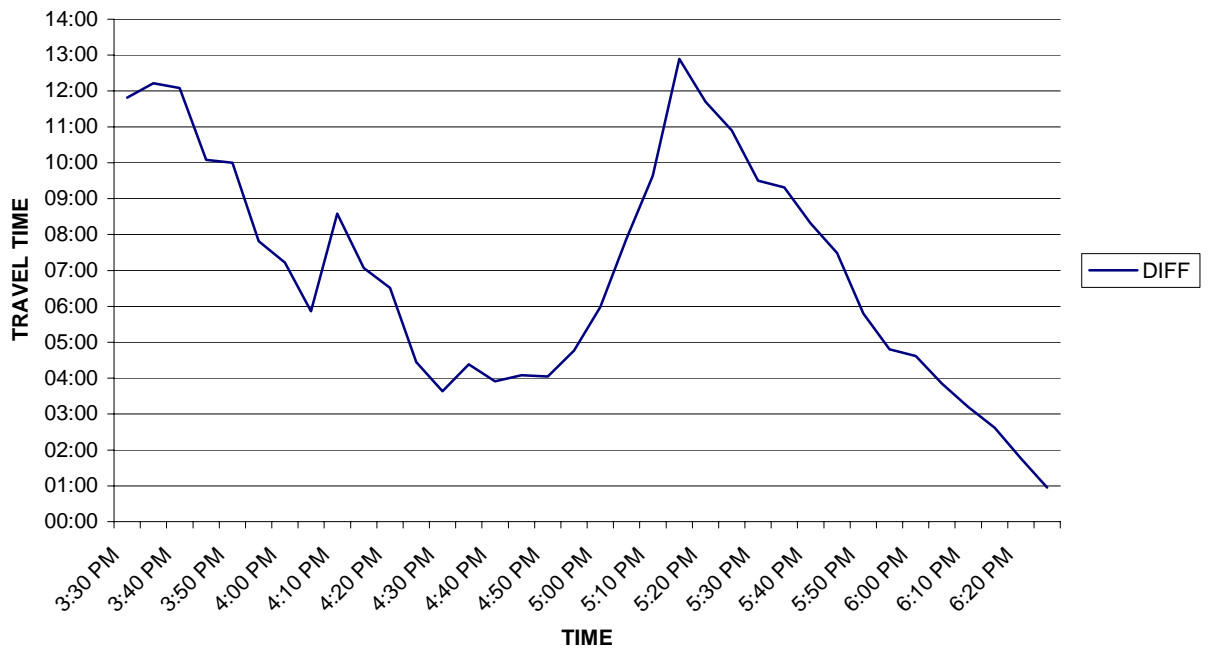
AVERAGE Time	Distance	FWY TravelTime	HOV TravelTime	DIFF(sec) TravelTime	DIFF(mm:ss) TravelTime	SECTION DIFF CURVE	SECTION AREA
3:30 PM	11.97	23:23	11:34	709.0	11:49	0.0	0:00:00
3:35 PM	11.97	23:55	11:42	733.0	12:13	3,605.0	1:00:05
3:40 PM	11.97	23:57	11:52	725.0	12:05	3,645.0	1:00:45
3:45 PM	11.97	22:06	12:01	605.0	10:05	3,325.0	0:55:25
3:50 PM	11.97	22:09	12:09	600.0	10:00	3,012.5	0:50:12
3:55 PM	11.97	20:07	12:18	469.0	07:49	2,672.5	0:44:32
4:00 PM	11.97	19:38	12:25	433.0	07:13	2,255.0	0:37:35
4:05 PM	11.97	18:24	12:32	352.0	05:52	1,962.5	0:32:43
4:10 PM	11.97	21:13	12:38	515.0	08:35	2,167.5	0:36:07
4:15 PM	11.97	19:48	12:44	424.0	07:04	2,347.5	0:39:07
4:20 PM	11.97	19:22	12:51	391.0	06:31	2,037.5	0:33:58
4:25 PM	11.97	17:24	12:57	267.0	04:27	1,645.0	0:27:25
4:30 PM	11.97	16:41	13:03	218.0	03:38	1,212.5	0:20:13
4:35 PM	11.97	17:30	13:07	263.0	04:23	1,202.5	0:20:03
4:40 PM	11.97	17:06	13:11	235.0	03:55	1,245.0	0:20:45
4:45 PM	11.97	17:20	13:15	245.0	04:05	1,200.0	0:20:00
4:50 PM	11.97	17:23	13:20	243.0	04:03	1,220.0	0:20:20
4:55 PM	11.97	18:09	13:23	286.0	04:46	1,322.5	0:22:02
5:00 PM	11.97	19:25	13:26	359.0	05:59	1,612.5	0:26:53
5:05 PM	11.97	21:22	13:29	473.0	07:53	2,080.0	0:34:40
5:10 PM	11.97	23:09	13:31	578.0	09:38	2,627.5	0:43:47
5:15 PM	11.97	26:27	13:33	774.0	12:54	3,380.0	0:56:20
5:20 PM	11.97	25:17	13:35	702.0	11:42	3,690.0	1:01:30
5:25 PM	11.97	24:30	13:36	654.0	10:54	3,390.0	0:56:30
5:30 PM	11.97	23:07	13:37	570.0	09:30	3,060.0	0:51:00
5:35 PM	11.97	22:56	13:37	559.0	09:19	2,822.5	0:47:03
5:40 PM	11.97	21:56	13:37	499.0	08:19	2,645.0	0:44:05
5:45 PM	11.97	21:05	13:36	449.0	07:29	2,370.0	0:39:30
5:50 PM	11.97	19:23	13:35	348.0	05:48	1,992.5	0:33:12
5:55 PM	11.97	18:22	13:34	288.0	04:48	1,590.0	0:26:30
6:00 PM	11.97	18:10	13:33	277.0	04:37	1,412.5	0:23:32
6:05 PM	11.97	17:22	13:31	231.0	03:51	1,270.0	0:21:10
6:10 PM	11.97	16:40	13:28	192.0	03:12	1,057.5	0:17:38
6:15 PM	11.97	16:03	13:26	157.0	02:37	872.5	0:14:33
6:20 PM	11.97	15:10	13:24	106.0	01:46	657.5	0:10:58
6:25 PM	11.97	14:18	13:21	57.0	00:57	407.5	0:06:47

