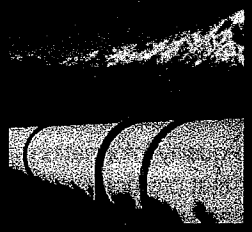
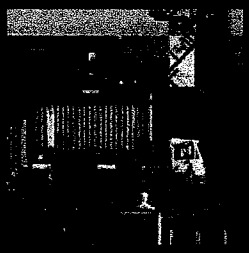
Statewide Freight Plan Template





U.S. Department of Transportation
Federal Highway Administration

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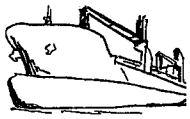
Purpose of the Statewide Freight Plan Template

Integrating freight in statewide transportation plans and/or developing a separate statewide freight plan has become increasingly important due to several factors:

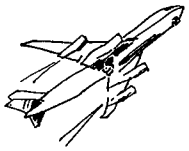
- Increasing globalization and a corresponding economic (National, State and Local) dependence on expanding supply chains and transportation reliability (water, air, rail, highway, and pipeline).
- Recognition by business leaders at all levels that efficient freight transportation is a key factor in economic (National, State, and Local) competitiveness and vitality.
- Heightened awareness from both the private and public sectors that investment from both are needed, if not required, to meet increasing freight transportation demands.
- Increasing demands for transportation among both passenger and freight interests creating stress on the transportation system resulting in congestion and bottlenecks in key locations that are detrimental to productivity.

These factors have contributed to a heightened emphasis in the Federal-Aid Highway program reflected in the bills from ISTEA (1991) to SAFETEA-LU (2005) (and anticipated) on freight transportation.

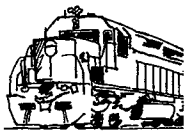
Freight transportation issues are complex, involving many stakeholders who have different views on and approaches to resolving the issues and challenges facing the freight transportation industry. Today, one of the biggest challenges facing public sector transportation professionals is incorporating freight perspectives into the transportation planning process. The template is intended to assist State DOTs in including freight analysis in the update of their plans and/or developing a separate freight plan. The template presents options for including freight in the planning process. Freight planning should not be conducted as an isolated element, but should be incorporated into the overall planning process. To incorporate freight planning elements into the plan, several issues will be faced, including data collection, inclusion of private sector freight representatives, conflicting planning timelines and forecasting freight traffic.



If a State decides to develop a freight plan, the State may find it helpful to use the entire document, or draw upon specific elements that are relevant to their unique situation.



States are encouraged to develop their freight plan in coordination with all public and private sector entities that are involved with freight movement. Outreach will be a key component of developing an effective freight plan. Developing and fostering relationships with all freight stakeholders will ensure that the plan addresses key issues and concerns of all involved in freight movement in the State.



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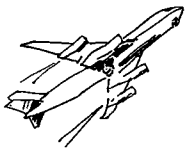

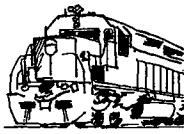

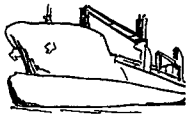

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Introduction

This Statewide Freight Plan Template is to assist state departments of transportation (DOTs) in developing a freight plan, or incorporating freight elements into a statewide transportation plan. The plan template is organized as shown in Figure 1. It begins with an Executive Summary and an Introduction, and then includes 12 sections on a variety of topics that play a role in freight transportation. It ends with a section for recommendations/action items and conclusion. In using this, a State may decide to use the entire template, or draw upon specific elements or sections of the template that are relevant to their unique situation.

