



## MEMORANDUM

**To:** Economic Development Committee  
**From:** CMAP staff  
**Date:** April 17, 2012  
**Re:** Update on Freight Cluster Drill-Down

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The Human Capital chapter of [GO TO 2040](#) calls for developing a better understanding of the region's industry clusters. The plan directs CMAP, with the support of its partners, to perform "drill-down" analyses into specific established industry clusters, including freight, advanced manufacturing, and biotech/biomed. As staff has discussed in previous committee meetings, CMAP is undertaking the first of its series of cluster studies, focusing on freight. At the April 2012 meeting of the Economic Development committee, staff will provide a progress update on the drill-down as well as an overview of preliminary findings, outlined below.

### *Background on Cluster Studies*

Cluster studies focus on interdependent firms that share common resources and technologies and depend on a similar labor pool and institutions. These closely linked industries and firms draw a productive advantage in their close geographic proximity. Clusters are widely regarded as engines of economic growth and drivers of innovation. The freight cluster contains not only core modal industries (i.e. rail, truck, air, and water freight transportation) but also the customers served by freight industries (e.g. wholesalers); the companies that supply and support core industries (e.g. transportation equipment manufacturers or logistics firms); and the companies that indirectly support these industries (e.g. road construction firms).

### *Study Objective*

Through this drill-down, CMAP will develop an understanding of the dynamics between the cluster industries and the regional economy, how national and international developments will potentially impact the region's status as a freight hub, and the challenges and opportunities regarding innovation, workforce and infrastructure. The report will also examine the major efforts to support and strengthen the cluster and evaluate how these efforts align with the identified challenges and opportunities. The drill-down will conclude with strategies that will better align resources and investments with the needs of the cluster so that the Chicago region remains a leader in freight and fully realizes the economic potential.

## *Key Findings*

### *Cluster Dynamics*

Examining employment change, levels of concentration, and multipliers of the 42 industries within the freight cluster reveals numerous trends, strengths, and challenges.

The Chicago region is the nation's freight hub: between a quarter and a third of all freight tonnage in the United States originates, terminates or passes through the Chicago region.

The freight cluster is growing more quickly than the overall regional economy: in the past decade employment in the cluster has increased by seven percent while employment in the overall regional economy has increased by less than one percent.

Firms in the freight cluster are highly integrated and codependent, relying on continual transactions to efficiently move goods throughout the region. Running multiplier and scenario analysis through an input-output model shows that some of the most interconnected industries are trucking, rail, warehousing, and logistics.

### *National and International Developments*

Globalization and increased consumption continue to drive enormous demand for freight, which is expected to double within the U.S. in the next twenty years. Efforts to address this increased demand in freight are underway across the country and globe.

The expansion of the Prince Rupert port in British Columbia is expected to augment the volume of freight coming through the region as Chicago is CN's first major connection to the U.S. market from the Prince Rupert Port. In contrast, freight centers such as Memphis are organizing in ways which may divert freight flows from the region: Memphis is investing heavily in expanding its intermodal capacity, fostering inter-state collaborations to expand its freight cluster, and enhancing its freight infrastructure. Other notable efforts include the widening of the Panama Canal, set to be completed in 2014; this expansion will likely redirect freight away from Chicago.

One major impact on the movement of goods is the cost of fuel. Whether goods move on trucks or rail, or through the Panama Canal or LA/Long Beach, depends in large part on the cost efficiency of each mode. To that end, rising fuel costs will continue the push towards more fuel efficient means of transporting goods (likely shifting from truck to rail or continuing to use intermodal moves where feasible). Additionally, firms will likely seek to employ shorter supply chains and continue to utilize just-in-time production and distribution methods.

### *Challenges and Opportunities*

Despite being a leading freight hub, there are serious challenges that may inhibit growth in the cluster. CMAP's report focuses on the most prominent challenges and opportunities in freight: infrastructure, innovation, and workforce. Infrastructure is the most serious challenge facing the cluster because of the region's congested system. Currently the region ranks amongst the most congested in the nation. In addition to lost time and fuel, persistent congestion means firms are finding it harder for producers to operate under just-in-time methods. Regional congestion is exacerbated by fragmented freight land use as well as a dwindling stock of industrial/freight land. As almost every industry relies on the cluster for efficient movement of

goods, rising costs in the freight cluster will affect the competitiveness of the greater regional economy.

The innovation section delves into the role technology has played in revolutionizing freight movements and what this will mean for regional firms. Innovation is rapidly changing the needs and operations of businesses within the cluster. Technology is increasingly being used to control supply chains that are global in scope. Improvements in carrier and terminal operations are being adopted to realize new efficiencies. External and internal pressure to 'green' the cluster is leading to a slew of innovations increasing fuel efficiency and reducing emissions. In order to stay competitive the regional cluster must stay ahead of the curve in adopting freight innovation.

The third section of the challenges and opportunities chapter builds upon the trends identified earlier and shows how the changing dynamics of the cluster are altering the workforce needs of freight. The increased technology-intensive nature of the freight cluster means that freight workers need a new skillset to be competitive. This is an important opportunity for the workforce, yet the region is having difficulty attracting technology savvy workers to manage supply chain movements. Other major workforce challenges and opportunities include retention issues and the high number of projected openings.

### *Cluster Support*

Cluster support strategies vary across the region, ranging from the City of Chicago's Planned Manufacturing Districts to SSMMA's Green TIME Zone to Will County's Model Container Ordinance. This chapter will describe the major initiatives geared towards strengthening the cluster and determine how the extent these efforts align with the challenges and opportunities previously identified. While this chapter is still being drafted, it is clear there are significant resources targeted towards strengthening the freight cluster; and a better understanding the existing priorities and strategies will reveal opportunities for coordination and strategic investments.

### *Discussion*

The Committee is asked to be prepared to discuss the above findings as well as contribute to the following questions:

- Do committee members have contacts in the cluster that would be helpful resources for staff writing the report? Staff is especially interested in learning more about the use of technology in supply chain management and the impact this will have on the workforce.
- Chapter five will identify key strategies to strengthen the cluster. What partnerships or efforts serve as a potential model and should be bolstered? What are the key challenges to expanding effective strategies?
- How could this report be useful in furthering or redirecting ongoing work in the freight cluster?

The freight drill-down is on track to be completed by the end of June, 2012.