	sec	dd:hh:mm:ss
MAX DIFF	774.0	12:54
MIN DIFF	57.0	00:57
AVG DIFF	416.3	06:56
STD DEV	195.0	03:15
TOT AREA	73,015.0	00:20:16:55

US-59 SW FREEWAY PM SB 2+ LANES SCHOOL OUT 16-30 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB 2+ LANES SCHOOL OUT 16-30 MINUTE INCIDENTS

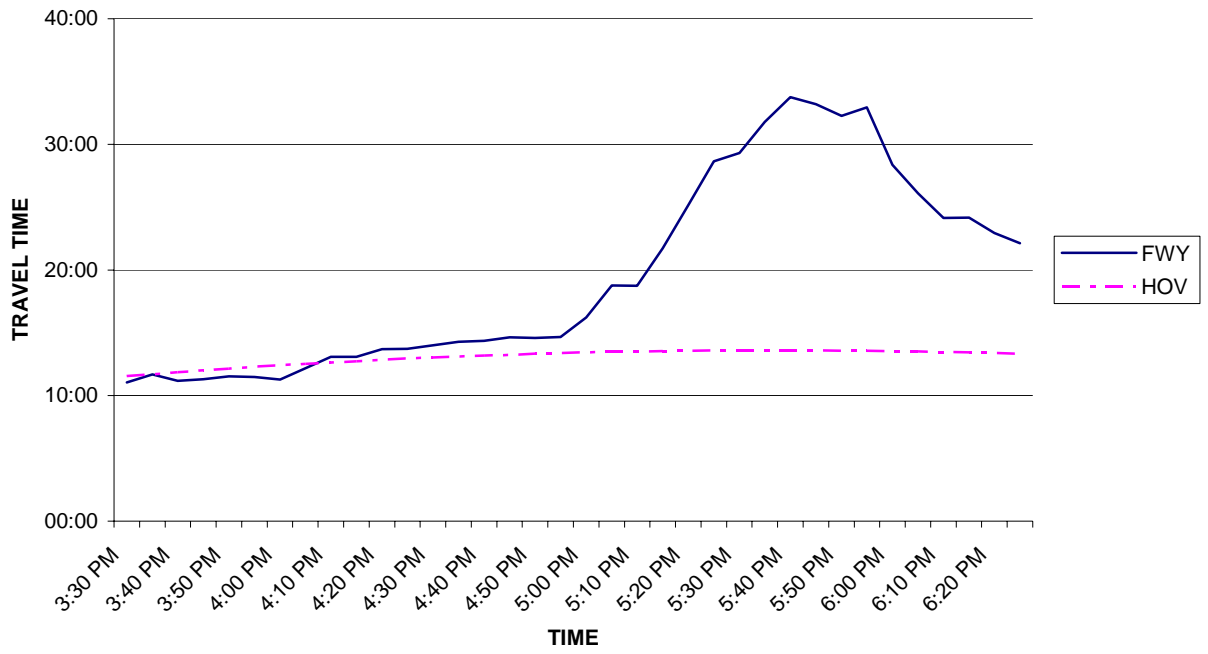


Freeway N US-59 Southwest
 Limit Newcastle to Bissonnet
 Freeway Type FWY-HOV
 Direction SB
 Date
 Time 03:30 PM to 06:25 PM

