CAMBRIDGE SYSTEMATICS

Chattanooga Regional Freight Profile

final

report

prepared for

Chattanooga-Hamilton County Regional Planning Agency on behalf of the Chattanooga-Hamilton County/North Georgia Transportation Planning Organization

prepared by

Cambridge Systematics, Inc.

June 17, 2011

www.camsys.com

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1.0 Introduction

This report summarizes the key findings and recommendations from the Chattanooga Regional Freight Study. The Chattanooga-Hamilton County Transportation Planning Organization (TPO) commissioned this study to understand the importance of freight to the regional economy, area commodity flow and freight travel patterns, and how transportation needs and deficiencies are impacting users of the regional freight transportation system.[1]

The study region (shown in Figure 1.1) includes Hamilton County in Tennessee and parts of Dade, Catoosa, and Walker Counties in Georgia. The Chattanooga Metropolitan Statistical Area (MSA), which includes all four counties, has a population of more than half a million people, making it the third largest in Tennessee. It also has been growing rapidly: from 2000 to 2009, the MSA added nearly 50,000 new residents.[2] In fact, the City of Chattanooga has become the fastest growing large city in Tennessee in the last decade.[3]

This population growth has been driven by rapid economic expansion. From 2001 to 2008, Gross Regional Product (GRP) grew by more than 13 percent in the MSA, to about $17.5 billion.[4] During the same period, total employment reached 306,686 jobs, a growth of nearly 8 percent.[5] Much of this growth can be attributed to logistics-dependent businesses, which includes manufacturing, transportation and warehousing, construction, mining, agriculture, retail and wholesale trade, and utilities. These industry sectors are particularly dependent on the efficient, reliable movement of goods for both inbound and outbound supply chains. As shown in Figure 1.2, logistics-dependent industries account for 42 percent of the region's employment base and 40 percent of its economic output. This demonstrates the importance of freight to the regional economy.

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[1] A more detailed analysis of the regional economy, commodity flows, and truck travel patterns can be found in the *Chattanooga Regional Freight Profile* technical memorandum.

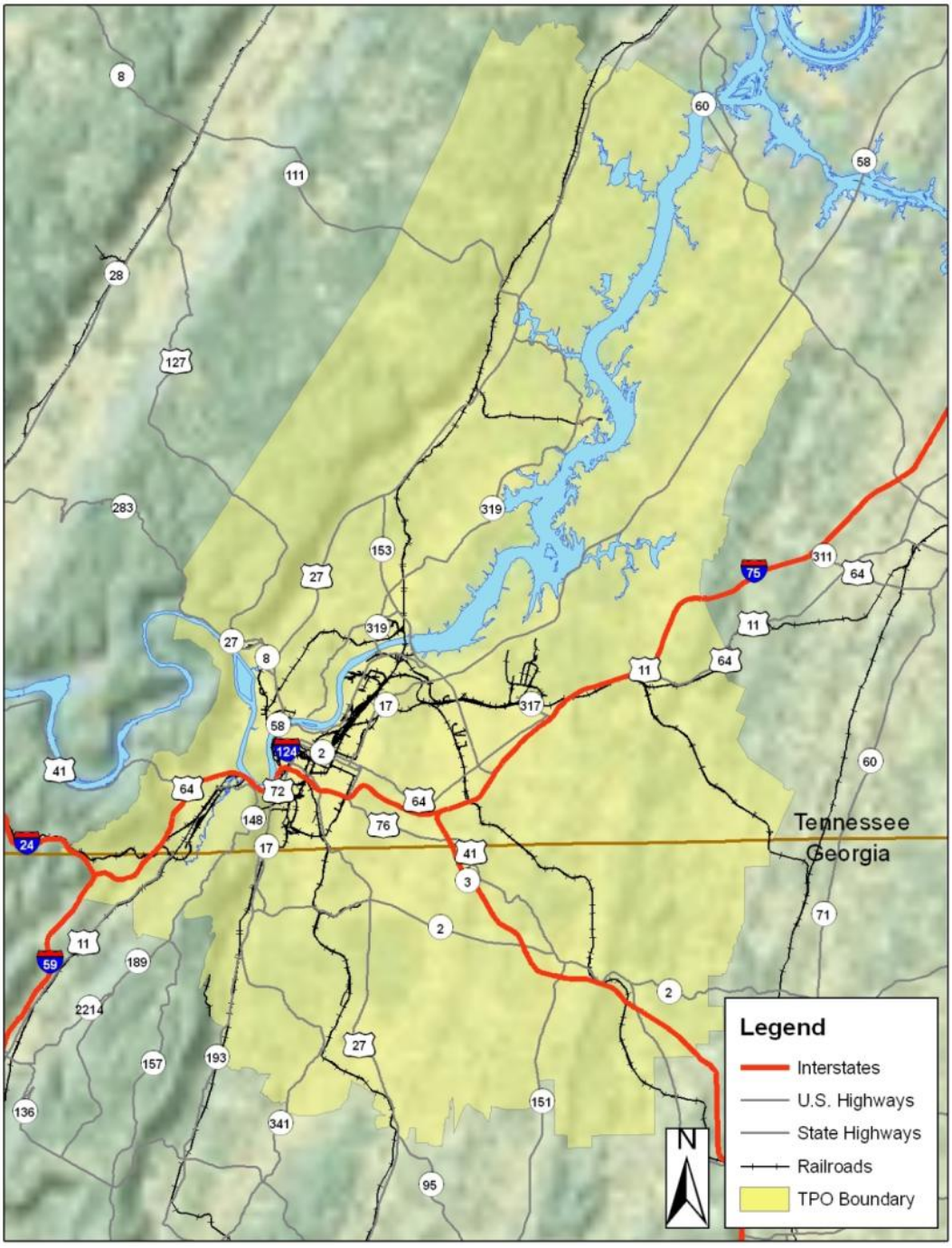
[2] U.S. Census Bureau, http://www.census.gov/popest/metro/CBSA-est2009-pop-chg.html.

[3] Flessner, D. 'Chattanooga leads state in population growth.' *Chattanooga Times Free Press*, July 10, 2008.

[4] U.S. Bureau of Economic Analysis.

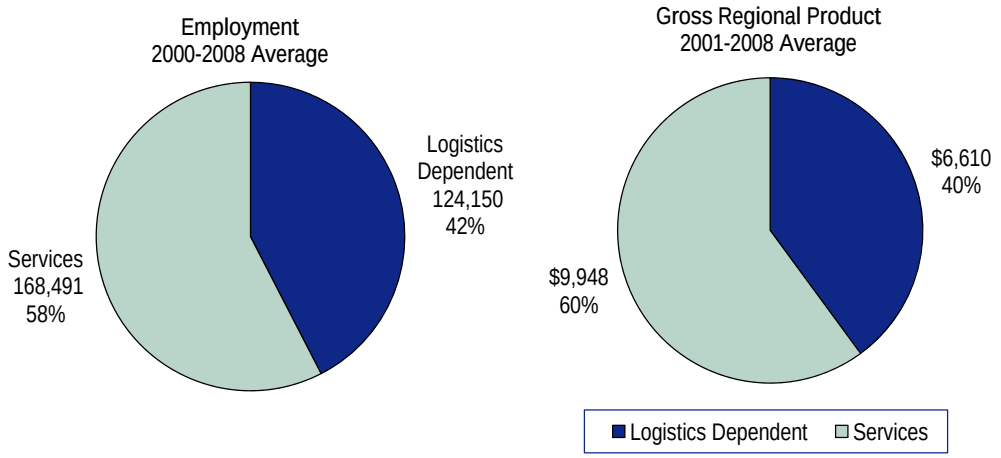
[5] Woods and Poole Economics, Inc.

Figure 1.1 Chattanooga-Hamilton County/North Georgia TPO Region



Source: Chattanooga TPO.

Figure 1.2 Chattanooga Region Employment and GRP by Industry Sector



Sources: Woods and Poole Economics, Inc.; U.S. Bureau of Economic Analysis.

Chattanooga has a thriving cluster of logistics-related businesses in several industries:

- **Manufacturing** is diverse in Chattanooga, ranging from food manufacturing (Chattanooga Bakery, the maker of Moon Pies, is headquartered in Chattanooga) to automobile manufacturing (Volkswagen will open a factory at Enterprise South in 2011, and is investing over $1 billion in the region). Volkswagen will drive substantial freight growth in the area, not only from assembled automobiles but also through supplier shipments to the factory.
- **Transportation and warehousing** also is an important industry in the area. Two of the largest trucking firms in the nation – Covenant Transport and U.S. Express Enterprises – are based in Chattanooga. Kenco Group, a major warehousing services provider, also is based in the region. Federal Express plans to open a distribution facility in Chattanooga to handle growing air cargo movements.
- **Retail and wholesale trade** are another key growth sector. Retail activity generally follows population and can be expected to rise as Chattanooga's population continues to grow. A recent decision by Amazon.com to locate a distribution facility at Enterprise South will further accelerate growth in this sector.

