

Chapter 1: Geography and Demographics

Chapter 1: Geography and Demographics

If transportation formula funding were more concerned with how much land a transit agency has to cover than the number of people it has to serve, the Panhandle would be in the money. With 26 counties, and nearly 26,000 square miles, the Panhandle is larger than ten of the nation's states. However, at 403,000 people, it is also one of the least populated regions with less than eight people per square mile in all but two counties. Combine this basic operating environment with a high percentage of elderly, a high incidence of disability; and some persistent rural poverty, and these socioeconomic characteristics suggest significant challenges to the basic activities of daily living, such as mobility.

In order to understand where mobility may represent a greater challenge, a demographic profile has been completed for each of the counties within the Panhandle region. The county-level profiles focus on characteristics associated with higher transit use: percentage of people who are elderly and/or disabled; have low incomes; have higher levels of low education attainment; and or are recent immigrants.

These and additional demographics are compiled to create a Transit Needs Index for each county. (The Transit Needs Index is a methodology that compiles demographic characteristics into a single value to reflect a county's potential need for transit services.) The first section of this chapter reviews the county-level data and is then followed by the Transit Needs Index findings. Appendix A: Demographic Values for Panhandle Region contains the values used to calculate the Transit Needs Index score for each study area. Appendix B: County Demographics provides a county-by-county look at changes in population, major employers and senior services, and transportation services.

Geography

The Texas Panhandle consists of the northernmost 26 counties in the state and is bordered by New Mexico to the west and Oklahoma to the north and east. There are 62 cities in the

Chapter 1: Geography and Demographics

Panhandle; the largest city is Amarillo with less than 200,000 people. The remaining cities are all under 20,000 people. Because of the size of the region, distance between cities is a major factor. Interstate 40 (I-40) is the major east/west thoroughfare. Interstate 27 (I-27) connects Amarillo to Lubbock and US 287 crosses the region from the Northwest to the Southwest to connect the region to the Dallas/Fort Worth area. See Figure 1.1.

