

Chapter 2 The Past, Current and Future Condition for Transit in Nashville/Davidson County

This section presents information about the population, development and density trends and patterns of Nashville-Davidson County. The data for this analysis came from:

- The Metropolitan Government of Nashville/Davidson County GIS information on land use in the County.
- MTA route maps and GIS information.
- An employer data set using Dun and Bradstreet data from October 2008.
- An 2007 ESRI dataset which updates 2000 census data at the block group level.
- Forecasts from the MPO on future population and employment in the County.

Population

The population of Nashville Davidson County has been growing over the past few decades. The MPO Long Range Plan and current census estimates provide information on the population growth and expected trends. Table 2-1 shows the population information for the county. Although the population is increasing in Nashville, the increases are taking place in outer, less dense parts of the county. This has resulted in residential areas being more and more spread out—hence more difficult for MTA to serve effectively. Looking at the broader five county area served by the MPO (including Davidson, Rutherford, Sumner, Williamson and Wilson Counties), the percentage of population in Davidson County has been declining as a percent of the region.

Table 2-1: Population of Nashville/Davidson County

Year	Population	Percent of 5 County Region
1990	510,786	58%
2000	569,891	52%
2002	595,124	50%
2007	619,626	48%
2030	713,055 ¹	42%

The data sources cited above can be used to show population, demographics, employment, and land-use information for Nashville/Davidson County. They can also be used to analyze how well the MTA service covers Davidson county geographically. Using updated census data for 2007, relevant information for transit planning can be seen in plots of population density, income, auto ownership and percent of those persons 65 and over. Figure 2-1 through Figure 2-4 show this information for the county along with MTA's route network.

Figure 2-1: Population Density in Nashville/Davidson County – 2007 (by Block Group)

Figure 2-1 shows the population density in 2007 by block group. As can be seen in Figure 2-1, much of Nashville/Davidson County is below 5000 persons per square mile. However, MTA service does come close to most block groups that are 5000 persons and above in density. An industry standard is that a population density of around 3 dwelling units per acre is needed to justify fixed route transit, which translates to around 5000 people per square mile.ⁱⁱ Chapter 6 analyzes the higher density areas that are not well served by MTA routes.

