Appendix T
Cumulative Impacts Technical Memorandum

RED AHEAD
Moving Ahead to a Better Red

Red Line Extension

Chicago Red Line Extension Project

Cumulative Impacts
Technical Memorandum

January 20, 2014
Updated September 9, 2015

Prepared for:
Chicago Transit Authority
567 W. Lake Street
Chicago, IL 60661

Prepared by:
CWC Transit Group
125 S. Wacker Drive
Suite 600
Chicago, IL 60606

cta

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Abbreviations

BRC	Belt Railway of Chicago
BRT	Bus Rapid Transit
CDOT	Chicago Department of Transportation
CEQ	Council on Environmental Quality
CMAP	Chicago Metropolitan Agency for Planning
CN	Canadian National
CREATE	Chicago Region Environmental and Transportation Efficiency
CTA	Chicago Transit Authority
EIS	Environmental Impact Statement
IDOT	Illinois Department of Transportation
IHB	Indiana Harbor Belt Railroad
NEPA	National Environmental Policy Act
ME	Metra Electric
NICTD	Northern Indiana Commuter Transportation District
NOAA	National Oceanic and Atmospheric Administration
NS	Norfolk Southern
Pace	Pace Suburban Bus
RLE	Red Line Extension
RPM	Red and Purple Modernization
ROW	right-of-way
TIF	tax-increment financing
TIP	Transportation Improvement Program
UPRR	Union Pacific Railroad

Section 1
Summary

This technical memorandum analyzes the potential cumulative impacts that would occur with the implementation of the Red Line Extension (RLE) Project. The alternatives analyzed include the No Build Alternative, Bus Rapid Transit (BRT) Alternative, Union Pacific Railroad (UPRR) Rail Alternative Right-of-Way Option (ROW Option), UPRR Rail Alternative East Option (East Option), UPRR Rail Alternative West Option (West Option), and the Halsted Rail Alternative.

The No Build Alternative would not involve any construction and would not have cumulative impacts. The No Build Alternative would not result in the cumulative benefits from transit improvement, as the build alternatives would. The BRT Alternative would have beneficial cumulative impacts due to improved transit facilities, improved access and mobility, and reduction in air emissions. The UPRR Rail Alternative options all would have similar beneficial cumulative impacts due to transit improvements, improved land use and economic development, improved access and mobility, and reduction in air emissions.

The Chicago Department of Transportation (CDOT) is preparing the Far South Railroad Relocation Feasibility Study, which examines a possible project to move the existing freight operations out of the UPRR corridor, leaving the corridor vacant. The Chicago Transit Authority (CTA) would implement the ROW Option only if this separate project occurs prior to the RLE. If the relocation project does not occur, then the CTA would need to choose either the East Option or West Option in order to pursue the UPRR Rail Alternative. The ROW Option would have more beneficial cumulative impacts than the East and West Options when considered cumulatively with relocation of the UPRR, a separate project that would occur prior to implementation of the ROW Option. Due to the elimination of freight rail, there would be less noise and vibration and fewer traffic delays associated with the ROW Option than with the other UPRR Rail Alternative options.

The East and West Options would have adverse cumulative impacts for transportation and safety and security. In the East and West Options, the existing UPRR tracks would not be relocated as part of a separate, unrelated project, and highway-rail grade crossings would remain at 101st Street, 103rd Street, 107th Street, 109th Street, 111th Street, Wentworth Avenue, 115th Street, and State Street. The number of trains using the existing UPRR tracks would increase substantially under the Chicago Region Environmental and Transportation Efficiency (CREATE) Program. This increase in trains may result in increased traffic, commuter delays, and increase in potential for crash frequency. Mitigation measures to address the increased potential for vehicular and pedestrian crashes can include pedestrian gates at sidewalks, intertrack fence, and fence along the parking area and ROW. To mitigate for commuter delays caused by traffic, passenger trains and UPRR freight train schedules can be synchronized to avoid or reduce trains crossing at peak hours such as morning rush hour.

The Halsted Rail Alternative would have beneficial cumulative impacts due to transit improvements, improved land use and economic development, improved access and mobility, and reduction in air emissions.

Updated July 27, 2015

In August 2014, based on the technical analysis and public input until then, CTA announced the NEPA Preferred Alternative—the UPRR Rail Alternative. CTA is considering two alignment (route) options of this alternative: the East Option and the West Option. At this time, CTA is also considering only the South Station Option of the 130th Street Station. In late 2014 and early 2015, CTA conducted additional engineering on the East and West Options to refine the East and West Option alignments. Appendix A of this technical memorandum summarizes the refined alignments and any additional or different impacts that would result. The information in Appendix A supersedes information presented in other chapters of this technical memorandum.

Section 2
Project Description

The CTA proposes to extend the Red Line from the existing 95th Street Terminal to the vicinity of 130th Street, subject to the availability of funding. The proposed RLE would include four stations. Each station would include bus transfer and parking facilities. This project is one part of the Red Ahead Program to extend and enhance the entire Red Line. The CTA is also planning 95th Street Terminal improvements that are anticipated to be completed prior to the proposed RLE construction.

The project area is 11 miles south of the Chicago central business district (commonly referred to as the Loop) and encompasses approximately 20 square miles. The boundaries of the project area are 95th Street on the north, Ashland Avenue on the west, Stony Island Avenue on the east, and the Calumet-Sag Channel/Little Calumet River and 134th Street on the south. The I-57 Expressway and I-94 Bishop Ford Freeway cross the western and eastern edges of the project area, respectively. Lake Calumet is in the eastern portion of the project area. The project area encompasses parts of nine community areas in the City of Chicago and the eastern section of the Village of Calumet Park. Chicago community areas include Beverly, Washington Heights, Roseland, Morgan Park, Pullman, West Pullman, Riverdale, Hegewisch, and South Deering. The project area comprises residential (primarily single family), industrial (both existing and vacant), transportation (including freight), and commercial development.

The Draft Environmental Impact Statement (EIS) focuses on the following alternatives (shown in Figure 2-1), which emerged from the Alternatives Analysis and the National Environmental Policy Act (NEPA) scoping process:

- No Build Alternative
- BRT Alternative
- UPRR Rail Alternative
  - ROW Option
  - East Option
  - West Option
- Halsted Rail Alternative

