4.6 FREIGHT ELEMENT

PURPOSE

This chapter provides the freight element of the HPMPO 2045 Metropolitan Transportation Plan. It describes the existing conditions and trends at the national level, at the statewide/regional level and within the Triad Study Area. It then describes the current and future issues, at the same set of levels. Stakeholder input is summarized, followed by a summary of key points and a list of recommendations. The chapter includes both highway freight and rail freight. Because many of the issues and trends in highway and rail freight are distinct from each other, these two modes of transportation are discussed separately where appropriate.

RELEVANCE TO THE TRANSPORTATION SYSTEM AND THE PLAN

Freight movement is a critical element of an advanced industrial economy, and the ease of freight movement is one component of a region's economic competitiveness for attracting and retaining heavy industry, manufacturing, warehousing and other light industrial functions. Freight movement can also have an impact on a region's quality of life, particularly with the need to ensure heavy truck traffic has suitable routes to/from the national highway or rail networks, avoiding established residential areas. Federal legislation has recently placed additional emphasis on the role of freight in regional transportation planning. Freight must be considered both in its own right and in terms of supporting an area's economic vitality and competitiveness. Highway freight and rail freight play complementary, and sometimes competing, roles in the freight transportation system. The HPMPO planning area has strong highway and rail connections for freight, including a major north-south interstate connecting the Triad to Charlotte and the Triangle and various railroads. These connections serve a wide range of industries in the HPMPO planning area, including distribution centers.

FREIGHT IN THE TRIAD

Moving freight is critical to an industrial economy and easy of freight movement is key to a region's economic competitiveness. Freight movement also affects a region's quality of life, particularly with the need to ensure that truck traffic has access to the national highway or rail networks that avoids residential areas.

Federal legislation emphasizes the role of freight in regional transportation planning. Freight must be considered both in its own right and as a supporting element of an area's economic vitality and competitiveness.

The Journal of Commerce recommends that Congress and the President improve our freight policy by:

1. Define clear national goals for all transportation modes,
2. Begin work on strategic performance measures for freight
3. Create a competitive freight discretionary grant program
4. Strengthen and diversify freight funding sources
5. Better define the national freight system
6. Strengthen the freight component of the planning process

7. Reorganize USDOT
8. The marine transportation and ports need a stronger voice to speak to their needs in the national interest
9. Embrace private sector participation
10. Raise revenue

IMPORTANCE OF FREIGHT

Freight transportation is a major factor in manufacturing retail costs. Manufacturers look for reliability, speed, and quality control in the carriers that deliver their raw materials and finished products. If materials do not arrive on time, all other processes are affected, productivity falls and costs go up.

Freight movement may be mysterious to the average consumer but is crucial to maintaining our quality of life. If the US Supply chain slows down:

- Assembly lines stop in 6-12 hours,
- Hospitals run out of critical supplies in 24 hours,
- Gas stations run out of fuel in 48 hours Gas Stations, and
- Grocery Stores run out of perishable foods in 72 hours.

Freight, in the study area, moves by air, highway, rail, and pipeline. The Piedmont Triad was an early crossroad for the railroads, moving freight from ports to inland buyers. This logistical network contributes significantly to the regional economy. The highway system placed the Piedmont Triad at a crossroad of the interstate system. Two major pipelines provide another important source of freight transport, once again with the Piedmont Triad at the crossroad. (LRTP of Winston-Salem Area, 2009)

The Piedmont Triad is at an economic crossroads. Low-wage global competition and more productive manufacturing have stripped the Region's traditional industrial clusters in furniture, textiles, and tobacco manufacturing of tens of thousands of jobs since 2000. With 1.6 million residents and a 1.5% annual growth rate, the population of the Piedmont Triad is expected to exceed 2 million by 2030.

On a positive note, new regional economic are emerging, the FedEx established its Mid-Atlantic hub at PTI, and the major UPS sort center, provides the Piedmont Triad with a competitive advantage in air logistics, offering time-sensitive industries fast, reliable long-distance connectivity. Just as shippers and manufacturers have traditionally located near seaports and railheads businesses today also want good access to airports. At the airport, e-commerce fulfillment centers complement flow-through facilities for perishables, just-in-time emergency parts centers and reverse logistics facilities. The clustering of time-critical goods facilities near air-express airports is stimulating expansion of air cargo, less than trailer load trucking (LTL), freight forwarders, and third-party logistics providers (3PLs) along major highways accessible to these airports.

The Piedmont Triad has many logistics assets and is strategically located in the center of the Atlantic Coast Air Transport Corridor. The Triad offers excellent interstate highway access and competitive rail service and is within six-hour trucking proximity to seaports at Wilmington, NC, Morehead City, NC, Charleston, SC, Norfolk, VA and Savannah, GA. In addition, the area is served by the Norfolk Southern and CSX rail lines.

