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2015 - 2040

Metropolitan Transportation Plan

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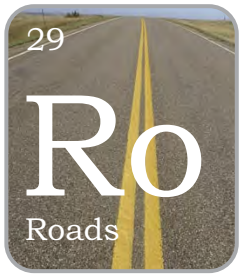

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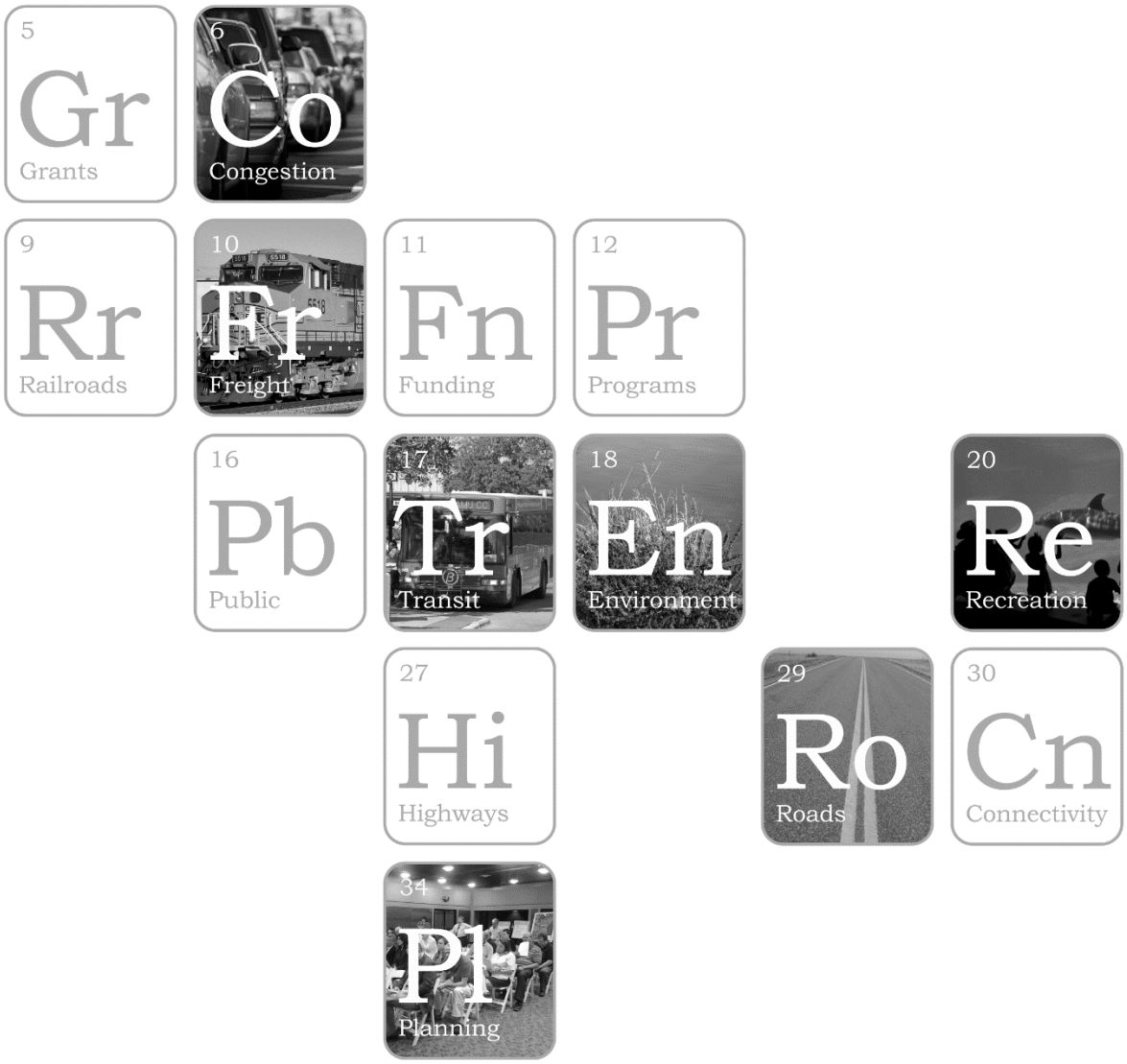
CORPUS CHRISTI **METROPOLITAN PLANNING ORGANIZATION**

Approved by the Transportation Policy Committee - November 17, 2014
Effective on December 3, 2014

CORPUS CHRISTI METROPOLITAN PLANNING ORGANIZATION

2015 – 2040 METROPOLITAN TRANSPORTATION PLAN



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CHAPTER 1

OUR FOUNDATION

PREFACE

Metropolitan Transportation Plan (MTP) is the Corpus Christi Metropolitan Planning Organization's (MPO) 25 year long-range plan which explains the MPO's transportation policies and goals, estimated future needs and resources, and lays out a detailed program for preserving and expanding the transportation system. It forms the basis of project selection for the short-range (4 year) Transportation Improvement Program (TIP). Projects selected for the MTP and TIP are based on analysis of regional growth, public input and dialogue with the planning partners in the region.

Transportation planning processes are required to be organized and directed for all urbanized areas by MPOs. The Census Bureau defines urbanized areas (UZAs) – areas with a population of at least 50,000 – and transportation regulation requires MPOs to be established in urbanized areas. MPOs are established for a metropolitan planning area that must contain, at a minimum, the Census Bureau defined urbanized area and the area expected to become urbanized in the next 20 years.

Our planning process provides the information, tools, and public input needed for improving the transportation system's performance as well as the community's vision for its future. Valuable attributes include comprehensive consideration of possible strategies; an evaluation that encompasses diverse viewpoints; a collaborative and relevant transportation-related engagement of agencies and organizations; and an open, timely, and meaningful involvement of interested parties and the general public. A holistic look at the needs and the future of the region and its inhabitants is required.

The Texas Transportation Commission and the Texas Department of Transportation (TxDOT) use the Unified Transportation Program (UTP) as TxDOT's 10-year guide for transportation project development. The UTP, a mid-range document listing projects and programs that are planned for construction and/or developed within the first ten years of the 24-year Statewide Long-Range Transportation Plan (SLRTP). The UTP authorizes projects for construction, development, and planning activities and includes projects involving highways, aviation, public transportation, and state and coastal waterways. The UTP is developed and adopted annually. TxDOT adopted the most current UTP in August 2014 which projected available funding for the 2015 – 2024 period and it serves as the bases for these MTP projections.

CORPUS CHRISTI MPO

The Corpus Christi region is well known for its agricultural, oil, gas, and petrochemical products. The mild climate, miles of beaches, and low cost of living attract tourists and retirees and contributes to the economy of the region.

The formal transportation planning activities in the Corpus Christi metropolitan area began in the early 1960s. The Texas Highway Department – Planning Survey Division, and the U.S. Department of Commerce

– Bureau of Public Roads, in cooperation with the City of Corpus Christi initiated a transportation study.

The cooperative efforts of the state and the city resulted in the formation of the Corpus Christi Transportation Plan 1963-1964. The main objective of this study was to find an adequate, long-term solution for future traffic in relation to comprehensive urban development. The plan included a complete network of streets and highways, which, when completed, would provide for the efficient movement of traffic. The City reaffirmed this plan in 1974, 1976, 1979, 1983-84, and revised it in 1987.

In May 1972, the cities of Corpus Christi and Portland, Nueces and San Patricio counties, and the State of Texas agreed to participate in a comprehensive, cooperative, and continuing (3C) transportation planning process for the Corpus Christi Transportation Study Area as provided in the Federal-Aid Highway Act of 1962. In 1973, Congress required the creation of MPOs and provided planning funds for those organizations in urbanized areas over 50,000 population. The City of Corpus Christi, designated by the Governor as the MPO on November 4, 1988, facilitated transportation planning in the area. In April 2000, the Transportation Policy Committee (TPC) passed a resolution requesting the TPC be designated the governing body of the MPO, with the County of Nueces as the fiscal agent – it became effective in June 2000.

The MPO evaluates and plans for the transportation needs of Nueces and San Patricio Counties and projects in the MTP and TIP that are in the Metropolitan Area Boundary (MAB) that includes the cities of Corpus Christi, Portland, Gregory and unincorporated areas that are anticipated to develop in the next 20-years.

There are clear signs in our area of a transition to a more diverse economy with the Port of Corpus Christi evolving from an import to an export facility in part due to the South Texas oil boom from Eagle Ford Shale which has drawn major attention to property along the ship channel and the rim of Corpus Christi Bay. The Port of Corpus Christi Authority (POCCA), the 5th largest seaport in tonnage in the United States of America, remains the most prominent and important economic engine in this region. The Port is one of the country's fastest growing, servicing about 6,900 vessels in 2013 (The Port of Corpus Christi). Interests include La Quinta Gateway Terminal project, a POCCA long-term development plan intended to provide a multi-purpose dock and container facility; Cheniere Energy's proposed liquefaction project; M&G Group, an Italian chemical engineering and manufacturing group that produces PET resin for packaging applications; billion dollar Chinese investments by Tianjin Pipe (Group) Corporation through TPCO America; The voestalpine Group, a steelmaking group from Austria and several other investors contribute to our port's growth and transportation needs.

Our healthcare system, U.S. military installation, and oceanic and energy research continue to subsidize as backbone industries in the area. For example, the Corpus Christi Army Depot remains a national leader as a helicopter repair facility; and Texas A & M University – Corpus Christi's Harte Research Institute for Gulf of Mexico Studies is a prime educational resource used locally and internationally.

The impacts of federal authorizing legislation for expenditure of surface transportation funds has required metropolitan area transportation plans and programs to be developed through a 3-C planning process. Over our most recent and successive authorization cycles Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) required all MPOs, regardless of size, to consider the following eight factors in the development of a Metropolitan Transportation Plan:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
- Increase the safety of the transportation system for motorized and non-motorized users.
- Increase the ability of the transportation system to support homeland security and to safeguard the personal security of all motorized and non-motorized users.
- Increase the accessibility and mobility of people and freight.
- Protect and enhance the environment, promote energy conservation, and improve quality of life and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
- Promote efficient system management and operation.
- Emphasize the preservation of the existing transportation system.

The passage of Moving Ahead for Progress in the 21st Century (MAP-21), enacted July 6, 2012, carried forward SAFETY-LU priorities as well as highlighted and emphasized the creation of a streamlined and performance-based surface transportation program that builds on many of the highway, transit, bike, and pedestrian programs and policies already established.

MPO GOVERNANCE

The TPC provides policy direction for the MPO by reviewing the annual Unified Planning Work Program (UPWP), the four year TIP, the 25 year MTP, and the needs based TMMP by recommending adoption and implementation based on input from local governments and authorities.

This committee consists of the following seven voting members:

- Mayor, City of Corpus Christi
- Mayor, City of Portland
- County Judge, County of San Patricio
- County Judge, County of Nueces
- Board Chair, Regional Transportation Authority
- Board Chair, Port of Corpus Christi Authority
- District Engineer, TxDOT Corpus Christi District

The Technical Advisory Committee (TAC) provides technical expertise to the TPC by reviewing and recommending revisions to the planning process, data collection, forecasts, and the intergovernmental agreement, the UPWP, the TIP and the MTP.

This committee consists of the following seven voting members (or their designated alternates):

- Director of Engineering Services, City of Corpus Christi
- City Manager, City of Portland
- County Commissioner, San Patricio County

- Director of Public Works, Nueces County
- Chief Executive Officer, Corpus Christi Regional Transportation Authority
- Director of Engineering Services, Port of Corpus Christi Authority
- Director of Transportation Planning and Development, TxDOT Corpus Christi District

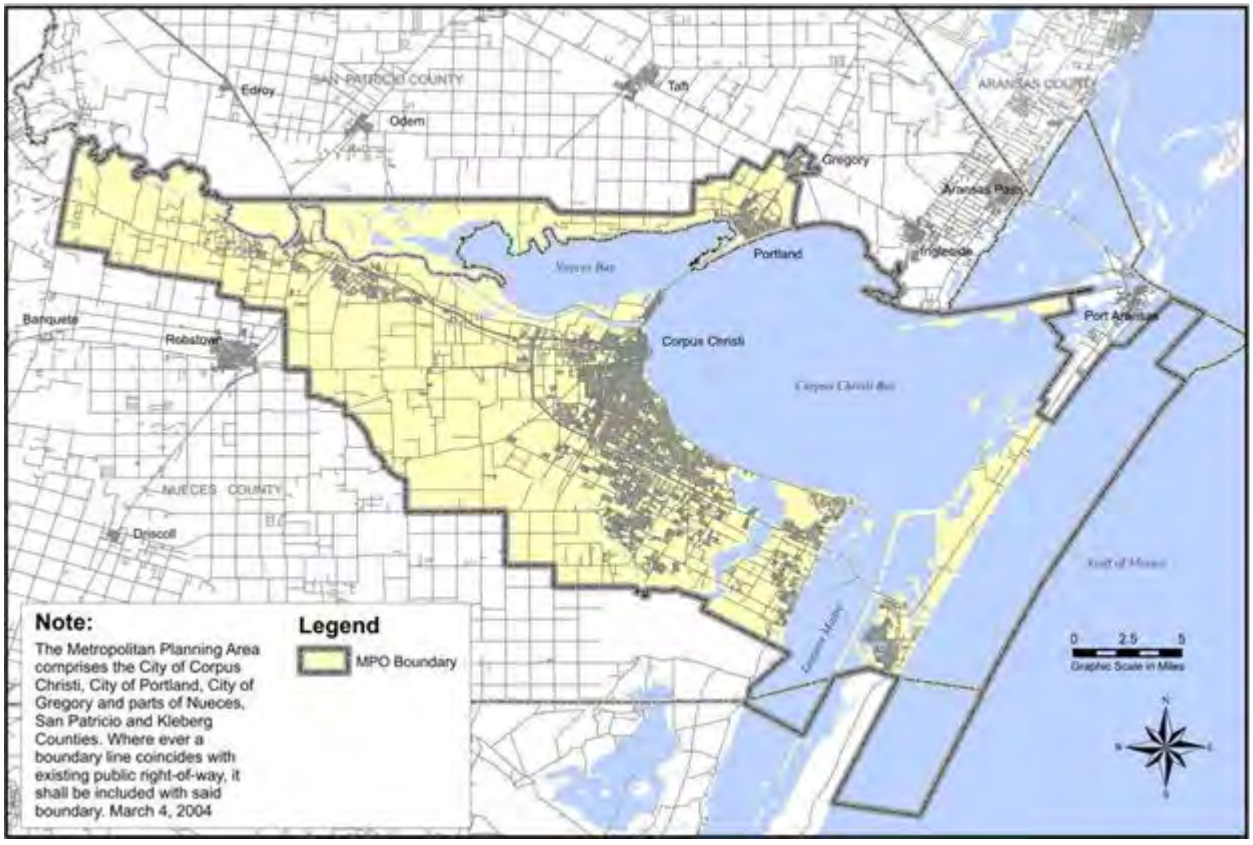
Both TPC and TAC have non-voting members and can appoint subcommittees on an ad hoc basis.

MPO PLANNING STAFF

Four full-time professionals, one para-professional, and one administrative person provide the staff support to the MPO. Additional clerical and professional support is provided by Nueces County which acts as fiscal agent to the MPO.

METROPOLITAN PLANNING AREA

The physical parameter of the Corpus Christi MPO planning area is shown on Map 1.1 below. The boundary encompasses the area which was urbanized by U.S. Census Bureau definition in 2010 and the area is expected to remain urbanized in the next twenty years.



MAP 1.1: Corpus Christi MPO Planning Area

CHAPTER 2

FINANCIAL REALITY

INTRODUCTION

The current enabling legislation (MAP-21) provides for funding surface transportation programs for fiscal years 2013 and 2014. As of the development of this plan, it is anticipated Map-21 will continue to be extended by Continuing Resolution into FY 2015 and hence creates tenuous funding estimates limited to temporary funding being proposed until a subsequent highway bill is passed.

The Highway Trust Fund (HTF) is a transportation fund which receives money from federal fuel tax to fund three accounts. Two of the three accounts impact MPOs: Highway – funds road construction; and Mass Transit – supports mass transit.

A constant component of transportation planning and program development is fiscal constraint (the total cost of a transportation project cannot exceed what we can reasonably expect to receive in funding). Any attempt to evaluate historical funding levels for the purposes of estimating future federal and state funds remains tenuous at best. Realities that impact funding include the insolvency of the Highway Trust Fund, federal funding rescissions, and periods of high fuel prices that curb driving combined with more efficient vehicles. All these make estimating future funding level projections a challenge while it remains clear that solutions must be established to avoid congestion increases that could be compounded by reduced levels of maintenance.

Texas Transportation Commissioners

The Texas Transportation Commission and the Texas Department of Transportation (TxDOT) use the Unified Transportation Program (UTP) as TxDOT's 10-year guide for transportation project development. The UTP, a mid-range document listing projects and programs that are planned for construction and/or developed within the first ten years of the 24-year Statewide Long-Range Transportation Plan (SLRTP). The UTP authorizes projects for construction, development, and planning activities and includes projects involving highways, aviation, public transportation, and state and coastal waterways. The UTP is developed and adopted annually. TxDOT adopted the most current UTP in August 2014 which projected available funding for the 2015 – 2024 period and it serves as the bases for these MTP projections.

FEDERAL FUNDING PROGRAMS

The intent of the project process is to ensure that TxDOT's goals are supported through project selection which in turn is guided by available funding. A summary of UTP funding categories and project selection criteria by category are listed in Table 2.1.

TABLE 2.1: PROJECT SELECTION BY CATEGORY

	FUNDING CATEGORY	PROJECT SELECTION CRITERIA
1	Preventive Maintenance and Rehabilitation	Project selected by districts. Commission allocates funds through a formula allocation program.
2	Metropolitan and Urban Area Corridor Projects	Projects selected by MPOs in consultation with TxDOT. Commission allocates funds through a formula allocation program.
3	Non-Traditionally Funded Transportation Projects	Determined by legislation, Commission approved Minute Order, and local government commitments.
4	Statewide Connectivity Corridor Projects	Selections based on engineering analysis of projects on three corridor types: • Mobility: based on congestion • Connectivity: 2-lane roadways requiring upgrade to 4-lane divided • Strategic Corridors: strategic corridor additions to the state highway network. An example would be the Ports-to-Plain Corridor.
5	Congestion Mitigation and Air Quality Improvement	Projects selected by MPOs in consultation with TxDOT. Commission allocates funds distributed by population weighted by air quality severity to non-attainment areas. Non-attainment areas designated by the Environmental Protection Agency (EPA).
6	Structures Replacement & Rehabilitation Bridge Program; Railroad Grade Separation Program	Projects selected by the Bridge Division (BRG) based on a listing of eligible bridges prioritized first by Deficiency Categorization (Structurally Deficient followed by Functionally Obsolete) & then by Sufficiency Ratings. Commission allocates funds through Statewide Allocation Program. In 2015, program increased to address maintenance and preservation related work.
7	Metropolitan Mobility/ Rehabilitation	Projects selected by MPOs operating in transportation management areas, in consultation with TxDOT. Commission allocates funds through Federal program distributed to MPO's with an urbanized area population of 200,000 or greater (TMA's).
8	Safety Federal Highway Safety Improvement Program (HSIP), Federal Railway-Highway Crossing Program, Safety Bond Program	Projects selected statewide by federally mandated safety indices & prioritized listing. Commission allocates funds through Statewide Allocation Program. In 2015, category includes System Widening Program.
9	Transportation Enhancements	Local entities nominate projects & TxDOT (with FHWA) evaluate for eligibility & make recommendations to Commission. TMAs select & rank projects within their areas in consultation with TxDOT. Projects in the Safety Rest Area Program are selected by the Maintenance Division (MNT).
	Transportation Alternatives	**Statewide allocation:** local entities nominate projects & TxDOT (with FHWA) reviews them. Eligible projects are selected & approved by Commission on a per-project basis. **TMA allocation:** respective TMA hosts program calls & selects eligible projects. In 2015, includes TAP allocation distributed by population to areas <200K to be used for bike/pedestrian related improvements.

TABLE 2.1: PROJECT SELECTION BY CATEGORY - CONTINUE		
	FUNDING CATEGORY	**PROJECT SELECTION CRITERIA**
10	Coordinated Border Infrastructure Program (CBI) & Congressional High Priority Projects	CBI projects selected by districts with FHWA review & approval. Discretionary funds are project specific based on legislation.
	Supplemental Transportation Projects: State Park Roads, Railroad Grade Crossing Re-planking, Railroad Signal Maintenance, Landscape Incentive Awards, Green Ribbon Landscape Improvement, Curb Ramp Program	CBI projects selected by districts with FHWA review & approval. Discretionary funds are project specific based on legislation.
11	District Discretionary	Projects selected by Districts. Commission allocates funds through a formula allocation program. Minimum $2.5 million allocation to each district per legislative mandate.
12	Strategic Priority	Commission selects projects.

PROJECTIONS OF FUTURE FUNDING

MPO planning and daily operational capacities are a necessary complement to its ability to make project spending decisions that are accountable and serve regional mobility. Funding sources available to MPOs includes the following broad categories Federal, State and Local:

FEDERAL

- Federal Highway Administration (FHWA) Metropolitan Planning Funds (PL Funds) are formula suballocated monies that State DOT's are required to dedicate to MPOs for financing MPO planning activities and daily operations;
- Federal Transit Administration (FTA) Metropolitan Planning Program / Section 5303 are formula moneys maintained by FTA to fund metropolitan planning operations and services;
- FTA State Planning and Research Program / Section 5313 funds are to assist states in meeting federal planning regulations. While the State is not required to suballocate these funds may use them for metropolitan transportation planning.

STATE

- State match is a common way for MPOs to receive the available 80% from federal grants if the state provides the 20% match. In Texas, MPOs receive in-kind assistance from its district offices. In-kind match may include: insurance, purchasing, engineering services, office space/rent, site

hosting, staff payroll/salaries, staff benefits, and utilities.

LOCAL

- County and city governments and local agencies may support MPO planning and operations through support from their general funds. Local support may also be made available in the form of membership dues collected by the MPO from jurisdictions within its planning boundaries. In addition to dues, some MPOs raise local revenues for their operations by providing services on a contractual basis to local entities. In arrangements that are perhaps a legacy of the 1980s, when funding cuts forced MPOs to be entrepreneurial, the MPO may contract with local government units lacking staff or technical capacity and perform fee-based data services and planning. The fees earned from local entities count as the required match.

Given that the local MPO, in consultation with the local TxDOT District and interested parties, select projects for Category 2 and 7 funding, a projection of funding in this area is of community-wide concern. Category 2 provides for funding mobility and added capacity projects on major state highway system corridors which serve the mobility needs of a Transportation Management Area (TMA). Category 7 provides for funding mobility projects within the Transportation Management Areas (TMAs). The pending allocation of available funding for the planning period is estimated as shown in Table 2.2 (as adopted by the TxDOT Commission in August 2014):

TABLE 2.2: 2015 – 2024 UTP TRANSPORTATION FUNDING LEVELS
(Corpus Christi District Office ADOPTED: August 2015)

CATEGORY	10 YR TOTAL	15 YR PROJECTION	25 YR PROJECTION
		2030	2040
CAT 2	$77,330,000	$123,728,000	$193,325,000
CAT 7 – STP MM	$54,180,000	$86,688,000	$135,450,000
CAT 9 – TAP*	$448,710,000	*	*

*Due to frequent CAT 9 funding changes, this category of TAP funds are not anticipated for long-range planning

LOCAL FUNDING FOR HIGHWAY

Local governments and providers of transportation have programmed funds to provide the local match to federally funded projects. The MPO member agencies have also committed local bond funds to finance capital improvement programs that complement the transportation planning process such as the City of Corpus Christi 2012 Bond Program committed over $55 million in street improvement projects and an estimated 2014 Bond Program is pending voter approval for an additional $163K.

FEDERAL FUNDING PROGRAMS FOR TRANSIT

MAP-21 provides the authorization for the Federal Transit Administration (FTA) programs. The basic structure of the Federal transit programs remains essentially the same but several new programs and activities have been added and new features have been incorporated (refer to Table 2.3). The funding flexibility features and similar matching ratios to the highway programs have been retained.

TABLE 2.3: MAP-21 HIGHLIGHTS OF PROGRAM CHANGES

NEW	CONSOLIDATED	REPEALED	MODIFIED
Public Transportation Emergency Relief (5324) Asset Management (5326) Safety Authority (5329) State of Good Repair Grants (5337) Bus and Bus Facilities Formula Grants (5339) Transit Oriented Development (TOD) Planning Pilot Grants (20005(b) of MAP-21)	Urbanized Area Formula Grants (5307) [JARC] Enhanced Mobility of Seniors & Individuals with Disabilities (5310) [New Freedom] Rural Area Formula Grants (5311) [JARC]	Clean Fuels Grants (5308) Job Access & Reverse Commute (5316) New Freedom Program (5317) Paul S. Sarbanes Transit in the Parks (5320) Alternatives Analysis (5339) Over-the-Road Bus (Sec. 3038 – TEA-21)	Metropolitan and Statewide Planning (5304 & 5304) Fixed Guideway Capital Investment Grants (5309) Research, Development, Demonstration, & Deployment (5312) Technical Assistance & Standards (5314) Human Resources & Training (5322)

NEW PROGRAMS

Emergency Relief (5324) this new program assists States and public transportation systems with emergency-related expenses. Emergencies are defined as natural disasters affecting a wide area or a catastrophic failure from an external cause for which the governor of a State has declared an emergency (and the Secretary of Transportation has concurred) or the President has declared a major disaster. The program funds capital projects to protect, repair, reconstruct, or replace equipment and facilities. It also funds transit agency operating costs related to evacuation, rescue operations, temporary public transportation service, or changing public transportation route service before, during, or after an emergency in an area directly affected. The grants only cover expenses not reimbursed by the Federal Emergency Management Agency (FEMA). The program will provide immediate funding, similar to the FHWA emergency program. Funding will be appropriated by Congress as needed.

Asset Management Provisions (5326) MAP-21 requires FTA to define the term "state of good repair" and create objective standards for measuring the condition of capital assets, including equipment, rolling stock, infrastructure, and facilities. Based on that definition, FTA must then develop performance measures under which all FTA grantees will be required to set targets. All FTA grantees and their

subrecipients are required to develop transit asset management plans. These plans must include, at a minimum, capital asset inventories, condition assessments, and investment prioritization. Each designated recipient of FTA formula funding will be required to report on the condition of its system, any change in condition since the last report, targets set under the above performance measures, and progress towards meeting those targets. These measures and targets must be incorporated into metropolitan and statewide transportation plans and transportation improvement programs (TIPs). FTA will support this effort through technical assistance, including the development of an analytical process or decision support tool that allows recipients to estimate their capital investment needs over time and assists with asset investment prioritization.

Safety Authority (5329) MAP-21 grants FTA the authority to establish and enforce a new comprehensive framework to oversee the safety of public transportation. The new law incorporates:

- Safety performance criteria and standards
- Grantee safety plans
- State Safety Oversight
- Additional Authorities:
    - Authority to inspect and audit all public transportation systems;
    - To make reports and issue directives with respect to the safety of public transportation systems;
    - To issue subpoenas and take depositions;
    - To require the production of documents;
    - To prescribe record-keeping and reporting requirements;
    - To investigate public transportation accidents and incidents;
    - To enter and inspect equipment, rolling stock, operations and relevant records; and
    - To issue regulations to carry out transit safety provisions.

MAP-21 also grants FTA enforcement authority and permits FTA to issue directives, require more frequent oversight of transit systems, impose more frequent reporting requirements, and require that formula grant funds be spent to correct safety deficiencies before funds are spent on other projects.

State of Good Repair Grants (5337) MAP-21 establishes a new grant program to maintain public transportation systems in a state of good repair. This program replaces the fixed guideway modernization program (Section 5309). Funding is limited to fixed guideway systems (including rail, bus rapid transit, and passenger ferries) and high intensity bus (high intensity bus refers to buses operating in high occupancy vehicle (HOV) lanes.) Projects are limited to replacement and rehabilitation, or capital projects required to maintain public transportation systems in a state of good repair. Projects must be included in a transit asset management plan (see next section) to receive funding. The new formula comprises: (1) the former fixed guideway modernization formula; (2) a new service-based formula; and (3) a new formula for buses on HOV lanes.

Bus and Bus Facilities Program (5339) a new formula grant program replaces the previous Section 5309 discretionary Bus and Bus Facilities program. This capital program provides funding to replace, rehabilitate, and purchase buses and related equipment, and to construct bus-related facilities. Some of the funding will be distributed by formula based on population, vehicle revenue miles and passenger miles. This program requires a 20 percent local match.

Transit-Oriented Development Planning Pilot a new discretionary pilot program with eligible activities including comprehensive planning in corridors with new rail, bus rapid transit, or core capacity projects. The comprehensive plans should seek to enhance economic development, ridership, and other goals; facilitate multimodal connectivity and accessibility; increase access to transit hubs for pedestrian and bicycle traffic; enable mixed-use development; identify infrastructure needs associated with the project; and include private sector participation.

CONSOLIDATED PROGRAMS

Urbanized Area Formula Grants (5307) the largest of FTA's grant programs, this program provides grants to urbanized areas to support public transportation. Funding is distributed by formula based on the level of transit service provision, population, and other factors. The program remains largely unchanged with a few exceptions:

Job access and reverse commute (JARC) activities now eligible: Activities eligible under the former (JARC) program, which focused on providing services to low-income individuals to access jobs, are now eligible under the Urbanized Area Formula program. This includes operating assistance with a 50 percent local match for job access and reverse commute activities. In addition, the urbanized area formula for distributing funds now includes the number of low-income individuals as a factor. There is no floor or ceiling on the amount of funds that can be spent on job access and reverse commute activities.

Expanded eligibility for operating expenses for systems with 100 or fewer buses: MAP-21 expands eligibility for using Urbanized Area Formula funds for operating expenses. Previously, only urbanized areas with populations below 200,000 were eligible to use Federal transit funding for operating expenses. Now, transit systems in urbanized area over 200,000 can use their formula funding for operating expenses if they operate no more than 100 buses. Systems operating between 76 and 100 buses in fixed route service during peak service hours may use up to 50 percent of their "attributable share" of funding for operating expenses. Systems operating 75 or fewer buses in fixed route service during peak service hours may use up to 75 percent of their "attributable share" of funding for operating expenses. This expanded eligibility for operating assistance under the urbanized formula program excludes rail systems.

New discretionary passenger ferry grants: $30 million per year is set-aside from the urban formula program totals to support passenger ferries. Funding will be awarded on a competitive selection basis.

New takedown for safety oversight: MAP-21 sets aside one half of one percent (approximately $22 million per year) of Urbanized Area Formula funds for State safety oversight grants (see above section on safety).

Rural Area Formula Grants (5311) this program provides capital, planning, and operating assistance to support public transportation in rural areas, defined as areas with fewer than 50,000 residents. Funding is based on a formula that uses land area, population, and transit service. The program remains largely unchanged with a few exceptions:

Job access and reverse commute activities eligible: Activities eligible under the former JARC program, which provided services to low-income individuals to access jobs, are now eligible under the Rural Area Formula program. In addition, the formula now includes the number of low-income individuals as a factor. There is no floor or ceiling on the amount of funds that can be spent on job access and reverse commute activities.

Tribal Program: The Tribal program now consists of a formula program and a discretionary grant program. Formula factors include vehicle revenue miles and the number of low-income individuals residing on tribal lands.

Appalachian Development Public Transportation Assistance Program: MAP-21 authorizes $20 million each for FY 2013 and FY 2014 for grants to support public transportation in the Appalachian region.

Other changes: The set-aside for States for administration, planning, and technical assistance is reduced from 15 to 10 percent. The cost of the unsubsidized portion of privately provided intercity bus service that connects feeder service is now eligible as in-kind local match.

Enhanced Mobility of Seniors and Individuals with Disabilities (5310) this program provides formula funding to increase the mobility of seniors and persons with disabilities. Funds are apportioned based on each State's share of the targeted populations and are now apportioned to both States (for all areas under 200,000) and large urbanized areas (over 200,000). The former New Freedom program (5317) is folded into this program. The New Freedom program provided grants for services for individuals with disabilities that went above and beyond the requirements of the Americans with Disabilities Act (ADA). Activities eligible under New Freedom are now eligible under the Enhanced Mobility of Seniors and Individuals with Disabilities program.

Projects selected for funding must be included in a locally developed, coordinated public transit-human services transportation plan; and the competitive selection process, which was required under the former New Freedom program, is now optional. At least 55 percent of program funds must be spent on the types of capital projects eligible under the former section 5310 -- public transportation projects planned, designed, and carried out to meet the special needs of seniors and individuals with disabilities when public transportation is insufficient, inappropriate, or unavailable. The remaining 45 percent may be used for: public transportation projects that exceed the requirements of the ADA; public transportation projects that improve access to fixed-route service and decrease reliance by individuals with disabilities on complementary paratransit; or, alternatives to public transportation that assist seniors and individuals with disabilities. Using these funds for operating expenses requires a 50 percent local match while using these funds for capital expenses (including acquisition of public transportation services) requires a 20 percent local match.

REPEALED PROGRAMS

MAP-21 focuses on improving the efficiency of grant program operations by consolidating certain programs and repealing other programs. The following programs expire on September 30, 2012 and no new funding is authorized beyond fiscal year 2012:

- Alternatives Analysis (5339),
- Clean Fuels (5308);
- Jobs Access and Reverse Commute (JARC) (5316);
- New Freedom (5317);
- Transit in the Parks (5320); and
- Over the Road Bus (3038 of TEA-21) FTA Office of Budget and Policy

In lieu of the current Bus Discretionary Program (section 5309), a new formula-driven Bus and Bus Facilities Program (5339) is established in MAP-21. Eliminating these discretionary programs underscores

the need for grantees to carefully prioritize the needs of their own systems and align their capital plans with the new streams of formula assistance provided under MAP-21. With regard to the Transit in the Parks (5320) program, public transportation investments serving National Parks and other Federal lands remain eligible under the Federal Lands Transportation Program administered by the Federal Highway Administration (FHWA). As noted above, job access and reverse commute activities are now eligible under the Urbanized Area Formula program (5307) as well as the Rural Area Formula program (5311). Activities eligible under the former New Freedom program are now eligible under the Enhanced Mobility of Seniors and Individuals with Disabilities program (5310).

MODIFIED PROGRAMS

Fixed Guideway Capital Investment Grants (5309) also known as "New Starts / Small Starts," this program awards grants on a competitive basis for major investments in new and expanded rail, bus rapid transit (BRT), and ferry systems.

Core capacity projects now eligible: MAP-21 adds new eligibility for core capacity improvement projects, that is, projects that expand capacity by at least 10 percent in existing fixed guideway transit corridors that are at or above capacity, or are expected to be at capacity within five years.

Project development streamlined: MAP-21 streamlines the project development process for New Starts. It eliminates the alternatives analysis requirement and instead relies on the review of alternatives performed during the metropolitan planning and environmental review processes. It creates the "Project Development" phase, during which environmental reviews are completed. Project sponsors must complete this phase within two years, or seek an extension from FTA. MAP-21 reduces the number of FTA approval steps by consolidating the "Preliminary Engineering" and "Final Design" stages into a single "Engineering" step. It also requires FTA to develop an expedited review process for determining the technical capacity of project sponsors to undertake the proposed project if they have recently and successfully completed at least one other new fixed guideway or core capacity improvement project.

Project evaluation and rating: Under certain conditions, MAP-21 allows for the use of "warrants," in other words, ways in which projects may qualify for automatic ratings on the project justification criteria. It also eliminates the operating efficiencies criterion and adds a congestion relief criterion. It requires FTA to evaluate the benefits of a Small Starts project against the Federal share of the project, rather than the total project cost when developing the project justification rating.

