Appendix C: Public Transportation Methodology and Results

Rural Transit Funding Needs to 2035

The information in the following draft document provides an overview of rural public transportation in Texas, describes the methodology to project funding needs 2012 to 2035, summarizes funding needs statewide and by TxDOT District, offers a discussion of regional coordination planning in the state, provides an overview of the funding formula to allocate federal and state transit funds to rural public transportation providers, and summarizes data for performance measures for rural transit. A discussion of the challenges facing rural public transportation providers is also included.

Overview of Rural Public Transportation

Rural public transportation in Texas is provided by Rural Transit Districts (RTDs) created according to Texas Transportation Code Chapter 458. A rural transit district is a political subdivision of the state that provides and coordinates rural public transportation in its territory. The earliest RTDs began operations in 1980. Today there are 38 rural transit districts, as illustrated on Figure 1. The RTDs serve rural and urban areas with populations under 50,000. Rural transit operators rely upon federal and state revenues to fund capital and operating expenses. Additional local funds are generated from contract services and support from county and municipal governments. The purpose of this document is to project the funding needs for rural transit in Texas 2012 to 2035.

Each RTD is associated with one TxDOT District based on location of the RTD headquarters or the majority of counties in the RTD (TxDOT Districts Lufkin and Wichita Falls do not have an associated RTD because the RTD operating in the area is already associated with another district). Table 1 describes characteristics for each RTD chapter and identifies the corresponding TxDOT District. Table 1 includes a snapshot of the key operating and financial characteristics for each RTD in the 2011. Table 2 identifies the acronym for each TxDOT District, and Figure 2 illustrates the area for each TxDOT District.

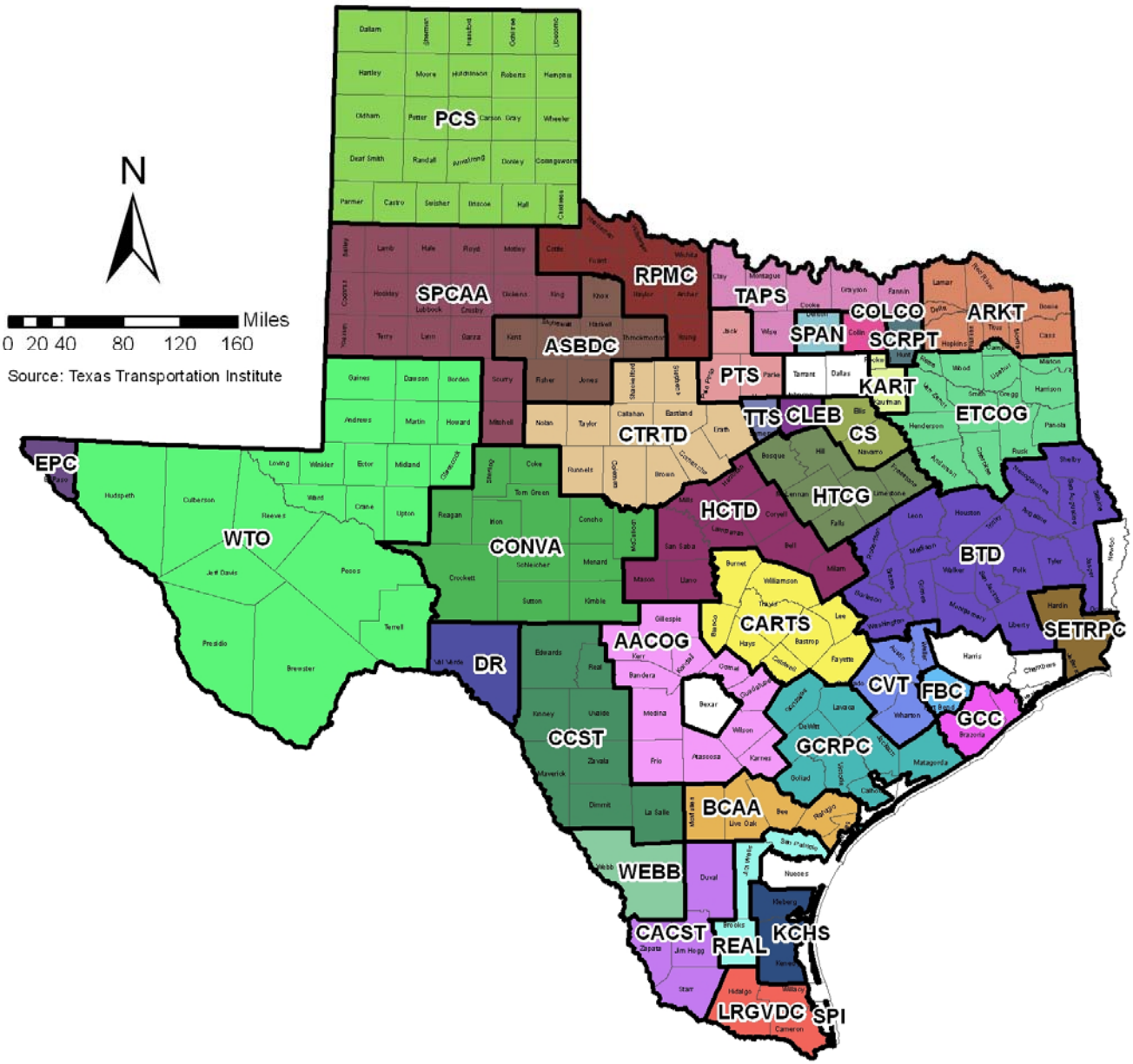

Figure 1. Map of Rural Transit Districts in Texas

Table 1. 2011 RTD Snapshot

			Service Area		Operating		Financial	
Rural Transit District	RTD Acronym	TxDOT District	Proj. 2010 Rural Population	Rural Land Area in Sq. Miles	Annual Revenue Miles	Annual Passenger Trips	Annual Operating Expenses	Annual Capital Expense
Alamo Area Council of Governments	AACOG	SAT	448,193	10,130	1,459,700	157,981	$4,576,715	$114,592
Ark-Tex Council of Governments	ARKT	ATL	233,618	5,761	1,225,036	429,999	$2,984,901	$369,217
Aspermont Small Business Develop. Center	ASBDC	ABL	39,478	6,317	387,839	15,692	$835,354	$186,975
Bee Community Action Agency	BCAA	CRP	82,047	4,051	324,367	34,558	$758,887	$94,850
Brazos Transit - The District	BTD	BRY	917,921	16,910	2,208,788	679,819	$8,204,594	$981,960
Capital Area Rural Transportation System	CARTS	AUS	567,987	7,192	2,679,103	486,893	$9,848,388	$4,832,904
Central Texas Rural Transit District	CTRTD	BWD	201,752	10,693	1,841,121	164,606	$5,827,877	$586,272
Cleburne, City of	CLEB	FTW	85,954	710	306,442	36,146	$1,018,120	$241,849
Collin County Committee on Aging	COLCO	DAL	109,960	689	168,193	11,333	$428,719	$360,000
Colorado Valley Transit	CVT	YKM	136,193	3,220	400,674	65,480	$1,426,421	$255,000
Community Act. Council of South Texas	CACST	PHR	100,195	5,149	259,527	89,985	$1,000,021	$118,121
Community Council of Southwest Texas	CCSWT	SAT	120,725	11,138	1,172,311	160,321	$2,947,171	$313,416
Community Services, Inc.	CS	DAL	180,041	1,924	383,021	97,179	$1,248,995	$65,590
Concho Valley Transit District	CONVA	SJT	60,283	15,309	409,131	93,860	$1,719,387	$1,260,263
Del Rio, City of	DR	LRD	50,067	3,170	478,165	80,832	$1,024,153	$148,682
East Texas Council of Governments	ETCOG	TYL	634,567	9,613	1,366,729	159,065	$3,424,475	$605,293
El Paso, County of	EPC	ELP	58,290	809	1,262,550	247,371	$1,618,748	$0
Fort Bend County *	FBC	HOU	68,009	748	306,623	48,222	$1,007,872	$557,692
Golden Crescent Regional Planning Comm.	GCRPC	YKM	170,070	7,088	1,264,223	181,253	$2,562,120	$386,065
Gulf Coast Center	GCC	HOU	123,850	1,570	179,314	21,093	$729,495	$0
Heart of Texas Council of Governments	HOTCOG	WAC	193,903	5,478	680,834	63,385	$1,892,060	$114,303
Hill Country Rural Transit District	HCTD	BWD	196,375	8,321	834,640	152,718	$2,456,808	$413,244
Kaufman Area Rural Transportation	KART	DAL	135,958	896	1,288,541	138,120	$2,550,014	$400,470
Kleberg County Human Services	KLEB	CRP	32,460	2,328	127,921	37,359	$493,238	$56,022
Lower Rio Grande Valley Develop. Council	LRGVDC	PHR	203,895	2,641	281,922	50,217	$895,868	$538,000
Panhandle Community Services	PCS	AMA	244,312	25,749	1,190,973	397,262	$3,252,963	$24,342
Public Transit Services	PTS	FTW	148,563	2,765	882,714	82,392	$1,724,002	$279,580
Rolling Plains Management Corporation	RPMC	CHS	87,854	6,553	675,373	124,812	$1,800,349	$0
Rural Economic Assistance League, Inc	REAL	CRP	104,251	2,491	543,103	179,250	$1,196,710	$0
Senior Center Res. & Public Transit Serv.	SCRPT	PAR	89,977	841	405,772	46,040	$960,004	$368,371
Services Program for Aging Needs	SPAN	DAL	126,627	748	639,301	73,880	$1,643,585	$168,516
South East Texas Regional Planning Comm	SETRPC	BMT	131,284	2,027	446,233	61,021	$1,527,417	$137,272
South Padre Island, Town of	SPI	PHR	2,699	2	302,450	454,502	$888,499	$351,829
South Plains Community Action Association	SPCAA	LBB	216,447	15,343	994,290	115,785	$3,130,296	$23,489
Texoma Area Paratransit System/TAPS	TAPS	PAR	231,087	5,601	965,785	103,007	$1,892,338	$590,774
Transit System Inc., The	TTS	FTW	63,252	609	318,517	24,026	$1,013,271	$73,946
Webb Co. Community Action Agency	WEBB	LRD	38,828	3,314	239,035	91,351	$726,895	$0
West Texas Opportunities, Inc	WTO	ODA	205,154	44,056	2,195,236	175,328	$5,109,170	$3,385,963
Totals/ Statewide Statistics			**6,842,128**	**251,954**	**31,095,497**	**5,632,143**	**$86,345,900**	**$18,404,862**

**Fort Bend County Public Transportation (FBC) serves rural Fort Bend county and a significant area that is part of the Houston urbanized area. For purposes of this plan, FBC values for operating and financial statistics reflect 20% of FBC actual to represent rural-only service. Other RTDs also serve a portion of urbanized areas but the ratio urban to rural is not so significant.*

