

RECOMMENDATION

# 12 Create a more efficient freight network



Metropolitan Chicago’s freight system links the region’s industries and consumers to global markets. Highways, railroads, waterways, and airports all provide important connections to the world. Yet each of these modes of transport is intertwined with the livability of the region. Therefore, planning for an efficient, regional, multimodal freight system is a key priority of GO TO 2040.

GO TO 2040 continues a regional freight planning tradition — and builds on a legacy — stretching back to Daniel Burnham’s and Edward Bennett’s 1909 *Plan of Chicago*. In preparing the Plan of Chicago, Burnham studied the freight system congestion that was choking Chicago and understood that addressing the congestion was critical. Burnham suggested cooperative operations for the railroads, a series of belt rail and freight clearing systems stretching west from the city center, an improved street system, and a new port on Chicago’s south side to address the city’s commercial needs. These suggestions laid the foundation for improvements through the 20th Century, even leading up to today’s Chicago Region Environmental and Transportation Efficiency Program (CREATE).

It is important to understand the freight system through the modern prism of livability. So addressing the freight system not only means enhancing our communities’ economic competitiveness and prosperity, but assuring that the communities are healthy and safe. Efficient freight movement is significant to our regional economy. GO TO 2040 will set forth infrastructure and operations strategies to address these needs. The following are recommendations to improve the efficiency and interconnectedness of the region’s freight systems:

**Develop a national vision and federal program for freight.**

**Support CREATE rail system improvements.**

**Support regional trucking improvements, including truckways, truck routes, truck parking, and delivery time management.**

**Organize and improve public policy relating to freight.**

**Integrate freight needs and financing into infrastructure prioritization.**



## 12.1 Benefits

The GO TO 2040 Regional Vision states that “the freight system will be improved to increase efficiency and interconnectedness, strengthening our position as a national and international center of goods movement and intermodal logistics.

Through investments and policies that support freight, our transportation system will be planned in a way that improves the movement of goods, minimizes conflict between freight and passenger transportation, and mitigates impacts on local communities.”

To support this vision, CMAP initiated a planning project aimed specifically at the regional freight system in 2009.<sup>1</sup> This project set forth the case for freight system improvements, and included both a technical evaluation and involvement of both public sector and private sector stakeholders. The stakeholder involvement was focused on group and individual interviews, and electronic surveys.<sup>2</sup> The interviewees were targeted to gather input from all four modes of freight transportation: truck, air, water, and rail. The study secured input from those that ship materials or products throughout the region as well as a number of locally elected officials. Stakeholders’ input validated and prioritized the results of the technical evaluation, and demonstrated public support for freight improvements planned in GO TO 2040.

As the mover of people and goods, metropolitan Chicago’s multimodal transportation system serves as our link to the global economy. As consumers, nearly everything we buy to sustain and improve our quality of life — including the food we eat and the clothes we wear — travels by freight. The numerous materials that are needed to make our region’s businesses thrive, including raw materials for manufacturing or office supplies, come from somewhere outside of this region via our freight system. This system and convenience is often taken for granted, but without it, we would be shut off from the rest of the world. There is a clear tension between the economic benefits (the consumption of goods that freight allows) and the negative externalities (such as increased congestion, decreased air quality, and grade crossing conflicts) associated with freight movement. Therefore, public opinions about

freight are mixed and complex. Overall, the region must consider how to improve a freight system that is vital for maintaining and improving the regional economy, while also minimizing impacts to local communities.

### Economic

As of 2008, according to the U.S. Department of Commerce,<sup>3</sup> an estimated 236,000 of the region’s jobs (four percent of total private sector employment) were in the transportation and warehousing sector. These jobs provide more than \$13 billion in personal income for our region’s residents.

The prosperity of other industry sectors — including but not limited to manufacturing and both wholesale and retail trade — is also closely tied to our position as a transportation and logistics center. These industries account for more than 30 percent of the region’s private sector employment, resulting in nearly \$80 billion in personal income for residents of northeastern Illinois.

Metropolitan Chicago’s position as the nation’s freight hub also has impacts beyond direct jobs and income for our residents. The railroads move \$350 billion and trucks move \$572 billion in goods to, from, or through the region each year.<sup>4</sup> An efficient freight system enables a global supply chain to provide goods at lower costs and gives Chicago-area businesses an advantage in today’s globally competitive economy.

Since nearly all of our region’s freight travels by trucks and trains, improvements to the efficiency of our freight system will help to alleviate congestion from our roadway network. Slow trains, blocked grade crossings, and other “costs of congestion” are real and serious; they include lost time and fuel, decreased productivity, inefficient freight movements, and pollution. Goods moving more efficiently through the region can also lead to more efficient inventories and thus lower prices for consumer goods.

1 Chicago Metropolitan Agency for Planning, Freight System Planning Recommendations Project. See <http://www.cmap.illinois.gov/cmp/freightsystem.aspx>.

2 Chicago Metropolitan Agency for Planning, Freight System Planning Recommendations Project. See <http://www.cmap.illinois.gov/cmp/freightsystem.aspx>.

