



FEASIBILITY STUDY OF A TRANSPORTATION AND LOGISTICS HUB IN SOUTHWEST VIRGINIA

PREPARED BY THE VIRGINIA TECH OFFICE OF ECONOMIC DEVELOPMENT

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Executive Summary

The Virginia Tech Office of Economic Development (OED) worked with the Southwest Virginia Advanced Manufacturing Center of Excellence and partners such as GenEdge to study the needs and opportunities associated with a transportation and logistics hub in the Southwest Virginia coalfields region.

This report provides an overview of the region's transportation and logistics industry as well as transportation and logistics sector occupations. The report also explores and profiles a number of hub-type facilities in Virginia, and beyond. In addition, a number of regional stakeholders and company representatives were interviewed. A summary of these conversations is included. Based on the secondary industry and occupation data, the comparative facility analysis, and interviews, we identify three primary findings:

1. **Investment in a major, large-scale, intermodal facility or hub is not justified, based on currently available market demand.** While a facility could certainly help attract new companies, the argument that investment in a facility based on speculative future use and gains is not a strong one, given present conditions.
2. **There is an unmet demand for additional warehousing and storage space, possibly a small hub-type facility(s).** There appears to be a regional market demand for warehousing and storage, although the precise amounts and storage option types need to be better assessed through a regional inventory. Three central questions need to be addressed; 1) does the local market demand justify one or more than one small hub-type facility?, 2) where would the optimum location be for such facility (s)? 3) can the existing private companies serve this market?, and 4) is there an associated opportunity for a focus on expansion of distribution/wholesale trade operations?
3. **There is a need for strategies, services, and resources to optimize logistics and transportation for area companies and ease industry pain points associated with logistics and transportation.** This also represents an opportunity for either attracting one or more logistics and transportation focused companies to the region and/or helping one or more existing firms to scale up in order to add employment and services and better serve regional needs.

Based on these findings we recommend four action steps:

- Conduct a more detailed inventory of warehouse and storage space in the region, including an assessment of storage type and size, including dry bulk, ambient temperature, food grade, and hazardous material storage options.
- Work with existing manufacturers to strengthening their internal capabilities (knowledge, expertise, tools) around scheduling and logistics.
- Support the growth of the Southern Gap Training Center, and related driver training programs, and consider ways to encourage retention/employment of program completers by region-serving firms.
- Work with VCEDA and county-based economic development officials to identify opportunities to attract or expand companies that might fulfill some of the functions of a logistics hub, such as warehouse and storage and coordinated trucking.

Introduction

The Southwest Virginia Advanced Manufacturing Center of Excellence engaged the Virginia Tech Office of Economic Development (OED) to conduct a feasibility study related to the need and opportunities associated with a transportation and logistics hub in the Southwest Virginia coalfields region.

The report provides an overview of the region's transportation and logistics sector, examines transportation and logistics needs associated with southwest Virginia industry, and considers associated opportunities, barriers, possible costs, benefits, and other factors associated with a logistics hub.

This analysis is exploratory and preliminary, intended to identify the potential positive and negative outcomes of such a project before investing additional time and money into pursuing it more actively. The focus included a recommendation of the potential or lack of potential for a transportation/logistics hub within Planning District One (LENOWISCO) and Planning District Two (Cumberland Plateau), the coalfields region. Transportation, as referenced in this report, can include over-road transport, air transport or rail transportation, but is focused on industry and freight rather than passenger uses.

Methodology

During this process, the Virginia Tech Office of Economic Development (OED) worked with the Southwest Virginia Advanced Manufacturing Center of Excellence and partners such as GenEdge and engaged selected outside experts. This input helped guide the project, provided valuable input and expertise, and identified key stakeholders and issues.

The project included initial data collection as well as a preliminary supply and demand analysis. The Virginia Tech team also conducted a comparative analysis to locate and learn about other potentially comparable facilities in other regions, including their activities, facilities, and features. Concurrently, OED interviewed industry leaders and regional stakeholders to identify potential needs and opportunities for a transportation and logistics hub.

Interviews and related information contributed to a supply and demand analysis. Supply analysis included local and regional business users of a potential facility. Demand analysis involved the larger supplier and customer network within and beyond the region.

The OED faculty also considered site feasibility. In assessing possible facility sites, the report included consideration of required factors such as access, space, utilities, existing development, and concept use.

The OED team performed a review and analysis of preliminary financial feasibility assessment such as identification of capital and start-up requirements, operating and on-going costs, estimated incomes, and possible funding sources. In conducting the assessment, the report identified a series of recommended actions.

Industry Overview

This section provides information on the transportation and logistics industry within Virginia Workforce Development Area I, which is comprised of Buchanan, Dickenson, Lee, Russell, Scott, Tazewell, and Wise Counties and the city of Norton. Two components of this industry were investigated. The first component details occupational trends as they relate to the SOC (Standard Occupational Code) transportation and material moving occupation group. These occupations, which contain all positions

related to transportation, logistics, and short-term storage, exist across multiple industries and are important in understanding trends related to employment, rather than changes in industry. The second component analyzes industry trends relating to the transportation and warehousing NAICS (North American Industry Classification System), sector. Distinct from the SOC transportation and material moving classification, which characterizes employees, the NAICS transportation and warehousing group characterizes businesses that engage in this activity. This subset of the larger occupation group ensures the employees of these firms are counted in both. This analysis will provide information on trends, and projections for all occupations related to transportation and provide a more focused analysis on the specific businesses that are directly vested in transportation, logistics, and warehousing.

Occupations and Employees, Transportation and Material Moving

1. Occupational Overview

Distinct from NAICS, which classifies business establishments, are SOC codes, which classify workers into occupational categories.¹ It is important to note that SOC codes describe occupations held by individuals and do not describe the industries in which these people work.² In the case of WDA I, there is a considerable difference between industry (NAICS) and occupational (SOC) employment, due to the differences between these classification systems explained above. For instance, a truck driver who works for a manufacturing firm will not be counted as an industry employee, but will be counted as an occupational employee. Additionally, while the occupational classification is over double that of the industry classification in the region they have similar trends. This section will detail employment, select occupations, income, demographics, and job postings for the transportation and material moving occupation group (SOC Code 53). Table 1.1 illustrates employment, wages, and growth projections for this industry group for the region, state, and nation.

Table 1.1. Occupational Overview, 2017, WDA I, Virginia, and United States.³

	WDA I	Virginia	United States
2017 Jobs	5,131	295,980	12,543,056
% Total Employment	6.9%	5.7%	6.4%
Median Hourly Wage	\$14.43	\$14.86	\$15.04
% Change 2012-2017	-14.3%	18.1%	18.9%
% Projected Change 2017-2022	-1.3%	9.5%	9.0%

2. Occupational Employment

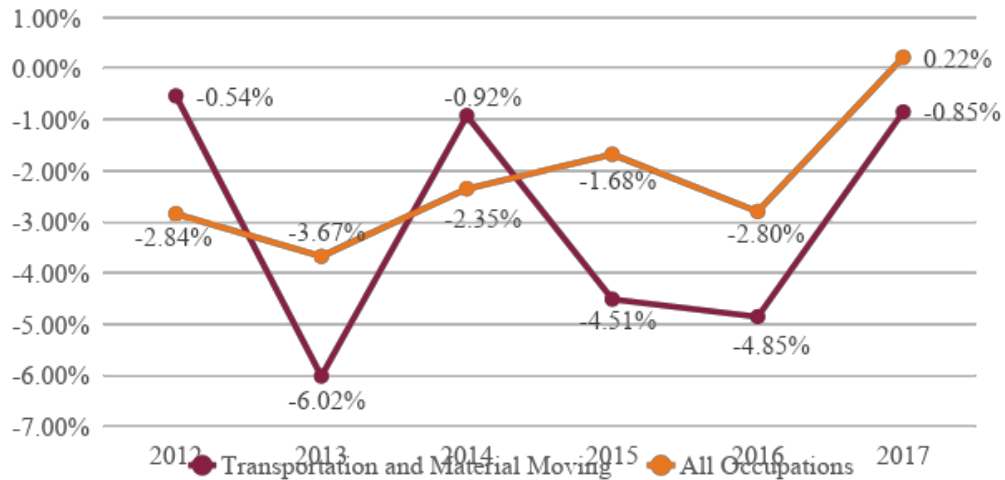
Contrary to state and national trends, regional employment is falling for transportation related occupations. For instance, 1,003 positions were eliminated from 2012 to 2017 and further reductions are projected for the next five years, albeit at a lessened rate. This could be due to a number of factors, namely a general loss of industry in the region. For instance, 8,164 positions were eliminated from 2012 to 2017, across all industries. Figure 2.1 illustrates this change in employment for both the transportation and material moving classification Compared to changes in employment for all occupations in the region.

¹ United State Bureau of Labor Statistics, "Occupational Outlook Handbook."

² National Systems Contractors Association. "NAICS/SOC Codes."

³ Emsi Developer, Quarterly Census of Earnings and Wages, 2017.4

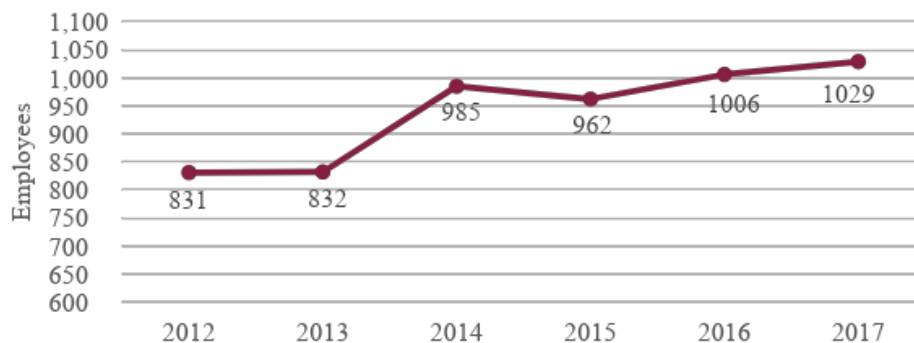
Figure 2.1. Occupational Employment Changes, Transportation and Material Moving and All Occupations, 2012-2017, WDA I



Despite this overall loss of employment for the entire occupation group, data suggests that the self-employed cohort of the WDA I transportation and material moving group is growing. For instance, from 2012 to 2017, there were modest increases in employment for self-employed and extended proprietor occupations. Furthermore, these modest increases are projected to continue over the next five years, largely at the same incremental rate.

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Figure 2.2. Occupational Employment Changes: Self-Employed and Extended Proprietors, 2012-2017, WDA I



3. Top Occupations in Transportation and Material Moving

The transportation and material moving occupation group is comprised of 52 occupations, 47 of which are represented in WDA I. As illustrated in table 3.1, the largest occupation in WDA I is ‘heavy and tractor trailer truck drivers,’ with over 25% of workers falling into this category. Additionally, freight and stock

laborers, bus drivers, and light truck and delivery drivers account for a considerable amount of employment within this group. WDA I experienced a significant decrease in employment for the top three occupations in the region. Only the Laborers and Freight, Stock, and Material Movers, Hand occupation is projected to grow over the next four years.

