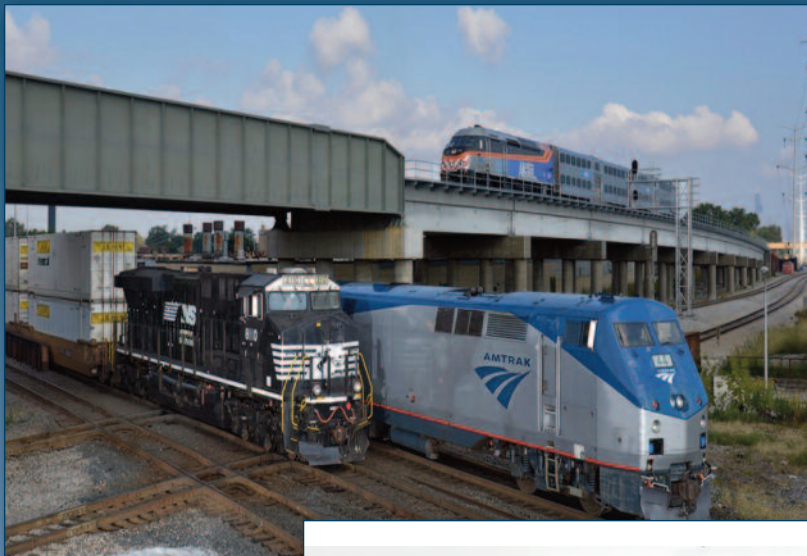


# Report of the Amtrak® Chicago Gateway Blue Ribbon Panel

*October 2015*







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# Credits

## Cover Photos

Top: The Englewood Flyover in South Chicago, placed in service in October 2014, eliminated the at-grade crossing of Metra's Rock Island Line by Norfolk Southern's Chicago Line, Amtrak's primary entrance into Chicago from the east, which is used by 14 daily Amtrak trains. Photo by Norfolk Southern.

Bottom: Metra's 16th Street Tower, built in 1901, controls all rail traffic moving over the at-grade crossing of Metra's Rock Island Line on the St. Charles Air Line, which is used by CN freight trains and Amtrak's Chicago-Carbondale-New Orleans trains. Photo by Cragin Spring, © 2011 by Cragin Spring.

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Metra Rock Island District train at Joliet by Ryan Stavelly. © 2013 by Ryan Stavelly. Used under a Creative Commons Attribution Share-Alike 2.0 Generic license: <https://creativecommons.org/licenses/by-sa/2.0/deed.en>. Photo available at [https://commons.wikipedia.org/wiki/File:Joliet\\_\(13551653824\).jpg](https://commons.wikipedia.org/wiki/File:Joliet_(13551653824).jpg).

Amtrak *Southwest Chief* and Metra commuter train by Keith Pokorny, © 2013 by Keith Pokorny.

St. Charles Air Line by Geno Dailey, © 2012 by Geno Dailey.

Englewood Flyover dedication ceremony photo by Metra.

Other photos courtesy of Amtrak and Blue Ribbon Panel members.

## Maps

All maps by Michelle Jennings.



# THE CHICAGO GATEWAY BLUE RIBBON PANEL



Thomas Carper joined the Amtrak board of directors in March 2008, and was reappointed in August 2013. He served as chairman of the board from January 2009 through March 2013. Mr. Carper was a small business owner from Macomb, Illinois, and served as mayor of Macomb from 1991 to 2003. He was appointed by the Amtrak board of directors to serve on the Amtrak mayor's advisory council and served as its chair from 2000 to 2001. From 2003 to 2010, Mr. Carper was regional director of the West Central region for Opportunity Returns, a state economic development program. He received his B.A. degree from Western Illinois University, and served in the U.S. Army from 1967 to 1970 in both Thailand and Vietnam.



Howard Learner is an experienced attorney and the founder of the Environmental Law & Policy Center (ELPC) in Chicago. As president and executive director, he is responsible for ELPC's overall strategic leadership, policy direction and financial platform. Before founding ELPC, he was the general counsel of Business and Professional People for the Public Interest, a public interest law center, specializing in complex civil litigation and policy development. Howard is also an adjunct professor at the Northwestern University Law School and the University of Michigan Law School, teaching advanced seminars in environmental and energy law and climate change solutions policy.



Linda Morgan is a partner in the Washington, D.C. office of the law firm Nossaman, LLP, where her practice is focused on railroad transactions and disputes and associated legislative and policy issues. From 1994 to 2002, Ms. Morgan was chair of the U.S. Surface Transportation Board and its predecessor, the Interstate Commerce Commission, where she presided over railroad regulatory proceedings including mergers and rail-service matters in the Houston/Gulf Coast Region and elsewhere. Prior to joining the STB, Ms. Morgan served for 15 years as counsel with the Senate Committee on Commerce, Science & Transportation, including seven years as general counsel. She received an A.B. degree from Vassar College, and a J.D. degree from the Georgetown University Law Center.



John Francis "Jack" Quinn, Jr. is the president of Erie Community College. He was a member of the United States House of Representatives from 1993 to 2005, representing a Buffalo, New York area district and serving as chairman of the Railroads Subcommittee of the House Transportation and Infrastructure Committee. Prior to his election to Congress, he was a public school teacher in Orchard Park, NY; served as a member of the Hamburg, New York town council from 1982-1984; and was Hamburg town supervisor from 1985 to 1993. Mr. Quinn holds a B.A. degree from Siena College and an M.A. from the State University of New York, Buffalo. His father was a locomotive engineer.

“Chicago has been made largely by the railroads, and its future prosperity is dependent on them.”

*Daniel Burnham's  
Plan of Chicago (1909), Page 61*

“Chicago is an absolutely critical hub, and no single railroad can solve the congestion issue and other challenges alone... Shame on everyone if we miss this opportunity.”

*Hugh Kiley,  
former NS AVP of operations (2007)*

## INTRODUCTION

Amtrak's Chicago Gateway Blue Ribbon Panel was created on October 28, 2014 by Amtrak President and Chief Executive Officer Joseph Boardman. The Panel was tasked with identifying infrastructure and operational improvements to address rail network congestion in the Chicago area that is adversely impacting Amtrak, commuter and freight train operations, and actions to advance those improvements.

The members of the Panel have many decades of governmental and private sector experience in rail policy issues. Collectively, they have broad knowledge of the many challenges the Chicago rail network faces.

Since the Panel's formation, its members have met with nearly 100 stakeholders and subject matter experts. They include federal, state and local elected and governmental officials and their staffs; freight and passenger rail executive, operations and planning officials; and transportation policy and finance experts. The Panel's members have also reviewed numerous studies and analyses, some conducted at their request, that were prepared by rail industry associations and consultants, academic institutions, and Amtrak operations and planning staffs. Panel members have also visited Chicago area rail facilities for briefings on their operation and challenges.

The Panel's purpose was not to write this report. Rather, its members hope that the Panel's analysis and recommendations will spur accelerated action to solve the challenges the report identifies, and implement the recommendations the Panel has made.

That action needs to begin immediately. Construction of new rail facilities takes many years. Rail gridlock will only get worse if aggressive steps are not taken now. Expansion of Chicago's commuter and intercity rail passenger services is not possible until rail congestion in critical chokepoints is addressed. If nothing is done, the next Chicago rail crisis is inevitable – and will cost the nation and the region much more than the cost of addressing the problem now.

# EXECUTIVE SUMMARY

Chicago is the hub of the United States' passenger and freight rail networks, and has the second largest commuter rail ridership of any U.S. city. Nearly every major North American industry, and consumers and rail passengers throughout the United States, depend upon efficient rail operations in Chicago for everything from keeping assembly lines in operation to getting Valentine's Day cards onto the shelves on time.

In recent years, Chicago rail operations have experienced recurring, long term gridlock. The major causes are increased demand for rail service, inadequate infrastructure not designed to accommodate current operations, and limited operational coordination among Chicago's 10, separately-operated, freight and passenger railroads.

Railroad and governmental stakeholders have taken significant steps to address these problems. The most notable is the 12-year old CREATE program, which has spurred joint infrastructure planning and investments that have already produced significant rail service and public benefits.

Despite these efforts, delays and inefficiencies in Chicago's rail network are still at unacceptable levels, resulting in recurring and increasingly severe crises that paralyze rail service throughout the United States. Real time operational coordination among Chicago's railroads remains an elusive goal. Funding for essential investments is lacking: nearly all of the federal and state grant programs that have provided the majority of the funding for CREATE to date have not been funded in recent years. Things will get much worse if nothing is done, since all projections point to increased demand for both freight and passenger rail service. There will be no quick fixes when the next crisis occurs.

Unless additional actions to improve Chicago rail network infrastructure and operations begin immediately, Chicago's rail service will continue to deteriorate. Rail passengers and shippers will suffer increasing delays. Expansion of passenger and freight rail service will be impossible. The \$3.6 billion in public benefits projected from completion of the remaining CREATE projects will never be realized. Instead, there will be a huge negative impact on national, regional and local economies that are heavily dependent upon Chicago's rail network.

To avoid this outcome, the Chicago Gateway Panel makes the following recommendations:

1. Real time operational coordination among Chicago's railroads, including coordinated dispatching, is needed.
2. Railroads, including Amtrak, should continue efforts to improve operational performance within the Chicago terminal.
3. Adequate, sustained public funding must be provided for vital projects that will produce significant passenger rail and other public benefits.



4. The CREATE 75<sup>th</sup> Street Corridor and Grand Crossing Projects should be prioritized.
5. Additional investments should be made on the Porter, Indiana to Chicago Corridor.
6. Innovative financing approaches should be encouraged by RRIF loan program reforms.
7. Environmental review requirements that apply to rail projects should be consistent among transportation modes, coordinated among agencies, and prioritized for projects of national importance.



*Union Pacific and Amtrak operations on Amtrak-owned trackage south of Chicago Union Station.*

# CHICAGO – THE CROSSROADS OF AMERICA’S RAILROADS

## I. Beginnings

Since 1848, when the Galena and Chicago Union Railroad laid down the first rails out of the city, Chicago has always been a railroad town. The coming of the railroads propelled Chicago to the unique position it has enjoyed – the crossroads of America’s railroad system; the gateway between the East and West; and an economy more dependent upon rail transportation than any other U.S. city.

By the middle of the 20th century, 38 railroads accessed Chicago, sharing six passenger terminals and interchanging traffic with each other at more than a score of major yards. None of these railroads ran through Chicago. Everything that passed through the city by rail – from passengers to pigs – changed trains there. Each railroad controlled the operation of trains over its own tracks and yards into and out of, but not through, the city.