These important regional businesses make use of Chattanooga's extensive multimodal transportation infrastructure. As shown in Figure 1.3, the regional freight network includes:

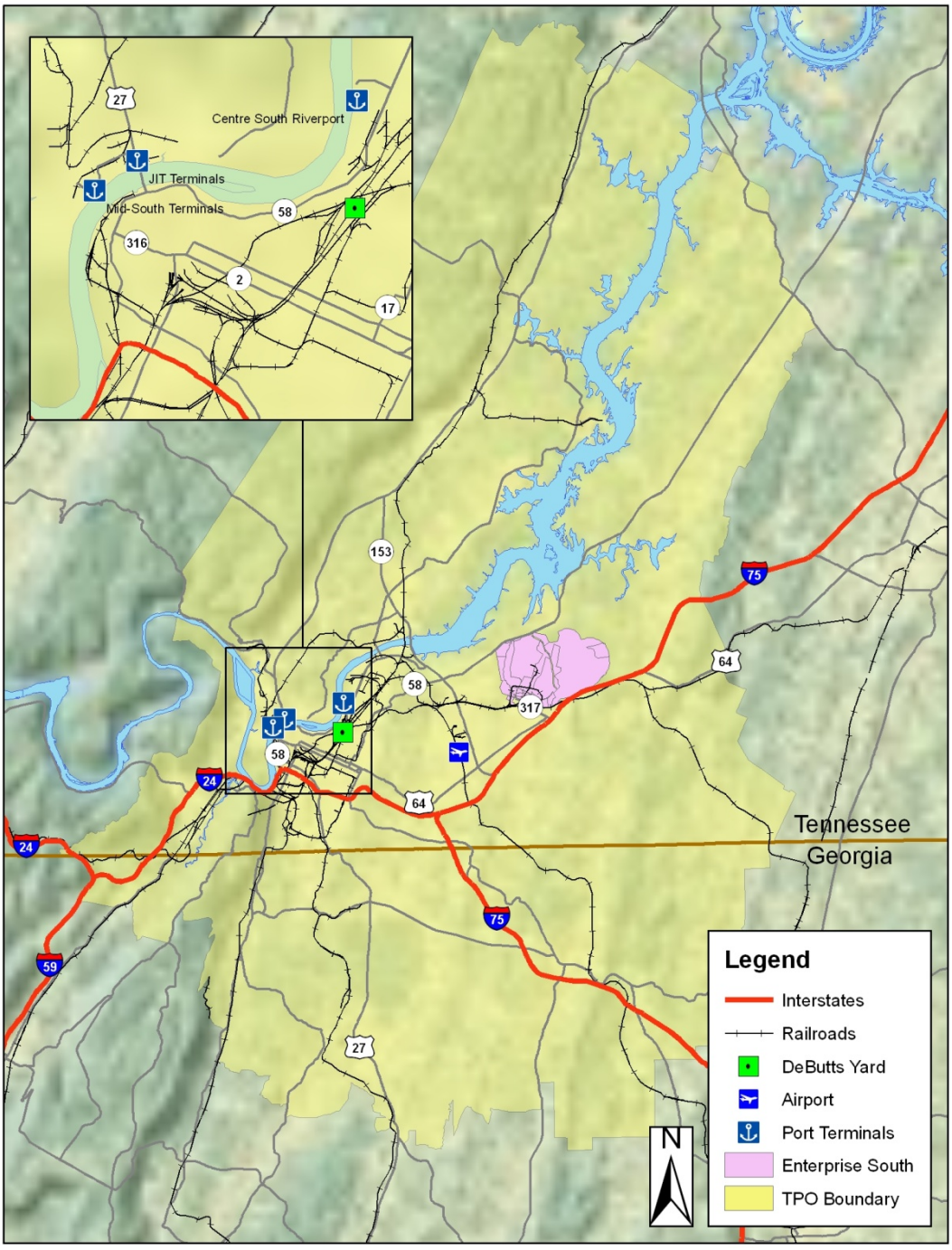
- Three Interstate highways – I-75, I-24, and I-59 – converge in or near Chattanooga, making the area a key truck logistical hub for the entire Southeast. In fact, the traffic data provider INRIX recently named

Chattanooga the number one city for long-haul freight activity on a per-mile basis.[6]

- Two Class I national railroads (Norfolk Southern and CSX) serve Chattanooga. Both have access to Enterprise South and will haul automobiles for Volkswagen, in addition to delivering supplies. Norfolk Southern also operates a major classification yard in the city.
- Three Tennessee River ports serve Chattanooga, including Centre South Riverport, JIT Terminals, and Mid-South Terminals. These ports handle large quantities of bulk products such as coal, steel, and chemicals, thereby taking pressure off of the regional rail and road networks.
- The Chattanooga Metropolitan Airport handles time-sensitive, high-value shipments through its cargo facilities. Federal Express, Amazon.com, and Volkswagen will increase this business significantly.

[6] http://www.inrix.com/scorecard/freight.asp.

Figure 1.3 Chattanooga Multimodal Freight Network



Sources: Chattanooga TPO, National Transportation Atlas Database.

2.0 Chattanooga Freight Activity

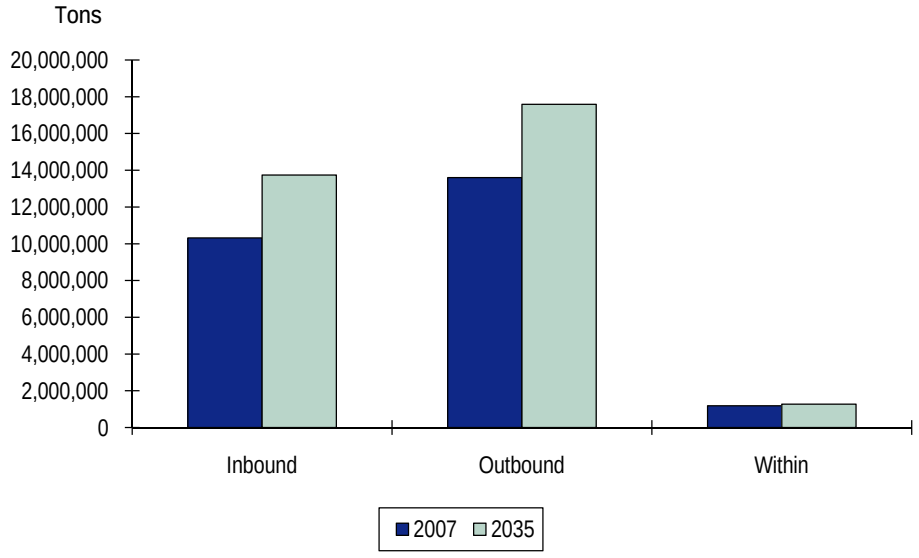
Chattanooga's ongoing industrial growth is contributing to significant freight volume growth in the area. This section summarizes regional freight activity, including overall commodity flow patterns as well as truck volumes and traffic patterns.

2.1 Overall Commodity Flows

In 2007, freight flows into, out of, and within Chattanooga totaled approximately 25 million tons. As Figure 2.1 shows, outbound shipments are the largest component of this at nearly 14 million tons, reflecting the substantial manufacturing, mining, and agricultural production of the region. Inbound freight makes up most of the rest, totaling just over 10 million tons in 2007. This includes supply shipments for local manufacturers as well as consumer goods to retail stores. Shipments that occurred strictly within the region comprised about 1.2 million tons.

By 2035, total commodity flows in Chattanooga are expected to expand by nearly one-third to 33 million tons. Virtually all of this growth will come from inbound and outbound freight, which will total approximately 14 million and 18 million tons, respectively.

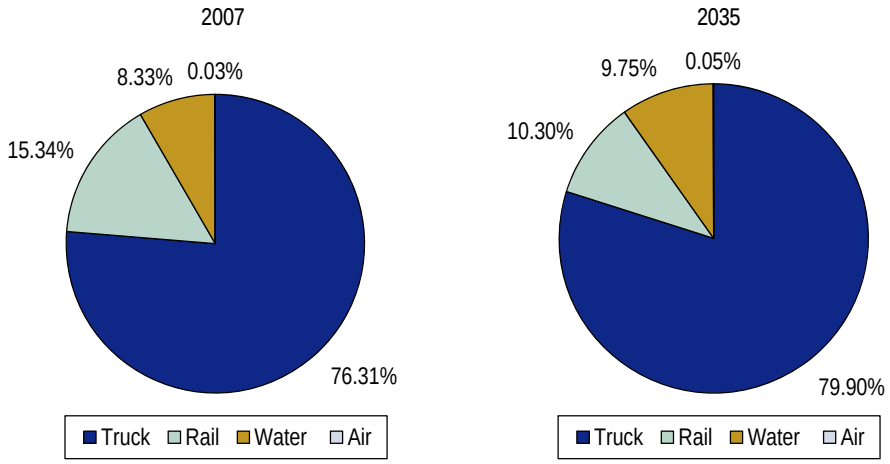
Figure 2.1 Chattanooga Freight Flows by Type of Movement
2007 and 2035



Source: TRANSEARCH.

These freight movements are overwhelmingly made by truck, as shown in Figure 2.2. In 2007, more than three-quarters of Chattanooga's freight by weight – over 19 million tons – moved by truck. The remainder was handled mostly by rail (3.9 million tons) and water (2.1 million tons). Air cargo comprised less than 1 percent of the region's freight by weight, but its share would be substantially higher if measured by value. By 2035, trucks are expected to grow their market share even more, to nearly 90 percent of the total. This growth will occur at the expense of the rail mode. River shipments are expected to reach approximately 10 percent of total tonnage, or 3.2 million tons, by 2035.

Figure 2.2 Chattanooga Freight Mode Shares
Tons



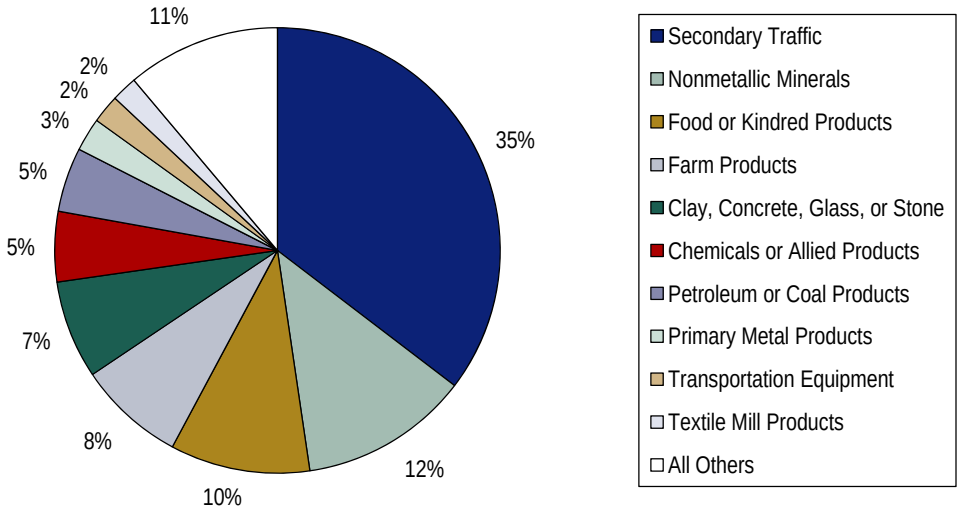
Source: TRANSEARCH.

