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Freight Analysis: *Draft as of 09/25/07*

This report provides an analysis of existing conditions and trends related to freight transportation in the Thomas Jefferson Planning District (TJPD) region, Planning District 10. This document will be incorporated into the 2009 update of the region's long range plan, UnJAM 2025.

Planning District 10 includes the Counties of Albemarle, Fluvanna, Louisa, Greene, and Nelson, and the City of Charlottesville. More than 200,000 people reside in this region, which covers an area of approximately 2,100 square miles. The Charlottesville Urbanized area is located in the center. Major generators of freight and freight demand located in the urbanized center include the University of Virginia, Martha Jefferson Hospital, GE Fanuc, and several large retailers. Similarly, several generators of freight and freight demand are scattered throughout the surrounding rural areas including, Klockner Pentaplast America (Louisa County), Walmart Distribution Center (Louisa County), Northlands Lumber Company (Louisa-Fluvanna County), and several timber harvesting/logging companies throughout the region. There are many plans for near-term growth throughout the region including recently approved retail development in Greene County (Walmart, Lowes), the relocation of the National Ground Intelligence Center (NGIC) to Albemarle County in 2010, and overall residential growth throughout the region. A map of freight generators in the TJPD region is included in Appendix A.

A major portion of the transportation network is used for the movement of freight. Freight transportation describes the movement of products, goods and materials from one location to another. Freight transportation occurs via a variety of modes to, through, and from this region, including air (Charlottesville-Albemarle Airport), truck (Interstate 64, Route 29, Route 15, etc.), and rail (Norfolk Southern and CSX Transportation).

Recent Freight Initiatives in the Thomas Jefferson Planning District Region:
VDOT Statewide Multimodal Freight Study Phase I, January 2007
The Virginia Department of Transportation has recently undertaken a Statewide Multimodal Freight study. The study scope of work includes an extensive program of coordination among public sector agencies, including regional planning bodies, and outreach to public and private stakeholders. The study process will also develop an inventory of the existing freight network and its key components: highway, rail, air, ports, intermodal facilities and connectors, and distribution centers. The Statewide Multimodal Freight Study has the following goals:

- Identify current and future needs of the system;
- Examine the macroscale economic impact of freight movement; and
- Provide recommendations for state planning and programming policies.

Phase I of the Study occurred in 2006-2007, and included telephone interviews with a selected sample of Virginia freight stakeholders, including freight customers (shippers and receivers) from different sectors of Virginia's economy (manufacturing, wholesale, retail, etc.), freight service providers (truckers, warehouse/distribution, logistics, etc.), and freight associations. The in-

tent of these interviews was to develop a baseline sense of what works best about Virginia today, and where improvements may be useful, from the direct perspective of freight customers and service providers. Potential interviewees were chosen based on their previous participation and interest in Commonwealth freight planning efforts, and from Commonwealth business listings. In the TJPDC region, interviews were conducted by TJPDC and VDOT staff, as well as the project's consultant. Phase II of the Study will include regional public meetings to receive feedback and comment from members of the general public, representatives of local and regional governments, as well as freight customers and service providers. The Virginia Freight Advisory Committee, which includes representatives of major industry and service groups, is also involved in this effort through summarizing existing conditions, reviewing the area's freight vision, and suggesting future improvements to the system.

UnJAM 2025, Adopted May 2004
The United Jefferson Area Mobility (UnJAM) Plan addresses rail and freight as part of the 2025 Regional Vision. UnJAM establishes goals for rail and freight transportation, including separating freight movements from passenger traffic where possible and supporting on-time delivery needs of business and industry. According to the UnJAM rail and freight vision for 2025, railways will reemerge as one of the primary means for transporting goods and commodities throughout the area. Action plan items related to freight include:

- Improve and add tracks where needed to allow more trains along each corridor
- Increase the quantity of freight moved by rail
- Zone for new industry along tracks
- Improve the headways for freight to clear up time for passenger service
- Improve technology so freight and passengers can better coexist on the same railway
- Increase funding for freight planning and coordination
- Integrate truck freight and rail service to meet the needs of local users

Regional Rail Conceptual Study, November 2004
The Regional Rail Conceptual Study explored rail transit options for the Planning District Area. The Study proposed that a three-radial-route, high-capacity system of light rail trackage be constructed as a potential solution to the efficient movement of commuters and shoppers between Charlottesville and major population or development nodes within an approximate 20-mile radius of the City. The proposed system would work best with an isolated right-of-way to achieve immunity from motor vehicle traffic congestion. The Study included suggested alignments for light rail, commuter and intercity passenger rail alignments. The commuter and intercity rail alignments would primarily use existing Norfolk Southern Corporation and CSX Transportation trackage. In addition to hosting numerous freight trains, both are already in use as routes for Amtrak long distance passenger trains.

