Federal Railroad Administration

Railroad Safety Grants for the Safe Transportation of Energy Products by Rail Program

Grant Application for the Chicago Region Environmental and Transportation Efficiency Program Project GS21a – UP tracks and 95 Street, Chicago

submitted by

Illinois Department of Transportation

CREATE Partners include

Chicago Department of Transportation
Association of American Railroads
Amtrak

November 4, 2015

Chicago Region Environmental and Transportation Efficiency Program Project GS21a – Grade Crossing Separation of Union Pacific and 95th Street east of Eggleston Avenue

Chicago, Illinois 60628

Grade Crossing Separation

Applicant: Illinois Department of Transportation

The Illinois DOT seeks funding for design and engineering services to construct a highway-rail grade separation of Union Pacific's double track main line that crosses 95th Street at Eggleston Avenue in Chicago (DOT #867231E). At present, the typical daily volume consists of 24 trains operated by UP and CSX, some of which carry energy products, and two Amtrak trains. The tracks cross a major Chicago arterial serving 24,000 vehicles and more than 700 buses with 18,000 passengers daily. The location is in a densely populated area (26,000 people live within 1 mile of the project location), which is one-half mile from the southern terminus of Chicago Transit Authority's Red Line at 95th Street and the Dan Ryan Expressway (I-94), one-half mile from two interstates (I-94 and I-57), and one mile from a college campus serving 7,000 students. Separation of the track from the roadway will eliminate the possibility of a significant hazardous event risking the safety of large numbers of people traversing the roadway and the residents near the project location.

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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) Program Partners for the Federal Railroad Administration (FRA) Railroad Safety Grants for the Safe Transportation of Energy Products by Rail Program to support CREATE Project GS21a, a proposed grade separation of Union Pacific tracks and 95th Street in Chicago.

Chicago is the third largest metropolitan area in the U.S. and the rail transportation hub of the nation – the Chicago region has the most extensive freight rail infrastructure of any metropolitan area in the United States.

- 46 percent of all containerized freight in the U.S. passes through Chicago
- 25 percent of all U.S. rail traffic travels to, from, or through Chicago
- Chicago's intermodal rail yards process 12 million TEU's worth of containers every year --a level of activity that would rank our region among the world's ten busiest containerized freight seaports

Every day, energy products including crude oil and ethanol travel through the region via railroad, and some of these trains cross the subject grade crossing. Petroleum crude oil is flammable and is classified as a hazardous material. The area surrounding the grade crossing location proposed for separation is densely populated and is also economically distressed. Separation of the grade crossing would eliminate the possibility of a collision between a train, potentially one carrying hazardous energy products and/or other hazardous materials, and an automobile, truck or transit vehicle.

This grant application requests $3 million, or 50 percent, of the cost for preliminary engineering (Phase I) and final design (Phase II) engineering for this grade separation project. The Chicago Department of Transportation (CDOT) has committed to cover the remaining 50 percent of the engineering costs using State of Illinois transportation funds dedicated for City of Chicago use. CDOT's preliminary overall cost estimate for this grade separation project is $63 million. Section 2.0 of this application lists the applicant; Section 3.0 describes the Federal funding request; Section 4.0 describes the CREATE program and the project for which funding is requested. Section 5.0 discusses the expected benefits of the CREATE Project for which funding is being requested and alignment with the selection criteria. The Project strongly contributes to each of the Primary and Secondary Selection Criteria outlined in the Final Notice dated September 2, 2015, including the following performance measures:

- Primary Outcomes:[1]
  - Safety – Estimated avoidance of $663 thousand due to fatalities and injuries avoided by eliminating the potential of a rail-vehicle crash.
  - Hazardous Materials – Avoidance of risk of a crash between a train carrying energy products or hazardous materials and a vehicle on the roadway is $481 thousand.
  - Benefit-Cost Analysis: At a projected cost of $63 million, the benefit-cost ratio for the construction of CREATE Project GS21a is 1.36:1 at a three percent discount rate or 0.66:1 at a seven percent discount rate. See Table 5.1 for a summary of benefits, costs and the benefit-cost ratio for CREATE Project GS21a.
- Secondary Selection Criteria:
  - Alignment with DOT Strategic Goals and Priorities
    - State of Good Repair - The roadway will have a longer service life when separated from rail tracks as train vibration and pavement gaps are eliminated, leading to a reduction of $3.2 million in maintenance costs over the project life;
    - Economic Competitiveness - Economic competitiveness benefits include reduced travel time for auto, bus, and train passengers and trucks. These travel time savings benefits total $77 million over the 30 year time horizon. Benefits in delay reduction on the surrounding highway system (network benefits) total an additional

[1] Primary outcome values are discounted at 3 percent, unless otherwise indicated

$275 thousand. Operating cost savings for highway vehicles is estimated to be $2.8 million over 30 years, due to decreased consumption of fuel and oil;

- Environmental Sustainability - The environmental benefits of the grade separation include a reduction in emissions due to decreased passenger car, bus, and truck delay at the project site. The monetary benefits of Carbon Monoxide (CO), Hydrocarbon (HC), and Nitrous Oxide (NOx) are quantified as part of this analysis. The result is a savings of $149 thousand over 30 years;
- Livability – The project will improve transit choice by improving reliability of transit operations through the project location (more than 700 buses per day). It will also improve the attractiveness of the area for development by removal of the barrier of the rail line across the roadway at grade; and
- Ladders of Opportunity – By removing a barrier to mobility and a disincentive to area investment, this project will enhance opportunity in a neighborhood that is an Economically Distressed Area, in which more than 90 percent of residents are African American and household incomes are less than 80 percent of the national average.

