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Toolkit for Rural Transit Planning

Five-Year Operations and Financial Plan

Texas Transportation Institute

Toolkit for Rural Transit Operations and Financial Planning

Public Transit Services as a Case Study Implementation

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CHAPTER 1. INTRODUCTION TO RURAL TRANSIT PLANNING TOOLKIT

Transit agencies across the country want to provide service that enhances the economic, social, environmental, and public health outcomes in the area served. Transit agencies facing growth pressures or change in population mix often struggle to balance changes with available resources. Rural transit agencies also may face the challenge of serving the rural (non-urbanized) area and the adjacent urbanized areas to connect people to jobs, services, and goods as part of regional coordination initiatives.

This toolkit is designed to provide rural transit agencies with a resource for short-range planning. This toolkit applies the planning tools presented to a case study transit agency—Public Transit Services—to illustrate. The toolkit also provides an information rich resource in the form of tables, maps, and performance data to effectively communicate with stakeholders and partners.

Chapter 1 provides an introduction to the rural transit planning toolkit including an overview of the toolkit contents, the purpose of the toolkit, and toolkit organizational strategy.

HOW TO USE THE TOOLKIT

The purpose of the toolkit is to create transit plans that lead to the development of efficient, effective, and sustainable transportation. The toolkit provides approaches to assess current service area existing conditions and transportation needs, project future needs, and identify overlapping issues and opportunities. Including a wide range of needs in the planning process makes it more likely that the resulting transportation plans and investments will work for people with different needs and abilities in the service area.

The toolkit is applied to the transit agency: Public Transit Services (PTS). The toolkit acts as a checklist to assess the study area in a variety of dimensions to evaluate the livability, effectiveness, and efficiency of current transportation systems. The toolkit can be used:

- To aid in the development of the agency vision and mission statements and in setting goals and objectives.
- To evaluate the existing conditions and projected changes in the service area.
- To assess the transit services provided.
- As a financial framework for evaluating costs and funding sources for future investment decisions.
- To help identify internal strengths and challenges, and external opportunities and threats.
- To establish a five-year operations and financial plan.

OVERVIEW OF THE TOOLKIT

The Toolkit for Rural Transit Operations and Financial Planning provides strategic direction to for five years and beyond. The toolkit is intended to serve as a framework and guidance for developing and implementing a five-year transit plan. The toolkit is organized into individual plan elements that address existing conditions, key issues, goals and objectives, and specific action recommendations for the respective elements. Figure 1 illustrates that the 10 chapters of the toolkit, as developed in four phases:

- **Phase One:** Vision, Mission, Goals, and Objectives – is the driver of each planning element and influences the overall outcome of the five-year operations and financial plan.
- **Phase Two:** Assessment of Past, Present, and Future – is an assessment of service area, transit service, expenses, funding, and peers providing information needed to make planning decisions.
- **Phase Three:** Assessment of Strengths, Challenges, Opportunities, and Threats (SCOT) – reflects what is learned from the information gathered in Phase Two.
- **Phase Four:** Five-Year Operations and Financial Plan – is the final outcome of the toolkit.

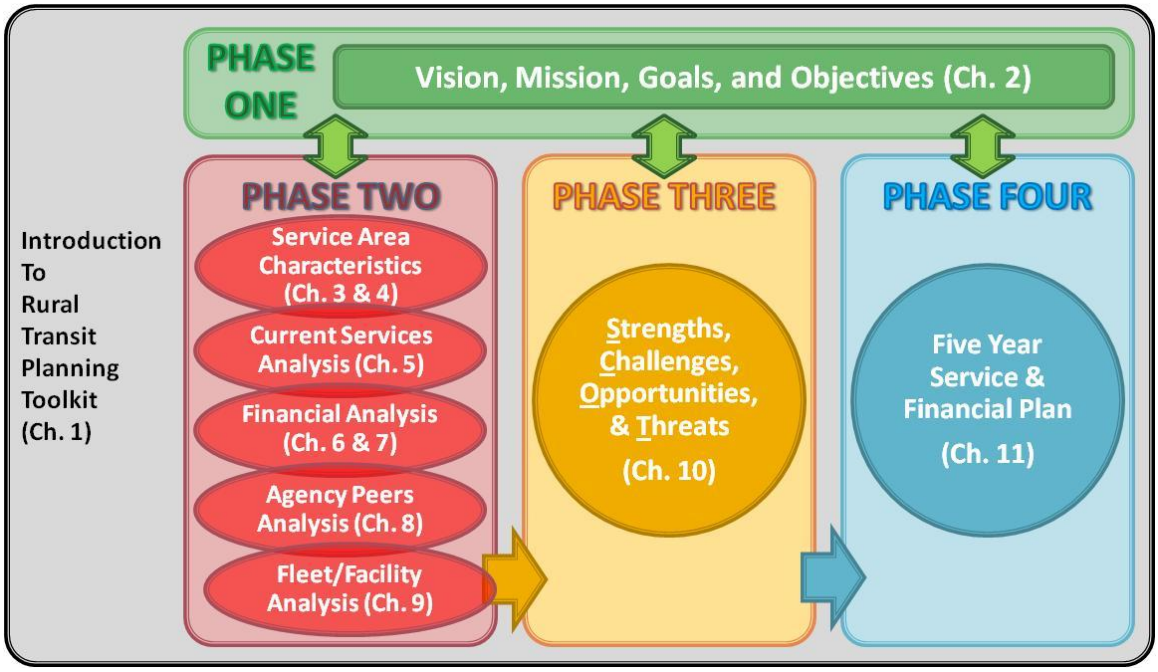


Figure 1. Toolkit Organization Strategy – Four-Phase Approach.

The following provides a brief outline of chapter contents.

Chapter 2. Transit Planning – Starts with Vision, Mission, and Goals

The vision, mission, and goals of a transit operation are often a balance of providing efficient and effective transit service while meeting community-wide priorities. This chapter provides information on development of a vision, mission, and set of goals to help create a framework for guiding the planning of transit service.

Chapter 3. Service Area Snapshot – Existing Conditions

This chapter documents existing socioeconomic conditions, demographic characteristics, and built/natural environment. The purpose of this chapter is to identify current characteristics that will contribute to the envisioned future for transit and to analyze transit needs in the area. This chapter includes analysis for each county, larger cities, and significant growth areas and a summary of area characteristics. This chapter offers an in-depth introduction to the counties and cities within the service area of Public Transit Services.

Chapter 4. Service Area - Looking Forward

This chapter provides insight about how the community is changing in its populations, economic development, and built/natural environment. This chapter also provides current planning efforts underway in the area. PTS' proximity to the Dallas-Fort Worth-Arlington urbanized area and the natural parks and recreational amenities offers opportunities. PTS' service area provides health and educational resources, which is important for transit to provide connections.

Chapter 5. Transit Service Assessment

This transit assessment chapter reviews current services offered and the distribution of those services. The objective is to identify area-wide transit service coverage to compare to the identified transit service needs. The ultimate objective is to plan for a transit system to accommodate local and regional travel demand through the year 2016 and beyond.

Chapter 6. Transit Expense Assessment

This chapter provides line-item and functional cost assessment, provides costs by service type and develops a formula for assessing changes in service. The objective of the expense assessment is to provide a base for making sound strategic financial plans that will enhance PTS' ability to capture regional growth and expansion while maintaining its capacity to provide public transit for current and future residents. The purpose of the expense assessment is to provide PTS with a framework for making financial decisions.

Chapter 7. Transit Funding Assessment

The funding assessment provides an overview of funding sources and provides information on funding source by trip type and expense type.

Chapter 8. Peer Benchmark Analysis

To provide real value, measures need to be compared to something else—one's past performance, one's targeted performance, or comparable organizations' performance—to provide the context of "performance is good," "performance needs improvement," "performance is getting better." This chapter provides a comparison of performance to a select group of peers.

The goal is to provide information regarding peers that are performing well to serve as benchmarks that may help in enhancing performance.

Chapter 9. Assessing Fleet/Facility Assets and Fleet Replacement Plan

This chapter presents the fleet and facility asset assessment and the fleet replacement plan. The assessment and plan is developed based on the Federal Transit Administration (FTA) "state of good repair (SGR)" initiative in order to promote and encourage transit agencies to maintain and protect assets.

Chapter 10. Strengths, Challenges, Opportunities, and Threats

This chapter presents the elements of a SCOT analysis. The SCOT analysis is applied to PTS. The analysis is based on the review of economic, demographic, and built/natural environment characteristics; discussions with PTS and North Central Texas Council of Governments, and PTS Transit board members; and the team's experience working with transit agencies across the country.

Chapter 11. Five-Year Operations and Financial Plan

Plans that are effective in achieving their goals and objectives include an implementation framework that outlines the general strategies, directions, and priorities of the community. As such, the direction provided for in this plan is coupled with short- and long-term implementation strategies to help realize the plan into actionable programs, development activities, and other strategic efforts by PTS and the region stakeholders. An example five-year operations and financial plan is developed to reflect the vision, mission, goals, and objectives. This chapter provides ways that transit might support future service area changes, retain existing businesses, and support connecting people to jobs, healthcare, education, and training with a view to achieving improved livability.

To address the transit need, a fleet condition and replacement study is undertaken to analyze the existing fleet and, in turn, create a master fleet replacement plan to accommodate future development. The objective of the fleet study is to provide a plan for the fleet replacement to take place in a thorough manner, while being sufficiently flexible to meet changing needs and criteria over the long term.

Chapter 2. Transit Planning – Starts with Vision, Mission, and Goals

This chapter provides information on the purpose of vision and mission statements, and how to develop goals that echo agency vision and mission. Development of a vision, mission, and set of goals can help create a framework for guiding the planning of transit service. Communities benefit from articulating a vision for the future to reflect the diversity to meet the changing needs. The mission statement provides the purpose of the organization and the goals describe what the organization will accomplish. The contents of this chapter include:

- Development of vision and mission statements.
- Incorporating community vision into transit vision.
- Developing goals and objectives.
- Using a board workshop as a tool.

How to Use the Vision and Mission Development Tool

This tool provides guidance on the creation of vision statements, agency mission, and goals. The following section will guide transportation decision makers through the definitions and purpose of each, as well as provide guidelines on forming statements that reflect the agency's purpose. This development tool can be used:

- To develop credible vision statements.
- As a resource for producing a meaningful mission statement.
- As guidance on including stakeholders in the visioning process.
- To offer regional considerations.
- To aid in the incorporation of regional ideals for vision and mission statements.

Developing the Vision and Mission

In order to be an effective transit provider, it is important for agencies to develop strong vision and mission statements. Crafting vision and mission statements that all stakeholders in the agency can agree to can potentially be a daunting task; not to mention creating goals and objectives that embody the agency vision and mission.

Vision statements articulate the future of the organization and the community that the transit provider serves. The vision statement, when compared with the current reality of the organization or the community, implies the work still needs to be accomplished. In this way, it lends credibility and motivation to the mission statement. Effective vision statements possess the following characteristics:

- Clarity and absence of ambiguity.
- Paint a clear picture.
- Positive description of the future.
- Wording that engages the reader and is memorable.

- Realistic ambitions.
- Alignment with agency values and culture.

A mission is a long-term end-result or achievement. There may be objectives, goals, and strategies used to achieve the mission, but the mission is the biggest and most important thing to be accomplished. The mission is similar to a vision statement in that it has a future orientation.

Mission statements explain why the organization exists—its overall purpose. The mission statement also states what the organization does right now, in the most general sense. In this way, the mission also sets parameters for what the organization, through omission, does not do. Vision and mission statements guide agency purpose and provide focus on long-term goals and activities. Agency staff, as well as the transit board of directors, should not only be familiar with the overarching vision and mission, but utilize the statements as guidance for day-to-day operations and the decision-making process.

Steps in Creating Vision and Mission Statements

There are several steps to creating an agency vision and mission. The following process is adapted from the National Park Service's guidelines for developing vision statements. While the process may vary based on the transit agency type, the steps provide a solid framework for the development method:

1. Assemble the players.
2. Stay focused.
3. Identify shared values.
4. Envision the future.
5. Draft the Vision and Mission.
6. Agree on the statements.

Step 1. Assemble the Players

Include key stakeholders, diverse interest groups, subject matter experts, and others who represent various facets of the local community. This group of stakeholders may potentially become an advisory committee, working group, or task force. Meeting facilitators can aid in the meeting process, can offer objective assistance, and can keep the stakeholder group focused and on topic. The meeting should include flip charts or a white board in which to record and post comments. The facilitator can help to keep the discussion going, ensure participation, and respect for all ideas.

Step 2. Stay Focused

Stakeholders need to define what the vision will address as well as what the vision is not addressing. For example, a transit agency's vision may encompass the service area alone or may be written in such a way to include the larger region. Players need to understand and be in agreement about the limits of the vision before proceeding with development.

Step 3. Identify Shared Values

Have the group characterize the transit agency and the area the agency serves. One way to do this is to consider how the community might be described to someone visiting. The facilitator should capture all comments as the group begins to look for common themes among the

characterization. As the commonalities become more apparent, it may be necessary for the group to prioritize and organize the themes.

Step 4. Envision the Future

Using the themes established, the group should work to imagine how the agency will look in five to 10 years. Do these themes adequately capture the dream? Are there more considerations to include? Is the scenario unrealistic? Should the group scale back?

Step 5. Draft the Vision and Mission

Using the thoughts and ideas recorded during the shared values process, the group should work to put together phrases and sentences in order to form a statement. The statement may begin with "To become the… To be known as… To be… To offer… To maintain…." There may be a lot of focus on single words, or making subtle changes, but this is important to the process. What is important is for the entire group to be comfortable with the statement and what is said.

Step 6. Agree on the Statements

The final vision and mission statements should be something that the group feels captures their thoughts and values, and embodies the transportation agency. Additionally, the statements should reflect the community or service area characteristics. The vision may need additional buy-in from board members or community leaders before it is released to the public.

Incorporating Community Vision into Transit Vision

It is integral for transportation providers to incorporate the vision of the community into the transit vision, as the two should go hand-in-hand. Even the process of developing the transit vision and mission is a chance for stakeholders to take part in a cooperative process in order to reach the larger future vision for the region. The success of vision and mission statements directly correlates to the group who developed the statements. Broad interests return broad support, but limited interests give limited support.

Vision and mission statements must be based on reality. The statements must be clear, focused, and easy for anyone to understand. It is advantageous to use a diverse group of stakeholders to create statements, as these types of groups will bring differing perspectives and will provide a broad base for buy-in once the statements are drafted. Additionally, using groups to create vision and mission statements gives a sense of ownership and a desire to achieve the ideals and goals set forth in the process. Lastly, a vision statement can aid in determining the direction in which to proceed. Stakeholders can use the statement to work in reverse when developing short term objectives. If the vision statement is the future which has come to fruition, how can the agency develop outcomes and objectives that follow the course?

Consider Livability Concepts in the Vision

Transit can impact the livability of a rural community. Rural livability may have different meanings to different rural communities. Rural livability may mean a vibrant downtown, with preserved historical buildings and walkable streets around a town center with compact surrounding neighborhoods. It may mean housing options that support a variety of financial means, access to education, health care, and job opportunities. Rural livability may mean

preservation and enhancement of working lands and natural lands and resources. Incorporating these concepts into the transit vision can help support the community's chosen direction as a whole. In this toolkit, researchers will explore current and future economic, demographic, built and natural environment factors, and rural community planning efforts. These factors are an important consideration in developing the vision to support the community's chosen vision of livability as a whole.

Livability elements for consideration in developing the vision are based on an emerging vision of rural livability provided in current literature and research. The *regional* ability to accommodate multimodal travel is an element important to rural communities. As rural area economies are often dependent on connection to metropolitan areas, the ability to connect regionally is critical. This regional ability to accommodate multimodal travel would be more effectively served by encouraging concentrations of rural activities in series of nodes around which multimodal connections can focus (including transit, auto, pedestrian, and bicycle). Where a single trip can enable a person to accomplish multiple trip ends. As we look at the demographic and economic characteristics of the rural communities, the vision of rural livability includes providing equitable and accessible connections to goods, services, education, employment, healthcare, and recreation. Based on rural community diverse economic, health, environmental, and social needs, researchers propose the following as elements for consideration in developing a vision:

- Provide/Encourage:
    - *Regional* ability to accommodate multimodal travel.
    - Activities in nodes by concentrating services, shopping, public, and civic infrastructure, activities, and housing into villages and rural town centers.
    - Equitable and accessible transportation.
- Preserve/Develop:
    - Pedestrian character of rural town centers.
    - Rural landscapes and agricultural land.
- Establish:
    - Multimodal connections between rural places.
- Coordinate:
    - Planning and funding programs to maximize returns on investment.

These livability elements can be applied to transit services and used in developing the mission statement and goals of the transit agency:

- Provide a network of transit services that link town centers, rural places with each other, as well as to intercity routes.
- Provide a link in a regional multimodal connection.
- Tie to areas where transit can provide access to array of jobs, education, services, health care, and recreational opportunities.
- Provide access – equitably.
- Provide link between workers and rural area industries.
- Pool resources to more efficiently serve region and prevent service duplication.

Incorporate Regional Plans

Public transit stakeholders need to have an understanding of the regional planning efforts that might influence transit service needs. Having a clear understanding of the regional vision, mission, goals, and objectives may be helpful in developing of the local transit plans that support and enhance the regional planning efforts.

PTS Regional Planning Efforts

PTS is in a unique position in that there are two regional planning organizations within the service area: North Central Texas Council of Governments (Parker and Palo Pinto Counties) and Nortex Regional Planning Commission (Jack County). Researchers documented regional planning efforts.

North Central Texas Council of Governments

NCTCOG is the recognized Metropolitan Planning Organization (MPO) for the Dallas-Fort Worth metroplex, which includes Parker and Palo Pinto Counties. NCTCOG has over 230 member governments including 16 counties, numerous cities, school districts, and special districts. NCTCOG is responsible for maintaining and updating the long-range transportation plans for the region, also known as the Metropolitan Transportation Plan. In spring 2011, the Regional Transportation Council approved the new long-range transportation plan, Mobility 2035. Mobility 2035 was developed with input from the public and regional transportation providers, and outlines comprehensive transportation plans for the Dallas-Fort Worth area. The supported goals of the public transportation section of the Mobility 2035 plan are as follows:

- Improve the availability of transportation options for people and goods.
- Support travel efficiency measures and system enhancements targeted at congestion reduction and management.
- Assure all communities are provided access to the regional transportation system and the planning process.
- Preserve and enhance the natural environment, improve air quality, and promote active lifestyles.
- Encourage livable communities that support sustainability and economic vitality.
- Develop cost-effective projects and programs aimed at reducing the costs associated with constructing, operating, and maintaining the regional transportation system.

In addition to the long range transportation plan, North Central Texas also has a Regional Public Transportation Coordination Plan, last updated in 2006. The purpose of the plan is to better coordinate the delivery of transportation services throughout the 16 counties that make up the North Central Texas Region. Within the region, North Central Texas has three regional transportation authorities, four small urban/municipal providers, nine rural providers, and over 60 specialized transportation providers. PTS is one of the rural providers in the North Central Texas region, and there are a few specialized transportation providers that can be found serving Palo Pinto and Parker Counties.

The North Central Texas Region continues to see explosive population growth, leading to transportation needs that outpace the resources available. This is especially true for PTS, specifically in Parker County. The city of Azle sits on the border of Parker and Tarrant Counties

and has seen a rapid influx of growth in the last 10 years. Transportation coordination is critical to this area. Some of the other providers in the area are specialized, so it is important for PTS to coordinate transportation planning with area providers in order to meet the needs of the population in this area. The Regional Public Transportation Coordination Plan's master list of coordination strategies would assist PTS by providing a starting point for coordination in the area. The three major strategy themes include: Communication/Education, Resources, and Seamless Transportation Services.

The vision of the North Central Texas region is "to have coordinated, efficient, and accessible transportation services in North Central Texas that eliminate waste, promote use by the general public, and are environmentally friendly." The mission of the region is "to develop a regional public transportation plan for North Central Texas that includes short- and long-term implementation strategies to move the region toward coordinated, accessible, and efficient public transportation services."

The five goals for the North Central Texas region are:

- Customer First.
- Seamless Services.
- Enhanced Communication between Agencies, Providers, and Users.
- Education for Agencies, Providers, and Users.
- Efficient use of Resources.

Nortex Regional Planning Commission

In addition to coordinating within the North Central Texas Region, PTS' service area includes Jack County, which is located in the Nortex Regional Planning Commission. Thus, it is important to be familiar with regional coordination plans for the Nortex area as well. The Nortex plan was established in 2006. The mission statement of the Nortex Region is: to provide reliable quality coordinated public transportation; the goals of the region are as follows:

- Goal 1: Safe and efficient public transportation that enhances quality of life.
- Goal 2: Implement, maintain, and improve a regionally coordinated transportation plan.
- Goal 3: Develop and enhance cooperative partnerships among transportation providers in our region.
- Goal 4: Provide continuous regional public participation and outreach opportunities.

Developing Goals and Objectives

Goals and objectives are statements that describe what the agency will achieve in a set period of time. Goals are a critical component for any transportation provider, providing an overall context for what the agency is trying to accomplish. Agency goals may differ greatly depending on types and modes of service offered. Variations in goals are a product of the regional typology as much as they are a product of agency resources (limited or otherwise). Additionally, the goals may vary based on accessibility, customer service, and sustainability. Without adequate goals, transit leadership cannot design an effective performance measurement program.

Likewise, objectives are a vital element for the provision of transportation. Objectives are concrete statements that describe what the agency is seeking to achieve and should be written in such a way that managers may evaluate whether or not the objective was achieved. For an objective to be effective, it must be specific, measureable, attainable, realistic and time-oriented (SMART). Agency outcomes are reached through the creation and attainment of specific objectives.

Steps in Creating Goals and Objectives

Setting goals and objectives is an important part of framing public transit services. Setting goals and objectives is one of the key steps in strategic project planning and assessment. Goals and objectives provide a foundation to monitor performance and the impact of transit service for the community. In order to be successful in reaching a goal, a clear picture of what you want to achieve must be provided.

Goal Setting

Strategic goals are statements describing critical outcomes essential to achieving your organization's vision, while executing the mission—what the organization must achieve to be successful in the future:

In developing goals, keep in mind that goals:

- Influence a future that will be different from the present.
- Cover areas in the strategic plan that must be continually addressed in accomplishing your mission in such way that you will achieve your vision.
- Are broadly focused and address long-term result, not internal activities.
- Describe outcomes valued by customers and stakeholder.
- Are limited in number.
- Describe a desired future condition and desired results but not ways to achieve them.
- Are assigned to an owner to ensure its achievement.
- Able to generate objectives, measures, and action plans.
- Realistic but challenging—attainable with reasonable risk and demonstrable within a meaningful time horizon.

The following steps provide a framework for the development of goals:

1. Review baseline documents.
2. Review history of decision making and actions.
3. Identify make-or-break issues.
4. Create a list of goals in responding to make or break issues.
5. Back-cast the future.

Step 1. Review Baseline Documents

Review baseline documents (mandates, mission, vision, SCOT [strengths, challenges, opportunities and threats], peer performance comparisons) and then propose potential goals for the organization.

Step 2. Review History of Decision Making and Actions

Review past decisions and actions to uncover the organization's implicit goals.

Step 3. Identify Make-or-Break Issues
Identify a list of make-or-break issues that would prevent your organization from effectively conducting activities, optimizing capabilities, and/or ultimately executing and achieving results

Step 4. Create a List of Goals in Responding to Make-or-Break Issues
Create a list of responses to the make-or-break issues.

Step 5. Back-cast the future
Imagine the transit system at the end of the timeframe of the strategic plan, having fully achieved its goals. Determine if the system is lacking in any area. Are the goals achievable with existing transit system functions, or are there needs for new functional areas or responsibilities?

Creating Objectives
Objectives support strategic goals. In order to create objectives, goals must have been previously defined that reflect the mission and vision of the transit system. Each goal may require one or more objectives. Objectives are the building blocks or steps toward achieving a program's goals. Objectives are specific and concise statements that state *who* will make *what* change, by *how much*, *where*, and by *when*. The following is adapted from material by the U.S. Department of Health and Human Services Centers for Disease Control and Prevention.

In creating objectives, keep in mind that objectives:

- Should be relevant, directly supporting a goal.
- Compel the organization into action.
- Are simple and easy to understand.
- Are specific enough to quantify and measure results.
- Are realistic and attainable.
- Convey responsibility and ownership.
- Are acceptable to those who must execute.

When writing goals and objectives, keep them "SMART":

- Specific.
- Measurable.
- Achievable.
- Realistic.
- Time Specific.

<u>Specific</u>. Use specific rather than generalized language. Clearly state the issue, the target group, the time, and place of the program.

<u>Measurable</u>. Be clear in the objective about what will be changed and by how much. Setting objectives clearly at the start makes it easier to evaluate.

<u>Achievable</u>. Be realistic about what the program can achieve in terms of the scale/scope of what is being done, the time, and resources available.

Relevant. Objectives need to relate to and be relevant to the goals. Remember objectives are the building blocks/steps toward meeting the goals.

Time Specific. Be clear in the objectives about the timeframe in which the program/activities, as well as expected changes, will take place.

Using a Board Workshop as a Tool

Public transit boards play a legal, stewardship, and advocacy role. The board not only has fiduciary responsibility but also tracks performance to ensure a reasonable and responsible return on investment. The board plays an advocacy role to support public transit in the community. As an advocate, the board must focus on the big picture and policy, understanding the vision and mission of the transit system. An effective transit board helps the transit system to set a strategic direction and shape a strategy for the future. A board workshop that focuses on public transit system mission, vision, goals, and objectives helps to identify and maintain focus on strategic priorities for the short- and long-term.

A board workshop provides a means to:

- Communicate the strategy—successful implementation and achievement of results can only be achieved if acknowledged, understood, and accepted by constituents.
- Reinforce that the mission, vision, and goals are the driving force for transit decisions.
- Encourage deployment of the transit system's strategic message.
- Gain feedback on the vision, mission, and gals.

PTS Board Workshop

PTS held a board workshop in which the board discussed the existing PTS mission and draft of proposed new vision, mission, goals, and objectives. PTS wished to revisit its vision and mission to better reflect the current community transit needs. The mission statement used by PTS prior to this study is as follows:

"The mission of Public Transit Services is to be a significant influence in meeting the changing transportation needs of Palo Pinto, Parker, and Jack County residents. Public Transit Services is focused on serving the collective interest of families through representation, education, advocacy, and transportation services. In addition to providing transportation to the general public, we strive to help families who are faced with extreme poverty and crisis, while encouraging them to turn poverty into opportunity, and attain a higher, healthier quality of life. Public Transit Services lends itself to improving the quality of life for others by providing the residents of Palo Pinto, Parker, and Jack Counties the freedom of mobility. This allows them the opportunity for employment and self-sufficiency, which might otherwise be impossible."

The research team met with PTS staff and board of directors at the October 2011 meeting. A draft of a vision and mission was developed for the purpose of acting as a guidepost in planning future transit services for the PTS service area. PTS staff presented to the board the following draft vision and mission statement for consideration:

Draft Vision:

To be the transportation provider of choice for Palo Pinto, Parker, and Jack Counties.

Draft Mission:

The mission of PTS is to provide affordable, accessible and connected transportation services that allow access to employment, education, healthcare, and commerce, and meeting the social needs of the communities within Palo Pinto, Parker, and Jack Counties.

The board workshop also was used to present and discuss goals and objectives that tie to proposed vision and mission statements. Table 1 provides the draft goals and objectives for PTS. Numbered objectives are tied to each goal, each mirroring a more specific focus for agency success. Developing objectives can be an iterative process for the agency, and the objectives listed below may reflect short-range agency needs and outcomes. The objectives may change or develop over time as the agency plans and grows.

Table 1. Draft PTS Goals and Objectives.

GOALS	OBJECTIVES
A. IMPROVE PUBLIC AND STAKEHOLDER EDUCATION ON THE SERVICES OFFERED	1. Develop a public involvement plan that includes stakeholders and all target audiences in PTS' service area.
	2. Conduct outreach to new target markets.
	3. Increase ridership throughout service area.
	4. Build an effective marketing and branding plan to enhance PTS' image for stakeholders, clients, and the public.
	5. Encourage greater board and stakeholder participation in education and outreach.
B. ENSURE PUBLIC TRANSPORTATION SERVICES IS AN EMPLOYER OF CHOICE FOR THE REGION	1. Create management position for day to day operations.
	2. Management to conduct regular update meetings with stakeholders and board.
	3. Garner board and stakeholder support for recruiting and retaining employees.
C. PROVIDE ACCESSIBLE AND CONNECTED TRANSPORTATION SERVICES	1. Provide more connections to more places within the service area.
	2. Continue to provide quality transportation to major social services, shopping, employment, and medical facilities needed by seniors and the disabled.
D. SAFE, SECURE, AND EFFECTIVE OPERATIONS	1. Develop a well-structured, well-designed driver training program.
	2. Offer regular safety training for administrative employees.
	3. Provide refresher training for operators on a regular basis.
	4. Monitor/reduce the number of preventable safety incidents.
E. ENSURE FINANCIAL SUSTAINABILITY	1. Maximize use of federal and state funding for transportation services.
	2. Create opportunities for private investment into PTS services.
	3. Monitoring efficiency and effectiveness by service type.
F. MAXIMIZE COORDINATED SERVICES	1. Attract and retain new partners that share the goal of coordinated transportation.
	2. Partner with neighboring transportation providers to efficiently provide transportation services.
	3. Ensure future service planning ties into regional goals and coordinated planning efforts.

CHAPTER 3. SERVICE AREA SNAPSHOT

This chapter provides rural and small urban transit providers with several key forms of service area assessment techniques that impact delivery of transit service. Key elements include demographic, economic, and built/natural environment characteristics across varying geographic scales. This chapter provides an in-depth introduction to the counties and cities within the service area of PTS. The purpose of this chapter is to identify current service area characteristics in order to facilitate matching PTS transit services with the needs and conditions of the service area.

Researchers and transit planners utilizing this toolkit can refer to the PTS case study application of each form of analysis documented in the following sections of this chapter:

- How to use the service area snapshot tool.
- Capturing the big picture.
- Zooming in: Snapshots of existing conditions by county and city.
    - Parker County, Texas.
        - Weatherford, Texas.
        - Azle, Texas.
    - Palo Pinto County, Texas.
        - Mineral Wells, Texas.
        - Graford/Possum Kingdom Lake Area.
    - Jack County, Texas.
        - Jacksboro, Texas.
- Potential barriers to transit service.
- Demographic characteristics.
- Economic characteristics.
- Service area destinations.
- Work travel.
- Transit need and suitability analyses.

HOW TO USE THE SERVICE AREA SNAPSHOT TOOL

The purpose of this tool is to provide guidance on the creation of a transit provider service area description. Additionally, this tool includes guidance on which resources to obtain information about service area characteristics. When drafting a description of the service area, transportation staff can tap into community and regional resources to provide valuable information on geography, demographics, and the local economy. This development tool can be used:

- To aid in the production of meaningful service area maps.
- As a resource for demographic information and population projections.
- To determine local transit attractors.

- To offer guidance on the development of the service area description.
- To provide information on how large employers impact transit service provision.

CAPTURING THE BIG PICTURE

Public transit stakeholders, including transit boards, leadership, and even customers, need to have an understanding of the transit provider service area from a regional perspective. Developing a clear picture of the service area allows customers and stakeholders alike to better understand how and why transit services are provided and developed. For example, there may be geographic or jurisdictional barriers to providing service in some portions of the service area. Additionally, stakeholders can better comprehend why transit providers make service decisions when they have a clear picture of the service area. A transit provider may need to cut underutilized service in a particular area in order to serve an area with greater demand. Having a clear understanding of the service area and the demographics can make it easier to see how service is planned and provided.

PTS Service Area – Big Picture

PTS service area is comprised of three counties in North Texas: Palo Pinto, Parker, and Jack. The three county service area comprises 2,765 square miles of primarily non-urbanized land area. PTS also receives urbanized area transit funding to serve portions of the Dallas-Fort Worth-Arlington (DFWA) urbanized area. DFWA is the closest urbanized area to PTS. In fact, the DFWA urbanized area includes portions Parker County on the eastern side including the City of Azle (see Figure 2). The population of the rural PTS service in 2000 was 117,544 and grew to 154,082 in 2010—31.8 percent growth (Census).

PTS was established in 1982 and began operating transit service in Palo Pinto County in 1983. In 2004, PTS' service area expanded to include Parker County Transportation Council Service, the transit district serving Parker County at the time. TxDOT merged the two rural transit districts into one rural transit district responsible for services in both Palo Pinto and Parker Counties. Then, in 2007, TxDOT transferred Jack County from Texoma Area Paratransit Services (TAPS) to PTS. Figure 2 is a vicinity map of the PTS' service area, which is located immediately west of Fort Worth, and one county south of the Texas-Oklahoma border.

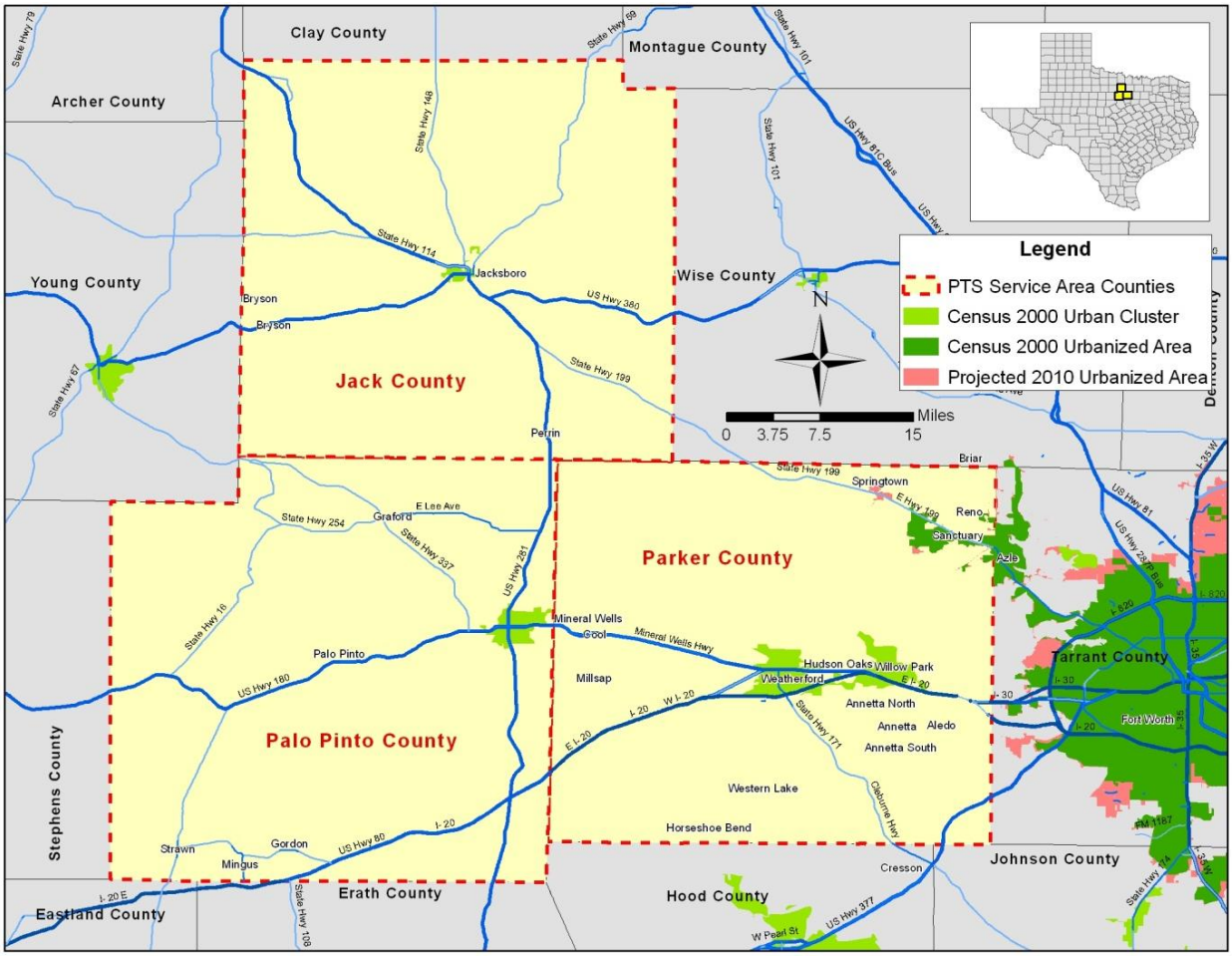


Figure 2. PTS Service Area.

ZOOMING IN: SNAPSHOTS OF EXISTING CONDITIONS BY COUNTY AND CITY

Building a clear picture of the county and city/town perspective is important for public transit to understand the needs of the community. Transit service provision may vary depending on the area served, and there are no two local areas that are exactly alike. Similarly, transit service is designed in a way to meet and reflect the needs at county, city, and town levels. Where flexible service may work in one city, another city in the same county may require curb-to-curb or door-through-door services. Transit service will be adjusted based on the needs of the individual city. Thus, it is important for stakeholders and customers to have a general understanding of the characteristics that make each area unique in order to appreciate how transit service is allocated.

Parker County, Texas

Parker County is situated west of Tarrant County, the City of Fort Worth, and the DFWA metropolitan area. The proximity of Parker County to larger neighbors to the east means that Parker County has the most ready access to the economy and services of DFWA. Probably as a result of that physical proximity, Parker County experienced the most population growth in the PTS services area. Population in Parker County grew from 88,295 in 2000 to 116,927 in 2010—32.4 percent growth (Census). Parker County consists of 903.5 square miles with a population density of 129 persons per square mile. The county seat and city with the largest population in Parker County is Weatherford with 25,250 persons, or 21.6 percent of the population (see Table 2). The second most populous city is Willow Park with 3,982 persons, or 3.4 percent of the population. The majority of the population, 60.4 percent, lives outside of a town or city in rural territory.

The county contains several large reservoirs, including Lake Mineral Wells and Lake Weatherford, and gently rolling hills and plains. Mineral Wells Lake State Park and Trailway is east of Mineral Wells and west of Weatherford, has 1,095 acres of park land, a 646-acre lake, and a 20-mile hike, bike, and equestrian trail to Weatherford.

Table 2. Parker County - City and Town Populations.

	2000 Population		2010 Population		Difference	
Aledo city	1,726	2.0%	2,716	2.3%	990	57.4%
Annetta North town	467	0.5%	518	0.4%	51	10.9%
Annetta South town	555	0.6%	526	0.4%	-29	-5.2%
Annetta town	1,302	1.5%	1,288	1.1%	-14	-1.1%
Azle city (part)	1,548	1.7%	1,765	1.5%	217	14.0%
Cool city	195	0.2%	157	0.1%	-38	-19.5%
Cresson city	n/a	n/a	406	0.3%	406	100.0%
Hudson Oaks city	1,637	1.8%	1,662	1.4%	25	1.5%
Millsap town	353	0.4%	403	0.3%	50	14.2%
Mineral Wells city (part)	2,164	2.4%	2,144	1.8%	-20	-0.9%
Reno city	2,441	2.8%	2,485	2.1%	44	1.8%
Sanctuary town	256	0.3%	329	0.3%	73	28.5%
Springtown city	2,062	2.3%	2,658	2.3%	596	28.9%
Weatherford city	19,000	21.5%	25,250	21.6%	6,250	32.9%
Willow Park city	2,849	3.2%	3,982	3.4%	1,133	39.8%
Balance - Population Outside of a City or Town	51,940	58.7%	70,638	60.4%	18,698	36.0%
Total Parker County Population	**88,495**	**100.0%**	**116,927**	**100.0%**	**28,432**	**32.1%**

Source: 2000 and 2010 Decennial Census, 2020 projection based Texas State Data Center (TSDC), Scenario 3 (2010-2020, 31.91%)

City of Weatherford (pop. 25,250) – Largest City in Parker County

The city of Weatherford was incorporated in 1858 and is the county seat. Weatherford is built in a grid-like street system with the county court house located in the town square. Weatherford is a hub for the region for medical, retail, school, and employment services. Weatherford is located approximately 30 miles from Fort Worth along Interstate 20. Many residents work in the DFWA urbanized area and enjoy the small-town lifestyle and amenities of Lake Weatherford.

Cities Located in the DFWA Urbanized Portion of Parker County

The City of Azle is split between Tarrant County and Parker County and is in the DFWA urbanized area. Azle is located 20 miles from Fort Worth and may be increasingly characterized as a suburban community for people looking for lower-cost housing within commuting distance of DFWA. In addition, Azle is near a large recreation amenity Eagle Mountain Lake. Azle is developing a town square to include the library and in proximity of park area.

The following pages profile the cities of Weatherford and Azle based on demographic, built and natural environment, and economic characteristics.

Weatherford, Texas

Demographic

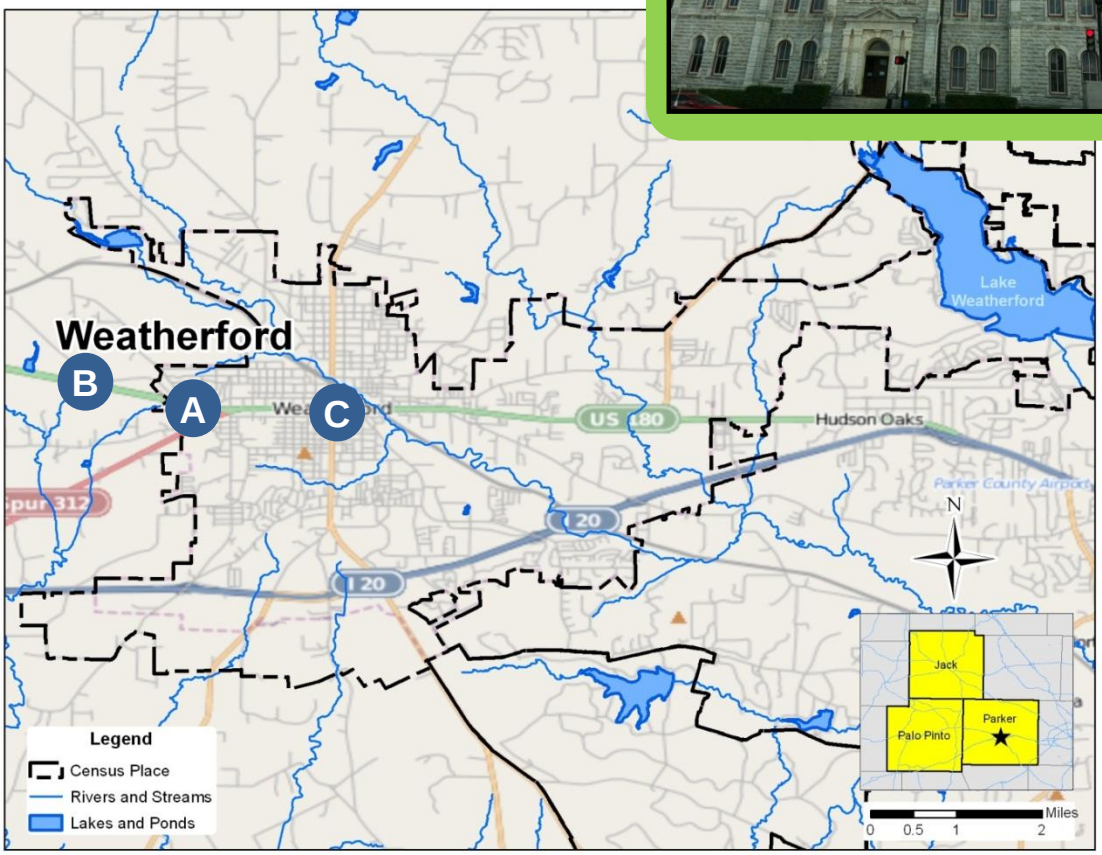
- 25,250 Census 2010 population (33% growth from Census 2000)
- 15% (3,840) age 65 and over (Census 2010)
- 9% with no personal vehicles (ACS 2005-9)
- $48,413 median household income (ACS 2005-9)
- 13% of individuals live in poverty (ACS 2005-9)
- 12% civilian veteran population (ACS 2005-9)
- Largest city population in Parker County

Built/Natural Environment

- 30 miles west of Fort Worth
- Interstate 20 runs along the southern boundary
- Incorporated in 1858 - traditional main street, town square, and street grid
- Farmers market a block from town square
- Lake Weatherford located to the northeast

Economic

- Three dialysis centers
- Weatherford Regional Medical Center Weatherford College – 5,700 students (47% students reside in Parker County)
- Known as Cutting Horse Capital of the World – home to professional horse trainers



Azle, Texas

Demographic

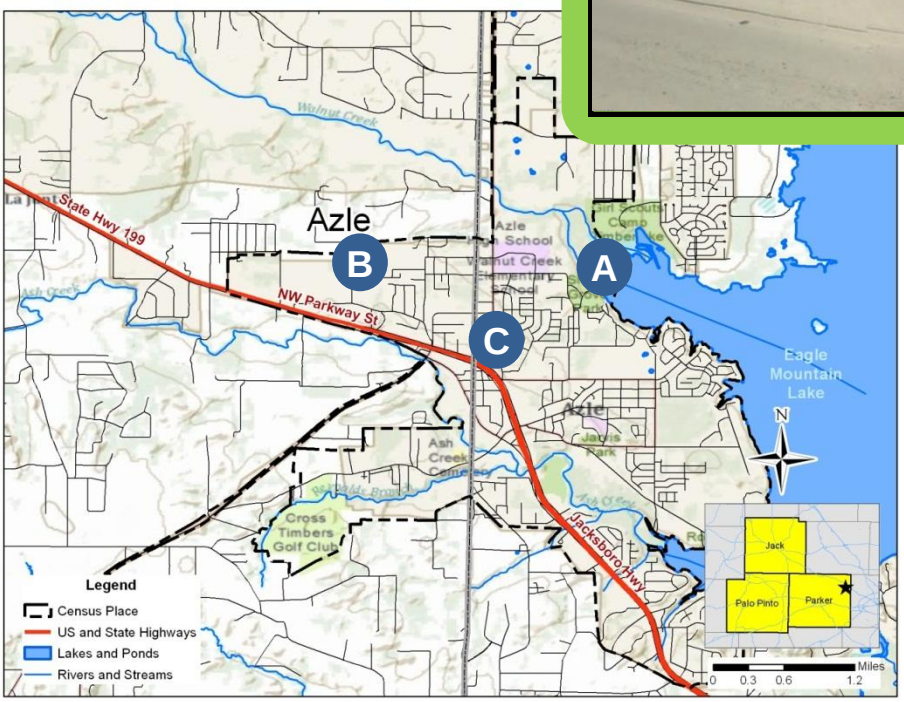
- 10,947 Census 2010 population (14% growth from Census 2000)
- 15% (1,627) age 65 and over (Census 2010)
- 8% with no personal vehicles (ACS 2005-9)
- $54,559 median household income (ACS 2005-9)
- 10% of individuals live in poverty (ACS 2005-9)
- 14% civilian veteran population (ACS 2005-9)

Built/Natural Environment

- 16 miles northwest of downtown Fort Worth
- Located on State Highway 199
- Eagle Mountain Lake is the eastern city border
- Residential development mostly lakeside, often distant from highway
- Planning to create a town center on Main Street

Economic

- One dialysis center
- Super Wal-Mart located on the county boundary between Tarrant and Parker
- Texas Health Harris Hospital



Palo Pinto County terrain is primarily gentle rolling hills to the north and relatively flat topography in the south. Palo Pinto County covers 951.8 square miles. The county population grew from 27,026 in 2000 to 28,111 in 2010—4 percent (Census). The population density of the county in 2010 was 30 persons per square mile. Mineral Wells is the most populous city in the county but is geographically split between Palo Pinto and Parker Counties (see Table 3). The county seat is Palo Pinto, Texas, with 2010 population of less than 500 persons. Outside of Mineral Wells, there are four small cities of less than 1,000 population. The remaining 41 percent of the population is located wholly outside of an incorporate city or town in rural territory. Possum Kingdom Lake is a large reservoir (over 18,000 acres) that attracts vacationers from around the region offering recreational camping, fishing, and boating. Possum Kingdom State Park is located adjacent to Possum Kingdom Lake covering 1,529 acres.

Table 3. Palo Pinto County - City and Town Populations.

	2000 Population		2010 Population		Difference	
Gordon city	451	2%	478	2%	27	6.0%
Graford city	578	2%	584	2%	6	1.0%
Mineral Wells city (part)	14,781	55%	14,644	52%	-137	-0.9%
Mingus city	246	1%	235	1%	-11	-4.5%
Strawn city	739	3%	653	2%	-86	-11.6%
Balance - Population outside of a city or town	10,231	38%	11,517	41%	1,286	12.6%
Total Palo Pinto County	**27,026**	**100%**	**28,111**	**100%**	**1,085**	4.0%

Source: 2000 and 2010 Decennial Census, 2020 projection based Texas State Data Center (TSDC), Scenario 3 (2010-2020, 14.07%)

City of Mineral Wells – Largest City in Palo Pinto County

Mineral Wells is located 45 miles west of Fort Worth centered at the intersection of U.S. Highways 180 and 281; Interstate 20 is 15 minutes to the south. Mineral Wells was named after the mineral springs in the area. The Baker Hotel is a prominent hotel that towers over the city; the hotel opened in 1929 as a resort destination. The hotel is referred to by locals as the "Grand Lady" of Mineral Wells and was built to take advantage of the lure of the mineral waters. The hotel reigned as one of the country's most glamorous resorts for more than 25 years but unfortunately sits abandoned today. Fort Wolters, which closed in 1973, is located in Mineral Wells and is now privately owned but is still used for occasional training exercises by the National Guard. Mineral Wells is home to a variety of business, from oil and gas equipment manufacturers to autopilot makers and cable producers.

Graford/Possum Kingdom Lake Area

Toward the central and western portion of Palo Pinto County lies the Graford and Possum Kingdom Lake area. The Possum Kingdom Lake area is approximately 90 miles from DFWA and home to a variety of recreational activities in a resort setting (i.e., dining, marina, and golf course). Visitors may lodge in cabins, bed and breakfasts, hotels, or RV camping and tent camping. The town of Graford had population 584 in 2010.

The following pages profile the cities of Mineral Wells and Graford/Possum Kingdom Lake based on demographic, built and natural environment, and economic characteristics.

Mineral Wells, Texas

Demographic

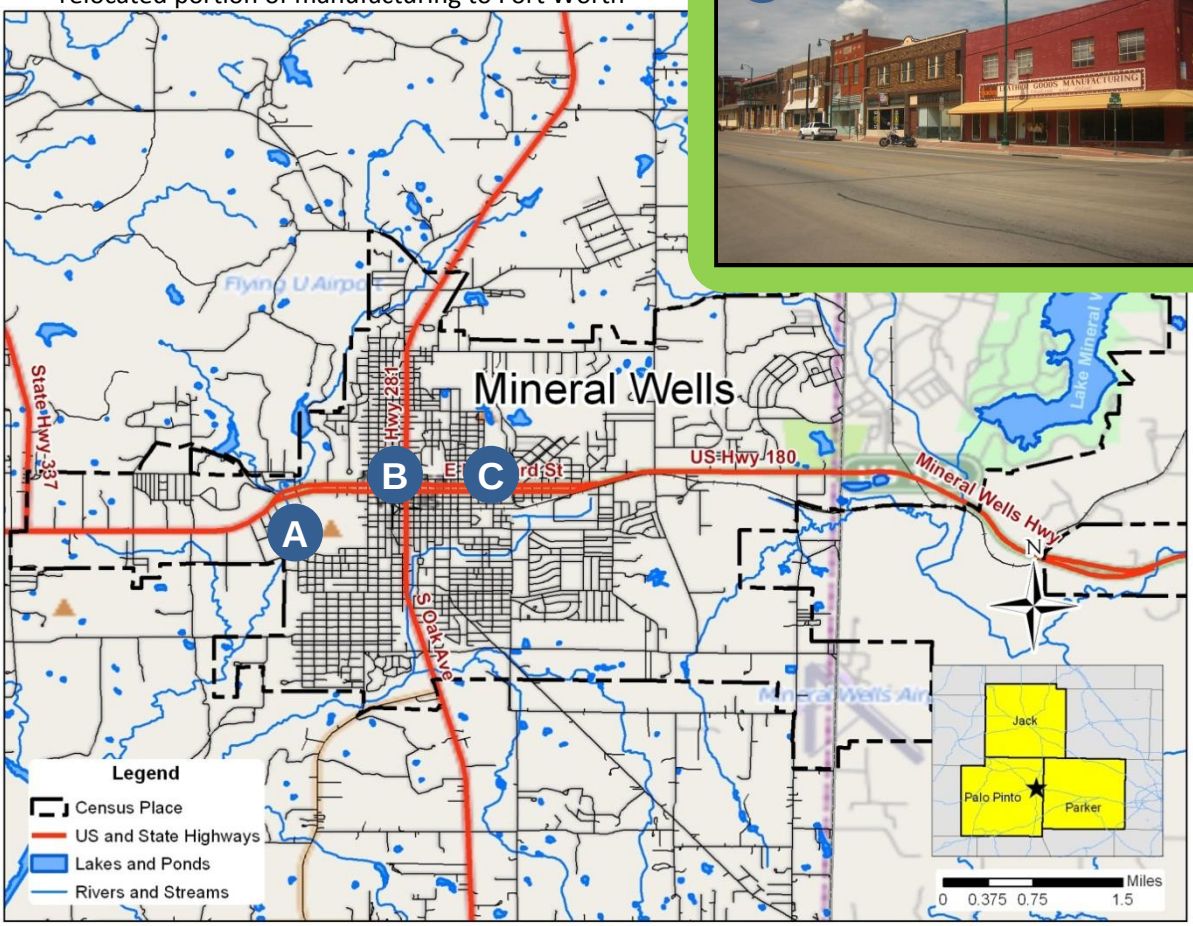
- 16,788 population (Census 2010)
- 13% (2,117) age 65 and over (Census 2010)
- 9% with no personal vehicles (ACS 2005-9)
- $36,052 median household income (ACS 2005-9)
- 17% of individuals live in poverty (ACS 2005-9)
- 12% civilian veteran population (ACS 2005-9)
- City is on Palo Pinto/Parker County border

Built/Natural Environment

- Located at the intersection of Hwy 281 and 180
- Historic Baker Hotel located here
- Four bridges make intercity travel by non-motorized modes difficult
- Former military base makes up industrial areas

Economic

- Variety of businesses including oil and gas equipment manufacturers to autopilot makers and cable producers
- Larger employer – Cantex (cable producer) – relocated portion of manufacturing to Fort Worth



Graford/Possum Kingdom Lake Area

Demographic

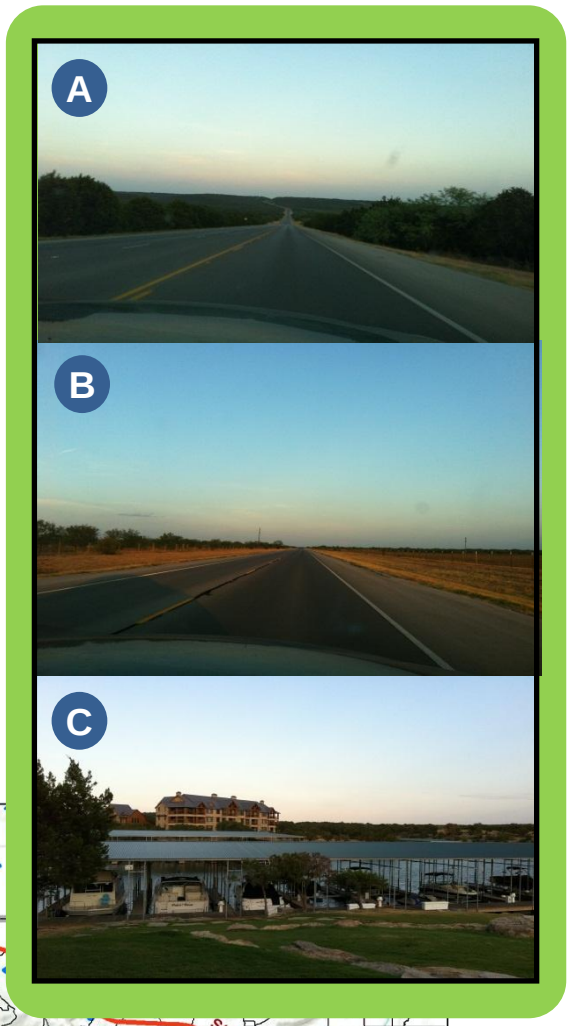
- 584 population (Census 2010)
- 12% (71) age 65 and over (Census 2010)
- 7% with no personal vehicles (ACS 2005-9)
- $29,583 median household income (ACS 2005-9)
- 14% of individuals live in poverty (ACS 2005-9)
- 12% civilian veteran population (ACS 2005-9)

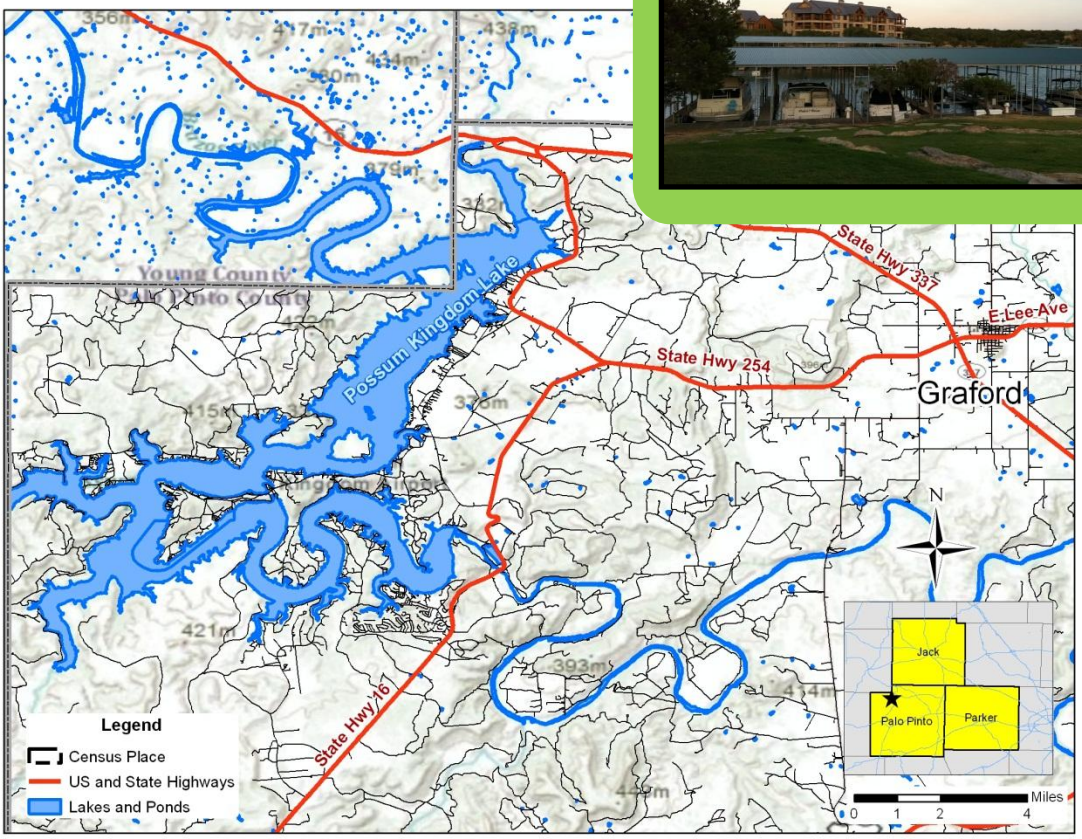
Built/Natural Environment

- Graford is approximately 13 miles east of Possum Kingdom Lake area
- Approximately 90 miles from Fort Worth and Wichita Falls

Economic

- Tourism
- Mainly small/local retail availability
- Varying restaurants and lodging supported by tourism





Jack County, Texas

Jack County is a more rural and low-density county than Parker and Palo Pinto. In 2000, the county population was 8,763 and by 2010 the population grew 3.2 percent to 9,044 residents. Jack County covers 910.7 square miles and has a population density of 10 persons per square mile (Census 2010). Jacksboro is the county seat and is the most populous city with a population of 4,511, which represents 50 percent of Jack County (see Table 4). The county geography consists primarily of gently rolling hills and farmland. The majority of the population is older; however, a younger demographic is beginning to move into Jacksboro and the eastern portion of the County.

Table 4. Jack County – City and Town Populations.

	2000 Population		2010 Population		Difference	
Jacksboro City	4,533	52%	4,511	50%	-22	-0.5%
Bryson city	528	6%	539	6%	11	2.1%
Balance - Population outside of a city or town	3,702	42%	3,994	44%	292	7.9%
Total for Jack County	**8,763**	**100%**	**9,044**	**100%**	**281**	3.2%

Source: 2000 and 2010 Decennial Census, 2020 projection based Texas State Data Center (TSDC), Scenario 3 (2010-2020, 1.38%)

The following page profiles the City of Jacksboro based on demographic, built and natural environment, and economic characteristics.

Jacksboro, Texas

Demographic

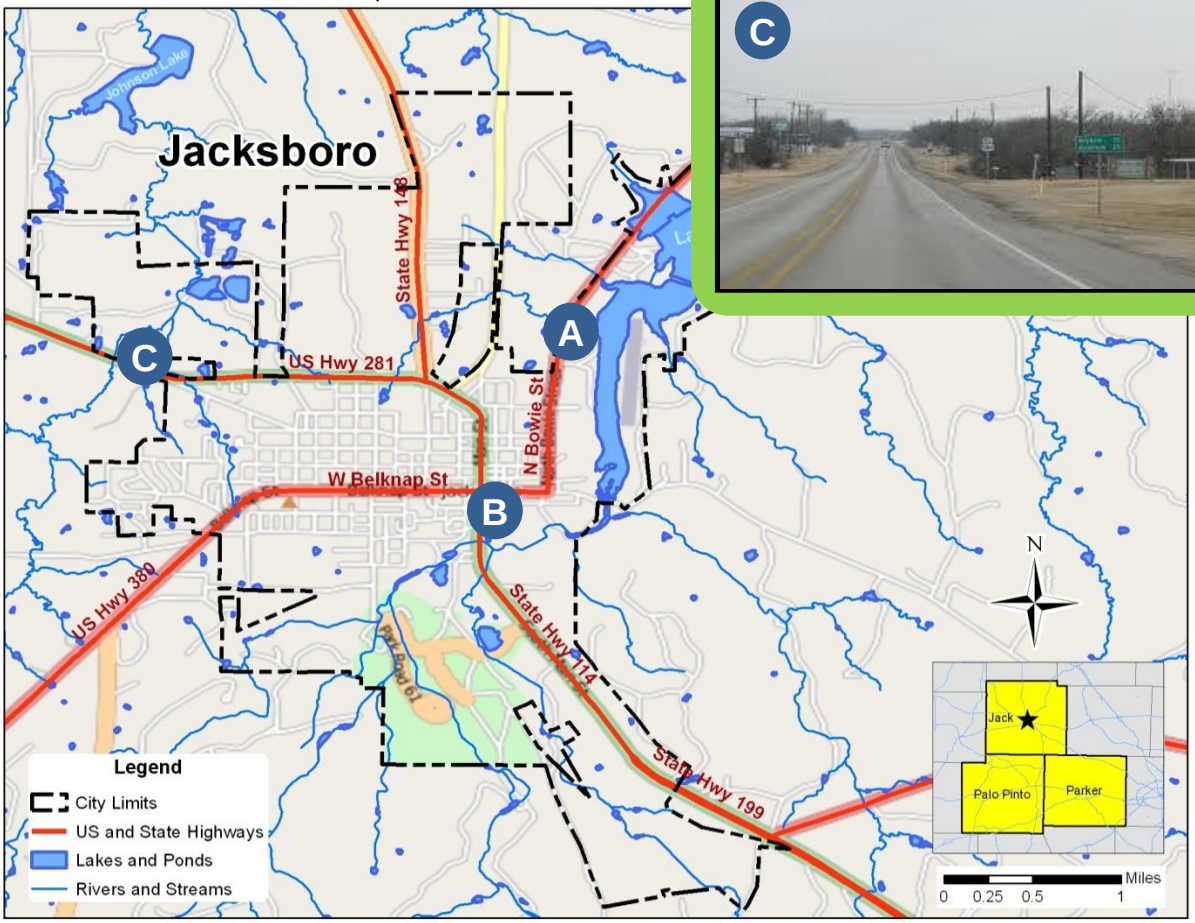
- 4,511 population Census 2010
- 6% (572) age 65 and over (Census 2010)
- 7% with no personal vehicles (ACS 2005-9)
- $43,147 median household income (ACS 2005-9)
- 18% of individuals live in poverty (ACS 2005-9)
- 10% civilian veteran population (ACS 2005-9)
- (Largest city in Jack County)

Built/Natural Environment

- Located at junction of Hwy 281 and 380
- County seat
- Nearest to Decatur; equidistant between Wichita Falls and Denton
- Lake Jacksboro located to the east
- 39 miles from Possum Kingdom lake area
- 65 miles from Fort Worth

Economic

- One medical clinic, no hospital



Potential Barriers to Transit Service

Researchers and transit planners identify two types of potential barriers to effective and efficient transit service: geographic (physical) barriers and jurisdictional (legal and coordination) barriers. Understanding potential barriers is important for effectively addressing potential limiting factors to transit service and coordination with adjacent transit operators.

Geographic barriers include land uses, topography, water features, road design, and boundaries between counties and cities. In addition, geographic barriers may exacerbate transit need for riders whose residence is in an area with poor access to services. An example of a geographic barrier in the PTS service area is Possum Kingdom Lake; bridges in Texas often lack pedestrian and bicycle facilities that would facilitate access without need of automobile or transit. Jurisdictional barriers may be real or perceived, and can include service limits and service policies. An example of a potential jurisdictional barrier in the PTS service area is the complex relationship of the Azle residents: Azle lies on the border of Parker and Tarrant Counties and coordination of transit service to facilitate vital trips for residents is complex.

TTI identified potential geographic and jurisdictional barriers in PTS through field work and discussions with PTS staff and other stakeholders. Transit operators and stakeholders can follow the same process of potential barrier identification.

Geographic Barriers

There are several water features, including lakes, streams, and a major river that can be found within the service area. Often, there are residences that need to be served in areas near the lakes. One of the major issues in these areas is street network design. Since the neighborhoods border a lake, it is not uncommon to find dead ends and cul-de-sacs, which are not favorable for transit service. Additionally, some neighborhoods may have only one major entrance or exit, which impedes the efficiency of the route. According to the transit manager, trips are requested near Pelican Bay on Eagle Mountain Lake (in the DFWA urbanized area). Figure 3 depicts a map of the road network near Eagle Mountain Lake.

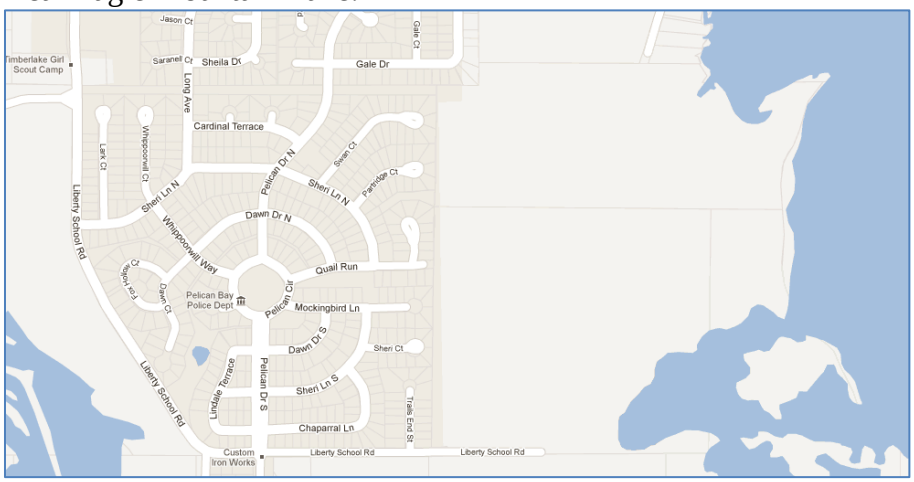


Figure 3. Road Network on Eagle Mountain Lake.

Other geographic barriers in PTS' service area include road quality and upkeep. Often, PTS is requested to serve neighborhoods with poor road quality. Not only are these areas difficult to navigate, but most have limited accessibility: no sidewalks, no right-of way. This creates a hardship when picking up passengers in walkers or wheelchairs who need access to the PTS vehicle. Additionally, many of these roads are also dead-ends, which poses a difficulty for PTS to serve certain areas as drivers are not allowed to back-up, as it is not a safe practice and adds a significant amount of time to routes.

Jurisdictional Barriers

PTS is a rural transit district that receives Section 5311 non-urbanized area funding to serve the non-urbanized (rural) area and Section 5307 urbanized funding to serve areas in the DFWA urbanized area. Many customers need access to employment, education, and medical services not only in the rural three-county service area but also in the DFWA urbanized area. PTS is also transporting customers to Stephenville in Erath County, and Breckenridge in Stephens County.

Within the urbanized area of DFWA, other transit providers provide service. For example in the City of Azle, which lies within the Dallas-Fort-Worth-Arlington urbanized area, there are at least three other transportation providers: American Red Cross, Tarrant County Transportation Services, and Green Light Ministries. At times, this dynamic not only may create duplication of services, but also emphasizes the need for clearer communication on provision of services. For example, the Wal-Mart in Azle is located within Parker County; however, the parking lot where passengers are being dropped off is located in Tarrant County. PTS is working on meeting with representatives from the other transportation providers in order to better plan how the area is served.

DEMOGRAPHIC CHARACTERISTICS

Researchers and transit planners investigate the demographic characteristics of transit service areas in order to ensure services match needs. The primary source for demographic information is the Census Bureau's website, which contains both decennial census and American Community Survey (ACS) data.

http://www.census.gov/

Decennial census data contains population, gender, age, and race/ethnicity information for many geographic levels in the United States and Puerto Rico (i.e., states, counties, places, tracts, block groups, metropolitan areas, etc.). The Census collected detailed demographic information using the long-form survey sample as part of decennial census efforts in 2000 and each decade prior. However, the ACS replaced the decennial census long-form survey beginning in 2010. ACS surveys are distributed annually and new demographic information is released annually; however, the ACS is a smaller sample than the long-form sample and as a result the values have larger margins-of-error.

TTI investigated the demographic characteristics of PTS counties as compared to each other, DFWA, and the State of Texas. TTI recommends that researchers and transit planners utilizing similar demographic analysis select several comparison geographies locally and the state. Cross comparison of multiple entities provides insight into which demographic characteristics of the service area are unusual and may represent populations needing transit service of some type or another (i.e., demand response, flexible, or fixed route service).

PTS Service Area Demographics

The lists below summarize the demographic characteristics of Parker, Palo Pinto, and Jack Counties as compared to the State of Texas (see Table 5).

Parker County has:

Higher or More . . . median age, household size, households with elderly, veterans, persons with disabilities, incomes, and longer commute time.

Lower or Less . . . single parents, foreign-born residents, poverty, housing costs, and households with no vehicle available.

Palo Pinto County has:

Higher or More . . . median age, households with elderly, single parents, persons with disabilities, and veterans.

Lower or Less . . . household size, foreign-born residents, high school and college graduates, incomes, housing costs, and shorter commute time.

Jack County has . . .

Higher or More . . . median age, households with elderly, and veterans.

Lower or Less . . . household size, single parents, foreign-born residents, high school and college graduates, incomes, housing costs, commute times and households with no vehicle available.

Four demographic characteristics are key indicators of a need for public transit: poverty, elderly, people with disabilities, and households with no vehicle available. Five other demographic characteristics that may indicate a need for transit (i.e., sometimes in the form of a unique transit market) are: single parents with children at home, military veterans, persons with high housing costs, areas of low educational attainment, and areas with more foreign-born residents.

Table 5. Summary of PTS Service Area Demographics.