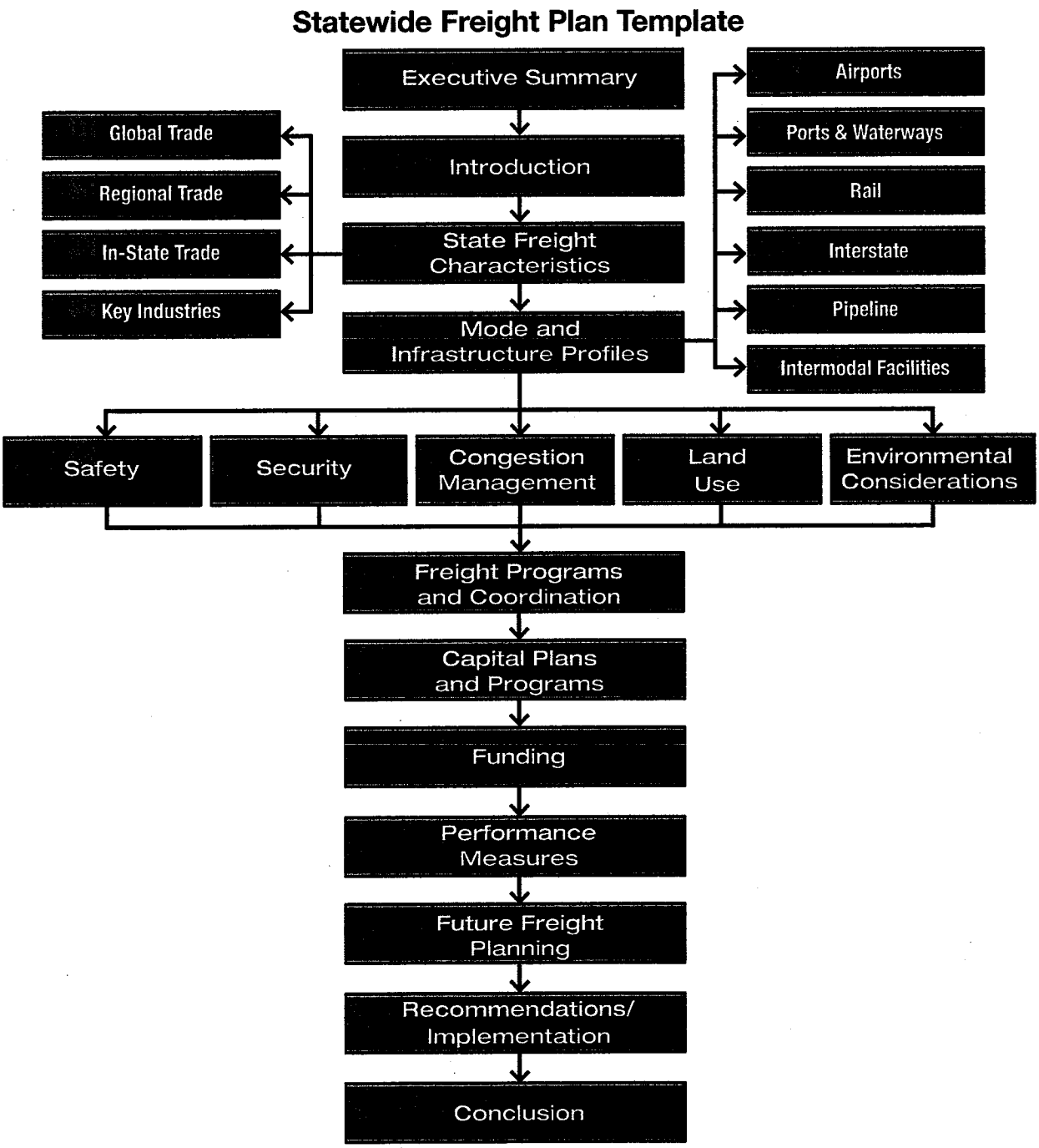


Figure 1. Organization of Statewide Freight Plan Template

Statewide Freight Plan Template

Insert State Name

Date

Executive Summary

This section provides a summary of the key components of the freight plan and should place emphasis on the recommendations developed.

Introduction

This section addresses the key purpose of the statewide freight plan, goals and objectives that should be considered when conducting freight planning, and potential outreach efforts needed in order to conduct freight planning.

Purpose

This section states the overall purpose of the freight plan. For example: Facilitate the safe, efficient movement of goods and freight throughout the State in an environmentally and fiscally responsible manner.

Goals and Objectives

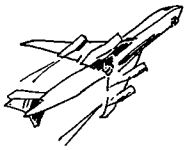
Statewide freight planning needs to address aspects of safety, security, economic development, mobility, and environmental impacts. This section provides a brief overview of current issues, policies, concerns, and requirements of these key areas.

Outreach

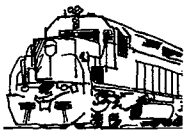
This section discusses current outreach activities, stakeholders, and planning steps to increase awareness of freight issues and improve freight planning. Examples of activities to include in this section are:

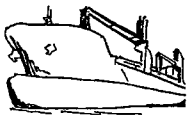
- Increase private and public understanding of system level goods movement and logistics issues.
- Strengthen partnerships and coordination with sister transportation agencies, other government organizations, private industry, and the public.

Statewide Transportation Planning and Programming (23 CFR 450.210) requires that in carrying out the statewide transportation planning process, including development of the long range statewide transportation plan and the STIP, the State shall develop and use a documented public involvement process that provides opportunities for public review and comment at key decision points.



The State's public involvement process at a minimum shall establish early and continuous public involvement opportunities that provide timely information about transportation issues and decision-making processes to citizens, affected public agencies, representatives of public transportation employees, freight shippers, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, providers of freight transportation services, and other interested parties.





Engaging the Private Sector

Private sector stakeholders are a valuable resource in the overall statewide and metropolitan transportation planning process. Their involvement could help identify regional, statewide, and multijurisdictional challenges and influence transportation programming and investment decisions by Local and State decisionmakers. Private-sector carriers provide nearly all the freight service locally, nationally, and internationally. These businesses execute the transportation arrangements with shippers and receivers, transport the goods, store and finish the goods when required, and receive payment for these services.

A cross section of all freight stakeholders in a State or region should be engaged, including:

- Shippers.
- Carriers.
- Terminal operators.
- Economic development agencies.
- Seaport and airport authorities.
- State and Local governments and other public agencies.
- Receivers (stores, industry etc.).
- Distribution Centers/Warehousing representatives.
- Commercial and industrial developers.

Engaging the private sector may require activities such as:

- Conducting focus groups with private sector stakeholders.
- Conducting interviews with private sector stakeholders.
- Holding conferences/meetings/workshops with private sector stakeholders.
- Implementing a freight advisory council.
- Exchanging data.
- Implementing the plan (ask them to help make it a reality).

This section of the plan should address the activities that will take place to engage the private sector.

Engaging the Public Sector

The public sector includes metropolitan planning organizations (MPOs), regional port organizations/authorities, and various municipal, county, State, and Federal entities including enforcement and emergency response. Each of these stakeholders plays a unique role, or mix of roles, in keeping the freight system operating efficiently. This section of the plan should address the activities that will take place to engage the public sector.

State Freight Characteristics

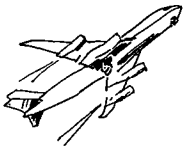
Freight knows no boundaries; it moves internationally and nationally, involving many countries, states, regions, and municipalities. This section addresses the major characteristics of the State's freight system and who needs to be involved with freight movement in and out of the State. This section should start with an overview of State economic structure and then present supply chains that are required by key industry sectors. This will lay the groundwork for tying the global, national, regional and intrastate freight flows and connections back to the economic activity within the State.