- Project Delivery Performance -- The CREATE Program Partners have a track record of successfully delivering previous USDOT grants for other projects on time, on budget and for full intended scope. The CREATE Program has demonstrated its ability to manage grant funding through its obligation of all Projects of National and Regional Significance (PNRS) funds and construction of TIGER-funded projects (CREATE's TIGER I funds were released by USDOT on July 22, 2010 and construction initiated the week of August 2, 2010. For TIGER IV, CREATE funds were obligated October 2, 2012 and construction was initiated June 12, 2013.) This project directly complements previous Federal awards in that it will mitigate the community impacts of increased rail traffic volumes that are enabled by CREATE rail capacity improvements.
- Region/Location – Chicago is the rail transportation hub of the nation and also the third largest metropolitan area in the U.S. It is critical to not only ensure goods including energy products can traverse the area safely, efficiently and reliably but also to mitigate the impact of freight rail on communities. The location of the grade crossing is in an Economically Distressed Area, where residents earn less than 80 percent of the national average for household income and will provide benefits to an underinvested area. Investment in Chicago rail infrastructure is an investment in rail infrastructure benefiting the national rail network.
- Innovation – This Project continues the innovative tradition of CREATE, which has developed processes and procedures unique to this type of investment in the areas of engineering and design and project procurement.
- Partnerships – CREATE is comprised of a strong coalition of private and public railroads and government agencies that has been planning and constructing projects since 2003 including multiple grade crossing separations.
- Project Readiness and NEPA Status
  - Environmental Approvals – Based on similar CREATE grade crossing projects conducted recently in the City of Chicago (i.e., GS15a), and the fact that no water bodies are located nearby, the project sponsor anticipates receiving a categorical exclusion under NEPA. However this will not be determined until Phase I work is conducted.
  - State and Local Planning – 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. The CREATE Program is included as an important element of the Illinois Rail Plan and this grade crossing project is specifically listed (Ch. 12 Appendix B, p. B9).
  - Project Schedule – It is estimated that Phase I and Phase II engineering can be completed by July 2019. A detailed statement of work is provided in Section 4.0.
  - Financial Feasibility – With funding from this FRA grant and State of Illinois funds managed by Chicago DOT, there will be sufficient funding to complete Phase I and Phase II engineering. The project has 10 percent contingency reserves built into cost estimates as per CREATE policies.

  - Technical Feasibility – As part of the CREATE Program the Illinois DOT and City of Chicago have completed design and construction five grade crossing separations; two are under construction and six are in Phase I engineering. With this experience, the project sponsor is confident this project is technically feasible.

- Passenger Rail Impact
  - Amtrak operates two trains per day of Cardinal and Hoosier service carrying approximately 75,000 passengers in fiscal year 2015 through this location. Separation of the rail from the roadway will avoid potential vehicle crashes with a passenger train.

2.0 Applicant

The primary applicant for this grant is the Illinois Department of Transportation. This project is eligible per section 3.2 of the Notice of Funding Availability (NOFA) as it is a grade crossing improvement over which crude oil, ethanol, and natural gas are transported.

The contact for this application is:

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This application is submitted with full support of the CREATE partners including:

- Chicago Department of Transportation;
- Association of American Railroads; and
- Amtrak.

3.0 Federal Funding Request

The Illinois Department of Transportation is seeking funding for Phase I and Phase II engineering for this project and is pleased to offer a 50 percent Local match of $3 million.

Table 3.1 CREATE Funding Request

	Project Type	Pre-construction Cost	CDOT Funds	Percent Non-Federal Funds	Grant Request
Project GS21a	Grade Crossing Separation	$6,000,000	$3,000,000	50%	$3,000,000

Federal funding has not previously been sought for this project. The grant application seeks funding for engineering and design services, not construction costs. The estimated cost of construction for this project is $63 million. Once engineering and design are complete the CREATE partners will pursue funding for construction, potentially using a combination of Local, State, Federal and/or Railroad resources.

Section 130 Funds

Section 130 Funds have not been used previously for the GS21a at-grade crossing location. Illinois receives $10 million annually through this federal rail safety program for railroad grade safety crossing improvements. In Illinois, 60 percent of those funds are distributed to the IDOT Central Bureau of Local roads and are targeted for signal upgrades for in local municipalities. The remaining 40 percent is distributed to the Bureau of Design and Environment and distributed among the Illinois DOT Districts for use on priority grade crossing separations. Illinois has the second largest number of grade crossings in the U.S. Given the very high number of crossings that are not gated, the State mainly focuses on lower-cost improvements so that a larger number of locations can be addressed. The FY15 Section 130 Report for Illinois is provided as part of this application.

4.0 Statement of Work

Background

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, as well as to mitigate traffic congestion resulting from rail traffic by constructing key highway-rail grade crossing separations. 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 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 25 highway-rail crossings;
- Grade separation of six railroad crossings (rail-rail flyovers);
- 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).

The CREATE Program Final Feasibility Plan is available at Final Feasibility Study.

Illinois is second only to Texas in having the highest number of public highway-rail at-grade crossings in the nation, but Illinois has a much smaller roadway network than Texas over which the crossings are distributed, with just 140,000 miles of public roadway compared to 300,000 miles in Texas.[2] Therefore there is a significant burden on Illinois in funding safety improvements at the large number of crossings. In Cook County, the county in which this project is located, there are 888 at-grade public highway-rail crossings. [3]

Objective

The objective of this project is to conduct Phase I and Phase II engineering for a potential grade crossing separation project of the UP tracks at 95th Street in Chicago to eliminate the risk of crashes involving 24[4] daily freight and two daily Amtrak trains which cross the roadway carrying 24,000 vehicles daily, of which more than 700 are transit buses.

Project Location

Figure 4.1 shows the location of the proposed project at a regional level in the context of all the CREATE Projects. Figure 4.2 shows the local context of the project location, and Figure 4.3 shows a photograph of existing conditions.

[2] Illinois Rail Plan, available at: http://www.idot.illinois.gov/Assets/uploads/files/Transportation-System/Reports/OP&P/Plans/Illinois%20State%20Rail%20Plan%202012.pdf#page=233.

