

ARE WE THERE YET? TRAVEL TIMES IN TENNESSEE

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PURPOSE STATEMENT

This staff brief is part of a transportation and land use series by TACIR. *Moving Forward: Public Transportation in Tennessee* (2010) and *Land Use and Planning in Tennessee* (2010) address public transportation history, land use, planning, and emerging issues in the state (both publications available on the TACIR website). A forthcoming report will focus specifically on land use and transportation planning, particularly how land use influences transportation patterns and vice versa. This series of reports comes from the staff-initiated projects in the fiscal year 2010 work program. The work program was approved by TACIR commission members at the June 2009 meeting.

INTRODUCTION

Traffic jams and congestion are a major part of travel and usually cannot be avoided. Smart drivers discover new, alternative paths to get to the same point with less traffic. However, the majority of drivers in Tennessee use the most obvious routes: major roads and highways. The Tennessee Department of Transportation's (TDOT) SmartWay program offers up-to-date traffic information to help drivers avoid congested areas. It is no surprise that the top two emerging issues described by local government officials are unmanageable congestion and longer travel times, based on a 2009 survey.¹

The purpose of this brief is to illustrate travel times to common destinations across Tennessee using simple tools drivers can readily access. TDOT and the state's 11 Metropolitan Planning Organizations (MPO) collect traffic count and volume data, have maps of congested roads, and CMP (congestion management process) documents that may include travel times. However, these figures vary based on each MPO, so staff chose to use a popular, easily accessible tool (Google Maps) for data uniformity in this report. The intention is not to promote one method of travel over another but simply to show average travel times. In the following pages, you will find maps from five parts of the state and typical travel times for residents in and around the illustrated area.

The issue of travel time is integral to the quality of life for Tennesseans. Time spent behind the wheel is particularly important, given that Nashville and Memphis were ranked the worst and sixth worst (respectively) among the top 51 metropolitan

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TACIR



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on Intergovernmental Relations

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areas in the nation for longest peak travel times by CEOs for Cities.² CEOs for Cities developed an alternative method of measuring commute times, a departure from the oft-used Urban Mobility Report (UMR) by the Texas Transportation Institute. The method used by CEOs for Cities ranks cities for total peak travel time while the UMR focuses on estimated hours of congestion using the Travel Time Index.³ The UMR ranked Nashville 32nd, Memphis 43rd, and Knoxville 73rd of 101 urban areas for travel delay in 2009.⁴ Regardless of the method, the state's major urban centers rank high for congestion. Furthermore, concentration trends affect commuting patterns. Certain regions of the state (typically urban cores and their suburban fringes) have higher rates of population, employment, and commuting (i.e., concentration) than their neighbors.⁵ These trends are becoming more concentrated in Tennessee's regions,⁶ indicating that if jobs and population growth continue to increase, congestion will also increase.

QUICK FACTS

Despite the CEOs for Cities rank, Tennessee is usually ranked in the middle for road and travel statistics compared to national figures. According to the American Community Survey, in 2008 the average travel time to work was 24 minutes in Tennessee, the 24th highest in the nation.⁷ Table 1 highlights Tennessee's rank in relation to the nation.

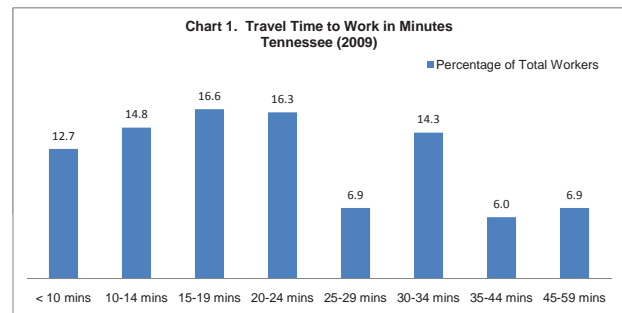
Category	Rank	% of U.S.	TN Figures	U.S. Figures
Percentage of Workers Who Travel to Work by Public Transportation (2008)	40	0.7%	-	5.0%
Average Travel Time to Work (2008)	24	n/a	24.0 minutes	25.5 minutes
Vehicle Miles of Travel (2008)	14	2.3%	69.4 billion miles	2.9 trillion miles
Annual Miles per Vehicle (2008)	13	n/a	13,626 miles	11,982 miles
Interstate Highway Mileage (2008)	16	2.4%	1,105 miles	46,750 miles