3 Bureau of Economic Analysis, Regional Economic Accounts. See <http://www.bea.gov/regional/index.htm>.

4 Chicago Metropolitan 2020, “The Metropolitan Freight Plan: Delivering the Goods,” 2004, 5. See <http://tinyurl.com/2e5knme>.

## 12.2 Current Conditions

Our region is the rail freight hub of North America, and trucks make up nearly one of every six vehicles on Illinois' urban interstates. At the same time, congestion in the Chicago area is among the worst in the U.S.

Furthermore, rail tonnages moving to, from, and through our region are expected to increase by more than 60 percent by 2040, with intermodal volumes growing even faster. Tonnages carried by truck in the region may grow by more than 70 percent. Our rail and road networks are not equipped to handle these forecast volumes. Without a well conceived and implemented plan, the region's position in the global economy could be compromised.

### Rail System

Six of the nation's seven Class I railroads have major terminals in Chicago. Nearly 500 freight trains per day operate in the Chicago region. In 2007, regional rail tonnage was estimated at more than 631 million tons (approximately 30 percent of the 2007 annual regional freight tonnage), with about 24,000 trailers and containers and about 16,800 carload units moving into, out of, or through the region daily. Rail terminal operations in Chicago are beset by congestion, with numerous heavily-used freight lines crossing each other at grade and being used for passenger services. However, railroads have recently worked together to mitigate congestion and improve efficiencies through improved operations coordination. In addition, the railroads have worked together to improve train travel and reduce community impacts in the Chicago terminal district through CREATE. CREATE was announced as a partnership among U.S. Department of Transportation (U.S. DOT), the State of Illinois, City of Chicago, Metra, Amtrak, and the nation's freight railroads in 2003 to upgrade four critical corridors. These upgrades include the construction of flyovers, grade separations, improved signalization, and modernization of equipment. A key element of these improvements, particularly the flyovers and grade separations, is the alleviation of conflicts between passenger and freight services on the rail system. Progress has been made to secure initial funding for this program and a small number of the projects have been completed. However, despite its strong partnership and commitment to its implementation, additional funding is necessary.

While freight services provide an economic benefit for the region, there are also community impacts that must be addressed. Railroad delay at at-grade highway-rail and at rail-rail grade crossings is a major issue affecting highway users, passenger transport, and the freight rail industry itself. In addition to the economic impacts of delay and travel time reliability, grade crossing delay can be an issue for community emergency responders. Grade crossing delay will likely be an increasingly frustrating issue for travelers as rail shipments increase and, more importantly, train lengths increase.

In addition to delay, at-grade crossings are associated with a number of highway-rail crashes, costing a number of lives each year. However, the number of annual deaths has been declining rapidly. One safety option, train whistles, often presents a serious nuisance to adjacent communities, and effective alternative safety enhancements are being undertaken by many suburban communities.

Assuming future economic growth, rail companies foresee the length of trains increasing from 125 cars to 175 cars. While railroads will need to address infrastructure issues related to longer trains (e.g., increasing siding lengths to beyond 10,000 feet), longer trains will also affect public highway at-grade crossings, likely increasing motorist delay at these crossings. Thus, at-grade crossing improvements will take on increased importance.

Finally, freight traffic impacts our existing commuter rail service and can also potentially limit our ability to expand passenger service or future high-speed rail. An increase in rail traffic could also impact the development of transit-supportive land uses that are critical to the success of our transit system.



## Trucking

While the rail industry is a critical component of the region's freight system, most of the region's freight moves by truck. Trucks make up nearly one of every six vehicles on Illinois' urban interstates.

Compared to the 631 million tons moving by rail in the region, CMAP estimates that approximately 1.472 billion tons of freight was moved by truck in 2007 — more than 2.3 times the rail volume, and approximately 67 percent of the annual regional freight tonnage. Of this total, approximately 36 percent of all freight movements were through-traffic.

The biggest challenge to trucking is highway congestion. Where trucking volumes are high, congestion is often very serious. Congestion data prepared by CMAP shows that on several corridors where truck volumes are over 10,000 per day, congestion during morning peak periods increases travel times by an average of 60 percent. Further, for many of our highways, on-time arrival during the peak period requires doubling the travel time required during free-flow conditions. A number of our regional arterials are also severely congested. Thus, achieving economic efficiencies in trucking is challenged by severe congestion on interstate highways, arterial roads, and many collector streets. Congestion and unreliable travel times require buffering the time required to traverse the region to assure on-time arrivals, adding to costs.

**Figure 64. Regional freight movements by mode**



Efficient truck deliveries are impacted not only by congestion, but by other challenges as well. Because of deferred maintenance and outdated infrastructure, trucks must detour around both bridges with load restrictions and viaducts with low clearances. Many of our regional arterial roads are not designated truck routes and so cannot be used for truck travel except directly to a delivery. Locally-designated truck routes are sometimes not coordinated between municipalities. Further, many municipalities restrict off-peak deliveries to local merchants, forcing truckers to either add to peak-period highway congestion or to find a nearby place to park, waiting for the allowable delivery time. However, there is a critical shortage of truck parking near destinations. These restrictions may make sense when considered alone, but when combined, all of these constraints often place severe pressures on truck operators and add substantially to transportation costs for area manufacturers, distributors, and retailers.

