

# **1. Socioeconomic and Land Use Characteristics**

## ***Introduction***

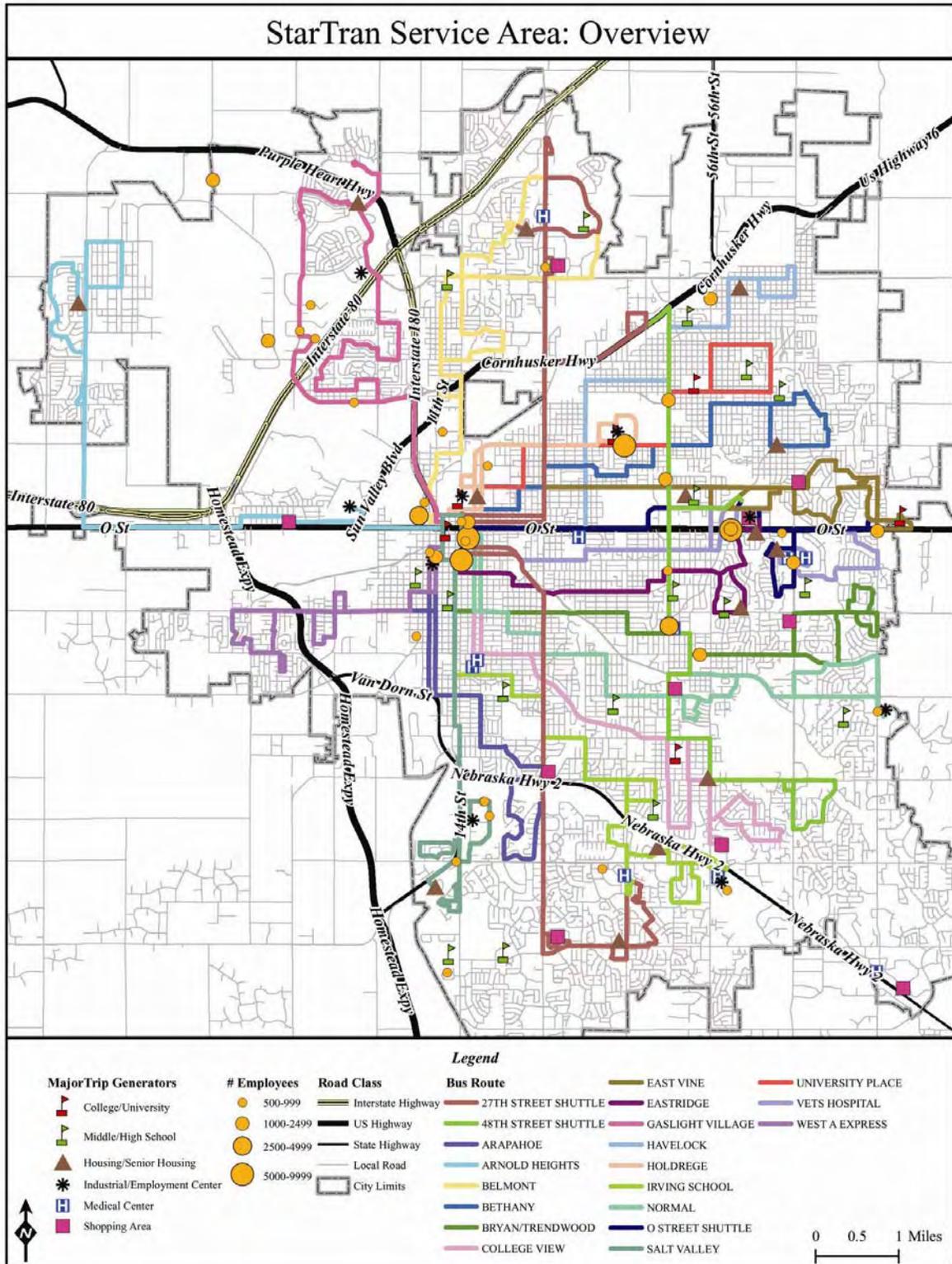
The City of Lincoln is located in southeast Nebraska in Lancaster County. The city is located approximately 50 miles southwest of Omaha via Interstate 80 and US Highway 77 in the Platte River Valley. Lincoln's population makes up 90% of the population in Lancaster County. Lincoln is both the capital of Nebraska and the government center for Lancaster County and is also the second largest metropolitan area in the state, second only to Omaha. StarTran is the City of Lincoln's transit provider and operates fixed route and Handi-Van service throughout the city. Figure 1-1 is an overview map of the StarTran service area.

Lincoln has an estimated population of 236,146 (2004 Census Bureau estimate) and is home to the University of Nebraska-Lincoln (UNL). For the 2005-2006 school year, UNL reported having 21,675 students and 7,503 employees (UNL 2005-2006 Factbook). The City of Lincoln and UNL are discussed separately in this chapter due to the different overall cultures between the two entities.

This chapter is split into seven topics with regard to the City of Lincoln: demographics, socioeconomics, the combination of the two into a potential for transit success scoring system, employment, commuting patterns, land use, future growth and development, and one section profiling the University of Nebraska-Lincoln. Past, present and future population statistics are discussed in the demographics section as are the concentrations of youth and senior populations in the region. In the socioeconomics section, income statistics, poverty, and households without vehicles are discussed. In the third section, demographic and socioeconomic characteristics that are generally considered to be correlated to transit are evaluated for the region in order to produce a map of areas of potential transit success. Jobs, major employers, and unemployment are discussed in the employment section and means of transportation to work and place of employment are discussed in the commuting section. In the land use section, both land use and the location of major trip generators are described. Future growth is discussed in terms of developer interest areas for 2006-2007 and the extent of future growth tiers. The final section on UNL describes both the student and employee populations.

This chapter provides an overview of socioeconomic, land use, and commuting characteristics based on data collected from the 2000 United States Census, the 2000 Census Transportation Planning Package, the United States Census Bureau, the City of Lincoln, the 2025 Lincoln City/Lancaster County Comprehensive Plan, and the University of Nebraska 2005-06 Factbook. Where maps are used to present data in a spatial manner, Census block groups are the unit of analysis.

Figure 1-1: StarTran Service Area Overview



## ***City of Lincoln***

### **Population – Past, Present, and Future**

When looking at the demographics of an area, the current situation as well as the past and projected conditions must be studied. Why changes in transit service were made in the past and how transit needs to change in the future to meet changing demographics and demand can be better understood by looking at the patterns that emerge from such an analysis. The decennial Census provides a ‘snapshot’ of a region’s demographics, which is very useful to understanding the current needs of a population, but does not speak to how the region got to that snapshot or what the future is expected to bring.

According to Census 2000 information, the population of the City of Lincoln was 225,581. In 2004, the Census Bureau reports that the population was 236,146. From 1990-2000, Lincoln’s population grew by 17%, a rate much higher than the statewide figure of 8%. From 2000-2003, the Census Bureau reports that Lincoln’s population grew by 4.4%.

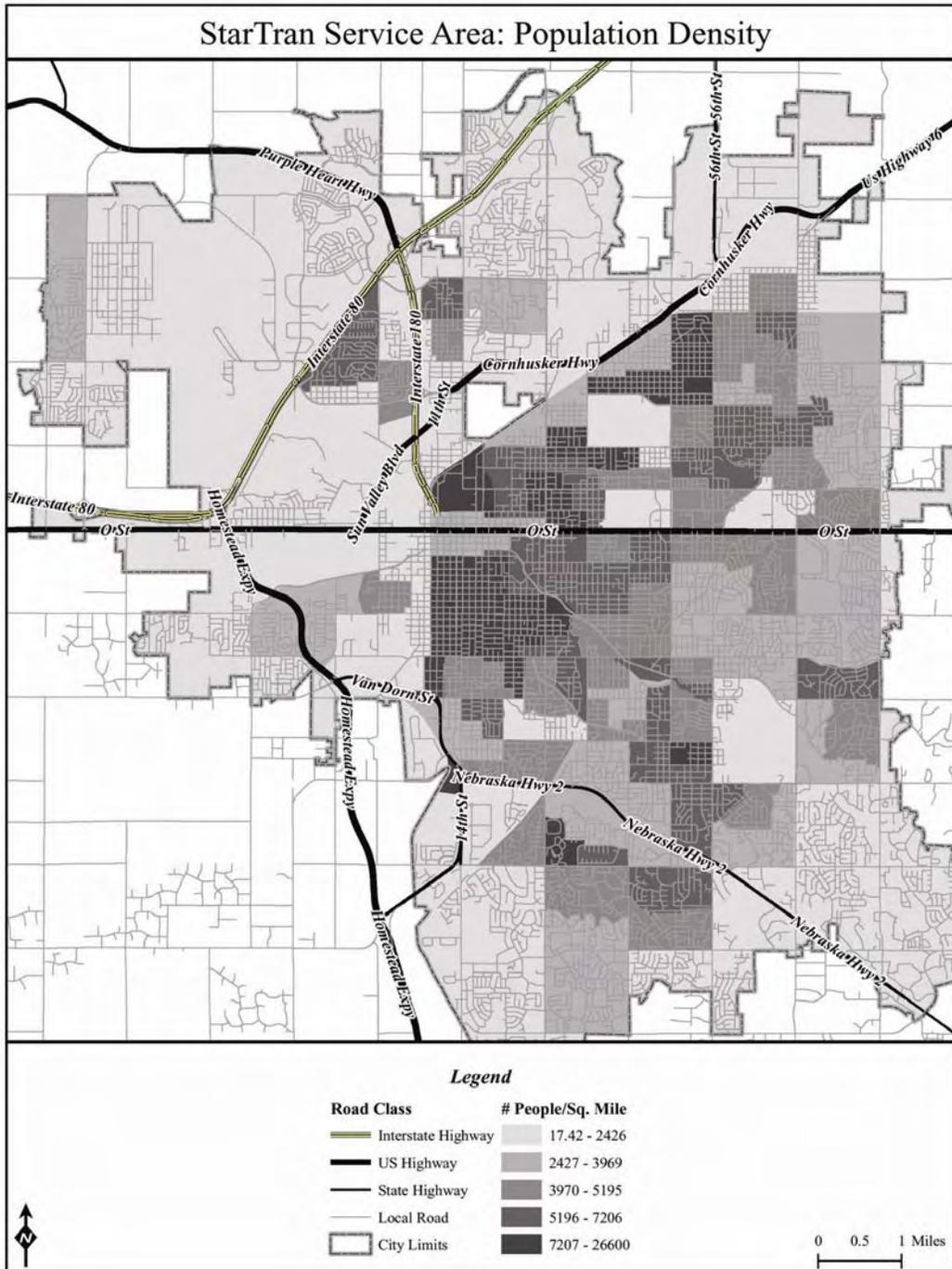
According to the 2025 Lincoln City/Lancaster County Comprehensive Plan, Lincoln’s population is projected to grow at a rate of 1.5% per year. This number is an estimate created by looking at the past trends in population growth for the City. From the 1960s to the 1990s, the average population growth rate per year was 1.2%. In the 1990s, the average growth rate per year was 1.6%. At the assumed 1.5% growth rate per year, Lincoln’s population is projected to reach 327,000 by 2025 and 475,000 by 2050. Looking at a more regional context, the Lincoln-Lancaster County and Omaha Planning Departments project a combined metropolitan population of approximately 1.5 million people by the year 2050.

