

TIGER VII Grant Application for CREATE Project B9/EW1



submitted by

Cook County, Illinois

CREATE Partners include

Illinois Department of Transportation

Association of American Railroads

Chicago Department of Transportation

June 5, 2015

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1.0 Executive Summary

Thank you for the opportunity to submit this application on behalf of the Chicago Region Environmental and Transportation Efficiency (CREATE) Partners for TIGER VII Grant funds to support the CREATE Project B9/EW1.

- **Segment B9** constructs a new double track connection and crossovers between the BRC and IHB/CSX freight railroads at Archer and 63rd in Summit, IL, connecting the existing CREATE Beltway Corridor and new East-West Rail Corridor and upgrading alignment and condition of current tracks to enable increased speeds.
- **Segment EW1** will construct two new 4.8 mile mainline tracks south of Clearing Yard, in Bedford Park and Chicago from Harlem Avenue to St. Louis Avenue to establish a major new East-West freight rail route through Chicago.

This Tiger VII application requests \$56.2 million, or 40 percent, of the cost of the Project. The State of Illinois has committed to cover the remaining 60 percent of the costs. While funding committed by the State of Illinois was anticipated to cover the full cost for project construction, based on the responses to the recent bid solicitation, the cost of project construction will exceed the previously estimated amount by \$56.2 million. This is due to the fact that the level of construction activity in Illinois has increased in recent years, and both labor and materials costs have increased. Those bids have expired as the CREATE partners did not have sufficient funds to award the project, but they provided useful information on what can be expected for actual costs.

Section 2.0 of this application provides Program and Project descriptions, and a discussion of the Chicago region's role in passenger travel and freight trade; Section 3.0 describes CREATE accomplishments including successful construction of projects funded by previous TIGER awards; Section 4.0 presents the expected benefits of the CREATE Project for which funding is being requested; and Section 5.0 presents the Project's readiness and NEPA status. The Project strongly contributes to each of the Primary and Secondary Selection Criteria outlined in the Final Notice dated April 3, 2015, including the following performance measures:

- **Long-Term Outcomes:**
 - **State of Good Repair** – All railroad improvements will be maintained by railroads at their expense. Avoidance of 4.3 billion truck vehicle miles traveled (VMT) will result in a \$302 million reduction in highway maintenance costs over 20 years if both Project segments are built.¹
 - **Economic Competitiveness** – Increased capacity of freight rail at a lower cost than shipping via truck will result in significant logistics cost savings over the 20 year period evaluated, as well as decreases in motorist delay due to fewer trucks traveling on the roadways. Implementation of this Project will also reduce delay for passenger and freight trains. Additionally, increased freight train speeds and improved fluidity on the CREATE corridors will allow freight trains to clear interlockings more quickly, reducing the potential for freight conflict with Amtrak and Metra

¹ All benefits presented in the text of the application are at a three percent discount rate and represent completion of both B9 and EW1 unless otherwise specified. A summary of the benefits from construction of only segment B9 or EW1 can be found in Table 4.1. Details of undiscounted benefits or benefits at a seven percent discount rate can be found in the [Benefit Cost Narrative](#).

(Chicago's commuter railroad) and improving reliability. Together, these result in economic competitiveness benefits of \$1.7 billion.

- **Livability** – The construction of two sound walls will reduce noise impacts of freight train operations to nearby residential communities.
 - **Sustainability** – A reduction in diesel consumption by 12 million gallons, subsequent emissions savings due to diversion of freight from truck to rail, and increased system efficiency will result in benefits of \$46 million.
 - **Safety** – Estimated avoidance of 6 fatal and 1,132 injury truck crashes due to avoidance of truck VMT will result in benefits of \$138 million. Avoidance of worker injuries will also result from switch automation.
 - **Job Creation and Economic Stimulus:** This Project can be expected to provide 1,264 employment years of direct and indirect employment.
- **Benefit-Cost Analysis:** The benefit-cost ratio for the construction of CREATE Projects B9 and EW1 together is between 6.5:1 (seven percent discount rate) and 13.6:1 (three percent discount rate).

See Table 4.1 for a summary of benefits, costs and the benefit-cost ratio for CREATE Project segments B9 and EW1 individually.

- **Project Readiness and NEPA Status**

- **Project Schedule** – Feasible and sufficiently detailed schedules for the Project can be found at [Project Information](#).
- **Environmental Approvals** – A Categorical Exclusion has been received from FHWA for the Project. A summary is located at [Environmental Summary](#).
- **Legislative Approvals** – No specific legislative approvals are required to progress the Project. Letters of support have been received from the Village of Bedford Park, Illinois as well as from the State of Illinois, and Cook County (the county where the Project segments are located). See Table 2.1
- **State and Local Planning** – The Project is in the region's Transportation Improvement Program ([TIP](#)). CREATE is a central element of the strategic regional freight system in the Metropolitan Transportation Plan (MTP) which can be found at [Go To 2040 Plan](#).
- **Technical Feasibility** – The design phase is complete for segment EW1 and nearly complete for segment B9. See [Project Information](#).
- **Financial Feasibility** – With funding from TIGER VII grant funds and State of Illinois funds, the Project would be fully funded. The project has 10 percent contingency reserves built into cost estimates.

- **Secondary Selection Criteria:**

- **Innovation** – This Project **continues the innovative tradition of CREATE**. It lays the groundwork for Positive Train Control on the B9 segment. It is supported by the innovative Common Operational Picture technology, which has just been completed.
- **Partnership and Management Practices** – **A strong coalition of private and public railroads and four government agencies** has been working on CREATE since 2003. CREATE [Partnerships and Management Practices](#) are detailed in Section 4.7.2.

In addition, the Project fully meets the priority criteria shown below:

- Requested TIGER VII funding of \$56.2 million fills out a **total financing package of \$140.5 million**.
- Funds **will be obligated by June 30, 2017** as per the 2015 NOFA.

- The Project **significantly impacts desirable long-term national/regional benefits** (see below).
- The Project **quickly creates/preserves jobs in economically distressed areas**, with the Project located in economically distressed Cook County.
- The Project continues the use of **innovative strategies** on CREATE, see Section 4.7.1.
- The Project will benefit from over a decade of strong, **established public-private collaboration** – See Section 4.7.2. Many other public, nonprofit, and private organizations support CREATE. See Section 4.7.3.
- The Project **significantly improves long-term efficiency in the movement of people and goods**, making the region more attractive for employers. See Sections 4.2 and 4.3.
- The application is **supported by the [Chicago Metropolitan Agency for Planning](#) and [Metropolitan Planning Council](#)** whose missions include many nontransportation issues. See Table 4.2.
- The Project will result in **more livable communities throughout the region** – see Section 4.3.
- Construction is complete for all projects funded by the TIGER I. Construction of projects funded by the TIGER IV discretionary grant is expected within a year. The benefits of TIGER-funded projects are being realized (See [Accomplishments of TIGER Funded Projects](#) for details).
- The Project will result in completion of all the freight projects on the CREATE Beltway Corridor and establish a substantial section of the new East-West Corridor, yielding substantial near-term benefits. See Sections 2.2.1 and 2.2.2.

The required wage rate certification letter can be found at [Wage Rate Certification Letter](#).

2.0 Program and Project Description

■ 2.1 CREATE Program Overview

The Chicago Region Environmental and Transportation Efficiency Program (CREATE) is a public-private partnership, including the U.S. DOT, Illinois Department of Transportation (IDOT), Chicago Department of Transportation (CDOT), Metra, Amtrak, and the Association of American Railroads (AAR) representing: BNSF Railway (BNSF), Canadian National (CN), Canadian Pacific (CP), CSX, Norfolk Southern (NS), Union Pacific (UP), and switching railroads Belt Railway Company of Chicago (BRC) and Indiana Harbor Belt Railroad (IHB). CREATE encompasses improvements along four rail corridors: 1) East-West Corridor (NS/BRC); 2) Western Avenue Corridor (BNSF/UP/CSX/NS); 3) Beltway Corridor (CSX/IHB); and 4) Passenger Express Corridors (Metra Southwest Service/Heritage). The CREATE Program is aimed at addressing existing and future congestion issues on the rail system, which bring adverse effects to the national economy and the transportation system. CREATE's mission is to complete all the necessary improvements included in the 70 projects that comprise the CREATE Program to achieve national and regional benefits. A description of the evolution of the CREATE Program is available at [Program Evolution](#) and CREATE operational goals can be found at [Program Goals](#). CREATE goals are to:

- Improve safety and operations at proposed grade-separation locations;
- Eliminate or reduce many points of direct conflict between rail corridors and the roadway network;
- Eliminate points of conflict between rail corridors, especially points of passenger/freight conflict;
- Reduce fuel consumption by and emissions from locomotives and waiting autos and trucks;
- Reduce traffic congestion on the region's highways;

- Modernize and increase the capacity of rail facilities to more efficiently handle today's rail traffic and meet future demands;
- Connect the rail corridors more effectively to foster the efficient flow of goods and people within and through the region, as well as to and from other parts of the U.S., including international traffic through the major ports;
- Reroute freight and intercity passenger operations from the St. Charles Air Line rail route; and
- Improve the efficiency and reliability of the corridors to better serve national security.