Because of their heavy weight, heavy truck volumes put substantial stress on area pavements, impacting the roadway condition. Improving roadway design standards and increasing scheduled maintenance will be a necessity, particularly on heavy traveled roads. Longer-term, truck sizes and weights can be modified to reduce pavement wear and long-standing proposals have suggested allowing heavier trucks (and thus fewer trucks), but with weight spread over more axles, reducing pavement wear. However, we must keep in mind some of the secondary impacts, for instance implementing such proposals would likely require substantially increased bridge strengthening expenditures.

Traffic safety is also a concern for the trucking industry. The number of highway traffic crashes involving trucks in 2008 totaled 20,621, an 11 percent reduction from 2006.<sup>5</sup> Truck safety improvements are a result of highway infrastructure improvements, improved driver training, improved motorist awareness of truck issues, more effective licensing and regulation (e.g., rest regulation), and safer vehicles.

<sup>5</sup> Chicago Metropolitan Agency for Planning analysis of 2006 and 2008 Illinois Department of Transportation Crash Information System Data. Data from Division of Traffic Safety Bureau of Safety Data and Data Services.

## Water and Air Freight

Water and air freight are also important for the region, but currently carry only three percent and less than one-half percent of freight movements respectively. Nonetheless, such freight services fill important roles for the region and present important opportunities for future regional development that can be further explored.

The Chicago Area Waterway System is used for the low-cost shipment of bulk goods to, from, and within metropolitan Chicago. The shipping industry faces several challenges, including lock delay, channel conditions, lock and dam maintenance, and deferred maintenance evident by crumbling jetties and wharves.

There is little or no movement of through goods over the waterway system, since the vessels used in the Mississippi River and Great Lakes waterway freight systems are mutually exclusive. However, the Great Lakes and Mississippi waterways are connected, and this connection has raised concerns about invasive species like Asian Carp moving into the Great Lakes, with negative economic and ecological effects. These concerns should be addressed in such a way as to preserve and expand our opportunities in waterway shipping. Furthermore, the region should work with neighboring regions to take advantage of water transportation on the Great Lakes.

Air freight services, centered at the Chicago O'Hare International Airport, carry a relatively small amount of freight on a tonnage basis (compared to rail and truck) and are used to haul lightweight, high-value, and time sensitive goods such as medical devices, pharmaceuticals, and electronics. O'Hare is in the midst of the O'Hare Modernization Program and is constructing two additional runways and a new western terminal that will significantly increase its air cargo capacity. Additionally, the Chicago Midway Airport and the nearby Gary/Chicago International Airport also provide air cargo service. The proposed South Suburban Airport, which also has the potential to handle cargo activity, is currently in the early stages of development, including environmental analysis and land acquisition.

## Freight and Land Use

Since the 1909 release of the Burnham Plan, the relationship between goods movement, accessibility, and land use has been a key theme of planning in our region. One element of this theme has been the entanglement of freight, industry, and commerce in central, congested parts of the region. This entanglement presents tremendous conflict to the operational efficiency of the region's freight transportation, as well as the passenger system where services share infrastructure.

Freight volumes have grown significantly in recent years and existing central city freight facilities have been jury-rigged to serve the increased flows, primarily through operational changes that have been made to accommodate flows within existing site footprints. However, as these older, smaller sites have reached their capacity, new sites have been developed in remote greenfield sites, allowing design of the most appropriate facilities for given operations. While construction of these new suburban facilities is an obvious solution to freight industry infrastructure needs, they bring change to communities where facilities are sited, including economic development but also increased truck traffic, increased rail traffic, wear and tear on infrastructure, noise and air quality concerns, as well as overall safety concerns and other issues. Thus, it is crucial to consider the most appropriate locations to designate freight-related land use for both industry and community benefits.

Since there is an economic incentive for industry and warehousing to follow freight facilities to reduce shipping costs, there are studies underway to foster such efforts as land banking and developments complementary to the freight system in infill areas of Chicago and the south suburbs where redevelopment and complementary development opportunities are clear. For example, the Chicago Rail Economic Opportunities Plan (CREOP) program is an intensive, multiparty effort to preserve and establish rail-related land use in designated areas. Many freight-heavy rail lines have fallen into disuse or are currently underutilized. Preserving these corridors for freight rail could be important in the future in the event that industrial rail service should experience a resurgence. For example, if fuel prices increase dramatically, it is possible that fuel-efficient modes such as rail and water may face heavily increased volumes.

As noted above, many local communities experience significant impacts from freight, particularly rail delays at highway-grade crossings, heavy truck volumes on state and local routes, and impacts on passenger rail due to freight rail conflicts. The stakeholder outreach revealed that municipalities would like freight rail not terminating in the region to bypass the region as much as possible. In areas where conflict will remain, communities desire improvements to smooth flow of through-traffic to minimize the community impacts and place a high priority for grade separations where necessary.