Source: CQ Press's State Fact Finder Series (2010)

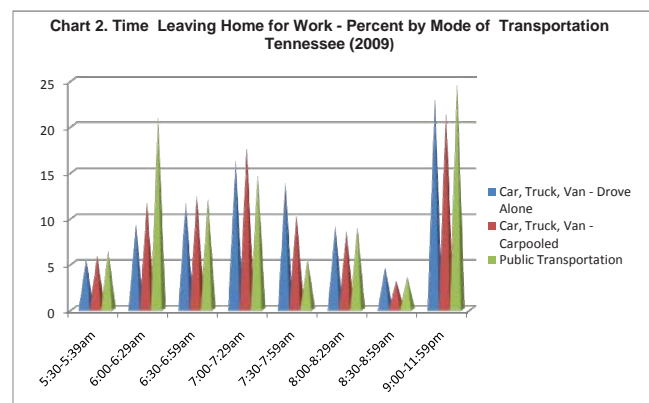
Generally, the most common trip purposes are pleasure, personal business, and work.⁸ Trip

purpose trends have shifted in the last decade with work-related trips receding in magnitude. In Tennessee, like most states, the majority of work trips are taken in the morning, contributing to highway congestion. The following two charts feature statewide travel time to work, the percentage of workers who leave home at certain times, and their modes of transportation.

Before 9:00 a.m. the most popular travel time is 7:30-7:59, with almost 14% of workers leaving home for work. The greatest percentage of workers travelled 15 to 19 minutes to work.



Source: U.S. Census Bureau (American FactFinder, American Community Survey S0802. Means of Transportation to Work by Selected Characteristics, 2009 1-year Estimates)



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METHODOLOGY

Travel times for this brief were calculated very simply. TACIR staff chose various points across the state and used the popular Maps feature on Google to compute travel times to industry, retail, education, and housing destinations. Coordinates were taken from Google Earth. Travel time data was then illustrated using Geographic Information Systems (GIS). The following maps demonstrate travel times for multiple trip purposes: pleasure