The rail network that serves Chicago today was largely designed in the 19th century to meet the needs of individual railroads’ operations. Although railroads have made large investments in recent decades to modernize and upgrade that network and associated rail facilities, some still-in-use Chicago rail facilities date to 19th and early 20th centuries.

The benefits from improving Chicago rail infrastructure, and of enhanced operational coordination among its railroads, have long been recognized. The ambitious 1909 Burnham Plan for Chicago, developed by Daniel Burnham, the architect who designed Washington, D.C.’s Union Station, proposed the consolidation of passenger stations and the construction of additional “belt” lines around the city on which tracks would be shared by all freight railroads. However, Burnham’s vision for restructuring Chicago’s rail network and operations was largely unrealized because the railroads were unable to reach agreements on enhancing and sharing rail facilities.

## II. The Importance of Chicago to Passenger Rail

Chicago’s importance as a national rail center is as great, if not greater, today than at any time in its history.

Chicago is the most important hub in Amtrak’s national network. Each day, 56 Amtrak trains – 15 long distance trains and 41 state-supported corridor trains – originate or terminate in Chicago. These Amtrak trains operate through the Chicago area over six different routes, shown in the accompanying map, on tracks owned by seven freight railroads and Metra. In FY2014, Amtrak’s Chicago Union Station handled almost 3.4 million Amtrak passengers (11% of total

Amtrak ridership), many of whom were connecting between Amtrak routes. They accounted for \$206 million in ticket revenue, almost 10% of Amtrak's total nationwide. Most of the 1,400 Illinois residents that Amtrak employs work in Chicago.



Over the past decade, passenger rail service on Amtrak's Chicago-based Midwest corridors has experienced extraordinary growth in ridership, and huge leaps in the development of higher speed service. Much of this growth is attributable to strong regional and local support from elected and governmental officials of both political parties; longstanding partnerships between Amtrak and states that fund its Midwestern corridor services; and the unprecedented federal funding provided in 2009-10 that illustrates what could be accomplished with adequate investment in passenger rail. The accomplishments to date include:

- Ridership on Chicago-based corridors in Illinois has increased 125% since the state provided funding to double service frequency in 2006.
- Federal and state investments in the Chicago-to-St. Louis and Chicago-to-Detroit corridors are producing the first over 100 mph North American passenger rail service outside of the Northeastern United States.



- Investments in new intermodal stations in numerous communities in Michigan, Illinois, Missouri and Wisconsin are spurring local and regional economic development, along with enhancing connectivity and increasing ridership.

Chicago is also the natural hub of the planned high-speed rail network developed by the Midwest Regional Rail Initiative (MWRRI). The MWRRI, a partnership of nine Midwestern states, will connect Chicago with 13 large Midwestern cities and many communities in-between via trains that will provide greatly increased service on existing as well as new routes, and operate at speeds of up to 110 mph.

Chicago's Metra commuter rail service operates more than 700 weekday trains on 11 routes throughout the Chicago area, six of which originate at Chicago Union station. Metra carries more than 83 million passengers a year, the second largest commuter rail ridership in North America (surpassed only by New York City).



*Amtrak's Chicago-Los Angeles Southwest Chief and Metra BNSF Line commuter train at Hinsdale, Illinois*



### III. The Importance of Chicago to the National Freight Network

Chicago also remains the most important freight rail hub in North America. It is the dividing point between the two major Eastern railroads – Norfolk Southern (NS) and CSX – and the two major Western freight railroads: Union Pacific (UP) and BNSF. The two major Canadian-based North American railroads – CN and CP – each have operations on both sides of the city.

Approximately 500 freight trains per day operate in the Chicago area. These trains carry a third of all rail freight traffic in the United States, and approximately 60% of all rail intermodal traffic (shipments in trailers and containers that move by a combination of rail and truck and/or ship). Over 600 million tons of rail freight, valued at over a trillion dollars, move through Chicago each year.



*Corwith Yard, BNSF's largest Chicago intermodal terminal, which BNSF trains reach via an at-grade crossing of CN's Chicago-Joliet line over which Amtrak's Chicago-St. Louis trains and Metra Heritage Corridor trains operate.*



# THE PANEL'S FINDINGS

## I. Recurring Gridlock Is Inevitable If Action Is Not Taken Now

The consolidation of the North American railroad industry over the past few decades into six large railroads, and significant changes in rail freight operations and traffic flows, have changed Chicago's rail transportation role. The century-old rail facilities and established operating practices have struggled to adapt to the new patterns.

For much of the 20th Century, declining freight and passenger rail traffic masked the shortcomings in Chicago's rail infrastructure and operations. But as both freight and passenger rail traffic began to surge in the 1990s, it quickly became clear that Chicago's rail network had insufficient capacity, and was poorly configured, to accommodate the growing freight traffic that moved through the city and increased demand for passenger rail service.

### A. Causes of Current Congestion

A variety of factors have contributed to the gridlock that increasingly pervades Chicago's rail network.

- Today's long freight trains will not fit into the relatively short track segments between most Chicago area grade crossings. When another train is stopped ahead, freight trains must often be held miles away to avoid blocking grade crossings while they wait, which significantly reduces network capacity.
- Much of today's Chicago freight rail traffic does not move in individual freight cars on trains that terminate in the city. Instead, it travels through Chicago on unit trains carrying a single commodity (grain, coal and oil), and on run-through trains that operate directly between major yards or terminals of two different railroads. These through trains require a high level of operational coordination among multiple railroads in Chicago.
- Changes in freight railroad traffic flows over the past quarter century have disproportionately increased Chicago's rail freight traffic.
  - Railroads have concentrated traffic, particularly growing intermodal traffic, on more efficient, higher volume routings via Chicago.
  - Increased trade with and between Canada and Mexico has added new north-south rail traffic to Chicago's historically dominant east-west traffic flows.

- When low emission coal from Wyoming's Powder River Basin began moving in unit trains to Eastern utilities, Chicago was the logical gateway.
- Chicago is also the most direct routing for the unit oil trains that more recently have begun traveling from North Dakota's Bakken Shield to refineries and ports in the Northeast, triggering an over 21,600% increase in shipments of oil by rail (from just 3,000 carloads in 2006 to 650,000 carloads in 2014).
- Demand for passenger rail service in Chicago has also grown significantly, reflecting national trends. Metra ridership has increased almost 50% since Metra began operation in 1984. At Chicago Union Station, Metra's SouthWest Service has grown from 8 to 30 weekday trains since the early 1990s, and Metra's North Central Service, initiated in 1996, now operates 22 weekday trains. While the number of Amtrak trains serving Chicago has increased only slightly – from 52 daily trains in 2001 to 56 today – the number of Amtrak passengers at Chicago Union Station has grown more than 50% during the same period

All projections point to increased future demand for rail service. States are pursuing a number of projects included in the MWRRI that would bring additional passenger trains, and higher speed service, to existing and new Chicago-based corridor routes. The volume of rail freight in the Chicago region is projected to increase 62% by 2040 – if Chicago's rail network can handle it. And if it can't, the consequences will be dire – for rail passengers and shippers, the rail industry, the Chicago region, and the entire country.

## **B. Recent Crises**

Gridlock on Chicago's rail network reached critical levels during the winter of 2014, impacting rail traffic throughout the United States. It created a national rail transportation crisis that reverberated for much of the year, triggering Surface Transportation Board hearings and media coverage that have focused attention to Chicago's crucial role in the national rail network and the consequences of its inability to fulfill that role.

Severe winter weather contributed to Chicago's 2014 rail crisis, but it was not the cause. As the Surface Transportation Board noted in a December 2014 decision:

*While congestion in the [Chicago] area was particularly acute last winter, it has been a recurring problem at this crucial network hub.*

Rail network congestion did not end when the last of the winter 2014's snow melted. Amtrak passengers and many freight shippers continued to experience severe, recur-

ring delays due to Chicago area congestion and resulting backups on rail lines leading into Chicago. During fiscal year 2014 (October 2013-September 2014), the six Amtrak long distance routes with the worst endpoint on-time performance were all among the eight long distance routes that originate and terminate in Chicago. The same pattern has continued during the first 11 months of fiscal year 2015: seven of the eight worst performing long distance routes originated and terminated in Chicago. During both periods, less than half of the trains on these poorly performing Chicago-based routes arrived on-time – and that is with a 30 minute tolerance before trains are deemed late. Trains on some routes have experienced multi-hour delays on a near daily basis, threatening the basic viability of these services.

**LONG DISTANCE ROUTE ENDPOINT ON-TIME PERFORMANCE**  
**FISCAL YEAR 2014**  
**(Chicago-based routes in red)**

Coast Starlight	76.2%
City of New Orleans	74.5%
Auto Train	74.2%
Palmetto	66.6%
Sunset Limited	62.0%
Southwest Chief	61.6%
Crescent	55.9%
Silver Star	54.2%
Silver Meteor	52.9%
Texas Eagle	46.8%
Cardinal	40.9%
Lake Shore Limited	36.7%
California Zephyr	33.8%
Capitol Limited	32.1%
Empire Builder	26.6%

## **II. Significant Steps Have Been Taken to Address Chicago’s Rail Crisis, But More Needs to Be Done**

Over the past 15 years, the railroad industry and governmental stakeholders have taken many actions to begin to address rail congestion problems in Chicago. Without these actions, the problem would be much worse today. However, funding constraints have precluded construction of vital investments identified more than a decade ago, and real time operational coordination among Chicago’s 10 major railroads remains an elusive goal.

### **A. CREATE Has Played a Critical Role in Improving Chicago’s Rail Infrastructure, But Funding for Its Completion Has Not Been Identified**

The Chicago Region Environmental and Transportation Efficiency Program (CREATE) is a partnership among Chicago’s freight and passenger railroads, the State of Illinois, the City of Chicago and the U.S. Department of Transportation. Established in 2003 by a task force con-



vened in the aftermath of a 1997 snowstorm that paralyzed Chicago area rail traffic, CREATE has developed plans to improve Chicago rail infrastructure and worked to secure funding to implement them.

The current CREATE plan includes 70 projects to increase rail line capacity, construct rail-rail and rail-highway grade separations, and make other improvements in five major rail corridors shared by multiple railroads that traverse the Chicago area. Twenty-nine projects have been completed or are under construction, at a cost of \$1.2 billion. Railroads have provided approximately 20% of this amount, and the rest has come from federal, state and local governments.

Because the vast majority of CREATE projects are on freight railroad-owned rail lines, some may view CREATE as a freight railroad project. That is a misperception. Eighteen CREATE projects benefit Amtrak and 20 benefit Metra. Seventy-five percent of Amtrak's Chicago area passengers travel over rail lines that will directly benefit from CREATE. As discussed below, completion of CREATE will reduce delays and travel time for both Metra and Amtrak passengers, and is essential for future expansion of passenger rail service in Chicago and the Midwest.