## Addressing Market Dynamics

Freight volumes, origins, destinations, and commodity types reflect the interactions between and among populations and industries. As a result, the region will need to address changing rail travel patterns and be proactive in terms of planning for changes in terms of freight travel patterns and global market dynamics. In addition, planning recommendations and investments are expected to address the resiliency of the freight system. GO TO 2040 acknowledges that future private-sector freight system investments and technological change are unknown. Further, the volumes of freight that the region will need to handle are not known. Thus, to keep metropolitan commerce moving and to ensure regional prosperity, the freight system might need to work under any number of future scenarios and a proactive approach to reducing congestion. This resiliency will be enhanced by sufficient right of way and corridor protection for freight systems; preserving and enhancing multimodal transportation options; and providing operational flexibility. By proactively planning for resiliency in the freight system, the region can substantially benefit by making the region “ready-to-go” for economic development opportunities that require global access or a central location for Midwest and national markets.



# 12.3 Indicators and Targets

The recommendations described in this section seek to improve the economic competitiveness of industry in metropolitan Chicago and to reduce the impacts of freight operations on local communities, addressing travel delay, pollution, and safety.

GO TO 2040 proposes tracking progress toward these goals through two indicators: the implementation progress of the CREATE program; and the amount of time spent delayed at grade rail crossings.

## Implementation of CREATE

Funding and completing the CREATE program is a goal of GO TO 2040 by the year 2030. There are a total of 71 projects included in CREATE. As of March 2010, 10 projects have been completed and another 30 are underway, leaving a total of 31 remaining projects.

CREATE PROJECT COMPLETION

**An additional 10 projects by 2015**

**All 71 CREATE projects by 2030**

## At-Grade Highway-Rail Crossing Delay

Railroad grade crossing delay is an important source of traffic congestion along many regional highway corridors. GO TO 2040 proposes to address grade crossing delay through rail operational improvements, in coordination with rail companies, and through grade separations where appropriate. Both operational improvements to raise train speeds (and reduce crossing gate-down time) and railroad grade separations are important components of CREATE. The Illinois Commerce Commission estimated in 2002 that of a total of 1,732 public at-grade crossings in northeastern Illinois, there were approximately 140 crossings where motorists were delayed more than 20 hours per weekday.

Forecast increases in train volumes and increased train lengths will increase motorist grade crossing delays. CREATE and other regional freight planning initiatives will abate some of this increased delay through increased train speeds, and will eliminate the delay at several high-impact crossings. GO TO 2040 seeks to cut motorist grade crossing delay in half, overall, from the 10,982 hours of motorist delay estimated by the Illinois Commerce Commission in the region in 2002.

REDUCTION IN RAILROAD GRADE CROSSING DELAYS

**10,000 hours/weekday by 2015**

**5,500 hours/weekday by 2040**



## 12.4 Recommendations

GO TO 2040 strongly supports increased investment in the region's freight system. Investment will be required primarily by the private sector in the normal course of private business enterprise, but public investments will also be necessary to promote the economy, public health, safety, and welfare.

The two goals of this increased investment should be (1) to improve the economic competitiveness of industry in metropolitan Chicago and (2) to reduce the impacts of freight operations on local communities, addressing travel delay, pollution, and safety. As part of the stakeholder outreach, improvements to at-grade rail crossings and improvements to reduce freight-rail and passenger-rail conflicts were judged by stakeholders to be the most important improvements. Other important ideas include rail safety improvements, public-private partnerships (PPPs) for rail improvements, greater intermodal investments, policies and investments to limit local community impacts and changes to address shifts in international freight flows. Among trucking improvements discussed, ideas judged most important by public and private stakeholders included expanded congestion management efforts (e.g., more centralized traffic information resources, changes in delivery time regulation, dedicated freight corridors, investment in additional truck parking, and better system maintenance). Additionally, within the trucking industry, the focus has moved from traditional highway infrastructure improvements to operational and focused infrastructure improvements designed to make the existing freight system work better. Therefore, GO TO 2040 seeks to address this new reality by proposing a shift in the public-sector focus to better address moving our region's goods by truck more efficiently, mirroring recent PPPs in the rail industry.

CMAP's freight approach to date has included a freight system study<sup>6</sup> aimed at determining recommendations for inclusion in the GO TO 2040 plan. The study's report contains a broader list of recommendations and more details on some of the recommendations listed below. The following are the key recommendations for GO TO 2040 for freight:

### National Vision and Federal Program for Freight

According to the Freight Analysis Framework (FAF), the U.S. transportation system moved an average of 53 million tons of freight worth \$36 billion per day in 2002 to serve 109 million households, 24.8 million business establishments, and almost 88,000 units of government.<sup>7</sup> More than one-half of the tonnage moved within local areas, and less than 10 percent was an import from or export to another country. Trucks hauled close to 60 percent of the weight and two-thirds of the value of shipments.<sup>8</sup>

These statistics demonstrate that moving freight is a national, interstate commerce issue and the U.S. economy depends on the efficient movement of freight. The benefits of the freight system rarely are confined to a single jurisdictional boundary and often the negative impacts are felt locally. Freight movement requires an interconnected system throughout our nation. We need to address and resolve our freight pinch points in the region, but this is very much a problem that transcends geographical boundaries. It is inefficient to solve only part of the problem, in one part of the country, only to encounter a bottleneck here in the Chicago region. To address these problems the federal government needs to develop a vision, a plan, and funding to address freight movements across the nation. Once that has been developed, state, regional, and local actions will be needed to improve the efficiency of our freight system.