### **Current Population Density**

Population density is another important demographic measure because of its inherent ability to show concentrations of people across a landscape. Densities are very useful for their ability to show concentrations of people but can be misleading due to the composition of the landscape. People do not live in heavily forested areas, in wetlands or in lakes, but the area that is comprised of these types of land cover is not excluded when calculating the land area of the region. The figures presented here are general density figures because they use total land area per political designation, *not* only habitable land.

According to the 2025 Lincoln City/Lancaster County Comprehensive Plan, the population density in Lincoln has remained at approximately 3,000 people per square mile since 1970. The Plan also notes that there is sufficient developable land to allow for the density figure to remain the same during the Plan period despite projected growth in overall population. The Census Bureau reports that the population density in Lincoln for the year 2000 was 3,022 people per square mile. Figure 1-2 provides a picture of population density by Census block group for Census 2000 population figures.

Figure 1-2: Population Density



Population is concentrated in central eastern Lincoln between Cornhusker Highway and O Street and also in southeast Lincoln between O St. and Nebraska Highway 2. There are other smaller pockets of population near the intersection of Interstates 80 and 180 and just south of Nebraska Highway 2.

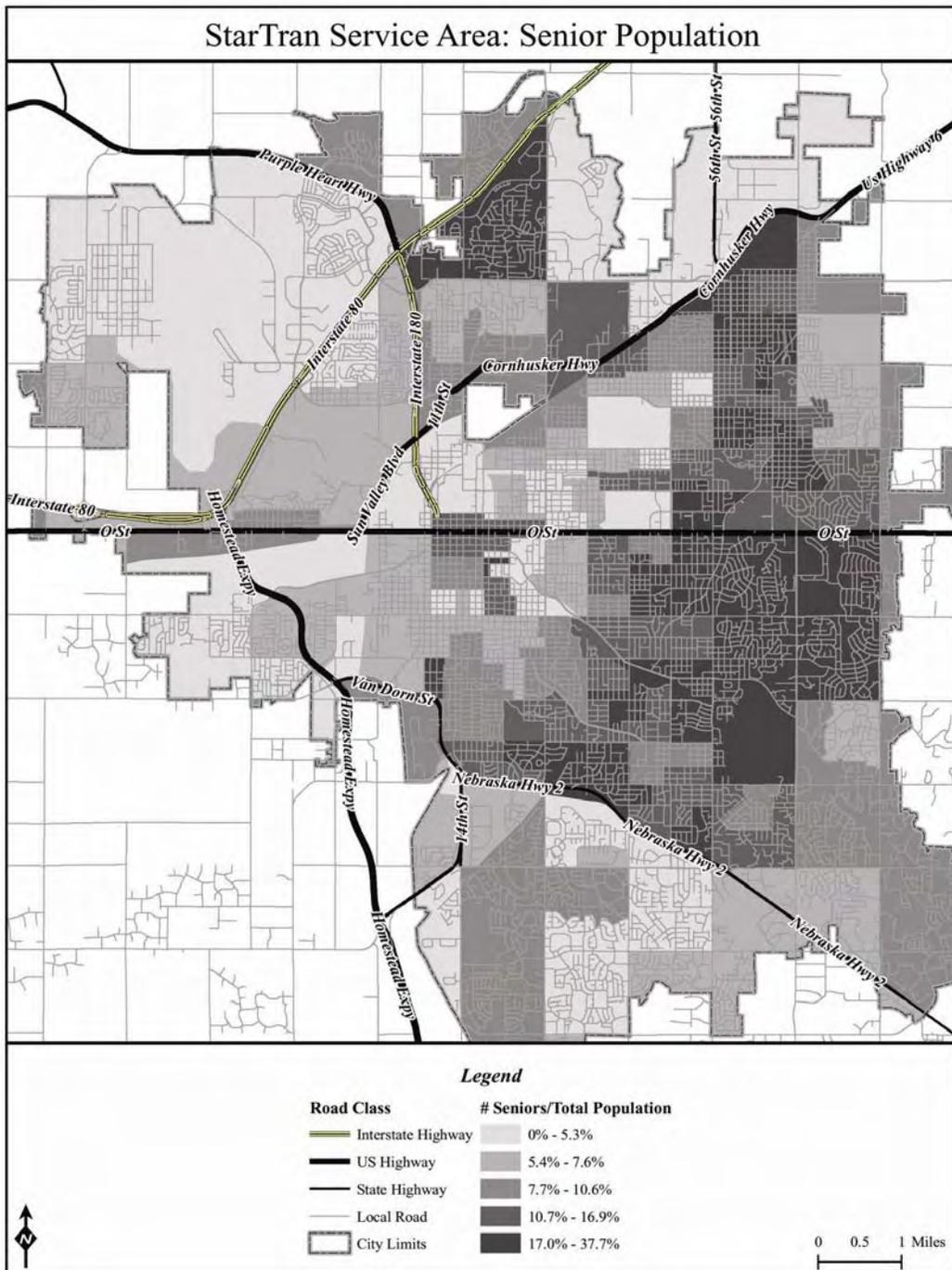
For the younger and older segments of the population, age directly impacts mobility, and thus impacts transit usage. Identifying where these populations are concentrated can indicate areas of potential transit demand. Until the age of 16 youth are ineligible to drive, making them dependent on others or on non-motorized modes, such as walking and biking, for their mobility. Once youth turn 16, limited incomes often restrict their ability to own and maintain a vehicle. Youth and senior populations are discussed in the following sections.

### **Senior Citizen Population**

Senior citizens tend to locate in the more urban areas, where access to health and activities are readily available. According to Census 2000, of Lincoln's 225,581 people, 23,501 (10.4%) were aged 65 or over. Figure 1-3 is a map of senior citizens as a percentage of the total population by Census block group for the City of Lincoln.

Senior citizens are heavily concentrated in eastern Lincoln centered on O St. between Cornhusker Highway and Nebraska Highway 2. Another pocket of seniors is located just northeast of the intersection of Interstates 80 and 180.

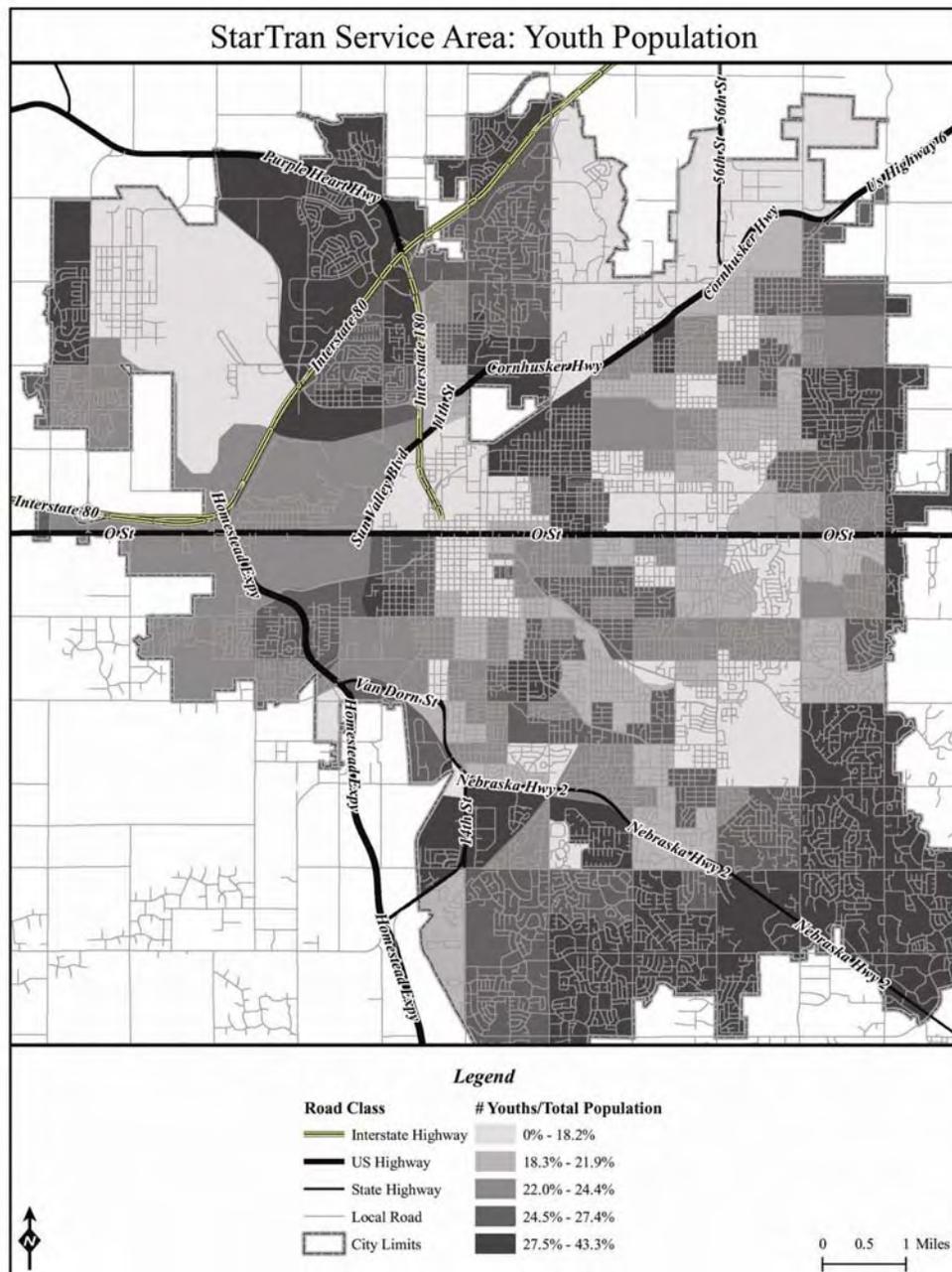
Figure 1-3: Senior Population



## Youth Population

Youths for this discussion are considered to be any person under the age of 18. Figure 1-4 is a spatial view of the youth population in Lincoln. Lincoln is home to 51,906 people under 18 – 23% of the population. Youths are concentrated in northwest Lincoln around the Interstate 80/180 intersection and in southeast Lincoln around Nebraska Highway 2. College-age students at the UNL are discussed in the final section of this chapter.