As Figure 2.3 demonstrates, the top commodity group in Chattanooga by far is secondary traffic, which accounted for 35 percent of total tonnage in 2007. Secondary traffic consists of short truck movements made as part of a longer shipment, for example a shipment from a factory to a distribution center or retail outlet. Most of this traffic is outbound, reflecting Chattanooga's position as a distribution hub and manufacturing center. Other important commodities by weight include nonmetallic minerals (12 percent of the total, or about 3 million tons), food and kindred products (2.5 million tons), and farm products (2 million tons). Nonmetallic minerals are important supplies for the local construction and manufacturing industries, while food products include the output of regional producers like Pilgrim's Pride, Chattanooga Bakery, and McKee Foods.

Table 2.1 highlights the top 10 commodities in 2035. Secondary traffic is expected to comprise 40 percent of the region's freight tonnage. Since all of these moves will be made by truck, this could exacerbate problems of congestion, emissions, and infrastructure deterioration. Nonmetallic minerals remains the second largest commodity group by weight. Shipments of transportation equipment – which includes inbound and outbound VW-related freight – will

grow by more than 3 percent annually, causing total tonnage for that commodity to increase by 142 percent.

Figure 2.3 Top 10 Commodities by Weight
2007



Source: TRANSEARCH.

Table 2.1 Top 10 Commodities
2035 Projected

STCC	Commodity	Outbound	Inbound	Within	Total	Percent of Total
50	Secondary Traffic	8,321,421	4,383,464	641,133	13,346,018	40.9%
14	Nonmetallic Minerals	1,128,279	1,971,633	442,294	3,542,206	10.9%
29	Petroleum or Coal Products	1,129,315	1,027,523	56,460	2,213,298	6.8%
20	Food or Kindred Products	1,115,736	1,070,366	23,365	2,209,467	6.8%
28	Chemicals or Allied Products	666,689	1,062,710	11	1,729,410	5.3%
32	Clay, Concrete, Glass, or Stone	724,704	873,511	81,968	1,680,183	5.2%
37	Transportation Equipment	998,687	249,170	4,692	1,252,549	3.8%
40	Waste or Scrap Materials	374,400	586,847	–	961,248	2.9%
1	Farm Products	205,760	687,665	–	893,425	2.7%
30	Rubber or Miscellaneous Plastics	531,618	165,454	6,657	703,729	2.2%
	All Others	2,390,131	1,658,304	14,181	4,062,614	12.5%
	Total	17,586,740	13,746,647	1,270,761	32,594,147	100%

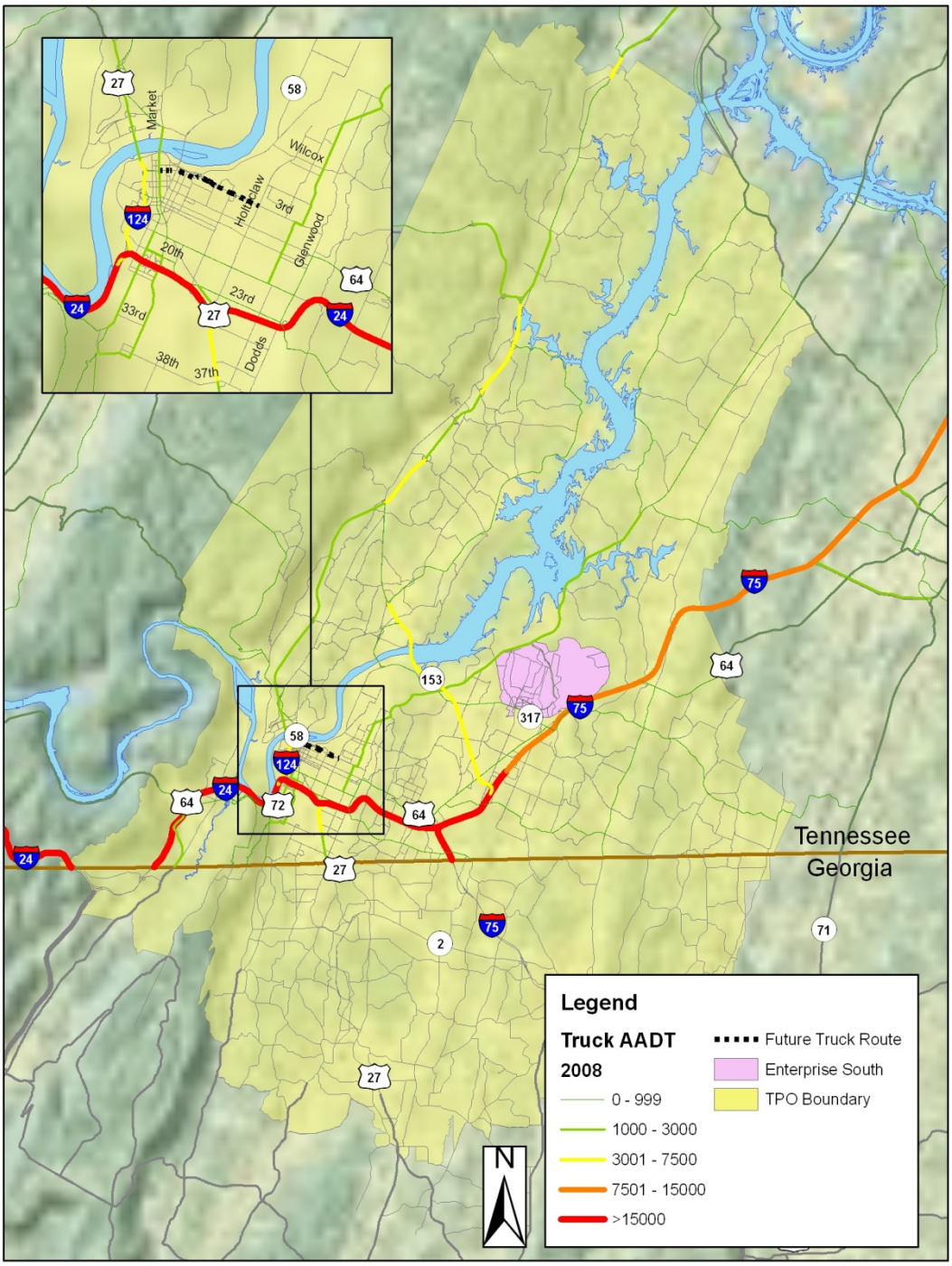
Source: TRANSEARCH.

2.2 TRUCK VOLUMES

Given the importance of trucks to total Chattanooga regional freight flows, it is important to examine truck travel patterns in more detail. Figure 2.4 shows 2008 truck volumes on Chattanooga area roadways from TDOT traffic counts. This data highlights the importance of the Interstates to the flow of commerce in the area. The highest volume segments of roadway – those with more than 7,500 trucks per day – are all on the Interstates. Truck traffic is especially heavy on I-24, as well as I-75 in south Hamilton County. Nonetheless, it is clear that many other roads are important for truck flows, including SR 153, U.S. 27, and SR 58. Therefore, the *Chattanooga Regional Freight Profile* defined a key truck route network, shown in Figure 2.5. These roadways – which were identified through a combination of data analysis and stakeholder feedback – represent the most important truck movement corridors from a volume and connectivity perspective. The roads can be grouped into the following categories:

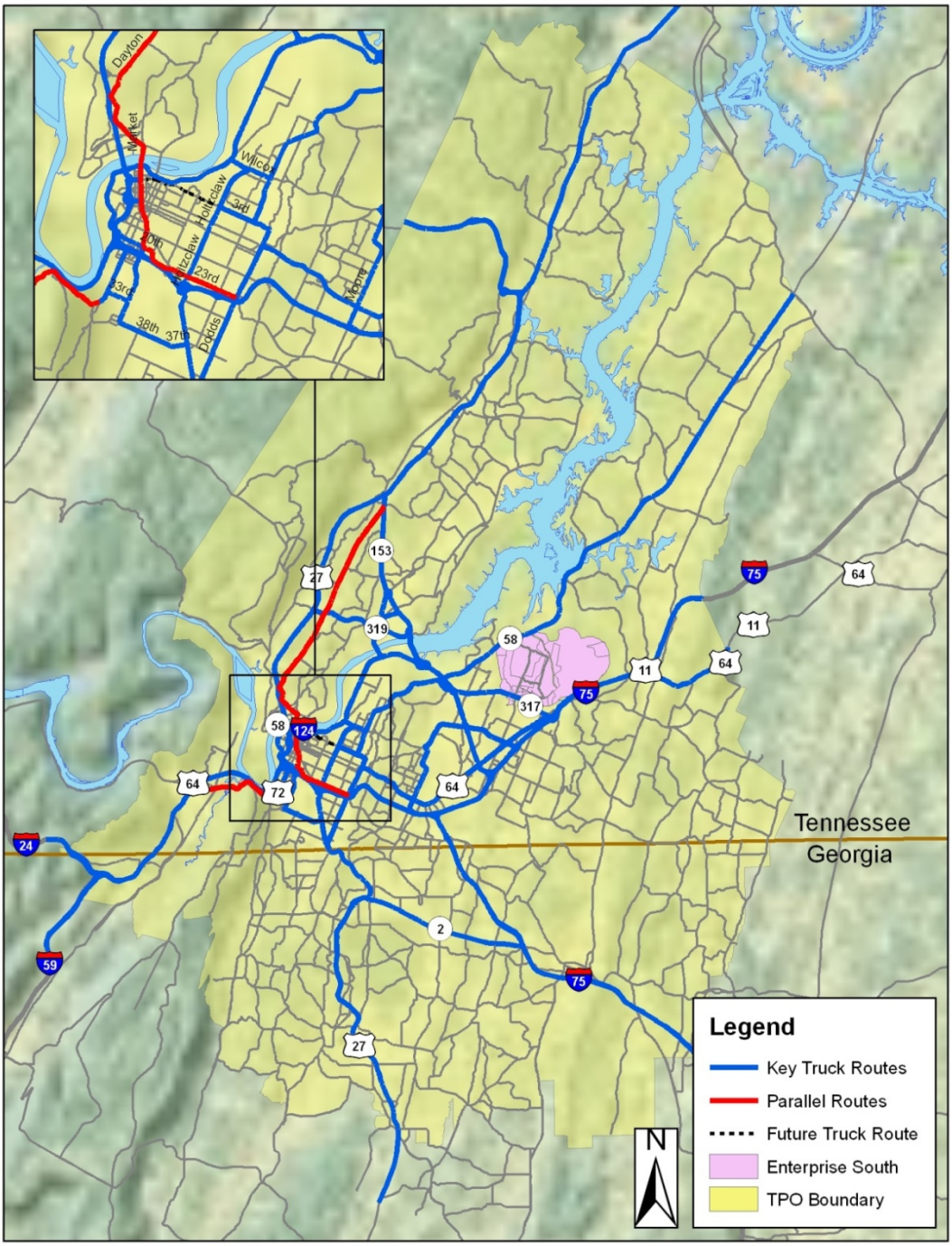
1. The Interstates, which are clearly the most important commercial arteries for Chattanooga, connecting local industries to markets while also serving substantial through truck traffic.
2. Key state and U.S. highways, such as SR 58, SR 153, U.S. 11/Lee Highway, and U.S. 27 are higher volume roads that also have substantial truck traffic. Some of these corridors also serve key industrial areas. U.S. 27, for instance, serves industrial businesses in south Chattanooga as well as two of the region's river ports.
3. Local streets and connector roads provide connectivity within and around Chattanooga. This category includes many downtown streets which provide trucks with access to downtown businesses, such as Holtzclaw Avenue, Dodds Avenue, and 3rd Street. It also includes Bonny Oaks Drive, which is a key truck access route for Enterprise South.
4. Alternate truck routes are potential alternate routes for I-24 and U.S. 27, in the event of an accident or other incident causing significant delays on those routes. These include U.S. 64/Cummings Highway (parallel to I-24) and Market Street/Cherokee Boulevard/Dayton Pike (parallel to U.S. 27). Designation as an alternate route does not necessarily mean these roads are well-suited to truck traffic; however, these routes do represent opportunities to provide system redundancy.
5. There is one future truck route designated, along East 3rd Street and East 4th Street downtown. This corridor is being widened from Lindsay Street to Hampton Street, which will provide additional options for trucks traveling east or west to or through downtown.