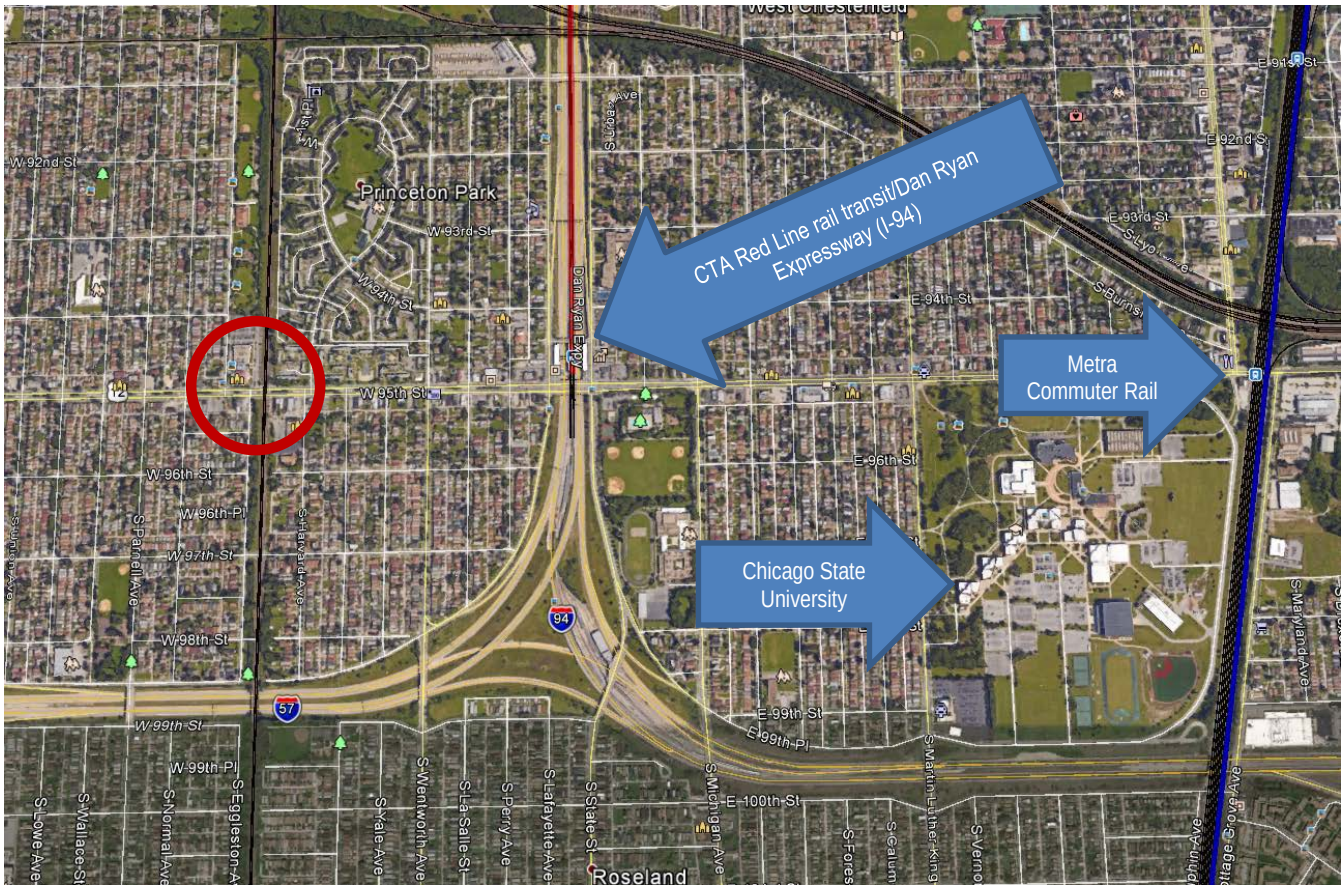
[3] http://www.icc.illinois.gov/railroad/crossingmap.aspx.

[4] U.S. DOT Crossing Inventory Form

Figure 4.1 CREATE Project for FRA Funding

Note: The project targeted for FRA funding, GS21a, is circled in red.

Figure 4.2 Grade Crossing Location



As shown in Figure 4.2, the location of the proposed grade crossing separation is in a very densely populated area adjacent to many major transportation facilities. Specifically, the crossing location is one-half mile from the southern terminus of the CTA Red Line, which operates in the center of the Dan Ryan Expressway, a major multimodal transfer point to CTA and Pace buses. The location is one mile to the west of Chicago State University campus, with 7,000 students. Figure 4.3 shows a photograph of the current location.

Figure 4.3 GS21a Existing Conditions

Description of Work

The Illinois DOT seeks funding for engineering and design services for the grade separation of two existing and one future Union Pacific rail tracks from 95th Street, a major four-lane east-west arterial street. Every day, this crossing handles approximately 24 freight trains (some of which carry energy products), two Amtrak trains (carrying more than 200 people), and 24,000 vehicles. Of the vehicles, more than 700 are transit buses carrying approximately 18,000 passengers per day. A designated Class II truck route, the roadway also carries approximately 2,800 trucks per day (12 percent of the vehicular traffic). The railroad route across 95th Street carries energy products frequently enough for it to be a major consideration in planning for a grade separation at this location.

In addition to being the nation's freight rail hub, with more than 25 percent of all U.S. freight rail traffic, the Chicago region is also part of a primary passageway for crude oil. Every day, unit trains (dedicated single-commodity trains) carrying oil and/or liquefied petroleum gas (LPG) typically arrive in Chicago from points north and west en route to eastern destinations. Depending on current traffic conditions on the rail network and dispatching decisions, some of these trains may be routed via the railroad corridor that crosses this project location. Additionally, trains with mixed freight on this rail corridor often carry several cars with energy products and other hazardous materials as part of their load. More specific data about the types, volumes and frequency of these energy and hazardous material shipments are Sensitive Security Information.[5]

This project is located in a highly populated area, and a collision involving a train carrying energy projects or other hazardous materials would affect many people. In the event of an incident involving a train carrying energy products, the potential evacuation zone would be a half mile radius (in accordance with the USDOT's Emergency Response Guidebook, which gives first responders standards for emergency evacuations involving various hazardous materials in all industries not just railroads). At the project location, a half mile radius would include 7,050 residents, 13 primary and high schools with enrollment of, 4,381, and 7 public parks. As shown in Figure 4.2, two major interstate highways (I-94 and I-57 which carry 245,800 and 142,000 vehicles per day, respectively) are also within a half-mile of the project location. In the median of I-94 at 95th Street, just under a half mile from the project site, is the southern terminal of the CTA Red Line rapid transit route; this major public transit hub handles more than 20,000 bus and rail transit boardings, alightings, or transfers per day. Toxic inhalation hazards (TIH) also present a risk to human health and safety and may also be carried via freight trains through this project location. In the event of a TIH incident, the initial isolation and protective action distance[6] is up to 1 mile. At this location, that would affect more than 26,000 residents, 13 schools, one university, and 7 public parks, plus people using the high-volume transportation facilities noted above.

Due to the large volume of car, transit, and truck traffic along 95th Street, trains crossing at this location cause frequent and significant delays. In fact, this grade crossing location experiences the 15th highest level of delay out of 7,696 highway-rail grade crossings in the state, according to data from the Illinois Commerce Commission. As freight trains have grown longer, the amount of delay during each crossing has increased. While traffic delays and bottlenecks on any route reduce the efficiency and effectiveness of the transportation system, they also present particular challenges for emergency response, as emergency vehicles need to find alternate paths around blocked crossings. The issue of emergency response is of particular concern at high traffic railroad crossings where energy products and hazardous materials are carried, because backed up traffic can also delay and disrupt the response to an emergency incident at the crossing itself.

[5] Detailed data regarding commodities and amounts are considered to be Sensitive Security Information "SSI" by the USDOT in its recent tank car rules, and are only available to those persons who are designated as "persons with a need to know" in the USDOT regulations. In addition, the Interstate Commerce Act allows disclosure to States of the nature, kind, quantity, destination, consignee, or routing of commodities delivered to rail carriers for transportation, but not to the general public. In compliance with these regulations, if more detailed commodity and routing information is needed for the purposes of this application, it can be provided to FRA via secure means upon request to the applicant.

[6] http://www.cdc.gov/niosh/ershdb/

Scope of Work

With funding from this grant, CDOT will procure Phase I (preliminary engineering) and Phase II (final design) services for this project.