The 70 Projects in the CREATE Program include:

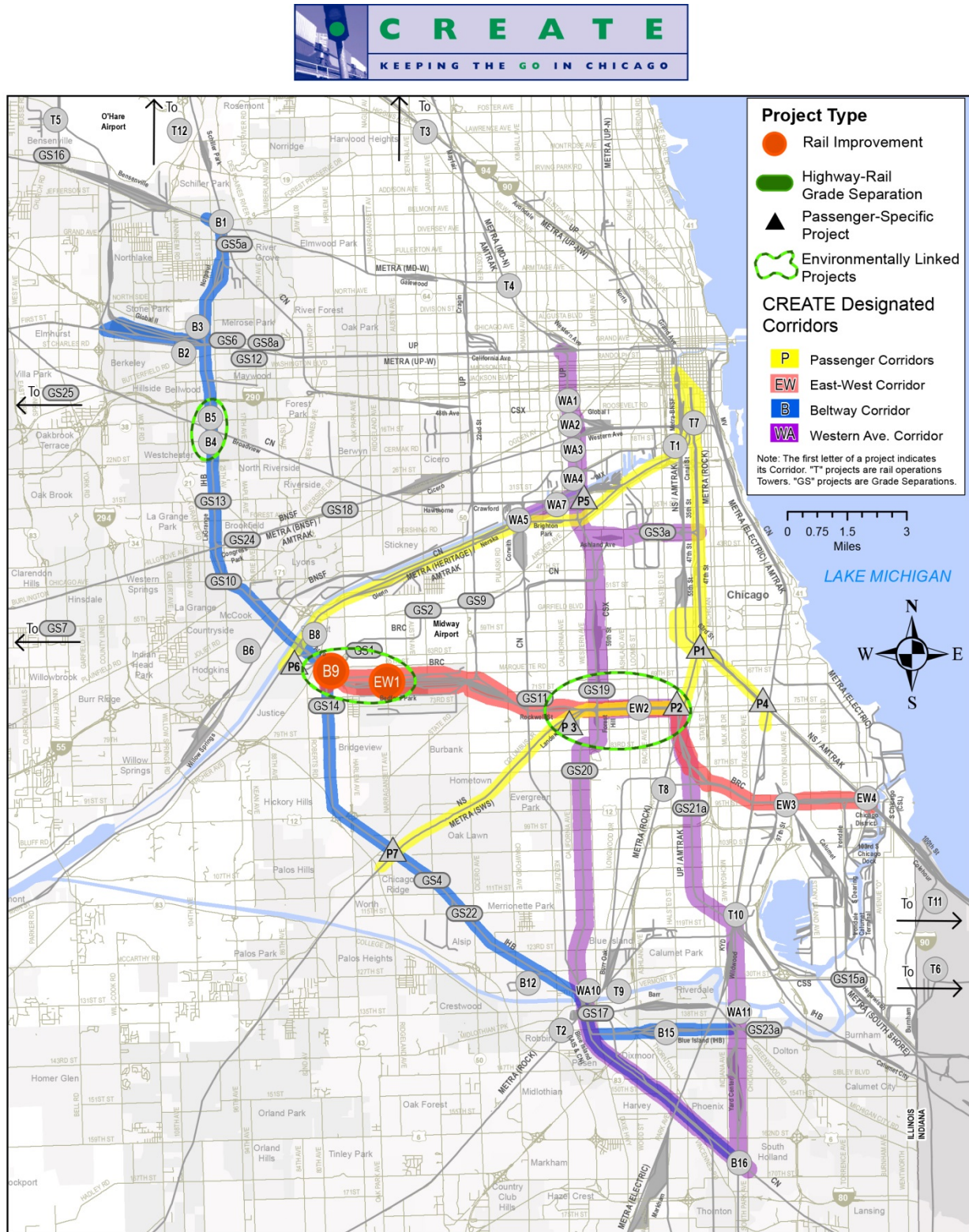
- Grade separation of six railroad crossings (rail-rail flyovers);
- Grade separation of 25 highway-rail crossings;
- Extensive upgrades of tracks, switches, and signal systems via 36 rail projects;
- Viaduct Improvement Program;
- Grade crossing safety enhancements; and
- Rail operations visibility improvements (Common Operational Picture) – see Section 4.7.1.

The CREATE Program is designed to address systemic issues in the areas of freight movement, freight/passenger rail conflict and highway/rail conflict. Through focused investment along four rail corridors, the Program is developing additional capacity and improved connections within and through the Chicago metropolitan area rail network. The complete CREATE Program will separate passenger and freight operations at six congested rail/rail at-grade crossings where slower moving freight yard operations conflict with passenger train operations. Construction of 25 grade separations at locations of significant rail/highway conflict will reduce traffic congestion and eliminate the possibility of crossing related crashes. The CREATE Program Final Feasibility Plan is available at [Final Feasibility Study](#).

■ 2.2 CREATE Project Targeted for TIGER VII Funds

A Project composed of two segments has been identified for TIGER VII discretionary grant consideration as shown in Figure 2.1 and described in Table 2.1. These are the CREATE project segments that are next in regional priority and for which construction can be initiated most quickly. Table 2.1 shows the sources of funding in place for each project and the percentage of non-Federal funding that has been committed. For this Project we are assuming Federal funding would be obligated by January 2, 2016 if a TIGER VII grant is awarded. While the CREATE partners are appreciative to have received funding in TIGER I and TIGER IV, the grants were not sufficient to include Segments B9 and EW1, which were part of the package previously submitted in IDOT's TIGER I, II, III and IV applications. Segment EW1 was submitted only in IDOT's TIGER I and II applications. Table 2.2 provides the scope and benefits of each segment proposed for TIGER VII funding. Drawings and maps showing project locations, as well as detailed budgets, timelines, and environmental documentation are located at [Project Information](#). A summary of environmental review status for all projects is located at [Environmental Status Summary](#).

Figure 2.1 CREATE Project Segments for TIGER VII Funding



Note: Does not include Viaduct Improvement Program locations, Safety Improvement Program or Common Operational Picture

Note: The two project segments targeted for TIGER VII funding are shown in orange.

Table 2.1 CREATE Grant Funds and Sources/Uses

Project							TIGER VII Grant Request			
CREATE Segments							\$56,185,734			
	Project Type	City	Cty.	State	Congressional District(s)	Urban /Rural	Total Construction Cost	IDOT Funds	Percent Non-Federal Funds	Grant Request
Segment B9	Rail	Bridgeview/ Summit	Cook	IL	Lipinski (IL-3)	Urban	\$32,543,526	\$19,526,116	60%	\$13,017,410
Segment EW1	Rail	Bedford Park/ Chicago	Cook	IL	Lipinski (IL-3)	Urban	\$107,920,809	\$64,752,485	60%	\$43,168,324
Project TOTAL							\$140,464,335	\$84,278,601	60%	\$56,185,734

Segments B9 and EW1 are environmentally linked but have independent utility.

Note: Detailed budgets for each project are located in the project web links at [Project Information](#). The share of non-Federal funds does not include the \$4.5 million of private railroad and State of Illinois funds already expended or committed to advance the design and construction of these segments to this point.

Table 2.2 provides a detailed description of the scope and benefits of the Project segments for which TIGER VII funding is requested.