Of the completed projects that benefit passenger rail, the Englewood Flyover is the most significant. Placed in service in October 2014, the Flyover is an overpass that replaced an at-grade crossing between Metra's Rock Island Line, utilized by 78 weekday commuter trains, and NS's Chicago Line, over which 14 Amtrak trains and approximately 46 NS freight trains operate each day. Completion of the Flyover has eliminated over 4,000 minutes of commuter train interference delays to Amtrak trains annually. There has also been some decrease in delays to Amtrak trains from freight trains operating on the Chicago Line, which also benefit from elimination of the at-grade crossing, although further performance improvements are needed to realize the full benefits of the project. The Englewood Flyover also sets the stage for all of the other projects below that will benefit passenger rail.

CREATE will produce other significant public benefits. It will eliminate 25 Chicago area highway grade crossings, seven of which are "911 Critical" crossings heavily used by emergency vehicles, and reduce traffic delays at many others. It will also generate significant safety and environmental benefits in both the Chicago region and throughout the United States; fewer grade crossing accidents; reduced locomotive emissions and noise from stopped trains; and more freight traffic moving by rail rather than by truck.

The 41 remaining CREATE projects will require an estimated \$2.6 billion in additional funding (in current dollars) - and Chicago's rail infrastructure needs have grown and evolved in the 12 years since the CREATE project was developed. Funding for these projects has not been identified - and, as discussed below, nearly all of the federal and state programs that have provided the majority of CREATE funding to date currently have no additional funding available.

## B. The Indiana Gateway Project Is an Important First Step in Upgrading the Critical Porter-Chicago Corridor, But Additional Investments Are Needed

The approximately 40-mile segment of Norfolk Southern's Chicago Line between Porter, Indiana and Chicago is a critical passenger and freight corridor:

- It is the entry into Chicago for 10 daily, state-supported Amtrak trains from Michigan, and the two principal Amtrak long distance routes from the Northeast: the *Lake Shore Limited* from New York/Boston, and the *Capitol Limited* from Washington, D.C.
- It is one of the most important rail freight corridors in the United States, serving as the western end of NS's primary Northeast-Chicago route and of CP's and CSX's routes from Michigan and Eastern Canada and handling approximately 90 daily freight trains.

The federal government and the state of Michigan have invested more than \$650 million to upgrade passenger rail service between Detroit and Chicago. These investments are transforming the Amtrak and Michigan-owned portion of the corridor between Dearborn, Michigan and Porter, Indiana into a high speed line used predominantly by passenger trains that already boasts the longest stretch of 100-plus mph track in North America outside of the Northeast. When all upgrades are completed, trains will be able to operate 110 mph over 77% of the 233 miles between Dearborn and Porter. The Michigan Department of Transportation projects that upgrading the entire route from Detroit to Chicago would reduce trip times by almost two hours, and plans to increase Chicago-Detroit/Pontiac service from three to 10 daily round trips by 2030.

But as the map below depicts, when 110 mph Chicago-bound trains from Michigan reach Porter today, they must put on the brakes. Maximum speed between Porter and Chicago is 79 mph. Stopped freight trains waiting to enter the Chicago terminal are frequently backed up on one of the two main tracks for many miles. This results in both east- and westbound trains alternating use of the single remaining track in this "last mile" – actually 40 mile – segment of what will soon be an almost entirely high speed passenger rail corridor.



The Indiana Gateway Project, which is currently under construction, is an important first step in upgrading rail infrastructure on the portion of the Porter-Chicago Corridor within Indiana. The project will construct seven miles of third track and crossovers at seven locations, and add or improve four sidings on or adjacent to the Corridor, to increase capacity and operational fluidity. However, it will not increase speeds, or provide capacity for planned additional passenger trains. Unless additional investments are made to address impediments to improved, expanded, higher speed service between Porter and Chicago, the benefits of the significant public investment in the Detroit-to-Chicago Corridor will not be realized.

Michigan is working with the Federal Railroad Administration on a Tier I Environmental Impact Statement and Service Development Plan, scheduled for release this year, that will identify the preferred route for a passenger-only, 110 mph, “South of the Lake” rail line between Porter and Chicago. In conjunction with the agreements that provided Federal funding for the Englewood Flyover and Indiana Gateway Projects, Amtrak, NS and Illinois/Indiana entered into Development Rights Agreements that give Amtrak the right to construct tracks dedicated to passenger/high-speed rail service within the NS right-of-way and on NS property between Porter and 21st Street in Chicago. These rights would facilitate incremental development of passenger only tracks along the Porter-Chicago Corridor, benefiting both passenger and freight service. But there is no money for additional investments beyond the Indiana Gateway Project.



### C. Operational Coordination Among Chicago Railroads Has Improved, But Real Time Communication Must Be Enhanced

Train dispatching and communications practices among Chicago-area railroads were designed for an era in which each railroad operated in relative isolation, running trains predominantly over tracks it owned and terminating most trains in its own yards. Despite recent improvements, they are hard pressed to meet the demands of today’s Chicago rail environment: run-through trains operating over multiple railroads; most freight car classification performed in a small number of shared yards; and record volumes of freight traffic that can quickly produce gridlock conditions.



Train dispatching in Chicago is very different from air traffic control. The railroad dispatchers responsible for the movement of trains over Chicago's rail network work for 10 different railroads. They are physically located in six different cities where those railroads operate national or regional dispatching centers. Five of these centers are in the Chicago area, but all are in different locations.

Not included in these figures are the block operators who sit in towers beside the tracks – many built more than a century ago – and use hand thrown levers to control the movement of trains over interlockings visible from the towers where two or more railroad lines cross. Since the development of centralized traffic control in the 1930s, virtually all of the interlocking towers that once controlled intersecting tracks have been replaced, and only 91 remain in service throughout the United States. Thirteen are in Chicago.



Three miles northwest of Chicago Union Station, Tower A-2, constructed in 1901, controls the movement of over 350 Amtrak, Metra and freight trains each weekday with a switching system that was installed in 1932. The open flames are used to keep switches free from ice because the tracks are not equipped with switch heaters.



Amtrak's Cardinal, operating into Chicago over UP, passes the IHB-operated tower at Dolton Junction that controls the interlocking ahead.

By contrast, the controllers who direct the movement of planes in and out of Chicago's O'Hare Airport work for a single entity. Most sit next to each other in the same room. They communicate constantly regarding "hand-offs" of planes from one controller to another, and handle planes from all of the airlines serving O'Hare.

In recent years, a number of steps have been taken to enhance operational coordination among Chicago's railroads. The Chicago Transportation Coordination Office (CTCO), created by Chicago's railroads in the aftermath of the 1999 crisis, hosts twice daily conference calls among railroads and produces a daily scorecard with Chicago rail network performance metrics. The railroads have also agreed that CTCO can require railroads to reduce freight traffic volumes in yards and on routes

where metrics indicate that congestion exceeds agreed-upon thresholds. The Chicago Common Operating Picture (COP), developed as part of CREATE, integrates information from railroads' individual dispatch systems to enable dispatchers from all participating railroads to access graphic displays depicting the current location of trains operating on participating railroads throughout the Chicago area.

However, CTCO does not have any authority to coordinate rail operations. And means have not yet been developed for efficient, real time communication among the ten dispatching centers that control train operations in Chicago.

Adjoining segments on key Chicago freight corridors are dispatched by multiple railroads. Dispatchers controlling these segments need immediate notice of problems occurring on portions of

the corridor controlled by other railroads, such as a broken down train at a critical chokepoint, so that they can activate contingency plans to hold or detour trains on their railroad before they enter a point of no return with resulting gridlock. Likewise, a dispatcher preparing a path for a high priority train that is stopped on another railroad needs to know not just where the train is (which the Chicago Common Operating Picture will show) but when it is likely to begin moving again, and whether it is likely to be delayed further before its arrival on the dispatcher's territory. But unlike O'Hare's air traffic controllers, the only way for a Chicago railroad dispatcher to obtain this information today is to pick up the phone and call the dispatcher on the other railroad – and hope that the call will be answered.

The large number of dispatchers – all in different locations – who may be involved in the movement of a single train through Chicago is illustrated by the 29-mile route segment between the Amtrak station in Dyer, Indiana and Chicago Union Station over which Amtrak's New York-Chicago *Cardinal*, and state-supported Indianapolis-Chicago *Hoosier State*, operate. As shown in the table below, seven dispatchers or block operators working for seven railroads in seven different locations control the movement of Amtrak trains over just these 29 miles.

From	To	Distance (miles)	Railroad	Dispatcher Location
Dyer	Thornton Junction	7.9	CSX	Calumet City, IL
Thornton Junction	Dolton Junction	4.4	UP	Omaha, NE
Dolton Junction	Dolton Junction	0.1	UP	Dolton, IL (IHB block operator in tower)
Dolton Junction	81 <sup>st</sup> Street	6.6	UP	Omaha, NE
81 <sup>st</sup> Street	80 <sup>th</sup> Street	0.2	BRC	Bedford Park, IL
80 <sup>th</sup> Street	74 <sup>th</sup> Street	0.6	NS	Bedford Park, IL or Chicago (W. Jackson Blvd.)#
74 <sup>th</sup> Street	CP518 (40 <sup>th</sup> Street)	4.9	Metra	Chicago (W. Jackson Blvd.)
CP518 (40 <sup>th</sup> Street)	21 <sup>st</sup> Street	2.6	NS	Dearborn, MI
21 <sup>st</sup> Street	Chicago Union Station	1.6	Amtrak	Chicago (Union Station)

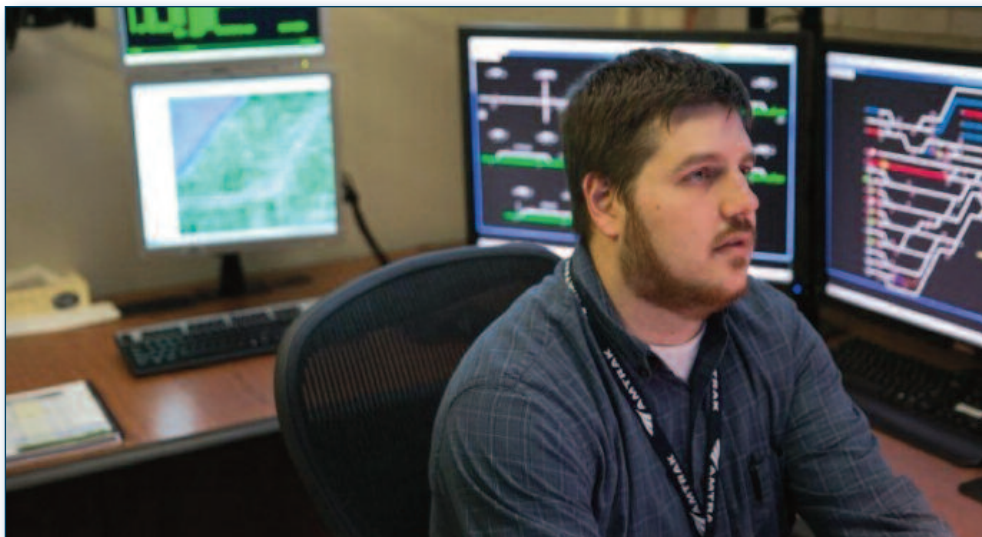
# - Northbound signal controlled by BRC dispatcher, southbound by Metra dispatcher

#### D. Railroads Have Taken Actions to Alleviate Congestion

In addition to the CREATE and Indiana Gateway programs, Chicago's railroads are also making investments and operational modifications, and undertaking additional planning efforts, aimed at improving Chicago area operations and alleviating delays caused by congestion.