6 Chicago Metropolitan Agency for Planning, Freight System Planning Recommendations Project. See <http://www.cmap.illinois.gov/cmp/freightssystem.aspx>.

7 Federal Highway Administration, Freight Management and Operations, Freight Analysis Framework. See <http://tinyurl.com/29ox54o>.

8 U.S. Department of Transportation, Freight Story 2008. See <http://tinyurl.com/2d2dpol>.

### CREATE Rail System Improvements

CREATE consists of strategic improvements to the rail system, reducing freight bottlenecks, and raising operating speeds. In doing so, it improves the economic competitiveness of the region’s manufacturing and transportation industries. In addition, CREATE will reduce the freight industry’s impact on metropolitan communities by reducing grade-crossing delay and by reducing freight engine vehicle emissions. CREATE has regional and national significance and although it has made substantial progress, it still needs significant additional funds leading to completion. Freight shipment is the backbone to our national economy and funding this program should be a high priority at the federal level to improve interstate commerce and eliminate bottlenecks throughout our region and the country.

There are a total of 71 projects included in CREATE. The work includes the following:

**25 new roadway overpasses or underpasses at locations where auto and pedestrian traffic currently crosses railroad tracks at grade level**

**Six new rail overpasses or underpasses to separate passenger and freight train tracks**

**Viaduct improvements**

**Grade crossing safety enhancements**

**Extensive upgrades of tracks, switches and signal systems**

To accomplish CREATE, the partnership<sup>9</sup> should prioritize the projects within the program and aggressively identify and secure funding to expedite the implementation of this program. Since the program was announced in 2003, over \$500 million has been secured from a combination of sources including federal, state, the City of Chicago, and the railroads. Additionally, \$400 million was included in the state’s 2009 capital bill and over \$200 million in federal stimulus funds, identified in the American Recovery and Reinvestment Act of 2009 (ARRA). However, there is still an unfunded CREATE cost estimated at over \$2.5 billion dollars. The longer it takes to secure the funding for this program, the higher the costs will grow due to inflation and higher construction costs. Because the CREATE program is of national significance, GO TO 2040 recommends that the federal government take a central role in funding it.

In addition to the urgency in making these improvements to our rail system, the region will also suffer additional economic consequences if rail capacity and infrastructure issues are not addressed. An estimate of the impact on the region’s economy showed that by as early as 2021 the region would experience a potential loss in excess of \$1 billion in production and the equivalent of over 3,000 jobs per year. By 2040, these values would be close to \$7 billion and the equivalent of 12,000 jobs per year. Cumulatively, from 2018 to 2040, a total of the equivalent of 172,000 jobs could fail to be created in the Chicago region if CREATE is not constructed.<sup>10</sup> The CREATE program was an initial step to accomplish the overall vision to enhance the main-line rail system so that it has the capacity to efficiently handle potential future traffic loads and meshes with an efficient system for local pick-up and delivery.

The implementation of this program should be a top priority for the region. As implementation occurs, planning for the next phase should commence. The CREATE Partnership, along with CMAP should begin to develop, finance, and implement projects and improvements beyond those identified in the CREATE. See **Figure 66** for a map of CREATE projects.

**Figure 65. Fully implement CREATE by 2040**



Source: Regional Economics Applications Laboratory

9 Chicago Region Environmental and Transportation Efficiency Program Partners include the State of Illinois, the City of Chicago, and the railroad industry.

10 Regional Economics Applications Laboratory, “Economic Impact of Improvements in Transportation Congestion in the Chicago Region on the Midwest and U.S. Economies,” Institute of Government and Public Affairs, University of Illinois, April 2010.

Figure 66. CREATE projects



Source: Chicago Region Environmental and Transportation Efficiency Program



## Regional Trucking Improvements: Truckways, Truck Routes, Truck Parking, Delivery Time Management, and Restrictions

Most freight moves by truck, so a serious effort to confront excessive Chicago-area shipping costs needs to address truck transportation issues. A combination of factors tends to drive up Chicago area truck costs. A program of truck transportation improvements, primarily operational rather than capital in nature, should be pursued to address the Chicago region's truck system issues. Such a program would bring reduced congestion on the area's roadways, safety benefits, emissions reductions, and more efficient deliveries to local suppliers. Like CREATE, this truck-oriented program is potentially a PPP and all of these efforts should work in cooperation with the locally impacted communities in order to address potential impacts to both local infrastructure and quality of life.