Economic and Demographic Data

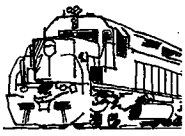
International and national freight movements play a significant role in the vitality of a State's economy. The ability of a State to efficiently handle freight movements will impact a region's economic competitiveness. The efficiency and effectiveness of freight transportation impacts the prices of consumer's goods and employment opportunities within a region. This section should identify the economic trends and forecasts that will affect freight, such as:

- Population.
- Employment by industry.
- Income.
- Imports and Exports.
- Industrial production forecast.
- Total taxable sales.
- Inflation rate.

Population characteristics can influence the patterns and demand for freight. People need products to support their daily lives. People, as consumers, play a vital role in determining the character and volume of goods moving within a State. This section should provide information on population density, median household income, population migration forecasts, and other important demographics that drive freight movement in the State.

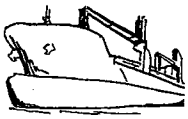


In addition, a State and/or region's plans or stated objectives, with respect to economic growth and development, will also affect freight transportation demand. *A Guidebook for Forecasting Freight Transportation Demand (NCHRP 388)* may be a helpful resource. It is available at: *http://pubsindex.trb.org/view.aspx?type=MO&id=483009*.



Overview of the Freight System

This section provides the context for discussing the goods movement and supply and logistics chain, as well as the demand for freight in the State. It should include a high-level description of the characteristics of freight, including what kinds of goods are moving, how much is moving, by what modes, and where the goods are coming from and going to. It should also provide general mapping of the supply chains of key industrial sectors.



There are many sources of information on interstate freight characteristics. Most are mode-specific, but some provide data on total freight movement between states and regions. Virtually all sources have limited usefulness for freight transportation planning, stemming from sampling and confidentiality constraints. The most comprehensive source of information on interstate freight movement is the national Commodity Flow Survey (CFS), conducted jointly by the U.S. Department of Transportation (Bureau of Transportation Statistics) and the U.S. Bureau of the Census. A good resource to help with the development of this section is the ***Quick Response Freight Manual*** Second Edition (QRFM). The QRFM is available at: *http://www.ops.fhwa.dot.gov/freight/publications/qrfm2/index.htm*.

Global and National Trade Characteristics

Major Characteristics of the Global Freight System

This section identifies processes and goals for the State's support of global and national trade through freight operations. This section discusses the key industry sectors, how much freight is moving, by what modes, and where the goods are coming from and going to *outside the boundaries* of the State.

This section should start by providing a high-level overview of the amount of freight (tons) moved through global and national trade, amount of freight by mode (ton/percentage), amount of freight by commodity, amount of freight by value, and analysis on importance of different modes.

Key Global Freight Corridors

Freight corridors provide connections to global markets. Corridors are links among modes (single or multi-modal). This section should identify the key freight corridors that connect the State with global trading partners and discuss information such as rail routes and major waterway channels. Key statistics to identify priority corridors include:

- Inbound/outbound destination by commodity type/weight/volume/value.
- Inbound/outbound origins.
- Vehicle Miles Traveled (VMT)/ Vehicle Hours Traveled (VHT)

International Relationships

International trading agreements establish guidelines for the movement of goods from one country to another. This section should identify any pre-existing agreements or cooperation among the various stakeholders involved (for example the North American Free Trade Agreement [NAFTA]) and related issues such as border crossings and customs requirements.

Passenger Linkages/Conflicts

This section should identify current passenger and freight interaction, linkages, and conflicts. This includes things such as highway congestion, shared rail lines, air passenger carriers that transport cargo, and inspection requirements for cargo.

Regional Trade Characteristics

It is important to understand the regional freight context in terms of major interstate movements to and from the State and how the State's facilities fit within the surrounding freight networks. Regional trade is defined as trade that crosses State boundaries, but is not necessarily national trade. For example, it involves trade among several states in a region, such as the Midwest or the Southwest, but not necessarily between regions. This section discusses the key industry sectors, how much freight is moving, by what modes, and where the goods are coming from and going to in a given region *that may include surrounding states*.

Overview of the Region

This section describes the geographic area that the region covers and identifies the key industry sectors, transportation needs, stakeholders, and economic impacts for the region.

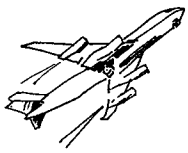
Major Characteristics of the Regional Freight System

This section should include charts and graphs that depict information such as primary destinations of interstate freight originating in the State, distance shipped for freight originating in the State, primary origins of interstate freight destined to the State, etc.

This section should start by providing a high-level overview of the amount of freight (tons) moved within the region, amount of freight by mode (ton/percentage) within the region, amount of freight by commodity, amount of freight by value, and analysis on importance of different modes within the given region.

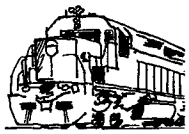
This section should also discuss any freight issues that affect the region, such as:

- Community concern or opposition to the development of freight facilities or land use proximate to residence of public facilities due to real or perceived negative impacts.
- Insufficient land for freight uses in market preferred locations.
- The loss of value-added economic development to neighboring states.



Key Regional Freight Corridors

Freight corridors provide connections to regional and interstate markets. Corridors are links among modes (single or multi-modal). This section should identify the key freight corridors within the region and discuss information such as primary interstates or alternative routes, rail routes, and major waterway channels. Key statistics to identify priority corridors include:



- Inbound/outbound destination by weight/volume/value.
- Inbound/outbound origins.
- Vehicle Miles Traveled (VMT)/ Vehicle Hours Traveled (VHT).