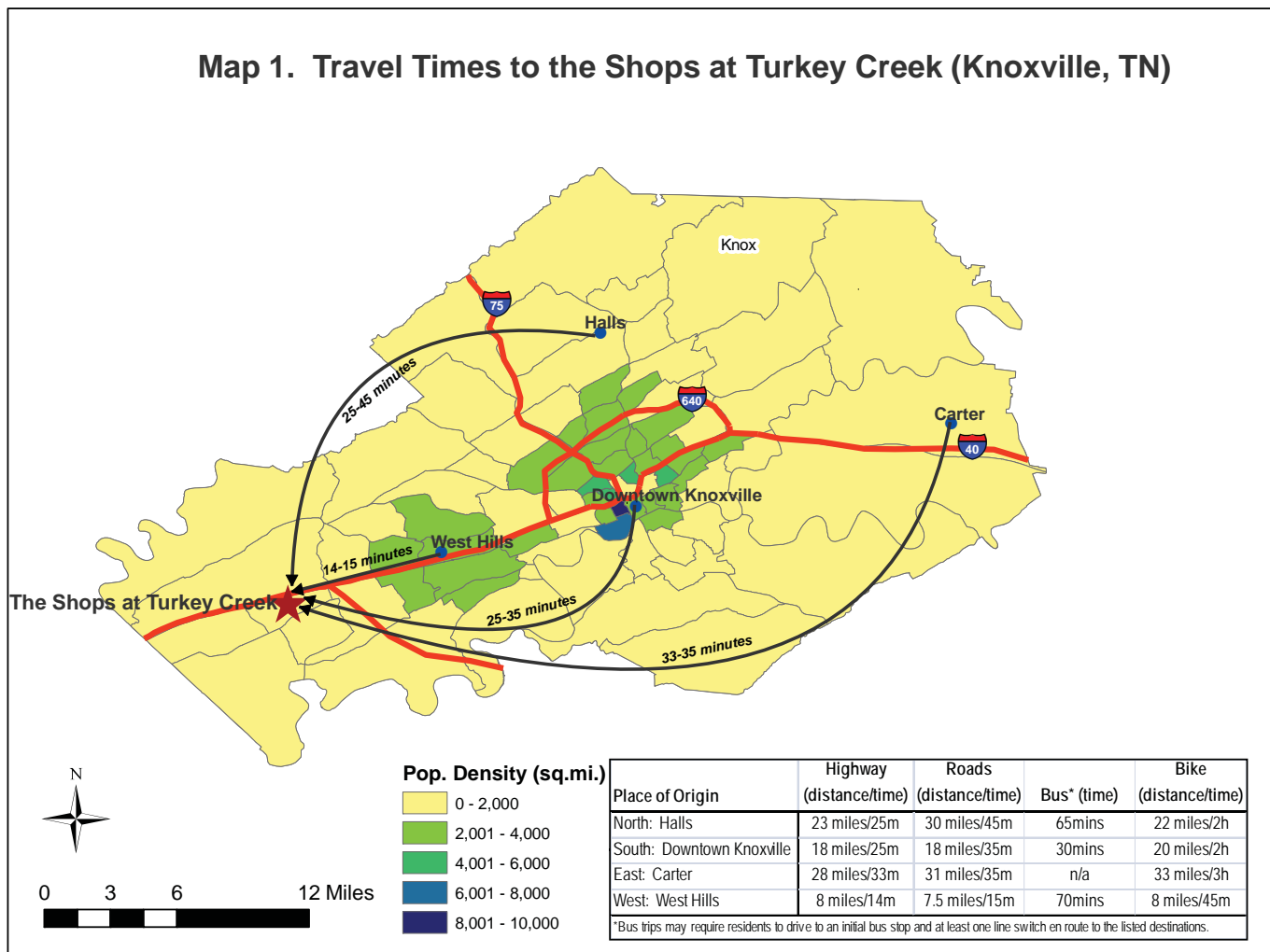
(including tourism, shopping and entertainment), work, and education. Please note the times presented do not account for travel during peak times, congestion, and/or time associated with parking—so commuters familiar with the routes may believe the projected travel times are too conservative or liberal. Just as there are disparities between Tennessee’s rank in the reports by CEOs for Cities and the Texas Transportation Institute, the methodology used for this report yields results that may vary depending on the measure of congestion used. While the issue at hand is overall transportation system congestion, this report serves as a snapshot of a typical Tennessean’s experience on the road.

[Note: the bus timings listed in the maps below do not reflect mileage due to limitations of the Google Maps feature.]

RETAIL

To demonstrate travel time to a retail destination, TACIR staff focused on the Shops at Turkey Creek, a very popular retail and entertainment center, which spans 300 acres and is located in west Knoxville in the Farragut area off Interstate 40. Knoxville County is part of the five-county Knoxville metropolitan statistical area (MSA). The Shops at Turkey Creek were designed as a mixed-use center in late 1999 with the first stores opening shortly after construction began the following year.

The Shops at Turkey Creek feature several retailers and physicians’ offices as well as a neighborhood of new homes. TACIR staff estimated travel times to Turkey Creek from four communities in east Tennessee using various routes, seen in Map 1.