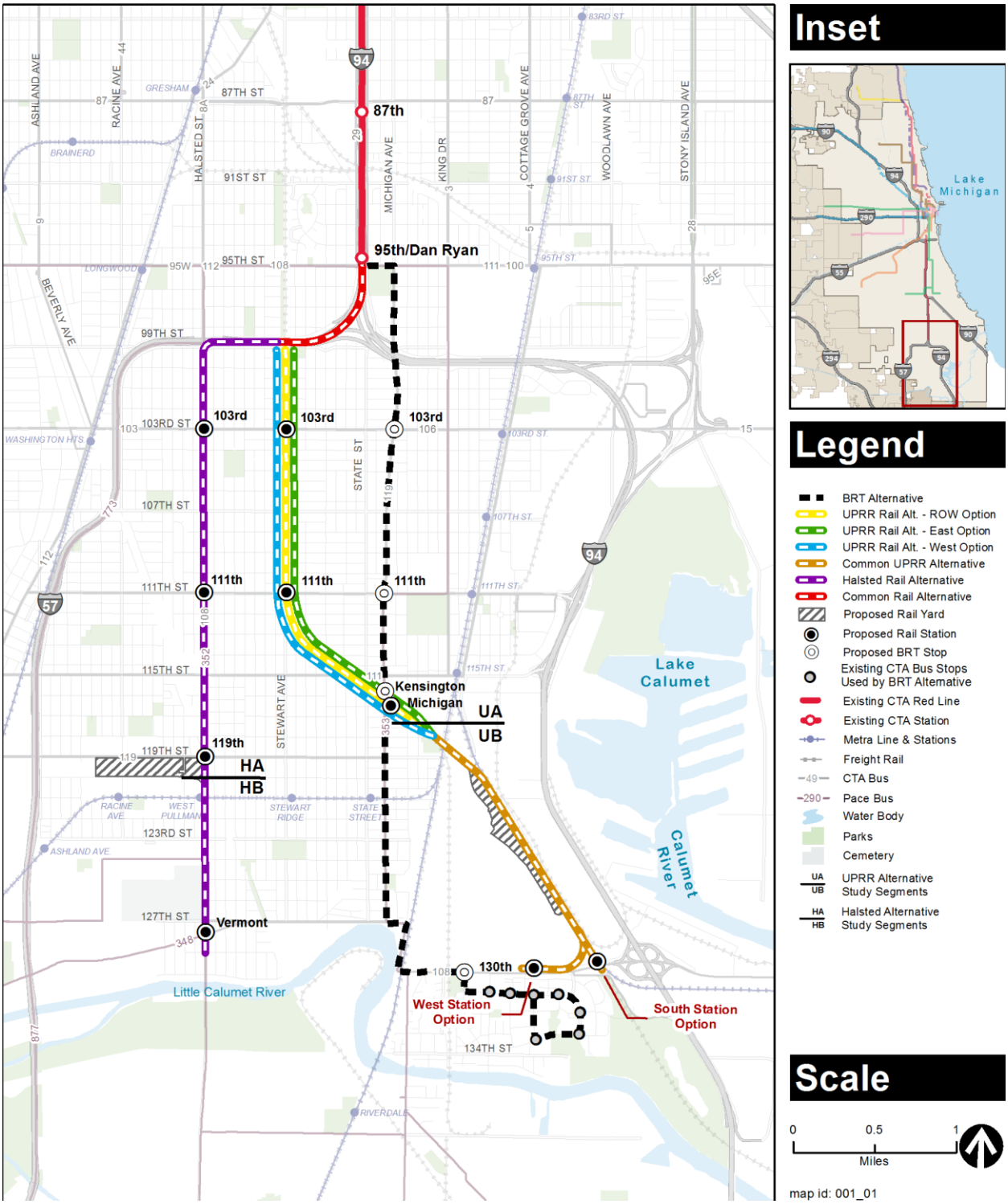

Figure 2-1: Red Line Extension Project Alternatives

The No Build Alternative is a required alternative as part of the NEPA environmental analysis and is used for comparison purposes to assess the relative benefits and impacts of extending the Red Line. The No Build Alternative is carried into the Draft EIS phase of the project development regardless of its performance versus the build alternatives under consideration. No new infrastructure would be constructed as part of the No Build Alternative other than committed transportation improvements that are already in the Chicago Metropolitan Agency for Planning (CMAP) Fiscal Year 2010–2015 Transportation Improvement Program (TIP), which includes the improvements to 95th Street Terminal. The TIP projects within the project area consist of four bridge reconstructions, several road improvement projects including resurfacing and coordination of signal timing on 95th Street, work on Metra's facilities, construction of a bicycle/pedestrian multi-use trail, and preservation of historic facilities. The No Build Alternative includes regular maintenance of existing track and structures, and bus transit service would be focused on the preservation of existing services and projects. All elements of the No Build Alternative are included in each of the other alternatives. Under this alternative, travel times would not improve from existing conditions.

The BRT Alternative (formerly referred to as the Transportation Systems Management Alternative) is a 5.0-mile, limited-stop, enhanced BRT route, which is assumed to operate 24 hours per day between the existing 95th Street Terminal and the intersection of 130th Street and Eberhart Avenue. No dedicated bus lanes would be provided for the BRT Alternative; however, parking lanes would be removed for some portions of the alignment and four stops with improved bus shelters and park & ride facilities would be created at 103rd Street and Michigan Avenue, 111th Street and Michigan Avenue, Kensington Avenue and Michigan Avenue, and 130th Street and Eberhart Avenue. Although BRT service elements would not continue south of the 130th Street stop, the bus route would continue through Altgeld Gardens along the existing route with six stops. The BRT Alternative would be consistent with bus routing changes that may occur as part of improvements to the 95th Street Terminal. Under this alternative, travel times between 130th Street and the Loop would improve over existing conditions.

The UPRR Rail Alternative is a 5.3-mile extension of the heavy rail transit Red Line from its existing 95th Street Terminal to 130th Street, just west of I-94. The Chicago Transit Board designated the UPRR Rail Alternative as the Locally Preferred Alternative at its August 12, 2009 board meeting. This alternative includes construction and operation of new heavy rail transit tracks, mostly in existing transportation corridors. The UPRR Rail Alternative has three options for alignment (ROW, East, and West), all of which would include operation on elevated structure from 95th Street to just past the Canadian National/Metra Electric District (CN/ME District) tracks near 119th Street. The alignment would then transition to at-grade through an industrial area with no public through streets, terminating at 130th Street in the vicinity of Altgeld Gardens. Four new stations would be constructed at 103rd Street, 111th Street, Michigan Avenue, and 130th Street. The 130th Street station would be the terminal station, with two options under evaluation: the South Station Option and the West Station Option. A new yard and shop facility would be sited near 120th Street and Cottage Grove Avenue. The bus routes in the vicinity of the UPRR Rail Alternative would be modified to enhance connectivity between the Red Line and the bus network. The hours of operation and service frequency for the UPRR Rail Alternative are assumed

to be the same as for the current Red Line. Under this alternative, travel times between 130th Street and the Loop would improve substantially over existing conditions.

The Halsted Rail Alternative is a 5.0-mile heavy rail transit extension of the existing Red Line. In this alternative, the Red Line would operate on an elevated structure running south from 95th Street along I-57 until Halsted Street. The alignment would then turn south and continue along Halsted Street to the intersection of Halsted Street and Vermont Avenue near 127th Street. This alternative would include four new stations at 103rd Street, 111th Street, 119th Street, and Vermont Avenue. The Vermont Avenue station would be the terminal station. A new yard and shop would be sited west of Halsted Street and between the 119th Street and Vermont Avenue stations. The bus routes in the vicinity of the Halsted Rail Alternative would be modified to enhance connectivity to the Red Line. The hours of operation and service frequency for the Halsted Rail Alternative are assumed to be the same as for the current Red Line. Under this alternative, travel times between 127th Street and the Loop would improve substantially over existing conditions. This alternative would not extend rail to Altgeld Gardens, which would be served by bus connecting to the Vermont terminal station.

Section 3
Methods for Impact Evaluation

3.1 Regulatory Framework

3.1.1 Federal

The National Environmental Policy Act of 1969 ([NEPA] 42 United States Code 4332) requires that federal agencies consider environmental impacts before taking actions that could affect the human environment. As interpreted by the Council on Environmental Quality (CEQ), NEPA requires that "reasonably foreseeable" direct, indirect, and cumulative effects of a proposed action be considered in the decision-making process. As defined by the CEQ, the term "effects" includes "ecological, aesthetic, historic, cultural, economic, social, or health" effects.

The CEQ defines a cumulative impact as an impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

3.1.2 State

The State of Illinois Department of Natural Resources defines Cumulative Effects in its regulations governing impacts on endangered species (17 Illinois Administrative Code Part 1075):

> "Direct and indirect effects of a proposed action(s) together with the identifiable effects of actions that are interrelated or interdependent with the action. Indirect effects are those that are caused by the action but are later in time or farther in distance. Interrelated actions are those that are a part of a larger action. Interdependent actions are those that have independent utility apart from the action."

