Action Strategy Paper: Goods Movement

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Executive Summary

This action strategy paper provides an overview of how the Chicago Metropolitan Agency for Planning (CMAP) can include goods movement within its *GO TO 2040* planning activities (e.g., building and evaluating scenarios, designing and using indicators). Specifically, it offers CMAP guidance on how addressing goods movement can support the policies, investments and actions needed to implement its vision across a wide range of opportunities including those promoting economic development and growth, quality of life and transportation system capacity and resilience.

By exploring freight-related initiatives at leading-edge peer MPOs, we show how goods movement can be successfully integrated in a regional comprehensive planning process. An important adjunct to integration is linking goods movement to other action strategy topics (e.g., security, climate change, private-public partnerships, brownfields development, urban design and interregional transportation). Through a closer look at peer MPOs, it clear that CMAP could play at least four distinct roles in the world of goods movement – facilitator, mediator, sponsor and leader – all geared toward moving the Chicago region forward, closer to its vision for 2040.

The paper is divided into three sections:

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By exploring best practices, understanding the issues and anticipating challenges, CMAP can provide an innovative and productive approach in incorporating goods movement into its long-range plan.

The Chicago area and its planning organizations have long been associated with freight transportation. In preparing the *GO TO 2040* Plan, CMAP has the opportunity to build on this history and the best practices of peer MPOs around the country to be an innovator in using goods movement as a key element of successful implementation of its vision.

In recent years, some MPOs and other multi-jurisdictional organizations around the U.S. have taken a pro-active approach to addressing goods movement. They have been successful in

- providing forums for coordinating planning efforts for all transportation modes;
- working to establish public-private partnerships to consolidate rail lines and build projects;
- promoting innovative financing to construct projects; and
- encouraging development that balances economic growth and environmental justice.

MPOs on the leading edge have also discovered a range of issues that must be addressed to successfully address freight including the economy, public health concerns and rising fuel costs. MPOs need to consider the trade-offs embedded in both land use decisions and transportation investment levels. They are working to quantify both the public health impacts (e.g., noise, congestion, air quality, and visual blight) and economic impacts (e.g., growth in the logistics and distribution sector, as well as job growth due to volume of construction) of goods movement and to strengthen their ability to guide implementation of regional policies and investments.

Based on the research reported in this paper, the Volpe Center recommends that CMAP take specific steps in the following action areas:

- Integrate goods movement into vision/scenario planning
- Connect goods movement planning with land use and transportation policies and investments
- Continue promoting and expanding key partnerships
- Model goods movement alternatives for scenario construction
- Develop and apply specific goods movement indicators
- Educate and communicate to all key stakeholder groups about the value of goods movement in long range planning
- Develop state and multi-state alliances for moving a few major strategic goods movement initiatives forward

CMAP has the opportunity to use the planning process to influence the direction of the policies and investments involved in regional and even national goods movement. By including goods movement in all aspects of key decisions (e.g., land use, infrastructure investments, quality of life and economic growth and development), CMAP – working with its partners in industry, non-profits and government – can make major advances in successful implementation of the Chicago region's vision.

1. Summary Report

1.1. Introduction

This section provides analysis and observations intended to support CMAP's work to incorporate goods movement as a major element in *GO TO 2040* planning activities. The research discusses insights from efforts of innovative peer MPOs to:

- Foster coordination and collaboration across all modes,
- Engage affected local communities as partners, and
- Develop policies and financing strategies to implement projects

This information should provide a platform for CMAP to expand on to ensure that goods-movement planning addresses the balance among economic competitiveness and other significant considerations (such as environmental justice) within a region.

The focus on goods movement in regional transportation planning has increased in recent years for a number of reasons including:

- The business of goods movement has evolved dramatically into integrated logistics and supply-chain management for just-in-time delivery;
- Transportation networks need to operate efficiently within an intermodal system to ensure timely delivery (or "freight mobility")
- Bottlenecks preventing timely delivery are often within large metropolitan regions; and
- There are few easy or short-term solutions to balancing economic competitiveness of a region with the public health and environmental justice concerns resulting from increased goods movement in a region.

Information on how MPO leaders address these factors in their planning - including their roles in influencing freight-related decisions –provides a useful framework for CMAP as it designs the details of its *GO TO 2040* Plan.

1.2. Scope of Paper

Using examples of goods movement planning within MPOs, we identify primary considerations for CMAP to follow including:

- **land use;**
- **economic development and growth**;
- **innovative methods to educate key stakeholders**
- **funding; and**
- **environmental justice**.

Building on the freight-related examples from leading MPOs, we then articulate issues and options for CMAP to consider in designing the details of its *GO TO*

2040 planning. For example, CMAP has a prime opportunity to benefit from lessons learned by addressing the following critical issues:

- Managing the trade-offs involved in Chicago's role as a national hub.
- Making concrete the policy and investment levers that connect freight to other key factors or indicators.
- Managing the challenges resulting from jurisdictional boundaries among relevant players – cities, counties, region, states, federal and industry.
- Connecting freight to other action strategy topics including public-private partnerships, climate change/energy, security/emergency management and interregional transportation.

Our research shows that serious limitations challenge the best MPOs. Land use decisions are made locally; congestion and air quality issues are difficult to address with an increasing population; and financing transportation investments to meet the needs of a growing economy can be complex and politically difficult. By accounting for best practices and anticipating challenges, CMAP can lay the foundation for being on the forefront of innovation in incorporating goods movement into its long-range planning.

1.3. Analysis/Synthesis

After outlining recommendations for CMAP to link goods movement to other action strategies, we highlight roles that CMAP can play in promoting effective use of freight as a tool to implement the regional vision. Following that, we outline issues for incorporating goods movement in *GOTO 2040* planning, together with our recommendations for specific actions to undertake now to take best advantage of freight as a core factor in achieving the region's goals.

1.3.1. Linkages

An essential component of being comprehensive in regional planning is explicitly linking action strategies. Based on research conducted, we recommend linking goods movement to the following other action strategies:

- <u>Education</u> – Providing tools to engage the public involved in goods movement including providers, industry and local governments because their actions regarding land use and operations are important in achieving the region's vision.
- <u>Public-Private Partnerships</u> – Large scale freight projects that address multiple modes can be constructed by building coalitions that support the goals of all stakeholders. Identifying freight development

opportunities that can be built through coalitions of private companies with public support will move projects forward faster and provide alternatives for financing.

- Air Quality/Climate Change – Encouraging alternative modes for goods movement away from trucks can improve air quality by reducing VMT and the associated emissions. Locating freight facilities to facilitate rail use is also recommended. Providing incentives to improve off-peak deliveries and upgrade equipment (particularly trucks) will positively affect air quality.
- Security and Emergency Management – Promoting development such as global freight villages which operate within a secure perimeter and are located in high density locations can enhance security and public safety in communities by restricting truck activity to these locations. Initiatives to register trucks near intermodal facilities will prohibit parking on local roads in residential areas.
- Economic Development and Growth – Working closely with a number of partners (universities, research, and manufacturing) to promote scenarios that encourage synergies among the region's businesses and their transportation systems. Constructing infrastructure to support and guide redevelopment.
- Quality of Life – Understanding the impacts that goods movement facilities can have when located near residential development particularly public health, safety, mobility, noise and visual blight so that mitigation strategies can be incorporated in the planning process.
- Interregional Transportation – Exploring the potential of an all-freight corridor as a strategy to improve freight operations and reduce impacts on residential communities. Implementing congestion pricing for freight (roads and trucks) to encourage off-peak travel and address chokepoints in the transportation system.
- Other topics:
  - *Brownfields* - encourage their use as transportation and distribution facilities.
  - *Urban design* - include truck movement needs into existing regional street design guidelines.
  - *Global trends* – the recent rise in fuel prices has created a new trend to reduce the globalization of manufacturing as companies weigh shipping costs versus cheaper labor. The potential impacts on energy costs, climate change and economic development need to be explored.

1.3.2. Innovative Practices by Peer MPOs

This section provides a summary of the work of several leading edge MPOs. Their roles are varied and range from coordinating and managing freight advisory committees to participating as stakeholders in regional alliances and mediating conflicts between providers. Initiating planning studies to identify projects and providing support for funding has also been identified as an important task for MPOs. The following list describes the roles that MPO have taken on:

A. Provider of regional framework for freight planning

MPOs provide the logical forum for regional transportation discussions to understand the relationship between freight partners and the impacts of freight policy on business in a region. The ability to address issues across jurisdictional boundaries puts them in a unique position to address a number of complex issues (e.g. land use, chokepoints and system deficiencies) and help them understand the challenges and solutions in today's goods movement world. Environmental justice issues must be acknowledged and mitigated as part of this planning.

Coordination is essential to sustaining a successful balance. The Delaware Valley Regional Planning Commission (DVRPC) is a good example of an MPO that has a comprehensive freight planning program including an active goods movement task force, guidelines for communities to use for freight-related development projects, and a process which highlights projects to emphasize freight in the TIP.

