

Chambers County

TRANSIT PLAN



Final Report
September 2009



Executive Summary





CHAMBERS COUNTY TRANSIT PLAN

EXECUTIVE SUMMARY of the FINAL REPORT

**Approved by the Chambers County
Commissioners Court
August 25, 2009**

**And by the H-GAC
Transportation Policy Council
September 25, 2009**

For the Residents of Chambers County



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DISCLAIMER

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INTRODUCTION

This Executive Summary provides a brief overview of the information that is included in the Chambers County Transit Plan.¹

Chambers County is home to more than 28,771 people (2007 ACS) and approximately 9% of the population is over 65 years of age, which is higher than the regional proportion. However, the median household income in Chambers County at \$54,474 is higher than the regional median of \$41,515, indicating more affluent households in some parts of the County.

Due to its relatively smaller population size, the County does not have a designated public transportation provider and does not receive adequate state funding to support a comprehensive public transportation system. Basic transportation services have been provided for years primarily for elderly and disabled persons through the senior citizens center in Anahuac and Mont Belvieu and through the Medical Transportation Program (MTP), which is administrated by the State Health and Human Services (HHS) Commission.

Some of the unmet transit needs in the County were expressed during public meetings that were held in 2006 as part of the regional transit coordination planning effort (in response to House Bill 3588) and reiterated in 2008 as a focused transit plan for Chambers County was being developed. Business leaders and elected officials pointed out the transit related needs in their respective communities and within the County overall. The county judge, the Honorable Jimmy Sylvia expressed that with the rising price of fuel the need for implementing public transportation services in Chambers County is very timely.

Based on the input from the elected officials, the public and new information about the expanding industrial employment opportunities in the Interstate Highway (IH)-10 corridor there are several emerging opportunities for expanding transit services in several directions to accommodate some of the identified transit needs. In cooperation with the Baytown and West Chambers county economic development councils and the Wal-Mart Distribution Center, an employee shuttle service could be implemented that would connect those areas. In addition, another opportunity might include utilizing the Harris County Community Services Department (CSD) Office of Transit Services as a coordinating partner for transit service expansions that could connect the eastern parts of Harris County and the western parts of Chambers County, both of which are outside the METRO Service Area.

Justification for Chambers County Public Transportation Expansion

The following summary information provides the basis for the need for expanded transit service in Chambers County:

- A county-wide public transportation program is needed for *special needs populations* in the County to augment the localized public transportation services provided today:

¹ The Chambers County Transit Plan document is available online at www.h-gac.com or by request to H-GAC at (713) 627-3200.

- 9% of Chambers County residents are 65 and older, higher than the regional average of 7.9%.
 - Transportation is needed by the special needs population for daily essential errands such as medical appointments, grocery shopping, job training, college, employment.
 - 5.8 % of the households in Chambers County do not have automobiles.
- 10.7% of the population is below the poverty level.
 - The increase in gas prices is beginning to force people to look for public transportation for work and essential errands,
 - Lower income families are affected most by the rise in gas prices as they have the least amount of disposable income with which to absorb the added expenses.
 - Approximately 22,000 annual trips would be generated by the expanded services, five times the current transit ridership levels.
 - The state has established a mandate to coordinate and consolidate health and human service transportation delivery through HB 3588. That coordination should create efficiencies and expand capacity through economies of scale. This presents a unique opportunity for the County to develop an integrated public transit system addressing diverse needs.

Recommended Transit Projects

The recommended transit projects for Chambers County based on recent public input include the following short-term (1-2 years) and mid-term (3-5 years) projects. The long-term (more than 5 years) recommended project is presented here for future consideration.

