

## 1. Executive Summary

It is necessary for the Corpus Christi Metropolitan Planning Organizations (CCMPO) to maintain an accurate, up to date regional transportation model in order to conform to State and Federal regulations for air quality and transportation projects. The MPO updates and calibrates its model using current information on the roadway network, area development, and other relevant characteristics such as travel time and speed data.

The primary purpose of the 2010 Travel Speed Study is to evaluate the transportation system and prepare a report as part of the Congestion Management Process (CMP) in compliance with the SAFETEA-LU requirements. The secondary purpose of the study was to identify trends in congestion and travel time in order to identify problem locations for possible improvements. This year, the relative pavement roughness was also evaluated to identify the pavement segments with the worst roughness within the MPO boundaries. A congestion mitigation plan will be developed in the next phase of this study after review of the congestion results by CCMPO.

The 2010 Travel Speed Study was conducted to update the conditions found in performing the 2006 study with enhancements to the data collection, data management, and analytical methods. The roadways were mapped to establish centerlines and record relevant roadway features. Features located in the mapping process included: speed limits, school zones, lanes, active construction zones, bike lanes, median type and intersection control.

Travel speed data was collected during the months of August, September and October 2010 on Tuesdays, Wednesdays, and Thursdays, during the morning, Mid-day and afternoon peak period as follows:

- Morning Peak Period: 7:00 AM to 9:00 AM – 3 runs in each direction
- Mid-day Peak Period: 11:00 AM to 1:00 PM – 2 runs in each direction
- Afternoon Peak Period: 4:00 PM to 6:00 PM – 3 runs in each direction

Travel time runs were conducted using the floating car method. Roadways included arterials and freeways. Intersection delay for through vehicles was recorded at signalized intersections and compared with criteria in the Highway Capacity Manual (HCM) to determine level of service. In order to differentiate between congested roadways and roadways with low speed limits, a method for illustrating the data was continued in the 2010 Travel Speed Study, consistent with the 2006 and 2003 studies. This method uses a ratio of actual travel speed to posted speed limit and is referred to as the Congestion Index (CI). Of the 660 directional miles studied in AM and PM, it was observed that 24% were congested in AM, and 26% were congested in PM. Of the 130 directional miles studied in the Mid-day peak, it was observed that 46% were congested. In 2006, approximately 22% of the roadway miles studied were congested in AM and 20% were congested in PM. Of the segments that were common to both 2006 and 2010 studies, 535 segments (359 directional miles) worsened in Congestion Index and 435 segments (238 directional miles) experienced an improvement in Congestion Index in the AM peak period

in 2010. In the PM peak period, 601 segments (416 directional miles) worsened in the Congestion Index while 382 segments (190 directional miles) improved in 2010. The table below shows the Top 20 congested segments in this study based on CI.

**Table E1 – Top 20 Worst Segments By Congestion Index in 2010**

Rank	Route ID	Route Name	Intersection Segment	Peak Period	2010 Congestion Index	2010 Average Speed (mph)	2010 Weighted Average Speed Limit (mph)	2006 Rank
1	4021	STAPLES - SB/WB	MCARDLE TO SPID WBFR	PM	0.09	3.1	35.0	1
2	4023	EVERHART - SB	MCARDLE TO SPID WBFR	PM	0.14	5.0	35.0	
3	4016	RODD FIELD - NB	WILLIAMS TO SPID EBFR	AM	0.15	6.8	45.0	
4	4021	STAPLES - SB/WB	SHOPPING WAY TO MCARDLE	PM	0.16	5.5	35.0	
5	4023	EVERHART - SB	SPID EBFR TO CORONA	PM	0.17	6.1	35.0	
6	4022	STAPLES - EB/NB	HEB TO SPID EBFR	PM	0.19	6.6	35.0	
7	4114	GOLLIHAR - WB	AYERS TO 286 NB	AM	0.20	6.8	33.6	
8	4143	SPID FRONTAGE - EB	STAPLES TO AIRLINE	PM	0.21	9.6	45.0	
9	4030	AYERS - NB	BROWNLEE TO ALAMEDA/STAPLES	MD	0.22	6.6	30.0	
10	4033	GREENWOOD - SB	TROJAN TO SPID WBFR	PM	0.23	8.0	35.0	
11	4022	STAPLES - EB/NB	FIRESTATION TO HOLLY	AM	0.23	8.0	35.0	
12	4014	WALDRON - NB	COMPTON/KNICKERBOXER TO SPID EBFR	MD	0.23	9.3	40.0	
13	4030	AYERS - NB	KOSAR TO BALDWIN	AM	0.24	8.4	35.0	
14	4005	HOLLY - EB	SH 286 NB TO AYERS	PM	0.24	9.8	40.0	
15	4017	AIRLINE - SB	MCARDLE TO SPID WBFR	PM	0.25	8.7	35.0	11
16	4041	LEOPARD - EB	LANTANA TO SPID EBFR	PM	0.25	10.0	40.0	
17	4129	HORNE - EB	PORT TO AYERS	MD	0.25	8.9	35.0	
18	4143	SPID FRONTAGE - EB	WEBER TO EVERHART	MD	0.26	11.7	45.0	
19	4069	CALLICOATE - SB	REDRIVER TO LEOPARD	PM	0.27	12.4	45.0	
20	4022	STAPLES - EB/NB	WILLIAMS TO HEB	PM	0.28	9.6	35.0	

Note: Short Segments (< 500ft), segments containing school zones and active construction were not considered for this table