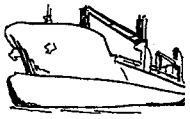
Jurisdictional Relationships within the Region

Freight movement involves all the levels of government and crosses city, county, and often State lines. This section should identify any pre-existing agreements or cooperation among the various stakeholders involved in the region.

Urban Area Considerations within the Region

Urban areas are densely populated areas. Urban goods movement issues are strongly linked to the distribution of consumer goods and the last mile of transportation. Therefore it gives rise to different needs, issues and challenges.

This section should identify any requirements or regulations that apply to areas within the region as they relate to freight movement, planning, or support. This may include truck parking regulations, delivery restrictions, environmental and noise considerations, congestion and its effects on just-in-time delivery, etc.



Passenger Linkages/Conflicts within the Region

This section should identify current passenger and freight interaction, linkages, and conflicts within the region. This includes things such as highway congestion, shared rail lines, air passenger carriers that transport cargo, and inspection requirements for cargo.

Intrastate Trade Characteristics

It is important to understand the intrastate freight context in terms of major intrastate movements wholly within the State and how the State's facilities fit within the surrounding freight networks. Intrastate trade is defined as trade that originates and ends within the State. This section discusses the key industry sectors, how much freight is moving, by what modes, and where the goods are coming from and going to *within the boundaries* of the State.

Major Characteristics of the Intrastate Freight System

This section provides a high-level overview of the amount of freight (tons) moved within the region, amount of freight by mode (ton/percentage) within the State, amount of freight by commodity, amount of freight by value, and analysis on importance of different modes within the given State.

Key Intrastate Freight Corridors

Freight corridors provide connections throughout the State. Corridors are links among modes (single- or multi-modal). This section should identify the key freight corridors within the State and discuss information such as primary interstates or alternative routes, rail routes, and major waterway channels. Key statistics to identify priority corridors include:

- Inbound/outbound destination by weight/volume/value.
- Inbound/outbound origins.
- Vehicle Miles Traveled (VMT)/ Vehicle Hours Traveled (VHT).

Jurisdictional Relationships within the State

Freight movement involves all the levels of government and crosses city, county, and often State lines. This section identifies any pre-existing agreements or cooperation among the various stakeholders involved within the State.

Urban Area Considerations within the State

Urban areas are densely populated areas. This section identifies any requirements or regulations that apply to areas within the State as they relate to freight movement, planning, or support.

Passenger Linkages/Conflicts within the State

This section identifies current passenger and freight interaction, linkages, and conflicts within the State. This includes things such as highway congestion, shared rail lines, air passenger carriers that transport cargo, and inspection requirements for cargo.

Characteristics of Key Industries

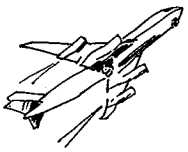
For the purpose of this section, the focus is on what happens within the State. Jurisdictional relationships that go outside the limits of the State are discussed elsewhere. This section provides an overview of freight characteristics and needs for the State's major industry groups. This information forms the basis of demand for freight transportation and thus the needs within a State and may be obtained by conducting interviews with key freight stakeholders in the State in order to gain insights and information on the present freight characteristics of major industries and the relative importance of efficient freight service to their businesses.

Industry information should include information such as:

- Business sectors and locations.
- Manufacturing vs. service industry, etc.
- Requirements for each industry.

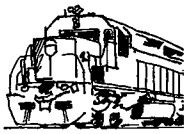
This section may also include information on retail, agriculture, manufacturing, and service industries, as well as other key industries that exist in the State.

Retail distribution has a significant impact on the State's economy. This section should include a brief overview of the retail sales and employment statistics and major retail.



Agriculture is directly dependent on the efficiency of the freight system. This section should include a breakdown of jobs and key products and include information such as:

- Food distribution (grocery stores/restaurants, etc).
- Security of the food chain.
- Federal Hazard Area Critical Control Points (HACCP).



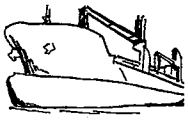
Manufacturing industries can include advanced manufacturing and natural resource manufacturing. This section should include a breakdown of the jobs and key products in the State.

Examples of advanced manufacturing include:

- Automotive industry.
- Electronics industry.

Examples of natural resource manufacturing include:

- Paper and forestry products.
- Mineral and ore mining.
- Petroleum.
- Natural gas.



Service industries are becoming increasingly important to a State's economy as they create significant demand for freight transportation. This section should include a brief overview of the service industry sales and employment statistics in major providers. Examples of service area industries include:

- Medical.
- Educational.
- Financial.
- Hospitality.

Characteristics of Key Commodities

This section provides an overview of freight characteristics and needs for the State's major commodities. A mapping from key industries to the commodity flow data provides the linkage between "employers" and freight transportation.

Terminals, Warehousing/Distribution Centers, and Support Facilities

Warehouses and distribution centers are an often-overlooked element of the freight transportation system because they are not transportation conveyances – the typical elements addressed by public-sector transportation agencies. However, just as the freight transportation modes have altered their functions and business relationships to meet changed customer needs, so have the warehouses.[1] This section should present the context and issues of warehousing freight, distribution centers, and support facilities in the State, with a discussion of current initiatives and recommended strategies to address these issues.

Warehouses and distribution centers are primarily used for the receipt, temporary storage, possible modification/customization, and distribution of goods that are en-route from production sites to where they are consumed.

Support facilities include facilities such as truck rest stops, equipment storage, maintenance facilities, interchange yards, terminals, rest areas/passing sidings, and staging areas.