Overview of TJPD Regional Truck and Rail Freight Transportation
In the TJPD region, trucking and rail are the most prevalent modes of freight transportation. Truck traffic moving to and from Virginia accounted for 12 percent of the average annual daily truck traffic (AADTT) on the Freight Analysis Framework roadway network. Approximately 14 percent of truck traffic involved in-state shipments, and 24 percent involved trucks traveling across the state to other markets. Much of the region's population lives within the urbanized area. As a result, a large demand for freight traffic is generated (food service industry, construc-

tion, retail, etc.), much of which is met by truck traffic. Approximately sixteen interstate carriers service the Charlottesville urbanized area and broader TJPD region via truck freight, four of which have Albemarle County terminals: UPS, FedEx, Swift, and Roadway Express. Three roadways provide primary access to the major commercial areas and business centers at the center of the TJPD region, Interstate 64, Route 29, and Route 250. Since the Charlottesville urbanized area is an employment hub for much of the region, roadways in this region carry a significant amount of commuter traffic. Interstate 64 traverses east-west across the center of Albemarle County for 31 miles, providing a link to the larger, national interstate system. To a limited degree, especially during rush hour, I-64 functions as a local road and key element in the commuter network. Residents and visitors use the interstate to access urban centers, as well as to connect with other primary roads including Route 250, Route 29, Route 20, Route 22, and Route 53. Rt. 250 generally follows a parallel east-west alignment to Interstate 64, however the roadway is designed at a much smaller capacity. The primary north-south freight route through the urbanized area of the TJPDC region travels along Route 29. Route 29 is the only north-south four-lane divided non-interstate highway in central Virginia. It provides a direct connection between commercial centers in the southern and central regions of the state to those in northern Virginia. The Route 29 corridor carries 10 percent of all truck traffic on primary routes in Virginia. Increased development along Route 29 and Route 250 East contributes to growing traffic congestion pressure. In an effort to avoid congestion related time delays to meet deadlines, freight traffic, not unlike other vehicular traffic, often shifts to smaller capacity roadways such as neighborhood streets. Long distance truck and shipping companies can also have transportation needs that compete with those of motorists, pedestrians and bicyclists. Trucking companies prefer using roads with few traffic signals and minimal traffic congestion, while motorists, pedestrians and bicyclists prefer to be separated from truck traffic for safety reasons.

The Phase I VDOT Statewide Multimodal Freight Study interviews provided an on the ground perspective of the region's freight transportation network. Truck was the primary mode used to ship freight in the TJPD region, with the exception of one company, which used both rail and truck. The daily number of trucks entering and leaving facilities also varied. One company reported two trucks a week while another company reported 1500 trucks per day. Another company reported that daily shipments varied based on local demand. Shipments mainly traveled throughout Virginia, although some companies shipped goods to neighboring states (Maryland and North Carolina).

Interviewers asked each company if Virginia's transportation system adequately meets their needs. Most respondents said the system does not meet their needs, and that freight network capacity has not been an issue. Major roads (such as Route 29 and Interstate 64) were generally viewed to have adequate capacity, performance, and service availability. However, many respondents identified problems such as the need for connector roads, congestion (predominantly in the urbanized area) making it difficult to do business on time, and a lack of adequate capacity on the area's smaller, more rural roads. Further, many roads in the rural areas are not wide enough for trucks traveling in opposite directions to pass each other, which is particularly dangerous on roads that do not have shoulders.

Many companies have responded to transportation-related issues by making adjustments to their operations. Some companies make pickups earlier in the day to reach destinations on time while others have had to hire additional trucks to complete the same number of trips that were once accomplished by fewer trucks. One company no longer makes trips to Northern Virginia desti-

nations area on Fridays because drivers cannot return to the region efficiently. Congestion on primary roadways has forced other companies onto smaller, secondary roads.

