

The Need for a Federal Urban Freight Policy in the US

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Abstract: The movement of goods plays a crucial role in the US economy; \$29 billion worth of goods travel on the nation's transportation network on an average day. Moreover, freight shipments are growing, as domestic freight movement is expected to increase 90% by 2020. Studies have shown that national infrastructure has not kept up pace with the growing freight demand. Urban freight is a particular concern, as the high population density of cities creates high demand for goods in a confined space to deliver them. Additionally, a lack of understanding and resources by policy-makers has led to many inefficient freight policies. The federal government has not implemented a national freight policy, instead delegating the regulation of freight to state and local governments. This paper aims to examine urban freight policies of the US, and compares them to that of three European countries that have emphasized urban freight policies, especially in creating freight centers and collecting data. It then examines recommendations concerning the creation of a federal urban freight policy.

Keywords: Urban Freight, Urban Supply Chains, Federal Freight Policy, Freight Centers, Güterverkehrszentrum

Section 1: Introduction

The movement of goods is a vital component of our modern economy. On an average day, \$29 billion of goods, weighing 43 million tons, travel 12 billion ton-miles in the US (Bureau of Transportation Statistics 2008). As the population of the United States increases, the demand for goods will increase as well; domestic shipping movement is expected to increase 90% by the year 2020 (*Integrating Freight Facilities and Operations with Community Goals* 2003, 5). Moreover, studies have shown that the nation's infrastructure has not kept pace with the growing demand for freight (Hecker 2008, 12). For example, it is estimated that highway congestion costs shippers \$10 billion annually in the US (Hecker 2008, 4).

Section 1.1: Statement of Research Problem

It is important to the economic health of the nation that private and public stakeholders work in unison to cope with the increased demand for freight movement. Moving freight into urban areas is particularly challenging, as high population density of cities creates increased competition for land use and heightened congestion (*Integrating Freight Facilities and Operations with Community Goals* 2003, 6). Yet urban freight is not as well studied as other topics in transportation in the US, which leads to a lack of a coherent urban freight policy. A federal freight policy could aid greatly in managing the challenges of urban freight, as certain European countries show.

Section 1.2: Organization of Document

This paper aims to examine urban freight policies of the US and compares them to that of three European countries that have emphasized urban freight policies, especially in creating freight centers and collecting data. It then examines recommendations concerning the US urban freight policy.

Section 2 discusses the domestic freight policy of the US. In section 2.1, the steps the federal government has taken towards freight policy is examined. In section 2.2, challenges local governments have regarding freight policy is reviewed. Section 2.3 highlights successes of freight policies in the US. Section 3 explores the urban freight policies of three European countries: Germany in section 3.1, France in section 3.2, and the Netherlands in section 3.3. Section 4 reviews possible next steps for the US concerning a national urban freight policy. Section 4.1 analyzes recommendations of other studies concerning the urban freight policy of the US, and section 4.2 examines how Europe's experiences with urban freight could be applied to the US.

Section 2: Overview of Freight Policy in the US

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 was the first federal policy that recognized the importance of freight shipments in the planning process (*Guidebook for Freight Policy, Planning, and Programming in Small- and Medium-Sized Metropolitan Areas* 2007, 1). Though the federal government has taken other, small

actions in defining a federal freight role, there is nevertheless an “absence of a clear federal strategy” to handle freight transportation and its role within a transportation network (Hecker 2008, 1). A national urban freight policy is therefore also lacking. As such, state departments of transportation (DOTs), Metropolitan Planning Organizations (MPOs), and other local governments have been responsible for the freight planning and policy-making.

This section provides more detail about the federal government’s actions regarding freight policy, systemic challenges associated with local governments handling freight policies, and examples of successful freight strategies in the US.

Section 2.1: Federal Position on Freight Policy

As increasing freight transportation efficiency becomes a more pressing national issue, the US Department of Transportation has taken cursory steps to address improving freight mobility and aiding in freight planning. Table 1 displays specific actions that the DOT has taken to improve the freight mobility.