Figure 1-4: Youth Population



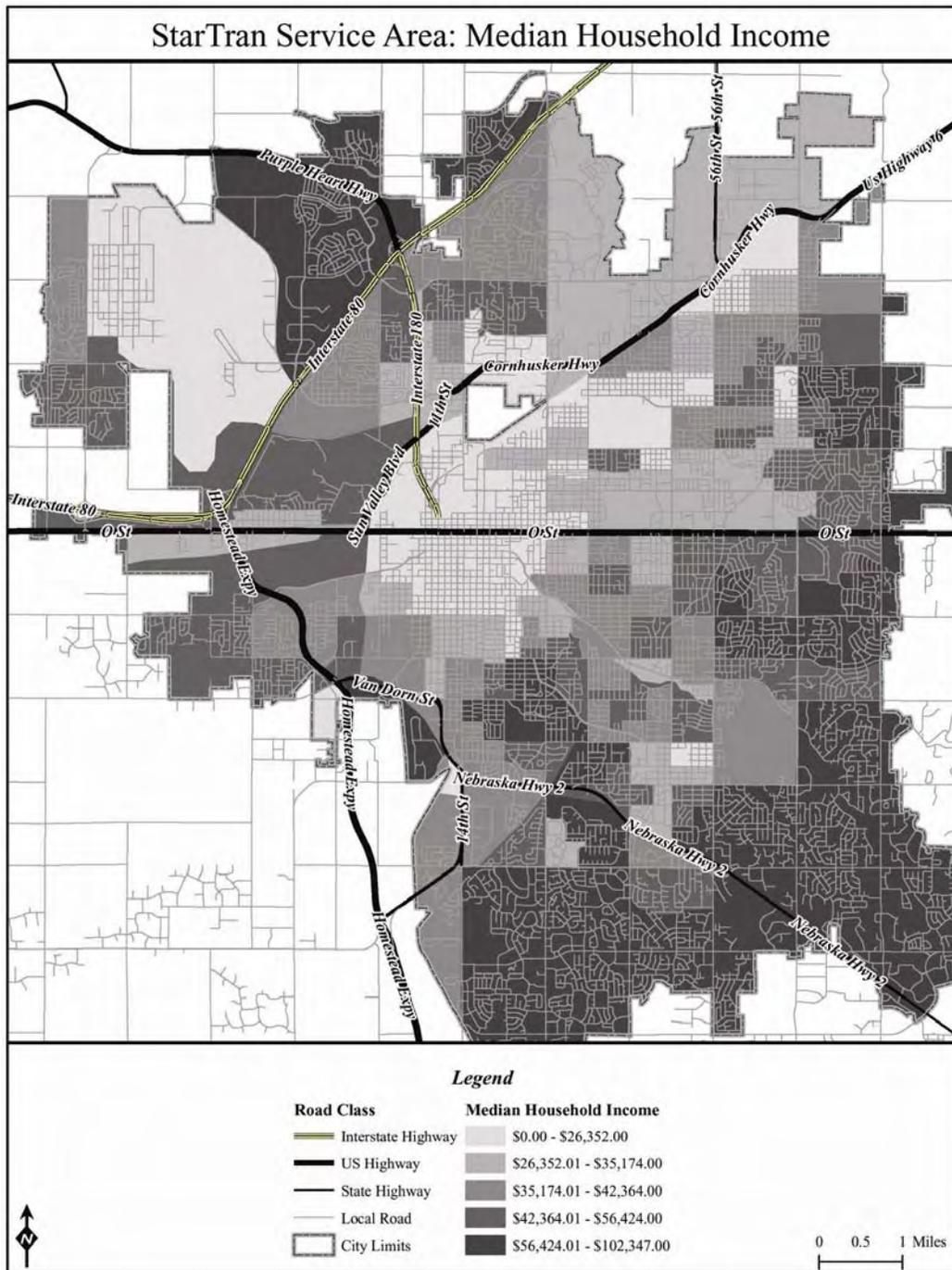
The following sections look at socioeconomic characteristics such as income and poverty. Employment and commuting statistics follow.

### **Income**

Income determines (in part) the type of transportation that people are able to use to get to work. People with lower incomes are more likely to be in need of public transportation options than people with higher incomes who can afford private transportation. Both household income and individual income are discussed in this section.

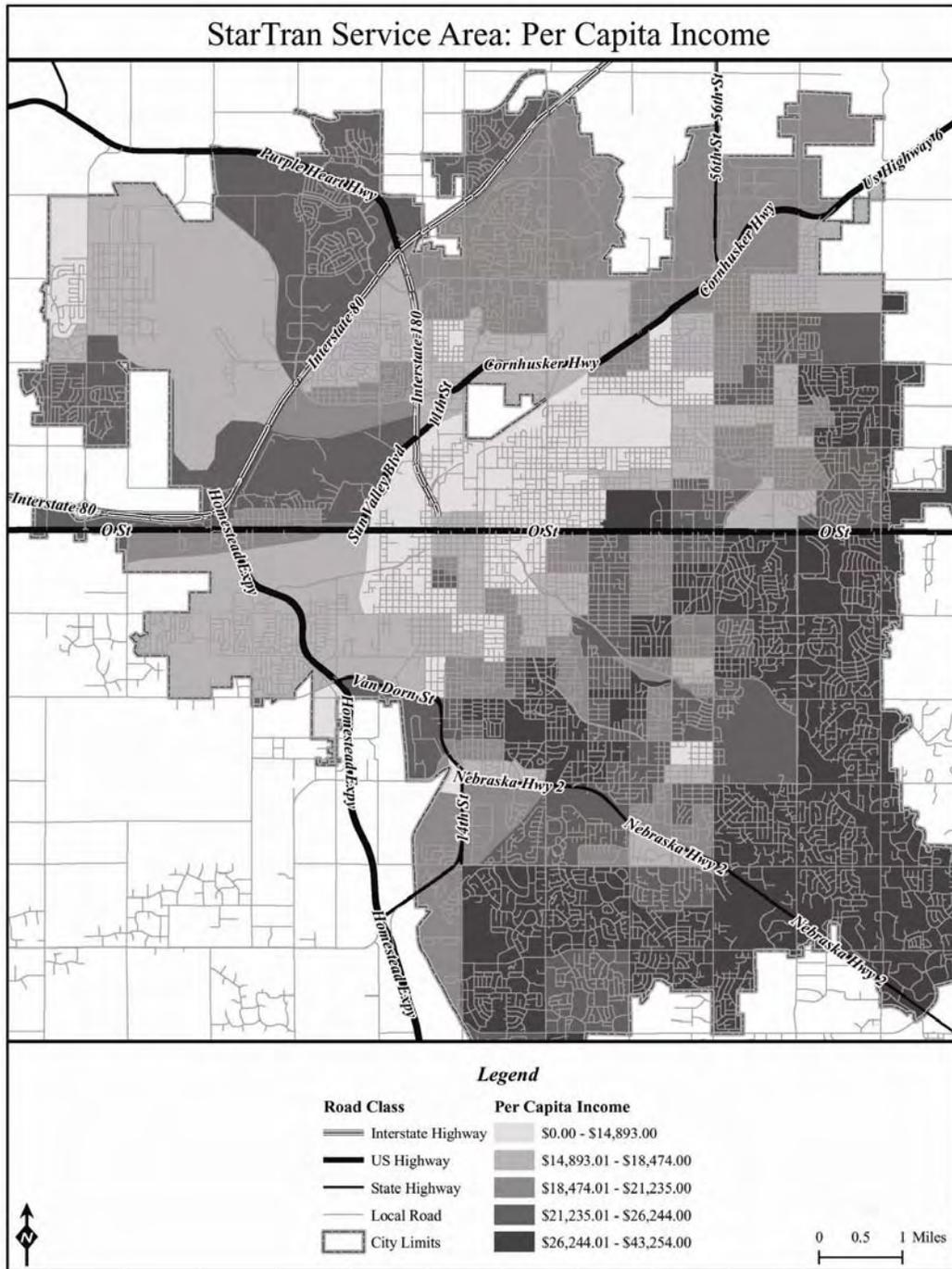
Median household income describes the average income of households within the study area. In Lincoln, the Census 2000 median household income was \$40,605. Median household income by block group for Census 2000 is mapped in Figure 1-5. In the City of Lincoln, wealth is concentrated around the edges of the City and low incomes are centered downtown. Wealth is particularly concentrated in the northwest and southeast corners of the city.

Figure 1-5: Median Household Income



Per capita income describes the average income of an individual living in the study area. The per capita income for Lincoln in 2000 was \$20,984. Figure 1-6 is a map of per capita income by Census 2000 block group. As can be expected, per capita wealth is concentrated in much the same way as the household statistic, in the northwest and southeast corners of Lincoln. Low personal incomes are also concentrated in the central city.

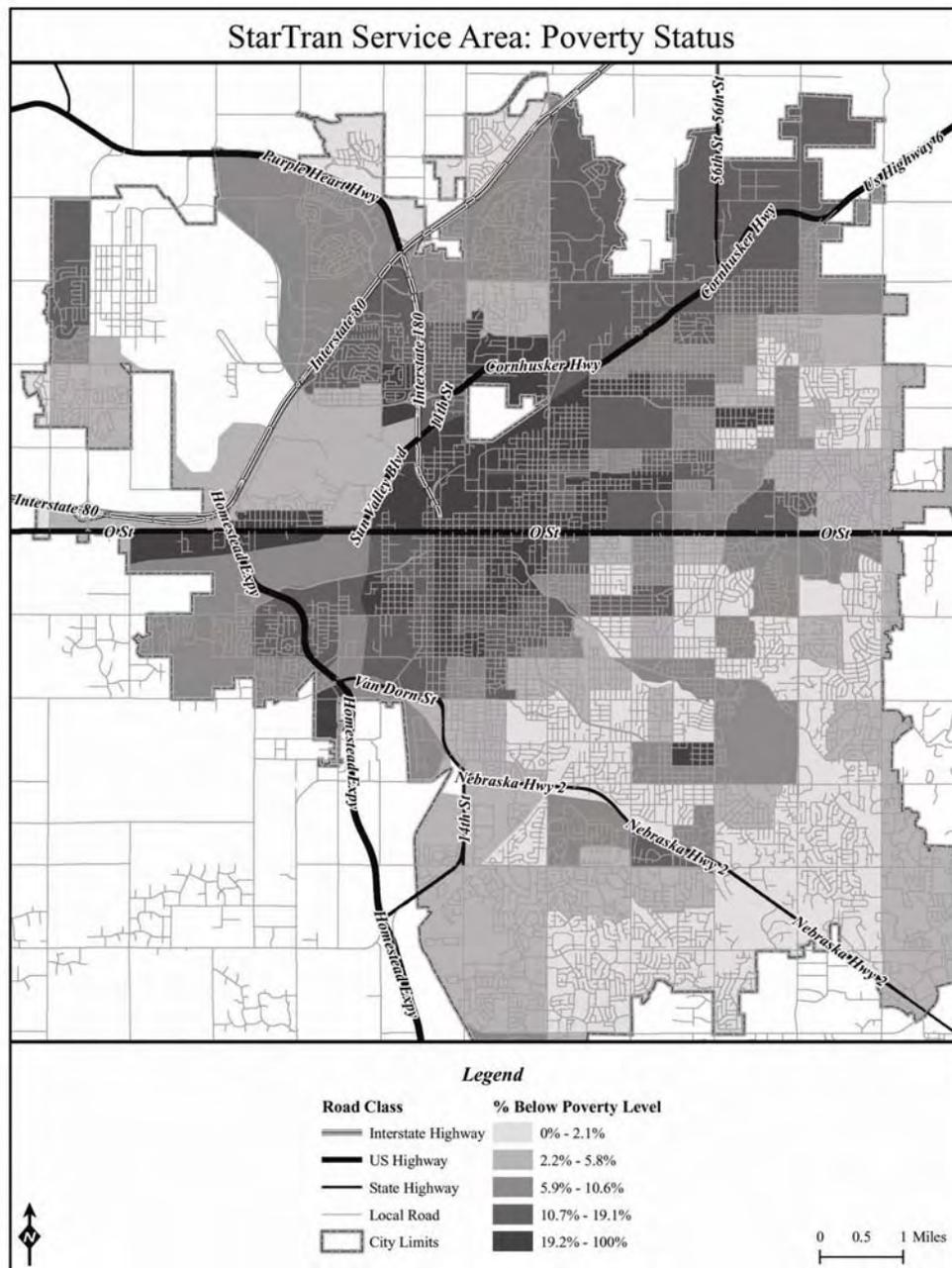
Figure 1-6: Per Capita Income



### Population below the Poverty Level

Poverty is defined as an income level for individuals and families below which people are considered to be living in poverty. In 2000, 21,627 people were living below the poverty level – 10% of the population. Figure 1-7 looks at the percentage of the population living below the poverty level by Census 2000 block group. Poverty is concentrated in central Lincoln and in northeast Lincoln along Cornhusker Highway.

