GREATER CHARLOTTE
REGIONAL FREIGHT MOBILITY PLAN

APPENDIX F

BEST PRACTICES IN FREIGHT PLANNING

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TABLE OF CONTENTS

1. Introduction

The purpose of this technical memorandum is to provide an overview of transportation and freight planning best practices that the region can employ as the plan is implemented. CCOG is not directly responsible for implementing all the recommendations and best practices identified through this planning process as it is partnering with planning agencies across the region to develop this cohesive vision and freight planning direction for the Charlotte region. This document provides the guidance for planners to identify and implement the recommended best practices that are appropriate for their agency or company.

1.1 Freight Best Practices

Freight planning has now become a required part of the transportation planning efforts of states, metro regions and local governments. The *Moving Ahead for Progress in the 21st Century Act* (MAP-21) in 2012 and the subsequent *Fixing America's Surface Transportation Act* (FAST Act) of 2015 placed an awareness and emphasis on freight planning at both the state and regional levels. In the current business environment, cost effective, time sensitive transportation services are increasingly a strategy for competitive advantage in manufacturing and service based industries. To attract economic development in this new environment, planning agencies must understand and support freight and logistics transportation needs. One of the primary strategies planning agencies may employ to meet these needs is the application of freight planning best practices.

> *Freight Planning best practices are "innovative techniques used to optimize freight movement while also optimizing mobility for all users." Freight Best Practices may range from high level policy recommendations to specific improvement projects.*

1.2 Freight Best Practice Guidance

There are a variety of sources implementing and publishing freight best practices. A short review finds notable examples at the federal, state and regional levels.

1.2.1 Federal

The USDOT published its draft National Freight Strategic Plan (NFSP) in October of 2015. The NFSP aims to describe the freight transportation system and future demands on it; identify major corridors and gateways; assess physical, institutional, and financial barriers to improvement; and specify best practices for enhancing the system. The draft plan provides strategies for addressing three types of bottlenecks and specific tactics relating to best practices for each group of strategies:

1. **Infrastructure Bottlenecks** are physical locations (e.g., bridges, urban highway interchanges, border crossing facilities, at-grade railroad crossings, truck gates at ports) where the free flow of goods is disrupted.

2. **Institutional Bottlenecks** prevent effective decision-making within transportation institutions, agencies, or organizations. Institutional bottlenecks hinder stakeholders' abilities to effectively plan, oversee, manage, or invest in the freight transportation system, thereby impeding the safe and efficient movement of goods.

3. **Financial Bottlenecks** present challenges to making adequate, strategic, and effective investments in the freight transportation system.

The NFSP and associated efforts of the USDOT are excellent sources of best practices in freight and transportation planning. For additional information, the plan may be found at:

https://www.transportation.gov/sites/dot.gov/files/docs/DRAFT_NFSP_for_Public_Comment_508_10%2015%2015%20v1.pdf

1.2.2 State

In 2009, North Carolina established a Governor's Logistics Task Force with the charge of issuing recommendations to ensure that people and goods are able to move efficiently across North Carolina. The Task Force included four subcommittees, including a Best Practices subcommittee. The Best Practices subcommittee was charged with examining successful logistics plans from other states to determine what might work in North Carolina. The subcommittee was specifically tasked with examining three areas of opportunity and developing others resulting from the subcommittees efforts.

The Best Practices subcommittee submitted its report to the Task Force in August, 2011. The report included six recommendations or best practices that the state could undertake to improve Freight and Logistics in the state. These recommendations are as follows:

1. Building on Governor Perdue's Executive Order 85 and the creation of the State Logistics Coordinating Council, North Carolina should create "Logistics Authority" or "Logistics Division," to be operated within the NC Department of Transportation.
2. We recommend that North Carolina create a series of regional facilities (they could be called International Logistics Hubs, or anything similar) that are both connected in practice to one another, and operate seamlessly with our State's transportation assets and the global trade system. These might vary in size and exact function due in part to the nature of the businesses that use them and the commodities they move, but they should all still share certain traits. Each would be a multi-modal transload facility with assembly, distribution, handling, and customs-related capabilities.

