

CHAPTER 10

CONGESTION MANAGEMENT PROCESS

Introduction:

Traffic congestion in the Corpus Christi Metropolitan area is not as much a function of population growth as the function of the increase in single occupant trips. Using census data, the population of the urbanized area grew from an estimated 350,988 persons in 1990 to an estimated 380,783 persons in 2000, a growth of less than half a percent each year. During the same time period, the area showed an increase in drive-alone trips. Other changes that factor into our traffic congestion are an increase in the number of vehicles per housing unit, increases in tourism and sprawl development.

Planning:

In 1994, the MPO developed a Congestion Management System Work Program (CMSWP). The network included all limited access roadways, principal arterials, some minor arterials, and a few collectors within the Corpus Christi Metropolitan area. As part of the CMSWP, the MPO identified congested segments in the MPO area. Congested segments were identified based on the criteria developed by TxDOT and the citizens' perception of congestion. The work program included 249 locations for traffic volume counts and 18 locations for the vehicle occupancy counts for the base year to establish a benchmark. The MPO collected the first set of traffic count data in 1996.

Based on the adopted Management and Monitoring System Final Rule, the MPO prepared a Congestion Management System (CMS) Plan that was approved by the Transportation Policy Committee. This plan has evolved, to assure SAFETEA-LU compliance, into the Congestion Management Process (CMP). The intent of this plan is to serve as an organized and transparent way for our planning area to identify and manage congestion, connect performance measures to support funding for projects, and evaluate recommended strategies to ensure we are effectively addressing congestion.

Current Activities:

The MPO has integrated the CMP into the Metropolitan Transportation Plan (MTP) development and project selection as well as supporting the Transportation Improvement Program (TIP) process. An area the CMP addresses is consideration for identifying the impact of SOV capacity expansion projects. All potential projects are discussed and addressed within the long-range transportation plan revision as to alternative ways that mobility might be improved including methods to increase vehicle occupancy prior to adding capacity.

The Corpus Christi MPO has overseen various corridor studies that include Everhart Road, Saratoga Boulevard, Rodd Field Road, Airline Road and Staples Street. The most recent Travel Speed Study collected roadway characteristics and field-measured travel time and speed data for use in calibrating and validating the regional transportation model. The sample of roadways was larger, included major

GIS enhancement, digital video, percent stops at intersections, and congestion index (% of posted speed). These studies will provide a tool for the CMP Subcommittee and the Technical Advisory Committee to make informed decisions in identifying and prioritizing transportation improvement projects.

Efforts and Remedial Actions to Manage Congestion:

The cities, counties, Texas Department of Transportation (TxDOT), and Regional Transportation Authority (RTA) within the MPO area are aware of the importance to adopt the Transportation Demand Management (TDM) and the Transportation System Management (TSM) strategies – used and designed to maximize the people-moving capability of the transportation system – by increasing the number of persons in a vehicle, or by influencing the time of, or need to, travel to relieve congestion and prevent it from developing where it has not yet occurred. To accomplish these types of changes, TDM programs must rely on incentives or disincentives to make these shifts in behavior attractive. The primary purpose of TDM is to reduce the number of vehicles using the road system while providing many mobility options to those who want to travel. The following actions outline our area’s efforts to relieve and prevent traffic congestion.

City of Corpus Christi: The City’s Engineering, Planning, and Street Services Departments are actively involved in the TSM and TDM activities listed:

Intelligent Transportation System (ITS):

A TSM alternative pursued by the City of Corpus Christi’s Street Service Department is Intelligent Transportation Systems (ITS), one of the major management tools adopted to manage congestion. The department has completed their plan to install a state of the art system by using fiber optic communication and video detection devices on all major intersections to monitor and operate traffic. With more than 80 miles of fiber optic cables installed along urban area streets, ITS aids in mitigating congestion.

The City’s Street Service Department’s responsibility to maintain and operate a signal operation that is interconnected and synchronized was supported by the MPO’s efforts to conduct and complete a project to review and update existing traffic signal synchronization.

Access Management:

As related to controlling space and design of driveways, medians and median openings, traffic signals, intersections, and freeway interchanges, suitable access control can decrease the number of accidents, increase capacity and shorten travel times. To have a successful access management plan, land use and transportation planners must work cooperatively.

A project resulting from our Access Management study is an on ramp reversal project on South Padre Island Drive (SPID) that focuses on frontage roads. As part of the ramp-reversal project – intent on eliminating traffic from backing up on the highway - changes to relocation on and off

ramps for the highway have been started. Traffic frequently backs up due to drivers overcrowding into exit lanes at Weber, Everhart, Staples, and Airline.

Raised Medians:

Continuous Left Turn Lanes are not viable options in high traffic commercial areas. The MPO Access Management Study identified other near term projects postured to increase capacity and address growing areas including a median project on Saratoga and a proposal to extend improvements along Staples to Oso Creek.

