# Construction Project Briefing

**August 11, 2021** 



# **Today's Presentation**

- Jefferson Park to O'Hare Signals Project
- Refreshed & Renewed Program
- Jackson Park Line Track and Structure Improvement
   Project
- South Shops Waste Material Storage & Sewer Upgrade
- Dan Ryan Line Inverters & Batteries
- Red and Purple Modernization 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:	68%
Percent Change Orders to Construction Contract:	0
Percent Time Used:	100%
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:**

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.



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.



#### **Construction Progress**

Phase	Description	Status
Construction		
	Signal & Traction Power Cable Installation.	Ongoing
	Rosemont West Relay House is being manufactured.	Ongoing
	Signal Equipment Installation.	Ongoing
	All Relay House Books of Plans have been approved / approved as noted.	Complete
	Old Mannheim Relay House Cutover Preparation has started.	Ongoing
	Discrepancy Closure at previously cutover houses.	Ongoing

Delay	Exp	lanati	on:
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N/A







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:	\$880,284.27
Used last Month:	\$109,838.07
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.



Impact on Customers: (Slow zones, single tracks, reroutes, weekends, etc.)	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.)
Benefit to System:	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.
Benefit to Community:	Improved overall lighting and wayfinding signage, newly painted & refreshed stations, safety, cleanliness and appearance. Focus on the Customer experience, both Internal and external.

#### **Comparable or Upcoming Projects:**

- Station Renewal
- Logan Square Station Renewal



#### **Construction Progress**

Department	Description	Status
Construction	Rail Stations Full Program Scope 35 Stations  Addison (Red) 35th (Red) Belmont (Red) Conservatory (Green) Krackwell (Brown) Cicero (Pink) Western (Congress) Kedzie (Orange) Kimball (Brown) Western (Blue O'Hare)  Painting and Lightning Only Improvements 92 Stations SBE Contract Procurement	Completed In-Progress Up Coming Up Coming

Delay	Exp	lanation	:
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N/A



#### **Before**

#### **After**





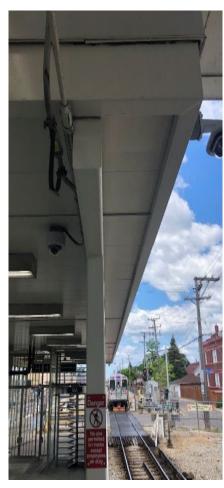
# Cicero (Pink) Ceiling Painting, LED Fixture Upgrades & New Signage LED Enhancement



**Before** 



**After** 



Cicero (Pink) Scrape & Paint Platform Ceiling



Before After







Western (Blue Line Congress) Repair Arears of Loose & Spalling Concrete of the Ramp



#### **Before**







#### After



Western (Blue Line Congress) Scrape & Paint Platform Ceiling



## **Western (Blue Line Congress) LED Fixtures**



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 ties 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 June):	\$1,144,200
Used last Month:	\$265,200
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 over a half mile of existing 90lb running rail with new 115lb 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.



Impact on Customers: (Slow zones, single tracks, reroutes, weekends, etc.)	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.
Benefit to System:	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.  Structure: The system will be made structurally sound, by renewing all of the identified P1 defects in the area.
Benefit to Community:	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.  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.

#### **Comparable or Upcoming Projects:**

- Previous Jackson Park Girder reconstruction 2018
- South Loop Track Renewal



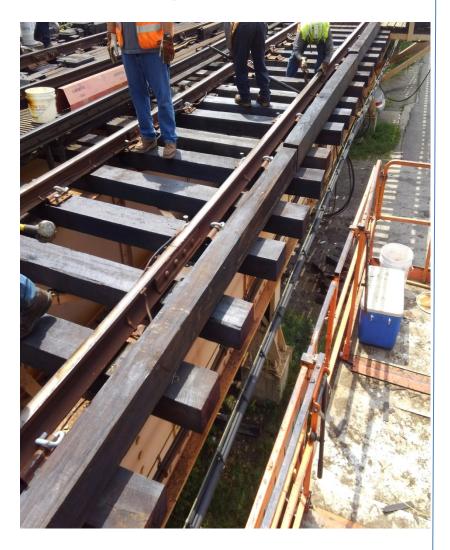
#### **Construction Progress**

Department	Description	Status
CTA Power & Way Maintenance	Track Renewal  Renew ties and fasteners 59th Street to 61st Street on the Southbound Track Renew ties and fasteners 59th Street to 61st Street Northbound Track Replace rail NBT Replace rail SBT Renew 61st Interlocking  Structure Renewal  Renew Stringers & Cross Girders 59th Street to 63rd Street	Ongoing Complete Complete Upcoming Upcoming

No delays.