	State of Texas	DFWA Metro Area	Parker County	Palo Pinto County	Jack County
DEMOGRAPHICS					
Median age of residents	33 years	33.5 years	38 years	39 years	40 years
Average household size	2.81 persons	2.74 persons	3.01 persons	2.58 persons	2.57 persons
Household with one or more persons 65 and over	20.1%	17.8%	22.3%	28.5%	34.0%
Single parents with children age 18 and under	10.8%	10.3%	8.0%	11.6%	7.4%
Percent of total population with a disability	11.4% (2010 ACS)	9.2% (2010 ACS)	13.1% (2008-10 ACS)	14.9% (2008-10 ACS)	19.1% (2000 Census)
Civilian veterans age 18 and over	6.4%	8.1%	8.9%	9.4%	8.6%
Residents born in foreign countries	15.8%	17.5%	3.7%	6.2%	4.5%
EDUCATIONAL ATTAINMENT					
High school graduates (% of age 25 and over)	79.3%	83.6%	83.5%	77.6%	49.0%
Bachelor's degree or more (% of age 25 and over)	25.4%	31.1%	20.2%	14.0%	10.4%
INCOME					
Median household income	$48,286	$54,449	$62,049	$40,141	$47,122
Per capita income	$24,318	$27,016	$26,143	$20,946	$21,112
Population living in poverty	17.1%	14.6%	9.9%	17.0%	14.9%
Population age 65 and over living in poverty	12.2%	8.0%	7.9%	10.4%	7.9%
HOUSING COST[1]					
Renters paying 30% or more of gross income	48.5%	49.4%	45.6%	46.6%	25.1%
Homeowners paying 30% or more of gross income	32.1%	32.8%	29.0%	28.7%	19.7%
HOUSEHOLD TRANSPORTATION					
Mean travel time to work	24.7 minutes	26.5 minutes	29.9 minutes	23.5 minutes	21.9 minutes
Household with no vehicle available	6.1%	5.0%	4.5%	6.0%	5.1%

Sources: American Community Survey, U.S. Decennial Census 2000 and 2010

1. "Families who pay more than 30 percent of their income for housing are considered cost burdened and may have difficulty affording necessities such as food, clothing, transportation and medical care" (U.S. Department of Housing and Urban Development).

ECONOMIC CHARACTERISTICS

Researchers and transit planners can evaluate aspects of the private economy to identify primary industries (i.e., large employers) as part of a local or regional initiative to establish targeted transit services for work trips. The type, location, and size of an industry may indicate a public transit market either for services designed for employees or patrons. Public transit in rural areas does not typically focus on serving commute-to-work trips; however, when an industry is geographically concentrated and offers lower-wage positions public transit service between or within communities for employees may be an efficient or desirable service. Services for employees or patrons of large industries may potentially increase transit ridership, reduce congestion on busy roadways, and support economic growth.

Another reason to investigate employment is to evaluate if the service area is internally deficient in any key industries, such as medical services. For example, if all three PTS counties have extremely low employment in education or medical industries there may exist a pronounced need for coordinated transit services that can effectively move riders from PTS into the Dallas-Fort Worth metropolitan area (or other regional destinations).

The source that TTI used for analysis in the next section is the United States Bureau of Labor Statistics (BLS). BLS collects a *Quarterly Census of Employment and Wages* (QCEW) from state workforce departments. QCEW data are used throughout the federal government to calculate unemployment and many other economic health indicators, etc. The TTI researcher analysis on PTS, in the next section below, utilized the BLS online location quotient calculator:

http://www.bls.gov/cew/cewlq.htm

In general, location quotients are ratios that compare the concentration of a resource or activity, such as employment, in a defined area to that of a larger area or base. In other words, a location quotient is the percentage employment in an industry divided (compared to) by the percentage employment in the same industry in a larger geography. A location quotient value greater than 1 means the study geography possesses more employment in the industry than expected when compared with the base area: the industry is likely a primary economic activity whose output is exported to other places. For example, the location quotient for “natural resources and mining” in Jack County is 11.02. Employment in natural resources and mining in Jack County is over 11 times the Texas state-wide average.

Researchers and planners replicating TTI researcher analysis of economic characteristics can use the following case study of PTS as a guide.

PTS Service Area Industries

The economies of each of the three PTS counties differ from each other and from the state. Manufacturing, education, and leisure and hospitality industries may indicate a market for transit service because those industries typically concentrate geographically. Table 6 includes information on each county's top five industries as well as a location quotient and a "+" or "-" to indicate if industry employment increased or diminished between 2005 and 2010. Location quotient is a way to readily compare the industrial activity levels among PTS counties to that of the State of Texas economy. A value less than one indicates that the county has a lower percent of employment in the sector and likely is dependent on the region to fill the industry gap (if one exists). A value greater than one indicates the county has a higher percentage of employment in the sector and likely exports some of the output (whether material of monetary) of the sector to outside economies (region, state, or national).

Table 6. Top Five Private Industries by County, 2010.

	State of Texas	Parker County			Palo Pinto County			Jack County		
	Industry	Industry	Location Quotient	Change 2005-2010	Industry	Location Quotient	Change 2005-2010	Industry	Location Quotient	Change 2005-2010
1	Trade, transportation, and utilities	Trade, transportation, and utilities	1.16	+	Trade, transportation, and utilities	1.09	+	Natural resources and mining	11.02	+
2	Education and health services	Education and health services	0.93	+	Manufacturing	2.09	-	Trade, transportation, and utilities	0.72	+
3	Professional and business services	Leisure and hospitality	1.19	+	Leisure and hospitality	1.19	+	Construction	1.65	+
4	Leisure and hospitality	Manufacturing	1.12	-	Natural resources and mining	3.73	+	Professional and Business Services	0.69	+
5	Manufacturing	Construction	1.30	-	Education and health services	0.54	-	Education and health services	0.52	+

Sources: U.S. Bureau of Labor Statistics, *Quarterly Census of Employment and Wages* , 2005 and 2010 annual averages, all employees, private industries only, all establishment sizes.
Location Quotient: Ratio of county percentage employment in an industry to Texas percentage employment in an industry. A value greater than 1 means that industry employment is greater than the Texas average and is therefore likely to be a basic good, or export, for the county.
Change 2005 - 2010: "+" or "-" indicates the general direction of industry employment change from 2005 to 2010.

Parker County's top five private industries have location quotients near 1: a location quotient near 1 means that the industry is serving a local need, as opposed to exporting a basic economic output. Parker County residents are PTS' nearest residents to the DFWA metropolitan area. The data in Table 6 appear to support the assumption that Parker County industries are primarily services for residents that themselves work in DFWA (primarily). On the other hand, analysis of the top five industries in Palo Pinto and Jack Counties indicates that each county has several private industries with much higher employment than the Texas average and can therefore be assumed to be exporting a basic good and probable employing local residents in-county. Palo Pinto County has strong manufacturing and natural resources and mining industries. Jack County has an exceptionally strong natural resources and mining industry sector.

All three counties have less private industry employment in education and health services than the state average. Residents in Palo Pinto and Jack Counties are especially likely to have less access to education and healthcare services than most Texans due to low employment in that industry.

Service Area Destinations

Researchers and transit planners document common destinations of transit riders and other destinations that may be utilized by future transit ridership. Transit attractors are destinations where transit passengers want to go. Sometimes transit attractors are referred to as transit generators. The most typical categories of common transit destinations are:

- **Education**–high schools, vocational schools, community colleges.
- **Government**–social services, public, and governmental agencies.
- **Medical**–hospitals, clinics, dialysis centers, doctors' offices, etc.
- **General Business**–businesses engaged in any one of several types of manufacturing, raw material handling, and business services (i.e., legal, banking, etc.).
- **Restaurant, Retail, Lodging**–grocery stores, retail shopping areas, pharmacies, etc.
- **Senior Living Facilities**–residences and centers for elderly persons.

The purpose of documenting transit destinations, or attractors, is to investigate the nexus of current or future transit services with the unique characteristics and needs of each type. Common sources of transit destination data include the following:

- Demand response transit manifests.
- Local chapters of the Chambers of Commerce.
- Council of governments.
- Economic development entities.

TTI researchers documented transit destinations in PTS with information provided courtesy of economic development corporations, online searches of local Chamber of Commerce membership listings, and the NCTCOG's website. Researchers and planners replicating transit destination can use the following case study of PTS as a guide.

PTS Service Area Transit Attractors

TTI categorized transit attractors in one of eight categories: based on field work and discussion with PTS staff TTI decided to expand the typical list of transit destinations from six to eight categories to investigate the impact of manufacturing and natural resource/mining in PTS counties. The list below illustrates the types of attractors that constitute each of the eight categories summarized in Table 7 below:

- **Education**–high schools, vocational schools, community colleges.
- **Business Services**–identifiable businesses not included on list in another category.
- **Government**–social services, public, and governmental agencies.
- **Medical**–hospitals, clinics, dialysis centers, doctors' offices, etc.
- **Manufacturing**–businesses engaged in any one of several types of manufacturing.
- **Natural Resources and Mining**–businesses involved in the extraction of raw materials.
- **Restaurant, Retail, Lodging**–grocery stores, retail shopping areas, pharmacies, etc.
- **Senior Living Facilities**–residences and centers for elderly persons.

Table 7 contains the number of attractors in each category by city/town, as well as the total, in the PTS service area.

Table 7. Transit Attractors by County and City.

	NUMBER OF IDENTIFIED LOCATIONS BY CATEGORY								
	Education	Business Services	Government	Medical	Manufacturing	Natural Resources & Mining	Restaurant, Retail, Lodging	Senior Living Facilities	***Total***
COUNTY									
Jack	7	6	5	7	0	2	22	0	***49***
Palo Pinto	15	6	2	3	11	3	35	7	***82***
Parker	41	7	3	10	17	5	37	14	***134***
Total	***63***	***19***	***10***	***20***	***28***	***10***	***94***	***21***	***265***
CITY									
Weatherford	18	8	3	7	9	2	30	13	***90***
Mineral Wells	7	3	2	3	15	5	13	7	***55***
Jacksboro	4	6	5	7	0	2	22	0	***46***
Azle	3	0	0	0	2	1	1	1	***8***
Graford	2	3	0	0	0	0	19	0	***24***
Total	***34***	***20***	***10***	***17***	***26***	***10***	***85***	***21***	***223***

Note: this table is representative of locations from available public information and may not include all locations that generate or attract transit trips.
Sources: North Central Texas Council of Governments, Chambers of Commerce, and City of Weatherford Economic Development Department.

The distribution of attractors throughout PTS' service area is not even. The location and distribution of transit attractors are important for transit service planning. The most efficient and effective services are those that connect riders with the attractors. Figure 4 depicts the general location of the transit attractors in the PTS service area.

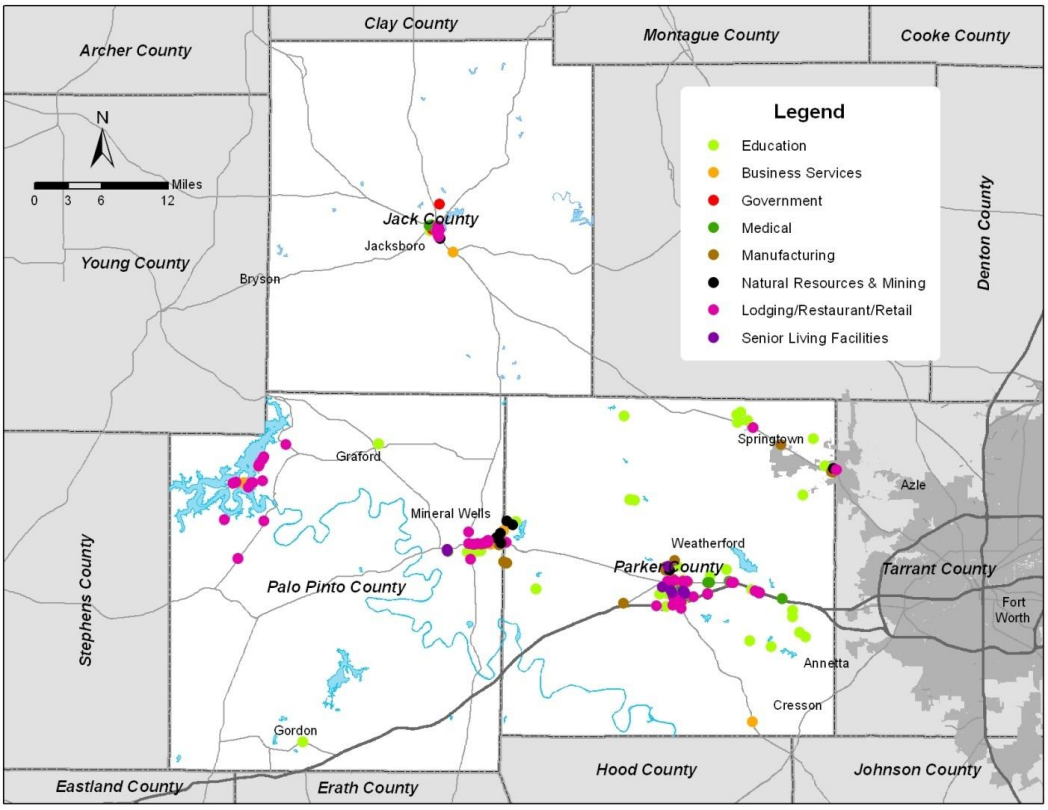


Figure 4. Transit Attractors in PTS.

WORK TRAVEL

Work trip patterns illuminate the relationships of county populations in a region. Large numbers of work trips traveling to or from the same location in a county or city may represent a market, or demand, for tailored public transit services. The purpose of analyzing work travel is to identify the potential demand for commute transit services. Common work-related transit services include carpool programs, vanpool programs, and park-and-ride services. Examining work travel patterns may identify patterns within and between counties sufficient to support one or more of work-related type transit service. Also, adjacent transit operators may discover a heretofore unrecognized inter-dependence; motivation to establish more coordinated services to support residents' needs. There are several data sources for work-related travel.

The first and most common are the inter-county workflows produced from Census and ACS data as part of Census Transportation Planning Products (CTPP), a program at American Association of State Highway and Transportation Officials (AASHTO). The Census Bureau released inter-county work travel flows for all counties based on the 2000 Decennial Census. CTPP released 2006–2008 ACS data-based inter-county work flows for all counties with population 20,000 or more (ACS data have particular population thresholds). The data include information on three types of work trips: (1) work trips made by residents of a county to a job within their residence county, (2) work trips made by residents of one county to a job in another county, and (3) work trips made by residents of other counties into one of the three PTS counties.

Another source of work travel data from the Census Bureau is the Longitudinal Economic Household Dynamics (LEHD) data products. LEHD data are data synthesized from state employment records, IRS tax records, and other sources. LEHD contains essentially the same information as the CTPP inter-county flows, but with a few differences. LEHD is travel from census block to census block (a census block is basically a city block in an urban area and varies in size in a rural area). Also, LEHD adds income, race/ethnicity, age, educational attainment, earnings, and job sector to the information available about each work trip. LEHD data are difficult to manipulate manually in Excel or a database program due to its complexity; however, the Census created an online tool to facilitate the public's use of the data for analysis. The LEHD online tool is called OnTheMap, the web address is:

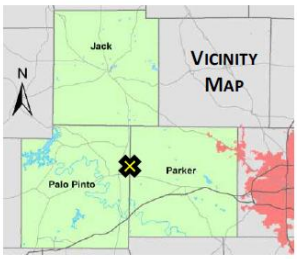
http://lehdmap.did.census.gov/

TTI researchers used CTPP data to evaluate inter-county work travel in PTS: similar analysis is complex but possible. Transit planners desiring to conduct similar analysis may seek assistance from TTI or attempt to replicate the analysis included in the next section on PTS work travel. Otherwise, the LEHD OnTheMap tool is a valuable resource for similar analysis. The next page contains a sample information sheet TTI produced from LEHD OnTheMap data. TTI researcher analysis of work travel in PTS is on the page after the example of OnTheMap data.

MINERAL WELLS 2009

PALO PINTO & PARKER COUNTIES

ECONOMIC PROFILE



Jobs by Worker Age	Count	Share
Age 29 or younger	1,571	25%
Age 30 to 54	3,590	56%
Age 55 or older	1,241	19%

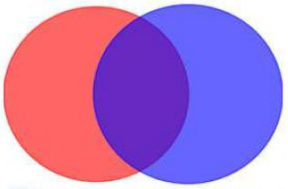
Jobs by Earnings	Count	Share
$1,250 per month or less	1,592	25%
$1,251 to $3,333 per month	2,970	46%
More than $3,333 per month	1,840	29%

Jobs by NAICS Industry Sector	Count	Share
Agriculture, Forestry, Fishing and Hunting	108	2%
Mining, Quarrying, and Oil and Gas Extraction	417	7%
Utilities	84	1%
Construction	527	8%
Manufacturing	953	15%
Wholesale Trade	244	4%
Retail Trade	709	11%
Transportation and Warehousing	197	3%
Information	109	2%
Finance and Insurance	224	4%
Real Estate and Rental and Leasing	80	1%
Professional, Scientific, and Technical Services	162	3%
Management of Companies and Enterprises	41	1%
Administration & Support, Waste Management and Remediation	233	4%
Educational Services	681	11%
Health Care and Social Assistance	722	11%
Arts, Entertainment, and Recreation	55	1%
Accommodation and Food Services	446	7%
Other Services (excluding Public Administration)	155	2%
Public Administration	255	4%

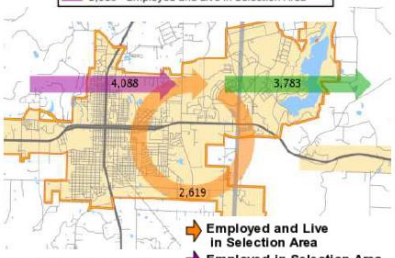
Jobs by Worker Educational Attainment	Count	Share
Less than high school	707	11%
High school or equivalent, no college	1,485	23%
Some college or Associate degree	1,678	26%
Bachelor's degree or advanced degree	961	15%
Educational attainment not available (workers aged 29 or younger)	1,571	25%

Source: U.S. Census Bureau, OnTheMap Application and Longitudinal Household Dynamics (LEHD), 2009, primary jobs only

INFLOW/OUTFLOW COUNTS



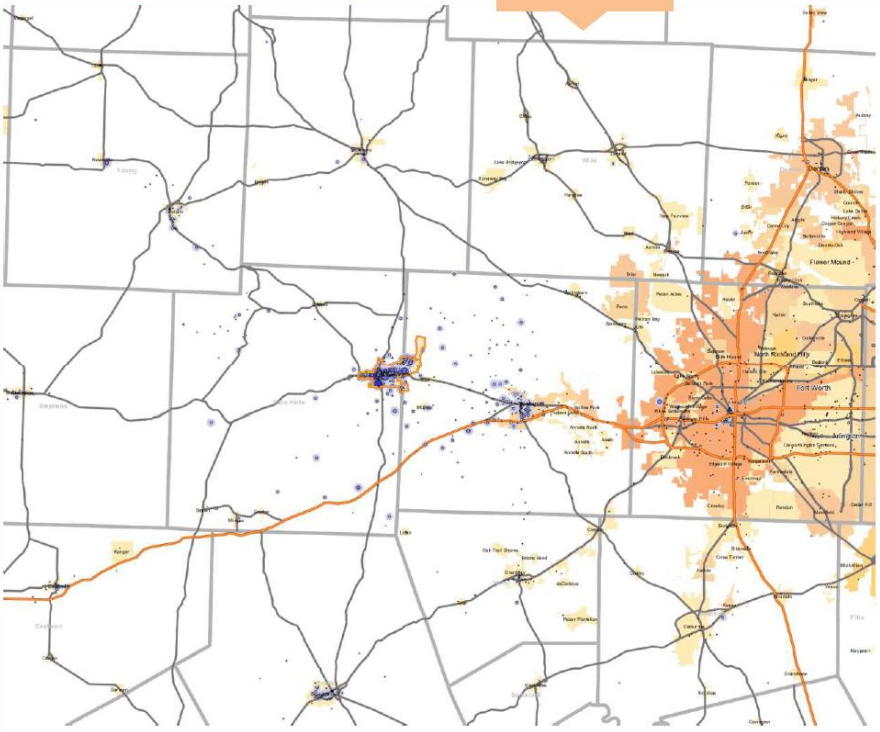
3,783 - Live in Selection Area, Employed Outside
4,088 - Employed in Selection Area, Live Outside
2,619 - Employed and Live in Selection Area



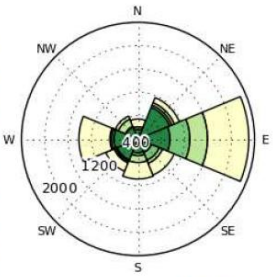
Note: Overlay arrows do not indicate directionality of worker flows between home and employment locations.

- Employed and Live in Selection Area
- Employed in Selection Area, Live Outside
- Live in Selection Area, Employed Outside

Analysis of Residents



JOB COUNTS BY DISTANCE/DIRECTION, ALL WORKERS



	Count	Share
Less than 10 miles	2,814	44%
10 to 24 miles	657	10%
25 to 50 miles	760	12%
Greater than 50 miles	2,171	34%
Total Primary Jobs	*6,402*	*100%*

LEGEND

- 1 - 3 Jobs
- 4 - 23 Jobs
- 24 - 75 Jobs
- 76 - 178 Jobs
- 179 - 348 Jobs
- 5 - 37 Jobs/Sq.Mile
- 38 - 136 Jobs/Sq.Mile
- 137 - 300 Jobs/Sq.Mile
- 301 - 529 Jobs/Sq.Mile
- 530 - 825 Jobs/Sq.Mile

N Analysis Selection

PTS Service Area Work Travel

The analysis of data on work travel depicts a type of transit need in PTS. Examining trip patterns can identify work travel patterns within and between counties. Work trip patterns illuminate the relationships of county populations in a region. Large numbers of work trips traveling to or from the same location in a county or city may represent a market, or demand, for tailored public transit services. The U.S. Census Bureau released inter-county work travel flows for all counties based on the 2000 Decennial Census. In 2008, the CTPP, part of AASHTO, released 2006–2008 ACS data containing work travel flows for all counties with population 20,000 or more.

Parker and Palo Pinto Counties both exceed 20,000 population and data were available for both 2000 and 2006–2008 periods. Jack County population is less than 20,000 and as a result only year 2000 data were available. The data include information on three types of work trips: (1) work trips made by residents of a county to a job within their residence county, (2) work trips made by residents of one county to a job in another county, and (3) work trips made by residents of other counties into one of the three PTS counties. The next three sections contain TTI analysis of the change in volume and mode choice between 2000 and 2006–2008 for each of the three types of work travel.

Summary of Work Trip Type Change

Table 8 summarizes work trip flow types and the change between the 2000 Census and the 2006–2008 ACS by PTS County.

Table 8. Work Trip Flows Summary Table, 2000 to 2006–2008.

	2000		2006-2008		Change 2000 to 2006-2008	
PARKER COUNTY						
Live and work local	16,675	35%	23,315	40%	6,640	40%
Live local and work out-of-county	24,137	50%	25,559	44%	1,422	6%
Live out-of-county, work in Parker	7,087	15%	9,395	16%	2,308	33%
Total	**47,899**		**58,269**		**10,370**	
PALO PINTO COUNTY						
Live and work local	7,620	57%	7,750	61%	130	2%
Live local and work out-of-county	4,038	30%	3,259	26%	(779)	-19%
Live out-of-county, work in Palo Pinto	1,720	13%	1,640	13%	(80)	-5%
Total	**13,378**		**12,649**		**(729)**	
JACK COUNTY						
Live and work local	2,065	54%	n/a	n/a	n/a	n/a
Live local and work out-of-county	1,199	32%	n/a	n/a	n/a	n/a
Live out-of-county, work in Jack	538	14%	n/a	n/a	n/a	n/a
Total	**3,802**		**n/a**		**n/a**	
PTS SERVICE AREA						
Live and work local	26,360	41%	31,065	44%	4,705	18%
Live local and work out-of-county	29,374	45%	28,818	41%	(556)	-2%
Live out-of-county, work in PTS county	9,345	14%	11,035	16%	1,690	18%
Total	**65,079**		**70,918**		**5,839**	

Source: U.S. Census 2000 and ACS 2006-2008 CTPP Workflows
Note: ACS 2006-2008 values are estimates with varying margins of error

In 2000, work trips by residents who live and work locally have the highest volume in Palo Pinto and Jack Counties (57 and 54 percent, respectively); whereas only 35 percent of Parker County residents lived and worked locally. By 2006–2008, more residents of Parker and Palo Pinto Counties lived and worked locally. In 2000 and 2006–2008 Parker County drew in the most workers from outside as well as had the most residents commuting to other counties for work.

Live and Work Local

Table 9 contains the volume of "live and work local" trips by travel mode in 2000 and in 2006–2008. These are work trips by residents of one of the three PTS counties to work within the same county. From 2000 to 2006–2008 the rate of workers driving to work by themselves in PTS increased from 74 to 76 percent. The number of residents working at home rose from 7 percent to 8 percent between 2000 to 2006–2008. The 2 and 3-or-more person carpool work trips dropped from 15 percent to 13 percent. Bus, bicycle, walking, and other alternative modes remained near level over period.

Table 9. Trip Volumes and Travel Mode for Live and Work Locally.

	2000		2006-2008		Change 2000 to 2006-2008	
PARKER COUNTY						
Drive alone	12,247	73%	17,465	75%	5,218	43%
2-person carpool	1,747	10%	2,290	10%	543	31%
3-or-more person carpool	717	4%	595	3%	(122)	-17%
Bus	12	0.1%	25	0.1%	13	108%
Streetcar, subway, railroad, ferry	-	0%	-	0%	-	0%
Bicycle, walk, taxicab, motorcycle, other	624	4%	835	4%	211	34%
Worked at home	1,328	8%	2,105	9%	777	59%
Total	**16,675**		**23,315**		**6,640**	
PALO PINTO COUNTY						
Drive alone	5,909	78%	6,015	78%	106	2%
2-person carpool	782	10%	695	9%	(87)	-11%
3-or-more person carpool	295	4%	220	3%	(75)	-25%
Bus	12	0.2%	25	0.3%	13	108%
Streetcar, subway, railroad, ferry	-	0%	-	0%	-	0%
Bicycle, walk, taxicab, motorcycle, other	320	4%	519	7%	199	62%
Worked at home	302	4%	280	4%	(22)	-7%
Total	**7,620**		**7,754**		**134**	
JACK COUNTY						
Drive alone	1,410	68%	n/a	n/a	n/a	n/a
2-person carpool	254	12%	n/a	n/a	n/a	n/a
3-or-more person carpool	144	7%	n/a	n/a	n/a	n/a
Bus	-	0%	n/a	n/a	n/a	n/a
Streetcar, subway, railroad, ferry	-	0%	n/a	n/a	n/a	n/a
Bicycle, walk, taxicab, motorcycle, other	91	4%	n/a	n/a	n/a	n/a
Worked at home	166	8%	n/a	n/a	n/a	n/a
Total	**2,065**		**n/a**		**n/a**	
PTS SERVICE AREA						
Drive alone	19,566	74%	23,480	76%	3,914	20%
2-person carpool	2,783	11%	2,985	10%	202	7%
3-or-more person carpool	1,156	4%	815	3%	(341)	-29%
Bus	24	0.1%	50	0.2%	26	108%
Streetcar, subway, railroad, ferry	-	0%	-	0%	-	0%
Bicycle, walk, taxicab, motorcycle, other	1,035	4%	1,354	4%	319	31%
Worked at home	1,796	7%	2,385	8%	589	33%
Total	**26,360**		**31,069**		**4,709**	

Source: U.S. Census 2000 and ACS 2006-2008 CTPP Workflows

Note: ACS 2006-2008 values are estimates with varying margins of error

Live Local, Work Out-of-County

Table 10 contains volume of live local but work out-of-county trips by travel mode in 2000 and in 2006–2008 for each county in PTS as well as the service area average. The work trip mode-choice split by PTS residents to counties other than residence remained near constant between 2000 and 2006–2008.

Table 10. Trip Volumes and Mode Choice for Live Local, Work Out-of-County.

	2000		2006-2008		Change 2000 to 2006-2008	
PARKER COUNTY						
Drive alone	20,407	85%	21,810	85%	1,403	7%
2-person carpool	2,901	12%	2,774	11%	(127)	-4%
3-or-more person carpool	652	3%	686	3%	34	5%
Bus	6	0.02%	69	0.3%	63	1050%
Streetcar, subway, railroad, ferry	-	0%	-	0%	-	0%
Bicycle, walk, taxicab, motorcycle, other	179	1%	220	1%	41	23%
Worked at home	-	0%	-	0%	-	0%
Total	**24,145**		**25,559**		**1,414**	
PALO PINTO COUNTY						
Drive alone	3,279	81%	2,668	82%	(611)	-19%
2-person carpool	564	14%	470	14%	(94)	-17%
3-or-more person carpool	144	4%	83	3%	(61)	-42%
Bus	-	0%	4	0.1%	4	n/a
Streetcar, subway, railroad, ferry	-	0%	-	0%	-	0%
Bicycle, walk, taxicab, motorcycle, other	40	1%	30	1%	(10)	-25%
Worked at home	-	0%	-	0%	-	0%
Total	**4,027**		**3,255**		**(772)**	
JACK COUNTY						
Drive alone	999	84%	n/a	n/a	n/a	n/a
2-person carpool	122	10%	n/a	n/a	n/a	n/a
3-or-more person carpool	58	5%	n/a	n/a	n/a	n/a
Bus	2	0.2%	n/a	n/a	n/a	n/a
Streetcar, subway, railroad, ferry	-	0%	n/a	n/a	n/a	n/a
Bicycle, walk, taxicab, motorcycle, other	12	1%	n/a	n/a	n/a	n/a
Worked at home	-	0%	n/a	n/a	n/a	n/a
Total	**1,193**		**n/a**		**n/a**	
PTS SERVICE AREA						
Drive alone	24,685	84%	24,478	85%	(207)	-1%
2-person carpool	3,587	12%	3,244	11%	(343)	-10%
3-or-more person carpool	854	3%	769	3%	(85)	-10%
Bus	8	0.03%	73	0.3%	65	813%
Streetcar, subway, railroad, ferry	-	0%	-	0%	-	0%
Bicycle, walk, taxicab, motorcycle, other	231	1%	250	1%	19	8%
Worked at home	-	0%	-	0%	-	0%
Total	**29,365**		**28,814**		**(551)**	

Source: U.S. Census 2000 and ACS 2006-2008 CTPP Workflows
Note: ACS 2006-2008 values are estimates with varying margins of error

The next two pages contain figures (Figures 5-13) depicting:

- Work destinations of county residents who work in a county other than where they live.
- County resident jobs by distance.
- County resident jobs by place.

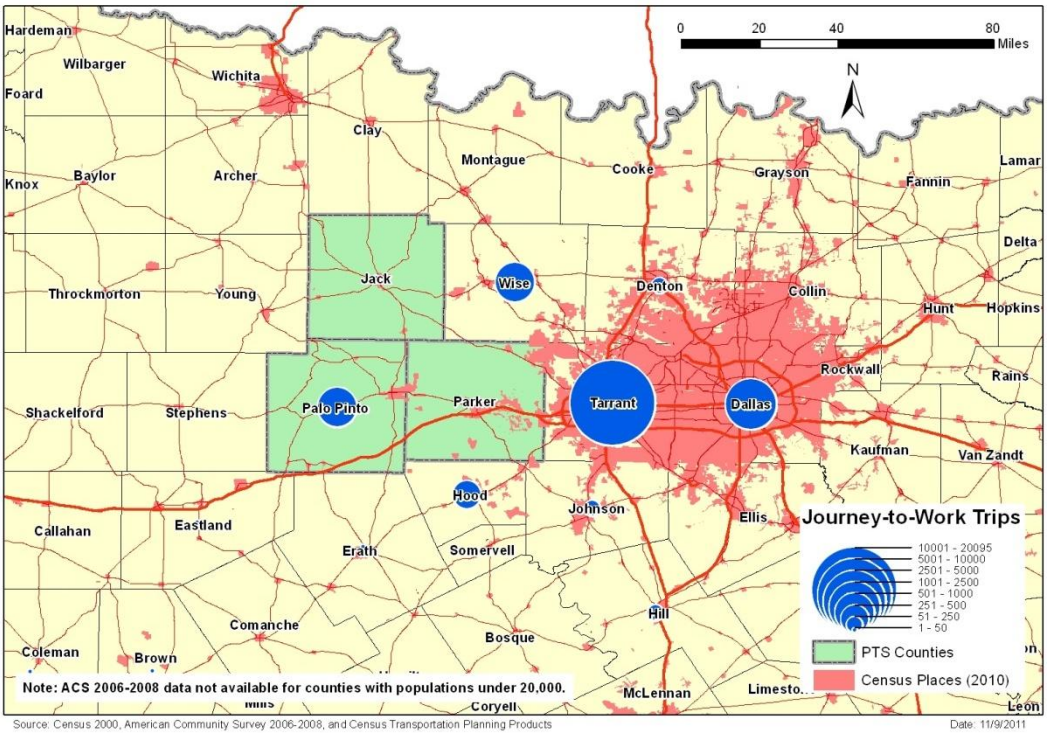


Figure 5. Work Destinations of Parker County Residents Working Outside of County, 2006–2008 ACS.

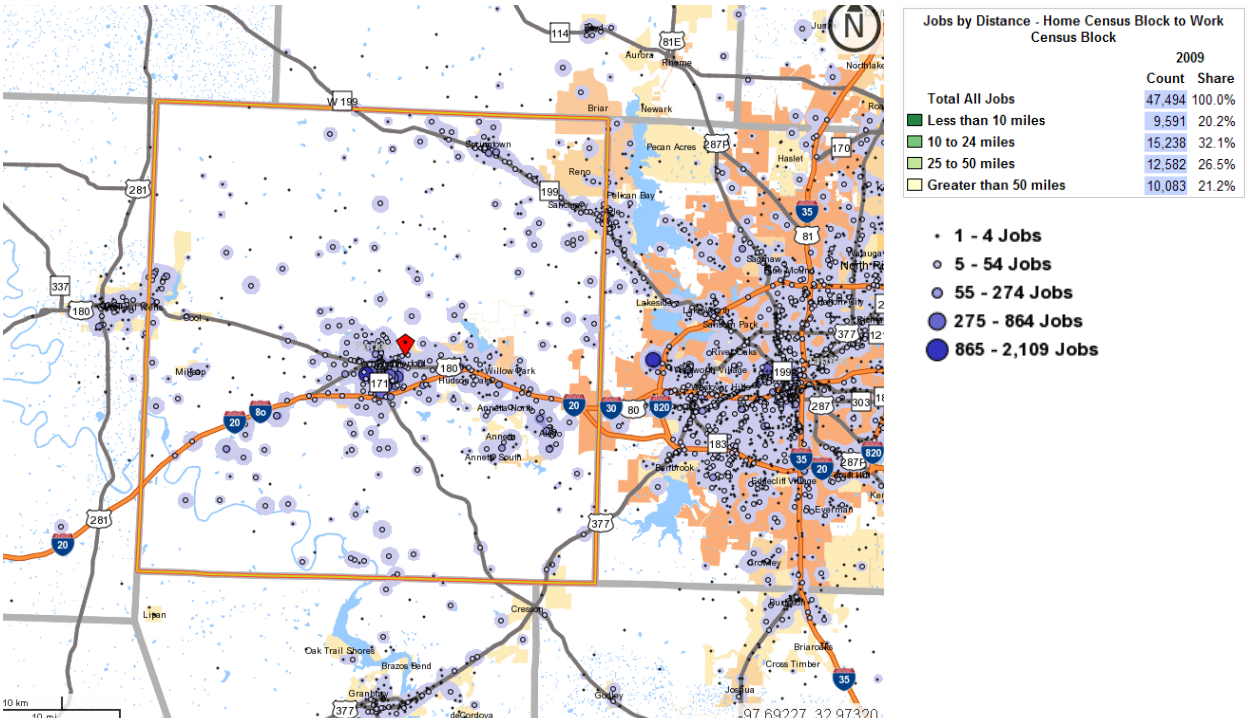


Figure 6. Parker County Resident Jobs by Distance – Home to Work, 2006–2008 ACS.

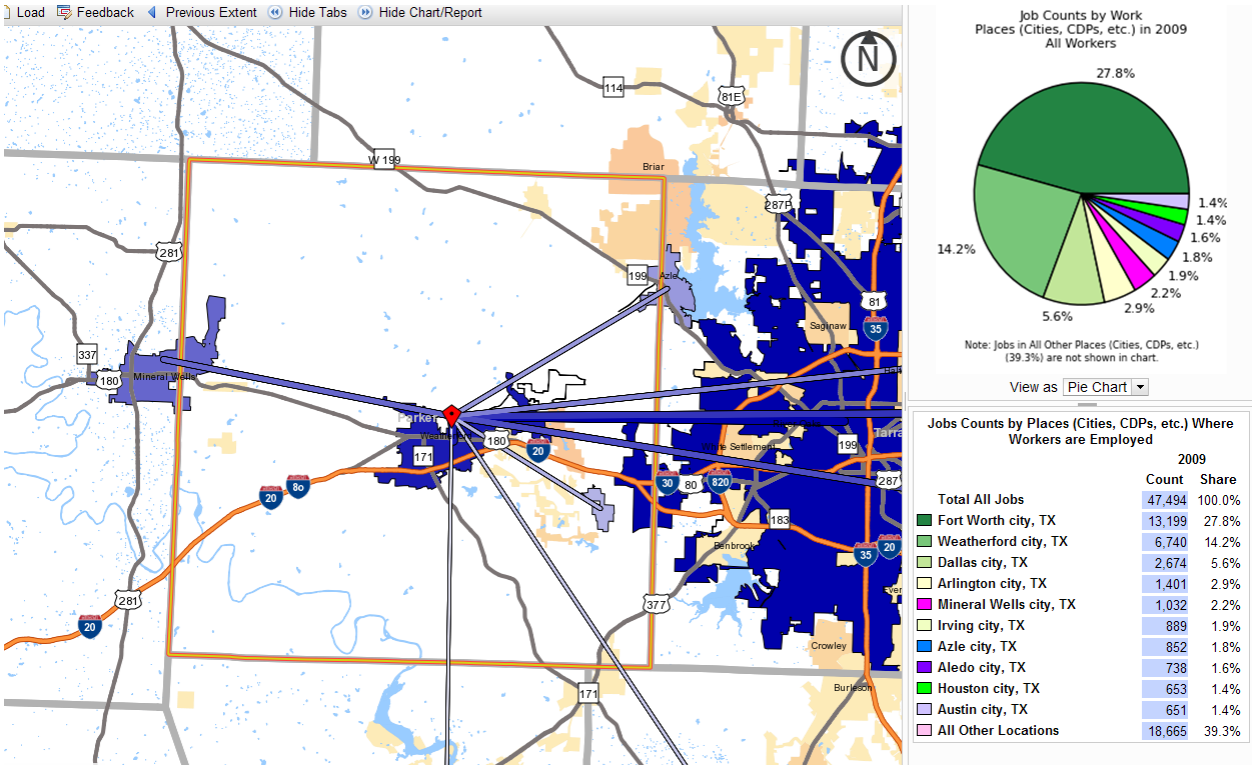


Figure 7. Parker County Resident Jobs by Places, 2006–2008 ACS.

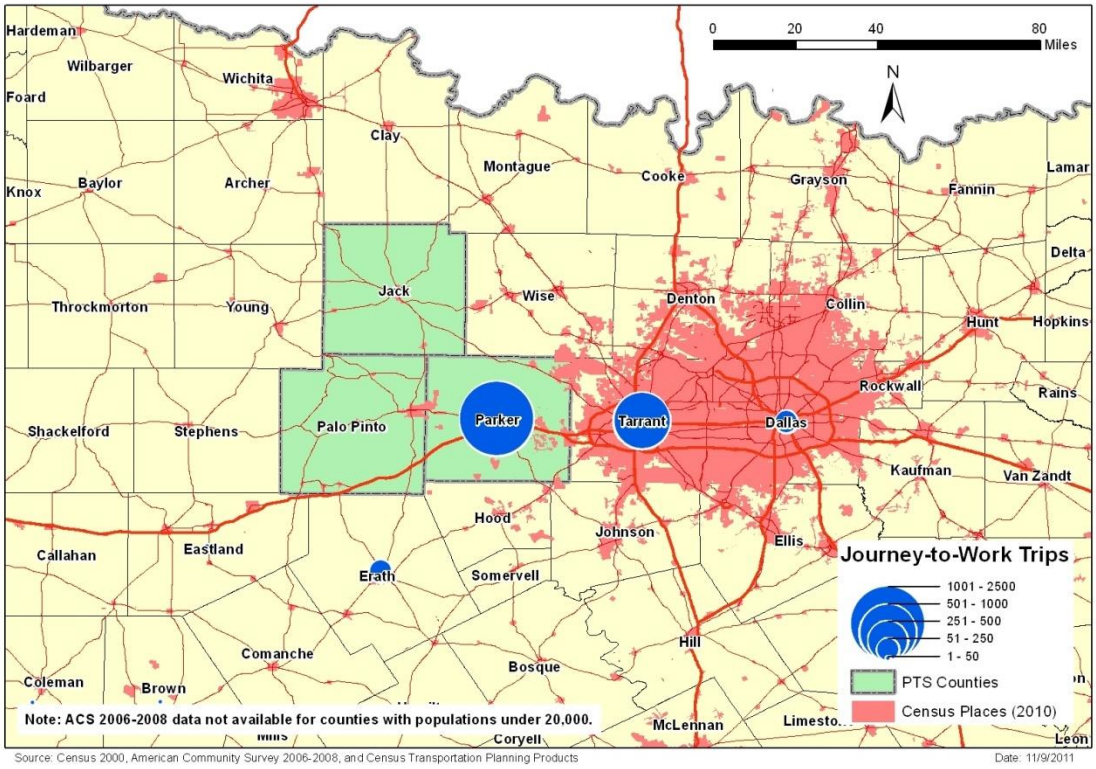


Figure 8. Work Destinations of Palo Pinto County Residents Working Outside of County, 2006–2008 ACS.

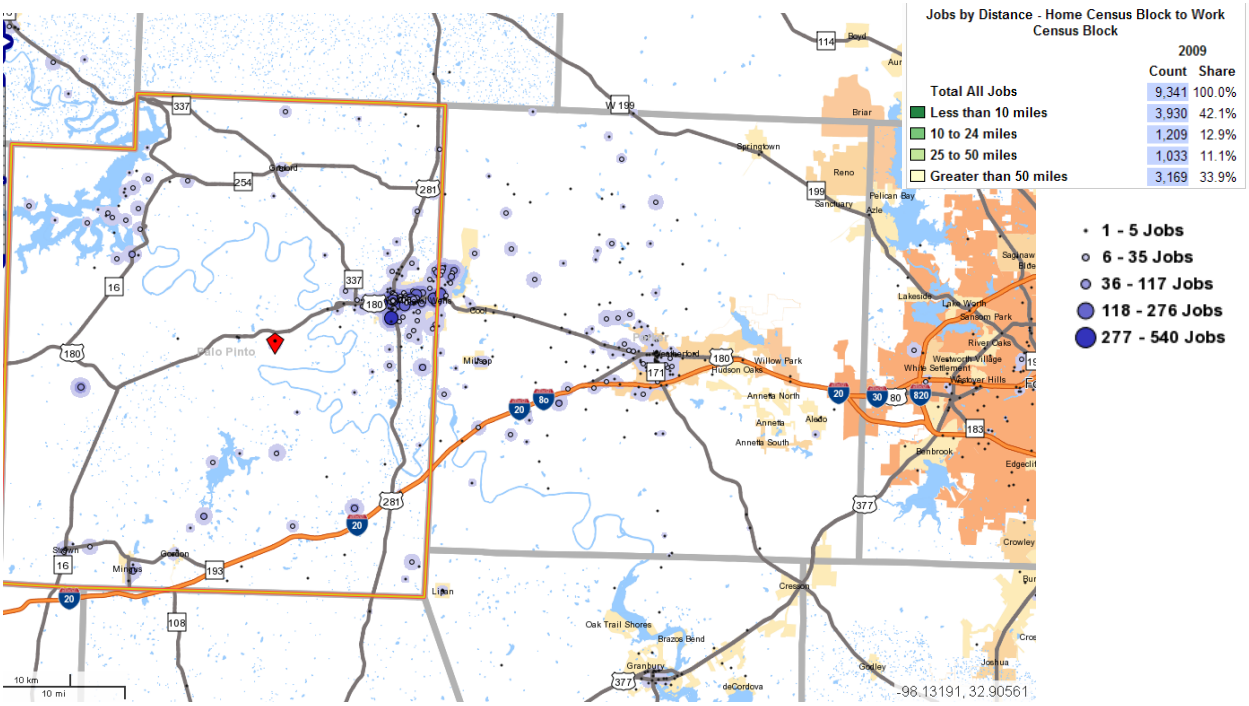


Figure 9. Palo Pinto County Resident Jobs by Distance – Home to Work, 2006–2008 ACS.

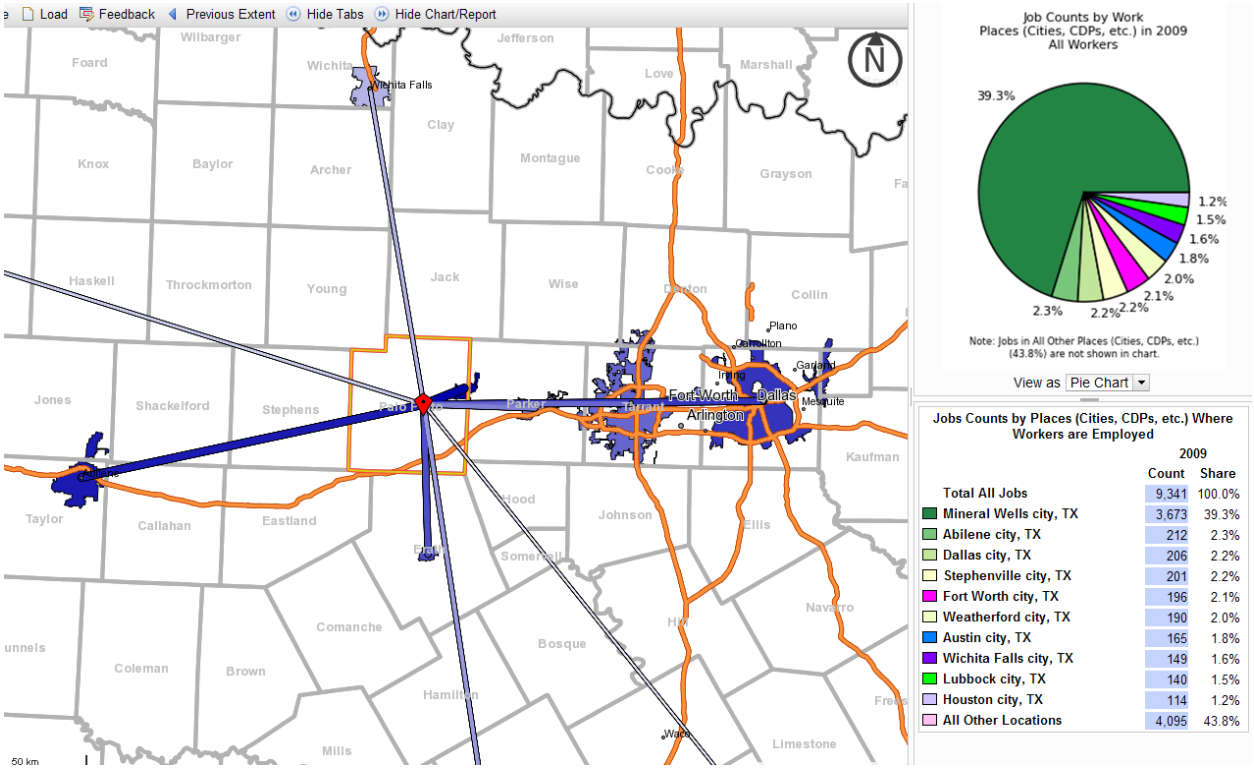


Figure 10. Palo Pinto County Resident Jobs by Places, 2006–2008 ACS.

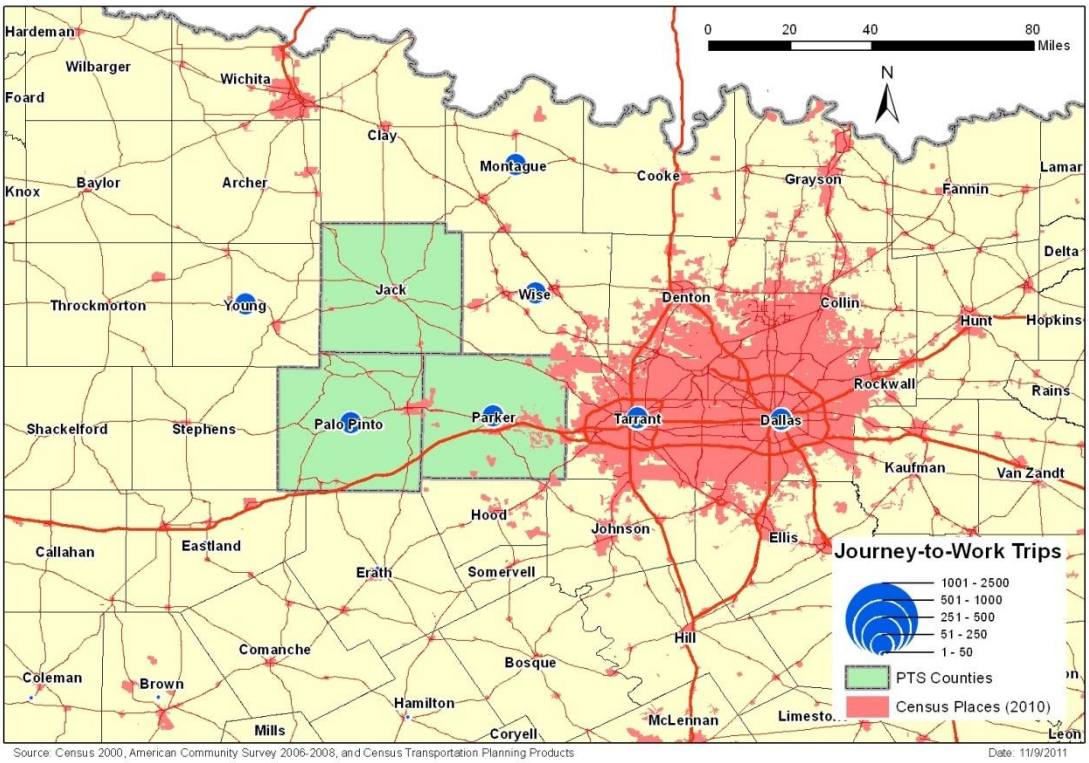


Figure 11. Work Destinations of Jack County Residents Working Outside of County, 2000 Census.

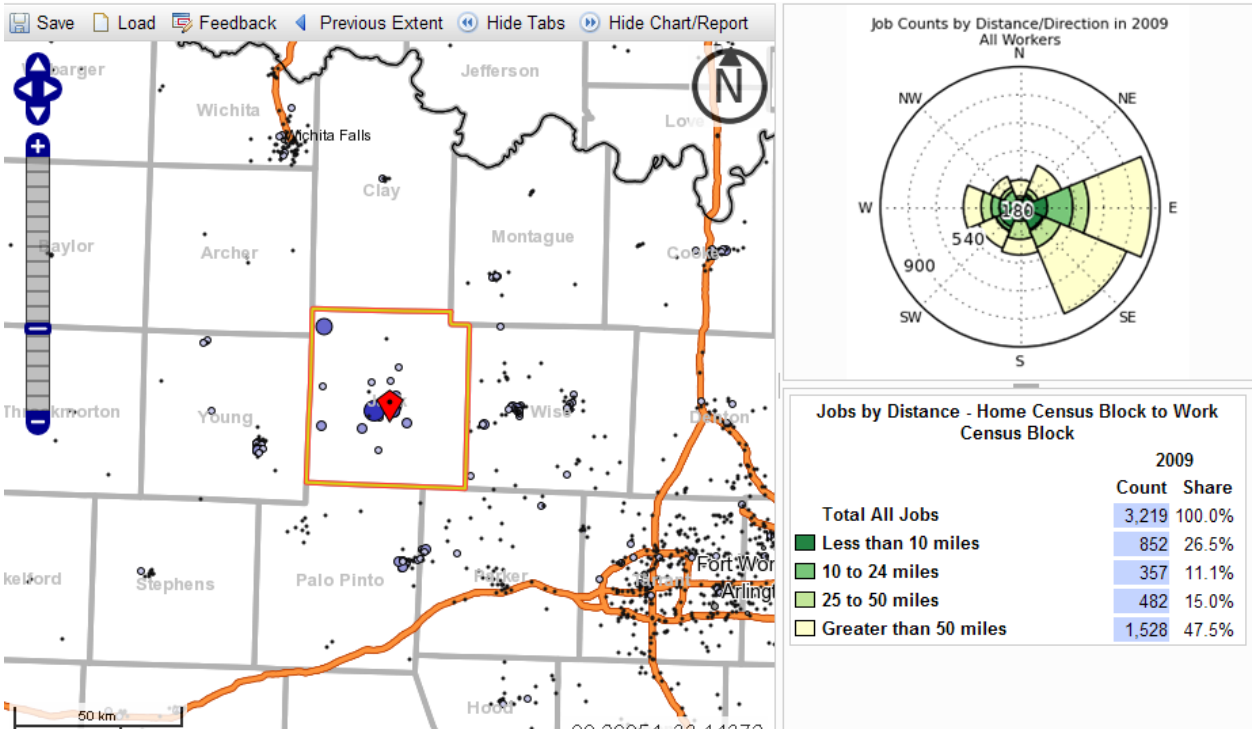


Figure 12. Jack County Resident Jobs by Distance – Home to Work, 2006–2008 ACS.

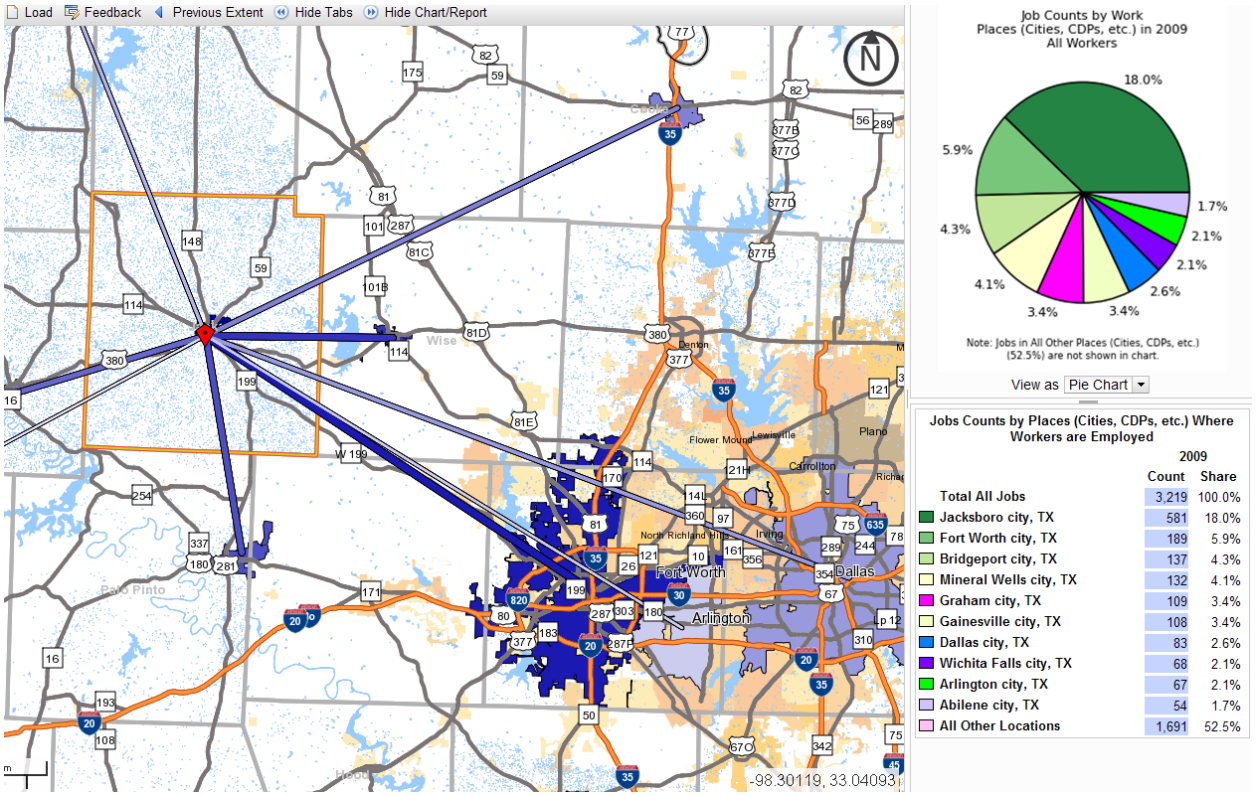


Figure 13. Jack County Resident Jobs by Places, 2006–2008 ACS.

Not Local, Work in a PTS County

Table 11 reports the volume of work trips by mode for residents of other counties who worked in one of the three counties in PTS' service area in 2000 and again in 2006–2008. The work trip mode-choice split by residents of other counties commuting to work in a PTS county remained near constant between 2000 and 2006–2008.

Table 11. Trip Volumes and Mode Choice for Live Out-of-County, Work in a PTS County.

	2000		2006-2008		Change 2000 to 2006-2008	
PARKER COUNTY						
Drive alone	5,844	82%	7,720	82%	1,876	32%
2-person carpool	881	12%	1,150	12%	269	31%
3-or-more person carpool	267	4%	350	4%	83	31%
Bus	22	0.3%	10	0.1%	(12)	-55%
Streetcar, subway, railroad, ferry	-	0%	-	0%	-	0%
Bicycle, walk, taxicab, motorcycle, other	75	1%	165	2%	90	120%
Worked at home	-	0%	-	0%	-	0%
Total	**7,089**		**9,395**		**2,306**	
PALO PINTO COUNTY						
Drive alone	1,410	82%	1,425	87%	15	1%
2-person carpool	200	12%	100	6%	(100)	-50%
3-or-more person carpool	80	5%	61	4%	(19)	-24%
Bus	10	0.6%	-	0%	(10)	-100%
Streetcar, subway, railroad, ferry	-	0%	-	0%	-	0%
Bicycle, walk, taxicab, motorcycle, other	29	2%	50	3%	21	72%
Worked at home	-	0%	-	0%	-	0%
Total	**1,729**		**1,636**		**(93)**	
JACK COUNTY						
Drive alone	444	84%	n/a	n/a	n/a	n/a
2-person carpool	46	9%	n/a	n/a	n/a	n/a
3-or-more person carpool	34	6%	n/a	n/a	n/a	n/a
Bus	-	0%	n/a	n/a	n/a	n/a
Streetcar, subway, railroad, ferry	-	0%	n/a	n/a	n/a	n/a
Bicycle, walk, taxicab, motorcycle, other	5	1%	n/a	n/a	n/a	n/a
Worked at home	-	0%	n/a	n/a	n/a	n/a
Total	**529**		**n/a**		**n/a**	
PTS SERVICE AREA						
Drive alone	7,698	82%	9,145	83%	1,447	19%
2-person carpool	1,127	12%	1,250	11%	123	11%
3-or-more person carpool	381	4%	411	4%	30	8%
Bus	32	0.3%	10	0.1%	(22)	-69%
Streetcar, subway, railroad, ferry	-	0%	-	0%	-	0%
Bicycle, walk, taxicab, motorcycle, other	109	1%	215	2%	106	97%
Worked at home	-	0%	-	0%	-	0%
Total	**9,347**		**11,031**		**1,684**	

Source: U.S. Census 2000 and ACS 2006-2008 CTPP Workflows
Note: ACS 2006-2008 values are estimates with varying margins of error

The next two pages contain figures (Figures 14–16) depicting workers traveling into one of the three PTS counties (Parker, Palo Pinto, and Jack) from a county other than where they live.

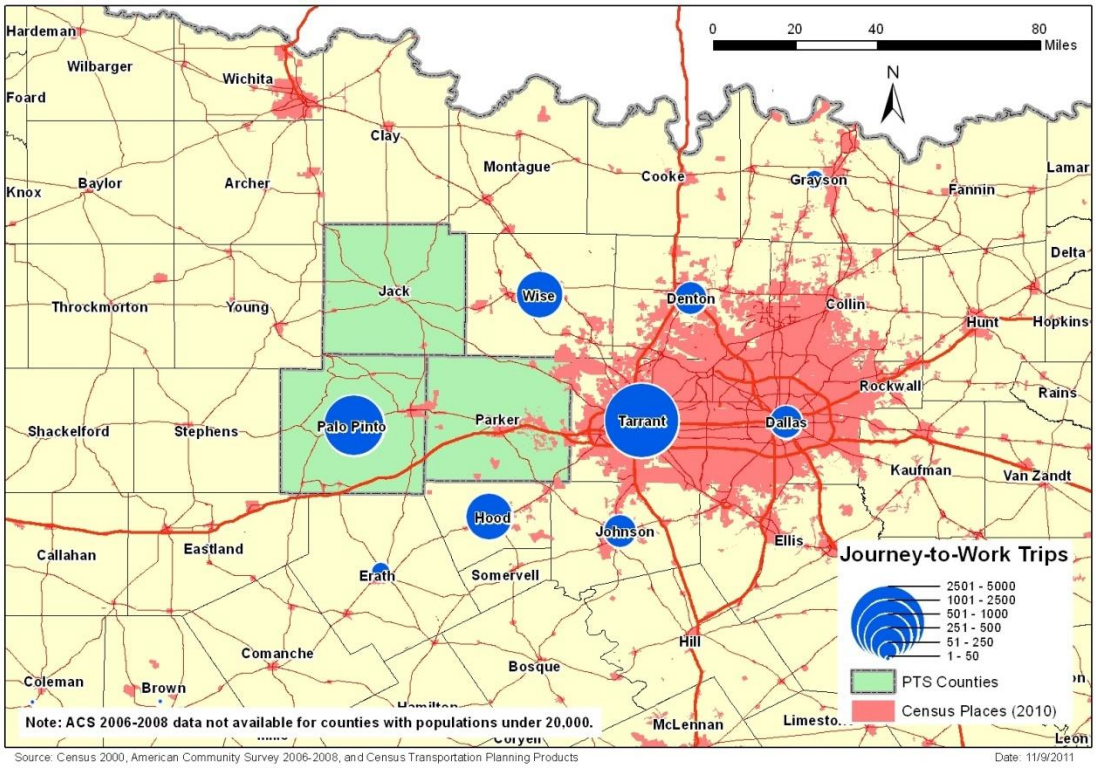


Figure 14. Residents of Other Counties that Work in Parker County, 2006–2008 ACS.

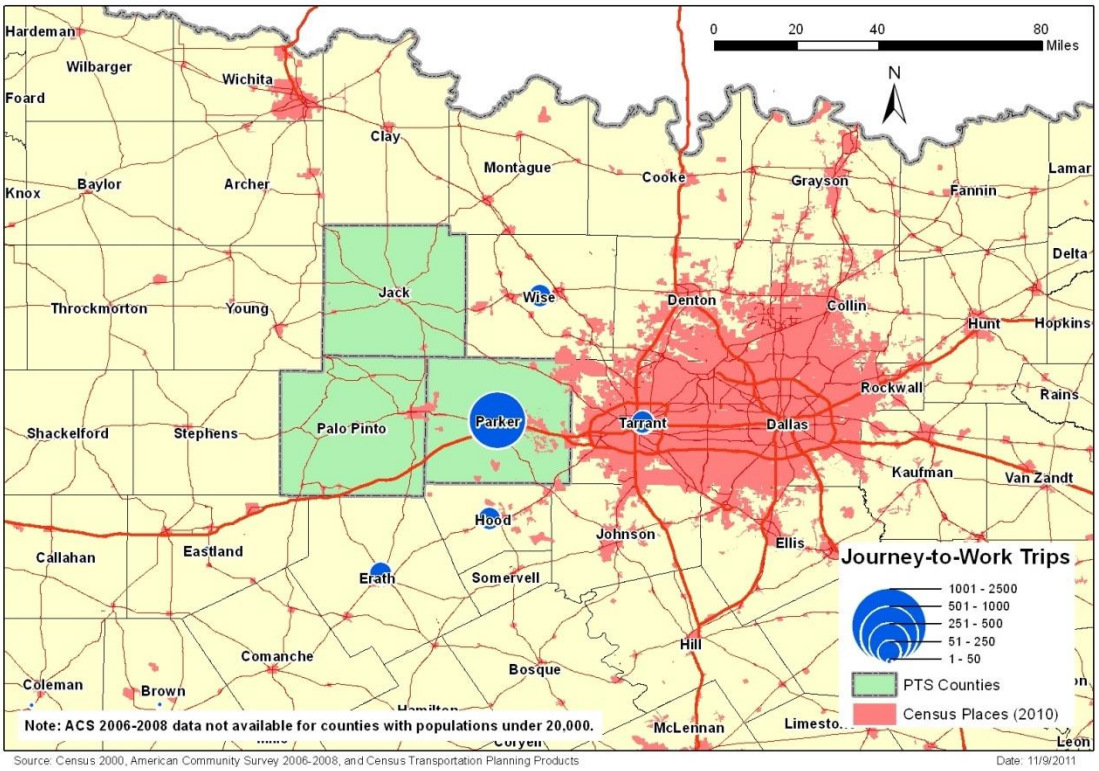


Figure 15. Residents of Other Counties that Work in Palo Pinto County, 2006–2008 ACS.

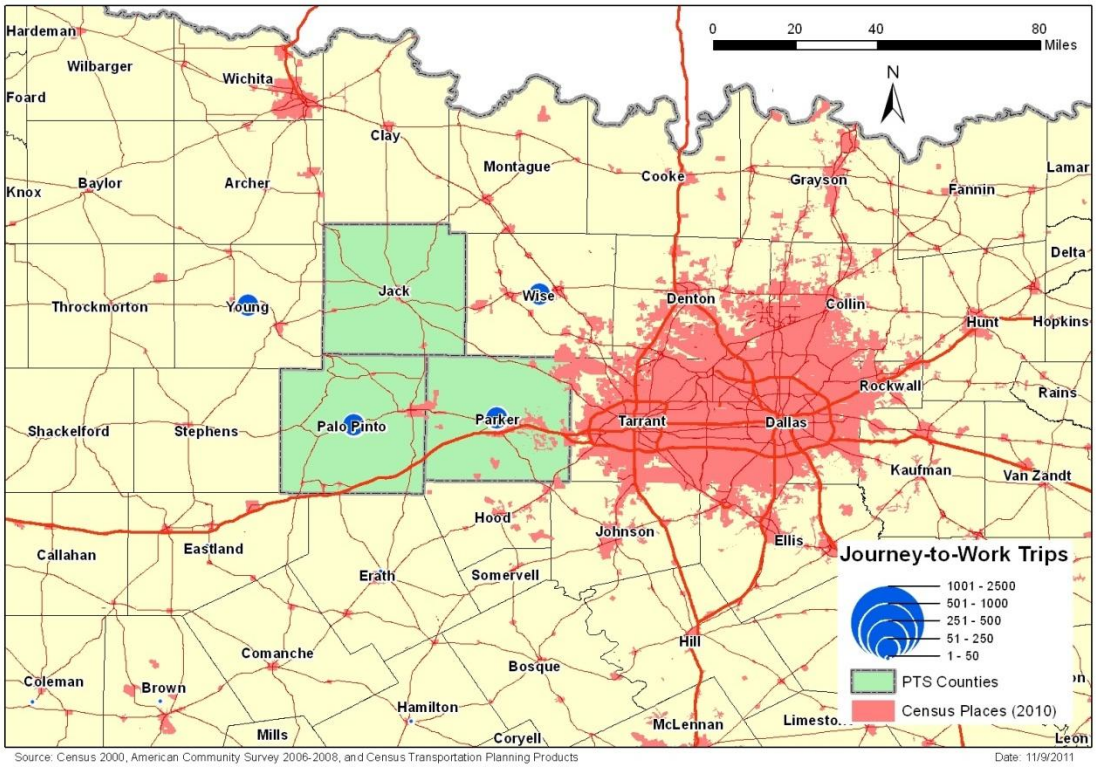


Figure 16. Residents of Other Counties that Work in Jack County, 2000 Census.

TRANSIT NEED AND SUITABILITY ANALYSES

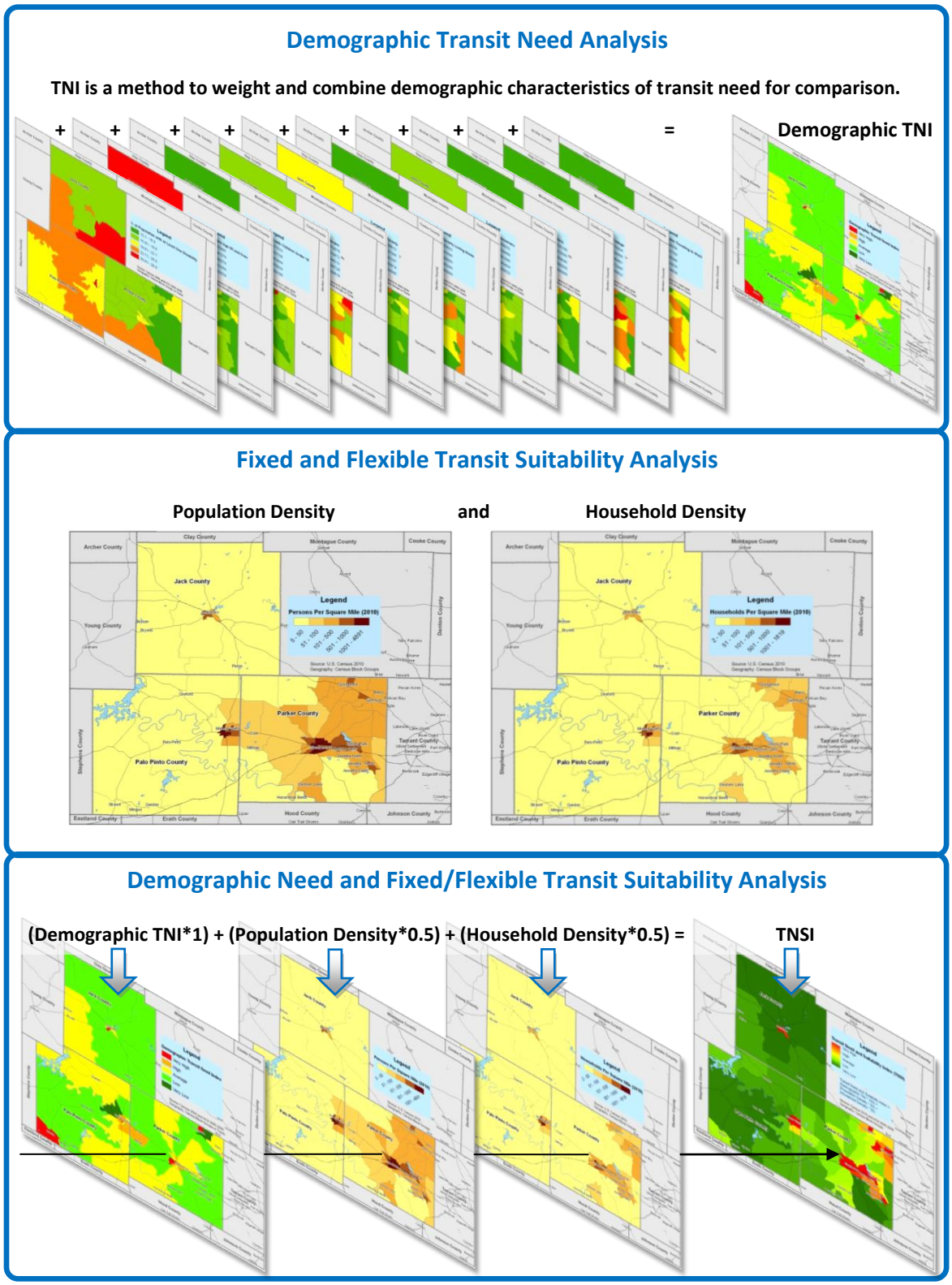
To identify areas of concentrated transit need TTI used three types of analysis related to transit need and population distribution suitability for fixed or flexible transit service. A transit need index (TNI) uses demographic or other data to rank service area geographies for relative transit need. This toolkit includes a methodology for evaluating demographic transit need, population suitability for fixed and flexible transit, and combined demographic and suitability analysis.

Background and Purpose of Analyses

TTI researchers and transit planners use categories of population information to identify geographic concentrations of transit need and, therefore, demand for transit service. Identifying these concentrations enables researchers and planners to meet two public policy priorities: (1) provide transit service to those who need it most and (2) provide transit service to areas where demand can be served most efficiently.

In order to compare both public policy priorities in PTS, TTI divided the research on transit needs indices into two analyses: one analysis on demographic transit need information (called "Demographic TNI") and another analysis on population and household density information (called "Fixed and Flexible Transit Suitability Analysis"). Afterward, researchers combined both sets of data into a transit needs and suitability index (TNSI). The TNSI is a visual representation of the nexus between demographic need and population suitability for fixed or flexible transit. Evaluating transit need and suitability together is a method to aid researcher and planner efforts

to identify acute transit needs in areas most conducive to efficient transit service. The organization of this section, the last in Chapter 3, is depicted in the following visual guide.



Demographic Transit Need Analysis

Researchers developed a Demographic TNI to compile population indicators that typically indicate high transit need. Table 12 lists the demographic categories and characteristics TTI included in the Demographic TNI for the PTS service area.

Table 12. Demographic TNI Categories and Characteristics.