SHORT- TERM

- 1) **County-wide General Public Demand-Response Service.** Chambers County's residents would benefit from a countywide general public demand-response program that would improve local mobility options for all segments of the population. *That expansion can be partially accomplished by the acquisition of a third transit vehicle to provide demand response services in the eastern portion of the county.* The formation of a public/private partnership including representatives of the Economic Development Councils, the business and industrial employment sectors and the Texas Workforce Solutions program could provide some other sources of transportation revenues (as matching funds) to support that transit expansion.
- 2) **Commuter shuttle Pilot Project between eastern Harris County and western Chambers County.** A commuter shuttle connection between the Baytown Park and Ride, the Wal-Mart/Cedar Bayou Distribution Center and other employment locations near Mont Belvieu is recommended as a starting point for the development of a more comprehensive express bus program along IH 10. Coordination with the Intercity Bus

carriers along that corridor could provide another source of matching funds for further expansion in the future.

- 3) **Implementation of Commute Solutions Program strategies** including but not limited to the development of the following:
 - New vanpools, carpools through the NuRide program; and
 - Telework programs in coordination with the major employers in Chambers County (where feasible).
- 4) Initiate discussions to develop a **Car-Ownership Program** similar to the Ways to Work Program. That program provides low interest loans for used automobiles for low-income families to get to work and to rideshare with other employees. The program could be a cost effective option for a segment of the population in Chambers County.
- 5) Beyond the short-term project period, the County could consider either joining or creating a rural transit district. This option might include merging with the Harris County CSD Transit Program, the Brazos Transit District (Liberty County), Connect Transportation (Galveston County), or a rural transportation program through the TxDOT Beaumont District.

MID-TERM

- 6) **Evaluate the Feasibility of Potential Park-and-Ride services in the following areas:**
 - Westbound towards Baytown, downtown Houston CBD and the Houston Ship Channel;
 - Eastbound towards Port Arthur and Beaumont; and
 - North-South connecting Chambers and Liberty Counties along the SH 146 corridor.

LONG-TERM

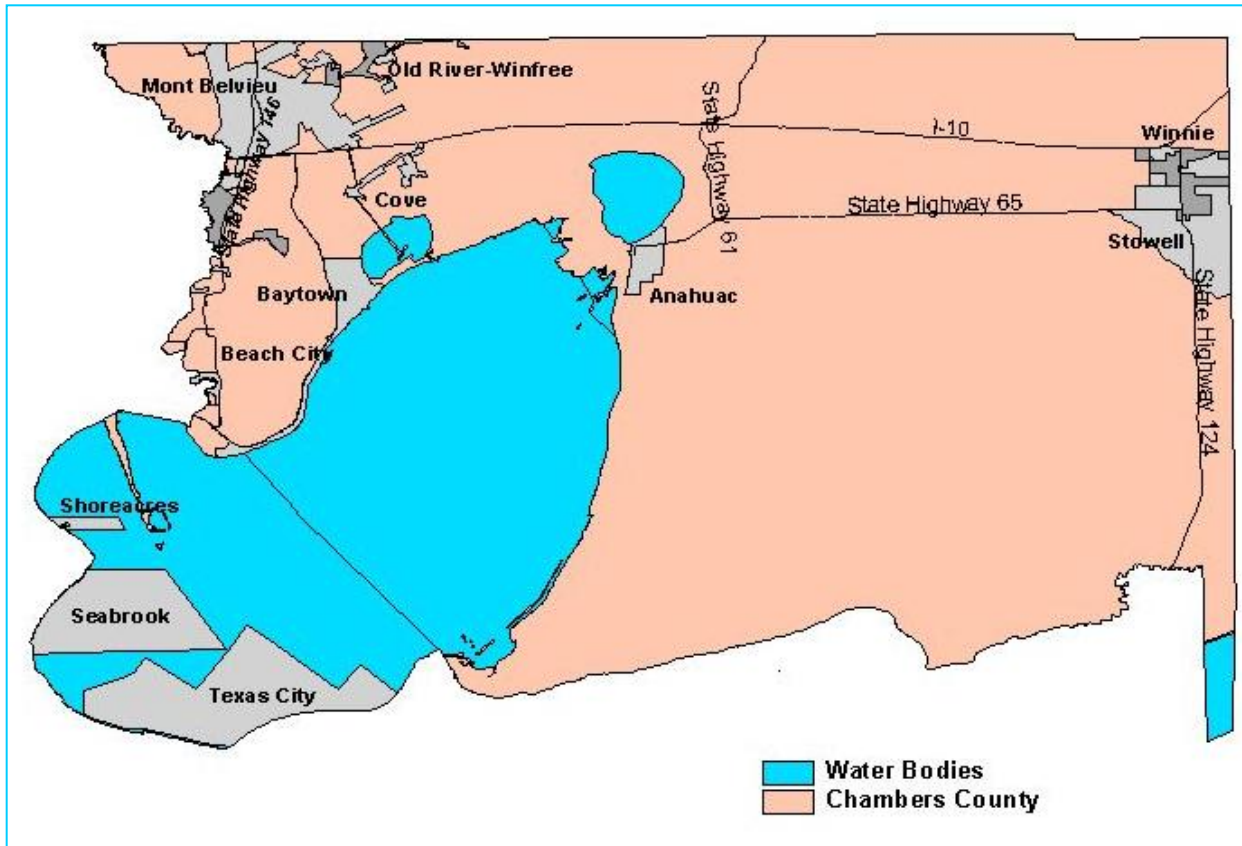
- 7) **A Transit Feasibility Assessment of an Intermodal Transfer Center near the intersection of Interstate 10 and SH 146.** Based on the apparent need to enhance transit services in the IH 10 Corridor between Houston and Beaumont/Port Arthur it would be prudent to explore the development of transfer capabilities between the local transit services in Liberty and Chambers counties. That location could become a strategic location to facilitate those transfers to Intercity Buses buses traveling the IH-10 corridor, as well as provide an access point in the area related to the future development of higher speed passenger rail services in that corridor.

