



MEMORANDUM

To: CMAP Freight Committee

From: CMAP Staff

Date: March 16, 2015

Re: Draft scope for the freight existing conditions analysis in FY 2016

One of the initial tasks for a regional freight plan is to investigate the existing condition of the regional freight system. This component of the plan will build from past CMAP research efforts and the agency's existing analytical tools and data sources, further developed with feedback from regional stakeholders. Note that many of these existing datasets or published reports available at CMAP will need to be updated for use in an existing conditions report, potentially requiring significant staff time.

Beginning in FY 2016, CMAP staff proposes to explore five main research questions relating to (1) the region's position in national and global supply chains, (2) the extent and use of the freight system, (3) the extent and locations of freight land uses, (4) locations of freight bottlenecks and other deficiencies and (5) freight operational issues. Each of these topics is discussed in more detail, including a description of anticipated components of each analysis. Where there is sufficient information available, potential extension to FY 2017 projects is also noted.

The existing conditions analysis is expected to be delivered as a series of documents, rather than as a single report. These documents may include memos, Policy Updates, maps, and issue briefs. Some of these materials may be incorporated into the final regional freight plan, while others will suggest new areas of research, but will not be directly incorporated into the plan. As a whole, this work will be used to develop key findings that provide direction for subsequent policy and programming stages of the freight plan.

Role of the Chicago region in national and international goods movement

This component of the existing conditions analysis is meant to set the stage for the regional freight plan and will substantially utilize supply chain work already occurring in CMAP's regional economy area. It will describe the Chicago region's role in national and global trade at a high level, summarizing the volumes and values of shipments by mode, as well as identifying the region's key trading partners. This component of the analysis is also an opportunity to

introduce major freight concepts (e.g., supply chains), trends and technology in goods movement (e.g., intermodalism, nearshoring, e-commerce), and discuss the potential impact of these trends on the region's freight system (e.g., increased drayage and local distribution trips).

As noted, some efforts in this area are currently underway through CMAP's regional economy work. CMAP's previous Freight Cluster Drill Down and Freight-Manufacturing Nexus reports also explored some of the concepts relevant to this topic. Staff is currently working on a high-level supply chain report that will complete a portion of the needed literature review to establish definitions and identify trends. Beginning in FY 2016, staff will begin analysis of the supply-chain needs of individual industries, starting with the region's metals industry. While additional industries are expected to be analyzed over the next several years, those will not be available within the timeline of this analysis.

- Anticipated components:
 - Introduction to supply chain. This document will establish definitions and basic concepts, particularly for major industry trends, and to apply them in a general way to the region. Supply chain is a broad concept encompassing not only goods movement, but also private sector database and process management techniques. This analysis will focus on the elements most relevant for the transportation work.
 - Industry-specific supply chain vignette. This piece will illustrate the supply chain issues facing a key regional industry, including issues such as the frequency, value, volume, and time sensitivity of shipments; mode split; transportation facilities used by the industry and the condition of those facilities.
 - Detailed Freight Analysis Framework (FAF) analysis. CMAP published a [Policy Update](#) in October 2014 reviewing the FAF dataset. This project would provide more detailed summaries of the volume and value of freight flows by commodity into and out of the region. It would also identify the region's major trading partners, the commodities exchanged with these partners, and, if possible in combination with supplementary datasets, the modes used to move goods between these partners and major "ports of entry" into the region.
- Potential extension to FY 2017:
 - If there is sufficient interest and staffing availability, CMAP could explore a follow-up study on one or more of the trends or topics introduced in this work.
 - This project could potentially lead to the development of materials that seek to "make the case" for the Chicago region's freight system at the federal level. Such an effort would include a combination of quantitative and qualitative work.

Extent and use of freight transportation system

The previous project focuses on the region's role in national and global goods movement; this project focuses on how that freight moves through the region's transportation system. This component of the existing conditions analysis will inventory existing facilities and provide high-level descriptive statistics on their recent and current use. This description of extent and use of the freight system should help to define problem statements, which in turn will inform the planning process. This effort could be bolstered by CMAP's analysis of detailed private

datasets, such as those available from the American Transportation Research Institute (ATRI), which provide truck travel speeds and reliability for the National Highway System.

- Anticipated components:
 - Inventory of facilities across all modes. This inventory would cover mostly public facilities but also private railroads, truck parking, intermodal facilities, and distribution centers, among others.
 - Descriptive statistics on the use of these facilities.
 - Descriptive statistics could include the following: traffic volumes, miles traveled, delay, reliability, safety, intermodal transfers, barge volumes, air cargo volumes. Aggregate data could be reported for air quality and other topics.
 - To the extent possible, this information should be stratified across jurisdictions (e.g., state, county, municipal systems) and networks (e.g., the National Highway System). Note that the transportation datasets often have poorer coverage for the local road system.
 - This project should also investigate the origins and destinations of truck and rail travel, if possible, in the region. What is the percentage of trips passing through the region? What percentage of trips is intraregional?
- Potential extension to FY 2017:
 - This process should result in problem statements that provide a focus for future work in the freight planning area. For example, the findings may suggest a need to focus on better accommodating “through” movements, a need to better manage local drayage, a need for increased investment in local connectors, and/or a need to mitigate local community impacts.

Extent and locations of freight-related land uses

This component of the existing conditions analysis will document the location and extent of freight-related land uses in the region (e.g., manufacturing, warehousing, distribution, transportation facilities, truck parking), including tabular and map summaries. Note that this exercise should also investigate the region’s employment centers, which tend to overlap with the freight-related land uses. The project will also provide information on freight-related development trends in the region, which reflect changes to supply chains and Chicago’s role in goods movement, as well as high-level discussion of related policy issues (e.g., jobs-housing balance, growth in drayage, land use conflicts).