LARGEST FREIGHT DISTRIBUTION CENTERS IN THE PIEDMONT TRIAD (2020)

The largest distribution centers in the Triad are used to distribute a wide array of goods including clothing, logistics, and food. Half of the distribution centers are located in Guilford County. Approximately one-third of the distribution facilities are over one million square feet.

Table 1

Rank	Business Name/Prior Rank	Total Square Footage	County	Use
1	Former Sears/Loomcraft Textiles Distribution Center	1.75 million	Guilford	Fabrics, freight, multi-tenant
2	NFI Industries	1.60 million	Guilford	Various
3	Harris Teeter LLC	1.48 million	Guilford	Grocery items
4	Lewis Logistics	1.30 million	Guilford	3rd Party Logistics
5	1031 E. Mountain St.	1.20 million	Forsyth	Various
5	Fastenal	1.20 million	Guilford	Industrial supplies
7	Gildan Activewear Inc.	1.19 million	Rockingham	Gildan branded apparel
8	Piedmont Triad Industrial Center	1.01 million	Forsyth	Various
9	Hanesbrands Inc.	930,451	Forsyth	Apparel
10	Lidl Distribution Center	900,000	Alamance	Grocery items
11	Ralph Lauren	843,000	Forsyth	Clothing & home goods
12	Ralph Lauren	800,000	Guilford	Clothing & home goods
13	The South Atlantic Cos.	750,000	Guilford	Various
14	Liberty Hardware	680,000	Forsyth	Decorative home decor
15	Hanesbrands Inc.	598,000	Forsyth	Apparel
16	6105 Corporate Park Drive	582,037	Guilford	Multi-tenant
17	Pepsi Bottling Ventures	526,000	Forsyth	Bottling operations
18	6550 Judge Adams Road	520,000	Guilford	Multi-tenant
19	Twin City Warehouses Inc.	505,000	Forsyth	3rd Party Logistics
20	Replacements Ltd.	500,000	Guilford	Dinnerware, flatware, glassware, collectibles
21	Stokesdale Distribution Center	481,131	Guilford	Multi-tenant
22	Walmart Distribution Center	461,516	Alamance	Perishable foods
23	DSC Logistics	450,000	Guilford	Finished goods

Source: Triad Business Journal

EXISTING FREIGHT TRENDS SUMMARY

The HPMPO area is centrally located on the east coast and is a strategic logistics hub for many industries, including manufacturing, health care, and energy industries. Almost one half of the country's population is within a 24-hour drive. The region is a major freight hub with thousands of trips originating or bound for the four county HPMPO planning area each year. Each county had more outbound freight trips except for Forsyth County. In 2015, over 96,000 freight trips occurred in the four-county area with an economic impact totaling over $141,000,000.

Table 2

HPMPO Freight Inbound/Outbound Trips					
County	Thousand Tons (2015)	Inbound	Outbound	Intracounty	Dollars (2015)
Guilford	26,448	42.96%	48.73%	8.32%	$57,496,000
Davidson	26,261	41.06%	51.73%	7.21%	$20,668,000
Randolph	22,642	43.84%	50.29%	5.87%	$30,437,000
Forsyth	20,914	70.58%	26.41%	3.01%	$33,013,000

Source: North Carolina Freight Flow Tool

FREIGHT MODES

In 2015 the primary freight mode was via truck with over 65,000 thousand tons. This was followed by pipeline (16,896 thousand tons), rail (10,160 thousand tons) and air (16 thousand tons). Truck is projected to still be the primary freight mode in 2045 with it being the primary mode in each of the four counties. Each county is projected to continue to have growth in each freight mode with the exception of Forsyth County which is excepted to have a decrease in tonnage via pipeline (-15.66%). There is also expected to be significant increases in the tonnage of freight shipped as well as the dollars generated from 2015 to 2045.

Table 3

	2015-2045 Freight Type (Thousand Tons) Percentage Increase											
County	Truck (2015)	Truck (2045)	Percent Increase	Pipeline (2015)	Pipeline (2045)	Percent Increase	Rail (2015)	Rail (2045)	Percent Increase	Air (2015)	Air (2015)	Percent Increase
Guilford	24,822	38,402	54.71%	394	609	54.57%	1,207	2,059	70.59%	16	177	1,006%
Davidson	14,018	17,203	22.72%	8,375	16,980	102.75%	560	2,551	355.54%	(-)	(-)	(-)
Randolph	14,025	15,256	8.78%	7,915	13,594	71.75%	696	1,235	77.44%	(-)	(-)	(-)
Forsyth	12,992	19,064	46.74%	212	316	49.06%	7,697	6,492	-15.66%	(-)	(-)	(-)

Source: North Carolina Freight Flow Tool

Economic Impact of Freight

Table 4

2045 Freight Projections				
County	Thousand Tons (2015)	Thousand Tons (2045)	Million Dollars (2015)	Million Dollars (2045)
Guilford	26,448	41,283	$57,496	$112,894
Davidson	26,261	36,742	$20,668	$28,915
Randolph	22,642	30,092	$30,437	$33,944
Forsyth	20,914	25,896	$33,013	$50,501

Source: North Carolina Freight Flow Tool

FREIGHT MODE PERCENTAGE

In looking at freight in terms in percentage combining the 2015 information of the four-county area truck freight totals 70.9% followed by pipeline 19.2%, and rail at 10.9% of all freight. In 2045 pipeline (23.5%) is as a percentage of all freight expected to increase while truck (67.1%) is still the primary mode of over two-thirds of all freight.