Reorganization: The fixed guideway modernization and bus and bus facilities programs, which were previously funded under Section 5309, have now been restructured and moved to a new Section 5337 State of Good Repair Program and a new Section 5339 Bus and Bus Facilities Program.

Other Provisions: MAP-21 creates a competitive pilot program for expedited project delivery. In addition, it funds Small Starts projects through a single year grant or an expedited grant agreement. New Starts and core capacity projects are funded through a full funding grant agreement (FFGA). Congressional notification of grant award is 10 days for Small Starts projects and 30 days for New Starts and core capacity projects. MAP-21 requires FTA to issue policy guidance on the process and evaluation criteria within 180 days of enactment, and a rule within one year of enactment.

Metropolitan, Statewide, and Nonmetropolitan Planning Programs (5303, 5304, and 5305). These programs provide funding and procedural requirements for multimodal transportation planning in

metropolitan areas and States that is cooperative, continuous, and comprehensive, resulting in long-range plans and short-range programs of transportation investment priorities. The planning programs are jointly administered by FTA and FHWA, which also provides additional funding.

Establishes a performance-based planning process: MAP-21 requires MPOs and States to establish performance targets that address national performance measures issued by the U.S. DOT and are based on goals outlined in law – safety, infrastructure condition, congestion reduction, system reliability, economic vitality, environmental sustainability, reduced project delivery delays, transit safety, and transit asset management. Transportation Improvement Programs (TIPs) must include a description of the anticipated progress toward achieving the targets brought about by implementing the TIP. Five years after enactment of MAP-21, the U.S. DOT will report to Congress on the effectiveness of performance-based planning and assess the technical capacity of MPOs in smaller areas to undertake performance-based planning.

Requires transit representation on MPO policy boards in large areas: Within two years of the date of enactment, MPOs in urbanized areas designated as transportation management areas must include transit officials on their policy boards.

Supports optional scenario development: MPOs may undertake scenario development exercises in preparing the long-range transportation plan that consider alternative demographic growth, revenue options, and other factors.

Allows designation of regional transportation planning organizations: Regional transportation planning organizations comprised of volunteer local government and transportation officials may be designated to assist the State in addressing the needs of non-metropolitan areas. Accordingly, "statewide planning" has been renamed "statewide and non-metropolitan planning" to signify the important role local officials play in the development of statewide plans and programs in non-metropolitan areas of States.

Research, Development, Demonstration, and Deployment (5312) previous Section 5312 (Research, development, demonstration, and deployment projects) and Section 5314 (National research programs) are now consolidated into one program under Section 5312. Funding supports public transportation research; innovation and development; and demonstration, deployment, and evaluation. Projects under this last category require a project evaluation within two years of award. MAP-21 creates a new low or no emissions vehicle deployment program. FTA is required to submit an annual report to Congress that includes a description of projects funded, an evaluation of each project described, and a proposed allocation of assistance for the next fiscal year. MAP-21 requires a local match of not less than 20 percent for Section 5312 projects.

Technical Assistance and Standards (5314) MAP-21 authorizes discretionary funding subject to appropriations by Congress for a wide range of technical assistance activities and development of voluntary standards and best practices. (Previously, some of these activities were funded under research) A local match of not less than 20 percent is required for projects carried out using a grant. An annual report to Congress is required, similar to the one for the research section above.

Human Resources and Training (5322) the act authorizes appropriations by Congress for human resource activities including: employment training and outreach programs; research on public transportation personnel and training needs; and training and assistance for minority business opportunities. MAP-21

authorizes a competitive grant program to support innovative public transportation workforce development. A 50 percent local match is required for this competitive grant program. FTA must submit a report to Congress on measurable outcomes and impacts of the programs funded.

MAP-21 also authorizes appropriations by Congress for a national transit institute. Formerly authorized under Section 5315, this national transit institute is to develop training and education programs related to topics in public transportation and must be administered through a public, four-year degree-granting institution.

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CHAPTER 3

REGIONAL TRENDS & DEMOGRAPHICS

INTRODUCTION

Demographics such as population, household income, household size, and employment play a key role in transportation planning process. Changes in these demographics have a direct impact on travel behavior and travel patterns. Travel patterns and behavior help in estimating demand for travel which in turn provides the information to project on what transportation improvements would be required for the next 20-year planning horizon.

The Corpus Christi MPO (MPO) Planning Area is comprised of the City of Corpus Christi, the City of Portland, City of Gregory, and parts of rural Nueces and San Patricio counties as shown in Chapter 1 - Map 1.1.

The MPO is required to perform transportation planning activities within this area. However, in 1995, the MPO decided to include the entire two-county area (Nueces and San Patricio) and a small portion of Aransas County (within the Aransas Pass city limits) to collect demographic, employment, land use and street classification data. The reason for doing it was to analyze the regional impact of population and employment and to be ready if the area is designated as a non-attainment area for the ambient air quality. Subsequently, the Texas Department of Transportation required the identification of total transportation needs in Nueces and San Patricio counties as part of the Texas Metropolitan Mobility Plan (TMMP).

STUDY AREA PROFILE

The study area consisting of Nueces and San Patricio counties had a population of 405,027 in 2010. The region consists of 1,532 square miles with a population density of 264 residents per square mile.

According to the United States Census, Texas grew from 20,851,820 in 2000 to 25,145,561 in 2010 reflecting an increase of 21 percent growth. During this same time period, the study area had an increase from 380,783 persons to 405,027 persons which reflected a 6 percent change. The region's ethnic distribution in the 2010 Census is represented to be Table 3.1:

TABLE 3.1: STUDY AREA DEMOGRAPHICS 2010

RACE	POPULATION	PRECENT
Anglo	139,200	34
Black	13,080	3
Hispanic*	241,541	60
Other	11,206	3

*Hispanic count includes White, Black and other representation when reported

Population Age: The age distribution of an area can provide valuable insight into the region's economic composition and income potential. By national standards, Texas has a relatively young population. The 2010 Census show a population composition as follows Table 3.2:

TABLE 3.2: 2010 CENSUS POPULATION STATISTICS

AGE	POPULATION	AREA PRECENT	STATEWIDE PERCENT
Under 5	28,835	7.1	7.7
5-14	59,545	14.7	15.2
15-19	30,019	7.4	7.5
20-44	132,264	32.7	35.3
45-64	105,090	26.0	24.0
65+	49,274	12.2	10.3

Population Gender: The gender distribution of an area can provide additional insight into the region's overall distribution in the population by male and female. Of the area's population, 199,201 were male which represents 49 percent and 205,826 were female which represents 51 percent. This compares to the statewide percentage of 49.6 percent for male and 50.4 percent for female.

Youth and Older Workers: Other age cohorts are of special interest for transportation needs for summer youth programs and older worker programs. The study area has 58,878 persons age 15-24 representing 14.5 percent of the population. This compares with 14.7 percent statewide. For the potential older age cohort, 96,657 persons or 23.9 percent are 55 or over in the study area based on the 2010 Census. This compares to 20.8 percent statewide.

Disability Status: Shortly after the 2000 Census, there was a growing consensus that the American Community Survey (ACS) questions on disability did not coincide with recent models of disability. In 2008, new questions were introduced and are what can be found in current ACS questionnaires. They cover six disability types: (a) Hearing – deaf or having serious difficulty hearing; (b) Vision – blind or having serious difficulty seeing, even when wearing glasses; (c) Cognitive – Because of a physical, mental, or emotional problem, having difficulty remembering, concentrating, or making decisions; (d) Ambulatory – Having serious difficulty walking or climbing stairs; (e) Self-care – Having difficulty bathing or dressing; and (f) Independent living – Because of a physical, mental, or emotional problem, having difficulty doing errands alone such as visiting a doctor’s office or shopping.

It was reported in the 2010 ACS that the area had an estimated 77,517 persons residing there between the ages of 5 to 17 years of age with approximately 7,491 or 9.6 percent with a disability. In Texas, the percent with disabilities in this same age bracket was 5.5 percent. In the working age population group - ages 18 to 64 years, the area had approximately 246,141 persons, of which 40,277 were categorized to be in a disability status. This represented 16.4 percent compared to 10.1 percent in the state overall. Approximately 12,402 persons, or 7.5 percent, were employed with a disability in this age group. For

those who had no disability, an estimated 154,059 or 92.5 percent were employed. For the retirement age group of 65 years of age and older, 47,192 persons resided of which 22,514 were disabled. The percent of this age group with a disabled status was 47.7 percent and this compared to 40.6 percent in Texas overall.

Ages 65 and Older: For the population who are considered to be at the age of retirement or older - 65 years and older, the total number of persons in Texas was 2,601,886 or 10.3 percent of the total population in 2010. This region had a total of 49,274 or 12.2 percent in this older age group. In the same age group of 65 years and over, males in Texas represented 1,135,664 or 4.5 percent of the total population and females totaled to 1,466,222 or 5.8 percent, while in this study area, males totaled to 21,246 or 5.2 percent of all persons in this area and females represented 28,028 or 6.9 percent of all persons.

POPULATION PROJECTIONS

The Office of the State Demographer for the State of Texas distributes the most widely used population projections for Texas. Projection estimates in these tables and the methodology for migration scenarios have been revised as of November 2012 by the Texas State Data Center and Office of the State Demographer – now housed at University of Texas San Antonio.

The following Table 3.3 represents population projections for study area:

TABLE 3.3: POPULATION PROJECTIONS AND PERCENT CHANGE SINCE 2010

YR	TOTAL	PCT*	ANGLO	PCT*	BLACK	PCT*	HISPANIC	PCT*	OTHER	PCT*
2010	405,027	---	139,200	---	13,080	---	241,541	---	11,206	---
2015	422,438	4.3	133,281	- 4.3	13,256	1.3	262,603	8.7	13,298	18.7
2020	440,297	8.7	126,763	- 8.9	13,375	2.3	284,517	17.8	15,642	39.6
2025	458,163	13.1	119,872	- 13.9	13,359	2.1	306,550	26.9	18,382	6.4
2030	473,307	16.9	112,096	- 19.5	13,147	0.5	326,561	35.2	21,503	91.9
2035	484,291	19.6	103,568	- 25.6	12,777	- 2.3	342,987	42.0	24,959	122.7
2040	491,526	21.4	94,742	- 31.9	12,221	- 6.6	355,899	47.3	28,664	155.8
2045	496,301	22.5	86,157	- 38.1	11,535	- 11.8	365,980	51.5	32,629	191.2
2050	499,429	23.3	78,251	- 43.8	10,798	- 17.4	373,488	54.6	36,892	229.2

*PCT – Denotes Percent Change

Vital Statistics: According to the Texas Department of State Health Services for vital statistics for the year 2012, the study area had a total of 5,736 live births. The area had a total of 3,411 deaths.

EMPLOYMENT

Civilian Labor Force (CLF): The most recent civilian labor force estimates from TWC for Texas statewide in May 2014 is 12,969,284 which is an increase in the labor force of 148,182 persons since May 2013. This represents a 1.2 percent change in Texas during this time period. These estimates are not seasonally

adjusted. The study area had a civilian labor force of 210,184 for May 2014 which was a change of 2,075 in CLF since May 2013. This change represented an increase of 0.9 percent for the study area.

Occupations: The best source of occupational information at the county level is from the American Community Survey (ACS). The total number of persons 16 years of age or older who were employed in the study area during the 2010 ACS 1-Year Estimates was 176,200. The following Table 3.4 presents those employed by occupational categories for this region compared to statewide percentages:

TABLE 3.4: STUDY AREA OCCUPATIONAL PERCENTAGE

OCCUPATIONAL CATEGORIES	COUNT	AREA PERCENTAGE	STATEWIDE PERCENT
Management, Business, Sciences and Arts	55,947	32	34
Service	35,612	20	18
Sales and Office	44,420	25	25
Natural Resources, Construction and Maintenance	20,245	12	11
Production, Transportation and Material Moving	19,976	11	12

Class of Worker: Another way to view the types of workers in an area's labor force is by class of worker. According to the 2010 ACS 1-Year Estimates, the area had 131,469 employees who were private wage and salary workers representing 74.6 percent of all workers. The region had another 33,447 persons who were government workers or 19 percent, 11,151 who were self-employed workers or 6.3 percent and 133 who were unpaid family workers representing 0.1 percent. This compares to the Texas statewide distribution of 77.6 percent for private wage and salary workers, 15.3 percent for government workers, 7.1 percent for self-employed, and 0.1 percent for unpaid family workers.

Unemployment: According to the TWC, the study area's unemployment rates decreased from 2013 to 2014. Nueces County went from 10,220 persons unemployed (5.7%) in May 2013 to 8,416 persons (4.7%) in May 2014. San Patricio County went from 2,157 persons unemployed (7.3%) to 1,856 persons (6.2%). The Texas statewide unemployment also decreased during this time frame going from 805,161 persons unemployed (6.3%) to 655,604 persons (5.1%).

Business Universe: Average firm size makes a difference from a transportation impact perspective. The TWC reported 7,727 firms in the study area in the first quarter of 2013. The study area also had approximately 9,107 establishments which employed 10 or more employees. Nueces County had an average of 158,248 persons employed during this time frame. San Patricio had an average of 18,544 persons employed.

Commuting to Work: Commuting to work numbers are used as direct input in a transportation study. In 2010, the study area had a total of 137,929 or 79.3 percent who drove their car to work alone, 17,598 or 10.1 percent who car pooled, 2,990 or 1.7 percent used public transportation, 3,464 or 2 percent who walked to work, 7,179 or 4.1 percent of regional workers who used other means to work, and 4,676 or 2.7 percent who worked at home. These methods of commuting to work compare to the Texas statewide

results by: car alone (79.8%), car pool (11.1%), public transportation (1.5%), walked (1.7%), other means (1.8%), and worked at home (4.1%).

INCOME

Personal Income: Total personal income is a widely used measure of regional economic health while per capita income is generally used to compare the relative well-being of residents across areas (not accounting for differences in area cost of living). The per capita income in 2010 was $22,188 for Nueces County and $20,375 for San Patricio County while Texas statewide had a per capita income of $23,863.

Poverty Population: In 2010, the study area had an estimated population 400,369 for whom poverty status is determined. Of that population, 80,673 persons are below the poverty level. That figure represents 20.1 percent of the people whom poverty status is determined compared to the 1.9 percent that represents Texas statewide.

HOUSING

Household Units and Size: The total number of occupied housing units in 2010 in the study area according the Census was 147,224 with an average household size of 2.7 persons. The average household size for Texas was 2.75 persons for the same period. Owner-occupied housing units for this area were 62 percent compared to Texas statewide which had a rate of 63.7 percent. The percent of households with persons 65 years of age or older was 18.4 percent in Texas statewide while 24.5 percent of study area had households with individuals 65 years of age and older.

Owner and Renter Occupied: According to the 2010 American Community Survey 1-Year Estimates from the Census, the percent of owner-occupied units with a value of $100,000 or greater in the study area was 55.2 percent compared to 63.3 percent for the state. The percent of renter-occupied units with rent values of $500 per month or greater was 85 percent as compared to the Texas percentage of 87.8 percent. For this area, the total number of renter-occupied housing units was estimated to be 53,919 which represented 37.2 percent of all occupied housing units in 2010. This compares to a Texas statewide percentage of 34.3 percent for the same period.

TRAVEL DEMAND FORECAST

The travel forecasting process started in the Corpus Christi urbanized area under the 1962 Federal Aid Highway Act when the first comprehensive transportation plan was developed for guiding transportation improvements. The plan was reaffirmed by the City of Corpus Christi in 1974, ‘76, ‘79, ‘83, ‘84 and ‘87. The enhanced travel forecasting process started under the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). With the development of the 2006 Base Year Travel Demand Model (TDM), a decision was made to create a regional model that can replicate and forecast travel for the entire two-county area of San Patricio and Nueces Counties. In March 2014, we received the necessary software from the Transportation Planning and Programming Division of the Texas Department of Transportation (TxDOT) so that we may be able to utilize the delivered validated 2006 base year and 2040 forecast year TDM. The 2006 base year TDM replicated existing traffic volumes and vehicle miles of travel (VMT) when benchmarked against the 2006 urban saturation counts in the two counties, and was calibrated to the 2010 urban travel surveys. The 2040 forecast TDM is intended to provide a reasonable estimate of future

travel demand on planned transportation system improvements given a forecast set of 2040 demographics.

As a part of the development of the 2006 TDM, the Metropolitan Planning Organization (MPO), in cooperation with TXDOT, conducted a series of comprehensive travel surveys for San Patricio and Nueces Counties. The travel surveys were conducted in 2010 and included the following set of surveys:

- Household Activity and Travel Survey
- Special Generator Survey
- External Travel Survey
- Commercial Vehicle Survey
- Vehicle Operating Survey
- Stated Preference Survey (Partial)
- On-Board Transit Survey

A combined regional set of comprehensive travel surveys is underway for the 2010 fiscal year. The combined regional travel surveys will include the Corpus Christi and Victoria urban areas and will coincide with the next urban saturation ground counts for the two study areas. A final report was delivered to the MPO in 2014.

Travel Model Data Development Process

The MPO worked in cooperation with TXDOT to prepare a schedule for the development and sequence of events that are a part of the TDM development process. The schedule outlines delivery dates, milestones and agency responsibilities. Typically, the impetus for initiating a model update is the collection of urban saturation counts; these are collected for a given urban area every five years. The TDM update process starts with the MPO, area agencies and TxDOT staff meeting to agree on the process and data development tasks. Once a consensus is reached on the process, the MPO staff starts by updating two critical data sets that are major inputs to the TDMs – networks and demographics. The first task is a review of network maps for additions, deletions and general update. The edited network maps are forwarded to TxDOT-TPP, which are used as the foundation for editing the travel model networks in the TDM software platform used by TxDOT.

The second task is a review and update of the base and forecast demographics. The MPO staff, along with the City of Corpus Christi staff, develops demographic inventories for the base and forecast year(s). The demographic databases are presented to the Technical and Policy Advisory Committees for adoption. Once adopted, the data is then supplied to TPP-TxDOT for use in the development and validation of the TDM.

The model is validated through an iterative process, where travel data (e.g. trip rates, speeds, trip lengths, etc) are adjusted until modeled volumes replicate observed conditions. The 2006 TDM was calibrated to the 2006 urban saturation ground counts. Trip rates were developed from the comprehensive travel surveys discussed in the Background Summary.

The Corpus Christi Travel Demand Model

The MPO adopted the 2006-2040 TDM as a basic planning tool to guide the long range planning process.

The projected travel demand helped identify system deficiencies and evaluate and compare proposed options. In accordance with the Memorandum of Understanding (MOU) with TxDOT-TPP concerning model development, the MPO is currently in the process of developing the approved demographic and network input data for a new 2012 base and 2046 forecast year TDM.

The last model revision was completed in 2013 in support of the 2040 Metropolitan Transportation Plan (MTP). A set of 2040 demographics was developed by trending the land use assumptions that existed in the previous 1996-2025 forecast scenario by continuing those assumptions for an additional fifteen years. San Patricio and Nueces counties were forecast separately in recognition of the distinct land use characteristics that exist between the two counties (e.g. urban versus rural). Only one minor revision was made to the network to create a 2030 network. Despite another urban saturation count update being available, the MPO did not develop a 2001 base year-travel demand model, since (1) the population and VMT were tracking close to the 1996 base year TDM, (2) the regional network really only had a few minor changes from 1996 to 2001, and (3) a comprehensive travel survey with saturation counts was scheduled for 2006.

In contrast, the data development procedures for the 2006-2040 TDM is much more rigorous. Data for both years is being developed basically from scratch to provide more accurate and up-to-date datasets for the new TDM.

The MPO has prepared for the upcoming 2006-2040 model by taking advantage of the recently-published Transportation Research Board Special Report 288, Metropolitan Travel Forecasting: Current Practice and Future Direction. This report provided descriptions of model procedures and attributes for a range of MPO's. The MPO, through a consultant contract, evaluated itself against peer cities reported in the research, essentially conducting a peer review process on its TDM. The review found that the Corpus Christi TDM was substantially in line with the state of the practice for its peer cities. Targeted areas for potential TDM enhancements were identified, and some of these recommendations are currently being implemented in conjunction with TxDOT-TPP.

The study area covers the full extent of Nueces and San Patricio Counties, as well as a small portion of Aransas County. This coverage was seen as quite adequate and has not been changed. The forecast Regional Parkway Mobility Corridor's new crossing of the Laguna Madre to Padre Island connects to the network in Kleberg County, just south of an existing external station. The external station was extended south to accommodate this, but no new zone in Kleberg County was felt to be necessary.

The Corpus Christi TDM is structured as a three-step model, which includes trip generation, trip distribution, and traffic assignment modules. This model structure was evaluated and found to be consistent with the state of the practice. The MPO has considered investigating advanced practice models in order to add new analysis capabilities. However, the review suggested that "…it is not clear yet that advanced models can be implemented that provide significant improvements for a reasonable cost". Further, the current TDM structure was seen to be able to answer the most critical policy questions which are currently before the MPO. The current TDM structure is therefore seen as suitable for the MPO's intended analysis applications, and no changes have been recommended.

The planning networks contain all links that are functionally classified as collector and above and are considered regional significant facilities. Network link-specific information that is inventoried includes number of lanes, facility type category (e.g. principal arterial) and whether the facility is divided or undivided or has a continuous center turn lane. In addition, operational characteristics such as daily speed, daily capacity, average weekday traffic count and direction (one-way/two-way) are coded in the network database. Network development for the 2006-2040 TDM included primary data collection, in which the entire network was driven for a field verification of attributes. This effort found several FM roads which were not in the network and therefore had to be added, and several low-volume county roads (some of which were not paved) which were not of regional significance and could reasonably be deleted. Additionally, evolving TxDOT-TPP network standards led to the institution of detail coding of I-37, U.S. 77, SH 358 (South Padre Island Drive), SH 286 (Crosstown Expressway), SH 44, and portions of U.S. 181. Network links were also re-defined to the new TxDOT-TPP facility type and functional class standard definitions.

Financially constrained projects were incorporated into the approved 2006 network to define the 2040 forecast network. Projects included improvements to existing links, the staged improvement of existing roadways to full freeway standards, and the construction of new roadways on new rights-of-way, refer to Map 3.1, below. Significant 2040 network projects coded into the model include:

- Completion of the Joe Fulton corridor with an enhanced connection at IH-37.
- Replacement of the Harbor Bridge on a new alignment, with an interchange at SH 286.
- Upgrade of US 77 to full freeway standards as for north as IH-37.
- Extension of SH 286 as far south as FM 2444 with full freeway standards.
- Upgrade of SH 44 to full freeway standards to just east of US 77.
- Reliever routes around Driscoll and Sinton.
- Ramp reversals along SH 358.

Urban development in the study area since the 2006 model was developed changed the character of several of the defined traffic analysis zones (TAZ). In order to retain a fairly homogenous character in each TAZ, several were split to define new zones. Additionally, some new zones were defined in order to match the TAZ structure with the newly-developed detail coded network. As a result, the 416 internal TAZ's in the 1996 model have been redefined into a 602 TAZ structure for the 2006 model. The number of external stations has remained unchanged at 22.

MAP 3.1 - Significant 2006 - 2040 Network

Demographic data developed for each TAZ includes the following information: population, number of households, median household income, employment data by four general categories (Basic, Retail, Service, and Educational employment), and the locations and similar attributes for designated special traffic generators.

The demographic data was developed based on population and employment estimates for 2006 and 2040 projections obtained from the Texas State Data Center. These data were used as control totals for disaggregation to the TAZ level. Data were cross-checked using ratios and comparisons to previous data. An independent review of the data conducted by TxDOT-TPP with the assistance of the Texas Transportation Institute (TTI) found that the control totals were reasonable. (Refer to Maps 3.2 - 3.5).

The disaggregation of the control totals to the TAZ level followed several steps. The Texas State Data Center data for census places were allocated to TAZ's based on a review of the character of each TAZ and on its available developable land area. Allocation within each census place was further guided by population and employment "trend areas" identified through a consensus of regional stakeholders in a workshop hosted by the MPO. Allocated data was then reviewed and smoothed as necessary for reasonableness of growth, growth rates, and compatibility with historic data, and cross-checked against reasonable ratios.

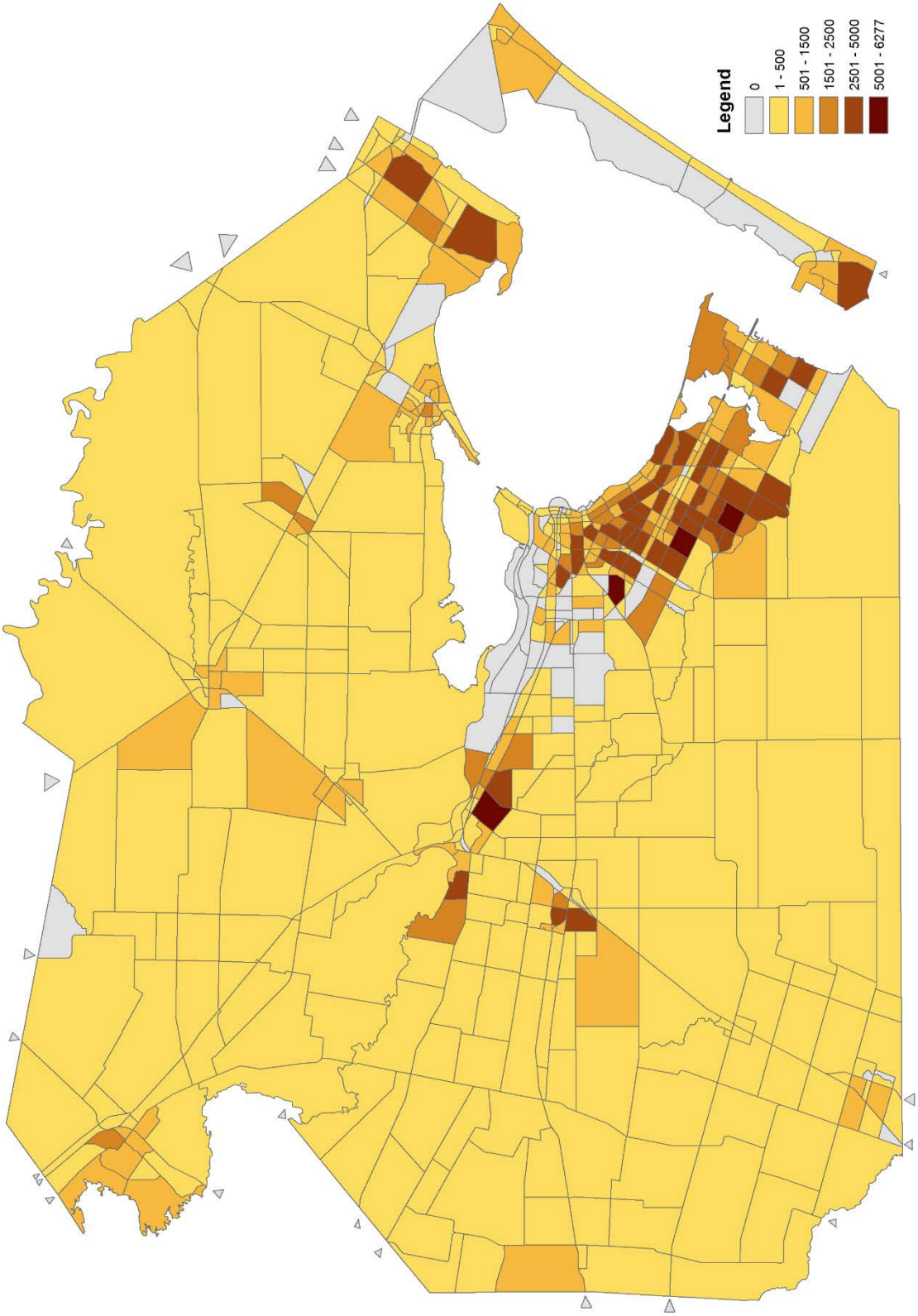
The resulting tool provides a base set of 2040 demographics and a consistent, model-based tool for defining a set of 2040 demographics which include employment and population at any given level of estimated employment. The second set of demographics can then be used as the official input to the TDM.

The development of the network zone structure, and TAZ-level demographics for the 2006-2040 TDM is being completed through use of a consultant contract. The detailed procedures, recommendations, and results of these efforts are being documented in separate technical memoranda. The model is validated through an iterative process, where travel data (e.g. trip rates, speeds, trip lengths, etc.) are adjusted until modeled volumes replicate observed conditions. The 2006 TDM was calibrated to the comprehensive travel surveys discussed in the Background Summary, and validated to the 2006 urban saturation ground counts. Trip rates were developed from the comprehensive travel surveys discussed in the Background Summary.

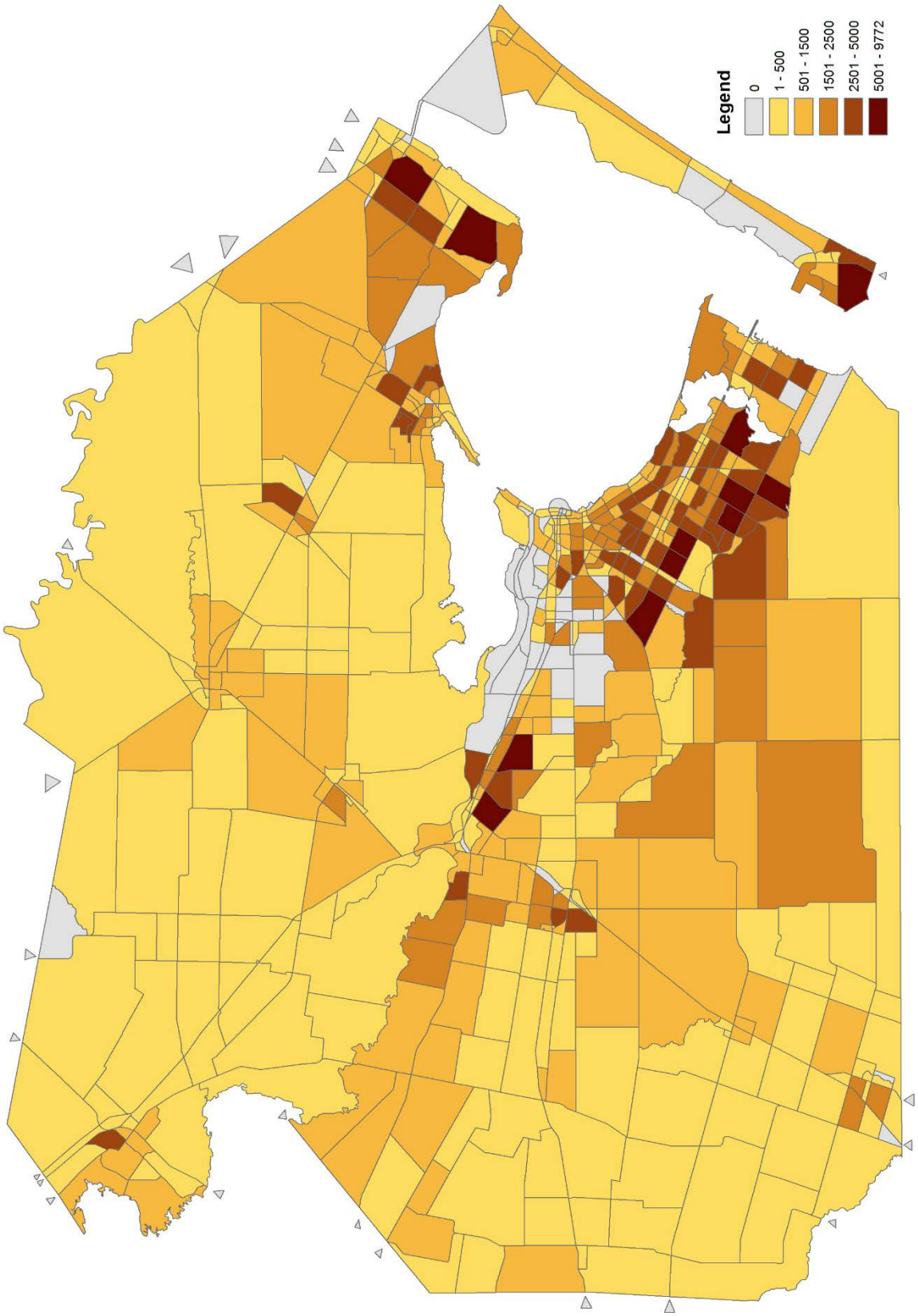
Current Activities for the Development of 2040 Travel Model

The Transportation Policy Committee approved the MTP Validation Study which was developed to provide a peer review and analysis of the 2040 MTP process. A critical element is the evaluation of data provided as input into the Travel Forecasting Model. The MTP Validation Study is a five-year process which will involve the MPO, TxDOT, TTI, and area entities and their resource staff. The objective is to review and document the MTP development process and the individual tasks and elements required in the process. The initial focus is the evaluation of developing reliable input data to be used in the modeling process since it is the model output that forms the foundation for MTP project recommendations.

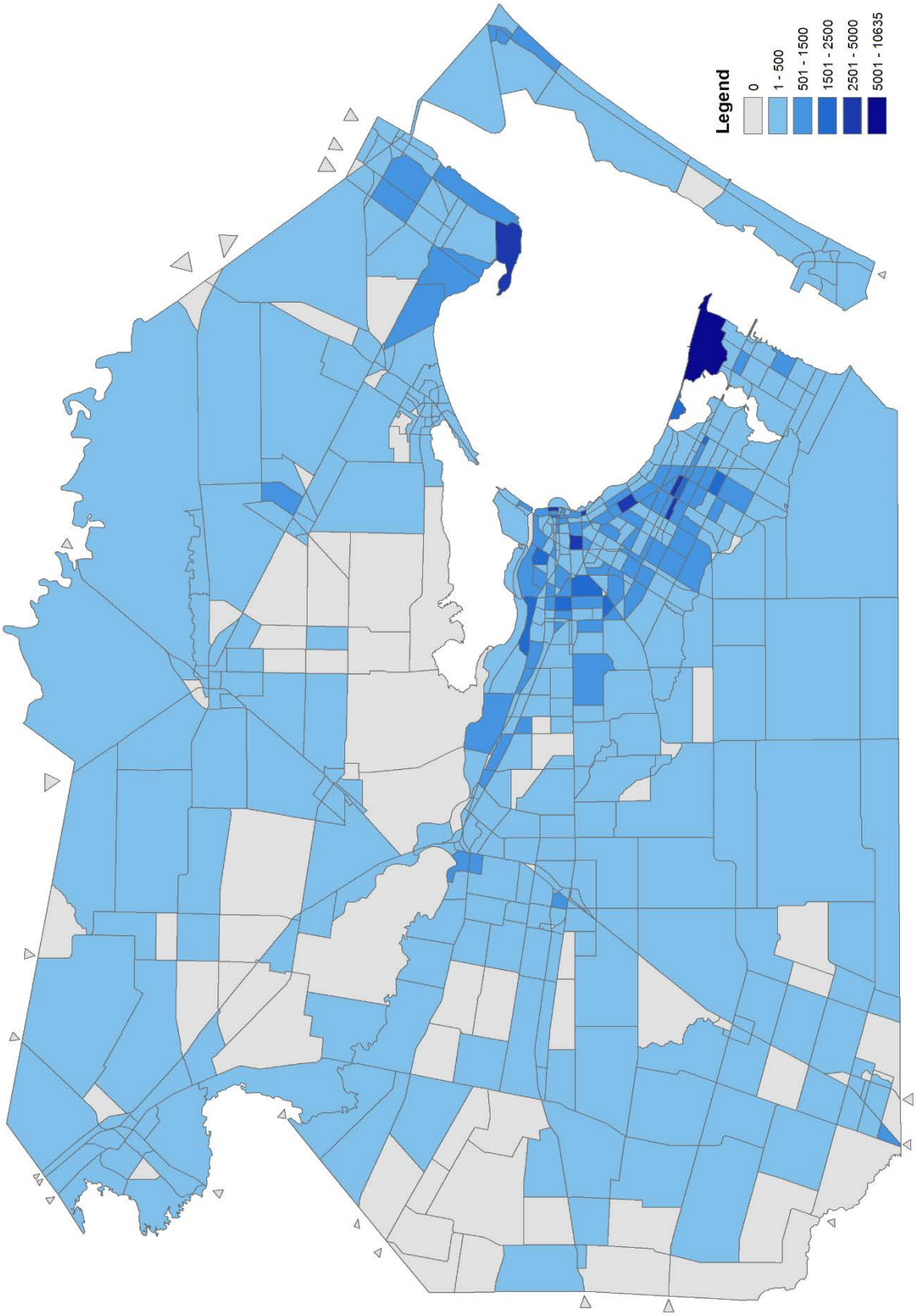
As a first step, staff from TTI, TxDOT, and MPO have met to identify the elements of the process, individual task deliverables and individual responsibilities and to provide "basic training" for the MPO staff. The identification of a resource group was identified as an initial task, so that they can provide input into the review process and be developed as community advocates for the MPO planning process. It is intended that the Validation Study will provide milestone "best practices" documents and result in a 2040 revised MTP that is based on forecast data that is of the highest confidence and documentation of the process that will benefit small and mid-size MPO's.