Category	Characteristic(s)
Demographic Need	*Concentrations of persons with a disability*
	Concentrations of households with persons age 65 and over
	Concentrations of single parents with children age 18 and under
	Concentrations of civilian veterans
Household Income	*Concentrations of people in poverty*
	Concentrations of people living alone and in poverty
Auto Availability	*Concentrations of homeowners with no vehicle available*
	Concentrations of renters with no vehicle available
Educational Enrollment	*Concentrations of population enrolled in grades K-12*
	Concentrations of population enrolled in college
Employment	*Concentrations of employed persons (do not work at home)*

Not all demographic TNIs must contain the same categories or characteristics. TTI researchers identified the five categories with 10 characteristics in Table 12 after discussions with PTS staff and field work in the PTS service area. Customary transit need characteristics typically include at least: vehicle availability, poverty, disability, and elderly (in some cases minority race/ethnicity is also a category). The following bulleted list provides some explanation as to why researchers included ten characteristic in the demographic TNI for PTS:

- ***Persons with a disability*** depend more on transit service, in part because PTS vehicles are wheelchair accessible.
- ***Households with persons age 65 and over*** depend more on public transit for medical and non-medical access to community and regional resources.
- ***Single parents with children age 18 and under*** depend more on transit as a means for children to independently travel to school or as a less-expensive transportation option for the parent.
- ***Civilian veterans*** may utilize PTS services to access Veteran's Administration (VA) medical care and the VA is a potential coordination partner.
- ***People in poverty*** depend more on transit for mobility and access.
- ***People living alone in poverty*** are especially dependent on transit due to poverty exacerbated by lack of a live-in social network of support.
- ***Homeowners with no vehicle available*** depend more on public transit.
- ***Renters with no vehicle available*** depend more on public transit.
- ***Population enrolled in grades K-12*** represents the younger student population, of which some students already utilize the general public services of PTS.
- ***Population enrolled in college*** is a common market for public transit services in urban and often in rural areas.
- ***Employed persons (do not work at home)*** may represent the target market for PTS commute services and other services for concentrated work trip needs.

After identifying which characteristics to include in the demographic TNI, TTI researchers downloaded and compiled a master Census and ACS data file for census block groups in the PTS service area. Researchers used census block groups because block groups are the smallest geography for which data are available in rural areas in the United States. The PTS service area consists of 76 block groups. The data for persons with a disability are Census 2000 values because more recent disability data will not be available for rural areas at the block group level until the year 2013. The data source for all nine of the other characteristics is the 2005–2009 ACS. The 2005–2009 ACS are aggregate values for all survey samples collected during the five year period: without the five year range of survey responses the ACS would not have a large enough sample to protect the identity of participants and release data at a small geography like census block groups.

Researchers developed maps to visualize need for each of the 10 demographic characteristics in the TNI: Figures 17–26, below, depict the 10 characteristics individually. The color breaks in each of the 10 maps was determined via a statistical calculation called a "Jenks Natural Breaks" in the mapping software (ArcGIS). In preparing a TNI researchers and transit planners should map each characteristic so as to investigate whether or not one or a few variables distorts, exaggerates, or confounds other variables when combined in a TNI (i.e., balancing out and hiding a transit need).

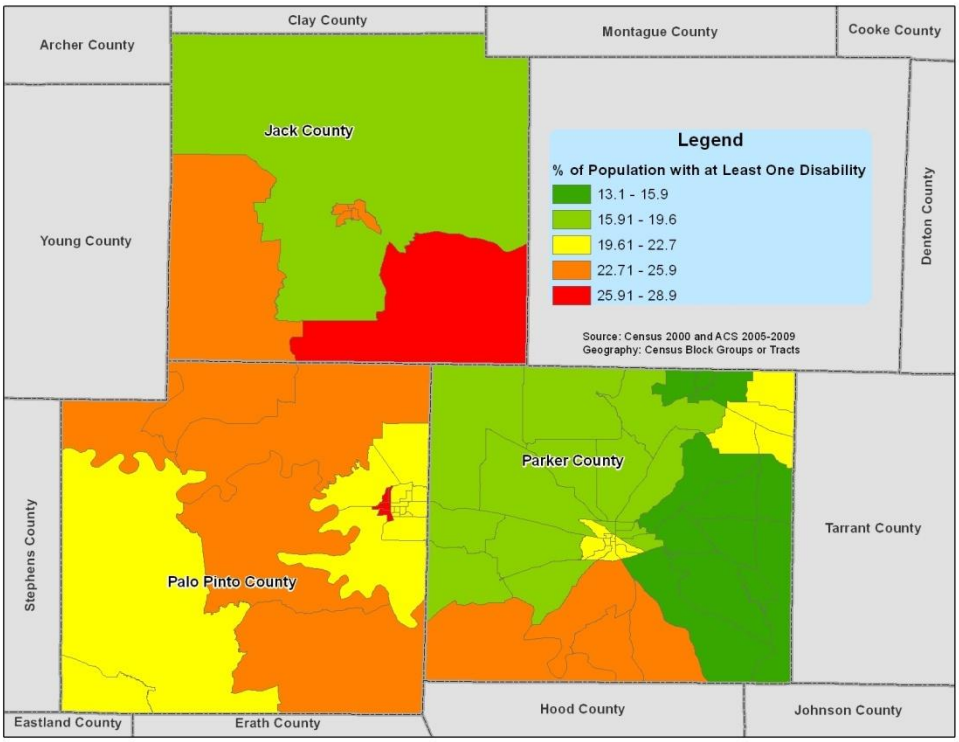


Figure 17. Persons with a Disability (Census 2000).

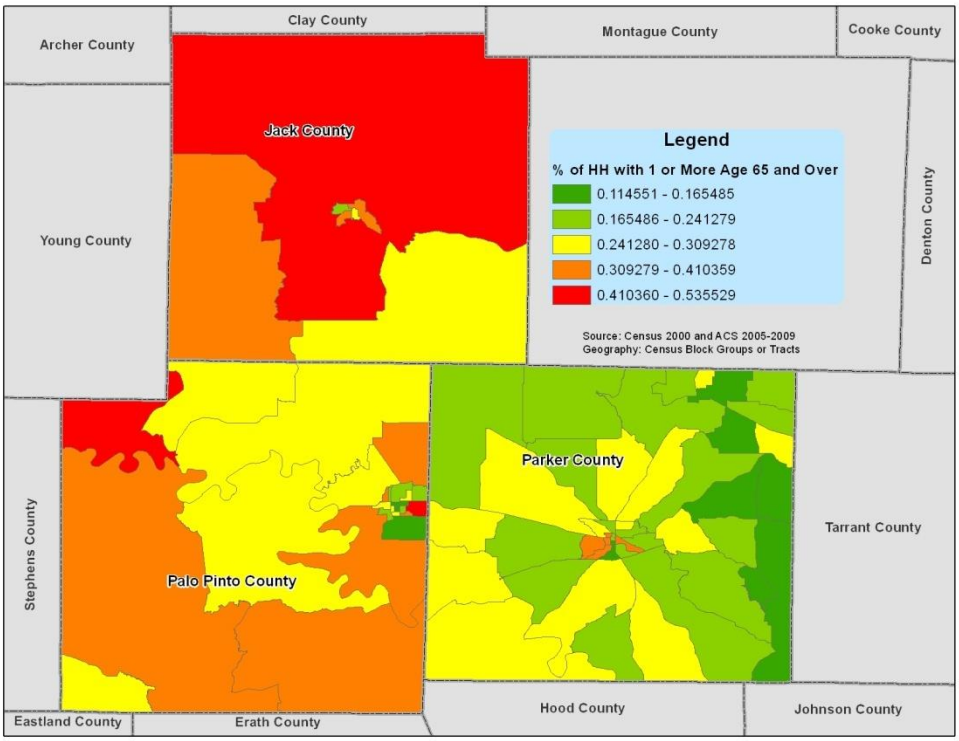


Figure 18. Households with Persons Age 65 and Over (ACS 2005–2009).

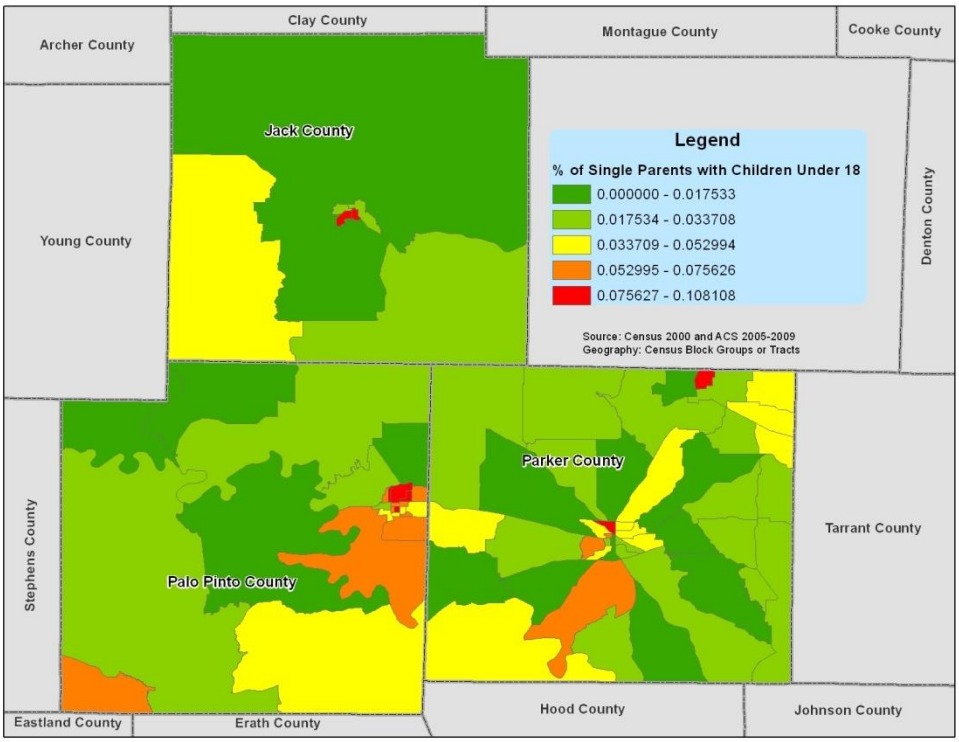


Figure 19. Single Parents with Children Age 18 and Under (ACS 2005–2009).

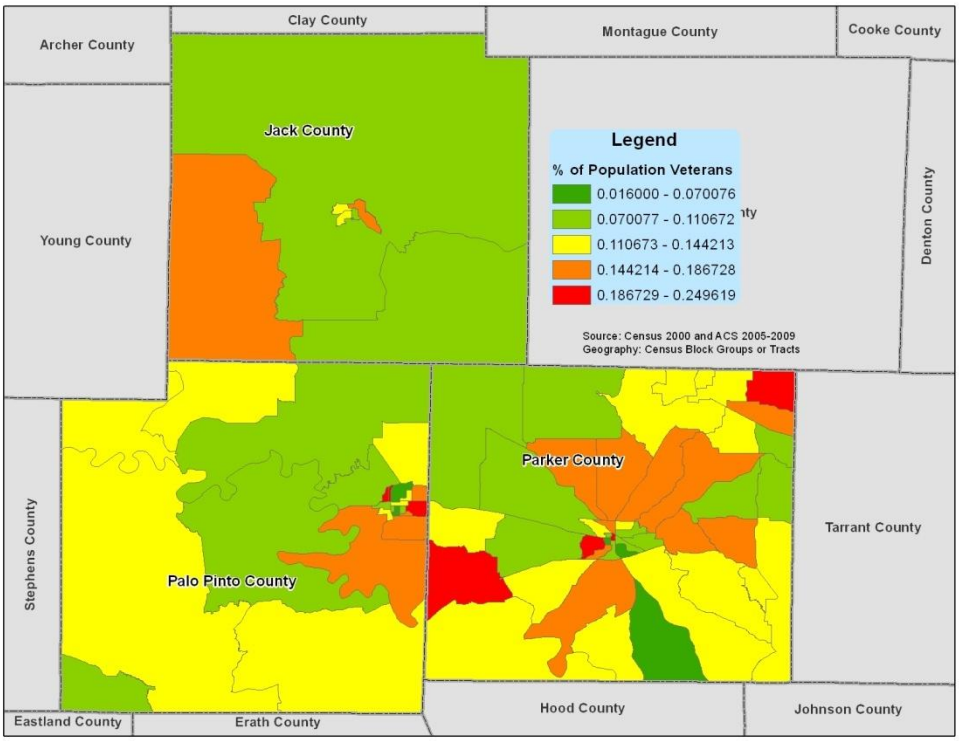


Figure 20. Civilian Veterans (ACS 2005–2009).

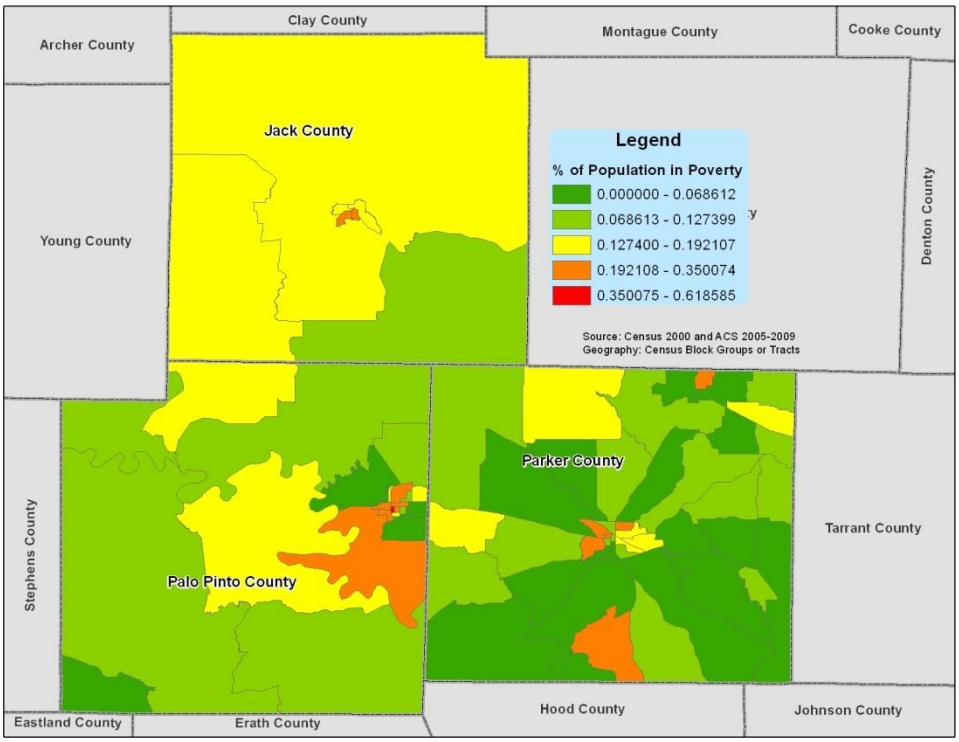


Figure 21. People in Poverty (ACS 2005–2009).

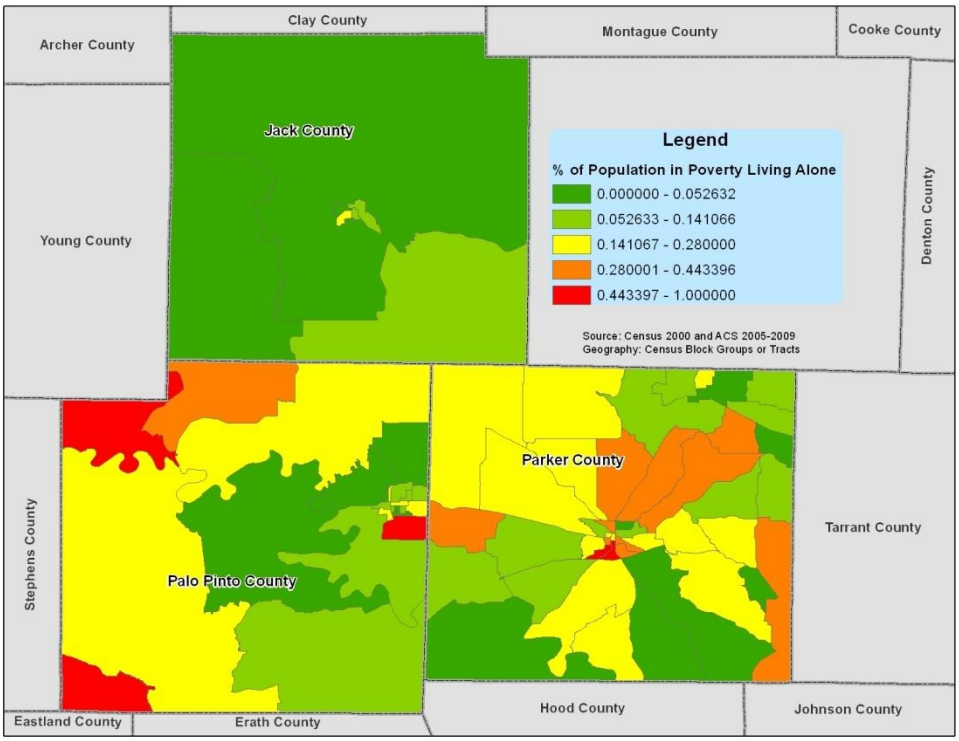


Figure 22. People Living Alone and in Poverty (ACS 2005–2009).

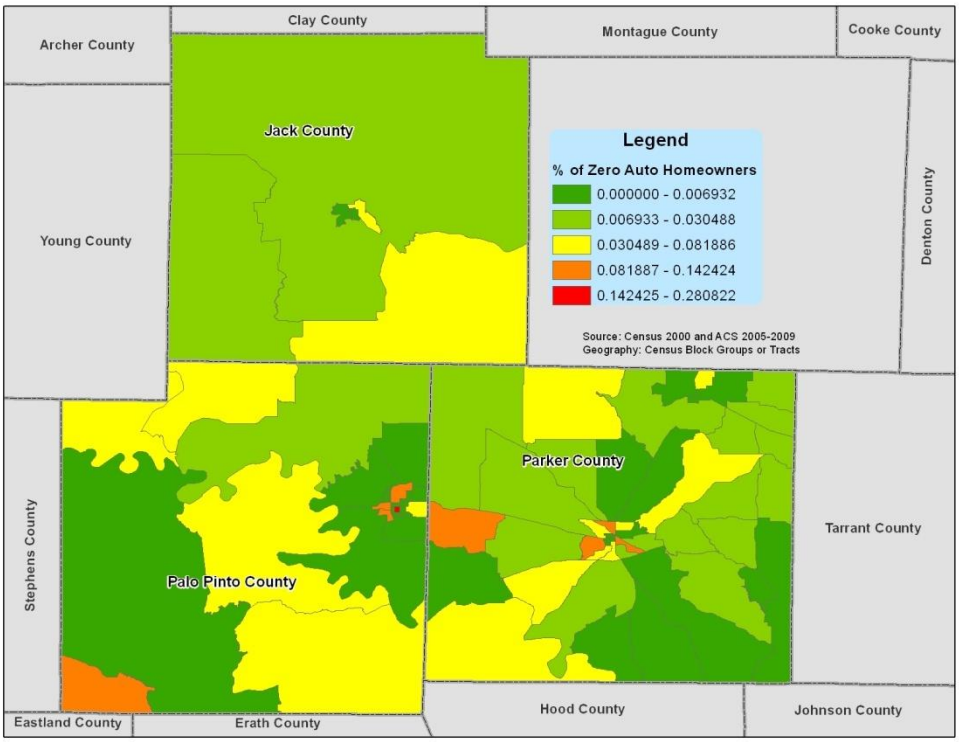


Figure 23. Homeowners with No Vehicle Available (ACS 2005–2009).

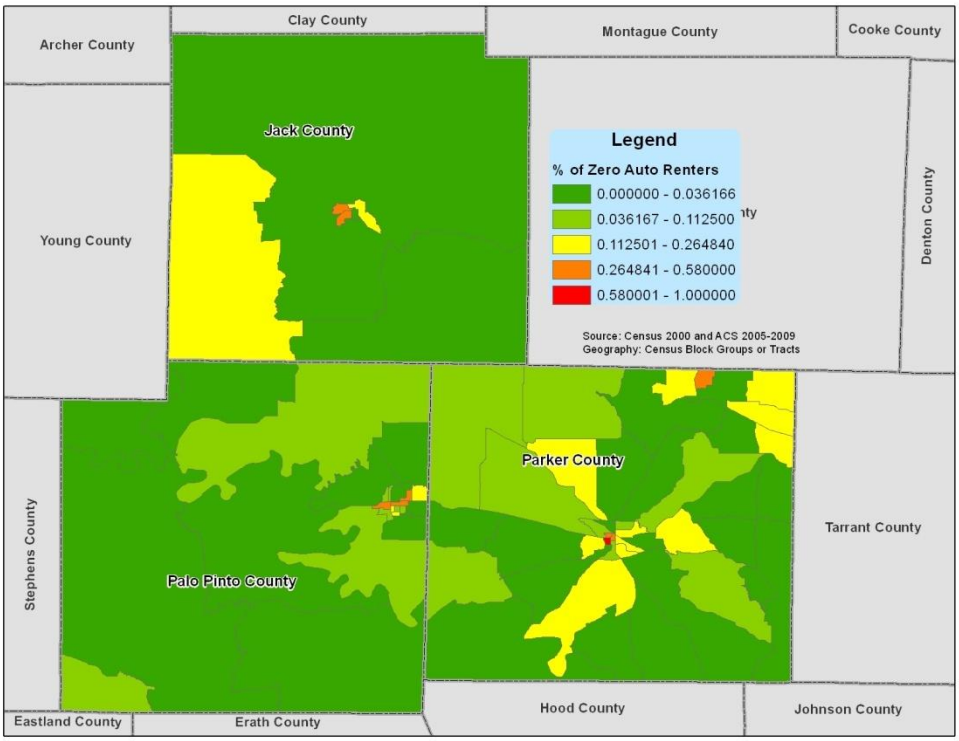


Figure 24. Renters with No Vehicle Available (ACS 2005–2009).

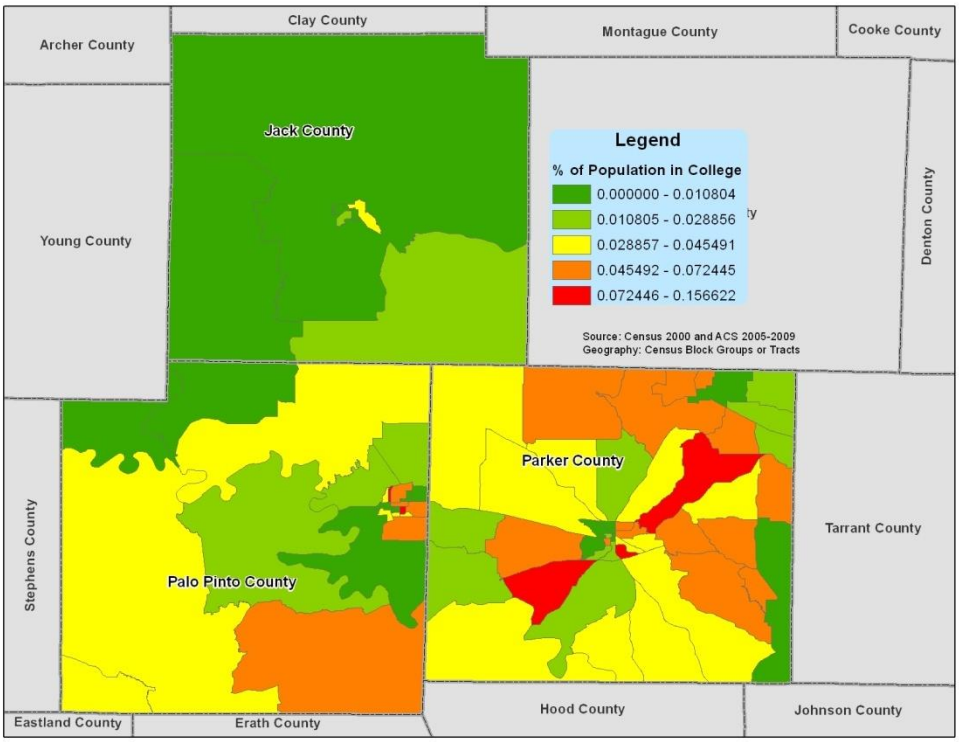


Figure 25. Population Enrolled in College (ACS 2005–2009).

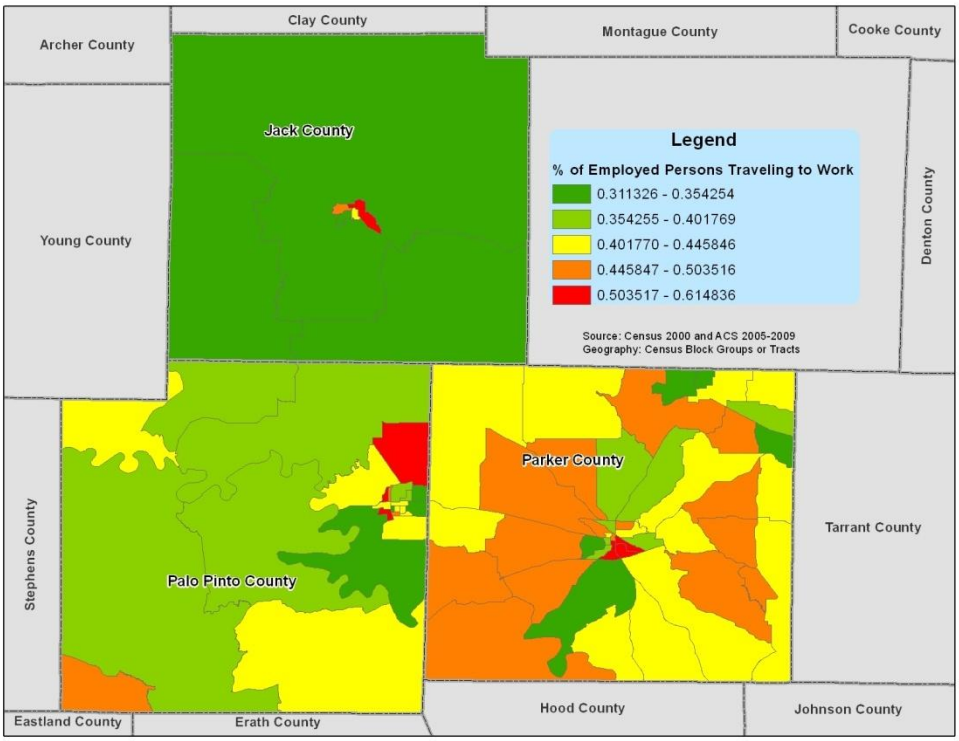


Figure 26. Employed Persons (do not work at home) (ACS 2005–2009).

After compiling the data for each of the 10 characteristics in Microsoft Excel, researchers used a mathematical process (using Excel formulas) to create a single transit index value for each block group: the single value represents the transit need in comparison to all other block groups in the PTS service area. The process to calculate the demographic TNI values for each block group and sort into five categories of transit need (very low, low, average, high, very high) consisted of four steps; each is described on the following pages.

Step One. TTI calculated the mean (or average) for all 76 block groups for each of the 10 characteristics included in the demographic TNI. Please refer to the example below.

Example of Step 1

Weight	*40*			*15*			*15*			*30*				
	Persons with a disability			**Persons in Poverty**			**Households with no vehicle available**			**Population Age 65 and Over**				
Block Group	Census2010	Index	Index x weight	Census 2010	Index	Index x weight	Census 2010	Index	Index x weight	Census 2010	Index	Index x weight	**TNI Value**	***TNI Category***
A	17%			27%			6%			28%				
B	15%			14%			7%			19%				
C	24%			32%			12%			36%				
D	8%			11%			2%			12%				
E	11%			19%			8%			18%				
F	28%			24%			6%			26%				
G	13%			21%			9%			22%				
Mean	**17%**			**21%**			**7%**			**23%**				

Standard Deviation	
(more than 1.5 standard deviations above the mean) **Very high transit need ≥**	
(between 0.5 and 1.5 standard deviations above the mean) **High transit need ≥**	
(plus or minus 0.5 standard deviations from the mean) **Average transit need ≥**	
(between 0.5 and 1.5 standard deviations below the mean) **Low transit need ≥**	
(more than 1.5 standard deviations below the mean) **Very low transit need <**	

Step Two. TTI added a column next to each characteristic in the Excel spreadsheet and populated the column via a formula that divided individual block group values by the PTS mean (from step one) for each characteristic. In other words, researchers scored individual block groups against the area-wide mean for each of the 10 characteristics. Step two mathematically sets the PTS mean as "1" for each characteristic and then calculates a value representing transit need in each block group in comparison to peers in the PTS service area.

For example, if the population enrolled in college in a census block group equaled the county mean, then the census block score for that characteristic in step two was "1." A census block with college enrollment two times the county mean would have a score of "2" for that characteristic. Please refer to the example below.

Example of Step 2

Weight	*40*			*15*			*15*			*30*				
	Persons with a disability			**Persons in Poverty**			**Households with no**			**Population Age 65 and Over**				
Block Group	Census2010	Index	Index x weight	Census 2010	Index	Index x weight	Census 2010	Index	Index x weight	Census 2010	Index	Index x weight	**TNI Value**	***TNI Category***
A	17%	1.0		27%	1.3		6%	0.8		28%	1.2			
B	15%	0.9		14%	0.7		7%	1.0		19%	0.8			
C	24%	1.4		32%	1.5		12%	1.7		36%	1.6			
D	8%	0.5		11%	0.5		2%	0.3		12%	0.5			
E	11%	0.7		19%	0.9		8%	1.1		18%	0.8			
F	28%	1.7		24%	1.1		6%	0.8		26%	1.1			
G	13%	0.8		21%	1.0		9%	1.3		22%	1.0			
Mean	**17%**			**21%**			**7%**			**23%**				
												Standard Deviation		
												(more than 1.5 standard deviations above the mean) **Very high transit need ≥**		
												(between 0.5 and 1.5 standard deviations above the mean) **High transit need ≥**		
												(plus or minus 0.5 standard deviations from the mean) **Average transit need ≥**		
												(between 0.5 and 1.5 standard deviations below the mean) **Low transit need ≥**		
												(more than 1.5 standard deviations below the mean) **Very low transit need <**		

28%/17% =

Step Three. For each census block group, researchers multiplied the score for each characteristic by a weight for that characteristic and then summed together the weighted scores to determine the demographic TNI value for that census block group. In other words, TTI added another column with a formula to multiply each characteristic for each block group by a weight and sum together the 10 weighted scores. The result of steps one to three, described above, is a single demographic TNI index value for each block group. In PTS' case, researchers determined the combined "weight" of all characteristics to be 100: the weight of individual characteristics used in the formula in step three are in Table 13.

Table 13. Demographic TNI Category Weighting.

Category	Characteristic(s)	Individual Weight	Category Weight
Demographic Need	*Concentrations of persons with a disability*	*10*	40%
	Concentrations of households with persons age 65 and over	*10*	
	Concentrations of single parents with children age 18 and under	*10*	
	Concentrations of civilian veterans	*10*	
Household Income	*Concentrations of people in poverty*	*10*	20%
	Concentrations of people living alone and in poverty	*10*	
Auto Availability	*Concentrations of homeowners with no vehicle available*	*10*	20%
	Concentrations of renters with no vehicle available	*10*	
Educational Enrollment	*Concentrations of population enrolled in grades K-12*	*10*	15%
	Concentrations of population enrolled in college	*5*	
Employment	*Concentrations of employed persons (do not work at home)*	*5*	5%

Researchers and transit planners determine the weights of TNI characteristics based on the importance of each to the transit service the TNI will help to plan. When conducting demographic TNI analysis on other transit service areas a researcher may decide to not only adjust which characteristics to include but also characteristic weights. Please refer to the example below.

Example of Step 3

Weight	*40*			*15*			*15*			*30*				
	Persons with a disability			**Persons in Poverty**			**Households with no**			**Population Age 65 and Over**				
Block Group	Census2010	Index	Index x weight	+ Census 2010	Index	Index x weight	+ Census 2010	Index	Index x weight	+ Census 2010	Index	Index x weight	= **TNI Value**	***TNI Category***
A	17%	1.0	41.0	27%	1.3	19.2	6%	0.8	12.6	28%	1.2	36.5	109	
B	15%	0.9	36.2	14%	0.7	9.9	7%	1.0	14.7	19%	0.8	24.8	86	
C	24%	1.4	57.9	32%	1.5	22.7	12%	1.7	25.2	36%	1.6	47.0	153	
D	8%	0.5	19.3	11%	0.5	7.8	2%	0.3	4.2	12%	0.5	15.7	47	
E	11%	0.7	26.6	19%	0.9	13.5	8%	1.1	16.8	18%	0.8	23.5	80	
F	28%	1.7	67.6	24%	1.1	17.0	6%	0.8	12.6	26%	1.1	33.9	131	
G	13%	0.8	31.4	21%	1.0	14.9	9%	1.3	18.9	22%	1.0	28.7	94	
Mean	**17%**			**21%**			**7%**			**23%**				
												Standard Deviation		
												(more than 1.5 standard deviations above the mean) **Very high transit need ≥**		
												(between 0.5 and 1.5 standard deviations above the mean) **High transit need ≥**		
												(plus or minus 0.5 standard deviations from the mean) **Average transit need ≥**		
												(between 0.5 and 1.5 standard deviations below the mean) **Low transit need ≥**		
												(more than 1.5 standard deviations below the mean) **Very low transit need <**		

Step Four. TTI researchers used another formula to determine break points for very low, low, average, high, and very high transit need categories for block group scores from step three. The process to determine final TNI categories for block groups began by calculating the standard deviation of transit index values for the 76 PTS block groups (Excel has a formula for standard deviation calculation). Second, researchers used another Excel formula to determine the mean transit need index value for all 76 block groups in the PTS service area. Third, researchers added or subtracted the standard deviation from the mean to identify the ranges of transit need scores belonging in each of the five categories of transit need detailed below:

- Very High: more than 1.5 standard deviations above the mean.
- High: between 0.5 and 1.5 standard deviations above the mean.
- Average: plus or minus 0.5 standard deviations from the mean.

- Low: between 0.5 and 1.5 standard deviations below the mean.
- Very Low: more than 1.5 standard deviations below the mean.

The final step of the demographic TNI process is to assign each block group to one of the five transit need categories (step four) based on the block group's index score from step three. In other words, compare each block group's index value to the ranges and mark which the block group belongs to. Please refer to the example below.

Example of Step 4

Weight	*40*			*15*			*15*			*30*				
	Persons with a disability			**Persons in Poverty**			**Households with no**			**Population Age 65 and Over**				
Block Group	Census2010	Index	Index x weight	Census 2010	Index	Index x weight	Census 2010	Index	Index x weight	Census 2010	Index	Index x weight	**TNI Value**	***TNI Category***
A	17%	1.0	41.0	27%	1.3	19.2	6%	0.8	12.6	28%	1.2	36.5	109	*Average*
B	15%	0.9	36.2	14%	0.7	9.9	7%	1.0	14.7	19%	0.8	24.8	86	*Average*
C	24%	1.4	57.9	32%	1.5	22.7	12%	1.7	25.2	36%	1.6	47.0	153	*Very High*
D	8%	0.5	19.3	11%	0.5	7.8	2%	0.3	4.2	12%	0.5	15.7	47	*Very Low*
E	11%	0.7	26.6	19%	0.9	13.5	8%	1.1	16.8	18%	0.8	23.5	80	*Low*
F	28%	1.7	67.6	24%	1.1	17.0	6%	0.8	12.6	26%	1.1	33.9	131	*High*
G	13%	0.8	31.4	21%	1.0	14.9	9%	1.3	18.9	22%	1.0	28.7	94	*Average*
Mean	**17%**			**21%**			**7%**			**23%**			**100**	
												Standard Deviation	35	
										(more than 1.5 standard deviations above the mean)		**Very high transit need ≥**	**152**	
										(between 0.5 and 1.5 standard deviations above the mean)		**High transit need ≥**	**117**	
										(plus or minus 0.5 standard deviations from the mean)		**Average transit need ≥**	**83**	
										(between 0.5 and 1.5 standard deviations below the mean)		**Low transit need ≥**	**48**	
										(more than 1.5 standard deviations below the mean)		**Very low transit need <**	**48**	

Results. The outputs from TNI analysis typically include tables, maps, and narrative summarizing findings based on TNI category and service area geography. Table 14 and Figure 27 document the results of the Demographic TNI for the PTS service area. The demographic TNI analysis identified six block groups (8 percent) as very high transit need and 15 (20 percent) as high transit need. Twenty-eight block groups (37 percent) were average transit need and 27 (36 percent) were either low or very low transit need.

Table 14. Demographic TNI Results.

Transit Need Category	Number of Block Groups	Percent of All Block Groups
Very high transit need	6	8%
High transit need	15	20%
Average transit need	28	37%
Low transit need	25	33%
Very low transit need	2	3%

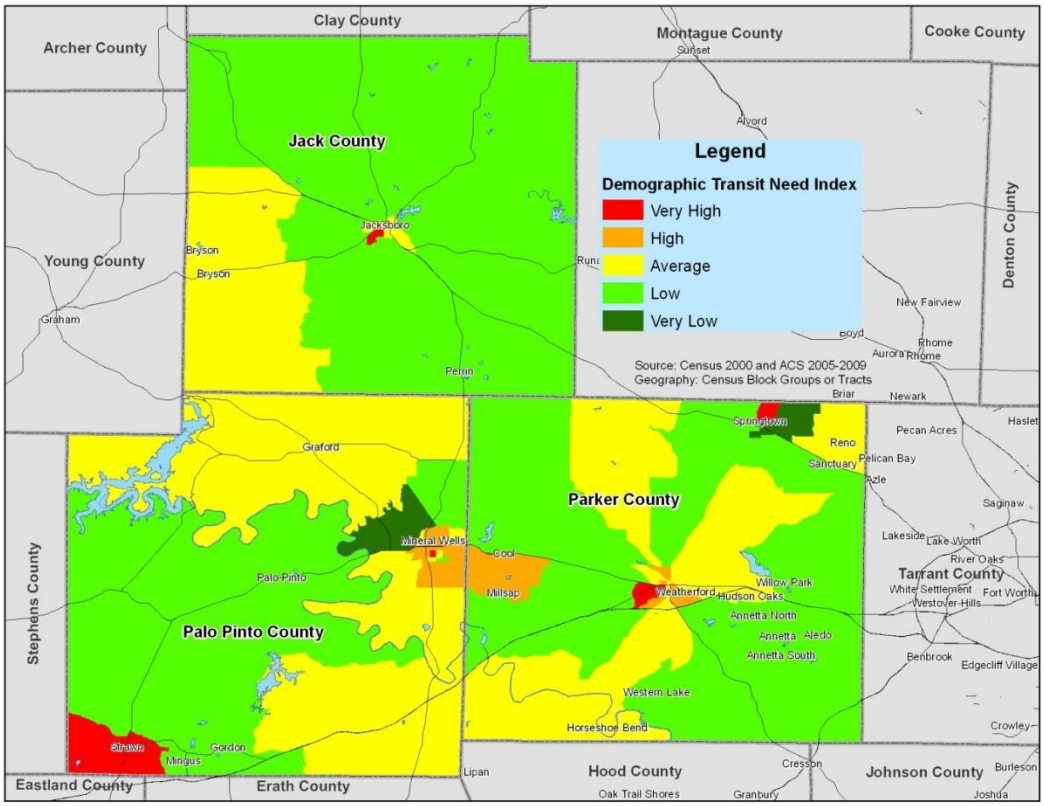


Figure 27. Demographic TNI Results for PTS Service Area.

Areas of very high and high transit need are all located in or near the cities of Jacksboro, Mineral Wells, Cool, Millsap, Springtown, Weatherford, and Strawn. The two census block groups categorized as very low transit need are also near Mineral Wells and Springtown. Areas of concentrated transit need identified by the Demographic TNI may represent existing or potential markets (concentrations of potential riders) for transit ridership in PTS. The following section, titled "Fixed and Flexible Transit Suitability Analysis: PTS Case Study," includes documentation of population and household distribution in PTS in light of the relationship between density and efficient flexible and fixed route transit service.

Fixed and Flexible Transit Suitability Analysis

This section documents population and household density throughout PTS service area. TTI analyzed the distribution of population and household density because of their profound impact on transit service efficiency as well as potential for fixed or flexible transit routes in the future. PTS does not currently operate any fixed or flexible transit routes. The analysis in this section is referred to as suitability analysis because concentrations of population and households are the most basic building block required to operate successful fixed or flexible transit service. Transit operates more efficiently in areas where the population and housing density are high. In the future, PTS may decide that some communities have enough population and density to support fixed or flexible transit service. Fixed and flexible transit service is discussed later in this toolkit as part of the PTS five-year service and financial plan.

The source for the suitability analysis is the 2010 Decennial Census. The suitability data categories and their characteristics are:

Category	*Characteristic(s)*
Population Density	Persons per square mile
Household Density	Households per square mile

Visual assessment of the distribution of population characteristics aids in assessing the types of public transit services which are most appropriate for the service area. The population and number of households are both unevenly distributed. Population and household densities are higher in city and town centers (i.e., Weatherford, Azle, Mineral Wells, and Jacksboro) and low in most other areas of PTS. Population and household density are important factors to consider during evaluation of public transit services. Higher population density, or people in close proximity, increases the likelihood that service can reach residents with transit need in an efficient way—and therefore is an excellent measure of suitability for public transit.

Figure 28 and Figure 29 depict the results of the fixed and flexible suitability data for the PTS service area. The maps depict population and household density based on Census 2010 block group boundaries: please note that the number of block groups increased from 76 in 2000 to 85 in 2010 (block group boundaries change based on population change and other factors).

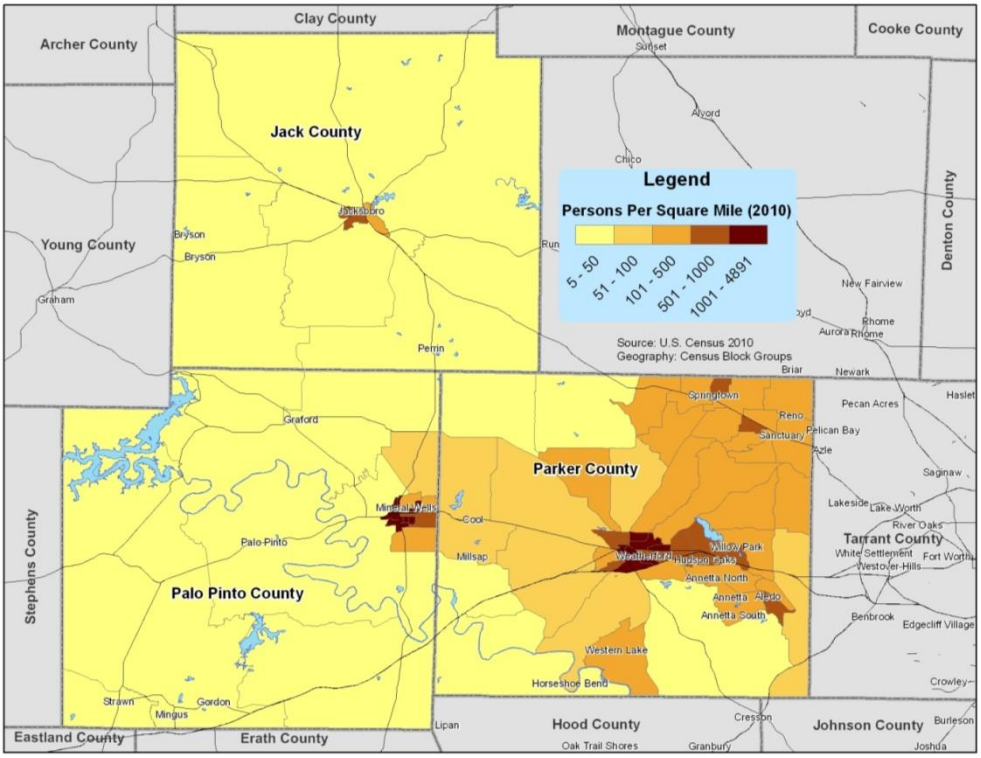


Figure 28. Persons per Square Mile: Census 2010.

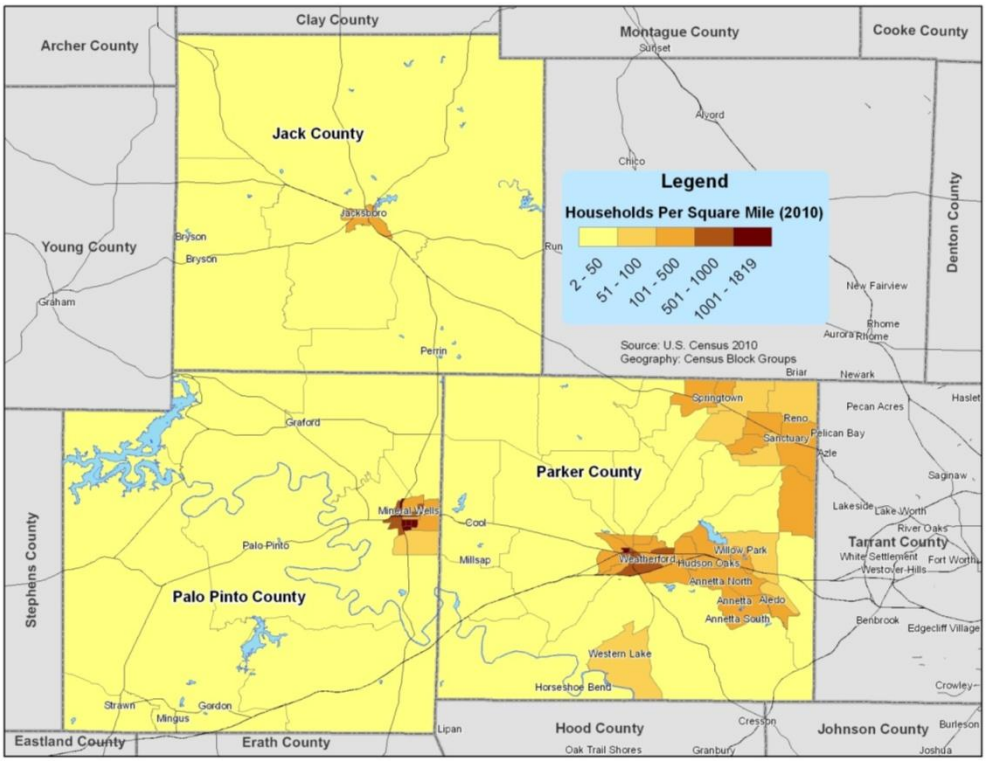


Figure 29. Households Per Square Mile: Census 2010.

Demographic Need and Fixed/Flexible Suitability Analysis

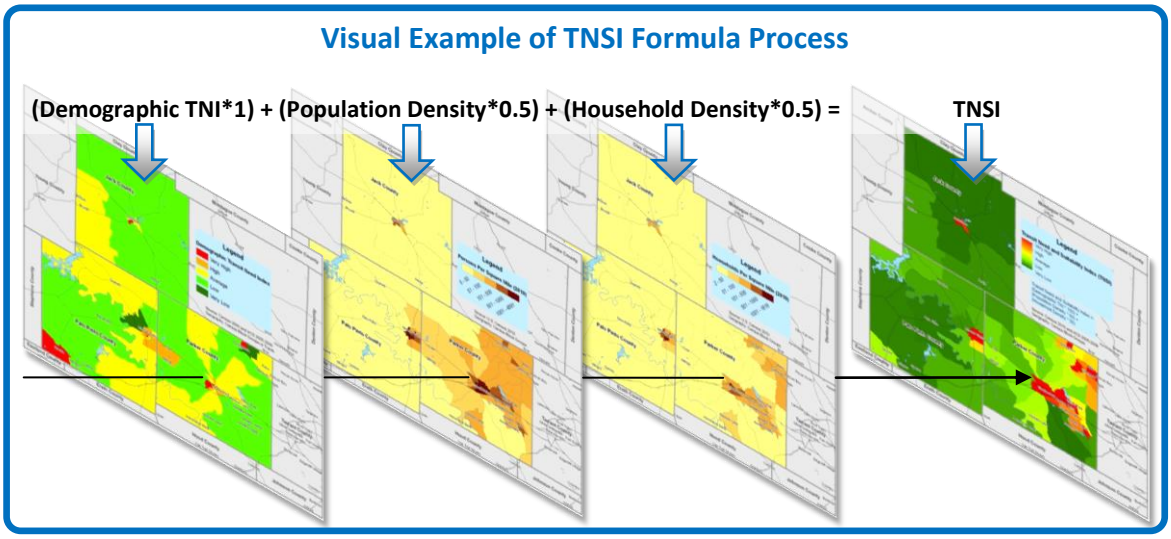
The analysis in this section combines the results of the *Demographic TNI* and *Fixed and Flexible Transit Suitability* analyses from the previous two sections of this chapter. Researchers used ArcGIS software to apply a simple formula to the maps/data from the two previous sections.

First, TTI converted the maps from each analysis (demographic and suitability analyses) to raster images (i.e., image) where each cell (or pixel) had the same value as the block group from which it was created. The reason the maps were converted to raster images was because the data/map for the Demographic TNI are 2000 census block group boundaries and the data/maps for Fixed and Flexible Transit Suitability are 2010 census block group boundaries. The number of block groups changed from 76 to 85 between 2000 and 2010; as a result, boundaries do not match and accurate comparison was not feasible without utilizing raster analysis. TTI used sources with varying boundaries in order to utilize the most current information available on the PTS service area. Researchers used a formula to synthesize the data from three maps into one. The formula, see below, multiplied each map raster cell (or pixel) by a weight, repeated the process the same geographic cell in each raster map, and sums the three values into one score. TTI terms this score the transit need and suitability (TNSI) score. The formula weighs demographic needs and suitability equally.

Researchers calculated TNSI values for each census block group using the formula:

TNSI = (Demographic TNI*1) + (Population Density*0.5 + Household Density*0.5)

The following visual guide demonstrates the operation of the TNSI formula as an arrow piercing each of the three component maps.



TTI researchers next mapped the TNSI values (a raster image) using ArcGIS software and a similar colors and categories as used before. However, unlike the Demographic TNI, lines on the TNSI map do not always match any official Census geography. The TNSI spatially depicts the intensity of transit need weighted equally with suitability data for efficient fixed or flexible transit service. Figure 30, on the next page, is the result of the TNSI. A table documenting the total number of block groups in each of the five categories is not included due to the TNSI consisting of a syntheses calculation of 2000 and 2010 census block group boundary data. The next release of ACS five year estimates, 2006–2010, will utilized Census 2010 boundaries: raster conversion between TNI and suitability data will no longer be required for comparison as both will share boundaries.

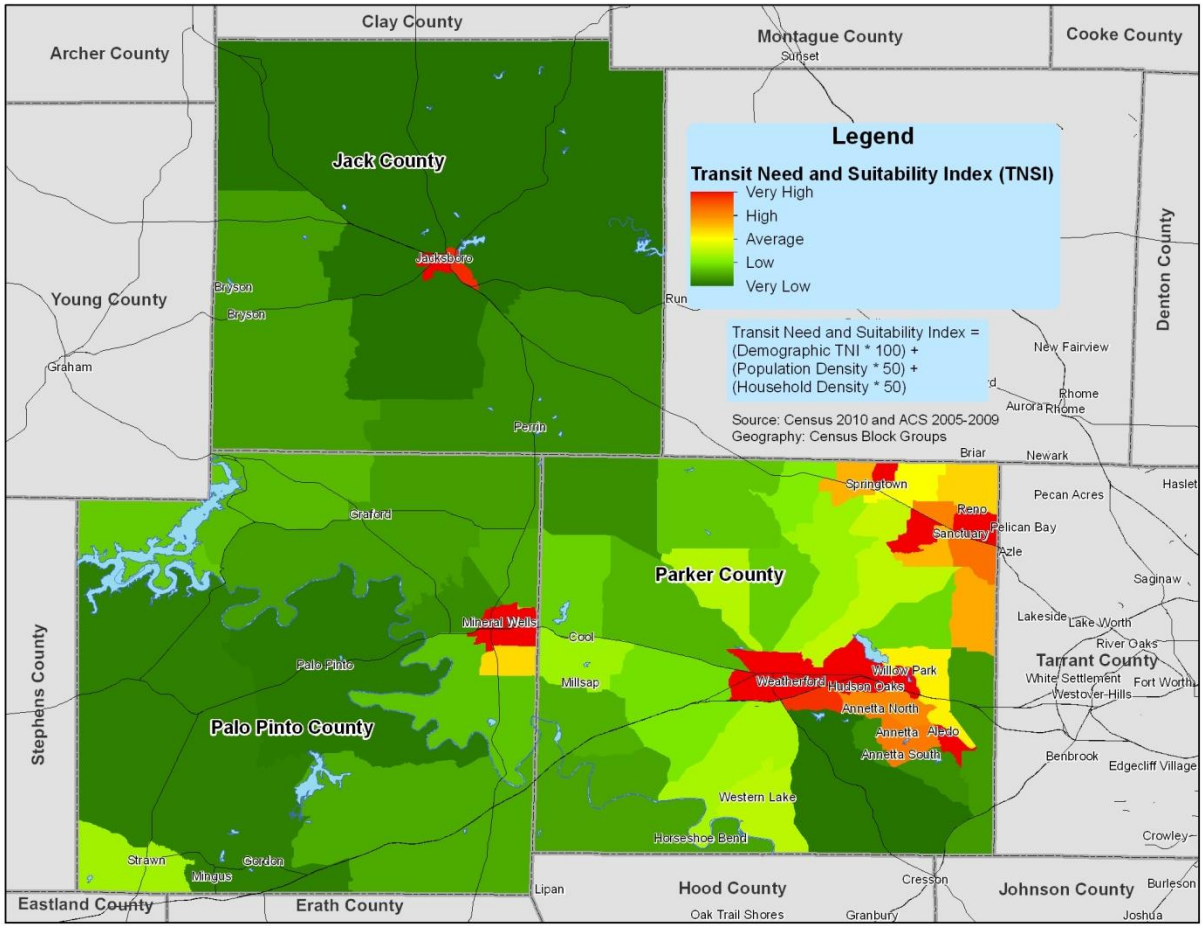


Figure 30. Fixed and Flexible TNSI for PTS.

Jacksboro is the only location in Jack County with high TNSI. Mineral Wells is the only location in Palo Pinto County with high TNSI. Parker County is the most populous county in the service area and as a result does have concentrations of high TNSI; primarily around the Azle/Springtown area and Weatherford/Hudson Oaks/Willow Park/Aledo/Anetta(s) area.

The visual representation of the TNSI result was used to approximate locations where fixed or flexible transit suitability coincided with demographic needs. In other words, where the population is high enough and concentrated enough to possibly support rural transit in a mode other than the current demand response services. Identifying TNSI concentrations enables planners to meet two public policy priorities: (1) provide transit service to those who need it most, and (2) provide transit service to areas where demand can be served most efficiently.

CHAPTER 4. SERVICE AREA – LOOKING FORWARD

This chapter provides insight as to how the community is changing from the perspective of multiple variables, including population growth and decline, economic development, and built/natural environment changes. This chapter also provides current planning efforts underway in the area from city and regional perspectives. The contents of this chapter include:

- Projected population growth.
  - By county and city/town.
  - By age group.
- City, county and regional planning efforts.

HOW TO USE THE POPULATION PROJECTION AND PLANNING TOOL

The purpose of this tool is to provide guidance on where transit providers can find information on future population projections, as well as direction on how to interpret demographic data in order to present information on specific characteristics of the population. Additionally, transit providers will find resources for future regional plans. This development tool can be used:

- In the projection of future population growth.
- To break down population by specific demographic characteristics.
- As a guidebook for finding resources on local and regional planning efforts.

PROJECTED POPULATION GROWTH

Population projections are key to planning for any area. Projections may be made at all levels, including state, region, county, and city, but the latter are typically depicted on a 10 year horizon. General population data can be collected from the United States Census, with American Fact Finder being the most popular method of collecting population information for a given area. It is important for transportation providers to look at population data from a comprehensive perspective, which would include a review of population projections provided by nearby metropolitan planning organizations and councils of governments. Projections from MPOs will have data for a larger area, which will typically provide greater regional perspective for planning considerations.

PTS Projected Population Growth – County and City/Towns

The North Central Texas region has grown tremendously over the past few decades. As PTS' service area abuts the DFWA metroplex, the growth has also had an effect on the service area, most notably on Parker County. These changes, such as population growth, must be considered when planning for future transit service. Transit providers must have short and long range plans in order to provide a road map for future system growth.

Table 15, 16, and 17 outlines the population projections for Parker, Palo Pinto, and Jack Counties. The data show the 2010 populations for the cities in each county and the 2020

projections. The 2010 population was collected from the most recent decennial census, and the projections were collected from the Texas State Data Center.

Table 15. Parker County Population Projections.

	2010 Population	2020 Projected	Difference	
Aledo city	2,716	3,583	867	32%
Annetta North town	518	683	165	32%
Annetta South town	526	694	168	32%
Annetta town	1,288	1,699	411	32%
Azle city (part)	1,765	2,328	563	32%
Cool city	157	207	50	32%
Cresson city	406	536	130	32%
Hudson Oaks city	1,662	2,192	530	32%
Millsap town	403	532	129	32%
Mineral Wells city (part)	2,144	2,828	684	32%
Reno city	2,485	3,278	793	32%
Sanctuary town	329	434	105	32%
Springtown city	2,658	3,506	848	32%
Weatherford city	25,250	33,306	8,056	32%
Willow Park city	3,982	5,252	1,270	32%
Balance - Population Outside of a City or Town	70,638	93,175	22,537	32%
Total Parker County Population	**116,927**	**154,233**	37,306	32%

Source: 2000 and 2010 Decennial Census, 2020 projection based Texas State Data Center (TSDC), Scenario 3 (2010-2020, 31.91%)

Table 16. Palo Pinto County Population Projections.

	2010 Population		2020 Projected		Difference	
Gordon city	478	2%	545	2%	67	14%
Graford city	584	2%	666	2%	82	14%
Mineral Wells city (part)	14,644	52%	16,704	52%	2,060	14%
Mingus city	235	1%	268	1%	33	14%
Strawn city	653	2%	745	2%	92	14%
Balance - Population outside of a city or town	11,517	41%	13,137	41%	1,620	14%
Total Palo Pinto County	**28,111**	**100%**	**32,066**	**100%**	**3,955**	**14%**

Source: 2000 and 2010 Decennial Census, 2020 projection based Texas State Data Center (TSDC), Scenario 3 (2010-2020, 14.07%)

Table 17. Jack County Population Projections.

	2010 Population		2020 Projected		Difference	
Jacksboro City	4,511	50%	4,573	50%	62	1%
Bryson city	539	6%	546.4497	6%	7	1%
Balance - Population outside of a city or town	3,994	44%	4,049	44%	55	1%
Total for Jack County	**9,044**	**100%**	**9,169**	**100%**	125	**1%**

Source: 2000 and 2010 Decennial Census, 2020 projection based Texas State Data Center (TSDC), Scenario 3 (2010-2020, 1.38%)

PTS Population Projection by Age Group

TSDC publishes population and demographic projections at the county level. TSDC projections include several scenarios, each with varying assumptions. The most current projections available to date are based on census 2000 county populations (projections were released in 2008). TTI researchers compared the available scenarios to actual Census 2010 county populations and found that for the three PTS counties the most accurate scenario is number three. Scenario 3 is based on migration and other growth factors averaged from 2000 to 2007.

The projection scenario used in this report assumes migration in Texas will continue at the same rate as from 2000 through 2007. Two variables are included for each former and projected year: (1) the population and (2) the proportion of the population that is age 17 and under, 18 to 64, and 65 and over. The proportion of the population age 17 and under is important to document because PTS currently provides some trips to kindergarten thru 12th grade students: the number of school trips may increase in the future as districts react to difficult budget circumstances. The proportion of the population that is age 65 and over is important to document because as individuals age, they may lose the independence of traveling by personal auto or walking.

The population of PTS in 2010 was 154,082. By 2020, the population may exceed 175,000. The change in population during the 10-year period from 2010–2020 is 26.9 percent. The proportion of the population that is 65 and over in 2010 was 13 percent and by 2020 may increase to 16 percent. The compound annual growth rate of PTS between 2010 and 2020 is projected to be 2.7 percent.

Parker County is projected to grow approximately 32 percent from 116,927 to 154,233 population. Palo Pinto County will likely grow about half as fast as Parker County over the same period and Jack County is projected to grow only very little by 2020. Table 18 and Table 19 contain the population projections by age groups for PTS counties. Notice that the fastest growing age group in all counties is age 65 and over.

Table 18. Population Projections by Age Group, 2010 to 2020.

	2010	2020	Difference	% Difference
Parker County				
Total Population (Census)	116,927	154,233	37,306	**32%**
Age 17 and under	29,816	34,465	4,649	**16%**
Age 18 to 64	73,079	97,080	24,001	**33%**
Age 65 and over	14,265	22,688	8,423	**59%**
Palo Pinto County				
Total Population (Census)	28,111	32,066	3,955	**14%**
Age 17 and under	7,028	7,822	794	**11%**
Age 18 to 64	16,501	18,066	1,565	**9%**
Age 65 and over	4,582	6,178	1,596	**35%**
Jack County				
Total Population (Census)	9,044	9,169	125	**1%**
Age 17 and under	1,990	2,084	94	**5%**
Age 18 to 64	5,707	5,290	(417)	**-7%**
Age 65 and over	1,348	1,795	447	**33%**

Table 19. Population Projections by Age Group Compared to State, 2010–2020.

	State of Texas	PTS Total	Parker County	Palo Pinto County	Jack County
2010 Population (Census)	25,145,561	**154,082**	116,927	28,111	9,044
Age 17 and under	*27%*	***25%***	*26%*	*25%*	*22%*
Age 18 to 64	*62%*	***62%***	*63%*	*59%*	*63%*
Age 65 and over	*10%*	***13%***	*12%*	*16%*	*15%*
2015 Population (TSDC)	28,015,550	**175,825**	135,665	30,977	9,183
Age 17 and under	*25%*	***22%***	*22%*	*24%*	*22%*
Age 18 to 64	*64%*	***63%***	*65%*	*57%*	*60%*
Age 65 and over	*11%*	***14%***	*13%*	*18%*	*18%*
2020 Population (TSDC)	30,858,449	**195,468**	154,233	32,066	9,169
Age 17 and under	*24%*	***23%***	*22%*	*24%*	*23%*
Age 18 to 64	*64%*	***62%***	*63%*	*56%*	*58%*
Age 65 and over	*12%*	***16%***	*15%*	*19%*	*20%*
Change in Population 2010-20	**5,712,888**	**41,386**	**37,306**	**3,955**	**125**
Change in Population 2010-20	***22.7%***	***26.9%***	***31.9%***	***14.1%***	***1.4%***
Constant Annual Growth Rate	**2.3%**	**2.7%**	**3.1%**	**1.5%**	**0.2%**

Sources: Texas State Data Center (TSDC), 2008, Scenario 3, Table 1--Sex and Race/Ethnicity Total Population by Migration Scenario for 2000-2040 in 1 year incremements. U.S. Decennial Census (Census) 2000 and 2010.

City, County, and Region Planning Efforts

When preparing transit plans for an area, it is important for transit providers to examine plans for the city, county, and region. Ensuring future transit plans represent regional planning efforts aids in accomplishing the vision for the area. Additionally, regional plans may have various horizons that need to be considered when developing transit plans. For example, long range plans typically contain projects on a 20–30 year timeline, where strategic plans contain projects with 5–10 year timelines. Cities, counties, and metropolitan planning organizations all have strategic and long-range plans, sometimes referred to as comprehensive plans. In some cases, MPOs have plans specifically designed for transportation. Plans can typically be accessed at the agency websites online, but may also be found in city and county planning departments.

PTS Service Area City, County, and Region Planning Efforts

This section documents recent planning efforts by local entities within the PTS service area. The section sets forth the plans and visions of each entity. The growth and development of the entities within the PTS service area have direct implications on future transit needs. This section aims to highlight the details of the plans that influence transit need in the region.

North Central Texas Council of Governments: Mobility 2035

The current metropolitan transportation plan, Mobility 2035: The Metropolitan Transportation Plan for the Dallas-Fort Worth Area, is the 11th transportation plan for the region. The first plan was completed in 1974, titled the Total Transportation Plan for the North Central Texas Region

for 1990. Since that time periodic updates have been undertaken to reflect changing demographic and transportation system assumptions and to reflect changes in legislative and regulatory requirements.

Mobility 2035 is the defining vision for the region's multimodal transportation system. Approved by the Regional Transportation Council in March 2011, it identifies $101.1 billion in transportation improvements between now and 2035. These improvements seek to reduce congestion and improve air quality, which is important because the region has been designated as a nonattainment area for the pollutant ozone.

Mobility 2035 Goals

Mobility

- Improve the availability of transportation options for people and goods.
- Support travel efficiency measures and system enhancements targeted at congestion reduction and management.
- Assure all communities are provided access to the regional transportation system and planning process.

Quality of Life

- Preserve and enhance the natural environment, improve air quality, and promote active lifestyles.
- Encourage livable communities which support sustainability and economic vitality.

System Sustainability

- Ensure adequate maintenance and enhance the safety and reliability of the existing transportation system.
- Pursue long-term sustainable revenue sources to address regional transportation system needs.

Implementation

- Provide for timely project planning and implementation.
- Develop cost-effective projects and programs aimed at reducing the costs associated with constructing, operating, and maintaining the regional transportation system.

North Texas Regional Planning Commission

North Texas Regional Planning Commission, or NORTEX, has a plan established through the regional transportation coordination process. Through this process, NORTEX established a steering committee in 2005 to aid in guiding future transportation planning and coordination in the region. The group, now known as the North Texas Regional Transportation Task Force, is currently made up of representatives from:

- Nortex Regional Planning Commission.
- TXDOT - Wichita Falls District office.
- TXDOT - Childress District office.
- City of Wichita Falls-Administration.
- City of Wichita Falls-Transportation Department.
- Rolling Plains Management Corporation - SHARP Lines Transportation.
- Texoma Area Paratransit System.

- Workforce Resource Board.
- Elected Official Representatives.

NORTEX has three transit providers operating in their region, not including PTS. The providers include SHARP Line transportation, TAPS, and Wichita Falls MPO.

- SHARP Line is the transportation service provided by Rolling Plains Management Corporation. It is the rural transportation provider operating in eight of the 11 counties encompassing State Planning Region #3.
- TAPS is the transportation service provided by Texoma Area Paratransit System. It is the rural transportation provider operating in three of the 11 counties encompassing State Planning Region #3.
- WF MPO is the transportation service provided by the City of Wichita Falls. It is the urban transit provider operating in the City of Wichita Falls.

Parker County Multimodal Transportation Study

Parker County's Multimodal Transportation Study was compiled and authored by North Central Texas COG in 2006. The study is based on the COG's Mobility 2030 and 2035 plans, and an excerpt from the transit sections is below:

> Although Parker County has no planned commuter rail service, there is some potential for rail service in the future. Currently, the Union Pacific rail corridor is being used to transport freight.
> However, if the Tower 55 freight crossing can be modified to allow for additional capacity, that would eliminate some of the congestion on the Union Pacific track and increase the potential for effective commuter service. Additionally, if a freight rail bypass is constructed, possibly within Parker County, it would eliminate a significant portion of the east-west freight traffic and create a potential corridor for passenger rail service. In the meantime, the county can look into service through Bus Rapid Transit, Express Bus, or other transit alternatives to connect commuters to the existing rail service in Fort Worth. Staging bus transit before rail transit can help grow passengers and develop a user base, generate funding, and influence regional growth patterns.

City of Azle: Downtown Plan Report

In 2009, the City of Azle commissioned to study a 200 acre section of Downtown Azle. The purpose was to create a town center anchored by a new library and park for residents to provide a central place for the city. The plan provides short and long-term recommendations to help guide the redevelopment of downtown Azle.

The short-term recommendations include:

- Relocating overhead power lines.
- Improve street drainage while improving aesthetic appeal.
- Include way finding signs throughout the downtown area.

The long-term recommendations include:

- Improve pedestrian mobility, improve overall aesthetic appearance.
- Develop a Master Plan for Main Street at the building and block level to identify development and redevelopment opportunities.

By redeveloping the downtown, the area may see an increase in jobs. Increased jobs will increase the need for more transportation options to access the area.

City of Aledo: Strategic Plan

The City of Aledo developed a strategic plan in 2009 in order to guide planning and development in the city that fosters economic growth, while enhances the cities sense of community. The plan identified multiple goals to guide the planning process. The community developed strategies to accomplish each goal. Four of the goals have direct transportation implications. These goals include the following:

- Provide mobility with a safe and efficient vehicular transportation system.
- Provide a network of multimodal transportation options.
- Ensure the infrastructure needs of existing and future residents and businesses are met.
- Foster a positive, ongoing relationship with public entities, neighboring cities, the school district and private entities.

The plan specifically documents the need and desire of the community to expand transportation options to its citizens. These transportation options include automobile, public transit, and non-motorized modes.

City of Weatherford: 2002 Comprehensive Plan

In 2002, the City of Weatherford developed a comprehensive plan. The plan included elements such as a baseline analysis, goals and objectives to guide planning and development, a thoroughfare plan, a land use plan, housing strategies, etc. The goals directly affecting the transportation system include the following:

- To provide a transportation system that will effectively and economically serve the existing and projected travel needs of the community in a safe and efficient manner.
- Expand the rail-trail as a city-wide system by creating pedestrian and bicycle linkages (connections) between residential neighborhoods, parks/linear greenbelts, schools, downtown, public administrative facilities and other activity centers, wherever physically and financially possible.

The land use plan provides the location of potential areas for growth. The plan identifies that industrial growth should occur in two locations that currently have industrial uses. These areas include Burette Hobson Industrial Park and the other location is the intersection of Interstate 20 and East Bankhead Drive. The plan also identifies commercial corridors, which include Interstate 20 and U.S. Highway 80.

City of Jacksboro: Moving Forward

In 2010, City of Jacksboro developed a strategic plan that set forth the cities goals and objectives for future growth. This plan includes the following goals:

- Improved relationship with citizens.
- Develop a smart growth policy for the City.

- Maintain a sustainable city government.
- Provide increased opportunities for youth.

The goal regarding smart growth provides guidance for developing a plan aimed to improve the street network. The plan is set to be complete by the end of 2011.

Summary

Parker County has a relatively comprehensive plan; however, it relies heavily on transportation planning and forecasting from DART and The T. It is important for PTS to plan for the service area accordingly. Additionally Parker County has experienced the most rapid growth in PTS service area, which makes it even more critical to develop plans for cities in the area. There is a lot of demand in Parker County for access into Tarrant County for employment, education, and commerce. The cities of Springtown, Azle, and Weatherford are ripe for fixed route and express route service. City of Weatherford is the only entity with a comprehensive plan that provides information on land use planning and specific information on future growth; however, each of the strategic plans and the downtown plan, provide guidance on the ideals of the communities. For example, each community values a transportation system that encourages multiple modes of transportation—largely pedestrian mobility and personal automobile. The goals of the communities set forth in the planning efforts provide insight to areas of potential future growth of the cities and potential for growth in public transportation need and demand.

Highlights of Service Area Conditions and Trend Assessment

The following provides highlights of the outcomes found in the PTS service area conditions and trend assessment:

- Fastest growth in fringes of DFWA – 32 percent growth in Parker County as a whole.
- Fastest growing population is 65+ throughout service area and significant growth in Parker County younger family populations.
- Population growth in proximity to scenic landscapes – natural amenities and recreational areas.
- Shift in industry – Cantex.
- High percent of workers commute longer distance.
- Major roadway configuration oriented to freight and intercity needs – eases access to DFWA.
- Activity centers clustering along major trade routes.
- Local plans focus on town centers and main streets.
- Good number of dialysis centers and existence of regional hospital.
- Weatherford College – significant student body.

CHAPTER 5. TRANSIT SERVICE ASSESSMENT

This chapter provides transit agencies with a variety of means to organize and view transit service information. Transit service information may be used as a basis for decision making on existing services, to understand performance, and to identify future opportunities for transit service. This chapter provides PTS an overview of existing modes of transit services offered, historical change in passenger boardings, revenues miles/hours and performance measures, snapshot of existing service by type and purpose, location distribution of trips and requests for transit service in the counties and cities within the service area of PTS. The purpose of this chapter is to identify current service area characteristics in order to facilitate matching PTS transit services with the needs and conditions of the service area.

Researchers and transit planners utilizing this toolkit can refer to the PTS case study application of each assessment documented in the following sections of this chapter:

- How to Use the Transit Service Assessment Tool.
- Trip Type and Purpose Analysis.
- Trip Origin and Destination Analysis.
- Customer Requests for Transit Service.

HOW TO USE THE TRANSIT SERVICE ASSESSMENT TOOL

The purpose of this tool is to provide guidance on reviewing and assessing existing transit services. Additionally, this tool includes guidance in how to sample demand response data to obtain useful information in assessing trips. This assessment tool can be used:

- To aid in review of existing transit service.
- As a resource for transit service by trip type and purpose.
- To determine trip origins and destinations.
- To provide information on how customer requests can be used to determine transit markets.

