

Construction Project Briefing

May 12, 2021



Today's Presentation

- **Jefferson Park to O'Hare Signals Project**
- **System-Wide Traction Power Upgrades (Transformers Replacement) Project**
- **Refreshed & Renewed Program**
- **Jackson Park Line Track and Structure Improvement Project**
- **Red and Purple Modernization Project**



Project Title: Jefferson Park to O’Hare Signals Project

Justification of Need:	The existing 30-year old signal system is approaching the end of its useful life. Maintaining the system has become increasingly difficult in as much as many components are now obsolete and difficult to repair or replace.
Priority of Project:	High
Total Project Budget:	\$ 207M
Construction Contract Value:	\$ 153,696,433.00
Earned to Date:	64%
Percent Change Orders to Construction Contract:	0
Percent Time Used:	99%
DBE:	Goal: 10% Design / 15% Construction Commitment: 10.1% Design / 15% Construction Workforce Goals: 10% WIOA / 10% Apprentice Contract is on track to meet the DBE goal Outreach events conducted: 2 (CTA) 1 (KAJV)
Funding Source:	CTA Bonds, RTA Bonds, Federal Formula Funds, and Federal TIFIA loan
Estimated Start Date/Estimated Length of Project:	NTP: May 21, 2018; Substantial Completion May 20, 2021
Designer of Record:	KAJV – Mott McDonald
Construction Manager/General Contractor:	STV/KAJV
Detailed Overview of Scope:	
<p>This is a design-build project that existing relay houses are going to be replaced with new relay houses on elevated or at grade platforms and existing relay rooms are proposed to be expanded/ refurbished and/or reconfigured to accommodate the new signal equipment. The existing relay houses/ rooms are located at the following locations: Jefferson Park, Central, Foster, Nagle, Harlem, Cumberland, River Road, Rosemont East, Rosemont Yard, Rosemont West, Old Manheim, O’Hare East and O’Hare West. Special trackwork improvements are at Central Interlocking.</p>	



Project Title: Jefferson Park to O’Hare Signals Project

Impact on Customers:	There will be 11 weekend Line Cuts: 2 – 9 Day Line Cuts from O’Hare to Rosemont, 2 Weekend Line Cuts from Rosemont to Harlem, and 7 Line Cuts from Harlem to Jefferson Park. Bus shuttles will be provided for these line cuts. In addition, there are 90 nighttime single track outages that may affect customers.
Benefit to System:	This will be the last section of the Blue Line to receive upgraded signals and interlocking systems. When completed, these systems will assure consistent, safe and reliable train operations on the entire Blue Line for many years to come. The proposed new equipment will provide bi-directional railway traffic protection and maintain headways at 90 seconds at 35 mph nominal. The Project will be designed with infrastructure provisions for a future Communication Based Train Control (CBTC) system, such as ducts for serial fiber/ cables, ample spare room for hardware in each relay/ audio house and ideal locations for transponders, radio transmitters/ antennae and wayside zone controllers.
Benefit to Community:	Improved Reliability and Safety
Impact on Accessibility:	During the 11 weekend Line Cuts, train stations will be inaccessible.
Estimated # of Jobs Created:	106 Direct, 507 Indirect
Customer Communication Need:	Construction activity notices will be provided to inform customers that Line Cuts will impact their commute.

Comparable Projects:

- Ravenswood Loop Connector
- Congress Dearborn – Jefferson Park to Forest Park Signal Replacement



Project Title: Jefferson Park to O’Hare Signals Project

Construction Progress

Phase	Description	Status
Construction	<ul style="list-style-type: none"> • Signal & Traction Power Cable Installation. • Relay Houses are being manufactured. • Signal Equipment Installation. • Harlem cutover has started and has been progressing. • Old Mannheim Relay House has been installed. • Cumberland Relay House has been installed. • River Road Relay House scheduled for installation. • All Relay House Books of Plans have been submitted. 	<p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p> <p>Completed</p> <p>Completed</p> <p>5/3/21</p> <p>Ongoing Review</p>