Figure 1-7: Poverty Status

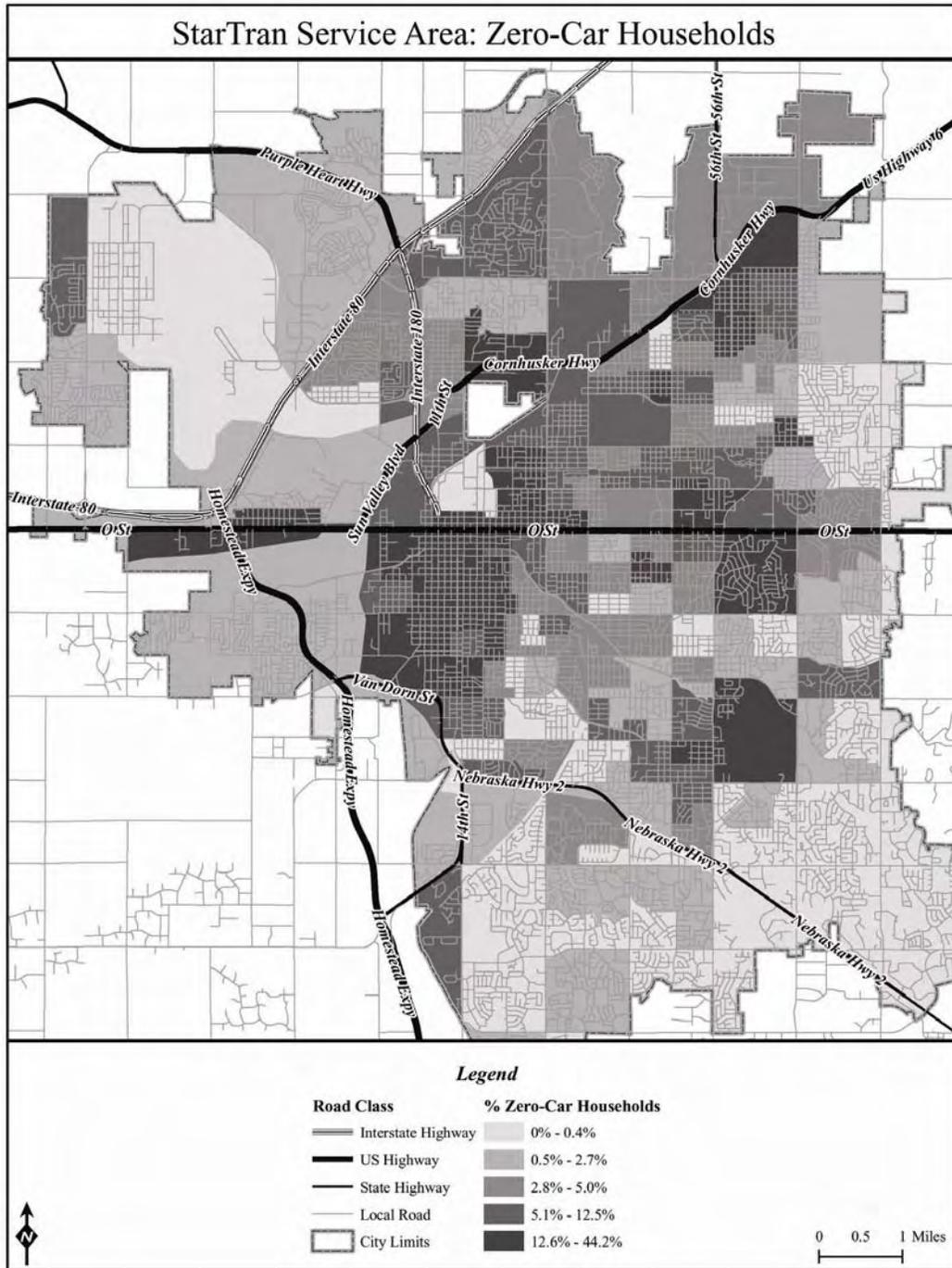


Natural and socioeconomic characteristics, such as age and income, are central in determining the location and level of service for bus routes, but other material and behavior characteristics, such as employment and commutation characteristics, are also essential. The next sections deal with the material and behavior characteristics of the people living in Lincoln as well as the cumulative transit success score.

### **Zero-Car Households**

Numbers of cars per household is an important statistic to analyze because it describes transit dependence and in turn, transit demand in the region. Zero-car households are considered to be entirely dependent upon alternate transportation sources. In Lincoln, 6,618 households have no vehicles available – 7.3% of total households. Figure 1-8 provides a map of zero-car households as a percentage of total households by Census 2000 block group. Zero-car households are most prevalent in eastern Lincoln with a large pocket in the central city but do not follow any obvious spatial pattern.

Figure 1-8: Zero-Car Households



## **Transit Success Score**

The ‘transit score’ map is created in order to spatially analyze several transit-oriented demographic and socioeconomic characteristics at the same time (the characteristics discussed individually in this chapter so far). The transit score is a relative measure of how successful a fixed route transit system is expected to be in a particular region. Used in conjunction with a congruency analysis of major transit generators, the transit score can be used to evaluate existing service as well as to identify areas of potential demand. Major employers and other trip generators are discussed in the following sections.

Demographic and socioeconomic information is collected from the US Census Bureau for a region divided into smaller geographic units such as tracts, block groups, or blocks. Block groups were used for this analysis. Transit-oriented variables used for the analysis include:

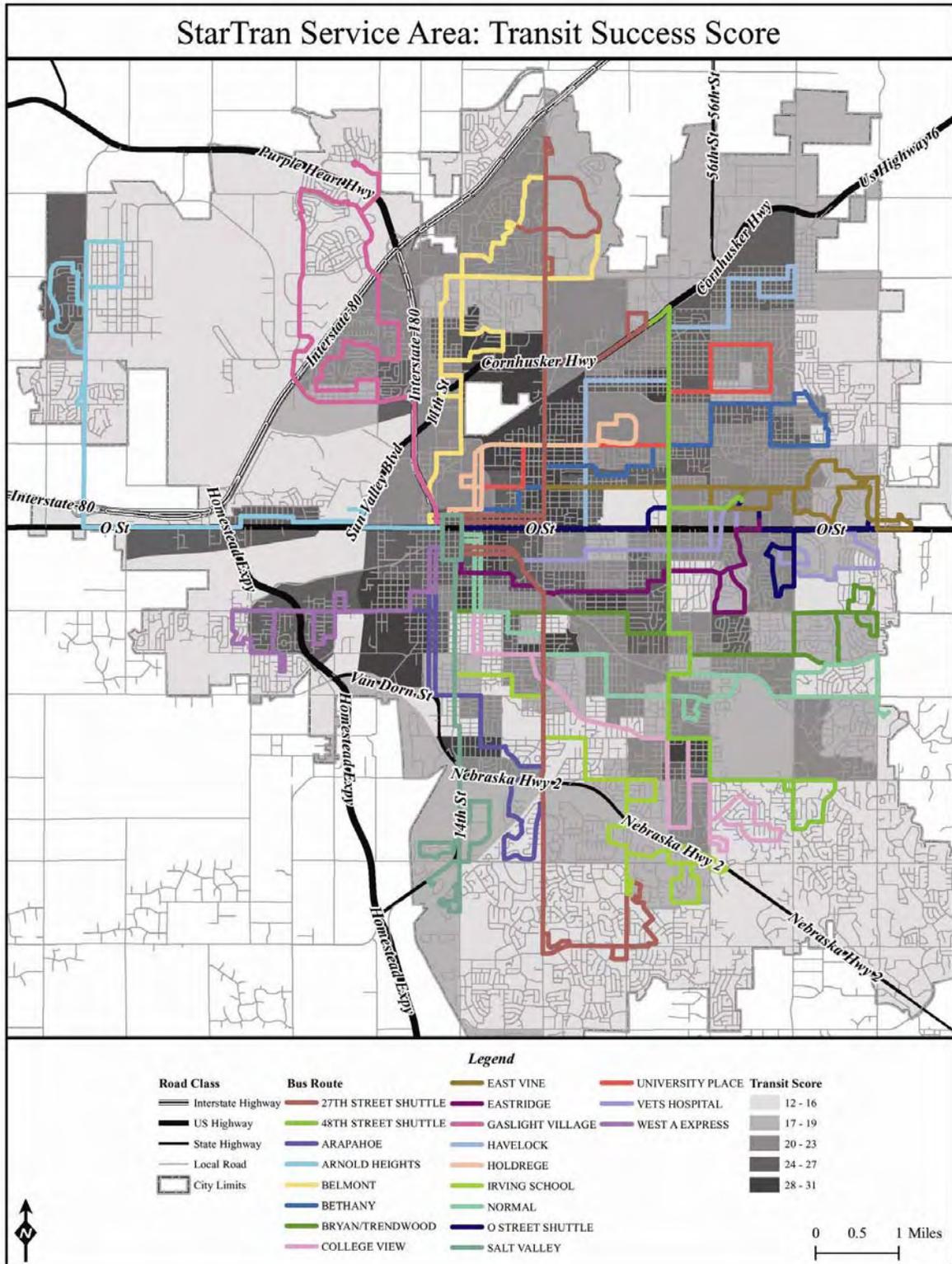
- Population Density
- Percentage of the Population under the age of 18
- Percentage of the Population over the age of 65
- Median Household Income
- Per Capita Income
- Percentage of the Population Living Below the Poverty Level
- Percentage of Zero-Car Households

Each of these variables has a strong correlation with transit success. Transit is most often successful in areas of high population density and in areas with high youth and senior populations. Transit is also traditionally successful in areas with low household and per capita income, high percentages of people living below the poverty level, and high percentages of households without vehicles available.