Figure 2.4 TDOT Truck Traffic Volumes in Chattanooga
2008



Source: Tennessee DOT.

Figure 2.5 Chattanooga Regional Truck Route Network



Source: Chattanooga TPO travel demand model, Cambridge Systematics analysis.

The above discussion has shown that freight in Chattanooga is substantial and growing. The next section shows how this growth is creating or contributing to specific freight needs and deficiencies in the region.

3.0 Freight Needs and Deficiencies

Freight needs were identified through analysis as well as targeted stakeholder outreach. Needs and deficiencies were gathered from multiple sources, including prior planning studies, development of the Regional Freight Profile, and stakeholder input from the Freight Forum and the Transportation Club Luncheon. This section summarizes the key freight-related needs, deficiencies, and issues identified during the course of the freight study.

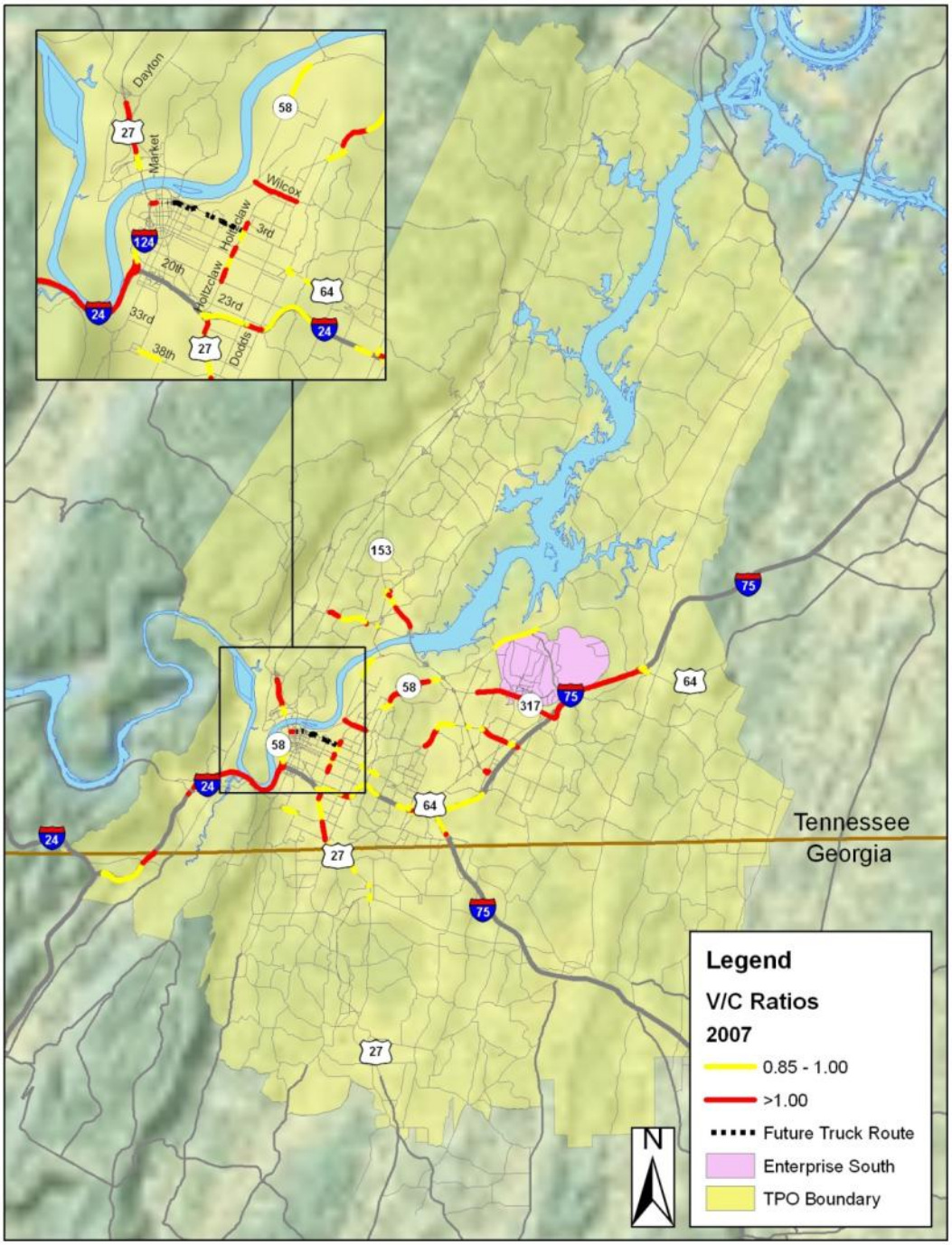
3.1 TRUCK CONGESTION HOTSPOTS

Truck congestion hotspots were identified by overlaying congested segments of Chattanooga roadways onto the key truck route network. Since the truck route network represents the most important truck freight corridors in the region, this provides insight into where congestion is impacting freight the most. Stakeholders provided additional insight into congestion-related issues for trucks. These issues can be broken down into two categories:

1. **I-24/I-75 Capacity and Geometric Constraints.** Interstate capacity was the most frequently cited problem by regional shippers at the Freight Forum. Specific locations include the I-24/I-75 and I-24/I-59 interchanges, I-24 from the I-59 split to the I-75 split, and I-75 from I-24 to Cleveland. Recent studies, including the ongoing *I-75 Corridor Feasibility Study* corroborate this finding. Forum participants also noted steep grades on I-24 over Missionary Ridge as a bottleneck; there are no truck climbing lanes here so traffic can get backed up as trucks climb over the ridge. As shown in Figure 3.1, large portions of I-24 and I-75 already are operating above their design capacity, with volume-to-capacity ratios above 1. Industrial development in the region, including VW, FedEx, and Amazon.com, will continue to drive freight volume growth in the area, thus exacerbating these issues. According to the recently updated TPO travel demand model, virtually all Interstate segments will be operating above their capacity by 2035, with some portions operating at more than twice their design capacity (Figure 3.2). This will lead to much longer delays for all traffic, including trucks, and will introduce supply chain delays for local businesses and industry that rely on the efficient movement of freight.
2. **Off-Interstate Capacity Constraints.** Most of these were identified through analysis as non-Interstate roadways that carry significant truck traffic **and** are operating above their design capacity during peak hours. They include Bonny Oaks Drive from Cecelia Drive to I-75, Shallowford Road from Standifer Gap Road to U.S. 11, U.S. 27 from Manning Street to the U.S. 127 interchange, Wilcox Boulevard between SR 58 and SR 17, parts of SR 17

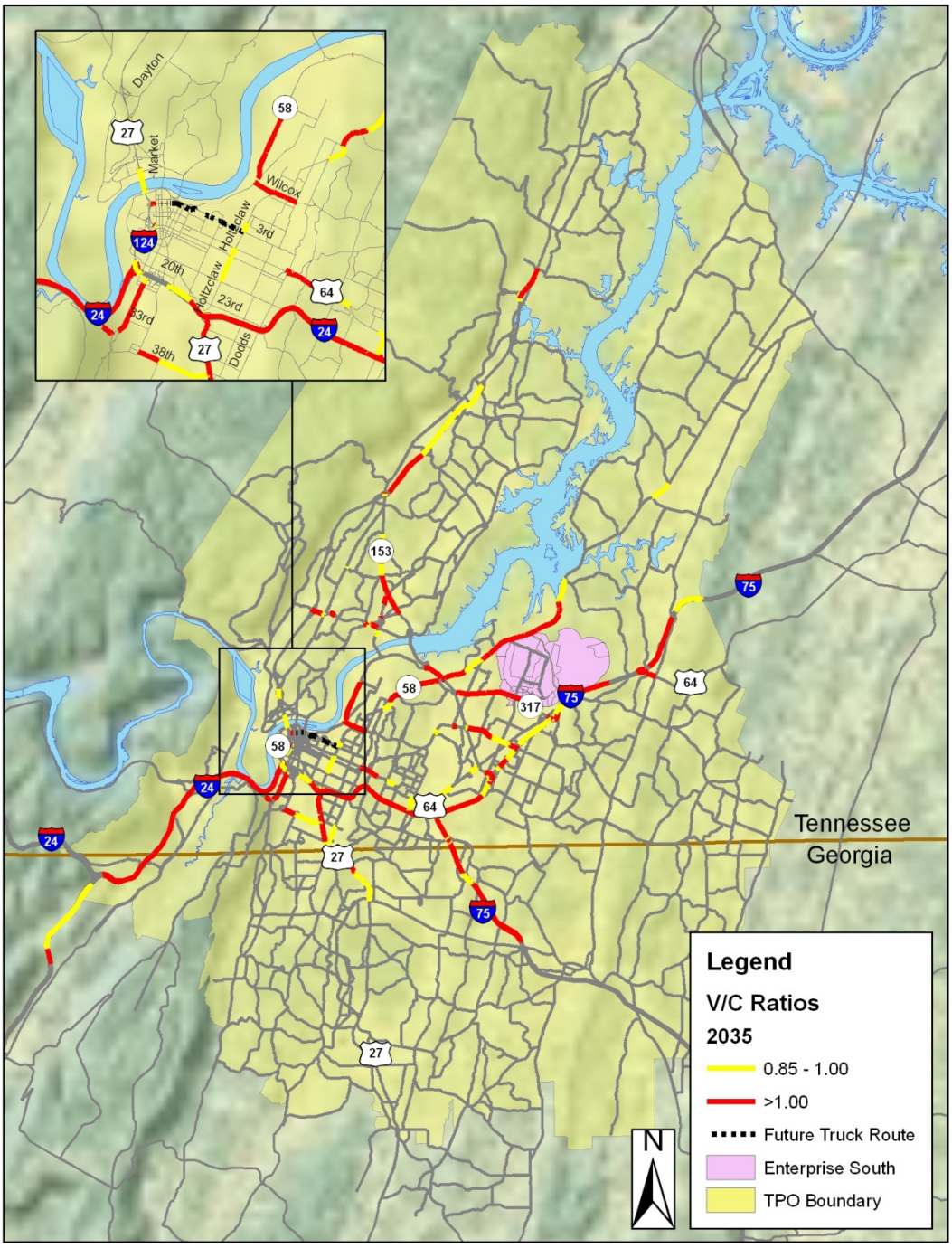
between the downtown area and SR 153, and SR 153 from just north of the river to SR 319. Freight Forum participants noted Amnicola Highway as the most congested non-Interstate road.