Project Title: Jefferson Park to O'Hare Signals Project



Old Mannheim Relay House Installation



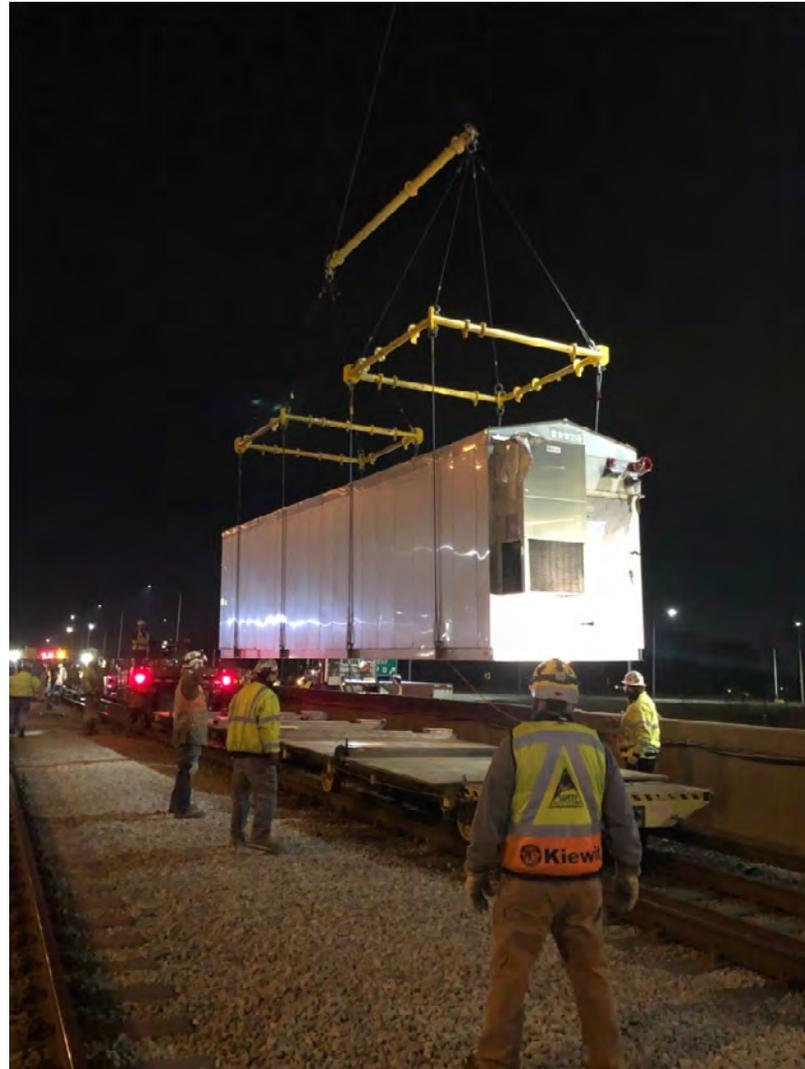
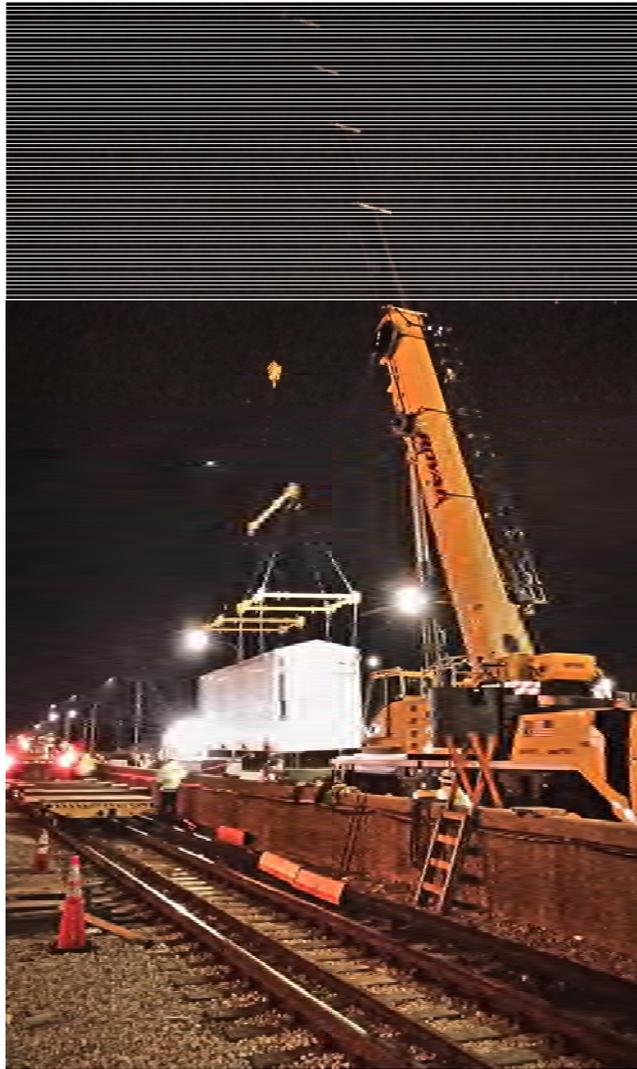
Project Title: Jefferson Park to O'Hare Signals Project



Old Mannheim Relay House Installation



Project Title: Jefferson Park to O'Hare Signals Project



Cumberland Relay House Installation

Project Title: Jefferson Park to O'Hare Signals Project



Cumberland Relay House Installation

Project Title: System-Wide Traction Power Upgrades Transformer Replacements

Justification of Need:	Existing transformers were past the unit's life expectancy. Some of the existing Oil transformers started leaking PCBs presenting a potential safety hazard. Also this upgrade is needed in order to meet the future traction power demands of the 7000 series railcar fleet and during times when the CTA runs more railcars during peak hours.
Priority of Project:	High
Total Project Budget:	\$9,246,890.00
Construction Contract Value:	\$5,877,000.00
Earned to Date:	85%
Percent Change Orders to Construction Contract:	0%
Percent Time Used:	82%
DBE:	<ul style="list-style-type: none"> • Goal: 10% • Commitment: 10.19% • Contract is on track to meet the DBE goal
Funding Source:	<ul style="list-style-type: none"> • A combination of (2010 IDOT and 2018 FEDERAL grants)
Estimated Start Date/Estimated Length of Project:	<ul style="list-style-type: none"> • NTP: January 27, 2020 • Substantial Completion: July 25, 2021
Designer of Record:	CTA Engineering
Construction Manager/General Contractor:	WSP / John Burns Construction Company

Detailed Overview of Scope: Isolating, disconnecting, removing, legally disposing of, delivering, installing and restoring power to fourteen (14) transformers at the following substation locations throughout the system:

- Two (2) 2500 kva dry type transformers at 17th Substation.
- One (1) 2500 kva dry type transformer at Douglas Substation.
- Three (3) 2500 kva dry type transformers at Edmunds Substation.
- Three (3) 3000 kva oil transformer at Franklin Substation.
- One (1) 2500 kva dry type transformer at Harding Substation.
- Three (3) 2500 kva dry type transformers at Lotus Substation.
- One (1) 2500 kva dry type transformer at Washington Substation.