3. In light of modern global economic conditions and practices, we recommend that both of North Carolina's seaports be fully capable of providing container, bulk, and break-bulk services.
4. On the subject of rail opportunities, the subcommittee recommends that any or all of the following objectives be pursued:
    a. Dual Class One rail service to both the Port of Morehead City and the Port of Wilmington.
    b. "Quasi-Dual Class One" rail service to both ports can be accomplished by establishing fully capable "mirror-image" ports in Wilmington and Morehead City, with on-dock rail service.
    c. The NC Railroad could take more control of the Raleigh to Morehead City segment with open trackage rights (toll road-type) for use by both Class One railroads, shortline railroads, and even potentially the NC Railroad as an operator itself.
5. We recommend that North Carolina work to enhance and support the military by working to secure the direct service air-travel needed between Fayetteville and Washington, D.C.
6. We recommend continuation and strong support for NCDOT's needs based highway planning functions, including Prioritization 2.0 and the 2040 Statewide Transportation Plan.

Additional details on the areas of consideration and proposed best practices can be found in the subcommittee's final report at: https://www.ncdot.gov/download/business/committees/logistics/BestPracticesRecommendations.pdf.

1.2.3 Regional

Similar to the federal and state examples, Metropolitan Planning Organizations and other regional agencies have also identified ways to integrate freight planning into existing programs and planning efforts. Some have also completed new stand-alone studies and plans focusing on freight.

Some of these efforts predate MAP 21 and the FAST Act as regional and local agencies identified the need for greater freight planning. In 2009, Wisconsin DOT sponsored a study conducted by the University of Wisconsin's National Center for Freight and Infrastructure Research and Education titled, *Best Practices in Freight Planning*. The study reviewed a variety of state and MPO plans as well as interviewing key planners involved in the freight planning efforts. The identified best practices covered all types of efforts relating to plan development including, committees, working with the freight community, workshops, performance measures, data, modeling, implementation and others.

The full report can be found at the following location: http://www.wistrans.org/cfire/documents/MVFC03_FR.pdf

A second study focusing on Metropolitan Transportation Plans (MTPs) was completed by USDOT in 2012 and titled, *Best Planning Practices: Metropolitan Transportation Plans*. While not explicitly focused on freight this study examined the roles that MTPs play in implementing a regional transportation vision. The study also examined the ways in which MTPs demonstrated implementation of federal transportation guidance and local preferences, both of which may include

freight planning. The study is considered a resource for peer MPOs to have available as best practices for coordinating with partners and developing their own MTPs.

The full report may be found at the following location:
https://www.planning.dot.gov/documents/BestPlanningPractices_MTP.pdf

2. Greater Charlotte Regional Freight Plan Best Practices

Freight planning best practices are those actions or recommendations that when implemented optimize freight traffic and mobility for all users. These best practices were developed from stakeholder input, plan development team research on the state of the practice, and other related planning efforts. The following subsections provide examples of recommended practices that may be implemented by CCOG, partner agencies, and other freight stakeholders. These best practices have been organized into four categories for ease of understanding and application by planning practitioners:

1. Planning, Land Use, and Coordination
2. Environmental Sustainability
3. Safety and Security
4. Technology

2.1 Planning, Land Use, and Coordination Best Practices

These best practices pertain to the transportation and land use planning processes and coordination among planning agencies and stakeholders. These efforts seek to find efficiencies and break down barriers formed by institutional or policy based conditions. These are related to the institutional bottlenecks discussed in the National Freight Strategic Plan.