Figure 3.1 Congested Locations on Key Truck Routes in Chattanooga



Source: Chattanooga TPO Travel Demand Model.

Figure 3.2 Future Congestion Levels on the Truck Route Network



Source: Chattanooga TPO Travel Demand Model.

3.2 THROUGH TRUCKS

In its study of long-haul truck traffic in U.S. metropolitan areas, INRIX noted that the key reason for Chattanooga's number one ranking is that it is a "crossroads city" where multiple Interstate highways connect, making it a point of convergence for trucks originating elsewhere.[7] The vast majority of trucks on the Interstate system in Chattanooga are through truck trips with neither an origin nor destination in the Chattanooga region.

Analysis of roadside truck origin-destination (O-D) surveys indicates that there are over 10,000 daily through trucks that utilize I-75 and over 9,000 through trucks every day on I-24 (Table 3.1). These volumes represent approximately two-thirds of the total truck volume on these Interstates inside the Chattanooga region. These through truck trips are not directly related to economic activity in Chattanooga, but they increase congestion, crashes, pavement damage, and emissions. They also indicate that developing Interstate options that bypass Chattanooga could have significant benefits for the region.

Table 3.1 Summary of O-D Survey Through Truck Percentages

Location	Nearest AADTT Count	One-Way AADTT	Number of Surveys	Through Truck Count	Not Through	Bad O-D Data	Percent Through Trucks	Number of Through Trucks
I-75 Southbound – Ringgold	15,417	7,709	138	98	18	22	84%	6,512
I-75 Northbound Cleveland	13,529	6,765	297	176	110	11	62%	4,163
I-24 Eastbound Manchester	11,477	5,739	239	192	34	13	85%	4,875
I-24 Westbound Manchester	11,477	5,739	324	246	74	4	77%	4,411

Source: Tennessee DOT O-D Surveys, 2009.

3.3 NEEDS ASSOCIATED WITH THE VOLKSWAGEN AUTO PLANT

When VW opens its new production facility in 2011, it will add considerably to regional freight demand. TDOT recently completed a freight impact assessment of the new plant, which examined current conditions in and around

[7] http://www.inrix.com/scorecard/freight.asp.

VW/Enterprise South and developed forecasts of truck and rail traffic likely to be generated by the facility. Table 3.2 summarizes the results. The factory is expected to generate more than 500 new truck trips per day and nearly 2 additional daily trains when it opens this year. By 2035, this is forecast to grow to over 1,000 daily truck trips and 3.5 additional trains.

Table 3.2 Total Daily Truck and Rail Traffic Generated by the VW Plant
2011 and 2035

	2011		2035	
Shipment Type	Trucks	Trains	Trucks	Trains
Outgoing Automobile Shipments	9	0.37	17	0.74
Maximum Incoming Supplies	509	1.00	1,024	2.00
Incoming Empties	9	0.37	17	0.74
Total	526	1.74	1,059	3.49

Source: TDOT, Chattanooga Volkswagen Plant Freight Impact Study.

The study identified some key freight transportation system needs arising from this new demand:

- I-75, Bonny Oaks Drive, and SR 58 already are congested during peak hours, and new truck traffic generated by VW will exacerbate this issue. Additional capacity is needed on these roads to accommodate freight traffic associated with VW. Congestion around Enterprise South also may encourage truckers to use alternate routes (such as Hickory Valley Road) to access I-75. These roads have not necessarily been designed for trucks, so the new truck traffic could pose safety and congestion problems on these facilities.
- Most outgoing shipments of automobiles will be made by train, and some incoming supplies will arrive by rail. In addition, the railroads will have to bring in empty rail cars to be loaded with automobiles for distribution. All of this will create increased delays at the grade crossings in the study area, including those at Hickory Valley Road and Jersey Pike (the crossing at Noah Reid Road has been closed).

3.4 OTHER HIGHWAY NEEDS AND DEFICIENCIES

Beyond capacity chokepoints on the region's Interstates and local roads, three other key highway-related needs were identified during the study:

1. **Safety Concerns.** Stakeholders noted that accidents on local Interstates often create supply chain inefficiencies. Problematic areas included the I-24/I-75 and I-24/I-59 interchanges, as well as the weigh station on I-75 in North Georgia. Trucks weaving in and out of the traffic stream at these locations are perceived as a safety issue. Accidents on the Interstate system have a

tremendous impact on shippers and carriers in terms of delay, due to the volume of traffic on them.

2. **Lack of Adequate Parallel Freight Routes.** Closely related to the above is a general lack of Interstate system redundancy in the area. In the event of an accident or severe congestion on one of the Interstates, there frequently are no alternate routes that can effectively handle truck traffic. Cummings Highway is a parallel route for I-24 west of town; however, there are two railroad underpasses along that route that are too low for trucks to clear. Likewise, Dalton Pike north of the river is an alternate to U.S. 27; however, it also passes through some residential areas and other land uses not ideal for truck traffic.
3. **No Designated Regional Truck Route Network.** Presently, there are no official designated truck routes in Chattanooga. A preferred truck routing system would help keep truck traffic on certain designated freight corridors to the maximum extent possible. It also would help minimize conflicts associated with trucks traveling through incompatible land use areas such as residential streets.

3.5 RAIL NEEDS AND DEFICIENCIES

Rail needs identified in the study primarily revolve around grade crossings and associated delays. An inventory of grade crossings in the region revealed that although there are nearly 400 rail-highway grade crossings within the TPO boundaries, comparatively few handle extremely high vehicular traffic volumes. These may be the ones that create the most traffic delays. Table 3.3 shows the top 10 busiest crossings, ranked by total daily traffic. It should be noted that in some instances the majority of daily trains at a crossing are switch movements, which do not usually delay traffic as much as through trains do.

The busiest grade crossing (by total vehicle traffic) is CR 220/Five Points Road in Chickamauga; however, the remainder of the top 10 are in Chattanooga. Stakeholder feedback indicates that grade crossings are an issue along Amnicola Highway (which connects to many industrial areas, the DeButts Yard, and Centre South Riverport), as well as crossings around Lookout Valley and the Kidco warehouses. Several crossings along Amnicola Highway, as well as other industrial areas such as Rossville Boulevard, are among the top 10 busiest grade crossings. These crossings tend to have higher proportions of trucks in the traffic stream. The additional traffic created by the Norfolk Southern Crescent Corridor and trains generated by VW and other industry will lead to additional grade crossing delays.

Table 3.3 Top 10 Grade Crossings by Total Daily Traffic

Railroad	Crossing	City	Daily Vehicles	Percent Trucks	Daily Trains
CCKY	CR 220/Five Points Road	Chickamauga	63,300	4%	2
NS	SR 58/Amnicola Highway North of Judd Road	Chattanooga	39,910	5%	21
NS	SR 58/Riverside Drive near Old Curtain Pole Road	Chattanooga	35,700	5%	8
CSX	SR 2/Broad Street North of West 33rd Street	Chattanooga	25,360	4%	2
NS	SR 2/Broad Street North of West 32nd Street	Chattanooga	25,360	4%	0
NS	SR 58/Amnicola Highway East of SR 319	Chattanooga	25,310	4%	0
NS	U.S. 127/Signal Mountain Boulevard	Chattanooga	22,780	3%	0
NS	U.S. 27/Rossville Boulevard North of 44th Street	Chattanooga	20,650	7%	2
CSX	SR 2/U.S. 27/Broad Street	Chattanooga	17,600	4%	4
CSX	SR 8/Market Street	Chattanooga	16,100	9%	4

Source: Federal Railroad Administration.

3.6 WATERWAY NEEDS

There are some specific waterway and port terminal needs in Chattanooga, which were identified through previous studies as well as input from the local freight community:

- **Chickamauga Lock Condition and Capacity.** The capacity and condition of the Chickamauga Lock is probably the most pressing waterway need in the region. A concrete growth problem from which the lock has suffered since it was built 70 years ago forces periodic closures to perform maintenance, which interrupts river commerce. If left uncorrected, it will eventually force the permanent closure of the lock. This would force shippers to use other modes (truck and rail) to ship goods that currently move along the Tennessee River, so it would add to truck volumes in Chattanooga as well as train traffic. In addition, the lock is not designed to handle the larger 'jumbo' barges that have become standard in the barge tow industry. As a result, barges transiting the lock must be disassembled, pushed through one at a time, and reassembled on the other side, leading to the longest locking times on the Ohio River system and introducing significant delays for waterborne freight. Although an expansion project has been initiated, Congress has not appropriated funds to complete it, and the funding picture is murky in the near future due to the ongoing debate over how to reduce the Federal deficit.
- **Centre South Riverport Needs.** Centre South Riverport, located off of SR 58/Amnicola Highway, handles steel and various dry bulk and break bulk commodities. A recent market assessment study shows that the site is well situated for future growth, and as such, capital needs in excess of $13 million have been identified for the next 10 years. These improvements

include construction of an access road for a proposed second dock and an extension of a railroad siding to serve the same dock, among other things.[8] Funding assistance would be required to complete these upgrades.