Project Title: Traction Power Upgrades – Transformer Replacements

Impact on Customers:	<ul style="list-style-type: none"> No customer impacts.
Benefit to System:	This improvement will enable the CTA to continue to meet traction power needs and increase traction power capacity to meet future demands and maintain current and future service levels and load on the system.
Benefit to Community:	Will maintain current operations with less delays due to power availability.
Impact on Accessibility:	None
Estimated # of Jobs Created:	TBD
Customer Communication Need:	Construction activity notices and signage information are provided for any alley or sidewalk closures while removal of existing and delivery of new transformers occurred.

Comparable Projects:

- Previous JOC project (J12-045) provided the following items:
- **79th:** Rectifier, transformer, busduct, DC breaker & Cubicle, AC breaker & Cubicle.
- **Milwaukee:** Rectifier, transformer, busduct.
- **Broadway:** Rectifier, transformer, busduct, DC breaker & Cubicle.
- **Clifton:** Rectifier, transformer, busduct, AC breaker & Cubicle.
- **East Lake:** Rectifier, transformer, busduct, DC breaker & Cubicle, AC breaker & Cubicle.



Project Title: Traction Power Upgrades – Transformer Replacements

Construction Progress

Phase	Description	Status
Construction	<ul style="list-style-type: none"> • Transformer 1 replacement (dry type) at 17th Substation. • Transformer 2 replacement (dry type) at 17th Substation. 	<p>Completed Completed</p>
	<ul style="list-style-type: none"> • Transformer 1 replacement (dry type) at Harding Substation. 	<p>Completed</p>
	<ul style="list-style-type: none"> • Transformer 1 replacement (dry type) at Lotus Substation. • Transformer 2 replacement (dry type) at Lotus Substation. • Transformer 3 replacement (dry type) at Lotus Substation. 	<p>Completed Completed Completed</p>
	<ul style="list-style-type: none"> • Transformer 1 replacement (dry type) at Washington Substation. 	<p>Completed</p>
	<ul style="list-style-type: none"> • Transformer 1 replacement (dry type) at Edmunds Substation. • Transformer 2 replacement (dry type) at Edmunds Substation. • Transformer 3 replacement (dry type) at Edmunds Substation. 	<p>Completed Completed Completed</p>
	<ul style="list-style-type: none"> • Transformer 1 replacement (dry type) at Douglas Substation. 	<p>Completed</p>
	<ul style="list-style-type: none"> • Franklin Substation, site preparation and restoration activities include: <ul style="list-style-type: none"> 1) Soil excavation around containment pad. (will continue after installing all the TXs). 2) Soil sampling and PCB remediation. (will continue after installing all the TXs). 4) Asphalt resurfacing and restoration of the ground behind the substation building. 3) Restoration of concrete containment pads. 	<p>Ongoing Ongoing Planned Completed</p>
	<ul style="list-style-type: none"> • Transformer 1 replacement (oil type) at Franklin Substation. • Transformer 2 replacement (oil type) at Franklin Substation. • Transformer 3 replacement (oil type) at Franklin Substation. 	<p>Completed Ongoing Started</p>



Project Title: Traction Power Upgrades – Transformer Replacements



Applying Epoxy Coat over Concrete Pad 1 for Transformer 1 at Franklin Substation



Project Title: Traction Power Upgrades – Transformer Replacements



Field Testing New Transformer 1 on Flatbed at Franklin Substation

Project Title: Traction Power Upgrades – Transformer Replacements



Hoisting Transformer 1 at Franklin Substation

Project Title: Traction Power Upgrades – Transformer Replacements



Feeder Testing of Transformer 1 at Franklin Substation

Project Title: Refreshed & Renewed

Justification of Need:	The Refreshed & Renewed Program is a CTA Facilities Maintenance implemented plan to promote safety, security and longevity to all CTA Facilities including, but not limited to: Rail Stations and Platforms, Bus Garages and Rail Shops across the system. The Refreshed & Renewed Program performs major improvement work at these transit operations facilities for both the customer and the internal needs of the Authority.
Priority of Project:	Medium
Total Project Budget:	\$25,000,000
Expended to Date:	\$425,999.89
Used last Month:	\$352,865.03
Funding Source:	Various
Estimated Start Date/Estimated Length of Project:	January 2021 to December 31, 2021
Contractor	CTA Forces

92 Rail stations will receive lighting upgrades, painting and deep cleaning as part of this program.

35 stations will have a detailed Scope of work which includes:

- Maintaining Cleanliness throughout public, as well as, back-of-house areas
- Ensuring stations are graffiti free;
- Re-painting painted surfaces;
- Maintaining pathways of ingress and egress are clear of obstruction;
- LED lighting conversions and component
- Removing obstructions from windows and store front systems that may impede natural light and safe viewing points.
- Address and repair any unsafe defects such as spalling concrete and rotted wooden platforms;
- Replacing outdated and damaged signage;
- Maintaining a warm/cool working environment



Project Title: Refreshed & Renewed

<p>Impact on Customers: (Slow zones, single tracks, reroutes, weekends, etc.)</p>	<p>No track access occurrences within the scheduled work of the Refreshed & Renewed program will affect customers. Minimal impacts to customers will be work-arounds at any given station/facility that may affect customers, or employees, for a relatively short amount of time (Typically less than 1 day).</p>
<p>Benefit to System:</p>	<p>The Refreshed & Renewed Program is implemented to promote the continued safety, security and longevity of all CTA Facilities including, not limited to: Rail Stations and Platforms, Bus Garages and Rail Shops across the system.</p>
<p>Benefit to Community:</p>	<p>Improved overall lighting and wayfinding signage, newly painted & refreshed stations, safety, cleanliness and appearance. Focus on the Customer experience, both Internal and external.</p>