1 From New Jersey Comprehensive Statewide Freight Plan, September 2007, New Jersey Department of Transportation.

Modal Infrastructure and Traffic Profiles

This section provides a detailed description of the various modes used to transport freight in the State, focusing on the major commodities for each mode and how they are transported, infrastructure, and current issues within each mode. It is important to have an understanding of the role each mode plays in the State's freight infrastructure and the important connections between those modes. The decisions on routes, modes, time of day, etc. are often very different in terms of who makes the decision, why the decisions are made, where the decisions are made and when they are made.

The Commodity Flow Survey (CFS) is the primary source of national and State-level data on domestic freight shipments by American establishments in mining, manufacturing, wholesale, auxiliaries, and selected retail industries. Data are provided on the types, origins and destinations, values, weights, modes of transport, distance shipped, and ton-miles of commodities shipped.

Air

This section describes the aviation system, principal commodity flows, and infrastructure.

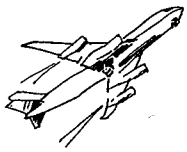
Ports and Waterways

This section describes the port and waterways systems, principal commodity flows, and infrastructure which include:

- International Ports.
- Inland Ports.

Rail

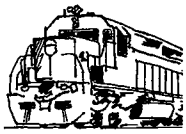
This section describes the rail system, identifies Class 1 and Short Line railroads, describes principal commodity flows, and infrastructure.



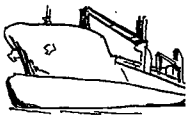
Highway

This section describes the highway system, principal commodity flows, and infrastructure. The highway system includes:

- National Highway System (NHS).
- National Network (NN).
- State Routes.
- Local Routes.



Intermodal freight connectors are the public roads that connect major intermodal terminals to the highway network. They are critical components of the transportation system and important conduits for the timely and reliable delivery of goods and services. The National Highway System freight connectors were designated in cooperation with State departments of transportation (DOTs) and metropolitan planning organizations (MPOs) based on criteria developed by the U.S. Department of Transportation. The criteria considered the level of activity of an intermodal terminal and its importance to a particular State.



This section describes the condition and performance of the intermodal connectors in the State, identifies needed improvements, and should provide a list of these roads.

The FHWA Office of Planning lists intermodal connectors for each State at *http://www.fhwa.dot.gov/planning/nhs/intermodalconnectors/index.html.*

Pipeline

This section describes the pipeline system, infrastructure, and principal commodity flows.

Intermodal Facilities

This section describes the intermodal facilities and their multi-modal linkages, principal commodity flows, and infrastructure. Intermodal refers to the transfer of freight from one mode of transportation to another. Intermodal freight facilities include container cargo transfer facilities, elevators, terminals, vehicle ramps, and other fixed locations where freight is transferred between modes or systems.

Safety

This section discusses any and all safety concerns and requirements related to freight movement in the State, such as:

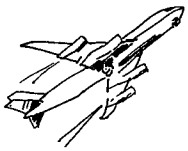
- Crash prevention.
- Response to incidents.
- Emergency planning.
- Regulatory considerations.
  - Regulatory codes define standards and procedures for truck operations in states. These codes spell out the permitted routes, width restrictions, length requirements, weight restrictions, and access to terminals and other facilities.
- Commercial Vehicle Information System Networks (CVISN).
- Work zones (both design and implementation considerations).
- Hazardous materials routes.

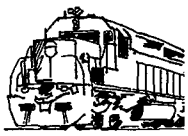
This section should provide statistics on trucks involved in crashes relative to total crashes and mapping of incident locations that may reveal safety hotspots with regards to commercial vehicles.

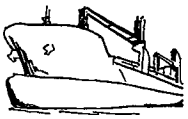
Security

This section discusses any and all security concerns and requirements related to freight movement in the State, such as:

- Protection of transportation assets – facilities, vehicles, and supporting infrastructure (communications structures and power stations).
- Protection from transportation assets being used as instruments in carrying out attacks.
- Commercial Vehicle Information System Networks (CVISN).
- Movement and handling of hazardous materials.
- Securing the supply chain.
- Theft.







Congestion Management

Congestion contributes to making transit times longer and more unpredictable. The two key concepts in congestion management that impact freight transportation are recurring vs. non-recurring congestion. Recurring congestion is predictable and carriers can plan for this normal state of affairs to ensure timely deliveries. Rush hour(s) in metropolitan areas are a good example of recurring congestion that trucks can avoid in several ways. Non-recurring congestion such as crashes or work zones can hamper just-in-time inventory management and hinder some production processes. Congestion of both kinds can increase the cost of freight but non-recurring congestion usually has the greater impact. For example the frequency of incidents and work zones in an area has a direct impact on the efficiency of moving goods. This section addresses current issues and strategies to manage congestion of both kinds, and thereby increase the mobility of people and freight within the State, such as:

- Intelligent transportation system (ITS) strategies such as weigh station pre-screening, weigh in motion, virtual weigh stations, location tracking, RFID, and advanced traveler information systems.
- Planning for deliveries during off peak hours in urban areas.
- Implementing commercial vehicle parking programs in urban areas.
- Building freight villages – grouping together freight land uses in order to provide the sufficient infrastructure and accommodate the needs of commercial vehicles.
- Shifting a portion of truck traffic to rail and other modes.
- Design and construction of truck-only facilities.
- Promoting extended hours. Extending the hours of ports, warehouses, and consignees would allow for truckers to take advantage of operating in less congested (non-peak) conditions.
- Coordinating off-peak period incentive tolling (for cars).
- Implementing electronic tolling.
- Scheduling of work zones and coordinating alternate routes.
- Monitoring of network conditions using real time data.
- Improving practices at terminals and border crossings.
- Effective incident management approaches that result in timely removal of free flow impediments.