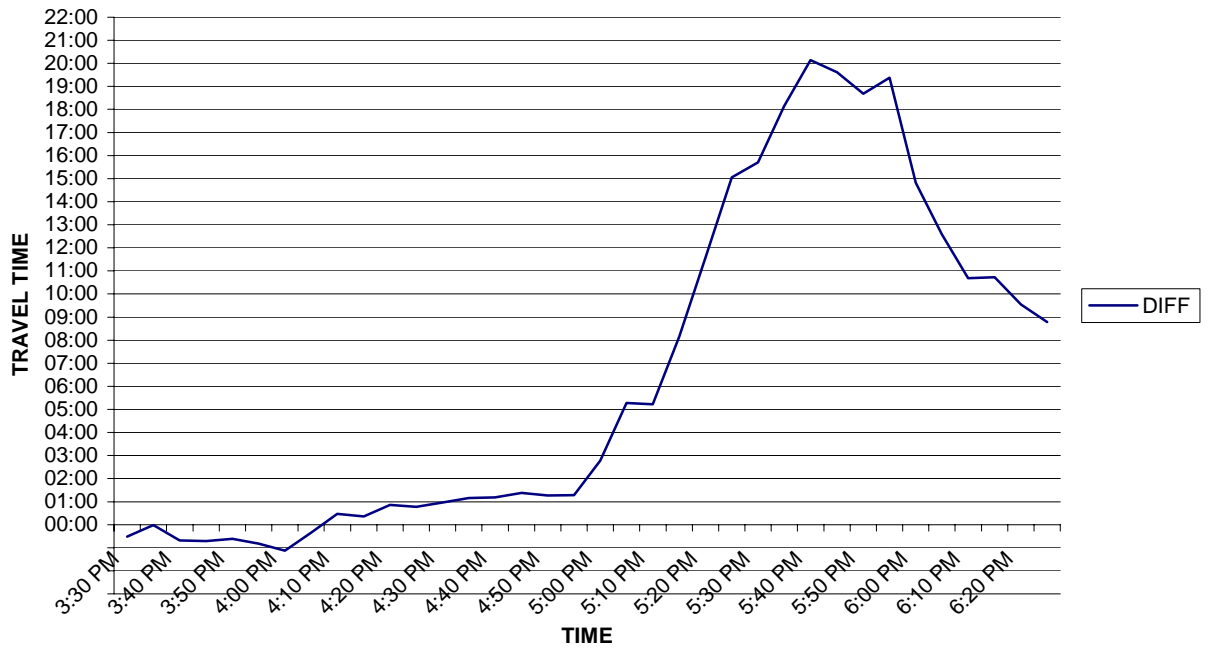
AVERAGE	FWY	HOV	DIFF(sec)	DIFF(mm:ss)	SECTION AREA	SECTION AREA	
Time	Distance	TravelTime	TravelTime	TravelTime	TravelTime	DIFF CURVE	DIFF CURVE
3:30 PM	11.97	11:03	11:34	-31.0	#####	0.0	0:00:00
3:35 PM	11.97	11:41	11:42	-1.0	#####	-80.0	#####
3:40 PM	11.97	11:11	11:52	-41.0	#####	-105.0	#####
3:45 PM	11.97	11:18	12:01	-43.0	#####	-210.0	#####
3:50 PM	11.97	11:32	12:09	-37.0	#####	-200.0	#####
3:55 PM	11.97	11:29	12:18	-49.0	#####	-215.0	#####
4:00 PM	11.97	11:17	12:25	-68.0	#####	-292.5	#####
4:05 PM	11.97	12:11	12:32	-21.0	#####	-222.5	#####
4:10 PM	11.97	13:06	12:38	28.0	00:28	17.5	0:00:18
4:15 PM	11.97	13:05	12:44	21.0	00:21	122.5	0:02:03
4:20 PM	11.97	13:42	12:51	51.0	00:51	180.0	0:03:00
4:25 PM	11.97	13:43	12:57	46.0	00:46	242.5	0:04:03
4:30 PM	11.97	14:01	13:03	58.0	00:58	260.0	0:04:20
4:35 PM	11.97	14:17	13:07	70.0	01:10	320.0	0:05:20
4:40 PM	11.97	14:22	13:11	71.0	01:11	352.5	0:05:53
4:45 PM	11.97	14:38	13:15	83.0	01:23	385.0	0:06:25
4:50 PM	11.97	14:36	13:20	76.0	01:16	397.5	0:06:37
4:55 PM	11.97	14:40	13:23	77.0	01:17	382.5	0:06:22
5:00 PM	11.97	16:13	13:26	167.0	02:47	610.0	0:10:10
5:05 PM	11.97	18:46	13:29	317.0	05:17	1,210.0	0:20:10
5:10 PM	11.97	18:44	13:31	313.0	05:13	1,575.0	0:26:15
5:15 PM	11.97	21:43	13:33	490.0	08:10	2,007.5	0:33:27
5:20 PM	11.97	25:10	13:35	695.0	11:35	2,962.5	0:49:22
5:25 PM	11.97	28:39	13:36	903.0	15:03	3,995.0	1:06:35
5:30 PM	11.97	29:19	13:37	942.0	15:42	4,612.5	1:16:52
5:35 PM	11.97	31:47	13:37	1,090.0	18:10	5,080.0	1:24:40
5:40 PM	11.97	33:46	13:37	1,209.0	20:09	5,747.5	1:35:47
5:45 PM	11.97	33:13	13:36	1,177.0	19:37	5,965.0	1:39:25
5:50 PM	11.97	32:16	13:35	1,121.0	18:41	5,745.0	1:35:45
5:55 PM	11.97	32:57	13:34	1,163.0	19:23	5,710.0	1:35:10
6:00 PM	11.97	28:22	13:33	889.0	14:49	5,130.0	1:25:30
6:05 PM	11.97	26:06	13:31	755.0	12:35	4,110.0	1:08:30
6:10 PM	11.97	24:09	13:28	641.0	10:41	3,490.0	0:58:10
6:15 PM	11.97	24:10	13:26	644.0	10:44	3,212.5	0:53:33
6:20 PM	11.97	22:57	13:24	573.0	09:33	3,042.5	0:50:43
6:25 PM	11.97	22:08	13:21	527.0	08:47	2,750.0	0:45:50

	sec	dd:hh:mm:ss
MAX DIFF	1,209.0	20:09
MIN DIFF	-68.0	#####
AVG DIFF	386.3	06:26
STD DEV	439.7	07:20
TOT AREA	68,290.0	00:18:58:10