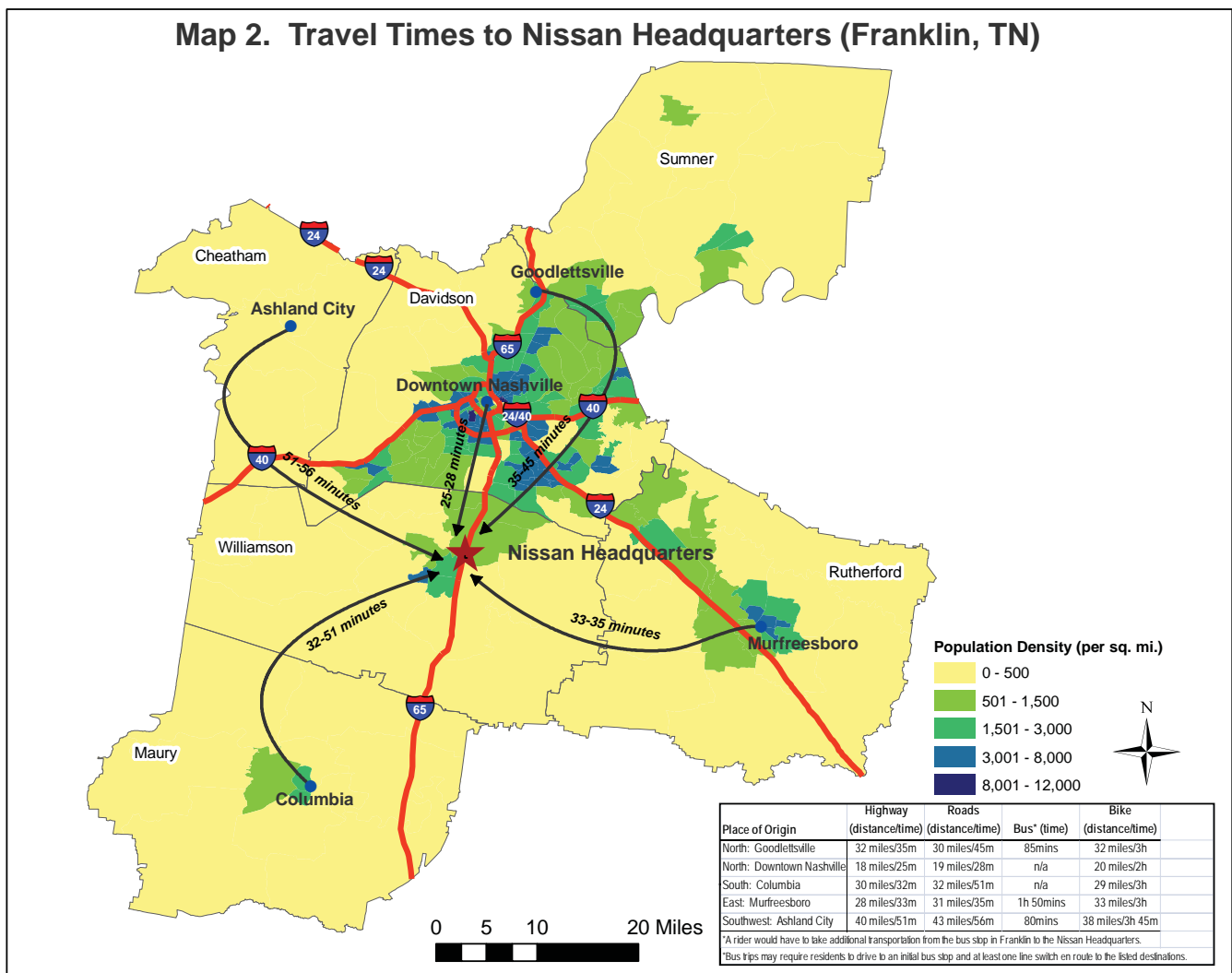


INDUSTRY

Historically, work-related trips represented the majority of commuter activity. In the last 20 years, however, this trend has shifted as personal and recreational purpose trips have become more frequent.⁹ However, most congestion is a result of work-related trips during peak travel times. Nationally, work peak travel (6:00 a.m. to 9:00 a.m.) accounts for 64% of all work travel.¹⁰ In Tennessee, the impact of work trips is more obvious in Shelby, Davidson, and Knox counties due to the employment concentration in those regions. In 2006, 30% of all employment in Tennessee was located in Shelby and Davidson counties.¹¹ Employment concentration can also be found along the major interstate corridors (I-24, I-40, I-65, I-75, and I-81).¹²

Nissan North America, Inc. (Nissan’s U.S. headquarters) is located in the City of Franklin in Williamson County off I-65 (in the Nashville-Davidson-Murfreesboro-Franklin MSA). [Note: the Nissan Motor Acceptance Corporation Franklin (the consumer finance branch) office is also located in Franklin, while there is a Nissan production plant in Smyrna.] A new plant for electric car batteries is currently under construction in Smyrna, which will reportedly create over 1,300 jobs.¹³ In addition to the Nissan headquarters, several ancillary companies also have a presence in Tennessee, helping the state’s economy. Tennessee’s borders, after all, are within one day’s delivery of 76% of the major United States markets.¹⁴

Nissan North America, Inc. is the seventh largest employer in the state with 2,500 employees who commute from all over the Middle Tennessee



region.¹⁵ TACIR staff estimated travel times to Nissan headquarters from communities in middle Tennessee using various routes, seen in Map 2.