Land Use

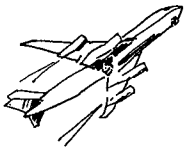
This section discusses land use, to include jurisdiction and authority over land use decisions and policies and conflicts within the State. It also discusses existing and potential land use impacts on the transportation system.

In Minnesota[2], for example, county and municipal governments have made land use decisions that may be in conflict with existing freight transportation facilities. This is particularly notable in port locations where new residential and commercial uses are encouraged and displace existing freight facilities.

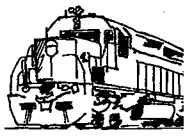
In Southern California[3], the lack of availability of land and competition for use of this land in developed areas has resulted in high costs for expansion of freight facilities surrounding some ports, airports, intermodal terminals, and truck terminals, thus forcing the freight transportation industry to look to outlying areas for facility growth. This exacerbates sprawling development patterns forcing an increase in vehicle miles for trucks. In addition, increased distances to destinations and requirements for delivery and pick up of freight increase the number of trucks forced to travel during peak hours adding to existing congestion. Ports, for example, can have restricted hours of operations and many retail stores do not want to pay staff to accept deliveries in off hours.

Issues to be discussed in this section include:

- Remediation costs.
- Residual liability assessment.
- Transportation access improvements.
- Proximity to public residency.
- Journey to work.
- Location of freight generators.
- Insufficient land.
- Competition for land.
- Zoning.

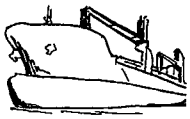


This section should include possible solutions/recommendations for the issues where possible. For example, the Minnesota Statewide Freight plan includes the following recommendation:



- **Promote regional and local collaboration to improve compatibility of freight facilities with adjacent land uses.** Local and regional jurisdictions typically do not seek to accommodate, protect or promote freight uses in their physical planning activities, including land use and transportation plans. Intermodal facilities and freight generators have operational requirements that create noise, traffic and visual issues that are often in conflict with adjacent land uses. To preserve important existing freight uses and to minimize conflicts, Mn/DOT will promote the exchange of ideas and solutions such as the development of "freight villages." This will encourage the development of facilities in key locations and protect existing facilities from land use conflict. Model ordinances and design guidelines may be effective tools for encouraging integration of freight industrial uses into local development and redevelopment efforts.

2 From Minnesota Statewide Freight Plan, May 2005, Minnesota Department of Transportation.
3 From Southern California Regional Freight Study, 2002, Federal Highway Administration Office of Operations.



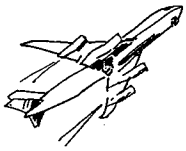
Environmental Considerations

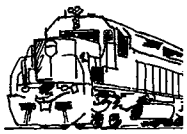
Environmental resources can affect and be affected by all aspects of freight transportation, including the location of facilities, goods movement, vehicle performance, and energy use. Planning new or expanded intermodal facilities can require evaluating a broad range of potential environmental and related social impacts. Planning for federally aided facilities requires funding applications, and coordination and review among Local, State, and Federal transportation agencies as well as environmental review agencies. The attention paid to the environmental impacts of potential intermodal facilities is both an opportunity to advance many projects, and a potential source of delay and/or an obstacle to construction. Careful consideration of environmental resources in the planning phase combined with flexible design can greatly reduce conflicts resulting in a better project delivered faster.

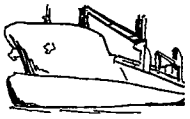
This section includes a discussion of key environmental issues and recommendations/solutions. It may also include a discussion of NEPA analysis for freight projects being undertaken by the State. Issues to discuss include:

- Air quality:
  - Emissions standards:
    - Nitrogen oxide.
    - Particulate matter.
    - Greenhouse gas.
  - Idling reduction.
- Cultural Resources:
  - Historic preservation.
  - Cultural properties.
- Hazardous Waste:
  - Contaminated materials and disposal.

- Natural Resources:
  - Endangered species.
  - Wildlife habitat.
  - Wetlands.
  - Marine habitat.
  - Introduction of non-indigenous species (habitat and species impacts).
- Noise/Vibration:
  - Quieter vehicles.
  - Noise barriers.
  - Improved technology and parts (for example mufflers).
  - Idling.
- Socioeconomic:
  - Environmental justice.
  - Community impacts.
    - Displacement.
    - Disruption.
  - Introduction of non-indigenous species:
    - Economic impacts (for example the spread of the zebra mussel).
  - Economic impacts (tax base, economic development, jobs etc.)
- Water:
  - Dredging and port development:
    - 404 permits.
  - Water quality/storm water runoff.







Freight Programs & Coordination

This section discusses current programs and partnership agreements with the private sector, Federal agencies, other State agencies, MPOs, and Local agencies. Some examples include:

- Forging partnerships with private sector freight carriers, shippers, and industry, as well as local governments, in working toward the goal of improving the freight transportation system, which includes infrastructure, services and business practices.
- Rail programs that involve regional railroad authorities or individual rail lines.
- Partnerships with the private sector to bridge the gap between needs and funding.
- Airport development and maintenance programs that involve the private sector. Grants and loans go to the municipality for improvements to runways, taxiways, aprons, lighting and instrumentation. These improvements may be needed to keep or bring commercial air service to larger State airports.
- Developing relationships with resource and regulatory agencies such as:
  - Departments of Environmental Quality at the State level.
  - Department of Housing and Urban Development.
  - Department of the Interior.
    - Bureau of Land Management.
  - Department of Transportation.
    - Federal Highway Administration.
  - Environmental Protection Agency.
  - Federal Trade Commission.
  - Federal Maritime Commission.
  - International Trade Commission.
  - Trade and Development Agency.