Table 3.1. Largest Occupations in Transportation and Material Moving, 2017, WDA I.⁴

Occupation	2017 Jobs	% Change 2012-2017	% Projected Change 2017-2022
Heavy and Tractor-Trailer Truck Drivers	1,460	-21.3%	-8.5%
Laborers and Freight, Stock, and Material Movers, Hand	600	-20.2%	1.6%
Bus Drivers, School or Special Client	487	-9.8%	-6.1%
Light Truck or Delivery Services Drivers	415	-7.3%	-1.4%
Wellhead Pumpers	367	63.1%	14.3%
Packers and Packers, Hand	209	-8.9%	2.9%
Driver/Sales Workers	176	4.0%	-0.3%
Industrial Truck and Tractor Operators	174	-15.4%	4.2%
Excavating and Loading Machine and Dragline Operators	159	-45.7%	-6.1%
Refuse and Recyclable Material Collectors	139	19.2%	15.2%

4. Job Postings

Despite a five year trend of employment reductions for transportation and material moving occupations in WDA I, this occupation group accounted for the most job postings in the region by over 18,000 unique postings.⁵ Additionally, this occupation group led both the state in the nation in jobs postings for the same period. Unlike WDA I, however, this industry is rapidly growing at the state and national level.

The vast majority of these postings are for “heavy truck and tractor trailer truck driver” positions. For instance, of the 20,427 total job postings for the entire occupation group, 19,019 (~93%) were for heavy and tractor-trailer truck drivers. This is also the case at both the state and national level. In Virginia, of the 326,462 job postings for the entire transportation and material moving occupation group, 260,209 were for heavy and tractor-trailer truck drivers in 2017.⁶

⁴ Ibid.

⁵ Unique Job Postings are the number of de-duplicated job advertisements listed by different companies on career sites and job boards. De-duplication entails the elimination of multiple postings for the same job- this step is crucial to accurately measuring job postings.

⁶ EMSI Developer, Proprietary Job Postings Data, 2017

Table 4.1. Top Five Occupational Groups by Job Postings, 2017, WDAI.⁷

Occupational Group	Unique Postings	Average Monthly Hires.⁸
Transportation and Material Moving	20,427	228
Healthcare Practitioners and Technical Occupations	2,059	154
Sales and Related Occupations	1,885	367
Office and Administrative Support Occupations	1,107	473
Food Preparation and Serving. ⁹ Related Occupations	866	457

While this occupation group has the most attributed job postings, it is ranked lower in average monthly hires at the regional, state, and national level. For 2017, office and administrative support occupations were ranked first in average monthly hires while transportation and material moving occupations were ranked fourth. Furthermore, for 2017, the three top hiring occupation groups had more than 80% less job postings than transportation and material moving occupations. The transportation and material moving group is also ranked fourth among top-hiring occupation groups at both the state and national level, also with higher ranking groups have significantly less postings for 2017. This could be attributed to the ongoing national shortage of qualified truck drivers. Some estimations put this shortage at 50,000 truck drivers in 2018, and potentially rising to a shortage of 175,000 drivers in 2026.¹⁰ ¹¹ Table 4.2 ranks the top five occupation groups by average monthly hires; unlike the previous table, table 4.1, transportation and material moving occupations rank fourth rather than first.

Table 4.2. Top Five Occupation Groups by Average Monthly Hires, 2017, WDAI

Occupation Group	Average Monthly Hires	Ratio of Hires to Postings
Office and Administrative Support Occupations	473	21 Hires to 50 Postings
Food Preparation and Serving Related Occupations	457	26 Hires to 50 Postings
Sales and Related Occupations	367	10 Hires to 50 Postings
Transportation and Material Moving Occupations	228	1 Hire to 100 Postings
Healthcare Practitioners and Technical Occupations. ¹²	154	7 Hires to 100 Postings

⁷ Ibid.

⁸ Average Monthly Hires is calculated from the Quarterly Workforce Indicators and therefore does not truly calculate hires as a function of months. This data is important for tracking the outcomes of job postings, however, it is more accurate to say that this data is collected on a quarterly basis rather than a monthly basis.

⁹ Unclassified Occupations omitted from list due to data inaccuracies.

¹⁰ Long, Heather (May 2018). "The U.S. doesn't have enough truckers, and it's starting to cause prices of about everything to rise." *The Washington Post*. Retrieved from: https://www.washingtonpost.com/news/wonk/wp/2018/05/21/america-doesnt-have-enough-truckers-and-its-starting-to-cause-prices-of-about-everything-to-rise/?utm_term=.827bf30bbb11

¹¹ Premack, Rachel. (October 2018). "The US has a major truck driver shortage- but the co-founder of a startup that's attracted \$80 million in funding says there are 3 other issues that are making the shortage seem worse than it is." *Business Insider*. Retrieved from: <https://www.businessinsider.com/truck-driver-shortage-staffing-industry-problems-2018-9>

¹² Construction and Extraction Occupations omitted from list due to data inaccuracies

In WDA I, the majority of postings are from national trucking firms; in 2017, postings from five national trucking firms accounted for 35% of unique job postings for the entire occupation group. For instance, CRST International, the 19th largest trucking firm in the nation (by revenue), had 5,074 unique postings in 2017. It is important to note that these firms are not local to the region, with all of the top five hiring firms (seen in table 4.2) lacking a brick and mortar presence in WDA I. While employment within these firms can mean higher pay and benefits, it is a missed opportunity for building local revenue.

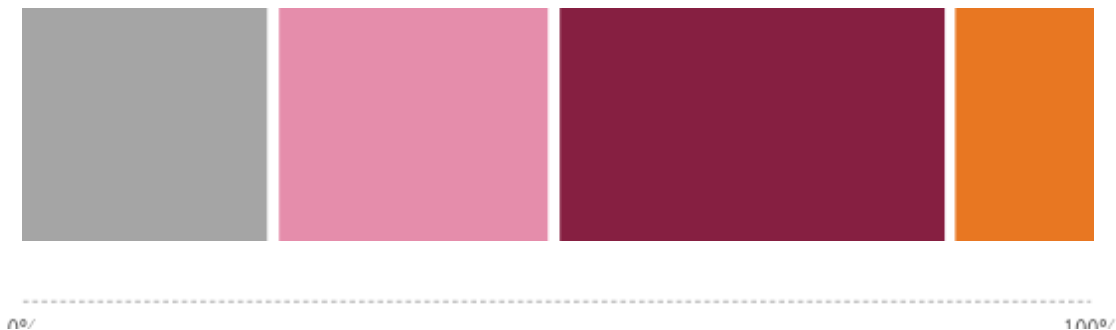
Table 4.3. Top Five Hiring Firms, Transportation and Material Moving, 2017, WDA I.¹³

Company	Industry	2017 Unique Job Postings	National or Regional
CRST International	Trucking	5,074	National
USA Truck, Inc	Trucking	701	National
Cowan Systems, LLC	Trucking	571	National
C.R. England, Inc.	Trucking	551	National
Averitt Express, Inc.	Trucking	470	National

5. Occupational Income for Transportation and Material Moving, WDA I

In this region, the median hourly wage for the entire transportation and material moving occupation classification is \$14.43—45 cents less than the state and 61 cents less than the nation.¹⁴ While the median hourly wage in WDA I for the industry is comparatively lower, it is high relative to other occupations with similar educational and experience requirements, such as retail and food service. Figure 5.1 shows the diversity in wages among transportation and material moving occupations. Within the larger occupational classification, over 50% of workers are compensated at or above \$15.00 an hour while 24% of workers in this occupation group were compensated at or below \$10.00.

Figure 5.1. Occupational Wages, 2017, Transportation and Material Moving WDA I.¹⁵



6. Occupational Demographics

Occupations within the transportation and material moving group are not diverse when considering gender representation. In almost all cases, employment in transportation related occupations is

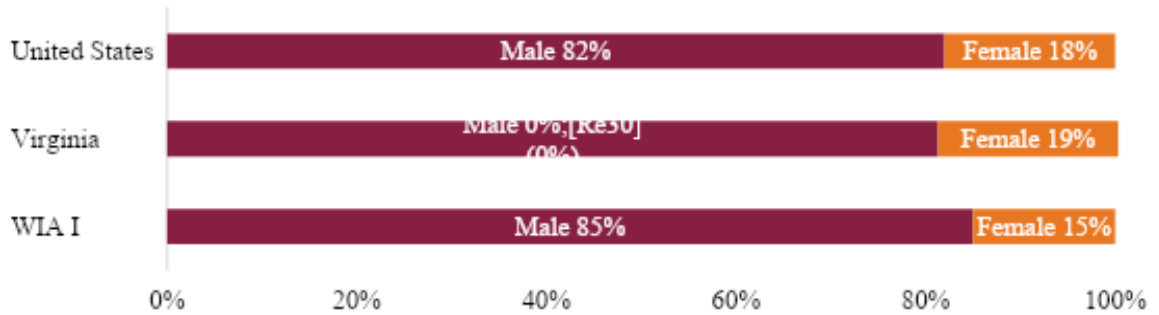
¹³ EMSI Developer, Proprietary Job Postings Data, 2017

¹⁴ Bureau of Labor Statistics, National Occupational Employment Statistics, May 2017

¹⁵ Emsi Developer, Quarterly Census of Earnings and Wages, 2017.4

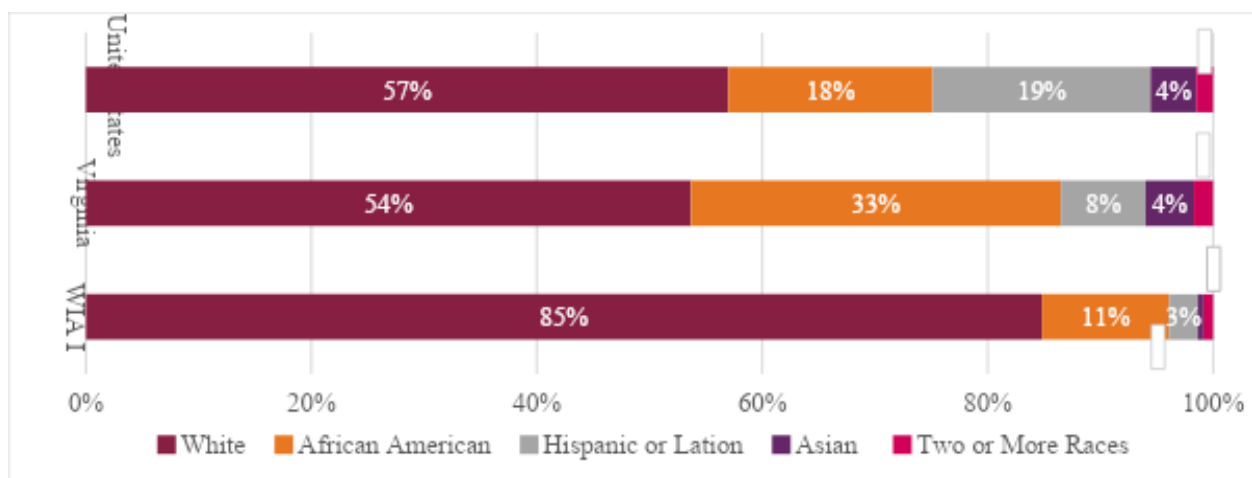
predominately male. This trend is not endemic to WDA I, but is common throughout the state and nation. For instance, 85% of employment in the transportation and material moving occupation group is male, compared to 81% and 82% male, for the state and nation, respectively.