In planning for the future, transit service providers may assess current transit services offered in order to get a better understanding of service performance and potential future service changes and development.

TRANSIT SERVICE OVERVIEW

Public transit managers and planners need to have an understanding of the transit services provided—currently and historically. Developing an understanding of the transit service modes, types, trip purposes, and locations allows transit managers and planners to better understand what and where transit services are provided and the performance of the service to make future decisions. Transit managers and planners can better assess where new services may be needed or where underutilized service may be reconfigured or resources redirected to serve market

demand. Having a clear understanding of the transit services can result in better decision making to meet the mission, goals, and objectives of the transit agency. The goal of a transit service assessment is to:

- Understand characteristics of modes, types, trip purposes, and location.
- Assess where new services may be needed or where underutilized service may be reconfigured or resources redirected to serve market demand.
- Result in better decision making to meet the mission, goals, and objectives of the transit agency.

PTS Transit Service Overview

PTS directly operates and purchases transportation. PTS provides demand response and commuter route service for the general public, school, work commute, Medicaid non-emergency medical transportation (MTP), and senior services as well as specialized services. PTS has a centralized dispatch office in Mineral Wells, where all of the major functions, including scheduling, routing, and planning are handled. PTS also has a small office in Weatherford that houses 12–15 vehicles.

In fiscal year (FY) 2011, PTS provided a total of 82,392 passenger boardings operating 43,751 revenue hours and 882,714 revenue miles with a 6 percent increase in ridership over fiscal year 2010 (see Table 20). The increase in passengers was driven by an 8 percent increase in general public and a 20 percent increase in MTP offset by a 36 percent decrease in other contract service (see Figure 31). The increase in general public passengers is partially driven by the closing of the Cantex plant resulted in the adding of a new commute service to connect the Cantex manufacturing plant workers to jobs relocated in the City of Fort Worth.

Table 21 provides the historical change in performance measures for PTS service. Chapter 8 discusses performance measurement in detail and provides peer performance as a reference. Type of services offered influence the efficiency and effectiveness of the transit system. In general, longer distance trips increase system efficiency but decrease system effectiveness measures; and shorter distance trips increase system effectiveness but decreases system efficiency.

Table 20. Passengers, Miles, Hours, Expenses, FY2007 to FY2011.

State Fiscal Year (August – September)	Passenger Boardings	Revenue Miles*	Revenue Hours	Operating Expenses
FY2007	76,441	502,905	21,411	$901,840
FY2008	73,980	553,144	24,641	$1,118,471
FY2009	77,491	590,677	26,313	$1,175,991
FY2010	77,480	736,119	32,792	$1,395,137
FY2011	82,392	882,714	43,751	$1,791,178
FY10 to FY11 Percent Difference	6%	20%	33%	28%

*Revenue miles adjusted to provide consistency in revenue hours FY09 and FY10

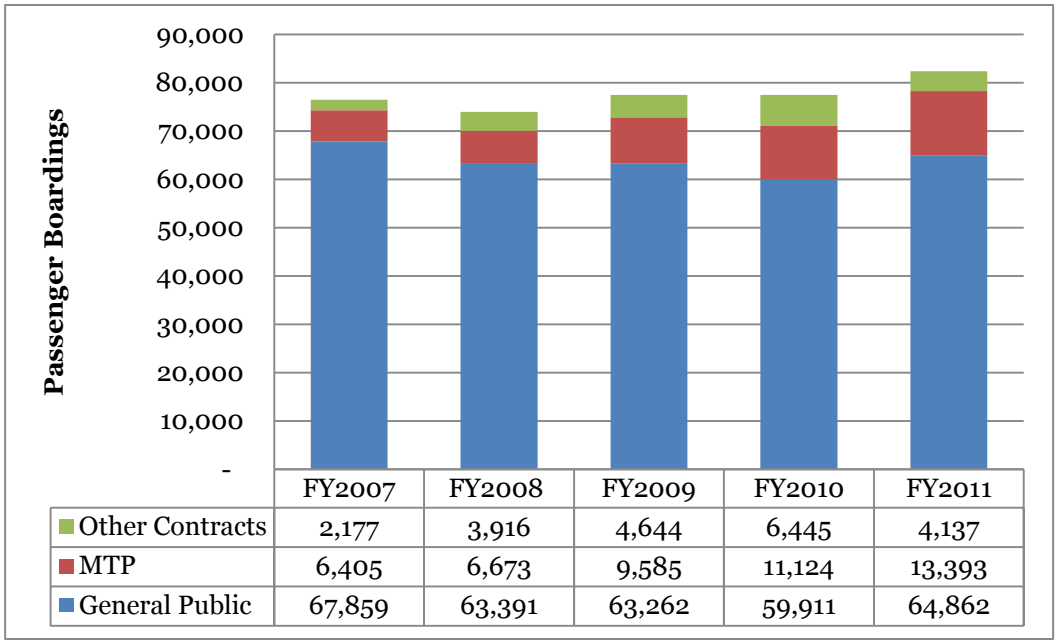


Figure 31. Passenger Boardings FY2007 to FY2011.

Table 21. Performance Measures FY2007 to FY2011.

Fiscal Year	Service Effectiveness (Productivity)		Cost Efficiency		Cost Effectiveness	Revenue Service Speed
	Passenger Boardings per Revenue Hour	Passenger Boardings per Revenue Mile	Cost per Revenue Mile	Cost per Revenue Hour	Cost per Passenger Boarding	
FY07	3.57	0.15	$1.79	$42.12	$11.80	23
FY08	3.00	0.13	$2.02	$45.39	$15.12	22
FY09	2.94	0.14	$2.13	$44.69	$15.18	21
FY10	2.36	0.14	$2.52	$42.55	$18.01	17
FY11	1.88	0.09	$2.03	$40.94	$21.74	20

Trip Type and Purpose Analysis

Breaking down the trips by type and purpose is important for the public transit manager and planner to understand the market and resources used for transit services provided. Resources used for various trip types may differ depending on the length of the trips. Transit service is designed to reflect the market for transit service and to reflect the mission, goals and objectives of the transit agency. Thus, it is important for transit managers and planners to have a general

understanding of the type and purpose of the trips taken and the resources used to provide those trips.

One means to capture detailed trip information is to take a sample of trips. Typically, a one to two-week sample will provide data needed to create information needed to conduct an assessment of trips.

PTS Trip Type and Purpose Analysis

Table 22 provides an overview of PTS trips based on a sample of two-weeks in October 2011 of driver manifests. Table 22 provides the percent of passenger boardings and the average trip lengths by service type for the sample months. The percent of passenger boardings provides the transit manager and planner with information regarding the proportion of service devoted to each trip market. The average trip lengths in terms of time and miles provide the transit manager and planner with information and the resources needed to provide the trips. The two biggest drivers of transit service cost are time and miles, therefore understanding how trip lengths differ by service type is important in service assessments.

Trip Type

Route-School, General Public, MTP and Route-Work are 87 percent of passenger boardings for PTS (see Table 22). These four trip types however have differing amount of resource needs. Route-School trips are less resource intensive with short trip lengths averaging 6 miles and 25 minutes. The more resource intensive trip type is Route-Work trips averaging 43 miles and 63 minutes. General public averages 13 miles and 28 minutes and MTP averages 22 miles and 39 minutes—both falling between Route-School and Route-Work average trip lengths.

Table 22. Trip Type Analysis.
October 2011 Sample

Trip Type	Passenger Boardings	Average Trip Lengths	
		Minutes	Miles
Route – School	32.2%	25	6
General Public (“Self”)	29.9%	27	13
MTP	14.7%	39	22
Route – Work	10.0%	63	43
Parker County Committee on Aging*	5.9%	11	5
Gold Card	4.5%	19	8
North Central Texas Workforce	2.3%	17	6
Holland Lake Nursing Center	0.5%	8	1
College Park	0.3%	54	30
Total	**100%**	**30**	**14**

*PTS purchases service from Parker County Committee on Aging

Trip Purposes

Next, the transit manager and planner might want to know the purpose of the differing trip types to gain a deeper understanding of the market served. Table 23 provides a breakdown of trip types by trip purpose for PTS. Also the trip lengths by trip purpose provide some insight on whether the passenger stayed within the immediate community for access to the trip purpose or travelled a longer distance to gain access.

Table 23. Trip Type and Purpose Analysis.

October 2011 Sample

Type and Purpose	Proportion of Passenger Boardings	Average Trip Lengths	
		Minutes	Miles
Route School	**32.2%**	**25**	**6**
General Public	**29.9%**	**27**	**13**
Child Care	0.2%	29	16
Dialysis	2.0%	43	27
Medical	11.2%	29	13
Other	1.9%	25	12
Recreation	1.2%	26	13
School	3.2%	33	14
Shopping	1.5%	27	14
Therapy	0.3%	11	3
Travel	0.1%	165	110
Work	8.3%	19	8
Medicaid	**14.7%**	**39**	**22**
Dialysis	0.0%	14	5
Medical	1.6%	38	20
Other	13.1%	39	22
Route-Work	**10.0%**	**63**	**43**
Parker County Committee on Aging	**5.9%**	**11**	**5**
Medical	1.1%	11	5
Other	0.9%	10	4
Recreation	2.9%	11	4
Shopping	0.9%	11	5
Therapy	0.0%	5	3
Work	0.1%	20	11
Gold Card	**4.5%**	**19**	**8**
Medical	1.8%	21	8
Other	0.5%	11	4
Recreation	0.4%	13	7
Shopping	0.9%	18	8
Work	0.9%	22	9

Type and Purpose	Proportion of Passenger Boardings	Average Trip Lengths	
		Minutes	Miles
North Central Texas Workforce	**2.3%**	**17**	**6**
Other	0.8%	20	7
Work	1.5%	15	5
Holland Lake Nursing Center	**0.5%**	**8**	**1**
Medical	0.5%	8	1
College Park	**0.3%**	**54**	**30**
Medical	0.3%	54	30
Grand Total	**100%**	**30**	**14**

General Public Trips

General public trips serve a variety of trip purposes with medical and work purposes making up 65 percent of general public trips. These trips are scattered throughout the region providing connection to work, school, shopping, medical, and recreation.

Route -School and Route-Work

Over 40 percent of PTS passenger boardings are route trips—either route-school or route-work. Route type service is offered for access to schools, employment, and work programs. PTS route for school service runs on weekdays from Mineral Wells and Jacksboro and averages approximately 27 minutes and 6 miles per passenger. Route trips are also provided for continuing education and special needs students to Tarrant County College.

PTS' route for work service runs on the weekdays from Mineral Wells and Weatherford and averages 57 minutes and 42 miles per passenger. This service offers passenger pick-ups at park and rides in both Mineral Wells and Weatherford, and transports people into downtown Fort Worth and to Texas Christian University. A catalyst for the service creation was the relocation of the Can-Tex plant from Mineral Wells to downtown Fort Worth. Many of the residents stayed in Mineral Wells, but needed a commuter route to downtown. Currently, 22 people take advantage of the service, which keeps expanding. The service was established through Job Access Reverse Commute (JARC) dollars. Table 24 provides the proportion of route service passenger boardings and average trip lengths for route trips by origin city.

Table 24. Route School and Work Trips by Origin City.

Trip Type and Origin City	Percent of Passenger Boardings	Average Trip Lengths	
		Minutes	Miles
Route	100%	37	17
School	68%	27	6
Jacksboro	24%	26	5
Mineral Wells	44%	28	6
Work	32%	57	42
Mineral Wells	21%	68	50
Weatherford	11%	36	26

Medicaid Non-Emergency Medical Transportation

Over 14 percent of PTS passenger boardings are MTP. As indicated in Figure 31 previously, PTS is experiencing regular increases in trip requests for medical purposes. Over 75 percent of the MTP trips originate from Mineral Wells (30 percent) and Weatherford (46 percent). Table 25 provides the percent of MTP trips by origin city and corresponding trip lengths.

Table 25. MTP Trips by Origin City.

October 2011 Sample

Trip Type and Origin City	Percent of Passenger Boardings	Average Trip Lengths	
		Minutes	Miles
Medicaid	**100.0%**	**39**	**22**
Aledo	2.2%	38	16
Azle	5.1%	66	30
Bridgeport	0.7%	57	47
Fort Worth	1.5%	20	12
Graford	0.4%	45	24
Jacksboro	1.1%	46	36
Millsap	0.7%	24	11
Mineral Wells	29.5%	44	25
Mingus	0.7%	39	37
Palo Pinto	0.7%	14	11
Springtown	6.9%	40	24
Strawn	3.6%	52	46
Weatherford	46.2%	28	14
Willow Park	0.7%	36	27

Parker County Committee on Aging

PTS purchases service from Park County Committee on Aging. Approximately 50 percent of Parker County Committee on Aging trips is recreational, and the other half is a combination of shopping and medical trips. The majority of trips originate from Weatherford (see Table 26).

Table 26. Parker County Committee on Aging Trips by City Origin.

City of Origin	Percent of Passenger Boardings	Average Trip Lengths	
		Minutes	Miles
Total	100%	12	5
Azle	1%	9	3
Hudson Oaks	7%	17	7
Millsap	1%	19	12
Springtown	3%	10	4
Weatherford	88%	11	5

Gold Card

PTS provides senior discount service to persons age 65 and older. The senior population in PTS service area is growing with more and more seniors retiring in rural areas around lakes and recreational areas. Senior centers, medical facilities, and moderate priced-housing are attractions to the area for older persons on fixed-incomes or in retirement. About 4.5 percent of the PTS daily directly operated service uses Gold Cards.

North Central Texas Workforce

PTS has a contract to provide transit service for North Central Texas Workforce Solutions. North Central Texas Workforce Solutions "assists employers to find the right employee" serving the counties surrounding Tarrant and Dallas County—including Palo Pinto and Parker County. North Central Texas Workforce Solutions has offices in Weatherford and Mineral Wells. The majority of trips (74 percent) originate from Mineral Wells and the remaining from Springtown (26 percent) based on the two-week October 2011 sample of trips (see Table 27).

Table 27. North Central Texas Workforce Trips by Origin City.

City of Origin	Percent of Passenger Boardings	Average Trip Lengths	
		Minutes	Miles
Total	100%	17	6
Mineral Wells	74%	20	6
Springtown	26%	9	4

Holland Lake Nursing Center and College Park

PTS is contracted to provide trips to the Holland Lake Nursing Center and College Park located in the city of Weatherford. These services combined makeup less than1 percent of PTS passenger boardings.

TRIP ORIGIN AND DESTINATION ANALYSIS

Trip origin and destination analysis is part of a process to forecast transportation demands. Origins and destinations can be broad such as cities or towns or can more focused on factors generating the trip. In trip generation analysis, origins are typically residences and are a function of the social and economic attributes of the households. Destinations are trip attractors focusing on nonresidential places. Both residential characteristics and trip attractors are presented in Chapter 4. The purpose of the trip origin and destination analysis is to provide some insight on travel patterns of transit users and to determine the major factors influencing travel patterns.

PTS Trip Origin and Destination Analysis

Table 28 roves the average daily trips originating in each town/city served by PTS and the destination city of the trip. The average daily trips are based on the two-week October 2011 sample of trips. Of the 240 number of average daily trips, 69 percent originate from Mineral Wells or Weatherford—86 trips (or 36 percent) originate in Mineral Wells and 80 trips

(33 percent) originate in Weatherford. The next largest percent of trips originate from Jacksboro—10 percent of PTS trips and from Springtown—5 percent of PTS trips. The remaining 16 percent are distributed across other towns and cities.

Of the 240 number of average daily trips, 62 percent are destined for Mineral Wells or Weatherford—67 trips (or 38 percent) Mineral Wells and 82 trips (or 34 percent) Weatherford. The next largest percent of trips are destined for Fort Worth and Jacksboro–30 trips (or 13 percent) Forth Worth and 19 trips (or 8 percent) Jacksboro. The remaining trips are distributed across the other towns and cities listed.

Figure 32 provides a map of both origins and destinations by trip type. The origins and destinations are consistent where both residences are located and where major attractors are located. Although the majority of trips begin and end within the PTS service area, many trips are provided to areas outside of the PTS service area. Chapter 6 will discuss how the longer trip lengths for trips outside of the service area affect the cost. Origin and destination of trips is important to understand to make decisions about future transit options.

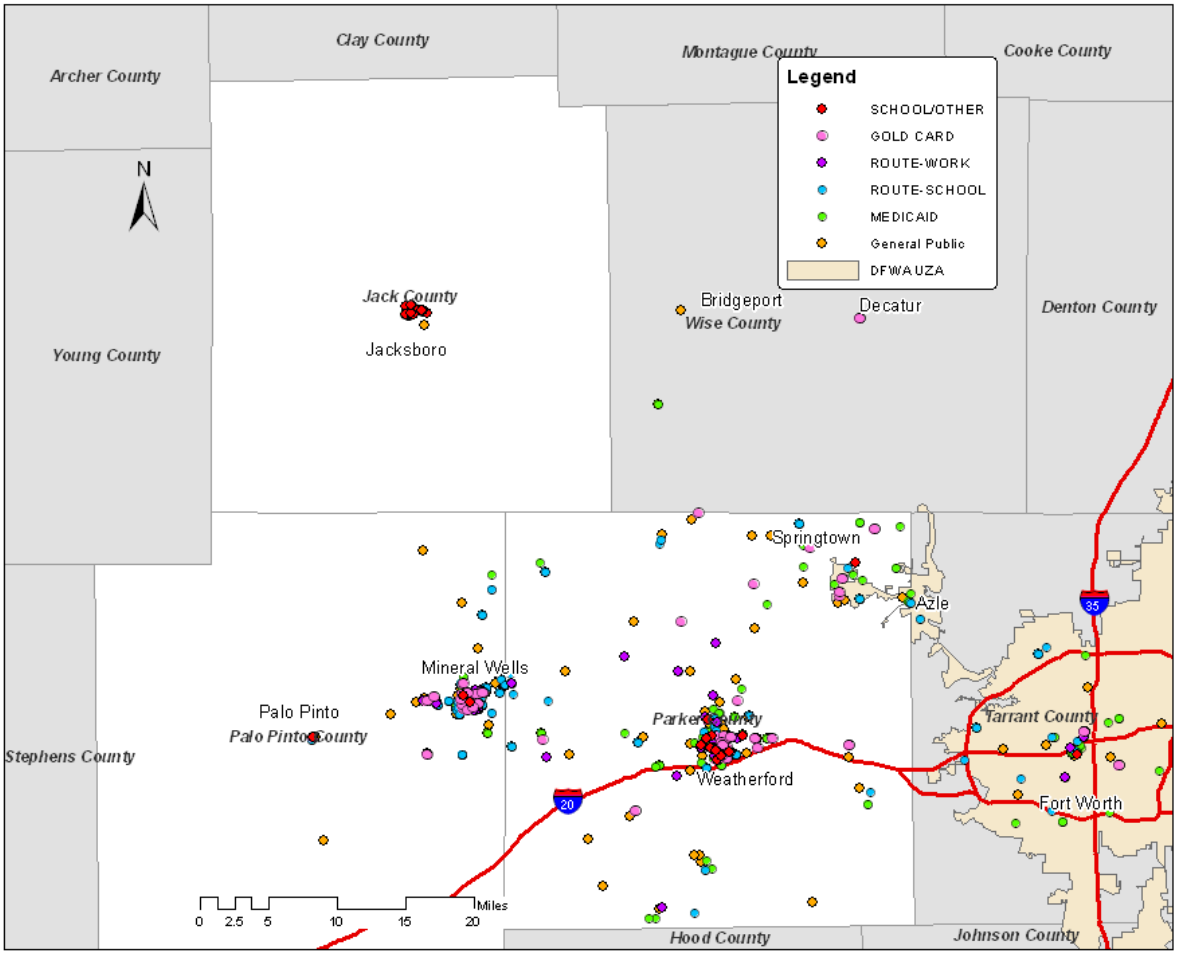


Figure 32. Origins and Destinations by Trip Type.

Table 28. Average Daily Passenger Origins and Destinations.

October 2011 Sample

Origins \ Destinations	Arlington	Azle	Breckenridge	Bridgeport	Carrollton	Dallas	Decatur	Forest Hill	Fort Worth	Graham	Granbury	Hudson Oaks	Jacksboro	Lake Worth	Mansfield	Millsap	Mineral Wells	Palo Pinto	Saginaw	Springtown	Stephenville	Weatherford	Wichita Falls	Willow Park	Total
Aledo																						2		1	**3**
Azle		1							1					1					1	1		2			**7**
Bridgeport										1															**1**
Bryson													1												**1**
Fort Worth									1													1		1	**3**
Garner																						1			**1**
Graford																	2								**2**
Hudson Oaks												1										2			**3**
Jacksboro							3			1			17				1					1	1		**24**
Millsap																	1					1			**2**
Mineral Wells		1	1			1		1	16								53	4			1	8			**86**
Mingus																	1								**1**
Palo Pinto																	3	1							**4**
Perrin													1				1								**2**
Poolville																		1							**1**
Santo																	1					1			**2**
Springtown		1		1					2								1			3		4			**12**
Strawn																	1					1			**2**
Weatherford	1	1			1	1	1		9		1	2			1	1	2	1		1		56		1	**80**
White Settlement																						1			**1**
Willow Park									1													1			**2**
Total	**1**	**4**	**1**	**1**	**1**	**2**	**4**	**1**	**30**	**2**	**1**	**3**	**19**	**1**	**1**	**1**	**67**	**7**	**1**	**5**	**1**	**82**	**1**	**3**	**240**

Analyzing what types of trips are generated from each city or town can provide insight into the market for trips or untapped market for trips. Table 29 provides the average number of trips from each origin city and the type of trip generated. Table 29 also provides the length of the trips that provides information on whether the trip was destined for within or outside of the community.

Table 29. Average Daily Outbound Trips by City/ Town.
October 2011 Sample

City And Trip Type	Average Daily Passenger Boardings Outbound	Trip Lengths Minutes	Miles
ALEDO	2	29	13
MEDICAID	1	38	16
SELF	1	23	10
AZLE	4	55	28
GOLD CARD	1	52	29
MEDICAID	2	66	30
PCCOA	1	9	3
SELF	1	45	26
BRIDGEPORT	1	57	47
MEDICAID	1	57	47
BRYSON	1	20	15
SELF	1	20	15
FORT WORTH	1	27	15
MEDICAID	1	20	12
SELF	1	32	18
GARNER	1	31	24
SELF	1	31	24
GRAFORD	2	34	21
GOLD CARD	1	31	19
MEDICAID	1	45	24
SELF	1	33	21
HUDSON OAKS	2	20	7
GOLD CARD	1	10	7
PCCOA	1	17	7
SELF	1	24	8
JACKSBORO	20	30	10
MEDICAID	1	46	36
ROUTE	16	26	5
SELF	3	52	38
MILLSAP	1	22	12
MEDICAID	1	24	11
PCCOA	1	19	12
SELF	1	22	13
MINERAL WELLS	81	35	17
GOLD CARD	3	17	5
MEDICAID	9	44	25
NCTWC	5	20	6
PREPAID	2	32	5
ROUTE	43	41	20
SELF	21	24	11

City And Trip Type	Average Daily Passenger Boardings Outbound	Trip Lengths Minutes	Miles
MINGUS	1	39	37
MEDICAID	1	39	37
PALO PINTO	3	32	12
DONATION	1	20	13
MEDICAID	1	14	11
PPSCHOOL	1	54	19
ROUTE	1	15	1
SELF	1	19	13
PERRIN	2	20	14
SELF	2	20	14
POOLVILLE	1	60	52
SELF	1	60	52
SANTO	1	43	32
SELF	1	43	32
SPRINGTOWN	8	39	20
GOLD CARD	1	33	17
MEDICAID	3	40	24
NCTWC	2	9	4
PCCOA	1	10	4
SELF	3	61	29
STRAWN	2	52	46
MEDICAID	2	52	46
WEATHERFORD	70	23	11
COL PARK	1	42	28
GOLD CARD	6	15	6
HLNC	1	9	1
HLNC(E-SIDE)	1	10	1
HLNC(W-SIDE)	1	7	1
MEDICAID	15	28	14
PCCOA	11	11	5
ROUTE	8	36	26
SELF	28	23	9
SFHR	2	17	6
WHITE SETTLEMENT	1	30	22
SELF	1	30	22
WILLOW PARK	1	27	19
GOLD CARD	1	8	4
MEDICAID	1	36	27
TOTAL OUTBOUND TRIPS	**193**	**30**	**14**

CUSTOMER REQUESTS FOR TRANSIT SERVICE

Customer requests can help direct transit managers and planners to where unmet needs may be in the market. Coding customer comments is important to easily identify comments relating to service requests.

PTS Customer Service Requests

Researchers also documented based on visits with PTS services currently being requested by PTS customers. PTS is experiencing demands for service in Springtown, Azle, and Weatherford. The trip needs for these areas make up the major categories, including commuter service, school service, and medical. PTS is currently offering medical trips for dialysis into Weatherford on Monday, Wednesday, and Friday from Springtown, and taking customers from Jacksboro, Santo, and Mineral Wells into Weatherford for dialysis. Due to a limited number of dialysis clinics throughout the service area, as well as a limited number of daily openings at the clinics, there is a demand for dialysis trips to Weatherford, which is the only city in the service area with multiple dialysis clinics.

There is also a need to transport veterans from Mineral Wells to the Veterans Hospital in the Dallas-Fort Worth metroplex. Staff met with a representative from the Disabled Military Veterans organization that would like to purchase vehicles for the new service and contract with PTS to run the service. Since PTS transports a number of clients to the VA, a new service to the Veteran's Hospital may be a more efficient means of offering the service.

There is the potential for PTS to take over future service for the schools in Jack and Palo Pinto Counties. Currently, PTS is running a school route in Jack County, and many students are utilizing PTS service in order to get to school in Palo Pinto; however, this is a potential untapped market that has the potential to grow for future service.

Recently, the school Superintendent for Palo Pinto County requested that PTS examine the possibility of all of the school routes operated by PTS. PTS is experiencing an increase in school trips and 2012 may be a banner year. Local schools are implementing the 2-mile rule, which means that students within a 2-mile radius of their home school will no longer receive bus service. This may mean a need for PTS to fill the gap in student transportation.

An increase in requests for trips to dialysis centers has also occurred. Dialysis centers in the three-county area are located in Weatherford, Azle, and Mineral Wells.

CHAPTER 6. TRANSIT COST ASSESSMENTS

This chapter provides a means to evaluate costs through standardized accounting cost structures to record and analyze financial data and to provide a model to allocate costs across transit services. The cost assessment tool provides a means of determining current expense levels by function and service type and a basis for projecting future service costs.

Chapter 6 includes the following sections:

- What to Know about Costs.
- Costs by Line-item.
- Costs by Function.
- Cost Formula.
- Shared-Ride Cost Allocation.
- Use of Allocation Results.

WHAT TO KNOW ABOUT COSTS

Establishing a framework for reporting expenses (costs) is important to ensure accuracy of data and to understand and manage transit program costs. The following elements are considerations in establishing a cost-reporting framework:

- Report all expenses to identify the total cost to provide transit service.
- Report costs based on the public transportation industry required standard for NTD using the Uniform System of Accounts (USOA) http://www.ntdprogram.gov/ntdprogram/pubs/reference/USOA.pdf.
- Report costs based on the accrual method of accounting – as required in the USOA.
- Segregate and report capital costs separately from program operating costs.
- Report costs by functional area (i.e., transit operations, maintenance, administration) and by different modes (i.e., fixed-route, demand response) to better understand and manage costs.
- Report overhead and indirect costs.

The approach in this chapter follows the NTD reporting approach that captures direct costs as well as all overhead and indirect costs, including costs that are shared with other public agencies. Overhead and indirect costs might include legal services, administrative support, data processing, billing, and purchasing.

The USOA is the basic reference document for the NTD. USOA contains the accounting structure *required* by federal transit laws. The USOA requires the accrual method of accounting. Those transit providers that use cash-basis or encumbrance-basis accounting, in whole or in part, must make work sheet adjustments to record the data on the accrual basis as described in the USOA (see http://www.ntdprogram.gov/ntdprogram/pubs/reference/USOA.pdf).
Transit providers should report all expenses not just those expenses that are allowable for grant reimbursement. Reporting expenses based on only allowable grant reimbursable expenses does not capture the total cost of providing transit service. Recipients of grant funds must be familiar

with rules and procedures to understand the difference in reporting allowable costs for grant reimbursement and reporting total cost for NTD and other stakeholder reporting requirements. National Archives and Records Administration, Office of Management and Budget Guidance for Grants and Agreements, consolidates all circulars relating to financial and audit guidance for any federal grants into Title 2 of the Code of Federal Regulations, visit: http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=%2Findex.tpl.

Two circulars that define allowable and unallowable expenses and cost categories for state, local, Indian tribes, and non-profit organization are:

- OMB Circulars A-87, Cost Principles for State, Local and Indian Tribal Governments http://www.whitehouse.gov/omb/circulars_a087_2004.
- OMB Circular A-122, Cost Principles for Non-Profit Organizations http://www.whitehouse.gov/omb/circulars_a122_2004.

Accrual Accounting Method of Recording Expenses

There are basically two accounting methods that a transit provider may use to record expenses in the financial records: cash-basis accounting and accrual accounting. The key difference between the two methods is how and when financial transactions are recorded. NTD requires accrual accounting to ensure that revenues and expenses are properly matched to the services provided and passengers served.

Cash-basis Accounting

In **cash-basis accounting**, the transit provider records expenses when the cash is actually paid out and records revenue when the cash is actually on-hand or in a bank account.

Accrual Accounting

The USOA requires the accrual method of accounting or that transit providers that use cash-basis or encumbrance-basis accounting, in whole or in part, make work sheet adjustments to record the data on the accrual basis as described in the USOA (see http://www.ntdprogram.gov/ntdprogram/pubs/reference/USOA.pdf).

In an **accrual accounting** system, expenses are recorded when incurred, even if service or supplies have not been actually paid yet. For example, when a transit provider buys fuel for buses, the provider may not pay for the fuel until a month or so later when the provider receives the bill. Under accrual accounting the fuel expense is booked in the accounting period in which the fuel is used (this matches the time-period when the service is performed) not in a future period when the bill is actually paid.

Example: the transit provider uses 1,000 gallons of fuel worth $4,000 to provide service in June. The transit provider records $4,000 expenses for fuel in June whether or not actual payment or reimbursement occurred in the same month.

Operating vs. Capital Expenses

The total cost of providing transportation service equals the sum of all operating and capital expenses.

Operating expenses are typically expenses that are consumed in a single calendar or fiscal year to operate transit service. These expenses include labor, fringe benefits, materials and supplies (e.g., fuel), maintenance, office space, equipment, and administrative costs. Administrative costs are a kind of operating cost. Administrative costs may be more difficult to quantify when the transit provider is a part of a larger organization. Administrative expenses are those used to support the performance of a program's basic function of providing transit service.

Capital expenses refer to the expenses associated with long-term acquisitions and leases of physical assets, such as buses, garages, and maintenance facilities. According to NTD, capital expenses are the costs incurred that exceed $5,000 or the capitalization value established by the local government unit if lower.

Operating Expenses Eligible for Capital Reimbursement

An operating expense that is eligible for reimbursement as a capital expense is still reported as an operating expense. For example, preventive maintenance is defined for Section 5311 federal grants as an operating expense that is eligible for capital reimbursement. The scope of this toolkit does not address which operating expenses are eligible for capital reimbursement as these expenses may differ from state to state. The following FTA circulars provide further guidance on eligible capital expenses:

- FTA C 9040.1F Nonurbanized Area Formula Program Guidance and Grant Application Instructions http://www.fta.dot.gov/documents/FTA_C_9040.1F.pdf.
- FTA C 9070.1F Elderly Individuals and Individuals with Disabilities Program Guidance and Application Instructions http://www.fta.dot.gov/documents/C9070.1F.pdf.
- FTA C 9050.1 The Job Access Reverse Commute (JARC) Guidance and Application Instructions http://www.fta.dot.gov/documents/FTA_C_9050.1_JARC.pdf.
- FTA C 9045.1 New Freedom Program Guidance and Application Instruction http://www.fta.dot.gov/documents/FTA_C_9045.1_New_Freedom.pdf.

A Common Chart of Accounts

The public transportation industry standard for the National Transit Database (NTD) uses the Uniform System of Accounts (USOA) chart of accounts. A key element of the chart of accounts is the establishment of expense classes, typically according to USOA classes. The USOA chart of accounts can be found at the following link:
http://www.ntdprogram.gov/ntdprogram/pubs/reference/USOA.pdf

Detailed expense classes typically include the following:

- Labor.
- Fringe benefits.
- Services.
- Materials and supplies.
- General administrative expenses (allocated central services, if applicable).
- Utilities.
- Casualty and liability costs.
- Taxes.

- Purchased transportation.
- Miscellaneous expenses.
- Interest expense
- Leases and rentals.
- Depreciation and amortization.
- Capital expenses.

Each expense class may have detailed subcategories. For example, the category labor could have separate entries for drivers, administrators, dispatchers, and mechanics. Some transportation providers have separate expense categories for salaries paid for training or overtime. Other expense categories that may be useful in certain conditions include indirect expenses (for multi-service agencies providing transportation and other services), expense transfers, and interest expenses (TCRP Report 144, 2011).

Costs by Line-Item

The transit agency's Chart of Accounts is the basic tool used to ensure that all transportation costs are reflected in the agency's accounting system and is the basis for developing the cost allocation model. From the chart of accounts, line item costs can be assigned by function and by fixed and variable costs. The assignment of line item costs will provide the transit agency with information to generate invoices, to generate the components of the cost allocation formula and create a means to generate budget projections to complete a five-year financial plan.

PTS Operating Costs by Line-Item

Table 30 illustrates the line item operating costs for PTS fiscal year 2011 using the USOA expense class categories. Table 30 also provides the line item cost percent of total operating expense. Understanding the largest drivers of operating costs is the first step in managing cost. Documenting the proportion of operating expense by line item provides an understanding of the big picture expenses. The largest drivers of costs for PTS are labor and fringe benefits at 57.3 percent, materials and supplies at 19.6 percent, and services at 11 percent.

Table 30. Fiscal Year 2011 Operating Expense by Line Item.

Line Item	September 2010 to August 2011	Proportion of Total Operating Expense
Total Operating Costs	**$1,791,179**	**100.0%**
501. LABOR	**$792,917**	**44.3%**
Operating Salaries	$678,718	37.9%
Administration Salaries	$114,199	6.4%
502. FRINGE BENEFITS	**$232,323**	**13.0%**
Operating Fringe Benefits	$205,038	11.4%
Administration Fringe Benefits	$26,494	1.5%

Line Item	September 2010 to August 2011	Proportion of Total Operating Expense
Uniforms	$792	0.0%
503. SERVICES	**$196,700**	**11.0%**
Preventive Maintenance Section 5310	$95,813	5.3%
Preventive Maintenance Other	$15,198	0.8%
Building Maintenance	$20,849	1.2%
Audit/Legal	$11,665	0.7%
Admin. Contract Services	$374	0.0%
Operations Contract Services	$44,353	2.5%
Operations Training	$4,443	0.2%
Admin. Training	$324	0.0%
Drug and Alcohol Testing	$3,075	0.2%
MVR	$605	0.0%
504. MATERIALS AND SUPPLIES	**$351,400**	**19.6%**
Fuel and Lubricants	$326,668	18.2%
Tires and Tubes		0.0%
Vehicle Equipment and Supplies	$2,305	0.1%
Other Equipment and Supplies	$8,534	0.5%
Office Equipment	$11,211	0.6%
Admin. Supplies	$2,682	0.1%
505. UTILITIES	**$62,080**	**3.5%**
Telecommunication	$27,194	1.5%
Admin. Telephone	$6,290	0.4%
Operations Space/Utilities	$13,160	0.7%
Admin. Space/Utilities	$15,436	0.9%
506. CASUALTY AND LIABILITY COSTS	**$35,521**	**2.0%**
Operating Insurance	$34,030	1.9%
Admin. Insurance	$1,491	0.1%
507. TAXES	**$0**	**0.0%**
01. Federal Income Tax		0.0%
02. State Income Tax		0.0%
03. Property Tax		0.0%
04. Vehicle Licensing and Registration Fees		0.0%
05. Fuel and Lubricant Taxes		0.0%
06. Electric Power Taxes		0.0%
99. Other Taxes		0.0%
508. PURCHASED TRANSPORTATION SERVICE	**$105,648**	**5.9%**

Line Item	September 2010 to August 2011	Proportion of Total Operating Expense
Purchase of Service (Section 5310)	$105,648	5.9%
509. MISCELLANEOUS EXPENSES	**$14,589**	**0.8%**
Dues and Subscriptions	$0	0.0%
In Area Travel	$24	0.0%
Out Area Travel	$1,815	0.1%
Marketing	$9,651	0.5%
Other Misc.	$1,135	0.1%
Postage/Printing	$1,963	0.1%
510. EXPENSE TRANSFERS	**$0**	**0.0%**
511. INTEREST EXPENSE	**$0**	**0.0%**
512. LEASES AND RENTALS	**$0**	**0.0%**

Table 31 provides summary level costs by line-item category for PTS.

Table 31. Line-Item Cost Summary, FY2011.

Line Item	PTS FY11 September 2010 to August 2011	PTS FY11 % of Total Operating Expense
Total Operating Costs	**$1,791,179**	**100.0%**
501. LABOR	$792,917	44%
502. BENEFITS	$232,323	13%
503. SERVICES	$196,700	11%
504. MATERIALS AND SUPPLIES	$351,400	20%
505. UTILITIES	$62,080	4%
506. CASUALTY AND LIABILITY COSTS	$35,521	2%
508. PURCHASED TRANSPORTATION SERVICE	$105,648	6%
509. MISCELLANEOUS EXPENSES	$14,589	1%

Costs by Function

From the chart of accounts, costs can be assigned to functional areas such as operating, preventive maintenance, administration, purchased transportation, planning, and costs that are unallowable for grant reimbursement. Functional areas represent a set of line item expenses and cost drivers. Transit staff supervisors are often held accountable for costs by functional area. An understanding of the factors that drive costs by functional area provides a useful perspective to understand cost saving options and compare costs. Some costs a transit provider cannot control such as the organizational structure impact, service area size, and development patterns. However, there are costs that a transit provider can manage.

PTS Operating Costs by Function

Table 32 illustrates the operating costs by function for PTS fiscal year 2011. Understanding the largest drivers of operating costs is the first step in managing cost. Assessing the drivers of each function is helpful to the transit manager to identify those costs that are controllable, partially controllable, or uncontrollable. Fuel for example is both an uncontrollable cost and a partially controllable cost. Fuel is uncontrollable in the sense that the market and economy drives the cost. Fuel can also be partially controllable as transit providers have control in the means fuel is purchased and dispensed including: use of state or private fuel-cards, hedging bulk purchases of fuel, and implementing local city/county fueling agreements.

Table 32. PTS Costs by Function.

Line Item	September 2010 to August 2011	Function Assignment				
		Operating	Maint.	Admin.	Purchased Transp.	Un-Allowable
Total Operating Costs	**$1,791,178.73**	**$1,347,745**	**$134,165**	**$203,620**	**$105,648**	**$0**
501. LABOR						
Operating Salaries	$678,717.98	$678,718				
Administration Salaries	$114,198.85			$114,199		
502. FRINGE BENEFITS						
Operating Fringe Benefits	$205,037.64	$205,038				
Administration Fringe Benefits	$26,493.50			$26,494		
Uniforms	$792.00	$792				
503. SERVICES						
Preventive Maintenance - Section 5310	$95,813.21		$95,813			
Preventive Maintenance – Other	$15,197.76		$15,198			
Building Maintenance	$20,849.25		$20,849			
Audit/Legal	$11,665.00			$11,665		
Contract Services - Administrative	$374.00			$374		
Contract Services - Operations	$44,353.42	$44,353				
Training - Operations	$4,442.97	$4,443				
Training - Administrative	$324.00			$324		
Drug and Alcohol Testing	$3,075.00	$3,075				
MVR	$605.26	$605				
504. MATERIALS AND SUPPLIES CONSUMED						
Fuel and Lubricants	$326,667.78	$326,668				
Tires and Tubes						
Vehicle Equipment and Supplies	$2,305.26		$2,305			
Other Equipment and Supplies	$8,534.03	$8,534				
Office Equipment	$11,210.82			$11,211		
Admin. Supplies	$2,682.34			$2,682		
505. UTILITIES						
Telecommunication	$27,193.90	$27,194				
Admin. Telephone	$6,289.76			$6,290		
Operations Space/Utilities	$13,160.33	$13,160				
Admin. Space/Utilities	$15,436.45			$15,436		

Line Item	September 2010 to August 2011	Function Assignment				
		Operating	Maint.	Admin.	Purchased Transp.	Un-Allowable
506. CASUALTY AND LIABILITY COSTS						
Operating Insurance	$34,030.00	$34,030				
Admin. Insurance	$1,491.40			$1,491		
508. PURCHASED TRANSPORTATION SERVICE						
Purchase of Service (Section 5310)	$105,647.85				$105,648	
509. MISCELLANEOUS EXPENSES						
In Area Travel	$24.30			$24		
Out Area Travel	$1,814.85			$1,815		
Marketing	$9,651.36			$9,651		
Other Misc.	$1,135.12	$1,135				
Postage/Printing	$1,963.34			$1,963		

Cost Formula to Estimate Future Service Change

A cost formula can be developed to cost out changes in services. A transit agency can input an estimated hours and miles of additional or reduced service into the formula and the formula would provide an estimate of the total cost increase or decrease. The cost formula is shown below:

[(Hours X Unit Cost per Hour) + (Miles X Unit Cost per Mile)] X Overhead Multiplier = Total Cost

Steps in Developing a Cost Formula for Service

1. Using the standardized chart of accounts, assign fixed, and variable cost.
2. Calculate the unit cost per hour and mile.
3. Calculate the overhead rate.
4. Determine the cost allocation formula.

Step 1. Assign Fixed and Variable Costs

The standardized chart of accounts is part of the basic tool used to ensure that all transportation costs are reflected in the agency's accounting system. The assignment of costs to a standardized chart of accounts by line item costs provides the basis for a variety of cost assessments, one of which is to develop a cost allocation formula.

Assigning costs between fixed and variable costs is useful to:

- Determine which costs will change with service changes (variable costs).
- Determine which costs will not vary (fixed costs).
- Determine unit pricing.

Fixed costs are costs that do not vary with the amount of service provided during a specified time period (e.g., administrative salaries, insurance, professional services). Variable costs change when the level of service provided changes (e.g., driver wages, fuel costs, and maintenance costs). There are no mandatory rules for assigning costs to variable and fixed. As a general rule administration costs are almost always fixed. The key is to be consistent and logical understanding the basis of each cost item and assign accordingly. To assign allocation variables, determine how and why expense items vary. For example, the line item driver salaries and wages increase by hours of service provided and maintenance expenses are driven by the amount of miles driven.

Variable costs can be linked to either one of two service variable: hours or miles (TCRP Report 144, 2011). These two service variables are the two major drivers of transit costs. Variable costs can be assigned to either miles-driven costs or hours-driven costs. Miles-driven costs are typically maintenance and fuel/lubricant expenditures because these types of expenditures are closely associated with the number of miles operated by transit vehicles. Hours-driven costs are typically operating expenditures excluding fuel/lubricants because these types of expenditures are closely associated with hours of labor.

PTS Fixed and Variable Cost Assignment

Table 33 illustrates the assignment of PTS line-item costs for fiscal year 2011 as either a variable cost or fixed cost. Table 33 also illustrates the assignment of variable costs as costs driven by miles or by hours.

Table 33. Assignment of Fixed Cost and Variable Costs.

		Variable Cost Assignment		
Line Item	**September 2010 to August 2011**	**Miles Driven Cost**	**Hours Driven Cost**	**Fixed Cost Assignment**
Operating Costs	**$1,791,178.73**	**$528,098**	**$1,037,477**	**$225,604**
501. LABOR				
Operating Salaries	$678,717.98		$678,718	
Administration Salaries	$114,198.85			$114,199
502. FRINGE BENEFITS				
Operating Fringe Benefits	$205,037.64		$205,038	
Administration Fringe Benefits	$26,493.50			$26,494
Uniforms	$792.00		$792	
503. SERVICES				
Preventive Maintenance Section 5310	$95,813.21	$95,813		
Preventive Maintenance Other	$15,197.76	$15,198		
Building Maintenance	$20,849.25			$20,849

Line Item	September 2010 to August 2011	Variable Cost Assignment		Fixed Cost Assignment
		Miles Driven Cost	Hours Driven Cost	
Audit/Legal	$11,665.00			$11,665
Admin. Contract Services	$374.00			$374
Operations Contract Services	$44,353.42	$44,353		
Operations Training	$4,442.97	$4,443		
Admin. Training	$324.00			$324
Drug and Alcohol Testing	$3,075.00	$3,075		
MVR	$605.26	$605		
504. MATERIALS AND SUPPLIES				
Fuel and Lubricants	$326,667.78	$326,668		
Tires and Tubes				
Vehicle Equipment and Supplies	$2,305.26	$2,305		
Other Equipment and Supplies	$8,534.03		$8,534	
Office Equipment	$11,210.82			$11,211
Admin. Supplies	$2,682.34			$2,682
505. UTILITIES				
Telecommunication	$27,193.90		$27,194	
Admin. Telephone	$6,289.76			$6,290
Operations Space/Utilities	$13,160.33		$13,160	
Admin. Space/Utilities	$15,436.45			$15,436
506. CASUALTY AND LIABILITY				
Operating Insurance	$34,030.00		$34,030	
Admin. Insurance	$1,491.40			$1,491
507. TAXES				
01. Federal Income Tax				
02. State Income Tax				
03. Property Tax				
04. Vehicle Licensing and Registration Fees				
05. Fuel and Lubricant Taxes				
06. Electric Power Taxes				
99. Other Taxes				
508. PURCHASED TRANSPORTATION SERVICE				
Purchase of Service (Section 5310)	$105,647.85	$35,637	$70,011	
509. MISCELLANEOUS EXPENSES				
In Area Travel	$24.30			$24
Out Area Travel	$1,814.85			$1,815

Line Item	September 2010 to August 2011	Variable Cost Assignment		Fixed Cost Assignment
		Miles Driven Cost	Hours Driven Cost	
Marketing	$9,651.36			$9,651
Other Misc.	$1,135.12			$1,135
Postage/Printing	$1,963.34			$1,963

Step 2. Calculate Unit Cost by Hour and Mile

The purpose of assigning variable costs to hours or miles is to determine the cost of current transit services based on the amount of resources used (hours and miles) and to project the cost of proposed service changes. An average unit cost by hour and mile can be calculated using the results of Step 1. The average unit cost calculations are as follows:

Unit Cost Calculations:

Cost per hour = total cost assigned to vehicle hours / total number of vehicle hours

Cost per mile = total cost assigned to vehicle miles / total number of vehicle miles

PTS Unit Cost by Hour and Mile

The total cost assigned to miles-driven costs for PTS is $528,098 and the total cost assigned to hours-driven cost is $1,037,477 (see Table 34). The PTS average unit costs per mile and per hour can be calculated by dividing the miles-driven costs by miles and hours-driven costs by hours. Table 34 provides the resulting average unit cost per mile and per hour for PTS in fiscal year 2011.

Table 34. PTS Average Unit Cost per Mile and per Hour.

	Cost per Revenue Mile	Cost per Revenue Hour
Total Operating Costs	$528,098	$1,037,477
Operating Data	882,714	43,751
Unit Cost	**$0.59**	**$23.71**

Step 3. Calculate the Fixed Cost Overhead Rate

The fixed-cost overhead rate can be used to compare overhead cost rates across transit agencies and is an element of the cost formula. The fixed-cost overhead rate can be calculated as an *additive* rate or as a *multiplier* rate as follows:

Overhead Rate Calculation

Overhead rate (additive) = fixed cost / variable costs

Overhead rate (multiplier) = total costs / fixed costs

PTS Fixed-Cost Overhead Rate

Using the results from Table 33, PTS fixed costs totals $225,604 and variable costs total $1,565,574 for a total cost of $1,791,179. The PTS FY11 overhead rate can be calculated as:

Overhead rate (additive) = $225,604 / $1,565,574 = 0.1441 or 14.41 percent

Overhead rate (multiplier) = $1,791,179/ $225,604 = 114.41

Step 4. Determine the Cost Allocation Formula

The cost allocation formula can be determined using the resulting variable unit cost and fixed cost overhead rates calculated in steps 2 and 3. To determine the cost allocation formula, insert the unit costs and fixed-cost overhead rate into cost allocation formula.

PTS Cost Allocation Formula

The cost allocation formula combines the variable unit costs and overhead rate to provide a cost allocation formula for PTS as follows:

PTS FY11 Cost Formula =

(($0.59 x _____revenue miles) + ($23.71 x _____revenue hours)) x 1.1441

The cost allocation formula can be applied to the revenue miles and revenue hours for services to determine the cost of individual services.

Cost Allocation by Service Type

Cost allocation can be used to allocate costs across service types. Cost allocation to cost services is useful in determining pricing of services, in providing a tool for making future service change decisions, understanding cost drivers of current services, and as a means to communicate funding needs.

Cost allocation across service types can be accomplished in a variety of ways. Traditionally, cost allocation methodologies to determine costs for differing trip types are based on a boardings-based allocation—allocating costs by number of boardings by trip type. This methodology does not take into account the trip lengths and trip times that may differ across trip types served and therefore differing costs across trip types. For example, a trip that is 5 miles as compared to a trip that is 50 miles will differ significantly between the two trips. For urban areas where trips are relatively the same average distances, the costs may not be significantly different. However for rural areas serving large territories, these cost differences may be amplified because trip lengths often vary significantly.

For services that are fixed route or dedicated to one service type, then vehicle miles and vehicle hours can be used to allocate costs. For service that are shared-ride demand response service, then passenger miles and passenger hours can be used to allocate costs. As a point of reference, vehicle miles and vehicle hours differ from passenger miles and passenger hours. Vehicle miles and vehicle hours are miles and hours the *vehicle* is operated. Passenger miles and passenger hours are the cumulative distances and time ridden by *passengers*. Thus, passenger miles per boarding and passenger hours per boarding provides the average trip distance *each passenger* traveled on average.

This service-based cost allocation model allocates costs based on the proportion of miles and hours by trip type. A spreadsheet template is developed for transit agency use to allocate costs across trip types for any cost period. The spreadsheet model is based on the current fixed-route or dedicated service hours and miles and a sample of shared-ride demand response manifest data.

Fixed Route and Dedicated Service Cost Allocation

If the transit agency operates fixed route service or service that is a dedicated service (meaning only one type of passenger service is on the vehicle), then costs are allocated by vehicle miles and vehicle hours. Vehicle miles and vehicle hours of service are determined by totaling for each bus in service the miles and hours from the garage pull-out to the garage pull-in. Once the vehicle miles and vehicle hours are determined by type of service, costs can be allocated. Miles-driven costs (fuel, tires, and maintenance) are allocated based on proportion of vehicle miles and hours-driven costs (operating less fuel) are allocated based on proportion of vehicles hours. Both the miles-driven costs and hours-driven costs are considered variable costs. The fixed cost overhead multiplier is then applied to the variable costs to determine the total cost of the service.

PTS Dedicated Service Cost Allocation

PTS operates majority shared-ride demand response service; however, PTS also operates three fixed route or dedicated services: Route Work Commuter, Route School, and purchased transportation service. Table 35 illustrates the calculation of total vehicle hours and vehicle miles for the Route Work Commuter service for the month of October, which has 21 weekdays. Route Work Commuter service has a total of 210 vehicle hours and 8,400 vehicle miles of service for the month of October.

Table 35. PTS Work Commute Service.

Origin		Pullout	Pull in	Vehicle Hours	Vehicle Miles	No. of Buses
Mineral Wells						
	AM	6:00 a.m.	9:00 a.m.	3	122	1
	PM	3:30 p.m.	6:30 p.m.	3	122	1
Weatherford						
	AM	6:30 a.m.	8:30 a.m.	2	78	1
	PM	4:00 p.m.	6:00 p.m.	2	78	1
Total Daily				10	400	
Weekdays				21	21	
Total				**210**	**8,400**	

Hours and miles are known for the three fixed route/dedicated service types based on scheduled service records. Total vehicle miles and total vehicle hours for Work Route, Work School and Purchased Transportation (PT) are shown in Table 36. The remaining hours and miles after deducting the fixed route/ dedicated service are assumed shared-ride demand response service.

Variable costs are first allocated across services by the proportion of miles and hours in each service type. The miles-driven costs (fuel, tires, and maintenance) are allocated across the proportion of vehicle miles. The hours-driven costs (operations less fuel) are allocated across the proportion of vehicle hours. Table 36 illustrates the cost allocation by service type.

Once the variable costs (miles and hours-driven costs) are determined, then the fixed overhead multiplier (total cost divided by variable cost) is applied to allocate overhead costs across services. The total of variable plus fixed cost for each service provides the total cost for each service during the time period.

Table 36. PTS Fixed/Dedicated Service Cost Allocation.

	Vehicle Miles/ Cost			Vehicle Hours/ Cost			Total Operating Cost (Variable + Fixed)			
Trip Type	Vehicle Miles	% Vehicle Miles	Miles-Driven Cost (Maintenance & Fuel/Tires)	Vehicle Hours	% Vehicle Hours	Hours-Driven Costs (Operating less fuel/ tires)	Total Variable Cost	Fixed Costs (Admin.)	Overhead Multiplier Rate	Operating Costs
System-Wide Total	**949,143**	**100.0%**	**$503,267**	**49,202**	**100.0%**	**$1,062,306**	**$1,565,573**	**$225,604**	**114.41%**	**$1,791,178**
Route Service:										
Work	102,000	10.7%	$54,084	2,550	5.2%	$55,056	$109,140	$15,727	114.41%	$124,868
School	107,100	11.3%	$56,788	5,801	11.8%	$125,253	$182,041	$26,233	114.41%	$208,274
Purchased Transportation Service										
Parker County COA	53,550	5.6%	$33,807	3,570	7.3%	$71,841	$105,648	$15,224	114.41%	$120,872
DR Shared Ride Service										
Total DR Shared Ride	686,493	72.3%	$358,588	37,281	75.8%	$810,156	$1,168,744	$168,420	114.41%	$1,337,164

Demand Response Shared Ride Service Cost Allocation

In most demand response service, vehicles serve customers sponsored by a variety of funding sources. The co-mingling of passengers complicates determining the cost of service by type in a shared-ride demand response service. To provide a methodology that accounts for the differences in resources used by trip type, a cost allocation methodology was developed using passenger miles and passenger hours.

A sample of driver manifests is taken to calculate passenger miles and passenger hours by trip type. The result provides a means to allocate costs by trip type across the shared-ride service. Once the passenger miles and passenger hours are determined by type of service, costs can be allocated. Miles-driven costs (fuel, tires, and maintenance) are allocated based on proportion of passenger miles and hours-driven costs (operating less fuel) are allocated based on proportion of passenger hours. Both the miles-driven costs and hours-driven costs are considered variable costs. The fixed cost overhead multiplier is then applied to the variable costs to determine the total cost of the service.

PTS Sample Manifest Passenger Boarding, Passenger Miles, Passenger Hours by Trip Type

PTS provides three basic shared ride service types: general public, Gold Card, and Medicaid non-emergency medical (Medical Transportation Program – MTP). Table 37 provides the results of the sample of manifests taken for a two-week period in October 2011 representing nine weekdays. The result of the sample provides passenger boardings, passenger miles, and passenger hours used to allocate costs for each trip type.

The proportion of passenger miles for general public, Gold Card, and MTP are used to allocate the shared ride miles-driven costs and the proportion of passenger hours are used to allocate shared ride hours-driven costs (see Table 37). Once the variable costs (miles and hours-driven costs) are determined, then the fixed overhead multiplier is applied to allocate overhead costs across services. The total of variable plus fixed cost for each service provides the total cost for each service during the time period.

Table 37. PTS Demand Response Shared Ride Cost Allocation – FY2011.

	Passenger Miles/ Cost			Passenger Hours/ Cost			Total Operating Cost (Variable + Fixed)			
Trip Type	**Passenger Miles**	**% Passenger Miles**	**Miles-Driven Cost (Maintenance & Fuel/Tires)**	**Passenger Hours**	**% Passenger Hours**	**Hours-Driven Costs (Operating less fuel/ tires)**	**Total Variable Cost**	**Fixed Costs (Admin.)**	**Overhead Multiplier Rate**	**Operating Costs**
General Public	348,685	51%	$198,086	12,589	34%	$479,816	$677,902	$97,688	114.41%	$775,590
Gold Card	22,143	3%	$12,580	883	2%	$33,654	$46,233	$6,662	114.41%	$52,896
Medicaid	260,384	38%	$147,923	7,784	21%	$296,686	$444,609	$64,070	114.41%	$508,679
In-County	*41,763*	*16.0%*	*$23,725*	*2,239*	*29%*	*$85,332*	*$109,057*	*$15,715*	*114.41%*	*$124,773*
Out-of-County	*218,621*	*84.0%*	*$124,197*	*5,545*	*71%*	*$211,355*	*$335,552*	*$48,354*	*114.41%*	*$383,906*

Cost Allocation Uses and Analysis

The results of the cost allocation are useful in not only providing a means of allocating costs across services but also in providing insight into the cost drivers of current services, in determining pricing of services, in providing a tool for making future service change decisions and as a means to communicate funding needs.

PTS Cost of Current Services

Table 38 organizes the cost allocation results for PTS to compare the percent of passenger boardings to the percent to cost by service type across all PTS transit services. Also provided is the cost per passenger boarding by service type. Because costs are allocated based on hours and miles of service, the proportion of costs may differ from the proportion of passenger boardings. For example, MTP represents 15 percent of passenger boardings but 28 percent of costs. The higher proportion of cost is reflective of more resources used in terms of hours and miles of service.

Table 38. PTS Cost by Service Type Analysis – FY2011.

Trip Type	Passenger Boardings	% of Passenger Boardings	Total Cost	% of Total Cost	Cost per Passenger Boarding
Total	**82,396**	**100%**	**$1,791,178**	**100%**	**$21.74**
Route Work	8,213	10%	$124,868	7%	$15.20
Route School	25,649	31%	$208,274	12%	$8.12
Parker County COA	3,661	4%	$120,872	7%	$33.02
Demand Response GP	27,953	34%	$775,590	43%	$27.75
Gold Card	4,810	6%	$52,896	3%	$11.00
MTP	12,110	15%	$508,679	28%	$42.00

Pricing of Service

For those transit services sold, the cost allocation information can be used to price service by using the unit cost measures. An important point to make is that allocated costs for PTS service example include only operating costs and do not include the fair share of capital cost associated with providing service (e.g., vehicle costs). To price at the full-cost of providing the service, vehicle capital cost can be included in pricing.

To estimate the full-cost of service, the capital cost may be added. To add the vehicle cost into the price, a vehicle cost per mile of service can be used to determine full-cost pricing. Table 39 provides an estimated vehicle cost per mile for different vehicle types by dividing the total vehicle cost by the expected service vehicle miles. For example, a Cutaway Van cost of $65,000

is divided by the expected service vehicles miles of 150,000 for an average vehicle cost per miles of $0.43 per mile. The additional vehicle cost may be added to the service cost if desired to recoup the use of the vehicle. For example, the $0.43 cost per vehicle mile for a Cutaway Van in Table 39 may be multiplied by annual vehicle miles for that service to determine the vehicle cost additive for that service.

Table 39. Capital Vehicle Cost Allocation.

Vehicle Type	Cost	Vehicle Miles	Per Vehicle Mile
Cutaway Van	$65,000	150,000	$0.43
Small Bus	$125,000	200,000	$0.63
Mid-Size Bus	$225,000	350,000	$0.64

PTS Pricing of Service

To estimate the full-cost pricing of PTS Medicaid service to include the vehicle cost, the total *annual* vehicle cost for Medicaid service is determined. Assuming the PTS Medicaid service is operated with Cutaway Vans, the cost of the vehicle per mile is $0.43 (see Table 39). PTS Medicaid estimated total miles is multiplied by the vehicle cost per mile of $0.43 to calculate the estimated Medicaid vehicle cost (see Table 40). The estimated price of the Medicaid service per boarding can be adjusted to reflect the vehicle cost as follows:

Table 40. PTS Full Cost Pricing Estimate of MTP Service – FY2011.

	In-County	Out-of-County	Total
MTP Operating Cost	**$124,773**	**$383,906**	**$508,679**
Vehicle Miles	41,763	218,621	260,384
Estimated Vehicle Cost per Mile	$0.43	$0.43	$0.43
+ MTP Vehicle Cost	**$17,958**	**$94,007**	**$111,965**
= Total MTP Operating + Capital Cost	**$142,731**	**$477,913**	**$620,644**
/ Estimated Passenger Boardings	7,164	4,946	12,110
= MTP Cost per Passenger Boarding	$19.92	$96.62	$51.25

Allocation of Costs by Area Served

Agencies may need to determine quantity and cost of service provided in areas served such as counties, cities, urban area. The cost allocation model may be used to determine estimated costs based on service within the areas. Rural transit agencies may receive funds to serve an area within the urbanized area. The cost allocation model may be used to determine costs based on passenger boarding origins or destinations.

PTS Urban vs. Rural Area Cost Allocation

PTS provides transit service into the DFWA urbanized area. Trips are determined to be urban based on the passenger's original destination. For PTS, researchers classified a passenger trip as urban or rural based on the original trip destination. For example, if a passenger traveled in the morning into the DFWA from the rural area for work and then returned in the evening both legs of the trip would be classified as an urbanized area trip.

Route Work trips can be classified as urban trips and Route School, Parker County COA, and Gold Card trips are classified as rural. The remaining general public and MTP shared-ride trips are allocated between urban and rural based on the October 2011 manifest sampling. To classify the shared-ride service as urban or rural, the October 2011 sample driver manifest were used to determine the number of passenger boardings, passenger miles, passenger hours, and average trip lengths for those trips with destinations into the DFWA urbanized area. Table 41 provides the results of the shared ride urban and rural analysis.

Table 41. Shared Ride Urban and Rural Analysis – October 2011 Sample.

				Average Trip Lengths	
Sample Manifest	Passenger Boardings	Passenger Miles	Passenger Hours	Miles	Hours
GP Urban	3%	11%	8%	42	70
GP Rural	97%	89%	92%	10	23
MTP Urban	25%	47%	42%	40	64
MTP Rural	75%	53%	58%	15	30

Using the passenger miles and passenger hours based allocation model previously described, rural and urban costs can be estimated. Table 42 provides the urban and rural cost allocation for general public and MTP services. System-wide approximately 23 percent of costs can be allocated as urban.

Table 42. Urban and Rural Cost Allocation – FY2011.

System-Wide	Passenger Boardings	% of Passenger Boardings	Total Cost	% of Total System Cost	% of GP or MTP
Total General Public:	**70,286**	**85%**	**$1,282,499**	**72%**	**100%**
General Public Urban:	**9,105**	**11%**	**$194,799**	**11%**	**15%**
Route Work	8,213	10%	$124,868	7%	10%
Demand Response	892	1%	$69,931	4%	5%
General Public Rural:	**61,181**	**74%**	**$1,087,701**	**61%**	**85%**
Route School	25,649	31%	$208,274	12%	16%
Parker County COA	3,661	4%	$120,872	7%	9%
Demand Response	27,061	33%	$705,659	39%	55%
Gold Card	4,810	6%	$52,896	3%	4%
Total MTP:	**12,110**	**15%**	**$508,679**	**28%**	**100%**
MTP Urban	3,074	4%	$223,766	12%	44%
MTP Rural	9,036	11%	$284,912	16%	56%
System Urban	**2,180**	**15%**	**$418,565**	**23%**	
System Rural	**70,217**	**85%**	**$1,372,613**	**77%**	

CHAPTER 7. TRANSIT FUNDING ASSESSMENT

This chapter provides an overview of sources of funding for rural transit, federal grant eligible expenses and funding match requirements, and the assignment of funding sources by service type. The purpose of this chapter is to provide a means of determining current funding level needs and a basis for a five-year funding plan. The information in this chapter is useful in helping transit agencies determine what funds are available how to maximize and leverage funding in order to achieve a level of sustainability.

Chapter 7 includes the following sections:

- Rural Transit Funding Overview.
- Federal Grant Description and Requirements.
- Texas Rural Transit Funding.
- Fares, Local, and Contract Funding.
- Determining Funding Needs.

RURAL TRANSIT FUNDING OVERVIEW

Rural transit providers receive transportation funding from a variety of sources including Federal, state, local governments, health and human service agencies, and other public and private entities. Rural transit providers serve as coordinators of service pooling resources and funding to provide transportation across a variety of programs. Providing coordinated transportation in rural communities can maximize the use of resources to provide cost effective transportation. Rural transit providers have gained from coordinating public transportation receiving funding from a variety of sources including Area Agency on Aging, Head Start, Elderly Persons and Persons with Disabilities, Job Access Reverse Commute, New Freedom, and welfare-to-work programs. Rural transit recognizes the need for funding from many sources to remain sustainable. Rural transit sources of funding can be categorized into federal, state, local, contract, fare, and other (see Figure 33).

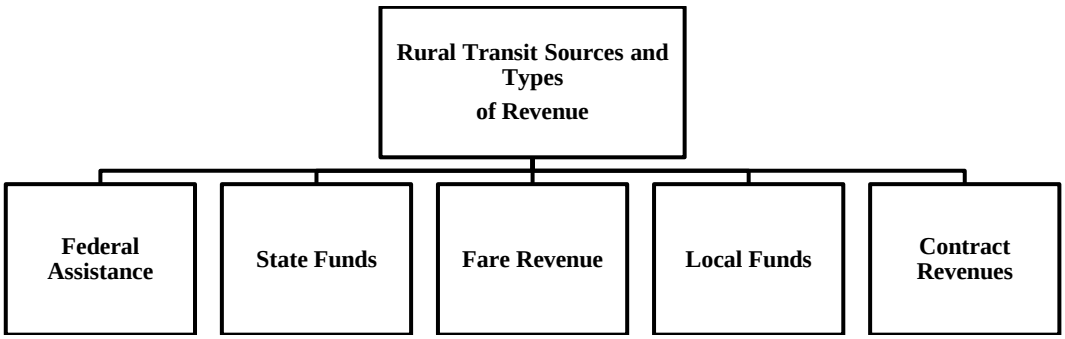


Figure 33. Rural Transit Sources and Types of Revenue.

The United States Department of Transportation (USDOT) Federal Transit Authority has extensive information on federal funding sources on the FTA website. The online information includes a description of the funds, how funds can be used, local match requirements, as well as

eligible recipients and activities. Also included on the FTA's website are annual apportionment updates for urbanized (Section 5307) funds. In addition to the information found on the FTA's website, other online agencies have information on grant availability. The American Public Transportation Association, United We Ride, Easter Seals, Community Transportation Association of America, and the National Center of Senior Transportation all post regular opportunities to apply for grant funds for varying transportation projects.

Federal transit programs require local matching funds. Local match can be state funds or locally generated revenues (local government, contract revenues, etc.). Each federal program reimburses for specific eligible expense categories. The most significant of the rural transit funding categories is Section 5311 Non-Urbanized Area Funding. In addition to the Section 5311 program to provide funds for rural transit for the general public, rural transit providers often also seek funds from other federal programs for transit services that benefit specific target markets, including people age 65 and over, people with disabilities, low-income families and individuals, and transit services in areas that are declared nonattainment for air quality. All federal transit-funding programs require a local match. Other federal programs that rural transit providers access to provide service include Section 5310 Elderly Individuals and Individuals with Disabilities, Section 5316 JARC, Section 5317 New Freedom (NF), and Congestion Mitigation and Air Quality (CMAQ) Improvement Program. FTA Section 5309 Capital Bus and Bus Facility funds may be available for capital projects in rural areas; Section 5303 Planning program funds may be available for planning; and some receive Section 5307 Urban funds to serve portions of urbanized areas that fall within the jurisdiction of the rural transit district. Each of these programs has separate maximum federal share allowances and eligible expense categories.

In fiscal year 2010 rural transit districts in Texas received approximately 59 percent of funds from federal and state revenues to cover operating expenses and approximately 96 percent of funds to cover capital expenses (see Table 43).

Table 43. Texas Rural Transit District Funding by Revenue Source – FY2010.

Revenue Source	% of Total Operating	% of Total Capital	% of Grand Total
Federal Program Revenues (excludes ARRA*)	38%	81%	43%
State Revenues	21%	15%	20%
Local Sources	7%	4%	6%
Passenger Fares	6%	0%	5%
Contract Revenue Applied	28%	0%	25%
Total	**100%**	**100%**	**100%**

*ARRA is the American Rehabilitation and Recovery Act that provided funding at 100% federal share

Federal Grant Descriptions and Requirements

Federal funding for transportation comes primarily through the USDOT and is administered by agencies according to mode of transportation. The agency responsible for transit funding is the FTA. The Federal Highway Administration (FHWA) also administers funding programs that can benefit transit. FTA programs can be generally described as either formula programs apportioned to urbanized areas and states or discretionary programs. Discretionary funds are designated for specific projects or recipients as defined by Congress or distributed for specific projects according to criteria defined by FTA. A description of most common sources of funding for rural transit is presented below.

Section 5311 Non-urbanized Area Formula Program (49 U.S.C. 5311)

The Section 5311 Non-urbanized Area (rural) program provides formula funding to states for the purpose of supporting public transportation in rural areas with a population of less than 50,000. The FTA goals for the non-urbanized formula program are:

- To enhance the access of people in non-urbanized areas to health care, shopping, education, employment, public services, and recreation.
- To assist in the maintenance, development, improvement, and use of public transportation systems in rural and small urban areas.
- To encourage and facilitate the most efficient use of all federal funds used to provide passenger transportation in non-urbanized areas through the coordination of programs and services.
- To assist in the development and support of intercity bus transportation.
- To provide for the participation of private transportation providers in non-urbanized transportation to the maximum extent feasible.

Funds may be used for capital, operating, and administrative assistance to state agencies, local public bodies, nonprofit organizations, and operators of public transportation services. The maximum federal share for capital and project administration is 80 percent. 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. The maximum FTA contribution for operating assistance is 50 percent of the net operating costs. The Section 5311 federal program requires local share to match federal assistance dependent on the category of expense. Preventive maintenance is an operating expense eligible for capital reimbursement. Local share may be provided from state or local funding sources.

Section 5310 Special Needs of Elderly Individuals and Individuals with Disabilities Program (49 U.S.C. 5310)

Section 5310 provides formula funding to states to assist private nonprofit groups in meeting the transportation needs of the elderly and persons with disabilities when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs. Funds are apportioned based on each state's share of population for these groups of people. The state allocates funds to urban and rural areas based on a procedure established by the state. In Texas,

Section 5310 funds are allocated to each Texas Department of Transportation district, and then projects are selected for funding based on a local planning process. Capital projects are eligible for funding. Most funds are used to purchase vehicles or provide preventive maintenance for transit fleets, but acquisition of transportation services under contract, lease, or other arrangements are also eligible expenses. The maximum federal share is 80 percent. State or local funding sources may provide local share.

Section 5316 Job Access and Reverse Commute (49 U.S.C. 5310)

The JARC program addresses the unique transportation challenges faced by low-income persons seeking to get and keep jobs. FTA allocates JARC funding by formula to states for areas with population below 200,000 and to designated recipients for areas with population of 200,000 or more. States may transfer funds to urbanized or non-urbanized area programs as long as funds are used for JARC program purposes. The formula-based program provides equitable funding distribution to states and communities as well as stable and reliable funding in order to implement locally developed, coordinated public transit-human services transportation plans. States and public bodies are eligible designated recipients. Eligible sub recipients are private non-profit organizations, State or local governments, and operators of public transportation services including private operators of public transportation services.

JARC funds may be used to finance capital, planning, and operating expenses for projects that transport low income individuals to and from jobs and activities related to employment, and for reverse commute projects. The federal share of eligible capital and planning costs may not exceed 80 percent of the net cost of the activity. The federal share of the eligible operating costs may not exceed 50 percent of the net operating costs of the activity. Recipients may use up to 10 percent of their apportionment to support program administrative costs including administration, planning, and technical assistance, which may be funded at 100 percent federal share. The local share of eligible capital and planning costs shall be no less than 20 percent of the net cost of the activity, and the local share for eligible operating costs shall be no less than 50 percent of the net operating costs.

Section 5317 New Freedom Program (49 U.S.C. 5317)

The New Freedom (5317) Program was a new category of funds introduced in SAFETEA-LU. The purpose of these funds is for public transportation projects that provide new public transportation services and public transportation alternatives beyond those currently required by the ADA. The funds are to be used to assist persons with disabilities with transportation, including transportation to and from jobs and employment support services. New Freedom Program funds are allocated through a formula based upon population of persons with disabilities. Allocations are made to designated recipients in areas with a population of 200,000 or more, to states for areas under 200,000 population and non-urbanized areas. States and designated recipients must select grantees competitively.