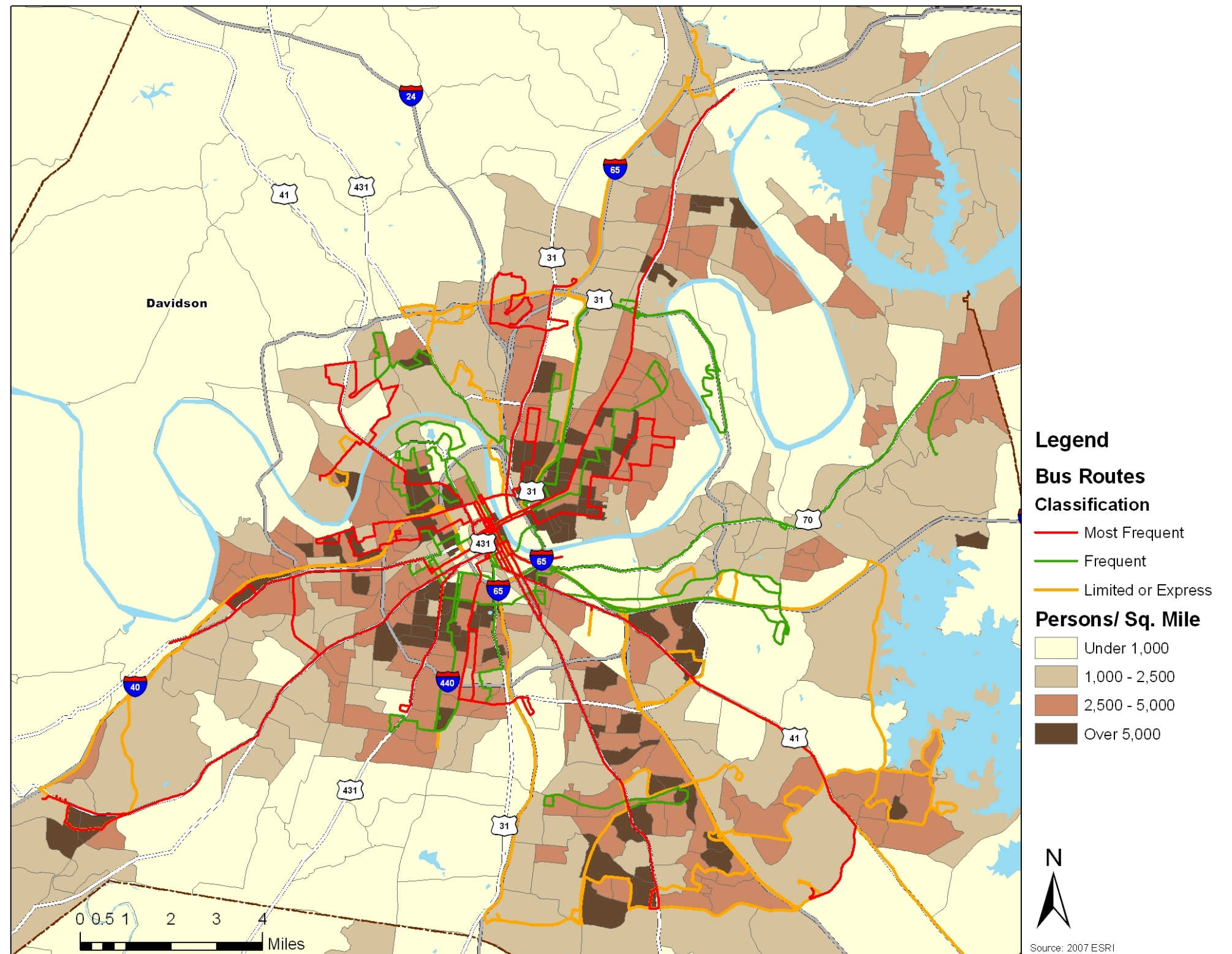


Figure 2-2: Median Household Income by Block Group – 2007

Figure 2-2 shows the median Income by block group in Nashville/Davidson County. The households below poverty level (households with incomes under \$35,000) congregate towards the center of Nashville. Households in the income category of “workforce housing” (between \$35,000 and \$50,000) are more spread out throughout the county. A large area of higher incomes is found to the southwest of the center.

Figure 2-2 also shows MTA routes. MTA’s route system comes within ½ mile of 70 percent of those with household incomes under \$35,000 and 62 percent of households with incomes between \$35,000 and \$50,000.

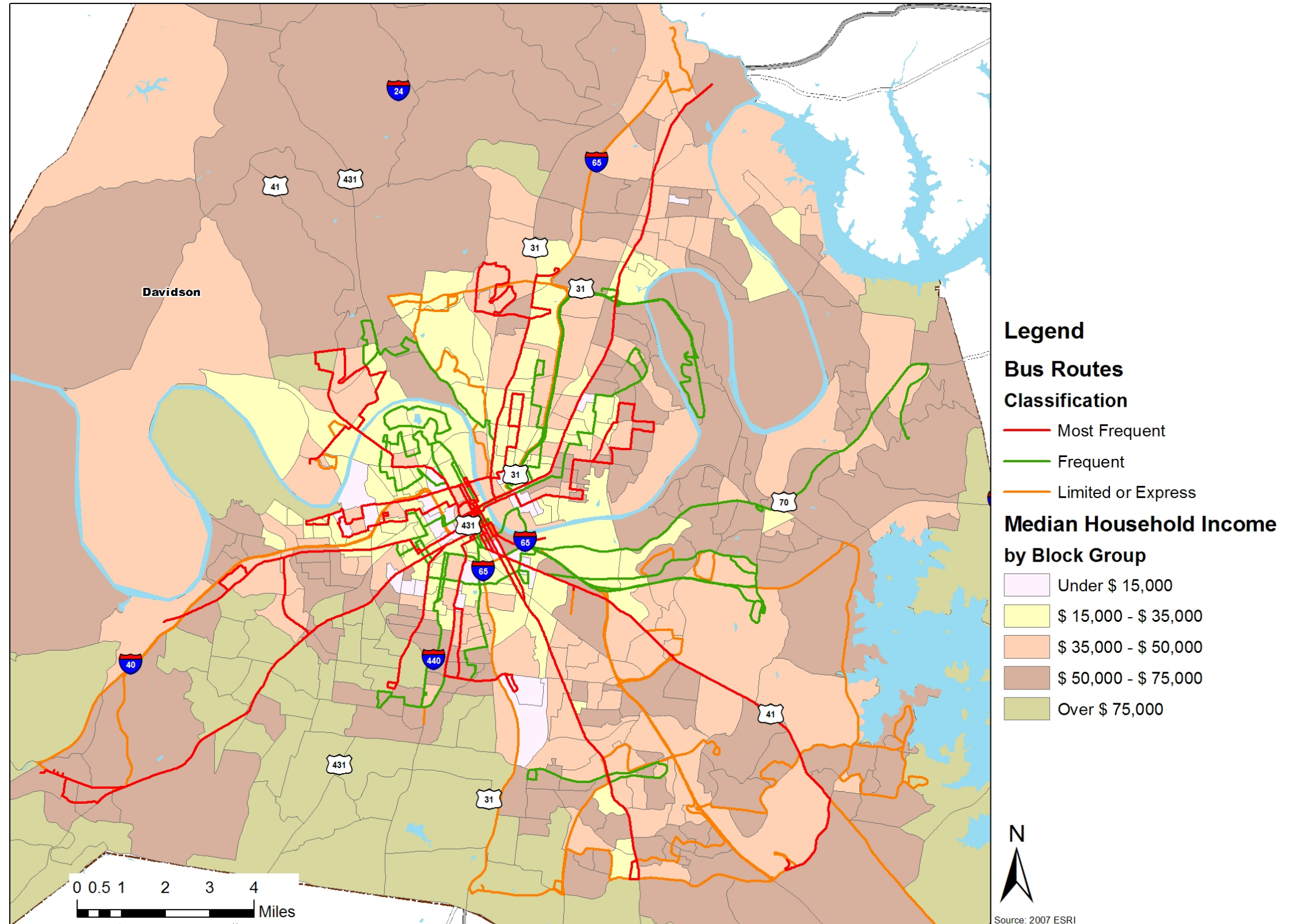


Figure 2-3: Percent Households without Automobiles - 2007

Figure 2-3 shows the percentage of households without automobiles by block group. Households without automobiles, whether by choice or due to lack of income, are going to use MTA service much more than those that have even one automobile. MTA routes come within 1/2 mile of 85 percent of the households without automobiles.