Figure 6.1. Occupational Gender Demographics, Transportation and Material Moving, 2017, WDA I, Virginia, and United States.¹⁶



While these occupations are not diverse when considering gender, they tend to be more racially diverse than other similarly paying professions. For instance, transportation and material moving occupations were the third most diverse at the state level, and fourth at the national level in 2017. In WDA I, transportation and material moving occupations were the eighth most diverse of 23 occupation groups in the region for the same year. It is important to note that while 85% of employees in the transportation and material moving occupation identify as white, 96% of the total population for this region is white, making these occupations relatively diverse. Furthermore, the three most diverse occupational groups in this region are up to 70% white and considerably smaller than that of the transportation and material moving. Figure 6.2 illustrates this occupational diversity for the transportation and material moving group in WDA I, Virginia, and the United States.

Figure 6.2. Occupational Racial Demographics, Transportation and Material Moving, 2017, WDA I, Virginia, and United States.¹⁷



¹⁶ EMSI Developer, Quarterly Workforce Indicators, 2017.4.

¹⁷ EMSI Developer, Quarterly Workforce Indicators, 2017.4

Transportation and material moving occupations are also diverse when considering age. Across the entire occupational group, employment is consolidated amongst three age cohorts, with the majority of workers in this group being between the ages of 35 and 44. As seen in Table 6.3 there are limited opportunities for younger people within transportation related occupations, with little to no employment reported for those aged 19 to 24 . While this could be due to training and licensing requirements, it is clear that bulk of employees in transportation occupations are between the ages of 35 and 64. For instance, in many transportation-related occupations within the region, over 75% of employees are between 35 and 64.

Table 6.3. Age of Employees, 10 Largest Occupations, 2017, Transportation and Material Moving, WDAI¹⁸

Description	2017 Jobs	% Age 19-21	% Age 22-24	% Age 25-34	% Age 35-44	% Age 45-54	% Age 55-64	% Age 65 and Over	Total
Heavy and Tractor-Trailer Truck Drivers	1,460	1%	2%	11%	26%	27%	27%	6%	100%
Laborers and Freight, Stock, and Material Movers, Hand	600	8%	7%	21%	21%	22%	16%	5%	99%
Bus Drivers, School or Special Client	487	Insf. Data	Insf. Data	9%	16%	28%	26%	19%	99%
Light Truck or Delivery Services Drivers	415	Insf. Data	3%	14%	24%	26%	21%	10%	98%
Wellhead Pumpers	367	Insf. Data	Insf. Data	17%	8%	21%	20%	33%	99%
Packers and Packagers, Hand	209	8%	8%	19%	20%	22%	15%	6%	98%
Driver/Sales Workers	176	Insf. Data	Insf. Data	16%	23%	26%	20%	7%	93%
Industrial Truck and Tractor Operators	174	Insf. Data	Insf. Data	22%	25%	25%	17%	Insf. Data	89%
Excavating and Loading Machine and Dragline Operators	159	Insf. Data	Insf. Data	16%	25%	27%	23%	Insf. Data	91%
Refuse and Recyclable Material Collectors	139	Insf. Data	Insf. Data	21%	22%	27%	17%	Insf. Data	86%

¹⁸ EMSI Developer, Quarterly Workforce Indicators, 2017.4

7. Educational Requirements of Employment

There are low educational requirements within the transportation and material moving occupation group as the majority of positions require either no formal education or a high school diploma or equivalent. This is a boon for the region since these jobs pay above regional median wages. As in most cases, however, educational attainment is strongly related to occupational wages. For example, those with no formal education or high school diplomas typically earn less than those that have some degree of postsecondary education, such as certificate programs and associates degrees. For instance, truck and tractor operators with licenses and certificates make over three dollars more each hour than their unlicensed counterparts.

Table 7.1. Educational Requirements, Transportation and Material Moving, 2017, WDAI¹⁹

Educational Requirement	2017 Jobs	% Change, 2012-2017	Average Wage
No Formal Education	1,499	-19%	\$11.87
High School Diploma or Equivalent	2,173	-4%	\$20.52
Postsecondary Nondegree Certificate	1,460	Insf. Data	\$16.77
Associate's Degree	<10	Insf. Data	Insf. Data
Bachelor's Degree	<10	Insf. Data	Insf. Data

Industries and Employers, Transportation and Warehousing

The key difference between occupational analysis and industry analysis is that the occupational data describes the characteristics of employees whose work involves a specific activity across all industries, while industry data characterizes businesses that engage in a specific activity. The Transportation and Material Moving occupational group was used to analyze the employees of this sector. Similarly, the transportation and warehousing industry classification was used to analyze the businesses engaged in transportation, logistics, and warehousing. This section will detail the activity of businesses engaged in transportation and warehousing as it relates to employment, establishments, subsectors, and large regional businesses.

8. Sector Overview

The Transportation and Warehousing sector includes companies engaged in the transportation of passengers and cargo and companies that offer either long-term or short-term storage. Additionally, various support industries are included in this classification. Prominent national industries within this sector include water, ground, and air transportation for both passengers and goods and logistics firms and large warehousing operations.²⁰ As mentioned before, relatively low educational requirements and comparatively high wages make this sector both an attractive option for job-seekers and an important source of revenue for the counties and cities that constitute this region.

The transportation and warehousing sector was comprised of 224 establishments employing 2,096 people in 2017, accounting for 3% of regional employment. Additionally, in terms of employment, the regional transportation and warehousing sector is the fourteenth largest in the region. Furthermore, the transportation and warehousing sector is the eleventh largest industry in the state, with 6,145 establishments employing over 130,000 people in 2017. At the state level, this industry has seen job

¹⁹ Ibid.

²⁰ United States Bureau of Labor Statistics, "Industries at a Glance: Transportation and Warehousing."

growth at 20% from 2010 to 2017, while regionally, this industry has seen a decline of 18% during the same period.

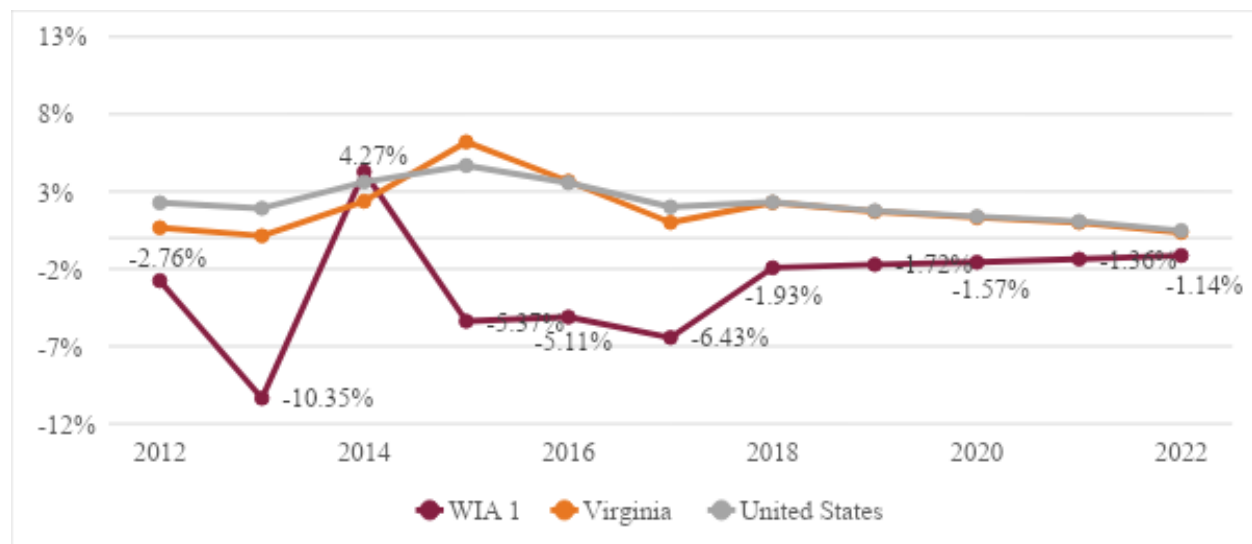
Table 8.1. Transportation and Warehousing Sector Overview, 2017, WDA I, Virginia, and United States²¹

	WDA I	Virginia	United States
Jobs	2,096	131,140	5,571,759
Establishments	224	5,289	241,994
% Total Employment	3.4%	3.0%	3.5%
Average Wages	\$53,310	\$57,997	\$61,779
Employment Change 2012-2017	-485	16,099	801,185
Projected Employment Change 2017-2022	-132	8,948	402,444

9. Sector Employment

Unfortunately, job growth in this sector does not echo that of the state and nation. From 2012 to 2017, the region experienced losses in employment for the majority of transportation and warehousing industries. As illustrated in Figure 9.1, with the exception of 2013-2014, this sector saw sharp reductions in employment while the state and nation saw a relatively high degree of job creation over the same period. Additionally, employment losses are reflected in changes to the number of establishments in the region, with 31 payrolled business locations being eliminated during the same period. Projections for this sector indicate further reductions in employment and establishments over the coming years, albeit at a lessened rate.

Figure 9.1. Changes in Employment, 2012-2022, Transportation and Warehousing, WDA I²²

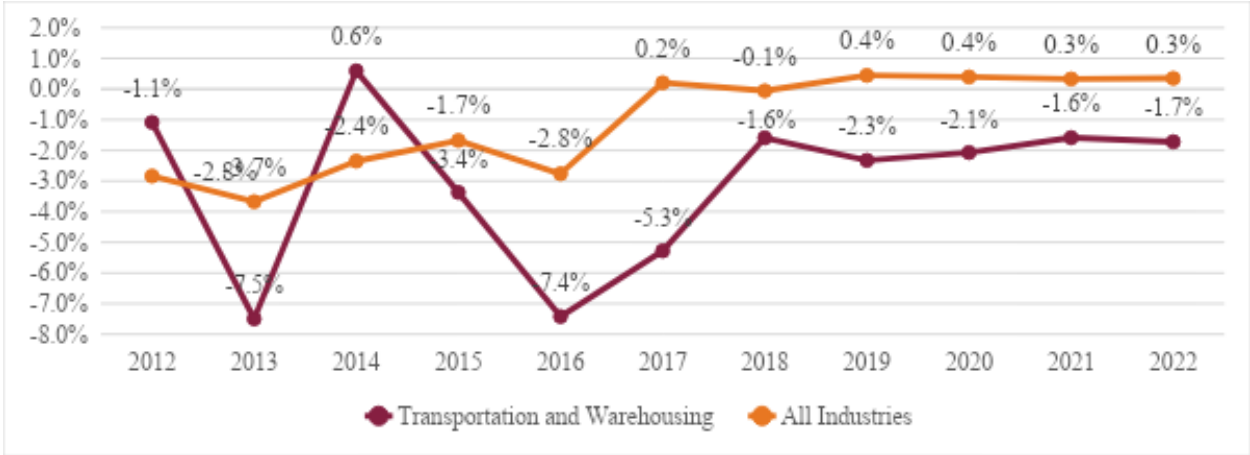


²¹ EMSI Developer, Quarterly Census of Earnings and Wages, 2017.4

²² Ibid.