Table 2. TxDOT District Acronyms

Acronym	TxDOT District Office	Acronym	TxDOT District Office
ABL	Abilene	LBB	Lubbock
AMA	Amarillo	LFK	Lufkin
ATL	Atlanta	LRD	Laredo
AUS	Austin	ODA	Odessa
BMT	Beaumont	PAR	Paris
BRY	Bryan	PHR	Pharr
BWD	Brownwood	SAT	San Antonio
CHS	Childress	SJT	San Angelo
CRP	Corpus Christi	TYL	Tyler
DAL	Dallas	WAC	Waco
ELP	El Paso	WFS	Wichita Falls
FTW	Fort Worth	YKM	Yoakum
HOU	Houston		

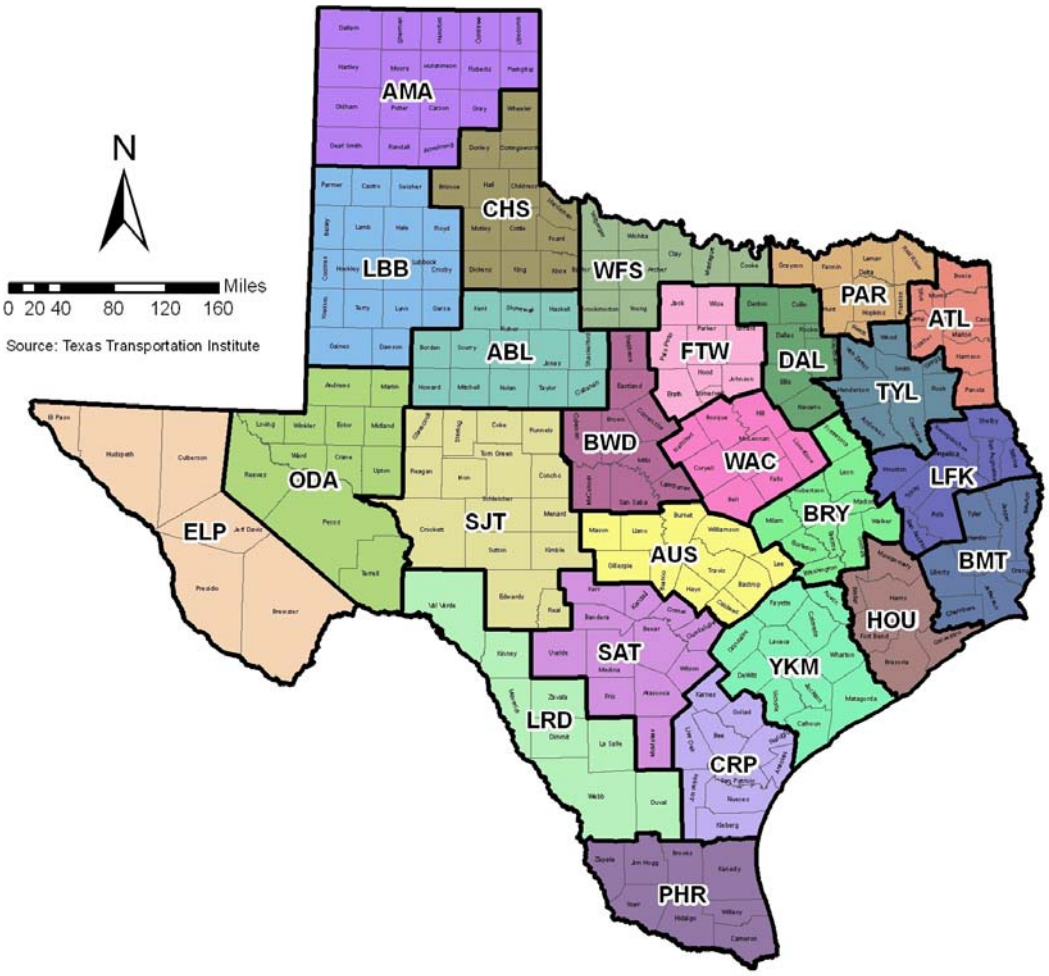

Figure 2. TxDOT Districts

Overview of Approach to Project Rural Public Transportation Funding Needs

TxDOT Public Transportation Division (PTN) with technical assistance from Texas Transportation Institute (TTI) developed projections of funding needs for rural public transportation in Texas. TTI drafted initial projections of operating and capital needs from 2012 to 2035 based on available state data for public transportation and population change. The initial projections assumed each of the 38 rural transit districts would provide similar service levels as the ratio of transit revenue miles to population in 2011. The initial projections were completed by TTI in December of 2011 based on forecasts of population growth in each rural transit district to project revenue miles and associated vehicle and facility needs through the year 2035. TxDOT and TTI recognize that any forecast of the future is not guaranteed to be accurate; however, some type of forecast must be completed to determine future funding needs for the state.

The initial projections were created as baseline material to more effectively engage the 38 rural transit districts in a service and funding visioning process. PTN and TTI hosted a series of three webinars in January and February 2012. The purpose of each webinar was to garner RTD input as well as relate information. The date and a description of each webinar are provided as follows.

- Webinar 1: Initial projections and rural transit operations 2012 to 2035
  - January 13, 2012
  - Primary content:
    - Discussion of 2012 to 2035 initial projections
    - Initiated visioning process utilizing visioning form (forms customized per RTD and provided prior to webinar)
- Webinar 2: Operations change impact on facility and technology capital needs
  - January 20, 2012
  - Primary content:
    - Review of service types on visioning form
    - Discussion of the impact of service change on facilities and vehicle capital needs
    - Discussion of technology related capital needs to 2035
- Webinar 3: Results of visioning and final steps

- February 6, 2012
- Primary content:
  - Information on peer groupings for rural transit in Texas and the role in forecasting operating and capital needs for rural public transportation
  - Overview of results for peer groups, including documentation of service increase adjustments and facilities
  - Invitation to complete online questionnaire to respond with service and capital needs information if not already provided via completed visioning form.

Seventeen of the 38 RTDs returned completed visioning forms. An additional nine RTDs responded to the online questionnaire. Altogether 26 of the 38 rural transit districts participated in the visioning and forecasting process during January and February 2012. RTD input underlies many of the assumptions in the operating and capital forecasts for RTDs. In order to make reasonable assumptions for the 12 RTDs that did not respond, TTI utilized peer groupings and statewide averages to fill in assumptions. The peer groupings are based on TxDOT RMC Project Report 6205 "Benchmarking and Improving Texas Rural and Small Urban Public Transportation Systems" published in 2010.

RMC 6205 utilized the following criteria to create five peer groups for rural transit districts in Texas:

- ★ Population density
- ★ Percent of population with a disability
- ★ Percent of households with no automobile
- ★ Percent of population age 65 and over
- ★ Percent of population below poverty
- ★ Location along the border with Mexico, near a major metropolitan area, or both

The following are the five peer groups for rural transit districts in Texas (city in parentheses is the RTD headquarters):

Peer Group 1

- ★ Del Rio, City of (Del Rio)
- ★ Kleberg County Human Services (Kingsville)

- ★ Lower Rio Grande Valley Development Council (Weslaco)
- ★ Rural Economic Assistance League, Inc. (Alice)
- ★ Town of South Padre Island (South Padre Island)

Peer Group 2

- ★ Ark-Tex Council of Governments (Texarkana)
- ★ Aspermont Small Business Development Center (Aspermont)
- ★ Bee Community Action Agency (Beeville)
- ★ Concho Valley Transit District (San Angelo)
- ★ Central Texas Rural Transit District (Coleman)
- ★ Colorado Valley Transit (Columbus)
- ★ Golden Crescent Regional Planning Commission (Victoria)
- ★ Hill Country Rural Transit District (San Saba)
- ★ Heart of Texas Council of Governments (Waco)
- ★ Panhandle Community Services (Amarillo)
- ★ Rolling Plains Management Corporation (Crowell)
- ★ South East Texas Regional Planning Commission (Beaumont)
- ★ South Plains Community Action Association (Levelland)

Peer Group 3

- ★ Cleburne, City of (Cleburne)
- ★ Collin County Committee on Aging (McKinney)
- ★ Community Services, Inc. (Corsicana)
- ★ Fort Bend County (Sugar Land)
- ★ Gulf Coast Center (Galveston)
- ★ Senior Center Resources and Public Transit Service (Greenville)
- ★ Kaufman Area Rural Transportation – STAR Transit (Terrell)
- ★ Public Transit Services (Mineral Wells)
- ★ Services Program for Aging Needs - SPAN (Denton)

- ★ Texoma Area Paratransit System – TAPS (Sherman)
- ★ Transit System, The (Glen Rose)

Peer Group 4

- ★ Alamo Area Council of Governments (San Antonio)
- ★ Brazos Transit – The District (Bryan)
- ★ Capital Area Rural Transportation - CARTS (Austin)
- ★ East Texas Council of Governments (Kilgore)
- ★ West Texas Opportunities, Inc. (Lamesa)

Peer Group 5

- ★ Community Action Council of South Texas (Rio Grande City)
- ★ Community Council of Southwest Texas (Uvalde)
- ★ El Paso, County of (El Paso)
- ★ Webb County Community Action Agency (Laredo)

Methodology

The following section documents the general methodology followed to forecast operating and capital funding needs from 2012 to 2035 for each RTD and statewide.

PTN and TTI used the most relevant, current information available. Figure 3 depicts an overview of the process and relationship between forecast parameters.

The following sections briefly describe the data sources, assumptions, and results for each major step in the process to project rural transit funding needs. Detailed results for each RTD are available in Appendix D. The appendix is organized by TxDOT District and contains tables and brief descriptions of the funding needs for each RTD.