The following sections provide a brief summary of some of the information that was considered in the development of this transit plan for Chambers County. Those sections summarize the background geographic profiles, the existing transit services, financial plan and a feasible approach to implement the key recommendation in the transit plan.

Figure ES-1 shows the network of roadways that provides Chambers County with a high degree of accessibility within the region. Coupled with the area's strategic location between Greater

Houston, Beaumont, and Port Arthur markets, the highway system will increase demand for industrial and commercial property within the county.

Figure ES-1: Chambers County Reference Map



Transit Attractors and Generators

The locations of schools, hospitals and major employers shown in **Figure ES-2** points out some areas that have some *clustering of activities*, near Mont Belvieu, Anahuac and Winnie/Stowell. Those locations could have the potential for multiple trip purposes to be served within close proximity that would eventually provide the best opportunities for transit hubs or transfer points to connect the countywide public transit services. **Table ES-1** on the following page identifies the locations referenced below.

Figure ES-2: Schools, Hospitals and Major Employers

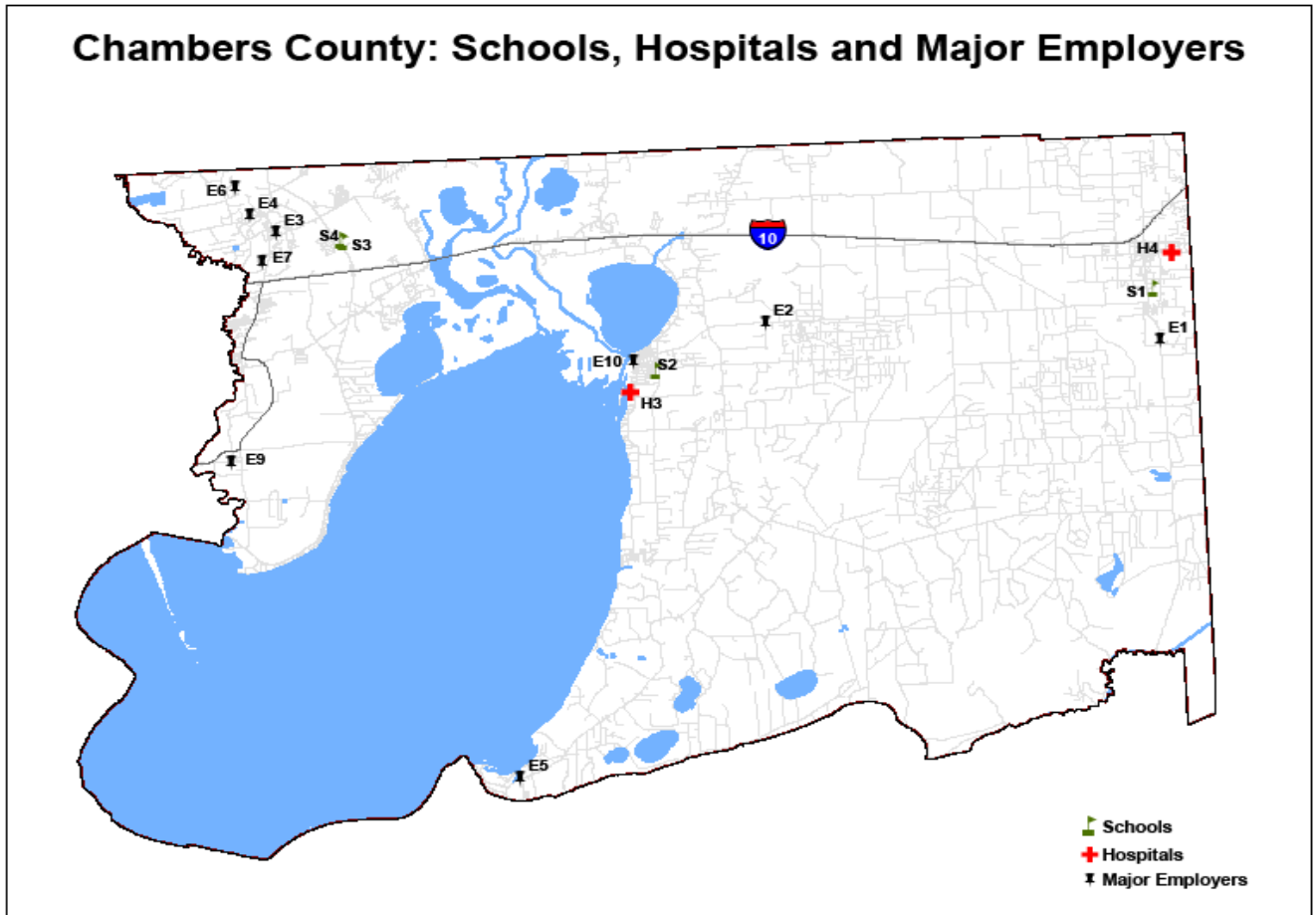