Table 2.2 CREATE Project Scope and Benefits Overview for TIGER VII Funding

Project Description	Project Benefits
<p>Segment B9 will</p> <ul style="list-style-type: none"> • Add capacity on the Beltway Corridor and improve connections between the Passenger Corridor (existing commuter and intercity route, and future high speed route) and the Beltway Corridor, and between the Beltway and East-West Corridors. • Upgrade current connection between the CN and the IHB to enable speed increases from 10 MPH to 25 MPH. • Automate 4 hand-thrown switches. • Extend the B&O siding to create a 3½ mile long signal-controlled siding track. • Provide new double track connection and crossovers between the BRC and IHB/CSX line at Archer and 63rd in Summit, Illinois. • Upgrade mainline crossovers to accommodate higher speeds, from 10 mph to 25 mph. A <i>crossover</i> is a pair of switches that connects two parallel rail tracks, allowing a train on one track to cross over to the other. • Segment B9 proposes Argo Yard improvements necessary to create yard capacity lost as a result of installing the new main line crossovers. Yard work will include realignment of switching lead tracks, installation of three new yard tracks, and creation of new industry lead track to avoid switching while occupying the main line. • Construct noise wall adjacent to tracks to address noise concerns in response to community input. 	<p>Upgrading the connection between the CN and IHB at Canal will allow speeds to increase from 10 mph to 25 mph. This will allow freight traffic on the CN route to exit at faster speed clearing up the passenger route (potential future high speed route).</p> <p>Extending the B&O siding provides an additional track to accommodate traffic moving to and from the CN route opening up main line capacity on the IHB mainline tracks.</p> <p>Segment B9's new double-track connection will allow speeds of 25 mph and provide increased flexibility for dispatchers. Installation of additional yard tracks in Argo Yard will reduce the amount of time switching cars destined for local industry, which occupy the main tracks. Segment B9 is located near Ingredion (formerly Corn Products), the largest industrial facility in the region, which handles up to 200 cars per day from three carriers (IHB, BRC, and CN). Once complete, Segment B9 will allow access to the new main tracks around Clearing Yard (Project EW1) on the new East-West Corridor.</p> <p>Increased freight speeds and improved fluidity on the IHB will allow trains to clear Canal Interlocking more quickly, reducing the potential for freight conflict with Amtrak and Metra and improving reliability. Daily, 76 freight trains pass through this location. Metra operates 6 daily trains and Amtrak operates 10 daily trains on the Heritage Corridor which crosses the Indiana Harbor Belt Railway on the north end of the project limits. Monthly at this location, Amtrak trains experience an average of 3.2 hours of delay due to cross traffic. The funding requested will allow completion of the entire B9 project.</p> <p>Due to the new noise wall, residents of the adjacent area will be protected from current and future noise resulting from freight train operations.</p>

Project Description	Project Benefits
<p>Segment EW1 will:</p> <ul style="list-style-type: none"> • Construct two new 4.8-mile main tracks around the south side of Clearing Yard, in Bedford Park and Chicago from Harlem Avenue to St. Louis Ave. • Install crossovers and turnouts at two existing control points. • Automate 39 hand thrown switches. • Construct a new control point, which includes universal crossovers and upgrade two additional control points. • Construct yard improvements to offset the loss of yard capacity due to the new main lines. Yard work includes realignment of switching lead tracks, run-through tracks, tracks leading to the hump used to classify cars, and construction of additional departure yard tracks. • Realigning the west end of the CSX Bedford Park intermodal facility to improve access into and out of the yard, enabling simultaneous train movements. • Construct noise wall adjacent to tracks to address noise concerns in response to community input. 	<p>This segment will create a new East-West Corridor providing a new routing option through the Chicago terminal. It will connect the Beltway Corridor to the Western Avenue Corridor and to Eastern Railroad facilities (i.e., CSX, NS).</p> <p>Segment EW1 will enable trains to travel on the new East-West Corridor route at 25 mph along the south side of the yard. Yard capacity improvements to an interlocking at the east and west ends of Clearing Yard will allow for multiple simultaneous train movements.</p> <p>The new corridor provides critical resilience for the regional rail network by providing a new East-West route through the region. Dispatchers will have another option that will enable quicker routing through Chicago.</p> <p>In the event of maintenance work or service disruptions along the existing corridors, this route will allow train flows to be maintained. The additional capacity of this new corridor will more evenly distribute trains throughout the regional rail network and reduce the burden on the congested existing corridors (Beltway and Western Avenue).</p> <p>Due to the new noise wall, residents of the adjacent area will be protected from current and future noise resulting from freight train operations.</p>

While funding committed by the State of Illinois was anticipated to cover the cost for the B9/EW1 project construction, a recent round of bids revealed that costs were substantially higher than anticipated. The level of construction activity in Illinois has increased in recent years, and given increased demand for construction services labor costs have increased. CREATE recently bid out the project, and the submissions received provide a better understanding of the true cost of the project. The bid estimates exceeded the funding allocated to the project by \$56.2 million, which is the amount requested in this TIGER VII application. The bids have been allowed to expire as the CREATE partners did not have sufficient funds to award the project but provided useful information on what to expect for actual costs.

With the completion of these two project segments, all hard infrastructure projects for freight rail operations will be funded along the entire Beltway Corridor, and the new East-West Corridor will be operable for the first time. These projects will maximize the benefits for not only corridor operations, but also passenger and commuter rail lines that are expected to experience fewer delays at the B9 project location that intersects with a

passenger corridor. By completing corridors in their entirety rather than piecemeal, benefits will exceed those that accrue only from completing individual projects.

The TIGER VII award will allow CREATE to move its future funding focus to the mega-projects within CREATE, such as the 75th Street Corridor Improvement Project, the other rail-to-rail flyovers, and the remaining unfunded grade separation projects. Finding funding for these mega-projects will be challenging, but very important to the overall success of the CREATE program.

2.2.1 Beltway Corridor

- The last remaining unfunded Beltway Corridor rail project is proposed for funding in this application: B9.
- Nine Beltway rail projects already are operationally complete (B2, B3, B4, B5, B6, B8, and B12, B15 and B16) and a grade separation on this corridor has been completed (GS14, which was funded under TIGER I).
- B1 is fully funded and construction is scheduled to begin in 2015.
- With receipt of TIGER VII funds for B9, the entire Beltway Corridor will be fully funded.

2.2.2 East-West Corridor

- TIGER VII funding is sought to complete the EW1 project segment.
- The EW4 project is complete.
- With receipt of the TIGER VII grant two segments will remain; Phase I design is complete for EW2 and nearly complete for EW3.
- With receipt of TIGER VII funds for EW1, freight trains will have the ability to traverse a new corridor (the East-West Corridor) through the Chicago Terminal.

■ 2.3 CREATE Project Parties

CREATE is a groundbreaking public-private partnership involving 14 public and private agencies that have been working together for a dozen years to advance a complex set of multimodal infrastructure projects in the Chicago region. This application is submitted by Cook County on behalf of the CREATE Partners, listed below. More information is available on each partner by clicking on the links.

[USDOT*](#)

[Cook County*](#)

[Illinois DOT](#)

[Chicago DOT](#)

[Amtrak](#)

[Belt Railway of Chicago](#)

[BNSF Railway](#)

[Canadian National](#)

[Canadian Pacific](#)

[CSX Transportation](#)

[Indiana Harbor Belt](#)

[Metra](#)

[Norfolk Southern](#)

[Union Pacific](#)

*nonvoting members

Each of the partners has played a significant role in the advancement of CREATE, with most investing funds in CREATE projects within and outside of the formal CREATE process. As part of this application, the State of Illinois will contribute a non-Federal match of 60 percent (see Table 2.1).

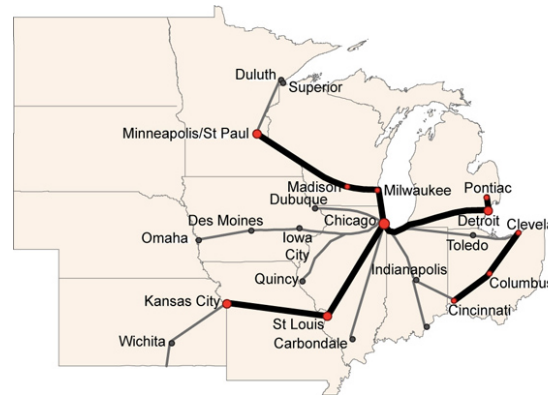
■ 2.4 Transportation Challenges Addressed by CREATE

Each day, nearly 1,300 trains – 800 passenger and 500 freight – are handled in the Chicago region, with a staggering 40,000 railcars per day. One quarter of the nation's freight rail traffic travels through the Chicago region² where six of the seven Class I railroads converge. Nowhere else in North America does such a quantity of rail traffic converge in a single region, creating a level of passenger and freight rail congestion that impacts the movement of people and goods nationally.