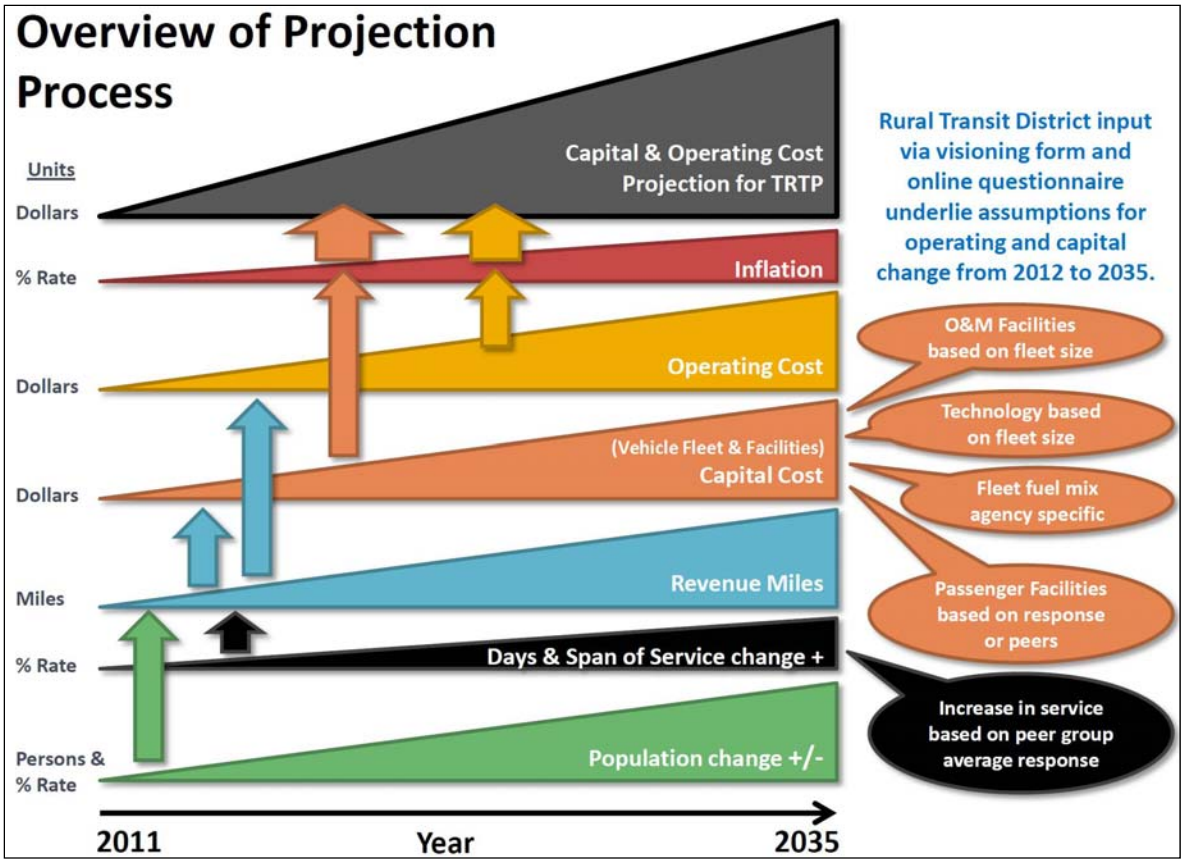

Figure 3. Process to Project Rural Transit Funding Needs for the 2035 TRTP (Brooks & TTI, 2012).

Population Forecast

The population forecast is based Texas State Data Center (TSDC) population projections released in 2008. The TSDC data are based on decennial Census 2000 and reflect the growth for population migration that occurred in Texas from 2000 to 2007 (referred to as Scenario 3 in TSDC data). In the methodology developed for this chapter, TTI adjusted for rural areas in 2000 that are projected to be included in new urban areas when Census 2010 urbanized areas are announced. See TxDOT RMC Project Report 6199 "Estimated Impacts of the 2010 Census on the Texas Transit Funding Formula" by TTI and the University of Texas at San Antonio, published 2010. The rural population in Texas is forecast to increase 2010 to 2035 at an average annual compound growth rate of 1.57 percent, causing the rural population change to increase by 47 percent. For reference, the statewide population is forecast to grow at an average annual compound growth rate of 1.93 percent. Detailed calculations for each RTD in Texas can be found in Appendix D (TTI, 2012).

Days & Span of Service

In addition to population change from 2012 to 2035, RTD days of service and daily span of service may change over time and thereby impact the amount of revenue miles for which operating and capital resources will be needed from 2012 to 2035. A majority of RTDs participated in the webinars and visioning process. All participants described which days of the week service operated and when service began and ended each day for a typical week in 2011 and the vision for a typical week in 2035. TTI used the information to generate the growth in weekly hours of service from 2012 to 2035.

TTI defined a rate of change from 2012 to 2035 based on the change in the weekly hours for the same period. Rural peer groups were used to generate an average annual compound rate of change for each peer group from 2012 to 2035. The rate of change based on weekly hours of service was then applied as an annual growth rate to forecast revenue miles.

Table 3 illustrates the calculated change by peer group in the weekly number of days of rural transit service in 2011 compared with 2035 (assuming typical service week conditions):

Table 3. Summary of Days with Service Change

Weekly Days with Service			
Peer Group	**Days Now**	**Days 2035**	**Additional**
1	6	6	<1
2	6	6	0
3	5	6	1-2
4	5	6	1-2
5	6	7	<1

As seen in Table 3, the current level of service is generally 5 to 6 days per week. The average increase from now to 2035 is approximately one day, which brings peer groups up to 6 or 7 days of operation per week by 2035.

Table 4 shows the increase in daily span of service forecasted between now and 2035:

Table 4. Summary of Span of Service Increase

Daily Span of Service (Hours Each Day)			
Peer Group	Hours Now	Hours 2035	Additional
1	13	17	5
2	11	14	3
3	14	18	4
4	12	14	2
5	14	16	2

Table 4 illustrates the projected increase in daily span of service for peer groups between now and 2035. The 2011 daily span of service hours for peer groups ranges from 11 to 14 hours per day. By 2035 the average daily span of service will grow to approximately 16 hours per day, and the average increase is 3.2 hours.

Table 5 shows the composite resulting change in service from 2011 to 2035 for each peer group as an average annual percentage increase. The rate is compounded annually to projected revenue miles from 2012 to 2035.

Table 5. Average Annual Increase in Miles Summary

Increase in Miles from 2011 to 2035 Necessary to Accommodate Increase in Days/Hours of Service	
Peer Group	Avg Annual % Increase
1	1.65%
2	1.08%
3	1.98%
4	1.98%
5	0.92%

As seen in Table 5, the peer groups 3 and 4 have the largest average annual increase in miles based on service days and span of service each day with 1.98 percent. On average, each peer group shows a small but steady increase in revenue miles per year related to increase in service availability. Revenue miles also increase and decrease based on population change through the period.

Revenue Miles

Revenue miles were forecast based on the population change and the “days and span of service” growth rate. The results show that the average annual compound growth rate is 2.99 percent (min = 0.56 percent, max = 4.91 percent), with a change of

97 percent from 2011 to 2035 (TTI, 2012). Detailed calculations for each RTD in Texas can be found in Appendix D (TTI, 2012).

Operating Funding Needs

The projection for total operating costs assumes the operating cost per revenue mile in 2011, inflated through 2035. The annual inflation rate is based on the inflation of operating expense per revenue mile in Texas from 2007 to 2011, or 3.69 percent. Based on these assumptions, the average annual compound growth rate of total operating costs for RTDs in Texas is 6.50 percent (min = 4.24 percent, max = 10.47 percent), and the statewide total is 6.85 percent (TTI, 2012). Detailed calculations for each RTD in Texas can be found in Appendix D (TTI, 2012).

Capital Needs: Vehicles, Facilities, and Technology

TTI used information gathered from the visioning responses and the TxDOT PTN facilities and vehicles database to forecast capital needs for each RTD. The capital funding forecasts for vehicles, facilities, and technology are briefly reviewed below.

Vehicles

The recommended vehicle replacement interval is 125 percent of its minimum life. This means that if a vehicle has a service life of 100,000 miles, the rural transit agency should plan to replace the vehicle at 125,000 miles. Assuming the 2011 vehicle types and average annual mileages will be consistent during the forecast period, the average number of new and replacement vehicles needed per RTD by 2035 is 159 (min = 14, max = 585). For reference, the statewide total number of new and replacement vehicles needed based on these criteria is 6,039 (TTI, 2012). Detailed calculations for each RTD can be found in Appendix D (TTI, 2012). The annual inflation rate of 3.01 percent for vehicle capital is based on TxDOT records for vehicle purchases from 2000 to 2011.

Facilities

The numbers of new and renovated facilities for each RTD were identified as part of the visioning process and/or using peer group assumptions developed by TTI. The three categories of facilities for capital need are:

- Operations and Maintenance
  - Administration (new and renovated)
  - General Purpose (new and renovated)
  - Maintenance (new and renovated)

- Vehicle Storage (new and renovated)

★ Large Passenger Facilities

- Park and Ride (new and renovated)
- Terminal or Garage (new and renovated)
- Transit Center (new and renovated)

★ Small Passenger Facilities

- Sheltered Bus Stop (new and renovated)
- Unsheltered Bus Stop (new and renovated)
- Sign-only Bus Stop (new and renovated).

The cost for each type of facility is assumed as either a per square foot cost based on TxDOT PTN's database of historical capital cost per square foot by facility type or, in the case of the bus stops, as an assumed per unit cost developed by TTI. All renovated facilities are assumed to cost 25 percent less than a new facility of the same type.

The average capital for operations and maintenance facilities needed by an RTD through 2035 is approximately $5.1 million (min = $1.3 million, max = $19.9 million). The average amount of capital for passenger facilities (both large and small) through 2035 is approximately $4.8 million (min = $0, max = $32.8 million). Detailed calculations for each RTD in Texas can be found in Appendix D (Brooks & TTI, 2011). The annual inflation rate for facilities capital is 4.41 percent based on the average of the Engineering News Record's "*Building Cost Index*" and "*Construction Cost Index*" from 1913 to December 2011 (http://enr.construction.com/economics/).

Technology

RTDs recognize the increasing importance of technology in rural transit operations. Efficiencies and performance gains are likely outcomes of effective and timely implementation of technology solutions tailored to an RTD's needs. TTI obtained approximate expenditures and maintenance periods for four types of technology from RTDs as part of the visioning process. TTI used fleet size to compare the cost of technology solutions to the statewide average fleet in order to create a baseline assumption of cost per vehicle to apply to each RTDs projected fleet size for each year from 2012 to 2035. The result is a scaled forecast for technology-related capital for each of the following four categories:

★ Mobile Data Computers (MDCs) and Automatic Vehicle Location (AVL)

- ★ Software and hardware
- ★ Communications equipment
- ★ Online presence (i.e., websites and trip planning tools).

The average forecasted technology-related capital need from 2012 to 2035 for an RTD is approximately $2.2 million (min = $0.6 million, max = $8.0 million). Detailed calculations for each RTD in Texas can be found in Appendix D (TTI, 2011). The annual inflation rate for technology-related capital needs is based on the United States Bureau of Labor Statistics "*Consumer Price Index*" from 2005 to 2011. However, as technology tends to decrease in relative cost as adoption of the technology becomes widespread, TTI assumed half of the CPI from 2005 to 2011, which is to say the full rate would be 2.48 percent but 1.24 percent annual inflation was applied to technology capital needs identified in this plan.