Table 1: Specific Actions of the DOT Regarding Freight, Since 2002.

Dot Action	Description
Finance Guidebook for Freight	Summarizes the potential funding available for freight projects.
Freight Analysis Framework	Quantifies existing freight flows and forecasts future freight flows along national corridors and through international gateways.
Intermodal Freight Technology Working Group	Cooperative effort of public and private stakeholders to identify and operationally test technology solutions to freight transportation issues.
Transportation Planning Capacity Building Program	Provides a source of information to state departments of transportation and MPOs. Through this program, information has been posted on how to include freight interests in the planning process.
Freight Professional Development Program	Offers training, education, technical assistance, and a resource library to assist state and local officials, as well as, private stakeholders in freight transportation planning and systems.
Guide to Quantifying the Economic Impacts of Federal Investments in Large-Scale Freight Transportation Projects	Helps to ensure that freight projects are appropriately considered in national, regional, and state decisions about the future of transportation system investments.
Freight Industry Roundtable and Draft Framework for a National Freight Policy	The Freight Industry Roundtable outreach effort led to the creation of the Draft Framework for a National Freight Policy, which is a new policy initiative to address freight transportation concerns. Viewed as a living document, the Draft Framework is intended to stimulate discussion and local responses.

(Source: Hecker 2008, 8)

The last action, the *Draft Framework for a National Freight Policy*, is noteworthy in particular. Not only does it outline objectives for a national freight policy, but its

existence acknowledges that the federal government has a meaningful part in a national freight policy. But, as a draft, it has shortcomings, including: a lack of specificity regarding the roles the federal government should play, a focus on individual modes of transport (as opposed to being flexible in regards to multimodal transportation), and a lack of clear funding sources. While the Highway Trust Fund would normally be the mechanism for funding freight projects, it is facing an estimated \$4 billion shortfall for fiscal year 2009 (Hecker 2008, 40). As section 3 describes, countries with successful freight policies provide a clearer role for the national government to play, as well as emphasize multimodal freight transportation.

Section 2.2: Local Challenges in Implementing a Coherent Freight Policy

Although there have been some policy successes regarding freight shipments in the US, as section 2.3 discusses, the nature of local and state governments does not always lend itself well to considering freight when crafting transportation policy. A report by the Transportation Research Board concerning freight supply chains stated: “The main reason for this [freight] shortcoming in the policy realm is . . . the lack of knowledge regarding how various goods are shipped and delivered” (*Understanding Urban Goods Movement, Project 15* 2008, 7). Similarly, public officials often either overlook freight policy or favor projects with more visible benefits. For example, neighborhoods of Chicago, IL and Cambridge, MA banned truck deliveries at night because increased truck activities caused residents to complain about noise. However, this increased truck traffic and congestion during peak hours (*Understanding Urban Goods Movement, Project 15* 2008, 7)

Freight policy is also often overlooked when it must compete with passenger transportation projects (Hecker 2008, 30). For instance, in Raleigh, North Carolina, the Highway Patrol banned trucks on certain roads. However, the state Senate lifted the ban after it was found that there were no alternate routes for trucks to deliver their products (*Citizen-Times*, 6 June 2008). Moreover, the emphasis of local benefits in governance in American politics could preclude freight policies from being focused upon, as frequently freight corridors cross state and municipal borders.

Another challenge facing local decision makers is that tools have not been developed fully to evaluate freight projects (Hecker 2008, 31). Without the ability to analyze factors such as costs and benefits of policies, especially over large regions, sound decisions are difficult, if not impossible. Furthermore, data collected are not always available to policy makers. For example, a cooperative of transportation agencies in the Houston area collects information from the major roadways. The cooperative has the ability to track freight rail traffic but are barred from doing so by the railroads, which consider the information private (Hecker 2008, 32). These data would have proved useful to policy-makers and officials. Coordinating evaluation tools and data collection could be a void that the federal government fills, if it develops a national freight policy.