Summary

Phase I preliminary engineering services for this project include the preparation and approval of all preliminary engineering documents required by the Federal Highway Administration (FHWA), the Illinois Department of transportation (IDOT), and the affected railroad company. The services include but are not limited to: a Project Development Report (PDR) and bridge type, size and location (TS&L) Plans.

The Phase II design engineering services will consist of the preparation of the construction contract documents including but not limited to the final plans, specifications and estimates (PS&E). Also included in Phase II services is review of construction shop drawings and resolution of design issues.

The scope of services will include, but not be limited to:

1. Site survey;
2. Environmental assessments;
3. Preparation of applicable Local, State, and Federal permits;
4. Geometric design including intersection studies and accommodation for pedestrian and bicyclists;
5. Drainage analysis and improvements;
6. Right-of-way (ROW) documents, as needed;
7. Coordination with adjacent property owners and community outreach;
8. Street lighting improvements;
9. Traffic signals improvement, as needed;
10. Utility lines design and coordination;
11. Preparation of construction staging and traffic control plans; and,
12. Civil, structural, architectural, and electrical design services pursuant to completion of the final design.

Scope Detail

CDOT's Division of Engineering will have principal responsibility for the progress of the Design Consultant (DC) Services, adherence to budget and schedule, and will work with the DC so that the DC has a clear understanding of and receives the necessary support to successfully execute the project. The City of Chicago will provide contract oversight, and will coordinate with Illinois DOT on an ongoing basis to ensure conformity with state requirements. Chicago DOT has extensive experience at conforming to Federal and IDOT requirements for project progress reporting.

Phase I – Preliminary Engineering

The requirements and deliverables for Phase I must conform to IDOT and CDOT requirements. CDOT has prepared general Scope of Services for the project. As part of the Phase I Services, the DC must verify that the Scope of Services to be performed is fully developed, detailed and complete. The Phase I Primary Design includes, but is not necessarily limited to:

- Preparation of the appropriate type of Phase I report, generally expected to be a Project Development Report (e.g. IDOT BLR 22210).
- Attendance, as required, at all community meetings and preparation of all exhibits and other materials for these meetings or CDOT Community Newsletters.
- Soil borings, testing and preparation of soil profiles.

- Modification of any Phase I documents to incorporate either IDOT, CDOT, or other agency comments.
- Preparation of support documentation for Phase I review by other agencies, including the Illinois State Historic Preservation Agency, the Chicago Plan Commission, the U.S. Coast Guard, the Army Corps of Engineers, the Illinois Environmental Protection Agency, the Illinois Department of Transportation-Division of Water Resources and other agencies, as required.
- Preparation of mailings to affected property owners, to affected agencies, to other City agencies and to other parties as required.
- Inspection of City sewers within and adjacent to the project including television inspection of existing sewers, hydrologic and hydraulic studies and recommendations as required to obtain approvals needed from the Chicago Department of Sewers for the projects.
- A cost estimate prepared on construction trades category basis, in sufficient detail to permit a review of the design and to make value engineering reductions or substitutions in the Scope of Services as may be necessary to keep the project within the budget.
- Process and complete Office of Underground Coordination (OUC).
- Value Engineering (VE) Study in accordance with IDOT's BDE Procedure Memorandum (Number: 5-07) and BLRS Procedure Memorandum (Number: 2007-04). The VE process will occur just prior to the completion of the PDR. This process will include formulating a VE plan and proposing a VE team which will be submitted to the IDOT VE Coordinator for review and approval. The VE team must be multi-disciplined and it is desirable that the VE team leader has previously attended a National Highway Institute course on VE or has equivalent experience in the preparation of VE studies. The VE team members may not have worked on any aspect of the project prior to being named a candidate for the VE team.
- Context Sensitive Solutions (CSS) process in accordance with IDOT's BDE Procedure Memorandum (Number 48-06). The CSS process will be a collaborative, interdisciplinary approach involving all stakeholders in an effort to develop an appropriate transportation facility that will fit into its physical environment while preserving scenic, aesthetic, historic and environmental resources. Stakeholders may include, but not be limited to, residents and landowners, businesses, community and historic advocates, elected officials, Local, State and Federal government agencies. The CSS process includes: consultant shall evaluate and recommend design elements to fit the project context, then present to stakeholders to solicit feedback on the specific project elements. The approved project elements are then incorporated into the project.

Phase II – Final Design

The designs must be prepared in accordance with the general requirements noted above. If not previously submitted as part of Phase I, the DC must prepare a listing of all plans and specifications to be developed for this work. Additionally, when required, the other elements of Phase I design must be added to the scope of the Phase II work if required to provide a complete design, including Phase I Amendments, if scope has changed.

Four submittals must be made by the DC in Final Design: TS&L Plans (30 percent completion), Preliminary (60 percent completion), Pre-final (90 percent completion) and Final Submittal (100 percent), which shall incorporate comments from IDOT, CDOT and other agencies.

Final Design must include the preparation of any Addenda required, attendance at any pre-bid meetings, and review of shop drawings, plan revisions to facilitate contract modifications, and attendance and preparations of meeting minutes for various meetings during construction phase.

Meetings

The DC will be required to meet with the CDOT Division of Engineering Project Manager and staff for project kickoff, project plan reviews for 30 percent, 60 percent, 90 percent and 100 percent plan submittals. These meetings will be held in CDOT's offices and attended by CDOT, DC and other agency personnel. The meetings must serve as a forum to discuss and resolve issues in the design process.

Minutes of all meetings must be prepared in a format approved by CDOT and distributed by the DC within three working days of the meeting. The DC must also be responsible for maintaining a list of action items which must be updated at each meeting.

As deemed appropriate by CDOT staff, the DC may be asked to attend coordination meetings with various city agencies and local government officials, utilities and others. The DC may be asked to assist CDOT staff in preparation of agenda, review plans and specifications and other support documentation for coordination meetings.

Upon request, the DC will be required to attend meetings during the construction phase. These meetings, which will be either held at the construction site or CDOT's offices, will serve as a forum to discuss and resolve issues while construction is underway.

Design and Construction Schedules

The DC must prepare a project schedule, including a Services breakdown, which depicts the project with key milestones and deliverables for design and construction. The design schedule must be updated bi-weekly and at a minimum must include:

- Key decision points in the design process including the securing of all temporary easements, utility coordination and other items which require coordination;
- Responsible parties for each decision;
- Early start for each activity;
- Expected finish for each activity; and
- Critical path items.