Figure 1.1: Map of Panhandle Region



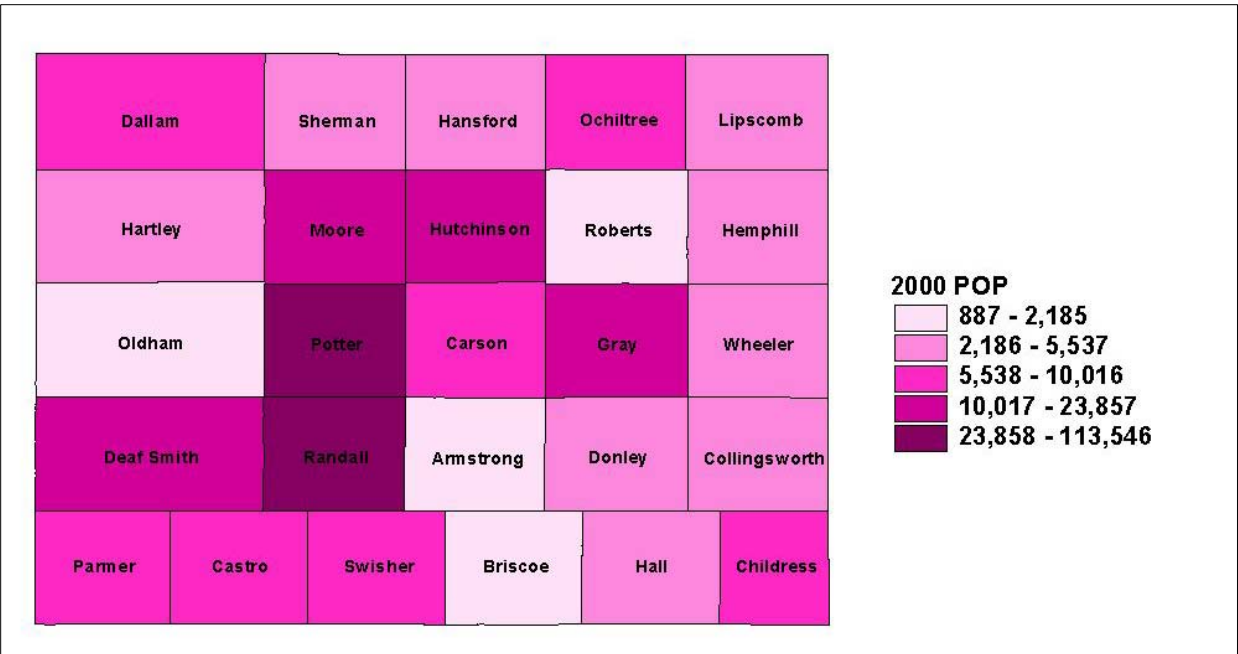
Demographics

Population

One of the goals of public transit is to provide services efficiently - to provide the most people with a good service at the most reasonable cost. Knowing where the population is concentrated helps to determine how to allocate available transit to benefit the most users.

A major challenge to providing transit services within the Panhandle region is very low population density throughout the region. With the exception of Potter and Randall counties, the average density 8.00 people per square mile. Roberts County, the least populated county in the region, has less than 1 person per square mile. By comparison, the City of Amarillo’s average density is 2,423 people per square mile – comparable with that of Abilene, Waco, Denton, and Port Arthur. Furthermore, between the 1990 and 2000 census, 15 counties lost population. This decrease has affected and will continue to affect its ability to secure federal and state dollars to fund transportation.

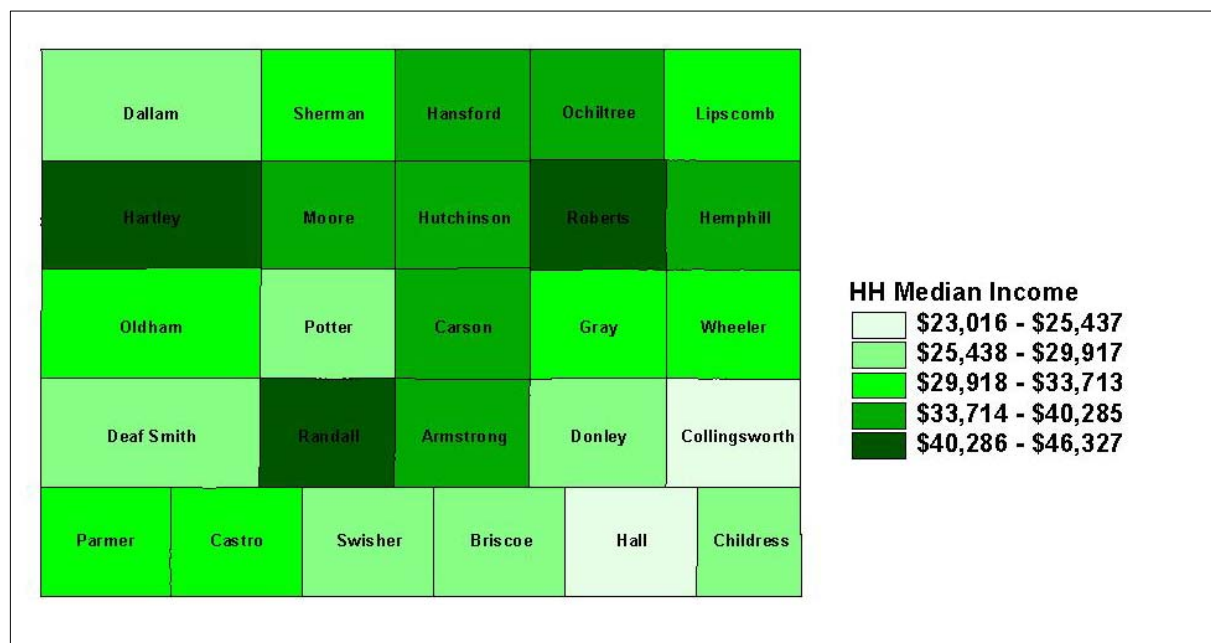
Figure 1.2: Panhandle Region Population by County



Median Household Income

The median household income is \$33,348, a little less than the statewide average of \$39,927. Conversely, the number of people at or below poverty is 14 percent, a little better than the statewide average of 15 percent.