- Anticipated components:
 - Technical research. This item will include a detailed series of maps, tables, and charts documenting the extent of freight-related land uses and development trends over time. It may identify clusters of freight-related land uses in the region, for example noting municipalities with high shares of freight-related land uses or proximate to clusters of freight-related land uses.
 - Policy research. This item will likely be a brief summary of related policy issues, in large part relying on already published work at CMAP (e.g., fiscal and economic impacts of land use). But it could involve some new work related to land use conflicts (e.g., mapping conflicts between major freight clusters and

sensitive land uses like schools, parks, and hospitals; mapping conflicts between freight clusters and recent residential development).

- Potential extension to FY 2017:
 - This project will provide a better understanding of the spatial clustering of freight and logistics land uses in the region. This knowledge will help to focus future subregional or local freight planning efforts. Coupled with data on the extent and use of the freight system, this project will also help inform more detailed research into the local fiscal and economic impacts of freight, as well as land use conflicts.

Locations of freight bottlenecks and other deficiencies

This component of the existing conditions analysis is meant to combine and analyze the data collected in the previous projects. It is only meant to provide a general coverage, setting the stage for more detailed local or subregional analysis. The project will identify congested locations, safety hot spots, inadequate infrastructure, and conflicts between modal systems. While the project will not identify specific capital improvements to solve these deficiencies, it will offer a menu of potential solutions to be explored in the remainder of the freight planning and prioritization process. On the highway side, this analysis will likely be focused on the Congestion Management Process (CMP) network and National Highway System (NHS) intermodal connectors.

- Anticipated component:
 - Technical analysis identifying major freight deficiencies in the region. The primary emphasis will likely be on the highway system – and there on the CMP network and NHS intermodal connectors – but the analysis should identify rail, water, and aviation bottlenecks to the extent possible. The analysis will likely include a series of detailed maps, tables, and charts, along with narrative text. This narrative text could discuss the causes of these deficiencies, as well as offer a potential menu of improvements to address these deficiencies.
- Potential extension to FY 2017:
 - The identification of deficiencies is a critical component of project identification, evaluation, and prioritization processes, which are expected to be largely completed in FY 2017.
 - The identification of a menu of potential improvements may also assist in the project identification and evaluation process.
 - There may be unique follow-up studies, depending on the findings. For example, a follow-up study could look into mode-specific issues related to air or water cargo.

Operational issues like truck routing gaps and uncoordinated permitting

GO TO 2040 includes a brief narrative on operational issues like truck routing, on-street parking, and overnight delivery restrictions, but does not document them thoroughly or identify specific areas of concern or steps forward. This component of the existing conditions analysis will help to flesh out operational issues, primarily on the trucking side, identifying gaps in local regulations and progress being made through CMAP's Local Technical Assistance

(LTA) projects on regional truck permitting and truck routing in the greater O'Hare region, as well as other in-region planning projects.

- Anticipated components:
 - Trucking operations analysis (primary project). This analysis will document state and local regulations affecting trucking operations, the trucking industry's response to these regulations, and also inventory existing local regulations on truck permitting, on-street parking, and delivery.
 - Rail operations analysis (potential secondary project). This secondary analysis could look into rail operations issues, particularly the impact of passenger rail operations on the freight system's performance. This work may be included as part of a separate transit capacity study planned for FY 2016.
- Potential extension to FY 2017:
 - The findings from this project could lead to follow-up work in FY 2017. For example, travel demand modeling could attempt to quantify the costs and benefits of inefficient freight regulations in the region.
 - Additionally, a better understanding of local regulations may suggest locations for detailed subregional analyses of truck routing issues.

Potential Staging of Freight Existing Conditions Analysis Tasks

Some of the projects to be included in the freight existing conditions analysis could be completed at any point in FY 2016, but others do require particular staging. Namely, the "extent and use of the freight system" project should largely precede the "bottlenecks and deficiencies" project, since some of its findings from the former will be used as inputs in the latter. The "role of Chicago in national and global supply chains" piece can occur relatively early in the process; initial work from the regional economy team is currently underway in late FY 2015. In contrast, the "operational issues" project should be scheduled later in the year, in order to allow the ongoing LTA project to make progress. Finally, the "extent and locations of freight-related land uses" could likely occur at any point in the process.

Potential Outreach Strategy for Freight Existing Conditions Analysis

It will be critical throughout the process to gain the feedback and input of freight industry stakeholders, including both public and private sectors. While the Freight Committee will continue to be the primary "point of contact" for the entire freight plan, including the existing conditions analysis, more frequent and/or specific feedback may be required for the more technical components of the existing conditions analysis. Some of this technical feedback could come from new working groups, composed of interested members of the Freight Committee and additional technical representatives. Staff will provide more details for proposed technical working groups at the Freight Committee's May 2015 meeting, subsequent to discussion of this proposed approach for the existing conditions analysis.

Additionally, some of this technical feedback could come from existing CMAP committees. The Regional Transportation Operations Coalition would be an appropriate venue to review various aspects of the planned existing conditions analysis, particularly for the identification of freight bottlenecks. The Land Use Committee would be an appropriate venue to review work related to development trends, land use conflicts, and related issues. The Economic Development

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Committee would be an appropriate venue to consider the initial supply chain work, including major trading partners for the Chicago region.

In addition, the Transportation Committee could be briefed on the near-final deliverables from the existing conditions analysis, and would likely become more involved in the identification and prioritization of potential capital projects in FY 2017.

As the research projects unfold, there will be additional opportunities for one-on-one outreach with key transportation implementers, local governments, businesses, and civic groups. More detail on these research and related outreach efforts will come out of the detailed scoping process for each project, likely to be completed over the summer.