Eligible recipients include local governmental authorities, private nonprofit organizations, operators of public transit services, and private for-profit operators of public transit services. Matching share requirements are flexible to encourage coordination with other federal programs that may provide transportation, such as programs sponsored by the departments of Health and

Human Services or Agriculture. Projects must be included in a locally developed human service transportation coordinated plan.

New Freedom funds may be used to finance capital and operating expenses. The Federal share of eligible capital and planning costs may not exceed 80 percent of the net cost of the activity. The Federal share of the eligible operating costs may not exceed 50 percent of the net operating costs of the activity. Recipients may use up to 10 percent of their apportionment to support program administrative costs including administration, planning, and technical assistance, which may be funded at 100 percent Federal share. The local share of eligible capital and planning costs shall be no less than 20 percent of the net cost of the activity, and the local share for eligible operating costs shall be no less than 50 percent of the net operating costs.

Section 5307 Urbanized Area Formula Program (49 U.S.C. 5307)

Rural transit providers typically serve non-urbanized areas; however, some rural transit providers receive Section 5307 urbanized area funding to serve portions of their service area that is urbanized. Section 5307 Urbanized Area Formula Program is the largest transit funding program. Section 5307 authorizes federal capital and, in some cases, operating assistance for transit in urbanized areas (UZAs). A UZA is an area with a population of 50,000 or more that has been defined as such in the most recent decennial census by the Census Bureau. FTA apportions Section 5307 funds based on legislative formulas. Different formulas apply to UZAs with a population of less than 200,000 (small UZA or small urban area) and to UZAs with a population of 200,000 or more (large UZA or large urban area). FTA allocates to UZAs with a population 1 million or more (very large UZA or very large urban area) based on the same formula as large UZA.

Eligible purposes for use of Section 5307 funds include planning, engineering design, and evaluation of transit projects and other technical transportation-related studies; capital investments in bus and bus-related activities such as replacement of buses, overhaul of buses, rebuilding of buses, crime prevention and security equipment, and construction of maintenance and passenger facilities; and capital investments in new and existing fixed guideway systems including rolling stock, overhaul and rebuilding of vehicles, track, signals, communications, and computer hardware and software. All preventive maintenance and some ADA complementary paratransit service costs qualify as capital costs. For most projects, up to 80 percent of project cost use federal funds. The federal contribution may be 90 percent for some projects that support ADA or the Clean Air Act.

Section 5309 Capital Program – Bus and Bus Facility (49 U.S.C. 5309)

Funds for the Capital Investment Program (49 U.S.C. 5309) – Bus and Bus Facilities provides capital assistance for new and replacement buses and related equipment and facilities. Eligible capital projects include the purchase of buses for fleet and service expansion, bus maintenance and administrative facilities, transfer facilities, bus malls, transportation centers, intermodal terminals, park-and-ride stations, acquisition of replacement vehicles, bus rebuilds, bus preventive maintenance; passenger amenities such as passenger shelters and bus stop signs; and accessory and miscellaneous equipment such as mobile radio units, supervisory vehicles, fare boxes, computers, and shop and garage equipment.

Section 5309 Bus and Bus Facility funds are allocated on a discretionary basis. Eligible recipients for capital investment funds are public bodies and agencies (transit authorities and other state and local public bodies and agencies thereof) including states, municipalities, other political subdivisions of states; public agencies and agencies comprised of one or more states; and certain public corporations, boards, and commissions established under state law. Prior to SAFETEA–LU, private non-profit entities could receive FTA funds only if they were selected by a public authority through a competitive process, and private operators were not eligible subrecipients.

Private operators may now under SAFETEA-LU receive FTA funds as a pass-through without competition if they are included in a program of projects submitted by the designated public authority acting as the direct recipient of a grant. The FTA has the discretion to allocate funds, although Congress often fully earmarks all available funding. The maximum federal share for a discretionary grant is 80 percent, although recent FTA practice is to award funds that represent a lower federal share and higher state and local contribution.

Section 5303 Metropolitan Transportation Planning & Section 5304 Statewide Transportation Planning (49 U.S.C. 5303 & 49 U.S.C. 5304)

Congress appropriates federal funding to support a cooperative, continuous, and comprehensive planning program for transportation investment decision making at the metropolitan area level. State departments of transportation are direct recipients of funds, which are then allocated to metropolitan planning organizations (MPOs) by formula for planning activities. Eighty percent of funds are allocated to the states as a basic allocation according to each state's UZA population for the most recent decennial census. The remaining 20 percent is provided to the states as supplemental allocation based on an FTA administrative formula to address planning needs in the larger, more complex UZAs. Generally funds require a 20 percent local match, although FTA planning funds can be awarded as a consolidated planning grant with FHWA, which permits a 10 percent local match.

The Section 5304 program provides financial assistance to states for statewide transportation planning and other technical assistance activities (including supplementing the technical assistance program provided through the Section 5303 Metropolitan Planning Program). FTA apportions the funds to states by a statutory formula that is based on each state's UZA population as compared to the UZA population of all states according to the most recent decennial census.

Congestion Mitigation and Air Quality Improvement Program (23 U.S.C. 149)

Under the Clean Air Act as Amended in 1990 (Clean Air Act), urbanized areas are classified by the Environmental Protection Agency (EPA) as non-attainment areas if air pollution levels exceed the national Ambient Air Quality Standards on a continual basis. Depending upon the level of pollution and the frequency the standards are exceeded, urbanized areas are classified according to increasing pollution levels as either marginal, moderate, serious, severe, or extreme, with marginal being the lowest level of pollution and extreme being the highest. Cities meeting the standard, but with concern that the standards may be exceeded, are classified as maintenance areas. Vehicle emissions are significant contributors to the ozone pollution. Vehicle emissions

increase with traffic congestion and the number of vehicle trips and vehicle miles traveled. The Congestion Mitigation and Air Quality Improvement Program (CMAQ) has the objective of improving the nation's air quality and managing traffic congestion. CMAQ projects and programs are often innovative solutions to common mobility problems and are driven by Clean Air Act mandates to attain national ambient air quality standards. Eligible activities under CMAQ include transit system capital expansion and improvements that are projected to realize an increase in ridership; projects to demonstrate travel demand management strategies and shared ride services; pedestrian and bicycle facilities and promotional activities that encourage bicycle commuting. Programs and projects are funded in air quality non-attainment and maintenance areas for ozone, CO, and small particulate matter (PM-10) that reduce transportation-related emissions.

CMAQ funds are distributed according to a formula based on population and severity of pollution. The federal share can fund up to 90 percent of transit vehicle-related equipment attributable to compliance with the Clean Air Act, up to 80 percent of other capital projects, and 80 percent of the operations costs for demonstration of services. Demonstration projects can be funded for up to three years.

Summary of Federal Share by Program

An essential part of planning for rural transit service is to maximize federal funding share and identify potentials for new sources of funding. Table 44 provides a summary of the maximum federal share by grant and expense for rural transit providers to reference in projecting funding for service.

Table 44. Maximum Federal Percent Share by Grant and Expense Category.

Expense Category	Section 5311 (Rural)	Section 5307 (Urban)*	Section 5310 (E&D)	Section 5316 (JARC)	Section 5317 (New Freedom)	Section 5303/5304 Planning	Section 5309 Capital Discretionary	CMAQ
Net Operating Deficit**	50%	50%		80%	80%			80%
Maintenance	80%	80%	80%	80%	80%			
Administration	80%	80%						
Planning/ Mobility Management	80%	80%	80%	80%	80%	80%		
Purchased Transportation/ Purchase of Service 5311	80%		80%	80%	80%			
Capital Cost of Contracting		80%						
Capital	80%	80%	80%	80%	80%		Up to 80%	80%

* 5307 Funds - Fuel eligible for 80% as of 2012, requires declaration by designated recipient

** Net Operating deficit is equal to the total eligible operating expenses less passenger fare revenue

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 rural transit districts (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.[1] The Texas Legislature establishes state funding levels each biennium. Figure 34 displays the Texas state biennium funding level appropriation for rural transit since 1990.[2]

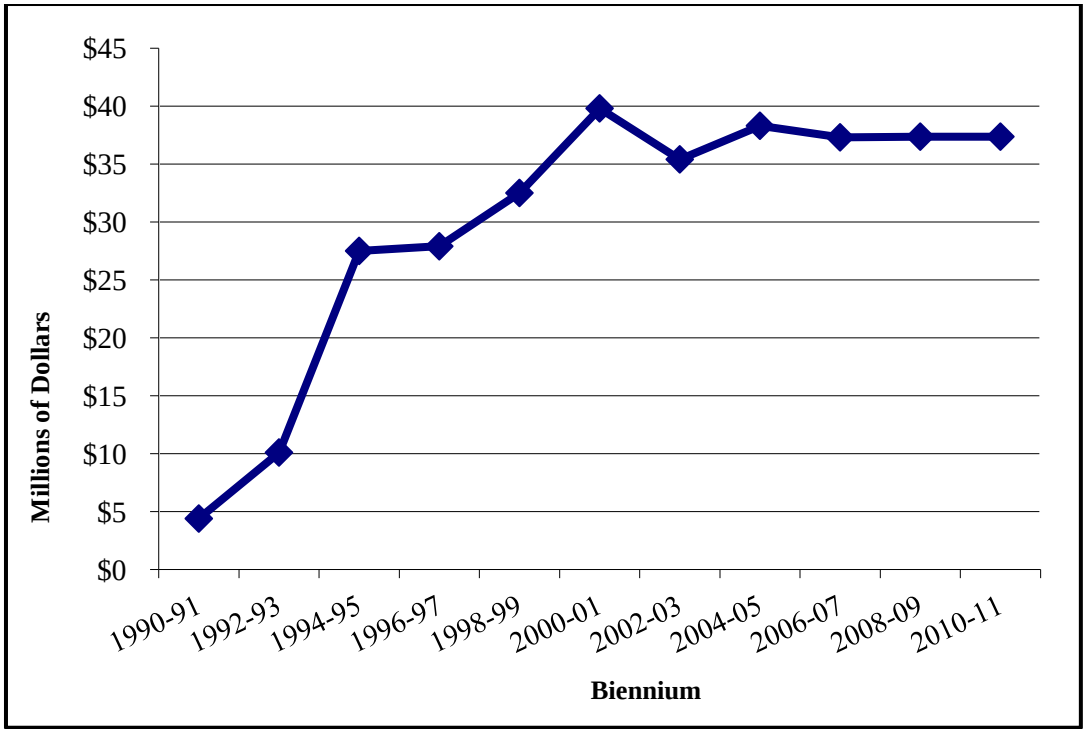


Figure 34. Texas State Appropriations for Rural Transit per Biennium.

[1] 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.

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

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.[3]

In June 2004, the Commission approved a formula to allocate funds for public transit based on needs and performance. Prior to this time, allocations for funding were not based on formula but rather on an allocation of the funds available in proportion to what was allocated in previous years. On June 29, 2006, the Commission amended the formula based on the Public Transportation Advisory Committee recommendations to the Commission that the formula required further adjustment to meet the intent as described in statute.[4] The 2006 amendment reflects the current needs- and performance-based Texas Transit Funding Formula. State RTD funds are distributed based on the Texas Transit Funding Formula. 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. Prior to 2010, if the amount of the Section 5311 federal apportionments exceeded the $20,104,352 maximum amount, the remaining balance was made available at the discretion of the Commission for award at any time during the fiscal year on a pro rata basis, competitively, or combination of both. Amounts exceeded the $20,104,352 in FY07 and FY09, which were distributed based on revenue mile share. TxDOT discussed with the RTDs the idea of using revenue mile share to distribute these funds and committed to continuing that practice. The 2010 amendment to the TAC reflects this commitment.

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[3] 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.

[4] Texas Administrative Code, Title 43 Transportation, Part 1 Texas Department of Transportation, Chapter 31 Public Transportation, §31.11 Formula Program and §31.16 Section 5311 Grant Program.

In September 2010, the Commission adopted additional amendments to the TAC Section 5311 Grant Program to clarify the formula for *federal* funds. The amendment maintained the dollar amount $20,104,352 to be allocated each year using the 2006 needs-and performance-based formula but limited the discretionary portion of federal funds to no more than 10 percent of the annual Section 5311 apportioned funds, less the amounts for intercity bus allocation and up to 15 percent for TxDOT administrative expenses. A new paragraph was added that outlines the procedures for allocating the remaining Section 5311 funds by revenue mile. These remaining funds are allocated using individual system revenue miles as compared to the sum of all systems. The amendments codified the process that TxDOT had used and the Commission approved in 2007 and 2009 to allocate discretionary funds based on revenue miles. This new revenue mile allocation provides the recipients of funds from this program a more predictable distribution of funds in future years. 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 2).
- **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 transportation services, adjustments for reduction in purchasing power, and reductions in air pollution.[5]
- **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.

[5] Texas Administrative Code, Title 43 Transportation, Part 1 Texas Department of Transportation, Chapter 31 Public Transportation, §31.16 Section 5311 Grant Program.

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 35 illustrates the Texas transit funding formula for RTDs. 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 – 33 percent.
- Revenue miles per operating expense – 33 percent.
- Passengers per revenue mile – 33 percent.

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.

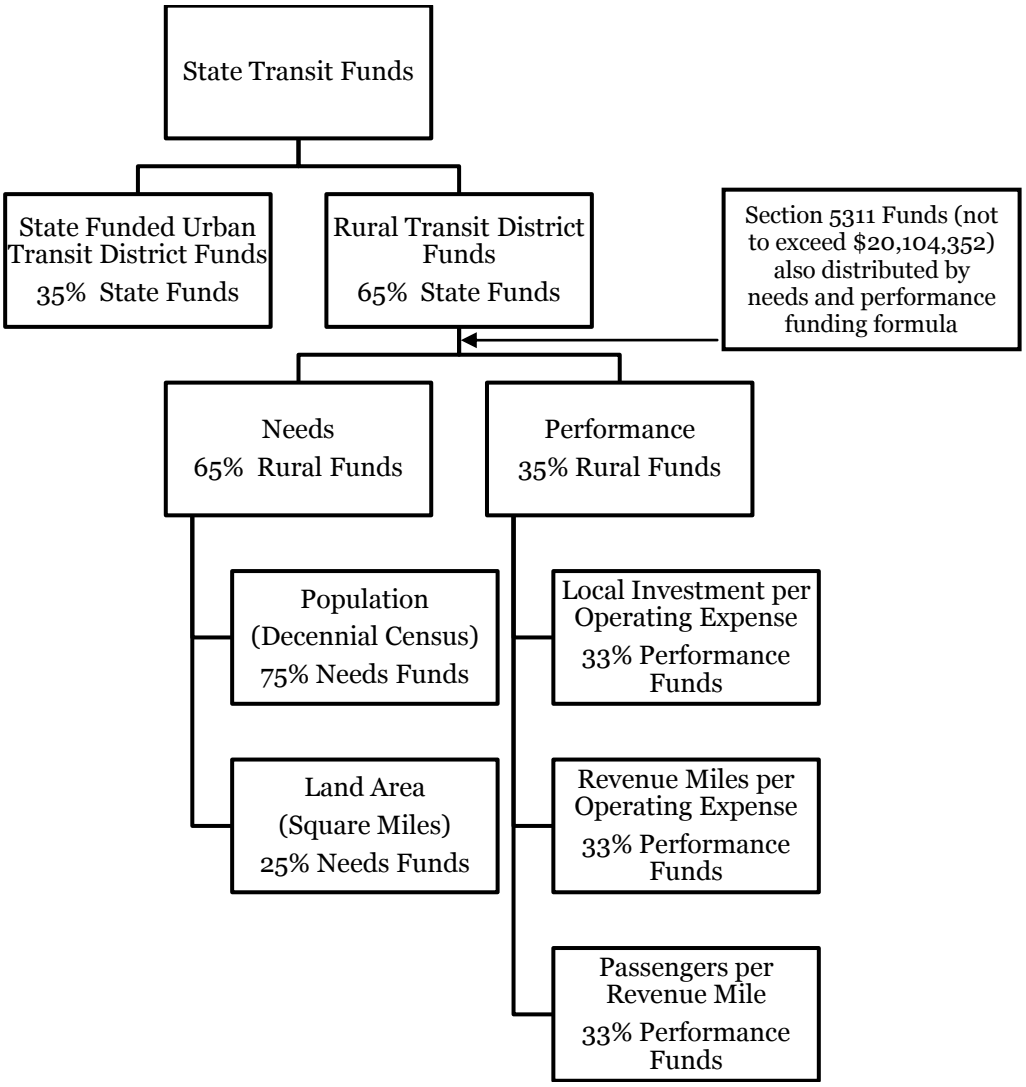


Figure 35. Texas Rural Transit Funding Formula.

Fares, Local, and Contract Sources of Funding

Rural transit providers rely on fares, local, and contract sources to fund rural transit service. Local revenues include local contributions, contributed services, and other funds. This section describes these funding sources.

Fare Revenue

Fare revenues are the revenues earned from carrying passengers. Fares may be collected in several ways, including:

- Before service is provided (e.g., through the sale of media such as passes, tickets, and tokens sold to passengers).
- Directly at the point of service (e.g., farebox, turnstile).
- After the service is provided, (e.g., through weekly or monthly billing).

The USOA defines **passenger fares** as revenues earned from carrying passengers along regularly scheduled and demand responsive routes. Passenger fares include the base fare, zone premiums, express service premiums, extra cost transfers, and quantity purchase discounts applicable to the passenger's ride. Passenger fares include:

- *Full Adult Fares:* revenues earned by transporting passengers for the full adult fare.
- *Senior Citizen Fares:* revenues earned by transporting passengers who pay a special, reduced fare because they are older than a prescribed age limit.
- *Student Fares:* revenues earned by transporting passengers who pay a special, reduced fare because they are enrolled in an educational institution.
- *Child Fares:* revenues earned from carrying passengers who pay a special, reduced fare because they are younger than a prescribed age limit.
- *Disabled Rider Fares:* revenues earned from carrying passengers who pay a special, reduced fare because they are an individual with a disability.
- *Park and Ride - parking revenue only:* revenues earned from parking fees paid by passengers who drive to park-and-ride parking lots operated by the transit company to utilize transit service.
- *Special Ride Fares:* revenues earned from carrying passengers who pay a special, reduced fare for a reason other than those specified above (USOA, 2010).
- *Non-Contract Special Service Fares:* revenues earned by providing special service rides (e.g., sporting events, sightseeing, special tours) where fares are not guaranteed on a contractual basis (USOA, 2010).

Local Funds

Local funds can be categorized as local contributions, contributed services, auxiliary transit funds, and other transportation revenues. In Texas, the largest source of local funds for rural transit providers in fiscal year 2010 was local contributions representing 70.9 percent of local funds and contributed services representing 25.3 percent of local funds (see Table 45).

Table 45. Rural Transit Percent of Local Funds by Category Texas, FY2010.

Local Fund Category	% of Total Local Fund Revenue
Local Contributions	70.9%
Contributed Services (non-cash)	25.3%
Auxiliary Transit Revenues	0.8%
Other Transportation Revenues	0.2%
Non-Transit Revenues	2.7%
Total Local Funds	**100.0%**

Local contributions are typically the primary source of local revenue. Local contributions are revenues from local governmental entities to support the operating and capital costs of the transit

system. Local government financial support to cover the difference between full adult fares and special reduced fares is reported as local funds. Local contributions include but are not limited to the following:

- *General funds* – transfers from the general fund of local governments to cover the local share portion of the transit system operating and capital budget.
- *Specified contributions* – contributions from city, county, or other municipal government toward the local share portion of the transit system operating and capital budget.
- *Reserve capital funds* – transfers from a capital reserve fund of local governments expressly established to be used to cover the local share portion of transit system capital costs.
- *Donations* – donations from individuals or organizations to help cover the costs of providing transit service but are not related to specific passengers or trips, and to help cover capital costs.

1. *Non-transit related revenues* are the revenues earned from activities not associated with the provision of transit service. Non-transit related funds include, but are not limited to:
    - Sale of maintenance services.
    - Rental of revenue vehicles.
    - Rental of buildings and other property.
    - Investment income.
    - Parking facility revenue.

Contributed services are receipt of *non-cash* assets or services from another entity that benefits the transit provider. Contributed services include physical assets and services. In-kind services are a type of contributed services where the transit provider derives a benefit from another entity but is under no obligation to pay for that benefit. Examples of contributed services include:

- Utility services provided without charge.
- Marketing provided without charge.
- Maintenance services provided without charge.
- Office space provided without charge.

Non-transit related revenues are the revenues earned from activities not associated with the provision of transit service. Non-transit related funds include, but are not limited to:

- Sale of maintenance services.
- Rental of revenue vehicles.
- Rental of buildings and other property.
- Investment income.
- Parking facility revenue.

Auxiliary transportation revenues are revenues received from property owned, leased, or operated by the transit system. Auxiliary transportation revenues may include:

- Station concessions.
- Vehicle concessions.
- Advertising services.

Contract Revenues

Contract revenues are revenues received from any organization, government, agency, or company that result from a formal contractual agreement with the transit provider to provide a transit service. The transit provider is a *seller* of transportation services through a contract agreement. Contracts may be federal, state, local, or privately funded to provide transportation service. The largest contract service provided by Texas rural transit providers is Medicaid non-emergency medical transportation (called Medical Transportation Program - MTP). Of total Texas contract revenues applied in fiscal year 2010, approximately 84 percent were MTP (see Table 46).

Table 46. Rural Transit Percent of Local Funds by Category
Texas, FY2010.

Contract Category	% of Total Contract Revenue
Medical Transportation Program	84.2%
Other Private Contracts	11.7%
Head Start	0.1%
Dept. of Aging & Disabilities	4.0%
Dept. of State Health Services	0.1%
Total	100.0%

Medical Transportation Program

Pursuant to Title XIX of the Social Security Act, the Medicaid program provides medical assistance to low-income individuals and individuals with disabilities. The Federal and State Governments jointly fund and administer the Medicaid program. At the Federal level, the Centers for Medicare and Medicaid Services (CMS) administer the program. Each State administers its Medicaid program in accordance with a CMS-approved State plan. Although the State has considerable flexibility in designing and operating its Medicaid program, it must comply with applicable Federal requirements.

Federal regulations (42 CFR § 431.53) require each State to ensure that Medicaid beneficiaries have transportation to and from medical providers and to describe in its State plan the methods that the State will use to meet this requirement. Federal regulations (42 CFR § 440.170) define transportation expenses as costs for transportation that the State deems necessary to secure medical examinations and treatment for Medicaid beneficiaries.

In Texas, the Medical Transportation Program is administered by the Health and Human Services Commission (HHSC). The Medical Transportation Program gives people on Medicaid ways they can get to visits with the doctor or dentist. Services provided by the Medical Transportation Program are available to people covered by Medicaid who have no other means of transportation to get to the doctor, dentist, or pharmacy. Transportation services include prearranged van pickup, bus passes, or money for gasoline. These services are available in all areas of the state and are provided by a network of contracting organizations. HHSC contracts with Transportation Service Area Providers (TSAPs) to provide MTP services in different regions in Texas. In turn, TSAPs subcontract with other transportation providers in each region. Rural transit providers serve as both TSAPs and subcontractors to provide MTP service. Payment for services is based on each passenger trip. Different rates are typically set for passenger trips within a county and passenger trips outside the county.

Determining Funding Needs

- Determine New Base Cost
- Allocate Base Costs to Service Types
- Assign Base Costs to Functions (operations, maintenance, administration, planning, and purchased transportation)
- Estimate Fare Revenues
- Estimate Section 5311/ Section 5307, State Allocated Funds and Other Federal Grant Funding
- Estimate Contract Service Funding Levels
- Estimate Other Funding such as Local Contributions and Other
- Apply Funding in Sequence to Balance Functional Costs to Funding

Determine New Base Costs

Projecting the base cost for the following year's budget is the first step in determining funding needs. Base costs such as fuel, wage rates, number of administrative staff, marketing costs may be projected to change from the previous year due to changes such as wage and fuel rate changes, number of administrative staff and changes in marketing costs. In order to determine changes in base-level service costs, a transit provider can estimate cost changes using the chart of accounts and changing the base costs accordingly. Table 47 provides an example of how the chart-of-accounts may be used to change PTS base service.

Table 47. Example PTS Base Service Cost Projection.

Line-Item Chart of Accounts	Base Budget			
		Budget Change Projection in Base Costs		
	FY11 Actual	$	Comment	New Base
Operating Costs	**$1,791,178**	**$170,159**		**$1,961,336**
501. LABOR				
Operating Salaries	701,872	52,128	2 Positions	754,000
Administration Salaries	114,199	37,601	1 Position	151,800
502. FRINGE BENEFITS				
Operating Fringe Benefits	205,038	16,681	32% Benefits for New	221,719
Administration Fringe Benefits	26,494	12,032	32% Benefits for New	38,526
Uniforms	792			792
503. SERVICES				
Preventive Maintenance Section 5310	72,658	9,342		82,000
Preventive Maintenance Other	15,198	(15,198)		-
Building Maintenance	20,849	(8,849)		12,000
Audit/Legal	11,665	335		12,000
Admin. Contract Services	374	1,626		2,000
Operations Contract Services	44,353	(2,353)		42,000
Operations Training	4,443	557		5,000
Admin. Training	324	176		500
Drug & Alcohol Testing	3,075	1,925		5,000
MVR	605	395		1,000
504. MATERIALS AND SUPPLIES CONSUMED				
Fuel & Lubricants	326,668	58,332		385,000
Tires & Tubes	-	-		-
Vehicle Equipment & Supplies	2,305	(305)		2,000
Other Equipment & Supplies	8,534	(34)		8,500
Office Equipment	11,211	789		12,000
Admin. Supplies	2,682	118		2,800
505. UTILITIES				
Telecommunication	27,194	(1,194)		26,000
Admin. Telephone	6,290	210		6,500
Operations Space/Utilities	13,160	1,840		15,000
Admin. Space/Utilities	15,436	64		15,500
506. CASUALTY AND LIABILITY COSTS				
Operating Insurance	34,030	470		34,500
Admin. Insurance	1,491	9		1,500

Line-Item Chart of Accounts	Base Budget			
	FY11 Actual	Budget Change Projection in Base Costs		New Base
		$	Comment	
508. PURCHASED TRANSPORTATION SERVICE				
Purchase of Service (Section 5310)	105,648	4,352		110,000
509. MISCELLANEOUS EXPENSES				
Dues & Subscriptions				
In Area Travel	24	76		100
Out Area Travel	1,815	(215)		1,600
Marketing	9,651	(151)		9,500
Other Misc.	1,135	(635)		500
Postage/Printing	1,963	37		2,000

Allocate Base Costs by Service Type and Assign Costs to Function

Federal grants provide different funding shares based on the type of service (e.g., urban, rural) and based on the functional cost (operating, maintenance, planning, administration, purchased transportation). Table 48 provides a matrix of the maximum federal share eligible by operating cost by federal grant type and by functional cost. Allocating costs to services and assigning costs to functions was described in Chapter 6. The same process can be used for allocating base costs and assigning base costs to each function.

Table 48. Maximum Federal Share of Operating Cost Matrix.

Cost Function	Section 5311 (Rural)	Section 5307 (Urban)*	Section 5310 (E&D)	Section 5316 (JARC)	Section 5317 (New Freedom)	Section 5303 Planning	CMAQ
Operating Deficit	50%	50%		80%	80%		80%
Maintenance	80%	80%	80%	80%	80%		
Administration	80%	80%					
Planning/Mobility Management	80%	80%	80%	80%	80%	80%	
Purchased Transportation/ Purchase of Service 5311	80%		80%	80%	80%		
* 5307 Funds - Fuel eligible for 80% as of 2012, requires declaration by NCTCOG							

PTS Allocation of Base Costs to Urban, Rural, and MTP

The cost allocation model developed in Chapter 6 was used to allocate urban, rural, and MTP costs for PTS. Table 49 provides the results of the cost allocation model.

Table 49. PTS Base Service Cost Allocation.

PTS Operating Cost	Total	Urban	Rural	MTP
Total	**$1,961,336**	**$214,723**	**$1,187,791**	**$558,822**

PTS Assignment of Base Costs to Functions

The resulting new base operating costs by line-item can be used to assign cost by function. Table 50 illustrates the new base service cost assigned to each functional area for PTS.

Table 50. Example PTS New Base Service Cost by Function.

Chart of Accounts	New Base Annual Cost	Function Cost Assignment				
		Operating	Maint.	Admin.	Planning	Purch. Transp.
Operating Costs	**$1,961,336**	**$1,499,011**	**$96,000**	**$256,326**		**$110,000**
501. LABOR						
Operating Salaries	$754,000	$754,000				
Administration Salaries	$151,800			$151,800		
502. FRINGE BENEFITS						
Operating Fringe Benefits	$221,719	$221,719				
Administration Fringe Benefits	$38,526			$38,526		
Uniforms	$792	$792				
503. SERVICES						
Preventive Maintenance Section 5310	$82,000		$82,000			
Preventive Maintenance Other	$0		$0			
Building Maintenance	$12,000		$12,000			
Audit/Legal	$12,000			$12,000		
Admin. Contract Services	$2,000			$2,000		
Operations Contract Services	$42,000	$42,000				
Operations Training	$5,000	$5,000				
Admin. Training	$500			$500		
Drug & Alcohol Testing	$5,000	$5,000				
MVR	$1,000	$1,000				
504. MATERIALS AND SUPPLIES CONSUMED						
Fuel & Lubricants	$385,000	$385,000				
Tires & Tubes	$0					
Vehicle Equipment & Supplies	$2,000		$2,000			

Chart of Accounts	New Base Annual Cost	Function Cost Assignment				
		Operating	Maint.	Admin.	Planning	Purch. Transp.
Other Equipment & Supplies	$8,500	$8,500				
Office Equipment	$12,000			$12,000		
Admin. Supplies	$2,800			$2,800		
505. UTILITIES						
Telecommunication	$26,000	$26,000				
Admin. Telephone	$6,500			$6,500		
Operations Space/Utilities	$15,000	$15,000				
Admin. Space/Utilities	$15,500			$15,500		
506. CASUALTY AND LIABILITY COSTS						
Operating Insurance	$34,500	$34,500				
Admin. Insurance	$1,500			$1,500		
508. PURCHASED TRANSPORTATION SERVICE						
Purchase of Service (Section 5310)	$110,000					$110,000
509. MISCELLANEOUS EXPENSES						
Dues & Subscriptions	$0					
In Area Travel	$100			$100		
Out Area Travel	$1,600			$1,600		
Marketing	$9,500			$9,500		
Other Misc.	$500	$500				
Postage/Printing	$2,000			$2,000		

PTS Base Service Cost by Service Type and Function

The function cost for each service type can be determined using the assigned functional cost results and the cost allocation model results.

Table 51 illustrates the determination of functional costs for urban, rural, and MTP service. The percent of total costs by functional area can be used to estimate the urban, rural, and MTP service functional cost.

Table 51. PTS Base Cost by Service and Function.

Function	Total	% of Expense without PT	Urban	Rural	MTP
Total	$1,961,336	**100%**	**$214,723**	**$1,187,791**	**$558,822**
Operating	$1,499,011	**81%**	**$173,859**	**$872,678**	**$452,473**
Maintenance	$96,000	**5%**	**$11,134**	**$55,888**	**$28,977**
Administration	$256,326	**14%**	**$29,729**	**$149,225**	**$77,371**
Planning	$0	**0%**	**$0**	**$0**	**$0**
Purchased Transportation	$110,000			$110,000	

Estimate Passenger Fare Revenue

Section 5311, Section 5307, Section 5316 (JARC), and Section 5317 (New Freedom) provide federal share for the net operating deficit. The net operating deficit is equal to the total eligible operating expenses less passenger fare revenue. To determine the net operating deficit, the passenger fare revenue must be estimated. One means of determining future fare revenue is to estimate the passenger boardings by service type and apply the average fare revenue collected per passenger.

PTS Estimated Passenger Fares

Table 52 illustrates the estimation of fare revenue based on projected passenger boardings and average fare revenue collected. Assuming PTS collects $1.00 of fare revenue per passenger on average the total fare revenues can be estimated at $10,277 urban and $69,055 rural.

Table 52. Example PTS Estimated Net Operating Deficit.

	Urban	Rural	MTP Total	Total Passengers
Passenger Boardings	10,277	69,055	13,668	93,000
Average fare revenue	$1.00	$1.00		
Fare Revenue	$10,277	$69,055		$79,332

Estimate Federal and State Funds

Future funding levels for Section 5311 Federal and rural state allocated funds are dependent on both needs and performance as compared to all rural state transit districts. Contact TxDOT Public Transportation Division to provide a future estimate for Section 5311 Federal and rural state allocated funding for a specific rural transit district. Other federal operating grants including Section 5310, Section 5316, Section 5317, Section 5303/5304, and CMAQ are awarded competitively and can be estimated based the level the agency requested or was awarded. Section 5307 large urbanized area funding may be available to the rural transit district. Section 5307 funding level may be estimated based on the projected urbanized area costs to maximize the eligible federal share.

PTS Estimated Section 5311 Federal and Rural State Allocated Funds

Table 53 provides an estimate of the Section 5311 Federal and rural state allocated funds for PTS in 2013. PTS also receives Section 5310 funding for maintenance and purchased transportation (see Table 54). Section 5307 estimated funds are projected based on the allocated urbanized area cost and the maximum federal share (see Table 55).

Table 53. Estimated PTS Section 5311 and State Funding.

Federal and State Fund	Actual FY11	Projected FY12	Projected FY13
Section 5311 Allocation by Formula	$424,591	$409,696	$412,000
Section 5311 by Revenue Miles	$212,390	$202,000	$200,000
Total Section 5311 Allocated	$636,981	$611,696	$612,000
State Funds	$406,322	$397,264	$413,000

Table 54. Estimated PTS Section 5310 Federal Grant Funds.

Maintenance	$8,000
Purchased Transportation	$60,000

Table 55. Estimated PTS Section 5307 Federal Grant Funds.

Functional Cost	Total Cost	Maximum Federal Share %	Maximum Federal Share $
Urban	**$214,723**		
Operating	$173,859		
Less Passenger Fares	-$10,277		
Net Operating Deficit	$163,582	50%	$81,791
Maintenance	$11,134	80%	$8,907
Administration	$29,729	80%	$23,784
Planning/Mobility Management	$0		$0
Purchased Transportation	$0		$0

Contract Revenue and Other Local Funding

Dependent on the contract terms, the contract revenue may be determined by using the projected boardings, hours, and miles to determine projected contract revenue. Other local funding may be determined on historical levels or by determination from the funding source.

PTS Estimated Contract Revenue and Other Local Funding

PTS has contracts to provide service for MTP, and other smaller contracts such as workforce and nursing homes. Table 56 illustrates an estimate of PTS contract and other funding levels.

Table 56. Estimated PTS Contract Funding.

Other Local Funds	Total
Misc. Contract Revenues	$835,573
Local Funding	$46,000

Apply Funds in Sequence

After estimating funding sources, funding may be applied to each functional cost in sequence. Funds are applied by cost item until funding equals the cost for a balance of zero. Figure 36 illustrates the suggested sequence for application of funds.

Figure 36. Sequence to Apply Funding.

PTS Funding Sources Applied to Estimated Base Costs

To summarize, PTS receives funding to support urban, rural, and MTP service. PTS receives Section 5310, Section 5311, and Section 5307 federal funding. PTS has a negotiated rate for MTP on a per passenger trip basis for in-county trips and out-of-county trips. Other contract revenues such as workforce and nursing homes provide additional subsidy for the cost of rural service. Local contributions are provides by local governments in the area. **Error! Reference source not found.** provides the base costs with applied fare revenue. Each funding source will be applied in sequence to the base costs.

Table 57. PTS Base Operating Costs for Application of Revenues.

Functional Cost	Total Operating Cost
System Total	**$1,961,336**
Rural	**$1,187,791**
Operating	$872,678
Less Passenger Fares	-$69,055
Net Operating Deficit	$803,623
Maintenance	$55,888
Administration	$149,225
Planning/ Mobility Management	$0
Purchased Transportation	$110,000
Urban	**$214,723**
Operating	$173,859
Less Passenger Fares	-$10,277
Net Operating Deficit	$163,582
Maintenance	$11,134
Administration	$29,729
Planning/ Mobility Management	$0
Purchased Transportation	$0
MTP	**$558,822**
MTP Total	$558,822

Apply Other Federal Revenues

PTS Section 5310 revenues are first applied to rural transit costs to support the number of passengers carried who are individuals with a disability or persons who are elderly. Table 58 provides the estimated Section 5310 revenues projected to be received and applied to rural transit costs and the balance after revenues are applied.

Table 58. PTS Application of Other Federal Revenues.

	Total Operating Cost	5310	5316	5317	CMAQ	5303	Balance
System Total	**$1,961,336**	**$68,000**	**$0**	**$0**	**$0**	**$0**	**$1,814,004**
Rural	**$1,187,791**						**$1,050,737**
Operating	$872,678						
Less Passenger Fares	-$69,055						
Net Operating Deficit	$803,623						$803,623
Maintenance	$55,888	$8,000					$47,888
Administration	$149,225						$149,225
Planning/Mobility Management	$0						$0
Purchased Transportation	$110,000	$60,000					$50,000
Urban	**$214,723**						**$204,446**
Operating	$173,859						
Less Passenger Fares	-$10,277						
Net Operating Deficit	$163,582						$163,582
Maintenance	$11,134						$11,134
Administration	$29,729						$29,729
Planning/Mobility Management	$0						$0
Purchased Transportation	$0						$0
MTP	**$558,822**						**$558,822**
MTP Total	$558,822						$558,822

Apply Section 5311 and Section 5307

Second, Section 5311 and Section 5307 revenues are applied to the balance remaining after application of other federal program revenues. The amount of Section 5311 and Section 5307 revenues applied are estimated based on the maximum percent of federal share by function category. Also, the amount applied cannot exceed the Section 5311 total allocation and Section 5307 amount awarded. Table 59 provides the estimated federal share amounts for PTS.

Table 59. PTS Application of Section 5307 and Section 5311 Funds.

	Balance	5307	5311	% Fed. Share	Balance
System Total	**$1,814,004**	**$114,482**	**$599,502**		**$1,100,020**
Rural	**$1,050,737**				**$451,234**
Net Operating Deficit	$803,623		$401,812	50%	$401,812
Maintenance	$47,888		$38,311	80%	$9,578
Administration	$149,225		$119,380	80%	$29,845
Planning/Mobility Management	$0		$0	0%	$0
Purchased Transportation	$50,000		$40,000	80%	$10,000
Urban	**$204,446**				**$89,964**
Net Operating Deficit	$163,582	$81,791		50%	$81,791
Maintenance	$11,134	$8,907		80%	$2,227
Administration	$29,729	$23,784		80%	$5,946
Planning/Mobility Management	$0	$0			$0
Purchased Transportation	$0	$0			$0
MTP	**$558,822**				**$558,822**
MTP Total	$558,822				$558,822

Apply MTP Revenues

Third, MTP revenues are applied to the balance remaining. The amount of MTP revenues are estimated based on the projected in-county and out-of-county passenger trips. The estimated passenger trips are then multiplied by the negotiated contract rate to estimate MTP revenues. Table 60 provides the estimated MTP revenue amount. Because the negotiated rate includes the cost of vehicle replacement, the estimated revenues exceed the operating cost. The remaining revenues may be reserved or applied as needed.

Table 60. PTS Applied MTP Revenue.

	Balance	MTP Funds Applied to MTP Cost	Balance
System Total	**$1,100,020**	**$558,822**	**$541,198**
Rural	**$451,234**		**$451,234**
Net Operating Deficit	$401,812		$401,812
Maintenance	$9,578		$9,578
Administration	$29,845		$29,845
Planning/Mobility Management	$0		$0
Purchased Transportation	$10,000		$10,000
Urban	**$89,964**		**$89,964**
Net Operating Deficit	$81,791		$81,791
Maintenance	$2,227		$2,227
Administration	$5,946		$5,946
Planning/Mobility Management	$0		$0
Purchased Transportation	$0		$0
MTP	**$558,822**		**$0**
MTP Total	$558,822	$558,822	**$0**

Apply State Revenues, Other Contract Revenues, and Local Funds

Fourth, state revenues, other contract revenues, and local funds are applied to the remaining balance. Contract revenues and local revenues may be estimated based on previous year revenues and/or new contract revenue anticipated. State revenues can only be applied up to the amount available as determined by the Texas State Funding Formula. Table 61 provides the estimated annual funding for PTS.

Table 61. PTS State and Local Revenue Application.

	Balance	Misc. Contract Revenues	Local Funds	State	Balance
System Total	**$541,198**	**$30,000**	**$46,000**	**$413,000**	**$52,198**
Rural	**$451,234**				**$0**
Net Operating Deficit	$401,812	$26,714	$7,332	$367,765	$0
Maintenance	$9,578	$637	$175	$8,766	$0
Administration	$29,845	$1,984	$545	$27,316	$0
Planning/Mobility Management	$0	$0	$0	$0	$0
Purchased Transportation	$10,000	$665	$182	$9,153	$0
Urban	**$89,964**				**$52,198**
Net Operating Deficit	$81,791		$37,766		$44,025
Maintenance	$2,227				$2,227
Administration	$5,946				$5,946
Planning/Mobility Management	$0				$0
Purchased Transportation	$0				$0
MTP	**$0**				**$0**
MTP Total	**$0**			$0	$0

Apply Reserved Revenues If Needed

Finally, if a remaining balance exists then the means to cover the balance must be determined. Table 62 provides the remaining balance estimate for PTS.

Table 62. PTS Application of Reserve Funds.

	Balance	Reserves	Final Balance
System Total	**$52,198**	**$52,198**	**$0**
Rural	**$0**		**$0**
Net Operating Deficit	$0		$0
Maintenance	$0		$0
Administration	$0		$0
Planning/Mobility Management	$0		$0
Purchased Transportation	$0		$0
Urban	**$52,198**		**$0**
Operating			
Less Passenger Fares			
Net Operating Deficit	$44,025	$44,025	$0
Maintenance	$2,227	$2,227	$0
Administration	$5,946	$5,946	$0
Planning/Mobility Management	$0		$0
Purchased Transportation	$0		$0
MTP	**$0**		**$0**
MTP Total	$0	$0	$0

New Base Year Summary of Service, Cost, and Funding

Table 63 provides a summary of PTS base service passengers, miles, hours, costs, and funding sources.

Table 63. PTS New Base Service Summary of Service, Cost, and Funding.

	New Base Year
Service:	
Passengers	93,000
Total Vehicle Miles	949,000
Total Vehicle Hours	49,000
Operations Costs:	
Operations	$1,499,011
Maintenance	$96,000
Administration	$256,326
Planning	$0
Purchased Transportation	$110,000
Operating Cost	$1,961,336
Operations Funding Sources:	
Passenger Fares	$79,332
5310	$68,000
5316	$0
5317	$0
CMAQ	$0
5303	$0
Section 5307	$114,482
Section 5311	$599,502
State Funds	$413,000
Misc. Contract Revenues	$30,000
Local Funds	$46,000
MTP Funds Applied to MTP Operating Cost	$558,822
Reserves Applied	$52,198
Total Funding for Operations	$1,961,336

CHAPTER 8. PEER AND BENCHMARKING

Peer review and benchmarking are ways the transit providers can determine whether or not the best performance is being achieved. Through looking at peers in the industry, transit mangers can develop a feel for where the agency stands along a spectrum. Additionally, information collected from peer review can be used to identify gaps in the transit agency processes and can aid in improving overall performance. This chapter has information on benchmarking as a tool, the identification of peers to PTS, effectiveness and efficiency measures, and a funding comparison amongst the agencies reviewed. This chapter will assist PTS with:

- Understanding fully the purpose and use of benchmarking.
- Understanding the difference between benchmarking and peer review.
- Gaining insight to ensure that benchmarking is in alignment with the agency's goals and objectives.

BENCHMARKING AS A TOOL

Benchmarking is a process for obtaining a measure. In general, benchmarks are the what, and the process of benchmarking is the how. It is important to recognize that benchmarking is a detailed process that requires data collection in order for the process to provide useful feedback. When undertaking the benchmarking process, having a clear understanding of the agency' vision, mission, goals, and objectives are important in looking at the results from a holistic perspective.

Benchmarking has been used with the public transportation industry since the early 1990s. In March 2008, TCRP published a report entitled *Guidebook for Measuring, Assessing, and Improving Performance of Demand-Response Transportation*. This report examined methodologies for assessing services, including conducting trend analysis within an agency, comparing performance to absolute norms or standards, and comparing performance to peer agencies. The guidebook recommends using multiple methodologies in order to assess performance from a variety of aspects.

Collection of Data

Determining the level of benchmarking will determine the amount of data to collect. Much of the data for benchmarking can be collected through the peer agencies themselves, but data may also be collected from local metropolitan planning organizations, councils of government, and also at the public transportation division of TxDOT.

The practice of benchmarking should entail more than simply making inquiries to other agencies or touring and documenting peer facilities. When using benchmarking as a tool, transit providers should not attempt to limit the scope. Additionally, benchmarking should not be a one-time event, but an iterative process that agencies build on each time.

Regular evaluations of programs will eventually provide the database to document performance, to provide transit managers with a yardstick or benchmark to improve or plan for future services,

and to persuade funding agencies that more money is needed to improve service delivery or to justify the continuation of existing transit service

In an organization as complex as a transit system, there is an enormous variety of statistics and myriad performance measures from which to choose. It is crucial to pick the measurements based on what the agency is trying to evaluate. For instance, the agency may need to measure performance to (L. Radow and Winters):

- Evaluate a contract provider to ensure competitive performance.
- Decide what service mode is better for a new area.
- Reduce service but have many options as to where.
- Evaluate various expense categories as part of a budget-review process.
- Evaluate results from a previous service or operational change.
- Document the impact of service or its improvement as part of a funding arrangement.
- Convince decision makers that transit service is a vital part of the community.

What to Measure?

According to Radow and Winters, there are generally four ways to measure performance. While these are not inclusive, they do outline a useful way of thinking about how a system performs and the different ways to capture its unique attributes. These four categories are as follows:

- Effectiveness measures are those that weigh how much a service is used against how much service is provided (e.g., the number of trips per vehicle hour).
- Efficiency measures are those that focus on how much service is provided as compared to the resources that service requires (e.g., the cost per trip or passengers per vehicle hour).
- Quality measures focus on attributes such as speed, safety, reliability, and comfort.
- Impact measures are results oriented: How is the service affecting the community and region? How much of the population is being served? What share of needs is being met? How does the service increase income or reduce other costs? Nontraditional measures are most likely to be impact measures.

Information: Where to Get It

The data used as a basis for identifying performance measures must be consistent. Data should cover a full year of operations since performance can vary greatly from season to season or even month to month. Data that vary widely can inspire suspicion in decision makers. Gathering data can be a problem for many small systems. For transit agencies where the staff often performs many functions simultaneously, a systematic approach to data collection is important. Accurate record keeping and an organized, integrated database may be one of the transit system's most important analytical tools. Poor data collection techniques can lead to unreliable statistics, misleading performance measures, and poor decisions. For a comprehensive review of performance measures, the details of obtaining them, and pros and cons of different measures, researchers recommend reviewing Transit Cooperative Research Program (TCRP) Report 6, *Users' Manual for Assessing Service-Delivery for Rural Passenger Transportation*.

IDENTIFYING PEERS

Before a transit system can evaluate its performance, it needs a benchmark against which it can compare its performance. One type of benchmark is the performance of similar systems in the state or region. In business, benchmarking is the process of identifying successful business practices, typically identified through performance measurement, and applying those concepts to another business in order to achieve the same successful results. In addition, a benchmark is more likely to be based on a system's goals and objectives that have in turn been developed based on past performance.

The most difficult step in benchmarking is the establishment of the appropriate peer group. Peer groups are groups of systems that are considered sufficiently similar in circumstances so they can be fairly compared. The selection of an appropriate peer group is driven by the factors being compared. The variables used to determine peer groups in this toolkit are representative of the kinds of data used in other research efforts to define the degree to which development and demographics are conducive to use of transit. The variables used to determine the peer groups are as follows:

- Population density.
- Percent of service area population that is age 65 or older.
- Percent of households (hhs) with zero automobiles.
- Percent of population below poverty level.
- Percent of population ages 21 to 64 that are disabled.
- Service area located within/adjacent to a metropolitan area having a dedicated transit sales tax.

PTS Peer Group Identification

The resulting transit districts in the PTS peer group are identified as follows:

- Cleburne, City of.
- Collin County Area Regional Transportation.
- Community Services.
- Fort Bend County.
- Gulf Coast Center.
- Kaufman Area Rural Transit.
- Public Transit Services.
- Senior Center Resources and Public Transit.
- Services Program for Aging Needs.
- Texoma Area Paratransit System.
- The Transit System.

Table 64 provides the demographic characteristics for each of the peer group transit districts.

Table 64. PTS Peer Grouping Demographics.
(Census 2000 Data)

Transit District	Population Density (Population /Square Mile)	% Population with a Disability (Ages 21–64)	% Occupied Housing Units with Zero Autos	% Population Age 65+	% Population below Poverty Level	Near Metro
Cleburne	145.41	21.7	4.9	10.3	9.0	Metro
Collin County Area Regional Transp.	82.03	17.3	3.8	7.7	1.9	Metro
Community Services, Inc.	70.38	22.7	6.9	11.9	12.3	Metro
Fort Bend County	50.72	17.2	3.5	6.5	2.3	Metro
Gulf Coast Center	65.43	22.2	11.4	11.9	3.4	Metro
Kaufman Area Rural Transportation (Star Transit)	92.34	21.2	5.4	10.5	10.2	Metro
Public Transit Services	**42.51**	**20.1**	**5.1**	**12.7**	**9.4**	**Metro**
Senior Center Res. and Public Transit	91.08	23.5	6.4	12.7	12.4	
Services Program for Aging Needs	83.49	15.5	2.8	7.5	6.0	Metro
Texoma Area Paratransit System	35.83	20.3	5.0	14.5	10.7	
The Transit System, Inc.	78.67	18.8	2.8	17.2	8.4	

PTS Benchmarks

PTS performance is benchmarked for selected measures and then compared across identified peer transit agencies within the state. The following provides PTS with information to benchmark and compare the measures including:

- Administration and planning rates.
- Effectiveness and efficiency measures.
- Fare rates.

Administration and Planning Comparison

As a point of comparison, PTS administration and planning rates can be compared to a subset of rural transit district peers. Table 65 provides fiscal year 2011 overhead rates. PTS administration and planning rates rank the lowest among its peers.

Table 65. Administration and Planning Peer Comparison – FY11.

Rural Transit District Peers	Administration and Planning Expense	Total Operating Expense	% of Administration and Planning to Total
Texoma Area Paratransit System/TAPS	$618,743	$1,892,338	48.58%
Gulf Coast Center	$204,871	$729,495	39.05%
Transit System Inc., The	$247,402	$1,013,271	32.30%
Collin County Committee on Aging	$72,013	$428,719	20.19%
South East Texas Regional Planning Comm.	$236,635	$1,527,417	18.33%
Cleburne City of (Cleburne)	$148,348	$1,018,120	17.06%
Fort Bend County	$728,278	$5,039,359	16.89%
Services Program for Aging Needs (SPAN)	$220,449	$1,643,585	15.49%
Kaufman Area Rural Transportation	$316,007	$2,550,014	14.15%
Public Transit Services	$203,622	$1,724,002	13.39%
Community Services, Inc.	$107,115	$1,248,995	9.38%

Effectiveness and Efficiency Measures by Peer Group

Researchers calculated effectiveness and efficiency measures using fiscal year 2011 data for each transit district and calculated the mean for each peer group. Effectiveness measures are those that weigh how much a service is used (passengers) against how much service or resources are required (miles, hours, or expenditures). Efficiency measures are those that focus on how much service is provided (miles or hours) as compared to the resources that service requires (expenditure).

The rural transit peer group for PTS includes 11 rural transit districts including PTS. Table 66 is sorted by "Cost Effectiveness." Figure 37 illustrates those transit districts in the peer group that perform above the peer average for operating effectiveness and/or operating efficiency measures. None of the peers are above average in both effectiveness and efficiency. PTS scores high in efficiency and slightly below the average in operating effectiveness. The cost effectiveness

factor of operating cost per passenger trip reflects the cost and the productivity of the service. PTS falls in the middle of its peers in cost effectiveness at $20.92 cost per passenger trip (see Table 66).

Of the peer group the rural transit districts with higher performance than the peer group average for *operating effectiveness* are:

- Community Services, Inc.
- Fort Bend County.
- Services Program for Aging Needs.

The peer group rural transit districts with higher performance for *operating efficiency* are:

- Texoma Area Paratransit System.
- Public Transit Services.
- Kaufman Area Rural Transportation.

Table 66. PTS Peer Group - Effectiveness and Efficiency Measures.
Fiscal Year 2011 Data

Transit District	Code	Operating Efficiency Revenue Miles per Operating Expense	Cost Effectiveness Operating Expense per Passenger Trip	Operating Effectiveness Passenger Trips per Revenue Mile
The Transit System	TTS	0.31	$42.17	0.08
Cleburne, City of	CLEB	0.39	$37.83	0.07
Gulf Coast Center	GCC	0.25	$34.58	0.12
Collin County Area Regional Transportation	CCART	0.30	$28.17	0.12
Senior Center Resources and Public Transit	SCRPT	0.29	$25.03	0.14
Services Program for Aging Needs	SPAN	0.39	$22.25	0.12
Public Transit Services	PTS	0.51	$20.92	0.09
Fort Bend County	FBC	0.30	$20.90	0.16
Kaufman Area Rural Transportation (Startrans)	KART	0.51	$18.46	0.11
Texoma Area Paratransit System	TAPS	0.51	$18.30	0.11
Community Services Incorporated	CSI	0.31	$12.85	0.25
Peer Group Average		**0.39**	**$25.59**	**0.12**

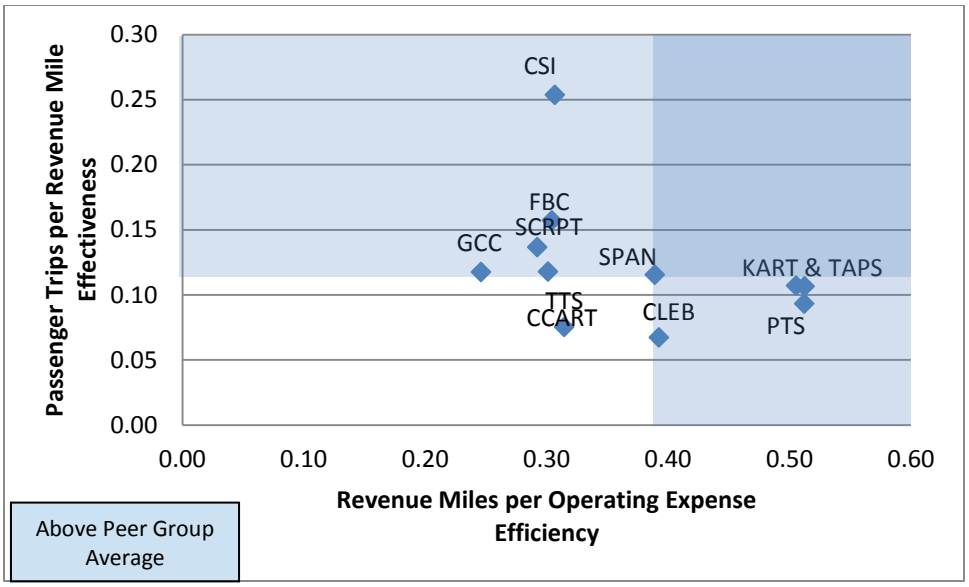


Figure 37. PTS Peer Group—Effectiveness and Efficiency Measures FY11.

PEER FARE RATE COMPARISON

Examining peer fare rates is an additional way to determine where transit agencies stand on the spectrum of overall cost to the consumer. Additionally, it helps agencies discern how fares should be structured and what should be charged. The Community Transportation Association of America (CTAA) recently published research on Price Setting for transit providers. In it, the CTAA outlines considerations in setting fares. Additionally, the article discusses price setting, which is the process for determining how much transit passes should cost the agency(ies), based on a series of factors, including:

- Number of customers served.
- Number of trips provided.
- Accounting and overhead expenses.
- Expense of providing the trip.

The CTAA recommends setting transit passes based on a series of steps, which are useful considerations in setting base fares, especially in areas that rely on Medicare. In addition to the steps provided by the CTAA, listed as follows, it is important for transit providers to consider fares offered at peer agencies.

Steps in fare setting process:

1. Estimate pass utilization.
2. Estimate revenue.
3. Estimate administrative, accounting, and management expenses.

The tools for calculating pass utilization include the number of eligible customers, population demographics in the service area, and the number of monthly pass transit riders and trips. More information on price setting may be found in the CTAA toolkit on the website.

PTS Fare Rate Peer Comparison

The research team reviewed fare rates at PTS and the peer agencies to PTS. Table 67 depicts fare comparisons. In looking at Table 67, one can see that the daily base fares for the PTS peer agencies have a range from $1–$5, with the average fare set a little over $2. The range is important to note, as some agencies automatically charge on mileage and the majority of the base fares are for in town rides only. Out-of-town fares are typically double the base fare, and the majority of senior fares are half price. As several of the agencies travel into the nearest metropolitan area, the fares for the service were higher, ranging from $4–$34, with PTS commuter fares falling within the low end of the range ($7–$10 per day). Overall, PTS fares for commuter service may be further reviewed for a potential increase due to the mileage and demand for services into Dallas-Fort Worth Metroplex. PTS base fare is on par with the average; however, PTS has a more elaborate fare structure than its peer agencies. For example, PTS has the majority of the fares set on a zone system, ranging anywhere from $2.50 to $5 depending on the origin and destination.

Table 67. PTS Fare Rate Peer Comparison.

Rural Transit District	Base Fare in Town	Fare Out of Town	Reduced (Seniors, Disabled, Students)	Travel into Nearest UZA
Senior Center Resource and Public Transit Service (in city/in county)	$2	$3	n/a	$34
Texoma Area Paratransit System/TAPS (Sherman)	$2	$3	Half price	$4
Transit System Inc., The Glen Rose	$4	$6	Half price for residents in county	$10-$30 ea. way; depends on destination
Gulf Coast Center	$1	$3.50	Half price	n/a
Cleburne, City of	$3	$3 ea. 5 mi.	n/a	$3/stop (max $9) ea. way
Colorado Valley Transit	$1	$2	Free for residents	$5
Services Program for Aging Needs	$5	n/a	Half price	n/a
Kaufman Area Rural Transit (Star Transit)	$2	$5/$6	Half price	$15
Public Transit Services	$2	$2.50-$5 (mileage)	Half price	$35-$50/week
For Comparison:				
Alamo Area Council of Governments	$2	$5/$7	n/a	$10 (all one way)
Central Texas Rural Transit District	$1 (5 mi range)	$2-$12 (mileage)	n/a	n/a

The majority of the fares listed above are daily costs associated with riding transit service. As stated above, PTS has one of the most elaborate fare structures compared with peer agencies. PTS may look at the possibility of increasing commuter fares and simplifying the fare system currently in place. A simple fare system is not only easier for customers to understand and budget for, but it would also allow PTS to better advertise fares for the services provided, which are not currently listed on the PTS website.

CHAPTER 9. ASSESSING FLEET/FACILITY ASSETS AND FLEET REPLACEMENT PLAN

The transit agencies' fleet size influences the level of transit service the agency provides. This chapter provides a review PTS' current fleet mix and procurement plan for vehicle replacement. The chapter provides a revised fleet replacement plan consistent with service. The chapter also reviews PTS' current operation facilities and provides information on plans and recommendations based on the service plan outlined. Appendix A provides detail on procurement policies and procedures.

FLEET ASSESSMENT

PTS has a mix of light duty buses and minivans. All PTS transit vehicles are wheelchair accessible. PTS has eight vehicles that are low-floor minivans with a wheelchair ramp and have space for two wheelchairs. The remaining vehicles are type III transit vehicles that have mechanical wheelchair lifts. These vehicles have space for to 2–3 wheelchairs.

In April 2011, PTS operated 19 vehicles in maximum service (VOMS). Figure 38 provides a figure of the PTS VOMS. The figure shows the peak time periods for PTS are between 10 a.m. and 12 p.m., and between 2 p.m. and 4 p.m.

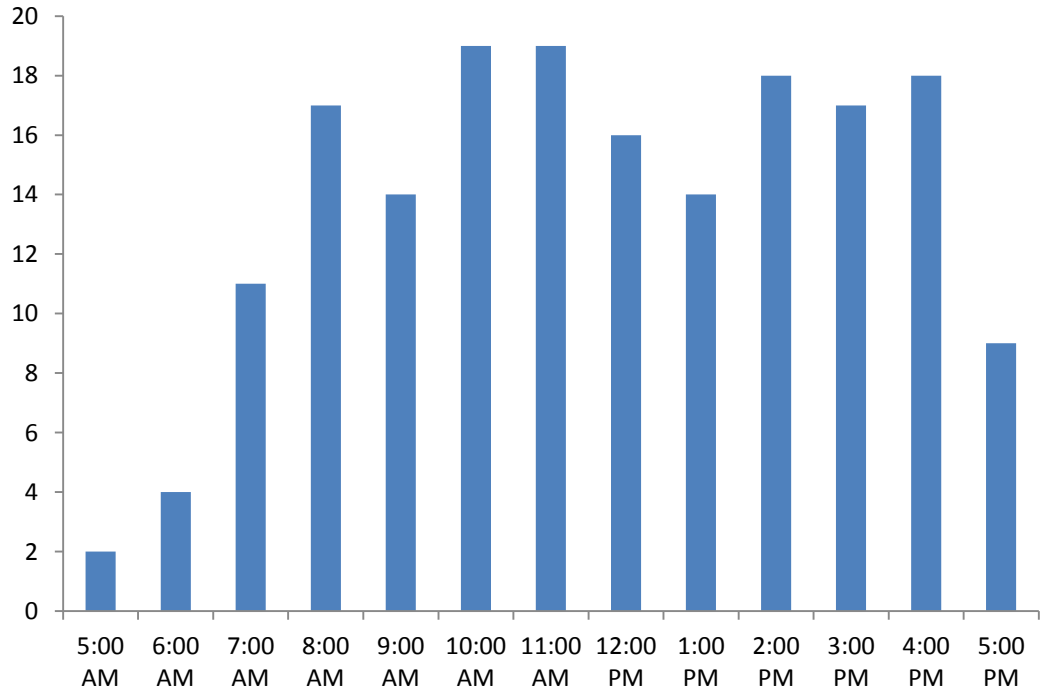


Figure 38. Vehicles Operated in Maximum Service.

Based on Data Collected April 25, 2011

PTS had an additional 11 vehicles available for service in April 2011 when the data were collected. Table 68 provides a breakdown the vehicles available for service (prior to October 2011). In October 2011, PTS received 18 new vehicles and disposed of 15 older vehicles. The purchase provided PTS 41 operable vehicles and increased the spares ratio to 54 percent. PTS has been operating with limited drivers because many vehicles were in poor condition. Table 69 provides a breakdown of the fleet currently available for service.

Table 68. Vehicle Available for Service (prior to October 2011).

VOMS	19
Vehicles In-Service	30
Spares Ratio	37%
Vehicles Out of Service	8

Table 69. Vehicles Currently Available for Service.

VOMS	19
Vehicles In-Service	41
Spares Ratio	54%
Vehicles Out of Service	0

Due to the increase in vehicles and spares ratio, PTS has the ability to increase the number of vehicles operated in maximum service. Depending on operating funding, PTS could increase the number of vehicles operated in maximum service 29–31 vehicles while maintaining a spars ratio between 25 and 30 percent. PTS operates different vehicle types intermixed in transit service; however, on long distance trips, PTS assigns minivans for service due to higher fuel efficiency. Table 70 provides a breakdown of the PTS fleet as of October 2011.

Table 70. PTS Vehicle Roster.

Unit	Year	Vehicle	# Seats	Length	Mileage	Vehicle Condition	Comments
B12	2009	Ford E-350 Airporter	14	22'4"	84,175	Excellent	In-Service
B13	2009	Ford E-350 Airporter	14	22'4"	80,764	Excellent	In-Service
B11	2009	Ford E-350 Airporter	14	22'4"	79,274	Excellent	In-Service
B15	2009	Ford E-350 Airporter	14	22'4"	79,011	Excellent	In-Service
B9	2009	Ford E-350 Airporter	14	22'4"	74,845	Excellent	In-Service
B7	2009	Ford E-350 Airporter	14	22'4"	74,755	Excellent	In-Service
B14	2009	Ford E-350 Airporter	14	22'4"	74,540	Excellent	In-Service
B8	2009	Ford E-350 Airporter	14	22'4"	74,301	Excellent	In-Service
B1	2009	Ford E-350 Airporter	19	25'	74,200	Excellent	In-Service
B3	2009	Ford E-350 Airporter	14	22'4"	73,250	Excellent	In-Service
B2	2009	Ford E-350 Airporter	19	25'	71,799	Excellent	In-Service
B4	2009	Ford E-350 Airporter	14	22'4"	71,679	Excellent	In-Service
B6	2009	Ford E-350 Airporter	14	22'4"	70,386	Excellent	In-Service
B5	2009	Ford E-350 Airporter	14	22'4"	70,252	Excellent	In-Service
B10	2009	Ford E-350 Airporter	14	22'4"	66,416	Excellent	In-Service
H26	2010	Ford Senator Bus	10	21'	15,107	Excellent	In-Service

Unit	**Year**	**Vehicle**	**# Seats**	**Length**	**Mileage**	**Vehicle Condition**	**Comments**
B27	2010	Ford ARBOC	14	26'	14,209	Excellent	In-Service
H25	2010	Ford Senator Bus	10	21'	13,540	Excellent	In-Service
H24	2010	Ford Senator Bus	10	21'	13,267	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Ford Type III	14	22'4"	0	Excellent	In-Service
New	2011	Dodge Caravan	5	121"	0	Excellent	In-Service
New	2011	Dodge Caravan	5	121"	0	Excellent	In-Service
New	2011	Dodge Caravan	5	121"	0	Excellent	In-Service
New	2011	Dodge Caravan	5	121"	0	Excellent	In-Service
B17	2008	Chevy Uplander	3	121"	92,124	Fair	In-Service
B19	2008	Chevy Uplander	3	121"	92,001	Fair	In-Service
B18	2008	Chevy Uplander	3	121"	90,790	Fair	In-Service
B20	2008	Chevy Uplander	3	121"	72,447	Fair	In-Service
B38	2002	Ford Van	13	21'	249,274	Poor	Sold
B46	2000	Ford Eldorado	9	21'	245,171	Poor	Sold
B39	2002	Ford Van	13	21	237,250	Poor	Sold
B50	2001	Ford Van	8	17'	226,608	Poor	Sold
B54	1998	Ford Van	8	17'	212,301	Poor	Sold
16	2001	Ford Eldorado	22	25'	197,933	Poor	Sold
B55	1996	Ford Van	8	17'	194,310	Poor	Sold
B61	1999	Ford Van	9	17'	178,204	Poor	Sold
15	2002	Ford Eldorado	22	25'	138,256	Poor	Sold
B21	2007	GMC Savana	14	21'	127,414	Poor	To be sold
60	1999	Ford Van	12	17'	127,020	Poor	Sold
B52	1996	Ford Van	8	17'	124,309	Poor	Sold
B23	2007	GMC Savana	14	21'	121,192	Poor	To be sold
B22	2007	GMC Savana	14	21'	119,376	Poor	To be sold
B51	2003	Ford Van	10	17'	90,617	Poor	Sold

Figure 39 provides the PTS vehicles by year model, Figure 40 provides the average vehicle mileage by year model, and Figure 41 provides the vehicle mix by number of seats. As discussed previously and shown in Table 71, PTS' fleet consists largely of minivans (3-5-seat) and type III (14-seat) vehicles.

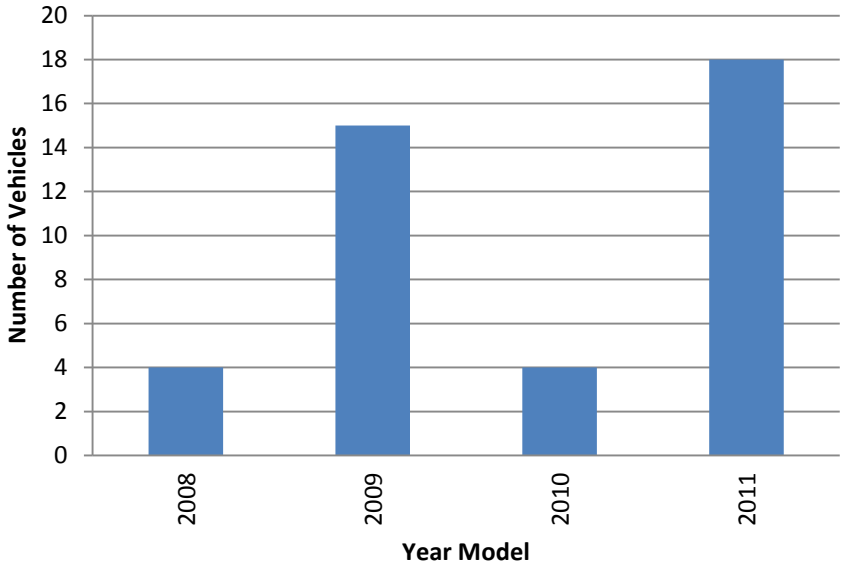


Figure 39. Fleet Mix.

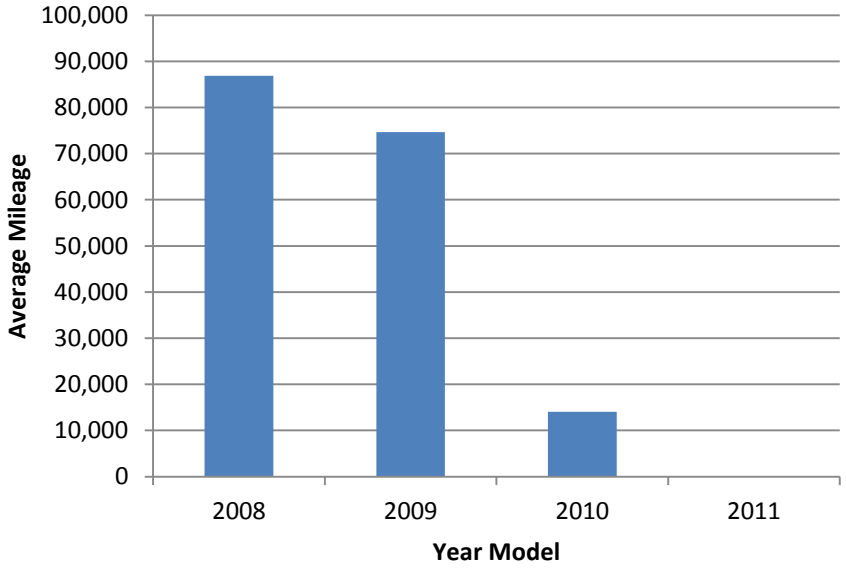


Figure 40. Average Service Mileage per Vehicle.

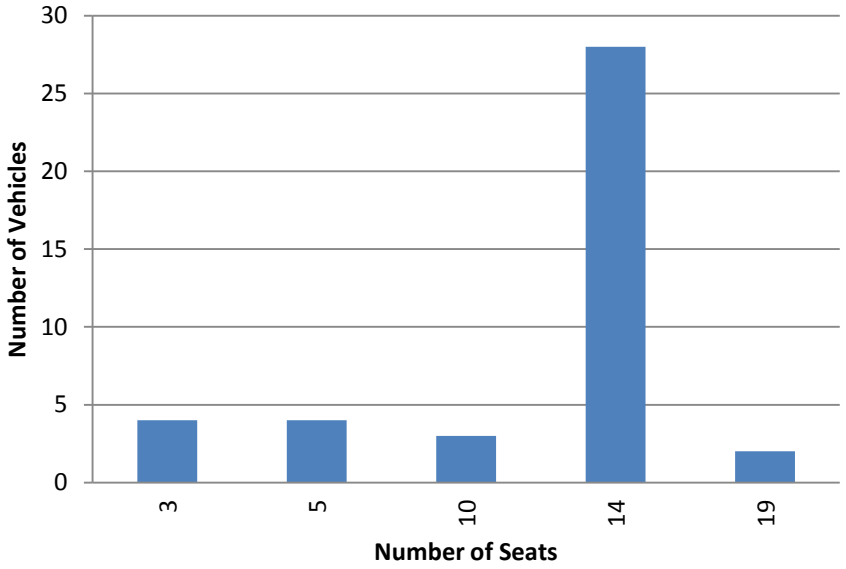


Figure 41. Vehicle Size.

Table 71. Summary of Existing Vehicle Mix.