Table ES-1 Summary of Schools, Hospitals and Major Employers

Largest Single Employer Buildings in Chambers County (100+jobs)

ID	Company	Street Address	City	Est. Employees
E1	Arboretum of Winnie	1215 State Highway 124	Winnie, TX 77665-8613	100-499
E2	Chambers County Solid Waste	7505 Highway 65	Anahuac, TX 77514	100-499
E3	Eagle Pointe Golf Club & Rec	12450 Eagle Pointe Dr	Mont Belvieu, TX 77580	100-499
E4	Enterprise Products	10207 FM 1942	Mont Belvieu, TX 77580	100-499
E5	Jeri's Seafood Inc	136 County Dock Rd	Anahuac, TX 77514	100-499
E6	Pol-Tex Intl	13830 Hatcherville Rd	Mont Belvieu, TX 77580	100-499
E7	Cryogenic Vessel Alternatives	9528 Warren Road	Mont Belvieu, TX 77580	50-99
E8	Koppel Steel Corporation	2600 Texas Highway 99	Baytown, TX 77520	na
E9	Seapac Inc.	4000 Cedar Blvd	Baytown, TX 77522	na
E10	Chambers County Jail	201 Court St	Anahuac, TX 77514	100-499

ID	Hospitals	Address	City
H3	Bayside Community Hospital	P. O. Box 398	Anahuac
H4	Winnie Community Hospital	538 Broadway	Winnie

SID	Schools
S1	EAST CHAMBERS ELEMENTARY
S2	ANAHUAC ELEMENTARY
S3	ELEMENTARY SCHOOL
S4	BARBERS HILL H S

Transit Needs Index (TNI)

Transit planners utilize several tools in conducting an assessment of the need for transit services in an area. One of those tools is the Transit Needs Index (TNI) which uses the demographic characteristics (See **Table ES -2**) of an area and formulates scores using a mathematical model.

