# CHICAGO'S CREATE RAIL PROGRAM: A SUCCESSFUL PUBLIC-PRIVATE PARTNERSHIP

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## **ABSTRACT**

Roughly one-quarter of all rail freight in the United States originates, terminates or passes through Chicago and by 2020, freight traffic will almost double. The Chicago Region Environmental and Transportation Efficiency Program (CREATE) is a public-private partnership between the State of Illinois, City of Chicago, private freight railroads, Amtrak, Metra Commuter Rail and the US Department of Transportation. The project will reduce rail travel times and improve freight and passenger efficiency by investing in infrastructure improvements in the Chicago metropolitan area.

Much of the region's railroad infrastructure is a century old and due to the increase in rail freight traffic, congestion has resulted in delays, highway congestion, air pollution, safety concerns and interference to intercity and commuter trains. It is estimated that the cost of congestion in the Chicago region is \$11 billion annually. The funds provided by the CREATE public-private partnership will make critical investments in infrastructure to eliminate bottlenecks and increase the average speed of trains through the Chicago Terminal.

The paper will review CREATE's origin, the challenges in obtaining funding, development of the priority projects for investment,

construction progress, the resulting improvements in the region's freight and passenger operations and the overall impact on the region.

### INTRODUCTION

Chicago has been the transportation hub of the nation since the settlement was first established in the early 19<sup>th</sup> Century. Chicago was initially established as a waterway center connecting the Atlantic Ocean via the Erie Canal, the Great Lakes and the Mississippi River. Later, in the mid 1800s, Chicago became the railroad center of the United States, a designation it still holds to this day. (Young, 1998)

Its location as a freight center has served Chicago and the region well, but it is not without a cost. The cost is highway and railroad congestion and the negative impacts resulting from congestion. This paper will examine the impact rail freight activity has on the Chicago area and describe how CREATE, a public-private partnership, is addressing rail freight congestion.

### **CHICAGO TRANSPORTATION CENTER**

In 1848, the first railroad began operating in the Chicago area. Within ten years, Chicago became the largest rail center in the United States. By the turn of the century, 650 freight trains operated in the city daily. (Young, 2005) By 1996, 610 freight trains daily hauled 37,500 carloads of freight carrying 2.5 million tons through Chicago gateway. Today, six Class I railroads and numerous smaller lines operate these trains over 2,053 miles of railroad servicing 78 major terminals and 25 intermodal facilities in the region. In addition, 740 daily passenger train movements are operated on a typical weekday in the region by Metra commuter rail and Amtrak. It is projected by 2020, the number of freight trains and freight cars will almost double. (CMAP, 2009)

The increase in freight traffic projected for the region reflects national trends. Currently, 2.2 billion tons of commodities are moved by freight every year across the United States. At this cargo volume, the nation's freight network is relatively uncongested. Over the next 30 years, however, growing volumes of cargo are expected to lead to a significant deterioration in level of service on the freight rail network.

In fact, the total ton-miles of freight movement in the United States are projected to increase by 92 percent during this time period. This increases mean that 30 percent of the Nation's primary freight rail corridor mileage will be operating above capacity. These will lead to an unstable flow of traffic and service breakdown conditions in the affected areas, which includes Chicago. (NSTPRSC, 2007)

In terms of total freight tonnage, roughly one-quarter of all the freight in the United States originates, terminates or passes through Chicago. Chicago also handles more intermodal containers than any other region in the United States. Compared to ocean going ports in the world, in 2004, Chicago handled the fourth largest volume of containers, 13,980,000 TEUs (Twenty-foot Equivalent Units) behind Hong Kong, Singapore and Shanghai. Container traffic is forecasted to grow at a rate twice that of general freight. (CATS, 2006)