3.7 AIR CARGO NEEDS

Chattanooga is a relatively small air cargo market, especially as compared to Atlanta. Cargo volumes at Chattanooga Metropolitan Airport fell by three-quarters during the recession, mostly because ABX Air ceased operations in Chattanooga. Nonetheless, recent and future industrial expansion – including the Volkswagen factory, the planned FedEx facility, and the Amazon.com distribution center – will drive continued growth in this mode. This in turn could necessitate improvements to the road network serving Chattanooga Metropolitan Airport, since all air cargo movements require a truck movement on either end of the shipment. Freight Forum participants noted that a signal is needed on the access road to the airport to accommodate left turns out of the facility. Capacity enhancements may be required on Lee Highway and Brainerd Road to handle the extra truck traffic expected from these developments.

3.8 MULTIMODAL/POLICY ISSUES

In addition to the infrastructure and operational needs discussed above, there was one cross-cutting policy issue identified during the course of the study. In broad terms, there is a need to optimize the amount of freight that moves by each mode. Like most regions, Chattanooga relies heavily on trucks to move most of its freight. In 2007, trucks transported 76 percent of total freight tonnage in the four-county study region; by 2035, this share is expected to rise to nearly 80 percent.

At present, Chattanooga does not have any intermodal rail yards, so there are no intermodal transfers taking place (at least, not between truck and rail). However, there could be opportunities in the future to shift some freight to other modes like rail, potentially relieving the local Interstate and truck route network of some truck traffic. Certain cargoes, such as consumer goods, may lend themselves well to mode shifting. Additionally, rising fuel costs play well to rail's fuel economy advantage over trucking.

[8] Tennessee Department of Transportation, *Tennessee Waterway Assessment Study-Phase II*, December 5, 2008. Capital needs of private terminals were not assessed in the study, so there are no estimates of needs at JIT Terminals or Mid-South Terminals, both of which are privately owned and operated.

4.0 Planned and Programmed Freight Projects

Section 3.0 described freight needs and deficiencies in Chattanooga from a capacity, efficiency, safety, and operational perspective. Fortunately, some of these needs are or will be addressed through the TPO's planning and programming process. This section summarizes projects contained in the 2035 Long-Range Transportation Plan (LRTP) and categorizes them according to whether they address an identified freight need.

The first step in the process is to compare the identified freight needs and deficiencies to the projects included in the 2035 LRTP. This was done by first identifying all projects that are located on the truck route network, and then assessing whether they respond to a need identified either through analysis or through public input.

4.1 UNDERWAY OR COMPLETE FREIGHT PROJECTS

Projects were categorized according to whether they currently are under construction or completed, or are programmed but not yet underway. Table 4.1 shows the two 2035 LRTP projects that are freight-related and already underway or complete. Both of these projects respond to a freight need, demonstrating that the TPO has been proactive in addressing freight issues. Bonny Oaks Drive just south of Enterprise South and Shallowford Road from Standifer Gap to U.S. 11 were both identified as locations with high truck traffic that are operating above capacity during peak hours.

Table 4.1 2035 Freight-Related LRTP Underway or Completed Projects

Project ID	Road	Project Description	Addresses a Freight Need?	Notes
15	SR 317/Bonny Oaks Drive from SR 17 to I-75	Widen from two to four lanes (already four lanes either direction of listed termini)	Yes	Will relieve severe congestion on Bonny Oaks near Enterprise South
58	Shallowford Road from Standifer Gap to west of Center Street	Widening from two to five lanes (four through lanes)	Yes	Will relieve severe congestion on Shallowford Road from Standifer Gap to U.S. 11

Sources: Chattanooga TPO 2035 LRTP, Cambridge Systematics analysis.

In addition to these capacity improvements, there also is a regional ITS initiative underway that includes a new traffic management center which will have the capability to adjust signal timing remotely along with several other features.

This also will help to promote efficient traffic flow in Chattanooga, including truck flow that serves local commerce.

4.2 PROGRAMMED FREIGHT-RELATED PROJECTS

Table 4.2 shows projects that are programmed but not yet under construction. These projects are further classified by LRTP project Tiers, where Tier 1 corresponds to projects expected to be complete by 2015, Tier 2 consists of projects slated for construction by 2025, and Tier 3 is made up of projects expected to be built by 2035.

- Amongst Tier 1 projects, widening U.S. 27 from north of the Tennessee River to Signal Mountain Boulevard responds directly to significant congestion identified on that roadway which is impacting trucks. Further widening projects on U.S. 27 – from I-24 to the bridge, and then on the bridge itself – do not correspond to identified needs but do form a package of improvements to a key non-Interstate freight corridor, so it may be logical to promote all three projects simultaneously. Additionally, the corridor connects to Manufacturer's Road, which is a key access route to two of the region's ports.
- There is one Tier 2 project on the freight network. This project involves reconstruction of the I-75/I-24 interchange to provide for a longer merging lane for I-75 northbound to I-24 westbound traffic. This interchange was a specific concern noted by Freight Forum participants, both from a capacity and safety standpoint.
- Four Tier 3 projects address freight needs and deficiencies. The first two (Project ID #s 13 and 13b) would widen Shallowford Road from two to four lanes from Airport Road to either North Moore Road or Jersey Pike; alternately, TDOT could replace the Shallowford Road bridge which goes over SR 153. The widening projects would probably be most beneficial from a freight perspective since they will alleviate congestion on a portion of Shallowford Road that operates above capacity during peak hours, and also could facilitate growth in air-cargo-related truck moves generated by the airport. Similarly, widening Amnicola Highway from four to six lanes responds to a need identified during the Freight Forum, since attendees considered that road to be the most congested non-Interstate facility. Finally, widening SR 153 north of the river will relieve congestion on that key truck route.

Table 4.2 2035 LRTP Programmed Projects

Project ID	Road	Project Description	Addresses a Freight Need?	Notes
Tier 1 Projects (2015)				
3	I-124/U.S. 27 from North of Tennessee River Bridge to SR 8/Signal Mountain Boulevard	Widen from four to eight lanes	Yes	Will relieve severe congestion on U.S. 27 north of the Tennessee River
88	U.S. 27/I-124 from I-24 to South of Tennessee River	Widen from four to eight lanes	No	Worse congestion is along I-24 to south and west of this project; however, combined with #3 and #178 this makes a package of improvements to a key freight corridor; also connects to Manufacturer's Road, a key port access route
178	U.S. 27/Olgiati Bridge from Riverfront Parkway to Manufacturer's Road	Widen from four to six lanes	No	Does not appear to be congested but also forms a package of improvements along with #3 and #88
18	U.S. 11/U.S. 64/Lee Highway from McCutcheron Road to SR 317	Widen from two to four lanes	No	Not a congested portion of that road
Tier 2 Projects (2025)				
104	I-75 Northbound to I-24 westbound interchange	Reconstruct interchange: Expand I-75 northbound to I-24 westbound lane extension beyond the Belvoir Road overpass (from one to two lanes)	Yes	I-75/I-24 interchange was a specific concern among Freight Forum participants
Tier 3 Projects (2035)				
13	Shallowford Road from Airport Road to N Moore Road	Widen from two to four lanes from Airport Road to West of SR 153 at Palmer Road or TDOT Bridge Replacement Project Shallowford Road over SR 153 – four lanes	Yes	Will relieve severe congestion on this part of Shallowford Road; could also help accommodate increased air cargo moves
13b	Shallowford Road from Airport Road to Jersey Pike	Widen from two to four lanes	Yes	Will relieve severe congestion on this part of Shallowford Road; could also help accommodate increased air cargo moves
19	Amnicola Highway from Riverport Road to SR 153	Widen from four to six lanes	Yes	Amnicola Highway is the most congested non-Interstate road according to Freight Forum participants
35	SR 2/Battlefield Parkway from South Cedar Lane to I-75	Widen from four to six lanes	No	Does not have significant congestion, not mentioned at Freight Forum

Project ID	Road	Project Description	Addresses a Freight Need?	Notes
54	Dodson Avenue from Wilcox Boulevard to Glass Street	Widen from two to four lanes	No	Does not have significant congestion, not mentioned at Freight Forum
55	SR 153 from Gothard Road to Dayton Boulevard	Widen from four to six lanes	No	Does not have significant congestion, not mentioned at Freight Forum
67	SR 153 from SR 319/Hixson Pike to SR 17/SR 58	Widen from four to six lanes	Yes	Will relieve severe congestion on SR 153 from north of the river to SR 319
70	SR 58 from Champion Road to SR 312	Widen from four to six lanes	No	Does not have significant congestion, not mentioned at Freight Forum

Sources: Chattanooga TPO 2035 LRTP, Cambridge Systematics analysis.

4.3 NEEDS PLAN/ILLUSTRATIVE PROJECTS

There are many other projects which the TPO included in its 2035 Needs Plan or as illustrative projects. These projects are beneficial capacity enhancements for which there is no identified funding, meaning they represent unfunded needs. Table 4.3 lists these Needs Plan/Illustrative projects from the 2035 LRTP. Many of these projects would address significant freight needs, especially the widening and interchange projects on I-75 and I-24, given that Interstate capacity appears to be the foremost concern of regional freight stakeholders. Other widening projects which address freight deficiencies include U.S. 27/Rossville Boulevard near downtown, Campbell Street from Glass Street to Bonny Oaks, and Shallowford Road from Center Street to Gunbarrel Road. From a goods movement standpoint, it would be ideal to promote these projects to the greatest extent possible, especially those on the Interstates.