Because of the officials’ lack of data and understanding, if freight policies are made at all, they often hinder the freight process, as the next section demonstrates. Additionally,

because officials have rarely understood the consequences of their decisions on private companies, “private firms tend to view the consequences of the decisions made by public bodies as just one of the many external factors with which they must contend” (*Understanding Urban Goods Movement, Project 15* 2008, 7). This has discouraged cooperation between public and private sectors, though the Transportation Research Board is currently working on a project to help bridge the gap between public and private. This presents another opportunity for a role the federal government to play: setting protocols to foster cooperation between public agencies and private companies.

Section 2.3: Examples of Successful Strategies in US

As a resource for state and local planning organizations, the National Cooperative Highway Research Program profiled best practices of freight policy and planning. It found five themes of agency successes in the US: effective use of planning process, project selection process, use of analytical tools and performance measures, innovative funding and financing techniques, and use of partnerships. Table 2 highlights urban practices in their findings.

Table 2. Summary of Best Urban Practices from Across US

Theme	Agency	Project	Key Points
Effective Use of Planning	Toledo Metropolitan Area Council of Governments	Identifying Freight Needs	-Proactively and consistently reaching out to private sector is critical in identifying freight needs -Letting stakeholders view freight issues firsthand can help build advocacy for freight improvements
Project Selection Process	Rhode Island DOT	Transportation Improvement Plan (TIP) evaluation and selection process	-Providing Freight Representation on TIP evaluation committee can improve ability to assess benefits and impacts of freight projects
Use of Analytical Tools and Performance Measures	East-West Gateway (St. Louis) Coordinating Council	Development of freight performance measures	-Important to consider data collection and analysis requirements when selecting freight performance measures
Innovative Funding and Financing Techniques	City of Reno	Reno Transportation Rail Access Corridor	-Important to understand regional stakeholders (and their perspectives) to build advocacy for projects -Focusing on identifying and highlighting public benefits can help build advocacy
	Michigan DOT	Detroit Intermodal Freight Terminal	-Engage the private sector community from the beginning stages of planning and project development
Use of Partnerships	I-95 Corridor Coalition	Mid-Atlantic Rail Operations (MAROps) Study	-Important to identify and understand both public and private benefits of freight projects

(Source: *Integrating Freight into Transportation Planning and Project-Selection Processes* 2007, 29-30)

Two notable commonalities of the projects listed are open lines of communication between interests and analysis of impacts and alternatives. These are important to the development of freight, however, as stated in the previous section, many local agencies lack the funding or the tools to successfully implement those factors.

As the federal government and agencies begins to recognize and document successful strategies from across the US, it is helpful to look at more specific policies that other countries implement to cope with the demands of urban freight transportation.

Section 3: Overview of National Urban Freight Policies in Europe

As Europe has had dense cities for a much longer time, countries have had more experience in creating national urban freight policies. Even Ancient Rome had laws to control goods entering its borders (Visser, Binsbergen and Nemoto 1999, 18). Recently, national governments in Europe have taken a more proactive approach to set urban freight policies and strategies. This section examines the policies of Germany, France, and the Netherlands. None of these countries have “solved” the problems associated with urban freight transport policies, and some the results of their policies have not yet been evaluated. They have, though, taken innovative approaches to improve freight transportation.

Section 3.1: Urban Freight Strategies in Germany

An important part of German freight policy is the development of Güterverkehrszentrums (GVZ). A GVZ is also known as a traffic center or freight village. A definition of a freight center is as follows:

Freight centres form intersections of at least two different transport modes at which independent companies from the distribution sector and other transport-intensive business (e.g. component manufacturers) are located in a designated area. (Visser, Binsbergen and Nemoto 1999, 17)

The aim is organize coordination between modes and industries, combine good flows, and facilitate logistic activities. This may bring about synergistic results from having industries and modes converge in a designated area (Visser, Binsbergen and Nemoto 1999, 17).