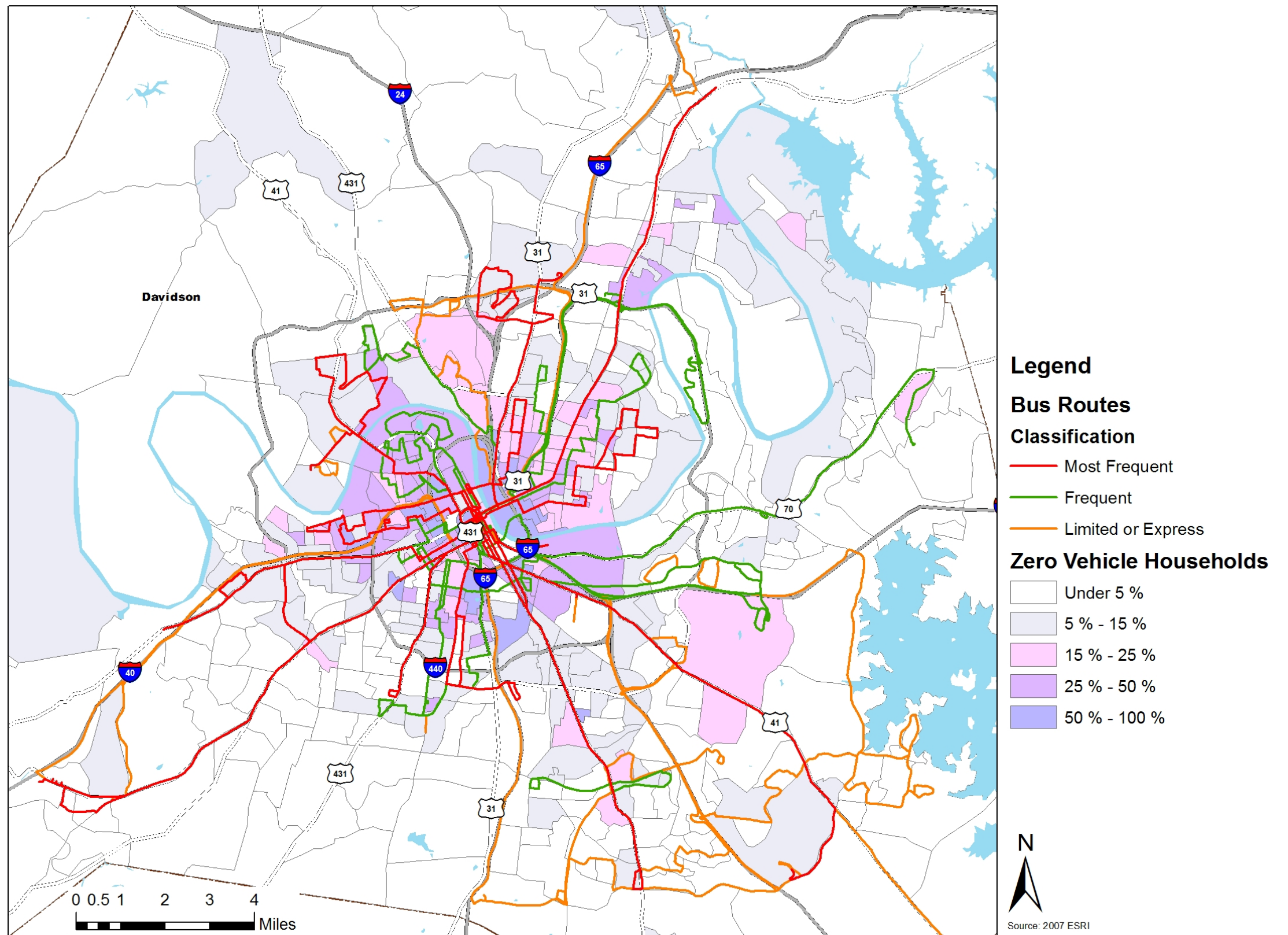


Figure 2-4: Number of Persons over 65 Years Old Per Acre

Figure 2-4 shows the number of persons over 65 years of age per acre. As can be seen, the areas with higher density of seniors are dispersed around the county. While many of these areas are near MTA routes, some are not. Note that there are areas of higher density near the end of Route 3 West End and Route 6 Lebanon Road.