Amtrak has taken a number of steps aimed at improving the performance and reliability of Amtrak trains serving Chicago, and of the tracks and facilities in and around Chicago Union Station that Amtrak controls. Among other things:

- Amtrak utilized over \$100 million in Federal funding, made available under the 2009 stimulus act, for Chicago Union Station investments, included replacing and upgrading tracks, switches, and switch heaters and renovating or repairing buildings used for equipment maintenance. Included in the project was a new control center in Chicago



*Amtrak's new Chicago Control Center*

Union Station that is responsible for dispatching the over 500 Amtrak, Metra and freight trains that operate each weekday over Amtrak-owned and operated tracks in Chicago.

- Amtrak has implemented new operating practices to facilitate on-time departures from Chicago Union Station even when trains arrive late. They include reducing how long a train departing from Chicago will be delayed to enable connecting passengers on late arriving trains to make their connections, and changing equipment maintenance procedures to minimize switching that adds time and increases the potential for delays.
- Amtrak has also added additional equipment sets to Chicago-based routes during periods when delays have been so severe that trains arrive too late to be serviced in time for same day departures.
- Amtrak plans to co-locate the different functions responsible for managing day-to-day Chicago operations, such as equipment servicing and crew management, and has increased real time monitoring of train performance on host railroads' Chicago area lines.

Improvements have also been made in Chicago commuter rail operations and infrastructure. In Joliet, the terminus of Metra's Rock Island District trains has been shifted to a new platform east of UD Tower, which controlled the interlocking between the east-west Rock Island Line and the four north-south tracks used by Amtrak, BNSF and UP trains. This eliminates the need for 46 weekday Metra trains to cross the interlocking – and for the 1912 built-tower and its antiquated switching system, which have been retired.

- Chicago's freight railroads have taken a number of actions that have reduced the volume of freight traffic moving through Chicago's major chokepoints. They have rerouted some freight traffic that passed through Chicago to other East-West gateways. They have constructed new intermodal terminals, and expanded existing facilities, at locations outside of Chicago's core (some hundreds of miles away) to handle traffic that formerly originated, terminated, or was switched between trains in Chicago.



- Freight railroads have also acquired Chicago-area rail lines and trackage rights over other railroads' lines, and upgraded existing lines, to increase network capacity and avoid bottlenecks. The major freight railroads have also formed an ad hoc panel, comprised of



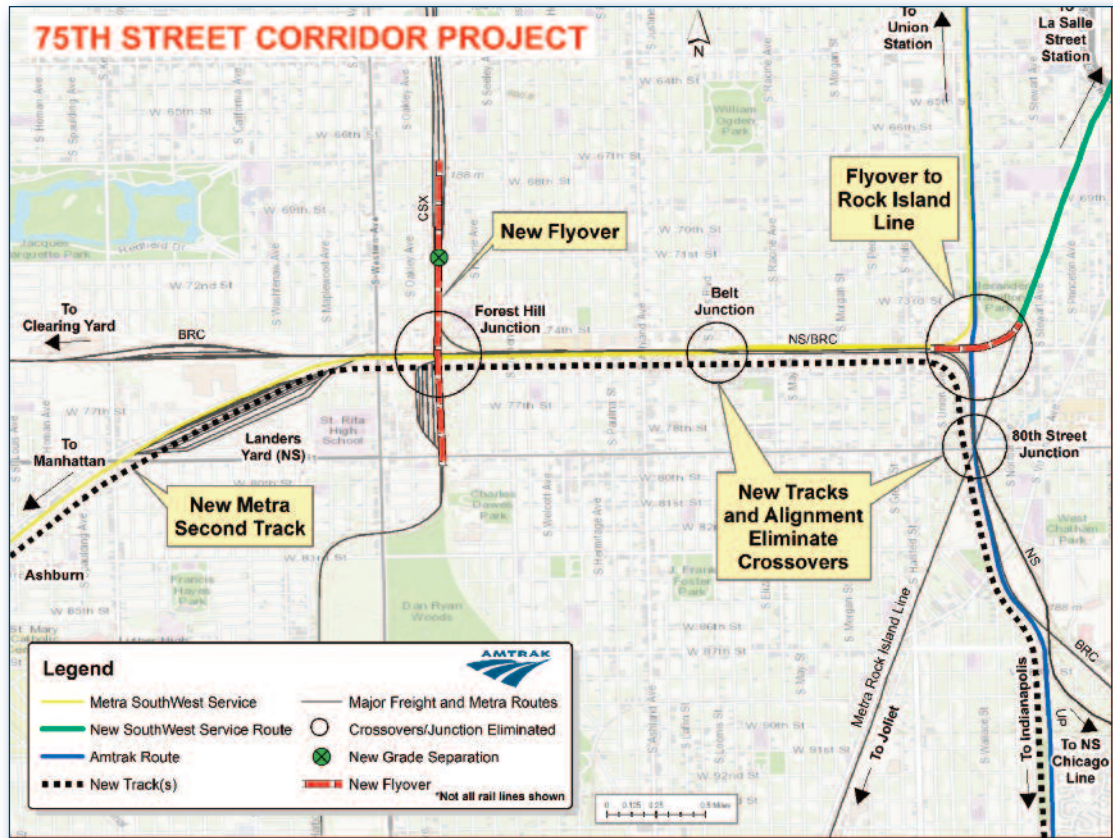
*Metra Rock Island District train crosses tracks used by Amtrak Chicago-St. Louis trains, and BNSF and UP freight trains, at UD Tower in Joliet before Metra platform was relocated.*

senior/retired operations and planning officials with expertise with Chicago rail operations, to identify and make recommendations for improvements.

Many of the steps individual railroads have taken in response to Chicago rail network delays will enhance efficiency and improve service. But others, although necessary, will impose significant monetary and other costs. For example, when Amtrak must assign additional equipment sets to Chicago-based routes, equipment maintenance costs increase and riders and revenues that could be generate from deploying the equipment on other routes are lost. Moving rail operations away from Chicago means that the region loses railroad jobs, such as conductor and engineer positions in Chicago area yards. Since Class I railroad employees have average compensation and benefits of \$115,000 a year, the loss of these skilled jobs negatively impacts Chicago's economy, and state and local tax revenues.

### **III. Two CREATE Projects – 75th Street and Grand Crossing – Are Key to Alleviating Gridlock and Improving and Expanding Passenger Service**

Two nearly shovel-ready CREATE projects for which no funding has been identified would eliminate some of the major chokepoints on Chicago's rail network. They would also set the stage for planned expansion of Amtrak and commuter rail service, and the development of high speed passenger service throughout the Midwest.



## A. The 75th Street Corridor Is Chicago's Biggest Chokepoint

The 75th Street Corridor in South Chicago, depicted in the map below, is the most congested rail chokepoint in the Chicago area, and perhaps in the entire United States.

Ninety freight trains a day operated by four Class I railroads – CSX, NS, UP and CP – and the BRC operate along the 14 miles of rail corridors that crisscross this four square mile area bounded by 69th and 100th Streets, the Dan Ryan Expressway, and Central Park Avenue. These freight trains share track with 30 Metra SouthWest Service trains each weekday, and the daily Chicago-Indianapolis round trip provided by Amtrak's Indiana-supported, quad-weekly *Hoosier State* and tri-weekly Chicago-to-New York *Cardinal*.



Metra SouthWest Service train on 75th Street Corridor's east-west line crosses Forest Hill Junction while freight train on north-south CSX line waits.



As the map shows, nearly all of the freight trains that operate on the primary freight route along the 75th Street Corridor – which runs from west to east, and then turns south – must crawl through three major chokepoints within a two-mile maze of tracks while other trains wait.

- Forest Hill Junction, near the west end of the east-west line that parallels 75th Street, is the rail-to-rail grade crossing where CSX's north-south Western Avenue Corridor, used by 35 daily freight trains, crosses the east-west line at grade. When a freight train is operating through Forest Hill on the north-south line, the 80 daily freight and passenger trains on all four tracks of the east-west line must wait – and vice versa.



*Metra SouthWest Service passes through two track funnel at Belt Junction.*

- Belt Junction, less than a mile to the east, is the center of the maze. There, five tracks from the east and four tracks from the west funnel into just two tracks, as shown on the map. Making matters worse, all of the 30 Metra trains, and nearly all of the 50 freight trains, that operate on the east-west line through Belt Junction must make a crossover move there from a track on one side of the right-of-way to a track on the other side. Because of these crossover moves, at most times only a single train can operate through Belt Junction.
- At the east end of the east-west corridor, eastbound freight trains – whose rear cars are still passing through Belt Junction – make a sharp turn south and enter 80th Street Interlocking. There, NS, UP and BRC freight trains, and Amtrak's *Hoosier State / Cardinal*, must thread their way through a spaghetti-like intersection of multiple rail lines that is even more complex than Belt Junction.

Two additional complications make a bad situation even worse:

- The distance from Belt Junction to both Forest Hill Junction and 80th Street Interlocking is shorter than the 7000-plus foot length of most of today's freight trains. That means that



eastbound freight trains generally must wait west of Forest Hill Junction, and west bound trains must often be held as far away as 80th Street Interlocking, until the dispatcher is certain that both Forest Hill Junction and Belt Junction will be clear for the train's passage.

- The maximum speed on the sharp curve where the west-east line turns south is 10 miles per hour, and trains are limited to that speed until the entire train has passed through the curve.