Source: North Carolina Freight Flow Tool

FREIGHT DEMAND IN THE PIEDMONT TRIAD

Table 5 Economic Analysis Metrics and Methodology Guidelines

Factor	Metric	Data Source(s)	Measure	Scoring Method	Data Usage Methodology
Demographic Preparedness	Population Growth	US Census 2010 / 2014	Growth rate of tract compared to statewide growth rate	0 = 0 1 – 49 = 0.2 50 – 99 = 0.4 100 – 149 = 0.6 150 – 199 = 0.8 200 and above = 1.0	Population growth indicates opportunities for economic growth. All negative growth rates scored as 0.
	Workforce Size	US Census 2014	Census tract workforce size compared to tract population relative to state average	0 = 0 1 – 49 = 0.2 50 – 99 = 0.4 100 – 149 = 0.6 150 – 199 = 0.8 200 and above = 1.0	Higher density of workers indicates a competitive and efficient labor market.
	Educational Attainment	US Census 2014	Census tract relative to state average	0 = 0 1 – 49 = 0.2 50 – 99 = 0.4 100 – 149 = 0.6 150 – 199 = 0.8 200 and above = 1.0	Well trained workforce desirable for investment. Population 18 years of age or older with high school or higher education.
	Per Capita Income	US Census 2014	Tract PCI vs the statewide average	0 = 0 1 – 49 = 0.2 50 – 99 = 0.4 100 – 149 = 0.6 150 – 199 = 0.8 200 and above = 1.0	Higher PCI equates to more economic activity generated from a diverse market of goods and services.
Freight Intensity and Supported Industries	Freight Employment Intensity	US Census 2014	Employment in freight intensive sectors vs state average	0 = 0 1 – 49 = 0.2 50 – 99 = 0.4 100 – 149 = 0.6 150 – 199 = 0.8 200 and above = 1.0	Dependence on supporting freight infrastructure key to growth in these areas.
	Technology Centers	US Census 2014	Employment in technology sectors vs state average	0 = 0 1 – 99 = 0.4 100 – 199 = 0.8 200 – 299 = 1.2 300 – 399 = 1.6 400 and above = 2.0	High tech industries typically require highly mobile staff and rely on products being shipped rapidly. Improved infrastructure will promote growth.
	Medical Centers	US Census 2014	Employment in medical care sectors vs state average.	0 = 0 1 – 49 = 0.2 50 – 99 = 0.4 100 – 149 = 0.6 150 – 199 = 0.8 200 and above = 1.0	Connectivity to medical centers is important to the regional economy.
	Institutions of Higher Learning	US Census 2014	Students enrolled in public / private universities and colleges vs state average	0 = 0 1 – 99 = 0.4 100 – 199 = 0.8 200 – 299 = 1.2 300 – 399 = 1.6 400 and above = 2.0	Attract adjacent growth of industry and promote skilled workforce.
	Key Military Facilities		Census tracts that are comprised of key military faciliites.	0 = None 1 = Facility	Fort Bragg; Seymour Johnson AFB; Sunny Point MOCT; New River MCAS; Camp Lejeune; Cherry Point MCAS
	Property Tax	US Census 2014	Property tax values at tract level vs state average.	0 = 0 1 – 49 = 0.2 50 – 99 = 0.4 100 – 149 = 0.6 150 – 199 = 0.8 200 and above = 1.0	Measure serves as a proxy for economic activity and transportation dependence.

Understanding the freight demand in the Piedmont Triad Region (PTI) is vital to accommodate the facilities for freight transportation. The projected growth in freight volume in North Carolina is high and the demand on transportation infrastructure will grow in tandem. Freight growth requires informed planning with a focus on the economy. The NC Department of Transportation developed the North Carolina Statewide Multimodal Freight Plan (NCSMFP) to understand and improve freight flow through the state and many of the considerations contained therein are relevant and applicable to PTI. The NCSMFP provided guidance for regional and local planning including several work tasks to achieve a well-developed freight plan. These tasks include stakeholder outreach with a focus industrial, manufacturing, and supply chain sectors, the development of a geographically focused supply chain and logistics profile, along with the implementation of economic analysis metrics, and an objective project and investment scoring methodology. Table 5 outlines the metrics along with the scoring methodology for the PTI Area. Federal resources including the United States Census Bureau and the US Bureau of Transportation Statistics (BTS) provide excellent sources related to the overall market analysis, economic vitality, and labor market health. Another resource for PTI planners is NCDOT's

Regional Freight Advisory Committee (RFAC) active in the PTI region. RFACs engage the private sector through regular meetings and coordinate actively with MPOs and RPOs. The NCDOT Office of Logistics and Freight (OLF) may also provide resources and subject-matter expertise on economic, supply chain, and market analyses for PTI Area.