Type	Qty	Model Name	Model Year
19+ Seats	2	Ford E-350 Airporter	2009
14 Seat	13	Ford E-350 Airporter	2009
	14	Ford Type III	2011
10 Seat	1	Ford ARBOC	2010
	3	Ford Senator	2010
4 - 5 Seats	4	Dodge Caravan	2011
	4	Chevy Uplander	2008
Total	**41**		

VEHICLE REPLACEMENT PLANNING

The Federal Transit Administration developed "state of good repair" initiative in order to promote and encourage transit agencies to maintain and protect assets. The SGR initiative promotes the transit agency practices of assessing fleet condition, developing sustainable fleet replacement plans, and practicing industry standard preventive maintenance. The main goal of the SGR initiative is for transit agencies to provide consistently safe and reliable transit service. This section provides information on vehicle replacement planning for PTS.

FTA establishes a minimum service-life for vehicles by vehicle category in the FTA report *Useful Life of Transit Buses and Vans*. The minimum service-life is the expected miles or years an agency must use a vehicle before the vehicle is retired without financial penalty (financial obligation to return funds to FTA). The purpose of the minimum service-life policy is to ensure that federal taxpayers obtain an adequate return on investment. The FTA service-life schedule varies by vehicle category. PTS vehicles fall within the following two categories:

- Light-Duty Mid-Sized Bus.
- Light-Duty Small Bus, Cutaways, and Modified Van.

These two categories are similar; however, the distinguishing trait in the Light-Duty Mid-Sized Bus category has a higher capacity truck axle with dual rear wheels, higher capacity springs and other suspension components, a somewhat heavier-duty frame, and a slightly wider body (Federal Transit Administration, 2007).

Table 72 provides details on vehicle categories and the FTA minimum service-life schedules.

Table 72. Transit Vehicle Minimum Service-Life.

Category	Typical Characteristics				Minimum Life (Whichever comes first)	
	Length	Approx. GVW	Seats	Average Cost (2007$)	Years	Miles
Heavy-Duty Large Bus	35 to 48ft and 60ft artic.	33,000 to 40,000	27 to 40	$325,000 to over $600,000	12	500,000
Heavy-Duty Small Bus	30ft	26,000 to 33,000	26 to 35	$75,000 to $175,000	7	200,000
Medium-Duty and Purpose-Built Bus	30ft	16,000 to 26,000	22 to 30	$75,000 to $175,000	7	200,000
Light-Duty Mid-Sized Bus	25 to 35ft	10,000 to 16,000	16 to 25	$50,000 to $65,000	5	150,000
Light-Duty Small Bus, Cutaways, and Modified Van	16 to 28ft	6,000 to 14,000	10 to 22	$30,000 to $40,000	4	100,000

Source: FTA Useful Life of Transit Buses and Vans

In practice, transit agencies keep vehicles longer than the FTA minimum service life requirement. The Useful Life of Transit Buses and Vans report provides an analysis of average retirement age based on National Transit Database (NTD) data. NTD provides a comprehensive dataset for assessing national transit vehicle statistics. Table 73 provides the average vehicle retirement by category of transit vehicle.

Table 73. Actual Average Vehicle Retirement.

Vehicle Category/ Minimum Retirement Age	Average Retirement Age (Years)	Share of Active Vehicles That Are:	
		One or more years past the retirement minimum	Three or more years past the retirement minimum
12 - Year Bus	15.1	19%	9%
10 - Year Bus	8.4*	7%	4%
7 - year Bus	8.2	12%	3%
5 - Year Bus / Van	5.9*	23%	5%
4 - Year Van	5.6	29%	10%

*Small Sample Size Source: FTA Useful Life of Transit Buses and Vans

Based on the NTD data, the 4-year transit vehicles are retired at an average age of 5.6 years, with almost 30 percent of the vehicles retired one or more years past the FTA retirement minimum. Additionally, 10 percent of the 4-year vehicles retire three or more years past the FTA retirement minimum.

Although PTS operates several 14-passenger buses, (which according to the FTA minimum standard would fall within the 4-year 100,000 mile category based on the number of seats), these vehicles have heavier duty, dual rear wheel axles and therefore are considered Light-Duty Mid-Sized Buses (5 year 150,000 mile vehicles). The vehicles most recently disposed of by PTS were an average age of 9.7 years and averaged 173,000 miles. The age and mileage of the vehicles disposed of indicate PTS keeps vehicles beyond the FTA minimum requirement.

The PTS average fleet-wide age is about 2 years excluding the new vehicle purchase, which bring the average age to about 1.5 years old. The 2008 and 2009 model transit vehicles average 87,000 and 75,000 life miles, respectively. The 2010 vehicles average 14,000 life miles.

Average annual vehicle mileage per year is about 30,000 for the 2008 model vehicles and 37,000 for the 2009 vehicles. During the first 11 months the 2010 model vehicles were in service, the vehicles averaged about 1,200 miles per month; this is about 14,400 miles annually (there are only four of these vehicles).

PTS Vehicle Replacement Plan

Rural transit agencies must have a vehicle replacement plan in order to provide for regular retirement of vehicles that have served past the useful life (in service years, service life miles, or both) and to anticipate financial requirements for capital investment. A vehicle replacement plan and a regular preventive maintenance program will help to ensure a state of good repair for the vehicle revenue fleet. A vehicle fleet in good repair will ensure comfortable, reliable, and safe service for customers.

PTS assesses each vehicle's condition individually; however, PTS aims to replace vehicles every 4-years or 150,000 miles, whichever comes first. As seen in the recent vehicle disposal, PTS keeps vehicles past the target vehicle life. Based on the desired 4-year replacement goal, PTS proposes to replace the current fleet on the schedule shown in Figure 42.

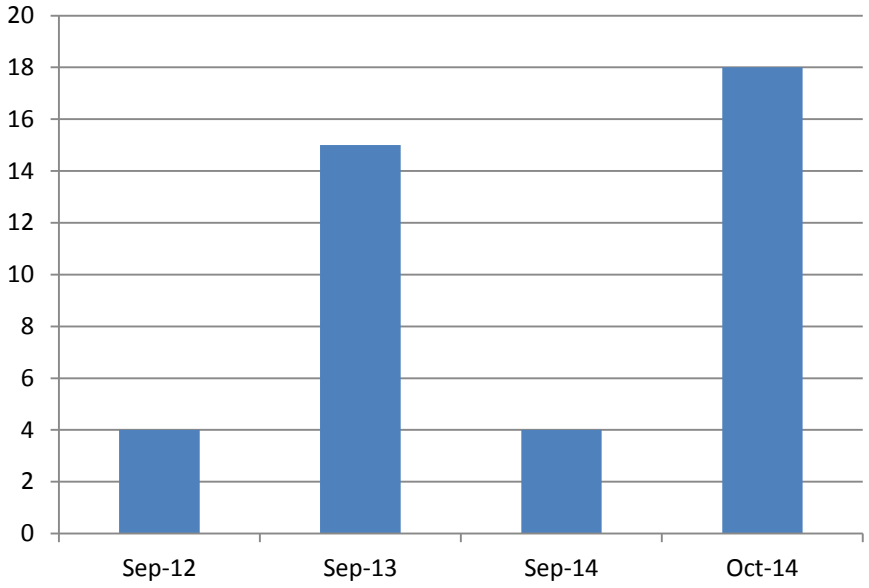


Figure 42. PTS Proposed Retirement.

Figure 42 shows the need for PTS to replace a substantial portion of its fleet in 2013 and 2014. Obtaining funding to replace the high number of vehicles in 2013 and 2014 may be difficult for the agency. If PTS maintains a fleet of 41 vehicles on four to five year retirement schedules, the agency must replace between eight and nine vehicles per year to maintain a state of good repair and provide consistently safe and reliable service. Replacing eight to nine vehicles per year provides regular replacement of vehicles and is manageable to accomplish.

TTI researchers developed a vehicle replacement plan to provide a sustainable schedule to replace the PTS fleet and maintain a state-of-good repair. The plan includes four subcategories of vehicles based on number of seats and average mileage. The following categories include:

- 19+ seat bus.
- 14 seat bus.
- 10 seat low-mileage vehicles (includes one 14 seat vehicle with low mileage).
- 4-5 seat minivans.

TTI researchers used the above subcategories of vehicles to develop a plan of vehicle replacement. TTI used monthly vehicle mileage to project future mileage estimates of the fleet and develop a timeline of appropriate vehicle retirement. Researchers calculated the monthly mileage average for each vehicle based on the September 30, 2011, vehicle mileage and divided by the number of service months of the vehicle. **Error! Reference source not found.** provides the average monthly miles, retirement year, and projected miles at retirement. The largest category of vehicle is the 14-seat vehicles purchased in 2009 and 2011. PTS must replace the 2009 14-seat vehicles between 2013 and 2015. The table displays that PTS must operate many vehicles more miles than other vehicles. This is also true about the 2011 14-seat vehicles. Half of the 2011 model vehicles will be retired in 2016 and the other half in 2017. This means PTS must preserve and operate many of the vehicles beyond the preferred retirement age.

Error! Reference source not found. provides the proposed replacement plan by year. The replacement plan displays the different types of vehicles owned by PTS and the recommended replacement schedule in order to maintain a similar fleet mix and size. The current vehicle mileage on many of the vehicles is similar. Due to the similarities in mileage, TTI selected specific vehicles for retirement before others. With vehicle maintenance records, TTI could more appropriately select vehicles for retirement. The plan requires PTS to extend certain vehicle lives' beyond the recommended useful life. PTS should keep vehicles in good repair and quality appearance despite the age or number of miles on the vehicle. However, PTS must monitor service miles and maintenance expense to help determine the retirement schedule of the vehicles. TTI structured the replacement plan so that the number of vehicles needing replacement during any one year is not dramatic. During 2016 and 2017, PTS will need to replace the highest number of vehicles—10. After these years, PTS will replace between 7 and 9 vehicles per year. By the year 2018, PTS will have retired and replaced all of the vehicles currently owned by the agency. The replacement plan is graphically displayed in Figure 43, which shows the high number of vehicles need in 2016 and 2017; however, after 2017 PTS needs only between eight and nine vehicles per year. As compared to the previous plan where PTS would need to replace between 14 and 18 vehicles during the years of 2013 and 2014, the new replacement plan shown in Table 75 is more manageable.

Table 74. Vehicle Retirement and Replacement.

Type	Model Name	Model Year	VIN (Last 8 digits)	Service Start	Miles Sep. 2011	Avg. Monthly Miles	Miles at Retirement	Retirement Year
14 Seats	Ford E-350 Airporter	2009	9DA84470	9-Sep	79,274	3,447	165,441	13-Sep
		2009	9DA84471	9-Sep	84,175	3,660	175,670	13-Sep
		2009	9DA84472	9-Sep	80,764	3,511	168,551	13-Sep
		2009	9DA84474	9-Sep	79,011	3,435	164,893	13-Sep
		2009	9DA83267	9-Sep	73,250	3,185	191,087	14-Sep
		2009	9DA83268	9-Sep	71,679	3,116	186,989	14-Sep
		2009	9DA83270	9-Sep	70,386	3,060	183,616	14-Sep
		2009	9DA83271	9-Sep	74,755	3,250	195,013	14-Sep
		2009	9DA83272	9-Sep	74,301	3,230	193,829	14-Sep
		2009	9DA84468	9-Sep	74,845	3,254	195,248	14-Sep
		2009	9DA84473	9-Sep	74,540	3,241	194,452	14-Sep
		2009	9DA83269	9-Sep	70,252	3,054	219,919	15-Sep
		2009	9DA84469	9-Sep	66,416	2,888	207,911	15-Sep
	Ford Type III*	2011	Unknown	Oct-11	0	3,256	195,381	Oct-16
		2011	Unknown	Oct-11	0	3,256	195,381	Oct-16
		2011	Unknown	Oct-11	0	3,256	195,381	Oct-16
		2011	Unknown	Oct-11	0	3,256	195,381	Oct-16
		2011	Unknown	Oct-11	0	3,256	195,381	Oct-16
		2011	Unknown	Oct-11	0	3,256	195,381	Oct-16
		2011	Unknown	Oct-11	0	3,256	195,381	Oct-16
		2011	Unknown	Oct-11	0	3,256	195,381	Oct-16

Type	Model Name	Model Year	VIN (Last 8 digits)	Service Start	Miles Sep. 2011	Avg. Monthly Miles	Miles at Retirement	Retirement Year
		2011	Unknown	Oct-11	0	3,256	234,457	Oct-17
		2011	Unknown	Oct-11	0	3,256	234,457	Oct-17
		2011	Unknown	Oct-11	0	3,256	234,457	Oct-17
		2011	Unknown	Oct-11	0	3,256	234,457	Oct-17
		2011	Unknown	Oct-11	0	3,256	234,457	Oct-17
		2011	Unknown	Oct-11	0	3,256	234,457	Oct-17
19+ Seats	Ford E-350 Airporter	2009	9DA84482	Sep-09	74,200	3,226	193,565	Sep-14
		2009	9DA84483	Sep-09	71,799	3,122	224,762	Sep-15
10 Seat	Ford ARBOC	2010	A1144623	Sep-10	14,209	1,292	108,505	Sep-17
	Ford Senator	2010	ADA79177	Sep-10	13,267	1,206	115,785	Sep-18
		2010	ADA79178	Sep-10	13,540	1,231	103,396	Sep-18
		2010	ADA79179	Sep-10	15,107	1,373	115,363	Sep-18
4–5 Seats	Dodge Caravan**	2011	Unknown	Oct-11	0	2,481	119,096	Oct-15
		2011	Unknown	Oct-11	0	2,481	119,096	Oct-15
		2011	Unknown	Oct-11	0	2,481	119,096	Oct-15
		2011	Unknown	Oct-11	0	2,481	119,096	Oct-15
	Chevy Uplander	2008	8D207097	Sep-08	92,124	2,632	126,341	Sep-12
		2008	8D206668	Sep-08	90,790	2,594	124,512	Sep-12
		2008	8D206564	Sep-08	92,001	2,629	126,171	Sep-12
		2008	8D206155	Sep-08	72,447	2,070	124,195	Sep-13

* The average monthly 14-passenger vans mileage was used to determine the average mileage of the new 14-passenger vans.
**The average monthly minivan mileage was used to determine the average mileage of the new minivans.

Table 75. Vehicle Replacement Plan.

Year	2012			2013			2014			2015			2016		
Type	**Retire**	**New**	**Fleet**	**Retire**	**New**	**Fleet**	**Retire**	**New**	**Fleet**	**Retire**	**New**	**Fleet**	**Retire**	**New**	**Fleet**
19+ Seats	0	0	2	0	0	2	1	1	2	1	1	2	0	0	2
14 Seats	0	0	27	4	4	27	7	7	27	2	2	27	8	8	27
10–4 Seat	0		4			4			4			4			4
4–5 Seats	3	3	8	1	1	8			8	4	4	8	2	2	8
Total	**3**	**3**	**41**	**5**	**5**	**41**	**8**	**8**	**41**	**7**	**7**	**41**	**10**	**10**	**41**

Year	2017			2018			2019			2020			2021		
Type	**Retire**	**New**	**Fleet**	**Retire**	**New**	**Fleet**	**Retire**	**New**	**Fleet**	**Retire**	**New**	**Fleet**	**Retire**	**New**	**Fleet**
19+ Seats	0	0	2	0	0	2	2	2	2	0	0	2	0	0	2
14 Seats	6	6	27	5	5	27	4	4	27	8	8	27	6	6	27
10–14 Seat	3	3	4	1	1	4			4			4			4
4 –5 Seats	1	1	8	1	1	8	3	3	8	1	1	8	2	2	8
Total	**10**	**10**	**41**	**7**	**7**	**41**	**9**	**9**	**41**	**9**	**9**	**41**	**8**	**8**	**41**

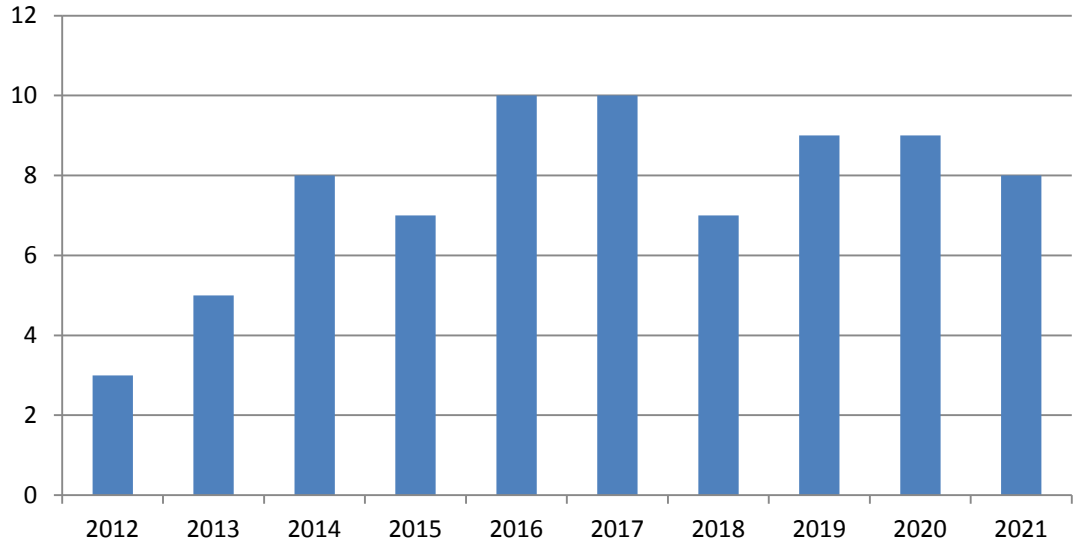


Figure 43. Vehicle Replacement by Year.

Preventive Maintenance
PTS must extend the life of certain vehicles in order to maintain the recommended replacement schedule. Vehicle life extension means PTS must practice proper preventive maintenance (PM). TCRP Synthesis 81 – Preventive Maintenance Intervals for Transit Buses provides a best practices guide for transit PM (Schiavone, 2010). The synthesis provides information on PM intervals and tools such as checklists to use during PM inspections.

PTS contracts out all preventive maintenance activities. PTS must ensure the maintenance contractor performs timely preventive maintenance based on original equipment manufacturer standards or transit industry standards. Proper preventive maintenance extends the useful life of the fleet and assists the agency in reaching replacement plan goals.

Fleet Summary

PTS has a relatively new transit fleet, in which many of the vehicles will not need replacement for several years. However, many of the vehicles will need replacement at around the same time. This requires PTS to preserve and maintain several vehicles past the ideal retirement age. By conducting regular preventive maintenance, PTS will be able to extend the life of many of the vehicles. By adhering to the replacement plan, PTS will maintain a state of good repair and provide safe and reliable transit service.

OPERATIONS AND MAINTENANCE FACILITIES OVERVIEW

When developing financial and operating projections for a rural transit agency, it is important to assess the agencies current and planned facilities. This type of process helps the agency determine if the current operating and maintenance facilities provide the capacity needed to accommodate future growth. This section provides an overview of the PTS operations facilities. The section also provides recommendations on facility development based on the projected service plans in Task 2.

PTS has four facilities (Figure 44). These facilities are located at the following addresses:

- Main Facility (Administration and Operations) – 7611 HWY 180E, Mineral Wells.
- Weatherford Lease Office Space – 406D Parker County, Weatherford.
    - Weatherford Parking Lot (Transit Vehicles) 215 York Avenue, Weatherford.
- Palo Pinto County Park and Ride Facility– 909 South Oak, Mineral Wells.
    - Old Palo Pinto Park and Ride - Brazos Mall in Mineral Wells, TX – 4500 Highway 180 East Mineral Wells.

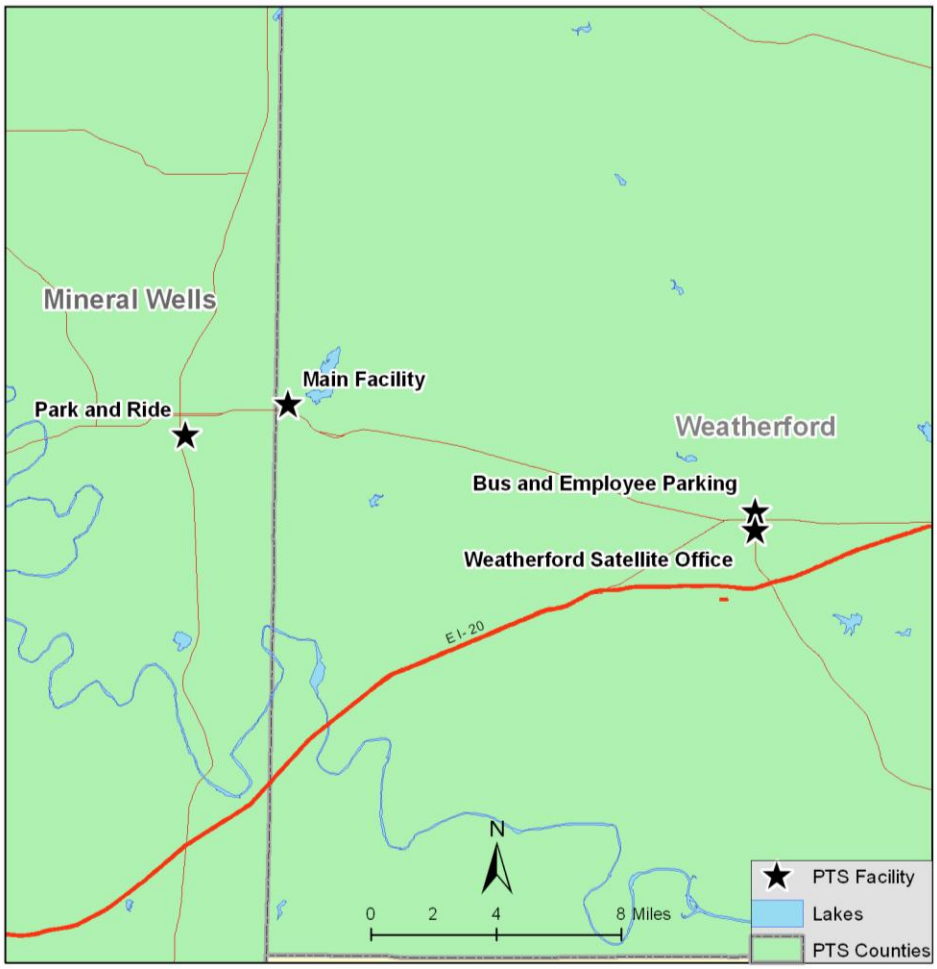


Figure 44. PTS Facility Locations.

Operations Facilities

PTS's main operations facility is located in Mineral Wells, Texas. The facility has covered parking stalls with a security fence and lighting. The parking lot is large enough to accommodate about 16 type III transit vehicles. This facility also contains the administrative functions of the agency. The main operations facility contains adequate office and parking space for the current operations. Figure 45 provides a diagram of the facility and parking area arrangement. As the figure shows, the operations facility is adjacent to U.S. Highway 180 and includes four main components. The main components of the site are listed below:

- Orange box – Backup vehicle parking.
- Blue box – Maintenance building and additional transit vehicle parking.
- Green box – Operations and administrative facility.
- Red box – Parking stalls for transit vehicles.

PTS is currently parking additional transit vehicles on land donated by the City of Weatherford. This parking lot is not covered and does not have a security a fence. This facility has space for about 25 type III transit vehicles. Currently, 13 vehicles park on this lot; however, over the next few months the number of vehicles will increase to over 15 vehicles. PTS rents office space for the drivers in Weatherford to have a break room and clock-in space. Ten to 12 drivers (and growing) work out of this office. The space is adequate as a satellite office; however, there is no separation within the office and not enough room for administrative staff. Also, drivers or administrative staff is not allowed to park personal or transit vehicles on the property. All vehicles must be parked at the secondary parking lot. This is shown in Figure 45.

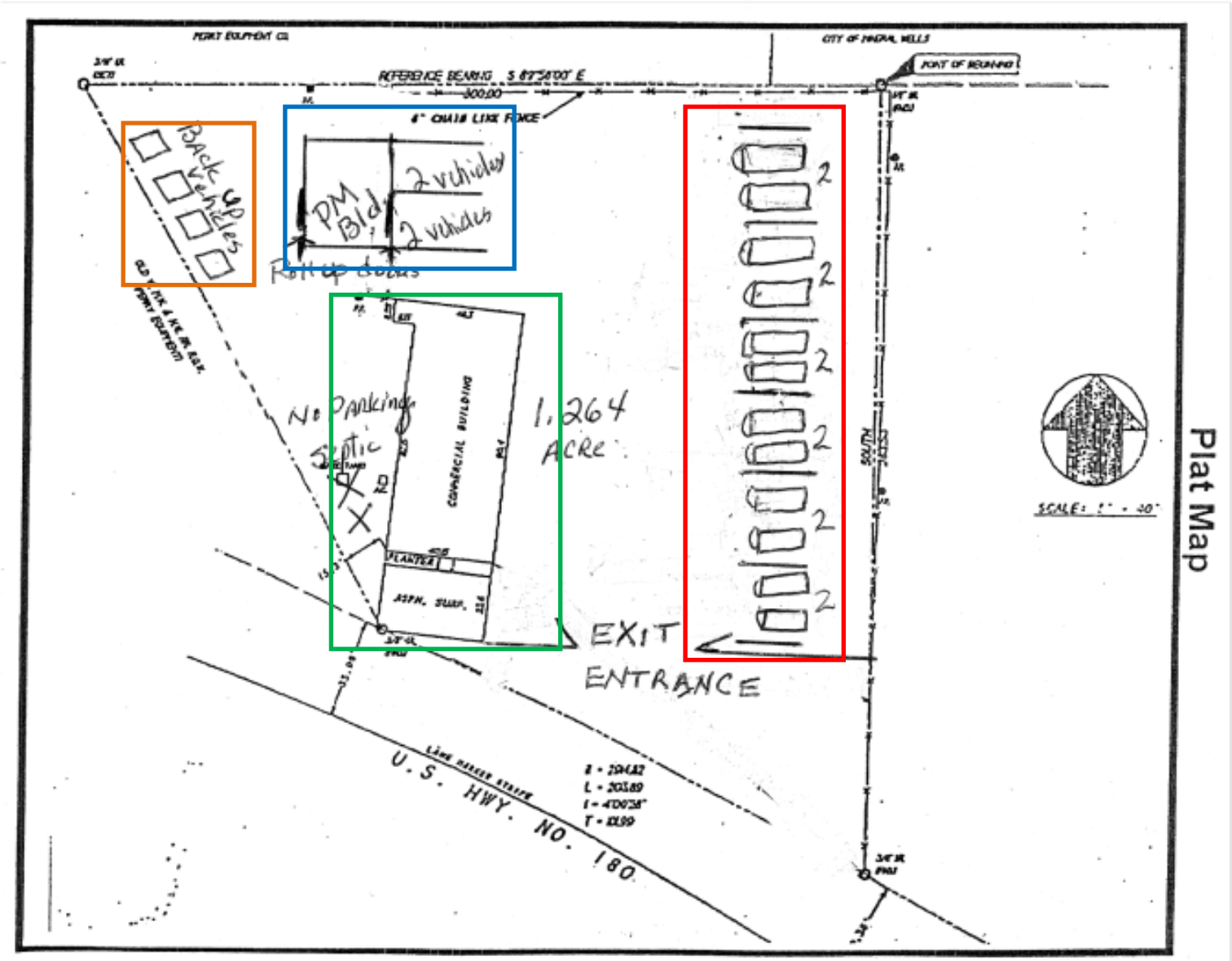


Figure 45. Mineral Wells Facility Diagram.

Recently, the City of Weatherford has been considering using this land for another purpose. In order to keep a presence in Weatherford, PTS is considering building a new operations facility in Weatherford. This facility would serve as the main facility of the agency. PTS has a large number of clients in both Palo Pinto and Parker County. Weatherford (Parker County) is the largest city within the service area and has potential for growth in transit service. Table 76 provides the breakdown of PTS trips originating within Mineral Wells or Weatherford during a period of a week in April.

Table 76. Trip Origins.

Location	# of Trips
Mineral Wells	364
Weatherford	294

Based on the table, currently more trips originate in Mineral Wells. The potential new facility in Weatherford would ideally have 25 parking stalls. The Mineral Wells facility would then become a satellite facility.

Maintenance Facilities

PTS has a small maintenance facility at the main location for running repairs. This facility has one repair bay with a roll-up door, but PTS is currently using this space as storage. PTS utilizes multiple contractors for maintenance. The following list provides the vendors used by PTS for preventive maintenance (PM):

- Cliffs Goodyear 302 Palo Pinto Street, Weatherford, TX.
- Kwik Kar 2850 Fort Worth Hwy, Hudson Oaks, TX, and 2104 East Hubbard Street, Mineral Wells, TX.
- Cross Tire and Auto 1000 Southeast 1st Street, Mineral Wells, TX
- T & S 627 North Main Street, Jacksboro, TX.

Figure 46 provides the locations of each of the maintenance vendors.

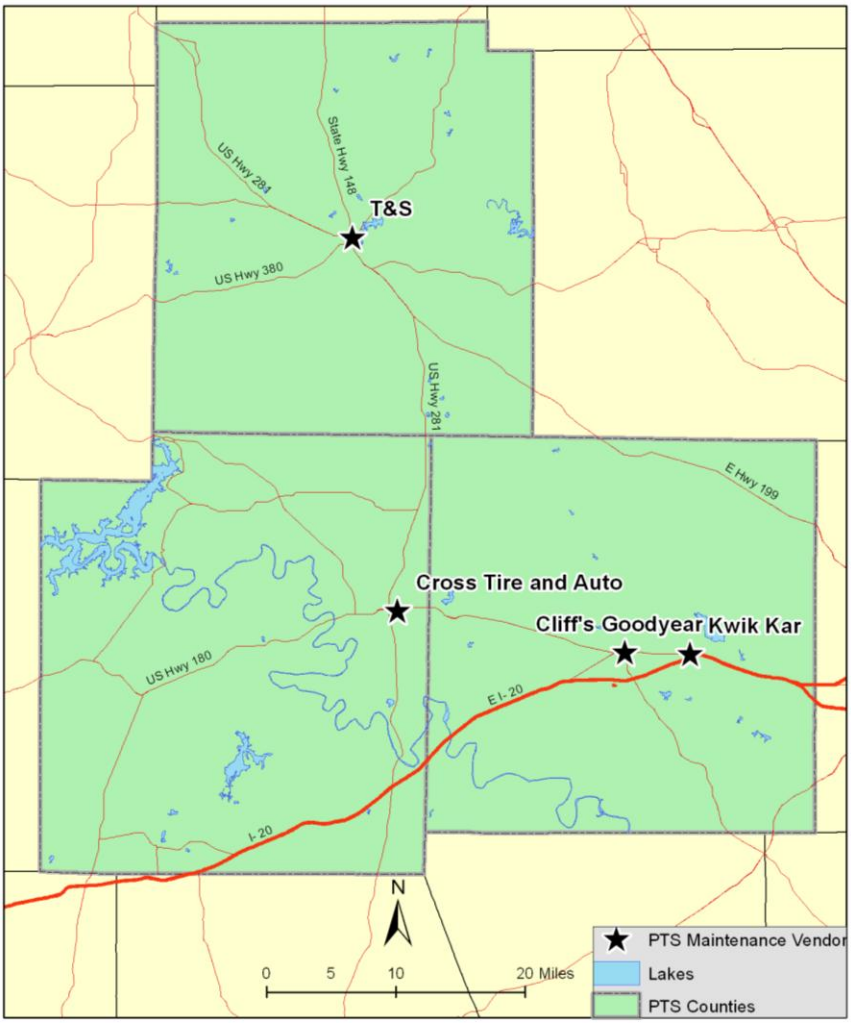


Figure 46. Map of Maintenance Vendors.

For specialized maintenance needs, such as wheelchair lift repair, PTS has contractors in Fort Worth and Irving. PTS follows the manufacturer's specifications for PM. When a vehicle is ready for PM the PTS fleet manager send the vehicle to one of the maintenance vendors. The vendors use a checklist supplied by the PTS fleet manager to ensure all PM items have been addressed.

PTS purchases fuel using Fuelman through an agreement with the Dallas County Cooperative. There are several Fuelman locations throughout the three-county service area. Drivers use Fuelman locations where it is convenient. Fuelman issues a weekly invoice to PTS, which includes the gallons used, vehicle mileage, mileage per gallon, and the cost.

Passenger Facilities

PTS has a park-and-ride facility located in Mineral Wells. This facility has a fence, covered parking, and is dedicated to transit users. The lot has two automated gates. PTS issues the passengers a gate card with an assigned number for monitoring purposes. The facility has 22 parking spaces. PTS has owned the park-and-ride land since 1992. In 2010, construction began

on the park-and-ride facility. The site included a small building that was removed for increased lot space. The total cost of constructing the park-and-ride lot was $148,825. PTS began using the park-and-ride lot November 2011. The lot is for PTS' Job Commuter service that travels from Mineral Wells to downtown Fort Worth. PTS does not charge the patrons for parking. Prior to having dedicated commuter parking, PTS utilized parking at the Brazos Mall in Mineral Wells.

CHAPTER 10. SCOT ANALYSIS – STRENGTHS, CHALLENGES, OPPORTUNITIES, AND THREATS

A SCOT analysis (alternatively SWOT analysis) is a planning method to evaluate **S**trengths, **C**hallenges, **O**pportunities, and **T**hreats. A SCOT identifies the internal and external factors that are favorable and unfavorable to achieve goals and objectives. A SCOT analysis may be incorporated into the strategic plan. It is important to keep in mind that the SCOT analysis, like so many other items, ties back to the vision, mission, goals, and objectives set by the agency. Additionally, the SCOT can aid in creating or modifying objectives on a regular basis. The intent of the SCOT is to provide an intense look at both the internal and external workings of the transit agency to determine how it can continuously improve. This chapter highlights the elements of a SCOT analysis, the process of undertaking a SCOT analysis, and the process PTS went through to create the agency analysis. The following describes the evaluation categories.

INTERNAL ANALYSIS:

The internal SCOT analysis consists of **S**trengths and **C**hallenges:

- Strengths: internal characteristics that give an advantage to achieve performance goals.
- Challenges: internal characteristics that place you at a risk for not achieving performance goals.

Internal factors can be evaluated across the organization in areas such as:

- Agency culture.
- Agency image.
- Organizational structure.
- Key staff.
- Operational efficiency.
- Operational effectiveness.
- Community awareness.
- Market share.
- Financial Resources.

EXTERNAL ANALYSIS:

The external SCOT analysis consists of **O**pportunities and **T**hreats:

- Opportunities: external opportunities to improve transit performance.
- Threats: external elements that could cause trouble.

Factors can be related to areas such as:

- Customers.
- Population trends.
- Suppliers.

- Partners.
- Social changes.
- New technology.
- Economic environment.
- Political and regulatory environment.

Steps to Developing a SCOT

In developing a SCOT analysis, the mission, vision, goals, and objectives should be kept in mind. The following steps can be used to develop a SCOT:

1. Brainstorm Internal and External Factors.
2. Draft Initial SCOT Analysis.
3. Organize the Analysis—Create Categories, Group Similar Ideas

While there are varying approaches to developing a SCOT analysis, the steps basically remain the same as it is important to consider all ideas and factors throughout the development. The final product should be a concise, easy to follow listing of the agency's strengths, challenges, opportunities, and threats, which allow decision makers to develop an approach to future planning, operations, and marketing.

Step 1. Brainstorm Internal and External Factors

First think about internal factors and then second think about external factors. What may represent strengths with respect to one may be a limitation for another. List all items as a brainstorm—no items are good or bad—this is a free flow of ideas. Fill in the matrix below.

Internal Analysis

Strengths	**Challenges**
1. Expertise at top-level in operations	1. Unable to conduct performance evaluation, community outreach and service planning tasks because of limited staff levels

External Analysis

Opportunities	**Threats**
1. Growing population to increase productivity	1. Future funding for operations

Step 2.

The second step in the creation of a SCOT analysis is for each stakeholder involved to draft the initial thoughts involved in the brainstorm. Stakeholders may include agency director, staff,

board members, and outside stakeholders, such as a transit advisory committee. Each stakeholder should take the time to draft their own analysis, writing down the thoughts that come to mind when considering internal strengths and challenges, and external opportunities and threats. In addition, it is also useful to begin crafting the initial thoughts into phrases, where the intent can be easily understood and that allow for organization in step 3.

Step 3.

Once the initial thoughts are framed and drafted from the stakeholders, the next step is to organize the SCOT analysis. Review the ideas to ensure that they have been captured in the correct category. For example, a thought that may be initially considered to be an internal challenge may actually be a threat. Additionally, some ideas may cross into varying categories. While adding new staff resources may be an opportunity, the addition of new positions may also create a challenge for the transit agency as it struggles to maintain fiscal sustainability.

All of the ideas drafted in the SCOT framework should be assessed to determine which ones may be similar enough to group together, and which ideas form different categories within each SCOT. For instance, there may actually be several themes, or categories within the strengths section. Themes may include staffing, board, technology, finance, and vehicles. Once the ideas are organized into the correct SCOT column and further broken down into themes, grouping becomes relatively easy. Additionally, the final SCOT should be relatively concise, with fewer than 10 major points under each strength, challenge, opportunity, and threat.

PTS SCOT Analysis

For the purposes of developing PTS' SCOT analysis, the agency managers, board, and the TTI transit mobility team took the opportunity to draft up initial thoughts and themes related to the agency's strengths, challenges, opportunities, and challenges. The process followed the above mentioned steps, and the analysis went through several iterations. The final product can be found below (Figure 47).

SCOT

Strengths

- Managers have strong backgrounds
- Legacy of service to community
- Recognizable brand
- Involved Board
- Cost efficient service
- Fleet—good mix, good condition
- Independent transit provider flexibility
- Committed & experienced staff
- Desire to meet customer needs
- Strong brand & motto

Challenges

- Communicate and gain support of newly developed vision/mission/goals
- Management spread too thin
- Daily operations is space constrained
- Differing procurement and data reporting requirements
- Rely on variety of financial resources
- Succession/Legacy planning
- Proactive involvement
- Parker County growth
- Maintaining cost effectiveness while adding new staff

Opportunities

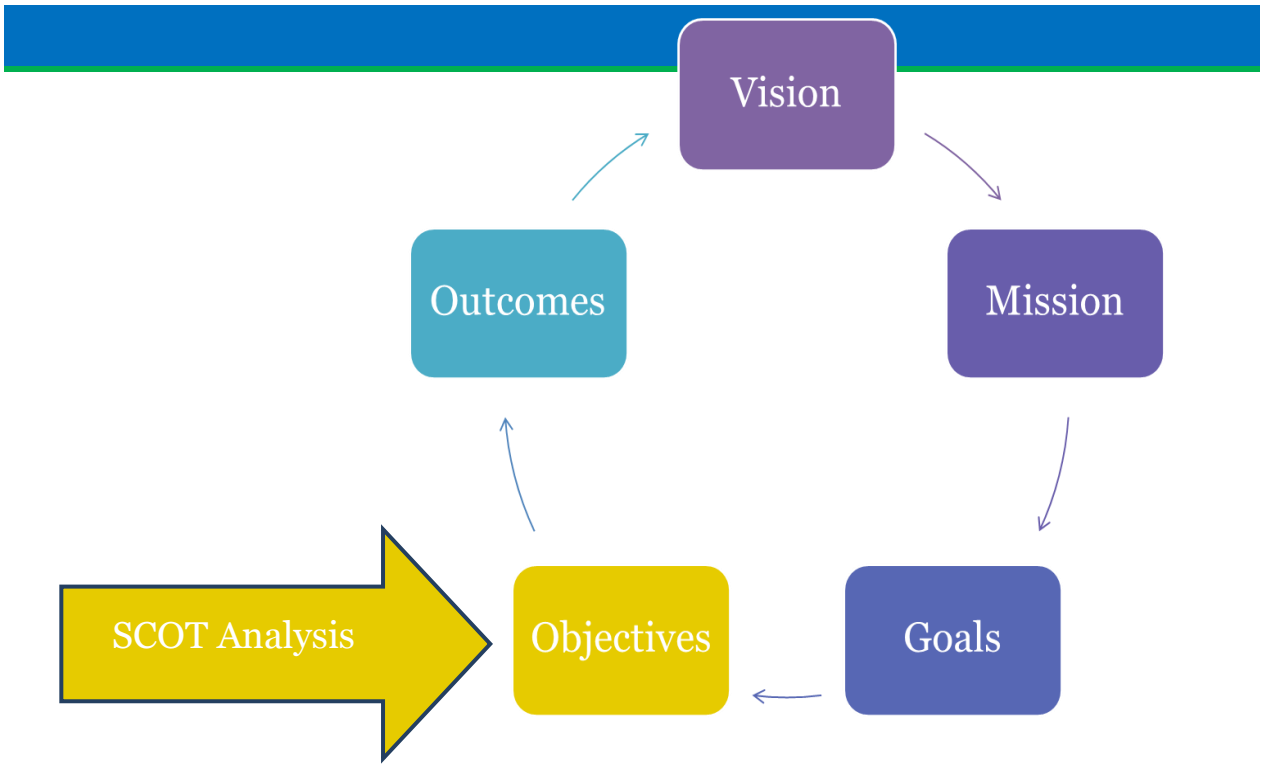
- High growth in proximity to DFWA
- Growth in 65+ population
- Board commitment for stakeholder & public outreach and partnerships
- Local and regional multimodal planning efforts
- Plans to add staff resources
- Intern as a new resource
- Partnerships with businesses, agencies, local college

Threats

- Serving commuter markets cost effectively
- Sources of match for Section 5307
- Federal Reauthorization may limit flexible use of 5307
- Low population density (i.e., Jack County) – difficult to market service
- Proximity to DFWA may create need for more trips; increasing cost

Figure 47. SCOT Matrix.

The SCOT should tie back to the aforementioned PTS vision, mission, goals, and objectives. The following graphic details the total process, beginning from the development of the vision. The development is circular, in that each step builds on the previous steps, and the SCOT analysis links directly to agency objectives, ensuring that the objectives are reflecting what the agency needs to build on, as determined by the SCOT.



CHAPTER 11. FIVE-YEAR OPERATIONS AND FINANCIAL PLAN

Transit system operations and financial planning takes place on a series of horizons, including short, medium, and long range. The five-year operations and financial plan is considered to be short range, or strategic. A five-year plan is typically a short- range plan developed by transit providers. The plan also serves as a unique report that documents current operations and financial status and identifies future system needs and community values. This Toolkit for Rural Transit Operations and Financial Planning provides the elements needed to develop the five-year plan including:

Vision, Mission, Goals, and Objectives: Planning first requires agency and stakeholder agreement on a common vision and mission and defining achievable goals (Chapter 2).

Service Area Characteristics: Recognizing that transit is part of a larger transportation system is one aspect of planning strategically. Success in implementing the initiatives are based on the transit community's ability to recognize the elements that make-up a community: built and natural environment, economic, and demographic characteristics (Chapter 3 and 4).

Transit Service Assessment: Elements of a five-year service plan include a review of basic elements of transit service operation, including designs, headways, routing, scheduling, service frequency, and service hours, as well as transportation studies that have taken place and short range development plans for the region (Chapter 5).

Financial Analysis: Paramount to any strategic transportation plan is a financial plan. Financial planning helps to ensure the financial health of transit agencies and the quality of service that they are able to provide. A continually updated financial plan is the centerpiece of sound capital investment planning for any transit agency. The financial plan documents the recent financial history of the transit agency, describes its current financial health, documents projected costs and revenues, and demonstrates the reasonableness of key assumptions underlying these projections (Chapter 6 and 7).

Peer Comparison: Planning may also include peer review and benchmarking to provide a means to compare performance and to identify gaps in the transit agency processes to improve overall performance (Chapter 8).

SCOT: As part of the process, agencies have to be willing to identify strengths and challenges, opportunities and threats and evaluate areas that need to be changed and processes that can be streamlined (Chapter 9).

Fleet and Facility Replacement Plan: Planning includes assessing fleets and facilities and developing a plan for maintaining and replacing. Quality transit service depends on a state of good repair to provide reliable and safe transit service (Chapter 10).

PLANNING FOR EFFECTIVENESS AND EFFICIENCY

In addition to reviewing the key elements included in chapters 2 through 10 of this toolkit, a good practice in developing the five-year plan is to think about strategies to maintain or improve the effectiveness and efficiency of the transit system. Although the environment plays some role in performance, there are other factors that transit agency staff can control or influence to improve operating effectiveness and efficiency. These efficiency and effectiveness strategies can be identified as a means to meet goals and objectives. Efficiency and effectiveness factors can be grouped into four major categories:

- Efforts to grow ridership.
- Efforts to manage costs.
- Efforts to decrease vehicle miles and maximize labor productivity.
- Efforts to improve administration.

The following lists strategy factors the transit agency may consider by four major categories.

Efforts to Grow Ridership—Improve Effectiveness

Factors that contribute to growing ridership include the following:

- Engage city and county officials in transit—find champions for transit.
- Actively seek out areas with transit-dependent communities.
- Work with major manufacturers, plants, and industries to serve worker shifts.
- Consistently attend and actively request to speak at community events and meetings.
- Work with colleges, universities, and school districts to provide transit routes and create cooperative agreements.
- Work with health and human services and medical facilities to serve patrons.
- Drive routes and monitor for new service needs.

Efforts to Manage Costs—Improve Efficiency

Factors that contribute to managing cost include:

- Actively seek in-kind contributions to support transit.
- Work with cities and counties in supplying fuel at lower-cost bulk rates.
- Utilize fuel cards (state or private) to monitor fuel usage and cost.
- Use sub-contractors at cost-effective rates where appropriate.
- Utilize sub-contractors to provide service during low-demand times of day on a trip-by-trip cost basis.
- Ensure contract rates are appropriate and cover both operating and capital costs.
- Allocate administrative and overhead costs across programs.

Efforts to Decrease Vehicle Miles and Maximize Labor Productivity—Improve Efficiency and Effectiveness

Factors that contribute to decreasing vehicle miles or maximizing labor productivity include:

- Create satellite parking sites to minimize deadhead, with spares located throughout the service area (seek in-kind contributions for parking).
- Create cooperative agreements with other transit districts to utilize vehicles when in other transit-district service areas to minimize downtime/idle time and maximize productivity.

- Utilize scheduling systems to maximize grouping of trips and minimize slack time.
- Utilize vehicle locator systems to find the closest vehicles, provide quality information to patrons, map scheduled trips to ensure trip reasonableness, and verify no-shows.
- Cross-train staff to provide backup and improve staff productivity (match senior staff with new trainees).
- Monitor/manage driver overtime.
- Monitor vehicles to proactively troubleshoot late trips and take "will-call" or same-day trips to fill the slack.
- Create both full-time and part-time driver schedules to match service demand.
- Group trips without dedicating vehicles to trip types—shared-ride general public service.

Efforts to Improve Administration—Improve Effectiveness and Efficiency
Factors that contribute to improving administration include:

- Run weekly/monthly reports to monitor/manage driver productivity, passenger complaints, passenger no-shows/cancellations, absenteeism, vehicle inspections, vehicle repairs (repeats), client travel times, and client wait times.
- Require vehicle operators to turn in paperwork and fares on a daily basis, with finance staff providing receipt and reconciliation.
- Ensure quality maintenance with priority turnaround through maintenance agreements.
- Monitor preventive maintenance and fleet issues to prevent costly repairs.
- Regularly communicate to passengers rules/regulations. Create a partnership with patrons to meet vehicles on time.
- Follow up with complaints quickly to nurture the patron-transit agency relationship.

Identifying Transit Markets, Investment, and Resource Needs

A planning workshop is a good means for developing a five-year operations and financial plan. The key elements developed in Chapter 2 through Chapter 10 may be presented as well as the strategies for effective and efficient transit. The workshop can be used to discuss findings and strategies as a basis for identifying transit markets, investment needs, and additional resources used to develop the plan.

PTS Growth Markets, Investment and Resource Need Identification

PTS held a full-day planning workshop to review information presented in chapters 2 through 9 as a basis for developing five-year service plan scenarios. The outcome of the workshop identified the following potentials and challenges for: growth markets, new/expanded service options, additional investment needs, and opportunities for additional resources.

Potential Growth Markets

- Commuter services.
- Emerging local commercial/employment markets.
- School trips.
- Medical trips (non-MTP and MTP).

- Regional connections.
- Continuing need for general population rural paratransit for aging population.

Market challenges:

- Longer distance services cost effectiveness.
- Service design.
- Service delivery.
- Regional coordination.
- Grant funding sources.
- Fare rate optimization and simplicity.
- Contracts terms and conditions.
- Local funding sources.

New or Expanded Services for Growing Transit

- Expand commuter transit, especially to jobs in employment centers in Tarrant County.
- Sustain rural paratransit for population 65+.
- Pursue school trips less than 2 miles from school.
- Provide transit for higher education – Weatherford College (10,000 students).
- Develop transit for local connectivity/commerce.
- Participate in Regional Coordination.
- Connect to NCTCOG and NORTEX transit plans.

Long-distance commuter services challenges:

- Investigate using larger vehicles, increase passengers carried per hour of service.
- Look into the feasibility of regularly scheduled, fixed, or flexible routes.
- Evaluate commuter vanpools, partnering with regional vanpool program.

Investment Needs

- Leverage Board and stakeholder support to garner additional funding.
- Expand community outreach.
- Increase staff resources.
- Address physical space limitations.
- Take advantage of technology to enhance service and customer service.

Generate Additional Resources

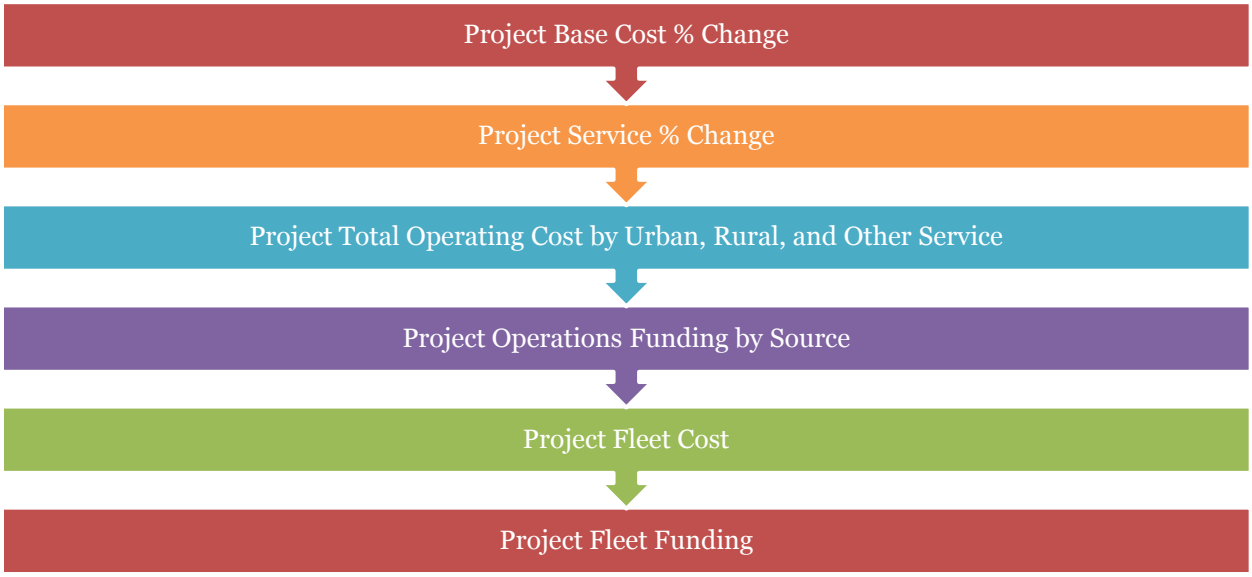
- Renegotiate MTP rates with other rural transit district partners recover cost of no shows.
- Encourage [require] *some* local government (city/county) investment in transit; funding based on an objective measure such as population.
- Identify employer sponsors to contribute.
- Revise fare structure, electronic fare card.
- Identify sources of Federal funding that are non-U.S. Department of Transportation.
- Increase contract services and/or recover a larger percent of cost.

Developing the Five-Year Financial Plan

Plans that are effective in achieving their goals and objectives include an implementation framework that outlines the general strategies, directions, and priorities of the community. As such, the direction provided is coupled with short-term implementation strategies to help realize the plan into actionable programs, development activities, and other strategic efforts by the transit provider and region stakeholders.

A five-year operations and financial plan is developed to reflect the vision, mission, goals, and objectives and to provide a plan that is financially sustainable. The five-year operations plan is based on Chapters 6, 7, and 10 projected year service levels, costs, funding, and fleet replacement plan.

The five-year plan developed should provide a plan that is financially sustainable. The projected year service levels, costs, funding, and fleet replacement plan are the basis for the five-year plan. The five-year plan is developed in the following sequence:



Project Base Cost Percent Change

To estimate the projected change in base cost for future years, the transit agency staff must determine a reasonable percent cost increase or decrease. Base costs may change due to such items as inflation, wage rates, new staff, an increase in marketing or other changes in cost not directly related to service change. Table 77 provides an example for PTS of adding 1 percent to the base cost to estimate projected base costs.

Table 77. Five-Year Base Cost Change Projection.

	Base Year	Projected Year	2014	2015	2016	2017
Assumption for Base Cost Change:			1%	1%	1%	1%
Hours Unit Rate		$23.17	$23.40	$23.64	$23.87	$24.11
Miles Unit Rate		$0.59	$0.59	$0.60	$0.60	$0.61
OH Rate		115.55%	115.55%	115.55%	115.55%	115.55%
Base Service:						
Passengers	93,600	101,540	101,540	101,540	101,540	101,540
Total Vehicle Miles	949,000	975,754	975,754	975,754	975,754	975,754
Total Vehicle Hours	49,000	49,881	49,881	49,881	49,881	49,881
Operating Cost	**$1,961,336**	**$1,997,452**	**$2,017,427**	**$2,037,601**	**$2,057,977**	**$2,078,557**

Note: Rates Change with %

Project Percent Change in Service

Transit agency staff must then determine percent change in service vehicle miles and hours for anticipated years. The percent entered will generate a percent change in passengers, miles, and hours of service based on the percent entered. The new miles and hours are then multiplied by the unit and overhead rates to calculate total operating costs by year. Table 78 provides an example for PTS of adding 1 percent to the base cost to estimate projected base costs.

Table 78. Five-Year Service Change Projection.

	Base Year	Projected Year	2014	2015	2016	2017
Assumption for Base Cost Change:			1%	1%	1%	1%
Hours Unit Rate		$23.17	$23.40	$23.64	$23.87	$24.11
Miles Unit Rate		$0.59	$0.59	$0.60	$0.60	$0.61
OH Rate		115.55%	115.55%	115.55%	115.55%	115.55%
Assumption for Service Change:			1%	1%	1%	0%
Passengers	93,600	101,540	102,555	103,581	104,617	104,617
Total Vehicle Miles	949,000	975,754	985,511	995,366	1,005,320	1,005,320
Total Vehicle Hours	49,000	49,881	50,380	50,883	51,392	51,392
Operating Cost	**$1,961,336**	**$1,997,452**	**$2,037,601**	**$2,078,557**	**$2,120,336**	**$2,141,539**

Project Total Operating Cost by Urban, Rural, and Other Service

Because federal grant funds are reimbursed at differing rates based on urban, rural, and other non-general public service, the proportion of urban, rural, and other service cost must be projected. Table 79 provides an example for PTS of projecting the proportion of urban, rural, and MTP service cost based on the projected year.

Table 79. Five-Year Operating Cost by Urban, Rural, and Other Service Projection.

	Base Year	Projected Year	% of Total	2014	2015	2016	2017
Operating Cost	**$1,961,336**	**$1,997,452**		**$2,037,601**	**$2,078,557**	**$2,120,336**	**$2,141,539**
Urban		$245,365	12%	$250,297	$255,328	$260,460	$263,064
Rural		$1,231,195	62%	$1,255,942	$1,281,187	$1,306,938	$1,320,008
MTP		$520,892	26%	$531,362	$542,043	$552,938	$558,467

Projected Operations Funding by Source

Projected funding is a determinant of expected funding levels by source:

- Passenger fares may be projected based on the expected change in passengers. If passengers are projected to increase by 1 percent, then passenger fares can be projected to increase by 1 percent. Transit agencies may adjust projected fares based on other factors such as change in fare structure or mix of passengers (discount, non-fare paying, premium fare passengers).
- Section 5310, Section 5316, Section 5317, CMAQ, and Section 5303 grant funding may be assumed to be the same as the projected year or the transit agency staff may project based on expected grant awards.
- Section 5307 urban funding levels may be projected based on availability of funding by the designated recipient and the projected change in urban costs.
- Section 5311 and State funds are assumed to be the same as the projected year unless TxDOT confirms a funding change.
- Miscellaneous contract revenues and local funds are assumed to be the same as the projected year.
- MTP projected funds may be assumed to match MTP costs.
- If funding does not cover projected costs and a reserve exists, then the transit agency may apply the reserve funds as needed. If the transit agency does not wish to apply reserve funds to fund operations, then the transit agency must reduce base costs or projected service levels to balance funding to cost.

Table 80 provides an example for PTS of projected funding by source to cover projected operations costs.

Table 80. Five-Year Projected Funding by Source.

Operations Funding Sources:	Base Year	Projected Year	2014	2015	2016	2017
Passenger Fares	$79,332	$89,220	$90,112	$91,013	$91,923	$91,923
5310	$68,000	$68,000	$68,000	$68,000	$68,000	$68,000
5316	$0	$0	$0	$0	$0	$0
5317	$0	$0	$0	$0	$0	$0
CMAQ	$0	$0	$0	$0	$0	$0
5303	$0	$0	$0	$0	$0	$0
Section 5307	$114,482	$127,058	$129,612	$132,217	$134,875	$136,223
Section 5311	$599,502	$612,000	$612,000	$612,000	$612,000	$612,000
State Funds	$413,000	$413,000	$413,000	$413,000	$413,000	$413,000
Misc. Contract Revenues	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
Local Funds	$46,000	$46,000	$46,000	$46,000	$46,000	$46,000
MTP Funds Applied to MTP Cost	$558,822	$520,892	$520,892	$526,101	$531,362	$536,676
Sub-Total	**$1,909,138**	**$1,906,171**	**$1,909,617**	**$1,918,332**	**$1,927,161**	**$1,933,823**
Reserves Applied to Remaining	$52,198	$91,282	$127,984	$160,225	$193,175	$207,716
Total Funding for Operations	**$1,961,336**	**$1,997,452**	**$2,037,601**	**$2,078,557**	**$2,120,336**	**$2,141,539**
Balance to Cost	$0	$0	$0	$0	$0	$0

Increases with Passengers

Changes at same rate as Urban Cost

Projected Fleet Cost

Projected fleet cost is based on both the replacement of the existing fleet to maintain a state of good repair and fleet expansion to support service increases. Chapter 9 provides a fleet replacement plan strategy for maintaining the existing fleet. As new service is added, a threshold of additional miles may be set to determine when a new vehicle is needed. For example, if the average vehicle typically operates 44,000 miles per year, a threshold of 75 percent of 44,000 (or 33,000 miles) might be set as the threshold when the transit agency purchases a new vehicle. Once the number of vehicles is projected, projected fleet cost can be determined. Fleet cost is determined based on current vehicle prices, vehicle equipment, and vehicle size/configuration.

Table 81 provides the projected fleet replacement and service expansion fleet. The fleet cost is based on an average vehicle cost of $65,000 and assumes a 2 percent inflation rate every year. The fleet replacement plan reflects the plan for PTS projected in Chapter 9 (see Table 77). The expanded fleet is based on the projected five-year change in miles (see Table 80). The cumulative miles reach the 33,000 mile threshold in year 2015 in which an additional vehicle is added.

Table 81. Projected Five-Year Fleet Replacement Cost.

(Continued Next Page)

Year	2013			2014			2015		
Type	**Retire**	**New**	**Fleet**	**Retire**	**New**	**Fleet**	**Retire**	**New**	**Fleet**
19+ Seats	0	0	2	1	1	2	1	1	2
14 Seats	4	4	27	7	7	27	2	2	27
10–14 Seat			4			4			4
4–5 Seats	1	1	8			8	4	4	8
Total	**5**	**5**	**41**	**8**	**8**	**41**	**7**	**7**	**41**
Average Cost per Vehicle (2% inflation)		$65,000			$66,300			$67,626	
Total Replacement Cost		**$325,000**			**$530,400**			**$473,382**	
Service Expansion Fleet Cost (Add a vehicle if over 36,000 mile threshold)									
Additional Miles		26,754			9,758			9,855	
Cumulative Miles up to 36,000					26,754			36,511	
Additional Fleet		0			0			1	
Average Fleet Cost		$65,000			$65,000			$65,000	
Service Expansion Cost		**$0**			**$65,000**			**$0**	
Total Fleet Cost		**$325,000**			**$595,400**			**$473,382**	

Year	2016			2017		
Type	**Retire**	**New**	**Fleet**	**Retire**	**New**	**Fleet**
19+ Seats	0	0	2	0	0	2
14 Seats	8	8	27	6	6	27
10–14 Seat			4	3	3	4
4–5 Seats	2	2	8	1	1	8
Total	**10**	**10**	**41**	**10**	**10**	**41**
Average Cost per Vehicle (2% inflation)		$68,979			$70,358	
Total Replacement Cost		**$689,785**			**$703,581**	
Service Expansion Fleet Cost (Add a vehicle if over 36,000 mile threshold)						
Additional Miles		9,954			0	
Additional Accumulative Miles up to 36,000		19,809			19,809	
Additional Fleet		0			0	
Average Fleet Cost		$65,000			$65,000	
Service Expansion Cost		**$0**			**$0**	
Total Fleet Cost		**$689,785**			**$703,581**	

Projected Fleet Funding

Projected fleet funding is a process of determining federal funding options and the source of match funds available, as well as determining non-federal sources of capital funds. If the transit agency provides contracted service, often the negotiated rate includes a portion of funding needed for fleet replacement. The contract revenues received to cover fleet costs may be put into a reserve for future fleet replacement or fleet expansion.

Federal funding for fleet capital costs may be provided from a variety of federal grant funding programs. Federal funding is provided up to 80 percent of the capital cost. A match must be provided in order to obtain the federal grant. Table 82 provides the maximum federal share by federal grant program.

Table 82. Federal Share for Capital Costs.

Federal Share %	Section 5311 (Rural)	Section 5307 (Urban)	Section 5310 (E&D)	Section 5316 (JARC)	Section 5317 (New Freedom)	Section 5309 Capital Discretionary	CMAQ
Capital	80%	80%	80%	80%	80%	Up to 80%	80%

Table 83 presents the projected fleet cost and funding needs for PTS. The fleet cost is a summary of both cost to maintain the current fleet and fleet cost for service expansion.

Table 83 also provides an estimate of fleet cost attributed to urban, rural, and MTP. The proportion of fleet cost by service type is based on the proportion of vehicle miles of service by service type. Ideally, MTP fleet cost are covered by the revenues generated by MTP negotiated contract rate. The 80 percent of the urban and rural fleet federal funding share is estimated based on total fleet cost. Remaining funding for the capital cost of urban and rural fleet may be determined by the transit agency request for grants, local match available, or reserve funds available.

Table 83. Projected Five-Year Fleet Funding.

Fleet Costs		2013	2014	2015	2016	2017
Fleet Cost to Maintain Base Fleet		$325,000	$530,400	$473,382	$689,785	$703,581
Fleet Cost for Additional Service		$0	$65,000	$0	$0	$0
Total Fleet Cost		**$325,000**	**$595,400**	**$473,382**	**$689,785**	**$703,581**
% Urban Miles = Urban Fleet Cost	19%	$60,649	$111,109	$88,339	$128,722	$131,297
% Rural Miles = Rural Fleet Cost	69%	$224,918	$412,050	$327,607	$477,370	$486,918
% MTP Miles = MTP Fleet Cost	12%	$39,433	$72,241	$57,436	$83,693	$85,367
MTP Fleet Cost		**$39,433**	**$72,241**	**$57,436**	**$83,693**	**$85,367**
MTP Funds Applied to Capital		$39,433	$72,241	$57,436	$83,693	$85,367
Urban Fleet Cost		**$60,649**	**$111,109**	**$88,339**	**$128,722**	**$131,297**
Federal Funding (80%)		$48,519	$88,887	$70,671	$102,978	$105,037
Local Match (20%)		$12,130	$22,222	$17,668	$25,744	$26,259
Rural Fleet Cost		**$224,918**	**$412,050**	**$327,607**	**$477,370**	**$486,918**
Federal Funding (80%)		$179,935	$329,640	$262,086	$381,896	$389,534
Local Match (20%)		$44,984	$82,410	$65,521	$95,474	$97,384

Public Transit Services Five-Year Financial Plan

The five-year financial plan for PTS is summarized in Table 84. The financial plan provides a sustainable plan to grow service 1 percent a year for four years while providing for a 1 percent increase in base-level costs. Also provided is a means to purchase fleet replacement and an additional vehicle to support the one percent growth. The assumptions in the financial plan are conservative and if greater capital funding is obtained then existing funds may go to support additional service or other base costs.

Table 84. Five-Year Operations and Financial Plan.

	Base Year	Projected Year	2014	2015	2016	2017
Assumption for Base Cost Change:			1%	1%	1%	1%
Hours Unit Rate		$23.17	$23.40	$23.64	$23.87	$24.11
Miles Unit Rate		$0.59	$0.59	$0.60	$0.60	$0.61
OH Rate		115.55%	115.55%	115.55%	115.55%	115.55%
Assumption for Service Change:			1%	1%	1%	0%
Passengers	93,600	101,540	102,555	103,581	104,617	104,617
Total Vehicle Miles	949,000	975,754	985,511	995,366	1,005,320	1,005,320
Total Vehicle Hours	49,000	49,881	50,380	50,883	51,392	51,392
Operating Cost	**$1,961,336**	**$1,997,452**	**$2,037,601**	**$2,078,557**	**$2,120,336**	**$2,141,539**
Operations Cost by Service						
Urban		$245,365	$250,297	$255,328	$260,460	$263,064
Rural		$1,231,195	$1,255,942	$1,281,187	$1,306,938	$1,320,008
MTP		$520,892	$531,362	$542,043	$552,938	$558,467
	-	-				
Operations Funding Sources:						
Passenger Fares	$79,332	$89,220	$90,112	$91,013	$91,923	$91,923
5310	$68,000	$68,000	$68,000	$68,000	$68,000	$68,000
5316	$0	$0	$0	$0	$0	$0
5317	$0	$0	$0	$0	$0	$0
CMAQ	$0	$0	$0	$0	$0	$0
5303	$0	$0	$0	$0	$0	$0
Section 5307	$114,482	$127,058	$129,612	$132,217	$134,875	$136,223
Section 5311	$599,502	$612,000	$612,000	$612,000	$612,000	$612,000
State Funds	$413,000	$413,000	$413,000	$413,000	$413,000	$413,000
Misc. Contract Revenues	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000

	Base Year	Projected Year	2014	2015	2016	2017
Local Funds	$46,000	$46,000	$46,000	$46,000	$46,000	$46,000
MTP Funds Applied to MTP Operating Cost	$558,822	$520,892	$520,892	$526,101	$531,362	$536,676
Sub-Total	**$1,909,138**	**$1,906,171**	**$1,909,617**	**$1,918,332**	**$1,927,161**	**$1,933,823**
Reserve Funds Applied	$52,198	$91,282	$127,984	$160,225	$193,175	$207,716
Total Funding for Operations	**$1,961,336**	**$1,997,452**	**$2,037,601**	**$2,078,557**	**$2,120,335**	**$2,141,539**
Balance to Cost	$0	$0	$0	$0	$0	$0
Fleet Costs						
Fleet Cost to Maintain Base Fleet		$325,000	$530,400	$473,382	$689,785	$703,581
Fleet Cost for Additional Service		$0	$65,000	$0	$0	$0
Total Fleet Cost		**$325,000**	**$595,400**	**$473,382**	**$689,785**	**$703,581**
% Urban Miles = Urban Fleet Cost	19%	$60,649	$111,109	$88,339	$128,722	$131,297
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Section 5307 (80%)		$48,519	$88,887	$70,671	$102,978	$105,037
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Federal Funding (80%)		$179,935	$329,640	$262,086	$381,896	$389,534
Local Match (20%)		$44,984	$82,410	$65,521	$95,474	$97,384

Appendix A. Procurement

Procurement

This appendix documents the federal and state procurement requirements that PTS is required to follow based on the agency's sources of funding. Since PTS receives federal and state funds through the Texas Department of Transportation (TxDOT) and federal funds through the North Central Texas Council of Government (NCTCOG), PTS is obligated to follow the procurement guidelines for both agencies. This chapter will discuss PTS status as a subrecipient of federal and state funds and provide a summary of the applicable procurement regulations and requirements. The chapter also includes a discussion of key procurement issues that may be of significance to PTS. Additional references are included in sections following this appendix.

This appendix highlights procurement regulations that are the most significant to PTS. However, this discussion does not replace the rural transit district's obligation for due diligence to review and understand federal requirements for procurements using federal transit funds.

Background

Transit agencies purchase goods and services according to procurement regulations and policies defined by the sources of federal and state funding. Procurement regulations follow the funding. PTS is a subrecipient of rural transit funds through TxDOT and a subrecipient of urbanized area transit funds through NCTCOG. TxDOT and NCTCOG set the management policies and practices for the use of funds consistent with federal and state requirements. Figure A1 illustrates the flow of funds as described below.

- Federal transit funds for rural areas flow from the FTA to TxDOT. As the designated recipient, TxDOT is responsible for allocating funds to public transportation providers in rural areas and administering the grants. TxDOT is also the designated recipient for Section 5310 funds for the state and Section 5316 and Section 5317 funds to rural and small urban areas.
- Federal transit funds for large urbanized areas flow from the FTA to the designated recipient(s) for an urbanized area. In the Dallas-Fort Worth-Arlington (DFWA) urbanized area, NCTCOG is the designated recipient for urbanized funds allocated to provide transit in the urban areas that fall within rural transit districts. NCTCOG is also the Metropolitan Planning Organization (MPO) and has responsibility for Section 5316 and Section 5317 funds for the urbanized area.
- The Texas Legislature appropriates rural transit funds to TxDOT, and TxDOT is responsible for state funds to rural transit districts.

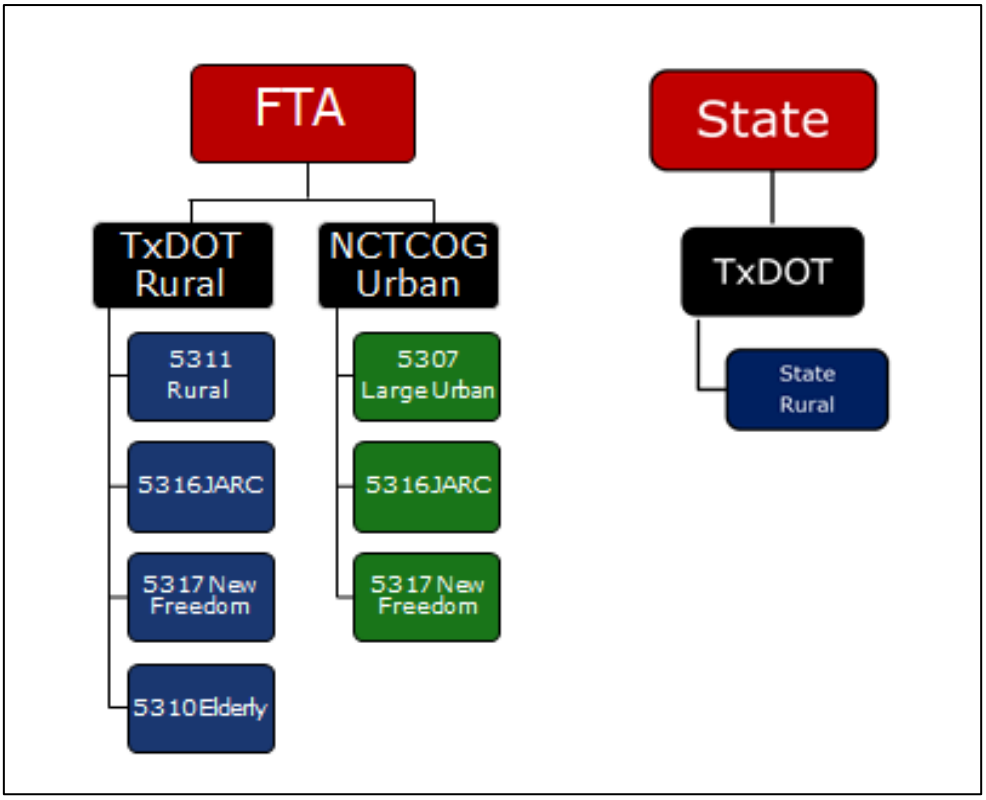

Figure A1. Federal and State Funds.

Use of Terms

FTA provides the following definitions for "recipient" and "subrecipient."[1]

> **Recipient.** Any entity that receives federal assistance directly from FTA to accomplish the project. The term recipient includes each FTA "grantee" as well as each FTA recipient of a Cooperative Agreement. Except as FTA permits otherwise, the recipient is the entire legal entity even though only a single organization within that entity is designated as the recipient in the Grant Agreement or Cooperative Agreement.
>
> **Subrecipient**. Any entity that receives federal assistance awarded by an FTA recipient rather than from FTA directly. The term subrecipient also includes the term "subgrantee," but does not include "third party contractor" or "third party subcontractor."