B. Facilitator of alliance building

Facilitating relationships between the public and private sector is a useful role for MPOs. The Transportation Research Board draft report, *NCFRP 09 - Institutional Arrangements in the Freight Transportation System* indicates that MPO-level freight councils and task forces are effective at this communication, however, the lack of a mandate in freight planning means that their influence might be limited. Councils and task forces have proven to be effective in assisting MPOs develop freight goals, objectives and policies and integrating freight planning into the regional planning process and in helping MPOs identify champions for projects.

A number of MPOs have used the freight task forces to create goods movement action plans which present economic data as well as projects to address deficiencies in the system. The Atlanta Regional Commission (ARC) recently completed a Regional Freight Mobility Plan which included

an extensive data collection process, a goods-movement needs assessment, and quantification of economic benefits.

C. Mediator of conflicts between passenger and freight rail

The conflict between passenger and freight trains has become more significant with the increase in freight operations as regions seek to achieve optimal balance for freight between modes. Passenger rail has historically been prioritized particularly where the tracks are publicly owned. Three issues have emerged as critical in negotiating agreements: compensation, capacity and liability. Agreements can take anywhere from a few months to many years to be completed. With the demand growing for both commuter and freight rail services, this process is expected to become more difficult, providing MPOs with opportunities to play a leadership role in mediating conflicts.

In the New York City region, the railroad infrastructure is primarily publicly owned with the private freight operations running over the public lines. The New York Metropolitan Transportation Council (NYMTC), the MPO for the region emphasizes this coordination in its Regional Freight Plan by presenting strategies and actions for policy changes, capital projects and operational improvements, while acknowledging the importance of individual agency initiatives, and the need for coordination across these agencies.

D. Sponsor of innovative financing strategies for freight projects

An MPO's role in funding projects is important because of its ability to bring key stakeholders together. The funding needed to construct large-scale freight projects typically exceeds the budget for projects in the TIP. The two largest California MPOs (Southern California Association of Governments and the Metropolitan Transportation Commission) have worked with their state department of transportation and legislature to pass bills supporting freight funding (Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 (Proposition 1B)).

E. Leader in constructing freight corridors

Public-private partnerships have also been successful in getting freight corridor projects built. A good example of MPO involvement in this type of innovative project is the Alameda Corridor initiated by the Southern California Association of Governments (SCAG). A number of studies were completed to deal with both highway and rail access to the ports. The Alameda Corridor Transportation Authority was formed in 1989 and operations began in April 2002. This corridor creates a more efficient transportation network by separating freight trains from street traffic and

passenger trains, eliminating conflicts at more than 200 at-grade crossings. Congestion, noise, light pollution and visual blight are all addressed with this project.

1.4. Issues and Options

Research conducted for this paper revealed a number of issues and options for including goods movement in CMAP's *GO TO 2040* Plan. While a number of MPOs are addressing these issues in their long-range plans, modeling goods movement options can be a challenge. Efforts to include freight in long range planning have improved regional understanding of the critical and intermodal role of goods movement. Moving forward in this direction will assist the region in understanding both the national and regional economic and industry trends in goods movement planning, the components of the freight transportation system, and changes in the logistics and shipping industry. By making goods movement a part of the long-range planning process, CMAP will have a clearer picture of its impact on the region's economy, quality of life and transportation system.

Key areas to consider include:

- **Land Use in Goods Movement Planning**
  Land use choices often provide opportunities to use goods movement in ways that support long-range planning goals. For example, scenarios that promote synergies among the region's shippers and carriers and transportation systems are important to demonstrate how freight can support the region's vision. MPOs can participate by:
  - Exploring concepts such as global freight villages to provide options that address economic growth and environmental justice.
  - Understanding goods movement in smart growth planning to insure that the impacts of bringing goods to urban areas is minimized while environmental justice and social costs are mitigated.
  - Providing guidance to local governments to assist them in decision making for goods movement projects to keep the region's vision intact.
  - Supporting policies to address freight planning to address quality of life issues. Examples are described in the report and include the San Pedro Bay Ports Clean Air Action Plan, the Clean Trucks Program at the Port of Long Beach, PierPASS, and the legislation recently approved by the California State Assembly, the Ports Investment Bill, SB 974, which will impose a $30 fee per cargo container to fund projects aimed at improving air quality, alleviating congestion and improving safety for rail lines accessing the ports.

- **Goods Movement Objectives**
  Explicitly documenting goods movement objectives in a long-range plan helps to highlight the importance of freight projects and how they relate to economic growth and positively impact the transportation system by improving safety, reducing congestion and increasing mobility. In its 2030 Transportation Plan, the Delaware Valley Regional Planning Commission included a specific Freight Vision Statement for guidance on integrating freight facilities and operations with community goals.

- **Freight's Economic Impact**
  Defining and quantifying the benefits of freight investments and the effect of the goods movement industry on the economy provides a way to prioritize these projects for funding. To date, few MPOs have taken the initiative to tie performance measures to specific goals related to goods movement in their regional plans. A good example of one that has is Metro, the Portland area MPO, which provides a detailed listing of performance indicators to measure the factors contributing to achieving the goal of economic growth in the region. Metro outlined a detailed number of performance measures for its 2035 Regional Transportation Plan to directly tie freight to the goal for "sustaining economic competitiveness and prosperity."

  Investments in technology offer a strategy to promote consensus for freight-related projects by improving efficiency of operations and therefore reducing congestion and pollution while improving safety and security. Infrastructure improvements are critical in any scenario given that the increases in freight operations in the United States are significant and congestion for all modes is continuing to increase. Addressing system operations and management by promoting strategies to address the impact of freight including intelligent transportation systems, truck routes, off-peak deliveries and coordinating rail operations will improve efficiency and mitigate impacts on communities.

- **Institutional Structures to engage Freight Partners**
  Creating alliances and coalitions that promote freight strategies across jurisdictional boundaries helps the region to move forward when developing and funding future projects. Many freight policies and investments cut across jurisdictional boundaries and responsibilities.

  An example of an MPO that initiated this type of alliance is the Puget Sound Regional Council (PSRC) with the Freight Action Strategy for the Everett-Tacoma-Seattle Corridor (FAST Corridor), a public-private partnership sponsored by PSRC and the Washington State Department of

Transportation. This coalition includes representatives from local cities, counties, ports, Federal, State and regional transportation agencies, and 3 freight carriers – BNSF Railway, Union Pacific Railroad and Washington Trucking Association, and has been successful in leveraging $558 million in private and public funds for freight mobility infrastructure projects since 1998.

- **Educating Stakeholders to inform them on the Impacts of Freight**
  Education is a strategy for MPOs to pursue by assisting communities in communicating the trade-offs for land use and infrastructure improvement decisions and keeping freight partners engaged. It is important for the general public as well public agencies and private companies to understand the effects of freight and distribution practices so they will support freight planning in the region. This contributes to understanding the trade-offs between the costs and benefits of freight initiatives.

Based on the research reflected in the above areas, there are six key considerations for CMAP to take into account in determining how to use goods movement to promote the Chicago region's vision:

1) *The ability to influence local governments regarding land use decisions*

Land use is a critical component of goods movement planning. Locating warehouses, distribution and logistics facilities where intermodal access is available will improve operations, while potentially reducing VMT and emissions. Balancing economic growth and environmental justice is key in creating successful developments. Understanding the effects of rising fuel costs on locating these facilities will continue to be an important factor; acknowledging goods movement needs in smart growth policies is essential. CMAP can provide education and guidance to local communities, and involve them in regional alliances to promote development that achieves its goals.

2) *Implications of Federal regulations, policies and programs*

A change in the Federal government's role in managing freight operations would present a major paradigm shift for all parties involved. Freight operations in the United States have traditionally been governed by local and state governments and the mode owners and operators. The Government Accountability Office issued a report on the state of freight mobility in the nation: National Policy and Strategies Can Help Improve Freight Mobility which report outlines factors affecting freight mobility and its importance in maintaining a strong economy/maintaining the nation's

competitive position in the global economy. It provides recommendations that the U. S. DOT work with Congress and freight stakeholders to develop a national strategy for the federal government's involvement in freight transportation projects include defining both federal and non-federal stakeholder roles, using new and existing federal funding sources and developing mechanisms to support an effective and sustainable federal role in freight.

The authorization of a new national surface transportation bill could also impact freight operations. The industry is encouraging the establishment of a dedicated freight funding source in the next bill with relevant performance measurement requirements to provide an accurate and effective method to prioritize freight-related projects.

Fuel will continue to be a major issue influenced by Federal policies, costs and the promotion of alternative fuels. Recent increases in fuel costs have resulted in changes to the industry including fewer private owner trucks on the road, shifts from global manufacturing to domestic to offset transportation costs, and a greater focus on rail. Land use decisions are also being influenced by fuel costs as developers weigh higher construction costs against proximity to their destination.