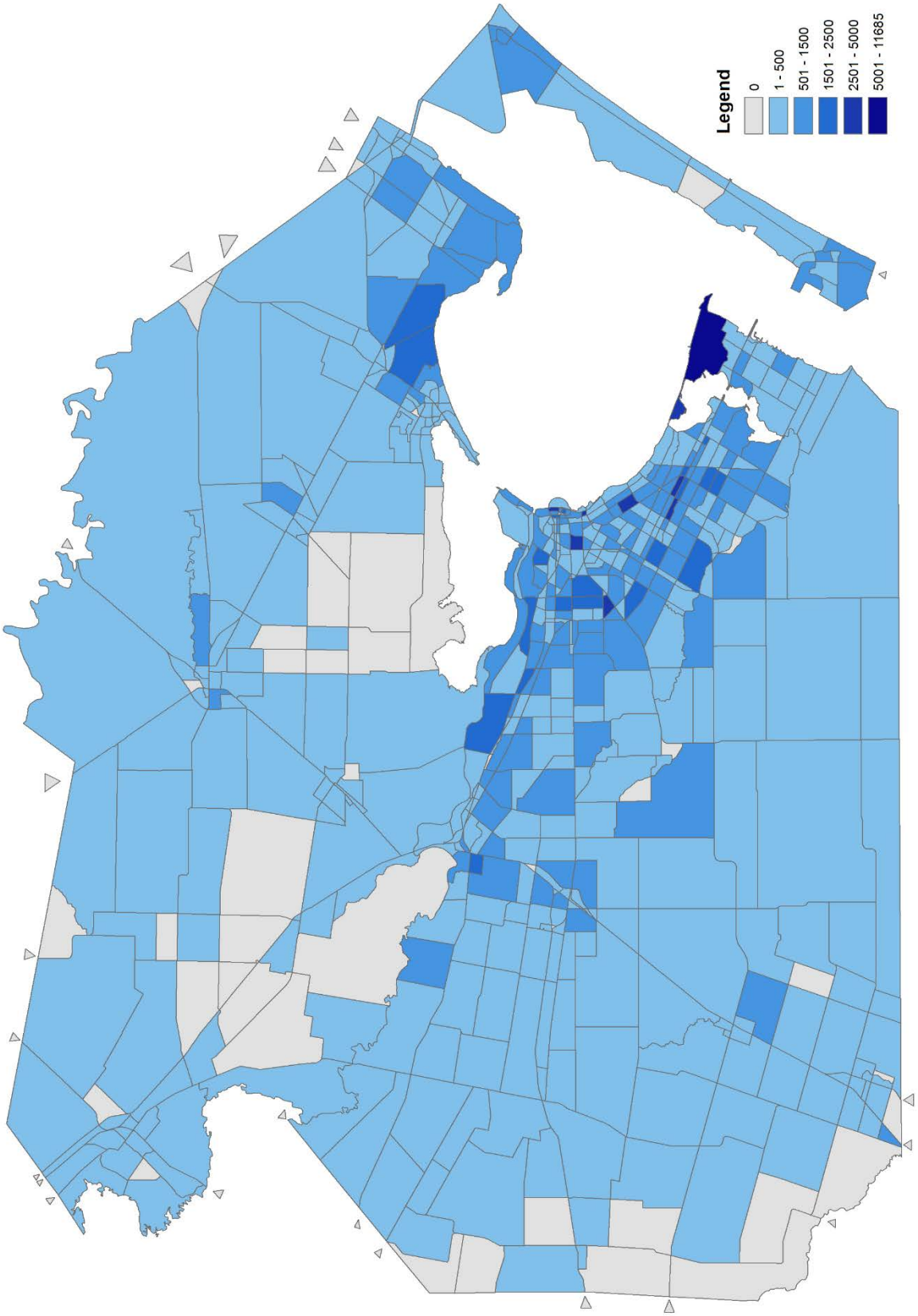
MAP 3.2 – 2006 Population



MAP 3.3 – 2040 Projected Population



MAP 3.4 – 2006 Employment



MAP 3.5 – 2040 Projected Employment

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CHAPTER 4

REGIONAL TRANSPORTATION NETWORK

INTRODUCTION

A variety of transportation options are available to meet the diverse travel demands of the Coastal Bend. These essential components of the regional transportation network are comprised of interrelated projects, programs, and policies that work together to support efficient access, through various modes of transportation choices. The movement of goods and people, that accommodate the mobility needs of this growing region over the 25 year horizon, are discussed in the following sections.

ROADS AND HIGHWAYS

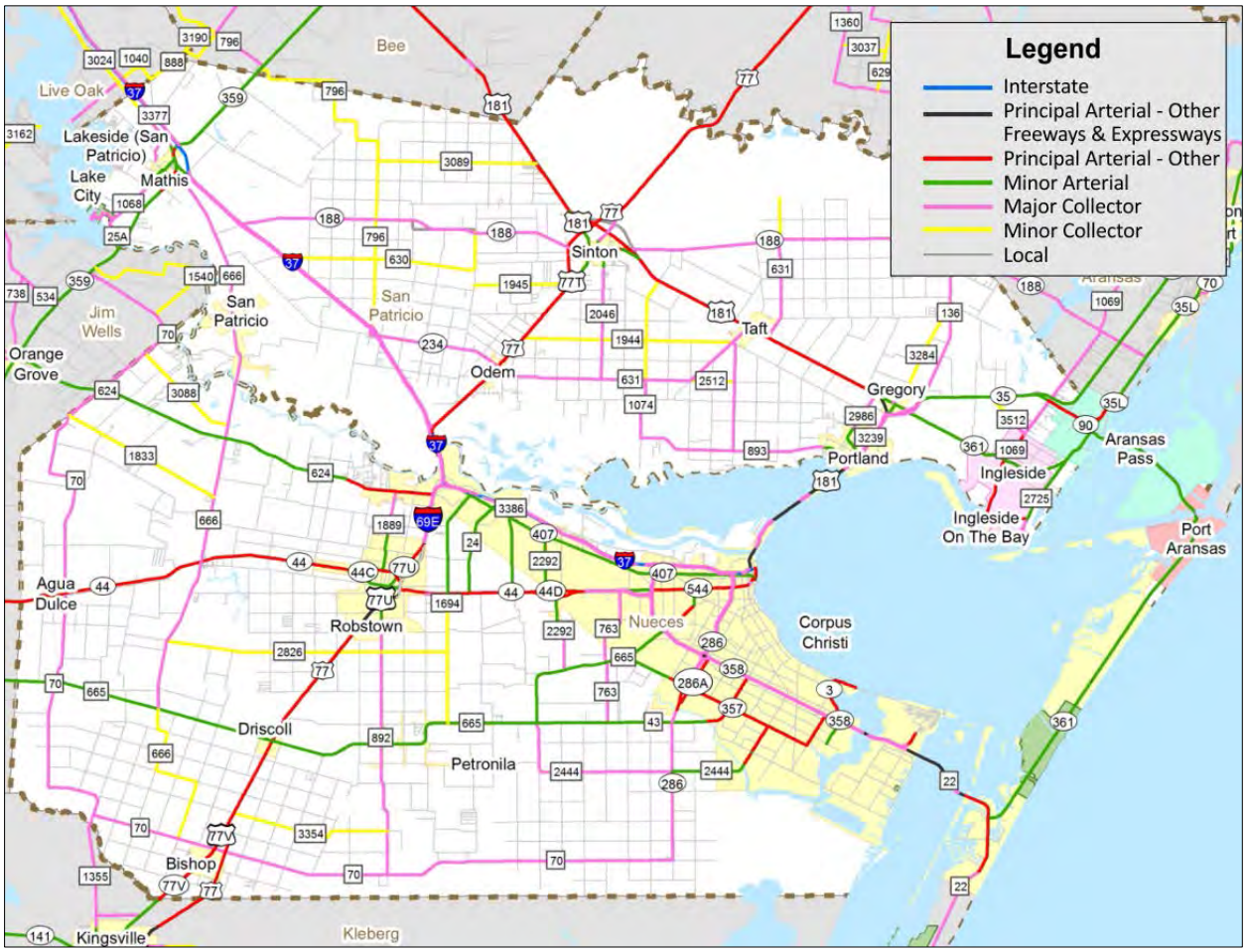
The framework for our regional transportation network includes roads and highways, public transportation, active transportation (bicycle and pedestrian), freight, the port, recreational travel and air travel. Each component encompasses interrelated, multi-modal policies, programs, and projects. These components work together to address the following:

1. Support economic vitality
2. Increase safety
3. Increase security
4. Increase accessibility and mobility of people and freight
5. Protect and enhance the environment
6. Enhance the integration and connectivity
7. Promote efficient system management and operation
8. Emphasize the preservation of the existing transportation network

Addressing these factors is essential to a healthy and sustainable regional transportation network that that will not only shape our movement of people and goods but will address environmental, social and economic goals. Providing consistency between road and highway improvements and State and local planned growth and economic development patterns is crucial to secure this connectivity.

Roads and highways convey a variety of agency responsibilities. The State system (represented in Map 4.1) includes 907 center-line-miles of roadway in Nueces and San Patricio Counties. In addition to State maintained roadways, 1,300 miles of County road system and 1,900 miles of city streets comprise a network of corridors to connect and carry a variety of vehicles, bicycles and pedestrians. There are over 360,000 registered vehicles in Nueces and San Patricio County that have operated an estimated 10 million average daily vehicle miles in the two-county area.

Roads and highways help define the structure of a community, providing critical connectivity within our transportation network. An increasing population is producing a growing number of vehicle trips including single-purpose, single-person trips. One of the results of this increase in vehicle trips is an increase in congestion. Congestion can hinder critical connectivity within our transportation network. Congestion can



MAP 4.1: State Roads and Highways System

be addressed by increased capacity. However, with constrained financial resources, the construction of new capacity to accommodate congestion is challenging. In light of this financial constraint, alternative methods to address congestion include preservation of the existing transportation system, maintenance, access management, use of alternative modes, and integrated transportation and land use planning. These are the focus of streets and highways development for the future.

URBAN ACTION PLAN

Transportation helps shape an area's economic health and quality of life and influences patterns of growth and economic activity through use. Planning enables civic leaders, business interests and citizens to play a meaningful role in creating communities that enrich people's lives. Transportation planning is a cooperative process. Transportation planning includes monitoring existing conditions, forecasting future population and employment growth, identifying current and projected future transportation problems, developing long and short range plans, estimating the impact of recommended future improvements and developing a financial plan for securing sufficient revenue. The planning process, our Urban Action Plan, leads to projects and improvements funded by local, state and federal sources that advance the area's long-term goals.

1. **Reduce Congestion** by maximizing the capacity and efficiency of the existing major highways

and streets.

2. Improve the **Safety** of our transportation network through improved efficiency and effectiveness of major road and highway facilities.
3. Provide new facilities, improved facilities and transportation services that **Expand the Economic Opportunities** in the area.
4. Provide new facilities, improved facilities and transportation services that will support the maintenance of our Attainment status and **Improve Air Quality**,
5. Provide new facilities, improved facilities and transportation services that will **Increase the value of Transportation Assets**.

To meet the above goals the MPO has established the following objectives or actions:

Action 1: Develop and maintain the street classifications geodatabase as roadway improvement decisions are made.

Roads and highways are typically classified according to their intended function in providing traffic movement. These functional classifications carry a hierarchy as well as a set of design standards consistent with the type of service each facility is intended to provide. Criteria for designation of road and highway facilities include travel desires of the public, access requirements for adjacent land use, and continuity of the system. Classifications used in the Corpus Christi Metropolitan Area are identified below in Figure 4.1:

FIGURE 4.1: Road and Highway Classifications

FREEWAY & INTERSTATE SH 358 / South Padre Island Drive A limited access highway with no traffic stops and with grade-separated interchanges at major thoroughfares. Intended for high-volume, high-speed traffic movement between cities, and interstate across the metropolitan area. Not intended to provide direct access to adjacent land.	
PRINCIPAL ARTERIAL SH 357 / Saratoga Boulevard A street primarily intended to provide for high-volume, moderate-speed traffic between major activity centers and trips entering and leaving the urban area. Access to abutting property is subordinate to major traffic movement and is subject to necessary controls of entrance and exits. (40 - 65 Vehicle Miles Travel)	
OTHER ARTERIAL McArdle Street A street which interconnects, augments and feeds the principal arterial system and is intended for moderate-volume, moderate-speed traffic. Access to abutting property is partially controlled. (15 - 25 Vehicle Miles Travel)	

FIGURE 4.1: Road and Highway Classifications - Continue

COLLECTOR

Gollihar Road

A street which collects and distributes traffic to and from local and arterial streets. Intended for low to moderate-volume, low-speed, and short-length trips while also providing access to abutting property. (5 - 10 Vehicle Miles Travel)

LOCAL

Typical Street

A street for low-volume, low-speed, and short-length trips to and from abutting properties.

The road and highway geodatabase is intended to provide an overall framework for making decisions on road improvements and extensions. The geodatabase identifies the general location of future major transportation corridors and should serve as a general guide for securing street right of way and for determining appropriate zoning intensities. Precise locations of future facilities will be determined prior to right of way acquisition.

Action 2a: Establish and support a system of priorities for the existing roadway reconstruction and preventative maintenance.

Existing roads that are below the acceptable standard for Pavement Index Condition (PCI) require roadway reconstruction. Existing roads that have an acceptable PCI require preventative maintenance. Because roadway reconstruction includes additional opportunity to right-size the roadway and build complete streets, prioritization of these projects is an important process. It is recommended that improvements to existing facilities be assigned priorities on the basis of the following factors:

1. Surface Condition (Pavement Index Condition, PCI)
2. Roadway Classification, ADT and growth
3. Health & Safety, vehicular or pedestrian
4. Community and public image
5. Multi-Modal Use and Opportunity
6. Access/Place-based Connections

Action 2b: Establish and support a system of priorities for the replacement of deficient bridges.

Existing bridges that are below acceptable standard will pose continuous operational, safety, and maintenance problems until improvements are made. It is recommended that improvements to existing bridges be assigned priorities on the basis of the following factors:

1. Existing and projected traffic volumes
2. Volume-to-capacity ratios
3. Traffic accident history
4. Peak-hour and off-peak hour travel speeds
5. Structural condition
6. Surface width
7. Use as a Hurricane Evacuation Route

Based on these considerations, improvement priorities have been identified in the Project Listing section of the plan. These priorities were defined with the assistance of the Texas Department of Transportation computerized travel demand model. This model estimates future traffic levels for streets on the network on the basis of population and employment projections

Action 3: Preserve major street alignments by preventing development within corridors designated as right-of-way for future roads.

The City of Corpus Christi's transportation plan, MobilityCC, has identified right of way requirements to prevent encroachment of subdivision development for present and future road improvements. Some flexibility to determine precise alignment is possible when a plat is filed and upon right of way acquisition, but the approximate routes of all major streets as shown on the plan should be adopted and respected by city and county governments as development proceeds. Priority corridors should be identified with the previously mentioned travel demand model.

Action 4: Ensure that land use (type, intensity, and traffic generation characteristics of developments) bears a reasonable relationship to the street system.

Land use and transportation are interdependent. Streets should have adequate capacity so that new and contiguous development does not cause or compound traffic congestion. A traffic impact analysis (TIA) requirement is an acceptable method for assuring development compatible with the transportation system. A simplified traffic analysis, identifying the number of vehicle trips generated by the proposed development and the impact of these trips on the street network, should be conducted whenever an agency approval for a plat or rezoning is required. If this analysis indicates that traffic problems may occur, a detailed study should be conducted to determine the proper course of action. Off-site traffic improvements should be made by the developer if the development is solely responsible for creating a situation which necessitates the improvements.

Action 5: Minimize potential traffic conflicts by controlling the frequency and location of driveway access to principal arterial, arterial, and collector streets.

Each type of street is intended to perform a different function, and access should be regulated accordingly. Local streets are intended primarily to provide access to abutting property and should do so with minimal restrictions. Arterials are intended primarily to move traffic and cannot do so efficiently if there are too many access points which disrupt traffic. Flashing beacons along arterials for schools and hospitals slow down the traffic. Access to schools should be provided from streets that have the needed capacity. Pedestrian signals may be installed on arterials and collectors to replace flashing beacons. Collector streets serve as a dual function of access and traffic movement and should have moderate restrictions on access.

Action 6: Provide off-street parking and loading facilities in sufficient quantity to accommodate

vehicle volumes generated by the type and intensity of development.

Provide enough off-street parking bearing a reasonable relationship to the number of vehicle trips attracted by a particular development. The shared use of parking facilities should also be encouraged where two or more establishments are not normally open at the same time. Platting and subdivision ordinances of municipalities may be amended to allow movement of traffic from one business to another without using the public street system.

Action 7: Discourage on-street parking along major streets.

On-street parking should be discouraged or prohibited along principal arterials, arterials and collectors. Consideration should also be given to removing existing on-street parking along major streets where congestion occurs and adequate off-street parking is available.

Action 8: Maximize the efficiency of the existing street system by implementing effective transportation control measures (TCM).

The construction of new streets is an expensive and lengthy process. Where the need for a major transportation investment is identified and federal funds are potentially involved, major investment (corridor or sub-area) studies shall be undertaken to develop or refine the plan. Major investment studies shall evaluate the effectiveness and cost-effectiveness of alternative investments or strategies in attaining local, state, and national goals and objectives.

The alternative strategies can be a combination of various TCM techniques: trip reduction, high-occupancy vehicle (HOV) lanes, traffic flow improvement, and flexible work schedules. These and many other TCM techniques can maximize the efficiency of existing streets.

Action 9: Employ ITS and other Transportation System Management (TSM) techniques for improving the capacity of the existing street system.

Signal regulations, ramp metering, one-way pairing and reversing lanes can increase the capacity of existing facilities.

Action 10: Emphasize the preservation of existing assets.

Given the current fiscal limitations, project priority has been placed on operational improvements and the preservation of existing assets as the initial efforts in maintaining a level of service acceptable to the local community.

Action 11: Promote community or urban design that facilitates alternative travel modes.

Development density and location can influence regional travel patterns. Encouraging the coordination of land use and transportation planning can promote development patterns that can accommodate increased growth while facilitating multi-modal travel modes. The MPO remains cognizant of the effects the existing and future transportation systems may have on land use development demands, choices and patterns. Implementation of this decision-making process requires communication and interaction with those involved with developing and implementing plans for growth, economic development and similar issues and concerns impacting land use. Promotion of such decision-making processes, assists in protecting and enhancing the environment, one of the eight planning factors.

REGIONAL CONNECTIVITY

Regional Parkway Mobility Corridor

The MPO, City of Corpus Christi, Nueces County and San Patricio County have sponsored efforts to conduct a study to determine whether a new roadway is needed to alleviate increasing congestion on SH 358 (South Padre Island Drive); provide an alternate route in portions of Nueces and San Patricio Counties, and to plan for forecasted growth in the region. The study focused on the feasibility of what has become known as the Regional Parkway Mobility Corridor (RPMC). The study has been guided by a Project Coordinating Committee (PCC) consisting of members from each of the sponsoring entities, as well as, members from the Texas Department of Transportation (TxDOT). Members of the PCC were briefed at each study milestone during the alternatives analyses and provided direction to the study team. Additionally, study milestones and developments were shared with the Corpus Christi Regional Transportation Authority (CCRTA) and Federal Highway Administration (FHWA). The study area for the RPMC is comprised of approximately 275,000 acres.

Need and Purpose

Within Nueces County future traffic volumes along existing roadways including segments of US 77, SH 44 and SH 286, are anticipated to increase substantially by 2035. In addition, the Texas State Data Center anticipates a 51 percent increase in population within the study area by 2040 which would result in increased traffic congestion and safety issues.

On North Padre Island, the projected growth of flood-prone and vulnerable residential communities and vacation sites on the island underscores the need for a more efficient evacuation route which would be

Conceptual Suburban Rendering of the Regional Parkway

provided by an additional crossing of the Laguna Madre. Within the northern portion of Nueces County, current bridge structures over the Nueces River are subject to flooding, and a new structure would improve crossing capabilities during hazardous situations or a flooding event. For many years, there has been discussion about the need for an alternate major transportation route within Nueces County to address the expanding development in the northwest to southern part of the County and the resulting traffic issues. This route would also potentially provide connections to other roadway facilities that serve or are proposed to serve international trade, port facilities, and rail initiatives in addition to improving the safety of drivers and pedestrians within the area. To meet these and other transportation needs such as reduction of traffic congestion, the RPMC is proposed to be developed as a complement and

enhancement for mobility in the Corpus Christi, Nueces County and San Patricio County areas. The proposed RPMC is included as a priority corridor within the region's Metropolitan Transportation Plan (MTP) which extends through the year 2040. Improvements may include proposed modifications to connecting facilities such as SH 286 (Crosstown Expressway), SH 358 (South Padre Island Drive), I-37, I-69, Park Road 22, SH 361, SH 357 (Rodd Field Road), and FM 624 (Northwest Boulevard).

The PCC and area stakeholders, TxDOT and the MPO have identified the following purposes as those to be addressed by the proposed RPMC:

- Reduce Congestion and Facilitate Regional Mobility
- Connectivity and System Linkages
- Facilitate Potential Economic and Population Growth
- Address Safety Issues Provide Alternate Hurricane Evacuation Route

Enhanced mobility and connectivity to the northern portion of the study area may also reduce congestion caused by increased truck traffic resulting from developing oil field activity. In addition, a proposed route would improve system linkages to the future planned I-69 facility providing relief for the anticipated congestion and increased traffic resulting from this development.

Identification of Preliminary Segments

Seven segments were identified in coordination with the PCC. These segments are summarized in Table 4.1 and illustrated in Map 4.2 using an alphabetic identifier and were then evaluated to determine prioritization. It should be noted that Segments A and B are assumed to include the extensions of Rodd Field Road and Cimarron Road.

TABLE 4.1: PRELIMINARY CORRIDOR SEGMENTS FROM TO LENGTHS (MILES)

SEGMENTS	FROM	TO	MILES
A	Park Road 22	Rodd Field Road	9.5
B	Rodd Field Road	SH 286	6.2
C	SH 286	CR 57	57.6
D	CR 57	US 77	11.1
E	US 77	SH 44	4.4
F	SH 44	FM 624	5.3
G	FM 624	I-37	8.5

Evaluation Summary

Based on the projected traffic volumes that each preliminary segment of the RPMC would attract from the regional roadway network, Segment A is projected to generate the highest daily traffic volumes both short term in 2020 and long term in 2040. Segments B and F are projected to have low traffic volumes if constructed by 2020, however by 2040 it is anticipated that they would generate higher traffic volumes. The other segments are projected to have low traffic volumes both in 2020 and 2040.

MAP 4.2: Regional Parkway Mobility Corridor Segments

In terms of travel time savings, Segment A is expected to reduce VHT by almost 10 percent in 2020 and by 15 percent in 2040. The impact of the other segments is less than one percent in both 2020 and 2040. Although Segment A is projected to perform well from a traffic volume and regional travel time savings perspective, the cost of a bridge over the Laguna Madre, as well as the potential issues with environmental clearance, could pose problems. The relative impact of the added cost of the Laguna Madre compared to other segments is accounted for in the determination of the benefit/cost ratio. Based on that criterion, Segment A is still economically feasible. With the exception of segments C, D and G, all other segments are also projected to have benefit/cost ratios higher than one.

Overall, therefore, there are some segments such as C, D, and G which may not have independent utility. Consideration should therefore be given to combining some of these preliminary segments into larger segments which have independent utility.

HARBOR BRIDGE PROJECT

The Texas Department of Transportation (TxDOT - CRP) - Corpus Christi District, is determining whether the Harbor Bridge, which spans the Corpus Christi Ship Channel at U.S. 181, should be replaced. A Feasibility Study completed by TxDOT in 2003 concluded that U.S. 181 and the Harbor Bridge must be improved to maintain a safe and efficient transportation corridor.

With substantial public input, TxDOT has prepared an Environmental Impact Statement (EIS) that evaluates several potential alignments for a new bridge, as well as a "no-build" scenario (leaving the current bridge in place).

The proposed project includes the replacement of the Harbor Bridge and the reconstruction of portions of U.S. 181, I-37, and SH 286 (Crosstown Expressway) in Corpus Christi, TX. The project is needed to maintain the long-term operation of a U.S. 181 crossing of the Corpus Christi Ship Channel and to address safety risks caused by design deficiencies. The project limits extend both north-south along US 181 from Beach Avenue to Morgan Avenue at Crosstown Expressway.

Four alternatives plus a No-Build alternative have been considered, and a preferred alternative (Red) has been identified for the proposed project. The proposed project would potentially involve the relocation of residences and businesses, and about 30 acres of right-of-way for the Green Alternative, 69 acres for the West Alternative and about 50 acres each of right-of-way for the Red and Orange Alternatives. In addition, the project would potentially require the use or taking of public land designated for use as parks and recreation areas, including Lovenskiold Park, TC Ayers Park, and the Rincon Channel Wetlands. All four alternatives involve impacts to wetlands and existing floodplain. The existing Harbor Bridge is considered to be a historic resource and would be removed as a result of the proposed project.

The preferred alternative would consist of a controlled-access facility on a new location and would include six lanes within a right-of-way width that varies between 200-430 feet, three 12-foot lanes in each direction with a median barrier and 12-foot inside and 10-foot outside shoulders. The alternative includes a 10-foot bicycle and pedestrian shared-use path on the main span of the bridge and on the bridge approaches. The preferred alternative would require the acquisition of approximately 50 acres of new right-of-way, including 0.32 acres of Lovenskiold Park, 5.14 acres of T.C. Ayers Park, 39 residences, and three businesses, and would cause the displacement of four warehouses. Other environmental impacts would include community impacts, access changes, and impacts to land use, floodplains, water quality, vegetation, hazardous materials, and traffic noise. The Draft EIS (www.ccharborbridgeproject.com/eis/) also includes an analysis of the impacts of the project on historic sites and on publicly owned parkland (the Section 4(f) analysis). Record of Decision is anticipated in Fall 2014 with subsequent construction anticipated in Summer 2015.

HIGHWAY SAFETY IMPROVEMENT GRANT PROJECT

The Texas Department of Transportation has awarded the City of Corpus Christi $7 million in grants aimed at highway safety improvements. The funds will provide construction and operational improvements on and off the state highway system. City of Corpus Christi Traffic Engineering staff identified highway safety

projects to interconnect and improve traffic signals on arterial streets. The project will include Agnes Street, Ayers Street, Greenwood Drive, Kostoryz Road and Port Avenue. Street selection is based on accidents reported over the past three years and will include improvements to more than 60 traffic signals. The focus is to eliminate or reduce the number of severe traffic crashes as identified in the Texas Strategic Highway Safety Plan and will require 10% of City funding needed at the time of construction.

Road Maintenance Strategies

The City of Corpus Christi has implemented a Street Improvement Program to address the current and future condition of city streets. This program comprised of four strategies: Maintenance, Arterial / Collector Reconstruction, Residential / Local Reconstruction, and Policies.

Maintenance: The Maintenance Strategy is comprised of the Street Maintenance Fee (SMF) and the Street Preventative Maintenance Program (SPMP). The focus of this Strategy is to implement a new, systematic preventative maintenance program to extend the service life of streets in good or fair condition. This maintenance strategy is being funded through a street maintenance fee that is collected on residential and commercial utility bills.

Arterial & Collector Reconstruction: This Strategy addresses the complete reconstruction of the most heavily used streets in the City. Arterial & Collector reconstruction is typically financed through bonds. Propositions slated for the November 2014 election would continue with additional arterial and collector reconstruction**.**

Residential & Local Reconstruction: This Strategy addresses the complete reconstruction of less heavily traveled streets such as neighborhood streets.

Policy: The Policy Strategy addresses certain policies concerning construction standards and street cuts. Improved construction standards leads to streets that are designed and constructed to last longer. Revised street cut policies address the damage caused to streets by cutting into the pavement for various purposes.

Critical Incident Planning

The regional transportation network is a critical part of the area infrastructure for the safe efficient movement of people and freight. Nevertheless, local public safety agencies must and have prepared for the natural and manmade incidents that could disrupt the effective use of the transportation network. Hazardous cargo spills, major accidents, extreme weather events including hurricanes are just some of the incidents the local agencies have prepared for in a comprehensive manner

To expand upon these efforts the MPO and local partners have established a dialog concerning those events that may have an extended impact on the transportation network. The scenarios that have been discussed include:

1. A long-term closure of the Harbor Bridge (U.S. 181)
2. A long-term closure of the Intracoastal Waterway Bridge (Park Road 22)
3. A long-term closure of the ferry landing (SH 361)
4. A long-term closure of the bridge over the Nueces River (I-37)

Discussions to facilitate the pre-planning of responses to events that have the potential to disrupt the transportation network for an extended period of time has remained active among Member agencies and community leaders.

PUBLIC TRANSPORTATION

The development of responsive public transportation services in the study area is essential to the development of the social and economic health of the community. Public transportation services in the region include:

- Frequent transit service on high ridership corridors within the Priority Transit Network (PTN) per the Long Range System Plan adopted by the CCRTA in October 2012.
- Supplemental paratransit services for elderly populations and individuals with disabilities.
- Services that provide access to work over long distances - Park 'N Ride and vanpool programs.
- Seasonal and recreational services – Harbor Ferry and college/university services.
- Mass transportation alternatives such as the City of Corpus Christi Downtown trolley services which also service the Harbor Bridge and North Beach community areas.
- Support of the Pollution Prevention Partnership program.
- Improved quality of life through Livable Communities Initiative (LCI) that includes landscaping, lighting, pedestrians and bike trails, and accessibility ramps.
- Financial support for Transportation Asset Management through the funding of repairs and improvement of streets.

GOALS AND OBJECTIVES

To meet the public transportation service needs of the citizens of the metropolitan area, the MPO has identified the following objectives:

1. Provide frequent, direct, efficient, reliable and safe transportation services to residents and visitors.
2. Ensure financial resources are available to provide services and facilities to support mobility needs.
3. Minimize vehicle impact on the metropolitan area's environment so that minimum acceptable air quality levels established by the National Ambient Quality Standards are maintained.
4. Coordinate with agencies to provide accessibility to jobs for economically disadvantaged residents.
5. Encourage private nonprofit agencies to meet mobility needs of the elderly and disabled citizens.

Action 1: Make Public Transportation Accessible.

The MPO, CCRTA, rural providers, and human service agencies, are committed to safe, reliable, economic and accessible service to the citizens in the area with a coordinated service delivery system.

Action 2: Maintain, develop, and expand existing service.

The MPO and the transit providers will encourage ridership increases by providing coordinated, low cost, safe, accessible, and reliable service.

Action 3: Maximize financial resources by securing federal, state, and local funding.

Providers will continue to efficiently utilize federal, state and local funds for capital and operational improvements of the system while seeking to leverage discretionary funds for transit facilities.

Action 4: Maintain, develop and expand the Authority's ridesharing services.

Providers will continue to promote transportation alternatives through programs that encourage employees and employers to participate in ridesharing and vanpooling programs.

Action 5: Recognize the impact of transit bus stop facilities on land use.

The MPO will advocate for accessible consideration and land use impacts when decisions of location and design for bus stop shelters and transfer stations are discussed as facilities influence land development and impact neighborhoods through increased ridership and vehicular traffic.

Action 6: Provide a safe and comfortable environment for transit users and public in general.

Providers will work cooperatively with local communities to ensure facilities are safe, accessible, and comfortable environments for passengers through effective design, and location.

Action 7: When reasonable, continue to purchase certified low-emission vehicles.

Providers will continue to purchase certified low-emission vehicles, as they deem appropriate.

PUBLIC TRANSPORTATION PROVIDERS

Rural and urban providers collaborate to provide public transportation services to the broader region. The two rural providers and one urban provider offering public transportation into and out of the Corpus Christi urbanized area include:

Paisano Express: Administered by Kleberg County Human Services in Kingsville, offers service to Kenedy, Kleberg, and Nueces Counties.

REAL Transit: Administered by Rural Economic Assistance League, Inc. in Alice, offers service to Brooks, Duval, Jim Wells, and San Patricio Counties as well as counties previously service by the now dissolved Bee Transit. These additional counties include service to Aransas, Bee, Live Oak, McMullen and Refugio.

The B: The CCRTA – The B, provides a variety of public transportation services throughout most of the Corpus Christi Urbanized area including the communities of Agua Dulce, Banquete, Bishop, Driscoll, Port Aransas and Robstown. Within San Patricio County, the CCRTA service area includes the City of Gregory and Old San Patricio. The CCRTA, established by voters of Nueces and San Patricio Counties in August 1985, began operations in January 1986. The CCRTA's transit operation is supported by a 1/2 cent sales tax collected by member communities.

Current Service Characteristics: The CCRTA operates 33 weekday fixed routes, 26 Saturday fixed routes, and 12 Sunday fixed routes. Hours of service for weekdays and Saturdays run from approximately 4:40 am to 11:15 pm. Sunday service hours span from 7:45 am to 7:45 pm.

Passengers also have the opportunity to utilize the CCRTA's designated Park 'N Ride lots in the service area by parking their vehicles and riding the Authority's buses. Park 'N Ride lots available include:

- Annaville/Tuloso-Midway: Located at Leopard Street and McKenzie Road
- Calallen: Located off I-37 at Leopard Street and Rehfield Road
- Gregory: Located under the SH 35 overpass, just north of U.S. 181
- Robstown: Located at Avenue A and 4th street
- Greenwood Walmart: Located near the intersection of SH 358 (South Padre Island Drive) and Greenwood Drive

In the outlying communities, CCRTA partners with purchased transportation providers to operate a "route deviation" service to the residents of Bishop and Driscoll where they request curbside pickups at their locations, or they can catch the bus at designated stops. In the City of Port Aransas, two contracts exist to provide residents with a local trolley service and an intercity B-Line link. In the Port Aransas scenario,

CCRTA owns the vehicles and they reimburse the city for the cost of providing the service.

Other CCRTA service options that exist include B-Line, a supplemental curb-to-curb service that is offered on a demand response basis for riders who are prevented from accessing the CCRTA's fixed route service. Passengers of this service must apply for eligibility in advance of using the service. Once eligibility is granted, riders may call and schedule trips twenty-four hours in advance.

Vanpool programs are also offered for residents of the service area. CCRTA provides a vehicle for a group of individuals who share the ride. The members of the group designate one person to be the regular driver and they pay a monthly fee. The CCRTA pays for all fuel, insurance and maintenance.