US-59 SW FREEWAY PM SB 2+ LANES SCHOOL OUT 31-45 MINUTE INCIDENTS



US-59 SW FREEWAY PM SB 2+ LANES SCHOOL OUT 31-45 MINUTE INCIDENTS



APPENDIX C
HOV TRAVEL TIME SAVINGS
SUMMARY TABLES

Katy Freeway
AM-SCHOOL IN

LANES BLOCKED															
Incident	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
Duration	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss
min															
0-15	3	13:55	23:51	01:45	06:06	3	17:46	36:35	01:55	10:46	0				
16-30	1	15:54	25:28	01:50	07:23	3	16:53	31:44	01:48	08:27	0				
31-45	0					4	19:16	30:22	01:33	08:16	0				
46-60	0					0					1	16:31	28:08	02:26	07:21
61+	0					1	14:29	25:19	02:01	06:27	1	35:21	1:04:05	00:57	19:11
Avg		14:25	24:15	01:46	06:26		17:47	31:58	01:46	08:50		25:56	46:06	01:42	13:16
% Diff		33%	50%	-9%	65%		64%	98%	-9%	127%		139%	186%	-12%	241%
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV											
24	10:51	16:08	01:56	03:53											

AM-SCHOOL OUT

LANES BLOCKED															
Incident	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
Duration	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss
min															
0-15	0					3	13:14	19:04	03:13	04:03	0				
16-30	0					1	13:56	24:49	00:13	07:19	0				
31-45	0					1	02:51	14:52	-01:07	03:36	0				
46-60	0					0					0				
61+	0					0					0				
Avg							11:18	19:22	01:45	04:37					
% Diff							76%	112%	30%	99%					
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV											
11	06:26	09:07	01:21	02:19											

PM-SCHOOL IN

Incident	LANES BLOCKED														
	SHOULDER				1 MAINLANE				2+ MAINLANES						
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
Duration		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
min															
0-15	2	27:54	44:24	15:15	09:02	13	17:41	27:44	10:04	05:48	2	20:15	33:44	08:29	08:55
16-30	3	12:28	22:04	06:40	04:20	4	23:44	35:18	11:30	07:57	0				
31-45	3	19:57	32:00	10:26	07:26	4	21:05	26:49	09:56	05:07	0				
46-60	0					5	24:28	36:23	11:03	07:39	1	17:46	24:44	04:13	06:32
61+	2	17:30	28:41	09:51	05:40	1	11:20	21:15	04:26	05:00	0				
Avg		18:48	30:50	10:09	06:28		20:06	30:05	10:14	06:20		19:26	30:44	07:04	08:08
% Diff		10%	12%	25%	4%		18%	10%	27%	2%		14%	12%	-13%	31%
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV		INC	AVG	MAX	MIN	DEV		INC	AVG	MAX	DEV
20	17:05	27:26	08:05	06:12											

PM-SCHOOL OUT

Incident	LANES BLOCKED														
	SHOULDER				1 MAINLANE				2+ MAINLANES						
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
Duration		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
min															
0-15	0					1	18:23	32:26	06:42	08:45	1	24:37	40:28	09:50	08:45
16-30	1	10:33	20:38	05:13	04:34	3	11:45	20:59	04:27	05:07	1	28:20	08:40	05:53	21:02
31-45	0					3	23:31	49:26	08:50	14:07	0				
46-60	0					1	25:20	49:01	02:09	15:16	0				
61+	1	10:24	18:35	-01:52	06:15	0					0				
Avg		10:29	19:36	01:40	05:24		18:41	36:36	06:05	10:13		26:28	54:34	07:52	14:54
% Diff		-31%	-31%	-66%	-29%		22%	28%	26%	34%		73%	91%	62%	95%
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV		INC	AVG	MAX	MIN	DEV		INC	AVG	MAX	DEV
5	15:17	28:34	04:51	07:39											

Combined Weighted Averages

Incident		LANES BLOCKED															
		SHOULDER				1 MAINLANE				2+ MAINLANES							
Duration	min	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	
			mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss	
0-15	5	5	19:30	32:04	07:09	07:16	20	13:54	22:43	06:15	05:09	3	21:42	35:59	08:56	08:52	
16-30	5	5	12:46	22:27	05:25	05:00	11	17:42	29:28	05:55	07:15	1	28:20	08:40	05:53	21:02	
31-45	3	3	19:57	32:00	10:26	07:26	12	19:34	32:40	05:56	08:17	0					
46-60	0	0					6	34:32	38:29	09:34	08:55	2	17:09	26:26	03:20	06:57	
61+	3	3	15:08	25:19	05:56	05:52	2	12:55	23:17	03:14	05:44	1	35:21	04:05	00:57	19:11	
Avg			16:40	27:47	07:00	06:20		18:27	28:23	06:22	06:48		23:18	41:56	05:46	11:32	
% Diff			33%	41%	70%	35%		48%	45%	55%	45%		87%	113%	40%	146%	
		NON-INCIDENT															
		INC	AVG	MAX	MIN	DEV		INC	AVG	MAX	MIN	DEV		INC	AVG	MAX	DEV
	60		12:29	19:39	04:07	04:41											