Figure 2.2 Midwest High-Speed Rail Hub

2.4.1 Intercity Passenger Rail Operations

Chicago is the National Railroad Passenger Corporation's (Amtrak) primary intercity rail hub outside the Northeast Corridor. Intercity passenger volumes through Chicago have grown considerably in recent years, as have weekday train volumes, which increased from roughly 48 in 2003 to a current level of 56. All of Amtrak's long-distance and regional services serving the Midwest terminate at downtown Chicago's Union Station. In Illinois, Amtrak service operates almost entirely on freight-owned track and has been increasingly affected by conflict with freight operations resulting from growing rail traffic.



Source: USDOT.

Demand for Amtrak service has been growing dramatically. Nationally, ridership in Federal Fiscal Year 2014 was more than 30.9 million. In 2007, the frequency of Amtrak trains operated under a contract with the Illinois Department of Transportation was doubled on three routes to downstate Illinois. The result was explosive growth in ridership on the affected routes. Ridership on downstate routes exceeded 1.3 million in FY 2014. However, Amtrak ridership decreased on Illinois routes 3 to 5 percent from FY 2013 to FY 2014, which Amtrak attributes to delays from freight congestion³. Demand for passenger service places additional burdens on Chicago's rail network, particularly as a vastly improved Midwest regional rail network focusing around a Chicago-based hub moves towards reality (Figure 2.2).

² Association of American Railroads 2006 Rail Waybill Sample, based on traffic analysis by ALK Associates.

³ John Hilkevitch, "Amtrak: Delays up, ridership down in Illinois," *Chicago Tribune*, October 28, 2014.
<http://www.chicagotribune.com/news/ct-amtrak-ridership-late-trains-met-1028-20141028-story.html>

The Chicago to St. Louis Amtrak route shown in Figure 2.3 is one of 10 high-speed rail corridors designated by the Federal Railroad Administration. Using grants from the American Recovery and Reinvestment Act (ARRA), improvements to this corridor are being made that allow passenger rail service from Chicago to St. Louis to operate at speeds of up to 110 mph. The B9 segment that is part of this application is on freight tracks that cross the Chicago to St. Louis passenger route, providing benefits to intercity passenger trains that frequently face delays due to freight conflict. In the fall of 2014, Amtrak established a [Blue Ribbon Panel](#) to address rail traffic gridlock in Chicago to “build on the CREATE Program by re-energizing the conversation, stimulating new discussion about next steps for securing funding to implement CREATE projects, and seeking to improve cooperative efforts among the railroads.”

From April 2014 to March 2015 Amtrak trains experienced 38.4 hours of delay due to freight train interference at the B9 project location. These delays will be reduced by implementation of project B9’s new double track connection, which will enable freight trains to cross the passenger route more quickly and clear the passenger tracks.

Figure 2.3 Chicago to St. Louis High-Speed Rail Route

Chicago to St. Louis High-Speed Rail Route



2.4.2 Commuter Rail

Regional services, operated by Metra and the Northern Indiana Commuter Transportation District (NICTD), are exceeded in ridership only by the Long Island Railroad in North America. In 2014, Metra operated 703 weekday trains on a network of 488 route miles with 241 stations and a daily volume of 292,000 unlinked passenger trips throughout the Chicago metropolitan region.

Demand has been rising steadily in recent years, with 2008 volume reaching a record for Metra's 25 year history of 87 million annual passengers. The 83.4 million passenger trips reported in 2014 were 1.3 percent higher than 2013. Since 1983, Metra's first year of operation, ridership has increased 48 percent, averaging 1.5 percent growth annually.

Paralleling the overall growth in ridership has been an increase in trains operated. In the 12 years since CREATE was announced in 2003, daily Metra trains have increased from approximately 650 scheduled trains to more than 700. These trains operate over 11 radial lines into the City of Chicago, as shown in Figure 2.4. Metra operates nine lines – all except the Rock Island (RI) and Metra Electric (ME) – on tracks owned or managed by freight railroads and must coordinate operations with freight carriers. Metra's radial lines cross freight rail lines at grade in several locations, including the heavily traveled Indiana Harbor Belt Railroad (IHB) and the Belt Railway of Chicago (BRC), which can cause for delays to both passenger and freight trains. The demand for commuter rail service combined with increasing freight volumes and congestion make operating timely and reliable commuter and freight rail service over largely the same rail network increasingly challenging. The B9 project will help ensure reliable commuter rail operations in the future despite increases in freight traffic. Please see [Metra letter of support](#).

2.4.3 Freight Rail Congestion

Figure 2.5 demonstrates Chicago's critical location at the nexus of the North American railroad network. Six of the seven largest rail carriers access the region: the eastern railroads, Norfolk Southern (NS) and CSX; the western railroads, BNSF Railway (BNSF) and Union Pacific (UP); and the two Canadian railroads, Canadian Pacific (CPR) and Canadian National (CN).

Figure 2.4 Metra Commuter Rail Network

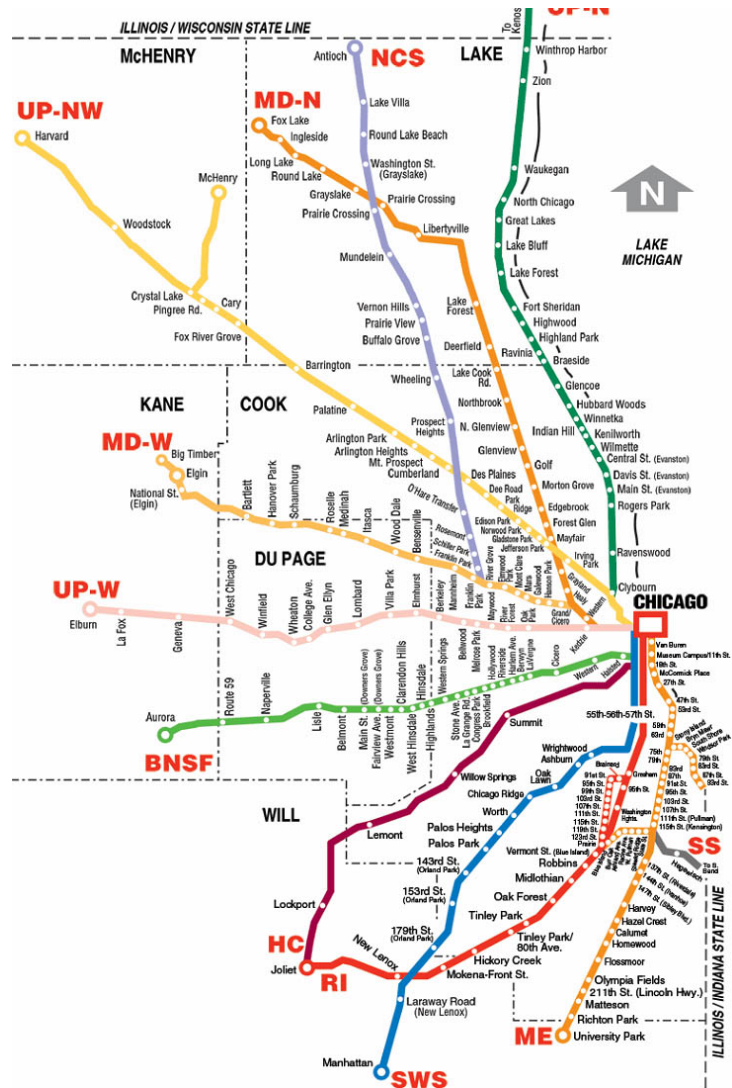
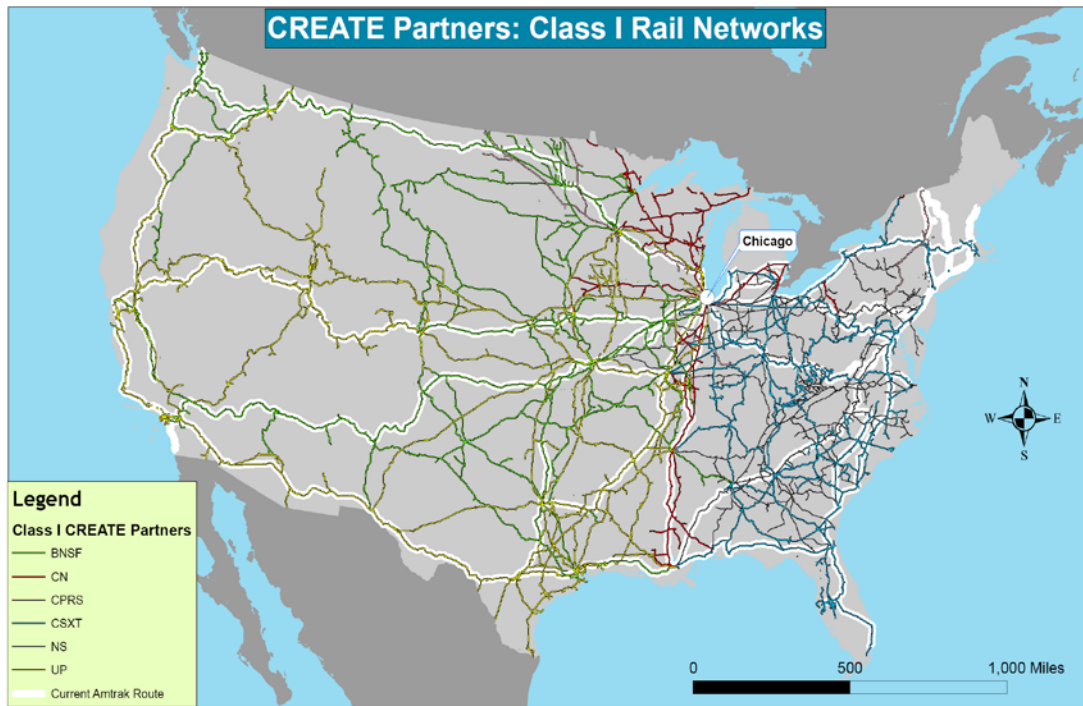