A full program of truck system improvements is necessary, including an enhanced and integrated geographic information system, to improve freight mobility:

### Capital/Infrastructure

Dedicated and managed truckways (roads set aside for trucks) or truck lanes on existing facilities should be identified and established throughout the region that are funded through a congestion pricing revenue system. A number of potential dedicated facilities have been studied in the past, including dedicated truck-only lanes on I-55 and the proposed Illiana Expressway. Advantages of these separated facilities would include safety enhancements separating large trucks and passenger vehicles, efficiency in moving cargo by avoiding certain corridors that are congested due to peak hour passenger vehicle congestion, and maintenance considerations that would allow the specific infrastructure enhancements (such as pavement design, geometrics, sight distance, and lane widths) that are required for large trucks to be focused on these dedicated facilities. In addressing the dedicated freight facilities, it will be important to target the region's intermodal facilities and work to connect them appropriately.

### Routes/Restrictions

While the Chicago region is a freight hub for transfer of goods, it is also the destination for a significant portion of goods travelling in the region. The region's truck routes need to be analyzed and updated. To address this, the regional truck route system needs to be expanded to reduce unnecessary truck travel and to improve system efficiency by providing more direct routes to destinations. As an initial step, a regional map of existing truck routes should be created to identify gaps and inconsistencies throughout the region. Since our roadway system crosses a number of jurisdictions (state to county to local, for example) the truck routes have not been designated in the most logical and efficient manner. By examining the current routes, the various jurisdictions should coordinate a more logical and efficient system for the region's truck routes.

Delivery times and parking restrictions also need to be addressed by local governments. Regional efficiencies can be gained by managing truck delivery times and reducing peak-period deliveries, while requiring quiet and clean trucks to assure compatibility with local communities. Where delivery times cannot be addressed, truck parking facilities should be established to reduce the need for peak-period truck travel. For instance, to alleviate congestion and idling, the City of Chicago should establish centralized freight distribution nodes to limit the number and size of trucks in the Chicago Central Area.

## Organization and Public Policy: Regional Freight Authority and Regional Transportation Operations Coalition

Metropolitan Chicago has not traditionally had a champion to look out for the public interest regarding freight. National discussions and decisions about the movement of goods are dominated by port cities and states, partly because our region lacked a strong voice despite being the nation's hub of truck and rail freight. The Chicago region has a tremendous amount at stake and the movement of freight can have a wide range of potentially positive or negative effects, including economic ones. Freight bottlenecks make it harder for commuters in cars and trains to reach their destinations and harder for companies to get their goods into and out of our region. But if addressed effectively, freight traffic can serve as a major engine of economic prosperity.

Freight improvements are intended to produce a mix of public and private benefits, but the greatest obstacles to implementing improvements are institutional barriers (such as the challenges presented by coordinating a number of different private freight carriers within a competitive industry) and financial hurdles. CMAP should provide that leadership function on such regional matters. In particular, the issue of freight and goods movement is a regional one more than a state issue, and it is broader and more complex than a simple accumulation of the 284 municipal and seven county governments' individual interests. CMAP and its partners need to address economic needs and freight efficiency while assuring that metropolitan Chicago remains a place where a skilled workforce will want to live and where businesses want to grow.

To address the institutional and funding barriers of all freight modes, a self-financed Regional Freight Authority should be explored and designated to establish a balance of interests and a mandate to address these needs and lower operating costs by upgrading regional infrastructure. The Regional Freight Authority should have the ability to finance freight system capital improvements and to address public policy issues, such as community issues (grade crossing delay, safety, and noise). Current financing has not been adequate to provide freight mobility or address freight-related community issues, so new revenue sources (for example, instituting a freight transfer fee or increased tolling) should be established for dedicated freight improvements. Since there is a benefit to both the government and the private sector, a cooperative effort is a necessity to determine how the costs should be shared among the parties and how the required funds should be raised.

A process should be outlined to assist in moving this recommendation forward that includes convening freight stakeholders and transportation implementers to discuss the options and best course of action; examining case studies of similar authorities in other regions; and exploring potential agencies to host the Regional Freight Authority. Ideally, this authority should be integrated into an existing agency to avoid creating an entirely new organization.

Models for this type of entity exist elsewhere throughout the country. The Alameda Corridor Transportation Authority (ACTA) is the most prominent example of an entity created to initially implement and operate an innovative freight infrastructure project.<sup>11</sup> Located in southern Los Angeles County, California, it is a 20-mile-long rail line, primarily along and adjacent to Alameda Street, that was constructed from the ports of Long Beach and Los Angeles to downtown Los Angeles. The project extends through or borders eight other cities. The project originated in 1981 with the Southern California Association of Governments (SCAG), CMAP's counterpart. The PPP included local elected officials, as well as representatives of the ports, the federal government, affected railroads, trucking industry, and other city officials. ACTA was created as a public agency and the corridor began operation in 2002. The \$2.4 billion project cost was raised approximately as follows: payments from the ports, \$400 million; state and local government grants, \$400 million; proceeds of bond issues backed by corridor revenue (from container fees paid by its users), \$1.2 billion; and a federal loan, also to be repaid from corridor revenue, \$400 million. They continue to operate the corridor and in 2008 also expanded their mission to include planning for additional capital and operational improvements. ACTA charges use fees and container charges, ranging from \$4.96 to \$19.60 per twenty-foot equivalent unit (TEU) depending on the mode and whether they are full or empty. In 2009, the estimated total fees that were collected was \$82 million. Although there are some obvious differences between ACTA and the conditions in northeastern Illinois, the experience and success of the Alameda Corridor should be drawn upon as a model for future development within our region.