As illustrated in figure 9.2, employment in this sector was reduced in tandem with overall employment for the region, which fell at comparable rate during the same period. Furthermore, employment in this industry is projected to stabilize alongside the region during the next five-years.

Figure 9.2. Changes in Employment, 2012-2022, Transportation and Warehousing and All Industries, WDA I.²³



10. Top Industries in Transportation and Warehousing, WDA I

As shown in table 10.1, many smaller industries exist within the larger transportation and warehousing classification. The majority of employment within this sector is the product of the freight trucking agglomeration, which accounted for over half of the employment within this sector in 2017. Another large sub-sector within the WDA I’s transportation and warehousing sector is rail transportation. While considerably smaller than the several large trucking industries in this region, this industry accounts for approximately 20% of employment for the regional transportation and warehousing sector.

²³ Ibid.

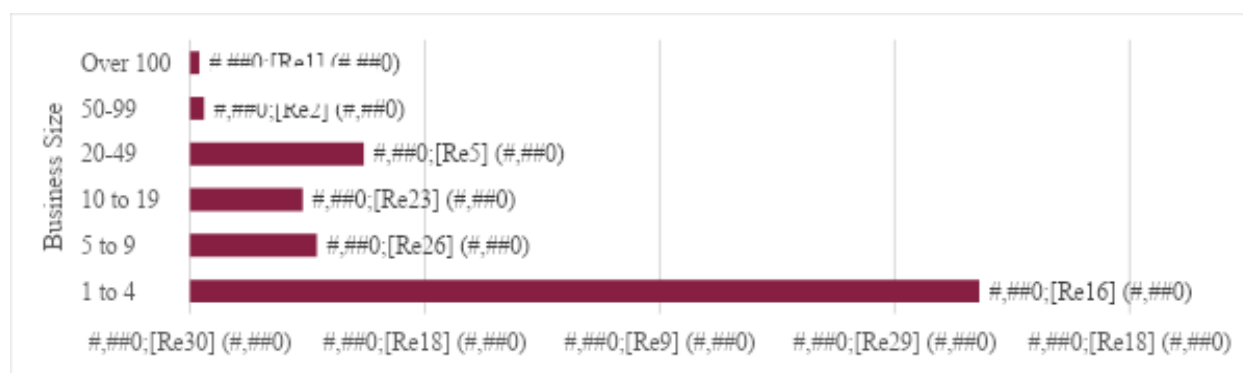
Table 10.1. Ten Largest Industries within WIA I Transportation and Warehousing Sector, 2017, WDA I

Industry	2017 Jobs	% Change 2012-2017	% Change 2017-2022	Competitive Effect ²⁴	Average Annual Wages
Specialized Freight (except Used Goods) Trucking, Local	539	-32%	-26%	-444	\$44,033
Rail transportation	396	-28%	-11%	-175	\$69,226
General Freight Trucking, Local	241	-18%	-5%	-108	\$39,777
General Warehousing and Storage	183	52%	25%	19	\$37,975
General Freight Trucking, Long-Distance, Truckload	112	-56%	-39%	-190	\$39,868
Other Airport Operations	85	42%	35%	13	\$44,252
Support Activities for Rail Transportation	43	198%	42%	41	\$38,212
Specialized Freight (except Used Goods) Trucking, Long-Distance	32	-47%	-21%	-50	\$41,198
All Other Support Activities for Transportation	32	98%	13%	11	\$31,177
Motor Vehicle Towing	24	41%	4%	2	\$29,529

11. Employers in Transportation and Warehousing, WDA I

The majority of businesses within in Transportation and Warehousing are small, with several sole proprietor enterprises. As Figure 11.1 illustrates, of the 224 establishments that comprise this sector, over 60% employ 1 to 4 people. Furthermore, 449 or 20% individuals employed in this industry are identified as being self-employed or extended proprietors for the same year.²⁵ As mentioned before, employment is consolidated within the largest firms in the region, with the top five employers' accounting for approximately 20% of total employment within this sector.²⁶

Figure 11.1. Firms by Size, Transportation and Warehousing, 2017, WDA I



²⁴ The competitive effect reflects job growth that cannot be attributed to overall national growth or industry/occupational trends. Rather, this change in employment is unique to the region.

²⁵ The extended proprietors data category covers the same job-types as the 'self-employed' dataset, but these represent labor income for workers who do not consider this employment their primary job.

²⁶ This figure is the result of combining the employment or "business size" of the five largest employers in this sector.

The largest firms in the transportation and warehousing sector represent the general freight trucking, general warehousing and storage, and rail transportation industries. Table 11.2 shows the largest employers within the regional transportation and warehousing industry for 2017. As mentioned earlier, four freight trucking industries and the rail transportation industry account for the majority of employment in this sector. The largest employers in WDA I are local and national firms. For instance, CSX, the third largest rail transportation firm in the nation, is the largest employer in the regional transportation and warehousing sector, with 192 employees in 2017.²⁷ The second largest employer in this sector is Presley Trucking, a regional trucking firm.

Table 11.2. Ten Largest Employers, Transportation and Warehousing, 2017, WDA I.²⁸

Business Name	Number of Employees	Industry
CSX Transportation	308	Rail transportation
Presley Trucking Co. Inc.	112	General Freight Trucking, Long-Distance, Truckload
Ab Wholesale Co.	110	General Warehousing and Storage
Bresee Trucking Co. Inc.	56	General Freight Trucking, Long-Distance, Truckload
Double R Trucking Co. Inc.	56	General Freight Trucking, Long-Distance, Truckload
Ems Energy Solutions	40	All Other Pipeline Transportation
Mercy Ambulance Service	40	All Other Transit and Ground Passenger Transportation
Claude V Keen Trucking Co.	40	General Freight Trucking, Long-Distance, Truckload

12. Location Quotient

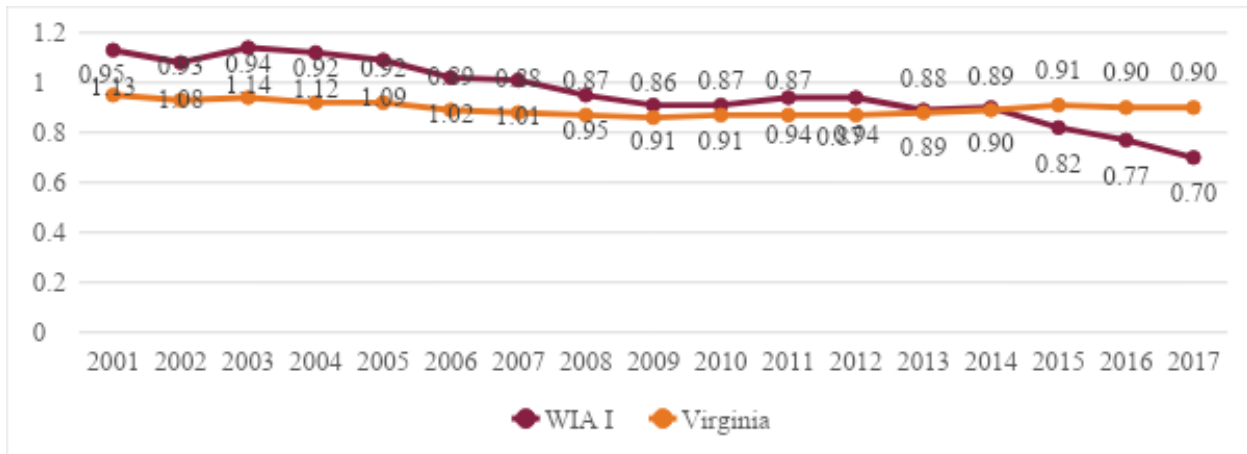
Location quotient (LQ) is an important tool for evaluating the concentration of an industry within a region.²⁹ The LQ for the transportation and warehousing sector has been falling for approximately two decades, with the LQ for the transportation dropping below one in 2008. For instance, LQ for this sector reached its peak in 2003 at 1.14; this number has steadily declined to 0.7 over the following 14 years. When considering statewide trends, Virginia’s transportation and warehousing industry has not exceeded an LQ of 1 in the past two decades, peaking at 0.95 in 2001 and declining to 0.86 in 2009. Since then, the statewide LQ has increased to .9. Figure 12.1 outlines the trend for both the region and state. Falling LQ for the regional trucking industry could signify that regional businesses are using non-local companies to provide transportation and warehousing services.

²⁷ Financial Times, “The Biggest American Railroads,” Retrieved from: <https://www.ft.com/content/ba1227d4-ccd8-11e0-88fe-00144feabdc0>.

²⁸ Emsi Developer, Quarterly Census of Earnings and Wages, 2017.4

²⁹ A location quotient is a ratio that compares a region to a larger geography (in this case, the nation). A location quotient (LQ) of one signifies that a region is on par with that of the nation while an LQ over and under one signifies that an industry is more or less concentrated in a region when compared to the nation, respectively. Industries with LQs greater than one typically export their product or services and operate outside the region. Conversely, a region might have to rely on outside providers to fulfill certain economic functions and business needs if industries have an LQ lower than one.

Figure 12.1. Location Quotient, Transportation and Warehousing, 2001-2007, WDA I and Virginia³⁰



Logistic Hub Comparative Analysis

This section provides context on domestic logistics hubs. The term ‘logistics hub’ is broadly defined, including a variety of different facilities each with distinct features and capabilities. While there is no strict definition, logistics hubs can be characterized as facilities that provide similar types of transportation and logistics services. To better understand the nuances associated with these facilities, this report outlines the challenges and benefits of transportation centers in United States with specific attention given to centers located in Virginia and the greater Appalachian region. Each facility detailed in this report offers storage, packaging and preparation, and shipping—albeit, at different capacities.

In investigating these facilities, four factors were identified as important in selecting sites of interest, even though there is much variation across sites. The first was the different modes of transportation these facilities offer. Many facilities rely on truck and rail transportation to ship goods. Facilities that offer more than one transit option are considered intermodal. The second factor was storage space and warehousing options. Warehouse size and a facility's capacity to store produce, meat, chemicals and combustibles, or simply dry bulk will often dictate its clientele. Similarly, a larger warehouse may be able to accommodate the needs of larger national firms while smaller warehouses may be suited for more regional clientele.

The third and fourth factors were location and geographic service area, respectively. Many consider location to be the most important factor in that it defines roadway and rail connectivity as well as the clientele of a facility. For instance, urban facilities with better connectivity are positioned to distribute consumer goods and light manufactured products while rural hubs with limited connectivity may process more commodity-based products and heavy manufactured goods.³¹ Geographic service area is also an important consideration, in that this also largely defines clientele. For instance, a smaller facility is more likely to distribute goods regionally and may be more attractive to smaller while a larger firm may be more likely to ship goods throughout the US.

Virginia Facilities

Four Virginia facilities representative of the many different types of logistics hubs were chosen for analysis. This section of the report includes information on Davis Storage & Warehouse, a small logistics firm located in Danville; Tomahawk Warehousing, a larger warehousing firm with rail access located in

³⁰ Emsi Developer, Proprietary Location Quotient Data, 2017.4

³¹ Lockwood, Steve. (2008). “Transportation in Rural America: Challenges and Opportunities.” Oberstar Forum. 6-7.