For a given region, the values for each of these variables are organized by geographic unit. For each variable, the values are arranged into categories of values using the quantile classification method of GIS analysis. For this analysis, all variables are divided into five classes. All of the values in each category (class) are then given a ‘score’ between 1 and 5, where 1 is low expectation of success and 5 is high expectation of success. Then, all of the scores are added up for each variable inside a geographic unit to give a total transit score. Seven variables are evaluated, so a score close to 35 means that a geographic unit has a high expectation for transit success; a score close to 7 means that there is low expectation for transit success. Transit scores are then mapped by geographic unit and quantile classification to show where demographic and socioeconomic variables lend themselves to potential transit success.

Figure 1-9 maps the probability of transit success for the City of Lincoln. The potential for transit success in Lincoln is centered along Cornhusker Highway, O St. and Van Dorn St./Nebraska Highway 2. StarTran routes currently serve the vast majority of areas with high potential for transit success. Only small portions of block groups with high transit success scores around Cornhusker Highway and 27<sup>th</sup> St., Cornhusker Highway and 70<sup>th</sup> St., Van Dorn St. and 7<sup>th</sup> St., Superior St. and 48<sup>th</sup> St. and the Capitol Parkway between D and L Sts. are not within walking distance (a quarter mile) of current StarTran routes.

Figure 1-9: Transit Success Score Map



## **Employment**

Employment is a key factor in transportation and transit discussions because the trip to work is the most frequent and most important trip taken by most people. In the City of Lincoln, 131,691 people were employed at the time of Census 2000. Lincoln is home to several major sources of employment resulting from the fact that Lincoln is the state capital, the seat of Lancaster County, and home to the University of Nebraska-Lincoln. There are also many major private corporations located in Lincoln including Goodyear Tire and State Farm Insurance.

Figure 1-10 is a map of total workers by place of employment using data from the Census 2000 Transportation Planning Package. This is a depiction of where jobs are located throughout Lincoln. Job concentrations are found around and north of O St. in northwest Lincoln, north of Cornhusker Highway in northeast Lincoln, and in central Lincoln along O St. There are also some jobs located along Nebraska Highway 2 in southeast Lincoln.

Further, it can be seen where there are jobs in Lincoln by plotting the locations of large employers. Figure 1-11 shows the locations of the largest employers in Lincoln. Employers with 500 or more employees are shown on the map. It also needs to be noted that some of the major employers have multiple locations in the city. When an employer has more than one location in Lincoln, only the most central location is shown on the map, with the exception of UNL with its City Campus and East Campus employment sites.

In general, the depiction of jobs as workers by place of employment matches very well to the distribution of major employers in the city. That is, the major employers are located where there are a lot of workers. A look at the largest employers in Lincoln follows the maps.

Figure 1-10: Total Workers by Place of Employment

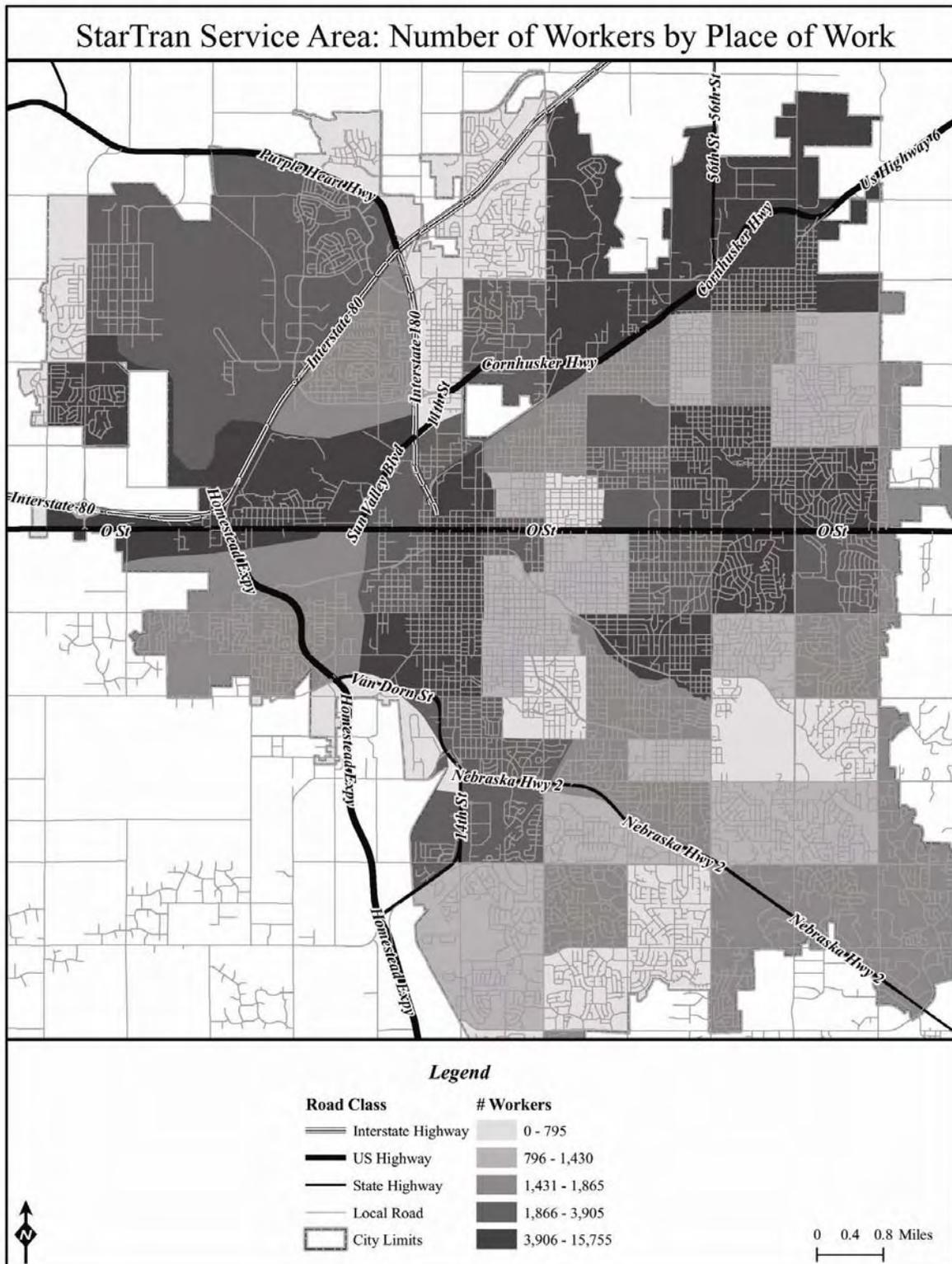
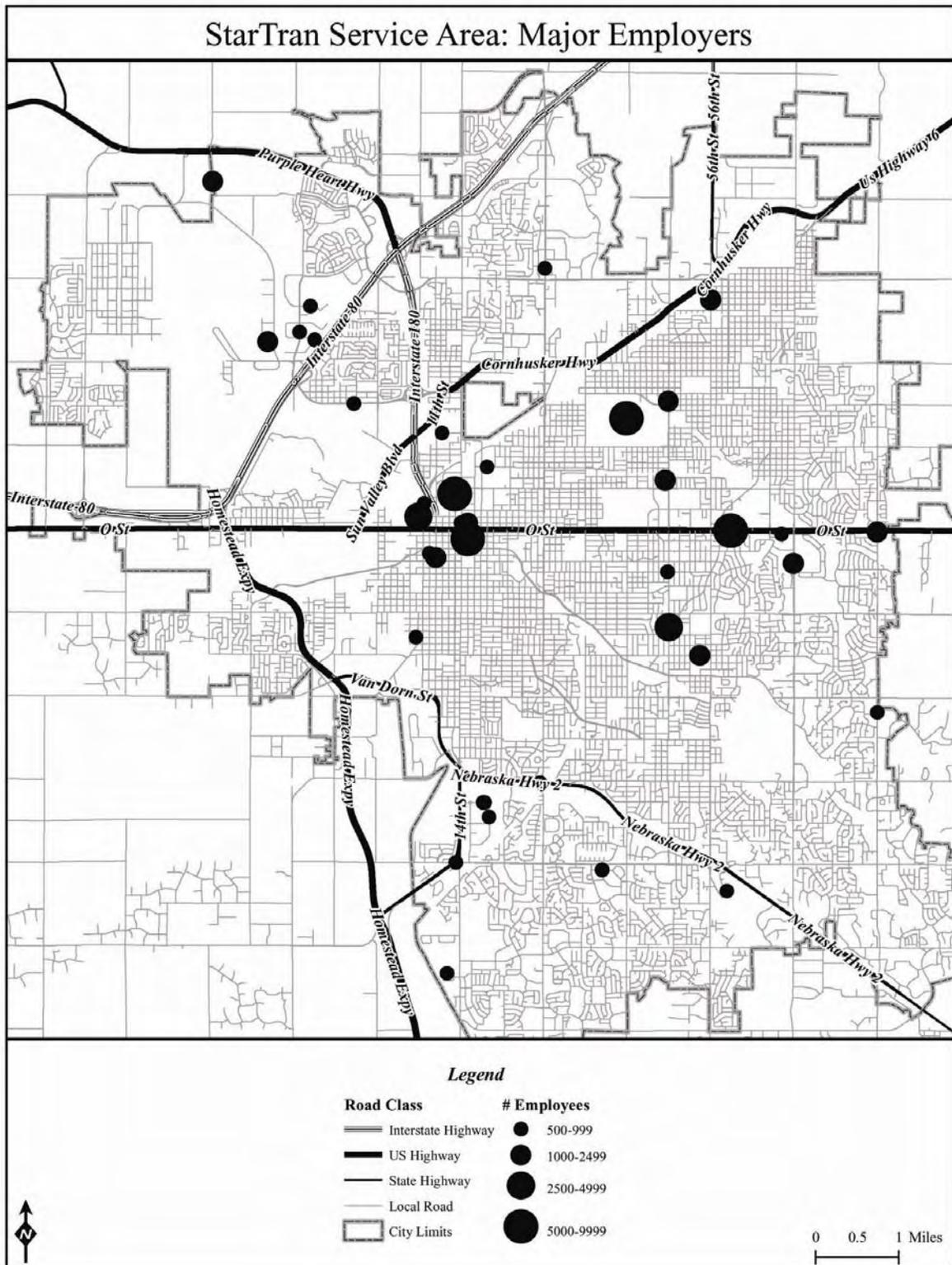


Figure 1-11: Major Employers



Tables 1-1 and 1-2 list out the largest employers in Lincoln by the number of employees. Table 1-1 lists the major employers in Lincoln as reported by the Nebraska Databook with the latest update in April 2005. Table 1-2 lists additional employers from the Lincoln Partnership for Economic Development (2005-06) that are not listed by the Nebraska Databook. Table 1-1 lists actual number of employees where Table 1-2 lists employer size by range of employees.

In Lincoln, the capital of Nebraska, the State is the largest employer. The US government is also a major employer in the city. Other government entities also employ many Lincoln area residents including the public school system, the Department of Health and Human Services, the University of Nebraska, the City of Lincoln, Lancaster County, and the Department of Correctional Services. Other non-government major employers in Lincoln include the Bryan LGH Medical Center, Crete Carrier Corporation, BNSF Railway Company, St. Elizabeth Regional Medical Center, B & R Stores, State Farm Insurance, and Hy-Vee Food Stores.