For lower-cost operational improvements, CMAP's Regional Transportation Operations Coalition will be an appropriate mechanism to work with regional stakeholders and/or the Regional Freight Authority to implement freight improvements. This committee should focus on cooperatively implementing the regional trucking improvements identified above.

<sup>11</sup> For more information on the Alameda Corridor Transportation Authority, see <http://www.acta.org/index.asp> and the report "Funding Options for Freight Transportation Projects" from the Transportation Research Board of the National Academies at [http://www.trb.org/Main/Blurbs/Funding\\_Options\\_for\\_Freight\\_Transportation\\_Project\\_162174.aspx](http://www.trb.org/Main/Blurbs/Funding_Options_for_Freight_Transportation_Project_162174.aspx).

## **Integrating Freight Needs and Financing into Infrastructure Prioritization**

CMAQ developed a number of evaluation criteria to analyze and prioritize capital projects, and other plan recommendations (transportation financing and coordinated investment) call attention to performance-based criteria to prioritize infrastructure investments. As these measures are developed, freight-related measures should be incorporated. To do this effectively, we must also improve our access and collection of freight-related data. The data can also be made publicly available through our Regional Indicators Project and used to market the region to industry, developers, and freight providers. There is extensive public sector data available, however the majority of freight systems are operated by the private sector and the ability to receive the associated data continues to be a challenge. Since this data can be instrumental in making more effective public sector investments, GO TO 2040 encourages private sources to share their data in a way that serves regional needs for informed decision-making but also respects the privacy of private firms.

Additionally, CMAQ's freight modeling capacity has evolved from the recognition that traditional network modeling tools used for regional planning are not sufficiently robust for application in a freight-rich region like Chicago. Therefore, CMAQ will work towards establishing a policy responsive demand forecasting tool that can be used to better predict local and regional impacts to our freight system based on changes in national and global freight-systems and facilitate a better understanding of regional freight movements and impacts. Freight can have a significant impact on nearby land use, and modeling and analysis should take this into account; for example, this could be used in a predictive way to help local governments identify opportunities for industrial development based on nearby freight.



## 12.5 Implementation Action Areas

The following tables are a guide to specific actions that need to be taken to implement GO TO 2040.

The plan focuses on five implementation areas for creating a more efficient freight network:

### Create a National Vision and Federal Program for Freight

#### CREATE Rail System Improvements

#### Regional Trucking Improvements: Truckways, Truck Routes, Delivery Time Management, and Restrictions

#### Organization and Public Policy

#### Integrating Freight Needs and Financing into Infrastructure Prioritization

### Implementation Action Area #1: Create a National Vision and Federal Program for Freight

#### Create a vision for a federal role in transportation that includes a national freight policy with dedicated funding and corridors of national significance

##### LEAD IMPLEMENTERS:

Federal (Congress, U.S. DOT)

Establish a method to formulate a national freight plan that can guide regional and state efforts to improve the freight systems. Create a systematic funding program for freight improvements. This will help alleviate interstate highway, rail, and airport congestion and provide redundancy for the times when other parts of the national transportation system are overburdened.

### Implementation Action Area #2: CREATE Rail System Improvements

#### Build a larger national coalition to support CREATE

##### LEAD IMPLEMENTERS:

Federal (Congress, U.S. DOT), state (General Assembly, IDOT), Amtrak, Metra, CMAP, municipalities, freight railroads

To heighten the status of this program at the federal level, the importance of it and its benefits need to be communicated to stakeholders (elected officials, other MPOs, business community, public) throughout the country in order to gain broader endorsement, support, and funding.

#### Secure funding to complete the CREATE Program

##### LEAD IMPLEMENTERS:

Federal (Congress, U.S. DOT), state (General Assembly, IDOT), Amtrak, Metra, CMAP, municipalities, freight railroads

Identify funding sources for continuing implementation of the CREATE Program infrastructure improvements. Funding sources that should be explored, but not limited to, include the following: local, state, federal grants, bond or loan opportunities, railroads, other private sources, and user fees.

#### Prioritize and implement the CREATE Program

##### LEAD IMPLEMENTERS:

Federal (U.S. DOT), state (IDOT), Amtrak, Metra, City of Chicago, freight railroads

Prioritize the remaining projects based on criteria that factor in project readiness, available funding resources, and public benefit, and aggressively work to implement all of the 71 projects.

#### Develop the next phase of rail improvements

##### LEAD IMPLEMENTERS:

State (IDOT), Metra, CMAP, municipalities, freight railroads

Develop a CREATE II program so that the regional rail system has the capacity to efficiently handle potential future traffic loads and meshes with an efficient system for local pick-up and delivery. CREATE II should seek to improve operating speeds and reduce congestion on all major mainline routes traversing the Chicago region and by also increasing terminal capacity.