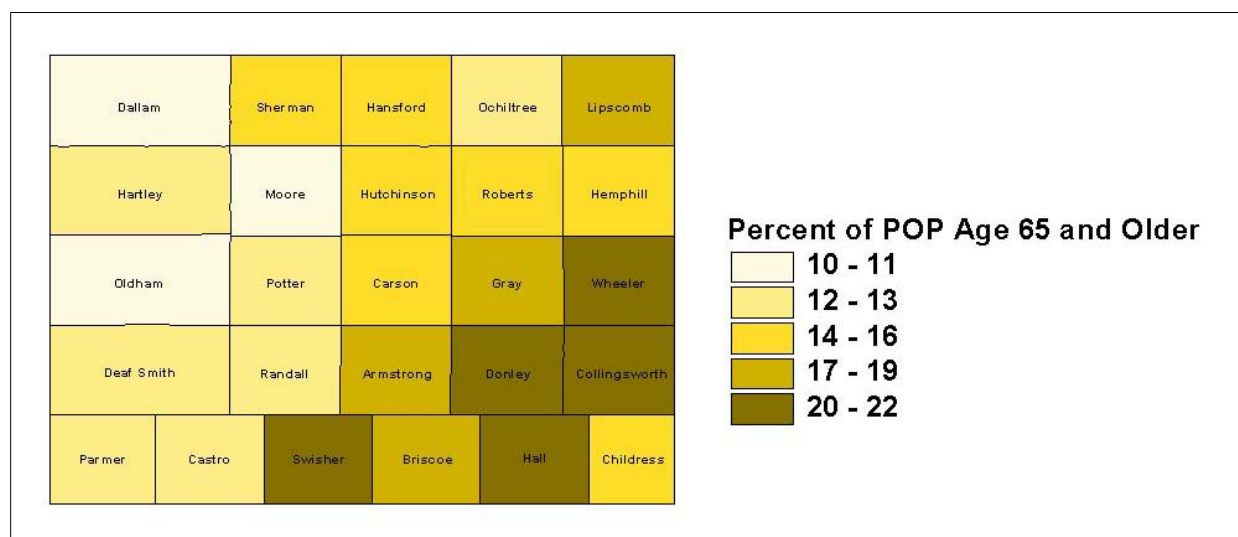
Figure 1.3: Panhandle Region Median Household Income



Elderly Population

People over age 65 traditionally use transit in proportionately greater numbers. Areas with higher concentrations of elderly people are generally considered areas of higher than average transit need. On average, 13.67 percent of the Panhandle population is elderly (65 years and above), compared to 9.92 percent statewide. Four counties have an elderly population over 20 percent.