The end result of these obstacles is that it can easily take a long freight train 15-20 minutes to make the two-mile trip between 80th Street Interlocking and Forest Hill Junction - and that a single freight train will preclude most other train movements through each of those interlockings for as long as 15 minutes.

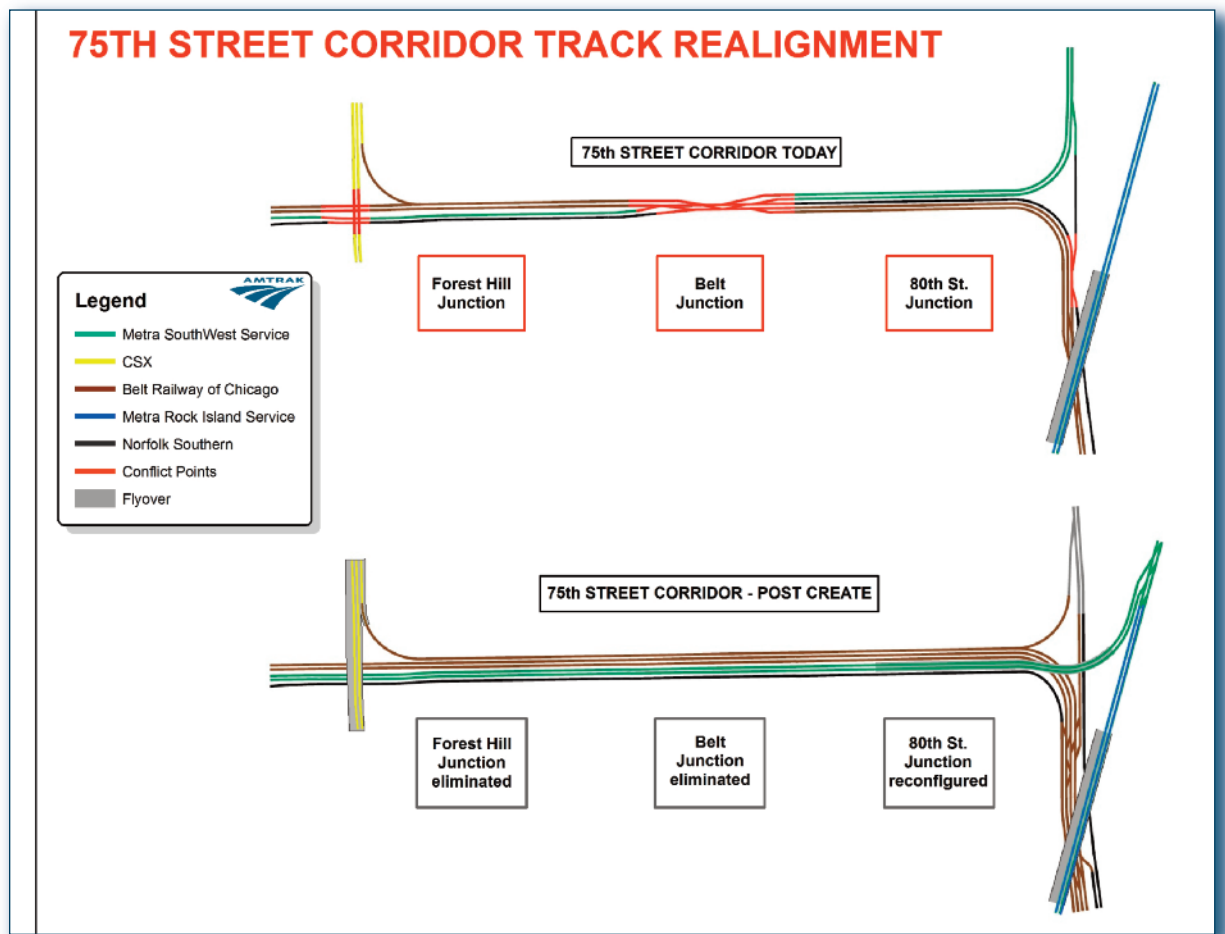
Imagine a crowded interstate highway on which all traffic must stop and wait at a traffic light-controlled intersection with another interstate highway; funnel into a single lane shared by cars traveling in both directions; and then travel at speeds of 10-25 mph for almost three miles – while all traffic in the other direction sits awaiting its turn. That is Belt Junction.

Four separate CREATE projects, with a projected total cost of approximately \$1 billion, would eliminate the conflicts between trains on different routings that affect nearly all trains operating through the 75th Street Corridor. These projects, depicted in the map above, would among other things:

- completely reconfigure existing tracks at Belt Junction and 80th Street;
- add additional tracks along most of the Corridor;
- construct a flyover at Forest Hill Junction to separate the east-west and north-south lines; and
- construct the Metra flyover discussed below.

When completed, the 75th Street Projects would almost entirely eliminate the need for trains to cross over other rail lines at grade at the 75th Street Corridor's three chokepoints, increasing the efficiency of freight movements by approximately 40%. They will also eliminate a "911" rail-street grade crossing at 71st Street used by emergency vehicles, and more than 80,000 hours of driver delay annually.

The "before and after" maps below illustrate the changes in the track configuration of the east-west line that will result from building the Metra flyover, untangling Belt Junction, and building the overpass at Forest Hill Junction. As the maps indicate, the number of trains that can simultaneously operate through both Belt Junction and Forest Hill Junction increases from one, or at most two, to six or seven, producing a large increase in Chicago rail network capacity.



**B. Project P2, Which Would Allow Metra SouthWest Service Trains to Shift to LaSalle Street Station and Reduce Metra-Freight Conflicts, Is a Key Element of the 75th Street Project**

One of the 75th Street Corridor Projects – CREATE Project P2 – is very important to both the reliability and future expansion of passenger rail service in Chicago.

Project P2, whose estimated cost is approximately \$250 million, would construct a new flyover connection to Metra’s Rock Island Line at Union Avenue on the east end of the 75th Street Corridor, and a second Metra track along the southwestern portion of the 75th Street Corridor. The flyover would enable Metra SouthWest Service trains, which currently terminate at Chicago Union Station, to operate into less crowded LaSalle Street Station instead. This would alleviate capacity constraints that impair existing Amtrak and Metra services at Union Station, and preclude their expansion.

Removing 30 SouthWest Service trains, most of which operate during peak commuter hours, from Union Station would benefit both Amtrak and Metra. It would reduce congestion on the crowded four-mile approach from CP-518 (40th Street) to Union Station; on the station’s south side tracks and platforms that SouthWest Service trains share with Amtrak trains and Metra’s BNSF and Heritage Corridor routes; and within the station itself. Overcrowding in Union

Station is so severe that, when there are significant commuter rail delays, pedestrian entrances must be closed to alleviate unsafe conditions. Lack of capacity at Union Station precludes expansion of Amtrak and Metra services, and advancement of the Midwest High Speed Rail

Initiative. The single track segment of Metra's SouthWest Corridor that would be double tracked by Project P2 is an additional impediment to future expansion of Metra's fastest growing route.



Chicago Union Station.

Completion of Project P2 would also be a first step in alleviating freight train congestion on the 75th Street Corridor. By bringing Metra trains onto the south side of the Corridor's east-west line, the new flyover would eliminate the Metra crossover moves at Belt Junction, making it possible to operate both a Metra train and most freight trains through Belt Junction simultaneously.

Reducing freight train delays along the 75th Street Corridor would also alleviate freight train backups on other rail lines from which trains feed into it. Many of the stopped

freight trains that often tie up one of the two main line tracks approaching Chicago on NS's Chicago Line, resulting in all Amtrak and freight trains on the Porter-Chicago Corridor sharing a single track, are awaiting clearance to enter the 75th Street Corridor.

### **C. The Grand Crossing Project Would Improve or Replace Three Poor Performing Amtrak Routes into Chicago**

The Grand Crossing Project (CREATE Project P4) includes the construction of:

- a new connection between CN and the NS Chicago Line at Grand Crossing in South Chicago;
- additional track capacity on the Chicago Line between Grand Crossing and Englewood; and
- a new connection between Englewood and the Metra line currently used by Metra South West service trains that runs parallel to the Chicago Line into Chicago Union Station.



The Grand Crossing Project would address major deficiencies and delays on three of Amtrak's Chicago area routes:

- The Grand Crossing connection would enable the six daily Amtrak trains that use CN's St. Charles Air Line Route to access Chicago Union Station – two daily state-supported Chicago-Carbondale round trips, and the daily Chicago-New Orleans *City of New Orleans* – to shift to the NS Chicago Line at Grand Crossing. This shift would reduce trip times by eliminating the slow, time consuming backup move these trains must currently make on the heavily utilized tracks south of Union Station. Shifting these six Amtrak trains to the NS Chicago Line would also eliminate existing conflicts with Metra trains at 16th Street interlocking, where the St. Charles Air Line Route crosses the route of Metra's Rock Island Line into LaSalle Street Station. These Amtrak-Metra conflicts, and resulting train delays, will increase when the P2 Project, which will shift Metra's 30 SouthWest Service trains to LaSalle Street, is completed.



*Carbondale-Chicago train on St. Charles Air Line passes over Port Huron-Chicago train south of Union Station before beginning backup move into Union Station via connecting track (out of picture to left).*

- The additional track capacity on the NS Chicago Line between Grand Crossing and Englewood will benefit the 14 daily Amtrak trains and 46 daily freight trains that currently operate over this segment.
- The new connection would also facilitate a reroute of the *Cardinal / Hoosier State* between Thornton Junction and Chicago Union Station onto the St. Charles Air Line Route south of Grand Crossing and the NS Chicago Line from there into Union Station. This routing would avoid major freight chokepoints on the current route, and has considerably fewer dispatcher handoffs and grade crossings.