**Table 1-1: Major Employers**

<b>Employer</b>	<b># Employees</b>
State of Nebraska	18,653
US Government	15,403
Lincoln Public Schools	5,900
NE Dept. of Health & Human Svc.	5,809
University of NE-Lincoln	4,915
Bryan LGH Medical Center	4,200
Crete Carrier Corp.	3,040
City of Lincoln	2,746
St. Elizabeth Regional Med. Center	2,393
Correctional Services	2,083
B & R Stores Inc.	2,011
Goodyear Tire & Rubber Co.	1,300
Lancaster County	1,255
Runza National	1,200
Ameritas Acacia Mutual Holding	1,100
Madonna Rehabilitation Hospital	1,100
Gallup Organization Inc.	1,100
Kawasaki Motors Mfg. Corp. USA	1,060
Necco Inc, Constructors Inc	1,000
Duncan Aviation	1,000
Alltel	960
Lincoln Benefit Life	950
Air & Army National Guard	923
Pfizer Inc.	900
Union Bank	750
Tabitha Nursing Home	731
Nebraska Book Co. Inc.	690
Molex Inc	655
Growth Management Corp.	630
Square D/Schneider Electric	501
MDS Pharma Services	500
Lester Electrical of Nebraska	400

Source: "Largest Employers in Nebraska": <http://info.neded.org/stathand/csect10.htm>

**Table 1-2: Other Major Employers**

<b>Employer</b>	<b># Employees Range</b>
BNSF Railway Co.	2500-4999
State Farm Insurance	1000-2499
Hy-Vee Food Stores, Inc.	1000-2499
Southeast Community College	500-999
Landscapes Unlimited, Inc.	500-999
Quebecor World	500-999
Square D Company	500-999
Douglas Theatre Company	500-999
Pegler Sysco	500-999
Novartis Consumer Health, Inc.	500-999
Information Technology, Inc.	500-999
CIS (Citizenship & Immigration Service)	500-999
Wal-Mart Stores, Inc.	500-999
TAG	500-999
Allied Group Insurance	500-999

Source: Lincoln Partnership for Economic Development: Directory of Largest Employers 2005-06

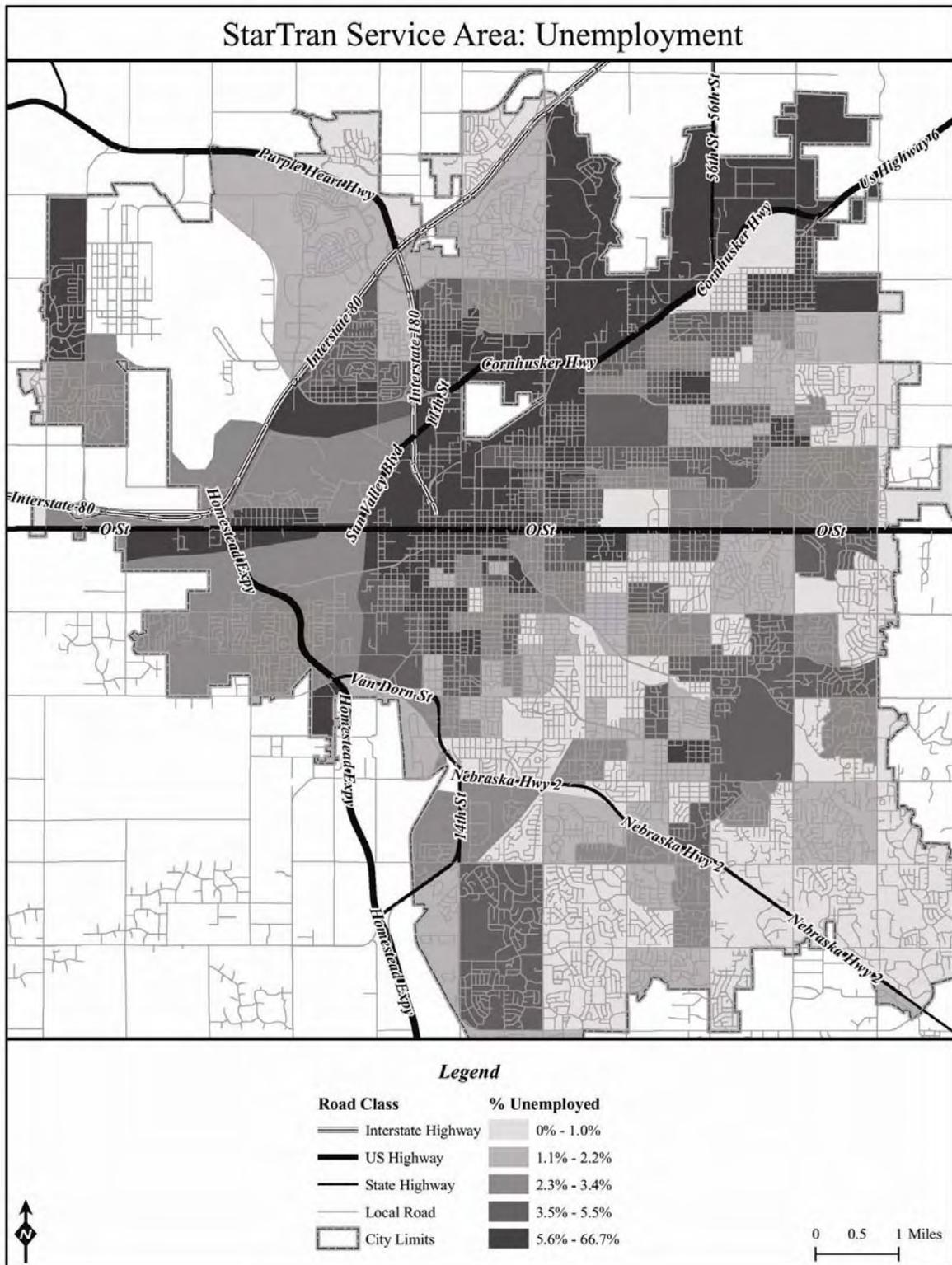
In Lincoln, workers perform a variety of jobs. Thirty-six percent of workers in Lincoln have managerial or professional occupations. Twenty-seven percent of workers are involved in sales and office occupations. Fifteen percent are employed in service occupations. Table 1-3 documents the occupations of Lincoln workers based on Census 2000 statistics.

**Table 1-3: Occupation of Workers in Lincoln**

<b>Occupation</b>	<b>#</b>	<b>%</b>
<b>Management, professional, and related occupations</b>	45,461	36.0%
<b>Service occupations</b>	19,327	15.3%
<b>Sales and office occupations</b>	34,166	27.1%
<b>Farming, fishing, and forestry occupations</b>	342	0.3%
<b>Construction, extraction, and maintenance occupations</b>	10,154	8.0%
<b>Production, transportation, and material moving occupations</b>	16,726	13.3%

Unemployment is also an important characteristic to transit services. People who are compensated for being unemployed by the federal government have to make an active attempt to find employment. In order to go on job interviews and to the unemployment office on very low incomes, they often have to rely on public transportation. From Census 2000 numbers, 5,027 people in Lincoln were unemployed. Figure 1-12 is a map of unemployment as a percentage of the total labor force by Census block group (by residence). Unemployed residents are generally concentrated in Lincoln north of O St. and are particularly concentrated between Cornhusker Highway and Interstate 80. There are also several pockets of unemployment south of O St.