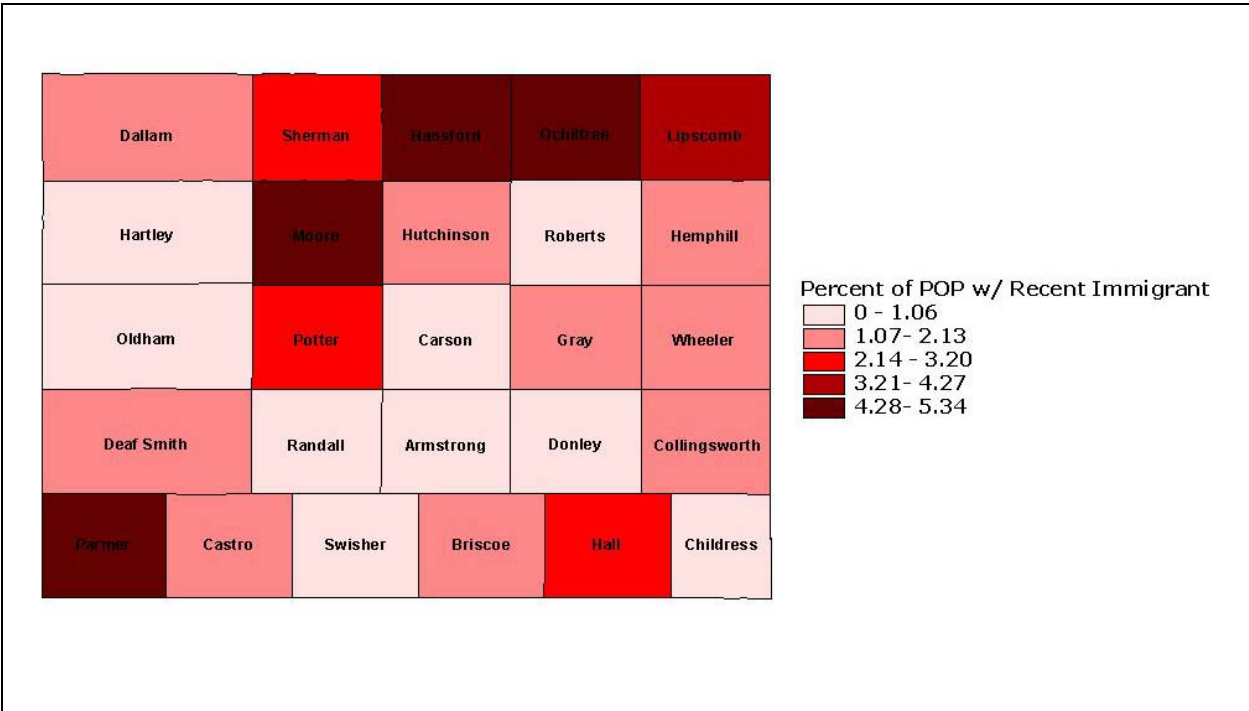
Figure 1.4: Panhandle Region Percent of Elderly by County



Recent Immigrant Population

Areas with a large numbers of recent immigrants tend to have a higher transit need. This is primarily due to the higher likelihood of lower than average income and, therefore, fewer or no automobiles. For this demographic, only recent immigrants who have arrived between 1995 and 2000 are considered. The Panhandle region population is composed of approximately 1.84 percent immigrant population compared to 3.80 percent statewide. Counties with a high number of recent immigrants are Ochiltree, Hansford, Moore, and Parmer counties. These are areas that are likely to have a higher need for transit services.

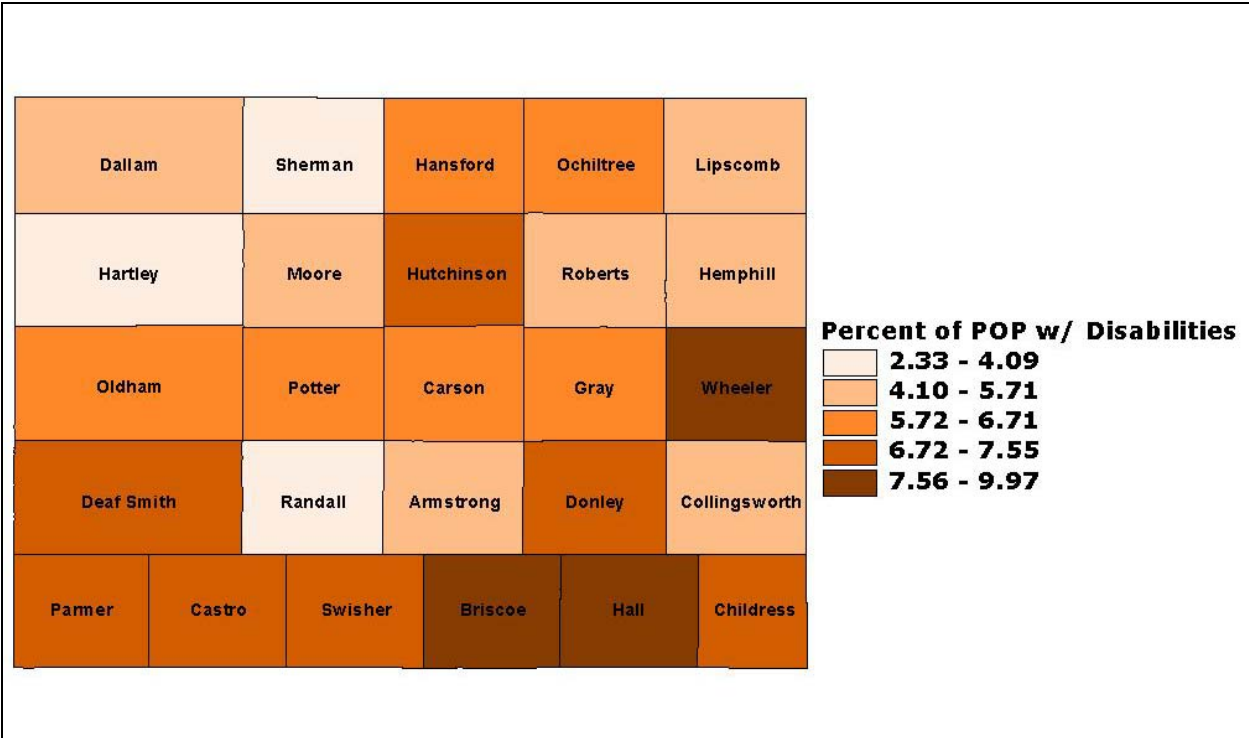
Figure 1.5: Panhandle Region Percent of Population with Recent Immigrant Status