## **CONGESTION**

The Chicago region is one of the most congested urban areas in the United States and it is getting worse, according to the Texas Transportation Institute Urban Mobility Study. In terms of travel time index, the ratio of peak period travel time to free flow conditions, Chicago ranks second in the nation after the Los Angeles area. (TTI, 2009) While Chicago ranks better in terms of annual delays and wasted fuel per traveler, the trend has been worsening. In the decade between 1995 and 2005, annual delays per traveler increased from 33 hours to 45 hours, an increase of 36 percent. Likewise, excess fuel consumed increased from 22 gallons to 32 gallons over the same period, an increase of 45 percent. (TTI, 2007)

This congestion has impacted Chicago's commute. According to the Bureau of the Census, the average travel time to work has increased in the region by 11.4 percent between 1990 and 2000. The average increase in travel times varies from 6.2 percent in DuPage County to 17.2 percent in Will County. (Soot and DiJohn, 2005)

Rail freight congestion impacts the daily commute in Chicago in several ways. Freight trains, in many instances, use the same tracks as Metra for the operations of the regions commuter rail system.

Where commuter trains do not share the tracks with freight, there are a number of rail-to-rail at grade crossings due to the sheer number of railroad lines that can interfere with and delay commuter trains. Before improvements began to be implemented through the CREATE Program, Metra saw an average of 1,165 delays caused by freight interference between 2004 and 2008. However, in 2009 Metra reported only 864 incidents of commuter train delays caused by freight interference. This represents 9.8 percent of all delays, a decrease of 5.2 percent from 15 percent average between 2004 and 2008. (Metra, 2010) The decline can be attributed to CREATE improvements and a nation-wide decline in freight traffic.

Rail congestion, in particular yard congestion negatively impacts auto and bus commuters. Waiting trains result in blocked rail-highway grade crossings. This increases delay and causes lengthier trip times for auto commuters and Pace and CTA transit bus riders in the city and suburbs. Communities with numerous rail grade crossings, such as Des Plaines, Melrose Park and Blue Island experience significant times with crossings blocked. School buses and emergency vehicles also experience delays. In some communities, fire and police facilities are constructed on both sides of heavily used freight lines in order to have emergency responder's access to the entire community. In addition, the large number intermodal bridge movements by truck compete with auto and buses for space on expressways and arterials.

There are many causes for the increasingly congested highways, such as prosperity, home ownership, population growth and an increase in county-to-county commuting. (Soot, 1998) It is the authors' contention that a major cause of highway congestion and increased commute times in the Chicago region is rail freight operations.

Due to the demonstrated impact that Chicago freight operations has the regional and national level, the CREATE program was named a "Project of National and Regional Significance" (PNRS) in 2005. This resulted in the CREATE program's eligibility for funding under the Safe Affordable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

## **SAFETY**

Since the region has almost 2,500 rail-highway grade crossings, the danger for collisions with pedestrians and autos is a major safety concern. In 2006, there were 174 collisions in the state of Illinois resulting in 71 injuries and 25 fatalities. In a study undertaken by Operation Lifesaver in the Chicago region, in 59.2 percent of collisions, the motorist either failed to stop or stopped on the crossing. In addition, another 21.5 percent drove around a downed gate. (Operation Lifesaver, 2007) This may be due to driver frustration of waiting for the large number of trains and for the length of time for the trains to pass.

### **COST OF CONGESTION**

The Texas Transportation Institute estimates the congestion cost in the Chicago region to be \$3.968 billion resulting from travel delay. This is estimated at \$24.60 per hour of person travel, \$77.10 per hour truck time and the average cost of fuel for excess fuel consumed per year of 141,612,000 gallons. This does not include any social costs. (TTI, 2007)

The U. S. Department of Transportation has determined the rough, order-of-magnitude total congestion costs in Chicago to be \$11 billion. The components of their estimates are

Table 1: Total Congestion Costs in Chicago (Wells, 2009)

Cost Category	Amount (Billions)
Productivity losses	\$2.1
Environmental losses	0.4
Excess fuel costs (time delays)	4.3
Safety losses	0.5
Costs of cargo delays	0.2
Unreliability losses	2.1
Airline, railroad congestion costs	1.4
<b>Total Chicago Congestion Costs</b>	\$11

The total cost of congestion, any way it is calculated, is a significant cost that is not only wasteful but puts the region at a competitive economic disadvantage with other regions in the United States.