3.1.3 Local

There are no local requirements for cumulative effect analyses.

3.2 Impact Analysis Thresholds

Each resource area was analyzed independently to determine whether the impacts of the proposed alternatives would meet a threshold of significance. These analyses were presented in separate technical memoranda for each of the resource areas.

A cumulative impact would occur if an alternative had environmental impacts that were individually limited, but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project would be significant when viewed in connection with

the impacts of past projects, the impacts of other current projects, and the impacts of probable future projects or expected growth.

The standards for "cumulatively considerable" were based on the established significance thresholds for each resource area or professional judgment if thresholds were not established for that resource. Determinations regarding whether a cumulative impact would be "considerable" also considered the effectiveness of mitigation measures in reducing the impact on a resource.

Compliance with previously approved plans or mitigation programs was an indicator that an impact would not be significant. Depending on the discipline area, a project's inclusion in a regional plan or projection may be a measure of whether the project would contribute to cumulative impacts.

3.3 Area of Potential Impact

The area of potential impact for each resource is presented in a separate technical memorandum specific to each resource (see Section 7, References). In general, the impact areas for cumulative impacts are broader geographic areas than those for direct impacts. The area of potential impact for cumulative impacts reflects the distribution of the individual resource and is not limited to the project area; it consists instead of the boundaries specific to the resource, such as the construction limits for a transportation improvement, private development, or other public infrastructure project that is near enough to the project and being performed at the same time, potentially inducing cumulative impacts.

3.4 Methods

The following resources were used in developing methods and determining cumulative impacts:

- Environmental Impact and Related Procedures (Code of Federal Regulations Title 23 Part 771).
- *Consideration of Cumulative Impacts in EPA Review of NEPA Documents* (U. S. Environmental Protection Agency 1999)
- *Considering Cumulative Effects Under the National Environmental Policy Act* (CEQ 1997)
- *National Cooperative Highway Research Program Report 466 - Desk Reference for Estimating the Indirect Effects of Proposed Transportation Projects* (Transportation Research Board 2002)

Information on proposed actions within the study area was reviewed to determine whether the action was appropriate to include in the cumulative analysis. The future action information was obtained from multiple public agencies. The future actions include transportation projects and rail projects (through CREATE). Many of the resources used were from online sources; however, some project information was obtained from public comments during the scoping process. The future project information was obtained from the following agencies or programs:

- CMAP
- City of Chicago
- CREATE
- Illinois Department of Transportation (IDOT)
- Metra
- Metropolitan Water Reclamation District of Greater Chicago
- Northeastern Indiana Commuter Transportation District (NICTD)
- Pace
- Regional Transit Authority
- Village of Calumet Park

Cumulative impacts analysis considers the past, present, and reasonably foreseeable future actions. The past conditions were addressed in the Affected Environment section. The cumulative analysis started with the present day conditions and included the reasonably foreseeable future conditions to the year 2030.

The following steps were used to determine the cumulative impacts for each of the resource categories:

- Define the baseline existing conditions for the resources, ecosystems, and communities. This step was documented in the technical memorandum for each resource as part of the Affected Environment section and in the description of the No Build Alternative.
- Identify the impacts of the proposed alternatives. Present the impacts as part of the analysis in the technical memorandum.
- Identify the present and reasonably foreseeable future actions and their possible impacts.
- Identify cumulative impacts for each resource.
- Identify mitigation measures for cumulative impacts, if appropriate.
- Summarize all of the cumulative impacts for the RLE Project.

The results of the final step above are included in this technical memorandum. If the RLE Project would have no direct impacts on a resource or discipline area, then there would also not be any cumulative impacts.

Section 4
Affected Environment

The project area encompasses a diverse mix of land uses including residential, commercial, and light industrial. Each RLE alternative alignment, except for that of the BRT Alternative, would begin at the existing 95th Street Terminal and would run south along I-94, then curve west to follow I-57.

The BRT Alternative would operate between the existing 95th Street Terminal and the intersection of 130th Street and Eberhart Avenue. The corridor consists of one- to two-story residential and light commercial structures. On-street parking and generous sidewalks flank both sides of Michigan Avenue. The portion of the route south of 120th Place is partially lined with trees and consists of mostly residential. The portion of the BRT Alternative alignment south of Michigan Avenue runs through a low-density residential and light commercial district until 130th Street and Eberhart Avenue, near the Altgeld Gardens neighborhood.

South of I-57 the UPRR Rail Alternative alignment runs along an existing railroad corridor that is surrounded by a mix of residential and light commercial districts. The UPRR Rail Alternative alignment south of Michigan Avenue runs along the Metropolitan Water Reclamation District property and terminates just north of the Altgeld Gardens neighborhood.

The Halsted Rail Alternative alignment runs south along Halsted Street through a light commercial and retail corridor surrounded by residential districts. Large sidewalks and parking lanes flank both sides of Halsted Street, while the street itself contains two through lanes in either direction. The Halsted Rail Alternative alignment runs past Cedar Park Cemetery and terminates north of the bridge that carries Halsted Street over the Little Calumet River.

The following tables identify projects within the general project area that are either anticipated to be completed prior to the start of RLE construction in 2022 or that may be under construction during the RLE's proposed construction period of 2022–2026.

The project list was developed from information available from the City of Chicago, CMAP, CREATE, IDOT, Illinois State Toll Highway Authority, and CTA.

4.1 Transportation Improvement Program

Table 4-1 lists the infrastructure improvement projects that are already in the CMAP Fiscal Year 2010–2015 TIP. The projects listed in Table 4-1 are expected to be completed prior to 2022.

Table 4-1: 2010-2015 Chicago Metropolitan Agency for Planning Transportation Improvement Program Projects in the Project Area; Projects Assumed in No Build Alternative

Agency	Location	Project	Expected Completion Date
IDOT	I-94 Bishop Ford Expressway from Stony Island Avenue feeder; includes Blue Island Avenue	Repair/replace two bridges	2016
IDOT	Bridge over I-94 Bishop Ford Expressway at 111th Street	Repair bridge	2013
IDOT	I-57 from US 30 (Lincoln Highway) to I-94 (Dan Ryan Expressway/Mainline)	Repair bridge	2013
CDOT	95th Street from Western Avenue to Ewing Avenue	Coordinate traffic signal timing	2016
IDOT	Vermont Street from Western Avenue to 127th Street	Resurface road	2013
IDOT	IL 1 (Halsted Street) from 127th Street to 152nd Street	Resurface road	2013
IDOT	127th Street from Ashland Avenue to Carpenter Street	Resurface road	2014
IDOT	CREATE Western Avenue Corridor	Includes CREATE projects WA1 through WA5, WA7, WA10, WA11	2015
IDOT	CREATE East-West Corridor	Include CREATE projects EW-1, EW-2, EW-3, EW-4	2021
Metra	Regionwide	Acquire shop facility and/or equipment; work on rail tower or yard; work on vehicle maintenance facility	2016
Metra	Metra 3246 Catenary Wire, ME	Replace catenary wire at selected locations along the ME District right of way.	2014
IDOT	Bike Facility: Palos Heights - Cal-Sag Multi-Use Greenway from Centennial Trail to Burnham Greenway	Build bicycle and pedestrian facility	2014
IDOT	Hotel Florence from 11111 South Forestville, Pullman Historic District	Preserve historic facility	2012
IDOT	North Pullman Historic District Area	Conduct landscaping, preserve historic facility	2013

Notes: IDOT = Illinois Department of Transportation, CREATE = Chicago Region Environmental and Transportation Efficiency, CDOT= Chicago Department of Transportation, ME = Metra Electric

4.2 Fiscally Constrained Major Capital Projects

The *GO TO 2040 Comprehensive Regional Plan* (GO TO 2040, CMAP 2010) is a comprehensive plan for the Chicago land region. The plan outlines goals in the following areas: livable communities, human capital, efficient government, and regional mobility. *GO TO 2040* describes strategies focused on regional mobility: investing in transportation, improving public transportation, and creating a more efficient freight network. The projects listed in Table 4-2 are some of the fiscally constrained major transportation projects that may have the potential for cumulative impacts with the RLE. The expected construction dates of these projects in relation to the RLE are identified in Table 4-2.