Table 4.3 2035 LRTP Needs Plan/Illustrative Projects

Project ID	Road	Project Description	Addresses a Freight Need?	Notes
59	I-24 from I-59 to I-124	Widen from four to six lanes	Yes	Interstate capacity is the #1 concern of the local freight community
65	Old Lee Highway from I-75 to SR 317 (Collegedale)	Widen from two to four lanes	Yes	Would relieve congestion on Old Lee Highway which connects to Bonny Oaks and I-75 at Enterprise South
68	U.S. 27/Rossville Boulevard from I-24 to Workman Road	Widen from four to six lanes	Yes	Would relieve severe congestion on a key industrial corridor leading into downtown

Project ID	Road	Project Description	Addresses a Freight Need?	Notes
72	I-75 in Georgia from Study area boundary to I-24 (Ringgold)	Widen from six to eight lanes (one HOV lane each direction)	Yes	Interstate capacity is the #1 concern of the local freight community
74	I-75 from I-24 to Study area boundary (Bradley County Line)	Widen from 4/6/8 lanes to 8/10 lanes (one HOV lane each direction)	Yes	Interstate capacity is the #1 concern of the local freight community
84	I-24 from I-75 to U.S. 27	Widen from 6/8 to 8/10 lanes (one HOV lane each direction)	Yes	Interstate capacity is the #1 concern of the local freight community
89	Campbell Street from Glass Street to Bonny Oaks Drive	Widen from two to four lanes	Yes	Would relieve severe congestion on this route between SR 17 and SR 153 near downtown
119	Jersey Pike from SR 58 to Shallowford Road	Widen from two to three lanes (add center turn lane)	No	Does not have significant congestion, not mentioned at Freight Forum
120	Brainerd Road from Dodds Avenue to Moore Road (Ridgeside)	Widen from four to six lanes	No	Does not have significant congestion, not mentioned at Freight Forum
121	Hixson Pike from Hamill Road to Middle Valley Road	Widen from four to six lanes	No	Does not have significant congestion, not mentioned at Freight Forum
143	U.S. 11/U.S. 64/Lee Highway from Ooltewah Industrial Park to Hamilton County Line (Collegedale)	Widen from two to four lanes	No	Does not have significant congestion, not mentioned at Freight Forum
172	Holtzclaw Avenue from Main Street to I-24	Widen from two to four lanes	No	Worse congestion on Holtzclaw is from Main Street to Wilcox Boulevard
49a	I-24 Market Street Interchange	Interchange Reconstruction	Yes	Interstate capacity is the #1 concern of the local freight community
49b	Shallowford Road from Center Street to Gunbarrel Road	Widen from four to six lanes	Yes	Would relieve congestion at a key I-75 interchange
59b	Lee Highway from East Brainerd Road to Highway 153	Widen from four to six lanes	No	Does not have significant congestion, not mentioned at Freight Forum
15	Lee Highway from Highway 153 to Hickory Valley Road	N/A	N/A	
58	I-75 Exit 13	Construct New Interchange at Ooltewah Georgetown Road	Yes	Interstate capacity is the #1 concern of the local freight community
112	I-75 from I-24 to Exit 12	Increase to eight general purpose lanes	Yes	Interstate capacity is the #1 concern of the local freight community

Project ID	Road	Project Description	Addresses a Freight Need?	Notes
113	I-75 from Exit 12 to Exit 20 (Cleveland)	Increase to six general purpose lanes	Yes	Interstate capacity is the #1 concern of the local freight community
114	I-75 from I-24 to SR 2 (Ringgold)	Widen from six to eight lanes (one HOV Lane each direction)	Yes	Interstate capacity is the #1 concern of the local freight community
115	I-75 from SR 2 to Study area boundary (Ringgold)	Widen from six to eight lanes (one HOV Lane each direction)	Yes	Interstate capacity is the #1 concern of the local freight community

Sources: Chattanooga TPO 2035 LRTP, Cambridge Systematics analysis.

4.4 FREIGHT-BENEFICIAL NEW ROADWAYS

In addition to capacity enhancements on existing routes, there also are planned new roadways that are likely to be beneficial for freight. Proposed new alignments from the 2035 LRTP that will benefit goods movement in the Chattanooga region are described in Table 4.4. Most of these projects revolve around providing sufficient capacity for freight and passenger traffic in and around Enterprise South, given all the recent/impending industrial development there. Three of them already are underway or complete, including Enterprise Parkway/Enterprise Boulevard and the SR 317 Connector. Two of the Tier 1 projects shown would help to complete the capacity enhancements to serve the industrial park. The other Tier 1 project would provide additional east-west connectivity for trucks in the downtown area, and corresponds to the "Future Truck Route" identified in the maps for this study. In the longer term, the proposed DuPont Parkway extension will improve traffic flow in an industrial area which also is near a congested portion of SR 153. Finally, a proposed relocation/extension of U.S. 27 in Rossville would provide additional capacity for a congested portion of U.S. 27; however, this project does not have an identified funding source.

Table 4.4 2035 LRTP Freight-Related New Road Alignments

Project ID	Road	Description	Freight Benefits
Underway or Completed Projects			
21b	Enterprise Parkway from I-75 Interchange to Enterprise Boulevard fork	New alignment	Provides more capacity/connectivity through Enterprise South/VW area
21c	Enterprise Boulevard from Enterprise Parkway fork to Enterprise South Boulevard cul-de-sac	New alignment	Provides more capacity/connectivity through Enterprise South/VW area
21d	SR 317 Connector from I-75 Enterprise South Interchange to Apison Pike at Old Lee Highway	New alignment	Provides more capacity/connectivity through Enterprise South/VW area

Project ID	Road	Description	Freight Benefits
Tier 1 Projects (2015)			
170	VW industrial access road from Enterprise Boulevard to SR 58	New alignment	Would provide more capacity/connectivity through Enterprise South/VW area
106	3rd Street/4th Street from Lindsay Street to Hampton Street	New alignment/widening	Will provide additional east-west connectivity for trucks accessing downtown
21e	Enterprise Parkway from Hickory Valley Road to one mile south of SR 58	New alignment	Would provide more capacity/connectivity through Enterprise South/VW area
Tier 3 Projects (2035)			
92	Dupont Parkway Extension – From SR 153 to Hixson Pike	New two-lane facility	Will provide additional capacity/connectivity in an industrial area, near a congested portion of SR 153
2035 Needs Plan/Illustrative Projects			
74	U.S. 27 Relocation/Extension from SR 2 to Hogan Road	New four-lane facility	Would provide an alternate route for a congested portion of U.S. 27

Sources: Chattanooga TPO 2035 LRTP, Cambridge Systematics analysis.

5.0 Recommendations

The above analysis reveals that the TPO already has or intends to address several key freight needs, including capacity and safety concerns at the I-75/I-24 interchange, as well as capacity constraints on Bonny Oaks Drive, Amnicola Highway, Shallowford Road, U.S. 27, and SR 153. Additionally, the TPO has proactively addressed freight and passenger capacity concerns arising from Enterprise South industrial developments. Nonetheless, there are many freight system deficiencies – not least regional Interstate capacity issues – for which solutions are not included in the 2035 Financially Feasible Plan. Therefore, this section will outline additional solutions for freight needs for consideration in future LRTP updates.

5.1 HIGHWAY SOLUTIONS AND PROJECTS

- **Study the Development of a Chattanooga Bypass.** The fact that approximately two-thirds of the total trucks on Chattanooga's Interstates are through trucks indicates that there is demand for a bypass around the city. Such a bypass could help divert through trucks away from downtown Chattanooga, where they currently are contributing to (and suffering from) peak-period congestion. Besides helping to alleviate congestion in Chattanooga, this also would reduce truck-related crashes, infrastructure deterioration, and diesel emissions. It also may improve access for goods movement to the recently opened VW plant just outside of Chattanooga. The recently completed *I-75 Corridor Feasibility Study* recommended the development of an Interstate-quality corridor connecting Ooltewah, Tennessee to Dalton, Georgia, thus bypassing Chattanooga. However, a bypass solution could use existing alignments and would not necessarily have to be limited access.
- **Prioritize Interstate Capacity Improvements.** As noted above, Interstate capacity is the number one concern of the local freight community. Furthermore, TPO projections indicate that virtually all of the Interstate system in the area will be operating above capacity in the future. Several widening and interchange construction/reconstruction projects are noted in the 2035 LRTP as unfunded needs; however, it would be ideal if funding was identified for these crucial projects and they were included in the Financially Feasible Plan. At a minimum, I-75 should be widened to 8 lanes from the study area boundary in Georgia to the I-24 interchange, and to 10 lanes from I-24 to the Bradley County line. Likewise, I-24 should be expanded to 6 lanes from I-59 to U.S. 27, and to 8 lanes from U.S. 27 to I-75. Truck climbing lanes should be considered for the portion of I-24 going over Missionary Ridge. It should be noted that if the Chattanooga Bypass is developed that the need for

Interstate improvements along I-75 would be significantly reduced and potentially eliminated.

- **Develop Targeted Solutions for Off-Interstate Truck/Passenger Car Bottlenecks.** The TPO should consider additional non-Interstate corridors for improvements based on the results of this study. Wilcox Boulevard between SR 58 and SR 17 and portions of SR 17 between downtown and SR 153 are operating above their design capacity, but at present there are no capacity enhancements planned for these facilities. Additionally, some capacity expansions that are planned along the truck route network are not necessarily on the most congested portions of the network. For instance, Project ID #172 (a Needs Plan/Illustrative project) would widen Holtzclaw Avenue from two to four lanes between Main Street and I-24; however, congestion is worse on this road from Main Street to Wilcox Boulevard, according to the model.
- **Ensure that Parallel Freight Routes are Capable of Handling Truck Traffic.** The TPO should work with the Norfolk Southern and CSX railroads as appropriate to address the problem of low clearances on railroad underpasses along Cummings Highway west of Chattanooga. This would provide a relief route in the event of an accident on I-24. More broadly, the TPO may wish to conduct a detour/bypass study in the region to more completely inventory and categorize alternate routes, defining which ones are appropriate for trucks.
- **Monitor Truck and Rail Demand in the Area around VW/Enterprise South.** The *Chattanooga Volkswagen Freight Impact Study* developed by TDOT found that the vast majority of trucks accessing Enterprise South will use I-75 and Bonny Oaks Drive. Fortunately, the TPO already is in the process of upgrading Bonny Oaks Drive to handle this traffic. However, as noted above Interstate capacity continues to be a key concern for area shippers, so it will be important for the TPO to monitor traffic and congestion trends on I-75 and develop capacity enhancements if needed to ensure the efficient flow of commerce to and from the industrial park. This also would help relieve congestion for passenger vehicles on this key regional artery. Likewise, the TPO should monitor rail traffic around the park, especially at the Hickory Valley and Jersey Pike grade crossings, since most outgoing shipments of VW automobiles will be made by rail. This could be done in conjunction with a regionwide grade crossing inventory, as detailed below under 'Rail Solutions and Projects.'
- **Designate a Regional Truck Route Network.** The TPO may want to use the preliminary truck route network identified in this study as the basis for the development of an official truck route network. This study utilized the truck route network for two key purposes: First, to better understand how freight is moving to, from, and through Chattanooga; and secondly, to help track freight-beneficial projects in the region. The TPO can continue to use the network as a tool to identify and track projects that would benefit goods

movement. The network also can be refined based on the needs of other users of the transportation system – such as bicyclists and pedestrians.