3) *Viability and implications of candidate actions*

CMAP will need to consider the implications of freight activities for identifying freight actions that carefully balance economic growth and environmental justice goals. This can be accomplished by connecting freight to other action strategy topics including economic growth, quality of life, public-private partnerships, climate change/energy, security/emergency management and interregional transportation.

The challenges resulting from jurisdictional boundaries among relevant players – cities, counties, region, states, federal and industry – need to be managed.

Finance will continue to be a challenge for all major capital projects. Actions involving pricing or fees may need to be implemented to manage the high costs of addressing bottlenecks in the Chicago region.

4) *Providing accurate estimates of goods movement activity in models*

In order to provide accurate estimates of goods movement activity, a comprehensive date collection effort must occur. All partners in the region

need to be in engaged in the process of identifying the details of commodity flows for all modes in the regions. National and international trends and policies in goods movement must also be accounted for in the modeling. Accurate information is needed to propose and program improvements to accommodate increasing goods-movement activity and understand how the industry affects the economy and quality of life in the region in terms of the distribution of costs and benefits.

5) *Selecting time horizons*

Stakeholders in the goods movement industry tend to plan within shorter time horizons than what is presented in a long-range plan. Therefore, it would make sense for CMAP to select achievable goals over shorter time periods that can be linked to longer term actions. Providing these short-term goals will keep industry representatives actively interested in what can tend to be an abstract process and help the MPO maintain industry participation in goods movement planning.

6) *Partnership opportunities*

CMAP has been engaging stakeholders through its Freight Committee. Building on its existing structure by identifying and filling potential gaps in this committee could increase its support of the *GO TO 2040* planning process. CMAP could benefit by pursuing additional partnerships with businesses and trade organizations, and working with peer networks in the industry. Partnerships can support development and implementation of the Vision Plan, particularly regional alliances and coalitions. Inter-regional and multi-state opportunities are also important, particularly for major freight initiatives, such as a third metropolitan airport or a regional freight by-pass corridor.

The Chicago region has moved forward on a significant alliance with CREATE, a partnership which includes the State of Illinois, City of Chicago, Metra and the nation's freight railroads. CREATE is a "project of national significance" which plans to invest $1.5 billion in critically needed improvements to increase the efficiency of the region's rail infrastructure and improve the quality of life of Chicago-area residents by reducing at-grade rail crossings. By actively participating in CREATE, CMAP will strengthen key partnerships, potentially explore new funding opportunities, and elevate its role as a key participant in freight planning.

1.5. Recommendations and Conclusions

Based on its research and analysis, the Volpe Center developed seven key recommendations on how CMAP can incorporate goods movement planning in *GO TO 2040* and focus on:

- Constructing scenarios
- Creating action packages
- Developing indicators
- Shaping the overall regional planning process

The recommendations and conclusions summarized in this section include:

1) *Integrate goods movement into vision/scenario planning*

   CMAP should include goods movement projects in specific scenarios for implementing its vision plan. Documenting existing conditions regarding commodity flows and distribution by mode will be important to project future needs. Understanding how goods movement projects align with the economic and transportation goals of the region will provide guidance to the decision making entities for funding. It will also highlight the need for public-private partnerships and alliances where shortfalls exist. Identifying the impacts of freight development on residential uses and proposing measures to mitigate negative impacts should also be part of the process.

2) *Connect goods movement planning with land use and transportation policies and investments*

   The goals of the plan regarding goods movement must be clearly articulated. The specific policies and investments needed to achieve these goals must be developed and clearly communicated to all stakeholders, particularly local governments that control zoning. Providing development guidance for freight projects to local planning departments will engage them in the process. Policies that link other key factors such as climate change, security or interregional capital projects to freight should be highlighted in the plan.

3) *Continue and expand key partnerships*

   CMAP has already engaged the freight community and should continue to expand and build those relationships. Reaching out beyond the region and exploring opportunities for inter-regional and multi-state alliances for project development (such as CREATE) could result in the political and

legislative context needed to plan, finance and construct a few strategic large-scale projects.

4) *Model goods movement alternatives for scenario construction*

CMAP should model goods movement alternatives under the different scenarios and understand how they can be used to achieve the region's goals, particularly the economic and environmental variables that impact quality of life. The effects of goods movement projects cross a number of key factors and understanding their interaction with these topics should be part of scenario construction. These include: environmental justice, economic growth, climate change, intelligent transportation systems, interregional transportation, public-private partnerships, highway operations, transportation security, incident management, and alternative fuels.

5) *Develop and apply specific goods movement indicators/performance measures*

Goods movement projects can affect a number of key regional planning factors. To understand and be able to plan for these effects, CMAP must develop a versatile set of performance measures. These measures can be directly related to freight (e.g. cost per ton mile) or indirectly, establishing linkages to other key CMAP goals (e.g. CO_2 emissions per ton mile). Metro, in the Portland region provides an example of a peer MPO that is using performance measures for goods movement in regional planning. Metro developed a number of measures to gauge the success of achieving its goal to "Sustain Economic Competitiveness and Prosperity" in the region including: an access to rail measure, percent of industrial and freight intermodal facilities served by direct arterial connections to throughways, and percent of jobs retained and created in 2040 centers and industrial areas.

6) *Educate and communicate about goods movement*

Goods movement associated value and impacts are often not understood well by those outside the industry. Consequently, educating a range of distinct regional stakeholders (including local governments regarding the impacts of their land use decisions) about freight's importance in maintaining the economic health of a region is critical to gaining acceptance for moving projects forward. CMAP should therefore work to help targeted audiences understand goods movement by preparing customized communications packages summarizing its approach to goods movement in terms of the region's vision and goals. Delaware Valley Regional Planning

Commission and the New York Metropolitan Transportation Council have both been very successful in using this technique to engage stakeholders, gain support and create project champions. For a large-scale project such as the Alameda Corridor in metro Los Angeles, a major campaign to educate the public was essential to getting it built and fully operational. In short, public outreach and continued communication are key elements in successful freight projects.

7) *Develop statewide and multi-state alliances for moving goods movement initiatives forward*

MPOs that have had the most success in getting projects built have reached out beyond their jurisdictions and formed both statewide and multi-state coalitions and alliances. Although, freight projects are frequently promoted as economic development initiatives, it can be difficult to quantify these financial benefits to the overall transportation system. A further challenge is that the costs from investments may be within one jurisdiction (e.g. site costs for a developer and access costs for a city) while benefits may be at the broad regional level. For major freight investments or policies, it is also likely that the interests of more than one metropolitan area will be involved.

MPOs can foster a broader look at costs and benefits. In some cases, these complex trade-offs can best be addressed within a statewide or multi-state coalition. CMAP can play a leadership role, within *GO TO 2040*, by surfacing these issues, and supporting broader coalitions to address freight.

A further challenge is the role of earmarks. In many cases, funds for major freight initiatives may have to be pursued outside of the normal metropolitan planning process, with priority setting and use of traditional funding sources. Multi-jurisdictional coalitions can help build a case for federal funds for specific projects. To gain the political and legislative support needed for these earmarks, alliances are essential. In SAFETEA-LU, new funding categories were established for these types of projects. The Liberty Corridor in New Jersey is an example of a "Corridor of the Future" that is being funded through this category.

2. Innovative Practices by Peer MPOs

2.1. Overview

In recent years, MPOs and other multi-jurisdictional organizations have taken a pro-active approach to addressing goods movement mobility needs. Their roles have ranged from providing forums for coordinating planning efforts for all transportation modes to working to establish public-private partnerships to consolidate rail lines and build projects. Promoting innovative financing to construct projects and providing development that balances economic growth and environmental justice have also been part of these organizations' key success stories.

With the escalating focus on the economy, public health concerns and rising fuel costs, freight's role in regional comprehensive planning has become more important as trade-offs are considered in both land use decisions and transportation investments. MPOs that have worked to quantify both the public health impacts (noise, congestion, air quality and visual blight) and economic impacts (growth in logistics and the economy as well as job growth due to construction) in goods movement are making progress towards that goal.

2.2. Freight's Role in Regional Comprehensive Planning

MPOs provide the logical forum for regional transportation discussions regarding understanding the relationship between freight partners and the impacts of freight policy on business. The ability to address issues across jurisdictional boundaries puts them in a unique position to communicate with all partners and help them understand the challenges and solutions in today's goods movement industry. The following sections describe a number of roles that MPOs have played in facilitating this process.

Provider of regional framework
With congestion on highways reaching unacceptable levels, rising fuel costs, and a growing focus on the public health impacts of increasing emissions, improving truck operations and exploring rail options for moving goods have become increasingly important. By providing a regional framework for freight planning, an MPO can help shape the discussion about the necessary improvements to upgrade the system and who should take responsibility for these upgrades.