EDUCATION

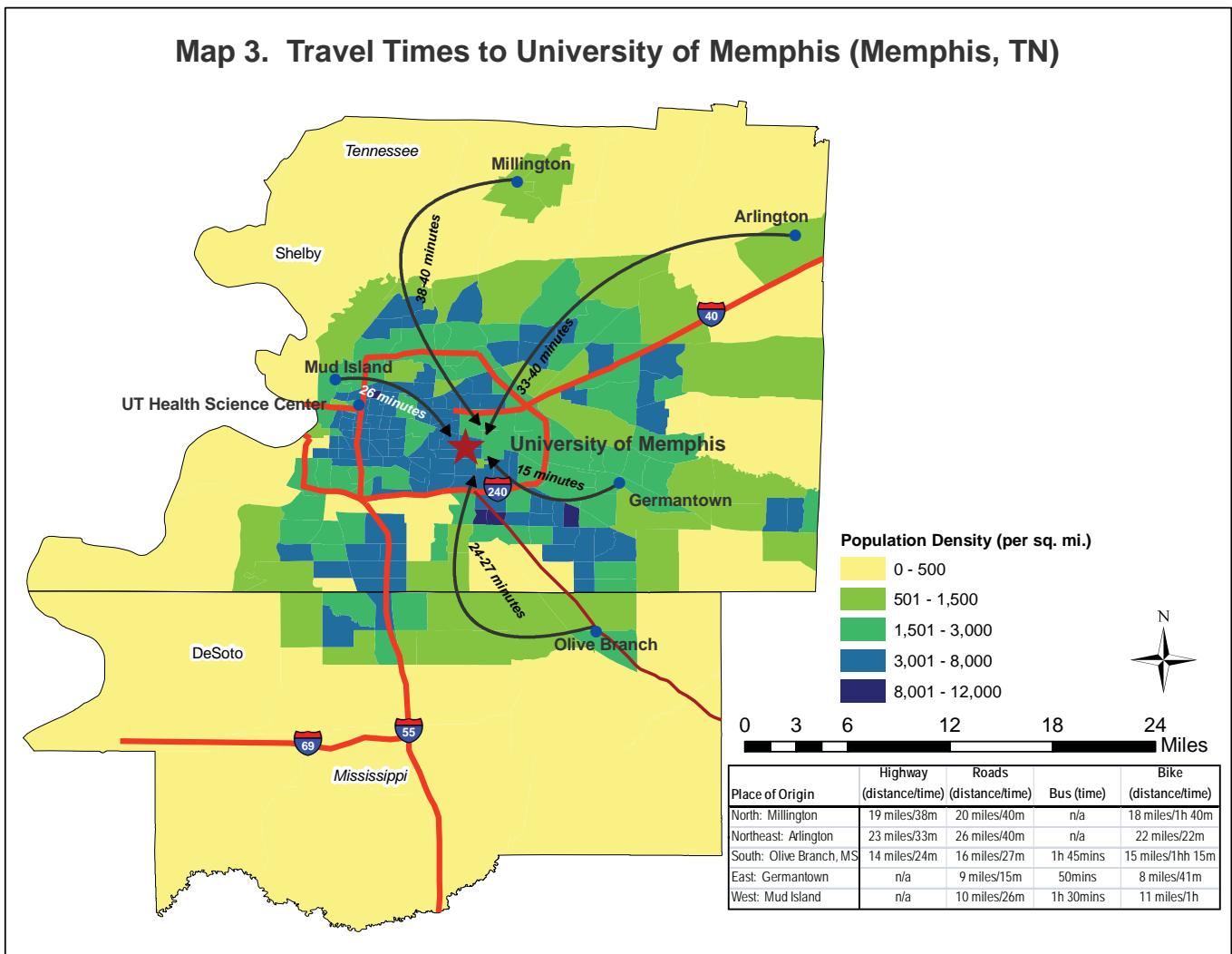
Across Tennessee, there are 10 public universities, 13 community colleges, and 27 technology centers—in addition to several independent colleges, universities, and professional and special purpose schools.¹⁶ Some of Tennessee’s higher education facilities are among the top ranked in the nation, with students enrolled from every state.