As one of North Carolina's most robust industrial and commercially productive regions, the Piedmont Triad Region (PTI) is home to a significant part of the NC Statewide Multimodal Priority Freight Network (NCSMPFN). This collection of priority highways and roads recognizes routes and locations used to transport freight. Better understanding how the PTI transportation and freight ecosystem fits into the larger network will ensure economic competitiveness and sustainability through infrastructure planning, investment, and management.

Another important factor is labor wage contributions. According to the North Carolina Department of Commerce, the income per capita in NC for 2020 is $52,797. For many freight-oriented or supply chain-relevant sectors, this is higher than the state average. This is especially the case in technology manufacturing sectors and is an important consideration in the analysis. The methodology supports the findings of freight intensity and supported industries in targeted areas. Starting by finding employment in the freight sector will give a perception of the overall support given to freight infrastructure. The employment rate in the technology sector assists in finding the rapid shipping of freight that uses technology. Employment in the medical center drives the connectivity to the medical locations, which is essential to the regional economy. Additionally, the

recruitment of the highly skilled workforce is determined by the current enrollment at universities and colleges. Metrics like property tax rate and key military facilities assist in measuring activities in economy and dependence in transportation.

FINDINGS

Table 6

County	Alamance	Caswell	Davidson	Davie	Forsyth	Guilford	Montgomery	Randolph	Rockingham	Stokes	Surry	Yadkin
Population Growth	0.6	0.4	0.3	0.6	0.5	0.5	0.1	0.3	0.3	**0.7**	0.3	0.3
Workforce Size	**0.6**	**0.6**	0.5	0.5	0.5	**0.6**	0.4	0.5	0.5	0.5	0.5	0.4
Educational Attainment	**0.6**	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.4
Per Capita Income	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Freight Employment Intensity	0.5	0.6	0.8	0.8	0.4	0.6	0.8	**0.9**	0.8	0.8	0.5	0.8
Employment in technology sectors	**0.3**	0.2	**0.3**	**0.3**	**0.3**	**0.3**	0.2	**0.3**	0.2	0.2	0.2	0.2
Employment in medical care sectors vs state average	0.6	0.4	0.5	**0.7**	0.5	0.5	0.4	0.5	0.5	**0.7**	0.4	0.6
Students enrolled in public / private universities	0.3	0.2	0.2	0.3	0.3	**0.4**	0.2	0.2	0.3	0.3	0.2	0.2
Key Military Facilities	0	0	0	0	0	0	0	0	0	0	0	0
Property tax values	0.4	0.4	0.4	0.4	0.4	**0.6**	0.4	0.4	0.4	0.4	0.4	0.4
Total	4.3	3.6	3.9	**4.5**	3.8	4.4	3.3	4	3.9	**4.5**	3.4	3.7

Table 6 illustrates the economic analysis for each county in the PTI region. Counties of Davie and Stokes scored the highest. Both counties have the highest rate factor in employment in the medical sector. However, applying the overall total to the county size, it is determined that Guilford county has the highest score when it comes to economic opportunities. The cities of Greensboro and High Point are located in Guilford county, which might add to the highest of the total score. Additionally, Guilford scored the highest in property tax values, which means increasing attraction to economic growth. Factors' rates and scores are applied against the state factor overall.

GOODS MOVEMENT ANALYSIS

The North Carolina Statewide Multimodal Freight Plan includes metrics and methodology to analyze the movement of goods. The analysis starts by finding the Annual Average Daily Truck Traffic (AADTT) in a specific area. Analyzing AADTT will help to identify corridors with high truck volume. However, some counties maintain a large range of routes that do not have high truck volume, yet they are incorporated in the analysis. Total tonnage analysis will give a fair score to counties with larger road systems. Table 3 shows the methodology matrices stated in the NCSMFP. The research outlines the mode and which highway. However, according to the data source (FAF4), authorities store tonnage data form air and rail. The Highway Performance Monitoring System (HMPS) is an excellent source for finding AADTT, Vehicle Miles Travelled (VMT), and VMT by lane mile. The NCDOT Office of Logistics and Freight conducted good movement analysis on the PTI Region using the methodology illustrated in NCFP. The PTI good movement analysis was studied for each county in the region. Applying the good movement analysis to each county in the PTI Region gave a piece of detailed information to the study.