During seasonal months (Memorial Day to Labor Day), riders have service from the Southside Station to Padre Island and Port Aransas; trolley circulator service in Port Aransas; and the Harbor Ferry, a pedestrian only ferry operating in Corpus Christi Bay between the People's Street T-Head and the Texas State Aquarium.

The Authority provides consumers of the fixed route network with transit centers and transit stops to facilitate transfers to/from routes and bus layover/schedule recovery time. Ridership activity (boardings and alightings) was counted at a total of 1,350 unique stops across the CCRTA system. The four transit stations generated the most activity, accounting for about 33% of all activity on weekdays, Saturdays, or Sundays. These transfer stations include:

- Staples Street Station**:** opened in 1994 and located at Staples and Mestina Streets across from the Corpus Christi City Hall, generates the most activity serving approximately 20 routes.
- Port Ayers Station: opened in 1995 and located at the intersection of Port Avenue and Ayers Street, generates the second highest level of activity serving 12 routes.
- Southside Station**:** opened in 2003 and located on McArdle Road across from La Palmera Mall, generates the third highest level of activity serving 16 routes.
- Six Points Station**:** a long standing transfer station, reopened after renovations in 1991. It is located at the intersection of Staples/Alameda/Ayers Streets and generates the fourth highest level of activity serving 7 routes.

RTA's ridership in 2013 was recorded at 5.7 million annual riders on fixed route services. This total does not include ridership on Flexi-B (Port Aransas service), Harbor Ferry, or B-Line service. Average daily ridership on CCRTA's fixed route system (not including school-related routes) in 2013 was:

- Weekday: 18,732
- Saturday: 12,756
- Sunday: 4,187

CCRTA's cooperative partnership with local colleges and universities (annual contract agreements) offers free rides on all regular fixed routes and B-Line service for students (and in some cases faculty/staff) presenting a valid Del Mar College or Texas A&M University-Corpus Christi (TAMU-CC) ID.

Other CCRTA Transportation Projects

The B provides financial assistance to local communities for transportation projects through its *Street Improvement Program* which returns a portion of their dedicated annual sales tax receipts to the member cities for use in general transportation projects identified by each city and the CCRTA. Eligible expenditures include projects tied to public transportation services, such as streets traveled by CCRTA buses. The

amount, based on sales tax funding and the allocations between participating governmental entities, is determined annually by the Authority.

Access to Jobs and Reverse Commute (JARC) and New Freedoms

The Transportation Policy Committee of the MPO adopted a Resolution of Endorsement naming the CCRTA as the Designated Recipient for Job Access and Reverse Commute (JARC) and New Freedom (Federal Transit Administration Section 5316 & 5317) funding. JARC program funds provide reverse commute transportation services to access employment for low income individuals and welfare recipients. New Freedom program funds support transportation services above and beyond ADA requirements for seniors and people with disabilities. The MPO developed the Regional Transportation Coordination Plan in cooperation with area health and human service agencies, transportation providers, and other interested agencies.

The Regional Transportation Coordination Plan discusses JARC needs and identifies the following:

a. Geographic distribution of welfare recipients and low-income people in the region.
b. Geographic distribution of employment centers and employment-related activities in the region.
c. Existing public, private, non-profit and human services transportation providers in the region.
d. Transportation gaps between the geographic distributions of people identified in Item “a”; employment, not currently served and identified in Item “b”; and the transportation services identified in Item “c.”
e. In order of funding priority, projects to address the gaps identified in Item “d.”

Livable Communities Initiatives

The Federal Transit Administration (FTA) encourages recipients of federal transit funds to improve pedestrian access to and from transit facilities and routes by recognizing certain types of capital improvements as eligible for grant funding through the FTA Livable Communities Initiative (LCI). FTA supports favorable access conditions that provide a positive atmosphere for the bus rider, which in turn, helps build ridership and confidence in transit.

Historically, transfer stations are consistently renovated and updated for more efficient, accessible, safe and pleasant use of the service. CCRTA actively pursues partnerships with local agencies and citizens for creative input on unique designs and art work to provide the façade of these special projects. Evidence of these successful partnerships is the awarding of the Presidential Award from the National Endowment of the Arts for the Staples Street Station project.

In May 2014, the CCRTA completed a climate controlled Coastal Bend Regional Intermodal Facility in Robstown, Texas near the intersection of U.S. 77 and State Highway 44. The facility creates a unique and affordable transportation connection between the CCRTA, rural providers (Paisano Express / REAL), and the intercity carrier, Valley Transit Company (VTC). The facility provides a location and amenities to facilitate current and future needs for transit coordination in the 11-county Coastal Bend Region.

Future Operational and Service Delivery Plans

The CCRTA’s recent completion of their phased Long Range System Plan contains outreach activities for

possible consideration in future service planning efforts:

- Improving frequency on PTN service corridors.
- Implementing Bus Rapid Transit (BRT) services within select PTN corridors including Staples, Leopard, and Ayers Street.
- Operating more direct services to reduce transfer connections and decease travel time.
- Placing more bus stop amenities.
- Completing improvements that enable riders to access real-time passenger information.
- Continuing to coordinate with other large employers for subsidized employee programs.

The CCRTA Board conducted a Strategic Planning workshop to project what the transit system would look like by 2029 and the following was identified: 1) an increase in transit oriented development; 2) population increase and demographic changes; 3) air quality in attainment; 4) increase in population density; 5) a need for greater convenience and speed; 6) light rail consideration; 7) an increased need for park 'n rides with express service; 8) job growth; 9) feasibility study for a multimodal station in Robstown; and 10) increased service to meet the aging population needs.

Community based efforts to encourage "Smart Growth" and the "Community Sustainability Visioning Workshop" have included discussion of expanded and improved access to public transit. The possible development of new services including "bus rapid transit" or preservation of "light rail" corridors and is at the early stages of consideration. With a current population density of 1,976 persons/ square mile in the City of Corpus Christi and a limited daytime population in the central city, the development of high occupancy corridors must be viewed in the long-term planning horizon.

REGIONAL TRANSPORTATION COORDINATION

The goal of coordinating transit operations and health and human services is to move toward more coordinated, efficient, environmentally friendly, and accessible transportation services that eliminate waste and promote use by the general public. To this end, the Coastal Bend Region has established the Transportation Coordination Network (TCN) to represent the 11-county service area. As the region's shared decision making body, TCN provides an open platform for discussion among those with the highest stake in serving the public transportation needs. The collaborative efforts demonstrated through TCN's guidance have enabled many innovative and essential projects to emerge. The projects identified respond to the needs outlined in the 2011 Regional Public Transportation Coordination Plan (RPTCP) (www.tcncb.org/documents/RPTCP_2011_Final_101613.pdf) as well as responding to State and Federal regulations.

Rural to Urban Coordinated Service

TCN, in conjunction with the Coastal Bend rural transit providers, has worked jointly with the CCRTA to increase the use of public transportation by residents in the rural Nueces County communities of Agua Dulce, Banquete, Bishop, and Driscoll. This new partnership was developed to respond to the increased demand for service efficiency, reduce service overlaps and improve overall transit mobility for residents in the CCRTA service area. The need for effective coordination of services is of paramount importance as it results in using existing resources in the most cost effective way while maintaining services affordable and available to the riding public. The existing coordinated transportation services and those yet to be developed will greatly improve mobility options to the residents in these communities.

Like many thriving communities, we are in constant transformation, attracting new businesses, and embracing new technology. Public transportation will need to remain actively engaged in the planning process to make the necessary improvements to the existing system of services while attempting to satisfy the anticipated level of demand/ridership that comes with growth. Transit needs will emerge, as existing businesses expand and new ones come to the area along with the aging of our community, the cost of fuel, changes in legislation and policies. The benefits of public transportation to the region are an alternative that adds capacity while reducing the number of vehicles on roadways. It is a challenge and an obligation for transportation providers and public officials to coordinate the development of the community to make it a more "livable community" especially for those who have to rely on public transportation. A reliable transportation system will improve the quality of life and have an impact on the economic health of the area in general.

ACTIVE TRANSPORTATION / BICYCLE & PEDESTRIAN

As in other parts of the state, the Coastal Bend Region continues to experience steady growth while resources remain limited. For many years, our automobiles have dominated transportation investments across the state but in recent years there has been an increased awareness of the consequences related to these decisions . . . congestion, deteriorating air quality created by increased vehicle miles traveled, obesity due to limited facilities that promote activity such as bicycling and walking. The movement is now shifting toward maintenance and enhancement of the existing roadway system while active transportation, or bicycle and pedestrian options are explored. Active transportation offers a range of opportunities to improve our existing bicycling and walking system while simultaneously providing benefits to other users of our roads. It is important to remember that bicycling and walking ARE forms of transportation that can have positive impacts on our community's well-being and health.

Since 1999, Federal Statutes have required that MPOs include bicycle and pedestrian facilities in the overall MTP process. In 2005, Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) mandated that "the metropolitan planning process for a Metropolitan Planning Area shall provide for consideration of projects and strategies that will increase the safety and security of the transportation system for non-motorized users and enhance the integration and connectivity of the transportation system, across and between modes." Moving Ahead for Progress in the 21st Century Act (Map-21), the current highway authorization (signed in 2012 and expires in 2014) has been extended into 2015. Map-21 created the Transportation Alternatives Program (TAP) which consolidates what was formerly the Safe Routes to School Program, and the Transportation Enhancement Program (a federally funded program that allocates funds to non-traditional transportation activities), the largest funding initiative for bicycle and pedestrian facilities administered by TxDOT.

Active Transportation Planning Efforts to Date

Historically, active transportation planning has been a local issue. As such, the MPO is committed to serving as an information repository for bicycle and pedestrian data and maps. As an actively engaged member of the City of Corpus Christi's Bicycle and Pedestrian Subcommittee (BPS), the MPO has provided technical expertise, public outreach support, review of regional bicycle and pedestrian planning matters, and assisted in the selection of bicycle and pedestrian projects funded in our area. BPS meetings have provided a valuable forum for local entities and advocates of bicycling and walking activities to share best

practices and discuss common interests in an effort to improve local initiatives. Current barriers that remain in the region include a lack of connectivity between bike facilities, consistent design strategies, funding, and the placement of bicycle and pedestrian facilities as a secondary priority on roadways. The issue of land use and the built environment adversely impacts and compounds the success for active transportation.

As a community, we need to actively explore the opportunities available by TxDOT who has long supported the integration of bicycle and pedestrian facilities into the overall transportation system. Since 2001, TxDOT appointed district bicycle coordinators to ensure that bicycles are recognized as a viable mode of transportation on roadway facilities where use is feasible. Texas Statute now requires both a state coordinator and coordinators in each regional office.

Map 4.3: Corpus Christi Bay Trail

A majority of streets in Corpus Christi and Portland have sidewalks, and the climate and topography of the area are conducive to accommodate both bicycling and walking. In an effort to overcome underutilization of this transportation mode, both cities have actively begun retrofitting street corners with compliant accessibility ramps. The City of Corpus Christi, MPO, CCRTA, TxDOT, and other community entities have partnered to pool resources and cooperatively prioritize projects identified to improve pedestrian access over a multi-year period.

Bicycle facilities, such as bicycle lanes, and off-street hike and bike trails remain limited in the metropolitan area. The Bay Trail, a hike and bike trail that extends approximately 8 miles from the Barge Dock near the American Bank Center out to Texas A&M University – Corpus Christi, was funded under the Transportation Enhancement Program. With the project almost completed, Phase 3 is the next planned extension along Ennis Joslin to South Padre Island Drive and then through the City's south side.

The MPO's Regional Pedestrian and Bicycle Plan is slated for review and update in 2015. The Plan will revisit planning and implementation of the "Share the Road" educational effort related to the BPS's traffic ordinance Chapter 53 Traffic, Section 53-15; update identification of on-street bicycle lanes; explore the impacts of a philosophical commitment from the city to consider complete streets as a design option that includes dedicated lanes as part of their planning process for future city street and drainage channel improvement projects. Already, the MPO and the City have prioritized funding to establish the hike and

bike trail along the Schanen Drainage Ditch from the Flynn Parkway area to the Oso Creek Park. The development of an Oso Creek Parkway Plan with the assistance of the U.S. Fish and Wildlife Service envisions over 13.5 miles of pedestrian and bikeway trails.

Across the bay, Sunset Lake Park is a 333 acre park that showcases an ecologically rich wetland and saltwater lake habitat with a unique two (2) mile hike and bike trail constructed on an old roadway. The recent reconstruction along Memorial Parkway includes street improvements and bike lanes. Future anticipated projects enlist the City of Portland's vision to create connectivity of their bike paths. The construction of the Railroad Right-of-Way Hike & Bike Trail promises to contribute to this commitment while protecting habitat and increasing public use in a cooperatively planned effort to improve the outdoor experience.

Pedestrian and Bicycle Rider Goals

In general every trip includes a walking element. The needs of the pedestrian and bicycle rider, like the needs of vehicles, should be considered in the design of the urban environment and transportation facilities. Promotion and encouragement of active transportation should be directed toward:

1. Exploring innovative ways to encourage bicycling as a cost-effective and efficient transportation alternative by providing infrastructure in areas of employment/schools; enforcement of traffic laws to reduce the potential of bicycle accidents; and promotional campaigns offering information and maps of current routes.
2. Ensuring safe, accessible, and convenient mobility for pedestrians and bike riders.
3. Encouraging residents and visitors to walk or bicycle for trips of reasonable length.
4. Providing adequate financial resources for the expansion and maintenance of pedestrian and bicycle facilities.

The above goals lead to actions that guide both short and long-term urban development conducive to active transportation.

Action 1: Create an urban environment that encourages walking within comfortable walking distances as a form of active transportation.

- Add or improve sidewalks, create safe crossings, add ADA compliant ramps, and modify signalization and intersections where needed.
- Provide a network of low volume interconnected streets and public parks for through pedestrian travel.
- Collaborate with local governments to require major developments to include safe pedestrian access and circulation of their property, including access to transit connections.
- Encourage pedestrian friendly land use planning with commercial and institutional developments adjacent to the street/sidewalk rather than centered in or at the rear of a large parking lot.
- Encourage compact and mixed land uses.

Action 2: Optimize the use of financial resources available for active transportation facilities.

- Prioritizing pedestrian projects based on their potential impacts has been incorporated into the TIP selection process. Priority funding to bikeway projects that complete missing sections of the regional bikeway system are included.

Action 3: Support the development of a local active transportation network.

Develop commitments to improve cycling opportunities through facility plans that increase mobility with a comprehensive bikeway system that is direct, convenient, and safe. Actions may include:

- Using existing right-of-way areas: streets, parkways, parks, and drainage.
- Compatible road networks with shoulders for bicycle travel.
- Ensure connectivity through construction of missing links of structures, paths, lanes, and routes.
- Modify street maintenance practices to utilize bicycle friendly surface treatments; and replace dangerous elements, such as unsafe grates and unresponsive signals.
- Improve and install standardized and correct signage and markings on all bike routes to minimize potential conflicts.
- Establish safety standards and guidelines for bicycle facilities, programs, and projects to protect the bicyclist and the motorist sharing the road.

Action 4: Encourage development patterns to be more compatible with non-motorized travel.

Create an urban environment that provides employment, goods, services, and recreational opportunities within comfortable bicycling distance. Specific actions may be:

- Coordinate with major developments and office complexes to include safe non-motorized access and circulation.
- Establish strategic and secure bicycle parking in business districts and other public sites.
- Encourage neighborhood-oriented commercial uses, parks, and schools within safe and easy bicycling distance from residential areas.
- Amend current driveway design standards to minimize to the greatest extent possible frequent driveway spacing as impediments to safe bicycle travel along "business districts."

Action 5: Provide for the interface between bicycles and transit.

The interface between bicycles and transit will support and strengthen both modes. Actions include:

- Encourage transit provisions for bicycle parking and improved bicycle access.
- Encourage transit system improvements to include bicycle racks on all buses.

Action 6: Optimize the use of financial resources available for bicycle facilities.

Action 7: Evaluation of active transportation programs.

An essential component of determining the success of a program is a comparison of baseline data to project results.

While many actions remain to be accomplished, several action items have already been initiated:

- Mobility CC
- CCRTA buses are retrofitted with bicycle racks for riders who combine multiple modes of travel.
- A subcommittee of the City's Transportation Advisory Committee, the Bicycle and Pedestrian Subcommittee serves to raise awareness and provide input on bicycle and pedestrian matters related to city streets. The MPO is actively engaged with both committees.
- The Bicycle and Pedestrian Subcommittee hosts an annual Leadership Ride where elected city officials, City Senior Staff and subcommittee members tour existing bicycle facilities for review and improvement considerations.
- The Pollution Prevention Partnership at Texas A&M – Corpus Christi has partnered with the Texas Commission on Environmental Quality (TCEQ), City of Corpus Christi, Corpus Christi

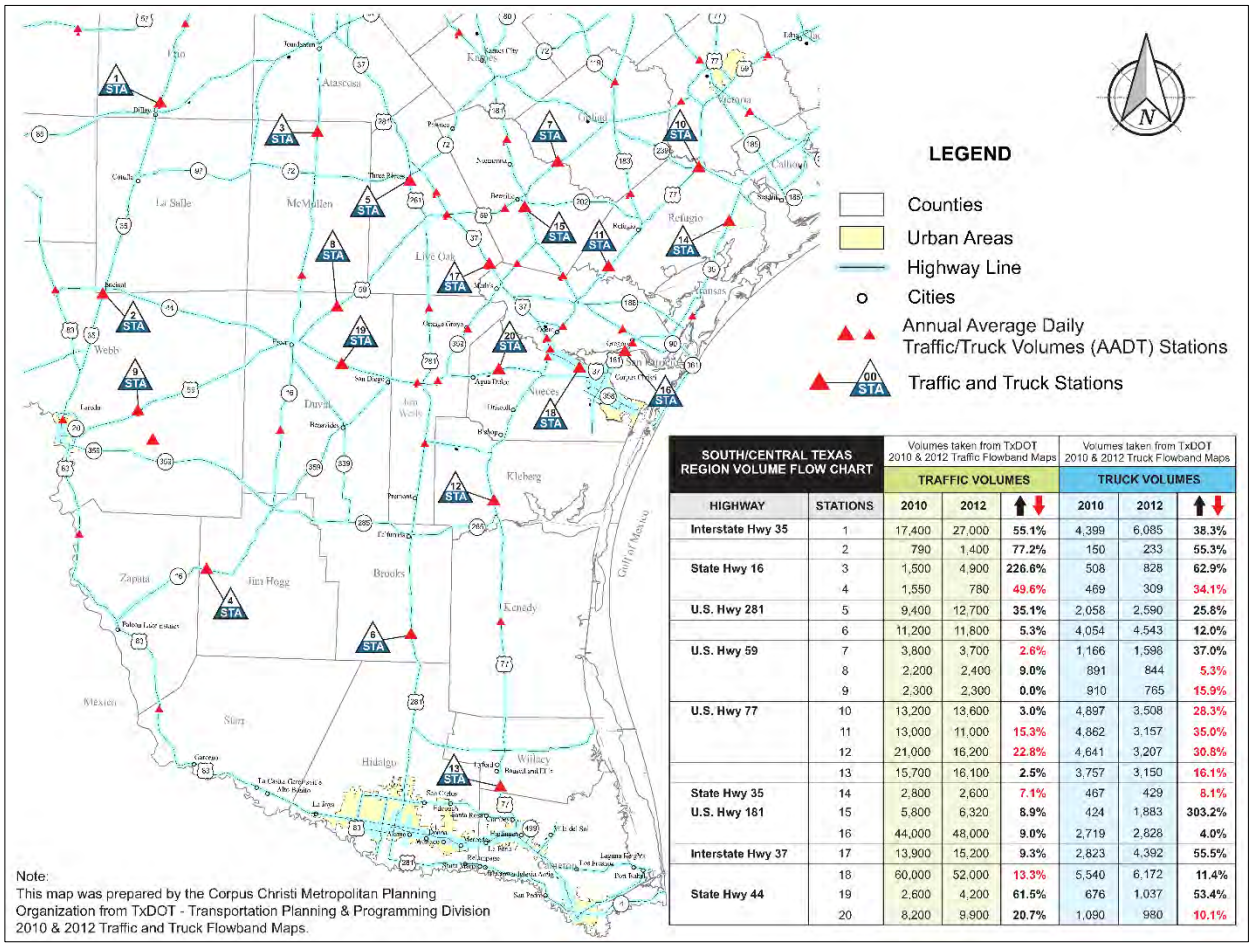
Downtown Management District, CCRTA, and the MPO to raise awareness of bike racks in the downtown and bay front area.

FREIGHT MOVEMENT

The national, state and local transportation network depends on railroads and trucking as the most efficient modes of transportation for the movement of freight and bulk cargo. The Moving Ahead for Progress in the 21st Century Act (MAP-21), enacted in 2012, made a number of changes to improve the condition and performance of the national freight network and support investment in freight-related surface transportation projects. Specifically, it required the Secretary of Transportation to encourage each state to develop a comprehensive State Freight Plan and establish a State Freight Advisory Committee surface transportation projects. Specifically, it required the Secretary of Transportation to encourage each state to develop a comprehensive State Freight Plan and establish a State Freight Advisory Committee.

TEXAS PRIORITY FREIGHT NETWORK

The Texas Priority Freight Network (TPFN) identifies key freight movement corridors and gateways. Establishing this integrated and multimodal freight transportation system is a critical to facilitating efficient freight mobility in Texas.



SOUTH/CENTRAL TEXAS REGION VOLUME FLOW CHART		Volumes taken from TxDOT 2010 & 2012 Traffic Flowband Maps			Volumes taken from TxDOT 2010 & 2012 Truck Flowband Maps		
		TRAFFIC VOLUMES			TRUCK VOLUMES		
HIGHWAY	STATIONS	2010	2012		2010	2012	
Interstate Hwy 35	1	17,400	27,000	55.1%	4,399	6,085	38.3%
	2	790	1,400	77.2%	150	233	55.3%
State Hwy 16	3	1,500	4,900	226.6%	508	828	62.9%
	4	1,550	780	49.6%	469	309	34.1%
U.S. Hwy 281	5	9,400	12,700	35.1%	2,058	2,590	25.8%
	6	11,200	11,800	5.3%	4,054	4,543	12.0%
U.S. Hwy 59	7	3,800	3,700	2.6%	1,166	1,598	37.0%
	8	2,200	2,400	9.0%	891	844	5.3%
	9	2,300	2,300	0.0%	910	765	15.9%
U.S. Hwy 77	10	13,200	13,600	3.0%	4,897	3,508	28.3%
	11	13,000	11,000	15.3%	4,862	3,157	35.0%
	12	21,000	16,200	22.8%	4,641	3,207	30.8%
	13	15,700	16,100	2.5%	3,757	3,150	16.1%
State Hwy 35	14	2,800	2,600	7.1%	467	429	8.1%
U.S. Hwy 181	15	5,800	6,320	8.9%	424	1,883	303.2%
	16	44,000	48,000	9.0%	2,719	2,828	4.0%
Interstate Hwy 37	17	13,900	15,200	9.3%	2,823	4,392	55.5%
State Hwy 44	18	60,000	52,000	13.3%	5,540	6,172	11.4%
	19	2,600	4,200	61.5%	676	1,037	53.4%
	20	8,200	9,900	20.7%	1,090	980	10.1%

MAP 4.4: South/Central Region Traffic and Truck Volumes 2010 - 2012

The TPFN will be a statewide network of high priority highway, rail, and waterway transportation corridors connecting ports like the Port of Corpus Christi to inland ports such as Laredo and San Antonio

The TPFN objectives will include:

- Economic Competitiveness
- Efficiency
- Intermodal Connectivity, and
- Interregional Connectivity

The TPFN will provide a vehicle for the National Freight Policy, Plan and Network to incorporate the needs of the Texas based TPFN.

LOCAL TRUCKING GOALS

Our local needs have been identified and should become part of the TPFN. They include the goals of:

1. Providing for the safe and efficient movement of trucks within the region.
2. Assuring that freight and trucking companies and other stakeholders are part of the regional coordination and planning efforts.
3. Identifying and enhancing routes and corridors that would provide connectivity for trucks particularly as it relates to critical freight facilities such as the La Quinta Trade Gateway, the Robstown Inland Port of the Americas and the Joe Fulton International Trade Corridor.

The goals lead to specific policies:

1. Locate compatible land uses along major streets to encourage trucks to confine their travel to arterials, expressways and freeways.

   Control of truck traffic can be exercised through zoning and subdivision regulations. Given proper land use and subdivision design, most trucks will tend to use the major arterial system. Bridge clearance and roadways that are not designed for trucks contribute to congestion and safety concerns. Designation of a corridor as a "freight route" or "important for freight" can help focus the identification of mobility projects that would eliminate the barriers to safe, reliable and efficient movement of goods such as wider lanes, lane widths needed for increased turning radius and design standards that would accommodate heavy loads.

2. Discourage truck travel through residential neighborhoods.

   Prohibit truck through traffic on all local and collector streets with residential zoning to eliminate noise, danger, and street maintenance costs. Provide signage that alerts trucks to low clearances, overhanging trees, children at play to discourage regular use.

3. Provide adequate off-street loading spaces for businesses which receive or distribute goods by truck.

   Delivery trucks should be prevented from blocking the flow of vehicular traffic. Businesses should provide off-street loading spaces. Development of local commercial use policies that provide design standards for proper loading zones, adequate off-street parking and easy access for delivery vehicles as well as emergency service vehicles.

LOCAL RAILROAD GOALS AND OBJECTIVES

Working with freight interests and the Nueces and San Patricio Rural Rail Districts the current goals and objectives identified include:

1. Coordinating railway facilities with other transportation modes and adjoining land uses to encourage desirable development patterns.
2. Promote safe and efficient movement of hazardous cargo and general freight within the study area.
3. Coordinate the freight planning process with the Port of Corpus Christi particularly as it relates to the strategic deployment of military cargo and the La Quinta Trade Gateway.

The goals lead to specific action items.

1. Identify issues with current rail alignments and identify opportunities to minimize congestion or to provide grade-separated crossings or other improvements between heavily used rail lines and high-volume streets.

   Improvements including grade-separated crossings are essential to avoid interference of rail activity with the flow of vehicular traffic. The opportunity to reduce delays on critical arterials due to train movements has been identified on US 77 in Odem, SH in Sinton and SH 181 at the La Quinta Trade Gateway. Other opportunities for improvement will be identified in cooperation with the freight community.

2. Provide adequate safety protection at crossing of streets and rail lines where grade separation is not feasible.

   Where grade separation is not feasible, special efforts should be made to alert motorists of approaching trains. Depending upon rail and motor traffic, the crossing should be protected by crossing gates, flashing lights, or internationally recognized signs.

3. Encourage the development of compatible land uses in areas adjoining rail lines.

   Industries and heavy commercial activities are generally the land uses which are most compatible with railroad facilities. The Joe Fulton International Trade Corridor is an example of compatible industrial land use being developed to be served by road, rail and ship

4. Facilitate joint development between rail districts.

   Facilitate the development projects related to the Port of Corpus Christi master rail plan in cooperation with the Nueces and San Patricio County Rail Districts - particularly as it relates to the strategic deployment of military cargo, the Robstown Inland Port of the Americas and the La Quinta Trade Gateway.

5. Work with the Port of Corpus Christi on new industrial corridor development.

Support the effort of the Port of Corpus Christi to identify and develop new inland industrial corridors in Nueces and San Patricio to optimize connectivity to road and rail freight critical links.

PORT OF CORPUS CHRISTI

The Port of Corpus Christi (Port) is located along the southeastern coast of Texas on the Gulf of Mexico approximately 150 miles north of the Mexican border. The Port of Corpus Christi Authority (Authority)

operates and maintains the deep-water port along the Gulf of Mexico coast with a channel depth of 45 feet. The channel is approximately 30 miles long and links the City of Corpus Christi with the Gulf of Mexico. The Authority's intermodal port facilities are part of the Port of Corpus Christi complex.

The Authority is a navigation district and political subdivision of the State of Texas, having boundaries coterminous with those of Nueces County and San Patricio County, Texas. The Authority being a navigation district and political subdivision of the State of Texas is a separate and distinct entity and operates independently under the direction of a Port Commission as the governing body. The Port Commission is composed of seven commissioners who serve without pay. The Corpus Christi City Council appoints three commissioners, the Nueces County Commissioners Court also appoints three commissioners, and one commissioner is appointed by the San Patricio County Commissioners Court. The executive staff, under the leadership of an Executive Director and a Managing Director, manages the operations of the Authority and assists the Commission in planning for the future. Port Commission efforts are directed toward encouraging industrial expansion, attracting new cargo, building and maintaining public terminals, setting operational policy, and cooperating with the Federal Government as a local sponsor in maintaining and further improving vital navigation channels.

The Authority owns seven general cargo docks, twelve liquid bulk (petroleum) cargo docks, two bulk material docks, layberthing areas, two bagging facilities, a shipside grain elevator, cotton warehouses, 43 miles of railroad, and a multi-use conference center. Authority owned facilities are operated for hire on a first-come, first-serve basis, with the exception of the shipside grain elevator, layberthing areas and cotton warehouses, which are leased to individual users. There are also 27 privately owned docks at the Port of Corpus Christi, with several new docks under development. Private Docks are owned and operated by the various refineries, chemical plants and other industries located along the channel system. Private dock operators generally pay a rental fee under a franchise agreement with the Authority to move cargo across the bulkhead line and access the Authority's ship channels. The Port is serviced by three

Cargo vessel being guided into the Port

Class I railroads, the Union Pacific, Kansas City Southern, and BNSF, which provides intermodal transportation links for cargo throughout the United States and Mexico.

The Authority continues to remain a primary driver of the local economy and the Port currently ranks as the fifth largest in the United States in terms of tonnage; with nearly 89.5 million tons of cargo moved in 2013. Cargo tonnage is expected to continue to rise over the next several years.

Map 4.5: Port of Corpus Christi

The Authority has served the local economy for over eighty years, and is continually upgrading and expanding Port facilities to better serve industry and shippers in Texas, the United States and worldwide. The Authority also fosters a Safety First approach to operations and maintains an award winning Environmental Management System that has been certified by the International Standards Organization (ISO) since 2007. Local port industries, as well, have made investments to upgrade and expand their facilities, to improve air and water quality, and improve process efficiencies. Local refineries have made investments that permit them to provide clean burning gasoline during the ozone alert months, a volunteer program that has contributed to the local area maintaining "attainment" classification with environmental agencies.

Economic development means attracting industrial and commercial activity, private capital and waterborne cargo shipments that will create employment opportunities, sustain and upgrade existing jobs, introduce new basic dollars to the area and broaden the tax base that supports public services. An economic impact study completed in 1994 showed that the Port of Corpus Christi created 30,927 jobs, generated $66.6 million in state and local taxes and provided $1 billion in business revenue. Updated economic reports in 2003 and 2008 show a steady increase in economic impact for the region. In 2003 the Authority created 39,905 jobs and 40,560 jobs were created by 2008. In 2012 Martin Associates of

Lancaster, Pennsylvania completed an updated study of the economic impact of the Authority operations, and findings continue to reinforce the Port's mission statement as being an economic catalyst for the region. In 2013 the Authority created approximately 66,502 jobs with 13,746 direct jobs generated from marine cargo and vessel activity. The Authority generates an additional 16,767 induced jobs that are the result of purchases by the direct job holders. The remainder of total jobs is comprised of 15,607 indirect jobs supported by the purchases made by businesses supplying services to, or are otherwise dependent upon, the Authority. The 66,502 jobs provide $4.0 billion in income (direct, induced, and indirect salaries) for families throughout the Coastal Bend area. Authority operations generate $13.1 billion in revenue for businesses providing services to the Authority and port industries. More than $314.9 million was paid in state and local taxes in 2011, due to activity created by the Authority. The Authority remains an economic force via its ability to provide the commercial shippers with first class channels, docks and facilities for handling cargo, and by providing public facilities designed to attract more tourist dollars to the area while maintaining financial stability. Ultimately, the goal of the Authority is to raise the standard of living and enhance the quality of life in the communities of the Coastal Bend region.

ACTIONS TO DATE

To meet the Authority's expanding role of providing increased levels of service to national and international commerce, the Authority, in cooperation with the Metropolitan Planning Organization (MPO), has identified the following goals:

1. Promote and encourage the expansion and diversification of services and cargo throughput by development of infrastructure to meet current and anticipated customer needs including: the deepening, widening, and extension of selected reaches of the Corpus Christi Ship Channel and the La Quinta Channel; improvements to road and rail access to increase intermodal transfer of cargo; and ongoing development of docks, waterside infrastructure, and support infrastructure to expanding and improve water-born commerce.
2. Actively pursue the establishment of intermodal terminal facilities and development in and around at the La Quinta Trade Gateway Terminal property and the La Quinta Channel.
3. Encourage establishment of new industries in and around the Port of Corpus Christi to increase cargo throughput and related economic activity in the region.

These goals have led to action items that have been established and implemented for both short and long term improvements that will increase and enhance cargo handling capabilities and transfer operations at the port.

Action 1: <u>Provide better road access for expeditious handling of cargo.</u>

- The Joe Fulton International Trade Corridor is located on the north side of the ship channel and runs parallel to the inner harbor. The corridor encompasses an 11.5-mile road and rail project that has significantly improved access to more than 2,000 acres of land along the north side of the channel for existing and future development; approximately 1,000 acres of this land has use as marine terminals or industrial sites with channel access. The corridor generates economic development opportunities for South Texas and connects two major highway components, US Highway 181 and Interstate Highway 37, establishing efficient intermodal links between highway, marine, and rail transportation systems. Phase I of the

road was completed in 2007 and phase was completed in 2011.

- In 2014 the Authority completed the La Quinta Terminal road; approximately two miles of two-lane road providing access along the west side of the 1,100 acres of land at the La Quinta Gateway terminal property from State Highway 181. Future projects will expand the La Quinta Terminal Road to four lanes and improve access to the east side of the property.
- In 2014, Texas Department of Transportation (TxDOT) started work on a ramp-reversal project that will improve access from State Highway 35 to the planned road on the east side of the La Quinta Gateway Terminal Property.
- The Authority maintains and inspection and maintenance program to maintain repair and upgrade roads serving various areas of the Port. Where necessary, road work is coordinated with The City of Corpus Christi and other communities, Nueces and San Patricio Counties, and the TxDOT.

Action 2: Improve intermodal cargo storage facilities at the port.

- The Authority has completed several expansion, renovation and modernization projects at both the existing Southside and the Northside Intermodal Terminals. These projects have increased the available storage area by 21 acres.
- In 2011, the authority acquired ten additional acres of land on the North Side of the ship channel and in 2014 improved 4.4 acres of this land to provide additional cargo storage. Improvement of the remaining 5.5 acres is pending final design and construction of the Harbor Bridge replacement.
- The Authority acquired approximately 1,100 acres of land at the end of the La Quinta Channel and has completed preliminary designs and has initiated the final design for a multipurpose dock and general cargo storage and transit facility at this location.

Action 3: Improve and upgrade the Port Railroad system to support intermodal cargo handling.

- In 1999, the Authority completed the construction of a loop rail track at the bulk terminal for loading and unloading of unit trains. This system allows a continuous flow of rail cars past the discharge or loading point without the need to reverse the direction of travel.
- The Authority in partnership with the State of Texas has enhanced the Southside with improved rail infrastructure. The project doubled the Authority's capacity to handle military unit-trains of equipment from Fort Hood, Fort Bliss, and other bases in Texas and the Midwest. The upgraded rail also serves in an equally valuable economic role in supporting the trans-loading of commercial, industrial, or agriculture products moving through South Texas.
- In 2009, the Authority purchased 36.15 acres of land on the north side of the Corpus Christi Ship Channel for the planning, design and construction of the Nueces River Rail Interchange Yard. Construction on the first phase of the rail yard was started in 2014 with funding from the Authority, the three Class I Railroads that serve the Port, and a federal Transportation Investment Generating Economic Recovery (TIGER) grant. Phase I will provide a 7,800 ft. long unit train siding and a rail interchange yard with 4 parallel ladder tracks for a total of 15,400

feet of track with storage capacity for up to 223 rail cars. Design is complete and funding through the Authority and a TxDOT grant has been identified for a second phase to provide 8 unit train sidings and additional rail car handling and storage capacity.