Memphis, located in Shelby County and part of the Memphis, TN-MS-AR MSA, is home to the University of Memphis and University of Tennessee Health Sciences Center, accessible by both I-40 and I-69. These two schools, whose main campuses

are located within 15 minutes of each other and have over 22,000 students combined. Memphis is also a major transportation hub, with its roads, river, railways, and runways. Reducing travel times and congestion is especially important for its residents. TACIR staff estimated travel times to the University of Memphis main campus from residential communities around Memphis using various routes, seen in the Map 3 below.

Map 3 includes Olive Branch, Mississippi which is just outside the Tennessee border, is part of the Memphis, TN-MS-AR MSA, and has many residents who work and attend school in Memphis.

Additionally, the University of Memphis is home to the Intermodal Freight Transportation Institute (IFTI), which pursues both research and public-private partnerships to study local logistical challenges and improve the movement of goods.



Freight movement is particularly relevant to reducing congestion and is an important challenge for Memphis and its neighbors.

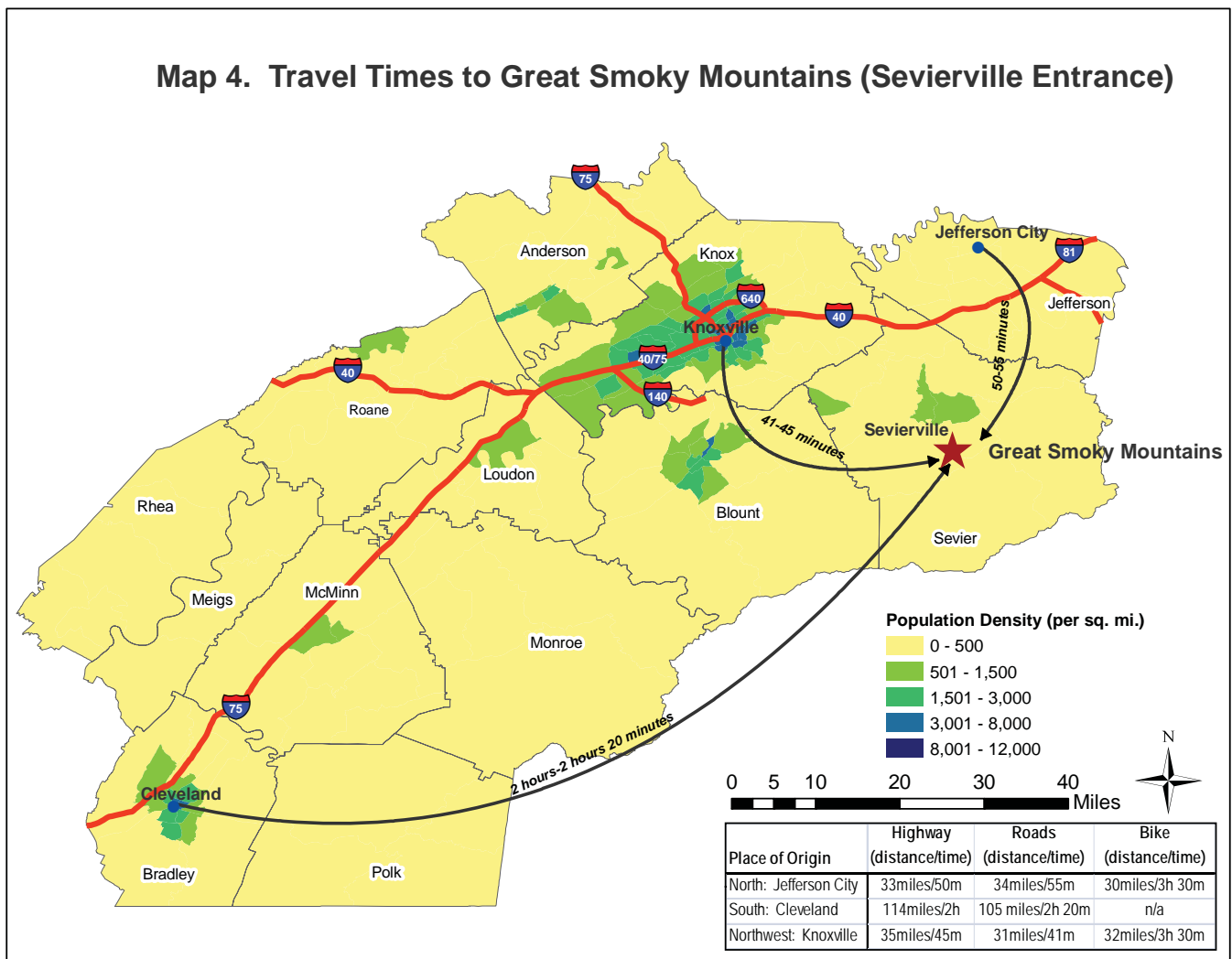
TOURISM

Tourism is a leading industry in the state of Tennessee. It generates over \$14 billion a year for the state’s economy and employs over 180,000 Tennesseans.¹⁷ In Sevier County, which hosts one of the most-used entrances to the Great Smoky Mountain National Park, over 30% of residents are employed in the accommodation and food services industry, with another 20% in retail trade.¹⁸

According to the state Department of Tourist Development, Tennessee is within a day’s drive of 65% of the country.¹⁹ While every grand division has its fair share of tourist traffic, the Great Smoky Mountain National Park in East Tennessee is the

most visited national park in the country.²⁰ At 814 square miles, the Great Smoky Mountain National Park is one of the largest protected land areas in the nation. Since 1995, it has had over 9 million visitors each year.²¹ It has multiple entrances in both Tennessee and North Carolina, with main entrances located in Gatlinburg, Tennessee and Cherokee, North Carolina.²²

The city of Pigeon Forge (Sevier County) is at the foothills of the Great Smoky Mountain National Park less than ten miles from Gatlinburg. Both cities offer retail shops, amusement and entertainment attractions, restaurants, hotels, and many other tourist draws. While many tourists come from out-of-state to visit Pigeon Forge and Gatlinburg, many Tennesseans travel there, too. Though there are different ways to enter the park, staff calculated travel times from three cities in East Tennessee to the park



entrance located in Pigeon Forge, given the tourist attractions located there.

The travel times represent travel on both interstates and back roads. Unlike employment hubs, peak travel times in Pigeon Forge and Gatlinburg occur during afternoons and Friday through Sunday.