Table 7

Mode	Metric	Data Source(s)	Value Range	Proposed Scoring Method	Data Usage Methodology
Highway	Daily Truck Volumes	NCDOT	0 – 16,000 AADTT	0 = Less than 2,500 1 = 2,501 to 5,000 2 = 5,001 to 7,500 3 = 7,501 to 10,000 4 = 10,001 to 16,000	Measures daily truck volumes on NC roads. Identifies corridors with heavy truck traffic.
	Absolute Vehicle Miles Traveled (VMT)	NCDOT	0 – 50,000	0 = Less than 1,000 1 = 1,000 to 2,499 2 = 2,500 to 4,999 3 = 5,000 to 9,999 4 = More than 10,000	Use truck counts by link to derive truck VMT
	VMT by Lane Mile	NCDOT, Highway Performance Monitoring System (HPMS)	0 – 12,500	0 = Less than 500 1 = 500 to 999 2 = 1,000 to 2,499 3 = 2,500 to 4,999 4 = More than 5,000	Use truck counts by link to derive truck VMT. HPMS data provides number of lanes by link. These sources together will show truck VMT by lane mile.
	Total Tonnage	FAF4.1	0 – 200M+ tons	0 = Less than 5M tons 1 = 5M to 10M tons 2 =10M to 20M tons 3 = 20M to 50M tons 4 = 50M to 100M tons 5 = 100M to 200M 6 = More than 200M	Assessment of annual tonnage by road segment for top commodities transported by truck in North Carolina.
	Total Value	FAF4.1	0 - $500B+	0 = Less than $10B 1 = $10B to $20B 2 = $20B to $50B 3 = $50B to $100B 4 = $100B to $200B 5 = $200B to $500B 6 = More than $500B	Assessment of annual value by road segment for top commodities transported by truck in North Carolina.
	Tonnage Growth	FAF 4.1	Change in Tonnage (%)	0 = Less than 25% 1 = 25% - 50% 2 = 50% - 75% 3 = 75% - 100% 4 = 100%+	Assessment of percentage change in total tonnage between base (2015) and forecast (2045) years.
	Value Growth	FAF 4.1	Change in Value (%)	0 = Less than 25% 1 = 25% - 50% 2 = 50% - 75% 3 = 75% - 100% 4 = 100%+	Assessment of percentage change in total tonnage between base (2015) and forecast (2045) years.

Table 8

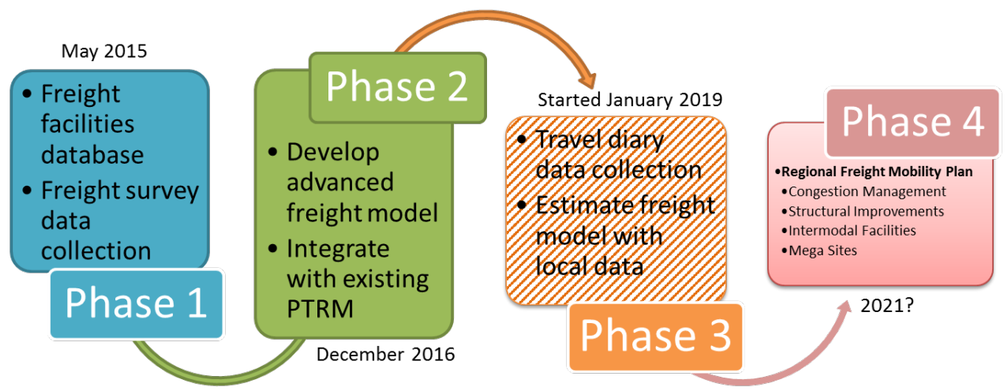
County	Alamance	Caswell	Davidson	Davie	Forsyth	Guilford	Montgomery	Randolph	Rockingham	Stokes	Surry	Yadkin
Daily Truck Volumes	**4**	1	1	1	1	1	0	0	0	1	1	1
Absolute Vehicle Miles Traveled (VMT)	**4**	2	2	**4**	1	1	2	1	1	3	3	2
VMT by Lane Mile	2	1	1	**3**	1	0	2	2	1	**3**	2	1
Total Tonnage	**3**	**3**	1	**3**	2	1	0	2	1	**3**	**3**	**3**
Total Value	**3**	2	1	**3**	2	1	0	1	1	**3**	**3**	2
Tonnage Growth	0	**4**	2	1	2	2	1	2	2	0	0	1
Value Growth	1	**4**	2	2	2	2	1	3	2	2	1	3
Total	**17**	**17**	10	**17**	11	8	6	11	8	15	13	13