North Freeway
AM-SCHOOL IN

Incident Duration	LANES BLOCKED														
	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	2	08:13	17:01	00:02	04:22	16	02:55	06:01	-01:03	02:09	1	09:42	12:58	01:04	02:30
16-30	5	07:49	11:44	01:16	02:49	12	10:19	14:28	00:36	03:41	1	10:22	34:43	-00:35	10:37
31-45	0					5	08:59	13:17	03:51	02:13	1	10:11	28:57	00:10	08:41
46-60	1	03:53	13:52	-00:42	02:46	0					1	09:54	24:57	-00:08	06:44
61+	0					0					1	21:36	43:34	02:22	11:46
Avg		07:25	13:19	00:42	03:12		06:31	10:12	00:17	02:43		12:21	29:02	00:35	08:04
% Diff		66%	67%	963%	64%		46%	28%	332%	39%		177%	264%	768%	314%
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV											
33	04:28	07:58	00:04	01:57											

AM-SCHOOL OUT

Incident Duration	LANES BLOCKED														
	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	0					7	04:26	07:29	00:55	01:34	0				
16-30	2	04:05	07:13	00:03	01:52	4	09:31	18:16	00:16	05:58	1	01:14	09:13	-02:18	03:24
31-45	0					3	06:39	14:01	00:02	03:50	0				
46-60	0					0					0				
61+	2	02:24	05:08	-00:34	01:37	0					0				
Avg		03:15	06:11	-00:16	01:44		06:22	11:58	00:32	03:19		01:14	09:13	-02:18	03:24
% Diff		289%	185%	10%	209%		662%	452%	-327%	490%		47%	326%	872%	506%
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV											
14	00:50	02:10	-00:14	00:34											

PM-SCHOOL IN

Incident Duration	LANES BLOCKED														
	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss
0-15	5	05:39	09:49	02:25	01:56	11	07:06	09:09	03:57	01:21	1	09:38	20:43	-00:01	05:55
16-30	2	06:05	08:53	04:06	01:24	1	05:25	08:33	01:05	01:53	3	05:10	12:06	-00:16	03:26
31-45	3	07:01	09:13	04:00	01:16	2	07:46	09:35	05:02	01:11	1	10:15	14:44	07:42	01:35
46-60	0					0					0				
61+	0					1	02:26	10:48	-01:24	02:57	0				
Avg		06:09	09:27	03:14	01:38		06:46	09:17	03:33	01:28		07:04	14:21	01:23	03:33
% Diff		13%	38%	34%	59%		25%	36%	47%	43%		30%	110%	-43%	248%

NON-INCIDENT			
INC	AVG	MAX	MIN
17	05:26	06:50	02:25

PM-SCHOOL OUT

Incident Duration	LANES BLOCKED														
	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss
0-15	0					6	05:48	08:24	04:02	01:00	0				
16-30	0					3	07:02	12:04	01:19	03:10	0				
31-45	0					0					0				
46-60	0					0					0				
61+	0					0					0				
Avg							06:13	09:37	03:08	01:43					
% Diff							70%	83%	93%	84%					

NON-INCIDENT			
INC	AVG	MAX	MIN
5	03:40	05:15	01:37

Combined Weighted Averages

Incident Duration	LANES BLOCKED														
	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss
0-15	7	06:23	11:53	01:44	02:38	40	04:46	07:30	01:26	01:39	2	09:40	16:50	00:32	04:12
16-30	9	06:36	10:06	01:37	02:17	20	09:25	14:34	00:40	03:58	5	05:25	16:03	-00:44	04:52
31-45	3	07:01	09:13	04:00	01:16	10	08:02	12:46	02:56	02:30	2	10:13	21:51	03:56	05:08
46-60	1	03:53	13:52	-00:42	02:46	0					1	09:54	24:57	-00:08	06:44
61+	2	02:24	05:08	-00:34	01:37	1	02:26	10:48	-01:24	02:57	1	21:36	43:34	02:22	11:46
Avg		06:05	10:16	01:41	02:13		06:30	10:17	01:23	02:27		08:57	20:33	00:56	05:35
% Diff		56%	62%	141%	63%		66%	63%	99%	79%		129%	225%	-3%	310%
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV											
69	03:55	06:19	00:42	54:17											

Gulf Freeway

AM-SCHOOL IN

Incident Duration	LANES BLOCKED														
	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	3	07:19	13:55	-00:03	03:47	12	08:40	14:09	00:48	03:42	4	16:57	23:23	03:13	04:39
16-30	4	06:26	11:20	-00:09	03:02	13	10:17	17:46	00:45	04:36	0				
31-45	0					5	18:39	29:49	-00:04	08:45	0				
46-60	0					3	12:38	24:19	00:49	05:49	0				
61+	0					0					0				
Avg		06:49	12:27	-00:06	03:21		11:10	18:52	-00:39	05:01		16:57	23:23	03:13	04:39
% Diff		38%	30%	-84%	21%		127%	97%	-196%	80%		244%	144%	-574%	67%