Statewide Funding Needs for Rural Transit

Table 6 depicts the forecasted service mix expected by each peer group in 2035:

Table 6. Rural Transit Service Mix Summary

Peer Group Vision for Rural Public Transportation Service Mix in 2035						
Peer Group	Demand Response	MTP	Flexible Routes	Fixed Local	Intercity	Commuter
1	19%	23%	29%	9%	11%	10%
2	46%	19%	17%	9%	4%	3%
3	48%	18%	12%	10%	0%	12%
4	40%	20%	11%	9%	7%	14%
5	25%	0%	0%	25%	0%	50%
Statewide	**40%**	**18%**	**15%**	**11%**	**4%**	**12%**

In general, Table 6 above shows the primary types of service in 2035 to remain either demand response or medical transportation program (MTP). A majority of RTDs envisioned at least some change in the type services operated in the next 23 years. The most common response was to envision an increase in either flexible bus routes or fixed local bus routes. Table 7 contains the statewide findings for operating characteristics and funding needs currently and throughout the planning period to 2035. Operating needs for each RTD are summarized in tables by TxDOT District in Appendix D.

Table 7. Statewide Rural Transit Operating Characteristics and Funding Needs 2012 to 2035

STATEWIDE RURAL TRANSIT OPERATING FUNDING NEEDS 2012 to 2035									
		Annual Snapshot					2012-2035		Compound
	Base Year	2015	2020	2025	2030	2035	Total	Change	Annual Rate
Population in service area	**2010**	*Millions of persons*							
Rural	6.9	7.5	8.1	8.7	9.4	10.1	na	3.3	1.57%
Annual revenue miles	**2011**	*Millions of miles*							
	31.1	34.1	39.5	45.7	53.0	61.5	1,073	30.4	2.76%
Vehicle fleet size	**2011**	*Projected statewide fleet*							
	1,609	1,751	2,001	2,282	2,602	2,971	na	1,362	2.48%
Operating expenses	**2011**	*Inflation adjusted millions of dollars*							
	$86.5	$109.1	$152.0	$211.5	$294.4	$410.5	$5,095	$323.9	6.43%

The projected annual revenue miles increase at a faster pace than population due to increased days of service and daily span of service by 2035 (varies with peer group). The rural public transportation fleet was 1,609 in 2011 and will increase to approximately 3,000 by 2035. Due to population growth, service changes, and monetary inflation from the base year to 2035, the statewide annual operating expenses will likely increase from $86.5 million in 2011 to approximately $411 million in 2035. The total amount of operating funding needed to 2035 is approximately $5.1 billion dollars.

The visioning process utilized by PTN and TTI resulted in detailed projections of capital funding needs to 2035. A majority of RTDs responded with approximate facility and technology capital visions for the future. The summary of the peer group responses are as follows:

- ★ Increase in fleet size for operations
- ★ Interest in research and implementation of alternate “green” fuels technologies
- ★ Increase in in-house vehicle maintenance capacity
- ★ Interest in cooperative fleet maintenance with other transit agencies
- ★ Addition of passenger facilities such as transit centers, park & rides, and shelters to reflect new and expanded transit services
- ★ Emphasis on technology, including implementation, upgrading, and replacing on a regular basis (TTI, 2012).

Table 8 contains the statewide findings for capital funding needs throughout the planning period to 2035. Detailed summaries of capital needs for each RTD are summarized in tables by TxDOT District in Appendix D.

STATEWIDE RURAL TRANSIT CAPITAL FUNDING NEEDS 2012 to 2035

(all values are inflation adjusted millions of dollars)	2012-15	2016-20	2021-25	2026-30	2031-35	Total
Vehicle replacement	$14.4	$84.9	$130.2	$176.5	$239.5	**$645.5**
O&M facilites	$14.6	$25.0	$35.2	$49.7	$70.2	**$194.8**
Passenger facilities	$2.5	$20.8	$42.1	$69.7	$115.2	**$250.2**
Technology and other	$9.1	$13.5	$16.4	$19.9	$24.2	**$83.1**
TOTAL	**$40.6**	**$144.1**	**$224.0**	**$315.8**	**$449.1**	**$1,173.7**

As described previously, the rural public transportation fleet will increase from 1,600 in 2011 to about 3,000 by 2035; the capital required to replace vehicles and increase fleet size is approximately $646 million over the period. Every RTD has some varying amount of operations or maintenance facility capital needs from 2012 to 2035; approximately $195 million capital funding is needed to support increasing fleet sizes and service change over the period. Approximately $250 million is needed for passenger facilities, which include transit centers, park and rides, terminals/garages, and various types of bus stop facilities. The last category of projected capital funding needs is technology "other" and includes projected funding needs for the following items: mobile data computers, automatic vehicle location equipment, software and hardware, communications equipment, and online presence (i.e., web development costs for a trip planner application). The technology-related capital needs from 2012 to 2035 total $83 million. The total amount of capital funding needed to 2035 is approximately $1.2 billion.

Table 9 summarizes the funding needs for RTDs based on the TxDOT District office associated with the RTD (see Table 1). Detailed documentation of operating and capital needs for rural public transportation operators in Texas is provided in Appendix D.

Table 9. Rural Transit Funding Needs 2012 to 2035 by TxDOT District

Rural Transit Funding Needs 2012 to 2035 by TxDOT District												
	CAPITAL *(millions, inflation adjusted dollars)*										**OPERATING** *(millions, inflation adjusted dollars)*	
	Vehicles		**O&M Facilities**		**Large Pax Facilities**		**Small Pax Facilities**		**Other**			
TxDOT District	New & Replacement Vehicles	Total Cost	# of New & Renov. Facilities	Total Cost	# of New & Renov. Facilities	Total Cost	# of New & Renov. Facilities	Total Cost	*(technology capital)*	**Total Capital**	Total Revenue Miles	**Total Operating**
Abilene	70	$4.8	4	$3.1	4	$3.3	39	$1.1	$0.6	**$12.8**	10.2	**$35.9**
Amarillo	160	$15.5	4	$3.1	4	$3.3	39	$1.1	$3.5	**$26.5**	33.2	**$149.5**
Atlanta	155	$13.4	6	$6.0	2	$1.5	5	$0.3	$3.5	**$24.8**	34.2	**$137.4**
Austin	585	$67.0	5	$3.9	6	$3.1	75	$4.2	$8.0	**$86.2**	104.4	**$672.8**
Beaumont	70	$8.1	11	$9.0	1	$1.4	175	$2.4	$1.4	**$22.2**	11.9	**$67.0**
Brownwood	427	$41.5	27	$11.8	4	$3.3	32	$1.7	$6.6	**$64.8**	77.4	**$396.3**
Bryan	471	$101.6	7	$5.7	8	$49.5	270	$3.4	$3.4	**$163.6**	82.0	**$524.5**
Childress	83	$8.2	4	$3.1	4	$3.3	39	$1.0	$2.8	**$18.3**	18.1	**$79.0**
Corpus Christi	141	$12.8	12	$9.3	8	$7.9	94	$2.1	$4.3	**$36.5**	28.5	**$115.2**
Dallas	987	$99.1	23	$24.0	16	$11.5	59	$1.3	$8.2	**$144.2**	137.5	**$571.8**
El Paso	182	$19.8	3	$4.1	4	$2.8	100	$5.4	$1.5	**$33.6**	37.6	**$80.1**
Fort Worth	314	$29.6	13	$12.5	8	$7.0	105	$2.0	$4.6	**$55.6**	60.5	**$259.8**
Houston	138	$13.1	12	$12.4	19	$17.3	160	$2.6	$1.5	**$47.1**	25.1	**$156.9**
Laredo	120	$12.9	8	$7.4	9	$7.7	26	$0.5	$2.2	**$30.7**	23.2	**$96.1**
Lubbock	148	$13.9	26	$19.9	10	$6.7	0	$0.0	$2.2	**$42.7**	26.7	**$145.6**
Lufkin	-	-	-	-	-	-	-	-	-	**-**	-	**-**
Odessa	305	$21.0	4	$2.0	0	$0.0	0	$0.0	$5.2	**$28.2**	67.8	**$263.6**
Paris	228	$23.1	13	$15.7	6	$5.7	70	$2.1	$2.8	**$49.6**	48.9	**$173.3**
Pharr	137	$14.5	12	$7.8	10	$17.6	251	$4.7	$3.1	**$47.7**	29.8	**$165.6**
San Angelo	60	$5.5	4	$3.1	4	$3.3	39	$1.1	$1.7	**$14.5**	11.0	**$75.7**
San Antonio	523	$52.3	10	$8.7	7	$4.7	43	$1.1	$7.1	**$74.0**	87.3	**$431.3**
Tyler	286	$28.2	4	$3.6	15	$9.1	150	$2.6	$3.1	**$46.6**	48.3	**$206.1**
Waco	100	$9.8	3	$2.4	0	$0.0	10	$0.3	$2.2	**$14.8**	20.7	**$96.2**
Wichita Falls	-	-	-	-	-	-	-	-	-	**-**	-	**-**
Yoakum	348	$29.8	15	$16.0	15	$18.1	819	$21.3	$3.5	**$88.7**	48.3	**$195.2**
STATEWIDE	**6,039**	**$645.5**	**229**	**$194.8**	**162**	**$188.0**	**2,600**	**$62.1**	**$83.1**	**$1,173.6**	**1,072.5**	**$5,094.9**

Regional Coordination Planning in Texas

Every rural transit district is involved in regional coordination of transit services consistent with state and federal requirements.

Chapter 461 of the Texas Transportation Code, enacted in 2003, focuses on maximizing the benefits of the State's investment in public transportation through the coordination of services. As the implementing agency and upon the advice of a blue ribbon advisory committee, the Texas Transportation Commission tasked 24 planning regions with developing coordinated transportation and human services plans to reduce waste and maximize transportation resources and service coverage. Table 10 lists each of the planning regions and Figure 4 depicts the planning jurisdictions of each region.

Table 10. Texas Regional Coordination Planning Regions and Lead Agency

Region	Lead Agency	Region	Lead Agency
1	Panhandle Regional Planning Commission	13	Brazos Valley Council of Governments
2	City of Lubbock / Citibus	14	Deep East Texas Council of Governments
3	Nortex Regional Planning Commission	15	South East Texas Regional Planning Commission
4	North Central Texas Council of Governments	16	Houston-Galveston Area Council
5	Ark-Tex Council of Governments	17	Golden Crescent Regional Planning Commission
6	East Texas Council of Governments	18	Alamo Area Council of Governments
7	Central Texas Rural Transit District	19	South Texas Development Council
8	County of El Paso	20	Transportation Coordination Network
9	Midland-Odessa Transportation Organization	21	Lower Rio Grande Valley Development Council
10	Concho Valley Transit District	22	Texoma Area Paratransit System (TAPS)
11	Heart of Texas Council of Governments	23	Central Texas Council of Governments
12	Capital Area Metropolitan Planning Organization	24	Community Council of Southwest Texas, Inc.