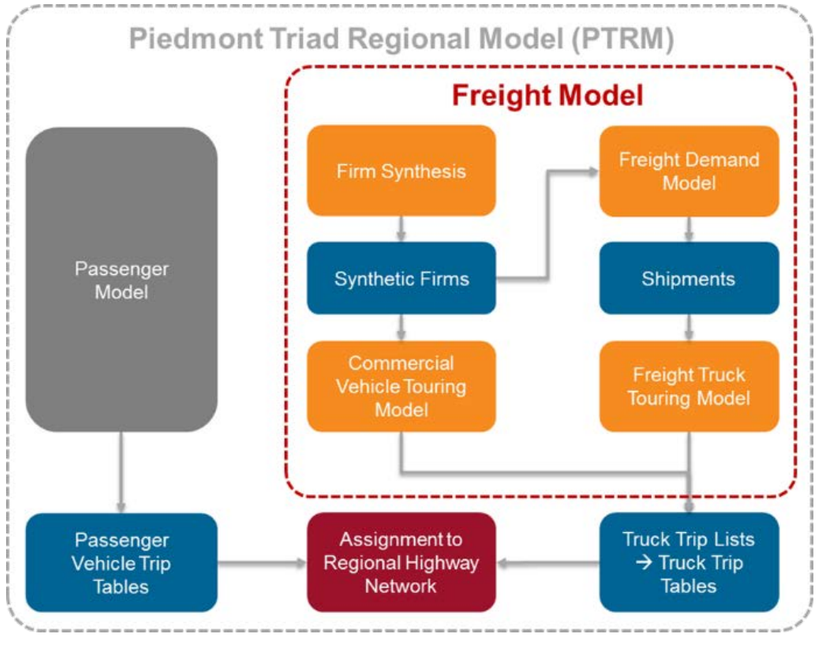
MAJOR TRIAD FREIGHT ISSUES

PIEDMONT TRIAD REGIONAL FREIGHT MODEL

In recognition of the importance of freight in the Triad, PART, the North Carolina Department of Transportation (NCDOT), and the Triad Metropolitan Planning Organizations (Burlington-Graham, Greensboro, High Point, and Winston-Salem) embarked on a three-phased approach to develop an enhanced freight component for the Piedmont Triad Regional Travel Demand Model (RTDM). The goals are to provide a safe freight transportation system, support the region's economic well-being, and achieve efficiency in operations and investment in the freight transportation system.

Creating better data and models will enable state, regional, and local planners to better predict freight movement trends, and make better informed project investment decisions. Utilization of a tur-based freight model will be used to inform land use and transportation planning efforts, and aid in SPOT project prioritization.





Phase I Included 158 freight and distribution establishment interviews, a 969 record Freight Node Database, 139 distribution centers identified. This data provided a snapshot of existing conditions and enabled the development of a region-specific model. Phase 2 included the development of the regional tour-based freight model and an external user interface to view scenario results.

Phase 3 involves the collection of local driver diaries that sample actual truck movements by vehicle type, trip type and commodities carried. One-third of the driver diary samples have been collected. The projected has been extended in 2021 due to COVID-19. The goal will be to collect the remaining samples when driving patterns return to some level of normalcy. After implementation of the tour-based freight model the region should consider the development of a Piedmont Triad Freight Mobility Plan.

THE HIGH POINT INTERNATIONAL HOME FURNISHINGS MARKET

The High Point MPO has an increased amount of freight shipped into the area above "normal" operating levels twice each year for the High Point Market. The High Point Market is the largest furnishings industry trade show in the world, bringing more than 85,000 people to High Point every six months with about ten percent of the attendees being international. There are 2600 exhibitors located in 188 buildings with 12 million square feet (275 Acres) of showroom space. There are 110 countries represented at the High Point Market (Gerald T. Fox, Ph.D.; Richard M. Hargrove, Ph.D.; David L. Bryden, MLS, 2007).

Before each Market, furniture manufacturers must fill the 12 million square feet of show space with furnishings coming from all over the world. Most, if not all of that freight, arrives in High Point by truck. About three weeks before each market, many vacant lots and sometimes the streets themselves become parking lots for trucks delivering furniture to the Market. The picture to the left illustrates one of the furniture showroom's staging lots in downtown High Point filled with trucks waiting to unload their freight.

CLOSURE OF THE LINWOOD HUMP YARD

Norfolk Southern Railroad announced in May 2020 that its hump yard in Linwood would close and eliminate 85 jobs. Part of the reason for the closure is that Norfolk Southern has adopted a new precision scheduling operating plan called TOP21.

Norfolk Southern began developing the TOP21 plan using computer modeling and simulation tools to analyze data and train flows to "achieve optimum network fluidity and velocity." Under TOP21, the railroad will focus on reducing the complexity of freight car movements and balancing the flow of its networks to allow the railroad to run fewer trains and use its operating assets more efficiently.

ROLE OF PUBLIC SECTOR

Under the National Incident Management System (NIMS) principles state and local governments are responsible for incident management response and recovery efforts after an incident. To manage their responsibilities, many agencies have emergency response plans in place. However, recovery plans, especially for maritime infrastructure recovery and restoration of cargo flow, are not as common. Many States engage individual task force groups to manage disaster scenarios and responses.

Because the responsibilities, capabilities and organizational structures vary from agency to agency, it is hard to establish the specific responsibilities that each agency should provide for recovery from a transportation disruption. However, the following generic list of functional responsibilities for recovery that state, local, and tribal government agencies may perform was developed for the Maritime Infrastructure Recovery Plan, and applies for those portions of the international cargo supply chain falling within state and local government jurisdictions.