Figure 2.5 CREATE Partners Rail Network



The seeds for Chicago's position as the preeminent freight rail hub in North America were sown over 150 years ago when railroads from the east and the west constructed lines to tap the city's strategic location at the foot of Lake Michigan. However, the rail lines built more than a century ago were not configured for the volumes and types of freight being carried currently, and Chicago has become the largest U.S. rail freight chokepoint. A train that may take as little as 48 hours to travel the 2,200 miles from Los Angeles to Chicago, spends an average of 30 hours traversing the Chicago region. Prior to CREATE implementation crosstown freight transit time was approximately 48 hours and has been reduced, but needs to be reduced further. The average speed of freight trains operating in the region is between 13 and 19 miles per hour⁴.

This congestion affects all types of rail traffic, from merchandise trains handling individual carloads containing many different kinds of goods, to unit trains carrying 100 or more carloads of coal, grain, and other bulk products, to trains carrying containers and trailers full of manufactured goods. Commonly known as intermodal traffic, goods moving in containers and on trailers allow ready movement by truck, railway, or container ship. The availability of inexpensive and quality intermodal service has greatly facilitated the massive growth in imports and exports over the past 20 years, with rail serving as the link between ports and inland markets, where final delivery/pick-up is performed by truck. In recent years, intermodal rail traffic has experienced the greatest growth of all types of rail traffic, a trend that is expected to continue even with slackening demand in international traffic. However increased capacity to handle intermodal traffic in Chicago via the CREATE Program is critical as this traffic is the most easily shifted to transport by truck. If delays mean intermodal is not competitive with truck trips, shippers are more likely to shift freight

⁴ CREATE rail simulation 2015.

to truck, which contributes to congestion, reduced air quality and damage to the nation's roadways. At present, nearly half of all U.S. rail intermodal traffic flows through the Chicago region.⁵ Delays in rail freight traffic threaten the economic vitality of businesses that rely on these and other important types of rail shipments throughout the region and nation. That is why UPS, one of the largest U.S. intermodal shippers, is supporting this TIGER VII application. UPS explains in its [letter of support](#) why the implementation of the CREATE Program is so important to the company and its customers.

Robust growth in rail traffic is expected to continue through 2040. Freight rail trade with the Chicago region is forecast to increase 48 percent by weight and 304 percent by value between 2007 and 2040, according to U.S. DOT⁶. As the economic recovery strengthens⁷, traffic volumes will continue to rise, and with it, the system will be further stressed, impacting the cost of shipping goods throughout much of the nation. With Chicago being the primary interchange between the eastern and western railroads, the rail lines traversing the region will bear more than their share of future growth.

2.4.4 Highway Traffic Congestion

Highway traffic congestion is a major issue in Chicago. According to the [American Transportation Research Institute](#) the second worst truck freight bottleneck in the country is located in the Chicago region at the I-290 interchange with I-90/I-94 where traffic speeds average just 30 miles per hour. The more freight can be carried by rail versus truck, the less impact goods movement will have on roadway congestion.

3.0 CREATE Accomplishments

Since its announcement in 2003, CREATE has made considerable progress in securing initial funding and progressing the Program. A timeline of program milestones is available at [Timeline](#).

■ 3.1 A Project of National and Regional Significance

To date, CREATE has received the following funds totaling \$1.22 billion:

- \$110.4 million - TIGER I & TIGER IV Grants
- \$100 million - SAFETEA-LU PNRS
- \$126.5 million - ARRA High Speed Rail
- \$1.9 million - Federal Rail Line Relocation Funds
- \$234 million - Railroad partners
- \$410 million - Illinois DOT (Illinois Jobs Now!, PNRS/TIGER match & grade separations)
- \$10.1 million - Chicago DOT
- \$236.6 million - Pre-CREATE funding (various sources)

⁵ Association of American Railroads 2006 Rail Waybill Sample, based on traffic analysis by ALK Associates.

⁶ Freight Analysis Framework 3.

⁷ Total intermodal volume rose 4.8 percent to 16.3 million units in 2014 compared with 15.5 million units in 2013, according to IANA's "Intermodal Market Trends & Statistics" report.

With this funding, 22 projects have been completed, 10 are under construction, four have been advanced to the design phase, and 14 projects are undergoing environmental review. A key CREATE strategy has been to build a pipeline of projects that have completed environmental review and preliminary design so they are ready to advance to the final design and construction phases.

Both segments of the Project for which TIGER VII funding is requested have independent utility and will provide immediate benefits to the nation and the region by itself. CREATE seeks TIGER VII funds to keep the program moving forward until the next Transportation Authorization is passed by Congress, since MAP-21's latest short-term extension will go only until July 31, 2015 and it is unclear when a new bill will be passed. As a multimodal project involving freight and passenger rail, in addition to highway improvements, this Project is not easily funded via existing programs managed by the modal agencies. If CREATE does not receive TIGER VII funds, the program will be hampered in its ability to advance projects and costs will continue to increase.

4.0 CREATE Alignment with Selection Criteria

The CREATE Program was developed to benefit numerous constituencies in the Chicago region and the nation. The CREATE projects will benefit a broad range of transportation system users, including:

- U.S. businesses that ship or receive products or materials via rail:
 - Consumer goods;
 - Energy;
 - Chemicals;
 - Minerals;
 - Aggregates;
 - Motor vehicles;
 - Grain and agricultural products; and
 - Forest products.
- Seaports nationwide that move container or bulk traffic by rail to, from, or through the Chicago region (26 percent of Los Angeles/Long Beach intermodal units, 21 percent of Oakland intermodal units, 47 percent of Portland intermodal units and 54 percent of Seattle/Tacoma intermodal units go to, from, or through Chicago);
- U.S. consumers;
- Amtrak riders traveling to, from, or through Chicago;
- Metra rail commuters in the greater Chicago region;
- Motorists and motor carriers in the Chicago region who will face increased traffic if freight must be diverted from rail to truck due to Chicago rail terminal saturation;
- Rail carriers operating in the Chicago region and their employees and facilities nationwide;
- Future freight rail and intermodal customers worldwide; and
- Local residents impacted by noise and air pollution from current numbers of idling trains.

A comprehensive Benefit-Cost Analysis (BCA), compliant with all requirements in the April 3, 2015 announcement, was performed for the CREATE segments included in this application. This BCA includes:

- Reduced highway maintenance costs from truck VMT avoided;
- Logistics cost savings due to truck ton-miles avoided if capacity is increased sufficiently to handle increased freight rail demand, based on RTC simulation conducted by the railroads;
- Decreased delay for passenger and freight trains and for highway motorists;
- Environmental and congestion savings based on truck ton-mile reductions; and
- Safety benefits resulting from truck VMT avoided.

The BCA shows that the construction of CREATE Project segments B9 and EW1 together is between 6.5:1 (seven percent discount rate) and 13.6:1 (three percent discount rate). Such a high benefit-cost ratio reflects the low cost of the Project relative to the significant amount of freight that it would allow to be handled by rail and the avoidance diversion from truck, and those associated impacts. Further details on the benefits can be found below in Tables 4.1 and 4.2. Separate spreadsheets detailing the benefit-cost calculations are being submitted with this application. These spreadsheets can be accessed at [Benefit Cost Analysis Spreadsheets](#) and a narrative description of the process is available at [Benefit Cost Narrative](#).