Right Turn Channelization (RTC):

New roadway projects are designed with RTC such as at the Airline/SPID intersection. Similarly Left Turn Channelization is included in the design of projects where it is felt as a necessary tool to alleviate congestion.

School and Hospital Zones:

The City is involved with the Corpus Christi Independent School District to negotiate the location of new schools away from the major arterial and business districts to avoid traffic delays. The City provides a pedestrian safe crossing and a “hospital zone” speed restriction area on Alameda Street in front of the Driscoll’s Children Hospital.

Walkways:

The City’s Traffic Engineering Division, in collaboration with the RTA, and the MPO, has identified priority locations to build accessibility ramps and upgrade bus shelters that are in compliance with the Americans with Disabilities Act (ADA).

Bikeways:

The City of Corpus Christi’s Planning Commission and subsequently the City Council adopted the Corpus Christi Metropolitan Planning Bicycle and Pedestrian Plan and integrated it into the City Transportation Plan. The Transportation Advisory Committee has also resurrected the Bicycle and Pedestrian Subcommittee to offer input from the public regarding concerns related to bicycle and pedestrian safety, facilities, planning, and education in the community.

Speed Limits:

The City of Corpus Christi reviews and revises as needed speed limits every 2-3 years on arterials to manage congestion.

Traffic Signs:

The City maintains traffic signs and other tourist information signs.

City of Portland:

Highway Expansion:

The City of Portland is an area where congestion is due to the lack of direct access and links between different land uses. To avoid this type of congestion, a TSM approach has been adopted. Metropolitan Mobility Funds have been used to extend and create connections under US181, and manage congestion with facilities widening projects.

Nueces County:

Traffic Signals and Signs:

Nueces County is involved in TSM activities to relieve congestion by collaborating with the City of Corpus Christi in ITS, and improving traffic control devices for the safe and efficient passage of both pedestrians and vehicles. The County also provides speed limit control signs and 911 addresses and emergency system notification signs.

Regional Transportation Authority (RTA): RTA is continuously involved in TDM and TSM activities within the MPO area to alleviate congestion. The following are TDM and TSM activities in which RTA is involved:

Transit Service/Ridesharing:

In 2008, the RTA completed its Comprehensive Operational Analysis (COA) which reviewed existing and newly collected data on transit services. A variety of activities (ride checks of 100% of fixed route, interviews with drivers, passengers, and community stakeholders) were explored. Potential opportunities for service expansions in years 2010 to 2015 were analyzed and recommendations – for Near Term (1 to 2 years) and Short-Range (3 to 5 years) – offered.

Park & Ride/Express Service:

The RTA currently offers weekday Park & Ride service on three routes to the Corpus Christi Army Depot (CCAD). COA recommendations included the addition of a south side park & ride to CCAD; and express service from the Robstown/Calallen area and Staples/Lipes area to downtown to alleviate congestion and parking conflicts.

Transfer Centers:

Transfer centers that offer passengers the opportunity to access multiple routes at one location are available at four locations in the service area. In 2009, the RTA completed the Coastal Bend Regional Intermodal Terminal Feasibility Study which examined facilities and amenities to facilitate current and future needs for transit coordination in the region. The proposed location identified in the study – adjacent to the intersection of two major highways – was established as a logical collection point for the surrounding rural counties and Corpus Christi. The implementation process is pending the availability of capital funding.

Bus Turn-outs:

RTA has a proactive program to identify high ridership bus stops in congested corridors and then build Bus Turn-outs to alleviate congestion. An interagency effort has also been established between the City of Corpus Christi and RTA on accessibility projects that include shelters, curb cuts and bus pads on city streets.

Texas Department of Transportation (TxDOT): TxDOT has in place both TSM and TDM services in the MPO area to reduce congestion.

Intelligent Transportation System (ITS):

With the completion of their Regional ITS Architecture and Deployment Plan, which outlines a vision for ITS deployment in the region, and identifies and prioritizes projects that are needed to implement the ITS architecture on a short, medium, and long-term basis, TxDOT has taken a lead role in the deployment of ITS. Video detection cameras and dynamic messaging signs monitor and provide traffic information to travelers. The monitoring and information available through ITS is increasing the efficiency, security, and safety in the MPO area.

Roadway Widening:

The region's continuous traffic data collection has supported the decision to add turn lanes on frontage roads to mitigate congestion.

Construction Management:

Road construction work is targeted for night and non-peak hours in order to avoid unnecessary traffic delays.

Park and Ride:

TxDOT has been a provider of park and ride facilities within the MPO area. There are some programs offered by TxDOT which subsidize and encourage vanpooling to alleviate congestion.

This summary of various TSM and TDM planned and ongoing activities demonstrate that the MPO and its member agencies cooperatively and actively participate in congestion management. The MPO monitors and maintains ongoing communication with the Technical Advisory Committee, the Transportation Policy Committee and member entities to keep them abreast of federal regulations regarding congestion management. All entities have the opportunity to offer data and information to the MPO in an effort to contribute to the discussion and design of efficient action plans to relieve congestion.

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