NON-INCIDENT

INC	AVG	MAX	MIN	DEV
28	04:56	09:35	-00:41	02:47

AM-SCHOOL OUT

Incident Duration	LANES BLOCKED														
	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	1	12:41	25:04	04:18	06:07	6	03:27	08:36	-00:01	02:43	0				
16-30	0					4	15:50	33:19	-00:20	10:00	0				
31-45	0					0					0				
46-60	0					0					0				
61+	1	04:57	12:35	-00:52	04:11	0					0				
Avg		08:49	18:50	01:43	05:09		08:24	18:29	-00:08	05:38					
% Diff		197%	160%	-903%	136%		183%	156%	-37%	159%					

NON-INCIDENT

INC	AVG	MAX	MIN	DEV
19	02:58	07:14	-00:13	02:11

PM-SCHOOL IN

Incident Duration	LANES BLOCKED														
	SHOULDER				1 MAINLANE				2+ MAINLANES						
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss
0-15	3	06:10	15:35	00:04	03:59	6	06:56	09:43	03:09	03:15	0				
16-30	5	05:36	11:09	-00:22	03:24	1	03:43	10:20	-02:07	03:49	1	04:04	11:38	-01:39	03:57
31-45	2	04:52	12:00	-01:05	03:25	2	06:26	13:14	00:02	03:06	0				
46-60	0					1	04:40	14:26	-02:08	03:58	0				
61+	0					0					0				
Avg		05:38	12:39	-00:23	03:35		06:17	10:57	01:28	03:21		04:04	11:38	-01:39	03:57
% Diff		43%	75%	-370%	64%		60%	51%	937%	54%		3%	61%	-1267%	81%
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV											
19	03:55	07:14	00:09	02:11											

PM-SCHOOL OUT

Incident Duration	LANES BLOCKED														
	SHOULDER				1 MAINLANE				2+ MAINLANES						
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss
0-15	4	04:34	09:10	-00:06	02:22	5	08:59	16:11	03:33	03:33	0				
16-30	0					1	08:56	17:27	01:21	04:24	0				
31-45	0					1	05:22	15:31	-00:30	03:31	0				
46-60	1	05:44	15:39	-01:41	04:43	0					0				
61+	0					0					0				
Avg		04:48	10:28	-00:25	02:50		08:27	16:16	02:40	03:40					
% Diff		17%	32%	-190%	42%		106%	105%	473%	84%					
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV											
9	04:06	07:56	00:28	02:00											

Combined Weighted Averages

Incident Duration	LANES BLOCKED																						
	SHOULDER					1 MAINLANE					2+ MAINLANES												
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV			
	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss	mm:ss		
0-15	11	06:29	13:40	00:21	03:32	29	07:17	12:26	01:36	03:23	4	16:57	23:23	03:13	04:39								
16-30	9	05:59	11:14	-00:16	03:14	19	11:02	20:38	00:24	05:41	1	04:04	11:38	-01:39	03:57								
31-45	2	04:52	12:00	-01:05	03:25	8	13:56	23:53	-00:06	06:41	0												
46-60	1	05:44	15:39	-01:41	04:43	4	10:38	21:51	00:05	05:21	0												
61+	1	04:57	12:35	-00:52	04:11	0					0												
Avg		06:04	12:39	-00:08	03:29		09:35	17:11	00:53	04:41		14:22	21:02	02:14	04:31								
% Diff		49%	54%	-38%	47%		135%	110%	513%	97%		252%	157%	-1138%	90%								
NON-INCIDENT																							
INC	75	04:05	08:12	-00:13	02:23																		

Southwest Freeway
AM-SCHOOL IN

LANES BLOCKED															
Incident Duration min	SHOULDER				1 MAINLANE				2+ MAINLANES						
	INC	AVG mm:ss	MAX mm:ss	MIN mm:ss	DEV mm:ss	INC	AVG mm:ss	MAX mm:ss	MIN mm:ss	DEV mm:ss	INC	AVG mm:ss	MAX mm:ss	MIN mm:ss	DEV mm:ss
0-15	2	06:33	15:22	-01:33	05:40	7	05:36	12:32	-01:31	04:28	1	01:37	08:16	-01:59	02:55
16-30	1	03:24	08:50	-01:59	03:12	8	08:08	17:06	-01:15	05:57	0				
31-45	1	10:25	19:54	-01:10	05:57	0					0				
46-60	1	02:41	08:58	-02:03	03:20	1	01:56	12:37	-02:21	04:05	0				
61+	0					0					0				
Avg		05:55	13:41	-01:39	04:46		06:38	14:49	-01:26	05:11		01:37	08:16	-01:59	02:55
% Diff		68%	76%	38%	90%		88%	91%	20%	106%		-54%	7%	65%	16%
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV											
28	03:32	07:46	-01:12	02:31											

AM-SCHOOL OUT

LANES BLOCKED															
Incident Duration min	SHOULDER				1 MAINLANE				2+ MAINLANES						
	INC	AVG mm:ss	MAX mm:ss	MIN mm:ss	DEV mm:ss	INC	AVG mm:ss	MAX mm:ss	MIN mm:ss	DEV mm:ss	INC	AVG mm:ss	MAX mm:ss	MIN mm:ss	DEV mm:ss
0-15	1	-01:03	00:24	-02:12	00:42	5	03:14	09:26	-01:57	03:24	0				
16-30	1	01:26	10:52	-02:19	02:53	3	00:54	05:09	-01:49	02:13	0				
31-45	0					1	-00:30	02:33	-02:38	01:32	2	04:33	19:05	-01:47	06:12
46-60	0					0					0				
61+	0					0					0				
Avg		00:11	05:38	-02:15	01:47		02:02	07:14	-01:59	02:48		04:33	19:05	-01:47	06:12
% Diff		30%	199%	-25%	76%		1033%	284%	-34%	176%		3030%	913%	-41%	511%
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV											
19	00:09	01:53	-03:00	01:01											