Recipient includes grantee, and subrecipient includes subgrantee other than third party contractors and subcontractors.

[1] Source: FTA Master Agreement.

Federal Regulations and Procurement Requirements

One of the principles of purchasing or contracting with federal funds received directly or indirectly from FTA is a recognition that, as a condition of receiving the funds, certain specific federal procurement requirements must be met not only by the recipient of the funds (the grantee) but also by subrecipients and third party contractors. Compliance with federal requirements is a condition of receipt of federal funds. Failure to comply with these provisions may, in accordance with the terms of the grant, be grounds for default of that agreement and result in the loss of the funds.

Several important references for federal requirements for procurements using federal transit funds are identified below. These references will be important to the discussion of key procurement issues later in this chapter.

Common Grant Rule (49 CFR 18)

Title 49 – Transportation, Code of Federal Regulations (CFR), Part 18 Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments is often referenced as the Common Grant Rule or the Common Rule. These regulations establish uniform administrative rules for federal grants and cooperative agreements and sub-awards to state, local and Indian tribal governments.[2] **Appendix A.1** provides a summary of key provisions of the Common Grant Rule that apply to procurement. The specifics are available at the following website address: http://www.dot.gov/ost/m60/grant/49cfr18.htm.

Office of Management and Budget (OMB) Circular A-87 Cost Principles for State, Local, and Indian Tribal Governments

This Circular establishes principles and standards for determining costs for federal awards carried out through grants, cost reimbursement contracts, and other agreements with state and local governments and federally recognized Indian tribal governments (governmental units). A uniform approach for determining costs is intended to promote effective program delivery, efficiency, and better relationships between governmental units and the federal government. The principles are for determining allowable costs only. They are not intended to identify the circumstances or to dictate the extent of federal and governmental unit participation in the financing of a particular federal award. As an agency responsible for administering programs that involve cost reimbursement contracts, grants, and other agreements with governmental units, FTA is required to issue regulations to implement the provisions of this Circular and its attachments. **Appendix A.2** provides a summary of key provisions of OMB A-87 that apply to procurement. The specifics are available at the following website address: http://www.whitehouse.gov/omb/circulars_a087_2004.

[2] 49 CFR Part 19 provides similar guidance for Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations.

OMB Circular A-133 Audits of States, Local Governments, and Non-Profit Organizations

OMB Circular A-133 sets forth standards for obtaining consistency and uniformity among Federal agencies for the audit of non-federal entities expending federal awards. Non-federal entities that expend $500,000 or more in a year in federal awards are required to have a single or program-specific audit conducted for that year in accordance with OMB Circular A-133. The Circular is available at the following website address: http://www.whitehouse.gov/sites/default/files/omb/circulars/a133/a133.pdf.

49 U.S.C. § 5325 Contract Requirements

Most federal transit laws are codified as the United States Code (U.S.C.), Title 49 – Transportation, Chapter 53 – Public Transportation (49 U.S.C. Chapter 53). The following are key provisions of Section 5325 Contract Requirements.

(a) Competition. Recipients of assistance under this chapter shall conduct all procurement transactions in a manner that provides full and open competition.
(b) Architectural, engineering, and design contracts. A contract or requirement for program management, architectural engineering, construction management, a feasibility study, and preliminary engineering, design, architectural, engineering, surveying, mapping, or related services for a project for which federal assistance is provided under this chapter shall be awarded in the same way as a contract for architectural and engineering services is negotiated (under 40 U.S.C. Chapter 11 for the Federal Highway Administration) or an equivalent qualifications-based requirement of a state adopted before August 10, 2005.
(c) Efficient procurement. A recipient may award a procurement contract under this chapter to other than the lowest bidder if the award furthers an objective consistent with the purposes of this chapter, including improved long-term operating efficiency and lower long-term costs.
(d) Design-build projects. Federal financial assistance under this chapter may be provided for the capital costs of a design-build project after the recipient complies with government requirements.
(e) Multiyear rolling stock.
    (1) Contracts. A recipient procuring rolling stock with government financial assistance under this chapter may make a multiyear contract to buy the rolling stock and replacement parts under which the recipient has an option to buy additional rolling stock or replacement parts for not more than five years after the date of the original contract.
    (2) Cooperation among recipients. The Secretary shall allow at least two recipients to act on a cooperative basis to procure rolling stock in compliance with this subsection and other government procurement requirements.

(f) Acquiring rolling stock. A recipient of financial assistance under this chapter may enter into a contract to expend that assistance to acquire rolling stock
   (1) Based on (A) initial capital costs; or (B) performance, standardization, life cycle costs, and other factors; or
   (2) With a party selected through a competitive procurement process.
(g) Examination of records. Upon request, the Secretary and the Comptroller General, or any of their representatives, shall have access to and the right to examine and inspect all records, documents, and papers, including contracts, related to a project for which a grant is made under this chapter.
(h) Grant prohibition. A grant awarded under this chapter or the Federal Public Transportation Act of 2005 may not be used to support a procurement that uses an exclusionary or discriminatory specification.
(i) Bus dealer requirements. No state law requiring buses to be purchased through in-State dealers shall apply to vehicles purchased with a grant under this chapter.
(j) Awards to responsible contractors.
   (1) In general, federal financial assistance under this chapter may be provided for contracts only if a recipient awards such contracts to responsible contractors possessing the ability to successfully perform under the terms and conditions of a proposed procurement.
   (2) Before making an award to a contractor under paragraph (1), a recipient shall consider (A) the integrity of the contractor; (B) the contractor's compliance with public policy; (C) the contractor's past performance; and (D) the contractor's financial and technical resources.

Federal Acquisition Regulation

The Federal Acquisition Regulation (FAR), 48 CFR Chapter 1, does not apply to federally assisted procurements, absent federal laws or regulations to the contrary. In the case of FTA programs, FAR Part 31 cost principles apply to grants and cooperative agreements with private for-profit entities. Audits of architectural and engineering (A&E) services listed in 49 U.S.C. Section 5325 must be carried out under FAR Part 31 cost principles. In other circumstances, in the absence of specific guidance for federally assisted projects, other FAR standards might prove useful if the recipient's circumstances are suitable for application of a specific FAR provision under consideration. One major exception concerns at this time concerns the "simplified acquisition threshold." In this matter, FTA is taking the position that the FAR clause 2.101 definition of "simplified acquisition threshold," which was increased from $100,000 to $150,000, does not apply to FTA's federally assisted programs.

FTA Master Agreement MA(18)

The specific requirements for particular FTA grant funds are found in the Master Agreement incorporated into the project grant agreement executed by the grant recipient. The Master Agreement is updated each fiscal year, and the 2012 reference is MA(18). If federal funds are used for operating assistance, the contractual sphere of federal requirements include all procurements regardless of whether federal funds are actually drawn down to fund payments in a particular procurement. **Appendix A.3** provides a summary of key provisions of the Master

Agreement that apply to procurement. The specifics are available at the following website address: http://www.fta.dot.gov/documents/18-Master.pdf.

FTA Circular 5010.1D, Grant Management Requirements

Effective November 1, 2008, FTA Circular 5010.1D is a re-issuance of guidance for post-award grant administration and project management activities for all applicable FTA grant programs. This revision incorporates provisions of the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA–LU), and includes the most up-to-date available guidance for these programs. These requirements are intended to assist grantees in administering FTA-funded projects and in meeting grant responsibilities and reporting requirements. Grantees have a responsibility to comply with regulatory requirements and to be aware of all pertinent material to assist in the management of federally assisted grants. http://www.fta.dot.gov/legislation_law/12349_8640.html.

FTA Circular 4220.1F Third Party Contracting Guidance

FTA developed Circular 4220.1F "Third Party Contracting Guidance" to assist its recipients and their subrecipients in complying with the various federal laws and regulations that affect their FTA-assisted procurements. FTA C 4220.1F sets forth the requirements a recipient and subrecipient must adhere to in the solicitation, award, and administration of its third party contracts. A recipient or subrecipient may use its own procurement procedures, if those procedures conform to applicable federal law and regulations, including the applicable Common Grant Rule. FTA Circular 4220.1F sets forth 54 mandatory procurement standards that grantees must meet in their procurement operations. The 54 standards are summarized as **Appendix A.4**. The complete Circular is available at the following website address: http://www.fta.dot.gov/documents/FTA_Circular_4220.1F.pdf.

The FTA provides additional resources to assist recipients and subrecipient of federal funds to apply the federal regulations. Three of those resources are listed as follows.

Best Practices Procurement Manual

In those situations where the federal or grantee practices have proven to be effective, the Best Practices Procurement Manual presents these best practices for the assistance and guidance of the grantee. The procedures and practices presented are not mandatory unless so identified. These best practices are meant to be informative and helpful to the grantee community. They are offered for the guidance and assistance of the grantee. The Manual is available on the Internet at the following FTA website address: http://www.fta.dot.gov/grants/12831_6037.html.

A set of frequently asked questions (FAQs) about Third Party Procurement are available at the following FTA website address: http://www.fta.dot.gov/grants/13054_6039.html.

FTA also offers to field questions by contact directly through email or telephone to the FTA Regional Office; however, since PTS is a subrecipient for FTA funding, the appropriate protocol is to submit questions through a designated recipient.

Mandatory Procurement Standards Worksheet

Circular 4220.1F sets forth the requirements a grantee must adhere to in the solicitation, award, and administration of its third party contracts. The Circular applies to third party contracts and subcontracts of all other FTA recipients and their subrecipients. The 54 mandatory procurement standards that grantees must meet in their procurement operations are set forth in the Best Practices Procurement Manual, Appendix A.2a – Mandatory Procurement Standards Worksheet. The Worksheet provides cross-references to specific paragraphs in the Circular where the standards may be found, and a column for grantees to cross-reference the standards to their own policies and procedures. FTA encourages recipients and subrecipients to review their written procurement policies to ensure that they cover each of the 54 mandatory standards. Appendix A.2a is available on the Internet at the FTA website address for the Manual: http://www.fta.dot.gov/grants/12831_6037.html.

FY2012 Procurement System Review Workshop Workbook

FTA conducts periodic reviews of its grantee's procurement systems. These reviews are conducted in accordance with the Procurement System Review (PSR), which FTA developed in order to evaluate the grantee's compliance with the requirements of FTA Circular 4220.1F. FTA periodically offers workshops for grantees to discuss the PSR process. Grantees can effectively evaluate their own procurement system's compliance with 4220.1F using the PSR Workshop Workbook. Section III of the Workbook contains checklists for each type of contract as well as for the procurement system-wide elements that FTA also evaluates. The Workbook is available on the Internet at the following FTA website address: http://www.fta.dot.gov/grants/12900_14157.html.

State of Texas Procurement Regulations and Requirements

FTA allows that recipients and subrecipients may use their own procurement procedures so long as those procedures are compliant with federal law and regulations, including the applicable Common Rule, 49 U.S.C. § 5325 Contract Requirements, the Master Agreement, and FTA Circulars 5010.1D and 4220.iF. When a state or local regulation or procedure differs from the federal guidance, the most restrictive regulation or procedure governs.

State of Texas employees involved in the procurement of goods and services have a responsibility to uphold Texas procurement laws as prescribed in the Texas Government Code, Title 10, Subtitle D; Texas Administrative Code, Title 34, Part 1; and the procedures in the State of Texas Procurement Manual. The State of Texas Comptroller of Public Accounts (CPA) is responsible for State Purchasing.

Created by legislation in 1979, the Texas Procurement and Support Services Cooperative Purchasing Program (State of Texas CO-OP) provides the State of Texas volume purchasing power to local governments and assistance organizations. Members can purchase goods and services from state term contracts, Texas multiple award schedule (TXMAS) contracts, and piggyback contracts.

The State of Texas procurement regulations and requirements apply to TxDOT and to transit providers that are also State agencies or local governments of the State as prescribed by Texas statute. As a State

agency and designated recipient of FTA funds, TxDOT may use its own procurement procedures, if those procedures conform to applicable federal law and regulations.

State of Texas Procurement Manual

The State of Texas Procurement Manual serves as the guide for purchasing in the State of Texas. It contains standard procedures for implementing the requirements of Texas statutes and delegated purchasing authority. The Procurement Manual contains purchasing authority requirements, procedures, and best practices applicable to the acquisition of goods and services. The Procurement Manual is available on the Internet at the website for the Comptroller of Public Accounts: http://www.window.state.tx.us/procurement/pub/manual/.

A delegated purchase is a procurement in which the authority to manage the competitive process is delegated to an agency by a CPA Rule or by statutory exemption. The delegated purchase procedure does not apply to mandatory state use purchasing programs or requirements that can be satisfied by other purchasing methods specifically authorized by state statutes. Agencies are responsible for establishing procedures for responding to delegated purchase complaints and protests. More information is available in the Procurement Manual.

State procurement guidelines do not require a competitive award for the purchase of a commodity or service with a purchase price not greater than $5,000.[3] Open Market Informal Solicitation is used for agency-administered open market purchases of commodities or services greater than $5,000 but not greater than $25,000. Open Market Formal Solicitation is used for agency administered open market purchases of commodities or services greater than $25,000.

An open market purchase is the purchase of a good or service made by soliciting from any available source. The open market purchase procedure is authorized by Texas Government Codes 2155.062(a)(3) and 2156.061. The Procurement Manual provides instructions for how to administer the competition in an open market purchase.

The goals of the open market purchase procedure are to ensure a truly competitive purchase process and to provide an appropriate balance between administrative costs and potential savings. The open market procedure always includes either a competitive bidding process or a request for proposal (RFP). A RFP is a written request for proposals concerning goods or services the state intends to acquire by means of the competitive sealed proposal procedure. This procedure is similar to the open market procurement process; however, instead of sealed competitive bids, a negotiation phase is included and a best and final offer is permitted. Specific guidelines concerning documentation, procedures, and handling requirements for using the competitive sealed proposal procedures are addressed in the Texas Comptroller of Public Accounts Contract Management Guide:
http://www.window.state.tx.us/procurement/pub/contractguide/CMG_Version1.9.pdf.

[3] FTA considers micro-purchases to be those purchases of $3,000 or less. The recipient may acquire property and services valued at less than $3,000 without obtaining competitive quotations.

The State Comptroller of Public Accounts provides specific purchasing instructions for the following types of procurements by state agencies:

- Direct Publication Purchase.
- Perishable Goods Purchase.
- Distributor Purchases.
- Fuel, Oil & Grease Purchases.
- Internal Repair Purchases.

More information is available in the Procurement Manual.

Services and Tools for Texas Local Governments

There are many ways that local governments can leverage the state's purchasing power to save time and money for their procurement needs. The Texas Procurement and Support Services (TPASS) has established, as an alternative purchasing method, the use of Texas multiple award schedule contracts that have been developed from contracts awarded by the federal government or any other governmental entity of any state.

As the responsible federal entity, the General Services Administration's (GSA) Federal Supply Service awards Federal Supply Schedule contracts by competitive procurement procedures for more than 50 schedules that cover multiple commodities and services. The prices on GSA contracts are the most favored customer (MFC) prices and the maximum price allowable.[4]

TXMAS contracts take advantage of the MFC pricing and under certain circumstances, an agency, or local government entity, may negotiate a lower price for the goods or services offered on a schedule contract. A best value purchase can be made by following the TXMAS purchasing procedures: http://www.window.state.tx.us/procurement/prog/txmas/.

State of Texas CO-OP Purchasing

Created by legislation in 1979, the State of Texas CO-OP provides the State of Texas volume purchasing power to local governments and assistance organizations. Members can purchase goods and services from state term contracts, TXMAS contracts, and piggyback contracts. Using these services through the State of Texas CO-OP will meet State competitive bidding requirements:
http://www.window.state.tx.us/procurement/prog/coop/.

[4] See limitations on use of federal supply contracts in FTA Circular 4220.1F.

Member benefits for State of Texas CO-OP include:

- Order online using TxSmartBuy.
- Find vendors on the Centralized Master Bidders List.
- Post bid notices and awards online for free on the Electronic State Business Daily.
- Earn rebates on qualified purchases using the state's term contract.
- Save on fuel by using the state fuel card contract (members do not have to pay federal fuel taxes or file for reimbursement and can get rebates of 2.5 cents per gallon at over 3000 Texas retail fueling locations).
- Receive discounted rates on travel using the State Travel Management Program for discounted rates on flights, rental cars, travel agency services, and hotels.

Members can purchase goods and services from state term and TXMAS contracts. Using these contracts through the State of Texas CO-OP meets competitive procurement requirements. Over 1,900 CO-OP members currently leverage the state's purchasing system for their procurement needs. Members include rural transit districts, counties, cities, and councils of government.

Council on Competitive Government (CCG)

In addition to State of Texas CO-OP purchasing opportunities, local governments can benefit from the reengineering of state services led by the Council on Competitive Government. The CCG contracts take on complex service delivery issues, ranging from processing of mail to print shop bidding to management of energy procurements and others. Local governments automatically satisfy competitive bidding requirements when participating in a CCG contract.

TxSmartBuy Online Ordering System

The TxSmartBuy online shopping tool connects agencies and CO-OP members with vendors via an online store. State and local government employees can search TxSmartBuy for items they need. Anyone can look at items offered in the system. State agency purchasers and local government purchasers who belong to the State of Texas CO-OP can place orders in the system: http://www.window.state.tx.us/txsmartbuy/.

Texas Department of Transportation as the Designated Recipient

Section 5311 federal transit funds for rural areas flow from the FTA to the TxDOT Public Transportation Division. As the designated recipient, TxDOT is responsible for administering the grants to public transit providers in rural areas. TxDOT is also the designated recipient for Section 5310 funds for the state and Section 5316 and Section 5317 funds to rural and small urban areas.

Each year, TxDOT enters into a Master Agreement with FTA. The Master Agreement contains the standard terms and conditions governing the administration of the projects that FTA supports with federal assistance (funds or funding) awarded through a grant(s) to TxDOT as the designated recipient.

According to the Master Agreement, FTA and TxDOT understand and agree that they both must comply with all applicable federal laws and regulations, and should follow applicable federal directives, except as FTA determines otherwise in writing. In addition, the TxDOT is required to be sure that others

participating in its project, whether as subrecipients, lessees, third party contractors, third party subcontractors, or otherwise (third party participants) comply with federal laws, and regulations, and follow directives to the extent that TxDOT's compliance with federal requirements will not be compromised.

TxDOT requires each subrecipient of FTA funds to sign a Master Grant Agreement (MGA) and a Project Grant Agreement (PGA) specific the funds awarded from specific FTA funding programs.

TxDOT Public Transportation Master Grant Agreement

The MGA is made by and between the State of Texas, acting through the Texas Department of Transportation, called the "State," and PTS, called the "Transit Provider." Following are MGA provisions specifically address procurement.

ARTICLE 4. SUBCONTRACTS

The Transit Provider shall not enter into any subcontract with individuals or organizations for the purchase of equipment or the procurement of professional services without prior authorization and consent to the subcontract by the State. All subcontracts shall contain all provisions required by state or federal law. Transit Providers shall furnish the State notice of intent to award a purchase order or contract to any individuals or organizations not a part of the Transit Provider's organization when the amount of the purchase meets or exceeds the threshold level in the Government Code or Local Government Code (or $15,000 for those entities not covered by the Government Code or Local Government Code) requiring formal competitive procurement. Purchases shall not be split out to stay below the threshold amount. No subcontract will relieve the Transit Provider of its responsibility under this MGA and any PGA executed under this MGA.

ARTICLE 7. PROCUREMENT STANDARDS

Transit Provider procurement standards shall meet or exceed the requirements of 48 CFR FAR, 49 CFR §18.36 and 49 CFR Part 19 including standards for competitive procurements; methods of procurement; contracting with small and minority firms, women's business enterprise and labor surplus area firms; contract cost and price; awarding agency review; and insurance and bonding.

The Transit Provider's procurement system must include but not be limited to the following procurement standards.

A. Procurement procedures which reflect applicable state and local laws and regulations, provided that the procurements conform to applicable federal law and the standards identified in this section.

B. A contract administration system which ensures that subcontractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.

C. A written code of standards of conduct governing the performance of employees engaged in the award and administration of contracts. No employee, officer, or agency of the Transit Provider shall participate in selection or in the award or administration of a contract

supported by state or federal funds if a conflict of interest, real or apparent, would be involved.

D. A process for review of proposed procurements to avoid purchase of unnecessary or duplicative items.

E. Use of state and local intergovernmental agreements for procurement or use of common goods and services to foster greater economy and efficiency.

F. Use of value engineering clauses in contracts for construction projects.

G. Awards made only to responsible Transit Providers possessing the ability to perform successfully under the terms and conditions of a proposed procurement, giving consideration to such matters as subcontractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

H. Records sufficient to detail the significant history of procurement, including rationale for the method of procurement, selection of contract type, subcontractor selection or rejection, and the basis for the contract price.

I. Limited use of time-and-materials contracts.

J. Use of good administrative practices and sound business judgment to settle contractual and administrative issues arising out of procurements.

K. Protest procedures to handle and resolve disputes relating to procurements and prompt disclosure to the State of information regarding the protest.

L. Procurement transactions conducted in a manner that provides full and open competition.

M. If equipment or real property is transferred to a Transit Provider, that equipment or real property shall be owned and operated in accordance with the same rules and regulations governing the ownership and operation of equipment or real property acquired with financial assistance from the State.

N. The equipment and program provisions survive the contract duration.

O. These standards will apply to the projects described in the Fiscal Year Grant Application, Part I and Part II, and PGAs. For those projects requiring a formal competitive process, the Transit Provider shall furnish a copy of the public notification, prior to issuance, along with any other procurement documents requested by the department, for department review and approval. Upon procurement of items under this MGA or PGA, the Transit Provider shall submit to the State a list of all bidders and subcontractors that quoted on the procured items. The Transit Provider shall submit the list with their requests for reimbursements and must include names, addresses, telephone numbers, and types of work quoted.

Attachment A to the MGA also requires the Transit Provider to agree to comply with FTA third party procurement requirements.

In addition to MGA, the Transit Provider certifies that its procurements and procurement system will comply with all applicable federal laws and regulations in accordance with applicable federal directives, except to the extent FTA has approved otherwise in writing. The Transit Provider certifies it will have a procurement system that complies with U.S. Department of Transportation regulations, "Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments," 49 C.F.R. part 18, specifically 49 CFR 18.36 or Inform FTA promptly that its procurement system does not comply with those U.S. Department of Transportation regulations.

TxDOT Public Transportation Project Grant Agreement

The PGA is also by and between the State of Texas, acting through the Texas Department of Transportation, called the "State," and PTS, called the "Transit Provider." The State and the Transit Provider rely upon the MGA to provide the general terms and conditions for grant projects developed through the PGA(s).

NCTCOG Procurement Regulations and Requirements

Federal transit funds for large urbanized areas flow from the FTA to the designated recipient(s) for the urbanized area. In the DFWA urbanized area, NCTCOG is the designated recipient for urbanized funds allocated to rural transit districts. NCTCOG is also the MPO and has responsibility for Section 5316 and Section 5317 funds for the urbanized area.

NCTCOG enters into a Master Agreement with FTA. The Master Agreement contains the standard terms and conditions governing the administration of the projects that FTA supports with federal assistance awarded through a grant(s) to NCTCOG as the designated recipient.

According to the Master Agreement, NCTCOG must comply with all applicable federal laws and regulations, and NCTCOG must ensure that subrecipients comply as well. NCTCOG requires each rural transit district to enter into an interlocal agreement that establishes the management policies and practices for the use of funds. The Interlocal Agreement emphasizes subrecipient responsibility to inform NCTCOG by providing documentation of compliance with applicable FTA third party procurement requirements. NCTCOG also requires subrecipients to sign annual certifications and assurances that they will comply with all applicable third party procurement provisions of federal laws, regulations, and directives.

Certifications and Assurances for FTA Assistance Programs

Except in limited circumstances, each recipient of federal funds for transit is ultimately responsible for compliance with the certifications and assurances that apply to itself or its project, regardless of subrecipient participation in the project. NCTCOG requires subrecipients to execute an annual statement of certifications and assurances for FTA financial assistance programs. In FY 2012 certifications and assurances require subrecipient compliance. As the designated recipient, NCTCOG is responsible for compliance with the certifications and assurances for subrecipients.

NCTCOG Interlocal Agreement

The Interlocal Agreement is made and entered into by and between the North Central Texas Council of Governments, acting as the Project Manager, and PTS, acting as the Service Provider. The Agreement includes references to FTA requirements and procurement, as provided in the excerpts below.

10.18 Incorporation of FTA Terms.

The preceding provisions [of this Agreement] include, in part, certain Standard Terms and Conditions required by the DOT [Department of Transportation], whether or not expressly set forth in the preceding Agreement provisions. All contractual provisions required by the DOT, as set forth in FTA Circular 4220.1 F, "Third Party Contracting Requirements," are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Service Provider shall not perform any act, fail to perform any act, or refuse to comply with any of the Project Manager's requests, which would cause the Project Manager to be in violation of the FT A terms and conditions.

16.5 Procurement.

The Service Provider shall ensure compliance with applicable provisions of 49 CFR 18 [Common Rule] and the FTA Circular 4220.1 F for the procurement of goods and services through this Agreement. The Service Provider may submit procurement procedures to the Project Manager for review if necessary to coordinate any adjustments prior to conducting procurement.

The Service Provider shall ensure that procurement, excluding small purchases, under this Agreement comply with 49 CFR 661 [Buy America], as applicable for any construction projects. Procurement will consist of new vehicles only. Applicable procurement requirements are necessary to be followed, including Pre-Award and Post Delivery Reviews and New Model Bus Testing, as applicable. If the Service Provider purchases any goods or services from a Disadvantaged Business Enterprise (DBE), as defined by 49 CFR Part 26 [Disadvantaged Business Enterprise Program] the Service Provider shall provide documentation to the Project Manager identifying that the vendor or consultant meets DBE qualifications and the amount of funding provided to the vendor or consultant through this Agreement. The Service Provider shall provide to the Project Manager a copy of the test report, as applicable, for the purchase of a new bus model prior to purchase as applicable.

The Service Provider shall provide to the Project Manager written policies and procedures for oversight of Third-Party Contracts. The Service Provider shall provide to the Project Manager a copy of any existing Interlocal Agreements for which the Service Provider shares procurement. Interlocal Agreements including shared procurement initiated after the execution of this Agreement shall be provided to the Project Manager prior to execution.

The Service Provider shall provide to the Project Manager copies of open purchase orders, requests for bids, and requests for proposals for implementation of projects under this Agreement within five (5) days of publication. The Service Provider shall inform the Project Manager when

purchase orders, bids, and proposals are closed and awarded, and provide to the Project Manager copies of all related documentation on the reward of the bid in accordance with approved procurement procedures.

The Service Provider shall submit to the Project Manager copies of Third-Party contracts for implementation of projects under this Agreement within five (5) days of execution. Third-Party Contracts must include all applicable certifications and contract clauses. The Service Provider shall inform the Project Manager when all obligations under the contract or agreement are completed and paid. The Service Provider shall provide to the Project Manager a copy of any Lease Agreements as applicable for the lease of any vehicle for services under this Agreement.

A copy of the executed lease agreement shall be provided within five (5) days of execution. A written description of the cost effectiveness comparison shall be submitted to the Project Manager prior to executing any lease agreements.

Third Party Procurement Procedures

The NCTCOG Transportation Department Third Party Procurement Procedures (June 2011) establish standards and guidelines for NCTCOG subgrantees for procurement of goods and services in accordance with 49 CFR Part 18.36 [Common Rule, Procurement]. These procedures were developed to ensure fair, open, and competitive opportunities for all parties involved in the procurement. The NCTCOG Third Party Procurement Procedures are provided as **Appendix A.5**. The electronic copy is available at the following website address: http://www.nctcog.org/trans/air/vehicles/investments/funding/Addendum1-SubgranteeProcurementProcedures-070511.pdf.

In order to assist NCTCOG's subgrantees in complying with federal procurement requirements, NCTCOG publishes these procedures as part of calls for projects to make potential applicants aware of these requirements in advance of submitting applications to NCTCOG for funding consideration. In addition, NCTCOG periodically holds workshops on procurement and other compliance requirements to assist subgrantees in meeting these objectives.

Key Procurement Issues

The section provides a discussion of key procurement issues that may be of significance to PTS. The issues are based on typical rural transit district experience as well as inquiries from PTS.

State and Local Laws and Regulations

The Common Rules provide that recipients and subrecipients will use their own procurement procedures that comply with applicable state and local laws and regulations *and* comply with applicable federal laws and regulations.

When a state or local regulation or procedure differs from the federal guidance, the most restrictive regulation or procedure governs. For example, if federal procurement guidelines define a micro purchase (that does not require competitive procurement) as not more than $3,000, but Texas purchasing guidelines define the limit as $5,000, then the FTA's lower dollar amount prevails.

If state or local laws or regulations do not address a particular aspect of procurement adequately, federal direct procurement principles may often (but not always) provide useful guidance.

If federal requirements conflict with state or local requirements, the recipient should provide written notification promptly to either the FTA Regional Counsel for the region in which the project takes place or the FTA Assistant Chief Counsel for General Law in the case of projects administered by FTA headquarters staff. FTA will then work with the recipient to make appropriate arrangements to proceed with the project. If unsuccessful, then FTA reserves the right to amend or terminate federal assistance for the underlying Project. One such instance involving cooperative purchasing is discussed below.

PTS Procurement Policies and Procedures

TxDOT and NCTCOG require PTS to follow procurement procedures that meet or exceed the federal procurement standards. PTS adopted the Contracts and Procurement Policy and Procedures Manual on September 10, 2009. The manual is based on a template provided by TxDOT.

The NCTCOG Interlocal Agreement with PTS call for the Service Provider to ensure compliance with applicable provisions of 49 CFR 18 [Common Rule] and the FTA Circular 4220.1 F for the procurement of goods and services through the Agreement. PTS may submit procurement procedures to the NCTCOG Project Manager for review if necessary to coordinate any adjustments prior to conducting a procurement.

NCTCOG staff has commented to PTS that the Contracts and Procurement Policy and Procedures Manual can be improved. The comment may address the process rather than the content of the Manual. Using a standard template has the advantage and disadvantage of ease of implementation. By using a template rather than following the process of developing a manual, PTS staff may not fully embrace the substance and obligations incorporated in the Manual adopted in June 2009. NCTCOG concerns can be addressed by (1) PTS workshop to review and discuss the procurement manual content, and/or (2) PTS time and attention to update the Manual before June 2014 (five years after initial adoption of the Manual).

FTA periodically offers workshops for grantees to discuss the Procurement System Review process. Grantees can effectively evaluate their own procurement system's compliance with 4220.1F using the PSR Workshop Workbook. Section III of the Workbook contains checklists for each type of contract as well as for the procurement system-wide elements that FTA also evaluates. The Workbook is available on the Internet at the following FTA website address: http://www.fta.dot.gov/grants/12900_14157.html.

Sphere of Influence for FTA Requirements

One of the principles of contracting with federal funds received directly and indirectly from FTA is a recognition that, as a condition of receiving the funds, certain specific federal requirements must be met not only by the recipient of the funds (the grantee) but also by subrecipients and a grantee's third party contractors. The federal requirements to be met by the grantee's third party contractors are defined by the clauses included in the grantee's third party contracts.

FTA Circular 4220.1F applies to all FTA grantees and subgrantees that contract with outside sources under FTA assistance programs. FTA grant recipients who utilize FTA formula funds for operating assistance are required to follow the requirements of this Circular for all operating contracts. These requirements do not apply to procurements undertaken in support of capital projects completely

accomplished without FTA funds or to those operating and planning contracts awarded by grantees that do not receive FTA operating and planning assistance.

There are two procurement contexts when the concept is important for PTS.

1. Flow Down. Perhaps the easiest determinant of the sphere of influence is to visualize the concept of "flow-down." Federally required clauses and requirements are generally required to be included in each third party contract at every tier and in each subrecipient agreement at every tier. When clauses are required to flow down, the clauses and requirements flow down to all levels of the federal funding chain beginning with the grantee.

2. Inclusion of Federal Requirements when Receiving Operating Assistance. The second example of the sphere involves grantees receiving operating assistance. In this instance, all grantee procurements except for capital projects undertaken without federal funds, must include all of the federal requirements that would be included if the operating budget were fully federally funded and must comply with FTA Circular 4220.1F. FTA maintains that one dollar of federal operating assistance converts the operating funds of the transit property so that all such funds of the property therefore become subject to federal requirements. The rules on this dimension of the sphere are clear. If an agency receives operating assistance, the requirements of the Circular apply, even if the agency does not intend to use that assistance in support of any procurement action (e.g., the agency intends to apply all the operating assistance to pay salaries of direct hire bus operators).

Federal Procurement Basics

The method of procurement used by recipients and subrecipients must meet these FTA minimums.

Micro Purchases	Procurements valued at less than $3,000. Can be made without obtaining competitive quotations or proposals. Only documentation requirement is a determination that the price is fair and reasonable.
Small Purchases	Procurements valued between $2,500 and $100,000 will be considered Small Purchases, and will be made after obtaining an adequate number of quotations, bids, or proposals from qualified sources, in accordance with Council procurement procedures.
Sealed Bids (Formal Advertising)	Sealed bids are publicly solicited for a fixed firm price contract when: • you have a complete, adequate, and realistic specification or purchase description, • two or more responsible bidders are willing and able to compete, • the procurement lends itself to a firm fixed price contract and the selection can be made primarily on the basis of price, and • no discussion with bidders is needed after receipt of offers
Competitive Proposals (RFPs)	Proposals are publicly solicited when the nature of the procurement does not lend itself to sealed bidding and when any of the following circumstances are present: • the property or services to be acquired are described in a performance or functional specification; or if described in detailed technical specifications, other circumstances such as the need for discussions or the importance of basing contract award on factors other than price alone are present. • uncertain number of sources • price alone is not determinative • discussions expected
Two-Step Procurement	Two-step procurement procedures in both sealed bid and competitively negotiated procurements may be used provided the opportunity for full and open competition is

Procedures	retained. Prospective contractors that demonstrate a technically satisfactory approach and have satisfactory qualifications are invited to submit bids or proposals.
Architectural Engineering Services and Other Services	Qualifications-based procurement procedures must be used to acquire A&E services, as well as for program management, construction management, feasibility studies, preliminary engineering, design, architectural, engineering, surveying, mapping and related services.
Design-Bid-Build	Requires separate contract for design services (qualifications-based procurement procedures) and for construction (sealed bidding or competitive negotiation).
Design-Build	Contracting for design and construction simultaneously with contract award to a single contractor.
Other than Full and Open Competition	Noncompetitive proposals may be used when at least one of the following circumstances are present: • After soliciting several sources, one offer is submitted. Competition may be determined to be adequate if the specification is determined to be not unduly restrictive and changes cannot be made to encourage greater competition. • The required supplies or services are available from only one source • Unusual and compelling urgency • Associated capital maintenance item exception repealed • Authorized by FTA

Intergovernmental Agreements

Recipients and subrecipients may enter into state and local intergovernmental agreements for procurements of property or services. If so permitted by state or local authorities, a non-governmental recipient may also use state and local sources of property and services.

All FTA and federal requirements apply to such intergovernmental agreements for FTA-funded procurements. When obtaining property or services in this manner, the recipient must ensure all federal requirements, required clauses, and certifications (including Buy America) are properly followed and included, whether in the master intergovernmental contract or in the recipient's purchase document. One way of achieving compliance with FTA requirements is for all parties to agree to append the required federal clauses in the purchase order or other document that effects the recipient's procurement. When buying from these schedules, the recipient should obtain Buy America certification before entering into the purchase order. If the product to be purchased is Buy America compliant, there is no problem. If the product is not Buy America compliant, the recipient will need to obtain a waiver from FTA before proceeding.

Full and Open Competition

Arbitrary action in selecting vendors is prohibited. Consistency in the procurement process is the best method of prohibiting arbitrary action. In addition, concerns regarding arbitrary action can be eliminated with proper file documentation, such as bid opening records, bid comparison sheets, award decision documentation, and negotiation memoranda.

Solicitation requirements that contain features that unduly restrict competition are prohibited. Some situations considered to be restrictive of competition include, but are not limited to: excessive qualifications; unnecessary experience; improper prequalification; retainer contracts; excessive bonding; brand name only; in-state or local geographic restrictions; organizational conflicts of interest; restraint of trade; and arbitrary action.

When it is impractical or uneconomical to provide a clear and accurate description of the technical requirements of the property to be acquired, a "brand name or equal" description may be used to define the performance or other salient characteristics of a specific type of property. The salient characteristics of the named brand that offerors are to provide must be identified.

In-state or local geographical preferences in the evaluation of bids or proposals will not be established, except in those cases where applicable federal statutes expressly mandate or encourage geographic preference. Sole source procurement must be used with care *on an exception basis only* and must be justified for each occurrence. Approvals for sole source procurement must be obtained *prior to* ordering the goods or services except in a declared public emergency. Purchases must not be artificially divided so as to represent the cost as below the minimum approval level. It is unacceptable to use the sole source procurement process in a capricious manner or for personal preference. Authorization for sole source procurements must be documented on the agency's sole source form.

State or Local Government Purchasing Schedules or Purchasing Contracts

The Texas Procurement and Support Services (TPASS) has established the use of TXMAS that have been developed from contracts awarded by the federal government (General Services Administration) or any other governmental entity of any state.

The State of Texas CO-OP provides the State of Texas volume purchasing power to local governments and assistance organizations. Members can purchase goods and services from state term contracts, TXMAS contracts, and piggyback contracts. Using these services through the State of Texas CO-OP will meet State competitive bidding requirements: http://www.window.state.tx.us/procurement/prog/coop/.

FTA uses the term "state or local government purchasing schedule" to mean an arrangement that a state or local government has established with several or many vendors in which those vendors agree to provide essentially an option to the state or local government, and its subordinate government entities, to acquire specific property or services in the future at established prices. These arrangements are somewhat similar to the General Services Administration's (GSA) Cooperative Purchasing Program available for Federal Government use. If the state or local government wishes to permit others to use its schedules, the state or local government might seek the agreement of the vendor to provide the listed property or services to others with access to the schedules, or it may permit the vendor to determine whether or not it wishes to do so.

a. Use Encouraged. The Common Grant Rule for governmental recipients encourages recipients and subrecipients to enter into state and local intergovernmental agreements for procurements of property or services. If so permitted by state or local authorities, a non-governmental recipient may also use state and local sources of property and services.

b. All FTA and Federal Requirements Apply. When obtaining property or services in this manner, the recipient must ensure all federal requirements, required clauses, and certifications (including Buy America) are properly followed and included, whether in the master intergovernmental contract or in the recipient's purchase document. One way of achieving compliance with FTA requirements is for all parties to agree to append the required federal clauses in the purchase order or other document that effects the recipient's

> procurement. When buying from these schedules, the recipient should obtain Buy America certification before entering into the purchase order. If the product to be purchased is Buy America compliant, there is no problem. If the product is not Buy America compliant, the recipient will need to obtain a waiver from FTA before proceeding.

FTA grantees may use their state GSA type contracts and add federal clauses to those contracts with the first purchase order issued by the grantee. Grantees may also use joint procurements with other grantees where the advertised and contracted quantities represent the needs of the grantee organizations involved, and the contracts otherwise comply with FTA Circular 4220.1F.

Cooperative Purchasing Program – HGACBuy

The Houston-Galveston Area Council sponsors a "government-to-government" procurement service—HGACBuy. As a unit of local government assisting other local governments, HGACBuy has established competitively priced contracts for goods and services, provides customer service, and is compliant with State statutes. All units of local government, including non-profits providing governmental services, are eligible to join HGACBuy. Government entities join by executing an Interlocal Agreement to participate in HGACBuy. This document sets out the conditions, requirements, and processes through which an entity's purchase orders are received, confirmed to contract, and processed. The Texas Interlocal Cooperation Act permits joint participation by local governments, states, state agencies, and certain non-profit corporations. More information about HGACBuy is available at the following website: http://www.hgacbuy.com/.

However, NCTCOG has not authorized its subrecipients to use HGACBuy as an eligible cooperative procurement program under federal procurement guidelines, and TxDOT has issued a letter cautioning its subrecipients about FTA concerns that HGACBuy may not comply with all applicable FTA third party procurement requirements.

The basis for this objection was outlined in a "Dear Colleague Letter" from FTA Region 6 Administrator Robert Patrick on November 7, 2011:

> First, a contract in a cooperative purchasing program might be open-ended with respect to product quantities. It is a basic rule in FTA's third party procurement program that a grantee must procure only a definite quantity of products for its needs and, when a grantee's anticipated needs might not be known, the contract must specify a maximum and minimum quantity. There is only one exception to this "definite quantity" rule. Under 49 C.F.R. §18.36(a) in the common grant rule, state governments are accorded substantial deference in the policies and procedures used in state procurements. Consequently, FTA permits grantees to buy from open-ended state government purchasing schedules; provided that a grantee's purchase order includes all required clauses and certifications.
>
> Second, the process of selecting vendors in a cooperative purchasing program might not meet the standard of full and open competition. As set forth in 49 U.S.C. §5325(a), it is a federal statutory requirement that all FTA-funded procurements be conducted in a manner that provides full and

> open competition. It is essential that a solicitation process ensure, to the maximum extent feasible, that all responsible sources are permitted to compete without any restrictions. Thus, for example, the standard of full and open competition would not be met where a vendor might be required to pay a fee to participate in a cooperative purchasing program because this practice would serve to limit or restrict competition.
>
> Third, a contract awarded by a cooperative purchasing program might not have been solicited and awarded with all of the federally-required clauses and certifications. FTA permits grantees to include all required clauses and certifications in a purchase order when a grantee buys a product or service from state government purchasing schedules. Based on the reason that I've previously stated, however, a grantee is permitted to follow this practice only when buying products or services from a state government's purchasing schedules. A grantee would not be permitted to include required clauses and certifications when a purchase order is issued on a contract in a cooperative purchasing program.

The Regional Administrator referred to additional guidance on the topic in the Third Party Procurement FAQs on FTA's website (http://www.fta.dot.gov) under the topic of "Cooperative Purchase." An excerpt from the website is included as **Appendix A.6**.

Following up on the FTA Region 6 "Dear Colleague Letter," TxDOT Public Transportation Division Director Eric Gleason provided additional information to support a position that HGACBuy does meet FTA guidelines as pertains to specifically the purchase of transit vehicles. The following is an excerpt from Mr. Gleason's (TxDOT) letter to Mr. Patrick (FTA) on November 28, 2011.

> After review of information posted on the HGACBuy website, and discussion with Houston-Galveston Area Council (H-GAC) staff, and with Mr. Onco [FTA Region 6 staff attorney], we believe that transit agencies can use the HGACBuy cooperative as part of their procurement of transit vehicles in compliance with federal regulations and FTA policies. We have not been able to review documentation for solicitation of other items through the HGACBuy program, so procurement of those services or goods may or may not be eligible for FTA reimbursement. We will keep you posted on what we find.
>
> For transit vehicles, documentation for the most recent HGACBuy procurement solicitation (effective Jan. 1, 2011) does include figures for minimum and maximum quantities. That documentation also includes the federally-required clauses and certifications, including Buy America. Our review of the posted material concluded that no vendor was charged a fee to participate in the HGACBuy Program solicitation. H-GAC staff has confirmed this conclusion. We therefore have determined that based upon the items mentioned in the Nov. 7 letter, transit agencies can use the HGACBuy program as part of their procurement of transit vehicles and use FTA funding, provided the transit agencies properly complete the procurement activity and maintain the required documentation. Please let us know in writing if you concur with this conclusion.

The response from FTA Region 6 Administrator to the TxDOT Public Transportation Division Director on December 15, 2011, added additional reservations about the HGACBuy program.

The purpose of Region 6's Dear Colleague letter was to alert Region 6 grantees to some of the potential issues that could arise in a procurement that was not based on an individual or joint procurement by FTA grantees, a piggyback transaction on another FTA grantee's contract, or from a state government purchasing schedule. As you know, at the beginning of each federal fiscal year FTA grantees are required to self-certify in the Annual List of Certifications and Assurances that they will comply, *inter alia*, with all applicable third party procurement provisions of federal laws, regulations, and directives. However, a private or public agency that administers a cooperative procurement program, such as H-GAC, is not required to certify to FTA that its cooperative procurement program will comply with all applicable third party procurement requirements. Thus, because there is no assurance that a cooperative procurement program will meet all of FTA's requirements, Region 6's Dear Colleague letter was intended to provide guidance to grantees on some of the issues that might render a grantee's procurement ineligible for federal participation.

In addition, the issues that were mentioned in Region 6's Dear Colleague letter were intended to be a representative, rather than an exhaustive, list of third party procurement issues that should be addressed by a grantee which might be considering the use of a cooperative procurement program. In fact, although it was discussed in the context of cooperative procurements, these types of issues should be addressed by grantees on all procurements.

With respect to TxDOT's specific determination that H-GAC's procurement of transit vehicles meets FTA's requirements, you state that H-GAC's most recent vehicle solicitation met FTA's "definite quantity" requirement because the solicitation established minimum and maximum quantities. However, it's not apparent from your letter exactly how H-GAC established this definite quantity in its solicitation. Was the maximum quantity based on the anticipated needs of all grantees that would acquire vehicles from the contract? Was the maximum quantity an arbitrary number? Or was there another method employed to establish a maximum quantity for this solicitation? As stated in FTA Circular 4220.1F, Chapter V, at pages V-5 andV-6, a grantee's procurement of equipment or supplies must be based on the reasonably foreseeable needs of a grantee.

Furthermore, although this issue was not stated in Region 6's Dear Colleague letter, a grantee must comply with the provisions of FTA's Pre-award, Post-Delivery Audits of Rolling Stock regulation at 49 CF R Part 663 in all transit vehicle procurements. Your letter does not state how a grantee would comply with this regulation if it were to purchase vehicles from H-GAC's program.

Lastly, concerning your request for concurrence, it should be pointed out that FTA, as a matter of policy, does not pre-approve third party procurements conducted by a grantee or any other public or private agency. Rather, by virtue of a grantee's self-certification that it possesses the technical capacity to carry out procurements as I've discussed above, FTA's review of third party procurements is therefore largely based on oversight programs, such as triennial and procurement system reviews, to determine whether a grantee's procurement was in compliance with Federal and FTA requirements. As you know, these oversight reviews are post-award reviews; not preapprovals of procurements.

Following the December letter from FTA Region 6, the TxDOT Public Transportation Division Director issued the following cautions to subrecipients in a letter dated January 11, 2012:

> Dear Transit Provider:
>
> In late 2011, recipients of FTA funding received the attached "Dear Colleague" guidance letter from Robert Patrick, Region 6 Administrator. That letter emphasized the responsibility of grant recipients to ensure procurements using federal funding comply with Federal statute and policy as applicable. Also attached for your information are copies of a subsequent exchange of correspondence between TxDOT and Region 6 staff on this topic.
>
> The original letter from Region 6 raised concerns over two commonly used cooperative procurement options in Texas: TPASS, operated by the State Comptroller's Office and HGACBuy, a local government cooperative. State cooperatives, such as TPASS, enjoy some flexibility with respect to procurements due to their recognition as a state entity so continuing to use TPASS for TxDOT public transportation grant procurements is acceptable. Additionally, we have reviewed the current HGACBuy for vehicle procurements and we believe that it does meet the FTA criteria. Therefore, HGACBuy is also acceptable for fleet procurement for our grants as well.
>
> However, HGACBuy also includes other goods, and consultant services through their PlanSource service. We are in the process of trying to reach an opinion with respect to whether procurements of these other goods and services meet the criteria of the Region 6 letter. In the meantime, we urge any subrecipient wishing to use this source for items other than transit vehicles described in the current H-GAC solicitation to contact HGACBuy staff for your own determination.

According to the correspondence documented above, PTS has the following options for procurement of transit vehicles depending on the source of funds.

FTA Funds through NCTCOG as Recipient

- Individual (PTS) purchase following all FTA third party procurement provisions;
- Joint procurement with another FTA grantee(s) following all FTA third party procurement provisions (NCTCOG offers to conduct a vehicle procurement on behalf of its subrecipients);
- Piggyback a purchase with another FTA grantee after verifying the grantee follows all FTA third party procurement provisions; or
- Purchase from a State government purchasing schedule (TPASS) if the available vehicle specifications meet PTS requirements.

FTA Funds through TxDOT as Recipient

- Any of the options listed under NCTCOG as Recipient above; or
- HGACBuy based on the TxDOT determination that HGACBuy is acceptable for fleet procurement for TxDOT grants. PTS must consider this option with full consideration of the

stated reservations of FTA that HGACBuy may not comply with FTA third party procurement processes.

State Funds through TxDOT (No FTA Funds)

- Any of the above options listed under NCTCOG as Recipient, or
- HGACBuy based on the TxDOT determination that HGACBuy is acceptable for fleet procurement for TxDOT grants.

Piggybacking

An FTA grant recipient or subrecipient may assign its contractual rights to purchase property and services to other recipients if the original contract contains an appropriate assignability clause that provides for the assignment of all or a portion of the specified deliverables as originally advertised, competed, evaluated, and awarded, or other appropriate assignment provisions. Some refer to this process as "piggybacking."

- If the supplies or services were solicited, competed and awarded through the use of an indefinite-delivery-indefinite-quantity (IDIQ) contract, then both the solicitation and contract award must contain both a minimum and maximum quantity that represent the reasonably foreseeable needs of the party(s) to the solicitation and contract.
- An FTA recipient that obtains these contractual rights through assignment may exercise them after first determining the contract price remains fair and reasonable, and all federal requirements have been addressed in the contract's clauses. The recipient is not required to perform a second price analysis if a price analysis was originally performed. However, the recipient must determine the contract price or prices originally established are still fair and reasonable.
- The recipient is responsible for Buy America compliance with the transaction and assuring that they execute all of the required pre-award and post-delivery Buy America audit certifications.

If PTS pursues a piggybacking procurement with another FTA recipient, the agency is cautioned to review the intent with the applicable designated recipient (TxDOT or NCTCOG) and to affirm compliance with all FTA third party procurement requirements. TxDOT has previously honored piggyback procurements with the Capital Area Rural Transportation System (CARTS) and the Brazos Transit District.

In-State Dealerships

The terms of the Master Agreement prohibit bus dealer requirements. No state law requiring buses to be purchased through in-State dealers shall apply to vehicles purchased with a FTA grant. This practice is also prohibited as situation restrictive of competition. "Specifying statutorily or administratively imposed in-State or local geographical preferences or evaluating bids and proposals in light of such in-State or local geographical preferences. Specifically, an FTA recipient is prohibited …from limiting their bus purchases to in-State dealers."

Independent Cost Estimate

An independent cost estimate is required for every procurement action, including contract modifications, and the estimate must be done before receiving bids or proposals. The independent estimate is developed

based on product knowledge, experience, and market status, and is used in performing price and cost analysis.

Cost or Price Analysis

A cost or price analysis must be performed for every procurement action, including contract modifications. A cost analysis must be performed when the offeror is required to submit the elements (i.e., labor hours, overhead, materials, etc.) of the estimated cost, e.g., under professional consulting and architectural and engineering services contracts. A cost analysis will be necessary when adequate price competition is lacking and for sole source procurements, including contract modifications or change orders, unless price reasonableness can be established on the basis of a catalog or market price of a commercial product sold in substantial quantities to the general public or on the basis of prices set by law or regulation. A price analysis may be used in all other instances to determine the reasonableness of the proposed contract price. The cost or price analysis document must be retained in the official contract file.

Brooks Act

Procurements for Architectural and Engineering services must follow the requirements of FTA Circular 4220.1F and the Brooks Act, which requires that the procuring agency shall negotiate a contract with the highest qualified firm for architectural and engineering services at compensation which the procuring agency determines is fair and reasonable. In making such determination, the agency head shall take into account the estimated value of the services to be rendered, the scope, complexity, and professional nature thereof. Should the procuring agency be unable to negotiate a satisfactory contract with the firm considered the most qualified, at a price determined to be fair and reasonable to the government, negotiations with that firm should be formally terminated. The procuring agency should then undertake negotiations with the second most qualified firm. Failing accord with the second most qualified firm, the agency head should terminate negotiations. The procuring agency should then undertake negotiations with the third most qualified firm. Should the procuring agency be unable to negotiate a satisfactory contract with any of the selected firms, we shall select additional firms in order of their competence and qualification and continue negotiations in accordance with this section until an agreement is reached.

Davis-Bacon Act

Construction contracts over $2,000 involving FTA funds must contain the appropriate Davis-Bacon wage determinations. This information can be found at http://davisbacon.fedworld.gov/.

Appendix A.1: The Common Grant Rule

All state and local governments that are recipients of FTA grants are required to follow the Code of Federal Regulations - Title 49: Transportation part 18, "Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments," often referred to as the Common Rule. http://ecfr.gpoaccess.gov/cgi/t/text/text-dx?c=ecfr&rgn=div5&view=text&node=49:1.0.1.1.12&idno=49

The Common Rule establishes uniform administrative rules for federal grants and cooperative agreements and subawards to state, local, and Indian tribal governments. The following discussion highlights selected topics in Title 49 CFR Part 18. This list is not intended as a comprehensive review of the Common Rule, but is only intended to indicate the nature of provisions in the Common Rule.

The Common Rule sets standards for financial management systems. Grantees and subgrantees must meet the following standards:

(1) Financial reporting. Accurate, current, and complete disclosure of the financial results of financially assisted activities must be made in accordance with the financial reporting requirements of the grant or subgrant.
(2) Accounting records. Grantees and subgrantees must maintain records which adequately identify the source and application of funds provided for financially-assisted activities. These records must contain information pertaining to grant or subgrant awards and authorizations, obligations, unobligated balances, assets, liabilities, outlays or expenditures, and income.
(3) Internal control. Effective control and accountability must be maintained for all grant and subgrant cash, real and personal property, and other assets. Grantees and subgrantees must adequately safeguard all such property and must assure that it is used solely for authorized purposes.
(4) Budget control. Actual expenditures or outlays must be compared with budgeted amounts for each grant or subgrant. Financial information must be related to performance or productivity data, including the development of unit cost information whenever appropriate or specifically required in the grant or subgrant agreement. If unit cost data are required, estimates based on available documentation will be accepted whenever possible.
(5) Allowable cost. Applicable OMB cost principles, agency program regulations, and the terms of grant and subgrant agreements will be followed in determining the reasonableness, allowability, and allocability of costs.
(6) Source documentation. Accounting records must be supported by such source documentation as cancelled checks, paid bills, payrolls, time and attendance records, contract and subgrant award documents, etc.
(7) Cash management. Procedures for minimizing the time elapsing between the transfer of funds from the U.S. Treasury and disbursement by grantees and subgrantees must be followed whenever advance payment procedures are used. Grantees must establish reasonable procedures to ensure the receipt of reports on subgrantees' cash balances and cash disbursements in sufficient time to enable them to prepare complete and accurate cash transactions reports to the awarding agency. When advances are made by letter-of-credit or electronic transfer of funds methods, the grantee must make drawdowns as close as possible to the time of making disbursements. Grantees must monitor cash drawdowns by their subgrantees to assure that they conform substantially to the same standards of timing and amount as apply to advances to the grantees.

The Common Rule also establishes the basis for allowable costs for grant funds. For each kind of organization, there is a set of federal principles for determining allowable costs. Allowable costs are

determined in accordance with the cost principles applicable to the organization incurring the costs. The applicable cost principles for a state, local or Indian tribal government is 2 CFR part 225, often referred to as OMB Circular A-87.[5] Key provisions of OMB Circular A-87 are discussed in another section below.

Matching or cost sharing rules are defined in the Common Rule. In particular, the regulations discuss the use of third party in-kind contributions, donated services, and volunteer services to meet matching requirements.

Program income is defined in the Common Rule as gross income received by the grantee or subgrantee directly generated by a grant supported activity, or earned only as a result of the grant agreement during the grant period. Program income includes income from fees for services performed, from the use or rental of real or personal property acquired with grant funds, from the sale of commodities or items fabricated under a grant agreement, and from payments of principal and interest on loans made with grant funds. FTA grantees may retain program income for allowable capital or operating expenses (the use of program income is defined by FTA program specific financial management regulations). Revenues received from the sale of advertising and concessions are excluded from program income.

The Common Rule establishes the basic procurement requirements. When procuring property and services under a grant, a state will follow the same policies and procedures it uses for procurements from its non-federal funds. The state will ensure that every purchase order or other contract includes any clauses required by federal statutes and executive orders and their implementing regulations. Other grantees and subgrantees will follow regulations as summarized below.

Procurement Standards.

(1) Grantees and subgrantees will use their own procurement procedures, which reflect applicable state and local laws and regulations, provided the procurements conform to applicable federal law and the standards identified in this section.
(2) Grantees and subgrantees will maintain a contract administration system, which ensures that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.
(3) Grantees and subgrantees will maintain a written code of standards of conduct governing the performance of their employees engaged in the award and administration of contracts.
(4) Grantee and subgrantee procedures will provide for a review of proposed procurements to avoid purchase of unnecessary or duplicative items. Consideration should be given to consolidating or breaking out procurements to obtain a more economical purchase. Where appropriate, an analysis will be made of lease versus purchase alternatives, and any other appropriate analysis to determine the most economical approach.
(5) To foster greater economy and efficiency, grantees and subgrantees are encouraged to enter into state and local intergovernmental agreements for procurement or use of common goods and services.
(6) Grantees and subgrantees are encouraged to use federal excess and surplus property in lieu of purchasing new equipment and property whenever such use is feasible and reduces project costs.
(7) Grantees and subgrantees are encouraged to use value engineering clauses in contracts for construction projects of sufficient size to offer reasonable opportunities for cost reductions.

[5] The source for applicable cost principles for a private nonprofit organization is 2 CFR part 230 (OMB Circular A-122). The source for cost principles for institutions of higher education is 2 CFR part 220 (OMB Circular A-21). The Federal Acquisition Regulations (FAR), specifically 48 C.F.R. Chapter 1, Subpart 31.2, "Contracts with Commercial Organizations," applies to costs incurred by a for-profit organization.

Value engineering is a systematic and creative analysis of each contract item or task to ensure that its essential function is provided at the overall lower cost.

(8) Grantees and subgrantees will make awards only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

(9) Grantees and subgrantees will maintain records sufficient to detail the significant history of a procurement. These records will include, but are not necessarily limited to the following: rationale for the method of procurement, selection of contract type, contractor selection or rejection, and the basis for the contract price.

(10) Grantees and subgrantees will use time and material type contracts only

(i) After a determination that no other contract is suitable, and

(ii) If the contract includes a ceiling price that the contractor exceeds at its own risk.

(11) Grantees and subgrantees alone will be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements. These issues include, but are not limited to source evaluation, protests, disputes, and claims. These standards do not relieve the grantee or subgrantee of any contractual responsibilities under its contracts. Federal agencies will not substitute their judgment for that of the grantee or subgrantee unless the matter is primarily a Federal concern. Violations of law will be referred to the local, state, or federal authority having proper jurisdiction.

(12) Grantees and subgrantees will have protest procedures to handle and resolve disputes relating to their procurements and shall in all instances disclose information regarding the protest to the awarding agency. A protestor must exhaust all administrative remedies with the grantee and subgrantee before pursuing a protest with the Federal agency. Reviews of protests by the Federal agency will be limited to:

(i) Violations of federal law or regulations and the standards of this section (violations of state or local law will be under the jurisdiction of state or local authorities) and

(ii) Violations of the grantee's or subgrantee's protest procedures for failure to review a complaint or protest. Protests received by the federal agency other than those specified above will be referred to the grantee or subgrantee.

<u>Competition</u>.

(1) All procurement transactions will be conducted in a manner providing full and open competition. Some of the situations considered to be restrictive of competition include but are not limited to:

(i) Placing unreasonable requirements on firms in order for them to qualify to do business,

(ii) Requiring unnecessary experience and excessive bonding,

(iii) Noncompetitive pricing practices between firms or between affiliated companies,

(iv) Noncompetitive awards to consultants that are on retainer contracts,

(v) Organizational conflicts of interest,

(vi) Specifying only a "brand name" product instead of allowing "an equal" product to be offered and describing the performance of other relevant requirements of the procurement, and

(vii) Any arbitrary action in the procurement process.

(2) Grantees and subgrantees will conduct procurements in a manner that prohibits the use of statutorily or administratively imposed in-state or local geographical preferences in the evaluation of bids or proposals, except in those cases where applicable federal statutes expressly mandate or encourage geographic preference. Nothing in this section preempts State licensing laws. When contracting for architectural and engineering (A/E) services, geographic

location may be a selection criteria provided its application leaves an appropriate number of qualified firms, given the nature and size of the project, to compete for the contract.

(3) Grantees will have written selection procedures for procurement transactions. These procedures will ensure that all solicitations:

(i) Incorporate a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description shall not, in competitive procurements, contain features which unduly restrict competition. The description may include a statement of the qualitative nature of the material, product or service to be procured, and when necessary, shall set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications should be avoided if at all possible. When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a "brand name or equal" description may be used as a means to define the performance or other salient requirements of a procurement. The specific features of the named brand which must be met by offerors shall be clearly stated; and

(ii) Identify all requirements which the offerors must fulfill and all other factors to be used in evaluating bids or proposals.

(4) Grantees and subgrantees will ensure that all prequalified lists of persons, firms, or products which are used in acquiring goods and services are current and include enough qualified sources to ensure maximum open and free competition. Also, grantees and subgrantees will not preclude potential bidders from qualifying during the solicitation period.

Methods of Procurement.

(1) Procurement by small purchase procedures. Small purchase procedures are those relatively simple and informal procurement methods for securing services, supplies, or other property that do not cost more than the simplified acquisition threshold fixed at 41 U.S.C. 403(11) (currently set at $100,000). If small purchase procedures are used, price or rate quotations shall be obtained from an adequate number of qualified sources.

(2) Procurement by sealed bids (formal advertising). Bids are publicly solicited and a firm-fixed-price contract (lump sum or unit price) is awarded to the responsible bidder whose bid, conforming with all the material terms and conditions of the invitation for bids, is the lowest in price. The sealed bid method is the preferred method for procuring construction.

(i) In order for sealed bidding to be feasible, the following conditions should be present:

(A) A complete, adequate, and realistic specification or purchase description is available;

(B) Two or more responsible bidders are willing and able to compete effectively and for the business; and

(C) The procurement lends itself to a firm fixed price contract and the selection of the successful bidder can be made principally on the basis of price.

(ii) If sealed bids are used, the following requirements apply:

(A) The invitation for bids will be publicly advertised and bids shall be solicited from an adequate number of known suppliers, providing them sufficient time prior to the date set for opening the bids;

(B) The invitation for bids, which will include any specifications and pertinent attachments, shall define the items or services in order for the bidder to properly respond;

(C) All bids will be publicly opened at the time and place prescribed in the invitation for bids;

(D) A firm fixed-price contract award will be made in writing to the lowest responsive and responsible bidder. Where specified in bidding documents, factors

such as discounts, transportation cost, and life cycle costs shall be considered in determining which bid is lowest. Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of; and

(E) Any or all bids may be rejected if there is a sound documented reason.

(3) Procurement by competitive proposals. The technique of competitive proposals is normally conducted with more than one source submitting an offer, and either a fixed-price or cost-reimbursement type contract is awarded. It is generally used when conditions are not appropriate for the use of sealed bids. If this method is used, the following requirements apply:

(i) Requests for proposals will be publicized and identify all evaluation factors and their relative importance. Any response to publicized requests for proposals shall be honored to the maximum extent practical;

(ii) Proposals will be solicited from an adequate number of qualified sources;

(iii) Grantees and subgrantees will have a method for conducting technical evaluations of the proposals received and for selecting awardees;

(iv) Awards will be made to the responsible firm whose proposal is most advantageous to the program, with price and other factors considered; and

(v) Grantees and subgrantees may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services whereby competitors' qualifications are evaluated and the most qualified competitor is selected, subject to negotiation of fair and reasonable compensation. The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms are a potential source to perform the proposed effort.

(4) Procurement by noncompetitive proposals is procurement through solicitation of a proposal from only one source, or after solicitation of a number of sources, competition is determined inadequate.

(i) Procurement by noncompetitive proposals may be used only when the award of a contract is infeasible under small purchase procedures, sealed bids or competitive proposals and one of the following circumstances applies:

(A) The item is available only from a single source;

(B) The public exigency or emergency for the requirement will not permit a delay resulting from competitive solicitation;

(C) The awarding agency authorizes noncompetitive proposals; or

(D) After solicitation of a number of sources, competition is determined inadequate.

(ii) Cost analysis, i.e., verifying the proposed cost data, the projections of the data, and the evaluation of the specific elements of costs and profits, is required.

(iii) Grantees and subgrantees may be required to submit the proposed procurement to the awarding agency for pre-award review.

<u>Contracting with Small, Minority and Woman-Owned Firms and Labor Surplus Area Firms</u>.

(1) The grantee and subgrantee will take all necessary affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when possible.

(2) Affirmative steps shall include:

(i) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(ii) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(iii) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;

(iv) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women's business enterprises;
(v) Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce; and
(vi) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed here.

Contract Cost and Price.

(1) Grantees and subgrantees must perform a cost or price analysis in connection with every procurement action including contract modifications. The method and degree of analysis is dependent on the facts surrounding the particular procurement situation, but as a starting point, grantees must make independent estimates before receiving bids or proposals. A cost analysis must be performed when the offeror is required to submit the elements of his estimated cost, e.g., under professional, consulting, and architectural engineering services contracts. A cost analysis will be necessary when adequate price competition is lacking, and for sole source procurements, including contract modifications or change orders, unless price reasonableness can be established on the basis of a catalog or market price of a commercial product sold in substantial quantities to the general public or based on prices set by law or regulation. A price analysis will be used in all other instances to determine the reasonableness of the proposed contract price.
(2) Grantees and subgrantees will negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed. To establish a fair and reasonable profit, consideration will be given to the complexity of the work to be performed, the risk borne by the contractor, the contractor's investment, the amount of subcontracting, the quality of its record of past performance, and industry profit rates in the surrounding geographical area for similar work.
(3) Costs or prices based on estimated costs for contracts under grants will be allowable only to the extent that costs incurred or cost estimates included in negotiated prices are consistent with federal cost principles. Grantees may reference their own cost principles that comply with the applicable federal cost principles.
(4) The cost plus a percentage of cost and percentage of construction cost methods of contracting shall not be used.

Awarding Agency Review.

(1) Grantees and subgrantees must make available, upon request of the awarding agency, technical specifications on proposed procurements where the awarding agency believes such review is needed to ensure that the item and/or service specified is the one being proposed for purchase. This review generally will take place prior to the time the specification is incorporated into a solicitation document. However, if the grantee or subgrantee desires to have the review accomplished after a solicitation has been developed, the awarding agency may still review the specifications, with such review usually limited to the technical aspects of the proposed purchase.
(2) Grantees and subgrantees must on request make available for awarding agency pre-award review procurement documents, such as requests for proposals or invitations for bids, independent cost estimates, etc. when:
    (i) A grantee's or subgrantee's procurement procedures or operation fails to comply with the procurement standards in this section; or
    (ii) The procurement is expected to exceed the simplified acquisition threshold and is to be awarded without competition or only one bid or offer is received in response to a solicitation; or

(iii) The procurement, which is expected to exceed the simplified acquisition threshold, specifies a "brand name" product; or
(iv) The proposed award is more than the simplified acquisition threshold and is to be awarded to other than the apparent low bidder under a sealed bid procurement; or
(v) A proposed contract modification changes the scope of a contract or increases the contract amount by more than the simplified acquisition threshold.

(3) A grantee or subgrantee will be exempt from the pre-award review if the awarding agency determines that its procurement systems comply with the standards of this section.
(i) A grantee or subgrantee may request that its procurement system be reviewed by the awarding agency to determine whether its system meets these standards in order for its system to be certified. Generally, these reviews shall occur where there is a continuous high-dollar funding, and third-party contracts are awarded on a regular basis.
(ii) A grantee or subgrantee may self-certify its procurement system. Such self-certification shall not limit the awarding agency's right to survey the system. Under a self-certification procedure, awarding agencies may wish to rely on written assurances from the grantee or subgrantee that it is complying with these standards. A grantee or subgrantee will cite specific procedures, regulations, standards, etc., as being in compliance with these requirements and have its system available for review.

Bonding Requirements.
For construction or facility improvement contracts or subcontracts exceeding the simplified acquisition threshold, the awarding agency may accept the bonding policy and requirements of the grantee or subgrantee provided the awarding agency has made a determination that the awarding agency's interest is adequately protected. If such a determination has not been made, the minimum requirements shall be as follows:

(1) A bid guarantee from each bidder equivalent to five percent of the bid price. The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.
(2) A performance bond on the part of the contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.
(3) A payment bond on the part of the contractor for 100 percent of the contract price. A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

Appendix A.2: OMB Circular A-87 Cost Principles for State, Local, and Indian Tribal Governments

This Circular establishes principles and standards for determining costs for federal awards carried out through grants, cost reimbursement contracts, and other agreements with State and local governments and federally recognized Indian tribal governments (governmental units). A uniform approach for determining costs is intended to promote effective program delivery, efficiency, and better relationships between governmental units and the federal government. The principles are for determining allowable costs only. They are not intended to identify the circumstances or to dictate the extent of federal and governmental unit participation in the financing of a particular federal award. Provision for profit or other increment above cost is outside the scope of this Circular.

Agencies responsible for administering programs that involve cost reimbursement contracts, grants, and other agreements with governmental units shall issue regulations to implement the provisions of this Circular and its Attachments. http://www.whitehouse.gov/omb/circulars_a087_2004

The application of these principles is based on the fundamental premises that:

(1) Governmental units are responsible for the efficient and effective administration of federal awards through the application of sound management practices.
(2) Governmental units assume responsibility for administering federal funds in a manner consistent with underlying agreements, program objectives, and the terms and conditions of the federal award.
(3) Each governmental unit, in recognition of its own unique combination of staff, facilities, and experience, will have the primary responsibility for employing whatever form of organization and management techniques may be necessary to assure proper and efficient administration of federal awards.

The substance of the circular is covered in five attachments.

Attachment A General Principles for Determining Allowable Costs

This Attachment establishes principles for determining the allowable costs incurred by state, local, and federally recognized Indian tribal governments (governmental units) under grants, cost reimbursement contracts, and other agreements with the federal government (collectively referred to in this Circular as "Federal awards"). The principles are for the purpose of cost determination and are not intended to identify the circumstances or dictate the extent of federal or governmental unit participation in the financing of a particular program or project.

To be allowable under Federal awards, costs must meet the following general criteria:

- Be necessary and reasonable for proper and efficient performance and administration of Federal awards.
- Be allocable to federal awards under the provisions of this Circular.
- Be authorized or not prohibited under state or local laws or regulations.
- Conform to any limitations or exclusions set forth in these principles, federal laws, terms and conditions of the federal award, or other governing regulations as to types or amounts of cost items.
- Be consistent with policies, regulations, and procedures that apply uniformly to both federal awards and other activities of the governmental unit.

- Be accorded consistent treatment. A cost may not be assigned to a federal award as a direct cost if any other cost incurred for the same purpose in like circumstances has been allocated to the federal award as an indirect cost.
- Except as otherwise provided for in this Circular, be determined in accordance with generally accepted accounting principles.
- Not be included as a cost or used to meet cost sharing or matching requirements of any other Federal award in either the current or a prior period, except as specifically provided by Federal law or regulation.
- Be the net of all applicable credits.
- Be adequately documented.

A cost is reasonable if, in its nature and amount, it does not exceed that which would be incurred by a prudent person under the circumstances prevailing at the time the decision was made to incur the cost. The question of reasonableness is particularly important when governmental units or components are predominately federally funded. In determining reasonableness of a given cost, consideration shall be given to:

- Whether the cost is of a type generally recognized as ordinary and necessary for the operation of the governmental unit or the performance of the federal award.
- The restraints or requirements imposed by such factors as: sound business practices; arm's length bargaining; federal, state and other laws and regulations; and, terms and conditions of the Federal award.
- Market prices for comparable goods or services.
- Whether the individuals concerned acted with prudence in the circumstances considering their responsibilities to the governmental unit, its employees, the public at large, and the federal government.
- Significant deviations from the established practices of the governmental unit which may unjustifiably increase the federal award's cost.

Attachment A also addresses the composition of cost.