Lynchburg; CenterPoint Logistics Terminal, an intermodal facility located in Suffolk; and the Virginia Inland Port, a large, nationally-recognized intermodal facility located in Front Royal.

Davis Storage & Warehouse Inc.

Location	Danville, Virginia
Ownership Status	Private
Year Est.	1935
Number of Employees	18
Annual Sales	\$1,374,000
Geographic Area	200-mile radius
Mode of Transportation	Over-the-Road
Fleet	8 tractors
Business Model	Distributes products for local manufacturers to local markets or interchanges
Industries served	Manufacturing
Warehouse Space	8 buildings; 400,000 sq. ft.

Background information

Davis Storage & Warehouse has only over-the-road capabilities, servicing a 200-mile radius of Danville, VA. Davis Storage operates eight buildings with over 400,000 square feet of warehouse space, as well as a fleet of eight trucks and 60 trailers. Davis Warehousing offers ambient temperature storage and short-term on-trailer storage

What has contributed to the success of the company?

Davis Storage administration stressed that the success of their business depends on local businesses. In addition, the owner of Davis Storage noted the importance of building and maintaining strong relationships with intermediaries since these businesses help trucking companies expand their clientele locally.

Challenges

The firm's primary challenge is its capacity to expand. The owner of the business explained that they have received contract requests for jobs that are outside their capacity and that Davis Storage does not have the equipment and labor to keep up with demand and transport goods outside of their 200-mile service area.

Location	Lynchburg
Ownership Status	Private
Year Est.	1972
Number of Employees	20
Annual Sales	\$1,430,000
Geographic Area	East Coast
Mode of Transportation	Over-the-Road
Fleet	Contracted Trucking Services
Business Model	Distributes products for local manufacturers to local markets or interchanges

Industries served	Manufacturing
Warehouse Space	3 buildings, approximately 500,000 sq. ft.

Tomahawk Warehousing

Background Information

Tomahawk Warehousing Company is a warehousing and distribution facility located in Lynchburg. The firm operates three warehouses, offering USDA food grade storage, ambient temperature storage, and rail loading and unloading facilities.

What has contributed to the success of the company?

Tomahawk administration noted that the facility's central location has made their services an attractive option for many local and regional manufacturers. In addition, the expansion of several large manufacturers in the region has increased the facility's sales volume and demand for storage. Finally, Tomahawk's use of third-party trucking firms has allowed the company to reduce costs by avoiding truck operating costs driver wages.

Challenges

Tomahawk's most pressing challenge is their limited warehouse space. Similar to Davis Storage, they are being pressured to expand to keep up with regional demand and are investigating options to do so.

CenterPoint Intermodal Center

Location	Suffolk, Virginia
Ownership Status	Private
Year Est.	2008
Number of Employees	Not Available
Annual Sales	Not Available
Geographic Area	East Coast
Mode of Transportation	Over-the-Road
Fleet	N/A
Business Model	Freight transfer facility for large businesses
Industries served	Manufacturing and Wholesale
Warehouse Space	1.45 million sq. ft.

Background Information

CenterPoint Intermodal and Manufacturing Center is a 900-acre intermodal park located in Suffolk, Virginia. CenterPoint's primary business is short hauls to and from the port of Virginia, located 22 miles east of their facility. Additionally, this facility has Class I rail access serviced by CSX, but company administration noted that they do not receive enough container volume to be considered truly intermodal.

What has contributed to the success of the company?

While CenterPoint's location and rail access should contribute to firm's success, the firm has experienced several challenges related to these factors. Despite these challenges, company administration noted that large, nearby businesses provide consistent business and revenue for the firm.

Challenges

Drayage costs – or the cost of trucking a container from a warehouse to the port- have risen dramatically over the past ten years. While CenterPoint is only 22 miles from the ports, they see far higher costs than distribution centers located only five miles closer to the port. In addition, CenterPoint has had service issues with large rail providers due to low container volume. Because of this, they have had to use less reliable short-line rail firms.

Virginia Inland Port (VIP)

Location	Front Royal, Virginia
Ownership Status	Public
Year Est.	1989
Number of Employees	13
Annual Sales	Not Available
Geographic Area	East Coast, European Markets
Mode of Transportation	Over-the-Road and Rail
Fleet	N/A
Business Model	Intermodal transfer facility for large businesses
Industries served	Manufacturing and wholesale
Warehouse Space	48,000 sq. ft.

Background Information

Virginia Inland Port (VIP) is a large, intermodal facility located in Front Royal Virginia. VIP is a state entity, managed by the Virginia Port Authority. The facility is located 60 miles west of Washington DC and 220 miles inland from Virginia’s four ocean ports. VIP is a 161-acre facility, including 17,820 feet of rail track, 32 acres of open storage, and 48,000 square feet of privately-owned warehouse space.

What has contributed to the success of the company?

Since construction in 1989, a number of large manufacturers have located to Front Royal to take advantage of the Inland Port’s location and connectivity. Regional economic developers claim the port has attracted 30 companies to area, creating 8,000 jobs and significantly boosting county revenue...³²

Challenges

Increased regulations for truck operators, specifically regulations that limit the amount of time drivers can drive at a time, have become a challenge for port administration. The implementation of Electronic Logging Devices (ELD) has increased enforcement of driving time regulations, which has considerably slowed shipping time, in some cases. As a benefit, this has directed more rail cargo through the port from large producers trying to avoid costs and delays associated with trucking. ELDs, however, have made it more difficult for regional manufacturers to make multiple daily trips to facility.

Appalachian Facilities

Five warehousing and logistics facilities located throughout the greater Appalachian region were also profiled. In that warehousing and distribution operations are considerably varied, regional businesses

³² Virginia Port Authority. (2018). “Economic Development: Fast Facts.”

were analyzed to provide a regional context for these operations. These facilities include: McCormick Warehouse, a distribution firm located in Morrison, TN; Allied Warehousing Service, a warehousing and distribution facility located in Nitro WV; Heartland Intermodal Gateway, a small intermodal facility located in Prichard, WV; and Tranco Logistics, a warehousing and distribution facility located in Chattanooga, TN.

McCormick Warehouse

Location	Morrison, Tennessee
Ownership Status	Private
Year Est.	1999
Number of Employees	30
Annual Sales	\$1,391,000
Geographic Area	Central Tennessee, Midwest
Mode of Transportation	Over-the-Road
Fleet	29 Trucks
Business Model	Logistics, storage, and shipping facility for local producers
Industries served	Manufacturing
Warehouse Space	40,000 sq. ft.

Background Information

McCormick Warehouse is a small warehousing and distribution firm located in Morrison, Tennessee. McCormick’s primary clientele is local and regional manufacturers. Both McCormick and their subsidiary trucking firm- Freedom Distribution- utilize a 40,000 sq. ft. warehouse space that is used for basic dry storage.

What has contributed to the success of the company?

McCormick management attributes much of their success to the relationships they have built with local and regional manufacturers. Management also identified their ability to be more competitive in securing contracts than larger firms, largely due to their low overhead and relatively small client-base.

Challenges

Management noted that rising wages in the Morrison area have made typically low-paying warehouse and regional driving jobs less attractive to jobseekers in the area. This has culminated in high turnover for McCormick employees and pressure to increase wages while attempting to be more price competitive with larger firms.

Heartland Intermodal Gateway

Location	Prichard, West Virginia
Ownership Status	Public, Privately Managed
Year Est.	2015
Number of Employees	2
Annual Sales	\$13,121,000
Geographic Area	Chicago, Port of Virginia
Mode of Transportation	Over-the-Road and Rail

Business Model	Road-to-rail transfer station
Industries served	Manufacturing
Warehouse Space	No on-site storage

Background Information

The Heartland Intermodal Gateway (HIG) is a state owned intermodal facility located in Prichard, WV. The facility is located at the center of Norfolk Southern’s Heartland Rail Corridor and serves as a loading/unloading point for goods either leaving the Columbus area or goods destined for the Port of Virginia.

What has contributed to the success of the company?

HIG’s location between Virginia Inland Port and Columbus Ohio makes it an attractive loading and unloading facility for those in Kentucky, West Virginia, and Southern Ohio.

Challenges

HIG’s primary challenge has been getting competitive rates from freight forwarders and expeditors. Additionally, the facility is having issues marketing itself to regional manufacturers. Management attributes both issues to their relatively new entry into the logistics market and hopes that they will be resolved with time.

Allied Warehousing Service

Location	Nitro, West Virginia
Ownership Status	Private
Year Est.	1973
Number of Employees	100
Annual Sales	\$7,780,000
Geographic Area	Midwest and Great Lakes
Mode of Transportation	Truck and Rail
Fleet	15
Business Model	Warehouse and distribution center for local businesses
Industries served	Manufacturing
Warehouse Space	380,000 sq. ft.

Background Information

Allied Warehousing Service is a medium sized warehousing and freight forwarding firm located Nitro, West Virginia. The Allied facility is located along Interstate 64 and has class I rail connectivity serviced by Norfolk Southern. The warehousing facility is slightly over 380,000 sq. ft. with 42,000 sq. dedicated to refrigerated food storage.

What has contributed to the success of the Company?

Allied Warehousing’s location has greatly contributed to the success of the firm. The facility has optimal road connectivity, placing it within an hour’s drive time to over 45% of West Virginia’s total population.

Challenges

Allied Warehousing is facing revenue struggles amid several large manufacturers exiting the region. Allied primarily serves regional manufacturers, so any decrease in the number of manufacturing establishments in the Kanawha River area is reflected in loss of sales for the firm.

Tranco Logistics

Location	Chattanooga, Tennessee
Ownership Status	Private
Year Est.	1995
Number of Employees	32
Annual Sales	\$3,376,000
Geographic Area	Southeast, Midwest
Mode of Transportation	Over-the-Road
Fleet	200 Tractors
Business Model	Logistics, storage, and shipping facilities for local producers
Industries served	Manufacturing and wholesale
Warehouse Space	Over 2 million sq. ft.

Background Information

Tranco Logistics is a large logistics, freight forwarding, and storage warehousing operation located in Chattanooga, Tennessee. Tranco currently operates five warehouses in the Chattanooga area and maintains a fleet of 200 trucks. Tranco’s primary clientele are wholesalers and manufacturers in the greater Chattanooga Region.

What has contributed to the success of the company?

The rapid growth of Chattanooga’s Economy has increased demand for logistics and distribution, which has, in turn, increased Tranco’s ability to invest in new facilities, trucks, and technology. These investments have reduced labor costs and streamlined operations- lowering overhead for the firm and allowing for more competitive pricing for clients.

Challenges

According to warehouse management, the largest obstacle Tranco faces is finding employees in Chattanooga’s competitive labor market. The recent influx of higher paying jobs in Chattanooga, has made relatively low-paying warehouse positions less attractive to jobseekers.

Comparison

The table below details each of the firms detailed in the comparative section of this report. To better understand the similarities and differences between these two firms, they were grouped into four categories; small, medium, large, and intermodal. Additionally, a facility from both Appalachia and Virginia were included in each category to show regional differences between firms of similar sizes.