There are currently 12 freight railroads operating approximately 3,400 route miles of track in the Commonwealth of Virginia. These railroads hauled 2.3 million carloads and 189 million tons of freight in 2001. This is the equivalent of 16 million auto and truck trips on Virginia's roads. Moving freight by train offers many benefits, including increased safety for motorists, decreasing traffic congestion on roads, and limiting the amount of land converted to roads and right-of-ways. Transporting freight by rail is also on average at least three times more fuel-efficient than trucking. Trucks are frequently needed to get goods to and from the rail yard, to transport goods when railways are at capacity, and for making shorter trips (such as between regions within the same state). Rail transportation is one of the most high-capacity modes of transportation for both freight and passengers. At capacity, freight trains can provide up to 6 times the capacity of the equivalent linear lengths of trucks on the highway. For passenger trains, the capacity per vehicle is nearly 6-8 times of that passenger vans, and upwards of 30-50 times that of 2-person personal-vehicle carpools. As growth continues in the TJPD region, rail transport is likely to become increasingly more valuable to businesses, institutions, and commuters. The Federal Highway Administration reports that 12 of the 227 highway interchange truck bottlenecks in the US occur in VA result in 3 million hours of delay, valued at over $100 million annually. Generally speaking, one truck equals about 2 passenger cars on a flat interstate and about 4 on a mountainous interstate. Repairing and expanding existing rail corridors can provide an alternative to shift some of the truck freight off of roadways.

Next Steps

Freight transportation is an important component of both the area's economy and transportation system. The Federal Highway Administration Freight Analysis Framework (FAF) estimates that even with growth in air-freight, maritime, and rail services, about 29 percent of the urban National Highway System will be congested, with an additional 13 percent approaching congestion, during peak periods in 2020. By comparison, 10 percent of the urban National Highway System was congested in 1998. In terms of functional class, urban Interstates are and will continue to be the most traveled segments, with congestion reaching 53 percent in 2020. Trucks transporting freight are likely to continue to contribute significantly to congestion along major thoroughfares. Freight truck traffic is expected to double in the next decade. By 2020, Virginia is projected to see an 81% increase in truck freight volume, 41% increase in rail freight, 300% for air, and 200% at the ports. While interstate highways such as I-64 will carry the largest share, other highways will also be used by greater numbers of trucks.

As the TJPD Region Multimodal Freight Study interviews revealed, trucking continues to be the primary mode by which most small and medium-sized businesses in the Charlottesville Urbanized Area plan to transport their goods. Increased congestion along Highway 29 and other key travel routes has decreased the efficiency of business operations. These survey responses underscore the fact that regional economic competitiveness is directly tied to freight mobility. At the May 2007 Transportation Vision and Strategy for the 21st Century Summit, hosted by AAA, the American Trucking Association, the Association of American Railroads and others, highway specialists suggested dedicated trucking lanes or separate highways to reduce trucking congestion and safety issues on highways. However, this type of solution has recently been placed on hold for the I-81 corridor in Virginia while VDOT studies expanding rail capacity along the Norfolk Southern railway as an alternative to widening the highway to eight to 12 lanes. As the

Transportation Research Board has noted, freight continues to be a difficult issue for Metropolitan Planning Organizations (MPOs), localities, and others to address in their long range plans and Transportation Improvement Programs (TIP) due to a lack of freight data, political will, or limited knowledge of necessary freight improvement projects.

Moving forward, it is important that regions continue to explore and invest in multi-modal transportation strategies that include freight in coordination with land use planning. It is also important to examine non-traditional interactions, such as those between freight and other modes of transportation (i.e. between freight and bicyclists and pedestrians). For example, many freight-related issues in the Downtown Area of the City of Charlottesville relate to food service deliveries that occur during the daytime, when bicycle and pedestrian activity is highest. Collaborative planning efforts involving business owners, planners, bicyclists and pedestrians should seek to develop solutions that coordinate multi-modal transportation strategies with land use planning and business strategies.

The TJPD region, as well as the rest of the state, stands to benefit from an expanded railway system that can ease congestion of already burdened roads. In addition, the greater capacity provided by an enhanced system would allow for an increase in the number of commuter trains, which in turn would also contribute to lessening highway congestion. It has been estimated that one heavy-rail commuter train at 75% capacity could remove about 450 cars from roadways. A shift towards a greater reliance on railways also has economic and environmental benefits: on a per ton-mile basis, rail can be one-half to one-fourth the price of a truck, and produces around one-third the particulate matter and nitrogen oxide emissions of trucking.