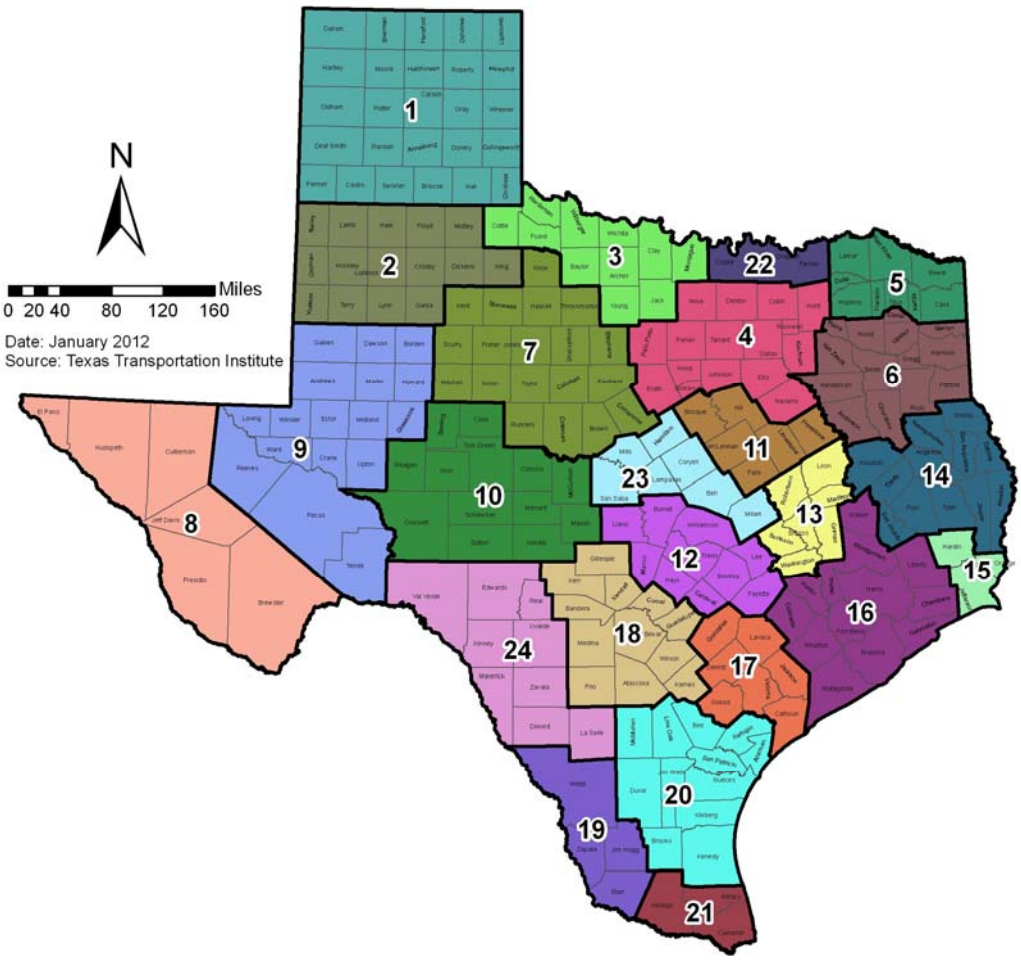

Figure 4. Texas State Planning Regions

In 2005, public transportation coordination received additional support through the passage of legislation at the federal level with the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which required locally developed, coordinated public transit and human services plans for many federal-aid transit programs. As a result, each of the 24 planning regions across Texas worked to develop regional coordinated plans. The initial planning efforts were submitted to the Texas Transportation Commission in December 2006, and have served as a guide for the majority of the coordinated efforts throughout the state.

In 2010, the regions were asked to start the process to update the coordinated plans and to iteratively build on the initial work that began in 2005. In addition to implementing many of the objectives outlined in the first series of plans, many of the Texas regions experienced population growth, which was recently documented through the 2010 U.S. Census. TxDOT Public Transportation Division supplied the regions with general

guidelines for updating the regionally coordinated plans. The guide, or table of contents, contained nine basic components, which were not intended to mandate the structure but to outline considerations for the update. The table of contents is listed as follows:

I. Introduction

II. Transportation Resources in the Region

III. Comprehensive Assessment of the Public's Unmet Transportation Needs and Inefficiencies in the Delivery of Transportation Services

IV. Planning for Comprehensive Services

V. Efforts to Streamline Parallel Planning Processes

VI. Staff Structure and Process to Sustain Planning and Services

VII. Vision, Mission, Goals, and Objectives

VIII. Leveraging Resources/Sustainability

IX. Performance Measures to Evaluate Effectiveness

TxDOT asked TTI to review the updated coordinated plans and document findings, including common themes, best practices and innovations. Presented here is a summary of the initial overview of the submitted plans, initial review, 20 of the 24 regions had submitted updated plans, and the remaining plans were to be submitted upon stakeholder approval later in 2012. The full plans can be found under the Texas Regions tab of the Regional Service Planning website. www.regionalserviceplanning.org

An initial review of the plans shows that the majority have some, if not all, of the components outlined in TxDOT's supplied table of contents. Additionally, many of the plans contained a discussion of unmet needs and/or previous barriers and constraints to providing transportation, and how the region addressed them. For example, South Plains Region created a useful table listing the previous barriers and constraints from the 2006 plan and how the region worked to address/overcome them.

Many of the plans have also broached the subject of mobility management, whether by hiring a regional mobility manager, or through planning to hire a mobility manager in the future. The Heart of Texas region has established a mobility management program that has been successful at connecting the public with rides in the region.

Other regions worked to create vision and mission statements for the plan update, and established new goals and objectives. Updating the regional goals and objectives is a clear way of demonstrating the iterative process of regional transportation coordination. For example, Golden Crescent region established basic, attainable goals for the 2006 plan, which involved improved service delivery and enhancing the customer experience. For the 2011 update, the region established clear descriptive goals that were tied to objectives and performance measures, allowing the stakeholders to determine whether or not the objectives have been attained.

Several of the regions incorporated performance measures into the updated plans to gauge the achievement of goals and objectives. Some regions, such as Central Texas, went so far as to include process and outcome measures in order to evaluate the overall effectiveness of the plan to coordinate transportation activities in the region.

As seen from the initial review of the coordinated plans, the regions continue to work on developing and growing their plans to fit the needs of the region. The regions continue to become better organized, with clearly established visions, missions, goals, and objectives. Ultimately, the regions see value in coordinating resources and are striving to improve service delivery. As stated in the Brazos Valley plan, “One thing that never seems to change is that demand for all agency resources keeps increasing while funding is decreasing. Our population is aging. Health care demands are soaring. Urban sprawl is resulting in greater distances between home and employment, medical, or recreation destinations. Gas prices keep rising, and wages and income are not keeping up. Transportation is the common link between all these needs, and yet the funding available for transportation is not keeping up with the demand.” While the quote depicts the day to day realities many transportation providers face, regional coordination seeks to mitigate these realities.

Funding for Public Transportation in Texas

The following narrative for “Funding for Public Transportation in Texas” is information excerpted from:

4. Title and Subtitle Impacts of Funding and Allocation Changes on Rural Transit in Texas	5. Report Date June 2011
	6. Performing Organization Code Texas Transportation Institute
7. Author(s) Suzie Edrington and Jonathan Brooks	8. Performing Organization Report No. UTCM 10-19-46
9. Performing Organization Name and Address University Transportation Center for Mobility™ Texas Transportation Institute The Texas A&M University System	10. Work Unit No. (TRAIS)
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3135 TAMU College Station, TX 77843-3135	DTRT06-G-0044
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15. Supplementary Notes Supported by a grant from the US Department of Transportation, University Transportation Centers Program and the Texas Department of Transportation	

This section provides a review of the federal and state legislative and administrative polices for funding rural public transit in Texas. This section is organized into three sub-sections. The first sub-section describes the apportionment and allocation of federal formula funds for public transit, focusing on non-urbanized (rural) funding. Texas funding for public transit is the subject of the second sub-section. The third subsection includes a description of the allocation sequence of Section 5311 federal funds and state funds allocation in rural areas. A detailed description of the Texas Transit Funding formula is provided according to needs and performance.

Federal Funding for Rural Transit

The 1998 Transportation Equity Act for the 21st Century (TEA-21) increased the total amount of funds for public rural transportation. At the time of the TEA-21, 94 percent of funds to subsidize public transportation were allotted to 75 percent of U.S. citizens living in urban areas, and only 6 percent to support transportation for the 25 percent of U.S. citizens living in rural areas (RTC University of Montana, 1999). In August of 2005, Congress approved and the President signed into law SAFETEA-LU to fund federal surface transportation programs from 2003 through September 2009. Under SAFETEA-LU, the Congress committed to significant increases in non-urbanized (rural) transit funding. In fact, since SAFETEA-LU's implementation, FTA non-urbanized (rural) area formula funds for transit have approximately doubled (see Figure 5).

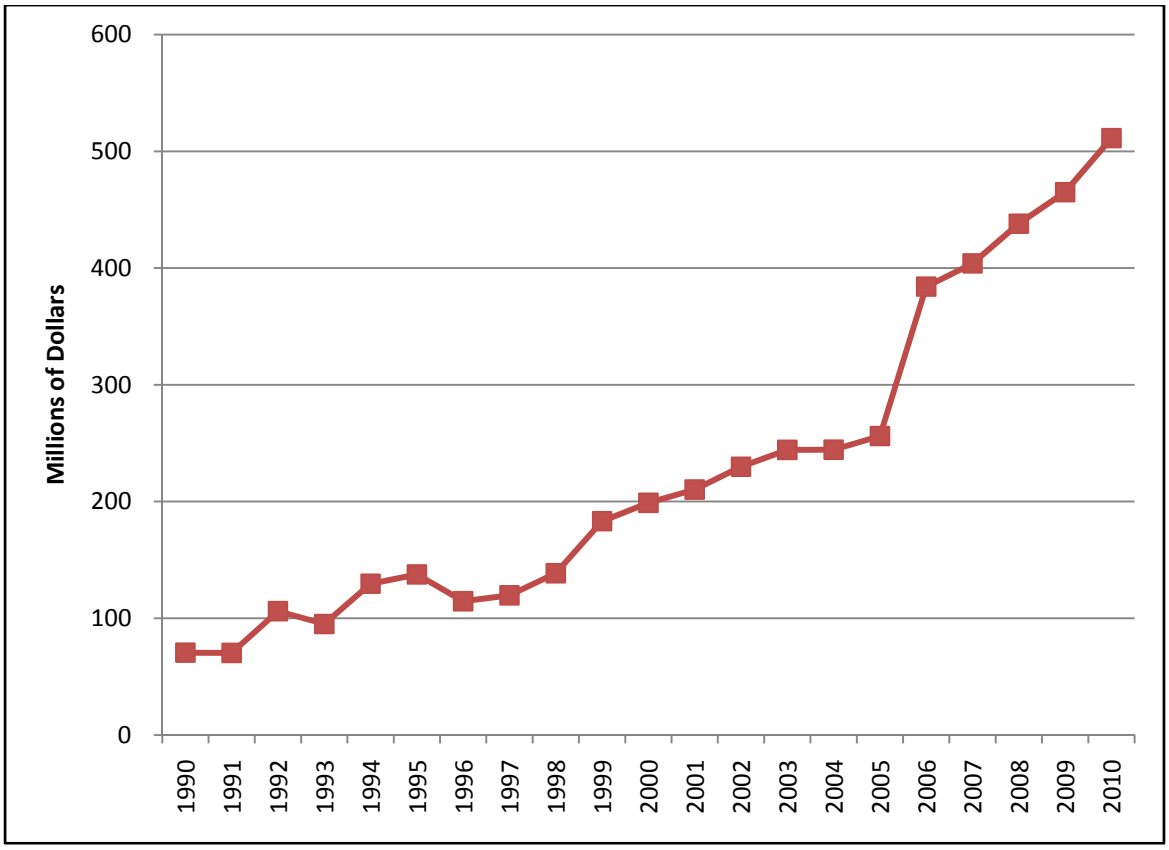


Figure 5. FTA Non-Urbanized (Rural) Area Formula Appropriations

Federal Apportionment of Rural Transit Funds

FTA's current authorization, SAFETEA-LU, expired September 30, 2009, but is still in effect by authority of continuing resolutions passed by Congress. SAFETEA-LU makes funds available principally from the Mass Transit Account of the Highway Trust Fund to carry out transit programs.