- Total cost. The total cost of federal awards is comprised of the allowable direct cost of the program, plus its allocable portion of allowable indirect costs, less applicable credits.
- Classification of costs. There is no universal rule for classifying certain costs as either direct or indirect under every accounting system. A cost may be direct with respect to some specific service or function, but indirect with respect to the federal award or other final cost objective. Therefore, it is essential that each item of cost be treated consistently in like circumstances either as a direct or an indirect cost.
- Direct costs. Direct costs are those that can be identified specifically with a particular final cost objective. Typical direct costs chargeable to Federal awards are:
    - Compensation of employees for the time devoted and identified specifically to the performance of those awards.
    - Cost of materials acquired, consumed, or expended specifically for the purpose of those awards.
    - Equipment and other approved capital expenditures.
    - Travel expenses incurred specifically to carry out the award.
- Indirect costs. Indirect costs are those: (a) incurred for a common or joint purpose benefiting more than one cost objective, and (b) not readily assignable to the cost objectives specifically benefitted, without effort disproportionate to the results achieved. The term "indirect costs," as used herein, applies to costs of this type originating in the grantee department, as well as those incurred by other departments in supplying goods, services, and facilities. To facilitate equitable distribution of indirect expenses to the cost objectives served, it may be necessary

to establish a number of pools of indirect costs within a governmental unit department or in other agencies providing services to a governmental unit department. Indirect cost pools should be distributed to benefitted cost objectives on bases that will produce an equitable result in consideration of relative benefits derived.

- Minor items. Any direct cost of a minor amount may be treated as an indirect cost for reasons of practicality where such accounting treatment for that item of cost is consistently applied to all cost objectives.
- Cost allocation plans and indirect cost proposals. Requirements for development and submission of cost allocation plans and indirect cost rate proposals are contained in Attachments C, D, and E.
- Interagency services. The cost of services provided by one agency to another within the governmental unit may include allowable direct costs of the service plus a pro rate share of indirect costs. A standard indirect cost allowance equal to ten percent of the direct salary and wage cost of providing the service (excluding overtime, shift premiums, and fringe benefits) may be used in lieu of determining the actual indirect costs of the service. These services do not include centralized services included in central service cost allocation plans as described in Attachment C.

Attachment B Selected Items of Cost

Attachment B provides principles to be applied in establishing the allowability or unallowability of certain items of cost. These principles apply whether a cost is treated as direct or indirect. A cost is allowable for federal reimbursement only to the extent of benefits received by federal awards and its conformance with the general policies and principles stated in Attachment A to this Circular. The items of cost addressed in this Attachment include the following:

1. Advertising and public relations costs
2. Advisory councils
3. Alcoholic beverages
4. Audit costs and related services
5. Bad debts
6. Bonding costs
7. Communication costs
8. Compensation for personal services
9. Contingency provisions
10. Defense and prosecution of criminal and civil proceedings, and claims
11. Depreciation and use allowances
12. Donations and contributions
13. Employee morale, health, and welfare costs
14. Entertainment costs
15. Equipment and other capital expenditures
16. Fines and penalties
17. Fund raising and investment management costs
18. Gains and losses on disposition of depreciable property and other capital assets and substantial relocation of Federal programs
19. General government expenses
20. Goods or services for personal use
21. Idle facilities and idle capacity
22. Insurance and indemnification
23. Interest
24. Lobbying

25. Maintenance, operations, and repairs
26. Materials and supplies costs
27. Meetings and conferences
28. Memberships, subscriptions, and professional activity costs
29. Patent costs
30. Plant and homeland security costs
31. Pre award costs
32. Professional service costs
33. Proposal costs
34. Publication and printing costs
35. Rearrangement and alteration costs
36. Reconversion costs
37. Rental costs of building and equipment
38. Royalties and other costs for the use of patents
39. Selling and marketing
40. Taxes
41. Termination costs applicable to sponsored agreements
42. Training costs
43. Travel costs

Failure to mention a particular item of cost in these sections is not intended to imply that it is either allowable or unallowable; rather, determination of allowability in each case should be based on the treatment or standards provided for similar or related items of cost

Attachment C State/Local Wide Central Service Cost Allocation Plans

Most governmental units provide certain services, such as motor pools, computer centers, purchasing, accounting, etc., to operating agencies on a centralized basis. Since federally supported awards are performed within the individual operating agencies, there needs to be a process whereby these central service costs can be identified and assigned to benefitted activities on a reasonable and consistent basis. The central service cost allocation plan provides that process. All costs and other data used to distribute the costs included in the plan should be supported by formal accounting and other records that will support the propriety of the costs assigned to Federal awards. Guidelines and illustrations of central service cost allocation plans are provided in a brochure published by the Department of Health and Human Services entitled "A Guide for State and Local Government Agencies: Cost Principles and Procedures for Establishing Cost Allocation Plans and Indirect Cost Rates for Grants and Contracts with the Federal Government."

"Billed central services" means central services that are billed to benefitted agencies and/or programs on an individual fee for service or similar basis. Typical examples of billed central services include computer services, transportation services, insurance, and fringe benefits.

"Allocated central services" means central services that benefit operating agencies but are not billed to the agencies on a fee for service or similar basis. These costs are allocated to benefitted agencies on some reasonable basis. Examples of such services might include general accounting, personnel administration, purchasing, etc.

"Agency or operating agency" means an organizational unit or sub division within a governmental unit that is responsible for the performance or administration of awards or activities of the governmental unit.

Scope of the central service cost allocation plans include the following:

- The central service cost allocation plan will include all central service costs that will be claimed (either as a billed or an allocated cost) under federal awards and will be documented. Costs of central services omitted from the plan will not be reimbursed.
- Each local government that has been designated as a "major local government" by the Office of Management and Budget (OMB) is also required to submit a plan to its cognizant agency annually. OMB periodically lists major local governments in the Federal Register.
- All other local governments claiming central service costs must develop a plan in accordance with the requirements described in this Circular and maintain the plan and related supporting documentation for audit. These local governments are not required to submit their plans for federal approval unless they are specifically requested to do so by the cognizant agency. Where a local government only receives funds as a sub recipient, the primary recipient will be responsible for negotiating indirect cost rates and/or monitoring the sub recipient's plan.

All central service cost allocation plans will be prepared and, when required, submitted within six months prior to the beginning of each of the governmental unit's fiscal years in which it proposes to claim central service costs.

All proposed plans must be accompanied by the following:

- An organization chart sufficiently detailed to show operations including the central service activities of the state/local government whether or not they are shown as benefiting from central service functions.
- A copy of the comprehensive annual financial report (or a copy of the budget if budgeted costs are being proposed) to support the allowable costs of each central service activity included in the plan.
- A certification that the plan was prepared in accordance with this Circular, contains only allowable costs, and was prepared in a manner that treated similar costs consistently among the various federal awards and between federal and non-federal awards/activities.

For each allocated central service, the plan must also include the following: a brief description of the service, an identification of the unit rendering the service and the operating agencies receiving the service, the items of expense included in the cost of the service, the method used to distribute the cost of the service to benefitted agencies, and a summary schedule showing the allocation of each service to the specific benefitted agencies. If any self insurance funds or fringe benefits costs are treated as allocated (rather than billed) central services, documentation shall also be included.

Attachment D Public Assistance Cost Allocation Plans

This Attachment addresses federally financed programs administered by state public assistance agencies funded predominately by the Department of Health and Human Services.

Attachment E State and Local Indirect Cost Rate Proposals

Indirect costs are those that have been incurred for common or joint purposes. These costs benefit more than one cost objective and cannot be readily identified with a particular final cost objective without effort disproportionate to the results achieved. After direct costs have been determined and assigned directly to federal awards and other activities as appropriate, indirect costs are those remaining to be allocated to benefitted cost objectives. A cost may not be allocated to a federal award as an indirect cost if any other cost incurred for the same purpose, in like circumstances, has been assigned to a federal award as a direct cost.

Indirect costs include (a) the indirect costs originating in each department or agency of the governmental unit carrying out federal awards and (b) the costs of central governmental services distributed through the central service cost allocation plan (as described in Attachment C) and not otherwise treated as direct costs.

Indirect costs are normally charged to federal awards by the use of an indirect cost rate. A separate indirect cost rate(s) is usually necessary for each department or agency of the governmental unit claiming indirect costs under federal awards. Guidelines and illustrations of indirect cost proposals are provided in the brochure published by the Department of Health and Human Services entitled "A Guide for State and Local Government Agencies: Cost Principles and Procedures for Establishing Cost Allocation Plans and Indirect Cost Rates for Grants and Contracts with the Federal Government."

Because of the diverse characteristics and accounting practices of governmental units, the types of costs which may be classified as indirect costs cannot be specified in all situations. However, typical examples of indirect costs may include certain state/local wide central service costs, general administration of the grantee department or agency, accounting and personnel services performed within the grantee department or agency, depreciation or use allowances on buildings and equipment, the costs of operating and maintaining facilities, etc.

Where a governmental unit's department or agency has only one major function, or where all its major functions benefit from the indirect costs to approximately the same degree, the allocation of indirect costs and the computation of an indirect cost rate may be accomplished through simplified allocation procedures.

Where a governmental unit's department or agency has several major functions which benefit from its indirect costs in varying degrees, the allocation of indirect costs may require the accumulation of such costs into separate cost groupings which then are allocated individually to benefitted functions by means of a base which best measures the relative degree of benefit. The indirect costs allocated to each function are then distributed to individual awards and other activities included in that function by means of an indirect cost rate(s).

Specific methods for allocating indirect costs and computing indirect cost rates along with the conditions under which each method should be used are described in Attachment E, subsections 2, 3 and 4.

Appendix A.3: Federal Transit Administration Master Agreement

The official FTA Master Agreement contains the standard terms and conditions governing the administration of a project that FTA supports with federal assistance (funds or funding) awarded through a Grant Agreement or Cooperative Agreement with the Recipient (underlying Agreement), or a Transportation Infrastructure Loan, Loan Guarantee, or Line of Credit FTA extends to the Recipient (also, underlying Agreement). FTA MA(18) was effective October 1, 2011.
http://www.fta.dot.gov/documents/18-Master.pdf

This Master Agreement applies to federal funds authorized by:

- Federal Transit Laws, 49 U.S.C. chapter 53,
- Title 23, United States Code (Highways),
- The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Pub. L. 109-59, August 10, 2005, as amended by the SAFETEA-LU Technical Corrections Act of 2008, Pub. L. 110-244, June 6, 2008,
- The Transportation Equity Act for the 21st Century (TEA-21), Pub. L. 105-178, June 9, 1998, as amended,
- The National Capital Transportation Act of 1969,
- The D.C. Official Code, 9-1111.01 et seq.,
- The American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, February 17, 2009 ("Recovery Act"), or
- Other Federal legislation FTA administers as FTA so determines.

According to the Master Agreement, FTA and the Recipient understand and agree that they both must comply with all applicable federal laws and regulations, and should follow applicable federal directives, except as FTA determines otherwise in writing. In addition, the Recipient needs to be sure that others participating in its project, whether as subrecipients, lessees, third party contractors, third party subcontractors, or otherwise (third party participants) comply with federal laws, and regulations, and follow directives to the extent that the Recipient's compliance with federal requirements will not be compromised. A Recipient or a third party participant that violates a federal law or regulation, or fails to follow a federal directive that applies to itself or the Project, may incur penalties.

FTA and the Recipient understand and agree that not every provision of the Master Agreement will apply to every Recipient or every project for which FTA provides federal funds. The type of project, the federal laws authorizing the federal funding for the project, the federal regulations governing how the project is implemented, and the recipient's legal status as a "state," "local government," "private non-profit entity," or "private for-profit entity" will determine which federal laws, regulations, and directives apply.

FTA will enforce only those federal laws, regulations, and directives that apply to the Recipients, their third party participants, and their activities related to the project as required by federal law and regulations. Federal laws, regulations, and directives that do not apply will not be enforced. To determine the extent to which the provisions of this Master Agreement do apply, however, FTA and the Recipient understand and agree that each provision of the Master Agreement must be interpreted in view of the requirements of the Master Agreement as a whole.

The Master Agreement consists of 60 sections.

Section 1. Definitions.
Section 2. Project Implementation.
Section 3. Ethics.
Section 4. Federal Assistance.
Section 5. Local Share.
Section 6. Approved Project Budget.
Section 7. Accounting Records.
Section 8. Reporting, Record Retention, and Access.
Section 9. Payments.
Section 10. Project Completion, Audit, Settlement, and Closeout.
Section 11. Right of the Federal Government to Terminate.
Section 12. Civil Rights.
Section 13. Planning and Private Enterprise.
Section 14. Preference for United States Products and Services.
Section 15. Procurement.
Section 16. Leases.
Section 17. Patent Rights.
Section 18. Rights in Data and Copyrights.
Section 19. Use of Real Property, Equipment, and Supplies.
Section 20. Insurance.
Section 21. Relocation.
Section 22. Real Property.
Section 23. Construction.
Section 24. Employee Protections.
Section 25. Environmental Protections.
Section 26. Energy Conservation.
Section 27. State Management and Monitoring Systems.
Section 28. Charter Service Operations.
Section 29. School Transportation Operations.
Section 30. Metric System.
Section 31. Geographic Information and Related Spatial Data.
Section 32. Substance Abuse.
Section 33. Federal $1 Coin Requirements
Section 34. State Safety Oversight of Rail Fixed Guideway Public Systems.
Section 35. Motor Carrier Safety.
Section 36. Safe Operation of Motor Vehicles.
Section 37. Protection of Sensitive Security Information.
Section 38. Special Notification Requirements for States.
Section 39. Special Provisions for the Urbanized Area Formula Program.
Section 40. Special Provisions for the Elderly Individuals and Individuals with Disabilities Formula Program and Pilot Program.
Section 41. Special Provisions for the New Freedom Program.
Section 42. Special Provisions for the Nonurbanized Area Formula Program.
Section 43. Special Provisions for the Clean Fuels Grant Program.
Section 44. Special Provisions for Research, Development, Demonstration, and
Section 45. Special Provisions for Medical Transportation Projects.
Section 46. Special Provisions for the National Technical Assistance Center for Senior Transportation.
Section 47. Special Provisions for Human Resources Fellowships.

Section 48. Special Provisions for the Job Access and Reverse Commute Formula Grant Program.
Section 49. Special Provisions for the Paul S. Sarbanes Transit in Parks Program.
Section 50. Special Provisions for the Over-the-Road Bus Accessibility Projects.
Section 51. Special Provisions for State Infrastructure Bank Projects.
Section 52. Special Provisions for Transportation Infrastructure Finance and Innovation Act Projects.
Section 53. Special Provisions for Recovery Act Projects.
Section 54. Special Provisions for Joint FTA - FRA Recovery Act Projects.
Section 55. Freedom of Information Act.
Section 56. Disputes, Breaches, Defaults, or Other Litigation.
Section 57. Amendments to the Project.
Section 58. FTA's Electronic Management System.
Section 59. Information Obtained Through Internet Links.
Section 60. Severability.

The Master Agreement with FTA is signed by the designated recipient (TxDOT and NCTCOG), and the designated recipient must provide assurances that subrecipients (including PTS) will follow the applicable provisions. The following discussion highlights selected topics in Master Agreement. This list is not intended as a comprehensive review of the Master Agreement, but is only intended to indicate sections that have particular impact on PTS.

Section 15. Procurement

The Recipient agrees not to use FTA funds for third party procurements unless they comply with Federal requirements:

- 49 U.S.C. chapter 53 – Public Transportation (as amended by SAFETEA-LU) and other applicable Federal laws and regulations now in effect or later that affect its third party procurements,
- 49 C.F.R. § 18.36 and other applicable Federal regulations that affect its third party procurements as may be later amended, and
- Most recent edition and any revisions of FTA Circular 4220.1F, "Third Party Contracting Guidance," except as FTA determines otherwise in writing.

Full and open competition. The Recipient agrees to conduct all its third party procurements using full and open competition as provided in 49 U.S.C. § 5325(a), and as determined by FTA.

Exclusionary or discriminatory specifications. The Recipient agrees not to use any FTA Project funds for any procurement based on exclusionary or discriminatory specifications, as provided by 49 U.S.C. § 5325(h), unless authorized by other applicable Federal law or regulations.

Geographic restrictions. The Recipient agrees not to use any State or local geographic preference, except:

(1) A preference expressly mandated by Federal law, or
(2) A preference permitted by FTA. For example, in procuring architectural engineering, or related services, the contractor's geographic location may be a selection criterion, provided that a sufficient number of qualified firms are eligible to compete.

In-state bus dealer restrictions. The Recipient agrees that any State law requiring buses to be purchased through in-State dealers will not apply to purchases of vehicles funded by 49 U.S.C. chapter 53, as provided by 49 U.S.C. § 5325(i).

Section 38. Special Provisions for the Urbanized Area Formula Program.

The Recipient agrees that the following provisions apply to Urbanized Area Formula Program assistance authorized under 49 U.S.C. § 5307, and agrees to comply with the requirements thereof, except to the extent that FTA determines otherwise in writing:

a. Fares and Services. Before increasing fares or instituting a major reduction of service, the Recipient agrees to use its established administrative process to solicit and consider public comment.

b. Audit Requirements. The Recipient agrees that the Federal Government may conduct, or may require the Recipient to engage an independent entity to conduct, annual or more frequent reviews and audits as required by 49 U.S.C. § 5307(h) and any applicable Federal regulations or directives that may be issued. The Recipient agrees that such audits will be conducted in accordance with U.S. GAO "Government Auditing Standards."

c. Half Fare Requirements. The Recipient agrees that the fares or rates it charges elderly individuals and handicapped individuals during nonpeak hours for public transportation using or involving Project facilities and equipment will not exceed one half of the rates that generally apply to other individuals at peak hours, irrespective of whether the operation of Project facilities or equipment is by the Recipient or by another entity connected with the Project either through lease, third party contract, or otherwise. In addition, the Recipient agrees to give the rate required herein to any individual presenting a Medicare card duly issued to that individual pursuant to Title II or XVIII of the Social Security Act, 42 U.S.C. §§ 401 et seq., or 42 U.S.C. §§ 1395 et. seq., respectively.

d. Use of Formula Assistance for Operations. A Recipient authorized to use Federal assistance authorized under 49 U.S.C. § 5307 to support operations agrees as follows:
   (1) The Recipient will comply with the restrictions of 49 U.S.C. §§ 5307(b) and 5307(f) in using Urbanized Area Formula Program assistance for operations, unless permitted otherwise by subsequent Federal law, regulation, or directive.
   (2) Federal assistance authorized by 49 U.S.C. § 5307 may be applied to the Net Project Cost of the Recipient's operating expenses incurred during the Project time period as set forth in the Approved Project Budget and, with FTA approval, may be extended to a later date to the extent permitted by law, provided that applicable operating assistance limits are not exceeded.

e. Public Transportation Security. For each fiscal year, the Recipient agrees to spend at least one (1) percent of its Federal assistance authorized under 49 U.S.C. § 5307 for public transportation security projects as described in 49 U.S.C. § 5307(d)(1)(J)(i), unless the Recipient has determined that such expenditures for security projects are not necessary. For a Recipient serving an urbanized area with a population of 200,000 or more, only capital projects are eligible for support with that Federal assistance.

f. Public Transportation Enhancements. If the Recipient serves an urbanized area with a population of 200,000 or more, the Recipient agrees to spend each fiscal year at least one (1) percent of its Federal assistance authorized under 49 U.S.C. § 5307 for public transportation enhancements as defined at 49 U.S.C. § 5302(a), and submit an annual report listing the projects carried out in the preceding fiscal year with that Federal assistance.

g. Reporting Requirements. For each fiscal year, the Recipient agrees to conform, and assures that any public transportation operator to which the Recipient provides Federal assistance authorized under 49 U.S.C. § 5307 will conform to the National Transit Database reporting system and the uniform system of accounts and records required by 49 U.S.C. § 5335(a) for FTA's national transit database. FTA regulations, "Uniform System of Accounts and Records and Reporting System," 49 C.F.R. Part 630, and any subsequent reporting regulations and directives FTA may promulgate.

h. Participation of Subrecipients. The Recipient agrees to enter into a written agreement with each subrecipient participating in an Urbanized Area Formula Project, which agreement sets forth the subrecipient's responsibilities, and includes appropriate clauses imposing requirements necessary to assure that the subrecipient will not compromise the Recipient's compliance with Federal requirements applicable to the Project and the Recipient's obligations under the Grant Agreement for the Project and this Master Agreement.

Section 39. Special Provisions for the Elderly Individuals and Individuals with Disabilities Formula Program and Pilot Program

The Recipient agrees that the following provisions apply to Elderly Individuals and Individuals with Disabilities Formula Program and Pilot Program assistance authorized under 49 U.S.C. § 5310 as amended by SAFETEA LU and subsection 3012(b) of SAFETEA LU, 49 U.S.C. § 5310 note, respectively, and agrees to comply with the requirements thereof, except to the extent that FTA determines otherwise in writing:

a. Eligible Subrecipients. The Recipient agrees to provide Federal assistance authorized under 49 U.S.C. § 5310 or subsection 3012(b) of SAFETEA LU, 49 U.S.C. § 5310 note, only to a subrecipient that qualifies as:
   (1) a private nonprofit organization meeting the special needs of elderly individuals and individuals with disabilities for whom public transportation services are unavailable, insufficient, or inappropriate;
   (2) a governmental authority approved by the State to coordinate services for elderly individuals and individuals with disabilities; or
   (3) a governmental authority that certifies to the Governor that there are no nonprofit organizations in its area readily available to provide service meeting the special needs of the elderly individuals and individuals with disabilities.

b. State Procedures. The Recipient agrees to administer each Project financed with Federal assistance authorized under the Elderly Individuals and Individuals with Disabilities Formula Program in accordance with 49 U.S.C. § 5310. A Recipient participating in the Elderly Individuals and Individuals with Disabilities Pilot Program agrees to administer its Projects in accordance with subsection 3012(b) of SAFETEA LU, 49 U.S.C. § 5310 note and applicable provisions of 49 U.S.C. § 5310. Except to the extent that FTA determines otherwise in writing, the provisions of FTA Circular 9070.1E, "Elderly and Persons with Disabilities Program Guidance and Application Instructions" including any revisions thereto, and other applicable FTA laws, regulations, and directives, apply to the Project to the extent the provisions of FTA Circular 9070.1E are consistent 49 U.S.C. § 5310 as amended by SAFETEA LU, or subsection 3012(b) of SAFETEA LU, 49 U.S.C. § 5310 note, if applicable. To the extent, however, that 49 U.S.C. § 5310 as amended by SAFETEA LU, section 3012(b) of SAFETEA LU, 49 U.S.C. § 5310 note, or any existing or subsequent Federal law or regulation conflicts with the provisions of FTA Circular 9070.1E or any subsequent revision thereto, the latest Federal law or regulation will apply. The Recipient also agrees that when FTA Circular 9070.1F "Elderly

Individuals And Individuals With Disabilities Program Guidance and Application Instructions," is issued, the Recipient will comply with the procedures of that circular, except to the extent that FTA determines otherwise in writing. In summary, the Recipient agrees to comply with the latest guidance issued by FTA pertaining to the Elderly Individuals and Individuals with Disabilities Program.

c. Participation of Subrecipients. The Recipient agrees to enter into a written agreement with each subrecipient participating in an Elderly Individuals and Individuals with Disabilities Formula Project or Pilot Project, which agreement sets forth the subrecipient's responsibilities, and includes appropriate clauses imposing requirements necessary to assure that the subrecipient will not compromise the Recipient's compliance with Federal requirements applicable to the Project and the Recipient's obligations under the Grant Agreement for the Project and this Master Agreement.

d. Eligible Project Activities. Federal assistance authorized under 49 U.S.C. § 5310 may be used for a Project to meet the special needs of elderly individuals and individuals with disabilities, as follows:
   (1) Capital Projects. Except as set forth in Subsection 39.d(2) of this Master Agreement below, only capital projects are eligible for Federal assistance authorized under 49 U.S.C. § 5310, and may include meal delivery service to the extent permitted by 49 U.S.C. § 5310(g).
   (2) Operating Assistance Limitation. Only if the Recipient is selected to participate in the Elderly Individuals and Individuals with Disabilities Pilot Program established by subsection 3012(b) of SAFETEA LU, 49 U.S.C. § 5310 note, may Federal assistance authorized under 49 U.S.C. § 5310 be used to finance operating expenses, and then only 33 percent of the funds apportioned to that Recipient may be used to finance operating expenses for projects to meet the special needs of elderly individuals and individuals with disabilities.

e. Leasing of Vehicles. Vehicles acquired with Federal assistance authorized under 49 U.S.C. § 5310 may be leased to local governmental authorities to improve transportation services to meet the special needs of elderly individuals and individuals with disabilities.

f. Transfer of Project Property. In addition to 49 U.S.C. § 5334(h), which authorizes the transfer of Project property, 49 U.S.C. § 5310(h) also authorizes the Recipient to transfer Project property acquired with Federal assistance authorized under 49 U.S.C. § 5310 to any entity eligible to receive assistance under 49 U.S.C. chapter 53, provided the subrecipient currently possessing the Project property consents to the transfer, and the transferred Project property will continue to be used in accordance with the requirements of 49 U.S.C. § 5310.

Section 40. Special Provisions for the New Freedom Program

The Recipient agrees that the following provisions apply to New Freedom Program assistance authorized under 49 U.S.C. § 5317, and agrees to comply with the requirements thereof, except to the extent that FTA determines otherwise in writing:

a. General. The Recipient agrees to comply with the requirements of 49 U.S.C. § 5317 and with other Federal laws that may be applicable, as well as with implementing Federal regulations and directives, when issued.

b. FTA Notice. The Recipient agrees to comply with the provisions of the most recent applicable FTA Notice pertaining to the New Freedom Program, and any subsequent revision thereto. In addition, the Recipient agrees to comply with FTA Circular, "New Freedom Program Guidance and Application Instructions," when issued.

c. Participation of Subrecipients. The Recipient agrees to enter into a written agreement with each subrecipient participating in a New Freedom Project, which agreement sets forth the subrecipient's responsibilities, and includes appropriate clauses imposing requirements necessary to assure that the subrecipient will not compromise the Recipient's compliance with Federal requirements applicable to the Project and the Recipient's obligations under the Grant Agreement or Cooperative Agreement for the Project and this Master Agreement.

Section 41. Special Provisions for the Nonurbanized Area Formula Program

The Recipient agrees that the following provisions apply to Nonurbanized Area Formula Program assistance administered by States and authorized under 49 U.S.C. § 5311(b), and agrees to comply with the requirements thereof:

a. State Procedures. The Recipient agrees to administer each Project in accordance with 49 U.S.C. § 5311(b) and other applicable provisions of 49 U.S.C. § 5311 as amended by SAFETEA LU. Except to the extent that FTA determines otherwise in writing, the provisions of FTA Circular 9040.1E, "Nonurbanized Area Formula Program Guidance and Grant Application Instructions," including any revisions thereto, and other applicable FTA laws, regulations, and directives apply to the Project to the extent those provisions are consistent with 49 U.S.C. § 5311 as amended by SAFETEA LU. To the extent, however, that 49 U.S.C. § 5311 as amended by SAFETEA LU or any existing or subsequent Federal law or regulation conflicts with the provisions of FTA Circular 9040.1E or any subsequent revision thereto, the latest Federal law or regulation will apply. The Recipient also agrees that when FTA Circular 9040.1F "Nonurbanized Area Formula Program Guidance and Grant Application Instructions," is issued, the Recipient will comply with the procedures of that circular, except to the extent that FTA determines otherwise in writing. In summary, the Recipient agrees to comply with the latest guidance issued by FTA pertaining to this program.

b. Participation of Subrecipients. The Recipient agrees to enter into a written agreement with each subrecipient participating in a Nonurbanized Area Formula Project, which agreement sets forth the subrecipient's responsibilities, and includes appropriate clauses imposing requirements necessary to assure that the subrecipient will not compromise the Recipient's compliance with Federal requirements applicable to the Project and the Recipient's obligations under the Grant Agreement for the Project and this Master Agreement.

c. Eligible Project Activities. Federal assistance provided for the Grant Agreement and subagreements may be used for public transportation Projects in areas other than urbanized areas. Projects financed with Federal assistance transferred from other Federal programs must be eligible for Federal assistance authorized under 49 U.S.C. § 5311(b), and may include purchase of service agreements with private providers of public transportation service, as well as capital and operating assistance, and meal delivery service, to the extent permitted by 49 U.S.C. § 5310(g).

d. Transfer of Project Property. In addition to 49 U.S.C. § 5334(h), which authorizes the Recipient to transfer Project facilities and equipment, 49 U.S.C. § 5311(h) also authorizes the Recipient to transfer Project property acquired with Federal assistance authorized under 49 U.S.C. § 5311 to

any entity eligible to receive Federal assistance authorized under 49 U.S.C. chapter 53, provided that the subrecipient currently in possession of the Project property consents to the transfer, and the transferred Project property will continue to be used in accordance with the requirements of 49 U.S.C. § 5311.

e. Intercity Transportation. The Recipient agrees to spend a minimum of at least fifteen (15) percent of its Federal assistance authorized under 49 U.S.C. § 5311(f) each fiscal year for intercity transportation Projects, unless the chief executive officer of the State or duly authorized designee has certified to FTA that the intercity bus service needs within the State are being adequately fulfilled.

f. Reporting Requirements. As required by 49 U.S.C. §§ 5311(b)(4) and 5335(a), the Recipient agrees to conform, and assures that any public transportation operator to which the Recipient provides Federal assistance authorized under 49 U.S.C. § 5311(b) will conform, to the reporting system and the uniform system of accounts and records required by 49 U.S.C. § 5335(a) for FTA's national transit database and FTA regulations, "Uniform System of Accounts and Records and Reporting System," 49 C.F.R. Part 630, and any subsequent implementing regulations and directives FTA may issue.

Section 47. Special Provisions for Job Access and Reverse Commute Formula Grant Program.

The Recipient agrees that the following provisions apply to Job Access and Reverse Commute Formula Grant Program assistance authorized under 49 U.S.C. § 5316, and agrees to comply with the requirements thereof, except to the extent that FTA determines otherwise in writing:

a. General. The Recipient agrees to comply with 49 U.S.C. § 5316, and provisions of 49 U.S.C. § 5307 and with other Federal laws that may be applicable, and with Federal regulations and directives when issued.

b. FTA Notice. The Recipient agrees to comply with the provisions of the most recent applicable FTA Notice pertaining to the Job Access and Reverse Commute Formula Grant Program, and any subsequent revision thereto. In addition, the Recipient agrees to comply with FTA Circular, "The Job Access And Reverse Commute (JARC) Program Guidance And Application Instructions," when issued.

c. Participation of Subrecipients. The Recipient agrees to enter into a written agreement with each subrecipient participating in a Job Access and Reverse Commute Project, which agreement sets forth the subrecipient's responsibilities, and includes appropriate clauses imposing requirements necessary to assure that the subrecipient will not compromise the Recipient's compliance with Federal requirements applicable to the Project and the Recipient's obligations under the Grant Agreement and this Master Agreement.

Appendix A.4: FTA Circular 4220.1F Third Party Contracting Guidance

The Federal Transit Administration developed this circular to assist its recipients and their subrecipients in complying with the various federal laws and regulations that affect their FTA assisted procurements. FTA considers this circular, in its entirety, to be a guidance document. While this guidance itself does not have the force and effect of federal law or regulation, it does contain information about federal laws and regulations for which compliance is mandatory when applicable.

As guidance, this circular attempts to describe how a recipient or subrecipient of FTA assistance can comply with those federal requirements. In some cases, this guidance describes the single method by which an FTA recipient or subrecipient can comply with a specific federal legal or regulatory requirement. In other cases, federal laws, regulations, and this guidance provide more flexibility. As guidance, this circular also expresses FTA's preferences about how the procurements it supports should be undertaken. FTA's Master Agreement reflects FTA and the recipient's agreement that FTA's third party contracting circular will apply to its third party contracts. As a guidance document, it does not waive any requirements of federal statutes or regulations restated herein except as permitted by their terms.

FTA reserves the right to decline to participate in the costs of third party procurements that fail to comply with federal laws, regulations, or the terms of the recipient's underlying grant or cooperative agreement.

1) Written Standards of Conduct

"The Common Grant Rules require each recipient to maintain written standards of conduct governing the performance of its employees engaged in the award and administration of contracts."

(a) "…no employee, officer, agent, or board member, or his or her immediate family member, partner, or organization that employs or is about to employ any of the foregoing may participate in the selection, award, or administration of a contract supported with FTA assistance if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when any of those previously listed has a financial or other interest in the firm selected for award."

(b) "The recipient's officers, employees, agents, or board members may neither solicit nor accept gifts, gratuities, favors, or anything of monetary value from contractors, potential contractors, or parties to subagreements. The recipient may set minimum rules when the financial interest is not substantial or the gift is an unsolicited item of nominal intrinsic value."

(c) "To the extent permitted by State or local law or regulations, such standards of conduct will provide for penalties, sanctions, or other disciplinary action for violation of such standards by the recipient's officers, employees, agents, board members, or by contractors or subrecipients or their agents." [FTA C 4220.1F, III, 1.a, b, c.]

2) Contract Administration System

"The Common Grant Rules require the recipient to maintain a contract administration system to ensure that it and its third party contractors comply with the terms, conditions, and specifications of their contracts or purchase orders and applicable Federal, State and local responsibilities." [FTA C 4220.1F, III, 3.]

3) Written Protest Procedures

FTA expects each recipient to have appropriate written protest procedures, as part of its requirement to maintain or acquire adequate technical capacity to implement the project.

(a) Recipients are required "to notify FTA when they receive a third party contract protest to which this circular applies, and to keep FTA informed about the status of the protest."
(b) The protester must exhaust its administrative remedies by pursuing the recipient's protest procedures to completion before appealing the recipient's decision to FTA.
(c) The protestor must be an "interested party," that is, "a party that is an actual or prospective bidder whose direct economic interest would be affected by the award or failure to award the third party contract at issue.
(d) FTA will limit its review of third party contract protests as follows:
    1. The recipient does not have protest procedures, or
    2. Has not complied with its protest procedures, or
    3. Has not reviewed the protest when presented an opportunity to do so.
    4. When a Federal law or regulation is involved…FTA will exercise discretionary jurisdiction over those appeals involving issues important to FTA's overall public transportation program.
(e) The protestor must deliver its appeal to the FTA Regional Administrator…within five (5) working days of the date when the protestor has received actual or constructive notice of the recipient's final decision," or …"when the protestor has identified other grounds for appeal to FTA," such as "the recipient's failure to have or failure to comply with its protest procedures or failure to review the protest." [FTA C 4220.1F, VII, 1.a. b.]

4) Prequalification System

"A recipient may prequalify people, firms, or products for participation in its procurements provided that:

(a) …lists used in acquiring property and services are current.
(b) …lists include enough qualified sources to ensure maximum full and open competition.
(c) The recipient permits potential bidders or proposers to qualify during the solicitation period (from the issuance of the solicitation to its closing date), as set forth in the Common Grant Rule for governmental recipients. Evaluations for prequalification, however, need not be accelerated or truncated. FTA does not require a recipient to hold a particular solicitation open to accommodate a potential bidder or proposer that submits a person, firm, or product for approval before or during that solicitation." [FTA C 4220.1F, VI, 1.c]

Grantees are not required, or encouraged, to have a prequalification system. Prequalification systems are difficult and costly to maintain in a way that does not inhibit competition. The intent of this element is to ensure that, if a grantee maintains a prequalification list for one or more products or services, or a qualified manufacturers list, such lists are current and provide full and open competition.

5) Procedures for Ensuring Most Efficient and Economic Purchase

"Proposed procurements should be reviewed to avoid the purchase of property and services the recipient does not need (including duplicative items and unnecessary options)…. Consideration should be given to consolidating or breaking out procurements to obtain a more economical purchase…To obtain the best value, lease versus purchase alternatives for acquiring property should be reviewed and, if necessary, an analysis should be obtained to determine the more economical alternative." FTA requires the recipient to make a written determination of the cost of leasing the asset compared with the cost of purchasing or constructing it." [FTA C 4220.1F, IV, 1.b. c. e.]

6) Procurement Policies and Procedures

"Each recipient and subrecipient may use its own procurement procedures, provided that its procurements conform to applicable Federal law and regulations." [FTA C 4220.1F, III, 3.a.]
"…the guidance within this circular applies to each Federal Transit Administration (FTA) recipient of Federal assistance…." [FTA C 4220.1F, II, 1.]

7) Independent Cost Estimate

"The Common Grant Rules require the recipient to perform a cost or price analysis in connection with every procurement action ...as a starting point, the recipient must make independent estimates before receiving bids or proposals." [FTA C 4220.1F, VI, 6.; BPPM § 2.3.2]

8) A&E Geographic Preference

"Geographic location may be a selection criterion [in procurements for architectural and engineering (A&E) services] provided an appropriate number of qualified firms are eligible to compete for the contract, given the nature and size of the project." [FTA C 4220.1F, VI, 2.a. (4) (g); BPPM § 6.5]

9) Unreasonable Qualification Requirements

Example of situation restrictive of competition: "Unreasonable requirements placed on bidders or offerors in order for them to qualify to do business." [FTA C 4220.1F, VI, 2.a. (4) (a); BPPM § 2.4.2.1]

10) Unnecessary Experience and Excessive Bonding

Example of situation restrictive of competition: "Unnecessary experience" and "excessive bonding requirements… FTA does not require any bonding for rolling stock, services, maintenance operations, or any contracts other than construction…." [FTA C 4220.1F, IV, 2.b.h. (1); BPPM § 2.4.2.1.]

11) Organizational Conflict of Interest

Example of situation restrictive of competition: "Organizational Conflict of Interest. An organizational conflict of interest occurs when any of the following circumstances arise:

a. Lack of Impartiality. When the contractor is unable, or potentially unable, to render impartial assistance or advice to the recipient due to other activities, relationships, contracts, or other circumstances.
b. Impaired Objectivity. When the contractor's objectivity in performing the contract work is or might be otherwise be impaired due to other activities, relationships, contracts, or other circumstances.
c. Unfair Competitive Advantage. The contractor has an unfair competitive advantage." [FTA C 4220.1F, VI, 2.a. (4) (h); BPPM § 2.4.2.2.2]

12) Arbitrary Action

Example of situation restrictive of competition: "Taking any arbitrary action in the procurement process." [FTA C 4220.1F, VI, 2.a. (4) (j); BPPM § 2.4.2.1]

13) Brand Name Restrictions

Example of situation restrictive of competition: "Specifying only a 'brand name' product instead of allowing an 'or equal' product to be offered or failing to specify the brand name product's salient characteristics." [FTA C 4220.1F, VI, 2.a. (4) (f); BPPM § 2.4.2.1 and 2.4.2.2.1]

(a) "Detailed product specifications should be avoided if at all possible in favor of performance specifications." " [FTA C 4220.1F, VI, 2.a. (1)]
(b) "When it is impractical or uneconomical to make a clear and accurate description of the technical requirements of the property… a 'brand name or equal' description may be used as a means to define the performance or other salient characteristics of a specific type of property. The recipient, however, must state the salient characteristics of the named brand that offerors must provide." [FTA C 4220.1F, VI, 2.a. (3); BPPM § 4.3.2, 4.4.1, 4.5.1, and 4.5.2]

14) Geographic Preferences

Example of situation restrictive of competition: "Specifying statutorily or administratively imposed in-State or local geographical preferences or evaluating bids and proposals in light of such in-State or local geographical preferences. Specifically, an FTA recipient is prohibited …from limiting their bus purchases to in-State dealers." [FTA C 4220.1F, VI, 2. a. (4) (g)]

15) Contract Term Limitation

(a) "To comply with 49 U.S.C 5325 (e)(1), a multi - year third party contract to purchase additional rolling stock and replacement parts may not have options that extend more than five years after the date of the original contract."
(b) "FTA interprets this five-year period as covering the recipient's rolling stock and replacement needs from the first day when the contract becomes effective to those at the end of the fifth year. This means that the contract may not encompass more rolling stock and replacement parts than the recipient needs within five years. The five-year rule does not mean delivery, acceptance, or even fabrication must be completed in five years – only that a contract is limited to purchasing no more than the recipient's rolling stock or replacement parts needs for five years based on the effective date of the contract." [FTA C 4220.1F, IV, 2.e.(10)]

16) Written Procurement Selection Procedures

(a) "The Common Grant Rule…requires the recipient to have written procurement procedures." [FTA C 4220.1F, III, 3. a.; BPPM § 4.3.2, 4.4.1, 4.5.1, and 4.5.2]
(b) "The Common Grant Rules require that each solicitation provide for the following…Identify all factors to be used in evaluating bids or proposals." FTA C 4220.1F, VI, 2.e.; BPPM § 4.3.2, 4.4.1, 4.5.1, and 4.5.2]

17) Solicitation Prequalification Criteria

A recipient may prequalify people, firms, or products for participation in its procurements provided that:

(1) "Lists. The recipient ensures that all its prequalification lists used in acquiring property and services are current. [FTA C 4220.1F, VI, 1.c.(1)]
(2) "Sources. The recipient ensures that all its prequalification lists include enough qualified sources to ensure maximum full and open competition." [FTA C 4220.1F, VI, 1.c.(2)]
(3) "Qualification Periods. The recipient permits potential bidders or proposers to qualify during the solicitation period) from the issuance of the solicitation to its closing date)." [FTA C 4220.1F, VI, 1.c.(3)]

18) Award to Responsible Contractors

"A recipient may award a contract …only to a 'responsible' contractor capable of successfully performing under the terms and conditions of the contract. To determine responsibility, the recipient must consider the following criteria before awarding the contract:

(1) Integrity. The contractor's integrity;
(2) Public Policy. The contractor's compliance with public policy;
(3) Past Performance. The contractor's past performance;
(4) Financial and Technical Resources. The contractor's financial and technical resources, and;
(5) Debarment/Suspension. Contractor's status with respect to DOT regulations, 'Governmentwide Debarment and Suspension (Nonprocurement),' 49 CFR Part 29." [FTA C 4220.1F, VI, 8.b.]

19) Sound and Complete Agreement

(a) "The Common Grant Rules require that all third party contracts include provisions adequate to form a sound and complete agreement." [FTA C 4220.1F, III, 3.b.]
(b) "Third party contracts exceeding $100,000 must include administrative, contractual, or legal remedies for violations or breach of the contract by the third party contractor." [FTA C 4220.1F, IV, 2.b. (6) 2]
(c) "For contracts exceeding $10,000, there must be termination for cause and termination for convenience provisions." [FTA C 4220.1F, IV, 2.b. (6) 4]

20) No Splitting [Micro-purchase]

"….there should be ... no splitting of procurements to avoid competition." [FTA C 4220.1F, VI, 3.a.; BPPM § 4.1]

21) Fair and Reasonable Price Determination [Micro-purchase]

"FTA's only documentation requirement for micro-purchases is a determination that the price is fair and reasonable and a description of how the recipient made this determination." [FTA C 4220.1F, VI, 3.a. (2) (c); BPPM § 4.1]

22) Micro-Purchase Davis Bacon

"Davis - Bacon prevailing wage and hour restrictions apply to construction contracts exceeding $2,000." [FTA C 4220.1F, VI, 3.a.; BPPM § 4.1]

23) Price Quotations [Small Purchase]

"Price or rate quotations shall be obtained from an adequate number of qualified sources." [FTA C 4220.1F, VI, 3.b.; BPPM § 4.2]

24) Clear, Accurate, and Complete Specification

(a) "Each solicitation must provide a clear and accurate description of the technical requirements for the property or services to be procured." [FTA C 4220.1F, VI, 2.a.; BPPM §3]
(b) "In competitive procurements, the description may not contain features that unduly restrict competition." [FTA C 4220.1F, III, 3.a.(1) (b)]
(c) "The Common Grant Rule … advises the recipient to describe technical requirements in terms of 'functions to be performed or performance required, including the range of acceptable characteristics or minimum acceptable standards.'" [FTA C 4220.1F, III, 3.a.(1) (d)]
(d) "In order for sealed bidding to be feasible, the following conditions should be present: A complete, adequate, and realistic specification or purchase description is available." [FTA C 4220.1F, VI, 3.c. (1) (a)]
(e) "If this procurement method is used . . . the invitation for bids will include any specifications and pertinent attachments…in order for the bidder to properly respond." [FTA C 4220.1F, VI, 3.c. (2) (c)]

25) Adequate Competition - Two or More Competitors

(a) "In order for sealed bidding to be feasible, the following conditions should be present: . . . Two or more responsible bidders are willing and able to compete effectively for the business." [FTA C 4220.1F, VI, 3.c. (b)]
(b) "Competitive proposals is a procurement method normally conducted with more than one source submitting an offer or proposal." [FTA C 4220.1F, VI, 3.d.(2)(c)]
". . .the procurement lends itself to a firm fixed price contract." [FTA C 4220.1F, VI, 3.c. (1) (c)]

26) Firm Fixed Price [Sealed Bid]

". . .the procurement lends itself to a firm fixed price contract." [FTA C 4220.1F, VI, 3.c. (1) (c)]

27) Selection on Price [Sealed Bid]

". . .the selection of the successful bidder can be made on the basis of price and those price - related factors included in the solicitation." [FTA C 4220.1F, VI, 3.c. (1) (d)]

28) Discussions Unnecessary [Sealed Bid]

"No discussion with bidders is needed." [FTA C 4220.1F, VI, 3.c. (1) (e)]

29) Advertised/Publicized [Sealed Bid] [RFP]

(a) "…sealed bidding (is) a procurement method in which bids are publicly solicited." [FTA C 4220.1F, VI, 3.c.]
(b) "The invitation for bids will be publicly advertised." [FTA C 4220.1F, VI, 3.c. (2) (a)]
(c) "Procurement Procedures. The following procedures apply to procurements by competitive proposals: (a) Publicity. The request for proposals is publicly advertised." [FTA C 4220.1F, VI, 3.d. (2) (a)]

30) Adequate Number of Sources Solicited [Sealed Bid] [RFP]

(a) "Bids shall be solicited from an adequate number of known suppliers…." [FTA C 4220.1F, VI, 3.c. (2) (b)]
(b) "Procurement Procedures. The following procedures apply to procurements by competitive proposals: (c) Adequate Sources. Proposals are solicited from an adequate number of qualified sources." [FTA C 4220.1F, VI, 3.d. (2) (c)]

31) Sufficient Bid Time [Sealed Bid]

"Bids shall be solicited from an adequate number of known suppliers, providing time to prepare bids prior to the date set for opening the bids." [FTA C 4220.1F, VI, 3.c. (2) (d)]

32) Bid Opening [Sealed Bid]

"All bids will be publicly opened at the time and place prescribed in the invitation for bids." [FTA C 4220.1F, VI, 3.c. (2) (e)]

33) Responsiveness [Sealed Bid]

"A firm fixed-price contract award will be made in writing to the lowest responsive and responsible bidder."

(a) "When specified in bidding documents, factors such as discounts, transportation costs, and life cycle costs shall be considered in determining which bid is lowest;"
(b) "Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of."
[FTA C 4220.1F, VI, 3.c. (2) (f)]

34) Lowest Price [Sealed Bid]

"A firm fixed-price contract award will be made in writing to the lowest responsive and responsible bidder." [FTA C 4220.1F, VI, 3.c. (2) (f)]

35) Rejecting Bids [Sealed Bid]

"Any or all bids may be rejected if there is a sound, documented business reason." [FTA C 4220.1F, VI, 3.c. (2) (g)]

36) Evaluation [RFP]

"If this procurement method is used the following requirements apply: . . .

(a) All evaluation factors will be identified in the procurement documents along with their relative importance; numerical or percentage ratings or weights, however, need not be disclosed… [FTA C 4220.1F, VI, 3.d. (2) (b)]
(b) The recipient will have a method in place for conducting technical evaluations of the proposals received and for selecting awardees." [FTA C 4220.1F, VI, 3.d. (2) (d)]

37) Price and Other Factors [RFP]

"If this procurement method is used the following requirements apply: . . . Award will be made to the responsible firm whose proposal is most advantageous to the recipient's program with price and other factors considered." [FTA C 4220.1F, VI, 3.d. (2) (e)]

38) Sole Source if Other Award is Infeasible

"Procurement by noncompetitive proposals may be used only when the award of a contract is infeasible under small purchase procedures, sealed bids, or competitive proposals and at least one of the following circumstances applies:" [FTA C 4220.1F, VI, 3.i.(1)]

(a) "When the supplies or services are available from only one responsible source, and no other type of supplies or services will satisfy the recipient's requirements; or" [FTA C 4220.1F, VI, 3.i.(b)]
(b) "When the recipient's need for the supplies or services is of such unusual and compelling urgency that the recipient would be seriously injured unless the recipient is permitted to limit the number of sources from which it solicits bids or proposals, or when the public exigency or emergency for the requirement will not permit a delay resulting from a competitive solicitation;" or [FTA C 4220.1F, VI, 3.i.2(c)]
(c) "FTA authorizes noncompetitive negotiations;" or [FTA C 4220.1F, VI, 3.i.2(e)]
(d) "After solicitation of a number of sources, competition is determined inadequate." [FTA C 4220.1F, VI, 3.i.2]

39) Cost Analysis Required [Sole Source]

"A cost analysis will be necessary when adequate price competition is lacking and for sole source procurements, including contract modifications or change orders…." [FTA C 4220.1F, VI, 6.a.]

40) Evaluation of Options

"Options may be included in contracts to assure the future availability of property or services. An option is a unilateral right in a contract by which, for a specified time, a recipient may elect to purchase additional equipment, supplies, or services called for by the contract, or may elect to extend the term of the contract." [FTA C 4220.1F, IV, 1.d.]

(a) "In awarding the basic contract … the recipient shall evaluate offers for any option quantities or periods contained in a solicitation when it has been determined prior to soliciting offers that the recipient is likely to exercise the options." [FTA C 4220.1F, VI, 7.b.]

(b) "When options have not been evaluated as part of the award, the exercise of such options will be considered a sole source procurement." [FTA C 4220.1F, V, 7.a. (1) (c) 1]

41) Cost or Price Analysis

(a) Cost analysis

(i) "The Common Grant Rules require the recipient to perform a cost or price analysis in connection with every procurement action, including contract modifications. The method and degree of analysis is dependent on the facts surrounding the particular procurement situation . . . . " [FTA C 4220.1F, VI, 6.]

(ii) "A cost analysis must be performed when the offeror is required to submit the elements (i.e., labor hours, overhead, materials, etc.) of the estimated cost, (e.g., under professional consulting and architectural and engineering services contracts, etc.)" [FTA C 4220.1F, VI, 6.a.]

(iii) "A cost analysis will be necessary when adequate price competition is lacking . . . unless price reasonableness can be established on the basis of a catalog or market price of a commercial product sold in substantial quantities to the general public . . . " [FTA C 4220.1F, VI, 6.a.]

(iv) "A cost analysis will be necessary when adequate price competition is lacking . . . unless price reasonableness can be established on the basis of . . . prices set by law or regulation." [FTA C 4220.1F, VI, 6.a.]

(v) "A cost analysis will be necessary . . . for sole source procurements, including contract modifications or change orders, unless price reasonableness can be established on the basis of a catalog or market price of a commercial product sold in substantial quantities to the general public . . . " [FTA C 4220.1F, VI, 6.a.]

(vi) "A cost analysis will be necessary . . . for sole source procurements, including contract modifications or change orders, unless price reasonableness can be established on the basis of . . . prices set by law or regulation." [FTA C 4220.1F, VI, 6.a.]

(b) "A price analysis may be used in all other instances to determine the reasonableness of the proposed contract price." [FTA C 4220.1F, VI, 6.b.]

(c) Profit

(i) "The recipient will negotiate profit as a separate element of the price for each contract in which there is no price competition . . . ." [FTA C 4220.1F, VI, 6.a.(3)]

(ii) "The recipient will negotiate profit as a separate element of the price for each contract …in all cases where cost analysis is performed." [FTA C 4220.1F, VI, 6.a.(3)]

(iii) "To establish a fair and reasonable profit, consideration will be given to:

a. the complexity of the work to be performed,
b. the risk being borne by the contractor,
c. the contractor's investment,
d. the amount of subcontracting,
e. the quality of its record of past performance, and
f. industry profit rates in the surrounding geographical area for similar work." [FTA C 4220.1F, VI, 6.a.(3)]

42) Written Record of Procurement History

"The Common Grant Rules require the recipient to maintain…written records detailing the history of each procurement, as follows:

a. Procurement Method. …the rationale for the method of procurement, including a sole source justification for any acquisition that does not qualify as competitive;
b. Contract Type. …state the reasons for selecting the contract type (fixed price, cost reimbursement, etc.);
c. Contractor Selection. …state the reasons for contractor selection or rejection…include a written responsibility determination for the successful contractor.
d. Cost or Price. Each recipient must evaluate and state its justification for the contract cost or price." [FTA C 4220.1F, III, 3. d. (1)]

43) Exercise of Options

"Options may be included in contracts to assure the future availability of property or services. An option is a unilateral right in a contract by which, for a specified time, a recipient may elect to purchase additional equipment, supplies, or services called for by the contract, or may elect to extend the term of the contract." [FTA C 4220.1F, IV, 1. d.]

(a) "Consistency with the Contract. A recipient must ensure that the exercise of an option is in accordance with the terms and conditions of the option stated in the initial contract awarded." [FTA C 4220.1F, V, 7. a. (1) (a)]
(b) "Price. An option may not be exercised unless the recipient has determined that the option price is better than prices available in the market or that the option is the more advantageous offer at the time the option is exercised." [FTA C 4220.1F, V, 7. a. (1) (b)]
(c) "Negotiating a Lower Option Price. Exercising an option after a lower price has been negotiated constitutes a sole source procurement." [FTA C 4220.1F, V, 7. a. (1) (c) 2]

44) Out of Scope Changes

"A contract change that is not within the scope of the original contract is considered a sole source procurement…." [FTA C 4220.1F, VI, 3.i.(1)(b)]

45) Advance Payments

"Advance payments are payments made to a contractor before the contractor incurs costs in the performance of the contract. The following principles and restrictions apply:

(a) Use of FTA Funds Prohibited. FTA does not authorize the use of Federal assistance to make payments to a third party contractor before the contractor has incurred the costs for which the payments would be attributable….A recipient that seeks to use FTA or local share funds to support advance payments should contact its Regional Office to obtain FTA concurrence." [FTA C 4220.1F, IV, 2.b.(5)(b).1, 2]
(b) Customary Advance Payments. FTA concurrence is required only when advance payment or payments customarily required in the market place exceed $100,000." [The circular notes that advance payments falling into this category would include such things as utility services, and subscriptions to newspapers and magazines.] [FTA C 4220.1F, IV, 2.b.(5)(b)2 b]

46) Progress Payments

"Progress payments are payments for costs incurred by the contractor in the performance of the contract before the contract work has been completed. FTA assistance may be used to support progress payments provided:

(a) the recipient obtains adequate security for those payments, and
(b) has sufficient documentation to substantiate the work performed for which payment is requested.
(c) Progress payments for construction contracts may be made on a percentage of completion basis (as described in the Common Grant Rules). This payment method may not be used in non-construction contracts." [FTA C 4220.1F, IV, 2.b.(5)(c)]

47) Time and Materials Contracts

"The Common Grant Rule …permits the use of time and material type contracts only:

(1) Restricted Use. After a determination that no other type of contract is suitable; and
(2) Firm Ceiling Price. If the contract specifies a ceiling price that the contractor shall not exceed except at its own risk." [FTA C 4220.1F, VI, 2.c.(2)(b)]

48) Cost Plus Percentage of Cost

"The Common Grant Rules expressly prohibit the use of the cost plus a percentage of cost and percentage of construction cost methods of contracting." [FTA C 4220.1F, VI, 2.c.(2)(a)]

49) Liquidated Damages Provisions

"Delay. FTA has determined that a recipient may use liquidated damages if the recipient reasonably expects to suffer damages through delayed contract completion and the extent or amount of such damages would be difficult or impossible to determine. The rate and measurement period must be specified in the third party contract and may not be excessive. The assessment for damages is usually established at a specific rate per day for each day beyond the contract's delivery date or performance period, but a measurement period other than a day may be established if appropriate. Any liquidated damages recovered shall be credited to the project account involved unless the FTA permits otherwise." [FTA C 4220.1F, IV, 2.b.(6)(b)1]

50) Piggybacking

"Assignment of Rights. Although FTA does not encourage the practice, a recipient may assign its contractual rights to purchase property and services to other recipients if the original contract contains an appropriate assignability clause that provides for the assignment of all or a portion of the specified deliverables as originally advertised, competed, evaluated, and awarded, or other appropriate assignment provisions. Some refer to this process as "piggybacking."

(a) "If the supplies or services were solicited, competed and awarded through the use of an indefinite-delivery-indefinite-quantity (IDIQ) contract, then both the solicitation and contract award must contain both a minimum and maximum quantity that represent the reasonably foreseeable needs of the party(s) to the solicitation and contract."
(b) "An FTA recipient that obtains these contractual rights through assignment may exercise them after first determining the contract price remains fair and reasonable, and all Federal requirements have been addressed in the contract's clauses. The recipient is not required to perform a second price analysis if a price analysis was originally performed. However, the

recipient must determine the contract price or prices originally established are still fair and reasonable."

(c) "The recipient is responsible for Buy America compliance with the transaction and assuring that they execute all of the required pre-award and post-delivery Buy America audit certifications." [FTA C 4220.1F, V, 7. a. (2); BPPM Appendix B.16]

51) Qualifications Exclude Price [A&E]

"When Required. Qualifications-based proposal procedures are required for projects related to or leading to a construction project. These procedures must be used not only when contracting for architectural and engineering services, but also for program management, construction management, feasibility studies, preliminary engineering, design, architectural, engineering, surveying, mapping, and related services. Grantees shall use qualifications-based competitive proposal procedures [i.e., Brooks Act Procedures when contracting for A&E services as defined in 40 U.S.C. Sections 1101 - 1104 and 49 U.S.C. Section 5325(b)(1)]. When this procurement method is used, the following requirements apply: [FTA C 4220.1F, VI, 3.f.(3)]

(a) Qualifications. An offeror's qualifications muse be evaluated.
(b) Price. Price is excluded as an evaluation factor. ." [FTA C 4220.1F, VI, 3.f.(3)(b)]
(c) "Design-Build. An FTA recipient must procure design-build services through means of qualifications-based competitive proposal procedures based on the Brooks Act…when the preponderance of the work to be performed is considered to be for architectural and engineering, program management, construction management, feasibility studies, preliminary engineering, design, architectural, engineering, surveying, mapping, or related A&E services. (A&E) services…qualifications-based competitive proposal procedures may not be used to procure design-build services when the preponderance of the work to be performed are services other than those listed in the previous sentence, unless required by State law." [FTA C 4220.1F, VI, 3.h.]

52) Serial Price Negotiations [A&E]

When this procurement method is used, the following requirements apply:

(a) Most Qualified. Negotiations are conducted with only the most qualified offeror; and
(b) Next Most Qualified. Failing agreement on price, negotiations with the next most qualified offeror and, if necessary, negotiations with successive offerors in descending order must be conducted until a contract award can be made to the offeror whose price the recipient believes is fair and reasonable." [FTA C 4220.1F, VI, 3.f.(3)]

53) Bid Security [Construction Over $100,000]

"Bonding. The Common Grant Rules require bonds for all construction contracts except to the extent FTA determines that the Federal interest is adequately protected through other arrangements. FTA's bonding policies are as follows:

(a) Bid Guarantee. Both FTA and the Common Grant Rules require a bid guarantee from each bidder equivalent 5 percent of the bid price. The 'bid guarantee' shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will honor its bid upon acceptance of his bid. [FTA C 4220.1F, IV, 2.h.(1)(a)]
(b) Performance Bond. Both FTA and the Common Grant Rules require a performance bond on the part of the contractor for 100 percent of the contract price. A 'performance bond' is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract." [FTA C 4220.1F, IV, 2.h.(1)(b)]

(c) Payment Bond. A 'payment bond' is one executed in connection with a contract to assure payment as required by law of all people supplying labor and material in the execution of the work provided for in the contract. FTA has determined the following payment bond amounts are adequate to protect FTA's interest and will accept a local bonding policy that meets the following minimums:

(1) Less Than $1 Million. Fifty percent of the contract price if the contract price is not more than $1 million;

(2) More Than $1 Million but Less Than $5 Million. Forty percent of the contract price if the contract price is more than $1 million but not more than $5 million; or

(3) More Than $5 Million. Two and a half million dollars if the contract price is more than $5 million." [FTA C 4220.1F, IV, 2.h.(1)(c)]

A recipient that wishes to adopt less stringent bonding requirements, for a specific class of projects, or for a particular project, may submit its policy and rationale to its FTA Regional Office for approval." [FTA C 4220.1F, IV, 2.h.(1)(e)]

54) Clauses

"FEDERAL REQUIREMENTS THAT MAY AFFECT A RECIPIENT'S ACQUISITIONS. Before FTA assistance may be used to support an acquisition of property or services, all applicable Federal requirements, whether or not addressed in the Common Grant Rules, must be fulfilled." [FTA C 4220.1F, IV, 2.]

FTA Circular 4220.1F, Appendix D, contains a matrix of federally required clauses and contractor certifications for various dollar values and types of procurements, such as construction, A&E. rolling stock, materials, etc. Instructions for these clauses and suggested clause language may be found in the FTA "Best Practices Procurement Manual," Appendix A.1.

Appendix A.5: Third Party Procurement Procedures
North Central Texas Council of Governments, Transportation Department, June 2011

OVERVIEW

These procedures establish standards and guidelines for the North Central Texas Council of Governments' (NCTCOG) subgrantees for procurement of goods and services through Third Party Contracts, in accordance with 49 CFR Part 18.36 and 40 CFR Part 31.36.[1] These procedures have been developed to ensure fair, open, and competitive opportunities for all parties involved in the procurement.

In order to assist NCTCOG's subgrantees in complying with federal procurement requirements, NCTCOG will publish these procedures as part of calls for projects to make potential applicants aware of these requirements in advance of submitting applications to NCTCOG for funding consideration. In addition, NCTCOG will periodically hold workshops on procurement and other compliance requirements to assist subgrantees in meeting these objectives.

Compliance with Federal Regulations

Subgrantees shall comply with applicable federal, State and local laws and regulations, and conform to the standards set forth in 49 CFR Part 18.36 or applicable governing standards published by the awarding agency. These guidelines apply to purchases for contractual services, commodities, and equipment funded with federal and State funds.

Use of Lower-Tier Subgrantees

If the provisions of a NCTCOG agreement allow a lower-tier subgrantee to manage and administer NCTCOG supported projects, the lower-tier subgrantee must also comply with applicable federal, State, and local laws, and all guidelines established by the applicable funding agency.

Conflict of Interest

There can be no conflict of interest, real or apparent, in the award or administration of a contract supported by federal funds. The subgrantee shall maintain a written code or standards of conduct which shall govern the performance of their officers, employees, or agents engaged in the award and administration of contracts supported by federal funds.

Contract Administration System

Subgrantees will maintain a contract administration system which ensures that contractors perform in accordance with the terms, conditions, and specifications of their contracts and purchase orders.

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[1] 1 UNIFORM ADMINISTRATIVE REQUIREMENTS FOR GRANTS AND COOPERATIVE AGREEMENTS TO STATE AND LOCAL GOVERNMENTS; Subpart C, Post-Award Requirements; Changes, Property, and Subawards under the United States Department of Transportation regulations. These procedures are written to comply with grant management standards for all federal agencies (e.g., Environmental Protection Agency, Department of Energy, etc.…) as well as subgrantees funded with State funds.

Open and Fair Competition

All procurement transactions shall be conducted in a manner that provides maximum open and fair competition consistent with 49 CFR Part 18.36 or applicable federal law. Procurement procedures shall not restrict or eliminate competition. Examples of what is considered to be restrictive of competition include, but are not limited to, the following:

- Placing unreasonable requirements on firms/service providers/vendors/consultants in order for them to qualify to do business;
- Placing geographical preferences in the evaluation of bids or proposals;
- Noncompetitive practices between firms/service providers;
- Organization conflicts of interest;
- Requiring unnecessary experience and excessive bonding requirements; and,
- Any arbitrary action in the procurement process.

Written Procurement Policies

The subgrantee shall have written procurement procedures and may adopt by reference procedural requirements of 49 CFR Part 18.36 or applicable federal law.

Procurement Guidelines

NCTCOG, in reviewing subgrantee procurement procedures and policies, will determine consistency with 49 CFR Part 18.36 or the applicable federal law regulating procurement. Stated therein are the governing regulations and implementing guidelines for all procurement activity undertaken with grant funds. Some of those items, with particular applicability to NCTCOG grants, are:

Procurement Standards

1. Subgrantees will maintain a contract administration system which ensures that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.
2. Procedures will allow for analysis of the most economical approach in purchasing, including lease versus purchase alternatives. Each proposed procurement must be reviewed to avoid the purchase of unnecessary or duplicative items.
3. Subgrantees will make awards only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.
4. Subgrantees will maintain records sufficient to detail the significant history of procurement.
5. These standards do not relieve the subgrantee of any contractual responsibilities under its NCTCOG contracts. The subgrantee is responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual administrative issues arising out of any procurement entered in support of a NCTCOG grant. These include, but are not limited to, source evaluation, protests, disputes, and claims.

Method of Procurement[2]

All procurement transactions shall be made by one of the following methods:

1. PROCUREMENT BY SMALL PURCHASE PROCEDURES

For procurement of services, supplies, or other property with an aggregate cost of less than $100,000, written price or rate quotations shall be obtained from at least two qualified sources. The aggregate sum of all items being purchased is considered one purchase.

Purchases under $3,000

Purchases which do not involve the expenditure of at least $3,000, exclusive of freight or shipping charges, may be made without advertising or otherwise requesting competitive quotes; provided, however, that nothing contained in this paragraph shall be construed to prohibit any agency or governing authority from establishing procedures which require competitive quotes on purchases under $3,000.

Purchases under $100,000

Purchases which involve the expenditure of at least $3,000 but not more than $100,000[3], exclusive of freight and shipping charges, may be made from the lowest and best vendor without publishing or posting advertisements for bids, provided at least two competitive written quotes have been obtained. The term "competitive written quotes" means a quote submitted on a quote form furnished by the subgrantee and signed by authorized personnel representing the vendor, or a quote submitted on a vendor's letterhead or quote form signed by authorized personnel representing the vendor. NCTCOG may request copies of quotes to ensure compliance with this provision as a condition of reimbursement.

2. PROCUREMENT BY SEALED BIDS

Purchases over $100,000

Public advertisement once each week for two consecutive weeks for competitive sealed bids is required for all purchases which exceed $100,000. Bids may not be due less than seven working days following the date the last advertisement appears in the public forum.

Purchases which involve expenditure of more than $100,000, exclusive of freight and shipping charges shall be made from the lowest and best bidder after publicly advertising for competitive sealed bids once each week for two consecutive weeks. The date, as published, for the bid opening, shall not be less than seven working days after the published notice has been completed. The notice shall state the time and place at which bids shall be received; types of supplies, and/or equipment to be purchased, and the contact person. If plans or specifications are not published,

[2] Explicit federal and State regulations apply to each procurement method. Subgrantees may proceed with procurement activities only after careful study of the regulations reveals all requirements have been met.
[3] This purchase threshold is to be utilized for subgrantee procurements with federal funds. Separate thresholds may be permitted or required under state law for state funded grants.

notice should state where copies may be obtained. Specifications shall be written so as not to exclude any supplier.

Procurements over $100,000 by sealed bid must be submitted to NCTCOG for review and approval 30 days prior to initiating the procurement. NCTCOG reserves the right to deny reimbursement upon failure to comply with the approved procurement process or failure to adequately address NCTCOG's comments concerning the proposed procurement process.

3. PROCUREMENT BY COMPETITIVE PROPOSALS

Purchases over $100,000

Formally publicizing a request for proposals which normally results in conducting competitive negotiation with more than one source submitting an offer. This method is generally used when conditions are not appropriate for the use of sealed bids. All evaluation factors and their relative importance will be identified. There will be procedures for technical evaluations of the proposal and selection of an awardee. Awards are made to the proposal most advantageous to the program, with price and other factors considered.

Procurements over $100,000 competitive proposal must be submitted to NCTCOG for review and approval 30 days prior to initiating the procurement. NCTCOG reserves the right to deny reimbursement upon failure to comply with the approved procurement process or failure to adequately address NCTCOG's comments concerning the proposed procurement process.

4. SOLE SOURCE PROCUREMENT

Noncompetitive items are items available from one source only. In connection with the purchase of noncompetitive items only available from one source, a certification of the conditions and circumstances requiring the purchase shall be filed by the subgrantee with the appropriate NCTCOG project manager. Upon receipt by the NCTCOG project manager, the certification will be forwarded to the appropriate NCTCOG personnel for approval of the request.

Only after receiving authorization from NCTCOG will the purchase be deemed a sole source procurement. All authorizations must be received prior to any procurement transactions. The appropriate NCTCOG personnel may authorize a sole source procurement under the conditions defined in state law, provided that the sole source procurement shall be made according to the established purchasing rules and regulations and shall not be made so as to circumvent the competitive purchasing requirements.

5. PURCHASES UNDER GOVERNMENTAL COOPERATIVE PURCHASING PROGRAMS

Public entities that can purchase under State contracts or other governmental cooperative purchasing programs can do so without prior approval or obtaining written quotes. All other purchases must follow the guidelines outlined in the Contracting Procurement Procedures.

6. EMERGENCY PROCUREMENT

NCTCOG may approve an emergency procurement under the conditions defined in federal and State law, provided such emergency procurement shall be made with such competition as is practicable under the circumstances.

Subgrantee Files

Each subgrantee must maintain adequate files to support any purchases made. A copy of the quotes that were obtained (purchases between $3,000.00 and $100,000.00) or a copy of the legal notice must also be on file to support the choice of lowest and/or best bid. The subgrantee must provide adequate justification if the purchase is not awarded to lowest and/or best bidder.

Appendix A.6: Excerpt from FTA - Third Party Procurement FAQ
http://www.fta.dot.gov/13057_13723.html

Cooperative Purchase

Q. The Tennessee Department of Transportation is applying for a $600,000 Section 5309 grant on behalf of The Great Smokey Mountains Heritage Foundation (Cades Cove) for the purchase of four 12 Passenger/2 Wheelchair Hybrid buses. We were exploring the possibility of piggybacking from another state contract, but were unsuccessful in our attempts of locating a state that had this particular vehicle available. After some research, we located the Houston-Galveston Area Council (H-GAC). Their website states that their public competitive procurement process is compliant with state statutes; however it does not mention Federal procurement requirements. I've spoken with a representative of H-GAC and he assured me they are compliant with all FTA requirements. When I mentioned piggybacking, he indicated the contract would not be piggybacking, because H-GAC was considered a cooperative. At your earliest convenience, will you please provide me with some insight, guidance and/or advice on this matter?

A. Recipients of FTA financial assistance are required by both 49 U.S.C. § 5325(a) and the common grant rule (49 C.F.R. § 18.36(c)) to use full and open competition when making purchases. Usually a grantee fulfills this requirement by one of three procurement methods: 1) conducting a standalone procurement for a finite number of vehicles, 2) jointly procuring a finite number of vehicles with one or more grantees, or 3) accepting the assignment of another grantee's contractual right to purchase a finite number of vehicles (aka "piggybacking"). One common requirement in all three methods is that the number of vehicles to be purchased is based on the grantee's actual needs and is advertised with the solicitation. Thus, all respondents to the solicitation can provide a bid price based on the number of vehicles to be purchased as well as other salient factors contained in the solicitation. When the contract is formed, the grantee commits to purchasing vehicles at the agreed upon price and the vendor commits to furnishing the vehicles at that price.

Unfortunately, in the case of the H-GAC agreement, H-GAC did not advertise for a finite number of vehicles. Indeed, the H-GAC does not actually purchase any vehicles, as it does not operate a transit system. Thus, the vendors' pricing is not a response to actual grantee needs for vehicles, but appears to be based on an indefinite quantity of vehicles.

While the H-GAC agreement does not result in a binding contract to purchase vehicles, it does result in a list of vendor products and prices, similar to catalogs of prices and services that are normally advertised by individual vendors. Under the H-GAC agreement, the actual purchase of vehicles is accomplished by H-GAC members negotiating with participating vendors and placing purchase orders based on the prices listed in the H-GAC agreement. However, given the requirements for full and open competition, FTA grantees are not free to simply place an order with a preferred vendor on a sole source basis based on a vendor's catalog price. This would be a sole source procurement on the part of the grantee rather than a procurement using full and open competition. (Posted: June 2011)

Q. Your posting dated June 2011 regarding cooperative purchasing seems to indicate the purchase of service lifts through state contracts such those in Ohio, Pennsylvania, and New York, and possibly others, as well as the Western States Contracting Alliance contract does not comply with FTA regulations when the purchase is funded in whole or in part by the FTA. What are the penalties for past transgressions, and how can they be prevented in the future?

A. FTA may require the repayment of any funds spent in violation of the requirements of FTA Circular 4220.1F, but that decision would be made on a case by case basis. As far as avoiding future problems,

grantees may not use cooperative purchasing organizations that award open - ended contracts without minimum and maximum quantities, and without federal clauses and certifications. Grantees may, however, use their State GSA type contracts and add federal clauses to those contracts with the first purchase order issued by the grantee. Grantees may also use joint procurements with other grantees where the advertised and contracted quantities represent the needs of the grantee organizations involved, and the contracts otherwise comply with FTA Circular 4220.1F. (Posted: January 2012)