Successfully addressing freight transportation issues can have positive environmental impacts in addition to transportation and economic impacts. Intermodal freight transport involves using more than one mode without any handling of the freight when transitioning from one transportation mode to another. For example, using containers that can be transported via ship that can also be loaded onto a rail and/or truck bed, without ever unpacking the container until it arrives at its final destination. This method reduces cargo handling, and, as a result, improves security, reduces damages and loss, and allows freight to be transported faster. The Environmental Protection Agency estimates that for shipments over 1000 miles, using intermodal transport cuts fuel use and greenhouse gas emissions by 65 percent, relative to truck transport, alone

Other initiatives, such as the Sustainable Packaging Coalition advocate and communicate a positive, robust environmental vision for packaging and support innovative, functional packaging materials and systems that promote economic and environmental health. These initiatives can reduce both the weight and volume of freight shipments, which ultimately increases the efficiency and capacity of freight shipments, i.e. shipping more products, less packaging. Sustainable packaging is defined by the following criteria:

A. Is beneficial, safe & healthy for individuals and communities throughout its life cycle;
B. Meets market criteria for performance and cost;
C. Is sourced, manufactured, transported, and recycled using renewable energy;
D. Maximizes the use of renewable or recycled source materials;
E. Is manufactured using clean production technologies and best practices;
F. Is made from materials healthy in all probable end-of-life scenarios;
G. Is physically designed to optimize materials and energy;
H. Is effectively recovered and utilized in biological and/or industrial cradle to cradle cycles.

Potential Freight-related items for the UnJAM 2035 Action Plan

- Reconvene Freight Stakeholder Group and work jointly with MPO Committees to:
  - Identify strategies to improve highway and rail connections to freight termini
  - Develop a Strategic Freight Plan that addresses problems specific to each locality
  - Develop inventory problematic/dangerous locations: i.e. freight-pedestrian safety issues (Main St. Charlottesville).
  - Collaborate with the Sustainable Packaging Coalition to identify opportunities to implement sustainable packaging initiatives.