The Delaware Valley Regional Planning Commission (DVRPC) provides an example of a peer MPO that has completed studies for the region that address operational issues for truck travel. In 2007, DVRPC published a report, *National Highway System Connectors to Freight Facilities in the Delaware Valley Region*, which

included an inventory of existing conditions for the highways that connect 11 major intermodal facilities to the National Highway System. Meetings with the owners of the facilities to improve operations were held and recommendations for highway improvement projects were outlined in the report and later developed as a result of this study.

In many locations rail infrastructure is insufficient to increase freight; capacity is limited by single-track systems with speed restrictions, operating speeds are affected by at-grade rail crossings and development has encroached on rail corridors making it undesirable for upgrades, particularly near residential areas. A useful role for MPOs to play is to assist moving rail projects forward and encouraging co-existence with adjacent land uses.

Currently, a prime example of an MPO that serves this role is the New Jersey Transportation Planning Authority (NJTPA), which recently completed a Freight Rail Crossing and Safety Assessment study. The purpose of this project is to provide guidelines to help mitigate the impacts of increased rail freight traffic in the region, particularly safety and quality of life issues. The study involved developing a matrix of issues and solutions that could be applied to improve conditions in the communities where the crossings are located. The solutions range from simple modifications to grade-separation recommendations as well as suggested actions for the railroads to implement. This cooperative effort included participation from seven counties, two railroads, the Port Authority of New York and New Jersey, New Jersey Transit, New Jersey Department of Transportation and NJTPA staff. This study addresses rail infrastructure with an added focus on community impacts and safety. Detailed recommendations are expected to be developed for a number of the crossings and the matrix will be promoted as a toolkit for addressing problem locations.

Mediator of conflicts between passenger and freight rail

The conflict between passenger and freight trains has become more significant with the increase in freight operations. Passenger rail has historically been prioritized particularly where the tracks are publicly owned. In January 2004, the Government Accountability Office published a report entitled *COMMUTER RAIL Information and Guidance Could Help Facilitate Commuter and Freight Rail Access Negotiations*. This report documents the difficult challenges associated with negotiations between commuter rail agencies and freight railroads. Three issues emerged as critical in negotiating agreements: compensation, capacity and liability. Agreements can take anywhere from a few months to many years to be completed. With the demand growing for both commuter and freight rail services, this process is expected to become more difficult. MPOs can play a role in mediating these conflicts.

In the New York City region, the railroad infrastructure is primarily publicly owned with the private freight operations running over the public lines. The issue of freight delays has been addressed by Metro North (MNRR) and Long Island Railroad (LIRR), the commuter lines, working with CSX, CP and the NY&A, the freight lines, to create an operations plan that works for both freight and passenger rail. Communication has been the key to successful coordination. The New York Metropolitan Transportation Council (NYMTC), the MPO for New York City, Long Island and the lower Hudson Valley, emphasizes this coordination in its Regional Freight Plan. The plan presents strategies and actions for policy changes, capital projects and operational improvements, while acknowledging the importance of individual agency initiatives, and the need for coordination across these agencies. The plan describes this coordination as an "appropriate function for a metropolitan planning organization (MPO), which typically looks beyond the operational and geographic responsibilities of individual agencies."

Facilitator of Alliance Building

Freight-related projects are typically large in scale and their geographic boundaries don't usually end at state lines. Regions that have been successful at getting projects constructed are those where a coalition or an alliance has been formed to address regional needs. Some of these alliances have been funded as part of the current transportation authorization bill "Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users" (SAFETEA-LU). SAFETEA-LU included a number of earmarks for states and regions designated as "Projects of National and Regional Significance" and "Corridors of the Future." Liberty Corridor in New Jersey is an example of a Project of National and Regional Significance.

Liberty Corridor was provided $100 million in SAFETEA-LU based on the strength of the region's potential to create a model of innovation, research and economic development through working with the region's ports, universities, brownfields development and the goods movement system. This project is being managed by NJDOT, however the technical advisory committee's public and private sector partners include a United States senator, the governor, economic development organizations, four universities and representatives from railroads, the turnpike authority and the NJTPA. To date, two rail freight projects are included on the list to be funded.

I-95 Corridor Coalition is another example of an organization created to address regional transportation issues. A number of MPOs are represented on the Coalition's steering committee including the Delaware Valley Regional Planning Commission and NJTPA. As a Corridor of the Future, the Coalition was recently awarded over $5 million for the Truck Parking Facilities program to fund its

initiative to use intelligent transportation systems technology to provide truckers with real-time parking information. Parking on congested highways is hazardous for drivers. Communicating the location of available parking spaces and providing the ability for truckers to reserve spaces ahead of time will make the process even more convenient.

Leader in Constructing Freight Corridors

MPOs in California such as Southern California Association of Governments (SCAG) and the Metropolitan Transportation Commission (MTC) in San Francisco have been pro-active in rail corridor initiatives as a necessity to address the growth of activity at the ports. These efforts have required extensive coordination between regional, state and local entities as well as transportation providers including ports, rail, trucking and highway. Understanding how the roles and responsibilities for each provider overlap in an integrated transportation system and bringing these partners together is essential to funding major capital intensive projects.

A good example of an MPO success story regarding rail corridors is the Alameda Corridor initiated by the Southern California Association of Governments (SCAG). In October 1981, SCAG created the Ports Advisory Committee (PAC) recognizing that the issue of increasing ground transportation was impacting port operations. PAC included local elected officials as well as representatives from key transportation providers and the Los Angeles County Transportation Commission.

A number of studies were completed to deal with both highway and rail access to the ports. A significant finding of the rail study was that projected train traffic was likely to affect communities north of the ports. SCAG then formed the Alameda Corridor Task Force (ACTF) which concluded that a Joint Powers Authority should be created to design a build a consolidated rail corridor. The Alameda Corridor Transportation Authority was formed in 1989.

Operations in Alameda Corridor began in April 2002. It is a 20-mile-long rail cargo expressway connecting the ports of Long Beach and Los Angeles to the downtown Los Angeles rail yards. It creates a more efficient transportation network by separating freight trains from street traffic and passenger trains, eliminating conflicts at more than 200 at-grade crossings. Congestion, noise, light pollution and visual blight are all addressed with this project.

Sponsor of Innovative Financing Strategies for Freight Projects

MPOs have also been involved in moving rail projects forward through innovative financing strategies. The model that includes both the public and private sector in

planning and funding goods movement-related transportation projects has been the most successful in accomplishing project implementation.

Freight Action Strategy for the Everett-Tacoma-Seattle Corridor (FAST Corridor) is a public-private partnership sponsored by the Puget Sound Regional Council (PSRC) and formerly co-sponsored by the Washington State Department of Transportation (WSDOT) in the Puget Sound maritime freight gateway. This coalition of 26 partners including local cities, counties, ports, Federal, State and regional transportation agencies, and 3 freight carriers – BNSF Railway, Union Pacific Railroad and Washington Trucking Association - has been successful in leveraging $558 million in private and public funds for freight mobility infrastructure projects since 1998.

FAST Corridor projects are identified as accommodating through-movements to inland markets, distributing freight and goods locally and addressing goods movement for Washington's producers and suppliers. Specific projects are identified in the overall freight strategy for the Puget Sound Region from a number of documents including the Prosperity Partnership regional economic competitiveness strategy, Puget Sound's Regional Transportation Plan, the Washington Transportation Plan Freight and Rail Elements and the four-state West Coast Corridor Coalition. A key component of FAST Corridor's success has been the continuing dialogue among the partners. By sharing information and resources, they have been able to construct projects. Shifting funds from projects experiencing delay to those ready to start has been one successful strategy. The partnership has worked hard to promote its goals and objectives as well as decision-making and policy roles through its website and brochures.

2.3. Land Use in Goods Movement Planning

A number of MPOs are working to address **land use decisions** and the **community impacts** associated with freight-related zoning. However, even the most forward-thinking MPOs have struggled in their efforts to affect local zoning choices because

- There are numerous factors outside of their influence that make this process difficult;
- Local officials are frequently swayed by developers and local officials and politicians when these types of decisions are made; and
- Local officials participate by assisting developers and community groups in understanding the planning process as it relates to freight and strategies to minimize the negative impacts.

Transit-oriented development and smart growth principles have created a pattern of locating industrial development away from central locations, increasing the

distance needed to travel for deliveries. This trend has resulted in added traffic congestion. While changing zoning to accommodate freight land uses in central locations makes sense in terms of decreasing congestion and improving air quality, the trade-offs in quality of life can be significant.

Balancing economic development and environmental justice is a goal that MPOs can strive to achieve in developing long range plans. However, it requires the support of local governments to make sure these plans are carried out.

Understanding Impacts of Smart Growth Vision

In December 2004, the Metropolitan Transportation Commission in San Francisco published the Regional Goods Movement Study for the nine-county Bay Area and central San Joaquin County to consider the movement of goods and its associated impacts on the area. The implications for goods movement in land use planning are addressed in the report, particularly the outward movement of goods movement businesses as a result of Smart Growth policies in central bayside locations. This trend which is intended to minimize land-use conflicts and negative community impacts is described as increasing costs for goods-movement businesses and negatively impacting the transportation system and the environment.