The DC must also prepare a Construction Schedule. The schedule must show the major items of work to be performed by the construction contractor and subcontractors. It is expected that this schedule will be refined as the design progresses and must be submitted to CDOT at the start of preliminary design, the end of preliminary design and with the 30 percent drawings. At a minimum, the Schedule must include:

- Mobilization;
- Demolition as appropriate;
- Utility Relocations;
- Long lead time material procurement;
- Structural construction;
- Architectural construction;
- Mechanical construction;
- Roadway work;
- Drainage facilities and other utilities;
- Water main;
- Lighting;
- Traffic signal work; and
- Landscape and finish work.

Design Standards

The design must be in accordance with the latest IDOT and CDOT Specifications and Standards. The DC may be required to develop Special Provisions in accordance with CDOT format Specifications.

Estimates

The DC is responsible for the preparation of cost estimates for construction. Cost estimates must be in a unit price format approved by CDOT. The DC must prepare an Engineer's Estimate of Cost which will be used as the basis for the evaluation of the bid tabulations. If the apparent low bid is more than ten (10) percent over the Engineer's Estimate of Cost, CDOT retains the right to request the DC to redesign the project at no additional cost to CDOT in order to provide a design that is within the proposed budget. All cost estimates must be prepared in Microsoft Excel format.

Administration

The DC is responsible for all utility coordination and securing of all permits for all design work to be performed, including agreements with the affected railroads. The DC, through CDOT, must coordinate the work with other City agencies.

The DC must prepare all plats for temporary and permanent easements and must assist CDOT in the identification of same. The DC must secure temporary use permits, easements and /or right-of-way agreements from affected property owners. The DC must contact all appropriate agencies for which force work estimates are required. The DC must prepare letters on CDOT's behalf, if asked to do so, requesting this information and must monitor the progress of all easement and force work requests necessary for construction.

The DC must prepare monthly progress reports and invoices. These progress reports and invoices must be in the format approved by CDOT and must be submitted no later than the tenth day of the month after which Services have been performed.

Survey

The DC is responsible to establish measurements, calculations, and field work necessary to establish line and grade for Roadway/Highway improvement. Surveys also include topographic surveys, determining boundaries, writing descriptions of specific parcels of land and the installation and restoration of monuments. DC must have a surveyor, licensed in the State of Illinois on staff or as a sub-consultant.

Building Permit

The DC must prepare and submit the building permit application (if required for project) and 4 sets of prints to the Department of Buildings. The DC is responsible for expediting the building permit plan review process and must provide all required surveys, information and corrections requested by the Department of Buildings. Building Department review will be completed prior to advertisement for bids. Upon contract award the Construction Contractor information can be added to the application, and the Construction Contractor will pay all building permit fees and pick up the Building Permit.

Monitoring of Site Conditions

The DC shall perform an initial detailed inspection of the project site to determine site conditions.

Project Schedule and Deliverables

Table 4.1 Project Schedule

Project Phase/Task	Deliverables	Date
Initiate Phase I engineering		March 2016
Complete Phase I engineering	Project Development Report	December 31, 2017
Initiate Phase II engineering		April 2018
Complete Phase II engineering	Final plans, specifications and estimates (PS&E)	July 31, 2019

Note: Pending funding for the Phase I and II engineering and availability of funding for Phase III, construction would be anticipated from November 2019 to December 2020.

Project Estimate by Task

Table 4.2 shows the estimated cost by task.

Table 4.2 Project Estimate by Task

Task 1	Phase I Engineering	$2,500,000
Task 2	Phase II Engineering	$3,500,000
	Total Cost	$6,000,000

Project Estimate Contributions

Table 4.3 shows the anticipated funding sources including the requested FRA grant and the non-Federal match.

Table 4.3 Project Cost and Funding Sources

	Project Contribution Amount	Percentage of Total Project Cost
FRA Grant	$3,000,000	50%
Chicago Department of Transportation	$3,000,000	50%

Project Coordination

The grantee, Illinois DOT, shall perform all tasks required for the project through a coordinated process, which will involve affected railroad owners, operators, and funding partners including:

- Chicago DOT – Phase I and II engineering lead agency;
- UP Railroad (see Letter of Commitment); and
- FRA.

Project Management

Each CREATE project is managed by an individual project sponsor, which leads procurement, and manages engineering and construction activities. Chicago DOT is the sponsor of CREATE Project GS21a and will work closely with Illinois DOT, the roadway owner. Because the roadway is a Illinois State Class II designated truck route[7], Chicago DOT will coordinate with Illinois DOT as needed on aspects of the design relating to truck movements. The City and State have collaborated on an ongoing basis with the freight railroads as part of CREATE for more than a dozen years. Through CREATE, participating public agencies and the railroad partners have established effective mechanisms for successful collaboration among the parties on the many projects that have been delivered thus far. These time-tested mechanisms will be utilized throughout the design and construction of this project.

A number of specific management practices and policies have been instituted 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 and Transportation Investment Generating Economic Recovery (TIGER) grants, 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.

[7] Illinois Truck Route map - http://www.gettingaroundillinois.com/gai.htm?mt=dtr.

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 Applicant/Grantee will:

- Participate in a project kickoff meeting with FRA
- Complete necessary steps to hire a qualified consultant/contractor to perform required Project work
- Hold regularly scheduled Project meetings with FRA
- Inspect and approve work as it is completed
- Review and approve invoices as appropriate for completed work
- Perform Project close-out audit to ensure contractual compliance and issue close-out report
- Submit to FRA all required Project deliverables and documentation on-time and according to schedule, including periodic receipts and invoices
- Comply with all FRA Project reporting requirements, including, but not limited to:
    a. Status of project by task breakdown and percent complete
    b. Changes and reason for change in project's scope, schedule and/or budget
    c. Description of unanticipated problems and any resolution since the immediately preceding progress report
    d. Summary of work scheduled for the next progress period
    e. Updated Project schedule

Project GS21a Relationship to CREATE Program

The FRA award will allow CREATE to advance one of the 25 grade separation projects included in the full program. GS21a is located on one of the corridors with significant rail traffic that is undergoing a number of improvements (see Figure 4.1) to increase capacity, and which are described further below.

Western Avenue Corridor

- GS21a is located on the Western Avenue Corridor (shown in purple in Figure 4.1). This corridor splits into two segments at Forest Hill junction, with the segment to the east comprising the UP/Amtrak route on which the project is located.
- The Western Avenue corridor is undergoing numerous rail infrastructure improvements to speed the movement of freight trains and Amtrak intercity trains operating on some segments. To date on the northern segment of the Western Avenue corridor three WA projects are under construction (WA2, WA3, and WA4), and one is in Phase II design (WA1).

South of GS21a, one project, WA11, is in Phase I design. These improvements to rail traffic flow will enable increased volumes of trains to operate along the corridor in the future, which could result in more frequent delays at this grade crossing.