The Local Government section and the Private Sector section below are most important for this planning effort. In order to ensure and maintain a proper safety and security component within the region it is suggested that local government entities hold, at a minimum, annual meetings with jurisdictions and municipalities and private industry concerns operating in our area. The purpose of

these meetings is to discuss and coordinate safety and security challenges and to understand the responsibilities of all parties that would be involved. In addition, the discussion of a regional response team made up of joint members of this group would alleviate any confusion over jurisdiction and would create a strong team effort as it pertains to freight movement. Organizations that would be best prepared to coordinate meetings of this nature would be the regional MPO's. As they are already involved in day to day and long range regional planning efforts, an additional responsibility of this nature would make sense.

State Governments

• Coordinate State resources to address recovery.

• Make, amend, and rescind orders and regulations under emergency conditions to support recovery efforts as appropriate.

• Communicate to the public recovery aspects of an emergency within state's jurisdiction.

• Help people, businesses, and organizations cope with the consequences of recovery.

• Encourage participation in mutual aid and implement authorities for the state to enter into mutual aid agreements with other states, tribes, and territories to facilitate resource-sharing.

• Coordinate requests for federal assistance if it becomes clear that state or tribal capabilities are insufficient, have been exceeded or exhausted.

•Voluntarily share information with other federal, state, local and tribal agencies.

• Participate in advisory committees and task forces regarding recovery management.

•Help assess the economic impact created of a security incident.

•Help identify recovery resources and assets.

• Provide resources as requested and as appropriate.

Local Governments

• Perform emergency first-responder activities as appropriate.

• Coordinate local resources to address recovery.

• Suspend local laws and ordinances, under certain emergency conditions to support recovery efforts.

• Communicate any declared emergency in the local jurisdiction to the public.

• Help local people, businesses, and organizations cope with the consequences of a declared emergency and its recovery.

• Negotiate aid agreements with other jurisdictions to facilitate sharing resources.

• Request state and federal assistance through the governor when the jurisdiction's capacity has been exceeded, exhausted, or is inappropriate.

•Voluntarily exchange information with federal, state, local and tribal agencies.

• Participate in advisory committees and task forces regarding recovery management.

•Help assess the economic impact of a security incident.

•Help identify assets and resources for the recovery.

• Provide resources as requested and appropriate.

ROLE OF PRIVATE SECTOR

As the owners and operators of the majority of the infrastructure, assets, and commodities, in the international supply chain, the private sector is most involved in ensuring security. During normal operations, while government entities legislate, regulate, validate and inspect, the private sector operates the supply chain safely, securely, efficiently, and at a profit.

As part of their business, private sector entities are responsible for the planning, operations, and advisory aspects relating to restoring cargo movement, and trade flow, and passenger flow.

Following an incident that triggers implementation of this strategy, the federal government will facilitate restoring commerce and recovery of the marine transportation system in concert with private sector contingency planning.

For the private sector the DHS advocates:

• Private sector owners and operators of vessels and facilities subject to United States government regulation are encouraged to expand their business continuity plans to include recovery operations as part of required planning pursuant to federal regulations, if such planning has not already been completed.

• Owners and operators of vessels and facilities not subject to United States government regulation are encouraged to establish recovery operations and business continuity plans, in coordination with appropriate trade partners.

• All private sector recovery operations plans should include a plan for evacuation, adequate communications capabilities, and a plan for business continuity.

• All private sector recovery operations plans should consider the existing American National Standard on Disaster/Emergency Management and Business Continuity Programs (NFPA 1600), which contains minimum criteria for disaster management and guidance in the development effective disaster preparedness response and recovery programs.

To assist in the development of recovery operations plans and other contingency planning, Business Roundtable guidance documents are recommended for private sector continuity of operations plan development:

It is anticipated that the private sector will implement business continuity plans/recovery operations plans on their own accord, based on incident information provided by the Federal government. Information that may influence the decision to implement contingency plans and divert or redirect cargo and/or the conveyances include: national priorities; military requirements; MTS restrictions; and the expected duration of those restrictions.

To facilitate restoration of the flow of commerce, the following list of functional responsibilities that the private sector may perform was developed as part of the Maritime Infrastructure Recovery Plan, and is applicable within the entire cargo supply chain:

• Voluntarily exchange information about recovery operations plans with other potentially affected private sector entities and the federal government to mitigate congestion at non-incident site ports after the diversion of vessel traffic.

• Participate in maritime industry stakeholder organizations and advisory committees such as the AMSCs regarding recovery management and contingency planning.

• Help assess the assessment of economic impact.