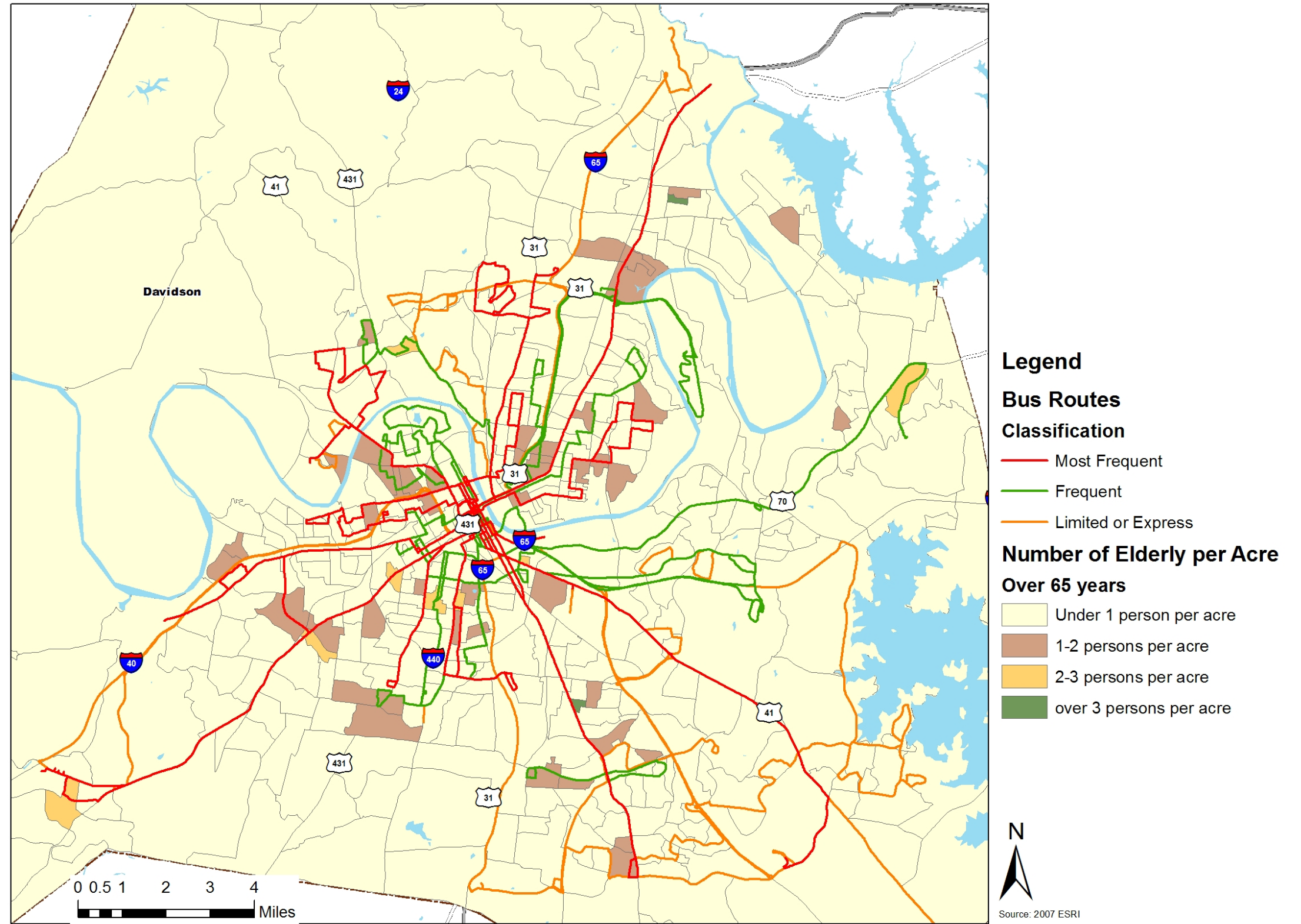


Table 2-2 summarizes how the MTA service covers Nashville/Davidson County by several of the categories shown above.

Table 2-2: MTA Coverage of Population and Households in Nashville/Davidson County

Category	Total within Davidson County	Total within 1/4 Mile of MTA Routes	Total within 1/2 Mile of MTA Routes	Percent Covered within ¼ mile	Percent Covered within ½ mile
Population	599,514	210,692	359,687	35%	60%
Households	253,981	86,416	151,912	34%	60%
Households under \$35,000	82,677	41,437	57,840	50%	70%
Households between \$35,000 and \$50,000	39,216	15,461	24,313	39%	62%
Zero car households	21,624	14,866	18355	69%	85%

Employment

Employment has also been growing in Nashville/Davidson County. Table 2-3 shows the growth over the past decades as well as the forecasted growth into the future. Nashville remains a center for employment in the 5 county region (including Davidson, Rutherford, Sumner, Williamson and Wilson Counties), although employment has been dispersing and that dispersal is expected to continue at a slow pace. Even by 2030, Davidson County is expected to employ over 60 percent of workers in the five county region.

Table 2-3: Employment in Nashville/Davidson County

Year	Employment	Percent of 5 County Region
1990	420,788	71%
2002	540,142	66%
2030	800,549	63%

MTA's route system provides good coverage to the companies and employees within Davidson County. Table 2-4 below shows that 81 percent of employers and around 85 percent of all employees are within ½ mile of MTA routes.

Table 2-3: MTA Coverage of Employers/Employees in Nashville/Davidson County

Category	Total within Davidson County	Total within ¼ Mile of MTA Service	Total within ½ Mile of MTA Service	Percent Covered within ¼ mile	Percent Covered within ½ mile
Employers	1,319	916	1,063	69%	81%
Employees	195,832	144,010	168,279	74%	85%

Figure 2-5: Employment in Nashville/Davidson County

Figure 2-5 shows employers with more than 50 employees in Davidson County based on a dataset purchased from Dun and Bradstreet in October of 2008. This data set is very useful as it shows the location of employment and number of employees at each location. It covers both public and private employers and so is very comprehensive.