Examples

- Coordinate freight planning efforts at the regional level
  - Atlanta Regional Freight Mobility Plan - http://www.cqgrd.gatech.edu/node/3554
  - Tampa Bay Regional Strategic Freight Plan - http://tampabayfreight.com/strategic-freight-plan-web-document/

- Establish a standing Freight Advisory Committee
  - Nashville Area MPO - http://www.nashvillempo.org/regional_plan/freight/fac.aspx

- Incorporate freight considerations into all plans (comprehensive land use plans, long range transportation plans, etc.)
  - National Cooperative Freight Research Program, *Incorporating Freight into a Comprehensive Plan* - http://www.envisionfreight.com/factsheets/index.html%3Fid=compplan_freight.html

2.2 Environmental Sustainability Best Practices

These best practices seek to make the transportation system more environmentally sustainable. Sustainability is generally defined as "meeting the needs of the present without compromising the

ability of future generations to meet their own needs."[1] To advance the goal of transportation sustainability these practices seek to increase efficiencies, decrease harmful effects and often overlap with other categories of best practices. Technological best practices are a good example as many of them have the additional benefit of advancing environmental sustainability such as alternative fuel technologies and other improvements to heavy machinery used in the transport of freight.

EXAMPLES

- Use intelligent transportation systems (ITS) to increase efficiency of the transportation system and decrease emissions
  - I-95 Corridor Coalition, Regional Integrated Transportation Information System (RITIS) - http://i95coalition.org/projects/regional-integrated-transportation-information-system-ritis/

- Implement truck stop electrification to reduce the need to idle
  - US Dept. of Energy, Alternative Fuels Data Center - http://www.afdc.energy.gov/conserve/idle_reduction_electrification.html

2.3 SAFETY AND SECURITY BEST PRACTICES

These best practices improve safety and security for the traveling public and freight operators. This category includes opportunities for partnering and coordinating with private companies within the freight industry. Public agencies have a role to ensure the transportation system is planned, designed, and maintained to be efficient and safe while users of the system have the role of ensuring their operations on the system are carried out in the safest possible manner. In addition to safety, similar obligations and responsibilities are in place for security.

EXAMPLES

- Effective and rapid incident management
  - Federal Highway Administration, Emergency Transportation Operations Program - http://www.ops.fhwa.dot.gov/eto_tim_pse/index.htm

- Dynamic message signs alerting drivers about incidents, route safety, or other hazards
  - North Carolina DOT Intelligent Transportation System - https://www.ncdot.gov/travel/trafficsystems/

- Develop a commercial truck crash database
  - Federal Motor Carrier Safety Administration, *Large Truck and Bus Crash Facts* - https://www.fmcsa.dot.gov/safety/data-and-statistics/large-truck-and-bus-crash-facts

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[1] *United Nations World Commission on Environment and Development (Brundtland Commission) Report – Our Common Future, 1987.*

- Implement physical fitness programs for truck drivers
  - Driving Healthy.org. National Surface Transportation Safety Center for Excellence. Virginia Tech Transportation Institute - http://www.drivinghealthy.org/
  - Rolling Strong – CDL Driver Safety and Wellness Programs - http://rollingstrong.com/

2.4 Technology Best Practices

These best practices utilize technology to gather data and better understand the transportation system, it's operation, and opportunities for efficiencies. Technology is perhaps the category with the greatest potential to change the transportation system and manner of freight delivery. Advances in vehicle technology and logistics operations may require adaptation ranging from federal policy to the specific equipment purchased by a private freight company.

Examples

- Truck parking informational systems
  - Mid America Association of State Transportation Officials, Truck Parking Information and Management System - http://www.maasto.net/TPIMS.html

- Information sharing and crowd sourcing data via mobile applications such as Waze, etc.
  - Most State DOTs have 511 informational systems with websites and mobile applications.

- Route planning software, and electronic tracking of freight
  - US DOT Intelligent Transportation Systems Joint Program Office, Electronic Freight Management - http://www.its.dot.gov/research_archives/efm/index.htm

- Truck Platooning, or other autonomous vehicle technologies

  Fleet Owner a major trucking industry print magazine and website – [Kahaner, Larry (May 29, 2015). Platooning is closer than you think – Just like the Trucks. *Fleet Owner*. Retrieved from http://fleetowner.com/driver-management-resource-center/platooning-closer-you-think-just-trucks]

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