The Section 5311 non-urbanized area (rural) transit program provides formula funding to states and Indian tribes for support of public transportation in rural areas and urban areas with a population of less than 50,000. Additional funding for non-urbanized area transit is made available through Section 5340 formula for growing states and high-density states.[1]

[1] Section 5340 funds are available to Texas as a Growing State.

The Section 5311 appropriated funds available to states are calculated after allocations to the Tribal Transit Program, 0.5 percent for FTA oversight activities, and 2 percent for the Rural Transportation Assistance Program (RTAP). The Section 5340 funds and any prior year carryover funds are added to calculate the amount available to the states for apportionment. For example, the FY08 Section 5311 amount for apportionment was calculated as follows:

Total Appropriation	★ $438,000,000
Tribal Transit	★ - 12,000,000
Oversight	★ - 2,190,000
RTAP	★ - 8,760,000
Section 5340 Funds	★ + 68,840,835
Prior Year Funds Added	★ + 943,489
Total Apportioned	★ $ 484,834,324

FTA then apportions Section 5311 funds to the states by a statutory formula using the latest available U.S. decennial census data. FTA apportions the first 20 percent to the states based on land area in non-urbanized areas with no state receiving more than 5 percent of the amount apportioned. FTA apportions the remaining 80 percent based on the non-urbanized population of each state relative to the national non-urbanized population.

Federal Allocation and Use of Funds Requirements for Rural Transit

Once FTA apportions funding to the states, each state is required to prepare an annual program of projects, which must provide for fair and equitable distribution of funds within the state, including Indian reservations, and must provide for maximum feasible coordination with transportation services assisted by other federal sources.

Each state must spend no less than 15 percent of its apportionment for the development and support of intercity bus transportation, unless the state certifies, after consultation with affected intercity bus service providers, that the intercity bus service needs of the state are being adequately met. FTA also encourages consultation with other stakeholders, such as communities affected by the loss of intercity service.

A state may use not more than 15 percent of its apportioned Section 5311 funds, including funds apportioned under Section 5340, but not the RTAP allocation, to

administer the Section 5311 program and to provide technical assistance to sub-recipients.

The federal share for capital assistance is 80 percent and the federal share for operating assistance is 50 percent of net operating expenses. Net operating expenses are those expenses that remain after a transit provider subtracts operating revenues from eligible operating expenses. States may further define what constitutes operating revenues, but at a minimum, operating revenues must include farebox revenues. Some projects—to meet the requirements of the Americans with Disabilities Act (ADA), the Clean Air Act, or bicycle access projects—may be funded at 90 percent federal contribution. State or local funding sources may provide the local share.

Texas Rural Transit Funds

In addition to the federal funds provided to the states for rural transit, the Texas Legislature appropriates additional funding for rural transit and the Commission provides for allocation of both the Section 5311 and state rural transit funds to the RTDs.

Texas Appropriation of Rural Transit Funds

The Texas Legislature makes *appropriations* of state funding in support of state-funded urban and RTDs. There are 30 state-funded urban and 38 RTDs in Texas.[2] The Texas Legislature establishes state funding levels each biennium. Figure 6 displays the Texas state biennium funding level appropriation for rural transit since 1990.[3]

[2] In addition to small urban areas, Texas transit funds are also allocated to urban transit providers in three large UZAs with a population 200,000 or more. These three areas are Lubbock, McAllen/Hidalgo County urbanized area and Arlington. These transit providers are included in the count of 30 urban systems. Four transit providers in the Dallas-Fort Worth-Arlington urbanized area are funded as "limited eligibility providers" to provide service to only target markets of seniors and people with disabilities – these are in the 30 urban system count and include Arlington, NETS (seven cities in Tarrant County), Mesquite and Grand Prairie.

[3] The higher funding level in 2000–2001 biennium reflects supplemental revenues from oil overcharge funds.

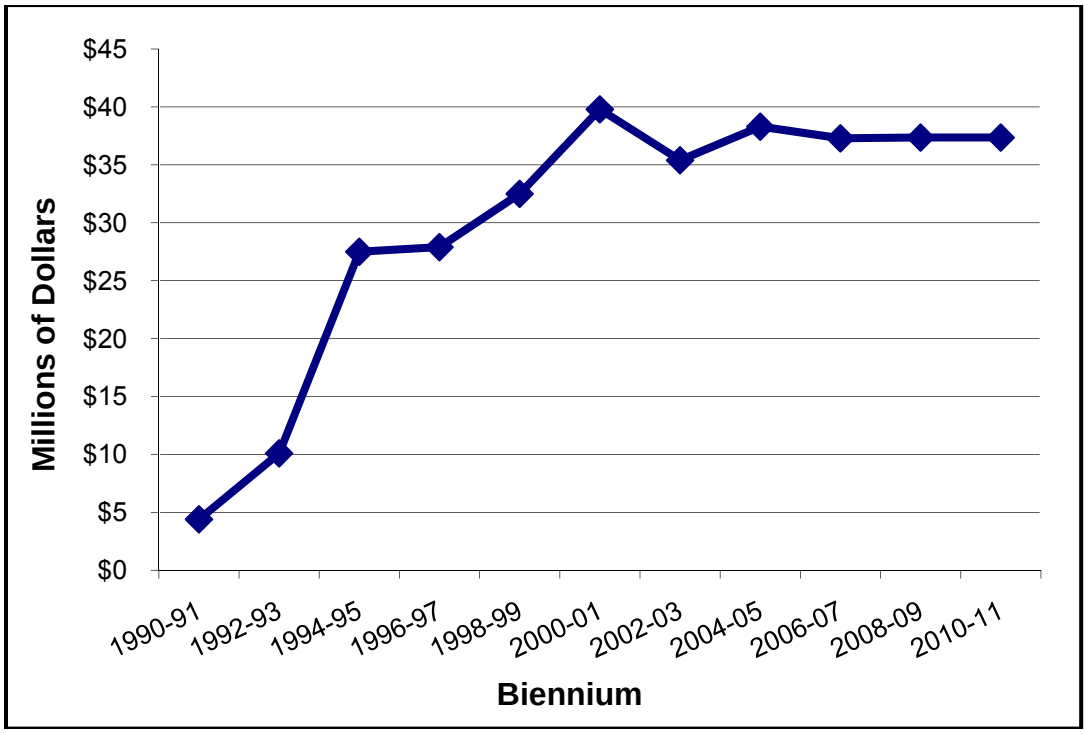


Figure 6. Texas State Appropriations for Rural Transit per Biennium

Texas Allocation of Section 5311 and State Rural Transit Funds

The Commission sets *allocation* policy for state and federal funds to public transit providers in rural areas and state funds to state-funded urban areas in Texas. Transportation Code, §456.022 requires the Commission to adopt rules to establish a formula allocating state and federal funds among individual eligible public transportation providers. The statute states that the formula may take into account a transportation provider's performance, the number of its riders, the need of residents in its service area for public transportation, population, population density, land area, and other factors established by the Commission. Transportation Code, §456.008 states that the Commission may establish different performance measures for different sectors of the transit industry and also states that the performance measures shall assess the efficiency, effectiveness, and safety of the public transportation providers.[4]

[4] Transportation Code, Title 6. Roadways, Subtitle K. Mass Transportation, Chapter 456. State Financing Of Public Transportation, Sec. 456.022. Formula Allocation.
http://www.statutes.legis.state.tx.us/Docs/TN/htm/TN.456.htm#456.022

The Commission has adopted the formula to meet the intent as described in statute.[5] The formula has been amended several times by the Commission since the original adoption.

Section 5311 federal apportionment funds are first subtracted for intercity bus, and TxDOT administration from the federal apportionment. The Texas Administrative Code (TAC), Title 43, Part 1, Chapter 31, Subchapter C, Rule §31.36 states that as part of the administration of the Section 5311 program, TxDOT may use up to 15 percent of the annual federal apportionment to defray its expenses incurred for administration. After subtracting funds for state administrative expenses, the department then allocates a not-to-exceed amount of $20,104,352 of the Section 5311 funds based on needs and performance.

Section 5311 funds are distributed in the following manner and order:

- **Intercity bus allocation** − unless the intercity bus service needs are being adequately met, TxDOT will allocate not less than 15 percent of the annual Section 5311 federal apportionment for the development and support of intercity bus transportation.
- **Administration** − TxDOT may use up to 15 percent of the annual federal apportionment to defray its expenses incurred for administration.
- **Needs and performance formula allocation** (Texas Transit Funding Formula) − an amount not to exceed $20,104,352 after administration and intercity bus amounts are distributed is allocated based on needs and performance (see Figure 4).
- **Discretionary allocation** − if the amount of the Section 5311 federal apportionments exceeds the $20,104,352 maximum amount, a part of that excess not to exceed 10 percent will be available to the Commission for award at any time during the fiscal year on a pro rata basis, competitively, or combination of both. Consideration for the award of these additional discretionary funds may include, but is not limited to, coordination and technical support activities, compensation for unforeseen funding anomalies, assistance with eliminating waste and ensuring efficiency, maximum coverage in the provision of public

[5] Texas Administrative Code, Title 43 Transportation, Part 1 Texas Department of Transportation, Chapter 31 Public Transportation, §31.11 Formula Program (state funds) and §31.36 Section 5311 Grant Program (federal funds).

transportation services, adjustments for reduction in purchasing power, and reductions in air pollution.[6]

- **Vehicle revenue mile formula allocation** − any amount of the annual Section 5311 federal apportionment that is not otherwise allocated will be allocated to non-urbanized areas based on the proportion of vehicle revenue miles for that non-urbanized area to the total vehicle revenue miles for all non-urbanized areas.
- **Adjustments to allocation** – adjustments are determined in the case of a change due to a transit district's service area or declaration of a previously designated urbanized area as non-urbanized.
- **Application and contract** – new sub-recipients may receive funds by completing and complying with all application requirements, rules, and regulations applicable to the Section 5311 program.