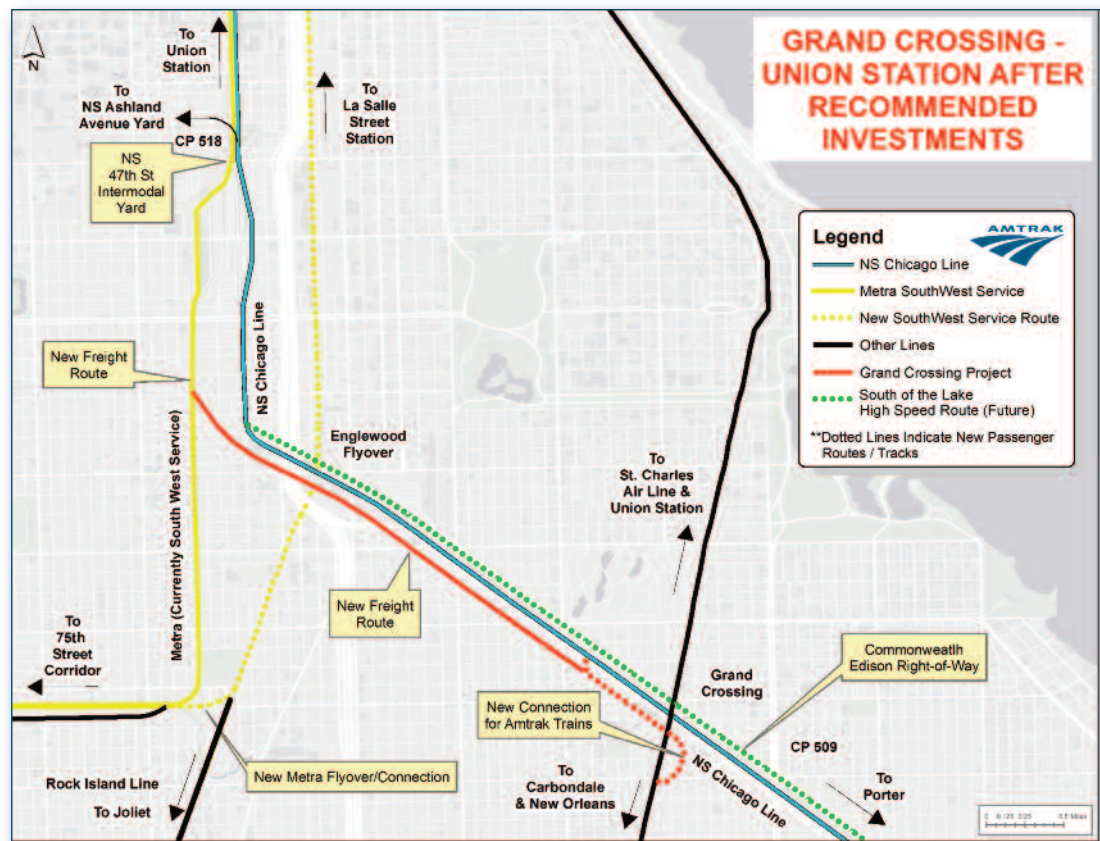
#### **D. Completion of the 75th Street and Grand Crossing Projects Would Make Midwest High Speed Rail Possible**

Perhaps most importantly, the completion of the 75th Street and Grand Crossing Projects would set the stage for implementation of MWRRI plans to develop high speed rail service between Chicago and points in Michigan, Indiana and Ohio. These projects, and the proposed Chicago East Corridor Project that is a component of the Chicago-Detroit High Speed Project, would create the operational equivalent of a new passenger route into Chicago for high speed and other intercity passenger trains from the East, while increasing capacity and fluidity for freight trains that would operate over separate tracks.

The 2011 Development Rights Agreement (DRA) for the Englewood Flyover among Illinois, Norfolk Southern and Amtrak provides for a doubling in the number of intercity trains operating over the NS Chicago Line between Grand Crossing and Chicago – from the current 14 to 28 – following completion of the 75th Street and Grand Crossing Projects, and for a joint study to determine whether there is sufficient capacity for further increases in the number of intercity trains. These additional passenger trains are made possible by:

- the shift of Metra SouthWest Service trains from Metra’s line north of 75th Street to the Rock Island Line following completion of 75th Street Project P2; and
- construction of the new connection from the NS Chicago Line at 61st Street (Englewood) to the Metra line, and additional track capacity between Grand Crossing and 61st Street, that are included in the Grand Crossing Project

These improvements, depicted in the map below, would allow Norfolk Southern freight trains that currently share the NS Chicago Line with Amtrak to shift to the Metra Line north of 61st Street.



Completion of these projects, and of the proposed Chicago East Corridor Project, would create the operational equivalent of a continuous two-track, eight-mile passenger rail corridor between Grand Crossing and 21st Street. The passenger corridor would connect on its western end with the Amtrak-owned tracks leading into Union Station. At Grand Crossing, it would connect with two current Amtrak routes – the CN line to Carbondale/New Orleans, and the NS Chicago Line to Detroit and the Northeast – as well as the Commonwealth Edison right-of-way, an abandoned rail line that is now utilized for power transmission lines, on which the South of the Lake high speed passenger tracks to Porter could be constructed. Deficiencies on existing passenger and freight routes into Chicago would be alleviated, and a faster, unencumbered pathway into Chicago for expanded and high speed intercity passenger rail service would be created.

#### IV. Lack of Adequate, Reliable Public Funding Impedes Efforts to Address Chicago's Rail Gridlock

CREATE and other investments in Chicago's rail infrastructure, produce both private and public benefits. For the private freight railroads, improved rail infrastructure that reduces transit times and delays results in significant operational and financial benefits. Members of the public benefit from improved and expanded passenger rail service; fewer trains blocking grade



crossings; reduced emissions from idling and slowly moving locomotives; retention and creation of Chicago area jobs and other economic activity; and enhanced national and regional competitiveness will produce significant benefits to the general public.

What makes major transportation projects like CREATE work is the willingness and ability of both the private and public sectors to provide funding based upon the public and private benefits the project generates. Public funding – federal, state and local – has covered approximately 80% of the \$1.2 billion spent or committed for CREATE's costs to date. Railroads have provided the remaining 20%.

However, the completion of CREATE, and other public-private partnerships to enhance rail infrastructure of national importance, is in jeopardy because of the lack of public funding to match private investments. Only one of the five federal and state grant programs from which funding for CREATE has been cobbled together is currently funded.

CREATE has received approximately \$335 million in federal funding from four separate federal programs. Of these programs:

- The High Speed and Intercity Passenger Rail Program, which funded a \$133 million grant for the Englewood Flyover (and also provided \$71 million for the Indiana Gateway Project) has not received any additional funding, other than \$42 million in reprogrammed funds, since 2010.
- The Projects of National and Regional Significance Program, which provided \$100 million for CREATE, has not received any appropriations since 2009.
- The Rail Line Relocation Program, which provided a \$1.9 million grant, has not been funded since 2011.
- Transportation Investments Generating Economic Recovery (TIGER), which provided \$100 million for CREATE, received a \$500 million appropriation for 2015 grants. The United States Department of Transportation received pre-applications totaling \$14.5 billion for this funding, 29 times the level available. The FY2016 House Transportation Appropriations Act would reduce TIGER funding to \$100 million nationwide, and limit grants to a maximum of \$15 million per project.

Significant CREATE funding – over \$400 million – has also been provided by the State of Illinois. Most of Illinois' investment came from the most recent (2009) Illinois capital infrastructure funding bill, all funding from which has been committed.

Chicago's rail network is approaching a critical juncture. The need for additional investments becomes more obvious with every crisis, and those investments would produce significant public and private benefits. But unless additional public funding is made available for projects of national significance such as CREATE, and the development of high speed and intercity passenger rail, those investments will not be made – and the cost will be enormous.

## **V. If Congestion in Chicago's Rail Network Is Not Addressed, Rail Passengers and Shippers, the National and Regional Economies, and the Environment Will Pay a Very High Price**

The nationwide rail crisis that began in Chicago in winter 2014 demonstrated what the future holds if Chicago's rail service issues are not addressed. While freight shippers and rail passengers will suffer the most direct impacts, national and regional economies and the environment will be harmed as well.

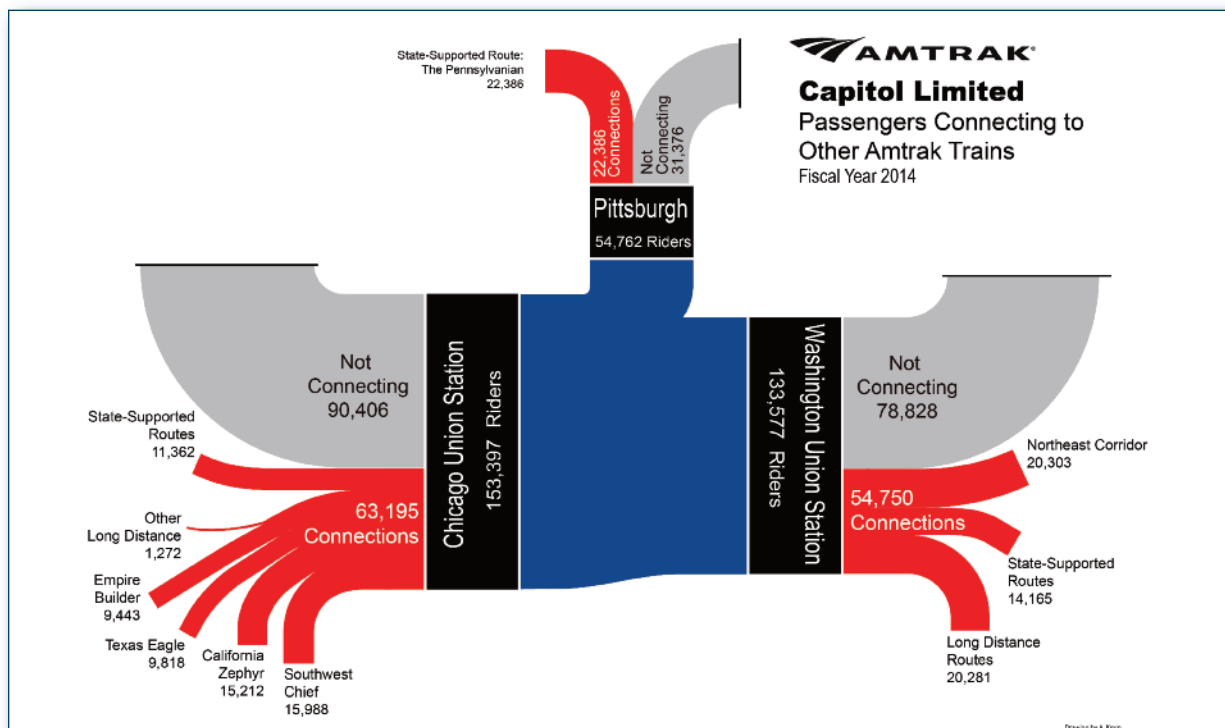
The Panel asked Frost & Sullivan (F&S), a global consulting company with expertise in the rail industry and other industries impacted by freight and passenger rail service, to analyze the national and regional impacts of failing to address Chicago area rail congestion. Working with MSY Analytics, F&S analyzed economic data and reports, and interviewed numerous rail stakeholders. F&S's report (F&S Analysis) on national economic impacts of Chicago rail congestion, which includes a supplement on Chicago region economic impacts, accompanies this report. Findings from the F&S Analysis are summarized in the discussion below.