- In 2012 the Authority completed a Rail Master Plan in response to increasing demand for rail access and railroad transportation for freight both into, and out of, the Port. The Rail Master plan identifies 15 railroad projects that will respond to increasing, and changing rail needs, improve efficiency of in-coming and out-going cargo, and improve public safety by reducing rail traffic within local communities.

Action 4: Improve ship access.

- The existing Harbor Bridge provides a 138-foot clearance. Most new generation ships and many existing ships need a minimum clearance of 175 to 185 feet. The Authority is coordinating with TxDOT on the construction of a new Harbor Bridge that will have a vertical clearance of 205 feet, which matches the vertical clearance at the Panama Canal. The Authority will provide right-of-way through Port property and contribute funds to the construction of the new bridge. Construction of the new Harbor Bridge is expected to start in 2015 and will take 4 to 5 years to complete.
- In 2009, the U.S. Army Corps of Engineers (COE) awarded the first construction contract associated with the extension of the La Quinta Ship Channel. This contract was for $1.1 million and constructed a 126-acre dredge material placement area for containment of sands and clay excavated to create the La Quinta Channel extension. In 2011 the COE awarded two additional construction contracts, one for $33.5 million to dredge the extension of the La Quinta Ship Channel and another for $7.6 million to construct an ecosystem restoration project consisting of a rock breakwater and revetment adjacent to the La Quinta Channel near Ingleside-on-the-Bay, Texas. The ecosystem restoration project was completed in 2012 and the channel extension was completed in late 2013. In 2014 additional work to deepen the La Quinta channel from 39 to 45 feet was funded, and completed, by the Authority. In 2014, design work was also started on additional mitigation measures related to water front construction at La Quinta. The remediation work will enhance the existing La Quinta ecosystem restoration project by planting native sea and tidal grasses.

Action 5: Encourage and support industry location at and near the Port

With completion of the Joe Fulton International Trade Corridor, extension and deepening of the La Quinta Ship Channel, and improved road and rail access, the Authority is actively pursuing industrial operations to locate near the port and intermodal transfer facilities.

voestalpine HBI Plant

- In mid-2013, the Authority secured an anchor tenant on a major portion of the La Quinta Gateway Terminal property with the signing of a lease agreement with Austrian steelmaker, voestalpine Texas Holdings, LLC, for approximately 475 acres. Construction started in 2014 on first phase of a HBI (hot briquetted

iron) and DRI (direct reduced iron) plant with a designed annual capacity of around two million tons. The initial phase of development includes the construction of a 1000 foot bulk dock along the La Quinta Ship Channel. Voestalpine's initial investment is approximately $700 million, and once operational the plant will staff around 150 employees. Initial operation is planned for 2016.

- Corpus Christi Liquefaction, LLC (CCL), a subsidiary of Cheniere Energy, is developing a liquefied natural gas (LNG) export terminal on private land adjacent to the Authority's La Quinta Property and Ship Channel. The proposed liquefaction project is being designed for three trains capable of producing in aggregate up to 13.5 million tonnes per annum (mtpa) and local dock facilities for export.

CCL LNG Plant

- TPCO America Corporation is developing a high-quality seamless steel pipe manufacturing facility near Gregory, Texas, which represents the largest single investment by a Chinese company in a US manufacturing facility. This $1 billion development is planned to produce 500,000 metric tons of pipe annually. Operational logistics for the plant will be enhanced by proximity to planned cargo handling facilities and docks at the Authority's La Quinta Gateway Terminal.

TPCO Pipe Plant

- M&G Chemicals, a family owned chemical engineering and manufacturing company headquartered in Tortona, Italy, is developing a petro-chemical plant on private property north of the Corpus Christi Ship Channel and has entered into an agreement with the Authority to jointly build a petroleum dock to support the plant operations. With an initial investment of $1 billion, the new facility will be the largest manufacturing facility of PET and PTA plastic resins in the world; producing on million metric tons per year.

M&G Plastics Resin Plant

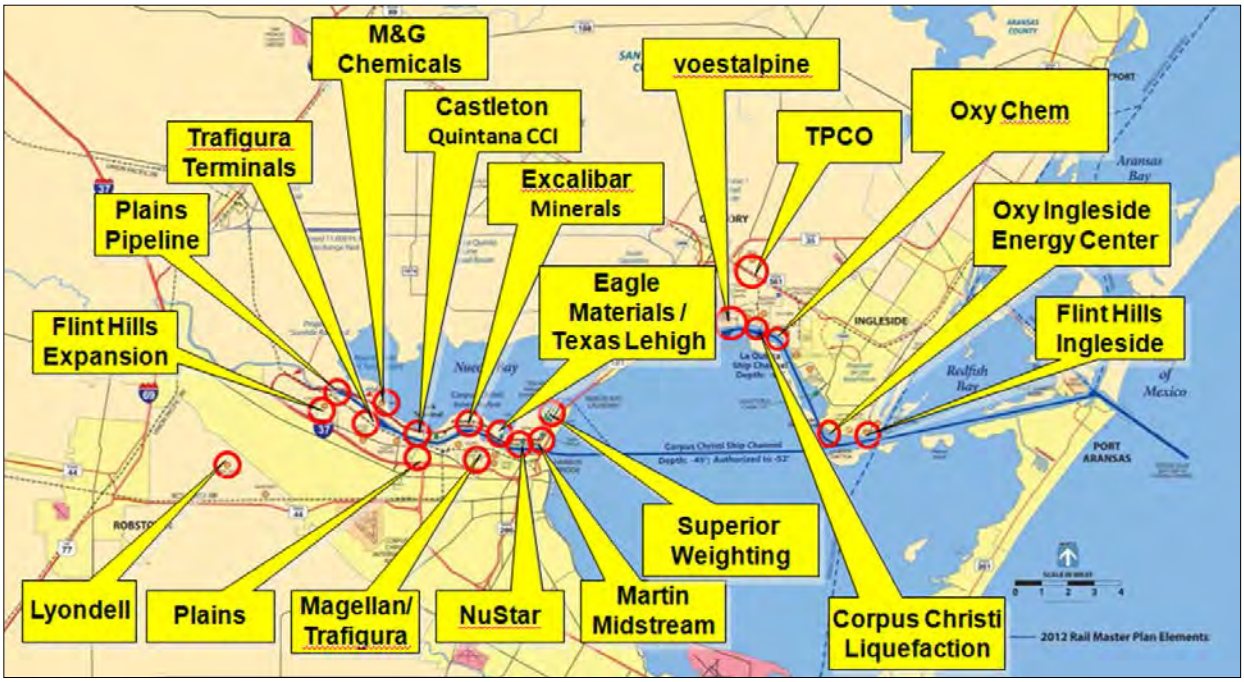
- Castleton Commodities International, LLC has leased land from the Authority on the north side of the inner harbor and plans to construct a condensate splitter complex and associated docking facilities.
- OXY Chem and Oxy Ingleside Energy Center, subsidiaries of Occidental Petroleum Corporation are expanding operations at their respective Ingleside operations on lands acquired from the Authority and adjacent to the La Quinta Ship Channel and the Corpus Christi Ship Channel.
- The Texas Fuels and Asphalt Company, LLC and Plains All American Pipeline, L.P. have both acquired private properties on the south side of the Authority's inner harbor for petroleum related development and both companies have requested Franchise agreements to move

water-born cargo through the Port.

- Flint Hills Resources, Lyondell chemicals, Martin Midstream Partners L.P., Magellan Pipeline, L.P., Nustar Energy L.P., and Trafigura Terminals, LLC have, or are planning to, expand current operations located on or near the Authority's inner harbor.
- Superior Weighting Products LLC is developing a new barite processing facility at the Authority's Rincon Industrial Park.
- Excalibar Minerals and Eagle Materials have expanded existing dry-bulk mineral operations along the inner harbor.

Action 6: Plan for future expansion and growth of the Port

- In 2013, the Authority completed a Strategic Plan to guide development and expansion through the year 2020.
- In 2014, the Authority initiated an Organizational Study to ensure that staffing and the administrative organization is in place to support current and long term growth.



MAP 4.6: New and Planned Development at the Port of Corpus Christi

MAJOR INITIATIVES

In addition to the specific actions described previously, the Authority develops and maintains key initiatives to create sustainable growth and maintain operations at the Port. Key initiatives are presented in the following sections.

Cargo Diversification

The growth of the Authority's cargo tonnage is focused on cargo diversification efforts. The Authority continues an aggressive marketing effort identifying new business opportunities and seeking new markets. The Business Development team continues efforts to meet with freight forwarders, shipping

agents and shipping lines in pursuit of this directive. As a result, raw and finished steel products are arriving at the Port. In addition, presentations on the "Liner Service" project to exporters/importers domiciled in a 400 mile radius of the authority were received with positive response. Bulk cargoes such as sand and ceramic proppants have also increased.

The "South Texas Alliance for Regional Trade" (START) continues to be an important marketing resource for the Authority. START is a cooperative effort among three Texas Ports formed to strengthen the region's response to logistics and transportation needs, the driving forces of our diverse economy. The Alliance is anchored by Port San Antonio to the north, Port Corpus Christi on the waters of the Gulf of Mexico, and Port Laredo located on the U.S. – Mexico border. Our Ports have long-standing business relationships, bolstering the efforts and resources of our region.

The Authority also seeks strategic alliances with other ports and organizations to foster international trade and utilization of the Port. The Port of Corpus Christi was the first U.S. port to sign a trade agreement with ALIMPORT, the government-purchasing agency for Cuba. The Authority also signed Memorandums of Understanding (MOUs) with Meridian 100^{o} FTZ Columbia, Nuevo León, Mexico, and Columbia's Palermo Port Society. These MOUs will promote the flow of goods and facilitate better use of existing multimodal transportation systems between Latin America and the United States.

Military Cargo and Layberths

The Port of Corpus Christi is designated as a U.S. strategic military seaport and has handled several military exercises, deployment, and redeployment projects. Overall, the Authority through a coordinated effort with MARAD, the 1192nd and the 1395th Transportation Terminal Brigades, and the U.S. Coast Guard, have handled just over 100 ships with an economic impact of approximately $1.2 million per vessel to the local region. During recent military activities overseas, the Authority was the top port for military load outs amongst U.S. ports. Also, the Authority was designated as the lay-berth site for the USNS Benavidez and a second layberth facility was completed near the former Tule Lake Lift Bridge.

La Quinta Trade Gateway Project

In early 2011, in conjunction with the planned extension of the La Quinta Ship Channel, the Authority completed preliminary engineering studies for the phased construction of a multi-purpose cargo dock and associated general cargo yard at the La Quinta property, an access road has been constructed, and water and power utilities extended to service the area. The envisioned multi-purpose dock and terminal facility will be able to handle a wide variety of general cargo such as containers, military equipment, wind turbines and steel pipe. Preliminary engineering has been completed for the initial phase of work, which includes a 1000 foot multi-purpose general cargo dock and a 15 acre cargo yard, with final design scheduled for completion in 2015. The authority has submitted this project for a Federal TIGER Grant and has committed the matching funds necessary to complete construction. Future phases will expand the general Cargo Yard and add Containerized Cargo capability to both the dock and cargo yard.

Wind Power

Wind power currently generates 62,000 megawatts (MW) nationwide with over 45,000 turbines installed across 39 states with the ability to power 15 million US homes. The Port of Corpus Christi has become an essential transportation link for this renewable industry since 2007. The support role for this industry has further expanded by loading vessels in Corpus Christi with components destined for manufacturing

facilities in Europe. As the Port forms part of the logistics chain for this renewable industry, a major task is to provide optimum facilities and staging areas to major wind manufacturers worldwide. The Authority's access to docks, highway systems and rail offer the necessary transportation modes with assurances of on-time deliveries to job sites. The US has over 116,000 MW of wind capacity in development, with wind-rich Texas leading the nation with nearly 13,000 MW of installed capacity and over 7,000 MW of wind capacity in advanced development or under construction at the end of 2013.

Channel Improvement Project

The U.S. Congress authorized the U.S. Army Corps of Engineers (Corps) to begin investigating the possibility of deepening the Corpus Christi Ship Channel from 45 feet to 52 feet in order to accommodate larger vessels, increase shipping efficiency, and enhance navigation safety. In 2003, the Authority completed the feasibility phase of the Channel Improvement Project and in November 2007, the project was authorized by Congress in the Water Resources Development Act (WRDA) of 2007, and reauthorized in WRDA 2014. The authorized project includes the following navigation and ecosystem restoration features: (1) deepening the Corpus Christi Ship Channel from 45 to 52 feet, (2) adding 200-foot barge shelves across Corpus Christi Bay, (3) widening the ship channel to 530 feet from Port Aransas to the Harbor Bridge, (4) constructing ecosystem restoration features to protect endangered species, wetlands and sea grass.

Channel improvements will cost approximately $200 million. The improvement project, in addition to creating a safer, more efficient channel for navigation, will produce positive socioeconomic impacts to the region. The project has a high benefit-to-cost ratio with a projected average of about $25 million per year in transportation cost savings over the next 50 years. Benefits may also include increased employment and revenue for the Authority and industry throughout the region.

The Authority also owns and manages Dredge Material Placement Areas to support future channel maintenance and improvements.

Environmental Management System

Through the Authority's Environmental Management System (EMS), the Authority has remained proactive in its efforts to not only promote economic growth but at the same time be good stewards of the environment in its daily operations. As of 2014, the Authority's program is in its seventh year of ISO 14001 certification and its ninth year of implementation. Each year, the program undergoes a detailed external audit to maintain its ISO 14001 certification. The EMS program is driven by a team of Authority employees from the various operational areas with the full support of management. During the past nine years, the program has identified numerous significant aspects impacting the environment such as spills, electrical consumption, storm water runoff, water consumption and air emissions. In 2013, the Authority had reduced reportable spills by 75 percent over 2008, purchased 10% of electrical power from green energy sources, and reduced total water consumption by 3 million gallons.

Rail Improvements

Rail movement of cargo by rail at the Port has doubled from levels prior to 2007; guided by the 2012 Railroad Master Plan, the Authority continues to upgrade, expand and improve rail services to, from, and within the Port. Phase II of the Nueces River Rail yard project is designed, funded and scheduled for construction in 2015. Phase II will extend four of the tracks constructed under Phase I to full unit train

sidings and construct four additional unit train sidings. Total cost of Phase II is approximately $28 million, with $22 million in funding from a TxDOT grant. In addition designs are being developed for extending rail service to the La Quinta Terminal area and routing rail traffic around the community of Gregory, Texas. Work to upgrade and maintain rail within the Port is ongoing with the goal of increasing the efficiency and safety of moving cargo by rail.

MAP 4.7: Railroad Master Plan

Eagle Ford Shale

The Eagle Ford Shale (EFS) Play in South Texas continues to be a major economic stimulator for the Region, State and the Nation. By the end of 2013, EFS supported over 116,000 jobs in the region with over $61 billion in economic impact. Eagle Ford Shale is estimated to create over 127,000 jobs with $89 billion in economic impact by 2020. The Port Authority has played a vital role as the logistical and distribution center for cargoes used in drilling, hydraulic fracturing, and pipeline placement. Proximity of the Port to the Gulf Coast with a deep draft provides an ideal location for oil and gas companies looking to create transloading hubs to export refined products or transfer crude oil and condensate to other refineries throughout the U.S. The Port also provides a point of import for dry bulk commodities like barite and sand for drilling and fracturing. The Authority continues to invest in new rail and dock infrastructure to support the current needs and continued growth potential related to development of the Eagle Ford Shale.

Dock Infrastructure

With the increased import of barites and sand at the Bulk terminal, the Authority is moving forward with plans upgrades that will facilitate more reliable and environmental sound methods to move bulk materials. The gantry crane on Bulk Dock 1 is being outfitted with new DC drives, a PLC (programmable logic controller), and travel motors. At Bulk Dock 2, conveyor covers are being upgraded to full covers over the conveyor belts. Within the bulk terminal area, the Authority is working with costumers and tenants to improve bulk pad storage areas, roads, and storm water drainage to improve cargo operations and limit fugitive dust and storm water emissions.

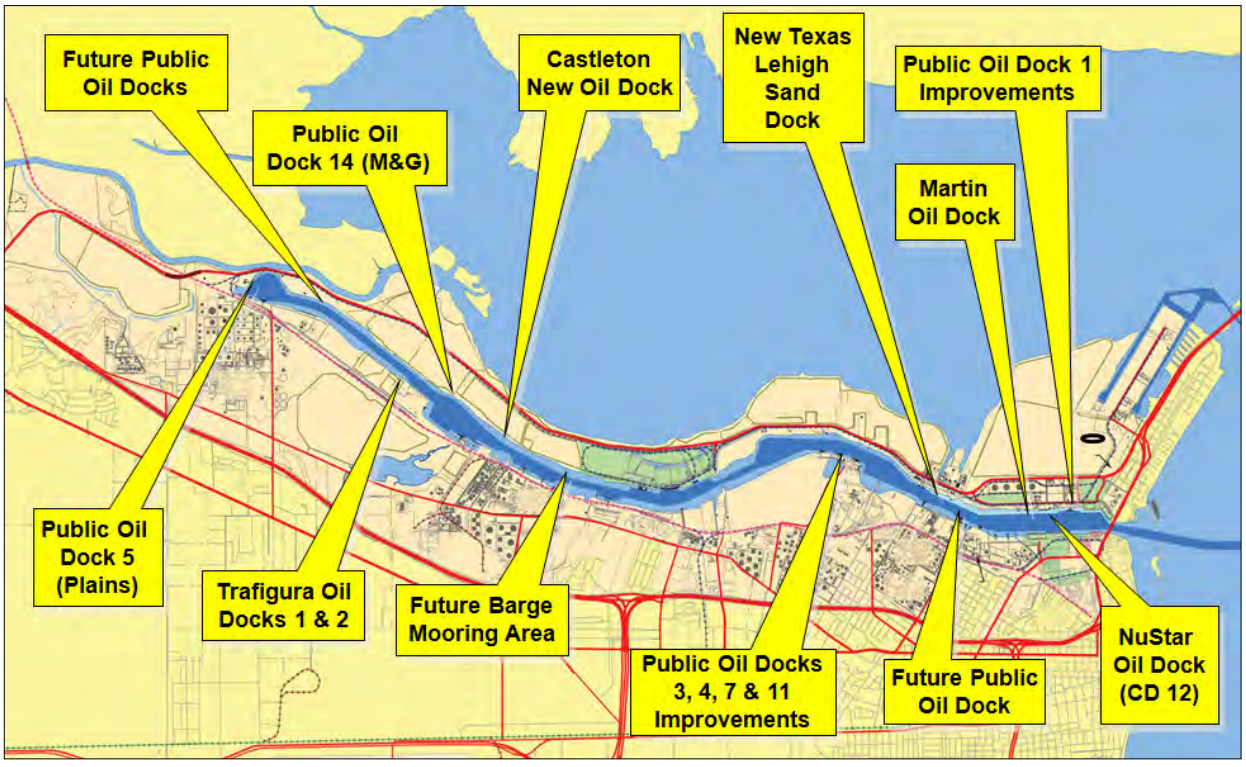
To meet the increasing demand for liquid bulk, bulk, and general cargo dock space, the Authority is repairing, upgrading, and expanding existing dock structures as well as planning, designing, and permitting new docks for construction within the inner harbor. The Authority also supports the upgrade of existing, and construction of new, private dock facilities. Currently planned public and private dock projects will increase the overall cargo capacity of the Port and reduce wait times for ships calling at the port to load or unload cargo. The Figure, presented below, show both public and private dock projects that have been recently completed, are under construction, or are in planning and design stages.

Support Infrastructure

In addition to docks, railroads, and storage yards the Authority is evaluating, planning, and implementing projects to maintain, repair, upgrade, and/or replace support infrastructure such as offices, maintenance facilities, security and communications systems, and utilities in order to support the ongoing growth and development of the port as the major intermodal transportation hub for the region.

Funding

The Authority is actively pursuing alternative funding to meet the major capital requirements necessary to meet the increasing demands for maintenance, upgrade and replacement of existing facilities and infrastructure and development, design, permitting, construction and operation of new facilities and



MAP 4.8 - Dock Improvement and Construction Projects

infrastructure. In addition to using Port Revenue streams, the Authority actively pursues federal grants, such as TIGER grants through the department of Transportation and Security Grants through the Department of Home Land Security; and state grants through the Texas Ports Capital Program. The Authority also seeks opportunities to negotiate cost sharing agreements with port tenants and users that

will directly benefit from specific projects and developments. In addition, the Authority is evaluating the potential benefit of bond issues to provide ready capital that can be utilized to meet the most urgent infrastructure needs in a shorter time frame.

RECREATION TRAVEL AND TOURISM

Tourism continues to be a mainstay of the Corpus Christi economy. According to the Texas Office of the Governor, the Padre Island National Seashore, Texas State Aquarium and USS Lexington are among top attractions in Texas. The most popular activities among visitors to Corpus Christi remained to be related to nature, including the area's beaches and waterfront (46%), and national and state parks (7%). These nature-related activities together accounted for 53 percent of local tourist activities in 2013, as compared to 13 percent for Texas as a whole.

Despite the sheer size of this sector, official statistics about its economic significance are absence. The board scope and integrative nature of tourism make it less straightforward to provide quantitative assessments, particularly at a regional level.

The updated report by Professor Lee, of Texas A&M – Corpus Christi, titled The Economic Significance of Tourism and Nature Tourism in Corpus Christi was published in 2014. It provides an update to previous studies on tourism in the Corpus Christi metropolitan area. This study quantitatively estimates the extent to which Corpus Christi visitors contribute to the region's economic activity, household income and employment.

Corpus Christi remains the sixth most popular tourist destination in Texas. Corpus Christi continues to have a high concentration of family vacationers. An estimated total of 8.1 million visitors spent over 19 million days in the area in 2012-2013, injecting over $1.2 billion into the Corpus Christi economy.

Nearly 5 percent of the area's economic activity comes from the core tourism industries. In addition to the area's hotels, motels and other lodging establishments, substantial portions of restaurants, food stores, retail businesses, public and recreational facilities, and transportation services are closely tied to visitors' activities in Corpus Christi.

More than 17,000 local jobs are directly related to tourism, making this sector the second largest private employer in Corpus Christi. Direct visitor spending contributes the greatest number of jobs to eating and drinking establishments (7,520 jobs), followed by hotels and other accommodations (3,071 jobs). Employment in the tourism sector has increased by 4,052 jobs since 2008, and it is projected to grow steadily based on past growth rate.

The estimated total annual economic impact of tourism on Corpus Christi is $1.2 billion. Visitors' total spending of $675 million in the area generates secondary or ripple effects, which total $899 million. The total volume of business activity directly or indirectly related to tourism supports nearly 29,000 jobs, $350 million in household earnings, and $102.8 million in state and local taxes.

A significant share of tourist activities in Corpus Christi is related to nature and wildlife with nature tourism accounting for nearly 47 percent of all visitor-trips.

GOALS AND OBJECTIVES

The goals and objectives adopted by the MPO to support the transportation needs of the recreational travel and tourism industry include:

- Improving access to MPO area attractions.
- Increase collaboration with public and private sector decision-makers to improve and establish intermodal connections for recreational travel needs.
- Promote cooperation among regional, state, and local interest groups to integrate land use and transportation for providing attractive tourism environment.
- Adopt and promote environmental friendly design standards for roadways, bikeways, and walkways.

Specific actions and plans that support the above goals include:

1. The MPO area's geographical location near the Gulf of Mexico water provides a natural habitat for local and migrating birds which attracts bird watchers from everywhere. Several improvements have been made to capture the opportunities in support of these eco-tourism activities such as the US 181 parallel access road and parking at the bird viewing areas at Sunset Lake Park, the water level access road on Park Road 22 on the Laguna Madre, and the planned improvement to Park Road 22 to allow fresh water exchange for the developed boat channel community.
2. In cooperation with the City of Corpus Christi the MPO developed a pedestrian and bicycle plan that facilitated the improvement and connectivity of hike and bike trails for visitors to use bikes and walk safely between various tourist attractions. Working with the Downtown Management District and Pollution Prevention Partnership a bicycle rack plan was implemented in the downtown area. The MPO and the CCRTA have supported purchase of all buses to include bicycle racks. Connecting Intermodal facilities and links across and between modes of transportation, such as bikeways and hiking trails will improve accessibility and efficient movement of both motorized and non-motorized traffic.
3. The MPO has supported and participated with facilitation by the US Fish and Wildlife Dept., in the creation of a public education effort on developing the Oso Creek as a series of interconnected parks.
4. The MPO will be supporting the efforts of the City of Corpus Christi to utilize potential program funding from the Transportation Enhancements program, Bicycle Transportation and Pedestrian Walkways (NHS), Recreational Trails Program, National Scenic Byways Program, Parkways and Park Roads Program, and Transportation and Community and System Preservation Program funds.

ATTRACTIONS

The following are some areas of interest for recreation and tourism in the MPO area:

Texas State Aquarium: The Texas State Aquarium offers education and entertaining programming, with interactive exhibits. The Texas State Aquarium promotes and practices environmental conservation and

wildlife rehabilitation. Located on Corpus Christi Beach, and CCRTA water taxi stop, the Texas State Aquarium has welcomed over 6.5 million visitors since 1990.

USS Lexington Museum on the Bay: The USS Lexington or "The Blue Ghost" is the most famous World War II aircraft carrier in U.S. Naval history. The ship is open to the public and provides tours, flight simulator, overnight camping, mess deck café and a 3D MEGA Theater.

Sports – Entertainment – Arts (SEA) District: The SEA District is a multi-destination complex of public and private venues. It includes Concrete Street Amphitheatre, Whataburger Field home of the Hooks AA baseball team, Hurricane Alley a growing water park, the Museum of Science and History, the Oriental Museum, the Art Museum of South Texas, Heritage Park, Ortiz International Center, Selena Auditorium, American Bank Center Arena and Convention Center.

Corpus Christi Botanical Garden: The South Texas Botanical Gardens & Nature Center is one of the region's five major visitor attractions. The 180-acre site is an integral part of the city's growing Oso Creek Greenbelt system, is a Texas Watchable Wildlife Program site, and is on the Great Texas Coastal Birding Trail. It also is recognized as one of the key birding sites in Corpus Christi, which has been named the *Birdiest City* in the United States.

Padre Island National Seashore: Padre Island, a 110-mile long, sand barrier island that stretches from Corpus Christi to Port Isabel, is developed at both ends with resorts, restaurants, and other businesses. But in between, Padre Island National Seashore preserves an unblemished 70-mile portion of the island, from Corpus Christi south to Mansfield Channel. The remote, natural beaches and lands of this national park offer opportunities for fishing, swimming, boating, windsurfing, kayaking, and camping under starry skies. Padre Island National Seashore protects the longest stretch of undeveloped barrier island left in the world and provides a place to escape from the frantic pace and flood of lights of the modern world.

Mustang Island State Park: Mustang Island is just east of the city of Corpus Christi with five miles of open beach. One of the most popular family beaches in Texas, facilities near the park include campsites with water and electricity, primitive beach sites, shaded picnic areas, restrooms and showers.

Highlights of Corpus Christi Tourism:

- 2012-2013 saw 8.1 million visitors (person trips to the metro area)
- Over 19 million visitor-days (average 2.04 days per trip)
- Average party size of 2.1
- 46% visitors go to beaches/waterfront, 27% dining, 13% sightseeing, and 13% fishing

Spending:

- Over $1.2 billion in total visitor destination spending
- $116.6 per visitor per day -- spending by category: restaurants & bars (25%), lodging (23%), local transportation, (17%), shopping (14%), recreation & entertainment (10%)
- Visitors account for 81% of sales in local hotels, 60% airport activity, 55% car rentals, 26% local transportation, 25% recreation, and 22% restaurants & bars

Economic Impacts:

- $675 million in value added (output) - $350 million in wages & salaries 17, 051 jobs
- $31.8 million in local taxes, $71 million in state taxes

Nature Tourism:

- Largest component of visitor activities - 47% of local visitor trips are nature based

Opportunities for fishing and hunting abound throughout the state.

CORPUS CHRISTI INTERNATIONAL AIRPORT

Corpus Christi International Airport (CCIA) serves not only the Corpus Christi Metropolitan area, but also the Coastal Bend region. The community is currently served by three airlines: American Airlines, United Airlines and Southwest Airlines. These three airlines operate an average of 40 flights a day and carry about 660,000 people to and from CCIA each year. The terminal currently has 6 gates and recently underwent a renovation and expansion of the Federal Inspection Services (FIS) area. CCIA is currently undergoing a massive runway safety and taxi reconfiguration project that is being funded mostly by the Federal Aviation Administration (FAA). The United States Coast Guard will soon call CCIA home when the Sector Headquarters project is completed in spring of 2015. CCIA also plays a supportive role in the United States Navy's Training mission in South Texas. The Navy represents 60% of the 100,000 air operations recorded at CCIA each year. CCIA has its own Public Safety Department staffed with officers who are cross trained in police, fire and EMS. CCIA plays host to an annual Aircraft Rescue Fire Fighting Academy on airport property that includes two weeks of both classroom and hands on training. Firefighters and Public Safety Officers from around the area take part in "live burns" using a Mobile Aircraft Fire Training Unit courtesy of Naval Air Station Corpus Christi. CCIA has completed a number of projects in the past couple of years that are designed to maximize efficiencies in maintenance, operations and public safety, as well as to generate non-aeronautical revenue to help sustain the airport in to the future.

MAJOR PROJECTS

Runway Safety and Taxiway Reconfiguration

In July 2014, the city of Corpus Christi issued a notice to proceed on the last phase of the runway project. This last phase will extend runway 13/31 by 1,000 feet, changing the total declared distance from 7,500 feet to 8,500 feet. The work on runway 18/36 (previously 17/35) was completed in early summer 2014 and included an extension of 600 feet, which gives the crosswind runway a new declared distance of 6,680 feet. Both phases of the construction also included a redesign of the taxi-way system. The 50 million dollar project should be completed by late summer 2015.

United States Coast Guard Sector Headquarters

With an anticipated completion time of spring 2015, the new US Coast Guard facility will include office and support space, mission critical command facilities, data center, berthing areas for ready crews, and other amenities such as food service and a fitness center. The US Coast Guard hangar will house a new fleet of search and rescue aircraft and the facility will be home base for several hundred employees. The building is going up on 9.5 acres of land and will give the USCG quick access to CCIA runways.

Federal Inspection Services (FIS)

The FAA agreed to fund 95% of a renovation and expansion project for CCIA's FIS. This area of the terminal is designed especially for use by US Customs and Border Protection when an International flights arrives. The project expands CCIA's capacity to receive large planes full of passengers who need to clear Customers quickly and get on their way.

Quick Turn Around Facility (QTA)

The new QTA facility is a consolidated office and maintenance headquarters for the rental car companies that do business at CCIA. The QTA is complete with fueling stations, car washes and maintenance areas that are necessary to keep these fleets of vehicles on the road. The QTA is being funded by a customer facility charge (CFC) that is assessed to rental customers. This project was completed in 2013.

Airfield Equipment and Maintenance Facility

Funded 95% by the FAA, a new 10,000 square foot maintenance facility was completed in late 2010. This facility has 3 vehicle bays, a deep mechanic pit for easy access to needed repairs, 6.5 ton engine hoist, and two 2,000 gallon above ground fuel tanks. This facility helped work crews create much needed efficiencies in the maintenance, repair and storage of airfield, landscaping, public safety and firefighting vehicles.

AIRPORT COMMERICAL DEVELOPMENT

FedEx Ground Development

In 2011, a private developer completed construction on a 45,000 square foot facility for FedEx Ground. The facility was built on 80 acres of city owned, airport property, making FedEx Ground the first business to locate in the airport's International Business Center.

The Corpus Christi Regional Economic Development Corporation works actively to promote available sites at CCIA for commercial development. The CCIA staff is working to generate interest in both aeronautical and non-aeronautical development on airport property.

Airport property that is available for development is divided into four zones:

Development Zone 1 - Approximately eleven acres with frontage along State Highway 44. Close proximity to utilities. Corner lot at intersection of SH 44 and International Drive suitable for development of hotel or other commercial business. A portion of this property is located close to the runway and taxiway system making it ideal for aeronautical use.

Development Zones 2 & 3 - Approximately fifty acres with frontage along State Highway 44. Close proximity to utilities and quick access to main entrance road (International Drive) and SH 44. Zone 2 is appropriate for the development of business parks and light industrial manufacturing facilities. The western acreage has rapid access to the taxiway system and Runway 13/31.

Development Zone 4 - Over 125 acres at midfield. A Parallel Runway 13-31 (10,000' x 150') is included in the airport's Master Plan which will accommodate large cargo aircraft. This property is suitable for the development of air and highway intermodal transportation facilities.

LONG-RANGE MASTER PLAN

The 2007 Airport Master Plan Update proposed capital improvement projects estimated at $76.9 million over a 20-year period. The projects were based on projected long-term and continue growth in aviation activity. CCIA will be updating the Airport Master Plan in 2015 with details about anticipated projects in to the future. Many airport projects will be eligible for FAA funding at 90%. The balance of the costs will be supported by airport operating revenue.

American Airlines, United Airlines and Southwest Airlines operate an average of 40 flights a day.

CHAPTER 5

CONGESTION MANAGEMENT

INTRODUCTION

The Congestion Management Process (CMP) is a way of systematically considering congestion-related issues using a set of technical tools, and basing evaluations on a discrete set of locally determined performance measures. A review of performance of multimodal transportation systems and the identification of strategies that address congestion focus on both the use and operation of facilities and services.

What are the requirements of the CMP?

A CMP is required in metropolitan areas with a population greater than 200,000 Transportation Management Areas (TMAs). The congestion management process helps the MPO and partner agencies achieve regional operations performance objectives, and a number of collateral benefits. By addressing congestion through a comprehensive process, the CMP provides a framework for responding to congestion and other operational issues in a consistent, coordinated fashion.

The required components of a CMP:

- Transportation planning in a TMA shall address congestion management through a process that provides for safe and effective integrated management and operation of the multimodal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities eligible for funding under title 23 U.S.C. and title 49 U.S.C. Chapter 53 through the use of travel demand reduction and operational management strategies.
- Development of a CMP should result in multimodal system performance measures and strategies that can be reflected in the MTP and the TIP. The level of system performance deemed acceptable by State and local transportation officials may vary by type of transportation facility, geographic location and/or time of day. Consideration should be given to strategies that manage demand, reduce single occupant vehicle (SOV) travel, and improve transportation system management and operations. Where the addition of general purpose lanes is determined to be an appropriate congestion management strategy, explicit consideration is to be given to the incorporation of appropriate features into the SOV project to facilitate future demand management strategies and operational improvements that will maintain the functional integrity and safety of those lanes.
- The congestion management process shall be developed, established, and implemented as part of the metropolitan transportation planning process that includes coordination with transportation system management and operations activities including:

A. Methods to monitor and evaluate the performance of the multimodal transportation system, identify the causes of recurring and non-recurring congestion, identify and evaluate alternative strategies, provide information supporting the implementation of actions, and evaluate the effectiveness of implemented actions;

B. Definition of congestion management objectives and appropriate performance measures to assess the extent of congestion and support the evaluation of the effectiveness of congestion reduction and mobility enhancement strategies for the movement of people and freight.

C. Establishment of a coordinated program for data collection and system performance monitoring to define the extent and duration of congestion, to contribute in determining the causes of congestion, and evaluate the efficiency and effectiveness of implemented actions.