<p>Comparable or Upcoming Projects:</p>
<ul style="list-style-type: none"> • Station Renewal • Logan Square Station Renewal



Project Title: Refreshed & Renewed

Construction Progress

Department	Description	Status
Construction	<p><u>Rail Stations Full Program Scope 35 Stations</u></p> <ul style="list-style-type: none"> • Addison (Red) - Completed 3/26 • 35th (Red) - Completed 4/9 • 35th (Green) - Completed 4/9 • Belmont (Red) • Polk (Pink) • Conservatory (Green) • 47th (Red) • Rockwell (Brown) <p><u>Painting and Lightning Only Improvements 92 Stations</u></p> <ul style="list-style-type: none"> • <u>SBE Contract Procurement</u> 	<p>Completed</p> <p>Completed</p> <p>Completed</p> <p>Completed</p> <p>In Progress</p> <p>In Progress</p> <p>Upcoming</p> <p>Upcoming</p> <p>In Progress</p>

Delay Explanation:
n/a



Project Title: Refreshed & Renewed



Before **After**
Addison (Red) LED Lighting Conversion



Project Title: Refreshed & Renewed



Before

After

Sox-35th (Red) Painting Improvements



Project Title: Refreshed & Renewed



Before



After

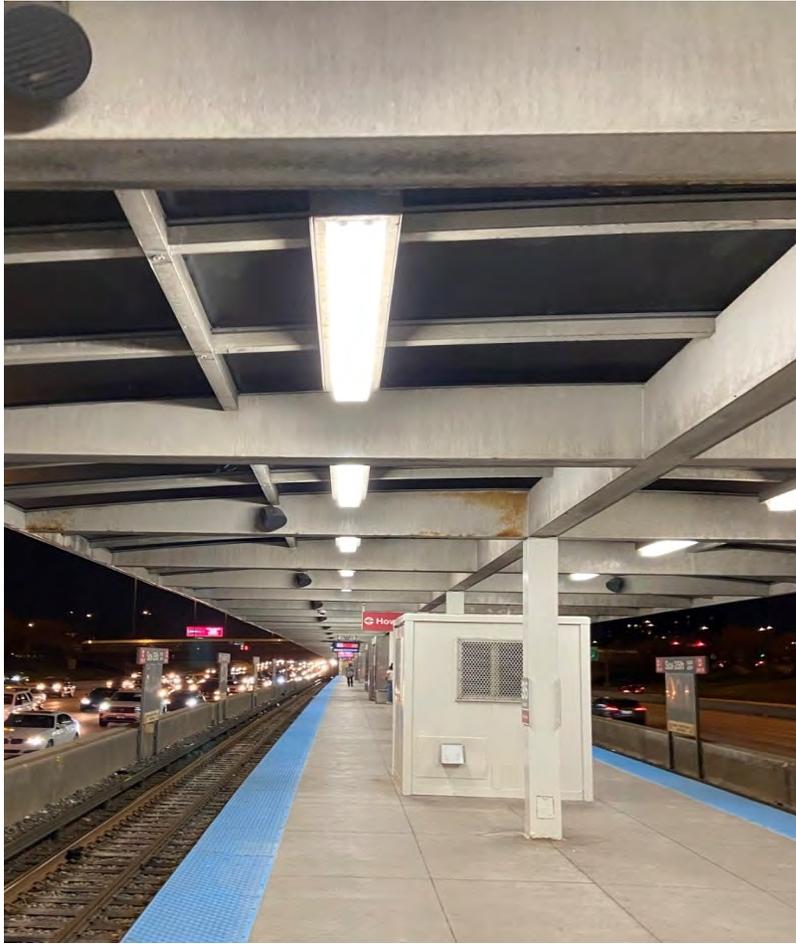
Sox-35th (Red) LED Lighting Conversion



Project Title: Refreshed & Renewed



Before

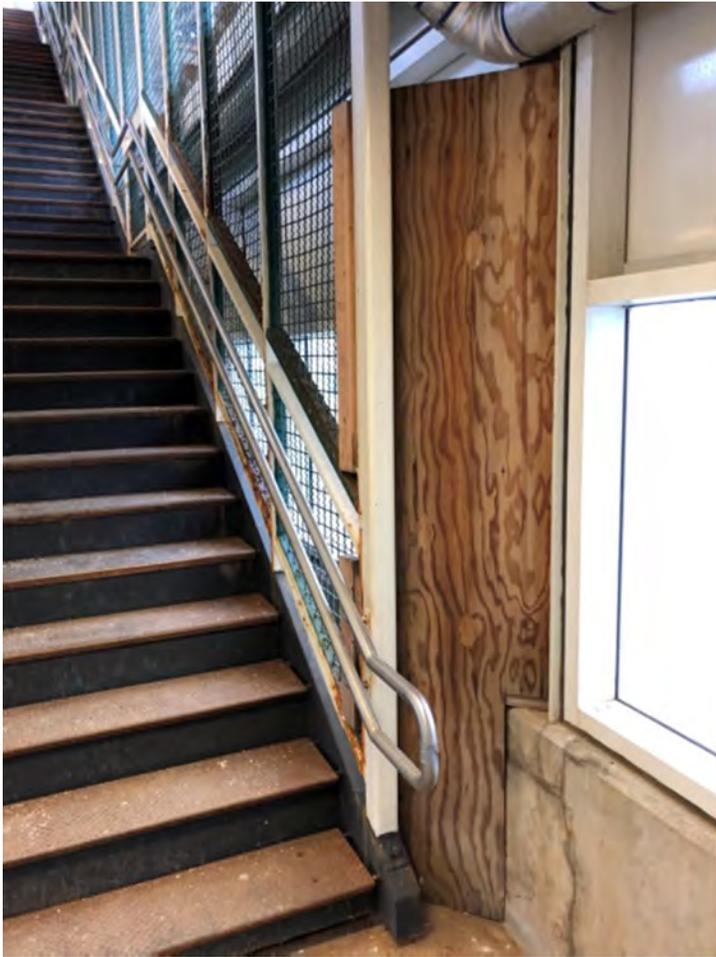


After

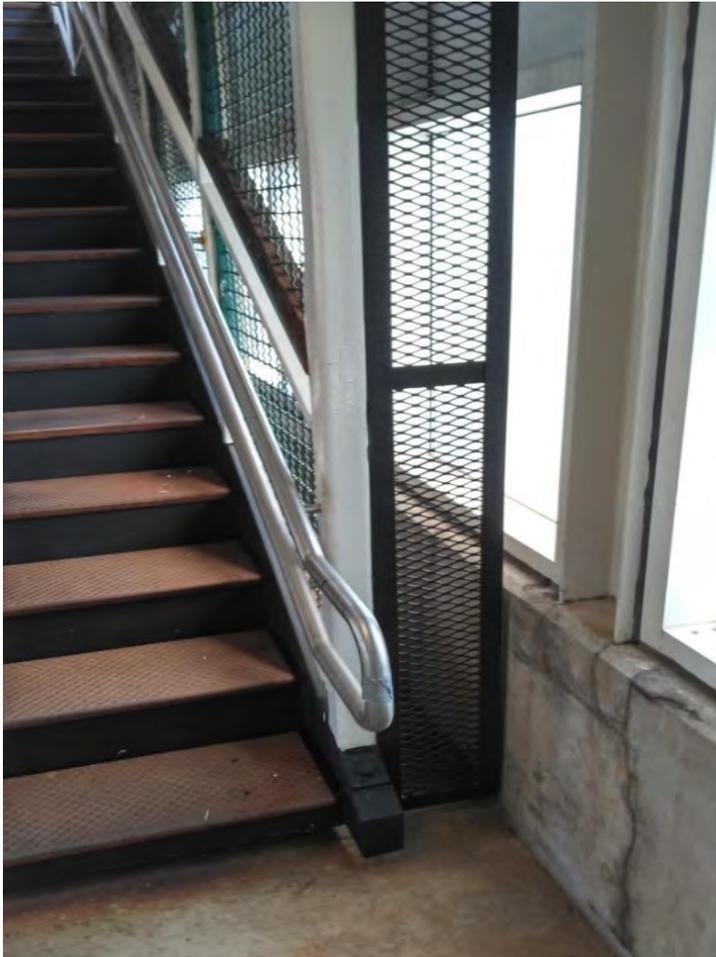
Sox-35th (Red) LED Lighting Conversion



Project Title: Refreshed & Renewed



Before



After

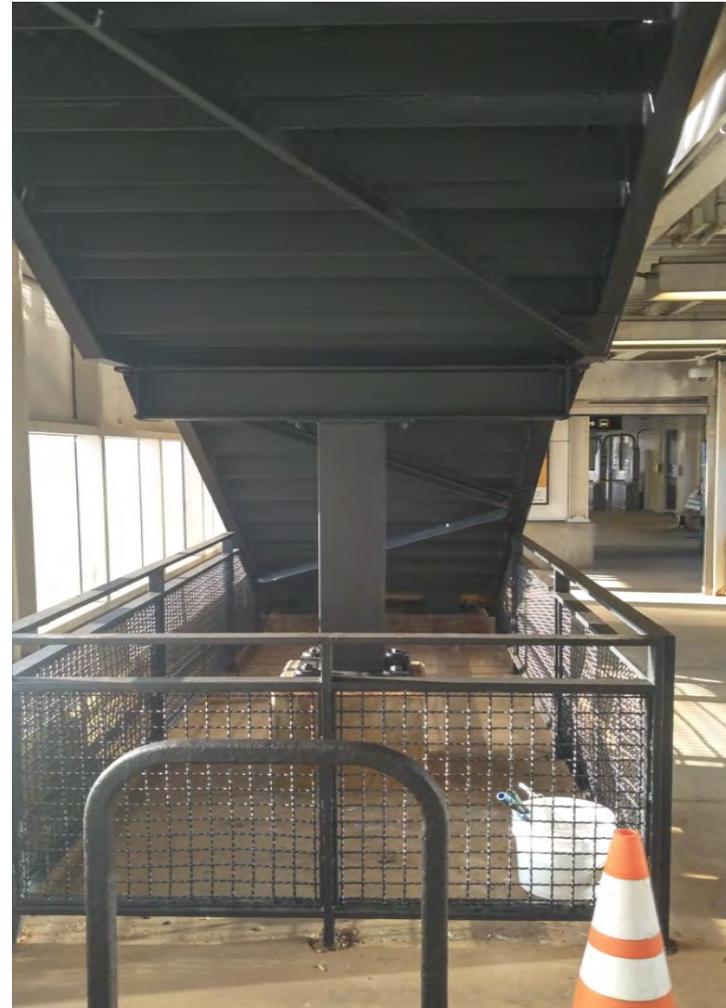
35th (Green) Enhancements



Project Title: Refreshed & Renewed



Before



After

35th (Green) Painting Improvements

Project Title: Jackson Park Track and Structure Improvements