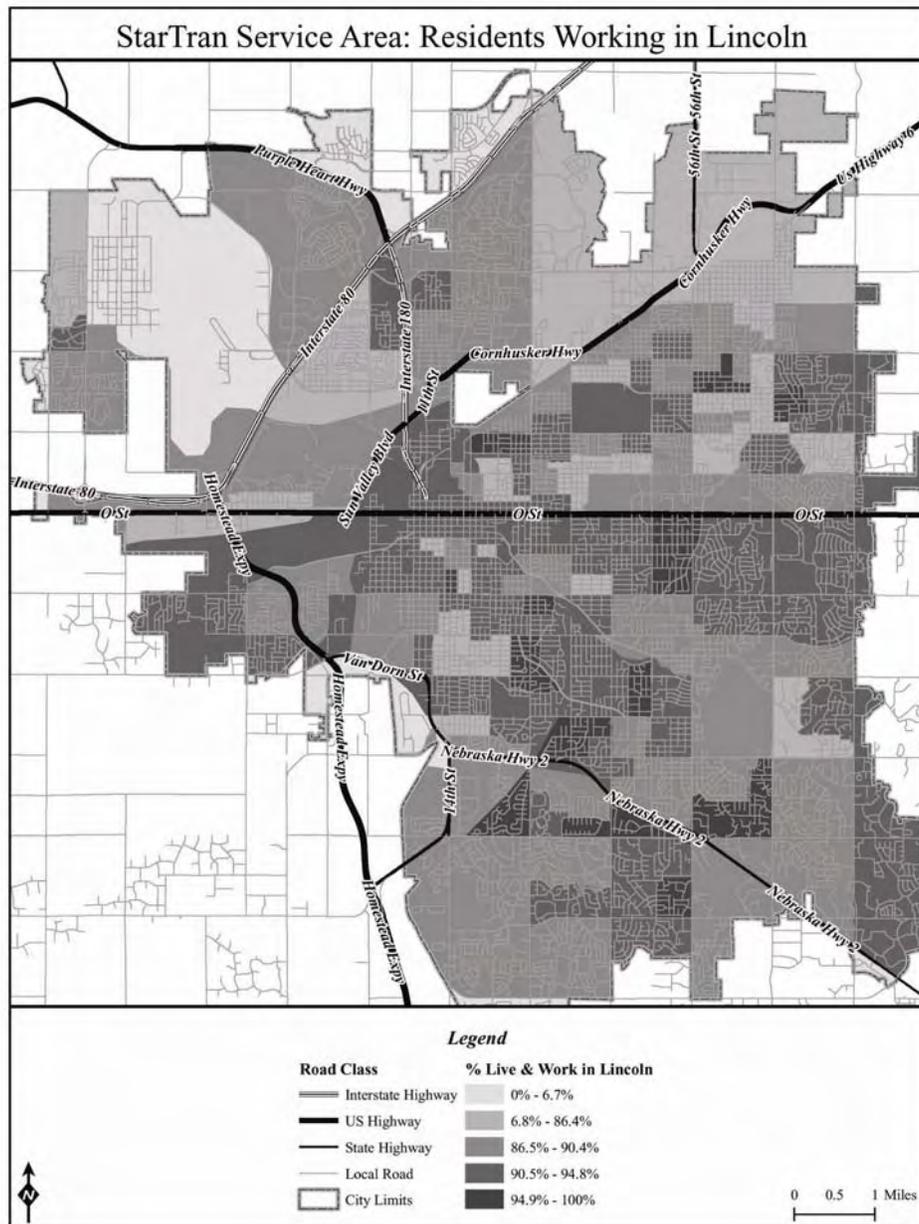
Figure 1-12: Unemployment



## Commuting

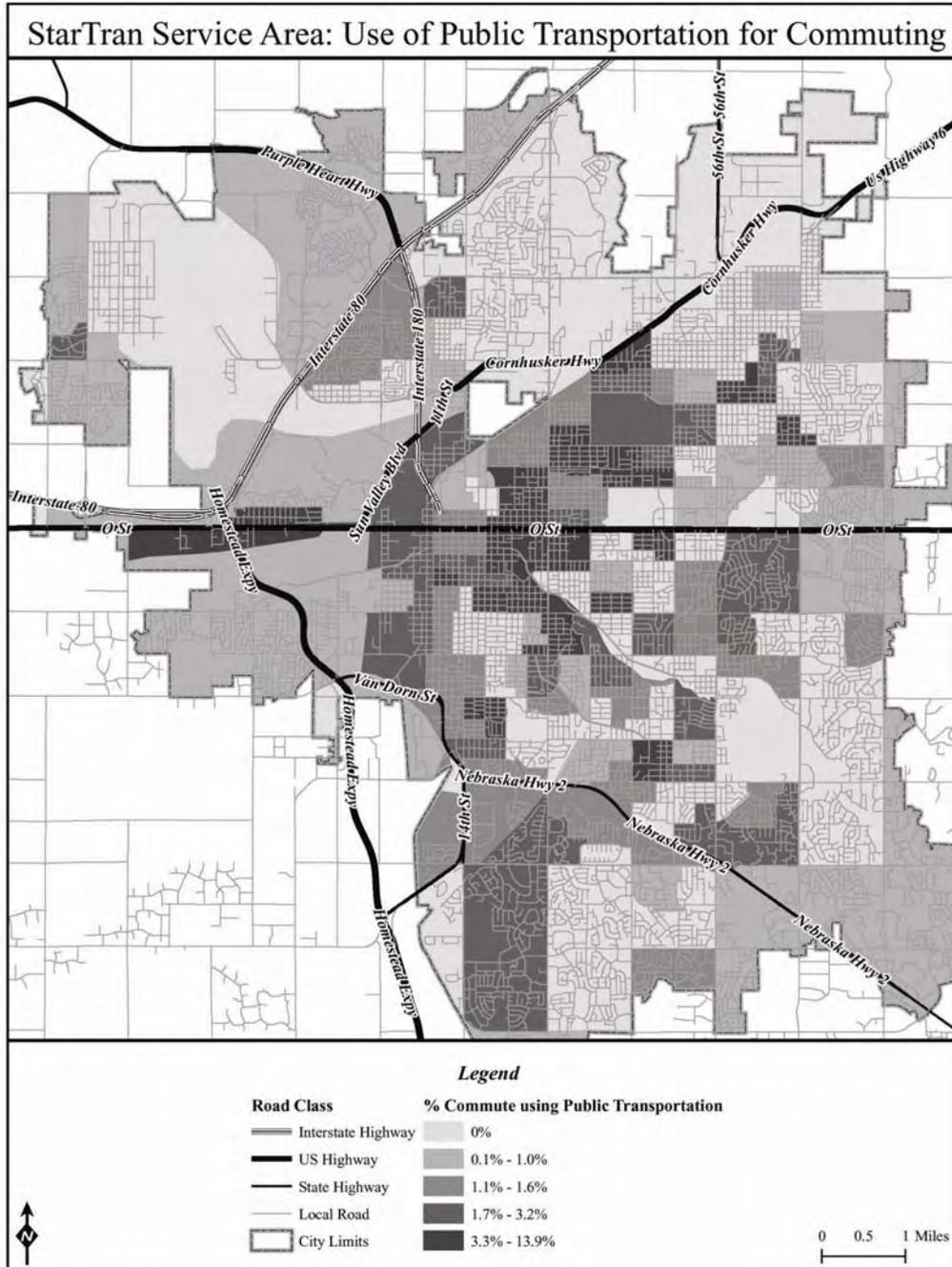
Census 2000 means of transportation statistics describe how people in Lincoln get to and from work. As can be seen in Figure 1-13, the majority of people who live in Lincoln also work in Lincoln. The only exception appears to be in areas in northern Lincoln north of Cornhusker Highway and in northwest Lincoln north of O St. Lincoln is a self-contained city without any major suburbs and is home to 90% of the population of Lancaster County, so it is not surprising that most of the people who live in Lincoln also work in Lincoln. The mean travel time to work in Lincoln is only 17.1 minutes.

**Figure 1-13: Residents Working in Lincoln**



Some residents of Lincoln use public transportation for commuting (1%), but most drive alone (81%) or carpool (10%). Figure 1-14 is a map of the percentage of workers who use public transportation as their means of transportation to work by Census 2000 block group. People who presently use public transportation for commuting generally live in central eastern Lincoln between Cornhusker Highway and Nebraska Highway 2. There are also other pockets along O St. in western Lincoln and in southern Lincoln south of Nebraska Highway 2.

**Figure 1-14: Use of Public Transportation for Commuting**



## **Land Use and Major Trip Generators**

Land use is used to describe where certain functions are performed throughout the City of Lincoln. Land use categories include: public land, green space and environmental resources, agricultural land, industrial and commercial uses, and residential (urban and low density) areas.

Major trip generators are locations frequented by a significant number of people, traveling by all modes, within the study area. Common transit generators include shopping centers, industrial parks, major employers, schools, public and section 8 housing, and hospitals. These generators must be considered when evaluating transit service for a region. This section identifies and maps major trip generators in Lincoln. Major employers were mapped and discussed in a previous section.

Figure 1-15 provides a map of land use in the City of Lincoln. Most of the City of Lincoln is characterized as urban residential with pockets of commercial and industrial uses as well as public land and green spaces. Environmental resources, low density residential, and agricultural land uses are mostly located outside the city limits.

Figure 1-16 provides a map of major trip generators in the City of Lincoln. The major trip generators are generally dispersed throughout the city. There are large pockets of Section 8 housing in central Lincoln between O St. and Van Dorn and between O St. and Cornhusker Highway.

Figure 1-15: Land Use

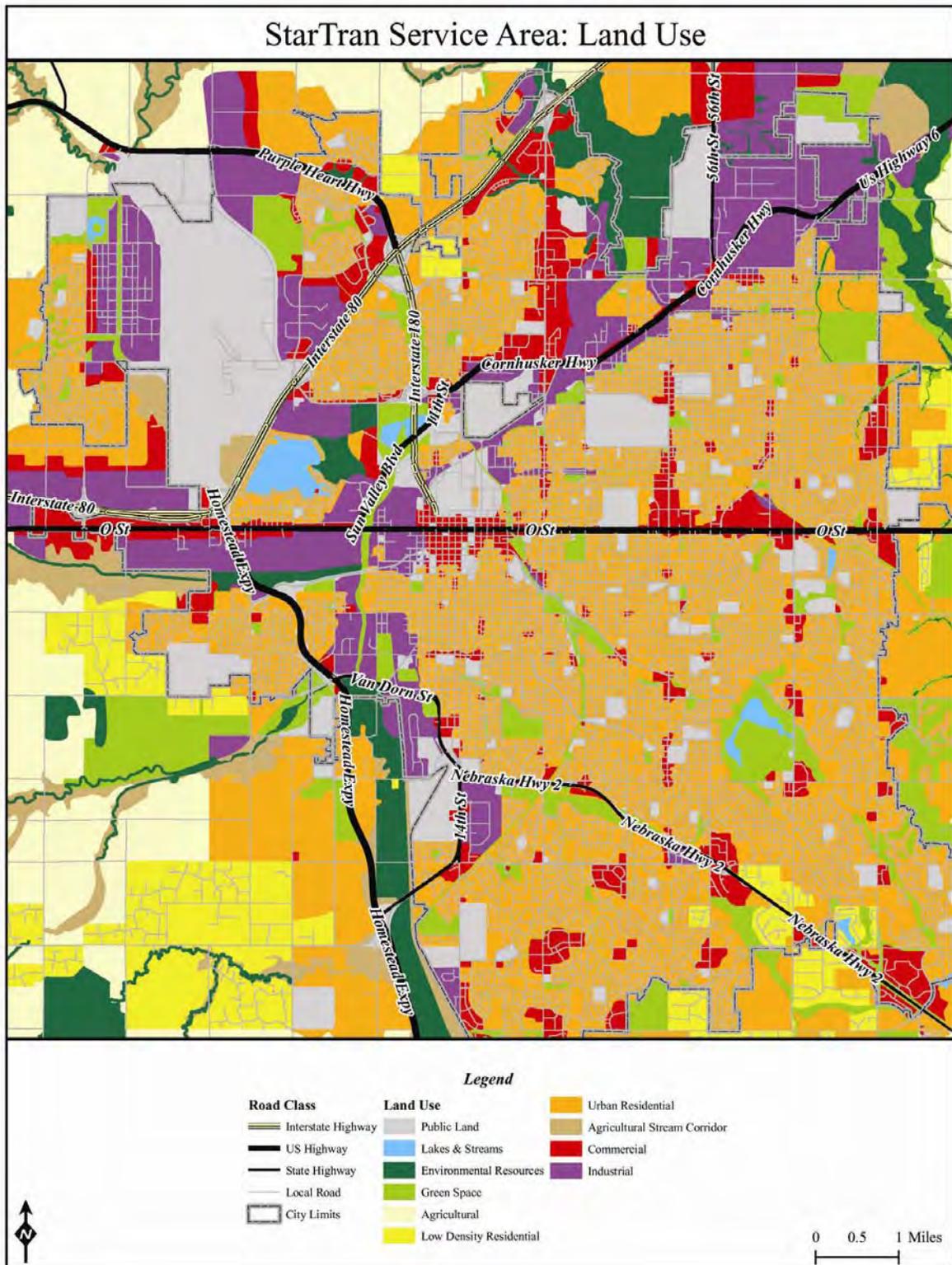
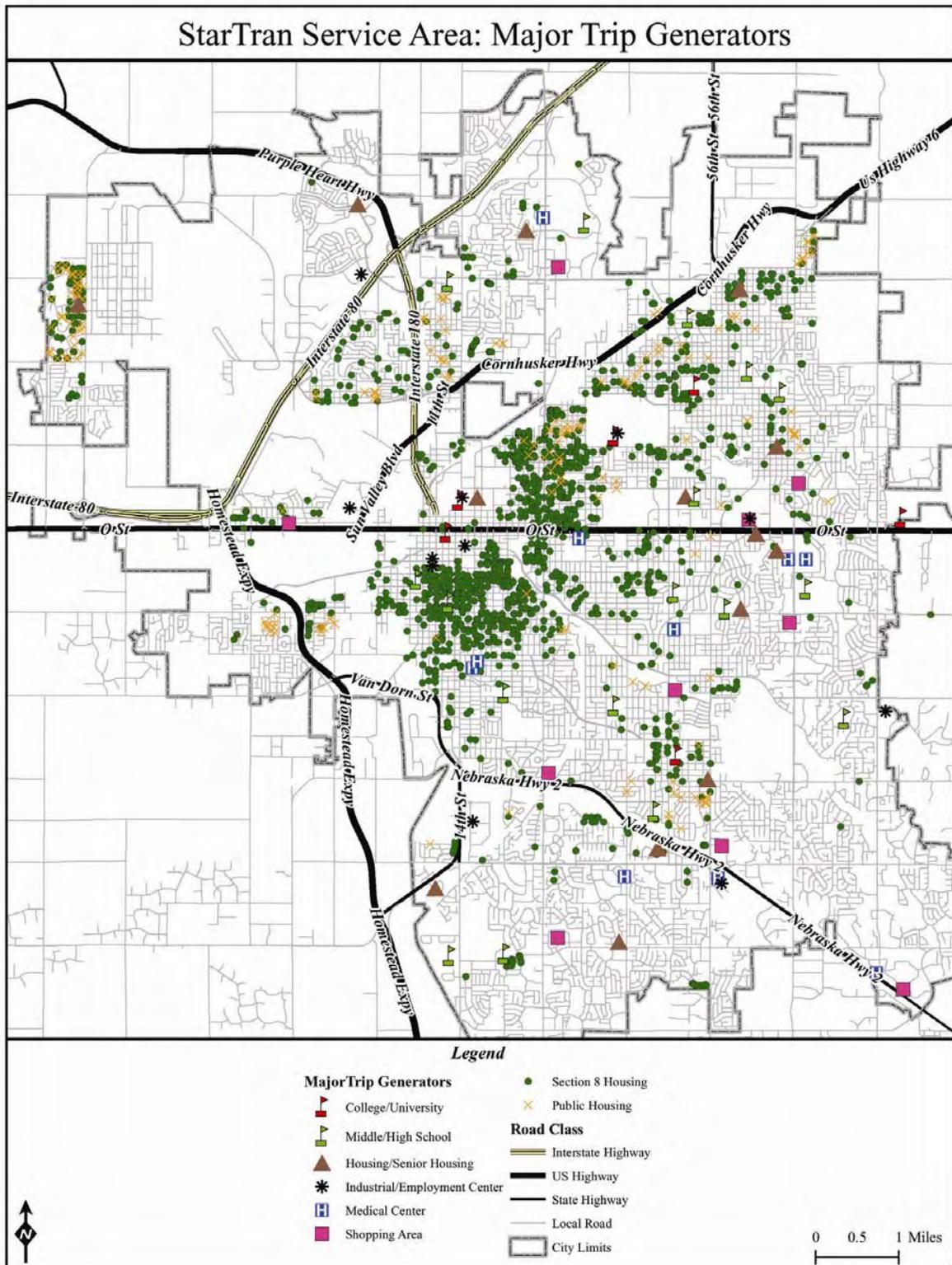