### **ORIGINS OF CREATE**

At the onset of 1999, Chicago met new challenges with the New Years Blizzard of the Midwest. From January 1<sup>st</sup> to January 3<sup>rd</sup>, Chicagoland was struck with a storm that produced 22 inches of snow accumulation. This was reported by the National Weather Service as the second worst blizzard of the 20<sup>th</sup> Century, ranking behind the blizzard in January 1967. Estimates of losses and recovery costs were between .3 and .4 billion dollars, largely due to transportation being halted or drastically delayed.

Railroad trains in the storm's center were stalled or delayed by 12 to 24 hours. As Chicago is the Nation's rail hub, many priority shipments for the East and West Coasts were delayed by 1 to 4 days. The suburban commuter train service was overwhelmed by a massive increase of riders who normally drive and 3 separate train accidents killed 3 people. These and other operational problems slowed train service for 3 days. (Changnon, 2008)

The startling rail impacts of the blizzard of 1999 were the beginning of the development of the CREATE program, which grew out of a series of responses that began with the Association of American Railroads (AAR). Following the blizzard, AAR created the Chicago Planning Group (CPG) to study and provide solutions to the rail congestion issues for both passenger and freight services in the region. CPG identified several of the necessary operational inefficiencies that contributed to the halt of service during aggravated conditions.

Soon thereafter, CPG established the Chicago Transportation Coordination Office (CTCO) to develop managerial solutions to the identified operational problems. CTCO developed a color-coded model to illustrate both passenger and freight traffic in the Chicago region to demonstrate the problems shippers face. This model communicated to public agencies the public impacts of rail service

and the importance of establishing a more reliable system. CTCO also worked to improve the coordination and communication between railroads and assisted with the development of an important emergency operations process. (Cambridge Systematics, 2009)

In the years that followed, other organizations were created that led to the establishment of the CREATE program. In 2000, the Freight Transportation Working Group researched regional freight issues and made recommendations for improvements. 2001 saw the formation of The Chicago Rail Task Force that included representatives from the freight and passenger railroads, the Illinois Department of Transportation, and the Chicago Department of Transportation. These organizations led to the development of a new rail network simulation model that could test proposed improvements. All of these efforts culminated in 2003 to form the "Joint Statement of Understandings (JSOU)" which led to the CREATE plan being issued in August 2003. (Cambridge Systematics, 2009)

### FORMATION OF CREATE

CREATE is a joint effort of the United States Department of Transportation, the Illinois Department of Transportation, the Chicago Department of Transportation, and the Association of American Railroads including the Burlington Northern Santa Fe Railway, Canadian National, Canadian Pacific Railway, CSX Transportation, Norfolk Southern Corporation, Union Pacific Railroad, Belt Railway Company of Chicago, Indiana Harbor Belt, Amtrak and Metra. ("An Historic Partnership," 2010)

The CREATE program includes the development of five rail transportation corridors, four of which are specific to freight traffic and one that is specific to passenger service. The corridors will upgrade the existing track structure by double and triple tracking certain lines and completing other infrastructure improvement projects. Additional project categories include rail-highway grade crossings, viaduct improvements, and rail flyovers.