Table 4.1 Primary Selection Criteria Benefit-Cost Summary

	B9/EW1		B9 Only		EW1 Only	
Category	Undiscounted Costs (Millions of \$)	20-Year NPV (Millions of \$, 3% Discount Rate)	20-Year NPV (Millions of \$, 7% Discount Rate)	Undiscounted Costs (Millions of \$)	20-Year NPV (Millions of \$, 3% Discount Rate)	20-Year NPV (Millions of \$, 7% Discount Rate)
BENEFITS						
State of Good Repair: Reduced maintenance costs from truck VMT avoided		\$302	\$133		\$173	\$78
Economic Competitiveness: Reduced highway motorist, passenger and freight train delay & logistics cost savings		\$1,666	\$775		\$1,047	\$485
Sustainability: Environmental benefit from reduced fuel consumption and emissions		\$46	\$30		\$13	\$9
Safety: Reduced fatal and injury crashes due to avoided truck VMT		\$138	\$61		\$80	\$36
TOTAL BENEFITS		\$2,152	\$1,000		\$1,314	\$609
COSTS*						
Total Design and Construction Costs – one-time cost	\$145			\$35		
Maintenance Costs – annual over 20 year time horizon	\$20			\$7		
TOTAL COSTS		\$159	\$153		\$40	\$38
BENEFIT/COST RATIO						
Benefit/Cost Ratio based on 20-year NPV at three percent discount rate		13.6			32.8	
Benefit/Cost Ratio based on 20 year NPV at seven percent discount rate			6.5			16.0
						5.8

Notes: *Maintenance costs for the rail projects will be borne entirely by the private railroad owners. The value of jobs created has not been included in the benefit-cost calculations.

Table 4.2 Secondary Criteria Benefits Summary

Category	Summary
Innovation	Common Operational Picture for railroad operations; projects set the stage for construction of positive train control (PTC); CREATE development of multiple customized new policies.
Partnership	
Jurisdictional/Stakeholder Collaboration	CREATE is a partnership involving 14 private and public stakeholder organizations.
Non-Federal contribution	The State of Illinois will provide the non-Federal match
Collaboration among neighboring or regional jurisdictions	Letters of support for the TIGER VII application include the Village of Bedford Park, State of Illinois, and Cook County.
Disciplinary Integration	Community-based organizations with broad livability goals support CREATE, including the Chicago Metropolitan Agency for Planning and Metropolitan Planning Council

■ 4.1 State of Good Repair Benefits

The CREATE project fully satisfies the stated criteria for state of good repair.

4.1.1 Upgrade of Projects Critical to Future Economic Stability

As described in Section 2.4, the Chicago rail hub is central to the nation's economic competitiveness and growth. CREATE seeks to rehabilitate and upgrade the existing rail network to preserve and optimize the current system. The project proposed would repair antiquated rail infrastructure, bringing it up to the standards required for modern day operations. For example, significant trackage that currently employs hand-thrown switches is proposed for upgrade to powered switches. Signal upgrades and the addition of increased track capacity through new connections and additional mainline track will increase freight operating speeds and reduce conflict with passenger operations on the existing network. These improvements will build on the significant investment already made in constructing and maintaining these lines and enhance operations through this system.

4.1.2 Asset Management, Maintenance and Operations

Commitment to CREATE has been demonstrated by the significant investment already made by the CREATE Partners, including \$234 million contributed to date from the private railroads. A long-term commitment by the partner railroads to maintain and operate the CREATE infrastructure is defined via partnership agreements. Further, before receiving construction funds for any rail infrastructure project, the lead railroad for a CREATE project must sign a funding agreement, including the following language:

When construction of this project is completed, and so long as State and Federal law shall so require, the COMPANY shall maintain at its expense or, by agreement with others, provide for maintenance of the facilities installed with this improvement.

As each CREATE rail Project is completed, it will become an integral part of the Chicago rail network and will be maintained as part of each railroad's system. Maintenance costs of the freight rail infrastructure developed under the CREATE Program will be borne entirely by the private freight railroads. As an example of the commitment to this maintenance, between 1998 and 2014, a total of \$5.2 billion in capital and maintenance investments was expended by the partner freight railroads, Amtrak and Metra to upgrade the greater Chicago rail network. These combined expenditures, averaging \$306 million per

year, are in addition to the railroads' contributions to CREATE. The railroads agree to maintain the CREATE Projects at the same level of utility as at construction completion.

4.1.3 Avoided Freight Diversion from Rail to Truck

The Rail Traffic Control (RTC) simulation modeling results show that implementation of the two rail segments proposed for TIGER VII funding would increase rail capacity in the Chicago terminal significantly to meet forecasted future rail demand. With this investment in CREATE as compared to a no-build scenario, the extra capacity to ship future freight volumes on rail as compared to truck would eliminate the need for 5.4 million truck trips. The assumption was made that 50 percent of container trips between points east of Chicago and the major intermodal terminals in Joliet, IL (Union Pacific) and Elwood, IL (BNSF) would be shifted to truck, with the rest of the trip from Chicago to points west carried by rail given the longer distances. Therefore, by eliminating the need for 5.4 million truck trips, 4.3 billion truck VMT would be avoided once the capacity is available and needed to handle additional rail demand, which would start in 2030 according to the simulation. As a result of the CREATE project segments in this application, the cost of highway maintenance would be reduced \$302 million over 20 years. Please see [Simulation](#) for details on the simulation identifying the number of truck trips and truck VMT that can be avoided by the new CREATE project.

■ 4.2 Economic Competitiveness Benefits

When it takes rail cars 30 hours to cross Chicago, the cost is borne by businesses, shippers, and consumers. Improvements to Chicago rail operations will help to keep the cost of logistics in check, particularly as related to rail shipments. Keeping U.S. transportation costs reasonable is critical to maintaining U.S. economic competitiveness. In total, the new CREATE project will lead to \$1.7 billion in economic competitiveness benefits.

4.2.1 Logistics Costs Savings

With the proposed freight rail Project segments, the Chicago terminal will be able to handle increased demand avoiding the need for 5.4 million truck trips according to the RTC simulation run for this TIGER VII application. Given that the cost of rail intermodal is lower than shipping via truck, the national logistics cost savings of being able to provide a lower cost option to shippers would be significant, totaling \$933 million (undiscounted).

4.2.1 Operational Benefits and Train Delay Reduction

Construction of the CREATE Project proposed in this application would provide immediate operations benefits in terms of reduced freight delay and increased routing options in Chicago. If these CREATE project segments are not built, as demand continues to increase and delay grows, the customer base will increasingly be unable to accept the delay through Chicago, and prior to reaching complete saturation will start migrating away from use of rail. Passenger rail would also see increasing delay as the Chicago terminal becomes saturated. Because improvements to the Chicago rail network also provide benefits to passenger and freight trains, over 20 years passenger delay across the entire Chicago rail network would be reduced by 20 million hours and freight train delay would be reduced by 460,000 hours as a result of construction of these two CREATE project segments, resulting in \$285 million and \$177 million in undiscounted travel time savings, respectively.

It is critical to note that the CREATE Project segments are an element of a package of 70 CREATE projects to benefit the entire Chicago rail network, some of which have already been built. Twenty two CREATE projects have been completed and 10 are funded and under construction. Construction of the two rail

segments in the CREATE TIGER VII application added to the funding by Illinois DOT will complete the Beltway Corridor and nearly complete the East-West Corridor (with the exception of projects EW2 and EW3).

Table 4.3 presents the benefits that will be realized with full CREATE construction of all the passenger and freight rail projects. This data was not used in the BCA analysis but provides a sense of the potential benefits that can be achieved by the full program. Funding of the projects proposed for TIGER VII funding will get Chicago closer to the full rail operations improvements benefiting the nation and region, given the state and railroad commitments described earlier that will enable completion of hard freight rail infrastructure projects on two corridors and near completion of hard freight rail infrastructure projects on the third corridor.

Table 4.3 Full CREATE Program Operational Benefits

	Delay minutes per 100- train miles	
	Without CREATE	With full CREATE Build-Out of All Rail Projects
2024 freight train volumes (1687)	221	78

Source: CREATE Program Simulation Modeling, Summer 2013.