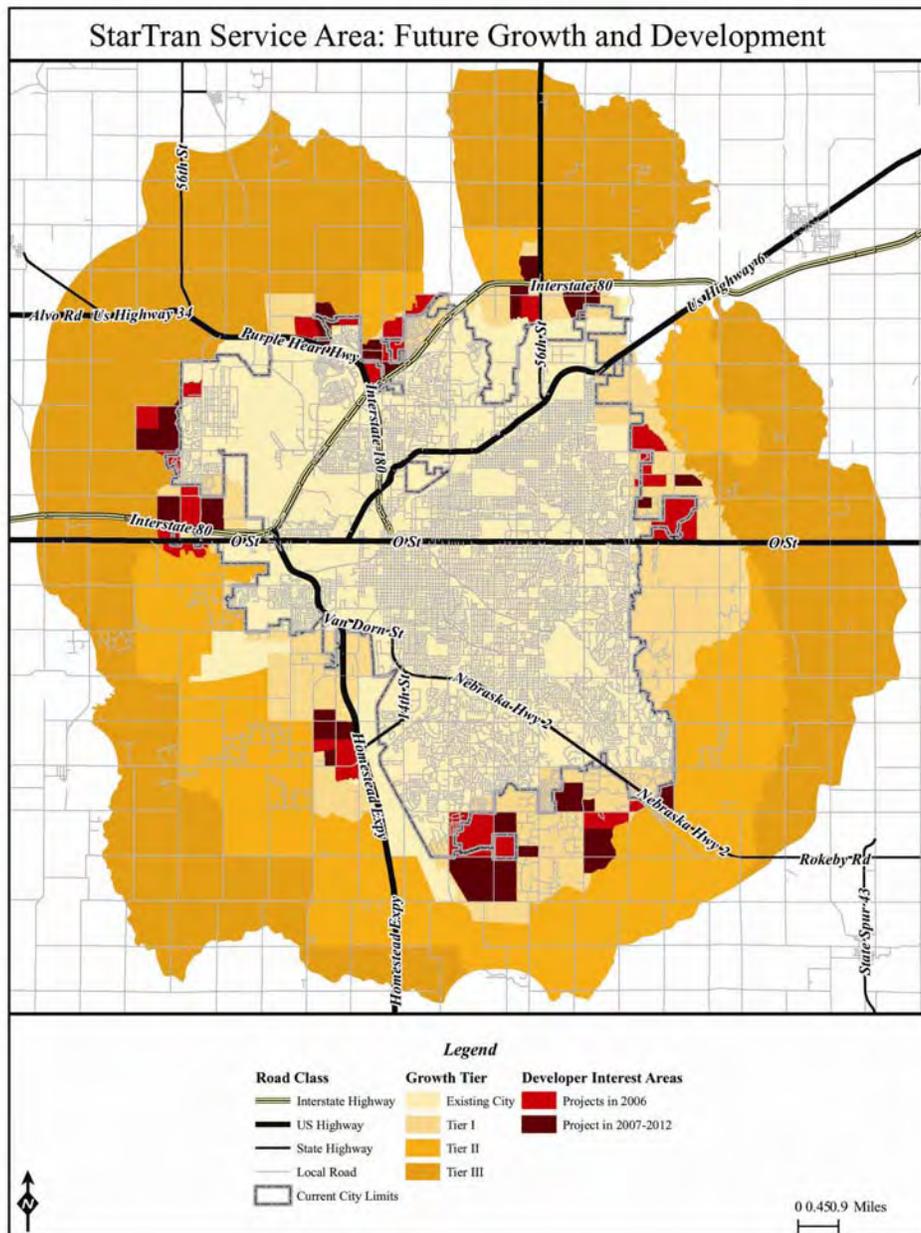
Figure 1-16: Major Trip Generators



## Future Growth and Development

In looking into the future of transit service in Lincoln, it is important to understand where development will take place in order to plan for service provision in new areas. Figure 1-17 describes where the City envisions expansion in terms of growth tiers and developer interest areas for projects taking place in 2006 and 2007. Development in 2006 and 2007 will take place on the outskirts of the City in all directions. Future growth of the City of Lincoln is anticipated to take place to the east, west, and south initially, with tier III growth anticipated on all sides of the City.

Figure 1-17: Future Growth and Development



## Conclusion

The City of Lincoln is a vibrant community. It has been growing steadily in recent years and will continue to grow into the future. It is generally a self-contained city with most people living and working within the city limits. Lincoln is home to many and varied residents and corporations. A major portion of the city is devoted to the University of Nebraska and its contribution will be discussed next.

## University of Nebraska-Lincoln Profile

The University of Nebraska-Lincoln is home to 21,675 students (2005-2006 fall enrollment). Student enrollment has declined slightly in recent years, but has always hovered around the average of 22,000 people. Table 1-4 lists UNL student enrollment by semester from 2000-2006. In addition to fall and spring enrollments of over 20,000 students, UNL also has large summer enrollments of around 13,000 students.

**Table 1-4: UNL Enrollment by Semester 2000-2006**

<i>University of Nebraska-Lincoln</i>	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	<i>6-Year Average**</i>
<b>Fall Enrollment</b>	<b>22,268</b>	<b>22,764</b>	<b>22,988</b>	<b>22,559</b>	<b>21,792</b>	<b>21,675</b>	<b>22,341</b>
Resident	18,081	18,262	18,274	17,804	17,126	16,941	17,748
Full-Time	14,722	14,938	15,064	14,909	14,425	14,459	14,753
Part-Time	3,359	3,324	3,210	2,895	2,701	2,482	2,995
Non-Resident	4,187	4,502	4,714	4,755	4,666	4,734	4,593
Full-Time	3,556	3,688	3,832	3,901	3,757	3,974	3,785
Part-Time	631	814	882	854	909	760	808
<b>Spring Enrollment</b>	<b>20,938</b>	<b>21,289</b>	<b>21,449</b>	<b>20,858</b>	<b>20,286</b>	<b>20,273</b>	<b>20,849</b>
Resident	16,859	16,962	16,946	16,480	15,944	15,802	16,499
Full-Time	13,352	13,541	13,695	13,570	13,178	13,189	13,421
Part-Time	3,507	3,421	3,251	2,910	2,766	2,613	3,078
Non-Resident	4,079	4,327	4,503	4,378	4,342	4,471	4,350
Full-Time	3,304	3,436	3,637	3,494	3,477	3,697	3,508
Part-Time	775	891	866	884	865	774	843
<b>Summer Enrollment *</b>	<b>13,804</b>	<b>13,836</b>	<b>13,325</b>	<b>12,871</b>	<b>12,707</b>	N/A	<b>13,309</b>
Pre-Season	2,649	2,654	2,495	2,461	2,439		2,540
8-Week	784	789	670	625	703		714
1st 5-week	5,770	5,665	5,513	5,416	5,152		5,503
2nd 5-week	4,601	4,728	4,647	4,369	4,413		4,552
*Summer Enrollment excludes 'students in Omaha' **Summer 2006 excluded, so Summer Enrollment is only a 5-year average							

UNL is a major employer in Lincoln. For the 2005-2006 school year, UNL employed 7,503 faculty members and staff personnel (including graduate students). Table 1-5 lists the total number of UNL employees by school year from 2000-2006.

**Table 1-5: UNL Faculty and Staff 2000-2006**

<i>University of Nebraska-Lincoln</i>	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	6-Year Average**
<b>Total Faculty &amp; Staff</b>	7,370	7,617	7,498	7,312	7,342	7,503	7,440

The UNL campus is large and spread-out. Thus, UNL employees and students conduct education in a variety of locations. Table 1-6 lists the total number of faculty members by college for the 2005-2006 school year. This information provides a rough estimate of where faculty and students are concentrated during class time. The College of Arts and Sciences employs the largest number of faculty members – 465.

**Table 1-6: 2005-2006 UNL Faculty by College**

<i>College</i>	# Faculty
<b>Architecture</b>	35
<b>Arts &amp; Sciences</b>	465
<b>Business Administration</b>	87
<b>Education &amp; Human Sciences</b>	210
<b>Engineering</b>	147
<b>Fine &amp; Performing Arts</b>	109
<b>Institute of Agriculture &amp; Natural Resources</b>	285
<b>Journalism &amp; Mass Communications</b>	50
<b>Law</b>	29
<b>Libraries</b>	44
<b>University of Nebraska State Museum</b>	3
<b>Other</b>	18
<b>Total</b>	1,482