D. Identification and evaluation of the anticipated performance and expected benefits of appropriate congestion management strategies that will contribute to the more effective use and improved safety of existing and future transportation systems based on the established performance measures. The following are examples of what should be considered:

- Demand management measures, growth management, and congestion pricing
- Traffic operational improvements
- Public transportation improvements
- ITS technologies as related to the regional ITS architecture
- Where necessary, additional system capacity

E. Identification of an implementation schedule, implementation responsibilities, and possible funding sources for each strategy proposed for implementation.

F. Implementation of a process for periodic assessment of the area's established performance measures. The results of this evaluation shall be provided to decision makers and the public to provide guidance on selection of effective strategies for future implementation.

MPO CONGESTION MANAGEMENT PROCESS

While the CMP represents the state-of-the-practice in addressing congestion, we are challenged to establish a suitable and valuable method that will respond to our existing planning conditions. The CMP, currently an eight step process (see below), will be outlined and critical elements of its implementation highlighted for our region.

1. Develop Congestion Management Objectives
2. Identify Area of Application
3. Define System or Network of Interest
4. Develop Performance Measures
5. Institute System Performance Monitoring Plan
6. Identify and Evaluate Strategies
7. Implement Selected Strategies and Manage Transportation System

8. Monitor Strategy Effectiveness

Traffic congestion in Corpus Christi is not as much a function of population growth as the function of the increase in single occupant trips. Using census data, the population grew from an estimated 349,164 persons in 2000 to an estimated 387,203 persons in 2010, a growth of approximately one 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.

The MPO's Congestion Management System Work Program (CMSWP) includes all limited access roadways, principal arterials, some minor arterials, and a few collectors within the City of Corpus Christi. As part of the CMSWP, the MPO identified congested segments based on the criteria developed by TxDOT and the citizens' perception of congestion. The work program includes approximately 226 locations for traffic volume counts.

The MPO's CMP serves 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.

Development of Congestion Management Objectives

The following objectives were derived from the vision and goals in the MTP which covers streets/highways, public transportation, bicycle/pedestrian plan, railroads/trucking, port, and recreational, travel & tourism:

- **SOV Travel:** SOV is the predominant mode of travel within the MPO area, which is a major cause of congestion and deteriorating air quality.

  Action: Ridesharing, carpooling, vanpooling, bicycle, transit service, flexible work hour program, compressed work week, parking management, congestion pricing, traffic signal improvement, intersection improvement, growth management, access management, ITS, advanced transportation management system, commercial operation, freeway incident management system.

- **Traffic Signal Synchronization:** Unsynchronized signals contribute to traffic congestion. Drivers experience stops, stop-delays, and longer travel time contributing to increased fuel consumption, congestion, and air pollution.

  Action: Traffic signal timing improvements.

- **Access Management:** Closely spaced driveways and their nearness to intersections on arterial streets hamper traffic movement causing congestion and air pollution.

  Action: Geometric design, traffic signal improvement, intersection improvement, parking management, growth management (subdivision regulations).

- **Intersections without Right Turn Channelization:** Intersections with heavy right turn traffic movements without right turn channelization contribute to congestion during peak hours.

  Action: Geometric design (lane marking), traffic signal improvement, intersection improvement.

- **One Way Pairs:** Absence of one way pairs causes intersection delays, complicates signal timing, and decreases road and pedestrian safety.

  Action: Traffic signal improvement, intersection improvement.

- **Continuous Left Turn Lanes:** Consideration should be given to use raised center medians in lieu of continuous turn lanes in areas of heavy traffic concentration, higher travel speeds, and frequent driveway spacing.

  Action: Geometric design (raised medians), traffic signal improvement, intersection improvements, parking management, and access management.

- **Land use:** Residential areas are developing farther and farther from commercial, educational, recreational, and health facilities. Commercial activities are concentrating along South Padre Island Drive (SPID) between Weber and Airline in Corpus Christi. This type of development is increasing trip distances and discourages transit and bicycle trips.

  Action: Growth management (mixed-use development, planned unit development).

- **School Zones on Major Arterials:** Arterial street system serves major centers of activity of a metropolitan area. These facilities emphasize mobility rather than land accessibility. Low driving speed limits in school zones on major arterials cause traffic delays and congestion.

  Action: Geometric design, traffic signal improvements, intersection improvements, parking management, access management (designated cross walks).

- **Speed Limit:** Higher functional streets not posted with appropriate speed limits result in speeding violations and inefficient traffic flow.

  Action: Speed limit revision.

- **Traffic Signs:** Improper placement or lack of traffic signs at intersections hamper traffic flow.

  Action: Intersection improvement.

- **Bus Bays:** Bus bays play an important part in reducing congestion, whereas absence of bus bays on busy streets adds to congestion.

  Action: Geometric design. The Regional Transportation Authority (RTA) conducts ongoing studies to add more bus bays where justified.

- **Transit Service:** Enhanced travel and headway times in the MPO area will mitigate congestion and improve air quality.

  Action: Direct transit between activity centers and residential areas; growth management.

- **Walkways:** Some walkways originating in the residential area do not provide a continuous link to schools, businesses, and recreational facilities. Walkways that are not properly maintained and lack Americans with Disabilities Act (ADA) accessibility ramps discourage potential users.

  Action: Walkways, traffic signal improvements, intersection improvements, growth management, and access management.

- **Bikeways:** Street and off street bicycle facilities are necessary as an alternative mode of transportation to alleviate congestion and enhance air quality. The City of Corpus Christi has formed a Bicycle Advisory Subcommittee to work on a Master Bicycle Plan for bicycle routes.

  Action: Bicycle routes; traffic signal improvements, intersection improvements, growth management, and access management.

- **Intermodal Transfer Locations:** The MPO area does not have a designated passenger or freight intermodal facility where all the intercity or intracity traffic could make transfers.

  Action: Intermodal facilities for passengers and freight, transit service improvements, and parking management; intermodal connectors.

Define System of Network of Interest

The network characteristics of surface transportation indicate that in spite of our water front presence on the city's eastern border, land is readily available. As a regional hub, development in our region continues to grow.

Commuting to work data show how our numbers compare to the Texas statewide results:

TABLE 5.1: COMMUTING TO WORK

MODE TO WORK	AREA PERCENT	STATEWIDE PRECENT
Drove Alone	83	80
Car Pooled	11	11
Public Transit	1	2
Walked	1	2
Other Means	2	2
Worked at Home	2	3

The economic character of the community and region continue to have the existing infrastructure. The Port of Corpus Christi Authority (POCCA), which has served our community for over eighty years, remains a primary catalyst in our economy. Continuous upgrades and expansion efforts to port property are expected to support anticipated increases in cargo tonnage thus creating jobs and income (direct, induced, and indirect) for residents in the Coastal Bend area. Local governmental entities continue to develop and build Highway 77 up to Interstate standards.

Other POCCA interests include La Quinta Gateway Terminal project, a long-term plan related to a multi-purpose dock and container facility; Cheniere Energy's proposed liquefaction project; M&G Group, an Italian chemical engineering and manufacturing group that produces PET resin; Chinese investments by Tianjin Pipe (Group) Corporation through TPCO America; The voestalpine Group, a steelmaking group from Austria and several other investors contribute to the port's growth and transportation needs.

The City of Corpus Christi's land use plan shows ongoing growth in the Southside as well as transportation challenges along SH 358 (South Padre Island Drive). As the only major highway corridor connecting the mainland to the island, SH 358 is operating at a lower level of service causing traffic congestion and delays. The arterial system adjacent to SPID has been identified as congested requiring traffic studies to determine if access management improvements can provide relief.

The Regional Parkway Mobility Corridor study is a critical element in the long-range development of the transportation system. This project promises to alleviate existing elevation limitations evident on the only bridge from the island to the mainland. The Corridor will enhance safety issues by providing island residents with an alternative evacuation route from the island to the mainland – especially during hurricane evacuation.

The cities of Portland, Gregory, Ingleside and Robstown are neighboring communities for the Corpus Christi area. The Corpus Christi Naval Air Station and the Corpus Christi Army Depot are the largest

employers in the area. Many people commute from neighboring communities to Corpus Christi. Tourist attractions which bring many tourists to this area for short durations include: the USS Lexington Museum, the Texas State Aquarium, Padre Island National Seashore, Whataburger Field – Home of the Corpus Christi Hooks Double-A Baseball, Port Aransas Beaches, and the Botanical Gardens and Nature Center. The cumulative effect of these activities is an additional demand on housing and commerce that in turn generate more travel trips.

Funding for the area is driven by methods established by TxDOT which entails grouping Federal programs under various classifications. Given that the MPO, in collaboration with TxDOT and interested parties, select projects for Category 2 and 7 funds – a projection of funding in this area is of community wide concern.

- Category 2 provides for funding mobility and added capacity projects on major state highway system corridors which serve the mobility needs of a TMA.
- Category 7 provides for funding mobility projects within the TMAs.

DEVELOPMENT OF PREFORMANCE MEASURES

The intent of developing performance measures is to provide the public, appointed, and elected official with tools that will effectively communication the performance of the transportation network and operations. It is important for our study area to remain observant and aware of our attainment designation for ozone or carbon monoxide as an adverse change in these areas will certainly impact local assessment.

Institute System Performance Monitoring Plan

The MTP directs coordinated data collection and system performance monitoring to assess the extent of congestion, to contribute in determining the causes of congestion, and evaluate the efficiency and effectiveness of implemented actions. Our data collection efforts based on relevant, reliable, and consistent performance measures and analytical methods have provided a number of improvement projects that are in the process of being implemented. An active awareness of the need to coordinate with existing data sources, and operations managers in the metropolitan area is exercised. Partnerships with our local university, community college, and businesses have also proven effective methods for collecting survey and study information.

Identify and Evaluate Strategies

Projects that enhance connectivity and create integration in the area are identified as critical. Traffic volume data collected by TxDOT and the City of Corpus Christi assist the MPO with data from over 200 locations in the study area. These locations are on those segments that are considered congested either by TxDOT standards or by the perception of the citizens of the metropolitan area.

With more than 80 miles of fiber optic cables installed along urban area streets, Intelligent Transportation Systems (ITS) is a major tool available to mitigate congestion. Dynamic sign message systems and condition monitoring cameras at selected locations can make real-time appropriate decisions to manage congestion.

When deliberating 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 – the following innovative options are considered: Transportation Demand Management (TDM) and Transportation System Management (TSM). 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 other mobility options to those who want to travel.

TDM alternatives to a SOV:

Carpools and Vanpools: Useful option for transit service in sparsely populated areas or where not enough resources exist to increase service.

Public and Private Transit: Transit, bus pools, and shuttles can be utilized.

Non-motorized travel: Bicycling and walking are modes that reduce congestion and air pollution.

High Occupancy Vehicle Lanes (HOV): Moves more people per vehicle and thus decreasing vehicle miles of travel.

New Highways: Constructed to relieve congestion by routing traffic from an existing congested system.

Alternative Work Hours Programs: Compressed Work Weeks and Flexible Work Schedules help relieve congestion.

Financial Incentives: Preferential parking for carpools and vanpools, subsidies for transit riders, transportation allowances, and guaranteed ride home programs help reduce traffic and congestion.

TSM alternatives:

Intelligent Transportation System (ITS): Includes computers, communications, and displays.

Goods Movement Management: Regulating pickups and delivery times for freight delivery.

Freeway Incident Management System: Prompt removal of a disabled vehicle from travel lanes.

Geometric Design: Replacing continuous left turn lanes with a raised median increases capacity.

Traffic Signal Improvements: Equipment updates, timing plan improvements, interconnected signals, traffic signal removal, or traffic signal maintenance.

Intersection Improvements: Devices for the safe passage of both pedestrians and vehicles ie., stop signs, yield signs, traffic signs, turning lanes, traffic islands, channelization, and improved design.

Planning Management are strategies related to zoning, land-use, and urban design techniques to avoid congestion by integrating land-use planning, site planning, and landscaping with a transportation system.

Growth Management: Defined as “the use of public policy to regulate the location, geographic pattern, quality and rate of growth of development.” Travel demand modeling provides information on traffic generation that could be used to control land development and its impact on the surrounding transportation infrastructure. A tool used for growth management is site plan review and requirements in conjunction with required traffic impact analysis for high density multi-family, commercial, or industrial development.

Access Management: Related to controlling space and design of driveways, medians and median openings, intersections, traffic signals, and freeway interchanges. Suitable access control can

decrease the number of accidents and congestion. To have a successful access management plan, transportation planners and land use planners must work cooperatively. Access management benefits are fewer accidents, increased capacity, and shorter travel times.

An example of a project resulting from our Access Management study is an on ramp reversal project on SPID that focuses on frontage roads. As part of the ramp-reversal project – that changes the location of on and off ramps for the highway – the intent is to eliminate the backups on the highway itself. Backups frequently occur from people jamming into exit lanes - at Weber, Everhart, Staples, and Airline. Other near term projects postured to address growing areas include a median project on Saratoga (SH357) and a proposal to extend improvements along Saratoga.

Implement Selected Strategies and Management Transportation System

Careful attention is given to the information and methods discussed in our CMP as they are later applied to establish priorities in the TIP and MTP. Working closely with operating agencies that have participated in the CMP is facilitated through a Congestion Management Subcommittee that meets Ad Hoc to review and analyze traffic data, and make recommendations for transportation improvements. The subcommittee consists of area partners including: TxDOT, representatives of Nueces and San Patricio Counties, City of Corpus Christi, City of Portland, CCRTA, and MPO staff.

Monitor Strategy Effectiveness

Periodic evaluation of our CMP strategies is a continuous process that validates our course of action in determining the most effective methods to use in supporting our local transportation decision making. Staff – together with our subcommittee partners – review how well and to what extend strategies being implemented contribute to the success/failure of projects.

This summary of various TDM and TSM alternatives are planned and ongoing activities demonstrating 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

CHAPTER 6

ENVIRONMENTAL CONSIDERATIONS

INTRODUCTION

(Courtesy of the Corpus Christi Air Quality Group) The Corpus Christi Urban Airshed is made up of two adjoining counties in South Texas: Nueces County and San Patricio County. The region is a large urbanized area with a number of industrial point sources of air emissions and a concentration of mobile sources. The two counties are home to the nation's fifth busiest deep-water port with access to the Gulf of Mexico and the Gulf Intracoastal Waterway, and are home to a large industrial and petrochemical complex, a major military base, renewed oil and gas exploration activity, and a network of highways, including the Interstate Highway System, railroads, and air routes, that facilitates commerce and a thriving tourism industry.

Nueces County and San Patricio County (Figure 6.1) are defined by the U.S. Environmental Protection Agency (USEPA) and the Texas Commission on Environmental Quality (TCEQ) as an urban airshed in which air emissions from sources in both counties interact to influence the level of ambient air pollution in the Corpus Christi community. Control of ambient air quality requires a strategy that considers sources of air emissions in both counties.

FIGURE 6.1: Corpus Christi Urban Airshed and Regulatory Ozone Monitors CAMS 4 & 21

STAKEHOLDERS

The Corpus Christi Urban Airshed (Airshed) is an area in which local entities are working together via The Corpus Christi Air Quality Group to plan and implement voluntary actions appropriate for community needs in order to improve air quality.

The Corpus Christi Air Quality Group was established in 1995 to address National Ambient Air Quality Standards (NAAQS) ozone attainment issues for the Airshed. The group works collaboratively to identify air emission sources and to design and implement emission reduction programs that are suitable for the Corpus Christi area.

Members of the Corpus Christi Air Quality Group include individuals from the local government, business and industry, local universities, public agencies, a regional planning organization, the military, and the news media. The broad stakeholder representation within the Corpus Christi Air Quality Group allows the group to design common sense strategies that reflect the weather, driving habits, and economy of the region.

On December 15, 2012, the Corpus Christi Air Quality Group submitted a letter of intent to the USEPA to participate in an Ozone Advance Program. The goal for the Airshed participation in the Ozone Advance Program is to maintain the area's successful record of maintaining healthy air quality and to encourage voluntary air emission reductions that help keep Nueces County and San Patricio County in attainment with the current 8-hour ozone standard of 75 ppb (parts per billion) as well as attainment of future ozone standards should the USEPA elect to lower the allowable standard for ozone.

The Corpus Christi Air Quality Group has developed and delivered similar plans, that have been formalized by the USEPA; the 1996 Flexible Attainment Region Memorandum of Agreement and both the 2002 and the 2007 8-O3FLEX Memorandum of Agreement (Agreements).

The policies and guidelines developed and implemented by the Corpus Christi Air Quality Group in these Agreements encouraged voluntary air emission reductions that helped keep the area in attainment of both the original 85 ppb ozone standard set in 2002 and the 75 ppb standard set in 2008, while contributing to the achievement of the positive health benefits envisioned under the 8-hour average. The Airshed is still experiencing the effects of the successful voluntary emission reductions efforts committed to in these Agreements.

STATUS OF AIR QUALITY

The current National Ambient Air Quality Standard (NAAQS) for ozone: the fourth highest daily maximum 8-hour average, averaged over the past three calendar years, may not exceed 75 ppb.

TCEQ operates two Continuous Air Monitoring Stations (CAMS) in Corpus Christi: TCEQ CAMS 4, located at the Corpus Christi State Supported Living Center at 902 Airport Road; and TCEQ CAMS 21, located in West Guth Park at 9866 La Branch Street (Figure 6.1). Ozone levels recorded at these two monitors are used to determine the attainment status of the area. Currently, the Airshed is in attainment of the NAAQS for ozone at a current design value of 59 ppb at both CAMS. The Airshed has experienced an overall decreasing trend from 2002 through 2014 (Figure 6.2).

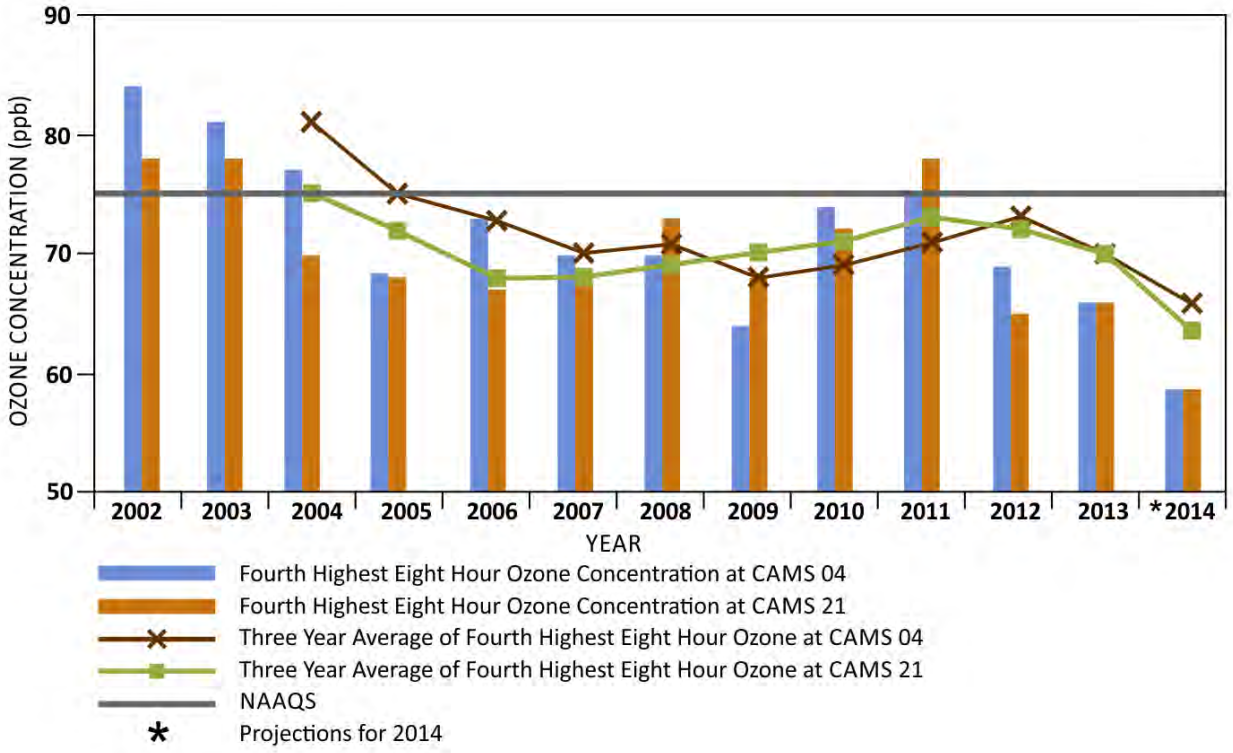


FIGURE 6.2: Corpus Christi Ozone Design Trends

Corpus Christi Air Quality Group participant and stakeholder UNT/TAMUK operates several research grade air monitoring stations (Figure 6.3). Two of those stations are upwind of the regulatory monitors, while one is located downwind. The two upwind air monitors, Aransas Pass (CAMS 659) and Odem (CAMS 686), have consistently recorded design values approaching or equal to the current NAAQS for ozone, suggesting an influence of long range transported emissions from outside of the Airshed at the local monitors (Table 6.1).

TABLE 6.1: OZONE DESIGN VALUES OBSERVED AT THE NON-COMPLIANCE RESEARCH GRADE MONITORING STATIONS

YEAR	CAMS 660 (HOLLY RD)	CAMS 664 (VIOLET)	CAMS 659 (ARANSAS PASS)	CAMS 686 (ODEM)
2006 - 2008	72	71	74	68
2007 - 2009	67	69	75	69
2008 - 2010	66	69	75	68
2009 - 2011	67	72	75	71
2010 - 2012	68	71	75	71
2011 - 2013	69	72	70	70

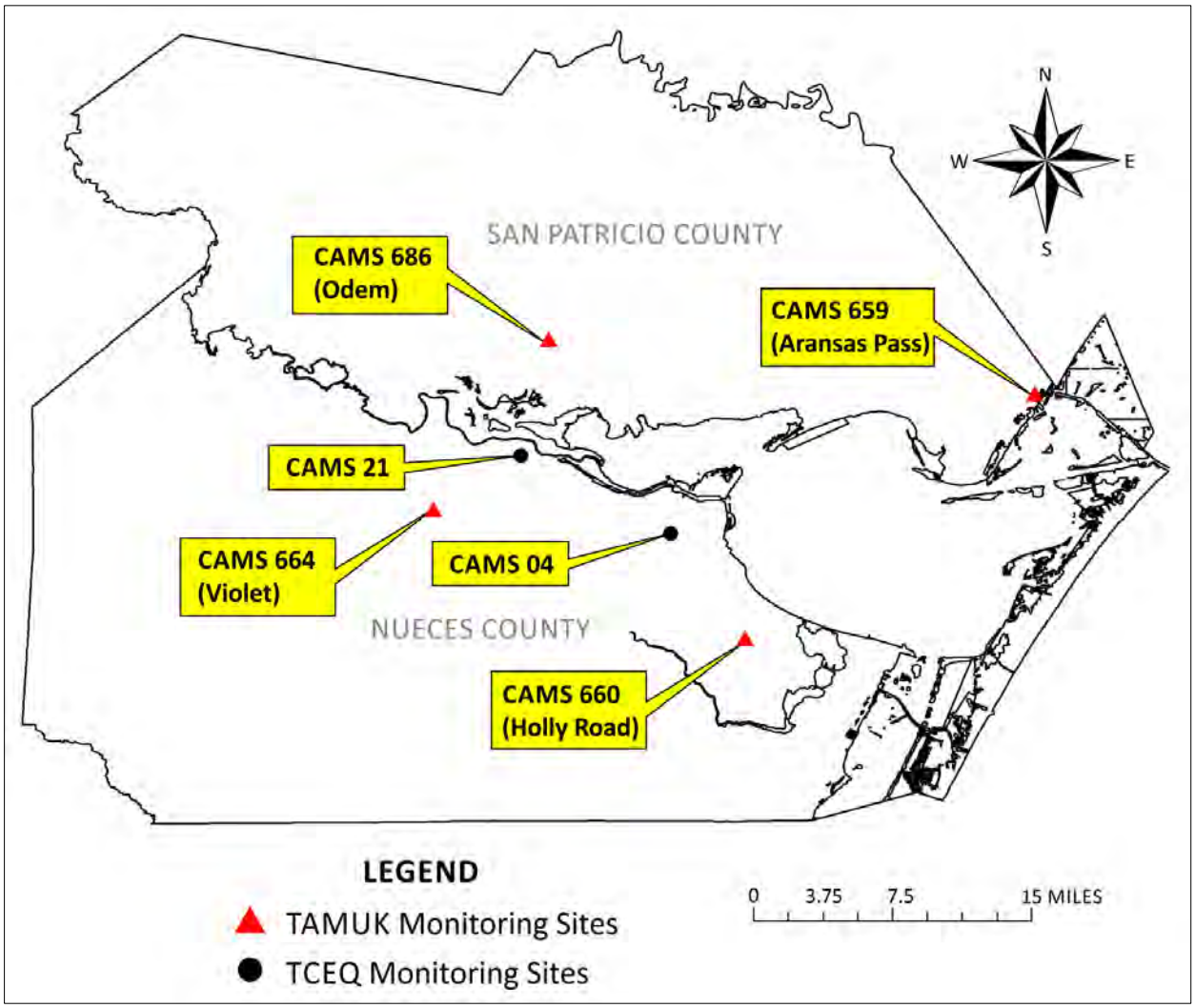


FIGURE 6.3: Map of Research Air Monitors Operated by UNT/TAMUK

CHAPTER 7

PREFORMANCE MEASURES

INTRODUCTION

Performance measures provide guidance for setting goals and standards, detecting and correcting problems, managing, describing, and improving processes and provide an opportunity to document accomplishments. Performance measures aim to answer questions about whether the performance of the transportation system is getting better or worse over time; and whether transportation investments are correlated or linked to stated goals and conditions. A typical definition of a measure includes a specific goal or objective, data requirements and the calculation methodology.

Examples of performance categories can include:

- Accessibility
- Mobility
- Economic Development
- Quality of Life
- Safety
- Climate Change / Energy Use
- Environment
- Public Health

Why use performance measures?

The Moving Ahead for Progress in the 21st Century Act (MAP-21) placed increased emphasis on performance management within the Federal-aid highway program and transit programs. MAP-21 creates a streamlined and performance-based surface transportation program and builds on many of the highway, transit, bike, and pedestrian programs and policies established. This legislation integrates performance into many federal transportation programs and contains several performance elements.

Under MAP-21, U.S. Department of Transportation (U.S. DOT) will establish final rules for the seven national transportation goals, and state DOTs will develop performance targets in consultation with metropolitan planning organizations (MPOs) within a year after the final rule is established. MPOs are required to develop regionally relevant performance objectives and its measurements within 180 days after the state DOT established its own performance targets for relevancy and consistency and to incorporate the established performance targets and its measures into the transportation planning process.

The federally mandated performance measures are targeted at the effective management of limited funding resources, the logical prioritization of key elements in the transportation planning process, and the greater accountability to the public. The MPO will be required to develop the practical performance targets in coordination with TxDOT that are compatible with the 3C planning process (a continuing,

cooperative, and comprehensive) and the strategic performance management approaches to improve the transportation decision making process for the region.

The required performance plan should include:

- Discussion towards achieving the performance targets
- Links investment priorities to performance targets

And the target achievement is part of the MPO certification by FHWA and FTA conducted every four years based on the following performance evaluation criteria:

- Achievement of targets
- Appropriateness of performance targets
- Cost-effectiveness and efficiency of transportation investments
- Extent to which process relies on public input
- Ability of the public to access information to assess the performance of the MPO

The MPOs will be required to submit the Metropolitan System Performance Report every four or five years that includes:

- Evaluate the condition performance of the transportation system
- Progress achieved in meeting performance targets in comparison with the performance in previous reports
- Evaluation of how preferred scenario has improved conditions and performance, where applicable
- Evaluation of how local policies and investments have impacted costs necessary to achieve performance targets, where applicable.

FRAMEWORK FOR USING PREFORMANCE MEASURES

The following describes a transition into a performance-based planning process to allow the advancement of these approaches in planning and programming activities. Performance based planning fits within a traditional planning and programming process.

This framework includes:

Planning:

Strategic Direction

- Goals and Objectives
- Performance Measures

Planning Analysis

- Identify Trends and Targets
- Identify Strategies and Analyze Alternatives
- Develop Investment Priorities

Programming:

- Investment Plans
- Resource Allocation
- Program of Projects

Implementation and Evaluation:

- Monitoring
- Evaluation
- Reporting

Selection of Performance Measures

Selection of performance measures is closely tied to development of goals and objectives. Since performance measures are used to assess progress toward meeting objectives and in turn goals, they are central to implementing a performance-based planning process. Performance results inform as to whether types of projects and strategies that are implemented are in fact helping achieve goals and objectives. Performance measures serve five critical purposes:

1. Clarify the definition of goals – Performance measures are a tool that is used in converting broad goals into measurable objectives.
2. Monitor performance – Metrics are used to track performance on a regular basis.
3. Set targets – Metrics are used as the basis for selecting a target that is intended to be achieved.
4. Compare alternative options – Metrics are used as a basis for comparing alternative investments or policies.
5. Assess effectiveness – Metrics are what enable measurement to assess whether projects and strategies have worked to further goals.

Two well-known challenges associated with defining performance measures are difficulties with data availability and difficulties in developing quantitative measures for factors such as economic vitality and livability.

Data Collection

Data and analytical tools play a critical role in the development, implementation and evaluation of performance measures. A suite of approaches, tools, and methodologies will be required. Data provide the foundation for:

- Selecting feasible performance measures
- Understanding current system performance (developing a base line)
- Developing and tracking performance changes over time (monitoring conditions)
- Setting targets
- Evaluating the effectiveness of implemented strategies

While collecting, compiling and analyzing data is often a challenge compounded by costs and the difficulty of obtaining data, there is a wide array of national, state, and local data sources and systems available.

A clear data collection strategy will be developed to provide a smooth data collection process. The MPO will work collaboratively with TxDOT measures while aligning planning factors, goals, objectives performance measures and targets. The data collection strategy will be developed to identify how much data needs to be collected, identify which graphics to report, establish reporting frequency, identify characteristics of the data and identify data sources with city and county data.

NEXT STEPS

Texas Department of Transportation (TxDOT) and the Texas Metropolitan Planning Organizations will agree on a set of recommended national performance measures for Texas, once the Notice of Proposed Rulemaking and Final Rules are published. TxDOT and MPOs will use the same data the current approach includes TxDOT being responsible for the conditions and safety performance target settings while working with MPOs collaboratively on target setting for system performance areas. A collaborative approach will be taken on MPO region targets in advance of statewide target setting.

The MPO's planning process, inclusive of area collaboration for system performance, will also utilize public input for improving the transportation network's performance. Community feedback, collected in a 2014 MPO survey, is captured in the Understanding Your Transportation Needs Survey Report (Appendix II). Based on community responses from over 400 participants (a tolerance for accuracy of +/- 5%), we were able to solicit input to questions related to future funding considerations, travel choice, connectivity, freight, safety, economic development, air quality, congestion, and facilities satisfaction.

The MPO collected public feedback during the 2014 Nueces County Medical Society Health Fair.

Our findings revealed that our community typically drives their car/truck/motorcycle from the south side of town to the central business district for work. In general terms the community is fairly satisfied with connectivity, how the system links for purposes of goods/products and people, safety, and air quality. The highest level of agreement for all questions was respondents acknowledging that congestion is increasing. The matter of funding is a difficult one as the mention of taxes are not an acceptable option. However, taxing of commercial vehicles is supported but perhaps without consideration for the consequences ... the potential of an increase in goods and services which is likely to occur to offset the tax.

Finally, a major area of consensus is the dissatisfaction surrounding Active Transportation (bicycle and pedestrian). With the emphasis of MAP-21, to build an accountable system that is performance based, positive outcomes to alleviate dissatisfaction could be realized as our community considers moving from a Complete Streets "philosophy" to adopting Complete Street "policies". By making a commitment in this direction, our city neighborhoods could significantly realize the positive impacts through project selections that support this concept while actively capturing data/information that supports performance

measures.

Empowering our transportation planners and engineers to **routinely design and operate the entire right of way to enable safe access for all users**, regardless of age, ability, or mode of transportation promises secondary benefits from promoting Active Transportation ... a boost to well-being and community health. This ultimately translates into prioritizing transportation projects that will make our street network better and safer for drivers, transit users, pedestrians, and bicyclists - making our community a better place to live.

