Construction Project Briefing

April 14, 2021

Today's Presentation

- **Jefferson Park to O'Hare Signals Project**
- **System-Wide Traction Power Upgrades (Transformers Replacement) 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:	62%
Percent Change Orders to Construction Contract:	0
Percent Time Used:	97%
DBE:	Goal: 10% Design / 15% Construction Commitment: 10.1% Design / 15% Construction 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:

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.

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:

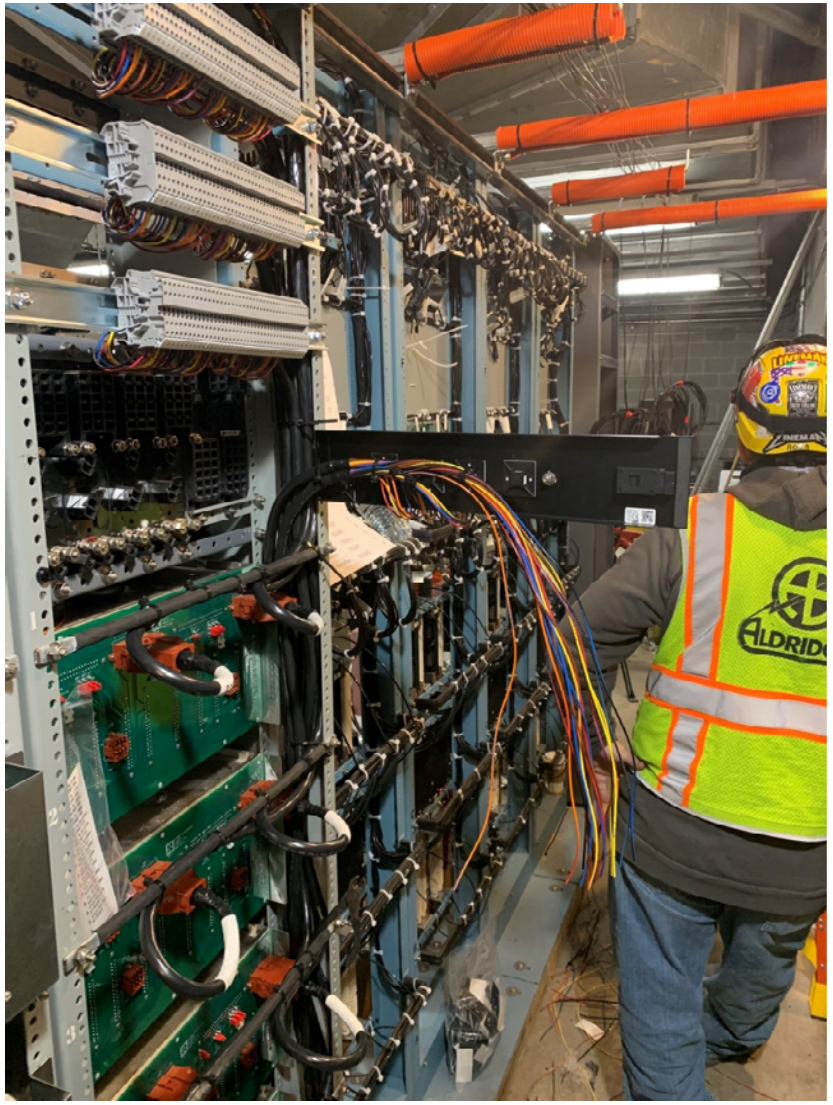
- Ravenswood Loop Connector
- Congress Dearborn – Jefferson Park to Forest Park Signal Replacement

Project Title: Jefferson Park to O'Hare Signals Project

Construction Progress

Phase	Description	Status
Construction	• Signal & Traction Power Cable Installation.	Ongoing
	• Relay Houses are being manufactured.	Ongoing
	• Signal Equipment Installation.	Ongoing
	• Nagle Cutover has been completed.	Completed
	• Harlem Interlocking infrastructure work has been progressing.	Ongoing
	• All Relay House Books of Plans have been submitted.	Ongoing Review