Resources: The following resources contribute to the Draft Freight Analysis

- "A Glance at Clean Freight Strategies: Intermodal Shipping." US Environmental Protection Agency, Office of Transportation and Air Quality. February 2004.
- "America's Freight Challenge" The American Association of State Highway and Transportation Officials. May 2007
- "An Initial Assessment of Freight Bottlenecks on Highways." Federal Highway Administration, Office of Transportation Policy Issues. October 2005.
- "An Analysis of State DOT Options for Transporting Future Freight Flows on the US Interstate Highway System," Center for Transportation Studies at the University of Virginia, January 2007, http://www.ops.fhwa.dot.gov/freight/freight_analysis/freight_story/congest.htm
- "Charlottesville Area Fact Sheet" Charlottesville Regional Chamber of Commerce. October 2006)
- "Freight Transportation Profile: Virginia Freight Analysis Framework." *Freight News.* U.S. Department of Transportation, Federal Highway Administration. November 2002.
- "Freight – Rail Bottom Line Report." American Association of State Highway and Transportation Officials. No date, but cites sources from 2001
- "Governor's Commission on Rail Enhancement for the 21st Century in the Commonwealth of Virginia." December 2004.
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- Intermodal Management System Regional Freight Study, Hampton Roads, VA, April 2007
- Key Freight Transportation Challenges: Congestion and Capacity" US Department of Transportation/Federal Highway Administration (06/2006).
- "The Potential for Shifting Virginia's Highway Traffic to Railroads." Senate Document No. 30. Commonwealth of Virginia 2001.
- "Rail, Public Transportation, and TDM Needs Assessment." Virginia Department of Rail and Public Transportation. June 2004.
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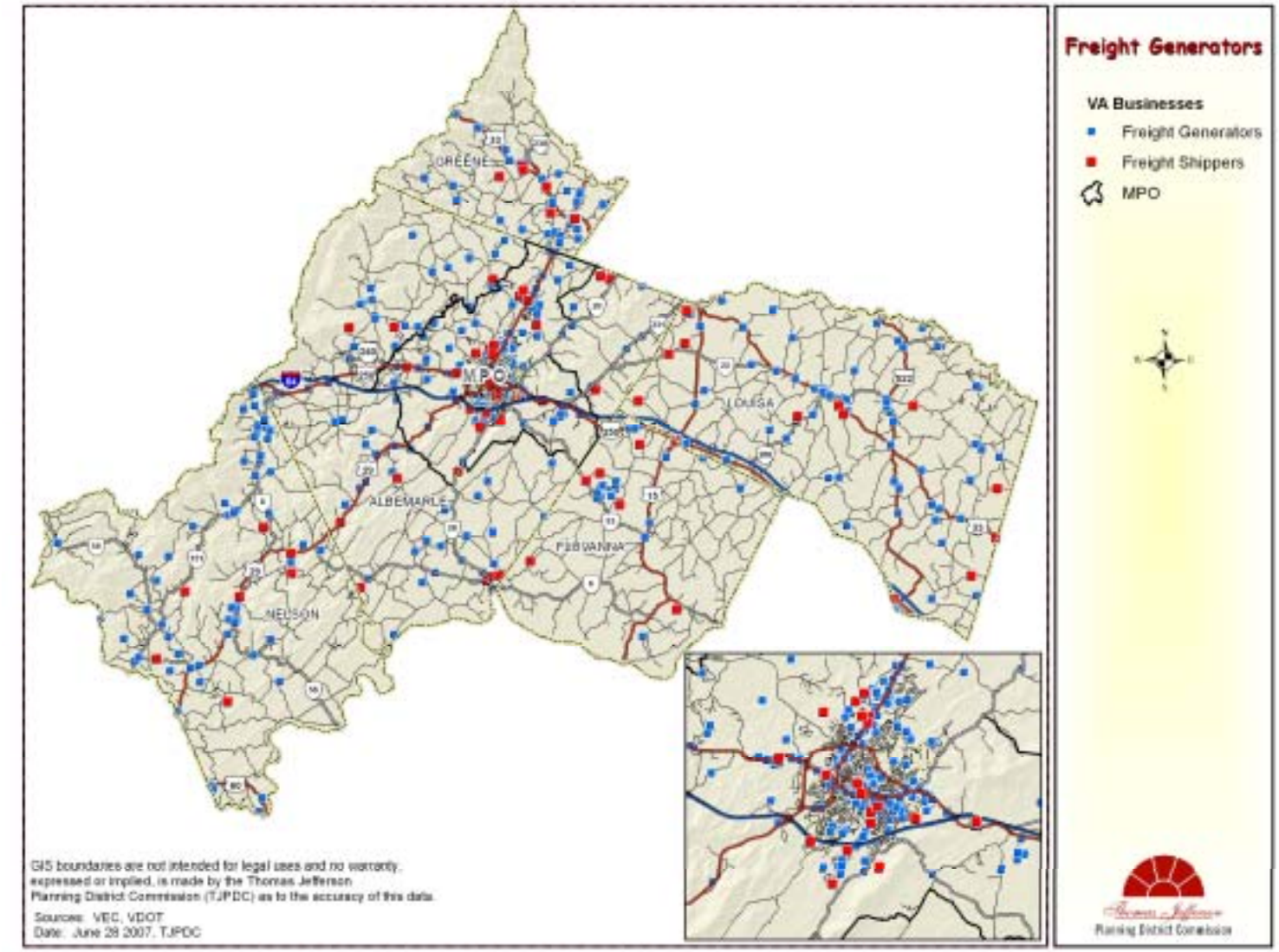
- Thomas, Daniel and Rosann O'Laughlin. "How a TV Made in China Affects Life in Chicago" *Planning Magazine*, May 2007.
- Thomas Jefferson Planning District Commission Regional Rail Conceptual Study http://www.tjpdc.org/transportation/transreports.asp
- Transportation Vision and Strategy for the 21st Century Summit www.transportationvision.org/docs/Agenda.pdf
- United Jefferson Area Mobility (UnJAM) Plan, May 2004
- US DOT FHWA Professional Development Program, Freight Glossary http://ops.fhwa.dot.gov/freight/fpd/glossary/index.htm#glossary
- "Virginia State Rail Plan: A Multimodal Strategy to Meet the Commonwealth's Passenger and Freight Transportation Needs Through 2025." Virginia Department of Rail and Public Transportation. June 2004.
- "Virginia State Rail Plan Summary." Virginia Department of Rail and Public Transportation. 2004.