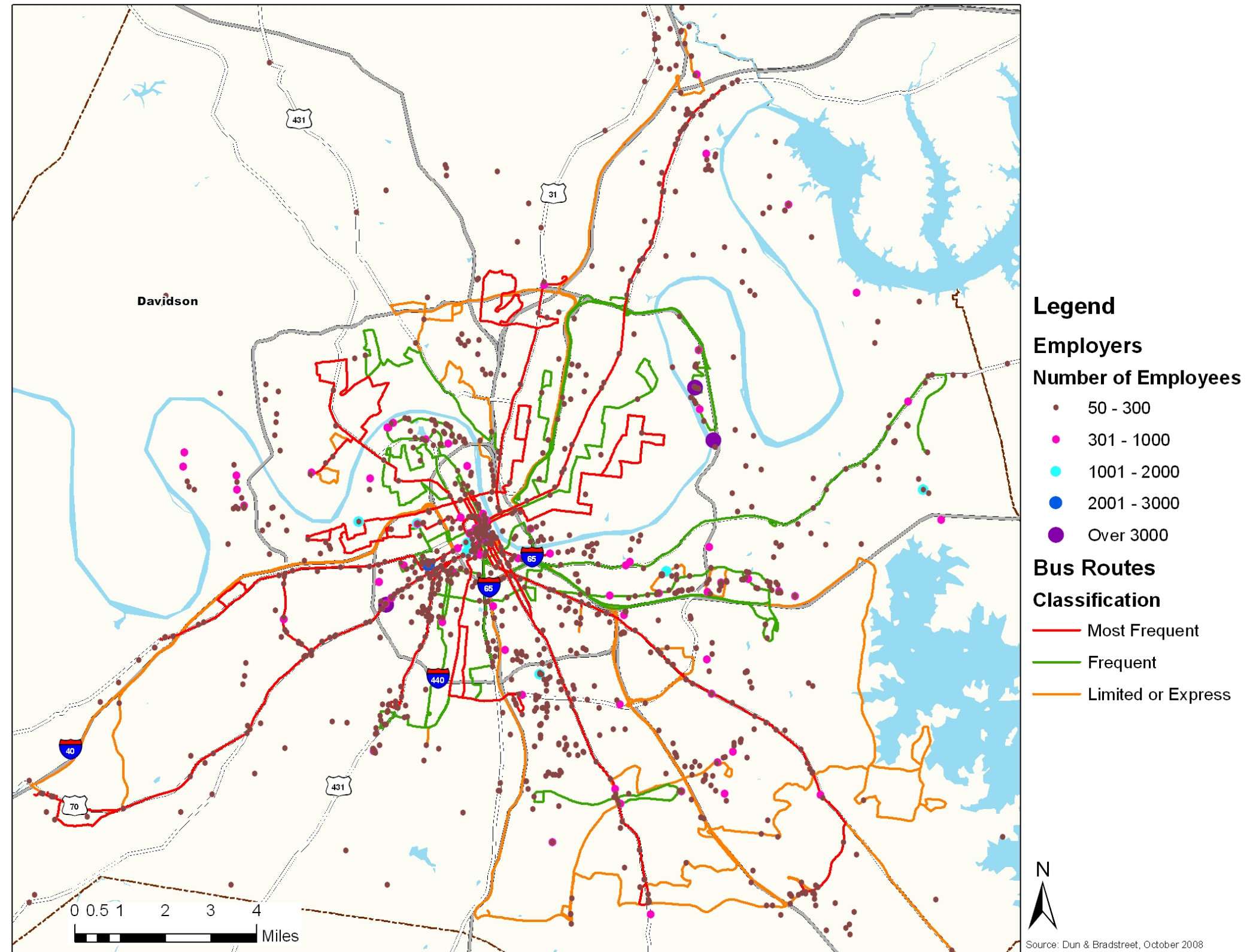


Figure 2-6: 2007 Population Density in Persons per Square Mile