State funds appropriated for public transportation are allocated by formula established by the Commission according to state statute as well. The state funds are divided 35 percent for urban transit districts and 65 percent for RTDs and allocated among RTDs in a manner similar to the needs and performance allocation for federal Section 5311 funds as described above.

Texas Transit Funding Formula for Needs and Performance

The Texas Transit Funding Formula allocates annually up to $20,104,352 Section 5311 federal funds and appropriated state funds to each transit provider according to needs and performance. Figure 7 illustrates the Texas transit funding formula for RTDs. Overall state funding for public transportation is first split 35 percent to state-funded urban areas and 65 percent to rural areas. Sixty-five percent of the rural area funds are distributed based on needs and 35 percent are distributed based on performance. The portion of the formula attributed to needs is allocated to rural districts based upon population (weighted 75 percent) and land area (weighted 25 percent). The formula uses several measures to allocate the performance-based funds. The formula weights the three performance measures for rural transit providers equally, as follows:

- Local investment per operating expense – one-third.
- Revenue miles per operating expense – one-third.
- Passengers per revenue mile – one-third.

[6] Texas Administrative Code, Title 43 Transportation, Part 1 Texas Department of Transportation, Chapter 31 Public Transportation, §31.36 Section 5311 Grant Program.

Prior to FY09, 80 percent of rural area funds were distributed based on needs and 20 percent based on performance. Rural systems transitioned to the 65 percent of funds distributed by needs and 35 percent distributed by performance in order to provide RTDs time to develop better systems for collecting and reporting quality performance data. This distribution is the maximum intended weighting for performance for rural systems. The implementation of the formula program resulted in more funds to some providers and fewer funds to other providers. Built into the formula is an annual adjustment of funds until all providers receive the appropriate funding level according to formula. The annual adjustment for any one provider is limited to a maximum 10 percent decrease from year to year to provide funding stability. This limit on the maximum decrease at 10 percent also limits annual increases because the total funding is the same.

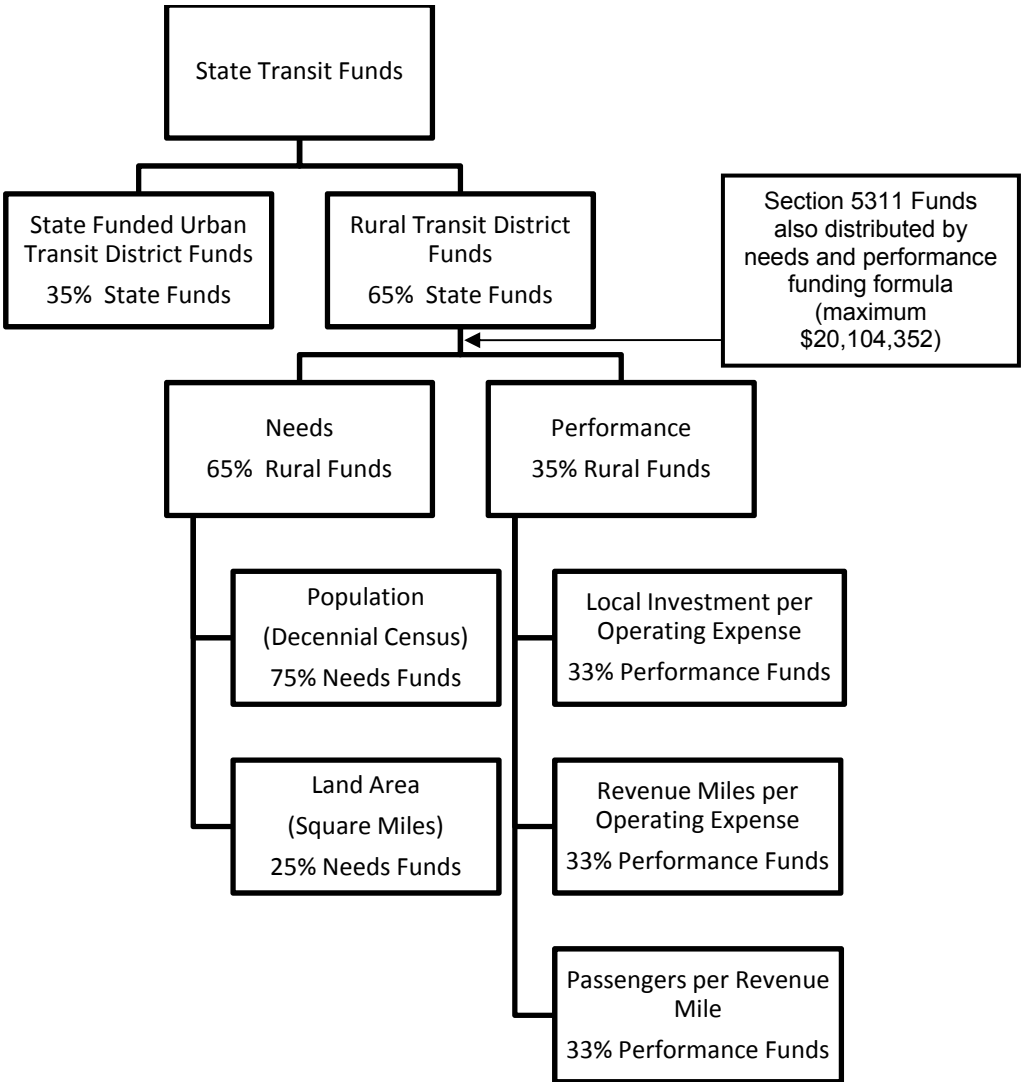
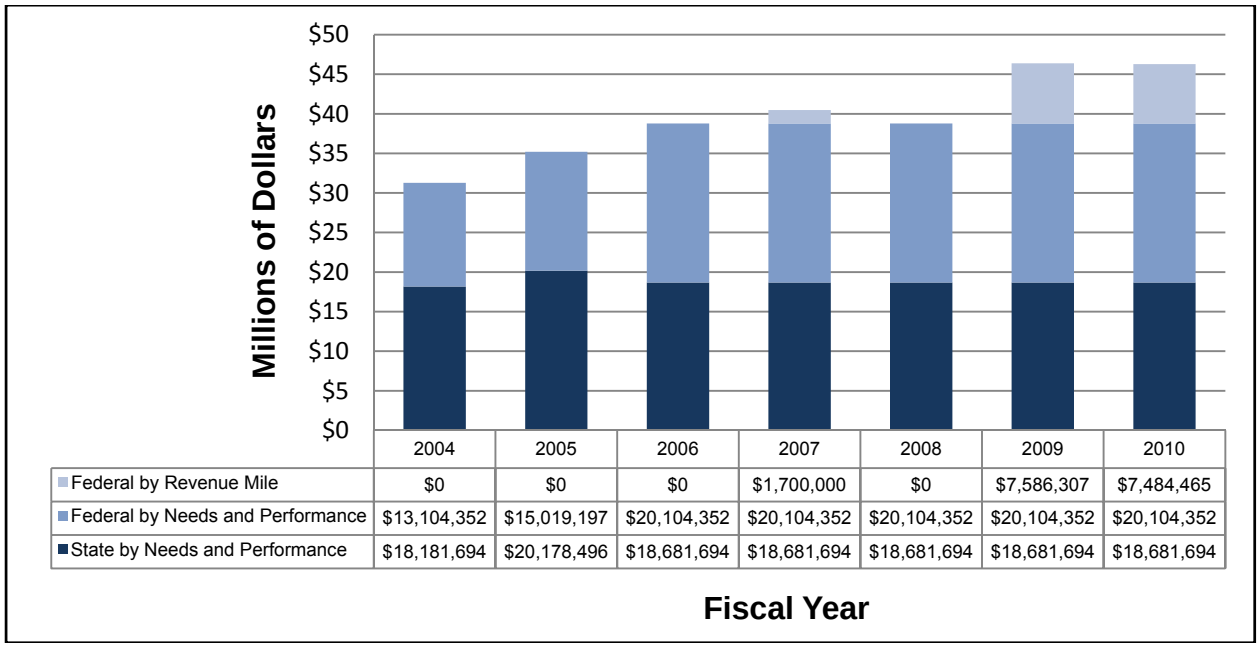


Figure 7. Texas Rural Transit Funding Formula

SECTION 5311 AND STATE FUNDING ALLOCATION FOR RURAL TRANSIT

Due to changes established in federal transportations legislation, known as SAFETEA-LU (the Safe, Accountable, Flexible, Efficient Transportation Act: A Legacy for Users), Section 5311 funds allocated to Texas RTDs increased by $14.5 million from $13.1 million in FY04 to $27.6 million in FY10. Texas RTD state funds increased by $500,000 from $18.2 million in FY04 to $18.7 million in FY06. There was a one-time increase in state funding for RTDs in FY05 that was not continued in subsequent fiscal years.

Figure 8 highlights the federal and state funding amounts distributed to RTDs for FY04 to 2010.



	2004	2005	2006	2007	2008	2009	2010
Federal by Revenue Mile	$0	$0	$0	$1,700,000	$0	$7,586,307	$7,484,465
Federal by Needs and Performance	$13,104,352	$15,019,197	$20,104,352	$20,104,352	$20,104,352	$20,104,352	$20,104,352
State by Needs and Performance	$18,181,694	$20,178,496	$18,681,694	$18,681,694	$18,681,694	$18,681,694	$18,681,694

Figure 8. Rural Transit Formula Funding

Performance Measures for Public Transportation in Texas

The following narrative for “Performance Measures for Public Transportation in Texas” is information excerpted from this report.

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Jeffrey Arndt, Suzie Edrington, Matthew Sandidge, Luca Quadrifoglio, and Judy Perkins</td><td colspan="2">8. Performing Organization Report No.
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The Texas A&M University System
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Project performed in cooperation with the Texas Department of Transportation and the Federal Highway Administration.
Project Title: Benchmarking and Improving Texas Rural Public Transportation Systems
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Rural transit is the lifeblood of millions of Texans living in non-urbanized areas. The majority of Texas' 38 rural transit districts operate demand-response service; that is, passengers schedule individual rides from specific origins to specific destinations. A vehicle picks up passengers at their origin, usually curbside, and ultimately delivers them to their destination. However, a passenger may share the ride (or a portion of the ride) with another customer. Demand response services are inherently less productive than fixed-route services, further challenging rural providers to meet growing demand.

A few rural transit districts operate fixed-route (FR) service. FR services run along a pre-established route and stop at pre-established stops pursuant to a published schedule. In rural settings, these fixed-route services are often commuter or express services and may require that customers drive/ride to a fixed stop each morning to catch a non-stop ride to their work location. In some cases, drivers are allowed to deviate from the route slightly to pick up or drop off passengers, a practice often termed flex routing.