5.2 RAIL SOLUTIONS AND PROJECTS

- **Evaluate Opportunities for Rail-Highway Grade Crossing Improvements.** Several of the busiest rail-highway grade crossings in the Chattanooga region also are in industrial areas and experience significant truck and automobile traffic. Growth in train traffic from the Norfolk Southern Crescent Corridor, Volkswagen, and other regional commerce could exacerbate delays at these crossings. The TPO should engage in a more detailed analysis of grade crossing issues in the region, to identify 'win-win' crossing improvements which benefit both freight and passenger movements. Grade separations, if warranted, should be discussed with the railroads that own the track.

5.3 WATERWAY SOLUTIONS AND PROJECTS

- **Promote Completion of the Chickamauga Lock Expansion.** The TPO should advocate for the completion of the Chickamauga Lock expansion. Federal appropriations are in doubt over the near term due to ongoing budget negotiations in Washington. However, strong local, regional, and state support for the project will position the region well to receive funding for this critical project whenever it does become available.
- **Monitor Developments within the New TDOT Inland Waterways Program.** TDOT is presently developing and implementing an Inland Waterways Program. The mission of this program is to promote increased use of the State's inland waterways network for goods movement by partnering with the U.S. Army Corps of Engineers, educating the public about the economic and environmental benefits of river transportation, and liaising with local communities to promote the State's interest in developing sustained growth in this mode. In pursuit of this mission, the TDOT Waterways Section will focus on legislative developments and opportunities to develop a loan and grant program that benefits the marine transportation industry.[9] The TPO should monitor the ongoing development of this program with an eye towards identifying potential new funding sources for waterway needs, including the Chickamauga Lock and Centre South Riverport needs.

[9] Tennessee DOT, *TDOT Waterway Mission and Vision Statements*, http://www.tdot.state.tn.us/publictrans/docs/WaterwayMissionVisionStatements.pdf.

5.4 AIR CARGO SOLUTIONS AND PROJECTS

- **Monitor Trends in Air Cargo Volumes to Address Potential Capacity Issues.** The TPO should work with the Chattanooga Metropolitan Airport Authority to monitor trends in air cargo demand, particularly in light of the new VW facility as well as recent developments with Amazon.com and FedEx. All of these developments are likely to increase air cargo demand – with attendant increases in truck traffic to and from the airport. The TPO should, therefore, monitor air cargo trends and truck traffic around the airport, to proactively address any issues that might arise. Since the cargo terminal is on the south side of the airport, most new truck traffic will likely be using Brainerd Road/Lee Highway.

5.5 MULTIMODAL/POLICY ISSUES

- **Develop a Freight Mode Shift Strategy in Coordination with TDOT.** It may be possible to redirect some freight that currently moves by truck to the rail mode, especially given the ongoing development of the Norfolk Southern Crescent Corridor. The railroad believes that there are up to one million divertible truck trips on this corridor, which runs through Chattanooga. Norfolk Southern has requested TDOT funding assistance for the Tennessee portion of the corridor. The TPO should work with TDOT going forward to identify whether funding assistance is warranted, and if so what form it should take. This could involve the construction of an intermodal yard in Chattanooga, although it is recognized that this may be difficult given the region's proximity to Atlanta.

5.6 SUMMARY OF FREIGHT SOLUTIONS

Table 5.1 provides the full list of freight-related project recommendations for the Chattanooga Region.

Table 5.1 Chattanooga Freight Project Recommendations

Recommended Project	Project Description	Key Freight Benefits	In LRTP (Y/N)	Completion Year
Chattanooga Bypass	Study the potential for a bypass around Chattanooga	Diverts through truck traffic away from Chattanooga	N	N/A
I-24 add lanes	Widen to six lanes between I-59 and I-124	Increases capacity on a high truck volume road with significant congestion	Y	Illustrative
Old Lee Highway add lanes	Widen to four lanes between I-75 and Collegedale	Relieves congestion on a key connection to Enterprise South	Y	Illustrative

Recommended Project	Project Description	Key Freight Benefits	In LRTP (Y/N)	Completion Year
Rossville Boulevard add lanes	Widen to six lanes from I-24 to Workman Road	Increases capacity on a high truck volume road in an industrial corridor	Y	Illustrative
I-75 add lanes	Widen to eight lanes between MPO boundary in Georgia and I-24 in Ringgold	Increases capacity on a high truck volume road with significant congestion	Y	Illustrative
I-75 add lanes	Widen to 8/10 lanes from I-24 to Bradley County line	Increases capacity on a high truck volume road with significant congestion	Y	Illustrative
I-24 add lanes	Widen to 8/10 lanes from I-75 to U.S. 27	Increases capacity on a high truck volume road with significant congestion	Y	Illustrative
Campbell Street add lanes	Widen to four lanes from Glass Street to Bonny Oaks	Relieves congestion on a key truck link between SR 17 and SR 153 downtown	Y	Illustrative
I-24 Market Street interchange	Reconstruct interchange	Improves geometry at key interchange leading into downtown	Y	Illustrative
Shallowford Road add lanes	Widen to six lanes from Center Street to Gunbarrel Road	Relieves congestion at a key I-75 interchange	Y	Illustrative
I-75 new interchange	Construct new interchange on I-75 at Ooltewah Georgetown Road	Provides additional capacity/routing options for trucks using I-75 to access the area	Y	Illustrative
I-75 add lanes	Widen to eight lanes from I-24 to Exit 12	Increases capacity on a high truck volume road with significant congestion	Y	Illustrative
I-75 add lanes	Widen to six lanes from Exit 12 to Exit 20 (Cleveland)	Increases capacity on a high truck volume road with significant congestion	Y	Illustrative
I-75 add lanes	Widen to eight lanes from I-24 to SR 2 in Ringgold	Increases capacity on a high truck volume road with significant congestion	Y	Illustrative
I-75 add lanes	Widen to eight lanes from SR 2 to study area boundary (Ringgold)	Increases capacity on a high truck volume road with significant congestion	Y	Illustrative
Enterprise Parkway new alignment	New industrial access road	Provides capacity/connectivity for Enterprise South/VW	Y	Underway/ complete
Enterprise Boulevard new alignment	New industrial access road	Provides capacity/connectivity for Enterprise South/VW	Y	Underway/ complete
SR 317 Connector new alignment	New industrial access road	Provides capacity/connectivity for Enterprise South/VW	Y	Underway/ complete

Recommended Project	Project Description	Key Freight Benefits	In LRTP (Y/N)	Completion Year
VW industrial access road	New access road from Enterprise Boulevard to SR 58	Provides capacity/ connectivity for Enterprise South/VW	Y	2015
3rd Street/4th Street new alignment/widening	New East – West alignment through downtown	Provides more connectivity for trucks accessing downtown	Y	2015
Enterprise Parkway new alignment	New road from Hickory Valley Road to one mile South of SR 58	Provides capacity/ connectivity for Enterprise South/VW	Y	2015
Dupont Parkway extension	New two-lane road from SR 153 to Hixson Pike	Provides additional capacity and connectivity for a congested industrial area	Y	2035
U.S. 27 Extension/Relocation	New four-lane road extending/relocating U.S. 27 from SR 2 to Hogan Road	Provides an alternate route for a congested part of U.S. 27	Y	Illustrative
Wilcox Boulevard add lanes	Widen from SR 58 to SR 17	Increases capacity on a high truck volume road with significant congestion	N	N/A
SR 17 add lanes	Widen from downtown area to SR 153	Increases capacity on a high truck volume road with significant congestion	N	N/A
Holtzclaw Avenue add lanes	Widen to 4 lanes from Main Street to I-24	Increases capacity on a high truck volume road with significant congestion	N	N/A
Upgrade low-clearance rail underpasses on Cummings Highway	Increase vertical clearance at rail underpasses along Cummings Highway west of town	Provides an alternate truck route if there is an incident on I-24	N	N/A

Table 5.2 provides a complete list of policy/institutional recommendations. Some of these recommendations are directly related to infrastructure improvements (such as the Chickamauga Lock project); others are studies or data collection efforts which will help support freight improvements in the future.

Table 5.2 Policy/Institutional Recommendations

Recommendation	Description	Freight Benefits
Conduct a regional detour study	Inventory and categorize alternate routes and assess their suitability for trucks	Enhances TPO understanding of truck routing alternatives
Monitor truck and rail demand near Enterprise South	Collect truck/train movement data for the Enterprise South area on a regular basis	Allows for continuous monitoring of congestion trends near the industrial park
Designate a regional truck route network	Develop an official truck route network with input from other transportation system users	Helps track freight-beneficial projects in the Chattanooga region
Conduct a grade-crossing study	Inventory and analyze grade crossings to identify congestion, safety, and other issues	Prioritizes grade crossings for improvements, including grade separations when necessary
Advocate for Chickamauga Lock expansion	Promote completion of the Chickamauga Lock expansion project	Helps ensure funding is received when it becomes available
Monitor the TDOT Inland Waterways Program	Liaison with TDOT waterway officials regarding potential funding opportunities	Identifies new sources of grant funding for port/waterway projects
Monitor air cargo trends	Coordinate with the airport to proactively identify truck traffic needs and issues	Provides support for road enhancements around the airport if there is significant new demand from Amazon.com and FedEx
Develop a freight mode shift strategy	Consult with TDOT on the potential to shift some regional freight to the rail mode, particularly as the Crescent Corridor is built out	Would reduce truck trips to, from, and through Chattanooga, especially if an intermodal yard is built