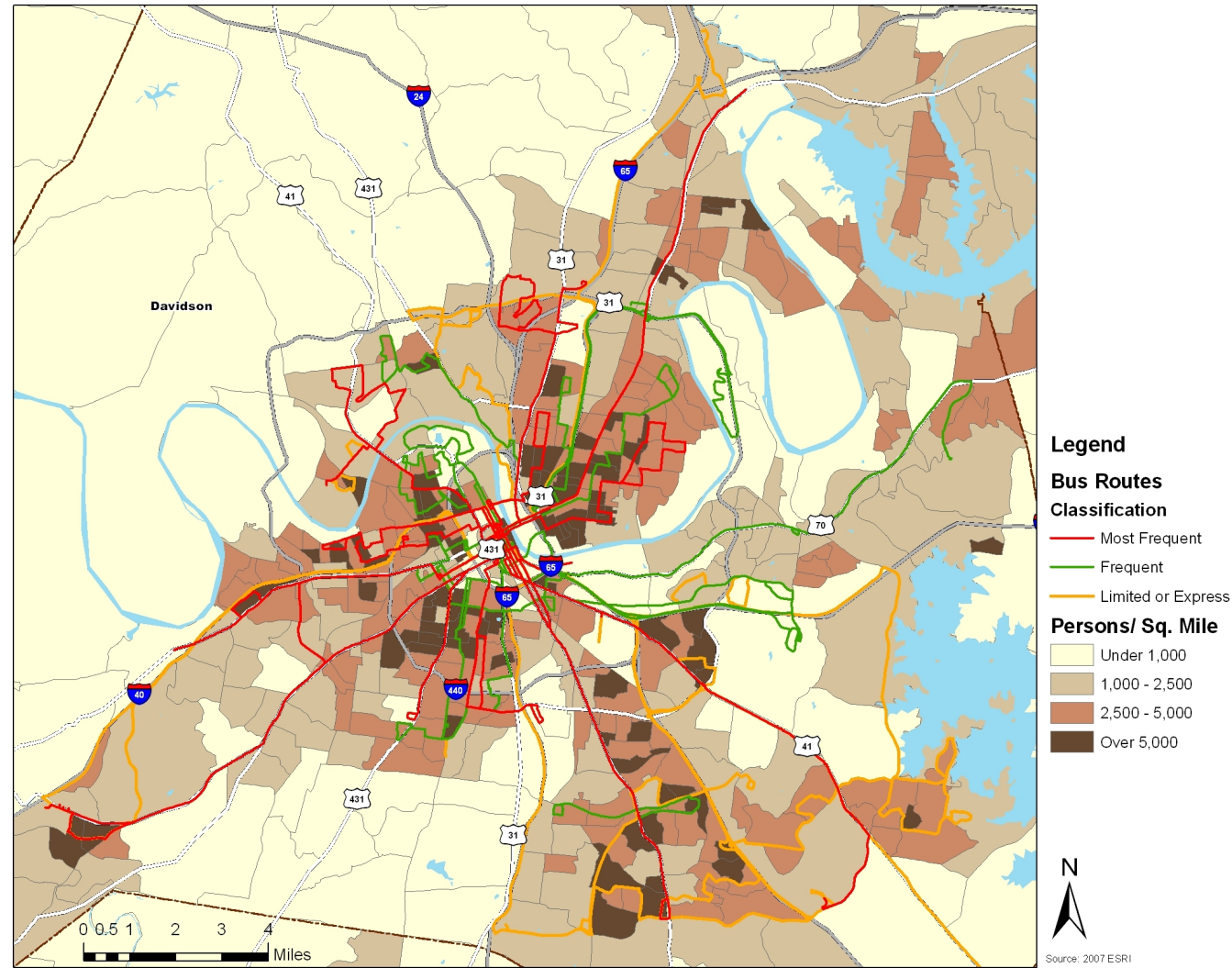
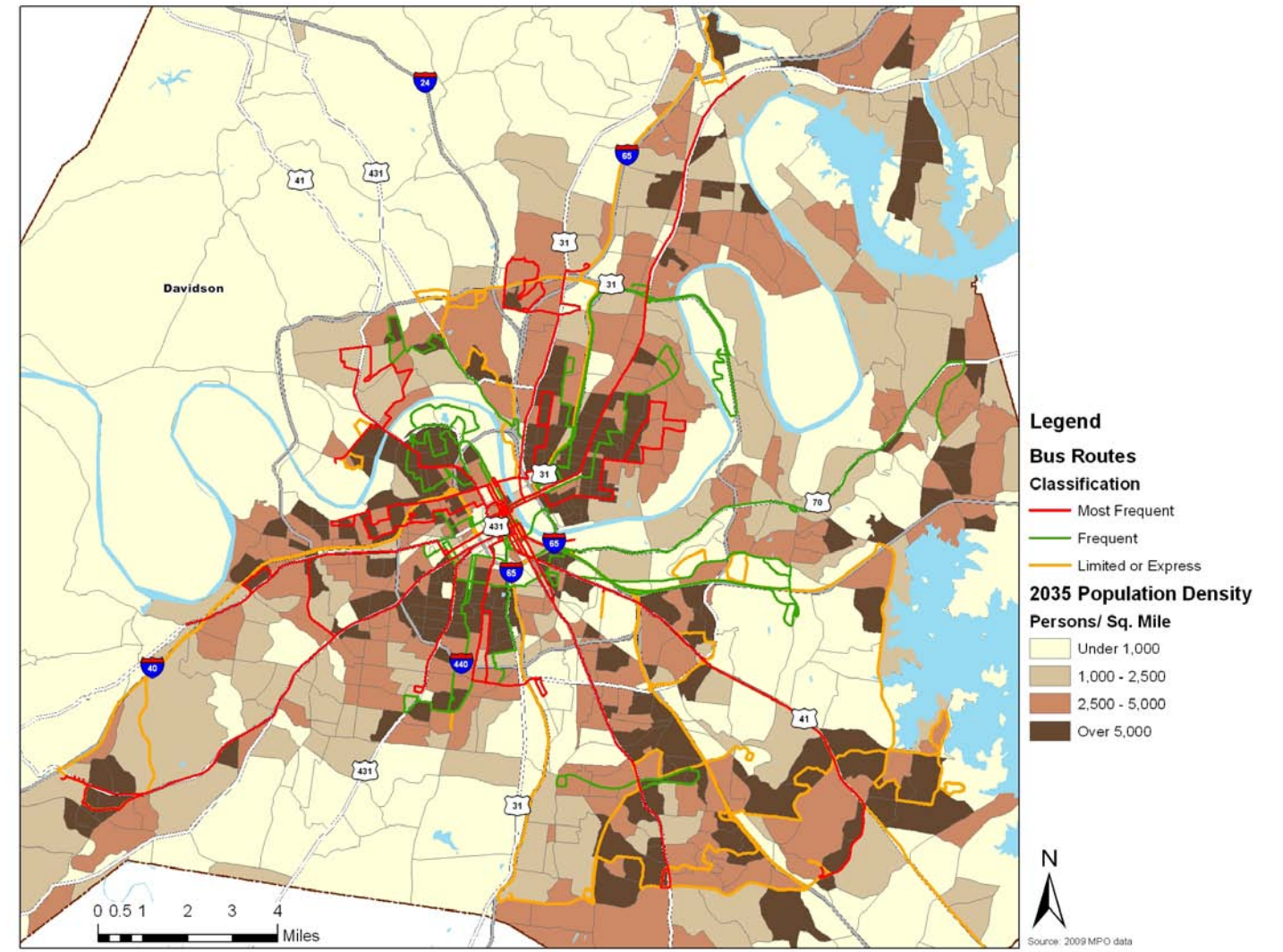