Table 4-2: *GO TO 2040* Fiscally Constrained Major Capital Projects

Agency	Project Name	Description	Timeframe of Action in Relation to RLE Project
IDOT/Tollway	I-294/I-57 Interchange	Construction of proposed interchange at the junction of the two interstates.	Before
IDOT	I-80 Add Lanes	Construction of two lanes from River Road to I-294	Before
Metra	Metra Rock Island Improvements	Construction of a third track to the 9-mile double-track portion of the Rock Island District Line. A new flyover bridge over the NS Railroad at 63rd Street, new bi-directional signals, several new bridges over city streets, and the expansion and modernization of the 47th Street Yard.	Before
Metra	SouthWest Service Improvements	Service will be rerouted to terminate at LaSalle Station. Construction of a 2-mile segment beginning west of Belt Junction to carry trains over the parallel NS service along 74th Street over the Rock Island District tracks.	Concurrent
CDOT	West Loop Transportation Center	Construction of a proposed transportation terminal located between the Eisenhower Expressway and Lake Street. As part of this project, improvements to Union Station will be done to increase capacity.	Concurrent
CTA	Red Purple Modernization Project	Reconstruction improvements of the existing rail and stations between Belmont and Howard stations on the Red Line, and between Howard and Linden stations on the Evanston Branch.	Before/Concurrent

Notes: RLE = Red Line Extension, IDOT= Illinois Department of Transportation, Tollway = Illinois State Toll Highway Authority, CDOT = Chicago Department of Transportation, CTA = Chicago Transit Authority, NS = Norfolk Southern

4.3 State, Regional, and Local Plans

Table 4-3 lists the other actions or studies within or near the project area that are not included in either the TIP or are on the list of fiscally constrained projects. Many of the actions listed in Table 4-3 establish an outline of strategies to improve the livability and safety in the City of Chicago. Although most of these do not list specific planned projects, they may lead to future projects within the project area.

Table 4-3: Existing, Current, and Reasonably Foreseeable Future Actions

Location and Action	Description of Action	Timeframe of Action in Relation to RLE Project
Illinois Department of Natural Resources		
Illinois Coastal Management Program	Environmental Impact Statement was prepared through NOAA. Plan was adopted in 2011. Plan for preserving, restoring, and protecting the coastal resources in Illinois. In the little Calumet and Grand Calumet River corridors, Lake Calumet and Calumet River and surrounding wetland areas and degraded industrial areas will be addressed.	Concurrent
Millennium Reserve	Millennium Reserve stretches from downtown Chicago east to the Indiana border and southwest to Midewin National Tallgrass Prairie in Wilmington, Illinois. The immediate focus within this area is the Calumet Core region, encompassing numerous neighborhoods on Chicago's south side, the southeast lakefront, and 35 south suburban municipalities. Governed by Illinois State Executive Order 13-03.	Before
Illinois Department of Transportation FY 2012-2017 Highway Improvement Program		
I-90/94 at 63rd Street	Bridge replacement and utility adjustments	Before
IL 1 (Halsted Street)	Little Calumet River, Bridge Repair	Before
111th Street FAU 1583	Resurfacing Vincennes Avenue to Halsted Street	Before
138th Street and Ashland Avenue	Pump station and drainage	Before
135th Street and Ashland Avenue Bridge	Bridge Rehabilitation	Before
Wood Street Reconstruction	Wood Street from Little Calumet River to US 6 Reconstruction	Before
Eggleston Ave Phase 1	US Routes 12/20 to 95th Street at Eggleston Avenue	Before
IDOT High Speed Rail	High Speed Rail - Chicago to St. Louis	Before
Illinois State Toll Highway Authority (Tollway)		
Move Illinois: The Illinois Tollway Driving the Future	Reconstruct 8 Lanes of I-294 95th Street to Balmoral Avenue.	After
Move Illinois: The Illinois Tollway Driving the Future	I-294/I-57 interchange. New ramps, structures and toll plazas. New ramps to and from Memphis and 147th Street ramps.	Before

Location and Action	Description of Action	Timeframe of Action in Relation to RLE Project
Indiana Department of Transportation		
Indiana State Rail Plan	NICTD is completing a bypass of the Kensington Station in Illinois, which will give the South Shore line a second route through the Kensington Interlocking.	Before
Illiana Expressway Feasibility Study	The Illiana study area is in southern Will County and northern Kankakee County in Illinois and southern Lake County in Indiana. The study area is generally between I-65 on the east, I-55 on the west, US 30 on the north, and north Kankakee County on the south. The study proposes an east-west corridor extending from I-55 to I-65 with potential interchange to I-57. A record of decision was issued for the Illiana Corridor in January 2013.	Concurrent
Northwest Indiana Regional Development Authority		
Comprehensive Economic Strategic Plan - Phase II	As part of the West Lake Corridor expansion project, plans to expand the NICTD line from Munster to the existing South Shore line in Chicago.	Concurrent
Forest Preserve District of Cook County		
Final Capital Improvement Plan 2012-2016.	Proposed bike and equestrian trails including the Cal-Sag Trail, Beaubien Woods parking projects and site identification, and Dan Ryan woods paved trail	Before
Chicago Transit Authority		
Ashland Bus Rapid Transit	Analysis of potential service options on Western and Ashland Avenues in a study area extending approximately 21 miles in length from about Howard Street on the north, Western Avenue on the west, Ashland Avenue on the east, and 95th Street on the south	Concurrent
City of Chicago		
Chicago Climate Action Plan	This plan lists five strategies to make the City of Chicago more resilient to the effects of Climate Change, including improved transportation options. The following actions are listed under this strategy: invest in more transit, expand transit incentives, promote transit-oriented development, improve fleet efficiency, switch to cleaner fuels, make walking and biking easier, support intercity rail, and improve freight movement.	Concurrent
Chicago Railroad Economic Opportunity Plan	Study examined Chicago's industrial corridors for the sustainability of the railroad industry. The Calumet Industrial Corridor was identified as one of the five areas most suitable for rail-based industries to be studied in depth. Within this corridor the following projects are included: the NS grade crossings at Torrence Avenue and 130th Street out of the Ford Assembly Plant and the connection from CREATE's east-west corridor from Pullman Junction to the NS mainline.	Concurrent