- "Virginia's Multimodal Freight Study." Mid-Atlantic Super Region presentation, December 8, 2006.
- "Virginia's Transportation Performance Report." Virginia Department of Transportation. 2006.
- "State Profile – Virginia: 1998, 2010, 2020" U.S. Department of Transportation/Federal Highway Administration (04/2006) http://www.ops.fhwa.dot.gov/freight/freight_analysis/state_info/virginia/profile_va.htm
- Sustainable Packing Coalition, http://www.sustainablepackaging.org/pdf/Definition%20First%20Page.pdf
- Virginia Statewide Multimodal Freight Study, Phase I, Interview Summaries, July 16, 2007
- Vtrans2025, http://www.vtrans.org/

Appendix A: Freight Generators and Shippers



Appendix B: Glossary of Freight Related Terms and Acronyms

Average Annual Daily Truck Traffic (AADTT) - The total volume of truck traffic on a highway segment for one year, divided by the number of days in the year.
Bottleneck - A section of a highway or rail network that experiences operational problems such as congestion. Bottlenecks may result from factors such as reduced roadway width or steep freeway grades that can slow trucks.
Boxcar - An enclosed railcar, typically 40 or more feet long, used for packaged freight and some bulk commodities.
Breakbulk Cargo - Cargo of non-uniform sizes, often transported on pallets, sacks, drums, or bags. These cargoes require labor-intensive loading and unloading processes. Examples of breakbulk cargo include coffee beans, logs, or pulp.
Bulk Cargo - Cargo that is unbound as loaded; it is without count in a loose unpackaged form. Examples of bulk cargo include coal, grain, and petroleum products.
Capacity - The physical facilities, personnel and process available to meet the product of service needs of the customers. Capacity generally refers to the maximum output or producing ability of a machine, a person, a process, a factory, a product, or a service.
Carload - Quantity of freight (in tons) required to fill a railcar; amount normally required to qualify for a carload rate.
Carrier - A firm which transports goods or people via land, sea or air.
Centralized Dispatching - The organization of the dispatching function into one central location. This structure often involves the use of data collection devices for communication between the centralized dispatching function, which usually reports to the production control department and the shop manufacturing departments.
Chassis - A trailer-type device with wheels constructed to accommodate containers, which are lifted on and off.
Claim - Charges made against a carrier for loss, damage, delay, or overcharge.
Class I Carrier - A classification of regulated carriers based upon annual operating revenues-motor carrier of property greater than or equal to $5 million; railroads: greater than or equal to $50 million: motor carriers of passengers; greater than or equal to $3 million.
Class II Carrier - A classification of regulated carriers based upon annual operating revenues-motor carrier of property $1- $5 million; railroads: $10-$50 million: motor carriers of passengers; less than or equal to $3 million.
Class III Carrier - A classification of regulated carriers based upon annual operating revenues-motor carrier of property less than or equal to $1 million; railroads: greater than or equal to $10 million.
Classification Yard - A railroad terminal area where railcars are grouped together to form train units.
Coastal Shipping - Also known as short-sea or coastwise shipping, describes marine shipping operations between ports along a single coast or involving a short sea crossing.
Contract Carrier - A carrier that does not serve the general public, but provides transportation for hire for one or a limited number of shippers under a specific contract.
Commodity - An Item that is traded in commerce. The term usually implies an undifferentiated product competing primarily on price and availability.
Common Carrier - Any carrier engaged in the interstate transportation of persons/property on a regular schedule at published rates, whose services are for hire to the general public.
Container - A "box"' typically ten to forty feet long, which is used primarily for ocean freight shipment. For travel to and from ports, containers are loaded onto truck chassis' or on railroad flatcars.
Container on Flatcar (COFC) - Containers resting on railway flatcars without a chassis underneath.
Containerization - A shipment method in which commodities are placed in containers, and after initial loading, the commodities per se are not re-handled in shipment until they are unloaded at destination.
Containerized Cargo - Cargo that is transported in containers that can be transferred easily from one transportation mode to another.
Cubage - Cubic volume of space being used or available for shipping or storage.
Deadhead - The return of an empty transportation container back to a transportation facility. Commonly-used description of an empty backhaul.
Detention Fee - The carrier charges and fees applied when rail freight cars, ship and carriers are retained beyond a specified loading or unloading time.
Direct to store - Process of shipping direct from a manufacturer's plant or distribution center to the customer's retail store, thus bypassing the customer's distribution center.