People with Mobility Disabilities Population

People with disabilities are more likely to use transit services. Because the census data reports, and individuals can claim, multiple types of disabilities, only one type of disability was measured to reflect the need for transit. The “Go Outside” disability counts those individuals that have difficulties “going outside the home alone to shop or visit a doctor's office.” While this single condition may not capture all individuals with disabilities that need transit, it was chosen as reflective of transit need as its rate of occurrence is about average compared to all other types reported. Within the Panhandle region, 5.91 percent of the population has a mobility disability that prevents them from going outside alone to go shopping or the doctor’s office. By comparison, 6.52 percent of the population statewide has this disability.

Figure 1.6: Panhandle Region Percent of Population with Mobility Disabilities



Transit Needs Index

A more complete analysis of all transit market demographics is the Transit Needs Index. Bus ridership tends to increase or decrease with changes in key demographic characteristics. For example, income is a major determinant in who uses transit; as one moves up in income, usage tends to decrease. Some groups are genuinely more likely to use transit irrespective of income. These include women, minorities, immigrants (especially recent immigrants), persons without a car, the mobility impaired, persons over the age of 65, and those with less than a full high school education.

A Transit Needs Index is tool that captures and measures the differences in transit usage for a particular group compared to the group norm. An index of 1.00 indicates average transit usage, higher indicates above average usage (for example, 2.00 is twice the average), and lower indicates less than average. *Table 1.1: Typical Transit Needs Values* outlines the transit-use index for average metropolitan transit use for the key demographic groups.