The model was formulated based on experiences within small Texas cities in the 1990's and updated with 2000 Census data.

The model results are shown in **Figure ES -3** and indicate the highest areas of transit need are in central and far eastern Chambers County. The lack of a universal, countywide demand-response service in Chambers County could make trips for individuals in these areas difficult, especially if they lack a network of friends or family to assist them. The introduction of such a system, even on an interim pilot project basis could help determine long-term viability of such a service. There currently are not any proposals by the county or by adjacent providers to initiate a universal rural demand-response service.

Table ES -2 Transit Needs Index Weights

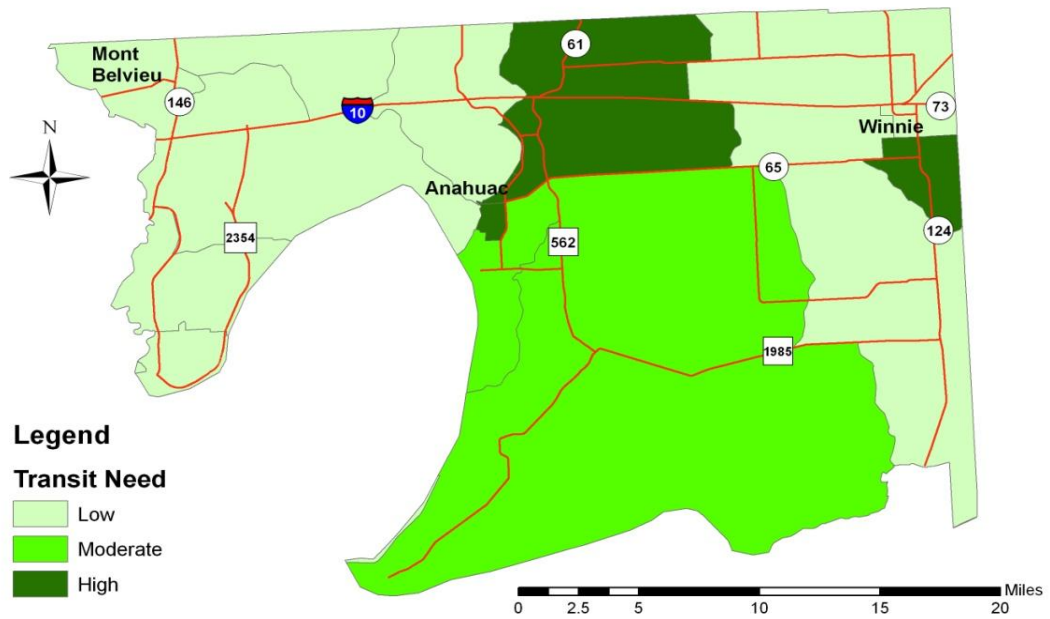
Need Characteristic	Urban (Fixed Route)	Rural (Demand/Response)
Population density	2.0	1.0
Median household income	3.5	2.5
Minority population	2.0	1.0
Zero car households	1.5	1.5
Senior population	0.5	2.0
Work force disability	0.5	2.0

See **Appendix C** of the main document for more details about the model formulation for the TNI Methodology².

² The TNI is derived from the Brazoria County Transit Feasibility Study Report, April 6, 1995 developed by LKC Consulting Services Inc. as reported in the Gulf Coast Region Coordinated Regional Public Transportation Plan, 2006 and updated by H-GAC staff using 2000 Census data.

Figure ES – 3

Chambers County Transit Need Index



Source: H-GAC

The areas of highest transit needs in the central and eastern parts of the county near Old River and Winnie would be addressed with the expanded transit services.

EXISTING TRANSIT SERVICES

Existing Transit Services

In Chambers County basic public transportation services have been provided primarily for elderly and disabled persons through the senior citizens centers in Mont Belvieu and Anahuac and non-emergency medical transportation services are provided to Medicaid eligible clients who don't have other means of transportation services through the Medical Transportation Program (MTP).