In the study, MTC recommends incorporating the needs of the goods-movement system into the regional "Smart Growth Vision." Recent discussions with MTC staff provided a current perspective on how the report has influenced land use planning in the region. Although the report is considered as a useful guide and successful in putting freight on the radar screen, planners are not confident that the 101 cities in the region are actively preserving land for industrial use. The focus in most locations is residential and commercial development. They indicated that San Jose is working to preserve land for "employment centers" but that is not necessarily related to industrial uses.

Global Freight Villages

The concept of global freight villages is modeled after similar developments in Europe and Asia. . They operate within a secure perimeter and are located in high density locations zoned to accommodate all activities related to transport, logistics and the distribution of goods both nationally and internationally by multiple operators. The ideal location includes optimal highway and rail access as well as ancillary uses for the labor force: e.g. restaurants, banking and shopping.

NYMTC has prepared a feasibility study to review the commodity mix, industrial base and transportation elements needed for this type of development. Its freight

planners believe it is an important concept to address land use, economic development and transportation.

NJTPA is working with municipal redevelopment organizations exploring concept sites for freight village development in two locations. The Tremley Point Area is a brownfields site in Union County with good highway access which would provide a staging area for goods movement in and around the ports. NJTPA funded the *Union County Freight Access Study between Port Elizabeth and Tremley Point.* The study identified the infrastructure needs for site access and explored the development opportunities anticipated at the location. The community health impacts were also considered by reviewing the proximity of residential areas to the site and the impacts of the construction of new roads. It is proposed that this development operate as a private public partnership. NJTPA is also investigating a former GSA site in Somerset County with access from two Class I railroads.

Discussions with NJTPA staff indicated that the area's major competition for warehousing/logistics development is in the Lehigh Valley in Pennsylvania located midway between Philadelphia and New York along Interstate 78. This location offers lower development costs, however given its distance from the ports, developers may choose to build at the New Jersey sites because rising fuel costs make it more desirable to be closer to the port.

Guidance to Address Environmental Justice Issues

Another effort underway in California is the creation of a guide book to be used by local communities. Los Angeles Metropolitan Transportation Authority (Metro) received a $200,000 grant from Caltrans to study goods movement-related environmental justice issues, including community outreach to affected communities for them to identify issues and incorporate mitigation strategies into its plan. A Request for Proposals entitled *Creating Balance Between Goods Movement and Burdens on Local Communities* was recently issued on the behalf of the counties of Los Angeles, Orange, Riverside, San Bernardino and Ventura. The selected consultant will work with the community groups in these areas to develop a report and guide book addressing multi-county goods movement environmental justice issues.

NJTPA's matrix developed as part of the *Freight Rail Crossing and Safety Assessment* is another example of a toolkit provided by an MPO to address environmental justice issues, particularly noise and safety.

Documenting Goods Movement Objectives in Regional Plans

The DVRPC has been active in addressing the issues associated with industrial land use choices. In its 2030 Transportation Plan, a specific Freight Vision

Statement is provided for guidance on integrating freight facilities and operations with community goals. The statement indicates DVRPC's commitment: 1) to prepare education materials describing freight and distribution practices, including implications and benefits to the private sector, public agencies and the general public; 2) to inform local officials (elected and volunteer board members) about planning and zoning ordinances and site design strategies to better manage freight activity; and 3) to encourage the use of brownfields as transportation and distribution facilities. DVRPC's success in these efforts revolves around helping highlight the importance of freight projects and how they relate to economic growth and positively impact the transportation system by improving safety and reducing congestion.

Metro, the MPO for the Portland, Oregon region includes freight as a specific goal in its 2035 Regional Transportation Plan:

> ***Goal 2: Sustain Economic Competitiveness and Prosperity***
> *Multi-modal transportation infrastructure and services support the region's well-being and a diverse, innovative, sustainable and growing regional and state economy through the reliable and efficient movement of people, freight, goods, services and information within the region and as well as to destinations outside the region.*

Metro's plan clearly ties freight and goods movement to the economy in Portland which is important in gaining consensus on its importance to the region.

Guidance for Local Governments to Use in Development Review/Decisions

DVRPC developed Good Neighbor Practices, a spreadsheet showing best practices for achieving the balance between freight facilities and operations in addressing community goals. The table provides freight types, issue areas (traffic flow, safety and security, economic development, air quality, noise and vibrations, land values and communication) and suggests a list of practices to mitigate potential problems. Staff at DVRPC indicated that this information is distributed as a guide to local cities and towns to assist them as part of a tool kit for making development decisions. Successful use of the material to affect land use decisions has been limited, however DVRPC feels that it is useful to give local officials a document to refer to when reviewing projects.

Recognizing the environmental and health impacts of diesel particulate and its effects on public health is another focus of MPO activity related to the community impacts of freight operations. The Regional Air Quality Task Force (RAQTF) in Riverside, California was formed by Western Regional Council of Governments to

explore and develop measures to improve the air quality in Western Riverside County.

In September 2005, the RAQTF developed a set of development guidelines for permitting warehouse/distribution facilities. The Good Neighbor Guidelines for Siting New and/or Modified Warehouse Distribution Facilities are available to assist planning departments, developers, property owners, elected officials, and the general public in addressing land use decisions and understanding the available options available to mitigate environmental impacts including diesel particulate mater (PM) from on-road trucks associated with these uses.

Guidance in Mitigating Community Impacts of Truck Routes

The Atlanta Regional Commission (ARC) is working to address freight-related community impacts. One result of its Regional Freight Mobility Plan is the realization that they do not have a comprehensive truck routing system. They recently issued a Request for Proposals to develop the "Atlanta Regional Strategic Truck Master Plan." Providing information to companies so they can efficiently move their goods with minimal impact to communities will improve operations and reduce the volume of truck traffic in neighborhoods.

To date, education and guidance appear to be the only tools available for MPOs to affect land use decisions. However, understanding how freight operations and communities can co-exist by planning in a comprehensive way will assist in mitigating future conflicts.

2.4. Freight's Economic Impact

The economic impact of the goods movement industry on business has increased dramatically with increases in trade, and the changing face of the industry. Moving more goods, cheaper and faster has become even more important in today's competitive global markets. Understanding how the goods movement industry affects the economy helps to highlight the importance of helping achieve these goals. To date, this task has been difficult due to a lack of data.

The Federal Highway Administration Freight Management and Operations is working to assist regions in their efforts to measure freight's role in the overall economy with their Freight Analysis Framework (FAF). The Freight Analysis Framework gathers data from a variety of sources including states, regions, and major international gateways to provide estimated commodity flows including tonnage and value of goods shipped by type and mode of transportation among. The 2002 estimate is based primarily on the Commodity Flow Survey and other components of the Economic Census. Forecasts are included for 2010 to 2035 in 5

year increments are intended to assist planners, decision makers and the public understand the importance of freight transportation in the economy.

Economic Analysis in Regional Planning

In the past few years, MPOs have worked to quantify the value of goods movement including how it affects employment in a region with their own studies. These studies provide real data regarding commodity flows by mode, as well as identifying deficiencies in the system including chokepoints and solutions to address them. In California in particular, international trade has significantly increased activity at the ports. Moving these goods inland has resulted in congested freeways and less than efficient operations. Metro's Regional Freight and Goods Movement Action Plan and ARC's Regional Freight Mobility Plan also provide a planning documents which quantify commodity flows and assist the region in understanding the economic impacts of freight planning in the region. The table below provides a summary of these plans.

MPO/ Plan	Study Participants	Scope	Purpose
Atlanta Regional Commission - Regional Freight Mobility Plan	Freight Mobility Council	Developed a comprehensive plan using an extensive data collection process, goods-movement needs assessment, quantification of economic benefits.	Purpose of this data-driven effort was to identify and program improvements to accommodate increasing goods-movement activity understanding how this industry affects the economy and quality of life in the region.
Metro – Regional Freight and Goods Movement Action Plan	Regional Freight and Goods Movement Task Force	1 .Establish desired outcomes for the freight system through a public involvement process coordinated with the 2035 Regional Transportation Plan. 2. Provide a common base of knowledge of the regional freight transportation system and identify the issues, needs and deficiencies. 3. Refine existing regional freight policies and the multimodal regional freight network map to support the 2040 Growth Concept. 3. Identify and prioritize multimodal freight network and facility infrastructure improvements to address mobility and access needs that respond to desired system outcomes consistent with financial resources. 3. Develop strategies that address environmental & community impacts of freight movement, system management and operations, economic development opportunities and financing of freight infrastructure. 4. Incorporate truck movement needs into existing regional street design guidelines.	Work in collaboration with the New Look and 2035 RTP (Regional Transportation Plan) update to form recommendations for the region's multimodal freight transportation system, which will be integrated in the 2035 RTP.
Metropolitan Transportation	MTC, Caltrans, Bay Area AQ	1. Detailed analysis of highway, rail, marine and air cargo – who is moving	Provide a common platform for freight in both regional planning efforts and federal

MPO/ Plan	Study Participants	Scope	Purpose
Commission - Regional Goods Movement Study	Management District, Port of Oakland, the Econ Dev Alliance for Business (EDAB).	goods, where they are going and how they are being transported. 2. Summary of importance of goods movement industry to the Bay Area economy (jobs and economic activity) inc. manufacturing, freight transportation, and warehouse and distribution businesses.	advocacy.
Southern California Assoc. of Governments/ Los Angeles Metro Planning Agency – Multi-County Goods Movement Action Plan	County Transportation Commissions	Created program improvements/strategies for the individual counties and the region as a whole based on an evaluation of the existing and future goods movement system, review of the environmental/community impacts and economic benefits, and assessment of viable institutional funding arrangements and/or strategies.	Develop a plan that would address the multi-county goods movement challenges and identify solutions as well as innovative funding scenarios and potential funding sources.