### **A. Reliable and Expanded Passenger Rail Service in the Midwest Is Not Possible Unless Chicago Congestion Issues Are Addressed**

Rail gridlock within the Chicago region, and resulting congestion on the Amtrak routes leading to Chicago, has severely impacted on-time performance in the most important "hub" on Amtrak's national network. The ripple effects from these delays affect passengers throughout Amtrak's system, and impose significant costs on the company that increase its federal and state funding requirements.

A late arriving Amtrak train adversely impacts trains, passengers and Amtrak employees on the routes with which that train connects. Connecting trains must be held for passengers from the late train, causing delays along the connecting train's entire route. Or connecting trains can be dispatched on time before the late train arrives, which means that passengers connecting to other long distance routes must spend the night in Chicago and arrive at their destination a full day late. In addition, late train arrivals in Chicago often result in a late departure on the train's next outbound trip, since engineers and conductors must receive federally-mandated rest and equipment must be serviced and inspected.

The graph below depicts the passengers traveling on Amtrak's Chicago-to-Washington *Capitol Limited* who connect to and/or from one of the 27 long distance, state-supported corridor, and Northeast Corridor routes with which that train connects in Chicago, Pittsburgh, and Washington. As the graph indicates, 41% of *Capitol Limited* passengers boarding or detraining in Chicago, 42% of passengers arriving or departing from Pittsburgh, and 36% of *Capitol Limited* passengers getting on or off in Washington, connect to another Amtrak route. Many passengers connect with another Amtrak route at both ends of their *Capitol Limited* trip.



Late trains and missed/broken connections adversely impact both Amtrak’s revenues and costs. There is a high correlation between on-time performance and both ridership and customer satisfaction. Passengers who experience or anticipate delays are less likely to travel on Amtrak, impacting current and future revenues. In addition to paying hotel and meal expenses of passengers who miss Chicago connections, Amtrak incurs significant costs for employee overtime for both on-train and station personnel – not only on the late arriving train, but on other trains impacted by its late arrival and at stations along the routes those trains serve. Consistently late Capitol Limited arrivals have required Amtrak to break same-day connections between that route and some trains with which it formerly connected.

Investments to address the Chicago area’s rail congestion are also essential prerequisites to future expansion of passenger rail service in Chicago and throughout the Midwest. Additional capacity at Chicago Union Station, some of which CREATE Project P2 would provide, is required for future increases in Metra service at that station, implementation of planned increases in service on the Chicago-Detroit/Pontiac corridor and other state-funded Amtrak services in the Midwest, and to advance the multi-state MWRRI that would bring expanded, higher- speed rail service from Chicago to cities and communities throughout the Midwest.

## B. Chicago’s Rail Gridlock Severely Impacts Freight Rail Service Nationwide

Chicago area delays have a huge impact on transit times for freight rail shipments. CREATE has reduced the average time required for a freight train to cross Chicago. However, the average is still 30 hours – about the same amount of time it takes the same train to travel from Chicago to the East Coast. If the remaining CREATE projects are not completed, existing delays are projected to more than triple.



Because so much rail freight traffic moves through Chicago, even relatively small delays there can have a ripple effect throughout the U.S rail network. As Scott Haas, Vice President for UPS, the largest rail intermodal shipper, explained:

*A lone train stopped in Chicago can force other trains to stop or slow as far away as Los Angeles or Baltimore. It's a ripple effect – everything in my system backs up.*

And when Chicago's rail network freezes up, manufacturers and retailers throughout the country – and the customers who can't wait for next week to buy their products – experience the consequences. As one retail industry official described:

*The Chicago congestion problem leads to pain for everyone, trickling down the supply chain . . . [D]uring one of the most recent delays, one retail company reported that almost half of its time sensitive Valentine's products did not make it to the shelf.*

### **C. The National Economy Depends Upon Chicago's Rail Network**

Chicago is the crossroads of the American freight rail network on which much of the U.S. economy depends. The F&S Analysis and other studies have quantified the large portion of the gross domestic product that is dependent upon Chicago area rail service; the impact when performance deteriorates; and the benefits that would result from improved service.

- A 2009 study by the University of Illinois Regional Economics Applications Lab study found that, in addition to private benefits, completion of all CREATE projects would produce \$3.6 billion in public benefits, including 28,000 job years. Significantly, 75% of these benefits would be experienced outside of the Midwest Region, demonstrating the national importance of untangling Chicago's rail congestion.
- F&S calculated that \$657 to \$799 billion of the annual gross domestic product is dependent upon freight rail service through Chicago.
- A 2005 study by the American Association of State Highway and Transportation Officials (AASHTO) found that Illinois is – not surprisingly – the state with the highest economic dependence on Chicago's rail system. But the four other states with the greatest dependence on Chicago rail operations are spread from coast to coast, and from north to south: California, Texas, Ohio and New Jersey.

As one rail shipper interviewed for the F&S Analysis explained:

*The people who suffer are not in Chicago. The people who are shipping are the ones who suffer. Such as in New York or Detroit, these are the people who suffer. This impacts the end user and the entire value chain.*

## **D. The Performance of Chicago's Rail Network Has a Major Impact on the City's and the Region's Economy**

Analyses by F&S and others have quantified the huge importance of the rail industry and rail service to Chicago and the surrounding region:

- A 2003 study found that rerouting a significant volume of rail freight traffic away from the Chicago area would reduce gross regional product (GRP) by \$1 billion to \$3 billion annually, and eliminate 5,000 to 15,000 jobs.
- The Amtrak Chicago-based corridor trains funded by Illinois, Wisconsin, Indiana and Michigan play a vital role in the viability of colleges and universities in those states. In many Amtrak-served university communities, annual Amtrak ridership significantly exceeds local populations. In the words of the mayor of Macomb, Illinois, home of Western Illinois University:

*So many students from the metropolitan area of Chicago rely, absolutely rely on Amtrak to get to and from Western Illinois University. . . In many cases, it's their only reliable form of transportation to get to and from home. Not having Amtrak service could make Western Illinois less appealing when it comes to recruiting students.*

The expansion of the Panama Canal, scheduled for completion later this year, creates a new competitive threat for the Chicago region. The expanded canal will allow much larger ships carrying goods imported from Asia to travel directly from Asia to East Coast ports. This will create a new and less costly routing option for shipments presently unloaded from ships at West Coast ports and moved by rail to the Northeast via Chicago. Rail's one advantage – a more direct route to the East Coast that is somewhat faster than an all-water route – will be eroded if Chicago-area congestion persists or worsens.

## **E. Chicago Rail Gridlock Harms the Environment**

Failure to address Chicago's rail congestion problem negatively impacts the environment locally, regionally and nationally. Stopped and slow moving freight trains produce additional emissions that increase air pollution in neighborhoods traversed by Chicago's rail lines. Air quality in other regions is adversely impacted by increased emissions from freight trains that are rerouted over longer, more circuitous routes to avoid Chicago.

Less obvious but even more significant are the adverse environmental impacts from freight and passengers that utilize other modes because of Chicago area delays, and the inability of its rail network to accommodate increased demand. Because passenger and freight rail service are more energy efficient than other modes, energy consumption and environmental impacts both increase when people or goods travel by automobiles, planes or trucks instead of rail.

# RECOMMENDATIONS OF THE PANEL

## **I. Real Time Operational Coordination Among Chicago's Railroads, Including Coordinated Dispatching, Is Needed**

Over the past 15 years, Chicago's 10 passenger and freight railroads have taken some steps to enhance operational coordination. But more needs to be done to eliminate physical and cultural barriers that impede improved, real time coordination of Chicago rail operations among railroads.

Other than shifting trains and traffic away from Chicago, enhanced operational coordination provides the best near-term opportunity to significantly alleviate Chicago rail network congestion. Improvements in operations and coordination are much less costly, and can be implemented relatively quickly, compared to major infrastructure projects on heavily utilized rail lines. Without such operational improvements, congestion will continue to grow.

The Panel believes that coordination of train dispatching offers an important opportunity to improve rail operations in Chicago. Joint dispatching centers, in which dispatchers from multiple railroads operating in complex terminal areas work together at single location, have been very successful in alleviating congestion and reducing delays in a variety of operational environments.

Joint dispatching centers can take different forms. Some are limited to co-location: each railroad has its own dispatchers who dispatch its lines, but all dispatchers work in the same room to facilitate coordination, typically under a jointly-appointed supervisor or a supervisor position that rotates among the participating railroads. Joint dispatching can also entail having a consolidated dispatching force in which dispatchers, although employed by an individual railroad, are assigned territories without regard to which railroad owns them.

Two examples:

- For over 20 years, Amtrak and the Long Island Rail Road (LIRR) have been jointly dispatching what may be the only portion of the U.S. rail network more challenging than Chicago: New York's Penn Station, and the adjacent rail tunnels that connect it to Queens and New Jersey. Amtrak and the LIRR alternate managerial control of the joint dispatching center, which handles over 1,000 daily Amtrak, LIRR and New Jersey Transit trains. Dispatchers are assigned without regard to which railroad is the predominant user of particular tracks and tunnels.



- In 1998, UP and BNSF established a joint dispatching center in Spring, Texas as an emergency measure to address rail network gridlock in the Houston area. Dispatchers for both railroads were co-located at the center, and a joint director was appointed to manage it. With the exception of a jointly operated line, dispatchers from each railroad continued to dispatch their own rail lines, but worked together to coordinate operations. UP and BNSF also agreed to a “clear path” protocol under which trains were routed through the Houston area on the least congested route, regardless of track ownership. The success of the Spring Dispatching Center led the two railroads to bring additional rail lines under its control, and to establish similar joint dispatching centers in San Bernardino, California and Kansas City, Kansas.

The Panel believes co-locating dispatching of Chicago area rail lines in a single location is an essential first step in enhancing operational coordination in Chicago. While each railroad could continue to dispatch its own rail lines with its own dispatchers, Chicago area dispatching would no longer be spread among ten different locations.

Coordination between different railroads’ dispatchers on “handoffs” of trains traveling over multiple railroads, and in responding to service problems and emergencies, would be enhanced by having all dispatchers in the same physical location, where in-person communications would replace phone calls. Co-location would also facilitate further actions to coordinate dispatching, such as joint dispatching of shared use lines or of connecting line segments owned by different railroads.

The Panel recommends that CTCO and Chicago area freight and passenger railroads pursue implementation of co-located dispatching as soon as possible. Amtrak has expressed a willingness to consider hosting a co-located dispatching center in Chicago Union Station, which would provide a neutral location for Chicago area freight railroads. However, the Panel is not recommending any particular location for the center.