### **CREATE FUNDING**

CREATE funding comes from a variety of both private and public sources. Perhaps one of the largest triumphs for CREATE is the private support it has received. All six Class 1 North American railroads serving Chicago pledged to contribute funds to the CREATE program for the public good of the commuter rail (Metra), intercity rail service (Amtrak) and the highway network. The total contribution from the freight railroads was \$116 million. This made the funding for the CREATE program a first-of-its-kind public-private partnership. CREATE continues to win the support of local businesses both within the Chicago Region as well as nationally. Some supporters include Caterpillar Logistics Services, United States Gypsum Corporation (USG), and ProLogis. All have submitted letters of support for CREATE's project goals and recognize the significant benefits that will result. ("Public Benefits," 2010)

Public funding has been pledged from city, state and federal levels. The primary funding for Phase I of the CREATE program came from Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) resources. The CREATE program was eligible for this funding because it was nationally recognized as a single project that will produce great public benefit and was declared a Program of National and Regional Significance (PNRS). PNRS was developed to provide funding for high-cost surface transportation system improvements of national or regional importance. This recognition resulted in the programming of \$100 million from SAFETEA-LU in 2005.

Although CREATE did receive significant federal funding from SAFETEA-LU, it did not receive the full amount expected. The total requested amount was \$900 million of federal funding that would be in addition to state, local, and private contributions. The resulting \$100 million was paid out in increments, and though it was declared in 2005, the first funds were not received until 2007. CREATE received the last of its SAFETEA-LU funding in May 2009. (Illinois, 2009)

Unfortunately, SAFETEA-LU was not the only funding challenge that the CREATE program has faced. The State of Illinois pledged to match the SAFETEA-LU's \$100 million contribution, but as of January 2009, this portion of the funding remained unsecured. These funding delays and setbacks forced CREATE's project list to be prioritized and separated into two phases, thus slowing the program and significantly delaying the benefits. (Cambridge Systematics, 2009)

Despite these setbacks, another funding triumph finally came in August 2009, when the Illinois legislature set aside \$322 million for rail improvements specific to the CREATE program. These funds were pledged with the expectation that it would leverage additional federal matching funds through the American Reinvestment and Recovery Act (ARRA) and the new transportation reauthorization bill. (Conkey, 2009) Additionally, in January 2010, CREATE landed \$133 million in federal American Recovery and Reinvestment (ARRA) funds for a flyover project near 63<sup>rd</sup> Street and State Street on Chicago's south side. The funds are part of a \$1.2 billion award from the federal government to Illinois for the development of high-speed rail. ("CREATE Partners Land \$133 Million in Federal ARRA Funds for Flyover," 2010)

#### CREATE PROJECTS AND STATUS OF PROJECTS

At the onset, the CREATE program identified 78 projects as critically needed rail improvements resulting from the collaborative process. All CREATE projects are designed to improve train speeds within Chicago, from an average of 9 miles per hour to 15 miles per hour. (Wronski, 2009) These projects fall into three categories: rail-highway grade crossings, viaduct improvements, and railroad infrastructure projects. Due to challenges with obtaining sufficient funding, projects are prioritized by a variety of methods.

For viaduct improvements, an ongoing survey of viaduct conditions is being used to identify and prioritize the proposed projects. The Illinois Commerce Commission (ICC) and the Chicago Area Transportation Study (CATS) identified the most congested rail-highway grade crossings as the CREATE program was being

established. Today, these recommendations are maintained by the Chicago Metropolitan Agency for Planning (CMAP). Computerized modeling was then utilized to measure the severity of existing rail chokepoints in the region to prioritize rail-highway grade crossings and railroad infrastructure projects.

When CREATE received \$100 million from SAFETEA-LU, the partners realized that they would not be able to build all 78 projects and would need to prioritize. Through these methodologies, high priority CREATE projects were organized into a three-year, first phase plan spanning 2007 to 2009 consisting of 71 total projects. This will be followed by a second phase, which is currently still in the drafting stage.

Overall, this new plan advanced 32 high priority smaller-scale projects with the goal of propelling them into final design or construction by the close of 2009. (Cambridge Systematics, 2009) In the December 2009 Implementation Status Report, CREATE had 13 projects in the design, construction, or completion stages, thereby missing the desired goal. However, an additional 17 projects were in the environmental review stage, bringing a total of 36 projects moving forward by the close of 2009. (CREATE, 2009)

As of January 2010, the CREATE program has seen six of these major projects to completion. Of the six, five are freight railroad projects, and one was a highway grade separation project, which was completed in October 2008. The completed freight railroad projects include improved rail connection, the installation of computerized signal systems, and automated interlocking. The earliest projects were completed by October 1, 2008, and included a grade separation, remote control of a tower, and an improved interchange between two railroads.