Project Title: Jefferson Park to O’Hare Signals Project



O’Hare Temporary Rack Installation and Wiring

Project Title: Jefferson Park to O'Hare Signals Project

Old Mannheim Junction Box Installation and Wiring

Project Title: Jefferson Park to O'Hare Signals Project

Nagle Interlocking and Signage

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:	82%
Percent Change Orders to Construction Contract:	0%
Percent Time Used:	76%
DBE:	• Goal: 10% • Commitment: 10.19% • Contract is on track to meet the DBE goal
Funding Source:	• A combination of (2010 IDOT and 2018 FEDERAL grants)
Estimated Start Date/Estimated Length of Project:	• 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:	• 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

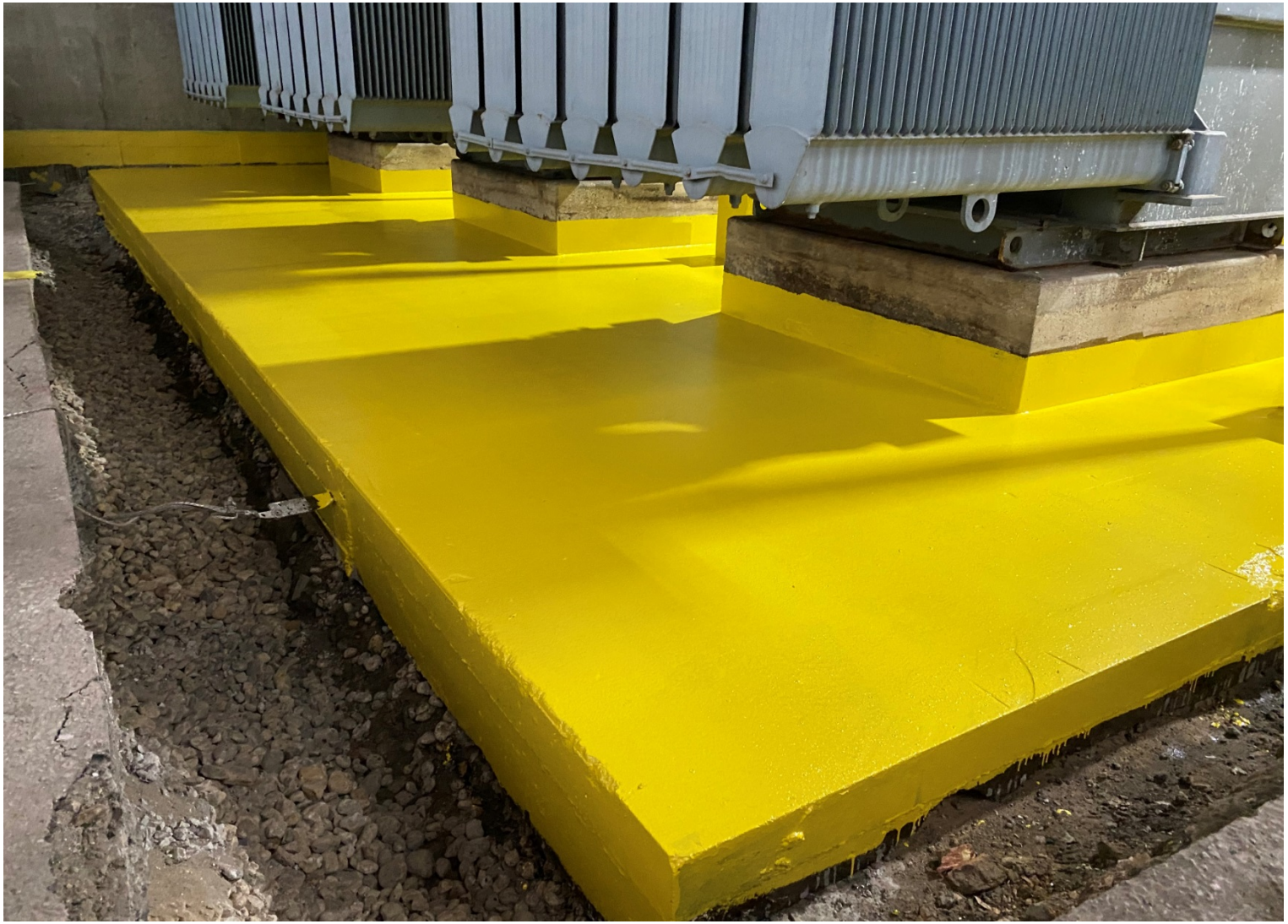
Construction Progress

Phase	Description	Status
Construction	• Transformer 1 replacement (dry type) at 17th Substation.	Completed
	• Transformer 2 replacement (dry type) at 17th Substation.	Completed
	• Transformer 1 replacement (dry type) at Harding Substation.	Completed
	• Transformer 1 replacement (dry type) at Lotus Substation.	Completed
	• Transformer 2 replacement (dry type) at Lotus Substation.	Completed
	• Transformer 3 replacement (dry type) at Lotus Substation.	Completed
	• Transformer 1 replacement (dry type) at Washington Substation.	Completed
	• Transformer 1 replacement (dry type) at Edmunds Substation.	Completed