PM-SCHOOL IN

LANES BLOCKED															
Incident	SHOULDER				1 MAINLANE				2+ MAINLANES						
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
Duration	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss
min	4	04:00	07:45	00:08	02:18	7	06:30	11:42	00:48	02:57	0				
0-15	2	04:32	13:14	-00:40	04:00	4	01:57	04:05	00:13	01:06	0				
16-30	1	02:33	10:02	-00:19	02:53	4	07:32	17:13	00:25	05:13	0				
31-45	1	06:02	12:14	00:47	02:58	0					0				
46-60	0					0					0				
61+	0					0					0				
Avg		04:13	09:58	-00:03	02:53		05:34	11:09	00:33	03:04					
% Diff		56%	80%	-80%	55%		107%	101%	-350%	64%					
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	DEV
19	02:42	05:32	-00:13	01:52											

PM-SCHOOL OUT

LANES BLOCKED															
Incident	SHOULDER				1 MAINLANE				2+ MAINLANES						
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
Duration	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss
min	2	03:46	09:15	-00:37	03:13	3	01:53	06:17	-02:01	02:13	0				
0-15	1	11:28	19:41	02:48	05:26	1	02:03	09:24	-01:03	03:11	1	06:56	12:54	00:57	03:15
16-30	0					0					1	06:26	20:09	-01:08	07:20
31-45	0					1	01:30	05:37	-00:32	02:00	0				
46-60	0					0					0				
61+	0					0					0				
Avg		06:20	12:43	-00:31	03:57		01:51	06:47	-01:32	02:22		06:41	16:31	-00:06	05:17
% Diff		1009%	240%	-156%	169%		222%	81%	64%	61%		1070%	342%	-90%	259%
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	DEV
9	00:34	03:45	-00:56	01:28											

Combined Weighted Averages

LANES BLOCKED															
Incident Duration	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	9	03:57	08:57	-00:40	03:04	22	04:50	10:43	-00:57	03:26	1	01:37	08:16	-01:59	02:55
16-30	5	05:04	13:10	-00:44	03:54	16	04:51	11:08	-00:59	03:52	1	06:56	12:54	00:57	03:15
31-45	2	06:29	14:58	-00:45	04:25	5	05:56	14:17	-00:11	04:29	3	05:10	19:27	-01:34	06:34
46-60	2	04:22	10:36	-00:38	03:09	2	00:58	06:18	-01:10	02:02	0				
61+	0					0					0				
Avg		04:36	10:59	-00:39	03:28		04:48	11:04	-00:53	03:39		04:49	15:54	-01:09	05:11
% Diff		118%	110%	-53%	-100%		128%	112%	-36%	-100%		129%	204%	-17%	-100%
NON-INCIDENT															
INC	75	02:06	05:14	-01:23	34:37										
AVG															
MAX															
MIN															
DEV															

Combined Freeways

AM-SCHOOL IN

LANES BLOCKED															
Incident Duration min	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG mm:ss	MAX mm:ss	MIN mm:ss	DEV mm:ss	INC	AVG mm:ss	MAX mm:ss	MIN mm:ss	DEV mm:ss	INC	AVG mm:ss	MAX mm:ss	MIN mm:ss	DEV mm:ss
0-15	10	09:19	17:48	00:12	04:58	38	06:24	12:12	-01:10	03:45	6	13:11	19:08	01:59	04:00
16-30	11	07:39	12:34	00:30	03:20	36	10:22	17:41	00:21	04:55	1	10:22	34:43	-01:10	10:37
31-45	1	10:25	19:54	-01:10	05:57	14	15:22	24:04	01:48	06:17	1	10:11	28:57	00:10	08:41
46-60	2	03:17	11:25	-01:12	03:03	4	09:57	21:23	00:02	05:23	2	13:13	26:32	01:09	07:02
61+	0					1	14:29	25:19	02:01	06:27	2	28:29	53:49	01:39	15:29
Avg	24	08:06	14:58	00:09	04:06	93	09:31	16:39	00:18	04:41	12	15:15	28:16	01:26	07:22
% Diff		36%	44%	394%	48%		60%	61%	844%	68%		157%	173%	4484%	165%
NON-INCIDENT															
INC	113	05:57	10:22	00:02	02:47										

AM-SCHOOL OUT

LANES BLOCKED															
Incident Duration min	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG mm:ss	MAX mm:ss	MIN mm:ss	DEV mm:ss	INC	AVG mm:ss	MAX mm:ss	MIN mm:ss	DEV mm:ss	INC	AVG mm:ss	MAX mm:ss	MIN mm:ss	DEV mm:ss
0-15	2	05:49	12:44	01:03	03:24	21	05:08	09:55	00:18	02:41	0	00:00	00:00	00:00	00:00
16-30	3	03:12	08:26	-00:44	02:12	12	09:50	20:33	-00:27	06:29	1	01:14	09:13	-02:18	03:24
31-45	0	00:00	00:00	00:00	00:00	5	04:28	11:53	-00:44	03:20	2	04:33	19:05	-01:47	06:12
46-60	0	00:00	00:00	00:00	00:00	0	00:00	00:00	00:00	00:00	0	00:00	00:00	00:00	00:00
61+	3	03:15	07:37	-00:40	02:28	0	00:00	00:00	00:00	00:00	0	00:00	00:00	00:00	00:00
Avg	8	03:52	09:12	-00:16	02:36	38	06:31	13:32	-00:05	03:58	3	03:26	15:48	-01:57	05:16
% Diff		49%	80%	-49%	71%		151%	165%	-85%	162%		32%	210%	271%	247%
NON-INCIDENT															
INC	63	02:36	05:06	-00:31	01:31										