Location and Action	Description of Action	Timeframe of Action in Relation to RLE Project
Chicago Streets for Cycling Plan	Chicago Streets for Cycling Plan 2020 is a complementary plan to Bike 2015 Plan. The three principles in the plan are to provide a bicycle accommodation within ½ mile of every Chicagoan, provide a greater number of bikeways where more people live, and increase the amount of infrastructure where ridership is high, while establishing a strong backbone of infrastructure where ridership is currently lower. The plan calls for 100 miles of protected bike lanes, 10 miles of neighborhood greenways, 20 miles of bike lanes on Neighborhood Bike Routes, and continuous bikeways on three Spoke Routes by 2015. The plan calls for the following by 2020: continuous bikeways on all Spoke Routes, an additional 50 miles of protected bike lanes, an additional 30 miles of neighborhood greenways, an additional 40 miles of bike lanes on Neighborhood Bike Routes, and marking and/or signage on all Neighborhood Bike Routes.	Concurrent
Chicago Pedestrian Plan	The Chicago Pedestrian Plan has the following goals: 1) Improve pedestrian safety by eventually eliminating pedestrian fatalities, designing and building safer streets for pedestrians, and improving safety by reducing crime. 2) Improve connectivity by identifying and eliminating gaps and barriers in the pedestrian network, improving pedestrian connectivity to transit, and improving at-grade railroad crossings. 3) Increase livability by increasing the amount and quality of pedestrian space and increasing activity in pedestrian space. 4) Improve health by increasing the number of pedestrian trips for enjoyment, school, work, and daily errands and increasing the mode share of pedestrian trips.	Concurrent
Far South Railroad Relocation Study	Study to potentially relocate the UPRR to another railroad ROW.	Before
South Lakefront Corridor Transit Study	CDOT and Department of Housing and Economic Development have commissioned this study to identify ways to improve public transportation in the corridor, enhance mobility for residents, and increase access to jobs located throughout the city and surrounding areas. The study area includes northern stops on the Red Line and the Metra Electric District line.	Concurrent

Location and Action	Description of Action	Timeframe of Action in Relation to RLE Project
Transit Friendly Development Guide/Station Area Typology Study	The Transit Friendly Development Guide designates each rail station with one of seven typologies that are common across the rail system. The designations are intended to shape the public's expectations about potential development while identifying the nearby zoning and infrastructure assets that maximize each station as a community anchor.	Concurrent
Calumet Area Land use Plan	Study lists potential uses for land. Document intended to direct future development in the Calumet area.	Concurrent
Ford Calumet Environmental Center	A proposed center for research and learning located within the Hegewisch Marsh area, a 130-acre wetland undergoing restoration.	Concurrent
Chicago Union Station Master Plan	The study identified potential ideals for adding tracks and platforms, as well as increasing the capacity of the station. Long-term concepts include developing a new station facility at 300 South Riverside or proposing a new commuter and intercity passenger train station on the 200 South Riverside block.	Concurrent
North Pullman TIF District	The North Pullman TIF District was created to promote ongoing investment in the district's existing buildings and vacant properties, especially the retail and commercial buildings on 103rd Street and the 11.5-acre Union Foundry site near 104th Street and Maryland Avenue. Expires in 2033.	Concurrent/After
West Pullman Industrial TIF District	Created to support ongoing industrial investments within the West Pullman Industrial Park. Intended to foster the area's revitalization through site assembly efforts, soil remediation projects, and numerous infrastructure improvements. Infrastructure projects included were the reconstruction of 119th Street, 120th Street, and Morgan Street, and portions of Loomis Street and Racine Avenue. Expires in 2021.	Concurrent
Calumet River TIF District	Redevelopment plan for area includes plan for remediation	Concurrent
Mercy Housing	Pullman Wheelworks: A nationally registered Historical building at 901 E. 104th Street. The project includes a renovation of the 210-unit rental complex.	Before
Urban Land Institute - Pullman Study	Study recommends redeveloping the area in phases as a mixed-use development. The study recommends reuse of existing buildings.	Before
Chicago Neighborhood Initiatives - Pullman Park	Pullman Park will be a 180-acre, sustainable, mixed-use development that provides retail services, diverse recreational opportunities, and quality housing to the greater Pullman and Roseland Communities on the south side of Chicago. The first phase of development will include the reconstruction of Doty Avenue and a new 150,000-square-foot Walmart store.	Concurrent

Location and Action	Description of Action	Timeframe of Action in Relation to RLE Project
Chicago Park District		
2012-2016 Capital Improvement Plan	Development of Calumet area properties is part of the 2012-2016 Plan. Properties include Hegewisch Marsh Expansion, Big Marsh Expansion, Kensington Park, Park development - 114th Street and Champlain Avenue, West Pullman Transition plan access improvements, and Palmer Field House.	Concurrent
Friends of the Cal-Sag Trail	Proposed trail along the Little Calumet River and Cal-Sag Channel.	Before
Chicago State University		
Master Plan	Master plan includes campus improvements, proposed buildings, and a transit facility for a proposed Metra station and CTA bus turnaround.	Concurrent
CREATE		
Traffic Control System Blue Island (B15) - Signalization of Blue Island Yard Running Tracks	The project includes installation of new bi-directional computerized traffic control system between the intersections of 140th Street and Western Avenue in Blue Island and the intersection of 140th Street and Indiana Avenue in Dolton, Illinois, to improve speed of freight trains, reducing freight conflicts with Amtrak.	Before
75th Street Corridor Improvement Project	Includes CREATE projects EW2, GS19, P2, and P3[1]	Before
EW2 & P2	The project will consider reconfiguring and building a third BRC main track and constructing a flyover to connect the Metra Southwest Service to the Rock Island Line in the vicinity of 74th Street and Normal Avenue and 75th Street and Parnell Avenue.	Before
P3	This project will consider constructing a bridge that significantly reduces conflicts between CSX and BRC, Metra (Rock Island District) and NS.	Before
GS19	The project will consider a road-rail grade separation of 71st Street and CSX freight.	Before
95th Street & Union Pacific Grade Separation (GS21a)	95th Street and Eggleston Avenue. The project will consider eliminating the at-grade crossing of 95th Street and two UPRR tracks with an overpass or underpass for vehicles using 95th Street.	Concurrent
Cottage Grove & IHB/CSX Grade Separation (GS23a)	The project will consider eliminating at-grade crossing of Cottage Grove Avenue and the four IHB and CSX tracks with an overpass or underpass for vehicles.	Concurrent

[1] Table 4-1 lists the CREATE projects that have been included in the 2010-2015 Transportation Improvement Program.

Location and Action	Description of Action	Timeframe of Action in Relation to RLE Project
Canadian National Railway		
Logistics Park	Proposed Logistics Park that will connect directly to CN's Chicago Intermodal Terminal. Located south of I-80/294 between Ashland Avenue and Dixie Highway.	Concurrent
Metra		
Southeast Corridor Alternatives Analysis	33.2 miles of proposed line from LaSalle Street Station to terminal near Balmoral Park. Would run along the following four existing railroad ROWs: Joint Union Pacific/CSX Transportation freight corridor from Balmoral Park to Dolton junction, UPRR from Dolton Junction to Oakdale Junction, Chicago Rail Link From Oakdale Junction to Gresham Interlocking, Metra Rock Island District from Gresham interlocking to LaSalle Street Station. Ten new stations and three existing stations (existing Rock Island District stations).	Concurrent/After
Metropolitan Water Reclamation District		
Calumet Waste Water Treatment Plant	Proposed improvements to the Calumet Waste Water Treatment Plant disinfection system.	Before
Village of Riverdale		
Northeast Riverdale Sewer System	New storm sewers and existing sewer improvements.	Before
Calumet-Sangamon Bike Trail Project:	33 miles of constructed bike trail through Riverdale.	Before
Private		
Crown Commercial Real Estate & Development - Roseland Plaza	Roseland Plaza redevelopment would be adjacent to the Michigan Avenue station. The proposal includes a strip mall within a 91,000-square-foot property with 250 parking spaces. There would be 49,000 square feet of commercial space, which would include a grocery store, pharmacy, clothing store, and a bank. The City's Community Development Commission designated the developer in February 2005. The City approved the sale of its land and land write-down costs in May 2009. The developer modified its proposal and received approval of its Planned Development application from the Chicago Plan Commission in October 2011.	Before/Concurrent

Notes: NOAA = National Oceanic and Atmospheric Administration, IDOT = Illinois Department of Transportation, NICTD = Northern Indiana Commuter Transportation District, NS = Norfolk Southern, CREATE = Chicago Region Environmental and Transportation Efficiency, ROW = right-of-way, UPRR = Union Pacific Railroad, CDOT = Chicago Department of Transportation, CTA = Chicago Transit Authority, TIF = tax-increment financing, BRC = Belt Railway of Chicago, IHB = Indiana Harbor Belt Railroad, CN = Canadian National

Section 5
Impacts and Mitigations

5.1 No Build Alternative

The No Build Alternative is defined as the existing transportation system plus any committed transportation improvements that are already in the CMAP Fiscal Year 2010–2015 TIP. Table 4-1 lists the TIP projects within the project area, consisting of four bridge reconstructions, several road improvement projects including resurfacing and coordination of signal timing, work on Metra's facilities, construction of a bicycle/pedestrian multi-use trail, and preservation of historic facilities.