East-West Corridor

- Funding is sought to complete the EW1 project segment. Once funding is received for EW1, freight trains will have the ability to traverse a new corridor (the East-West Corridor) through the Chicago Terminal.
- The GS21a at-grade crossing is located just south of the East-West rail corridor (shown in red in Figure 4.1). Once complete, trains traversing from west to east on the currently operable portions of that corridor (through Belt Junction to the northwest of the project location) will be able to travel south on either leg of the Western Avenue Corridor, potentially traversing the GS21a project location.
- The EW4 project is complete.
- Phase I design is complete for EW2 and nearly complete for EW3.

5.0 CREATE Project GS21a Benefits and Alignment with Selection Criteria

Primary Criteria

Safety

Separating 95th Street from the two UP tracks that carry 2 Amtrak trains and approximately 24 freight trains per day will eliminate the potential of a crash between a train carrying energy products and the 24,000 vehicles operating daily on the roadway. The safety benefits can be considered in two categories:

- Benefits from avoidance of a hazardous materials event resulting in injury to not only vehicle operators/passengers but people in the immediate area – up to a one-mile radius of impact depending on the material involved ($481 thousand[8] over 30 years); and
- Benefits from avoidance of a train crash with an auto or truck on the roadway and the associated fatalities or injuries to vehicle passengers ($663 thousand over 30 years, as calculated by the FRA GradeDec tool).

The beneficiaries of the project to separate the UP tracks from 95th Street are wide ranging, including local community residents who will experience reduced risk from potential vehicle and freight train crashes, as well as intercity rail passengers and businesses that ship goods via rail:

- Residents of the Washington Heights and Roseland Community Areas of the City of Chicago, which border the location of the propose grade crossing separation;
- Nearly 18,000 transit users on more than 700 buses traversing 95th Street daily who will experience greater service reliability;
- Riders of two daily Amtrak trains (Cardinal and Hoosier) who will avoid the potential of crashes with vehicles;
- Personal vehicle operators and passengers along 95th Street who will avoid delays from the 24 daily trains that cross the roadway;

[8] Primary outcome values are discounted at 3 percent, unless otherwise indicated

- Truck operators along 95th Street who will avoid the potential of a crash with a train and delays when trains cross the roadway;
- Drivers on I-94 and I-57 who avoid risk of a hazardous materials incident within one half mile;
- Transit users at the 95th street CTA rail station who will avoid risk of a hazardous materials incident within one-half mile and benefit from improved reliability of bus connections;
- Students at Chicago State University who will avoid the potential of a hazardous materials incident one mile from the campus; and
- Freight rail operators and shippers who will avoid the potential interruption to service from a rail-highway crash.

Benefit Cost Analysis

A comprehensive Benefit-Cost Analysis (BCA), compliant with all requirements in the September 2, 2015 announcement, was performed for the GS21a project included in this application using FRA's GradeDec tool for highway-rail grade crossing investment analysis. The benefits are the public benefits that accrue from grade crossing improvements. This BCA includes:

- Safety benefit due to avoidance of vehicle-train crashes;
- Reduction in delay to passenger vehicles and trucks;
- Reduction in vehicle operating costs; and
- Avoidance of emissions resulting from vehicle delays.
- In addition, risk avoidance of a hazmat event involving energy products or TIH due to a crash with a crossing vehicle was calculated separately and incorporated into the total benefits and benefit-cost ratio.

Table 5.1 summarizes the costs, benefits, and benefit-cost ratio. A narrative description of the benefit-cost analysis and additional information on analysis parameters and results is available at Benefit Cost Narrative.

The grade crossing separation project was compared against a no-build scenario. No other level of improvements was considered given the grade crossing currently has conventional gated crossings on either side of the roadway median. To achieve additional safety benefits of preventing all future rail-highway crashes, it will be necessary to physically separate the roadway from the rail.

Table 5.1 Benefit-Cost Summary

Category	30 year NPV (3 percent discount rate)	30 year NPV (7 percent discount rate)	Methodology/ Source
Benefits			
Avoidance of rail-highway vehicle crashes	$ 662,757	$ 384,399	FRA Grade Dec Model*
Hazmat incident risk avoidance	$ 480,864	$ 304,435	Risk Analysis, Cambridge Systematics
Safety benefits subtotal:	$1,143,621	$ 688,834	
Travel time savings	$77,003,600	$38,292,100	FRA Grade Dec Model
Reduction in vehicle operating costs	$2,764,930	$1,450,600	FRA Grade Dec Model
Network benefits	$ 274,772	$ 132,802	FRA Grade Dec Model

Category	30 year NPV (3 percent discount rate)	30 year NPV (7 percent discount rate)	Methodology/ Source
Economic competitiveness benefits subtotal	*$80,043,302*	*$39,875,502*	
Environmental benefits	$ 149,051	$ 73,739	FRA Grade Dec Model
Total Benefits	$81,335,974	$40,638,075	
Costs			
Design and Construction Capital Costs	$63,000,000	$63,000,000	Chicago Department of Transportation
Maintenance Costs (reduction)	($3,166,256)	($1,683,504)	Chicago Department of Transportation
Total Discounted Costs	$59,833,744	$61,316,496	
Benefit Cost Ratio	1.36	0.66	

* Safety benefits adjusted to reflect separate risk analysis of hazmat unit trains

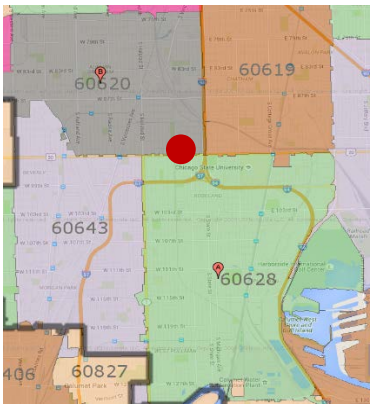
Secondary Criteria

This project is well aligned with USDOT priorities in that it provides benefits to state of good repair, economic competitiveness, environmental sustainability, community livability, and provides ladders of opportunity for economically disadvantaged populations.

State of Good Repair

This roadway is owned by the Illinois Department of Transportation and maintained by the Chicago Department of Transportation. The tracks currently traverse the roadway at grade, and the combination of discontinuous pavement surfaces, varying load cycles, and difficult drainage associated with grade crossings greatly shortens maintenance cycles. Grade crossing maintenance is far more complex and costly than for roadway pavements, whether asphalt or concrete, and must be done with greater frequency, typically at least every ten years on a high-volume roadway like 95th Street. With construction of a grade crossing separation, concrete would be used for the roadway and the maintenance life would be 20 years. This would lead to an estimated maintenance cost savings over the 30 year project horizon of $5 million dollars, which is discounted at three percent to $3.2 million in present dollars.