Dispatcher - An individual tasked to assign available transportation loads to available carriers.
Distribution Center (DC) - The warehouse facility which holds inventory from manufacturing pending distribution to the appropriate stores.
Dock - A space used or receiving merchandise at a freight terminal.
Double-stack - Railcar movement of containers stacked two high.
Drop - A situation in which an equipment operator deposits a trailer or boxcar at a facility at which it is to be loaded or unloaded.
Durable Goods - Generally, any goods whose continuous serviceability is likely to exceed three years.
Exempt Carrier - A for-hire carrier that is free from economic regulation. Trucks hauling certain commodities are exempt from Interstate Commerce Commission economic regulation. By far the largest portion of exempt carrier transports agricultural commodities or seafood.
Flatbed - A trailer without sides used for hauling machinery or other bulky items.
For-hire Carrier - Carrier that provides transportation service to the public on a fee basis.
Freight All Kinds (FAK) - Goods classified FAK are usually charged higher rates than those marked with a specific classification and are frequently in a container that includes various classes of cargo.
Freight Forwarder - A person whose business is to act as an agent on behalf of a shipper. A freight forwarder frequently consolidates shipments from several shippers and coordinates booking reservations.
Free Trade Zone (FTZ) - An area or zone set aside at or near a port or airport, under the control of the U.S. Customs Service, for holding goods duty-free pending customs clearance.
Four P's - Set of marketing tools to direct the business offering to the customer. The four P's are product, price, place and promotion.
Gross Vehicle Weight (GVW) - The combined total weight of a vehicle and its freight.
Hazardous Material - A substance or material which the Department of Transportation has determined to be capable of posing a risk to health, safety, and property when stored or transported in commerce.
Hub - A common connection point for devices in a network. Referenced for a transportation network as in "hub and spoke" which is common in the airline and trucking industry.
Interline Freight - Freight moving from point of origin to destination over the lines of two or more transportation lines.
Intermodal terminal - A location where links between different transportation modes and networks connect. Using more than one mode of transportation in moving persons and goods. For example, a shipment moved over 1000 miles could travel by truck for one portion of the trip, and then transfer to rail at a designated terminal.
Inventory - The number of units and/or value of the stock of good a company holds.
Just-in-Time (JIT) - Cargo or components that must be at a destination at the exact time needed. The container or vehicle is the movable warehouse.
Lead-time - The total time that elapses between an order's placement and it receipt. It includes the time required for order transmittal, order processing, order preparation, and transit.
Less-Than-Containerload/Less-Than-Truckload (LCL/LTL) - A container or trailer loaded with cargo from more than one shipper; loads that do not by themselves meet the container load or truckload requirements.
Level of Service (LOS) - A qualitative assessment of a road's operating conditions. For local government comprehensive planning purposes, level of service means an indicator of the extent or degree of service provided by, or proposed to be provided by, a facility based on and related to the operational characteristics of the facility. Level of service indicates the capacity per unit of demand for each public facility.
Logistics - All activities involved in the management of product movement; delivering the right product from the right origin to the right destination, with the right quality and quantity, at the right schedule and price.
Neo-bulk Cargo - Shipments consisting entirely of units of a single commodity, such as cars, lumber, or scrap metal.
Node - A fixed point in a firm's logistics system where goods come to rest; includes plants, warehouses, supply sources, and markets.
Piggyback - A rail/truck service. A shipper loads a highway trailer, and a carrier drives it to a rail terminal and loads it on a flatcar; the railroad moves the trailer-on-flatcar combination to the destination terminal, where the carrier offloads the trailer and delivers it to the consignee.
Pool/Drop Trailers - Trailer that are staged at a facilities for preloading purposes.
Point of Sale (POS) - The time and place at which a sale occurs, such as a cash register in a retail operation, or the order confirmation screen in an on-line session. Supply chain partners are interested in capturing data at the POS because it is a true record of the sale rather than being derived from other information such as inventory movement.