The No Build Alternative would not contribute to cumulative benefits or impacts for the following resources: transportation; land use and economic development; displacements and relocations; parklands and community facilities; visual and aesthetic conditions; noise and vibration; safety and security; historic and cultural resources; hazardous materials; water resources; wetlands; floodplains; vegetation and wildlife habitat; threatened or endangered species; geology and soils; energy; and environmental justice. These resources could be independently affected by the project and were analyzed separately. Only resources that would incur cumulative impacts due to multiple projects are presented in this section. The following sections discuss environmental resources with the potential to be subject to cumulative benefits or impacts with the No Build Alternative.

5.1.1 Neighborhood and Community Impacts

Although the No Build Alternative would not have adverse cumulative impacts, the lack of improved transportation options and lack of new infrastructure would do little to reverse the disinvestment in the project area that has occurred over the past several decades.

5.1.2 Air Quality

The Red and Purple Modernization (RPM) Project is a reasonably foreseeable action that would result in beneficial air quality impacts, as it is anticipated to have an increase in ridership with a corresponding reduction in trips made by vehicles. The cumulative impacts would result in a reduction of air emissions and would be beneficial. The air quality benefits of the No Build Alternative would be smaller in scale than those of any of the other RLE alternatives.

5.2 Bus Rapid Transit Alternative

The BRT Alternative is a 5.5-mile long BRT route that would provide an enhanced bus route with transit signal priority along the existing #34 South Michigan bus route. Four stops with improved bus shelters and parking would be created at 103rd Street and Michigan Avenue, 111th Street and Michigan Avenue, Kensington Avenue and Michigan Avenue, and 130th Street and Eberhart Avenue.

The BRT Alternative would not contribute to cumulative benefits or impacts for the following resources: transportation; land use and economic development; displacements and relocations; visual and aesthetic conditions; noise and vibration; safety and security; historic and cultural resources; hazardous materials; water resources; wetlands; floodplains; vegetation and wildlife habitat; threatened or endangered species; geology and soils; energy; and environmental justice. These resources could be independently affected by the project and were analyzed separately. Only resources that would incur cumulative impacts due to multiple projects are presented in this section. The following sections discuss environmental resources with the potential to be subject to cumulative benefits or impacts with the BRT Alternative.

5.2.1 Neighborhood and Community Impacts

The minimal improvements of transportation options and new infrastructure would do little to reverse the disinvestment in the project area that has occurred over the past several decades. The cumulative impacts on neighborhood and communities would not be adverse and would not require mitigation measures.

5.2.2 Parklands and Community Facilities

The construction and operation of the BRT Alternative would not reduce the overall health of the parklands and/or community facilities in the project area. Improved transit in the project area would result in improved access to parklands and community facilities beyond the project area and within walking distance of CTA's greater rail network.

5.2.3 Air Quality

The RPM Project is a reasonably foreseeable action that would result in beneficial air quality impacts, as it is anticipated to have an increase in ridership with a corresponding reduction in trips made by vehicles. The cumulative impacts would be beneficial due to the reduction of air emissions.

5.3 Union Pacific Railroad Rail Alternative - Right-of-Way Option

The UPRR Rail Alternative would extend the Red Line from the existing 95th Street Terminal to 130th Street, just west of I-94. Under the UPRR Rail Alternative ROW Option (ROW Option) the CTA tracks would be placed in the UPRR ROW between I-57 and the CN/ME tracks. As part of a separate project, the existing freight operations would be moved out of the UPRR corridor, leaving the corridor vacant. The CTA could implement the ROW Option only if this separate project occurs prior to RLE. Four stations would be included in the ROW Option: 103rd Street, 111th Street, Michigan Avenue, and 130th Street. One terminal station at 130th Street is under evaluation with two options: the South Station Option and the West Station Option. Substations are tentatively proposed for the following locations: west of the CTA tracks between 104th and 105th Streets, west of the CTA tracks between Perry and Lafayette Avenues, and west of the CTA tracks north of the proposed parking structure for the South Station Option or along the curve of the CTA tracks near 130th Street for the West Station Option. An additional substation within the 120th Street yard and shop facility is proposed.

The ROW Option would not contribute to cumulative benefits or impacts for the following resources: displacements and relocations; visual and aesthetic conditions; historic and cultural resources; hazardous materials; water resources; wetlands; floodplains; vegetation and wildlife habitat; threatened or endangered species; geology and soils; energy; and environmental justice. These resources could be independently affected by the project and were analyzed separately. Only resources that would incur cumulative impacts due to multiple projects are presented in this section. The following sections discuss environmental resources with the potential to be subject to cumulative benefits or impacts with the ROW Option.

5.3.1 Transportation

There could be beneficial impacts on traffic due to the relocation of the UPRR. There would be fewer traffic delays with the ROW Option than with the East or West Options.

5.3.2 Noise and Vibration

There could be beneficial impacts on noise and vibration from the ROW Option when considering the relocation of the UPRR. Because UPRR freight operations would be relocated, the ROW Option would result in less noise and vibration than under the No Build Alternative, and would result in less noise and vibration than the East and West Options would.

5.3.3 Safety and Security

The ROW Option could have beneficial impacts on safety due to the relocation of the UPRR. The relocation of the UPRR would eliminate conflicts between freight trains and motor vehicles or pedestrians accessing the transit facilities.

5.3.4 Land Use and Economic Development

Land use and economic development impacts for the UPRR Rail Alternative were analyzed for two segments in the project area, Segment UA and UB, as shown on Figure 2-1.

5.3.4.1 Segment UA

Implementation of the ROW Option would have a beneficial cumulative impact on land use and economic development due to new employment accessibility, attraction of new development adjacent to RLE stations, and overall livability improvements. The private sector would likely perceive the ROW Option as a public sector commitment to improve the overall project area and regain confidence in the area's economic development market. The affected neighborhoods include Washington Heights, Roseland, and West Pullman. The UPRR ROW Option would only be implemented if the UPRR were relocated as part of a separate, independent project prior to the construction of the UPRR ROW Option. This action would benefit adjacent residential neighborhoods that would be relieved of the noise, vibration, and traffic delays caused by the UPRR operations.

5.3.4.2 Segment UB

The cumulative land use and economic development impacts would be similar to those described for Segment UA (Section 5.3.1.1). The cumulative land use and economic development impacts would be considered beneficial in West Pullman and Riverdale.