In California, the plans described above have been an important tool for identifying projects to be funded under the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 (Proposition 1B) which is discussed later in this report. However, without a dedicated funding source, these plans can only to serve to highlight needs and educate the public on the economic impacts of freight in a region.

A result of the ARC plan involves discussions with a major area business to participate in a pilot study for off-peak deliveries. A previous effort by a local grocery store to schedule deliveries in the evening resulted in complaints by the residents. Therefore, in this proposed study, ARC will work with the company to locate areas which can expect to have the least impact from this type of activity and then quantify the benefits. ARC is currently seeking funding for the study.

Non-Profit Economic Development Organizations

Another model for MPO involvement in engaging the business community in goods movement planning is the formation of a separate organization to promote investment in goods movement. An example of this type of effort is Kansas City SmartPort (KC SmartPort), a non-profit economic development organization formed to grow the area's transportation industry by "attracting businesses with significant transportation and logistics elements to make it cheaper, faster, more efficient, and secure for companies to move goods into, from, and through the Kansas City area."

The organization was developed by the Greater Kansas City Area Chamber of Commerce, the Kansas City Area Development Council (KCADC), and the Mid-America Regional Council (MARC) – the MPO for greater Kansas City. A study conducted by MARC in 1998 quantified the large amount of freight traveling

through the region. The Mid-Continent Tradeway Study recommended that the area develop a single organization to manage and develop the growing transportation and logistics industry particularly in light of the growing NAFTA trade in Kansas and Missouri. KC SmartPort began in 2001 based on this recommendation.

2.5. Defining quantifiable benefits of freight investments

To date, it has been difficult to quantify the benefits exclusive to freight investments in the traditional four-step modeling process used in scenario planning. A project expected to reduce traffic congestion will by default improve truck operations. Grade-separation projects are also analyzed by their impact on traffic flow. Performance measures from typical traffic models offer little in the way of analyzing future freight operations primarily due to a lack of input data from transportation providers and the commercial users of the system. However, even with this data, the primary benefit of most freight investments is economic. Although economic growth is important, it can be difficult to justify spending highway dollars on projects which do not demonstrate a clear transportation benefit beyond small reductions in VMT. Given that fact, the industry is encouraging the establishment of a dedicated freight funding source in the next transportation bill reauthorization with relevant performance measurement requirements to provide an accurate and effective method to prioritize freight-related projects.

The Southern California Council of Governments (SCAG) published a report amended in March 2005 entitled **Southern California Regional Strategy for Goods Movement: A Plan for Action**. This report discussed performance benefits and efforts to quantify the benefits of freight investments. The report lists the typical measures quantifying reductions in vehicle delay and estimating the resulting savings from reduced delay, crash reduction, reduced vehicle operating costs and air quality benefits. It also provides an analysis of the measurable economic impacts include improving the efficiency in the region's goods movement system, growth in logistics and economy and construction impacts (related jobs). Since SCAG serves primarily in an administrative capacity with the Transportation Improvement Program, the strategy outline in the report is not used to prioritize projects however, it does provide an effective model for including goods movement performance measures.

2.6. Institutional Structures to engage Freight Partners

Engaging the freight community in the regional planning discussion is essential to understanding their needs. Coordinating varying interests can be a challenge but very necessary for a region working to balance economic growth and

environmental impacts. Partners whose needs and plans need to be taken into account include

- **Carriers** (trucking, rail, marine and air cargo);
- **Shippers**, i.e., companies that manufacture and distribute goods;
- **State governments**, to put freight in a position to compete with funding and to account for the fact that the highway system is typically under their control.
- **Local governments** to make plans regarding land use decisions visible regionally.

Regions that have successfully connected these partners in a forum that allows them to be engaged and vested in the process have experienced the most success in addressing freight issues.

The draft Transportation Research Board report, *NCFRP 09 - Institutional Arrangements in the Freight Transportation System* indicates that MPO-level freight councils and task forces function best at facilitating communication between the public and private sector. However, the lack of a mandate in freight planning means that their influence might be limited. They have proven to be effective in assisting MPOs develop freight goals, objectives and policies and integrating freight planning into the regional planning process. They also serve an important purpose in helping MPOs identify champions for projects.

Summary of MPO-Based Institutional Structures

A number of MPOs have created freight task forces or advisory councils to provide this coordination allowing them to factor in the range of freight viewpoints into their planning. Volpe's research shows that there are a number of ways in which these groups function depending on the region. Keeping them engaged depends on the level of freight-related planning activity and how effectively it relates back to their personal interests. The table below provides details on institutional structures that have been useful in advancing the goods movement agenda at MPOs.

MPO	Freight Planning Group	Key Members	Purpose
Atlanta Regional Commission	Freight Mobility Council	Business (Home Depot, Coca-Cola Company, United Parcel Service, FedEx and Publix, CSX Transportation and Norfolk Southern, Georgia DOT	To maintain the region's competitive edge in terms of the freight transportation system by integrating freight into the transportation planning process.
Delaware Valley Regional Planning Commission	Goods Movement Task Force	Trucking, railroad, port, airport, shipper, freight forwarder, economic dev. and member government	To insure the participation of the freight industry in the planning process, identify improvements to facilitate the safe & efficient movement of freight, implement

MPO	Freight Planning Group	Key Members	Purpose
		representatives; co-chaired by PennDOT and DVRPC. Includes three subcommittees (Data, Planning, and Shippers).	regional congestion & intermodal management programs & improve communications, & data & technology sharing.
Metropolitan Transportation Council	Freight Advisory Council	Partners on an as-needed basis.	To address private freight sector concerns and to provide them with a voice in the planning process.
New Jersey Transportation Planning Association	Freight Initiatives Committee	Voting members include 3 county representatives, and reps from NJ Transit, City of Newark and NJDOT. Other participants include NJDEP, railroads, NJ Turnpike Authority, universities, citizens & advocacy groups	To support the regional goods movement industry as mandated by federal legislation; establish a goods movement agenda for truck, rail, air and waterborne commerce in the region; and maintain the region's position in the global marketplace by recommending strategic transportation investments and policies to ensure a safe and efficient transportation infrastructure for goods movement while helping to reduce congestion.
San Diego Association of Governments	Regional Freight Working Group	Membership limited it to one member in a number of specified organizations including the airport authority, railroads, Caltrans, U. S. Department of Homeland Security, and others.	To provide input and assistance in developing a Regional Freight/Intermodal Strategy as a component of the 2007 Comprehensive Regional Transportation Plan Update
Southern California Association of Governments	Goods Movement Task Force	Members include city, county and state DOT representatives, and reps from the ports, consultants, trucking associations, South Coast AQMD, American Assoc. of RR, universities and others.	To optimize region's transportation system through increases in economic efficiency, congestion mitigation, safety and air quality improvements, and enhancements to system security.

State Bonding for Goods Movement Infrastructure Projects

On November 7, 2006, voters approved the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 (Proposition 1B) which includes approximately $20 billion for transportation project funding. In the Goods Movement and Air Quality category, $3 billion is allocated for projects to improve the movement of goods through the ports, on the state highway and rail systems, and between California and Mexico and for projects targeted to improve air quality through emissions reductions related to goods movement. Out of this total, $2 billion will be dedicated to the Trade Corridors Improvement Fund (TCIF) for infrastructure improvements along high volume freight corridors.

Projects are selected for funding using the TCIF Guidelines included in Proposition 1B, including a review by the California Transportation Commission ("Commission") of the Goods Movement Action Plan, trade infrastructure and

goods movement plans adopted by regional planning agencies, adopted regional transportation plans required by state and federal law, and the statewide port master plans prepared by the California Marine and Intermodal Transportation System Advisory Council (Cal-MITSAC). In addition to being included in a regional plan, eligible projects must demonstrate 1:1 funding match, primary readiness (begin construction by December 31, 2013) and air quality and economic/jobs growth benefits. On April 10, 2008, the California Transportation Commission passed a resolution to adopt the Program of Projects for the TCIF.