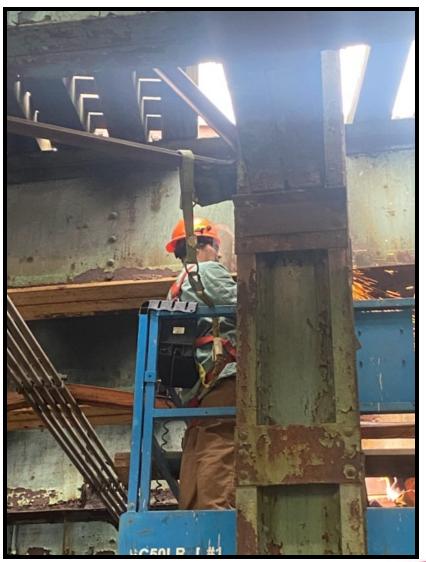




Tie and Rail Renewal NBT







#### **Structure Renewal**



Justification of Need:	The South Shops Facility Waste Material Storage Building project is needed for waste materials produced at the South Shops Bus facility, such as used fluids and oils. Currently there is no facility to properly store waste materials in accordance with environmental standards.  The 77th Bus Garage, Unit 1 Building, Bay 1, Sewer Reconstruction/ Masonry Wall Stabilization project is necessary to avoid further wall degradation and possible future wall collapse. The existing collapsed sewer section below the wall location, undermines the wall, and has caused the current deteriorated state.
Priority of Project:	Medium
Total Project Budget:	\$2,382,350.00
Construction Contract Value:	\$931,605.00
Earned to Date:	\$309,583.62 (thru June 2021)
Percent Change Orders to Construction Contract:	0%
Percent Time Used:	67.0%
DBE:	Goal: 25% Commitment: 28.61% Contract is on track to meet the DBE goal Outreach events conducted: 4 (CTA)
Funding Source:	Various
Estimated Start Date/Estimated Length of Project:	NTP - 1/22/2021 Estimated duration 256 days
Designer of Record:	CTA Engineering
Construction Manager/General Contractor:	WSP / Kiewit Infrastructure

**Detailed Overview of Scope: South Shops Facility Waste Material Storage Building.** Install new cast-in place concrete foundation, footings, and walls, new concrete floor, drainage trench, drainage dry sump pit and interior integrated perimeter concrete floor curb. New galvanized structural steel framing, chain link fascia panels, metal roof, and other galvanized accessories. New transformer inside of existing electrical room, overhead power supply with 3 new wood poles, cross arms, hardware and insulators, all necessary wiring and connections, new circuit breaker, conduit, junction boxes, and occupancy sensor switch.

77th Bus Garage, Unit 1 Building, Bay 1, Sewer Reconstruction/ Masonry Wall Stabilization. Excavate, remove, backfill with cementitious low strength material: New (340) linear feet of sewer, (2) manholes, (2) catch basins. Replace (2) manholes. Replace (430) linear feet of 6" inch clay sewer pipe with 6" inch Extra Strength Vitrified Clay Pipe (ESVCP). Replace all pavement and concrete. Install new 2" x 12" timber ledger boards with stainless steel rods at Storage Rooms #2, #5, and #6.



Impact on Customers:	No impact to customers.
Benefit to System:	The South Shops Facility Waste Material Storage Building project will provide a separate location for the storage of waste materials that the facility currently does not possess. This will allow for proper and safe storage of materials before they are removed from the facility.  The 77th Bus Garage, Unit 1 Building, Bay 1, Sewer Reconstruction/ Masonry Wall Stabilization project is necessary to avoid further wall degradation and possible future wall collapse. This will bring the wall and sewer to a state of good repair and prolong the life of the facility.
Benefit to Community:	Continued use of facility at 77 <sup>th</sup> bus garage, unit 1 building 1 and sewer reconstruction on 77 <sup>th</sup> street. The hazardous waste facility will bring South Shops into compliance with environmental standards. These will both allow for bus maintenance and service to continue out of 77 <sup>th</sup> Garage and Shop.
Impact on Accessibility:	No impact to accessibility
Customer Communication Need:	No customer communication needed.