Table ES-3 provides an overview of ridership, operating expenses and revenues for the Senior Citizens and MTP programs.

Table ES-3: Transit Ridership and Cost Summary (2007)³

Agency	Ridership	Operating Expense	Revenues	Source of Funds
Senior Citizens Project of Chambers County (2 vehicles)	3,116	\$ 37,705	\$46,763	TxDOT 5310, Title 3B-AAA, Chambers County ⁴
Medical Transportation Program (MTP)	998	\$ 14,970		Texas DOT /Health Human Services Commission
Totals	4,114	\$ 52,675		

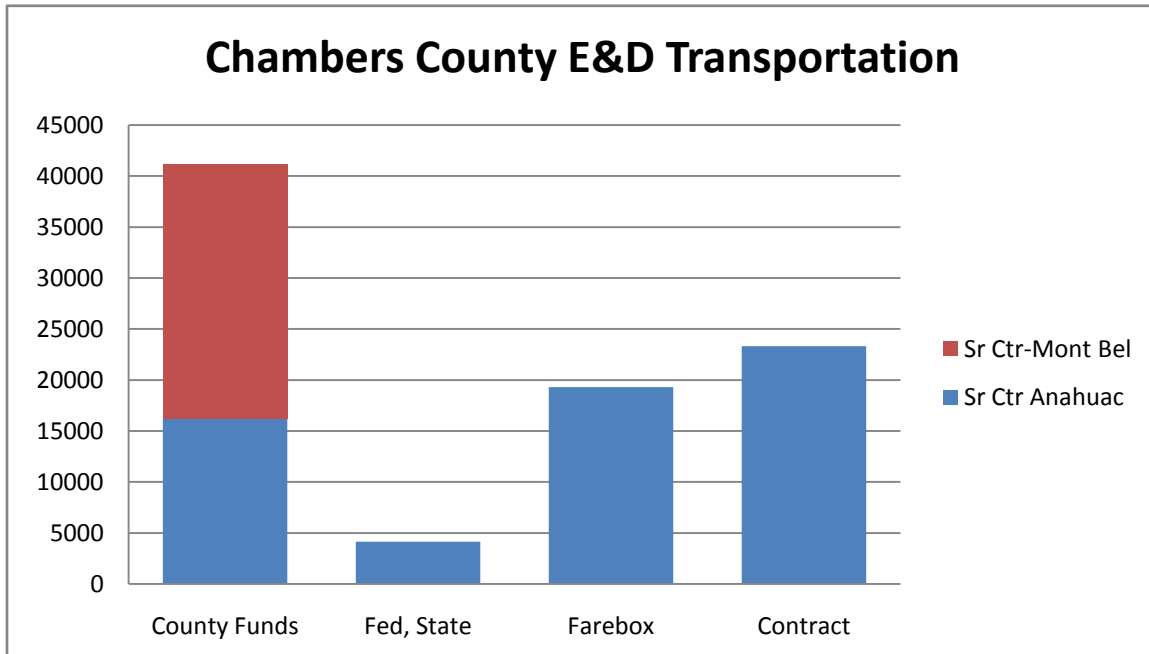
Chambers County Elderly and Disabled (E&D) Transportation Program⁵

³ Ridership and cost data for the senior center is reported in the 2007 Texas Transit Statistics Report (September 2008).

⁴ Note, the related Chambers County budget item was confirmed 4-22-09.

⁵ Source; TxDOT 2007 Transit Statistics 5310 Program, Commissioner Nelson's office.

Figure ES- 4 – Summary of E&D Funding by Source



Summary of Current Costs:

As shown in Figure ES- 4, approximately **\$84,000** in local funds was used to operate and maintain the elderly and disabled transportation program in chambers County in 2007. Those funds could be counted as **local match** to leverage more state and federal funds to expand the public transportation system in Chambers County because the sources of those funds were not from the Department of Transportation.