	• Transformer 2 replacement (dry type) at Edmunds Substation.	Completed
	• Transformer 3 replacement (dry type) at Edmunds Substation.	Completed
	• Transformer 1 replacement (dry type) at Douglas Substation.	Completed
	• Franklin Substation, site preparation activities include:	
	• 1) Soil excavation around containment pad.	Ongoing
	• 2) Soil sampling and PCB remediation.	Ongoing
	• 3) Restoration of concrete containment pad.	Ongoing
	• Transformer 1 replacement (oil type) at Franklin Substation.	Ongoing
	• Transformer 2 replacement (oil type) at Franklin Substation.	Started
	• Transformer 3 replacement (oil type) at Franklin Substation.	Started

Project Title: Traction Power Upgrades – Transformer Replacements

CDM Smith Environmental Consultant Taking Soil Samples for Testing at Franklin Substation

Project Title: Traction Power Upgrades – Transformer Replacements



Epoxy Coat 1 Over Containment Pad at Franklin Substation

Project Title: Traction Power Upgrades – Transformer Replacements

Epoxy Coat 1 - Mil Test

Finished Layer of Epoxy

Project Title: Traction Power Upgrades – Transformer Replacements

Forming and Reinforcement of the Containment Pad

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:	$1,272,275,929
Earned to Date:	35%
Percent Change Orders to Construction Contract:	0%
Percent Time Used:	38%
DBE:	Design Goal: 20% / Commitment: 20.64% Construction Goal: 20% / Commitment 20% 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