At the onset of 2010, CREATE had seven additional projects in the construction phase. Of the seven, six are additional freight railroad projects and one is another highway grade separation. Specifically, these ongoing projects include power crossovers, additional mainlines and the continuation of implementing automated interlocking,

improved signal systems and improved rail connectors. Having these seven projects in the construction phase at this time is on target with the goals set forth by CREATE in a Congressional briefing that took place in September 2008. (Hamilton, 2008)

## **CN PURCHASE OF THE EJ&E**

CREATE's progress in reducing overall rail congestion was aided with the acquisition of the underutilized Elgin, Joliet and Eastern Railway (EJ&E) by CN on February 1, 2009. (Phillips, 2009) This transition provided a private-sector solution to the congestion woes the CREATE program was established to alleviate. CN purchased the EJ&E so that it could divert some of its trains that previously operated through the congested downtown area. Additionally, CN pledged \$100 million of private funds to upgrade the EJ&E infrastructure and an additional \$40 million to provide mitigation for communities along the line that would experience train traffic increases. This funding and acquisition worked in concert with CREATE's projects and purposes as it provided both needed infrastructure improvements and alleviated rail congestion. (Harrison, 2008)

## **FUTURE OF CREATE**

Though progress has been delayed significantly due to funding setbacks, CREATE has demonstrated the commitment to continue working to complete all the critically needed rail improvements. To accomplish this task, there are several next steps the CREATE program is taking. Phase I projects will continue to move into construction throughout 2010. Currently, Phase II is still in the drafting stage, and consensus has yet to be reached for the projects to be included.

Future funding for CREATE remains uncertain as United States Transportation Secretary Ray LaHood had requested in June 2009 an 18-month extension on the existing federal transportation law as the proposed federal transportation bill is further examined. CREATE's partners must continue to be active participants in the national debate on freight policy and advocate for additional funding in the next federal transportation authorization. CREATE already has some

strong political supporters championing the program goals. Congressman Daniel Lipinski from Illinois is one of CREATE's key political supporters. In July 2009, Illinois' new capitol bill included \$320 million for the CREATE program due in part to Lipinski's lobbying efforts. (Lipinski, 2009). Additionally, Congressman James Oberstar is a key champion of the project as chairman of the Committee of Transportation and Infrastructure. Together Lipinski and Oberstar are seeking \$700 million for the CREATE program in the new transportation authorization bill (Wronski, 2009). In February 2010, CREATE was approved for \$100 million in federal stimulus money for a package of 16 projects while the transportation bill remains pending approval (Wronski, 2010).

Illinois Representatives in Congress, also led by Daniel Lipinski, have requested \$300 million under the American Recovery and Reinvestment Act (ARRA) TIGER grant program for the construction of a targeted package of projects within the CREATE program. Advocacy for this funding highlights the "shovel-ready" nature of the CREATE projects, and their ability to spur quick job growth in the region. (Lipinski, 2009) If granted in full, ARRA funding for CREATE will result in the creation of 4,473 direct and indirect jobs. (EOPCEA, 2009) To date, CREATE has been awarded \$133 million of these funds for a flyover project on the south side of Chicago. ("CREATE Partners Land \$133 Million in Federal ARRA Funds for Flyover," 2010)

The partnership has also begun to more actively engage the shipping, business, and passenger communities to advocate for CREATE's goals. ("Public Benefits," 2010) By moving forward with developing both a realistic second phase of implementation and generating new advocates for the program's funding, CREATE will continue to make great strides toward making Chicago's freight hub the national model for safe, efficient and effective rail operations.

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