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PROJECT LIST

Federally Funded Highway Projects 2015-2040 MTP

12/12/2014

Funding Category	CSJ#	MPO ID#	Project Name	From	To	Project Sponsor	YOE Cost (Millions)	Estimated Year of Construct	Decsription
Category 2, 6, 7, 12	0101-06-095	S105-01-CERT-15	Harbor Bridge Project	Beach Ave.	Morgan Ave. @ Crstwn Expy	TxDOT-CCRP	$807,800,000	2015/'17/'18/'19/'21/'22	Construct new bridge, approaches, interchanges, & highway improvements
Category 7	0916-00-066	S132E0199	Regional Parkway Environmental Study	Various Locations		TxDOT-CCRP	$1,250,000	2015	Environmental Review for the first segment
Category 7	0916-00-067	S154OM0112	Roadway Operation & Maintenance	Various Locations		TxDOT-CCRP	$1,500,000	2015	Operation & Maintenance Improvements
Category 7	0916-00-068	S048-01-CE-15	Pedestrian & Bike Facilities	Various Locations		TxDOT-CCRP	$1,540,000	2015	Sidewalks on Brewster; street lighting
Category 9 - TE	0916-28-061	S078-01-CE-15	Hike & Bike Trail	Sunset Dr. @ Bayview Blvd.	Intersection of 1st Ave. & Houston St.	City of Portland	$180,000	2015	Construct Hike & Bike trail
CAT 3/LC	0916-35-172	S026-01-C-15	Joe Fulton Corridor	Along Joe Fulton Corridor		Port of Corpus Christi	$28,835,868	2015	Construct Railroad track along Joe Fulton Corridor
Category 9 - TE	0916-35-175	S207-00-CE-15	Schanen Ditch Hike & Bike Trail	Along Schanen Ditch from Yorktown Blvd.	SH 357 (Saratoga Blvd.)	City of Corpus Christi	$1,036,698	2015	Construct Hike & Bike trail
Cagegory 7	0916-35-178	S105-02-E-15	Feasibiity Study	Harbor Bridge Impact Analysis		City of Corpus Christi	$200,000	2015	Area development after Harbor Bridge Replacement
Category 7	0916-35-179	S098-01-E-15	Feasibility Study	Momentum Campus	Main Campus	TX A&M Univ. - CC	$40,000	2015	Feasibility study on the Ped/Bike bridge
Category 2	0617-01-170	S087C0294A	SH 358 (SPID) Ramp Reversal P II-A	Staples St.	Ayers St.	TxDOT-CCRP	$35,000,000	2016	Ramp Reversal Phase II-A (South side only)
Category 7/LC	0916-35-170	S049C0497	Holly Rd. Travel Lanes	On Holly Rd. from SH 286	Greenwood Dr.	City Corpus Christi	$6,681,755	2016	Construct additional travel lanes with CLTL
Category 9 - TE	0916-35-174	S049-01-CE-15	Holly Rd. Landscaping	On Holly Rd. from SH 286	Greenwood Dr.	City Corpus Christi	$186,804	2016	Landscape Improvement
Category 2	1069-01-028	S090C0399	SH 357 (Saratoga Blvd.)	FM 665	Calle Cuernavaca	TxDOT-CCRP	$12,000,000	2020+	Construct additional travel lanes
Category 2	0326-01-902	S089C2000	SH 286 (Crosstown)	FM 43 (Weber Rd.)	S. of FM 2444	TxDOT-CCRP	$30,000,000	2020+	Extends freeway
Category 7	N/A		SH 44 / FM 3386			TxDOT-CCRP	$25,000,000	2030+	Overpass at McKenzie
Category 7	N/A		SH 44 / FM 24			TxDOT-CCRP	$25,000,000	2030+	Overpass at Violet
Category 7	0916-28-904	S006C0297	Akins Dr.	Lang Rd.	Wildcat	TxDOT-CCRP	$6,700,000	2030+	Improve travel lanes, add sidewalks
Category 7	N/A		FM 624	River Hills Dr.	East Riverview	TxDOT-CCRP	$3,800,000	2030+	Install medians
Category 7	N/A	S039C0106	Flour Bluff Dr.	South of Don Patricio	Yorktown Blvd.	TxDOT-CCRP	$14,300,000	2030+	Construct additional travel lanes/Access Imp.
Category 7	2142-01-022	S036C0299	FM 2292 (Rand Morgan)	Leopard St.	IH-37	TxDOT-CCRP	$3,800,000	N/A	Construct additional travel lanes/Access Imp.
Unfunded (TBD)	N/A		CR 48	I-69	FM 1889	TxDOT-CCRP	$10,000,000	N/A	Relief route for FM 624
Unfunded (TBD)	N/A		Ennis Joslin	Williams	Holly	City of Corpus Christi		N/A	Construct travel lanes
Unfunded (TBD)	N/A		SH 358 (SPID) Ramp Reversal	N of Airline		TxDOT-CCRP	$30,000,000	N/A	West bound ramp reversal
Unfunded (TBD)	N/A		SH 358 (SPID) Ramp Reversal	S of Airline	Staples	TxDOT-CCRP	$35,000,000	N/A	East bound ramp reversal
Unfunded (TBD)	N/A		SEA District Access	N. Staples/W. Broadway	N. Broadway/Fitzgerald	City of Corpus Christi	$8,000,000	N/A	Direct route to SEA District
Unfunded (TBD)	N/A		Morgan Improvements	Crosstown	Ocean Dr.	City of Corpus Christi	$10,000,000	N/A	Access improvements to Spohn Hospital
Unfunded (TBD)	N/A		Agnes/Laredo	Agnes/Tancahua	Agnes/Carancahua	City of Corpus Christi	$5,000,000	N/A	Alleviate New Harbor Bridge traffic; stripping/lighting/signage
Unfunded (TBD)	N/A		Williams	Rodd Field	Ennis Joslin	City of Corpus Christi	$8,000,000	N/A	Construct additional travel lanes
Unfunded (TBD)	N/A		PR 22	Aquarius	Whitecap	TxDOT-CCRP	$10,000,000	N/A	Super street redesign
Unfunded (TBD)	N/A		PR 22	Jackfish	SH 361	TxDOT-CCRP	$25,000,000	N/A	Flyover
Unfunded (TBD)	N/A		SH 358	IH 37	NAS Corpus Christi	City of Corpus Christi		N/A	Integrated Corridor Management - ITS improvements
Unfunded (TBD)	0326-01-051	S089C0108	SH 286 (Crosstown)	SH 358 (SPID)	SH 357 (Saratoga Blvd.)	TxDOT-CCRP	$5,000,000	N/A	Construct additional lanes
Unfunded (TBD)	0102-01-088	S088C0899	SH 44	.93 mile east of FM 3386	.19 mile east of FM 1694	TxDOT-CCRP	$27,800,000	N/A	Construct main lanes, interchange, frontage road
Unfunded (TBD)	0101-04-097	S105C0204	US 181	SPUR 202	La Quinta	TxDOT-CCRP	$95,000,000	N/A	Rebuild interchange; add US 181 lanes @ LaQuinta
Unfunded (TBD)			Regional Parkway	PR 22	SH 286	City of Corpus Christi		N/A	Environmental Impact Statement
Unfunded (TBD)	N/A	S132C0299A	Regional Parkway	PR 22	IH 37	TxDOT-CCRP		N/A	Construct 2 lane toll freeway
Unfunded (TBD)	N/A	S028C0913	FM 2444	SH 286 (Crosstown)	FM 43 (Weber Rd.)	TxDOT-CCRP		N/A	Upgrade to 4 lanes
Unfunded (TBD)	2263-03-900	S091C0104	SH 361	PR 22	Mariners Dr./city limit	TxDOT-CCRP	$40,000,000	N/A	Construct additional 2 lanes

Federally Funded Transit Project Fund: Category 5307

(Funds in thousands)

Estimated Funds for 20 years

Serial #	TxDOT CSJ #	MPO Project #	Project Year	PROJECT	From	To	Total Cost	Balance Funds	PROJECT DESCRIPTION	Remarks
1	N/A		2015	Operating			$850,905		Preventative Maintenance	5307
2	N/A		2015	Operating			$354,297		ADA Paratransit Service	5307
3	N/A		2015	Capital			$3,675,831		Replace Buses	5307
4	N/A		2015	Capital			$1,000,000		Transit Enhancements: Bus Shelters	5307
5	N/A		2016	Operating			$850,905		Preventative Maintenance	5307
6	N/A		2016	Operating			$354,297		ADA Paratransit Service	5307
7	N/A		2016	Capital			$3,675,831		Replace Buses	5307
8	N/A		2016	Capital			$1,000,000		Transit Enhancements: Bus Shelters	5307
9	N/A		2017	Operating			$850,905		Preventative Maintenance	5307
10	N/A		2017	Operating			$354,297		ADA Paratransit Service	5307
11	N/A		2017	Capital			$3,675,831		Replace Buses	5307
12	N/A		2017	Capital			$1,000,000		Transit Enhancements: Bus Shelters	5307
13	N/A		2018	Operating			$850,905		Preventative Maintenance	5307
14	N/A		2018	Operating			$354,297		ADA Paratransit Service	5307
15	N/A		2018	Capital			$3,675,831		Replace Buses	5307
16	N/A		2018	Capital			$1,000,000		Transit Enhancements: Bus Shelters	5307

Federally Funded Transit Project Fund: Category 5310

(Funds in thousands)

Estimated Funds for 20 years

Serial #	TxDOT CSJ #	MPO Project #	Project Year	PROJECT	From	To	Total Cost	Balance Funds	PROJECT DESCRIPTION	Remarks
6	N/A		2015	Capital			$388,836		Seniors and People with Disabilities	5310
12	N/A		2016	Capital			$388,836		Seniors and People with Disabilities	5310
18	N/A		2017	Capital			$388,836		Seniors and People with Disabilities	5310
24	N/A		2018	Capital			$388,836		Seniors and People with Disabilities	5310

Federally Funded Transit Project Fund: Category 5339

(Funds in thousands)

Estimated Funds for 20 years

Serial #	TxDOT CSJ #	MPO Project #	Project Year	PROJECT	From	To	Total Cost	Balance Funds	PROJECT DESCRIPTION	Remarks
5	N/A		2015	Capital			$665,198		Bus and Bus Facilities	5339
11	N/A		2016	Capital			$666,940		Bus and Bus Facilities	5339
17	N/A		2017	Capital			$666,940		Bus and Bus Facilities	5339
23	N/A		2018	Capital			$666,940		Bus and Bus Facilities	5339

APPENDICES

APPENDIX I
Documentation of Public Participation

SUMMARY OF PUBLIC INPUT

Written Comments:
None.

Tribal: Communication was established with tribal leaders that include:

- Apache Tribe of Oklahoma
- Comanche Nation of Oklahoma
- Kiowa Indian Tribe of Oklahoma
- Mescalero Apache Tribe
- Tonkawa Tribe of Indians
- BIA – Anadarko

Given that this was an initial outreach initiative - guidance was sought from each of the agencies on identifying a specific contact initially by electronic communication and then in written form. None of the agencies responded with an individual to utilize as a contact or with expressions of interest.

Local Governments:

Ongoing dialogue about the planning process has been occurring as part of the public participation effort with the following agencies and their respective committees or individual participation on the Transportation Advisory Committee and the Transportation Policy Committee:

- Nueces County
- San Patricio County
- City of Corpus Christi
    - City Planning Commission
    - Air Quality Committee
    - Shared Access Working Group
    - Mayor's Committee for Person with Disabilities
    - Transportation Advisory Committee
    - Bicycle and Pedestrian Sub-Committee
- City of Portland
- City of Gregory
- Port of Corpus Christi
- Regional Transportation Authority
    - Committee on Accessible Transportation (RCAT)

Community Outreach:

In addition to presentation opportunities to the following civic and community organizations, to familiarize them with the planning process and seek their input on project needs and priorities, MPO staff's outreach efforts included 25 mobile meetings, which staff attended and distributed survey questionnaires (ATTACHMENT 1).

- Port Industries of Corpus Christi
- Friday Morning Group
- Corpus Christi Chamber of Commerce – Infrastructure Committee
- Corpus Christi Chamber of Commerce – Transportation Committee
- Corpus Christi Regional Economic Development Corporation
- Corpus Christi Transportation Advisory Committee

Publicly Posted Meetings and Public Input:

Of particular concern to the MPO was the input of those under-served by the transportation network particularly the economically disadvantaged, minorities, elderly and low-income individuals. The MPO made the draft Metropolitan Transportation Plan publicly available for public review. The MPO advertised scheduled informal Public Input Opportunities at various Senior Centers, Health Fairs and public meetings to improve the quality and quantity of public interaction. This process increased the number of contacts and provided an opportunity for one on one discussion about transportation needs.

General Summary of Questionnaire Responses:

The outreach effort has included the distribution of questionnaires and the creation of a web based questionnaire to increase input. The over 61% of our survey responses were from paper questionnaires completed by individual respondents and approximately 39% of survey questionnaires were web based responses. The general findings include:

- Respondents are primarily housing in the southeast and southside sectors of our city and then traveling to the central business, southeast and westside sectors of our city for work.
- The community is highly auto-centric with respondents indicating they use a car/truck/motorcycle for their daily trips. Bus service and walking were a distant second and third choice.
- Connectivity, how the transportation system gets us from one place to another was of significant importance to our respondents.
- Increasing the safety of the transportation system was clearly supported by community responses.
- Respondent's highest level of consensus was related to congestion – where responses indicated traffic has increase over the last 5 years.

For more complete information on the process and findings please see ***Understanding Your Transportation Needs Survey Report*** (APPENDIX II). Findings were presented to the Transportation Advisory Committee and the Transportation Policy Committee and in part, general comments influenced project consideration by reinforcing recognized changes in the transportation system.

PUBLIC NOTICE

Corpus Christi Metropolitan Planning Organization
Metropolitan Transportation Plan

The Corpus Christi Metropolitan Planning Organization (CCMPO) will seek public input and comments on the CCMPO's 25-year long range plan, the **2015 – 2040 Metropolitan Transportation Plan (MTP)**.

Public input and comments will be solicited at the Thursday, October 16, 2014, 9:00 a.m. meeting of the Technical Advisory Committee (TAC) at the administrative offices of the Regional Transportation Authority's Administration (CCRTA) located at 5658 Bear Lane in Corpus Christi, TX 78405. Public input and comments will also be welcomed at the Thursday, November 6, 2014, 1:30 p.m. meeting of the Transportation Policy Committee (TPC) at Corpus Christi City Hall Council Chambers located at 1201 Leopard Street in Corpus Christi, TX 78401.

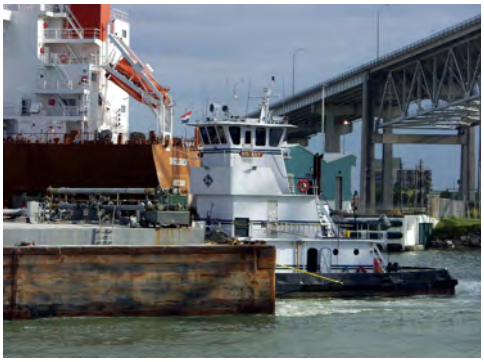
Public comments during both meetings regarding the **2015 – 2040 Metropolitan Transportation Plan (MTP)** will be accepted and the TPC may possibly take action to adopt the MTP update on Thursday, November 6, 2014 at 1:30 p.m. meeting at the Corpus Christi City Hall Council Chambers located at 1201 Leopard Street in Corpus Christi, TX 78401.

The MTP is available for review and comment at www.corpuschristi-mpo.org or copies can be made available in electronic or printed form by contacting the CCMPO at (361) 884-0687 or visiting the CCMPO office at 5151 Flynn Parkway, Suite 404, Corpus Christi, TX 78411 during regular business hours.

Please be advised that this notice of public involvement and opportunity for public comment will satisfy the CCMPO Public Participation and the program-of-projects requirements of the Urbanized Area Formula Program (Section 5307) of the Federal Transportation Administration.

Información en Español: Si usted desea esta información en Español o si desea explicación sobre el contenido, por favor llamenos al teléfono (361) 884-0687 o comuníquese con nosotros mediante correo electrónico a ccmpo@cctxmpo.us. Nuestras oficinas estan ubicadas en el 5151 Flynn Pkwy. #404, Corpus Christi, TX 78411. Copias se proveeran a petición.

APPENDIX II
Transportation Needs Survey
Glossary of Terms



CORPUS CHRISTI METROPOLITAN PLANNING ORGANIZATION

Understanding Your Transportation Needs Survey

Planning for Mobility, Safety and Accessability for Everyone

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UNDERSTANDING YOUR TRANSPORTATION NEEDS SURVEY

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The preparation of this report has been financed in part through grant[s] from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 [or Metropolitan Planning Program, Section 104(f)] of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

UNDERSTANDING YOUR TRANSPORTATION NEEDS SURVEY

I. INTRODUCTION

The Corpus Christi Metropolitan Transportation Plan (MTP), a federal requirement that is updated every five years, is a long-range plan that spans a 25 year horizon. It is designed to assess the needs of the Corpus Christi Metropolitan Planning Organization (MPO) study area and guide the development of a comprehensive multimodal transportation system. The plan's update complies with the law while simultaneously offering communities in the study area an opportunity to assist us and ensure that our transportation planning investments are responding to our local evolving needs and expectations. Sustaining an informed agency membership, identifying emerging trends that impact our system, guiding agency initiatives and programs, providing parameters for the selection process of Transportation Improvement Program (TIP) projects and providing a status report of the work completed are all elements of the MTP**.**

MPO collecting public feedback during the 2014 Nueces County Medical Society Health Fair.

II. WHY CREATE A SURVEY?

As part of the planning process, we provide transportation information on the condition of our system and then ***seek public input for improving the transportation network's performance***. This practice, supplemented by the use of a survey, was included as part of our 2015-2040 MPT revision. The community's feedback and diverse viewpoints enrich the evaluation and collaboration of our programs in an open and meaningful involvement of interested parties.

III. WHAT WERE OUR GOALS AND OBJECTIVES?

The MPO's survey goals and objectives were positioned to align with our legislative authorizations, Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users **(SAFETEA-LU)** and Moving Ahead for Progress in the 21st Century **(MAP-21).** These legislative mandates require MPOs to consider numerous factors in the development of a MTP as well as emphasize the creation of a streamlined and performance-based surface transportation program that builds on many of the highway, transit, bike, and pedestrian programs and policies already established.

Our survey touched on the following factors:

- *Enhance integration and connectivity of the transportation system*
- *Increase the accessibility and mobility of people and freight*
- *Increase safety for motorized and non-motorized users*
- *Support the economic vitality*

- *Protect and enhance the environment, and promote energy conservation*
- *Promote efficient system management and operation*
- *Effectiveness in ease of travel*
- *Funding alternatives for consideration*

IV. WHAT WAS OUR SERVEY METHODOLOGY?

The MPO used Survey Monkey, an online survey software to develop/collect/analyze a simple survey questionnaire of 13 questions that was then distributed through a variety of networks in an effort to collect feedback and input from a diverse group of stakeholders in our community. The survey was launched in June 2014 and terminated approximately 12 weeks later in September 2014. Based on recommendations from Survey Monkey, the closer our sample is to the size of our population, the more representative our results. Using a tolerance for accuracy of + or – 5% and our population size of approximately 320,000, we were required a survey respondent pool of at least 400.

Staff outlined a fluid but aggressive timeline to assist and guide with implementation of the survey gathering process. Our outreach plan consisted of mobile meetings, where staff solicited presentation time on meeting agendas of diverse area group meetings (Attachment 1). Aware that residents in the community might not be aware of who the MPO was or what the MPO does, we were mindful of providing context in the materials we prepared for our presentations and the message we delivered. An introduction of our entity and our task was presented and supported with information on the MPO (Attachment 2). Plan information was presented, questions addressed, and surveys distributed.

At the conclusion of our survey gathering, we were able to assess 439 surveys of which 65% were female. Based on our outreach efforts, we calculate we reached over 2,600 individuals which gave us a response rate of approximately 16%. The following table outlines the tools we utilized and the details related to each.

TABLE 1: SURVEY TOOLS

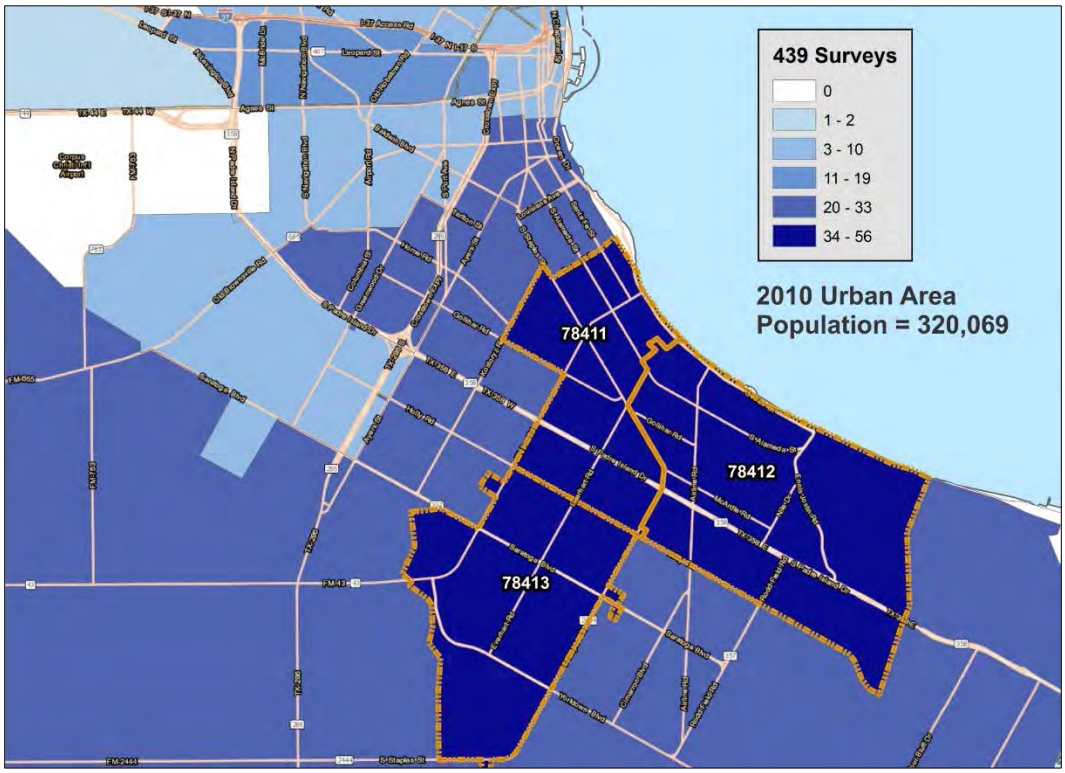
	TOOL	DETAILS
1	Questionnaire (Attachment 3)	The questionnaire was designed for the respondent's ease of use - whether checking off a box on the paper survey or minimal clicking when taking the survey online – we wanted maximum results/information with minimal requirements/imposition from the respondent. Thirteen questions were raised: 3 related to demographics (identification of origin and destination zip codes and gender), 2 related to future funding considerations, and 1 each for the following topics - travel choice, connectivity, freight, safety, economic development, air quality, congestion, and facilities satisfaction. Approximately 500 paper surveys were distributed; 268 were compiled; and then, electronically input by staff. Over 61% of all surveys collected were paper surveys.

TABLE 1: SURVEY TOOLS - CONTINUE		
	TOOLS	**DETAILS**
2	QRC Business Card (Attachment 4)	These business cards were developed for those who declined the invitation to take a paper questionnaire and preferred to "take the survey later". The card contained key survey information as well as a "quick response code" (QRC) cube that could be scanned (using a free app) on their Smartphone. This proved successful as most folks taking cards gave positive comments on the shortcut option for accessing the online survey and efficiently expediting the process. Over 350 cards were distributed.
3	Meetings List (Attachment 1)	Staff approached over 30 standing/scheduled area and community meetings in an effort to reach a diverse audience. Approximately 25 invitations were accepted and presentations delivered to an estimated 563 people.
4	Interviews	Staff estimates that at least 30% (80) of the 268 paper surveys collected were one-to-one interviews where staff assisted with reading questions – more notably during the Nueces County Medical Society's Annual Health Fair. Health fair representatives estimated an audience of 3500 participants at their event.
5	Website	A prominent banner and icon was added to our website's homepage directing site visitors to participate in our survey. The Corpus Christi Regional Transportation Authority (CCRTA) assisted us by promoting our survey with a link on their website.
6	Email Blast (Attachment 5)	Numerous key entities were approached to assist with the distribution of Email Blast information. Those that agreed to assist, helped issue over 1,200 email notices utilizing their contact lists in addition to the MPO's own contact list. A reminder email blast was issued to some of those previously notified to ensure our goal of 400 responses would be satisfied.
7	Posters (Attachments 6 &7)	Posters were developed for placement in three main elevators at Corpus Christi City Hall. Banners were placed in MPO windows advertising the availability of our survey.

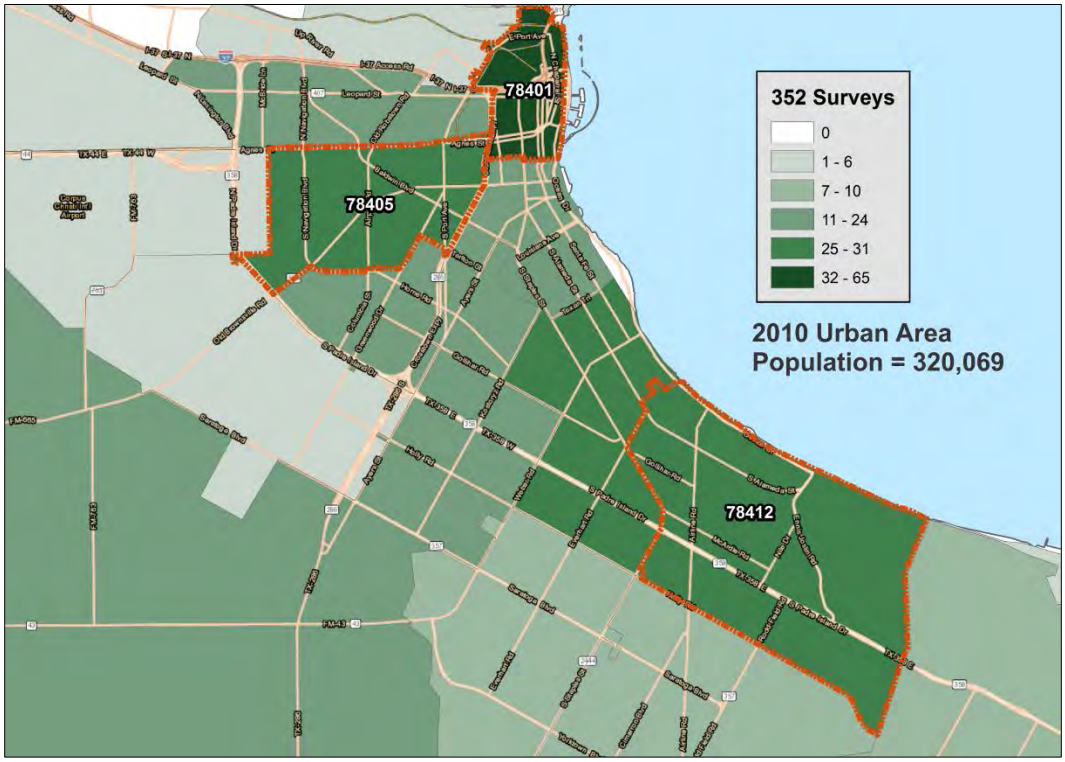
V. WHAT DID WE FIND OUT?

The MPO's effort to pursue meaningful and inclusive input and public participation were driven by our interest to update and either reinforce or adjust our planning assumptions. The following section outlines our data collection efforts.

Our findings, related to our respondents daily travel patterns, were based on the three zip codes with the highest HOME (origin) and WORK (destination) zip code. The following maps highlight that our respondents are primarily housing in the southeast and southside sectors of our city and then traveling to the central business, southeast and westside sectors of our city for work.



MAP 1 – Home Zip Codes: The majority of our respondent's daily trips originate in the following zip code areas: 78413 (54 respondents), 78411 (43 respondents), and 78412



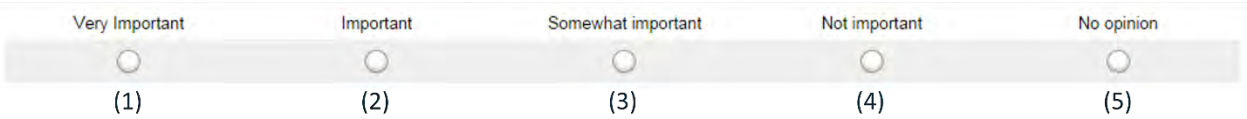
Map 2 – Work Zip Codes: The majority of our respondent's daily destination trips are in the following zip code areas: 78401 (65 respondents), 78412 (31 respondents), and 78405 (29 respondents).

Other demographic characteristics of prominent zip codes identified by our respondents, based on American Community Survey data, are shown in the following table.

TABLE 2: CHARACTERISTICS OF RESPONDENTS						
	ORIGIN ZIP CODE			DESTINATION ZIP CODE		
	78413	78411	78412	78401	78412	78405
Survey	56	45	40	65	31	29
DEMOGRAPHIC AND HOUSING ESTIMATES*						
Median Age (ages 5 +)	35.5	37.7	31.2	38	31.2	38.1
SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES**						
With a Disability	13.5	16.5	13.7	33.9	13.7	22.9
High School Graduate or Higher (%)	92.8	80.5	86.7	64.9	86.7	50.8
MEANS OF TRANSPORTATION TO WORK BY SELECTED CHARACTERISTICS ***						
Median Age (ages 16+)	41.8	44.1	38.6	45.1	38.6	39.8
VEHICLE AVAILABLE (%)						
No vehicle available	1.9	3	2.3	12.7	2.3	10.6
1 vehicle available	25.2	31	29.3	40.2	29.3	34
2 vehicle available	47.5	39.7	39.2	19.3	39.2	31.1
3 or more vehicle available	25.4	26.3	29.2	27.8	29.2	24.3
Mean Travel Time to Work (minutes)	19.4	17.6	18.7	21.2	18.7	17.6
Median Earnings (dollars)	36,851	27,024	29,209	16,286	28,209	16,990
POVERTY STATUS IN THE PAST 12 MONTHS (%)						
Below 100% of the Poverty Level	5.9	5.6	10.1	26.9	10.1	19.5
100 to 149% of the Poverty Level	7.1	8.1	7.1	27.2	7.1	16.8
At or above 150% of the Poverty Level	87	86.4	82.8	46	82.8	64.6
LANGUAGE SPOKEN AT HOME AND ABILITY TO SPEAK ENGLISH						
Speak Language other than English (%)	36.1	43.2	33.4	61.4	33.4	80.2
Speak English "Very Well"	30.8	32.6	25.2	37.8	25.2	51.2
Speak English less than "Very Well"	5.3	10.6	8.1	23.6	8.1	28.7

Sources: 2008-2012 American Community Survey 5-Year Estimates
*Table DP05
**Table DP02
***Table S0802

Other questions raised in the survey were positioned to give respondents an opportunity to indicate to what degree they thought the question was important, they were provided with a five-point scale where weights were assigned to each answer choice – shown in parenthesis below:



Questionnaire topic addressed were:

Travel choice: The community is highly auto-centric with 92% (399 respondents) indicating they use a car/truck/motorcycle for their daily trips. Bus service at 6% (25 respondents) and walking at 1% (5 respondents) were a distant second and third choice.

Connectivity: How our transportation system gets us from one place to another is significant to our community with the top two rates selected being Very Important (63%, 276 respondents), and Important (24%, 105 respondents) totaling approximately 87% of our responses.

Freight: Transportation methods that link with each other to transport goods and products and people of all ages and abilities rated Very Important (60%, 262 respondents), and Important (31%, 133 respondents). Based on these two responses, nearly 90% of our respondents indicated its importance.

Safety: Increasing the safety of the transportation system was clearly supported by our community with ratings of Very Important (68%, 294 respondents), and Important (24%, 104 respondents) totaling approximately 91%.

Economic Development: Nearly 90% of the community advocates improving our standard of living and how we build our community with ratings of Very Important (67%, 290 respondents), and Important (24%, 105 respondents).

Air Quality: Decreasing air pollution, greenhouse gas emissions and energy use by the transportation system were promoted by a majority of respondents with a cumulative rating of 87% - based on responses of Very Important (69%, 300 respondents), and Important (18%, 80 respondents).

Congestion: When respondents were asked to compare how traffic has changed over the last 5 years, there was consensus – 85% (359 respondents) indicated traffic has increase, followed by a distant second 10% (41 respondents) that believed traffic has stayed the same.

Facilities Satisfaction: Respondents were asked – based on their mode of travel - how satisfied they were with ease of travel. Responses were: 68% were satisfied (30% dissatisfied / 2% no opinion) when using car/truck/motorcycle; 37% were satisfied (39% dissatisfied / 24% no opinion) when walking; 18% were satisfied (46% dissatisfied / 36% no opinion) when bicycling; and 24% were satisfied (26% dissatisfied / 49% no opinion) when using bus.

and Future Funding Considerations: Respondents were asked to designate how much money should be provided to support road and highway improvements; 71% (295 respondents) indicated more money; 5% (22 respondents) indicated less money; 21% (85 respondents) indicated about the same money; and 3% (13 respondents) had no opinion.

When respondents were asked how likely they were to support different funding methods for road and highway improvements, responses were (shown are Very likely / Likely / Not likely):

- **Tax Commercial Vehicles**: 46% Very likely (25% Likely / 11% Not likely);
- **New Development**: 40% Very likely (31% Likely / 10% Not likely);
- **Sales Tax**: 14% Very likely (20% Likely / 36% Not likely);
- **Tolls**: 15% Very likely (15% Likely / 43% Not likely);
- **Gas Taxes**: 20% Very likely (17% Likely / 43% Not likely);
- **Property Tax**: 6% Very Likely (10% Likely / 57% Not likely)

The final and Optional open-ended question of the survey asked respondents if they would like to offer any additional comments. A consideration regarding responses to open-ended questions is that sometimes these answers can be more meaningful as well as revealing of the respondent's knowledge and feelings on the subject. For our purposes, a total of 116 respondents (26%) offered approximately 156 comments (ATTACHMENT 8) related to:

- Transit: 47 (30%)
- Funding: 32 (21%)
- Roads / Highways: 27 (17%)
- Bike / Pedestrian: 22 (14%)
- Traffic Safety: 12 (8%)
- Miscellaneous topics: 11 (7%)
- Equity Issues: 2 (1%)
- Congestion: 2 (1%)
- Air Quality: 1 (1%)

Using comments provided and comparing them to our first question related to travel choice, we find that while only 6% of respondents indicate that they use bus service for daily trips – the majority of comments in our final question were directed toward transit. Further review of these transit comments show that 60% (28 of 47 comments) were service related and comments addressing route improvements were at 13% (6 of 47 comments). A short sample of transit (service related) comments are:

- Increase rural bus service
- Increase service for persons with disabilities
- Bus is not just for poor and carless; should be viable alternative
- Build reliable public transit for working people
- Need bus service in my zip code
- Buses are nice but don't go often enough or to the right place
- Great distances between where people live and work and no bus service

Correlating survey responses to comments on funding, the next largest area for comments, we found that respondents support taxing commercial vehicles. Responses were 46% (179) Very Likely to support Tax on Commercial Vehicles in the questionnaire and 32% (11 of 34) of comments were in favor of this funding option.

Evaluation of responses for roads and highways, where we used the rating system introduced previously, shows that the average rating for connectivity is at 1.55 and safety at 1.44 which is well between Very

Important and Important. There were 12 comments (8%) offered in the category of Safety. An example of these comments included:

- Sync traffic lights
- Better signage at intersections
- Need North/South freeway on Rodd Field
- People can't merge safely on SPID . . . roundabout movement is wishful thinking

When asked to rate satisfaction with ease of travel bicycle and pedestrian and bus ratings were the two modes of transportation that were identified as dissatisfied. There were 22 (14%) comments, the fourth largest category, addressing bicycle and pedestrian issues. The following illustrates satisfaction rates where 1 is satisfied; 2 is dissatisfied; and three is no opinion:

- Car/truck/motorcycle = 1.34 (closer to being Satisfied)
- Walking = 1.87 (closer to being Dissatisfied)
- Bicycle = 2.18 (Dissatisfied)
- Bus = 2.25 (Dissatisfied)

Comments offered for bicycle and pedestrian all appeal for better facilities. A list of suggestions are:

- Improve alternative transportation modes: walk, bike, running; make safer
- Dangerous for walking and bikes
- Make walking and biking safe to get people out of their cars
- Create safe bike routes separated from traffic
- Need sidewalks and bike lanes

VI. OUR UNDERSTANDING OF RESULTS

Our community typically drives their car/truck/motorcycle from the south side of town to the central business district for work. In general terms the community is fairly satisfied with connectivity, how the system links for purposes of goods / products and people, safety, and air quality. The highest level of agreement for all questions was respondents acknowledging that congestion is increasing. The matter of funding is a difficult one as the mention of taxes are not an acceptable option. However, taxing of commercial vehicles is supported but perhaps without consideration for the consequences . . . the potential of an increase in goods and services which is likely to occur to offset the tax.

A major area of consensus is the dissatisfaction surrounding Active Transportation (bicycle and pedestrian). With the emphasis of MAP-21, to build an accountable system that is performance based, positive outcomes could be realized as our community considers moving from a Complete Streets "philosophy" to adopting a Complete Streets "policy". By making a commitment in this direction, our city neighborhoods could significantly realize the positive impacts through project selections that support this concept while actively capturing data/information that supports performance measures.

While general comments are consistent with general attitudes in the population, our survey process reinforces recognized changes in the transportation system. We will continue to engage public participation and support our Title VI outreach efforts so that our information remains representative of our community. The types of investments and projects selections we make are justified as we work toward addressing the feedback provided.

Empowering our transportation planners and engineers to **routinely design and operate the entire right of way to enable safe access for all users**, regardless of age, ability, or mode of transportation promises secondary benefits from promoting Active Transportation . . . a boost to well-being and community health. This ultimately translates into prioritizing transportation projects that will make our street network better and safer for drivers, transit users, pedestrians, and bicyclists – making our community a better place to live.