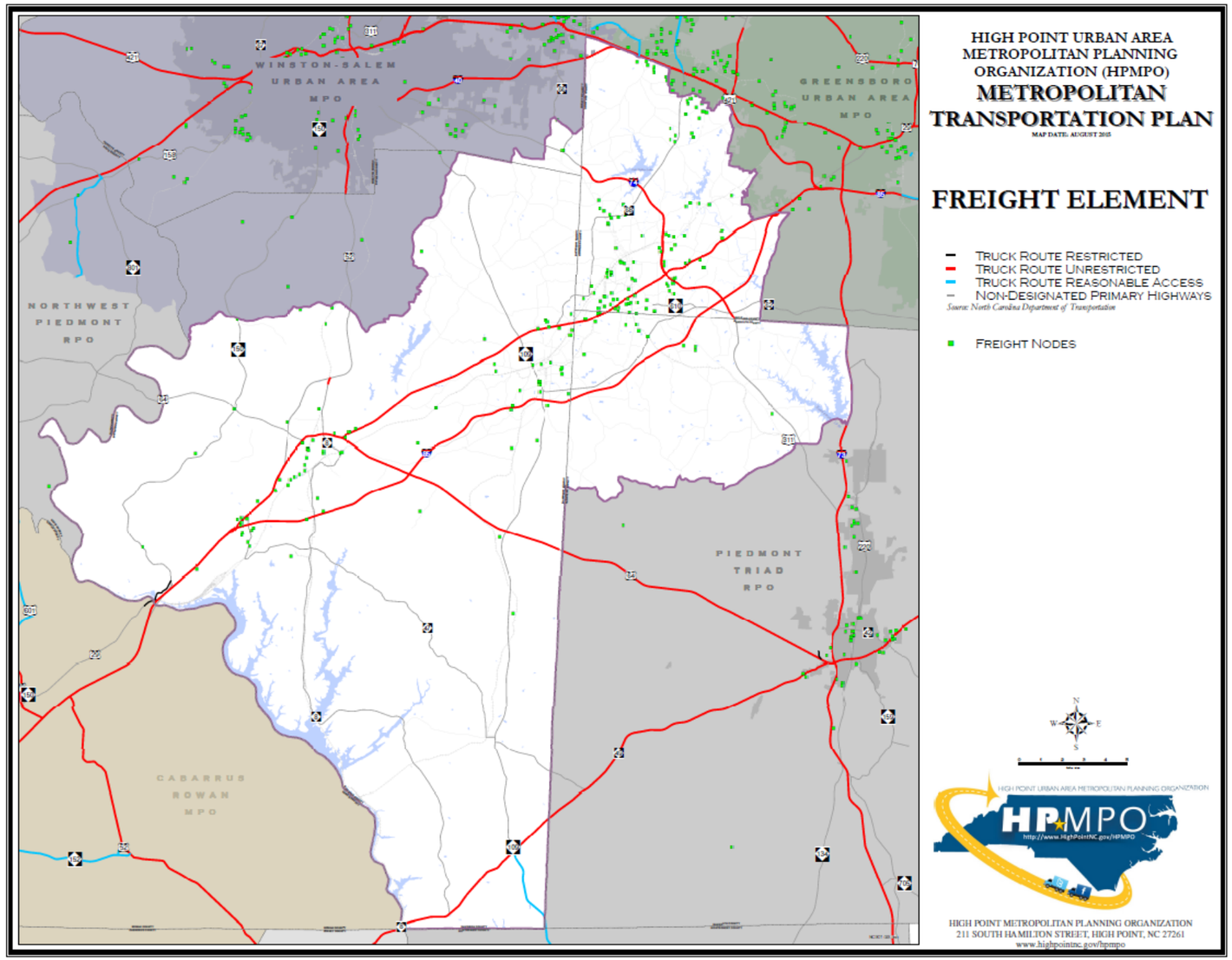
• Help identify recovery resources and assets.

• Provide resources to assist in recovery, as appropriate.

• When requested by the National Maritime Security Advisory Committee (NMSAC), provide experts for advising on recovery management.

• Participate in pilot programs to test the effectiveness of the federal government to communicate recovery activities to the private sector.

• Using existing information-sharing mechanisms to communicate situational and operational information as well as the physical asset capabilities for mitigation management. (Strategy to Enhance International Supply Chain Security – July 2007)


WINSTON-SALEM URBAN AREA MPO
GREENSBORO URBAN AREA MPO
NORTHWEST PIEDMONT RPO
PIEDMONT TRIAD RPO
CABARRUS ROWAN MPO
HIGH POINT URBAN AREA METROPOLITAN PLANNING ORGANIZATION (HPMPO)
METROPOLITAN TRANSPORTATION PLAN
MAP DATE: AUGUST 2015
FREIGHT ELEMENT
TRUCK ROUTE RESTRICTED
TRUCK ROUTE UNRESTRICTED
TRUCK ROUTE REASONABLE ACCESS
NON-DESIGNATED PRIMARY HIGHWAYS
Source: North Carolina Department of Transportation
FREIGHT NODES
N
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HIGH POINT URBAN AREA METROPOLITAN PLANNING ORGANIZATION
HPMPO
http://www.HighPointNC.gov/HPMPO
HIGH POINT METROPOLITAN PLANNING ORGANIZATION
211 SOUTH HAMILTON STREET, HIGH POINT, NC 27261
www.highpointnc.gov/hpmpo