4.2.3 Motorist Delay Reduction

Reduction of the number of trucks on the roadways benefits other motorists by reducing traffic congestion and delay. By avoiding 4.3 billion truck VMT on the highways as a result of the increased freight rail capacity, this rail project will provide roadway congestion benefits of saving motorists 76 million hours of travel time delay, valued at \$1.4 billion (undiscounted).

4.2.4 Exports

CREATE is critical to growth in exports, particularly those transported from Midwest destinations to U.S. seaports for transportation via ocean vessel to international destinations. The growth in value of commodities shipped from Chicago to international destinations using a domestic mode of rail or rail intermodal between 2007 and 2040, is forecast to be 182 percent. The total value of these exports was \$15.02 billion in 2007, and is forecast to grow to \$42.35 billion in 2040⁸. Significant amounts of grain from Midwest states travel in containers along the Beltway Corridor – through the location of project B9 – to access eastbound rail to the Eastern seaports for export. Additionally machinery such as that from Caterpillar is one of the top export commodities moving through the CREATE network to reach export destinations. According to the AAR, one third of U.S. exports move by rail to U.S. ports. The CSX intermodal yard adjacent to EW1 handles a significant amount of international cargo.

According to the Illinois Soybean Association, the dominant mode of transport for Illinois soybeans is rail, and 54 percent of Illinois soybeans are exported to foreign markets. Rail is critical also for transporting soybeans to domestic livestock producing areas including Iowa, Georgia, California and the Plains. Likewise, Ingredion's (formerly Corn Products International) Argo plant, located adjacent to B9, is dependent on rail transportation to receive raw materials and to ship products it produces to over 20 countries worldwide.

⁸ Freight Analysis Framework 3.

4.2.5 Nonwage Materials

Of the \$140.5 million to construct the Project for which funding is requested, 55 percent of the total cost is for construction materials. Therefore, the value of materials produced in the United States that will be purchased for construction of this CREATE project is approximately \$77 million, which will generate significant U.S. nonwage economic activity. These benefits are not included in the benefit-cost analysis. Except for less than \$500,000 (1/2 % of the total project cost) for unique track materials that have already been processed for waiver, all materials will comply with Buy America requirements.

4.2.6 CREATE Contribution to Economically Disadvantaged Populations/ Ladders of Opportunity

The project segments are located in three municipalities, as well as a very small section of Chicago. The three primary municipalities are: Bedford Park (population 612), Bridgeview (population 16,500) and Summit (population 11,000). All the project segments in this application are located in Cook County. According to the definition of Economically Distressed Areas in section 301 of the Public Works and Economic Development Act of 1965, Cook County is economically distressed as it has experienced an unemployment rate of 1 percent greater than the national unemployment rate for the past 24 months.

The railroad industry is a major employer with freight railroads employing 13,152 people in Illinois alone. Railroad wages are highly competitive, averaging \$112,680 annually including benefits. For most railroad jobs only a high-school diploma is required to apply, and the railroads provide extensive on-the-job training. In the greater Chicago area, 47 percent of the CREATE freight railroad partners' employees are persons of color. CREATE has conducted extensive outreach on employment and procurement opportunities to provide Ladders of Opportunity, including participating in multiple job fairs and several procurement fairs in the region and reaching out to disadvantaged business enterprises (DBEs), as described at [Employment and Procurement Outreach](#). In addition, the CREATE Partner agencies regularly conduct workshops and outreach on how to become certified as a DBE. Links to these programs is available via the CREATE website at [DBE/MBE/WBE Information](#). Bid solicitations are posted on the CREATE web site and automatically sent via email to contractors who have expressed an interest and registered to receive email notification. Freight supports jobs not only in transportation and logistics but also in freight-dependent industries such as manufacturing and wholesale trade. As noted by the Chicago Metropolitan Agency for Planning⁹, one-quarter of all jobs in the regional economy are in industries directly tied to freight. These freight-dependent industries add over \$115 billion to the regional economy each year. Both the EW1 and B9 bid solicitations will include DBE requirements to ensure diverse participation.

■ 4.3 Livability Benefits

The project provides benefits that support the six livability principles developed by DOT, HUD and EPA as part of the Partnership for Sustainable Communities, in particular by: providing more transportation choices, enhancing economic competitiveness, and coordinating policies and leveraging investments.

4.3.1 Community Livability

Two sound walls will be installed, one as part of each Project segment, to protect nearby residents from noise from increased train traffic. Therefore community quality of life will be protected while allowing for increased train volumes due to the capacity improvements.

⁹ <http://www.cmap.illinois.gov/mobility/freight>

4.3.2 Transit Reliability

These project segments have the potential to provide benefits to intercity and commuter passenger rail users. The B9 project segment listed in Table 4.4 is adjacent to a passenger rail corridor and has the potential to directly reduce Metra and Amtrak delay resulting from freight train interference. Despite Metra and Amtrak being given priority over freight trains, with the volume of both freight and commuter trains, sometimes freight trains cannot clear the path of passenger trains in time, forcing them to stop and wait. Amtrak trains to and from St. Louis suffer an average of 3.2 hours of delay monthly at the interlocking adjacent to project B9.

Table 4.4 Passenger Rail Routes Benefited by CREATE TIGER VII Project

CREATE Project Segment	Metra Route Benefited	Metra Trains Per Day Affected	Amtrak Route Benefited	Amtrak Trains Per Day Affected
B9	Heritage	6	Chicago – St. Louis (High-Speed Rail Corridor)	10

4.4 Sustainability Benefits

The environmental benefits of CREATE investments make a strong contribution to the sustainability of the region. Rail is a highly energy efficient mode of freight transport, offering significant environmental benefits from the standpoint of fuel consumption and greenhouse gas emissions, as well as other impacts, including land use. A freight train moves a ton of freight an average of almost 480 miles on a single gallon of fuel. According to a recent independent study produced for the Federal Railroad Administration, railroads on average are four times more fuel-efficient than trucks. Greenhouse gas emissions are directly related to fuel consumption. That means moving freight by rail instead of truck reduces greenhouse gas emissions by 75 percent, on average. Improvements made to the nation's rail infrastructure – such as those proposed by CREATE – have the potential to further improve the efficiency of rail operations in the U.S. and to reduce the environmental impact of freight transport.

4.4.1 Reduction in Oil Consumption and Emissions

By providing capacity to ship future freight volumes on rail as compared to truck, the proposed CREATE projects will avoid truck fuel consumption by 12 million gallons over 20 years. The resulting fuel savings and related PM, NOx, and CO₂ emissions savings will result in sustainability benefits of \$46 million.

4.5 Safety

By avoiding 4.3 billion truck VMT, the two proposed CREATE rail segments will provide significant safety benefits. It is estimated that 6 fatal crashes and 1,132 serious injury crashes could be avoided over the next 20 years at an economic cost of \$138 million.

The CREATE Program will benefit not only the traveling public but also will enhance railroad employee safety. The CREATE project proposed for TIGER VII funding includes upgrading a total of 43 switches from hand-thrown to power operated, which will reduce the potential of employee injury as described at [Rail Employee Safety Benefits](#). CREATE provides important national security benefits by preserving the functionality of the rail network for potential national defense needs as described at [National Security Benefits](#). The creation of a new East-West Corridor for freight trains through Chicago adds resilience to

the rail network ensuring dispatchers have additional options for routing trains in the event that one of the corridors experiences a service interruption.

■ 4.6 Job Creation and Economic Stimulus

During the construction of the TIGER VII, a total of 1,264 direct and indirect job years are estimated to be created. Job estimates were developed based on the assumption that \$1 million in investment results in 9 direct, indirect and induced rail job years. Figure 4.1 shows the distribution of jobs by quarter based on the segment construction schedules.

Figure 4.1 Job Creation by Quarter

Segment	Cost (\$millions)	Total Job Years Created	2015			2016					2017					2018		
B9	32.5	293				106	106	106	106	106	106	106	106	106	106			
EW1	107.9	971						432	432	432	432	432	432	432	432			

Phase III - Construction

Note: Assumes 9 job years created/sustained per \$1 million invested in rail.

■ 4.7 Secondary Criteria Benefits

Secondary criteria benefits are summarized in Table 4.2.

4.7.1 Innovation

CREATE incorporates innovative technology advancing the state of the practice in rail operations for improved efficiency and safety, which is described below.