Chapter 1: Geography and Demographics

Table 1.1: Typical Transit Needs Values

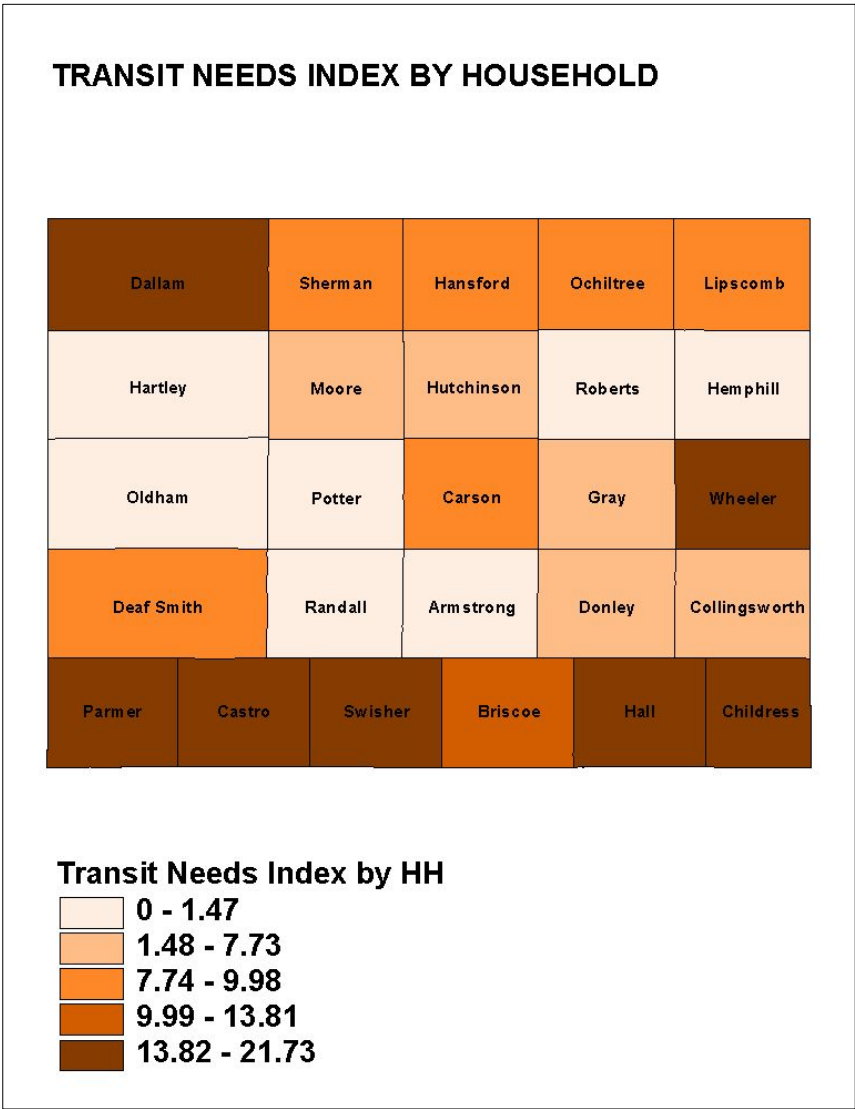
Market Niche	Transit Need Index	Market Niche	Transit Need Index
Sex:		Household Income:	
Male	0.85	Under \$20K	1.15 (average)
Female	1.18		
Race & Ethnicity:		Immigration Status:	
White	0.68	Non-immigrant	0.84
Black	2.72	Immigrant	2.08
Hispanic	1.73		
Asian	1.74		
Vehicle Ownership:		Limitations:	
No Car	5.76	Work Limitation	1.25
One or more Car	0.68	Mobility Limitation	2.41
Age:		Education:	
60-64	1.07	No School	2.59
65-69	1.10	Elementary	2.08
		Junior High	1.69
		Some High School	1.25

Source: Transit Cooperative Research Program. Chapter 1: Current Transit Markets

A Transit Need Index is designed to relate demographic data such as household income, mobility-impaired/work-impaired population, auto availability, education attainment, minority status, immigrant status and age to transit need. Research supports the theory that a positive relationship exists between these data and higher transit usage.

All the counties within the Panhandle were evaluated and given a score for each of these eight characteristics. Depending on the characteristic, the average or median score for the set was used to establish the center value for the region’s relative scale. Scores were then summed to create a composite score which was then weighted by the number of households.

Figure 1.7: Panhandle Region Transit Needs Index



The Transit Needs Index is one way to reflect the potential demand for transit services. The highest concentration of need on a per household basis is along the southern border of the region – Parmer, Castro, Swisher, Hall and Childress. In addition to this concentration, Dallam County to the north and Wheeler County to the east reflect high need.

Of those counties listed above, the county judges from Swisher and Childress are members of the Regional Transportation Advisory Group and involved in planning for coordinated transit. A recommendation for future planning efforts is to increase the participation level of the other

Chapter 1: Geography and Demographics

counties' officials that are identified above in order to address their transportation need. Furthermore, the prevalence of higher-need counties along the south border points to the potential need for a greater focus on inter-regional coordination with the South Plains District.