5.3.5 Neighborhood and Community Impacts

The retail and commercial space on the ground floor of the Michigan Avenue station's park & ride garage, combined with the proposed Roseland Plaza north of the station site, would help activate the neighborhood and enhance the station's role as a focal point of community activity and services. The station and retail improvements may contribute to a southward expansion of the current commercial and entertainment district along Michigan Avenue between 111th and 113th Streets. The relocation of the UPRR would benefit adjacent residential neighborhoods that would be relieved of the noise, vibration, and traffic delays caused by the UPRR operations.

5.3.6 Parklands and Community Facilities

The construction and operation of the ROW Option would not reduce the overall health of the parklands and/or community facilities in the project area. Improved transit in the project area would result in improved access to parklands and community facilities beyond the project area and within walking distance of CTA's greater rail network.

5.3.7 Air Quality

The RPM Project is a reasonably foreseeable action that would result in beneficial air quality impacts, as it is anticipated to have an increase in ridership with a corresponding reduction in trips made by vehicles. The cumulative impacts would be beneficial due to the reduction of air emissions.

5.4 Union Pacific Railroad Rail Alternative - East Option

In the UPRR Rail Alternative East Option (East Option), the CTA tracks would be placed immediately adjacent to and east of the UPRR ROW between I-57 and the CN/ME tracks. The UPRR is evaluating adding a third track to the east of its two existing tracks. The East Option would include substations at the following locations: west of the UPRR tracks between 104th and 105th Streets, west of the UPRR tracks between Perry Avenue and Lafayette Avenue, and west of the CTA tracks south of the proposed yard near the 130th Street station. An additional substation within the 120th Street yard and shop facility is proposed. Four stations would be included in the East Option: 103rd Street, 111th Street, Michigan Avenue, and 130th Street. One terminal station at 130th Street is under evaluation with two options: the South Station Option and the West Station Option.

The East Option would have no or limited impacts on the following resources: displacements and relocations; visual and aesthetic conditions; noise and vibration; historic and cultural resources; hazardous materials; water resources; wetlands; floodplains; vegetation and wildlife habitat; threatened or endangered species; geology and soils; energy; and environmental justice. This alternative would therefore not contribute to cumulative impacts for the environmental resources

listed above. The environmental resources that have the potential to be subject to cumulative impacts are discussed in the following sections for the East Option.

5.4.1 Transportation

The CREATE 75th Street Corridor Improvement Project would increase freight volumes substantially by the forecasted 2029 build year. Because the UPRR tracks would remain with the East Option, freight trains may have potential impacts on pedestrian and vehicular traffic near the proposed stations, which could affect travel times for bus transit serving the stations and increase delays for commuters who choose to park and ride. Potential mitigation measures could include the coordination of passenger and UPRR freight train schedules to avoid or reduce trains crossing at peak hours such as morning rush hour. CTA train and bus schedules could also be coordinated with passenger and UPRR trains to reduce commuter delays.

5.4.2 Land Use and Economic Development

Cumulative land use and economic development impacts for the East Option would be similar to those stated in Section 5.3.4 for the ROW Option for Segments UA and UB, with the exception of the additional benefits of the ROW Option considered cumulatively with the UPRR relocation project, a separate project that would occur before implementation of the UPRR ROW Option.

5.4.3 Neighborhood and Community Impacts

Cumulative neighborhood and community impacts for the East Option would be similar to those stated in Section 5.3.5 for the ROW Option, with the exception of the additional benefits that the ROW Option would have due to the prior relocation of the UPRR.

5.4.4 Parklands and Community Facilities

Cumulative parklands and community facilities impacts for the East Option would be similar to those stated in Section 5.3.6 for the ROW Option.

5.4.5 Safety and Security

In addition to the expected increase in automobile and pedestrian traffic volumes as a result of the RLE Project when compared to the No Build Alternative, the full implementation of the CREATE program would increase the number of trains using the UPRR tracks from 26 to 48 per day. The proposed Metra SouthEast Service Line, if implemented, could also increase the number of passenger trains per day on the line beyond the existing two Amtrak trains per day. The increase in train volumes could correlate to an increase in potential crash frequency at highway-rail grade crossings. This increase in crash potential would be an adverse impact at the existing highway-rail grade crossings along the UPRR tracks at 101st Street, 103rd Street, 107th Street, 109th Street, 111th Street, Wentworth Avenue, 115th Street, and State Street. All of these crossings currently have gates on both roadway approaches and flashing lights. Crash potential could be further mitigated by installing safety protection technologies for vehicles and pedestrians to prevent drivers from going around the gates, and by installing pedestrian gates on the sidewalks.

5.4.6 Air Quality

Cumulative air quality impacts for the East Option would be similar to those stated in Section 5.3.7 for the ROW Option.

5.5 Union Pacific Railroad Rail Alternative - West Option

In the UPRR Rail Alternative West Option (West Option), the CTA tracks would be placed immediately adjacent to and west of the UPRR ROW between I-57 on the north end and the UPRR tracks near Kensington Park on the south end. The West Option would include substations at the following locations: east of the UPRR tracks between 105th Street and 105th Place, west of the UPRR tracks between Perry Avenue and Lafayette Avenue, and east of the CTA tracks south of the proposed yard near the 130th Street station. An additional substation within the 120th Street yard and shop facility is proposed. Four stations would be included in the West Option: 103rd Street, 111th Street, Michigan Avenue, and 130th Street. One terminal station with two options is under evaluation for the 130th Street station: the South Station Option and the West Station Option.

The West Option would have limited or no impacts on the following resources: displacements and relocations; visual and aesthetic conditions; noise and vibration; historic and cultural resources; hazardous materials; water resources; wetlands; floodplains; vegetation and wildlife habitat; threatened or endangered species; geology and soils; energy; and environmental justice. This alternative would therefore not contribute to substantial cumulative impacts for the environmental resources listed above. The environmental resources that have the potential to be subject to cumulative impacts are discussed in the following sections for the West Option.

5.5.1 Transportation

Cumulative transportation impacts for the West Option would be similar to those stated in Section 5.4.1 for the East Option.

5.5.2 Land Use and Economic Development

Cumulative land use and economic development impacts for the West Option would be similar to those stated in Section 5.3.4 for the ROW Option for Segments UA and UB with the exception of the additional benefits of the ROW Option considered cumulatively with the UPRR relocation project.

5.5.3 Neighborhood and Community Impacts

Cumulative neighborhood and community impacts for the West Option would be similar to those stated in Section 5.3.5 for the ROW Option with the exception of the additional benefits of the ROW Option considered cumulatively with the UPRR relocation project.

5.5.4 Parklands and Community Facilities

Cumulative parklands and community facilities impacts for the West Option would be similar to those stated in Section 5.3.6 for the ROW Option.

5.5.5 Safety and Security

Cumulative safety and security impacts for the West Option would be similar to those stated in Section 5.4.5 for the East Option.

5.5.6 Air Quality

Cumulative air quality impacts for the West Option would be similar to those stated in Section 5.3.7 for the ROW Option.

5.6 120th Street Yard and Shop

There would be no cumulative impacts associated with the 120th Street yard and shop.

5.7 Halsted Rail Alternative

The proposed Halsted Rail Alternative is a 5-mile extension of the existing Red Line. It would operate on an elevated structure running south from 95th Street along I-57 until Halsted Street. It would then turn south and continue along Halsted Street to the intersection of Halsted Street and Vermont Avenue near 127th Street. Four stations would be built at 103rd Street, 111th Street, 119th Street, and Vermont Avenue.