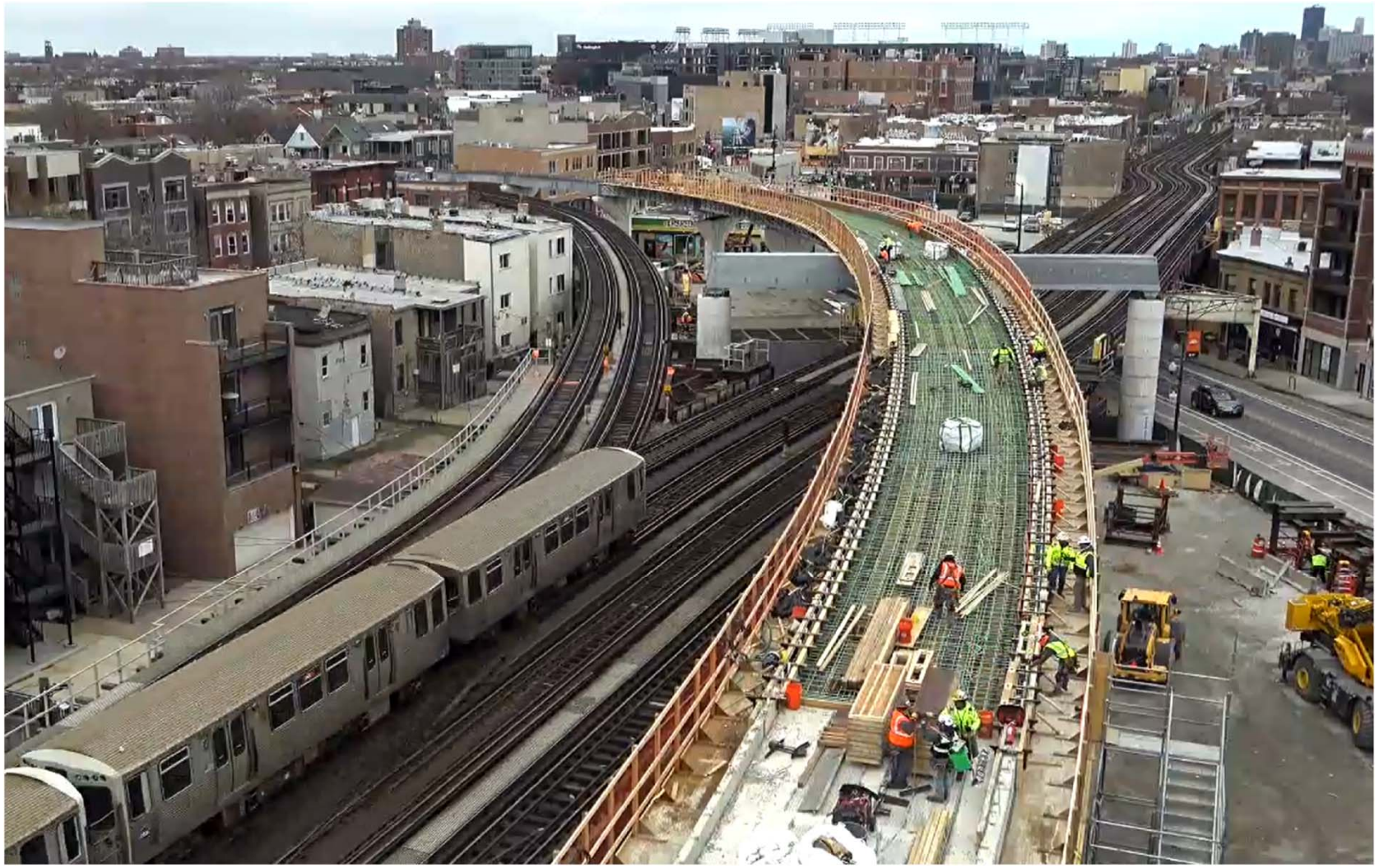
Impact on Customers:	Track closures and temporary station closures during construction. Temporary relocation of bus stops and bus reroutes during construction phasing. Temporary sidewalk, traffic lane, and parking lane closures during construction phasing.
Benefit to System:	The Red-Purple Bypass will 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:	▪ Continued submittal/revisions of required management plans.	Ongoing
	▪ Continued Design Development in support of Red-Purple Bypass, Lawrence to Bryn Mawr Modernization, and Corridor Signal Improvements.	Ongoing
	▪ Issued Construction Documents for Red-Purple Bypass work.	Ongoing
	▪ Issued Construction Documents for Pre-Stage work.	Complete
	▪ Issued Construction Documents for Lawrence to Bryn Mawr Modernization Segmental Box Girder.	Complete
Construction:	▪ Red-Purple Bypass (RPB).	
	– Red-Purple Bypass track structural steel installation.	Ongoing
	– Red Purple Bypass form, reinforce and pour concrete track deck	Ongoing
	– Ravenswood structure rehabilitation.	Ongoing
	– Ravenswood temporary track earth retention installation	Ongoing
	▪ Corridor Signal Improvements (CSI)	
	– DGTrack Circuit Testing.	Ongoing
	▪ Pre-Stage Work	
	– Signal bracket & messenger cable installation.	Complete
	– Wayside platform installation.	Ongoing
	– Montrose track structure foundation rehabilitation.	Ongoing
	– Thorndale, & Loyola relay/audio house cabling.	Ongoing
	– Montrose, Berwyn relay/audio house testing	Ongoing
	– Thorndale, & Loyola relay/audio house testing.	Ongoing
	– Construction of Bryn Mawr Temp Station.	Ongoing
	– Construction of Argyle Temp Station.	Ongoing
	▪ Lawrence to Bryn Mawr Modernization	
	– Continued production of Pre-cast Box Girder Segments.	Ongoing
Delay Explanation:		