Public-Private Partnerships

MPOs have been successful in initiating a number of public-private partnerships to plan and finance freight projects. Fast Corridor, the Alameda Corridor and Kansas City Smart Port are three examples described in the report which have been able to move projects forward by creating a plan addressing all modes, engaging the partners and working collaboratively to obtain funding.

An example of another innovative approach to freight planning is the Inland International Port of Dallas being developed by the City of Dallas' Office of Economic Development. It is a private-public partnership formed to promote regional intermodal development including Southern Sector investment, job growth and the development of sustainable communities to increase city-wide tax base. The City has signed agreements with the City of Houston, four Mexican ports and the Panama Canal to explore the concept of Dallas as an inland port to address rapidly growing international trade and the need for additional capacity at deep water ports for off-loading and distributing cargo. The project includes a 6,000 acre development planned to utilize an Agile Port System for expedited processing and improved security through technology.

2.7. Policies to address negative impacts of freight

As progress has been made for controlling large source emitters such as power plants and refineries, freight operators have emerged as the new focus for air quality regulations. In California, the ports are seeking to reduce emissions with a number of efforts including off-peak operations and investment in improved technology. On the east coast, truck stops are being equipped with idling tubes and auxiliary power units to allow trucks to turn off their engines while parked.

California Ports – Actions to Reduce Congestion and Improve Air Quality

PierPASS is a not-for-profit organization created by marine terminal operators to reduce congestion and improve air quality in and around the Ports of Los Angeles and Long Beach. OffPeak is the off-peak hours program created by PierPASS

which established night and Saturday shifts. This program provides incentives for cargo owners to move cargo during these time periods, thereby reducing truck traffic and its associated pollution as well as congestion at the ports.

San Pedro Bay Ports Clean Air Action Plan was adopted by the Ports of Long Beach and Los Angeles in 2006 with the goal of "significantly reducing the health risks posed by air pollution from port-related ships, trains, trucks, terminal equipment and harbor craft." Partners in the plan include the South Coast Air Quality Management District, California Air Resources Board and U.S. Environmental Protection Agency. The Plan includes significant investments by the ports, the local air district, the state, and port-related industry to reduce particulate matter from all port-related sources as well as reducing smog forming nitrogen oxide (NOx) emissions and reductions of sulfur oxides (SOx), all of which have been shown to lead to health problems.

The goals of the Plan include eliminating diesel trucks from San Pedro Bay cargo terminals, equipping all major container cargo and cruise ship terminals at the ports with shore-side electricity, and replacing or retrofitting all cargo-handling equipment to meet or emit at levels below those called for in the U.S. Environmental Protection Agency emissions standards for new equipment.

Positive actions resulting from the plan include the Clean Trucks Program at the Port of Long Beach**.** Beginning on October 1, 2008, 1988 and older trucks will be banned from the Port. This program involves drayage truck owners replacing old vehicles with a new leased truck subsidized by port-sponsored grant or loan subsidy.

The Port of Los Angeles also recently approved a Clean Truck Program to replace older trucks with new, clean vehicles through the use of grants and financial incentives. This program also encourages the use of alternative fuels and other emerging technologies for the new vehicles. A further benefit of the program is the enhancement of Port security and public safety. Drivers will be required to have a designated place of business and will be required to provide proof of off-street parking, therefore reducing the likelihood of trucks driving through adjacent communities and parking in front of neighborhood businesses and homes.

Cargo/container fees

The California State Assembly recently approved the Ports Investment Bill, SB 974, which will impose a $30 fee per cargo container to fund projects aimed at improving air quality, alleviating congestion and improving safety for rail lines accessing the ports. Similar efforts in the past were not successful, however it appears that this time it will have the support of both the Senate and the governor.

With 16 million containers affected in the Ports of Los Angeles, Long Beach and Oakland, approximately $480 million in revenue is anticipated to be generated. The region's MPO, the Southern California Association of Governments (SCAG) is listed as a supporter of the bill.

A similar bill to charge container fees at the Ports is being reviewed in New Jersey.

2.8. Actions to influence location and intensity of goods movement

Research did not indicate that any systems are in place to penalize or incentivize businesses based on their location or the intensity of their operations.

2.9. Freight connections in FHWA

Freight operations in the United States have typically been governed by local and state governments and the mode owners and operators. The Government Accountability Office issued a report on the state of freight mobility in the nation: National Policy and Strategies Can Help Improve Freight Mobility. This report outlines factors affecting freight mobility and its importance in maintaining a strong economy/maintaining the nation's competitive position in the global economy. It provides recommendations that the U. S. DOT work with Congress and freight stakeholders to develop a national strategy for the federal government's involvement in freight transportation projects include defining both federal and non-federal stakeholder roles, using new and existing federal funding sources and developing mechanisms to support an effective and sustainable federal role in freight.

3. Issues and Options for Incorporating Goods Movement into *GO TO 2040* Planning

3.1. Overview

Incorporating goods movement into scenario planning has the potential to provide important feedback in understanding its impact on a region. Evaluating goods movement activity in a vision plan however, requires data that has not always been available, e.g. commodity flows by type, mode and tonnage. However, as congested roads have added to the cost and efficiency of doing business, transportation providers have become more willing to participate in the process and provide this information.

3.2. Designing institutional arrangements to facilitate effective long-range planning

MPOs work closely with local and state departments of transportation in developing long-range plans however formal agreements involving financing freight planning commitments are unusual. California has been the most aggressive in pursuing such an arrangement due to its critical need for freight-related infrastructure projects.

Current long range plans that address goods movement or freight address it as part of the bigger picture; congestion, air quality, land use decisions, economic impacts are all part of the process and all have something to do with goods movement but not exclusively. The main focus in goods movement planning at the MPO level appears to be the development of regional goods movement action plans and maintaining active freight planning committees that provide a forum for communication and the exchange of information. Engaging the business community as well as freight providers leads to the creation of planning documents which can guide the region in prioritizing TIP projects and recruiting champions to push for funding at the legislative level. The next step will be ensuring that long range plans actively include goods movement as more than just a stated goal. The land use choices and transportation investments needed to achieve a balanced region where both the economy and the environment are considered will help to achieve the goal.

3.3. Understanding Potential Trade-offs (economic, climate change, security)

The examples listed in this paper provide a number of options for creating scenarios which provide economic development opportunities for the region with choices in freight-related activities and infrastructure improvements. The challenge is to balance the social costs of freight by addressing potential land use

conflicts and understanding the decisions that will assist the region in achieving its economic goals.

3.4. Explore indicators to measure effects of freight alternatives in scenarios

In order to understand the **community/quality of life impacts** resulting from freight development, criteria need to be in place to measure its impacts. To date, data based performance measures have focused on reductions in VMT, improvements in air quality and economic benefits to a region when evaluating projects. These measures could be expanded to better inform decision making. The following are some of these factors:

- Environmental justice/social costs – reviewing site selection in terms of its impact on communities
- Safety and mobility impacts – measuring the improvements resulting from freight improvements (e.g. grade separation)
- Air quality and health impacts – tying changes to air quality to health benefits.
- Noise/Vibration – evaluating transportation decisions understanding the potential for changes to noise levels
- Quality of roadway surfaces – reviewing the impacts on roadways created by increases in truck traffic

One good example of an MPO tying performance measures to specific goals related to goods movement in its regional plans is Metro, the Portland area MPO. A detailed listing of performance measures that can be used to measure the factors contributing to achieving its goal regarding goods movement in the region is outlined in Table 7.2 Potential RTP Performance Measures from its 2035 Plan shown below:

Goal Statement	**Potential Performance Measure** (emphasis added)
Goal 2: Sustain Economic Competitiveness and Prosperity Multi-modal transp. infrastructure & services support the region's well-being & a diverse, innovative, sustainable & growing regional and state economy through the reliable & efficient movement of people, freight, goods, services & information within the region & to destinations outside the region.	• **% of industrial areas & freight intermodal facilities served by direct arterial connections to throughways.** • **Develop an access to rail measure.** • Develop a cost of congestion measure. • **Variability of travel times on regional freight routes during peak and off-peak periods.** • Traffic congestion (level-of-service) and delay on regional freight routes during peak and off-peak periods. • Auto and transit travel time contours for the Central city and selected regional centers, industrial areas and employment areas during peak and off-peak periods. • **Truck travel time contours for regionally significant industrial areas during peak and off-peak periods.** • **Percent of jobs retained and created in 2040 centers and industrial areas.** • Regional GDP • **Total person-trip cap. & freight capacity & vols for regional mobility corridors in peak & off-peak periods.** • Auto, truck and transit travel times for peak and off-peak periods. • Traffic congestion (level-of-service) and delay on regional mobility corridors. • Percent of vehicle miles traveled in congestion. • Develop a measure to assess the cost benefit to people using transit, walking or bicycling as a corollary to the cost of congestion measure.

Metro's performance measures provide a good example of a quantifiable evaluation of how future scenarios will affect goods movement operations.