RESIDENTIAL

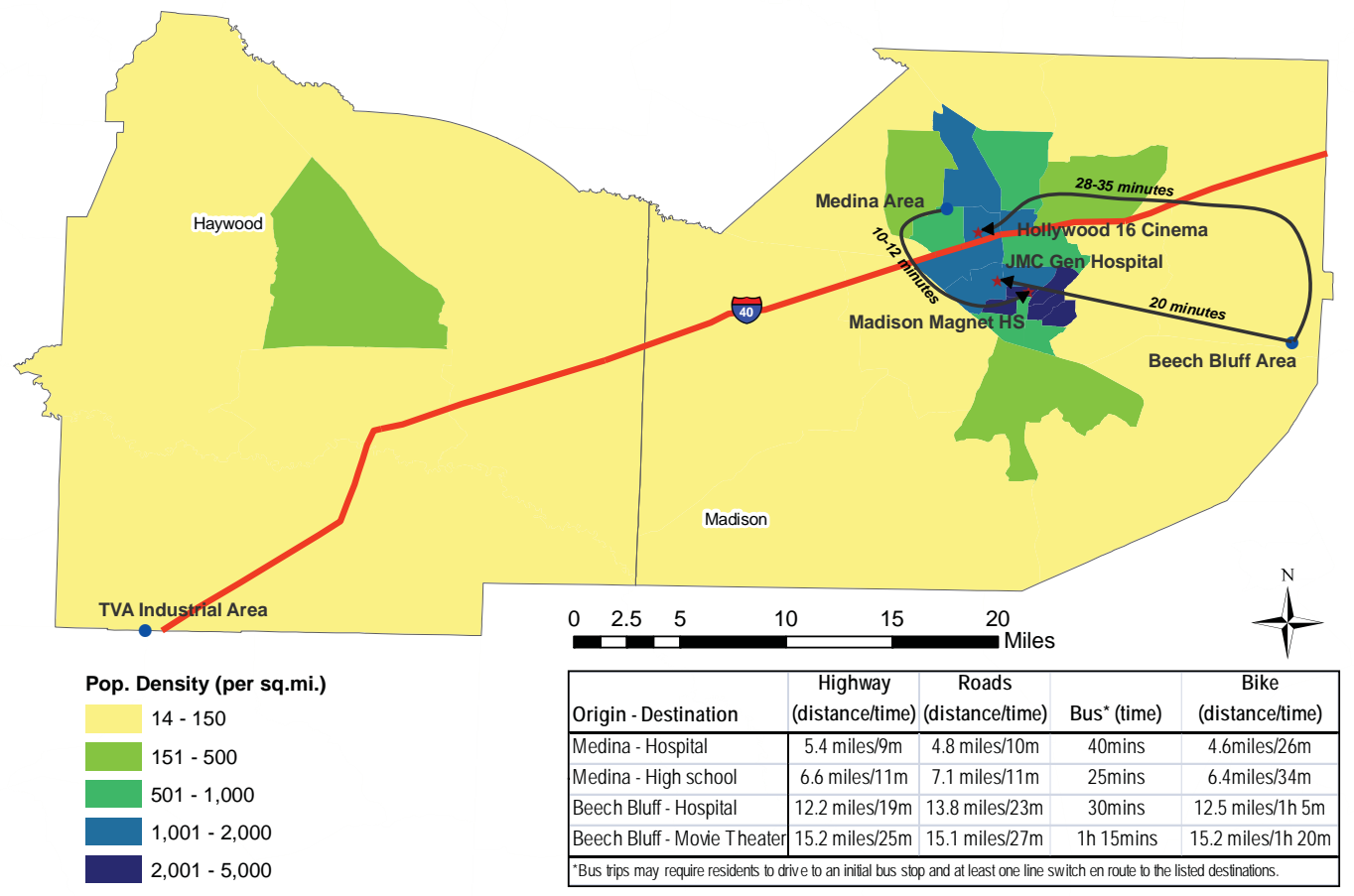
To offer a different perspective, staff calculated travel times from two residential areas to education, employment, and entertainment destinations in the city of Jackson (Madison County). Jackson is part of the Jackson MSA. Sixty-seven percent of Madison County workers reside in Madison County, with the remaining 33% of workers commuting from surrounding counties.²³ Eighty-nine percent of workers residing in Madison County work in

Madison County while the remaining residents work in surrounding counties (Gibson and Shelby being the top two counties).²⁴

Beech Bluff and Medina are residential areas both located in Jackson. The map below shows travel times from Beech Bluff, located in the southern part of Jackson, to one of the main and centrally located hospitals in Madison County—since this is both an employment and trip destination—and to a movie theater in the north, an entertainment destination. It also shows travel time from the Medina area to one of the local high schools. The trips illustrated below range from a quick 10 minutes to over 30 minutes depending on the point of departure.

[Note: Map 5 includes the certified Tennessee Valley Authority (TVA) “megasite” in Haywood County due to its potential as an employment

Map 5. Travel Times in Jackson, TN (Madison County)



center in West Tennessee. A megasite, like the new Volkswagen plant in Hamilton County, is industrial property suitable for major automotive manufacturing or a similar use.²⁵ The Haywood megasite is almost 2,000 acres and is located 30 minutes east of Memphis with proximity to both Interstate 40 and the CSX railroad.]²⁶

CONCLUSION

These maps are just a snapshot of travel times Tennessee drivers may experience on the road. They are not exhaustive but offer a simple example of travel times to typical destinations. Again, these times are not meant to promote one form of transportation over another. As the state continues to spend billions of dollars on improving transportation infrastructure and increasing mobility, the research on timing and the types of trips residents take, combined with ways to mitigate congestion, will play an important role in shaping Tennessee's transportation future.

ENDNOTES

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