Project Title: RPM Phase One – Design-Build Contract

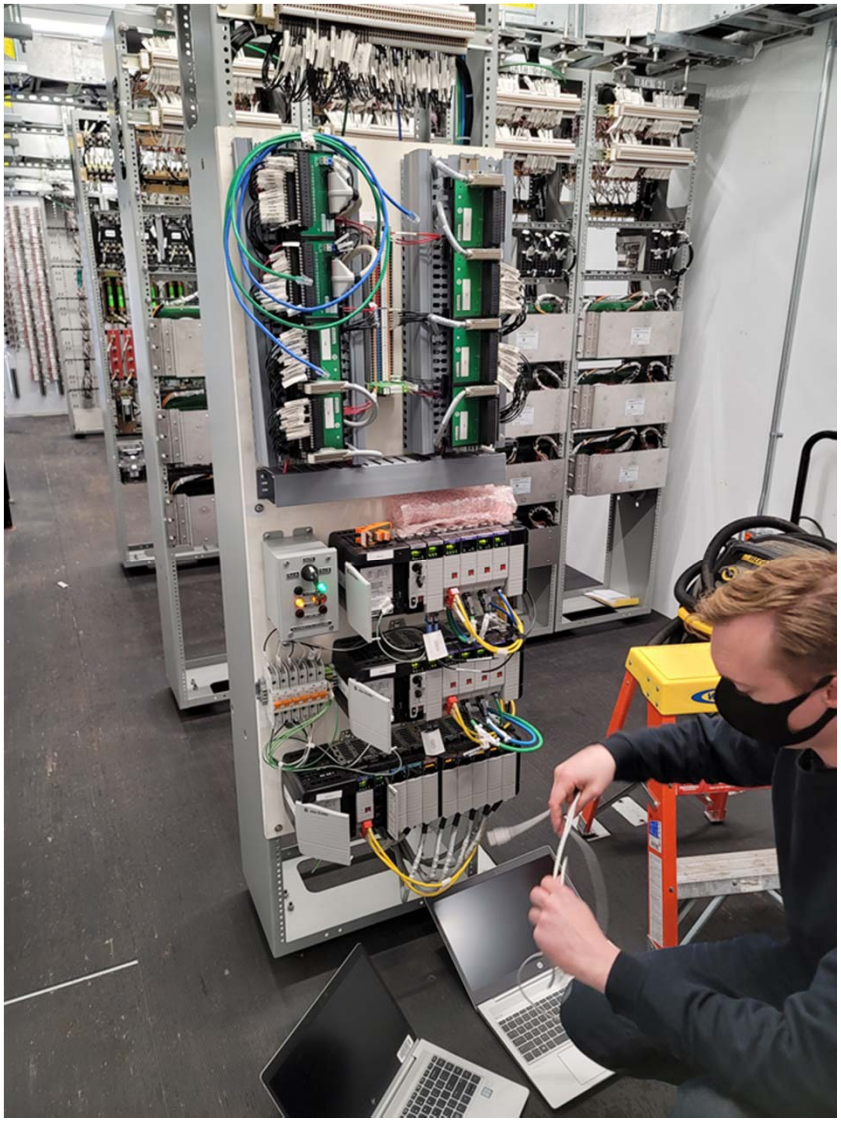


RPB – Constructing Flyover Deck

Project Title: RPM Phase One – Design-Build Contract

RPB – Flyover Track Structure in Newport / Roscoe Alley

Project Title: RPM Phase One – Design-Build Contract



LBMM – Thorndale Relay House Testing & Commissioning

Project Title: RPM Phase One – Design-Build Contract

LBMM – Box Girder Segments in Storage

Project Title: RPM Phase One – Design-Build Contract

LBMM – Bryn Mawr Temp Station Platform

Project Title: RPM Phase One – Design-Build Contract

Outreach type	Major Activities	Timing
Community  **Lawrence to Bryn Mawr town hall meetings March 2&4**	• 48th Ward aldermanic briefing on Stage A parking impacts and mitigations • Lawrence to Thorndale Stage A parking impact flyer distribution • Virtual Town Hall Meetings • Stage A informational flyers delivered to Red & Purple Line stations • Lawrence to Bryn Mawr chambers of commerce monthly meeting • Uptown Chicago Commission	Feb. 22 Feb. 25 Mar. 2 & 4 Mar. 8 Mar. 9 Mar. 9
Workforce & SBE/DBE **WCIU feature 3/10**	• Workforce/DBE Outreach and Compliance Monthly Meeting. • CTA Elevating Futures Scholarship Fund applications deadline • WCIU feature on RPM women in construction for women's history month • HIRE360 Trades Info Session • DBE Vendor Outreach Event	Ongoing Mar. 1 Mar. 10 Apr. 8 Apr. 27