Justification of Need:	Currently, there are ties and running rail on the Cottage Grove branch that are in need of replacement. The ties have passed their useful life expectancy and have started to deteriorate. The 90 lb. running rail is the only 90 lb. rail that remains in use on the CTA's mainline track throughout the system and is in need of replacement. The tie and running rail replacement is vital to make sure the Cottage Grove branch remains safe and reliable to CTA customers.
Priority of Project:	P1
Total Project Budget:	\$12,708,268
Expended to Date (thru March):	\$494,206
Used last Month:	\$0
Funding Source:	60402 (Rebuild IL)
Estimated Start Date/Estimated Length of Project:	Track work schedule: Q1 2021 through Q2 2023 Structure work schedule: Q1 2021 through Q4 2021
Contractor	CTA Forces

Detailed Overview of Scope:

Track: Replace 2 miles of ties on the Cottage Grove branch including the crossover ties. Replace any existing 90 lb. running rail with new 115 lb. running rail.

Structure: Renew high priority structural components in advance of track installation to extend asset life. Work includes 22 stringers and seven cross girders.



Project Title: Jackson Park Track and Structure Improvements

<p>Impact on Customers: (Slow zones, single tracks, reroutes, weekends, etc.)</p>	<p>Work is being performed under normal traffic operations on weekdays and some weekends. Occasional single tracks and reroutes will also be utilized to facilitate complex work. Construction slow zones will be implemented while the tracks are being renewed.</p>