The value of the transportation services that are being provided through the medical transportation program (MTP) which is operated by the HHS Commission is approximately **\$15,000** and about **\$4000** was provided in federal and state grants.

Based on the current budgets for public transportation in Chambers County, approximately \$103,000 of the total annual cost of the recommended countywide demand response project (\$477,000.00 at maturity) is available through the combination of programmed federal, state and local funds today.

Additional funding of **\$35,000** might become available through the TxDOT 5311 (rural) program pending the submittal and approval of an application for those funds. A separate financing strategy will be needed for the park and ride (commuter shuttle) with an annual cost of \$113,100.

Optimistically, the combination of available and potential 5311 funds would provide about \$138,000 annually. *The gap between the identified funding sources and the total program costs of \$ 590,100 is about \$487,275.* A financial strategy to increase the magnitude of funds available to Chambers County for expansion of its transit program is outlined in the Feasibility Assessment on page 17.

FINANCIAL PLAN AND COST ESTIMATES

Since the funding arena is both complex and requires a long lead time for revenue sources, Chambers County could consider the creation of a rural transit district, or merging with an adjacent rural transit district in order to apply for Section 5311 Rural funds from TxDOT. As Chambers County is located within the eight-county TMA, CMAQ funds can also be utilized for projects that contribute to air quality improvements and reduce emissions and congestion. JARC and New Freedom funding would also be appropriate funding programs to consider for Chambers County.

Financial requirements are driven by service levels, which in turn are driven by passenger demand. Therefore, the process includes the following steps:

1. Demand estimates are derived based upon assumed passenger generation rates per population.
2. Service levels are then derived based upon assumed service productivity (passengers per revenue hour of service).
3. Costs are calculated based upon the service levels and the unit cost of service.

Demand Estimate

The demand for general public demand response service is estimated based upon the population serviced and the annual passenger trips typically generated per person. For planning purpose the median rural operator value of 0.76 annual passenger trip per population is used to estimate demands. U. S. Census estimates for 2007 were used for the population of the service area. The split of population between the portions of Chambers County that are within an urbanized area and the portions of Chambers County that are rural (outside the urbanized area) is based upon the proportion of each as established in the year 2000 census.⁶

Table ES-4 displays the resulting projection of general public demand response service in Chambers County, by urbanized and rural areas of the county.

Table ES-4: Demand Response Ridership Projection

	Urbanized Area	Rural Area	Total
2007 Population	10,358	18,413	28,771
Annual Psgr./Population	0.76	0.76	0.76
Annual Passengers	7,872	13,994	21,866

⁶ Chambers County data source: P2.Urban and Rural [6]– Universe: Total population Data Set Census 2000 Summary File 1 (SF 1) 100 –Percent Data; <http://factfinder.census.gov/home/en/datanotes/expsf1u.htm>.

Service Level

The next calculation will convert the number of annual passengers into the number of annual revenue hours required to serve those passengers. The amount of service required to carry passengers is a function of several factors, including population density and average trip length.

The median service productivity among the peer rural providers in Texas is 2.79 passengers per revenue hour. The average productivity is 3.21. For purposes of planning, the peer average productivity value of 3.21 was selected. **Table ES-5** displays calculation of service levels for Chambers County.

Table ES-5: Service Level Calculation

	Urbanized Area	Rural Area	Total
Annual Passengers	7,782	13,994	21,866
Passengers/Rev. Hour	3.21	3.21	3.21
Annual Rev. Hours	2,452	4,359	6,811

Estimated Cost

The cost of general population demand response service can be estimated by applying a cost per revenue hour to the revenue hours of service necessary to meet the projected demand. **Table ES-6** displays the cost calculation of general public demand response service in Chambers County.

Table ES-6: Cost Calculation

	Urbanized Area	Rural Area	Total
Annual Rev. Hours	2,452	4,359	6,811
Cost per Rev. Hour	\$70.00	\$70.00	\$70.00
Annual Cost	\$171,665	\$305,162	\$476,828

Programming Service

The calculations above reflect a mature service operating throughout the entire county. Transit services require time in order to reach mature ridership levels. The community must become aware of availability, understand how to access the service and become trial users. For purposes of programming, it is assumed that ridership reaches 50% of maturity in the short term, 75% of maturity in the mid-term and 100% of maturity in the long term.