The German national government has developed GVZs in conjunction with private industries since the 1990s; there are, as of 2008, 31 GVZs in operation, with 4 more planned (Wagener 2008, 10). A study showed that after a GVZ was created in Bremen, truck trips to the urban core were reduced by 15% (Weisbrod et al. 2001, 7). An important goal of the GVZs is the shifting of freight from road to other modes when possible, to lessen road congestion (Visser, Binsbergen and Nemoto 1999, 20).

Another step the German government took to aid urban freight was the creation of City-Logistik. Working closely with the GVZ, the City-Logistik is an attempt to combine delivery services of different transport companies, often with greener vehicles. A City-

Logistik trucking project in Bremen led to the reduction of 100 delivery stops per day (Visser, Binsbergen and Nemoto 1999, 21).

Section 3.2: Urban Freight Strategies in France

France has an extensive history of freight centers; however, they have generally been private enterprises. In the early 1990s, it became apparent that there were not ample data or tools to construct a national freight policy, so the Transport Ministry and the Environmental and Energy Management Agency launched a national data collection, research, and experiment program in 1993 (Visser, Binsbergen and Nemoto 1999, 22).

The first phase, conducted from 1993 to 1996, included a comprehensive quantitative data collection, an extensive survey of relevant industry players, and a review of both literature and neighboring countries' policies. Using what they gathered, cities with a population over 100,000 were given two years to create urban freight transport plans, with an emphasis on creating a goods transport model (Visser, Binsbergen and Nemoto 1999, 22). Experiments were also carried out in the area of freight monitoring.

A result of this endeavor is a public freight terminal in Monaco. A dispatching platform is present on the edge of the inner city, which distributes goods from trucks to smaller vehicles. It prevents trucks over 8.5 tons from entering the dense, inner-city region (Visser, Binsbergen and Nemoto 1999, 23). France has also recently focused its effort on intelligent freight systems, including the "Sustainable Urban and Regional Freight Flow" project (Visser, Binsbergen and Nemoto 1999, 23).

With the national government taking a role in data collection, data dissemination, and experimentation, France has been able to advance its understanding of urban freight movements.

Section 3.3: Urban Freight Strategies in the Netherlands

Urban freight policy has revolved around the introduction of urban freight distribution centers (UDC), which are similar in concept to the Monaco project: the aim to prevent large trucks traversing into the inner city. By the late 1990s, several of the UDCs were considered failures, due to several factors, including not enforcing the regulations keeping large trucks from the entering the city (Beckett 1997, 51). Redesigned UDCs have been planned for Amsterdam and Leiden, with plans for all-electric delivery vehicles (Visser, Binsbergen and Nemoto 1999, 23).

Another long-term project concerning is the development of underground freight transport system for cities (Visser, Binsbergen and Nemoto 1999, 24). The national government has initiated a study to determine the feasibility, cost, and effectiveness of such a system. While the results are not certain, the national government has taken an active role in addressing freight issues.

Section 4: Next Steps for US Urban Freight Policy

As lessons from Europe show, there is no “magic bullet” in solving urban freight problems. Moreover, cities’ needs vary greatly, as location, land use, density, and traffic vary from city to city. However, as the examples from Europe also provide, the federal government has a role in researching and developing strategies for urban freight. This section reviews recommendations to federal government, as well as synthesizing lessons that can be learned from Europe.

Section 4.1: Recommendations for Federal Urban Freight Policy in US

In response to the lack of federal direction regarding freight, a report from the Government Accountability Office in 2008 recommends that the Secretary of Transportation develop, in conjunction with Congress, public officials, and private stakeholders, a national freight strategy, which would include urban freight strategies (Hecker 2008, 1). This would build on the *Draft Framework for a National Freight Policy*; however, the role of the federal government would need to be more specific, as would strategies outlined within. Funding mechanisms would, as mentioned, need to be provided for as well.