<p>Benefit to System:</p>	<p>Track: The age of the track ties has resulted in deteriorated/spilt ties that are no longer capable of maintaining proper track geometry resulting in alignment and gage issues and subsequently slow zones. The current 90 lb. rail that exists on the Cottage Grove branch is the only existing 90 lb. rail left in CTA revenue track and is in need of updating to increase reliability during temperature extremes. Replacing the track ties and running rail will bring the Cottage Grove branch up to a state of good repair and reduce travel time and delays.</p> <p>Structure: The system will be made structurally sound, by renewing all of the identified P1 defects in the area.</p>
<p>Benefit to Community:</p>	<p>The track ties and running rail play a vital role in track geometry and reliability. Replacing the track ties and running rail on the Cottage Grove branch will eliminate slow zones and provide faster, more reliable service to the community.</p> <p>Rehabilitation of the systems generally provides for the safe transport of passengers, removing any slow zones and restoring the effectiveness of the structure carrying the trains.</p>
<p>Comparable or Upcoming Projects:</p>	
<ul style="list-style-type: none"> • Previous Jackson Park Girder reconstruction 2018 • South Loop Track Renewal 	



Project Title: Jackson Park Track and Structure Improvements

Construction Progress

Department	Description	Status
CTA Power & Way Maintenance	<p><u>Track Renewal</u></p> <ul style="list-style-type: none"> • Renew ties and fasteners 59th Street to 61st Street • Replace rail • Renew 61st Interlocking <p><u>Structure Renewal</u></p> <ul style="list-style-type: none"> • Renew Stringers & Cross Girders 59th Street to 63rd Street 	<p>Ongoing Ongoing Upcoming</p> <p>Ongoing</p>

Delay Explanation:

- No delays.