Economic Competitiveness



The grade crossing is located in an Economically Distressed Area. The project location is on the border of ZIP Codes 60620 and 60628, which respectively have household incomes that are 60 percent and 71 percent of the U.S. median according to the American Community Survey (2009-2013).

Economic competitiveness benefits include reduced travel time for auto, bus, and train passengers and trucks. These travel time savings benefits total $77 million over the 30 year time horizon. Benefits in delay reduction on the surrounding highway system (network benefits) total to an additional $275 thousand. Vehicle operating costs for highway vehicles, due to decreased consumption of fuel and oil is estimated to be $2.8 million over 30 years.

The economic competitiveness to the neighborhoods and benefits to transit users in particular are part of six national "livability principles" described further in the Livability section.

Environmental Sustainability

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.

The environmental benefits of the grade separation include a reduction in emissions due to decreased passenger car, bus, and truck delay at the project site. The monetary benefits of Carbon Monoxide (CO), Hydrocarbon (HC) and Nitrous Oxide (NOX) are quantified as part of this analysis. The result is a savings of $149 thousand over 30 years.[9]

Livability

Transit users will benefit substantially from this project. More than 700 buses carrying 18,000 passengers traverse this segment of 95th Street daily as they access the 95th Street Station of CTA's rapid transit Red Line, the line's southern terminus (Table 5.2). Removing the potential for a crash with a train, including with one carrying hazardous materials, will be a benefit not only to riders but all in the area. Additionally, eliminating the potential for delay to transit vehicles will be a very significant benefit to daily bus riders, particularly those making connections with Red Line trains.

At present, the CTA is undertaking a complete reconstruction of the 95th Street Red Line Terminal, an effort that is expected to attract additional customers to an already busy station. At a cost of $240 million, this project will expand and greatly improve the terminal, bringing major benefits to the thousands of customers that travel through this vital South Side facility every day. The project, one of the largest station reconstructions in CTA's history and the latest large-scale project to improve the CTA's busiest rapid transit line, will create a signature station featuring a modern design and myriad amenities to improve the overall transit experience. By removing the at-grade crossing just one half mile away from the station this multimodal station's performance will be strengthened.

[9] The reduction in CO2, SOx, PM and other emissions is not available as part of the FRA Grade Dec analysis package and is not included in this BCA.

The grade crossing is designated as a 911 Critical Crossing, through which significant numbers of emergency response vehicles pass. Separation of the roadway and rail will eliminate the possibility of these vehicles being delayed due to a train crossing and impacting the safety outcome of the emergency to which they are responding.

This project addresses the six "livability principles" developed by USDOT, the U.S. Department of Housing and Urban Development and the Environmental Protection Agency.

- Provide more transportation choices to decrease household transportation costs, reduce our dependence on oil, improve air quality and promote public health. This project will benefit a massive amount of transit service, reduce auto delay, and improve air quality. Nearly one in five households (19 percent within one mile of the project location) has no vehicle available and is completely dependent on transit, so benefits to transit reliability are very important to this population.
- Expand location- and energy-efficient housing choices for people of all ages, incomes, races, and ethnicities to increase mobility and lower the combined cost of housing and transportation. This project will make the immediate area more desirable for development by removing the barrier of train operations across 95th Street as well as improving transit operations.
- Improve economic competitiveness of neighborhoods by giving people reliable access to employment centers, educational opportunities, services and other basic needs. This project will improve access to employment by increasing transit reliability and improving the economic competitiveness of the neighborhood for investment.

- Target federal funding toward existing communities – through transit-oriented development and land recycling – to revitalize communities, reduce public works costs, and safeguard rural landscapes. This project is located in an existing and highly developed community, which is located ½ mile from a major multimodal transit center that is presently being redeveloped. This project will help leverage this investment through additional critical infrastructure improvements that will benefit both existing and new housing and commercial development.
- Align federal policies and funding to remove barriers to collaboration, leverage funding and increase the effectiveness of programs to plan for future growth. The CREATE program is an exemplary case of multi-agency collaboration with strong existing partnerships between Chicago DOT, Illinois DOT, freight railroads and passenger railroads (Amtrak and Metra). Chicago Transit Authority and Pace suburban buses will also benefit significantly from this project.
- Enhance the unique characteristics of all communities by investing in healthy, safe and walkable neighborhoods. This project will benefit a community that is in need of reinvestment. Major investment opportunities near transit exist and can be unlocked in part by removing the barrier to transportation reliability presented by 24 freight and two intercity trains per day crossing this major arterial roadway.

Table 5.2 Bus Transit Service Operating Through 95th Street Grade Crossing

			May 2015		
Operator	Bus Route	Buses Per Day	Average Weekday Ridership	Saturday	Sunday
Chicago Transit Authority	95W	174	2,568	1,979	1,800
Chicago Transit Authority	108	70	1,512	n/a	n/a
Chicago Transit Authority	112	106	2,666	1,183	n/a
Pace	352	182	5,703	3,967	2,911
Pace	359	96	1,483	873	525
Pace	381	98	3,998	2,487	1,088
Total		726	17,930	10,489	6,324

Source: Regional Transportation Authority Mapping and Statistics www.rtams.org.

CREATE Contribution to Economically Disadvantaged Populations/ Ladders of Opportunity

The project is located on the South Side of Chicago where incomes are below average. According to the definition of Economically Distressed Areas in section 301 of the Public Works and Economic Development Act of 1965, the two ZIP Codes in which the project is located are economically distressed based on household income that is 80 percent or less than the national average.

Residents in the immediate area are more than 90 percent African American. Nearly one-fifth of households has no vehicle available. This area is in need of investment that can spur businesses to locate in the area. Along with the upgrade of the 95th Street transit station, removal of the barrier resulting from the rail crossing of 95th would have substantial benefits to the community.

Ensuring safe and efficient operation of railroads is a critical element of economic activity in Illinois. 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. It is important to ensure rail operations are unimpeded as much as possible to maintain Chicago's vital contribution to the U.S. economy as the rail transportation hub of the nation.

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 Planning[10], 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. The GS21a bid solicitations will include DBE requirements to ensure diverse participation.

[10] http://www.cmap.illinois.gov/mobility/freight.

Project Delivery Performance

Grant Funding Track Record

Since its announcement in 2003, CREATE has made considerable progress in securing funding and progressing the Program. The CREATE partners are experienced at procurement, project management and collaboration to ensure successful project delivery. 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.) A timeline of CREATE program milestones is available at Timeline.