For a broad discussion of the role transportation indicators, including those for freight, can play in the GO TO 2040 plan, please see the Volpe Center paper on this subject.

3.5. Key considerations for constructing scenarios

Land use choices can provide opportunities. Land use decisions can be influenced by creating a regional vision that incorporates goods movement operations as a key factor. Communities need to coordinate their efforts in order to realize the benefits of the transportation system. In New Jersey, the MPO is working closely with a number of partners including universities to promote research facilities. Research supports manufacturing allowing the region to have more influence over the types of industries it will attract. Scenarios that promote sustainable synergies between the region's businesses and their transportation systems are important for continued growth.

The concept of global freight villages is one that can have a wide variety of impacts depending on its location. Good access to the transportation infrastructure including rail can result in fewer trucks on the highway. Consolidating logistics operations in a secure location away from residential communities can help alleviate the impacts of an area's economic growth strategy on its residents. Distance from the delivery areas can affect operations as fuel costs continue to be a major factor in doing business, and increases in VMT and the resulting air quality degradation are also significant considerations.

Investments in technology provide another strategy to promote consensus for freight-related projects by improving efficiency of operations and therefore reducing congestion and pollution while improving safety and security. A number of these freight strategies overlap with the objectives of addressing climate change, security and the use of alternative fuels. The examples of the strategies in California show progress in implementing a number of these strategies.

Infrastructure improvements are critical in any scenario. The increases in freight operations in the United States are significant and congestion for all modes is continuing to increase. Grade-separation projects and other investments in the rail system will result in more efficient and safer operations. Eliminating chokepoints on the highways and at intermodal facilities is necessary for economic growth to continue. These investments are expensive; developing regional alliances which address all modes to pursue funding from both the private and public sectors has been successful for a number of regions in the country.

Addressing system operations and management is an important opportunity for MPOs. Truck routes can be effective in reducing truck traffic on local streets. Off-peak deliveries can help business operations avoid congestion. Identifying chokepoints in the system and proposing mitigation strategies to eliminate them is another strategy which can positively impact goods movement systems. Encouraging the use of clean trucks including alternative fuels and promoting projects to assist truckers in reducing idling will improve air quality.

Education is another strategy for MPOs to pursue. There are several examples of MPOs working to assist communities in understanding the trade-offs for land use and infrastructure improvement decisions. Public outreach to the communities as well as the providers creates an important dialogue that creates opportunities. Keeping freight partners engaged by helping them to understand their role in the transportation system creates champions for large-scale projects.

Creating alliances and coalitions that promote freight strategies across jurisdictional boundaries will continue to be critical for developing and funding future projects. Public-private partnerships can result in innovative financing strategies that facilitate the construction of critical projects that might take several years longer to develop and build with only public funds. MPOs that can be active in developing these relationships and staying involved can have the greatest impact in terms of promoting the goals of the region.

Appendix: Information Sources

Alameda Corridor (S. California) - http://www.acta.org/newsroom_factsheet.htm

Atlanta Regional Commission (ARC) - http://www.atlantaregional.com/arc/html/
Regional Freight Mobility Plan - http://www.atlantaregional.com/freightmobility/

California Transportation Commission - http://www.catc.ca.gov/
TCIF Guidelines **-** http://www.dot.ca.gov/hq/transprog/ibond/tcif_guidelines_112707.pdf
Resolution to Adopt Program of Projects **-**
http://www.catc.ca.gov/programs/TCIF/FINAL_TCIF_Program_Adopting_Resolution_041008.pdf

Delaware Valley Regional Planning Commission - http://www.dvrpc.org/
Delaware Valley RPC's Freight Planning Program -
http://www.dvrpc.org/transportation/multimodal/freight/freightplanning.htm
2030 Regional Transportation Plan -
http://www.dvrpc.org/LongRangePlan/Final/Destination2030.pdf
Good Neighbor Practices -
http://www.dvrpc.org/transportation/multimodal/freight/pdf/2006-03_FreightGoodNeighbor.pdf
Delaware Valley Goods Movement Task Force
http://www.dvrpc.org/transportation/multimodal/freight/dvgmtf.htm
National Highway System Connectors to Freight Facilities in the Delaware Valley Region
http://www.dvrpc.org/asp/pubs/publicationabstract.asp?pub_id=07024

Freight Action Strategy for the Everett-Tacoma-Seattle Corridor (FAST Corridor) (PSRC) –
http://psrc.org/projects/freight/index.htm

GAO: National Policy and Strategies Can Help Improve Freight Mobility, January 2008
http://www.gao.gov/new.items/d08287.pdf

I-95 Corridor Coalition - http://www.i95coalition.org/
Truck Parking Facilities - http://www.i95coalition.org/PDF/Whatsnew/FHWA%20Press-Truck%20Parking%20Innovations.pdf

Inland International Port of Dallas- http://www.dallas-edd.org/inland_port.html

Kansas City SmartPort - http://www.kcsmartport.com/index.htm

Liberty Corridor – http://www.state.nj.us/transportation/works/libertycorridor/

Los Angeles MTA – Goods Movement Environmental Justice -

http://www.scag.ca.gov/goodsmove/pdf/2006/gmtf062106min.pdf

Metro - http://www.metro-region.org/
2035 Regional Transportation Plan -
http://www.oregonmetro.gov/index.cfm/go/by.web/id=137
Regional Freight and Goods Movement Action Plan -
http://www.oregonmetro.gov/index.cfm/go/by.web/id=20884

Metropolitan Transportation Commission - http://www.mtc.ca.gov/
Regional Goods Movement Study **-** http://www.mtc.ca.gov/planning/rgm/

Mid-America Regional Council – http://www.marc.org/
Mid-Continent Tradeway Study - http://www.marc.org/transportation/tradeway.htm

Multi-County Goods Movement Action Plan (Southern California)
http://www.metro.net/projects_programs/mcgmap/

National Freight Studies and Activities
http://ops.fhwa.dot.gov/freight/freight_analysis/reg_ind_studies/so_cal_study.htm
(Southern California Regional Freight Study)
http://www.ops.fhwa.dot.gov/freight/publications/qrfm2/index.htm
(Quick Response Freight Manual)
http://www.fhwa.dot.gov/freightplanning/freightworkshop.htm
(Freight Planning Capacity Building)
http://ops.fhwa.dot.gov/freight/index.cfm
(Freight Management and Operations)
http://ops.fhwa.dot.gov/freight/freight_analysis/faf/index.htm
(Freight Analysis Framework)
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_320.pdf
(NCHRP Synthesis 320: Integrating Freight Facilities and Operations with Community Goals)

New Jersey Transportation Planning Authority – http://www.njtpa.org/
Freight Rail Crossing and Safety Assessment -
http://www.njtpa.org/plan/Element/Freight/documents/NJTPAFreightRailCrossingandSafetyAssessmentStudy.aspx

PierPASS - http://www.pierpass.org/

Port of Long Beach - Clean Trucks Program -
http://www.polb.com/environment/air_quality/cleantrucks.asp

Ports Investment Bill, SB 974 - http://www.e2.org/ext/doc/SB%20974%20Factsheet.pdf

Proposition 1B -
http://www.sos.ca.gov/elections/vig_06/general_06/pdf/proposition_1b/entire_prop1b.pdf

Puget Sound Regional Council - http://psrc.org/

San Diego Association of Governments (SANDAG) - Regional Freight Working Group
http://www.sandag.org/index.asp?committeeid=76&fuseaction=committees.detail

Southern California Association Governments - http://www.scag.ca.gov/
- Goods Movement Task Force - http://www.scag.ca.gov/goodsmove/#current

San Pedro Bay Ports Clean Air Action Plan
http://www.polb.com/environment/air_quality/caap.asp

Tremley Point Area - http://www.unioncountynj.org/p&cr/trem0104.htm

Western Regional Council of Governments - http://www.wrcog.cog.ca.us/
Good Neighbor Guidelines for Siting New and/or Modified Warehouse Distribution Facilities - http://www.wrcog.cog.ca.us/downloads/Good+Neighbor+Policies+Final-091205.pdf

Phone Interviews

Bok, Susan, Supervisory Transportation Planner, City of Los Angeles, April 2008 (interview)

Dahlburg, Ted, Manager, Freight Planning, Delaware Valley Regional Planning Commission, March & April 2008 (interview)

Mann, Howard, Manager, Freight Planning Unit, New York Metropolitan Transportation Council, July 2008 (interview)

Matthews, Ted, Director**,** Freight Planning, New Jersey Transportation Planning Authority, July 2008 (interview)

Mays, Caroline, Project Manager, Atlanta Regional Commission, May 2008 (interview)

Pfeffer, Nancy , President, Network Public Affairs (former Program Manager and Senior Planner at the Southern California Association of Governments), April 2008 (interview)

Shen, Eric, Transportation Planning, Port of Long Beach, March 2008 (interview)

Wong, Philbert, Los Angeles County Metropolitan Transportation Authority, April 2008 (interview)