A study conducted in 2007 for the New York City Department of Transportation (NYCDOT) confirms the need for more direction regarding urban freight. The study reviewed truck regulations of New York City and 21 other large cities. The study recommended creating an Office of Freight Mobility, developing and disseminating public outreach materials, and enforcement of truck routes (*Understanding Urban Goods Movement, Project 15* 2008, 3). The last point is especially pertinent in light of the problems experienced by the Dutch UDC.

Section 4.2: Applying European Lessons

As Europe showed, there are specific steps the federal government can take in creating a national policy. Like France, the federal government could initiate research and implementation. Technological innovations, such as GPS or electronic toll collections, can provide valuable information, such as trip origins and destinations, vehicle classifications, and trip routing. However, as in the Houston example from section 2.2, that information is not always available. In the case of the New York E-ZPass, an electronic toll collection system, the data cannot be legally disseminated to many agencies, citing privacy concerns (*Understanding Urban Goods Movement, Project 15* 2008, 12). The federal government could play a role in setting up legal protocols in data collection for policy-makers and planners.

In regards to GVZs and urban freight centers, they have not been implemented in the US to the extent that they have been in Germany (Weisbrod et al. 2001, 1). Even when they have been attempted, there have been issues with their implementation. For example, the Union Pacific Global III Intermodal Terminal had to be placed 80 miles from Chicago, the city it was supposed to serve, due to negative public opinions and a “not in my back

yard” attitude from surrounding communities. That led to an actual increase in vehicle miles traveled and cost for trucks that began using the terminal (*Understanding Urban Goods Movement, Project 15* 2008, 14). If, after appropriate data are collected and research carried out, freight centers are incorporated into a national urban freight policy, the federal government could facilitate the development of freight centers, including creating incentives for communities that house the freight centers, distribution of media highlighting benefits of freight centers to ease public concerns, and foster partnerships with private industries.

One study has already advocated the use of freight villages in the US, such as in the northern New Jersey urban region (Weisbrod et al. 2001, 11). The study recommended using urban brownfields as sites for potential freight centers. Brownfields are former industrial properties in urban regions. Brownfields are an intriguing possibility for certain cities, as their location as a former industrial site generally indicates proximity to transportation infrastructure. Moreover, equity concerns could be allayed if the center is easily accessible to a city.

Section 5: Conclusions

As urban freight movement continues to grow, it is important that the US can respond to that demand. A rational, federal policy could ensure that the US is able grow its economy into the future. Drawing from recommendations, successful US experiences, and from European experiences, a policy should include:

- Procedures fostering cooperation between public and private stakeholders
- An adequate funding stream
- Educating public and private stakeholders about freight projects
- Protocols for the collection and dissemination of pertinent freight data, for the purpose of developing methods to evaluate and assess freight projects and policies
- The possibility of creating freight centers, including utilizing brownfields

Section 5.1: Summary

- Freight plays a large role in the US economy; \$29 billion worth of goods a day are transported on the nation’s transportation network on an average day
 - The growth in the freight shipments is a pressing concern for the nation’s economy; domestic freight movement is expected to increase 90% by 2020
 - Urban freight is especially challenging, as population density creates high demand for goods with less space to deliver them

- The federal government has not implemented a national freight policy, instead delegating the regulation of freight to state and local governments
 - State and local governments often do not have the knowledge or the resources to implement effective freight policies
 - There have been individual successes in the US regarding urban freight, often emphasizing collaboration between public and private entities, and a national policy could draw from those successes
- Urban freight movement has been more scrutinized in certain European countries, such as Germany, France, and the Netherlands
 - Two important European policies include the creation of freight centers (often called GVZs); institutionalizing the collection of data and performing research on different freight strategies
- Studies have recommended the federal government be more active in shaping urban freight policy to respond to the growing demand
 - The GAO recommended that the Secretary of Transportation and Congress create a national freight policy
 - Lessons from Europe can and should be applied, such as implement freight centers in an efficient manner
 - As cities move away from industry, post-industrial brownfields are a possibility for locating freight centers close to the pre-established transportation network

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