Figure 2-7: 2035 Projected Population Density in Persons per Square Mile



Future Forecasts

Although the 2035 Long Range Transportation Plan is not yet complete, the MPO has provided estimates of 2035 population and employment by Traffic Analysis Zone (TAZ) by updating 2030 information using regional totals. While these data are not the final TAZ estimates, they do provide a reasonable picture of the way Davidson County is expected to grow.

While the MPO goals are for growth that will be more environmentally friendly and more compact, a continuation of current trends will lead to more dispersal. Figure 2-6 and Figure 2-7 are maps that compare 2007 population density with 2035 population density using the future estimates. As seen in Figure 2-7, the 2035 population density category of over 5,000 people per square mile increases in the Nashville core, particularly along some of the MTA's existing bus routes. There is an increase in density near the end of MTA Route 6 Lebanon Road as well as north of Priest Lake. A band of increased density also is forecast running from the southwest from Priest Lake to Edmonson Road.

Employment in Davidson County is forecast to grow in outer areas as well as part of the core, thus continuing to disperse along with population.ⁱⁱⁱ Figure 2-8 and Figure 2-9 show employment density (employees per square mile) for 2006 and 2035 based on TAZ data from the MPO. There are areas of greater than 5000 employees per square mile where there appear to be little employment today. One of the largest of these is a new area of employment adjacent to I24 North beyond MTA's service area. Also, employment density is increasing on Murfreesboro Pike to the south of downtown Nashville.

This continuing dispersal of population and employment will be challenging to MTA in the future. To continue to grow, MTA will need to attract a larger percentage of trips in the central service areas than it does today, and continue to develop services such as express bus or flexibly routed services to reach the outer, less dense parts of the county.