Capital Plans and Programs

This section discusses the deficiencies of the freight system, needs level, and strategies to move forward with both Federal and State capital investment and the roles and responsibilities of those involved. It also discusses Local agency roles, responsibilities, and programs.

Freight Needs

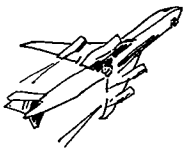
This section defines the issues and problems in the State that need to be addressed in order to be able to effectively manage freight. For example:

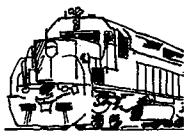
- Bottlenecks.
- Cost.
- Capacity expansion.
- Data.
- Deficiencies.

Capital Plans and Programs

This section discusses current and potential capital plans and programs to help sustain and improve infrastructure and address the problems in the previous section. Examples of capital investment plans may include:

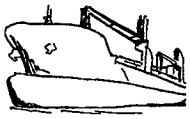
- Rail Capital Investment Policy Plan.
- Airport Capital Facility Program.
- Highway.





Funding

Funding is from a mix of many sources: Federal, State, Local and private sector. This section lists freight transportation project funding issues and describes strategies for resolving these issues. It may include a table of funding strategies that weighs the pros and cons of the strategies, as well as indicates the likeliness of being able to use the strategy (i.e., a public/private partnership would work well, but the State does not have enabling legislation to use this strategy).



A good resource to help with development of this section is the ***Financing Freight Improvements*** guide, available at *http://www.ops.fhwa.dot.gov/freight/publications/freightfinancing/index.htm*. This guide describes funding and financing tools for freight investments.

The funding strategies discussed in this section should be tied to the identified needs and capital plans described in the previous section. All possible funding options should be considered, to include Federal, State, Local, and private options, as well as a combination of these options.

This section may include information on the various freight programs in the State that are eligible for funding. It should discuss what funding strategies are possible or allowable for these programs and how the funding can be obtained. Other programs that may have dedicated sources of funding and should be considered for inclusion in this section are rail grade crossing safety improvement programs, rail rehabilitation programs, port development and improvement programs, and airport improvement programs.

This section may also include recommendations for integrating freight programs and projects with other transportation investment activities. Examples of actions include:

- Coordination with other public agencies at the State and national level (such as the U.S. Department of Agriculture) to reveal areas where investment programs intersect, yielding complementary funding for specific improvements.
- Development of public/private partnerships between the State and the private-sector freight industry to leverage funds for project-specific improvements.
- Establishment of a process that allows the staff knowledgeable in freight transportation within a State DOT (freight office and/or freight division) to provide input on major investment studies on system plans where freight is a major element and on corridor studies where heavy commercial vehicles exceed certain thresholds (for example, more than ten percent of daily traffic or more than 1,500 trucks per day). This would ensure that freight issues are more adequately and systematically addressed. National Highway System Intermodal Connectors should be targeted for Federal funding as needed when these opportunities arise.

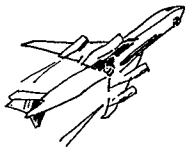
Performance Objectives and Measures

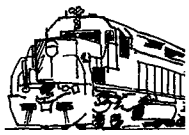
Establishing freight transportation performance objectives relative to system performance will provide a focus of action for a State DOT with respect to freight transportation. Performance measures should be implemented so a State can determine if it is achieving its objectives and to quantify and assess outputs and outcomes relative to expectations. Monitoring system performance on a regular basis provides states with vital information on how well the system is performing and how system performance changes over time. It also provides a measuring stick to assess the effects of current and future initiatives on system performance objectives to help determine the impact of investment choices. Performance measures can also serve as indicators of economic health and traffic congestion. This section should identify system performance objectives relative to freight and freight performance measures that are currently in use, such as:

- Travel Time in Freight Significant Corridors, available at: *http://www.ops.fhwa.dot.gov/freight/freight_analysis/travel_time.htm*.
- Border Crossing Delay, available at: *http://www.ops.fhwa.dot.gov/freight/border_crossing.htm*.
- Expenses per Mile for the Motor Carrier Industry.
- Velocity and throughput.
  - Average transit time (multimodal).
  - Truck turn times inside terminals (sea ports and trucks).
  - Average container dwell time (sea ports).
  - Reliability.
  - Variance in trip time.
  - Berth availability.

The performance measures may be broken down by mode.

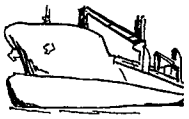
This section should identify performance targets to allow the State to track system performance and to know whether it is achieving its performance objectives. The ***Minnesota Statewide Transportation Plan***, for example, focuses on three target horizon years: six years, ten years and 20 years. Setting targets will require the collection of historical and forecasted data. Therefore, this section should also discuss freight data being collected and how this data is being used to support performance measurement.





Future Freight Transportation Planning

This section discusses the future of freight planning for the State. It identifies emerging trends and opportunities for further integration of freight into transportation planning and identifies potential issues that may arise with strategies to resolve those issues.



Future Trends/Opportunities

This section discusses emerging trends and new technologies within the freight community that can lead to new opportunities for integration into transportation planning and for a more efficient freight network. Some examples of emerging trends and technology include:

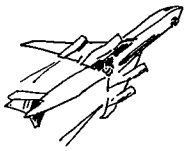
- More frequent delivery of smaller shipments (which reflects both the need to have cargo arrive "just in time" for its use in the production process or stores, as well as the multiple-stop home delivery patterns of mail order and Web-based purchases).
- More substituting of mode used is occurring.
- Technology is more tightly integrated with physical freight movement (radio frequency identification [RFID], which allows GPS real-time tracking of shipments).