The Halsted Rail Alternative would have limited or no impacts on the following resources: transportation; displacements and relocations; neighborhoods and community facilities; visual and aesthetic conditions; noise and vibration; safety and security; historic and cultural resources; hazardous materials; water resources; wetlands; floodplains; vegetation and wildlife habitat; threatened or endangered species; geology and soils; energy; and environmental justice. This alternative would therefore not contribute to substantial cumulative impacts for the environmental resources listed above. The environmental resources that have the potential to be subject to cumulative impacts are discussed in the following sections for the Halsted Rail Alternative.

5.7.1 Land Use and Economic Development

Land use and economic development impacts for the Halsted Rail Alternative were analyzed for two segments in the project area, Segment HA and HB, as shown on Figure 2-1.

5.7.1.1 Segment HA

Cumulative land use and economic development impacts for the Halsted Rail Alternative would be similar to those stated in Section 5.3.4 for the UPRR ROW Option including the community of Morgan Park. The cumulative land use and economic development impacts would be beneficial for Washington Heights, Roseland, West Pullman, and Morgan Park.

5.7.1.2 Segment HB

The cumulative land use and economic development impacts would be similar to those stated in Section 5.3.4 for the UPRR ROW Option with the exception that only West Pullman would receive beneficial cumulative impacts from the Halsted Rail Alternative.

5.7.2 Parklands and Community Facilities

The construction and operation of the Halsted Rail Alternative would not reduce the overall health of the parklands and/or community facilities in the project area. Improved transit in the project area would result in improved access to parklands and community facilities beyond the project area and within walking distance of CTA's greater rail network.

5.7.3 Air Quality

The RPM Project is a reasonably foreseeable action that would result in beneficial air quality impacts, as it is anticipated to have an increase in ridership with a corresponding reduction in trips made by vehicles. The cumulative impacts would be beneficial due to the reduction of air emissions.

5.8 119th Street Yard and Shop

There would be no cumulative impacts associated with the 119th Street yard and shop.

Section 6
Impacts Remaining After Mitigation

6.1 No Build Alternative

Because there would be no adverse cumulative impacts, no mitigation measures would be required for the No Build Alternative.

6.2 Bus Rapid Transit Alternative

Because there would be no adverse cumulative impacts, no mitigation measures would be needed for the BRT Alternative. There would be beneficial cumulative impacts on air quality due to the reduction in air emissions.

6.3 Union Pacific Railroad Rail Alternative – Right-of-Way Option

Because there would be no adverse cumulative impacts, no mitigation measures would be needed for the ROW Option. The ROW Option would have beneficial impacts for land use and economic development, neighborhoods and communities, parklands, and air quality.

6.4 Union Pacific Railroad Rail Alternative – East Option

6.4.1 Transportation

There would be no adverse impacts remaining after the mitigation measures discussed in Section 5.4.1 are implemented.

6.4.2 Land Use and Economic Development

There would be beneficial cumulative impacts on land use and economic development; therefore, no mitigation measures would be needed.

6.4.3 Neighborhood and Community Impacts

There would be beneficial cumulative impacts on neighborhoods and communities; therefore, no mitigation measures would be needed.

6.4.4 Parklands and Community Facilities

There would be beneficial cumulative impacts on parklands and community facilities; therefore, no mitigation measures would be needed.

6.4.5 Safety and Security

There would be no adverse impacts remaining after mitigation measures discussed in Section 5.4.5 are implemented.

6.4.6 Air Quality

There would be beneficial impacts on air quality with or without the RPM Project, a reasonably foreseeable action. No mitigation measures would be required.

6.5 Union Pacific Railroad Rail Alternative – West Option

6.5.1 Transportation

There would be no adverse impacts remaining after the mitigation measures discussed in Section 5.4.1 are implemented.

6.5.2 Land Use and Economic Development

There would be beneficial cumulative impacts on land use and economic development; therefore, no mitigation measures would be needed.

6.5.3 Neighborhood and Community Impacts

There would be beneficial cumulative impacts on neighborhoods and communities; therefore, no mitigation measures would be needed.

6.5.4 Parklands and Community Facilities

There would be beneficial cumulative impacts on parklands and community facilities; therefore, no mitigation measures would be needed.

6.5.5 Safety and Security

There would be no adverse impacts remaining after the mitigation measures discussed in Section 5.4.5 are implemented.

6.5.6 Air Quality

There would be beneficial impacts on air quality with or without the RPM Project, a reasonably foreseeable action. No mitigation measures would be needed.

6.6 120th Street Yard and Shop

There would be no cumulative impacts for the 120th Street yard and shop; therefore, no mitigation measures would be needed.

6.7 Halsted Rail Alternative

6.7.1 Land Use and Economic Development

There would be beneficial cumulative impacts on land use and economic development; therefore no mitigation measures would be needed.

6.7.2 Parklands and Community Facilities

There would be beneficial cumulative impacts on parklands and community facilities; therefore, no mitigation measures would be needed.

6.7.3 Air Quality

There would be beneficial impacts on air quality with or without the RPM Project, a reasonably foreseeable action. No mitigation measures would be needed.

6.8 119th Street Yard and Shop

There would be no cumulative impacts associated with the 119th Street yard and shop; therefore, no mitigation measures would be needed.

Section 7
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Appendix A
2014–2015 Red Line Extension Project Update

2014–2015 Red Line Extension Project Update

From 2012–2014, CTA evaluated benefits and impacts of four alternatives: the No Build Alternative, the Bus Rapid Transit Alternative (along Michigan Avenue), the Union Pacific Railroad (UPRR) Rail Alternative, and the Halsted Alternative. CTA evaluated three options of the UPRR Rail Alternative: Right-of-Way Option, East Option, and West Option. CTA also evaluated two options of the UPRR Rail Alternative 130th Street station: a South Station Option and a West Station Option. Based on the project description provided in Section 2 of this technical memorandum, CTA analyzed the impacts of these alternatives and station options. The benefits and impacts are included in the technical memoranda prepared in 2012–2014.

In August 2014, based on the technical analysis and public input, CTA announced the NEPA Preferred Alternative—the UPRR Rail Alternative. Additional conceptual engineering was conducted on the UPRR Rail Alternative to refine the East and West Option alignments. In addition, CTA is considering only the South Station Option of the 130th Street Station.

In late 2014 and early 2015, CTA conducted additional engineering and revised assumptions on the East and West Options to refine the alignments. The refinement of the East and West Options consisted of the following items:

- For the segment of the alignment along I-57, CTA shifted the proposed alignment from the median of I-57 to the north side of I-57 within the existing expressway right-of-way. The construction would be less complex, safer for construction workers, and have a shorter duration. The shift would also allow for fewer impacts to Wendell Smith Park for the East Option, and would allow for no permanent impacts to Wendell Smith Park for the West Option.

- CTA modified the curve speeds as the alignment heads south from I-57 along the UPRR tracks. The curve speed for both the East and West Options would be 35 mph.

- CTA shifted the East Option alignment near 103rd Street station to minimize impacts to Block Park and the Roseland Pumping Station.

- CTA modified the curves south of 103rd Street for both the East and West Options to 55 mph to maximize the train speed.

- CTA refined the layout of the 120th Street yard and shop to optimize yard operations. The refined layout of the yard would accommodate 340 train cars.

The refinement of the East and West Option alignments minimizes potential impacts to parks while providing flexibility for future design phases. The Draft Environmental Impact Statement contains the benefits and impacts of the refined East and West Option alignments and supersedes information presented in other chapters of this technical memorandum.

The refined East and West Option alignments would have no additional or different impacts from those described in the technical memoranda for the following resource areas: construction, transportation, land use and economic development, historic and cultural resources, safety and security, hazardous materials, indirect and cumulative, air quality, floodplains, vegetation and wildlife habitat, threatened and endangered species, and geology and soils.