Figure 2-8: 2006 Employment Density in Employees per Square Mile

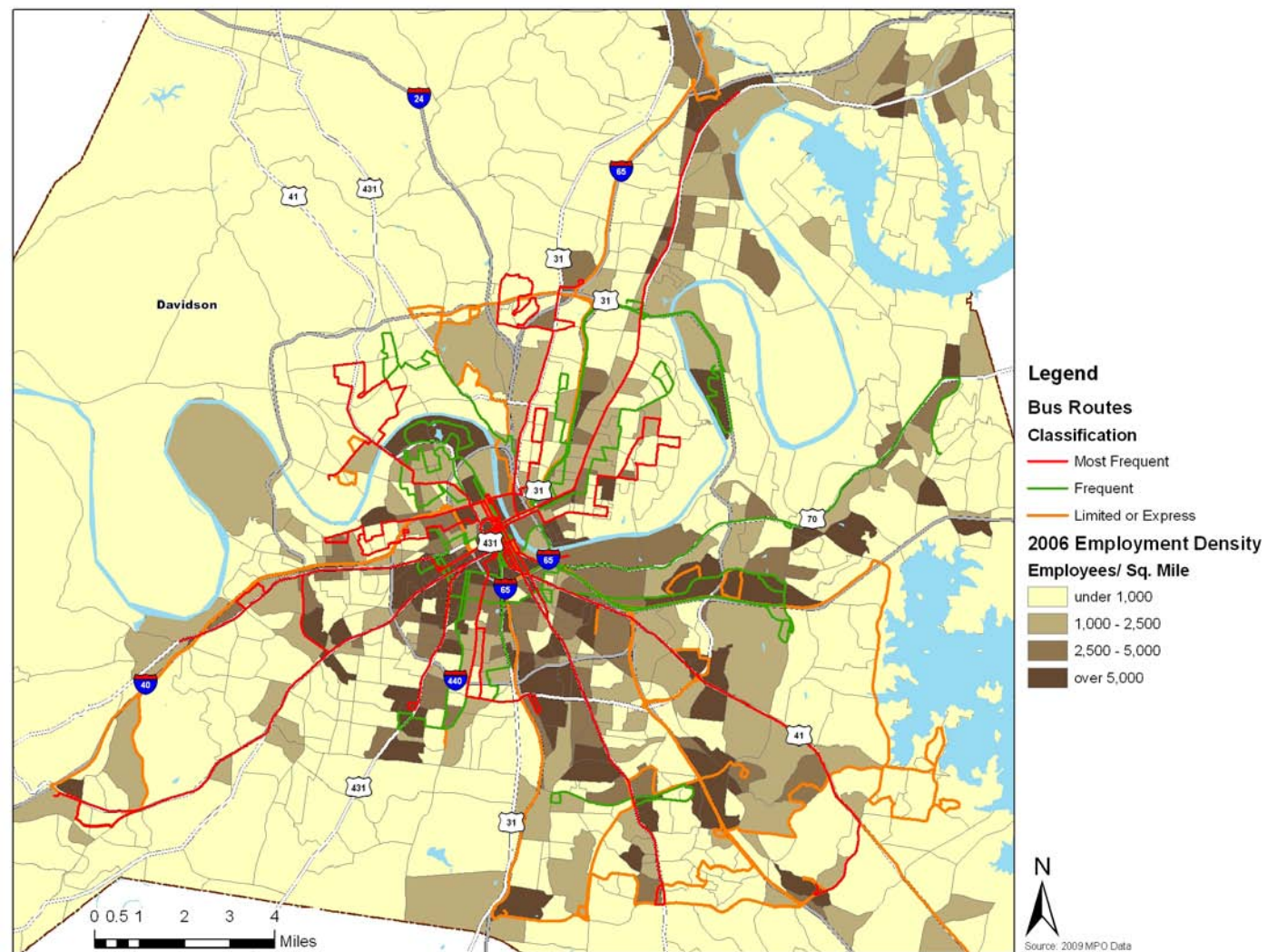
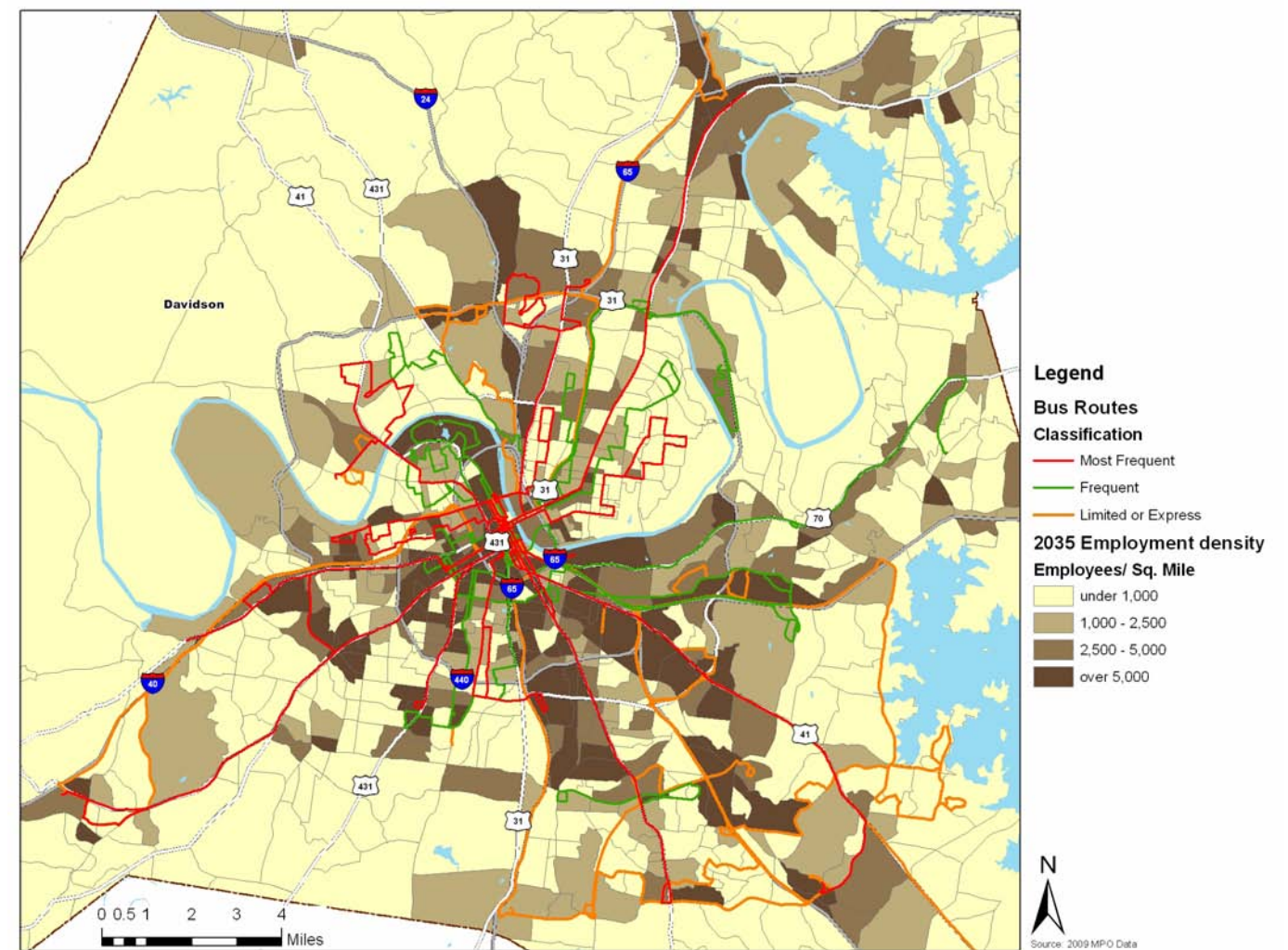


Figure 2-9: 2035 Projected Employment Density in Employees per Square Mile



ⁱ Nashville Area Metropolitan Planning Organization 2030 Long Range Transportation Plan, Amended Nov. 14 2007, p. 44.

ⁱⁱ Transit Capacity and Quality of Service Manual (1st Edition); Transit Cooperative Research Program, Washington, D.C., 1999, 5-21, 5-22.

ⁱⁱⁱ Nashville Area Metropolitan Planning Organization 2030 Long Range Transportation Plan, Amended Nov. 14 2007, p. 65.