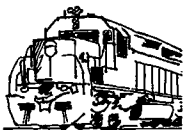
Future Issues and Strategies

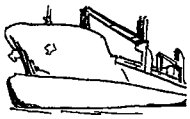
This section discusses the key issues confronting the freight system, current initiatives in place to address these issues, and suggested improvement strategies, including, where applicable, criteria for measuring performance. Some examples of issues include:

- Airports:
  - Planning amidst uncertainty.
  - Movement of high-value goods.
  - Movement of time-sensitive goods.

- Ports/Waterways:
  - How to best move the increasing volumes of maritime cargo inland.
  - Deepen and maintain key channels.
- Rail:
  - Constraints on throughput and terminal capacity.
  - Lack of rail network interoperability.
  - Grade crossings.
  - Lack of rail car storage and sidings.
- Highway:
  - Increasing delays caused by congestion.
  - Underutilization of off-peak period roadway capacity.
  - Lack of support facilities.
    - Federal and State statutes currently prohibit using rest areas on Interstates for commercial purposes.
    - Roadway conditions.
    - Lack of paved shoulders.
    - Size and weight limits.
- Infrastructure:
  - Asset management.
  - Geometric impediments.
  - Condition impediments.
  - Connectivity impediments.
- Warehousing/Distribution Centers:
  - Truck traffic associated with goods movement to and from warehouses and distribution centers.
  - Competition for distribution center sites.







Recommendations/Implementation of the Plan

This section presents recommendations and implementation action items for enhancing goods movement in the State. Recommendations should address enhancement of infrastructure, operations, and effective institutional changes that promote accessibility, connectivity, and efficiency for users of the State's public and private transportation system. The recommendations and action items should be broken down into realistic timeframes, such as short, mid, and long term and may also be tied to specific dates or periods of time (i.e., third quarter 2010).

Global and National Action Items

This section describes global and national action items for enhancing goods movement. Some examples of recommendations include:

- Participate in multi-jurisdictional coalitions (such as the I-95 Coalition, The Gary-Chicago-Milwaukee Corridor, and the West Border Transportation Coalition).
- Develop improved data and analysis tools to help determine where it is best to target infrastructure improvement to mitigate current and forecast congestion.
- Shift a portion of truck traffic to rail or water.
- Incorporate operational improvements including but not limited to Intelligent Transportation Systems (ITS) into freight systems.

Regional Action Items

This section describes regional action items for enhancing goods movement. Some examples of recommendations include:

- Develop a freight component to travel demand models.
- Participate in multi-jurisdictional coalitions (such as the I-95 Coalition, The Gary-Chicago-Milwaukee Corridor, and the West Border Transportation Coalition).
- Develop improved data and analysis tools to help determine where it is best to target infrastructure improvement to mitigate current and forecast congestion.
- Shift a portion of truck traffic to rail and other modes.
- Incorporate operational improvements including but not limited to Intelligent Transportation Systems (ITS) into freight systems.

Intrastate Action Items

This section identifies intrastate action items for enhancing goods movement. Some examples of recommendations include:

- Develop a freight component to travel demand models.
- Develop improved data and analysis tools to help determine where it is best to target infrastructure improvement to mitigate current and forecast congestion.
- Shift a portion of truck traffic to rail and other modes.
- Incorporate operational improvements including but not limited to Intelligent Transportation Systems (ITS) into freight systems.
- Integrate freight considerations into municipal planning.

Infrastructure Action Items

This section identifies infrastructure action items for enhancing goods movement. Some examples of recommendations include:

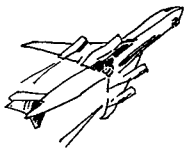
- Maintenance and preservation of existing infrastructure.
- Rail improvements.
- Aviation improvements.
- Highways.
- Intermodal connectors.

Lifecycle and Asset Management Action Items

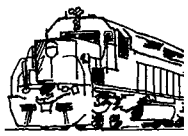
This section describes the actions the State is taking in order to manage, maintain, and enhance its existing capital assets. Managing the State's transportation assets is a systematic process of maintaining, upgrading, and operating physical assets effectively and efficiently. Some examples of actions include:

- Establish goals and objectives through a strategic plan.
- Collect the system data.
- Develop appropriate performance measures.
- Identify standards and benchmarks.
- Develop alternative scenarios.
- Make decisions based on the results of the scenarios.
- Develop a program.
- Implement the program.
- Monitor and report the results.

Outreach Action Items



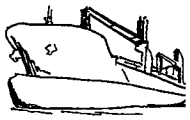
This section discusses potential outreach activities, stakeholders, and planning steps in order to gain support for recommendations and implementation activities to help improve the freight planning process.



- Increase private and public understanding of system level goods movement and logistics issues.
- Strengthen partnerships and coordination with sister transportation agencies, other government organizations, private industry, and the public.
- Engage the private sector.
  - Focus groups.
  - Interviews.
  - Conferences.
  - Freight advisory council.
- Engage the public sector.
- Community.
- Engaging the general public (or public at large).

Conclusion

This section summarizes the key points of the plan and discusses next steps for implementing the plan. It may include a schedule of actions, which would need to be updated over time, as well as key contacts, resources, and other pertinent information.



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16. Abstract

This report provides a template that State Department of Transportation (DOTs) can use to develop a Statewide Freight Plan. Elements of this Statewide Freight Plan can be used by States individually or in its entirety to develop their freight plan. Examples from New Jersey, Minnesota, and Southern California are provided to show how agencies have used a format similar to the one showcased here to advance their freight programs.

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