Private Carrier - A carrier that provides transportation service to the firm that owns or leases the vehicles and does not charge a fee.
Private Warehouse - A company owned warehouse.
Pull Logistics System - "Just in time" logistics system driven by customer demand and enabled by telecommunications and information systems rather than by manufacturing process and inventory stockpiling.
Push Logistics System - Inventory-based logistics system characterized by regularly scheduled flows of products and high inventory levels.
Rail Siding - A very short branch off a main railway line with only one point leading onto it. Sidings are used to allow faster trains to pass slower ones or to conduct maintenance.
Reefer Trailer - A refrigerated trailer that is commonly used for perishable goods.
Regional Railroad - Railroad defined as line-haul railroad operating at least 350 miles of track and/or earns revenue between $40 million and $266.7 million.
Reliability - Refers to the degree of certainty and predictability in travel times on the transportation system. Reliable transportation systems offer some assurance of attaining a given destination within a reasonable range of an expected time. An unreliable transportation system is subject to unexpected delays, increasing costs for system users.
Reverse Logistics - A specialized segment of logistics focusing on the movement and management of products and resources after the sale and after delivery to the customer. Includes product returns and repair for credit.
Receiving - The function encompassing the physical receipt of material, the inspection of the shipment for conformance with the purchase order (quantity and damage), the identification and delivery to destination, and the preparation of receiving reports.
Shipper - Party that tenders goods for transportation.
Shipping Manifest - A document that lists the pieces in a shipment.
Short Line Railroad - Freight railroads which are not Class I or Regional Railroads, that operate less than 350 miles of track and earn less than $40 million.
Strategic Highway Network (STRAHNET) - A network of highways which are important to the United States' strategic defense policy and which provide defense access, continuity, and emergency capabilities for defense purposes.
Strategic Rail Corridor Network (STRACNET) - An interconnected and continuous rail line network consisting of over 38,000 miles of track serving over 170 defense installations.
Switching and Terminal Railroad - Railroad that provides pick-up and delivery services to line-haul carriers.
Supply Chain - Starting with unprocessed raw materials and ending with final customer using the finished goods.
TEU - Twenty-foot equivalent unit, a standard size intermodal container
Throughput - Total amount of freight imported or exported through a seaport measured in tons or TEUs.
Ton-mile - A measure of output for freight transportation; reflects weight of shipment and the distance it is hauled; a multiplication of tons hauled by the distance traveled.
Trailer on Flatcar (TOFC) - Transport of trailers with their loads on specially designed rail cars.
Transit time - The total time that elapses between a shipment's delivery and pickup.
Transloading - Transferring bulk shipments from the vehicle/container of one mode to that of another at a terminal interchange point.
Truckload (TL) - Quantity of freight required to fill a truck, or at a minimum, the amount required to qualify for a truckload rate.
Twenty-foot Equivalent Unit (TEU) - The 8-foot by 8-foot by 20-foot intermodal container is used as a basic measure in many statistics and is the standard measure used for containerized cargo.
Unit Train - A train of a specified number of railcars handling a single commodity type which remain as a unit for a designated destination or until a change in routing is made.
Vehicle Miles of Travel (VMT) - A unit to measure vehicle travel made by a private vehicle, such as an automobile, van, pickup truck, or motorcycle.
Warehouse - Storage place for products. Principal warehouse activities include receipt of product, storage, shipment and order picking.

Acronyms

AAPA - American Association of Port Authorities

AASHTO - American Association of State Highway and Transportation Officials

ACE - Automated Commercial Environment

ATA - American Trucking Association

BTS - Bureau of Transportation Statistics

CTPAT - Customs Trade Partnership Against Terrorism

CVISN - Commercial Vehicle Information Systems and Networks (CVISN), a national program administered by the Federal Motor Carrier Safety Administration designed to improve motor carrier safety and to enhance the efficiency of administrative processes for industry and government.

CVO - Commercial Vehicle Operations

FAST - Free and Secure Trade

FHWA - Federal Highway Administration

FMCSA - Federal Motor Carrier Safety Administration

FPD - Freight Professional Development

FRA - Federal Railroad Administration

HERS - Highway Economic Requirements Systems

HPMS - Highway Performance Monitoring System

ITE - Institute of Transportation Engineers

ITS - Intelligent Transportation System

MUTCD - Manual on Uniform Traffic Control Devices

NHS - Nation Highway System

STCC - Standard Transportation Commodity Classification

UFC - Uniform Freight Classification