Comparative Matrix Table

		Ownership	Geographic Area	Warehouse Size	Storage Options	Employees	Annual Revenue	Fleet Size	Rail Access
Small Firms	Davis Storage	Private	200 Mile Radius of Danville, VA	8 Buildings; 400,000 sq. ft.	Dry Bulk Storage	18	\$1.37 Million	8 Trucks	No
	McCormick Warehouse	Private	Central Tennessee; Midwest	1 Building; 40,000 sq. ft.	Dry Bulk Storage	30	\$1.39 Million	29 Trucks	No
Medium Firms	Allied Warehousing Service	Private	Midwest and Great Lakes	1 Building; 380,000 sq. ft.	Dry Bulk Storage; Ambient Temperature Storage; Food Grade Storage; Hazardous Material Storage	100	\$7.78 Million	15 Trucks; Contracted Trucking Services	Yes
	Tomahawk Warehousing	Private	East Coast	3 Buildings, 500,000 sq. ft.	Dry Bulk Storage; Ambient Temperature Storage; Food Grade Storage; Hazardous Material Storage;	20	\$1.22 Million	Contracted Trucking Services	Yes
Large Firms	CenterPoint Intermodal Center	Private	East Coast; Ports of Virginia	Multiple Buildings; 1.45 Million sq. ft.	Dry Bulk Storage; Ambient Temperature Storage; Food Grade Storage; Hazardous Material Storage	Not Available	Not Available	Contracted Trucking Services	Yes
	Tranco Logistics	Private	Southeast and Midwest	Multiple Building; over 2 Million sq. ft.	Dry Bulk Storage; Ambient Temperature Storage; Food Grade Storage; Hazardous Material Storage	32	\$3.37 Million	200 Trucks	No
Intermodal	Virginia Inland Port	Public	East Coast and Midwest	1 Building (Privately Owned); 48,000 sq. ft.	Dry Storage	13	Not Available	Contracted Trucking Services	Yes
	Heartland Intermodal Gateway	Public	East Coast and Midwest	No Warehouse	N/A	2	Not Available	Contracted Trucking Services	Yes

Small Firms (Davis Storage and Warehouse & McCormick Warehouse)

The smallest firms selected for the comparative report were Davis Storage and McCormick Warehouse. Both facilities are considerably similar; both firms operate their own vehicles; employ a similar amount of warehouse workers and drivers; and are both located in relatively rural settings. Additionally, both firms rely on a limited number of local manufacturers for the majority of their business. There are several differences between these two firms, however. For instance, McCormick warehouse operates a small warehouse of only 40,000 square feet, while Davis Storage has over 400,000 square feet of storage space. Additionally, McCormick has the capability to ship goods nationwide, while Davis Storage limits their business to an approximate 200-mile radius of Danville. Furthermore, Davis Storage management mentioned that they did not have staffing issues while McCormick administration mentioned a difficulty in finding qualified truck drivers and warehouse workers. Finally, McCormick is within twelve miles of an interstate, while there is limited to no interstate access within Davis' 200-mile service area.

Medium Firms (Tomahawk Warehousing & Allied Warehousing)

There are many similarities when considering the medium-sized firms selected for the comparative report. Both Tomahawk Warehousing and Allied Warehousing are in relatively metropolitan areas, but yet are surrounded by rural communities. Additionally, many large and small manufacturing firms are present in the regions these two firms represent. Furthermore, each firm operates a relatively large warehouse space with storage for refrigerated goods and produce as well as space for chemicals and combustibles. The facilities first differ in their distribution model. While both facilities rely on third party logistics carriers (3PL) to transport their goods, the Allied facility operates a small fleet of fifteen trucks while Tomahawk does not. These firms also differ when considering their road connectivity and challenges. For instance, Allied Warehousing is less than one mile from Interstate 64, and within 20 miles of Interstates 77 and 79. While Tomahawk is girdled by several large state highways (24, 460, 501, and 29), it lacks coveted interstate access with I-81 located over 50 miles away. Strategic access to interstates, however, does not always translate into profit and success. Allied Warehouse administration noted that sales have slumped in the past several years, largely due to manufacturers leaving the area. Tomahawk, however, identified its primary challenge as finding new warehouse space to expand their operation.

Large Firms (CenterPoint & Tranco Logistics)

Centerpoint Intermodal Center and Tranco Logistics are two large, distinct facilities. Similarities between these two facilities include their setting, warehouse size, storage options, and distribution capacity. These firms differ, however, in the transportation options they offer, their methods of distribution, and geographic service area. Both CenterPoint and Tranco are located near large metropolitan areas with strong manufacturing components. CenterPoint is located approximately 23 miles from the Port of Virginia and various shipbuilding yards while Tranco is located outside of Chattanooga, home to Volkswagen's United States Assembly Plant. Both firms operate over one million square feet of warehouse space and have storage options for a wide array of products and goods. Furthermore, both firms are similar in terms of freight capacity. Both CenterPoint and Tranco are equipped to handle high volumes of inbound and outbound deliveries and both have invested in automated and mechanized system to increase efficiency and output. These firms differ in the transportation options they accommodate. Tranco, for instance, operates a solely over-the-road distribution network while CenterPoint has extensive road and rail capabilities. Additionally, both firms differ in how they distribute goods. For instance, Tranco operates a fleet of 200 trucks while also relying on third party logistics firms (3PL) for a portion of their shipments. CenterPoint, however, uses 3PL services for all of their shipments. These firms also differ in geographic service area. Much of Tranco's operation is nationwide, and occasionally

international. While CenterPoint frequently schedules national shipments, the bulk of their business comes from short hauls to and from the port, known as “drays.”

Intermodal (Virginia Inland Port & Heartland Intermodal Gateway)

The two intermodal facilities detailed in this report share few similarities. Rather, they are examples of the breadth associated with the term ‘intermodal’ and demonstrate that the designation of ‘intermodal’ does not always imply a large operation. For instance, Virginia Inland Port (VIP) is a large, publicly owned intermodal facility capable of storing and processing up to 78,000 twenty-foot containers or 39,000 forty-foot containers. This facility is also equipped with four stationary crane-like machines used specifically for stacking containers on rail cars and over 17,000 feet of rail track. The inland port is one of the largest intermodal facilities in the nation and has been in use since 1989. During this tenure, VIP has created thousands of jobs and billions in revenue to Front Royal and the state. Similar only in name is the Heartland Intermodal Gate (HIG), a publicly owned intermodal facility located in Prichard, West Virginia. Funded in part by the Virginia Port Authority, HIG is located along the same rail line as VIP but operates at less than 10% of the Inland Port’s capacity. HIG has no warehouse facilities but rather a loading ramp for containers bound for the Port of Virginia. Additionally, instead of stationary cranes, HIG utilizes two forklift-like machines. Finally, HIG employs only two people and has been operation for less than five years. While HIG is smaller than the rail component of most intermodal distribution centers, it can offer manufacturers in the Huntington, West Virginia area considerable savings on container shipments. Furthermore, HIG is an excellent example of a small, yet successful public shipping and logistics facility.

Interview Analysis

In order to explore the viability of a logistics and transportation hub, the project team gathered primary data through semi-structured interviews and questionnaires from regional stakeholders. Regional stakeholders are split into distinct two groups; manufacturing companies and industry stakeholders.

Regional stakeholders include manufacturer services providers and association groups, along with economic development representatives. OED held several conversations with this group of stakeholders and the questions for these conversations are in Appendix A. These stakeholders provide context to the composition of the regional industries that could potentially use the facility, locations of a facility, and any additional resources the region can leverage to support a logistics and transportation hub.

Manufacturing companies represent the end users (supply) of a logistic hub, and their motivations and businesses decisions are responses to the costs of transporting supplies and goods. This perspective assesses the overall demand for a potential facility, and to identify the facility’s potential characteristics to align with regional needs. Appendix A. outlines the questions asked to regional stakeholders, which focus on the transportation challenges and barriers facing these regional companies.

Both industry stakeholders and manufacturing companies’ perspective are necessary to corroborate and validate the responses from each group. The following section is a synthesis of the questions and interviews. Moreover, the manufacturing synthesis is broken into two groups; large manufacturing companies and small/medium manufacturers as their transportation needs and barriers differ by size of operations.

Regional Stakeholders

OED interviewed and met with a number of the regional economic development stakeholders. Many state that area manufacturers were reporting transportation challenges in shipping final products to their customers. Companies reported high costs attributed to the distances and relative remoteness of their

facility's location. There are several accessible highways in the region, such as route 460 and highways 58 and 23. However, some counties such as Dickenson County, have no major four lane routes. The distance from major highways hinders the expansion of current regional manufacturers and all regional stakeholders stated their counties encounter issues in business attraction. Several economic developers shared recent examples of manufacturing company prospects deciding not to locate in the Virginia Coalfields region, and that poor transportation access was a major contributing factor.

According to many of the stakeholders and company officials interviewed, one major challenge throughout the region is the limited supply of both available trucks and of an available workforce to meet this demand. It can be difficult and/or costly to locate reliable trucks and hire drivers. Regional stakeholders expressed a need for better, more affordable, and more coordinated access to trucks and drivers to meet the needs of companies in the region. Stakeholders noted all sizes of companies – small, medium, and large – raised this issue. Several people emphasized how small to medium companies were having particular issues with securing sufficient trucks for shipment. *The opening of the Southern Gap Training Center, which will include programs on CDL and diesel-mechanic training program, is anticipated to mitigate some of the diminished supply of available truck drivers, however stakeholders felt even more regional resources were need to alleviate this gap.*

The Training Center meets a clear regional need, and should help boost driver supply. However, companies in the region experience cost, timing, load-sharing, and related challenges beyond driver supply. Many manufacturing companies outsource or contract for transportation services and the options, quality, and costs for those services vary.

The economic developers discussed the possibility of expanded rail freight transportation options. However they identified some significant barriers; i) this is dependent on the large rail companies to allow this sort of use, and ii) there is need of significant investment to expand rail infrastructure, including tunnels in the region that are not currently conducive for transportation of freight. Currently, the railroads' primary regional customers are coal companies that send coal domestically and globally. The coal industry has been the prominent user of rail historically in the region, and rail access and infrastructure is setup to efficiently-transport coal from the region. Therefore, the type of freight rail transportation those regional manufacturers would use – stacking freight containers on top of each other – cannot pass through many of the existing regional rail tunnels. *In short, rail access for regional manufacturer use does not appear to be a **short-term** achievable goal. In order to update regional rail infrastructure, it would take considerable coordination between the coal industry, regional manufacturers, and railroad companies and significant investment for rail improvements.*

One main takeaway from the interviews with regional stakeholders is the discussion focused on logistics and transportation reported by *manufacturing companies*. Though the types of manufacturers in the regions vary widely – examples include manufacturers of food and beverage products, home furniture, components of mining enterprise, and more – these companies reported similar logistic and transportations barriers, with smaller companies reporting the issue more acutely. This informed the scope of the outreach to companies, and provide context to the split of Large Manufactures (LMs) and Small to Medium Manufactures (SMMs) outlined in the following section.

Manufacturing Companies

Large Manufacturers (LM)

This sub-group of manufacturer represent companies that export final products domestically and globally, have significant employment at the company's facilities, and ship out products and receive inputs daily.