Project Title: Jackson Park Track and Structure Improvements



Before Tie Renewal

Project Title: Jackson Park Track and Structure Improvements



Tie Renewal

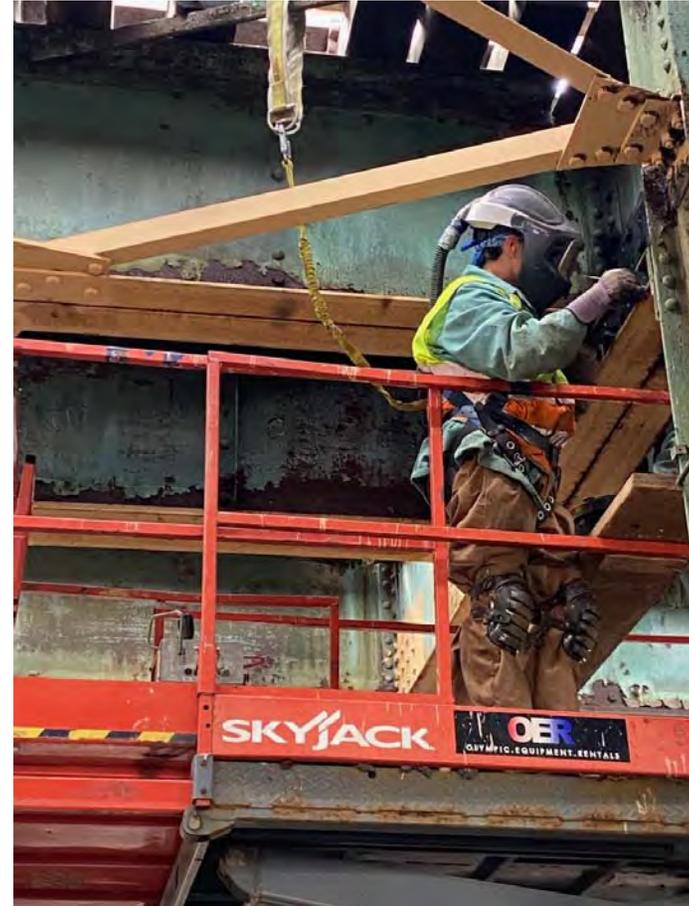


Project Title: Jackson Park Track and Structure Improvements



Tie Renewal

Project Title: Jackson Park Track and Structure Improvements



Structure Renewal

Project Title: RPM Phase One – Design-Build Contract

Justification of Need:	The RPM Phase One Project is greatly needed in order to expand capacity on CTA's most utilized rail line and to replace aging infrastructure.
Priority of Project:	High
Total Project Budget:	\$2.1 Billion (excludes Transit TIF interest payments)
Contract Value:	Original – \$1,272,275,929 Current – \$1,269,060,861
Earned to Date:	36%
Percent Change Orders to Construction Contract:	-0.25%
Percent Time Used:	39%
DBE:	Design Goal: 20% / Commitment: 20.64% Construction Goal: 20% / Commitment 20% Workforce Goal: WIOA 10%/ Apprentice 15%/ EDA 35% Contract is on track to meet the DBE goal
Funding Source:	CTA Financing, FTA Core Capacity Grant, CMAQ, TIFs
NTP / Construction Start / Estimated Completion	February 8, 2019 / October 2019 / 2025
Design Build Contractor:	Walsh-Fluor Design-Build Team
Owners Representative:	Elevated Solutions Partners

Detailed Overview of Scope:

RPM Phase One consists of the following elements that will allow CTA to expand service along the Red and Purple lines:

- Lawrence to Bryn Mawr Modernization (LBMM) – complete reconstruction and addition of ADA accessibility at four Red Line stations (Lawrence, Argyle, Berwyn, and Bryn Mawr) and reconstruction of 6 miles of track, structures, and viaducts from Leland Ave. to Ardmore Ave.
- Red-Purple Bypass (RPB) - Construction of a grade-separated bypass for the Brown Line at Clark Junction, just north of Belmont Ave. Includes realignment and reconstruction of 1.4 miles of mainline tracks and structure between Belmont station and south of Cornelia Ave.
- Corridor Signal Improvements (CSI) – Installation of new higher-capacity signal system on 23 miles of track between Belmont and Howard stations.



Project Title: RPM Phase One – Design-Build Contract

Impact on Customers:	Track closures and temporary station closures during construction. Temporary relocation of bus stops and bus reroutes during construction phasing. Temporary sidewalk, traffic lane, and parking lane closures during construction phasing.
Benefit to System:	The Red-Purple Bypass will allow CTA to operate more trains and reduce delays at the Clark Junction. Signal improvements will reduce customer congestion by allowing for additional trains. 100 year old structures are being replaced to improve reliability and extend life of system. Four new, larger, ADA accessible stations with wider platforms will replace current 90+ year old facilities.
Benefit to Community:	Improved pedestrian safety around new modern stations and structures. Enhanced lighting, improved street clearance, removal of columns from streets, enhanced signage, improved areas under track structures, and new station entrance at Hollywood Avenue.
Impact on Accessibility:	Upon project completion, Lawrence, Argyle, Berwyn and Bryn Mawr stations will include elevator access and other ADA access improvements throughout. Station improvements include wider platforms, better lighting, and modern accessible amenities.
Estimated # of Jobs Created:	1,400+ and counting.
Customer Communication Need:	Frequent communication is required to provide customers advance and real-time information regarding rail and bus service modifications due to construction.

Comparable Projects:

- Brown Line Capacity Expansion Project
- Your New Blue Program
- Red Line Extension



Project Title: RPM Phase One – Design-Build Contract

Phase	Description	Status
Administrative / Design:	<ul style="list-style-type: none"> ▪ Continued submittal/revisions of required management plans. ▪ Continued Design Development in support of Red-Purple Bypass, Lawrence to Bryn Mawr Modernization, and Corridor Signal Improvements. ▪ Issued Construction Documents for Red-Purple Bypass, Pre-Stage and Lawrence to Bryn Mawr Modernization Segmental Box Girder 	<p>Ongoing Ongoing</p> <p>Complete</p>
Construction:	<ul style="list-style-type: none"> ▪ Red-Purple Bypass (RPB). <ul style="list-style-type: none"> – Red-Purple Bypass track structural steel installation. – Red Purple Bypass form, reinforce and pour concrete track deck – Ravenswood structure rehabilitation. – Ravenswood temporary track earth retention installation – Factory testing Kenmore relay house ▪ Corridor Signal Improvements (CSI) <ul style="list-style-type: none"> – DGTrack Circuit Testing. ▪ Pre-Stage Work <ul style="list-style-type: none"> – Wayside platform installation. – Montrose track structure foundation rehabilitation. – Thorndale, & Loyola relay/audio house cabling. – Montrose, Berwyn relay/audio house testing – Thorndale, & Loyola relay/audio house testing. – Construction of Bryn Mawr Temp Station. – Construction of Argyle Temp Station. ▪ Lawrence to Bryn Mawr Modernization <ul style="list-style-type: none"> – Continued production of Pre-cast Box Girder Segments. – Existing conditions survey 	<p>Ongoing Ongoing Ongoing Ongoing Initiated</p> <p>Ongoing</p> <p>Ongoing Ongoing Complete Ongoing Ongoing Ongoing Ongoing</p> <p>Ongoing Ongoing</p>
Delay Explanation:		