Positive Train Control

The CREATE projects that install signals along corridors that currently are not signalized, or that upgrade an existing signal system, represent major steps toward future installation of Positive Train Control (PTC) in the Chicago area. PTC is a technology that automatically enforces speed limits and permissions to operate over a section of track, thereby reducing the risk of collisions and other incidents that can lead to injuries and property damage. PTC is designed to keep a train within authorized limits on a track and under its maximum speed limit. To accomplish this, sophisticated technology and braking algorithms will automatically bring PTC-equipped passenger and heavy freight trains to a safe stop. This will help prevent train-to-train collisions, overspeed derailments and casualties or injuries to the public and railway workers. Passed October 1, 2008, The Rail Safety Improvement Act of 2008 requires all Class I railroads and passenger railroads to implement a PTC system by December 31, 2015 on all main line track where intercity passenger railroads and commuter railroads operate, as well as on lines carrying toxic-by-inhalation hazardous materials. PTC technology is being installed on the corridor where B9 is located, which intersects with passenger rail tracks.

Common Operational Picture

Common Operational Picture (COP) is the development of a secure interface for integrating information from dispatch systems of all major railroads in the region – tracks, signals, switches, train occupancies,

train IDs, etc. – into a single display. While not one of the projects in this application, COP is included in the Visibility Projects category in the overall CREATE Program, and benefits operation of the full Chicago Terminal system. The output of this work is that all of the Chicago railroads participating in the CREATE Program have a fully integrated overview display system that encompasses the entire Chicago area, which is improving the efficiency of overall rail operations.

The Common Operational Picture – Monitoring Multiple Railroad Operations with an Integrated Track Display and Common Data Protocol – has been completed in the second quarter of 2015. It involves development of a multi-railroad dispatch monitoring system for monitoring train movements for all Chicago railroads: BNSF, CSX, IHB and UP, Amtrak, BRC, CN, CP, Metra, and NS. This project has extended the display region to include the entire Chicago area. The benefits of COP are:

- Reduced operating costs by providing more efficient operations;
- Improved safety by reducing human and technology failures;
- Enhanced passenger revenue generating capability by attracting more riders through reducing trip times, upgrading customer service quality, increasing reliability, and improving on-time performance; and
- Enhanced public and environmental benefits of passenger and freight rail.

In addition, CREATE has developed numerous innovative management practices described below.

4.7.2 Partnerships and Management Practices

To ensure the effective management of the CREATE Program, a number of management practices and policies have been put in place governing the roles and responsibilities of IDOT, CDOT, FHWA, and the railroad partners. These ensure the program makes steady progress forward and that proper quality controls are in place. For example, Federal funding for CREATE so far has come from the Projects of National and Regional Significance Program, managed by the Federal Highway Administration. However, with the extensive number of projects involving rail infrastructure, policies to govern the types of projects presented by CREATE were not in place given the historic highway focus of FHWA. Therefore, in the early years of the program, a number of policies needed to be developed specific to the CREATE Program. Now that this work has been done, the Program is organized to advance projects quickly and efficiently. A significant policy developed for CREATE is the Systematic, Project Expediting, Environmental Decision-Making (SPEED) Strategy. The SPEED Strategy:

- Addresses the CREATE Program in total;
- Supports systematic decision-making through an expeditious method of moving low-risk component projects forward; and
- Assesses potential environmental impacts in a proportional, graduated way.

A detailed description of the SPEED strategy is available at [SPEED Strategy](#).

A detailed process has been developed to guide all partners in adhering to policies and procedures for design and construction of CREATE projects. The purpose of preparing Phase I reports for the CREATE projects is to fully document the coordinated efforts of the Illinois Department of Transportation and other involved parties in developing the environmental documents and preliminary (30 percent) design. The Phase I Manual also helps ensure financial feasibility of projects by defining contingency reserves for projects depending on their stage of development. This document is accessible at [Phase I Manual](#). The Phase II Manual provides guidance on topics, including contracting for professional services and DBE utilization plan development. The Phase II and Phase III manuals are available at [Phase II Manual](#) and

[Phase III Manual](#). A flow chart detailing CREATE processes for Phase I is available at [Phase I Flowchart](#) and for Phase II and Phase III is available at [Phase II/III Flowchart](#).

The CREATE Noise and Vibration Model was developed for CREATE using FTA procedures (see [FTA Noise and Vibration Procedures](#)). Portions of the model also are available at [Noise and Vibration Assessment Methodology](#). Detailed descriptions of CREATE staff positions, committees, and additional policies are presented at [CREATE Partnerships and Management](#).

4.7.3 National and Regional Support

CREATE is a project of national and regional significance with support from a wide range of stakeholders throughout the country and region, including passenger rail advocates, national businesses, and civic and municipal organizations. CREATE's application has been supported throughout the nation, from the Port of Seattle to national companies such as Ingredion and UPS. Copies of [letters of support](#) for this TIGER VII application are available at the links below. Letters were received from:

[Congressman Mike Quigley](#)
[Congressman Robert Dold](#)
[City of Chicago](#)
[Illinois Department of Transportation](#)
[Amtrak](#)
[Association of American Railroads](#)
[Cook County Board President](#)
[Bedford Park](#)
[Bedford Park-Clearing Industrial Association](#)
[Chicago Metropolitan Agency for Planning](#)

[Chicagoland Chamber of Commerce](#)
[Coalition for America's Gateways and Trade Corridors](#)
[Construction and General Laborers Union](#)
[Hispanic American Construction Industry Association](#)
[Illinois Chamber of Commerce](#)
[Illinois Farm Bureau](#)
[Illinois Manufacturers Association](#)

[Illinois Soybean Association](#)
[Ingredion](#)
[Metra](#)
[Metropolitan Planning Council](#)
[Port of Seattle](#)
[SMART Transportation Division](#)
[Supply Chain Innovation Network of Chicago](#)
[Union of Operating Engineers](#)
[Union Pacific](#)
[UPS](#)

5.0 Project Readiness and NEPA Status

■ 5.1 Technical Feasibility

The rail project segments in this application have proceeded through preliminary engineering. The design phase is complete for EW1 and nearly complete for B9. Schematics are available at [Project Information](#).

■ 5.2 Financial Feasibility

Detailed budgets for both the segments is provided at [Project Information](#). The CREATE Program has demonstrated its ability to manage grant funding through its obligation of all PNRS funds and construction of TIGER-funded projects (TIGER I funds were released by USDOT on July 22, 2010 and construction initiated the week of August 2, 2010. For TIGER IV, funds were obligated October 2, 2012 and construction was initiated June 12, 2013.). Both Project segments have contingency reserves built into construction cost estimates.

■ 5.3 Project Schedule

Both Project segments in this application will obligate TIGER VII funds by June 30, 2017 based on a grant award. Completion of construction on both project segments is anticipated by the second quarter of 2018. Detailed construction schedules for the segments can be found at [Project Information](#). While a small amount of land acquisition is required to build the sound wall for Segment B9, the proposed noise barrier would be located primarily on existing CSX right-of-way. However, to maximize the noise reduction benefits of noise barrier, partial acquisition of five (5) parcels would be required from three property owners (1 commercial and 2 residential). The portions of land to be acquired are currently unused/undeveloped. Therefore, no relocations would be required. This process usually takes six to nine months after right-of-way plans, plats, and legal descriptions are approved.

■ 5.4 Environmental Approvals

Both of the project segments in this application have secured Categorical Exclusions. Environmental documentation for the project is located at [Project Information](#) and a summary is located at [Environmental Status Summary](#).

■ 5.5 Legislative Approvals/Broad Project Support

No legislative approvals are required to progress this CREATE project. CREATE has secured letters of support including the Village of Bedford Park, State of Illinois, City of Chicago, and Cook County.

■ 5.6 State and Local Planning

The Project in this application is in the regional Transportation Improvement Program (TIP). The TIP is available at [CMAP TIP](#). CREATE is a central element of the regional freight system in the [MTP](#).

■ 5.7 Risks and Mitigation Strategies

The CREATE Program has demonstrated its ability to expeditiously utilize previous TIGER grants. The only element of B9 final design that remains is land acquisition. While a small amount of land must be acquired for the construction of sound walls, as the land is undeveloped and no relocations are required, delays are not anticipated. The CREATE Program has detailed construction management practiced identified in its Phase III Manual. The budget includes a contingency of 10 percent.

■ 5.8 Federal Wage Rate Certification

Cook County has provided the required wage rate certification letter at [Wage Rate Certification Letter](#).

■ 5.9 Material Changes from Pre-Application

Based on additional review of the construction estimates, the total project cost estimate has been reduced from \$140.6 million to \$140.5 million and therefore the TIGER VII grant request has been reduced from \$56.4 million to \$56.2 million.

6.0 Contact Information

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