The consensus from this sub-group is they face *little to no* challenges regarding transportation and logistics, and they would have a *low* probability of using a regional logistic hub. A large portion of the companies reported that the company's customers were responsible for transporting final product. These companies' contracts are on a one to one basis, meaning the company manufactures a final product (ex. a large crane) based on the customer's request and customers are willing to pay the high price of transporting these products. Though these companies' international markets used various ports for shipping – for example Norfolk, VA and Charleston, SC – all of the domestic leg of the transportation was conducted over-the-road through trucking. Rail transport was never mentioned as a viable option for these larger companies, and some noted, along with not having rail spurs at their facilities, their domestic customers did not have access to rail.

In terms of transporting supplies in, most companies received daily shipment of inputs. In contrast with the small/medium size manufacturers, the larger companies report no current issues with receiving timely shipments. These companies stated they maintained strong relationships with third party trucking companies, and thus, were priorities along any regional shipping routes of these companies. This strong relationship generally meant the manufacturer represented a significant amount of regional business for these trucking companies.

One regional challenge that was mentioned by the large company sub-group was a need for trucks and truck drivers. Notably all the larger companies mentioned that transportation was not an issue, yet stated there is a lack of supply of regional trucks. This manifests in the company's final product costs, which are passed along to the costumers. Companies view these costs as having implications on the company's' market advantage, and an increase in the regional trucking supply would help reduce the price customers pay.

Small to Medium Manufacturers (SMMs)

SMMs represent companies that primary ship in the region and/or east coast of the United States, input shipment were weekly as opposed to daily, and had fewer employees relative to larger manufacturing companies. SMMs are facing several logistics and transportation challenges, and they would have *high probability* of using specific services a logistic hub could facilitate.

SMMs interviewed reported production constraints due to the timing and frequency of in-bound input shipments. SMMs' inputs are delivered by trucking companies that make a stop at the SMMs' location along the trucking company's regional shipping route. Inputs included small components and/or raw materials, and the companies reported receiving inputs shipments once a week. SMMs reported they are not able to get more frequent shipments and sometimes would not receive a weekly shipment since the trucking company did not have room on the freight container. They stated this was due to the rural location of their facilities and the fact the roads are remote and onerous for trucks. *A hub could help mitigate this barrier, as a central location would reduce the need for trucking companies to have regional shipping routes. SMMs reported a central location would benefit similar companies, as they could receive shipments more regularly and all companies had some sort of proprietary transportation.*

SMMs reported several different operations within their overall manufacturing business; large final products (example conveyer or ventilation systems for large mining operations) and smaller metal fabrication for regional companies. The later part of their businesses provided an additional transportation barrier, as SMMs did not have warehousing space to hold the smaller input components for these jobs. These small components are shipped by the national packaging companies like FedEx or UPS, and would ship components to regional facilities. SMMs would then need to travel to a regional facility to receive the shipments which provide two additional barriers; i) closest facilities were located 2-hours away and ii)

SMMs are constrained to the hours of regional facility. *SMMs stated a regional logistic hub with additional warehousing space and the ability to drop-off shipments 24-hours a day would benefit their companies.*

As noted by the LMs, SMMs reported a lack of supply of ready trucks and truck labor in the region. However, in contrast with LMs, the trucking supply negatively impacted the SMMs ability to grow and interfered with shipments. SMMs reported the inability to secure trucks for some out-bound shipments, and one SMMs reported having the ability to hire an additional seven other truckers in order to fill demand. SMMs reported both low supply in available trucks and indicated that there was not a readily available workforce to fill the demand for truckers. They stated it was hard to find labor that was reliable and possessed the ‘soft skill’ to maintain employment. *One potential service a logistic hub could provide in the region, is instilling a central office to facilitate regional trucking coordination. SMMs reported that third-party brokers filled their trucking orders, however SMMs insistence they lack a reliable trucking supply suggests more regional coordination is warranted.*

All SMMs interviewed expressed interests in utilizing rail transport. Some of the companies had access to rail on their property or at adjacent facility, or stated it could be a component of a multi-modal facility. This was expressed even though the companies currently do not ship goods in or out by rail transport. Moreover, several SMMs indicated that some sort of rail spur would need to be a component of the facility and they *may* use this in the future. Most of the expression of using rail were speculative and it currently does not appear that SMMs will use rail transportation in the short-term nor will have enough supply in the long-term to justify investment in a multi-intermodal facility.

Regional Logistics Activity Diagrams

Two concept maps were created based on the results and findings from the interview section of this report and other research. The Figure 1 details the shipping process for SMMs, while Figure 2 details the shipping process for LMs. The intention of these two figures is to show the basic nature of inbound and outbound shipments for manufacturers in the region to understand the strengths and weaknesses of logistics in the region.

Synthesis and Findings

There appears to be no one-size-fits all solution to the logistics and transportation needs of regional companies in far southwest Virginia. There is not a single or clear infrastructure investment that makes optimal sense for the region.

One clear finding of the analysis – “there is a lack of existing market demand for a major intermodal hub facility or major rail infrastructure improvements”. Based on information from firms as well as negative industry growth trends, the size of the market demand for a centralized logistics hub is small. It should be noted that data availability is one limitation of this study.

One finding of this study, then, is that a major, large-scale, intermodal facility or hub is not justified, based on currently available market demand. While a facility could certainly help attract new companies, the argument that investment in a facility based on speculative future use and gains is not a strong one, given present conditions.

The following factors contribute to the limited viability of a major, large-scale, intermodal facility:

1. Interviews with officials near thriving logistics/distribution centers such as those in Prince George and Dinwiddie Counties and Front Royal in Virginia suggest that macro factors have led to the location and concentration of logistics/distribution facilities. These macro factors include: strategic location in

the eastern US, ready access to mid-Atlantic markets via Interstate highway network, direct access to the Port of Virginia at Hampton Roads and location on the fringe of a major metropolitan area (for Prince George and Dinwiddie). Other factors that have contributed to the concentration of logistics facilities include; availability of suitable sites with infrastructure available, an adequate labor pool available within an easy commute, support services that support the logistics industry and supportive incentive policies. Southwest Virginia lacks a sufficient density of many of these macro-level factors.

2. The transportation and logistics sector companies comprised just 3% of regional employment in 2017, and was only the 14th ranked sector in the region, based on employment size. Total sector employment declined by nearly 500 jobs between 2012 and 2017. Projections, based on labor market data, suggest that this trend of steady employment decline will continue over the next 5 years.
3. Information from regional manufacturing companies indicates that larger companies, companies that tend to ship larger amounts of finished products out of the region, are comfortable with their existing shipping arrangements often handled by their customers. These larger manufacturers receive frequent shipments of inputs, but tended to have few concerns about their current levels of service, probably due to the nature of their contract (presumably longer-term) and their volume (presumably making them a higher priority customer for over the road transport companies). These firms had stronger relationships with one or more third party trucking companies, contributing to greater levels of service satisfaction.
4. While smaller manufacturing firms expressed a greater need for logistics and transportation services, these firms are scattered geographically, represent lower product volumes, and may not find it cost effective to regularly utilize a regional hub to local transport costs.
5. The high costs of train infrastructure improvements and the relatively low demand for rail access by existing companies is also a significant barrier when considering a regional intermodal hub that includes a rail component.
6. The closest example of an intermodal facility that might be replicable in far southwest Virginia is the Heartland Intermodal Gateway (HIG). This is a publicly owned intermodal facility in Prichard, West Virginia. This is a small facility in a more rural area, publicly funded. HIG employs only 2 people, lacks major infrastructure such as warehouse space. However, the term intermodal implies rail activity. HIG includes a rail loading ramp access and the facility is strategically located along the same direct rail line as the Virginia Inland Port and primarily on-loads goods destined for export through the Port of Virginia. Aside from coal, southwest Virginia does not appear to have this volume of export product from existing companies to help support even such a relatively small facility.

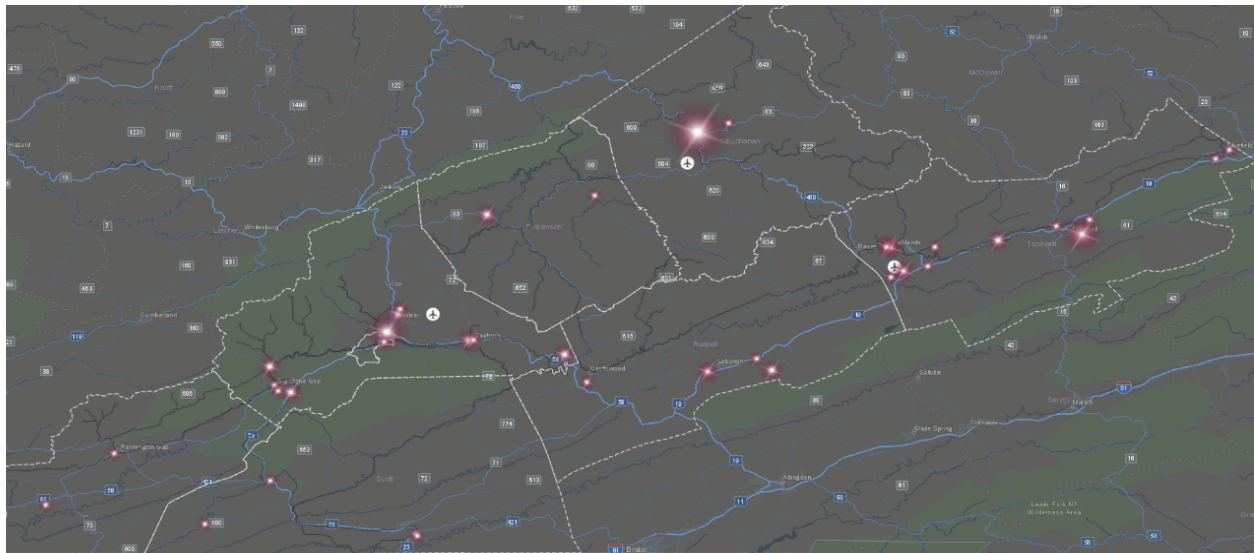
The second major finding of the analysis is an unmet demand for additional warehousing and storage space, possibly a small hub-type facility(s). There appears to be a regional market demand for warehousing and storage, although the precise amounts and storage option types need to be better assessed through a regional inventory. Three central questions need to be addressed; 1) does the local market demand justify one or more than one small hub-type facility?, 2) where would the optimum location be for such facility (s)? 3) can the existing private companies serve this market?, and 4) is there an associated opportunity for a focus on expansion of distribution/wholesale trade operations?

Market demand for small hub facility?