## **II. Railroads, Including Amtrak, Should Continue Efforts to Improve Operating Performance within the Chicago Terminal**

The 2014 Chicago rail service crisis has led all of Chicago’s passenger and freight railroads to refocus attention on near term actions they could take, individually and collectively, that would reduce network congestion. Many of the rail stakeholders with whom the Panel spoke noted that cooperation and communication among railroads have significantly improved since that time. Actions taken collectively through the CTCO and Chicago Planning Group, and by individual railroads, that have helped minimize reoccurrences of gridlock. The Panel urges that these efforts continue, and that they receive the necessary senior management attention and support.

With regard to Amtrak, the Panel recommends that it continue its efforts to improve those aspect of Chicago area rail operations over which it has the most control. Of particular importance is getting trains out of Chicago Union Station on time even when turnaround times are shortened due to late arrivals of incoming trains.

On-time departures facilitate smoother terminal operations, since late departing trains often delay other trains. They also ensure that Amtrak trains will be on-time when they enter the territories of Amtrak's host railroads. On-time performance is very important to Amtrak's passengers and state partners, who recognize the challenges that Amtrak faces operating trains over a rail network it does not own or dispatch but expect Amtrak to deliver high levels of performance in those areas where it has greater control.

The Panel also encourages Amtrak and Metra to pursue opportunities for enhanced coordination at Union Station, and its associated tracks and facilities, that could improve terminal on-time performance of both railroads.

### **III. Adequate, Sustained Public Funding Must Be Provided for Vital Projects that Will Produce Significant Passenger Rail and Other Public Benefits**

The need for significant additional investments in Chicago's rail infrastructure is indisputable. But without adequate, sustained public funding for investments in transportation projects of national significance, and for intercity and commuter passenger rail, those investments are unlikely to occur.

The three projects the Panel has identified as immediate priorities – the CREATE 75<sup>th</sup> Street and Grand Crossing Projects, and additional investments in the Indiana Gateway – could be accomplished for less than \$1.5 billion. Private funding can cover some of the costs for projects that produce both private and public benefits. However, without a public funding match, private money will likely be invested on other projects that generate higher financial returns.

Additional investments must begin now. Major rail projects on heavily utilized rail lines take many years because of the very long lead times for grant applications, planning, design, environmental review and construction. Environmental reviews are valid for a limited period before they must be updated or redone, and construction of major projects on heavily utilized rail lines that cannot be shut down takes considerable time. The EIS process for the 75th Street Project took almost four-and-a-half years, and construction is expected to take five years once funding becomes available.

Funding must be found for shovel-ready projects for which environmental reviews have been completed. Otherwise, there will be no quick fixes when the next big crisis occurs, and key portions of the Chicago rail network become gridlocked.

The Panel urges federal and state elected officials and policymakers to provide adequate, sustained funding for rail investments of national importance. This could be accomplished by reauthorizing and appropriating funds for existing unfunded or underfunded programs, such as the intercity passenger rail capital matching grant programs established by the Passenger Rail Investment and Improvement Act of 2008, or by enacting and funding new capital grant programs.

#### **IV. The CREATE 75th Street Corridor and Grand Crossing Projects Should Be Prioritized**

The Panel supports the vision embodied in the CREATE program. That initiative is necessary both to alleviate today's congestion and as a first step in positioning Chicago's rail network to accommodate projected future growth of both freight and passenger services. The Panel also believes that planning for additional Chicago-area investments beyond CREATE needs to move forward now to prepare for future growth.

As discussed above, the two unfunded CREATE projects that would provide the greatest benefit to Amtrak, and to future expansion of passenger rail service, are the 75th Street Corridor and Grand Crossing Projects. The 75th Street Project addresses the most significant rail network chokepoint in Chicago, and permits some expansion of



*Abandoned railroad bridge that will carry the new Grand Crossing Connection over CN tracks to join NS's Chicago Line.*

passenger rail service at Chicago Union Station. Grand Crossing eliminates a time-consuming backup move for Amtrak's Chicago-Carbondale-New Orleans trains, and adds new rail line capacity and connections that facilitate separation of passenger and freight operations on a heavily utilized shared corridor. Environmental reviews for both



projects are complete or nearly so – but no funding has been identified for their construction. Ways to advance these two projects must be found.

For the 75th Street Project, if a portion of the required funding becomes available before the full amount needed is in hand, the panel recommends prioritization of the P2 project that would construct a new flyover connection to the Rock Island Line for Metra's SouthWest Service. By relocating Metra trains to the south side of the east-west 75th Street Corridor, P2 would eliminate the Metra cross-over moves at 75th Street that virtually shut down that vital freight corridor for six hours of every weekday. In addition, by shifting SouthWest Service trains to LaSalle Street Station, P2 would eliminate conflicts between Metra trains and NS/Amtrak trains north of 75th Street. It would also alleviate overcrowding and platform capacity constraints at Chicago Union Station, permitting some expansion of services at that facility.

## **V. Additional Investments Should Be Made on the Porter, Indiana to Chicago Corridor**

The Panel believes that additional investments on the crucial Porter-Chicago Corridor, beyond the current Indiana Gateway Project, are essential. These investments are needed to alleviate the "Last Mile" bottleneck on the 110 mph Detroit-to-Chicago High Speed Corridor and improve the performance of the more than 100 passenger and freight trains that operate over the Porter-Chicago Corridor. They would also enable Michigan to implement plans to increase service frequency on the Detroit-Chicago route from three to ten round trips per day by 2030, and provide capacity for new corridor routes to Indiana and Ohio that are included in the plans of the Midwest Regional Rail Initiative.

The Panel supports construction of the proposed South of the Lake Line. It which would provide dedicated higher speed passenger tracks between Porter and Chicago that would reduce trip times and enhance reliability for all passenger and freight trains on the Porter-Chicago Corridor.

The development of a separate passenger rail corridor from Chicago Union Station to Porter is a goal that can be achieved in phases. The three CREATE projects along the NS Chicago Line – the completed Englewood Flyover, and the planned 75th Street and Grand Crossing Projects – coupled with the Development Rights Agreement discussed above that allows Amtrak to utilize surplus NS right-of-way between 21st Street in Chicago and Grand Crossing for additional passenger tracks, set the stage for development of a passenger rail corridor from Chicago Union Station to Porter, which could be

constructed eastward in phases until there are separate tracks on this entire route segment.

The Panel recommends construction of new passenger tracks on former and surplus railroad right-of-way adjacent to NS's Chicago Line between Chicago and Buffington Harbor, Indiana, and from Buffington Harbor to Porter via Tolleston, Indiana along existing freight railroad rights-of-way. Selection of this alignment, depicted in the map on page 20 and identified as Alternative 5 among the routing options evaluated in the draft EIS developed by Michigan DOT and FRA, would facilitate incremental construction of segments of passenger-only tracks between Chicago and Buffington Harbor as funding becomes available. This would produce benefits for passenger and freight service many years sooner than construction in new or predominantly new alignments. East of Buffington Harbor, this alternative would avoid environmentally sensitive National Park Service property (the Indiana Dunes National Lakeshore that borders the NS Chicago Line right-of-way), minimizing environmental impacts associated with constructing additional tracks and the costs and delays associated with remediating them.

In the period before construction of dedicated passenger tracks is completed, the Panel recommends additional investments on the NS Chicago Line between Porter and Chicago currently used by Amtrak that would benefit passenger and freight operations. Such investments would also provide capacity for projected increases in freight operations after passenger trains shift to dedicated tracks.

## **VI. Innovative Financing Approaches Should Be Encouraged by RRIF Loan Program Reforms**

Many transportation projects that generate or have access to revenue streams that can be used to pay off debt have utilized innovative financing approaches that reduce upfront funding costs. For example, 16% of the cost of constructing the Alameda Corridor, a 20-mile, grade separated freight line that links the ports of Los Angeles and Long Beach to UP's and BNSF's rail networks, was funded with a low-interest federal loan secured by the ports. The loan is being repaid with a portion of the revenues from a per car/unit charge for each railcar or container that operates over the line.

The federal Railroad Rehabilitation and Improvement Fund (RRIF) loan program could play a significant role in providing financing for projects to increase rail network capacity. RRIF is a revolving loan and loan guarantee program administered by the Federal Railroad Administration that is authorized to make up to \$35 billion in loans to railroads and governmental entities for freight and passenger rail investments. RRIF

loans carry low interest rates based upon federal borrowing costs. They also allow for a five-year grace period before repayment begins, and a payback term of up to 35 years. These provisions are important for long-lived rail infrastructure investments that do not begin producing benefits until completion of construction that takes years.

However, the RRIF loan program has been underutilized. Over 90% of the authorized funding remains unused 17 years after the program came into existence, and no Class I railroad has ever taken out a RRIF loan. Railroads have cited creditworthiness requirements that they view as overly stringent (and are applicable despite the fact that no RRIF loan has ever gone into default), and a costly and time consuming application process that can take years before a decision is made, as among the reasons for not pursuing RRIF loans.

Legislation that addresses these issues has been introduced in the current Congress. The Panel recommends that Congress enact appropriate changes in the statutory provisions governing RRIF that will remove unnecessary impediments to realizing the full potential of the RRIF program.

**VII. Environmental review requirements that apply to rail projects should be consistent among transportation modes, coordinated among agencies, and prioritized for projects of national importance**

Freight and passenger rail are more energy efficient than other transportation modes. Unlike highways and airports, rail line capacity can be added in most cases with little or no increase in rail's land footprint. As a result, investments to increase rail network capacity and efficiency that allow trains to carry more passengers and goods produce significant environmental benefits.

Realization of these benefits requires timely and efficient completion of environmental and other federal reviews required for rail projects. The Panel believes that federal regulations and processes for such reviews should be consistent among modes; that interagency coordination should be enhanced, particularly at the front end of reviews; and that reviews of projects of national importance should be prioritized.



## CONCLUSION

Solving Chicago's rail problems is a huge challenge. It will require money, leadership, a willingness to pursue new approaches, and setting aside corporate and political boundaries – to say nothing of railway operating and engineering expertise. If aggressive action is not taken now to address what may well be our country's most significant transportation bottleneck, the adverse national, regional and local impacts on passenger and freight rail transportation, and on the economy, will be enormous.

However, Chicago's challenged rail operations also present a huge opportunity. It is no exaggeration to say that realizing the full potential of passenger and freight rail service in the Chicago area, the Midwest, and throughout North America, and the contribution rail service can make to local, regional and national economies, all depend on seizing that opportunity. If the necessary steps are taken to address the problems identified in this report, and to improve and expand rail service in Chicago, the future competitiveness of our nation will be assured.



# NOTES





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Amtrak  
60 Massachusetts Avenue, NE  
Washington, DC 20002  
[Amtrak.com](http://Amtrak.com)