Along with diversity of service type, the rural districts vary significantly in other respects. The geographic extent of districts ranges from compact areas like El Paso County and South Padre Island to the expansive area covered by West Texas Opportunities to the west and Brazos Transit District to the east.

A Present and Future Challenge

Rural transit in Texas will become even more important by 2035 according to demographic trends. The State Demographer's Office generated projections that indicate the following among statewide trends:

- **Aging.** As the Baby Boomers continue aging and longevity increases, the percentage of the population that is age 65 or over is expected to grow nearly 300 percent over the next 30 years. This will likely also lead to a large increase in the numbers of people with physical or cognitive conditions that preclude them from driving.
- **Rural retirement.** Projections indicate that as people retire, they are expected to leave the large urban centers and settle in the rural areas of the state.
- **Rural population and density.** Although total rural population in Texas is increasing because counties near metropolitan areas and along the border are growing rapidly, the percentage of the state's population residing in rural areas is expected to decrease over time. In counties in west Texas, the Panhandle, and some counties south of San Antonio, population is declining and migration of seniors is not expected to increase the density of population in rural areas.

In combination, these trends indicate that rural transit providers will face an increase in demand based on demographics. However, they will be challenged to maintain the service effectiveness (passengers per revenue mile) with decreasing population density. In order to meet rising demand, they will need to provide the most efficient service possible, maximizing the miles of service they provide for each dollar they spend (revenue miles per operating cost).

These two factors—passengers per revenue mile and revenue miles per operating cost—also play a role in the amount of federal and state rural funding each provider receives. Rural providers are allocated funds based on relative need and performance. Need is calculated based on weighted population (75 percent) and land area (25 percent); performance is based on equally weighted local contribution per operating expense, passenger per revenue miles, and revenue miles per operating expense. The funding calculation is weighted 65 percent based on need and 35 percent based on performance. Both need and performance are allocated based on an individual agency's relative position among all rural providers. Each year, the average value of each performance indicator may change. If that average improves, then in order to maintain the same share of funding, an agency must also improve at the same rate.

Effectiveness and Efficiency Measures by Peer Group

The effectiveness and efficiency measures used in the Texas Transit Funding Formula were calculated using calendar year 2011 transit data from PTN's database for each RTD (see Table 11). The performance measures use the 2000 non-urbanized population for each RTD because federal and state funding in fiscal 2011 and fiscal 2012 is based on the 2000 Census (2010 Census urbanized areas will be used for fiscal 2013).

Please note that South Padre Island transit district effectiveness and efficiency measures are not indicative of typical rural service due to the service area being small and the population density high.

Effectiveness measures reflect how much a service is used (passengers) as compared to the resources required (miles, hours, or expenditure). There are two effectiveness measures in Table 11, cost effectiveness and operating effectiveness.

Cost effectiveness measures the 2011 dollars cost per passenger trip. Peer group 5 has the lowest cost per passenger trip ($10.51) and peer group 3 has the highest cost per trip ($25.21). The statewide average cost per rural public transportation passenger trip in 2011 was $16.66 (excluding South Padre Island).

Table 11. RTD 2011 Performance measures

Peer Group	Rural Transit District	RTD Acronym	Local Investment per Operating Expense: Local Investment per Operating Expense	Cost Effectiveness*: Operating Expense per Passenger Trip	Operating Efficiency: Revenue Miles per Operating Expense	Operating Effectivenss: Passenger Trips per Revenue Mile
1	Del Rio, City of	DR	40%	$12.67	0.47	0.17
	Kleberg County Human Services	KCHS	21%	$13.20	0.26	0.29
	Lower Rio Grande Valley Develop. Council	LRGVDC	13%	$17.84	0.31	0.18
	Rural Economic Assistance League, Inc	REAL	30%	$6.68	0.45	0.33
	South Padre Island, Town of	SPI	14%	$1.95	0.34	1.50
	(indicates SPI excluded)* ***Peer Group One Average***		***24%***	****$12.60***	***0.37***	****0.24***
2	Ark-Tex Council of Governments	ARKT	28%	$6.94	0.41	0.35
	Aspermont Small Business Development Ctr	ASBDC	48%	$53.23	0.46	0.04
	Bee Community Action Agency	BCAA	21%	$21.96	0.43	0.11
	Concho Valley Transit District	CONVA	41%	$18.32	0.24	0.23
	Central Texas Rural Transit District	CTRTD	73%	$29.18	0.32	0.09
	Colorado Valley Transit	CVT	38%	$21.78	0.28	0.16
	Golden Crescent Regional Planning Comm.	GCRPC	57%	$14.14	0.49	0.14
	Hill Country Rural Transit District	HCTD	55%	$16.09	0.34	0.18
	Heart of Texas Council of Governments	HTCG	21%	$29.85	0.36	0.09
	Panhandle Community Services	PCS	30%	$8.19	0.37	0.33
	Rolling Plains Management Corp.	RPMC	44%	$14.42	0.38	0.18
	South East Texas Regional Planning Comm.	SETRPC	50%	$25.03	0.29	0.14
	South Plains Community Action Assoc.	SPCAA	40%	$27.04	0.32	0.12
	Peer Group Two Average		***42%***	***$22.01***	***0.36***	***0.17***
3	Cleburne City of	CLEB	23%	$28.17	0.30	0.12
	Collin County Committee on Aging	COLCO	17%	$37.83	0.39	0.07
	Community Services, Inc.	CS	16%	$12.85	0.31	0.25
	Fort Bend County	FBC	73%	$20.90	0.30	0.16
	Gulf Coast Center	GCC	19%	$34.58	0.25	0.12
	Senior Center Resources & Public Transit Serv.	SCRPT	37%	$20.85	0.42	0.11
	Kaufman Area Rural Transportation	KART	72%	$18.46	0.51	0.11
	Public Transit Services	PTS	42%	$20.92	0.51	0.09
	Services Program for Aging Needs	SPAN	50%	$22.25	0.39	0.12
	Texoma Area Paratransit System/TAPS	TAPS	69%	$18.30	0.51	0.11
	Transit System Inc., The	TTS	44%	$42.17	0.31	0.08
	Peer Group Three Average		***42%***	***$25.21***	***0.38***	***0.12***
4	Alamo Area Council of Governments	AACOG	51%	$28.97	0.32	0.11
	Brazos Transit - The District	BTD	50%	$12.07	0.27	0.31
	Capital Area Rural Transportation System	CARTS	84%	$19.88	0.27	0.18
	East Texas Council of Governments	ETCOG	27%	$21.53	0.40	0.12
	West Texas Opportunities, Inc.	WTO	77%	$29.14	0.43	0.08
	Peer Group Four Average		***58%***	***$22.32***	***0.34***	***0.16***
5	Community Act. Council of South Texas	CACST	18%	$11.11	0.26	0.35
	Community Council of Southwest Texas	CCST	52%	$16.42	0.40	0.14
	El Paso, County of	EPC	68%	$6.54	0.78	0.20
	Webb Co. Community Action Agency	WEBB	30%	$7.96	0.33	0.38
	Peer Group Five Average		***42%***	***$10.51***	***0.44***	***0.27***
	(* indicates SPI excluded) **STATEWIDE**		**52%**	***$16.66**	**0.36**	***0.17**
		Maximum	*84%*	*$53.23*	*0.78*	*1.50*
		Minimum	*13%*	*$1.95*	*0.24*	*0.04*
		Average	*42%*	*$20.25*	*0.37*	*0.21*
		Median	*40%*	*$19.17*	*0.35*	*0.14*

** Not used in Texas Transit Funding Formula but included for measure's utility for peer comparison*

Operating effectiveness measures the 2011 passenger trips per revenue mile. A higher value indicates a service operating more passenger trips per mile. Peer group 3 averages 0.12 passenger trips per mile and peer group five averages 0.27.

Efficiency measures output (revenue miles of service) to cost. The operating efficiency performance measure used in the Texas Transit Funding Formula is revenue miles per operating expense. Peer group 5 operates the highest miles per operating expense (0.44) and peer group 3 the lowest (0.34). All peer groups are clustered around the statewide average of 0.36 revenue miles per operating expense in 2011.

The Texas Transit Funding Formula uses another performance measure called "local investment per operating expense" to measure the total dollars (for operating or capital expenditures) from any source other than federal or state formula allocations (Section 5311 and state rural funds). An RTD improves this measure by securing more local funding support for rural transit service. Peer group one has the lowest local investment (24 percent) and peer group four has the highest local investment (58 percent). The statewide average local investment is 52 percent.

Challenges for Rural Public Transportation

The following represent significant public transportation challenges that Texas faces:

1. ***Increasing demand.*** Economic and demographic projections indicate that demand for transit services will grow even stronger in the future. Aging Baby Boomers are entering the period of life when they are more likely to need mobility assistance. Further, the Texas State Demographer's Office projects that retirees will settle in rural areas, which will increase the demands placed on rural transit systems. The rising cost of fuel has led to a nationwide increased demand for alternative options to driving a personal vehicle.

2. ***Urban area gaps.*** The boundaries of urban areas do not always coincide with the boundaries of urban transit providers. This circumstance is particularly true in metropolitan areas where urban growth is significant outside the limits of the transit authority. The regional transit authority or the municipal transit provider may decline to deliver service outside jurisdictional boundaries. However, agencies are beginning to develop policies for providing service in these excluded areas. Both Capital Metro in Austin and METRO in Houston are willing to provide services outside the authority's jurisdictional boundaries at full cost recovery. However, the cities in these urban fringes may not have access to federal funds, are not eligible for state funds, and may not be able to access sales tax revenue.

3. ***Limited funding options.*** In Texas, the traditional source of local funding for transit is the local option sales tax. However, it is constitutionally limited to not more than 2 percent (in addition to the 6.25 percent state sales tax). The local sales tax can be

used for a variety of purposes in addition to transit. In most cities that are not part of a transit authority or municipal transit department, the local sales tax is already committed to other purposes, leaving little or no room to authorize funding for transit.

4. ***Impacts of 2010 Census.*** Federal and state funds are allocated to areas based on formulas according to the classification of an area as rural or urban. Changes to the current urban areas and additions of new urban areas will occur following the 2010 Census as a result of population change and growth. The changes in urban/rural area designation will redefine the sources and eligible uses of funds for public transportation for each existing program. In some cases, this may cause small urban and rural transit providers to be allocated less funding although population is increasing.

5. ***Regional perspective.*** There is a clear need for regions to coordinate the use of financial and operational resources to find new ways to plan and deliver services throughout the region. Rural operators, in particular, are challenged to move beyond the traditional demand response model and examine ways to integrate the services with both intercity bus providers and nearby urban systems.

6. ***Integration with health and human services.*** Public transportation system-based operations focus on optimizing service efficiency, while human services organizations focus on client flexibility. Coordinating services requires integration of these two very different perspectives into a joint transportation program.