To date, CREATE has received the following funds totaling $1.306 billion:

Federal $452.1 million	TIGER I and TIGER IV Grants, SAFETEA-LU PNRS Grant, ARRA High Speed Rail Grant, Railroad Relocation Grant
State $497.5 million	Illinois Jobs Now!, PNRS/TIGER match, grade separations
Local Governments $67.8 million	Viaduct improvements, grade separations, land acquisition
Railroads $289 million	Railroad infrastructure, grade separations

With this funding, 25 projects have been completed, 9 are under construction, two 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. The CREATE Partners are well prepared and experienced at delivering projects. An FRA award would complement previous CREATE investments by USDOT in improving the Chicago Rail Terminal and mitigating community impacts.

Region/Location

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 region[11] 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 activity that impacts the movement of people and goods nationally. The CREATE Program has been designated a project of National and Regional Significance.

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

Intercity Passenger Rail Operations

Chicago is the National Railroad Passenger Corporation's (Amtrak) primary intercity rail hub outside the Northeast Corridor. All of Amtrak's long-distance and regional services serving the Midwest terminate at downtown Chicago's Union Station – 56 trains per day. The Cardinal and Hoosier services to New York and Indianapolis operate twice daily through the GS21a project location. Increasing 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 5.1). It is critical to balance the demand for rail service with mitigation of community impacts.

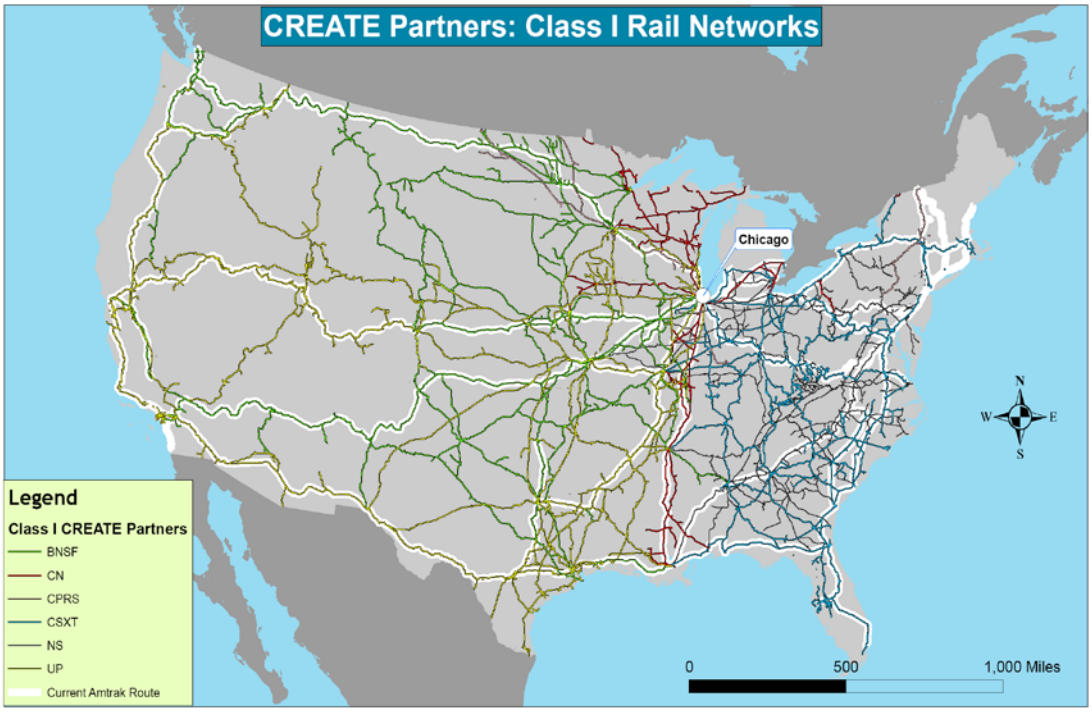
Figure 5.1 Midwest High-Speed Rail Hub

Source: Midwest High Speed Rail Association.

Freight Rail Congestion

Figure 5.2 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). Chicago is a key interchange point between the eastern and western railroads, who have been building infrastructure in the region for over a century. Rail congestion and delays ripple throughout the U.S. and impacts to communities must be addressed, especially in the face of increasing rail demand.

Figure 5.2 CREATE Partners Rail Network



Commuter Rail Operations

Metra Commuter rail operates mostly on freight rail lines, which impact freight operations. At present Metra does not operate any commuter trains through the GS21a grade crossing, although this corridor has been proposed and studied as part of a potential future SouthEast Service Line for the regional commuter rail agency.

Innovation

Two primary aspects of project development will result in exploration of innovative engineering techniques: alternatives analysis and stormwater management. The engineering efforts will explore at least four alternatives, which may include tunneling (to minimize excavation and disturbance to traffic) as was done for another CREATE grade crossing project.

Partnerships

This Project continues the innovative tradition of CREATE. Three of the CREATE partners -- Chicago DOT, Illinois DOT and UP -- will collaborate to bring the project to fruition.

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 Illinois DOT 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

Note: *nonvoting members

The management processes for CREATE are detailed in CREATE Partnerships and Management Practices. 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 Chicago Department of Transportation will contribute a non-Federal match of 50 percent.

Project Readiness and NEPA Status

Environmental Approvals

Based on similar CREATE grade crossing projects conducted recently in the City, and the fact that no water bodies are located nearby, the project sponsor does not expect any unusual issues environmental or historic preservation impacts beyond potentially contaminated soil (e.g., special waste) given that a rail line has been operational in the location for so many years. Therefore it is anticipated that the project will receive a categorical exclusion under NEPA, as was the case for CREATE project GS15a, another nearby grade crossing separation in the City of Chicago. However this will not be determined until Phase I work is conducted.

State and Local Planning – CREATE is a central element of the strategic regional freight and highway system in the Metropolitan Transportation Plan (MTP), described in the Go To 2040 Plan. The Illinois Rail Plan published in 2012 lists this grade crossing project as a priority and reinforces the importance of the CREATE Program.

Financial Feasibility – With funding from this FRA grant, along with the matching Chicago DOT funds, sufficient resources will be available to complete Phase I and Phase II engineering. Phase I engineering is estimated to cost $2.5 million and Phase II engineering $3.5 million, which totals the $6 million federal grant request plus non-federal match.

Technical Feasibility – Based on Chicago DOT's knowledge of the site, and both CDOT and IDOT's experience with designing and building grade crossing separations as part of CREATE, the project is not anticipated to run into any critical feasibility issues. To date, five grade crossing separation projects have been constructed as part of the CREATE program and six have entered Phase I engineering without significant technical feasibility challenges.

National and Regional Support

This grant application is supported by a range of transportation agencies and units of government, Copies of letters of support for this FRA application are available at the links below. Letters were received from:

- Chicago Metropolitan Agency for Planning
- Chicago Transit Authority
- City of Chicago, Mayor Rahm Emanuel
- Amtrak
- Association of American Railroads
- Cook County Board President
- Pace Suburban Bus