**Implementation Action Area #3: Regional Trucking Improvements: Truckways, Truck Routes, Delivery Time Management, and Restrictions**

<p><b>Identify opportunities for dedicated freight corridor systems</b></p> <p>LEAD IMPLEMENTERS: State (IDOT, Tollway), Freight Authority, CMAP, municipalities</p>	<p>Identify appropriate facilities and corridors, via truckways or truck-only lanes, in order to improve safety and increase efficiencies through separating large trucks and passenger vehicles. Provide an alternative for freight to avoid certain corridors due to peak hour passenger vehicle congestion. Engage freight-industry stakeholders and communities in early discussions.</p> <p>Suggested corridors to study:</p> <ul style="list-style-type: none"> <li>- Illiana Expressway</li> <li>- I-55/Stevenson Expressway</li> <li>- Connections between intermodal freight terminals</li> </ul>
<p><b>Implement dedicated and managed truckways</b></p> <p>LEAD IMPLEMENTERS: State (IDOT, Tollway), Freight Authority, CMAP, municipalities</p>	<p>Preserve right-of-way in potential corridors. Engage in feasibility studies and, if appropriate, preliminary engineering and construction. Provide freight-friendly designs, including pavement design, geometrics, sight distance, and land widths. Engage PPPs, as appropriate.</p>
<p><b>Manage transportation system to reduce peak-period congestion through congestion pricing</b></p> <p>LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP</p>	<p>Analyze, evaluate, and institute congestion pricing on selected road segments.</p>
<p><b>Catalog and update the region's truck routes</b></p> <p>LEAD IMPLEMENTERS: State (IDOT), CMAP, counties, municipalities</p>	<p>Analyze and map existing truck routes. Identify the gaps and inconsistencies in the current routes. Coordinate a logical and efficient system to update and implement a regional network of truck routes.</p>
<p><b>Address delivery times and parking restrictions</b></p> <p>LEAD IMPLEMENTERS: Counties, municipalities</p>	<p>Assess local delivery times and parking restrictions. Make changes where possible to reduce peak-period truck travel.</p>

**Implementation Action Area #4: Organization and Public Policy**

<p><b>Explore the establishment of a governance structure, such as a Freight Authority, to identify issues, guide investments and advocate on behalf of the region</b></p>	<p>Analyze and plan to establish a Freight Authority, preferably within an existing agency, to serve as an oversight agency for coordinating freight issues and investments in the Chicago region. The Authority should bring together the public and private sectors, working together toward accomplishing goals of mutual interest and benefit to the region. In its oversight capacity, the proposed body would have the authority to collect revenue (such as user fees or tolls) and issue bonds. The agency's oversight responsibilities would include all freight modes, as well as freight-related economic development opportunities within the region.</p>
<p>LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP, counties, municipalities, freight carriers</p>	
<p><b>Conduct further study to implement use fees or container charges</b></p>	<p>The largest hurdle to implementing improvements for freight is identifying funding and securing a revenue stream. The region should actively study various methods to collect user fees on container shipments as potential revenue source.</p>
<p>LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP, counties, municipalities, freight carriers</p>	

**Implementation Action Area #5: Integrating Freight Needs and Financing into Infrastructure Prioritization**

<p><b>Include freight-related performance measures in project evaluation process</b></p>	<p>Develop measures that take into account freight needs and deficiencies in evaluating potential transportation improvements. This performance-based approach will provide a more transparent and quantitative means of project evaluation, and instill more accountability into the project selection process.</p>
<p>LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP, counties, municipalities</p>	
<p><b>Enhance freight modeling capacity</b></p>	<p>Develop more robust modeling tools that will better predict local and regional impacts of freight based on changes in national and global freight systems. Also, assist to facilitate a better understanding of regional freight movements and impacts on our transportation network, as well as nearby land use.</p>
<p>LEAD IMPLEMENTERS: CMAP</p>	



## 12.6 Costs and Financing

The freight improvements recommended in this chapter have significant costs.

For example, over \$2.5 billion is needed to fund CREATE alone. A number of the strategies discussed in this recommendation are directly tied to the transportation network and some of the costs will be absorbed in the process of maintaining the existing transportation system and making systematic improvements. In addition, the recommendations of GO TO 2040 section Invest Strategically in Transportation — a gas tax increase, use of congestion pricing, and potentially other sources — can help to cover this cost, but are unlikely to meet all our needs.

As the recommendations pointed out, the region should initiate other financing mechanisms to accelerate the implementation of CREATE and improvements to the highway and arterial network to facilitate more efficient truck movements. A portion of this funding should be an increase in revenue for freight improvements from the federal government, reflecting the impact that our freight system has on the national economy and the need to assist in mitigating the impacts.

Finally, the Regional Freight Authority should identify and analyze other funding sources, assess the feasibility of implementation, and should pursue the ones that can be best operationalized to help finance the costs of freight improvements. These may be user fees, more aggressive congestion pricing, or others. Identifying funding to finance and maintain these improvements is pinnacle to the success of this recommendation. Without a serious increase in funding, none of these recommendations can be realized.