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COMMUNITY STAKEHOLDERS		
	DATES	GROUP NAME
1	Monday , July 7, 2014	YWCA Racial Justice Committee
2	Monday , July 7, 2014	North Beach Residential Association
3	Wednesday, July 9, 2014	Corpus Christi International Airport Board
4	Thursday, July 10, 2014	Westside Business Association
5	Thursday, July 10, 2014	League of Women Voters of Corpus Christi
6	Thursday, July 10, 2014	Corpus Christi MPO Transportation Policy Committee
7	Friday, July 11, 2014	Infrastructure Committee
8	Wednesday, July 16, 2014	CCRTA Operations Committee
9	Wednesday, July 16, 2014	Transportation Coordination Network of the Coastal Bend
10	Wednesday, July 16, 2014	YWCA Women's Advocacy Committee
11	Friday, July 18, 2014	Corpus Christi Air Quality Group
12	Friday, July 18, 2014	Bay Area Smart Growth Initiative
13	Monday, July 21, 2014	City of Corpus Christi Bicycle & Pedestrian Subcommittee
14	Thursday, July 24, 2014	SEA District
15	Thursday, July 24, 2014	Safe Communities - TAMU-CC
16	Friday, July 25, 2014	Coastal Bend COG - Board of Directors
17	Monday, July 28, 2014	Corpus Christi MPO Transportation Advisory Committee
18	Saturday, August 2, 2014	Nueces County Medical Society Health Fair
19	Wednesday, August 6, 2014	Committee for Persons w/Disabilities
20	Tuesday, August 12, 2014	Senior Center - Greenwood
21	Thursday, August 14, 2014	Homeless Issues Partnership
22	Friday, August 15, 2014	CCRTA Committee on Accessible Transportation
23	Monday, August 18, 2014	Senior Center - Lindale
24	Tuesday, August 19, 2014	Senior Center - Oveal Williams
25	Wednesday, August 20, 2014	Senior Center – Portland

OUTREACH BY EMAIL BLAST	
Sarah Garza, Environ. Compliance Mgr., POCCA	S. TX Environmental Professional Meeting
Dr. Amanda Drum	Texas A&M University - Corpus Christi
Beverly Cage	Del Mar College
Terry Sweeney	Downtown Management District Executive Committee
Janna Shoe	211 Texas Email Blast
Kim Womack	City of Corpus Christi - Elevators/public posting
Danielle Hale	Coastal Bend Public Information Officers Network
Tyner Little	Nueces County

ATTACHMENT 1 - MEETINGS LIST

ATTACHMENT 2 - MPO BROCHURE

Understanding Your Transportation Needs Survey

Corpus Christi Metropolitan Planning Organization 5151 Flynn Parkway, Suite 404 Corpus Christi, TX 78411 Tel: (361) 884-0687

Your input is very important to us. With your help, we can better understand the things that impact how you travel in your area and your opinions of the transportation system. Your participation is voluntary, and your answers will be completely confidential.

Información en Español: Si usted desea esta información en Español o si desea explicación sobre el contenido, por favor llamenos al teléfono (361) 884-0687 o comuníquese con nosotros mediante correo electrónico a ccmpo@cctxmpo.us. Nuestras oficinas estan ubicadas en el 5151 Flynn Pkwy. #404, Corpus Christi, TX 78411. Copias se proveeran a petición.

1. What is your home zip code?

2. What is your work or school zip code?

3. What is you gender? ◯ Female ◯ Male

4. How do you travel most often? (select only one)

◯ Car/truck/motocycle ◯ Bus ◯ Walk
◯ Rideshare (carpool, vanpool, etc.) ◯ Bicycle ◯ Other (define)

For the following questions, our transportation system includes roads, highways and public transit, such as buses. Thinking about your area, please rank the following transportation topics:

5. Improve how our transportation system gets us from one place to another. (select only one)

Very Important	Important	Somewhat Important	Not Important	No Opinion
◯	◯	◯	◯	◯

6. Improve how transportation methods link with each other to transport goods/products and people of all ages and abilities. (select only one)

Very Important	Important	Somewhat Important	Not Important	No Opinion
◯	◯	◯	◯	◯

7. Increase safety of the transportation system. (select only one)

Very Important	Important	Somewhat Important	Not Important	No Opinion
◯	◯	◯	◯	◯

8. Support the improvement of our standard of living and how we build our community. (select only one)

Very Important	Important	Somewhat Important	Not Important	No Opinion
◯	◯	◯	◯	◯

9. Decrease air pollution, greenhouse gas emissions & energy use by the transportation system. (select only one)

Very Important	Important	Somewhat Important	Not Important	No Opinion
◯	◯	◯	◯	◯

continue survey on back

10. Compared to 5 years ago, HOW has the amount of traffic changed? (select only one)

Increased	Same	Decreased	No Opinion
◯	◯	◯	◯

11. On most days, how satisfied are you with ease of travel: (select only one for each)

	Satisfied	Dissatisfied	No Opinion
By car/truck/motocycle:	◯	◯	◯
By walking:	◯	◯	◯
By bicycle:	◯	◯	◯
By bus:	◯	◯	◯

For the following questions, there are many ways to help pay for road and highway improvements:

12. Should more money, less money or about the same amount of money be provided to support road and highway improvements? (select only one)

More money	Less money	About the same	No Opinion
◯	◯	◯	◯

13. How likely are you to support the following funding methods for road and highway improvements? (select only one for each)

	Very Likely	Likely	Somewhat Likely	Not Likely	No Opinion
Tax commercial vehicles:	◯	◯	◯	◯	◯
New development:	◯	◯	◯	◯	◯
Sales tax:	◯	◯	◯	◯	◯
Tolls:	◯	◯	◯	◯	◯
Gas taxes:	◯	◯	◯	◯	◯
Property taxes:	◯	◯	◯	◯	◯

14. Optional: Would you like to offer any additional comments?

Thanks for completing our brief survey and submitting your valuable input. Please return this survey to your MPO presenter or fax to (361) 884-8529 or go online and take the survey at *www.surveymonkey.com/s/SLDKGR9*

CORPUS CHRISTI
MPO
METROPOLITAN PLANNING ORGANIZATION

5151 Flynn Parkway, Suite 404
Corpus Christi, TX 78411
Tel: (361) 884-0687 Fax: (361) 884-8529
Email: ccmpo@cctxmpo.us
Website: www.corpuschristi-mpo.org

Understanding Your Transportation Needs

With your help, we can better understand the things that impact how you travel in your area and your opinions of the transportation system.

Use your mobile device to take our survey, just scan the QR code or type the address in your browser.

www.surveymonkey.com/s/SLDKGR9

ATTACHMENT 4 - QUICK RESPONSE CODE (QRC) CARD

Dynamic banner on MPO homepage

Survey icon on MPO homepage

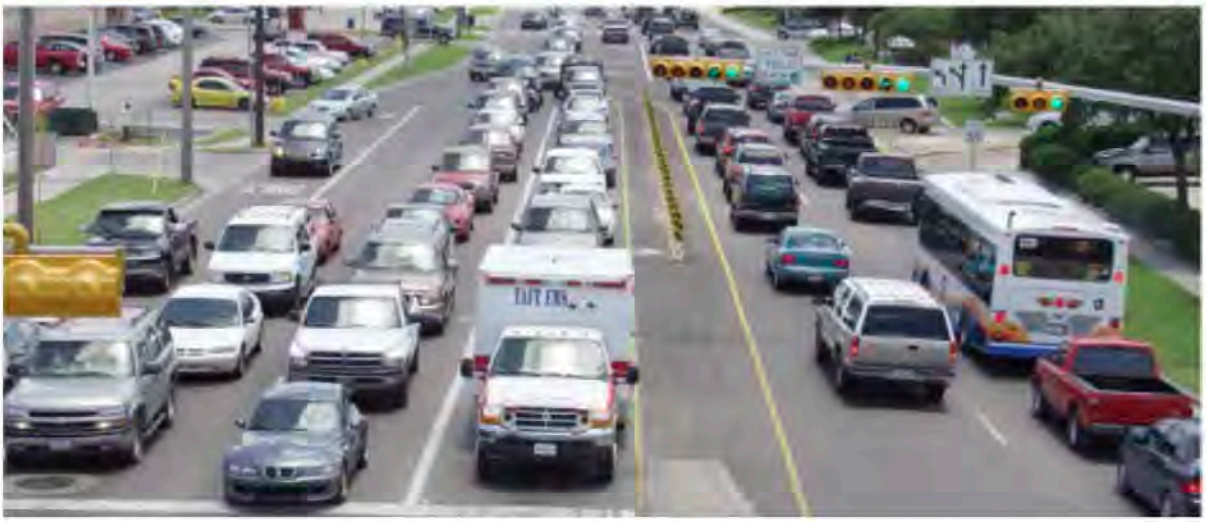
ATTACHMENT 5 - WEBSITE

Having trouble viewing this email? Please click here

CORPUS CHRISTI MPO

2015-2040 Metropolitan Transportation Plan

Understanding Your Transportation Needs Survey



Your input is very important to us. With your help, we can better understand the things that impact how you travel in your area and your opinions of the transportation system.

Corpus Christi MPO, the transportation planning agency for the urbanized areas in Nueces and San Patricio Counties , launched a new online survey to help gather input from you . . . The survey asks that you help by letting us know your top priorities related to transit (buses), transportation alternatives (bicycle, pedestrian, etc.), and roads & highways.

"This survey is only a part of our outreach effort. Our team will be attending numerous community meetings in the next several months to present information and hear first-hand from citizens on what they consider important needs," said Assistant Transportation Planning Director Brigida Gonzalez.

Input and information gathered from surveys and meetings will inform the development of the MPO's FY 2015 - 2040 Metropolitan Transportation Plan (MTP), the plan that sets the long-range transportation priorities for our urbanized area. "The goal is to provide an effective and meaningful way for our community to access the planning process while actively engaging citizens to share their opinions," stated Gonzalez.

The survey is available and will be open until September 16, 2014 via the MPO's website and at: https://www.surveymonkey.com/s/SLDKGR9.

Every five years the MPO is required to create a regional transportation plan for the next 25 years. The FY 2015 - 2040 MTP will help identify current and long-term transportation needs and improvement strategies for our area. The long-range transportation plan is then used to guide the MPO's short-term Transportation Improvement Plan (TIP) for more immediate action.

To receive periodic updates on the FY 2015 - 2040 MTP and related efforts, you can click here and include Updates in the subject line.

Corpus Christi Metropolitan Planning Organization

Planning for Mobility, Safety and Accessibility for Everyone

5151 Flynn Parkway – Suite 404 Corpus Christi, TX 78411

Office: (361) 884-0687 Email: ccmpo@cctxmpo.us

Website: http://www.corpuschristi-mpo.org

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Like us on Facebook | Follow us on twitter

July 18, 2014

ATTACHMENT 6 – EMAIL BLAST

Corpus Christi MPO Understanding Your Transportation Needs

Your **Input** Counts!

We need your input.

The Corpus Christi MPO is conducting a Transportation Needs Survey.

Your input is very important to us. With your help, we can better understand the things that impact how you travel in your area and your opinions of the transportation system.

How can you participate in the survey?

At our website -

www.corpuschristi-mpo.org

Smartphone -

Using your smartphone you can scan the QR Code* to take the short survey.

QR Code to Survey

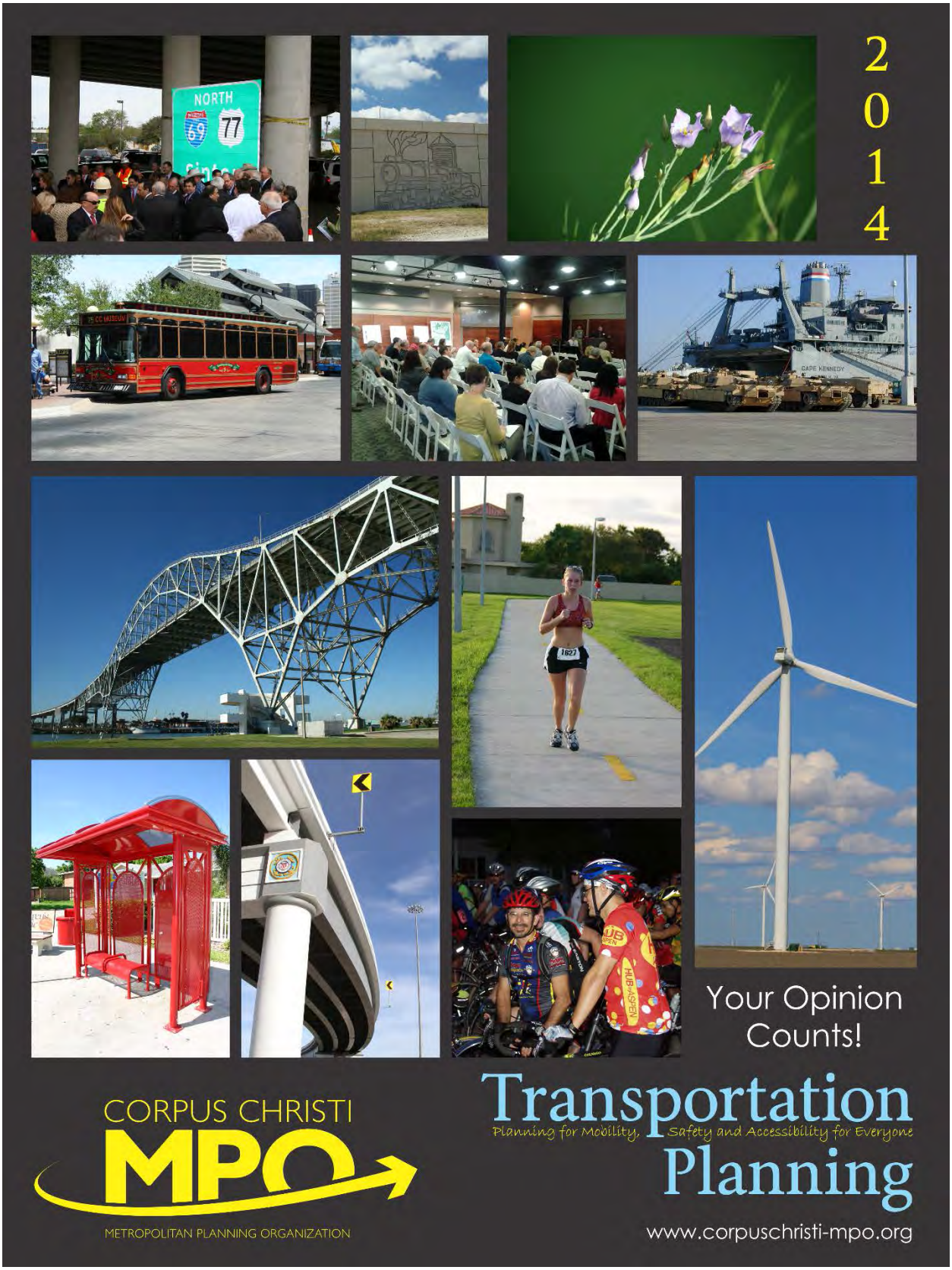
Please complete the survey before September 16, 2014

Información en Español: Si usted desea esta información en Español o si desea explicación sobre el contenido, por favor llamenos al teléfono (361) 884-0687 o comuníquese con nosotros mediante correo electrónico a ccmpo@cctxmpo.us. Nuestras oficinas estan ubicadas en el 5151 Flynn Pkwy. #404, Corpus Christi, TX 78411. Copias se proveeran a petición.

* You must have a smartphone equipped with a camera and a QR code reader/scanner app.

CORPUS CHRISTI MPO

ATTACHMENT 7 - BANNER YOUR INPUT COUNTS!



ATTACHMENT 8 - POSTER

Understanding Your Transportation Needs Survey: COMMENT QUESTION

FUNDING

1 Development needs to be partner in road developmnet
2 tax commercial vehicles
taxing options
Need more info on funding for informed decision making
many different bonds and/or tax increases to CC citizens
stop taxes
Gregory needs more funds
make developers pay for new roads
use transponders, charge for miles; toll roads
no gas tax
toll roads have a place in large cities
Tolls can work
use money wisely
more money for maintenance
tax by use of vehicles
road fee linked to water a bit like Nazi
better collaboration between city contractors working on streets, water pipes, etc.
do more with less like everyone else
vehicle/gas tax fair
city too small for toll roads; do not support tolls
roads & highways funded by user fees
base license on miles used, vehicle weight & time used; transponders
completing roads correctly the 1st time can save money
hybrid/electic vehicles - technology has by passed gas tax usefulness; tax on use
wasteful use of money
support toll roads if it is suspended when road is paid for; not permanent fee
stop building capacity and maintain existing
partial to tolls; CC not big enough but may need them
no more property taxes
set up tag system for bikes to create safer paths for bikes and more awareness
support taxing commercial vehicles/entities

ROADS / HIGHWAYS

reduction in city services to alleviate poor street conditions
Less money on landscaping; more money on maintenance
support complete streets philosopy and funding
Better road repair methods
city not fixing streets / state fixes their roads
Repair residential streets (not just main roads)
SPID very dangerous
improve ramps on crosstown
Gregory: Childress needs to connect with Reynolds Park
streets are bad; need repair
3 fix roads; don't "study"
complete streets and modes of transportation that reduce care usage
Continue to make improvements
Need to fix Ayers
maintain roads in 78415
pot holes
SPID needs to be expanded; the worst and dangerous
improve streets
roads & highways damaged for many years
streets need improvements
bad roads shake the fat off you
Make southlook a reality; alternate freeway needed
Do ramp reversals on SH358
deterioration of roads due to poor construction
commercial Trucks destroy local roads 4 deliveries; county roads; unsafe in traffic

BIKE/PED

Need more walkways for wheelchairs and disabled
improve alternative transport modes: walk, bike, running; make safer
worst city for parks, paths, activities and safety
property and sales tax for Hike & Bike trails
bad sidewalks for walking and bicycles
more sidewalks; repair uptown
dangerous for walking & bikes
need safe routes for long distance bicycle & ped
improve bike & ped routes; emphasize in planning
hike & bike on N. Beach; main entry w/new bridge
improve bike & ped access in all of city
need to be bike friendly
need sidewalks and bike lanes
bike lanes
focus on bike & ped improvements
make walking & biking safe to get people out of their cars
encourage travel thru bike and bus
safer bike routes separated from traffic
wider sidewalks
limited walking and bike paths
mobility challenges for persons with disabilities
remove light post at Robert and Ocean Drive; prevents wheelchair access

Transit

RTA routes need improvement
bus service to Odem/Taft
more transportation options: buses, car pool hubs
increase rural bus service
increase bus service for persons with disabilities
RTA flush w/money
buses are nice but don't go often enough or to the right place
smaller buses
improve amenities (shade/eliminate fire ants/pavement pads) at bus stops
bus not just for poor/carless; should be viable alternative
RTAeliminate lower fares for children; carriages should be folded
RTA eliminate expensive boat service unless hotels/others underwrite
RTA pay for road repairs
More community/stakeholder involvement needed for RTA
Rural service that is on time to Agua Dulce/Jim Wells
Thank RTA
buses need safer ramps for seniors
Need bus route from Flour Bluff to TAMU-CC
improve B-Line
would use transit if more convenient
Shift work: later bus routes; Sat/Sun morning start earlier
Serve tourist better; tourist community; must rent a car;
Harbor Ferry is a great addition for tourist
more transportation options; park n rides
look out for children exiting bus
suitable transportatin of the elderly & disabled
lack of transit in my zip code
Like care b bus
bus ok but short of what is needed
more bus service; smaller buses; more bus stops
encourage Portland to join RTA service area
build reliable public transit for working people
better transit to NAS, Padre Island, industrial corridor medical ctrs
industry across bay; ferry or rail most welcome for commuting
mobility w/out vehicle very important
2 need bus service in community
supports TCN projects
need public transportaion in San Pat
public transportation important due to increased traffic, congestion, pollution
more direct/faster transit thru out CC
great distances between where people live & work & no bus service
REAL a joke; they make it sound like an imposition; want you to get to Sinton for your ride
No bus connects CC/Mathis/Odem/Sinton/Gregory to Ingleside; save much road wear
travel is difficult in this area
new bus routes need to be created
need covers at bus stops

AIR QUALITY

Air pollution is important

EQUITY

every individual/home/street deserves = consideration; not just political clout@city hall
spend money in my neighborhood, not across town

CONGESTION

congestion
traffic increases/decreases in town

TRAFFIC SAFETY

address speeding
traffic lights should blink after 5pm in uptown area
increase safety
2 sync traffic lights
safety is important
better signage at intersections
people can't merge safely on SPID; roundabout is wishful thinking
Rodd Field: right turn lane only needed
ease of transportation important
need N-S freeway (Rodd Field Rd.)
more ITS to help mobility & congestion

MISC

3 NO Comment
get rid of 9/10 in the gas prices
beach route for seniors
thank you for caring about our opinion
consider electic train in city
thank you for your leadership
lopsided questions
Consider alternatives: electric & natural gas
survey monkey - you already know your some big strokes
ROW for light rail from Robstown, Calallen, westside to eastside, southside
how are you different from RTA?
what do you do?
what will be done with this info?

ATTACHMENT 9 - SURVEY COMMENTS

GLOSSARY OF TERMS

3-C - Continuing, Cooperative, and Comprehensive: planning process

ADA - Americans with Disabilities Act of 1990: Federal law that requires public facilities (including transportation services) to be accessible to persons with disabilities including those with mental disabilities, temporary disabilities, and the conditions related to substance abuse.

ADT - Average Daily Traffic: The number of vehicles passing a fixed point in a day, averaged over a number of days. The number of count days included in the average varies with the intended use of data.

AMPO - Association of Metropolitan Planning Organizations: Nonprofit membership organization serving the interests of metropolitan planning organizations nationwide.

AVO - Average Vehicle Occupancy: The ratio of person trips to vehicle trips; often used as a criteria in judging the success of trip reduction programs.

AVR - Average Vehicle Ridership: The number of employees scheduled to start work during specified period divided by the number of vehicles arriving at the site during that same period.

CAAA - Clean Air Act Amendments: 1990 amendments to the federal Clean Air Act which classify non-attainment areas and provide for rules dealing with air pollution in such areas; specifically brought transportation decisions into the context of air quality control.

CCRTA - Corpus Christi Regional Transportation Authority: "The B" as it is locally known, is the urban public transportation service provider. Operations began in January 1986 with services to the citizens of the Coastal Bend, including the cities of Agua Dulce, Banquete, Bishop, Corpus Christi, Driscoll, Gregory, Port Aransas, Robstown, and San Patricio City.

CCUAS - Corpus Christi Urban Air Shed: The Corpus Christi metropolitan statistical area, comprised of Nueces and San Patricio Counties are considered an urban airshed in which air emissions from sources in both counties interact to influence the level of ambient air pollution in the community.

CIA - Community Impact Assessment: "A process to evaluate the effects of a transportation action on a community and its quality of life." It is a way to incorporate community considerations into the planning and development of major transportation projects. From a policy perspective, it is a process for assessing the social and economic impacts of transportation projects as required by the National Environmental Policy Act (NEPA). The assessment may address a variety of important community issues such as land development, aesthetics, mobility, neighborhood cohesion, safety, relocation, and economic impacts.

CITY: City of Corpus Christi, Texas

CMAQ - Congestion Mitigation and Air Quality Improvement Program: A categorical funding program under ISTEA, which directs funding to projects that contribute to meeting national air quality standards in non-attainment areas for ozone and carbon monoxide.

CMP - Congestion Management Process: A systematic process required for all TMAs that addresses congestion management through the metropolitan planning process that provides for effective management and operation, based on a cooperatively developed and applied metropolitan-wide strategy of new and existing transportation facilities eligible for funding under Title 23 and Chapter 53 of Title 49 through the use of travel demand reduction and operational management strategies. The CMP is required

under 23 CFR 500.109 and shall include methods to monitor and evaluate the performance of the multi-modal transportation systems, identify causes of congestion, identify and evaluate alternative actions, provide information supporting the implementation of actions, and evaluate the efficiency and effectiveness of implementation actions.

CSJ - Control Section Job Number - TxDOT assigned number for projects entered into the Project Development Program (PDP).

DOT - Department of Transportation: Agency responsible for transportation at the local, state, or federal level. For title 23 U.S.C. federal-aid highway actions, this would mean the Federal Highway Administration and for federal-aid transit actions under title 49 U.S.C, this would mean the Federal Transit Administration.

EIS - Environmental Impact Statement: A National Environmental Policy Act (NEPA) document that explains the purpose and need for a project, presents project alternatives, analyzes the likely impact of each, explains the choice of a preferred alternative, and finally details measures to be taken in order to mitigate the impacts of the preferred alternative.

Environmental Justice: Describes the impact of transportation plans or projects, either positive or negative, on a particular community or population. Derived from Title VI of the Civil Rights Act of 1964. Environmental Justice strives to ensure public involvement of low income and minority groups in decision making, to prevent disproportionately high and adverse impacts on low income and minority groups, and to assure that these groups receive equal benefits from transportation improvements.

EPA: U.S. Environmental Protection Agency

ETJ: Extraterritorial Jurisdiction: Geographic area subject to urban municipality ordinance and platting requirements.

FHPP - Federal High Priority Projects: Discretionary projects earmarked by the U.S. Congress as high priorities at the federal level during the Congressional appropriations and reauthorization process. This amounts to roughly 5% of the total transportation budget.

FHWA - Federal Highway Administration: U.S. Department of Transportation - Division responsible for administrating federal highway transportation programs under title 23 U.S.C.

Fiscal Constraint: A requirement, originally of ISTEA, that all plans be financially – constrained, balanced expenditures to reasonably expected sources of funding over the period of the TIP or Long-Range Transportation Plan.

FTA - Federal Transit Administration: Federal entity responsible for transit planning and programs under title 49 U.S.C.

Funding Category - The Texas Transportation Commission (Commission) and TxDOT use the UTP as TxDOT's ten year plan to guide transportation project development and construction. The UTP has two major components: Preservation & Safety and Mobility.

F. CLASS - Functional Classification: Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. Basic to this process is the recognition that individual roads and streets do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads. It becomes necessary then to determine how this travel can be channelized within the network in a logical and

efficient manner. Functional classification defines the nature of this channelization process by defining the part that any particular road or street should play in serving the flow of trips through a highway network.

FY - Fiscal Year: A federal fiscal or budget year; runs from October 1 through September 30 for the MPO and the federal government.

HOV - High Occupancy Vehicle: In Texas, vehicles carrying two (2) or more people receive this designation and may travel on freeways, expressways and other large volume roads in lanes designated for high occupancy vehicles.

IMS - Incident Management System: A systematic process required under SAFETEA-LU to provide information on accidents and identify causes and improvements to the Transportation system to increase safety of all users.

Intergovernmental Agreement: Legal instrument describing tasks to be accomplished and/or funds to be paid between government agencies.

ISTEA - Intermodal Surface Transportation Efficiency Act of 1991: Federal law which restructured transportation planning and funding by requiring consideration of multimodal solutions, emphasis on the movement of people and goods as opposed to traditional highway investments, flexibility in the use of transportation funds, a greater role of MPOs, and a greater emphasis on public participation.

ITE - Institute of Transportation Engineers: An international society of professionals in transportation and traffic engineering; publishes Trip Generation (a manual of trip generation rates by land use type).

ITS - Intelligent Transportation System: Use of computer and communications technology to facilitate the flow of information between travelers and system operators to improve mobility and transportation productivity, enhance safety, maximize the use of existing transportation facilities, conserve energy resources and reduce adverse environmental effects; includes concepts such as “freeway management systems,” “automated fare collection” and “transit information kiosks.”

LEP - Limited English Proficiency: Clarifies the responsibilities of recipients of federal financial assistance and assist them in fulfilling their responsibilities to LEP persons, pursuant to Title VI of the Civil Rights Act of 1964 and its implementing regulations.

LOS - Level of Service: A qualitative assessment of a road’s operating condition, generally described using a scale of A (little congestion) to E/F (severe congestion).

MAP-21 - Moving Ahead for Progress in the 21st Century Act: Enacted July 6, 2012, the federal law creates a streamlined and performance-based surface transportation program and builds on highway, transit, bike, and pedestrian programs and policies established in 1991.

MAB - Metropolitan Area Boundary: Encompass the entire existing urbanized area and the contiguous area expected to become urbanized within a 20-year forecast period for the metropolitan transportation plan.

MG - Minimum Guarantee: A funding category created in TEA-21 that guarantees a 90% return of contributions on formula funds to every state.

Mobility: funding category of the UTP includes projects that add capacity to the transportation system. Categories are: CAT 2: Metropolitan and Urban Area Corridor Projects; CAT 3: Non-Traditionally Funded

Transportation Projects; CAT 4: Statewide Connectivity Corridor Projects; **CAT 5**: Congestion Mitigation and Air Quality Improvement; **CAT 7**: Metropolitan Mobility and Rehabilitation; **CAT 9**: Transportation Enhancements; **CAT 10**: Supplemental Transportation Projects; **CAT 11**: District Discretionary; **CAT 12**: Strategic Priority.

MPO - Metropolitan Planning Organization: The forum for cooperative transportation decision-making; required for urbanized areas with populations over 50,000.

MTP - Metropolitan Transportation Plan: 25-year forecast required of MPOs and state planning agencies; considers a range of social, environmental, energy, and economic factors in determining overall regional goals and how transportation can best meet these goals.

NAAQS: National Ambient Air Quality Standards

NHS - National Highway System: Specific major roads to be designated September 30, 1995; the NHS will consist of 155,000 (plus or minus 15%) miles of road and represents one category of roads eligible for federal funds under ISTEA.

Officials: Are people who have governmental decision-making, planning or administrative responsibilities that relate to MPO activities.

PHASE: Project phase for federal funding - E: Preliminary Engineering; R: Right of Way Acquisition; C: Construction; T: Transfer.

PMS - Pavement Management System: A systematic process utilized by state agencies and MPOs to analyze and summarize pavement information for use in selecting and implementing cost-effective pavement construction, rehabilitation, and maintenance programs; required for roads in the National Highway System as a part of ISTEA; the extent to which the remaining public roads are included in the process is left to the discretion of state and local officials; criteria found in 23 CFR 500.021-209.

Preservation & Safety: funding category of the UTP includes maintenance and rehabilitation projects to maintain the existing transportation system and to improve certain safety aspects. Categories are: CAT 1: Preventive Maintenance and Rehabilitation; CAT 6: Structures Replacement and Rehabilitation (Bridges); **CAT 8**: Safety.

PROJ ID - Project Identification: Identification number assigned by the MPO for local tracking and identification. Used to relate projects to the MTP.

PTMS - Public Transportation Facilities and Equipment Management System: A systematic process utilized by state agencies and MPOs to collect and analyze information on the condition and cost of transit assets on a continual basis; data is to be used to help people choose cost effective strategies for providing and keeping transit facilities and equipment in good condition; process must be developed in Transportation Management Areas (TMAs); the use of CMS in non-TMAs is left to the discretion of state and local officials.

PPP - Public Participation Plan: Is an integral part of a planning or major decision-making process. It provides opportunities for the public to be involved with the MPO in an exchange of data and ideas. Citizen participation offers an open process in which the rights of the community, to be informed to provide comments to the Government and to receive a response from the Government, are met through a full opportunity to be involved and to express needs and goals.

Public: Includes citizens, public agencies, advocacy groups and the private sectors that have an interest in or may be affected by MPO activities.

RCAT - RTA Committee on Accessible Transportation: Members act as ambassadors on transportation ridership issues related to transportation disadvantaged riders and services.

ROW - Right-of-Way: Real property that is used for transportation purposes; defines the extent of the corridor that can be used for the road and associated drainage.

RTDM - Regional Travel Demand Model: This is a tool for forecasting impacts of urban developments on travel patterns as well as testing various transportation alternative solutions to traffic patterns. The travel patterns are determined from US census results and in simple terms tell where residents live and where they go to work or school on a regional wide basis.

SAFETEA-LU - Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users - legislation enacted August 10, 2005, as Public Law 109-59. SAFETEA-LU authorizes the Federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009.

SIB - State Infrastructure Bank: Method of financing large capital projects by taking advantage of borrowing against future state revenues.

SMP - Statewide Mobility Plan: TxDOT's 10 year plan for adding capacity to the system by using the Mobility Category Funds of Federal and State Transportation funding.

Sponsoring Agencies: Organizations or governmental units, which enter into agreements with the MPO to undertake transportation related activities.

SPP - Statewide Preservation Plan: TxDOT's 10 year plan for maintaining the system using the preservation categories of Federal and State Transportation funding.

STIP - State Transportation Improvement Program: The TxDOT Five Year Work Program as prescribed by federal law.

TAC - Technical Advisory Committee: A standing committee of most metropolitan planning organizations (MPOs); function is to provide advice on plans or actions of the MPO from planners, engineers and other staff members (not general citizens).

TCEQ: Texas Commission on Environmental Quality

TCI - Texas Congestion Index: An index to measure the magnitude of congestion in a single performance measure across the state. The index measures the mobility of people and goods in each Texas metropolitan area, with attention to the delay time experienced by drivers.

TEA-21 - Transportation Equity Act for the 21st Century: Federal Legislation authorizing funds for all modes of transportation and guidelines on the use of those funds. Successor to ISTEA, the landmark legislation that clarified the role of the MPOs in the local priority setting process. TEA-21 emphasizes increased public involvement, simplicity, flexibility, fairness, and higher funding levels for transportation.

TIP - Transportation Improvement Program: A priority list of transportation projects developed by a metropolitan planning organization that is to be carried out within the four (4) year period following its adoption; must include documentation of federal and state funding sources for each project and be consistent with adopted MPO long range transportation plans and local government comprehensive

plans.

Title VI - Civil Rights Act: As a recipient of federal funds, the MPO ensures that no person shall, on the grounds of race, religion, color, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any agency programs or activities.

TMA - Transportation Management Area: An area designated by the U.S. Department of Transportation given to all urbanized areas with a population over 200,000 (or other area when requested by the Governor and MPO); these areas must comply with special transportation planning requirements regarding congestion management systems, project selection and certification; requirements identified in 23 CFR - 450.300-33.6.

TMMP - Texas Metropolitan Mobility Plan: This is a state based requirement intended to serve as a framework for identifying unmet transportation needs in the state's larger metropolitan areas. The TMMP is a needs-based plan which quantifies transportation needs beyond the fiscal constraint barrier.

TPC - Transportation Policy Committee: Committee created for the purpose of serving as spokespersons for the citizens of the metropolitan area and is the designated MPO to prioritize and direct federal transportation funds to local projects. TPC is comprised of elected officials from the cities and two counties in the urbanized area. TPC representatives include TXDOT, RTA, and Port Authority. TPC is responsible for creating policies regarding transportation planning issues. TPC meetings, open to the public, is where members of the public can address the MPO on transportation issues. TPC meets on the first Thursday of each month at 1:30 P.M. at the Corpus Christi City Hall, City Council Chambers.

Transportation Disadvantaged: People who are unable to transport themselves or to purchase transportation due to disability, income status or age.

Transportation Enhancements: Specific activities which can be funded with Surface Transportation Program (STP) funds; activities include pedestrian/bicycle facilities, acquisition of scenic easements and scenic historic sites, scenic or historic highway programs, scenic beautification, historic preservation, rehabilitation/operation of historic transportation structures, railway corridor preservation, control/removal of outdoor advertising, archeological planning/research and mitigation of highway runoff water pollution.

TSM - Transportation Systems Management: Strategies to improve the efficiency of the transportation system through operational improvements such as the use of bus priority or reserved lanes, signalization, access management, turn restrictions, etc.

TTI - Texas Transportation Institute: A legislatively created research center, located at Texas A & M University, whose purpose is to conduct and facilitate research and serve as an information exchange on issues related to urban transportation problems in Texas.

TxDOT - Texas Department of Transportation: State agency responsible for transportation issues in Texas.

UAB - Urbanized Area Boundary: A Census-designated area consisting of a central core and adjacent densely settled territory with populations of 50,000 residents or more.

UPWP - Unified Planning Work Program: Developed by MPOs to identify transportation and planning activities anticipated within the next one to two years, including a schedule for the completion of the

identified tasks and activities.

UTP - Unified Transportation Plan: This is the state's 10 year Transportation Plan with the first 10 years programmed and the second 15 years of projects under design. This document has two parts. The two parts are: The SMP and SPP respectively.

V/C Ratio Volume over Capacity Ratio: This is a roadway performance measure to show how a highway volume compares with a highway's capacity.

VMT - Vehicle Miles Traveled: This is an output of the travel demand model and is a measure of traffic flow over a highway segment. While 1000 vehicles traveling over a mile road and 1 vehicle traveling over 1000 miles are mathematically equal only the former 1000 vehicle mile means anything to the transportation planner.