PM-SCHOOL IN

LANES BLOCKED															
Incident Duration min	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	14	08:28	15:24	03:06	03:30	37	09:33	14:35	04:30	03:20	3	14:56	27:14	08:29	07:25
16-30	12	07:13	13:51	02:05	03:24	10	08:42	14:34	04:16	03:41	4	04:37	11:52	-00:37	03:41
31-45	9	10:21	17:31	04:32	03:59	12	10:42	16:43	03:51	03:39	1	10:15	14:44	07:42	01:35
46-60	1	06:02	12:14	00:47	02:58	6	14:34	25:24	11:03	05:48	1	17:46	24:44	04:13	06:32
61+	2	17:30	28:41	09:51	05:40	2	06:53	16:01	04:26	03:58	0				
Avg	38	08:56	16:02	03:25	03:41	67	11:48	18:20	05:16	04:04	9	10:51	19:31	02:56	05:07
% Diff		23%	36%	31%	31%		62%	56%	102%	44%		49%	66%	13%	82%
NON-INCIDENT															
INC	75	07:17	11:45	02:36	02:49										

PM-SCHOOL OUT

LANES BLOCKED															
Incident Duration min	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss		mm:ss	mm:ss	mm:ss	mm:ss
0-15	6	04:18	09:11	-00:16	02:39	20	09:47	17:14	03:49	04:08	1	24:37	40:28	09:50	08:45
16-30	2	11:01	20:09	04:00	05:00	8	08:25	15:45	02:12	04:03	2	17:38	40:47	03:25	12:08
31-45	0	00:00	00:00	00:00	00:00	4	18:59	40:57	06:30	11:28	1	06:26	20:09	-01:08	07:20
46-60	1	05:44	15:39	-01:41	04:43	2	13:25	27:19	00:48	08:38	0	00:00	00:00	00:00	00:00
61+	1	10:24	18:35	-01:52	06:15	0	00:00	00:00	00:00	00:00	0	00:00	00:00	00:00	00:00
Avg	10	06:24	12:58	00:17	03:41	34	10:45	20:16	03:34	05:14	4	16:35	35:33	03:53	10:05
% Diff		8%	14%	-81%	22%		82%	78%	138%	74%		181%	213%	159%	235%
NON-INCIDENT															
INC	28	05:54	11:22	01:30	03:01										

Combined Weighted Averages

LANES BLOCKED															
Incident Duration	SHOULDER					1 MAINLANE					2+ MAINLANES				
	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV	INC	AVG	MAX	MIN	DEV
min	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss	mm:ss
0-15	32	07:47	14:49	01:26	03:48	116	08:07	13:57	02:19	03:33	10	15:23	24:20	03:52	05:39
16-30	28	07:14	13:13	01:18	03:22	66	10:09	17:58	01:04	04:59	8	08:18	21:41	-00:44	06:34
31-45	10	10:22	17:46	03:58	04:11	35	13:02	22:21	02:50	05:44	5	07:11	20:24	00:38	06:00
46-60	4	04:35	12:41	-00:55	03:27	12	16:08	28:03	04:34	06:45	3	14:44	25:56	-00:08	06:52
61+	6	09:12	16:28	02:38	04:10	3	09:25	19:07	-01:24	04:48	2	28:29	53:49	01:39	15:29
Avg	80	07:52	14:39	01:40	03:42	232	09:52	17:09	02:09	04:28	28	12:46	25:09	01:54	06:49
% Diff		42%	52%	125%	46%		78%	78%	188%	77%		130%	161%	155%	169%
NON-INCIDENT															
INC	AVG	MAX	MIN	DEV											
279	05:33	09:39	00:45	02:32											

Average of Incident Duration Cells

Peak Period/ School	Lanes Blocked													
	None			Shoulder			1 Mainlane			2 Mainlanes				
	Inc	Avg	% Diff	Inc	Avg	% Diff	Inc	Avg	% Diff	Inc	Avg	% Diff		
AM School In	113	05:57	24	08:06	02:09	36%	93	09:31	03:35	60%	12	15:15	09:19	157%
AM School Out	63	02:36	8	03:52	01:17	49%	38	06:31	03:56	151%	3	03:26	00:51	32%
PM School In	75	07:17	38	08:56	01:39	23%	67	11:48	04:31	62%	9	10:51	03:34	49%
PM School Out	28	05:54	10	06:24	00:30	8%	34	10:45	04:51	82%	4	16:35	10:41	181%
Weighted Averages	279	05:33	80	07:52	02:19	42%	232	09:52	04:20	78%	28	12:46	07:13	130%

Weighted Average

Inc	Non In	Inc	All Inc	Diff	Diff
279	05:33	340	09:38	04:05	74%