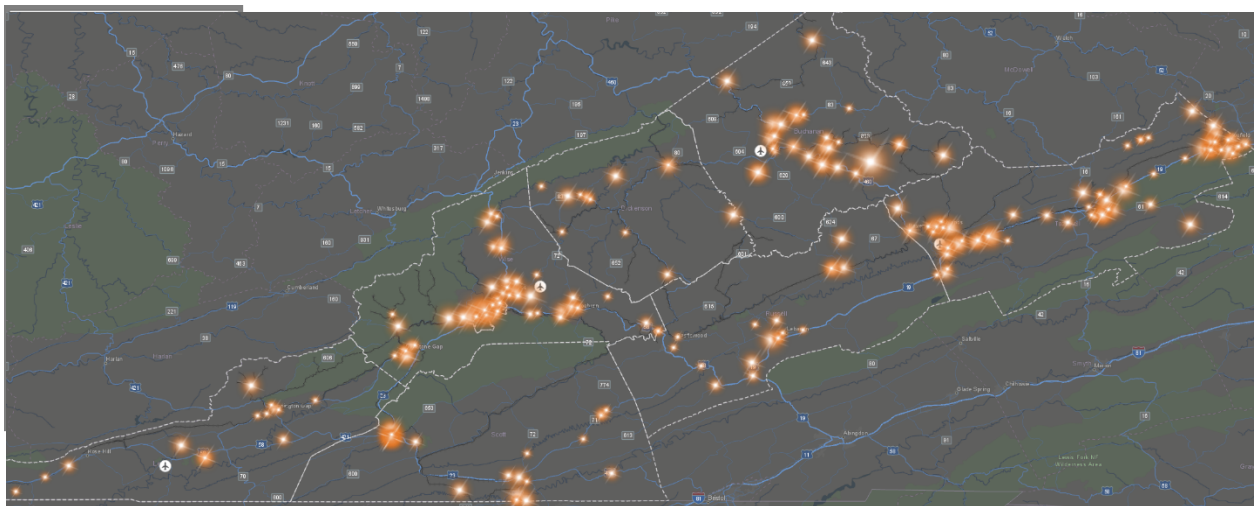
Smaller manufacturing companies have suggested that they might benefit from one or more smaller hub-type facilities. One component of this need entails warehousing space. Smaller manufacturing establishments reported the need for increased warehousing space, with ability to handle pick-ups and drop-offs 24 hours a day. Sector data supports the growing demand here. One of the few subsectors in the region's transportation and logistics sector that experienced significant employment growth from

2012-2017 was general warehousing and storage. Employment in that sub-sector increased by 52%, with 183 total jobs in 2017.

The GIS map below indicates the location of existing warehouse and wholesale companies in southwest Virginia and the dot size represents the size of the company in terms of employee number. This does not necessarily correlate with all of the physical warehouse and storage locations in the region, since the location is based on company address which may not include all of a company's warehouse and wholesale locations:



As one next step, a more detailed inventory of warehouse and storage space in the region is needed,



including an assessment of storage type and size, including dry bulk, ambient temperature, food grade, and hazardous material storage options. Increasing warehouse and storage space appears to be a major regional need.

The transportation and logistics needs and opportunities might be addressed singularly, in different ways as distinct strategies. However, to return to the central question as to whether a regional logistics hub of some type might be feasible, there is evidence that one or more of the needs here could be bundled into a new location that would be seen as a hub-type facility.

Location of a small hub facility?

In considering centrality of location, highway access, stakeholder feedback, and the greatest concentration of manufacturing-related companies who might be in need of additional warehousing, we suggest the following counties as less optimal sites for a regional hub facility: Dickenson County (primarily due to highway access); Lee County (primarily due to the distance for use by companies outside of the county); Buchanan (primarily due to accessibility, lower concentration of existing manufacturing). The city of Norton and Wise County may have slightly stronger cases, and contain one or more site of potential fit. However, the most optimal locations for additional warehousing sites and/or smaller hub facilities seem to be: Duffield area in Scott County; St. Paul area in Russell and Wise Counties; and Bluefield area in Tazewell County. At this stage, it may be preliminary to rank or assess specific site locations but we can work to do so if requested, and both VCEDA and the two Planning District Commissions have expressed a willingness to assist with site identification and assessment.

Private sector expansion?

An open question is whether that need should be addressed by existing firms, in their locations, or whether the public sector should work with the private sector to identify one or more locations where additional storage and warehousing might be combined with other services to represent a true regional logistics hub.

The comparative analysis section of this report details several private companies in other regions that grew to meet these types of needs. Davis Storage & Warehouse, in Danville, and Tomahawk Warehousing are two Virginia examples. Both companies expressed the value of connecting to regional businesses through personal relationships and are in need of even more warehouse space.

Expansion of focus on distribution/wholesale trade companies?

In addition, the region might consider strategies to expand and retain wholesale trade/distribution companies. For comparison, the Northern Neck of Virginia is a very rural four-county region with a population of only 50,000. Since the region is bordered on three sides with two major rivers and the Chesapeake Bay it does not have any through highways or Interstate highways. This isolated region has three arterial highways that provide access in and out of the region, Rt. 3, Rt. 33 and Rt. 360. Warsaw in Richmond County is a hub of regional governmental and commercial services to the region.

Despite the relative isolation and lack of infrastructure, Richmond County has a higher concentration of Wholesale Trade employment than the State – 3.8% versus 2.8%. The major wholesale industries are History Land Nursery, Northern Neck Nursery, and Al Pugh Distribution Company, which is a beverage distributor. These businesses rank 21st, 31st, and 34th among the top 50 employers. Wood Preservers Inc. and Northern Neck Lumber are two larger sawmill operations located in Warsaw that rank 9th and 16th among the 50 largest employers. Southwest Virginia has some similar assets with sawmills, the Appalachian Harvest distribution facility in Duffield, regional beverage distribution, and some retail focused distribution operations.

The third significant finding of this study is a need for strategies, services, and resources to optimize logistics and transportation for area companies and ease industry pain points associated with logistics and transportation. This also represents an opportunity for either attracting one or more logistics and transportation focused companies to the region and/or helping one or more existing firms to scale up in order to add employment and services and better serve regional needs.

Additional Support Services Needed

In addition to storage and warehouse space, many manufacturers expressed coordination challenges for truck shipping, despite the availability of some third-party brokers. An opportunity here is to support enhanced coordination among smaller companies. Some companies may need help strengthening their internal capabilities to do this work (scheduling and logistics). This offers an opportunity for targeted training and technical assistance around the transportation and logistics needs of smaller manufacturing firms in southwest Virginia.

A logistics hub facility might offer some type of centralized coordination service/logistics support that could be utilized by smaller companies, allowing them potential cost-savings in terms of labor as well as increased efficiencies. An intermediary such as SVAM or GenEdge could work with companies to better assess this need and opportunity.

If the need or opportunity around coordinated logistics services is better understood, that could create an opportunity for a transportation company (again an existing company expands to take on this role, an external company is attracted, or an entrepreneur starts a company to fill this need).

Need to address labor need or availability of trucks and truck drivers.

Beyond logistics coordination, there is also a need for trucks and truck drivers. As noted in the interview summary, “It can be difficult and/or costly to locate reliable trucks and hire drivers. Regional stakeholders expressed a need for better, more affordable, and more coordinated access to trucks and drivers to meet the needs of companies in the region.”

Despite this need, the number of drivers in the region has declined sharply, by over 21%, from 2012-2017. The new Southern Gap Training Center in Buchanan County will include programs on CDL and diesel-mechanic training program, and should help address the need for more workers. Ensuring the success and growth of this type of program represents a critical first step.

Closing and Recommendations

This report focused on the need and opportunities associated with a transportation and logistics hub in the Southwest Virginia coalfields region. We describe the existing industry and workforce, identify and profile a number of regional hub-type facilities in Virginia and beyond, and include a summary of stakeholder and company interviews. The region has a number of assets and strengths, including the presence of some distribution-focused companies, some major highways, two railroads (CSX and Norfolk & Southern), the new Southern Gap Training Center in Buchanan County, and a renewed focus on manufacturing support and related prospect attraction.

Based on study findings, four specific action items are recommended:

- Conduct a more detailed inventory of warehouse and storage space in the region, including an assessment of storage type and size, including dry bulk, ambient temperature, food grade, and hazardous material storage options. Increasing warehouse and storage space appears to be a major regional need.
- SVAM and/or GenEdge should work with existing manufacturers to strengthening their internal capabilities (knowledge, expertise, tools) around scheduling and logistics. Resources should be identified to make this assistance affordable and accessible to smaller companies. Individualized outreach may be needed to better gauge the types of targeted training, technical assistance, and resources to address the transportation and logistics needs of smaller manufacturing firms in southwest Virginia.

- Support the growth of the Southern Gap Training Center, and related driver training programs, and consider ways to encourage retention/employment of program completers by region-serving firms.
- Work with VCEDA and county-based economic development officials to identify opportunities to attract or expand companies that might fulfill some of the functions of a logistics hub, such as warehouse and storage and coordinated trucking.

Appendix A. Sample Questions from Interviews:

Sample Questions for Companies

- What is the main mode of transport for your company (rail, truck, etc.)?
 - If any, what are the company/companies are you shipping your products with?
 - What is the main route (highway)/line used for you products?
- What products are you currently shipping out?
 - Where are you shipping these products?
 - Where is your largest market and/or customer?
 - How often are you shipping the goods out? In what quantities?
 - Do you ship goods to a wholesaler? If not, do you ship to your distribution center?
 - Where is the wholesaler/distribution center located?
- Do any of your goods go to an oversea market? If so what countries?
 - What quantities of goods are shipped? How often?
 - What port is used to ship overseas?
 - Are you aware or currently a part of a Foreign Trade Zone?
 - Would a Foreign Trade Zone in the region be of benefit to you international trade?
- What are you major suppliers?
 - What are you currently purchasing inputs for you company?
 - Where are these suppliers located?
 - Where is the largest supplier or supplier region?
 - What quantities and how often do you receive good from those suppliers?
 - What is the mode of delivery for supplies?
- In terms, of logistics what are the largest challenges your company face?
 - Of those challenges listed, what is the greatest need/challenge?
 - What is the biggest cost associated with logistics/transportation (labor, cost, refrigeration, storage, etc.)?
 - What services or activities are needed to overcome these challenges/biggest challenge?
- If any, what are the current support services utilized by your company for logistics/transportation (from government agencies, NGOs, private consultants)?
- What do you perceive as the benefits of having a central physical location to support logistics?
 - What types of services would you utilized form a logistic hub?
 - What types of features are needed at a logistics/transportation facility?
- What do you perceive as the costs of using a central physical location to support logistics?
 - What services/activities would not benefit your company at logistic hub?
- What do you perceive as the largest obstacle in establishing a logistic/transportation hub?

Sample Questions for Industry Stakeholders.

- What are the largest types of manufacturing companies in the region (regional clusters)?
 - What regional cluster is most likely to use or benefit from a central transportation/logistic facility?
 - What regional cluster is least likely to use or benefit from a central transportation/logistic facility? Why?
- What are the modes of transportation for these industries?
 - Are they contracting out their logistic/transportation?
 - What are the largest companies industry are contracting with?
 - What are the main routes/lines companies are using?

- Where are the markets for these industries (for products)?
- Where are the suppliers located for these industries?
- What are the most reported logistic/transportation challenges for companies in the region?
 - Do the challenges differ by industry?
 - If so, what are the differences by the industry cluster?
- Where are the potential locations for a facility that would serve the most industries?
 - Is there any one location that would serve the most industries?
 - If so, why?
 - Is there any one location that would serve a specific industry cluster best?
 - If so, why?
- What types of facility would best serve the region?
 - Small facility serving one cluster or many clusters?
 - Large multi-modal facility serving one cluster?
 - Large multi-model facility serving many clusters?
- Are there any service providers (private/public) aiding regional companies in logistics/transportation?
 - What are the services they provide?
- Who are the key partners needed to be involved in logistic hubs?
 - What services/assets will these partners bring to the facility?
- What are additional resources that may support the development of a regional hub?
- What are additional resources that may support the operation of a regional hub?