Further, introducing new service can be staged in order to control initial costs and test planning assumptions. This financial plan is predicated upon providing demand response service in the rural areas only during the short term and then expanding into the urbanized areas in the mid-term. **ES-7** reflects the costs associated with this service programming.

Table ES-7: Programming General Public Demand Response Service in 2008\$

Period	Annual Cost at Maturity (\$mil)		Percent of Maturity		Annual Cost for Period (\$mil)		Total (\$mil)
	Urban	Rural	Urban	Rural	Urban	Rural	
Near-term	.172	.305	N/A	50	N/A	.153	.153
Mid-term	.172	.305	75	75	.129	.229	.358
Long-term	.172	.305	100	100	.171	.305	.477

These data can also be used to estimate fleet requirements. An average vehicle will operate 10 to 12 hours per day for 260 days per year, or between 2600 and 3120 hours per year. Based upon service levels at the programmed levels, the required fleet for the near term is 1 vehicle; for the mid-term are 2 vehicles; and for the long term are 3 vehicles. This does not include back-up or spare vehicles.

Shuttle Service

The second element of the service program for Chambers County is the implementation of a shuttle connecting the Mont Belvieu and San Jacinto mall where it would connect with the current Baytown Express Park and Ride. The total one-way route length is approximately 32 miles. A transfer card would need to be issued to accommodate the complete fare ride into downtown. The estimated costs for Chambers County only include the shuttle ride connection to the San Jacinto Mall Park and Ride.

Total program

The total service program would be as outlined in **Table ES-8**.

Table ES-8: Chambers County Transit Service Program in 2008\$

Period	Elements	Annual Cost
Short term	Rural Demand Response	\$153,000
	Park and Ride Service	\$113,100
	TOTAL	\$266,100
Mid term	County-wide Demand Response	\$358,000
	Park and Ride Service	\$113,100
	TOTAL	\$471,100
Long term	County-wide Demand Response	\$477,000
	Park and Ride Service	\$113,100
	TOTAL	\$590,100

FEASIBILITY ASSESSMENT

A financial strategy to address the identified funding shortfall of about \$ 500,000 could include the following elements over an extended period of time (2-3 years).

1. Apply for Job Access Reverse Commute (JARC) and New Freedom Programs grant funds in response to the TxDOT Coordinated Call for Projects, which is due annually in December, assuming that federal (FTA) funds will continue to be available. Since the recommended county-wide demand response services would provide access to jobs and related activities for the general public (including low income populations) it would qualify for JARC funding. The Park-and-Ride operation would also be eligible for JARC funding since it would provide transit connections between suburban employments and training locations.

Additional demand response services for disabled persons, to enhance their abilities to access or better utilize those paratransit services, beyond ADA requirements would be eligible for New Freedom funding.

2. Apply for funding for the Commuter and Transit Services Pilot Projects in response to the H-GAC Call for Projects (which is ongoing) for Congestion Mitigation and Air Quality Improvement (CMAQ) funds. The commuter shuttle would be eligible for CMAQ funding since it would provide more ridesharing opportunities for workers, students and faculty.
3. Coordinate with local businesses and large employers that could benefit from transit patronage close to their business or office sites to provide cash donations or to donate land or a bus shelter that could be counted as a local match contribution.
4. Coordinate with H-GAC staff to garner local match from programs such as the Workforce and Local Development Council Worker Transit Funds.
5. Coordinate with TxDOT staff to secure Transportation Development Credits to provide a portion of the local match required for capital purchases related to the expansion of the transit program in Chambers County.

Several other potential funding sources are summarized in Appendix D of the main document. Essentially, a *proactive* grants management approach could provide ample funds to implement the short-term recommendations in this transit plan. Coordination with the Intercity Bus carriers, state and federal transportation planning staff would be needed to pursue the development of an Intermodal Transit/Transfer terminal in the IH 10 corridor as a longer term recommendation.