Project Title: RPM Phase One – Design-Build Contract



RPB – Flyover Concrete Deck

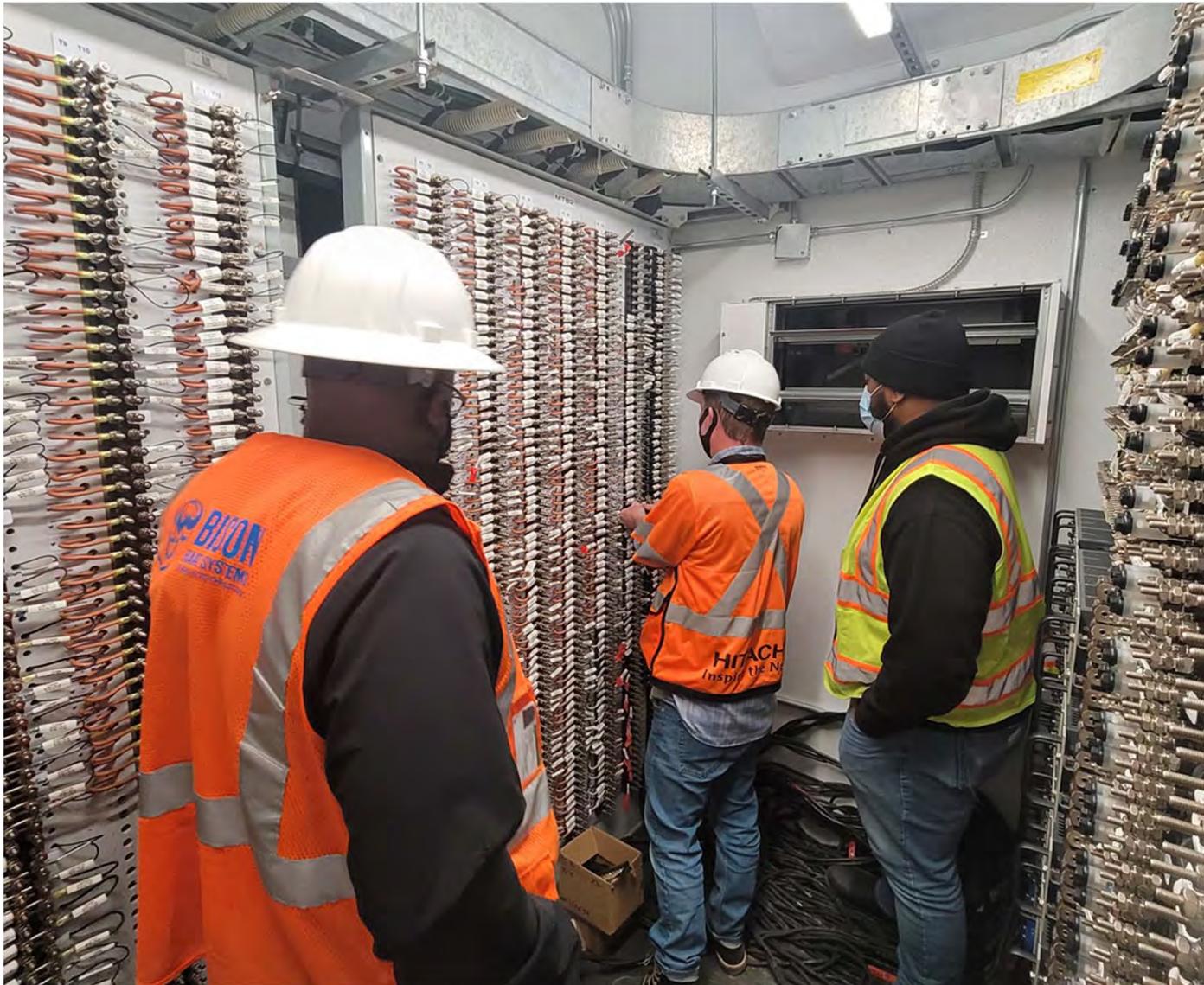
Project Title: RPM Phase One – Design-Build Contract



RPB – Ravenswood Structure Rehabilitation



Project Title: RPM Phase One – Design-Build Contract



LBMM – Signal Testing at Thorndale Relay House

Project Title: RPM Phase One – Design-Build Contract



LBMM – Bryn Mawr Temp Station Platform

Project Title: RPM Phase One – Design-Build Contract



LBMM – Argyle Temp Station Platform



Project Title: RPM Phase One – Design-Build Contract

Outreach type	Major Activities	Timing
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Community</p>  <p>Open for Business banner for Uptown</p>	<ul style="list-style-type: none"> • Open for Business kits distributed to small businesses • Stage A doorhangers distributed in Lawrence to Bryn Mawr area • Winthrop Ave neighbors Stage A parking meeting • Lawrence to Bryn Mawr chambers of commerce monthly meeting • Open for Business banner and sign installation • RPM Station Ambassador Outreach event • “Station-by-Station” Stage A Outreach 	<p>Mar. 25-26</p> <p>April 6-7</p> <p>April 14</p> <p>April 20</p> <p>Wk of Apr 19</p> <p>April 22-23</p> <p>May 3-6</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Workforce & SBE/DBE</p> 	<ul style="list-style-type: none"> • Workforce/DBE Outreach and Compliance Monthly Meeting. • HIRE360 Trades Info Session • DBE Vendor Outreach Event • Construction Talks with Local 150 Operating Engineers • BSB Financial Capacity Workshop 	<p>Ongoing</p> <p>Apr. 8</p> <p>Apr. 27</p> <p>Apr. 30</p> <p>May 6</p>