#### **Comparable Projects:**

N/A

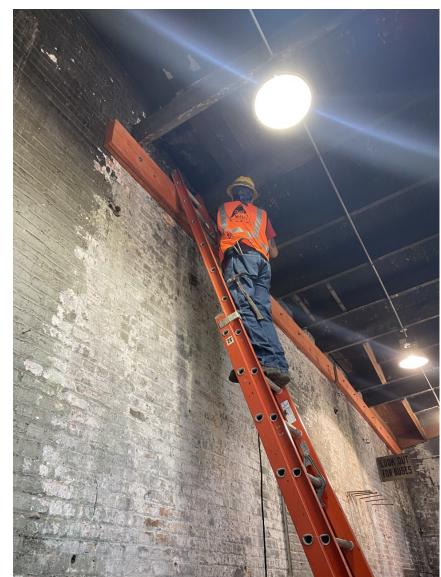


#### **Construction Progress**

Phase	Description	Status
Construction	<ul> <li>Wall Stabilization</li> <li>Mobilization</li> <li>Construction</li> </ul>	Complete Ongoing
	<ul><li>Sewer Reconstruction</li><li>Mobilization</li><li>Construction</li></ul>	Ongoing Upcoming
	<ul> <li>Waste Material Storage Building</li> <li>Material Fabrication</li> <li>Mobilization</li> <li>Construction</li> </ul>	Ongoing Upcoming Upcoming

Delay Explanation:		
NI/A		

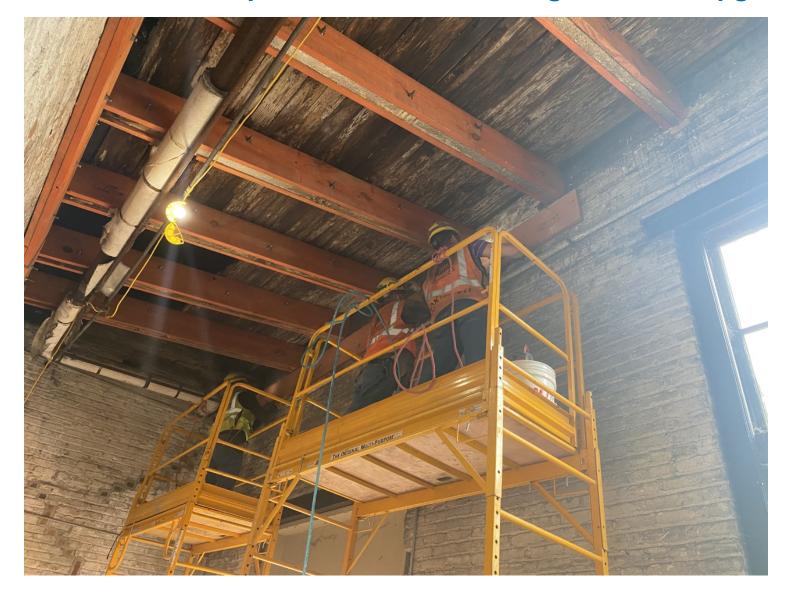






**Roof Joist Additional Support Installation** 





**Roof Joist Additional Support Installation** 



Justification of Need:	The DC to AC Power Conversion Inverters, which provide alternative AC power to all relay houses on Red Line South Dan Ryan Branch, were installed in 2004-2005. Due to their age and various complexities, they require replacement. Since these inverters are part of the second source of AC Power to the relay houses that provide signal protection system to CTA rail operation, it is necessary to replace them with a reliable inverter system. This project will also renew the existing AC Power wires emanating from the electrical rooms at nearest stations to the relay houses using existing ductbank and manhole systems. Some minor electrical circuit modifications at the electrical rooms and at relay house AC power panels will also be required.
Priority of Project:	Medium
Total Project Budget:	\$6,030,163.00.
Construction Contract Value:	\$5,078,000.00
Earned to Date:	\$555,655.00
Percent Change Orders to Construction Contract:	0%
Percent Time Used:	63.9%
DBE:	10.3%
Funding Source:	Various
Estimated Start Date/Estimated Length of Project:	NTP- 7/21/2020 Estimated duration 555 days
Designer of Record:	CTA Engineering
Construction Manager/General Contractor:	WSP / John Burns Construction Company

#### **Detailed Overview of Scope:**

Seven (7) locations (23 $^{rd}$ , 45 $^{th}$ , 55 $^{th}$ , 59 $^{th}$ , 63 $^{rd}$ , 79 $^{th}$  and 87 $^{th}$  interlockings).

- Modification of five (5) existing relay house structures on Dan Ryan Red Line (23<sup>rd</sup>, 45<sup>th</sup>, 55<sup>th</sup>, 79<sup>th</sup> and 87<sup>th</sup> interlockings).
- Upgrade 600 VDC inverter fuse and bracket at all seven (7) locations.
- Replace existing Inverter system at all seven (7) locations.
- Reconfigure Inverter AC output, Signal panel, Hotel power and HVAC at all seven (7) locations.
- · Connection to SCADA.



Impact on Customers:	No impact to customers.
Benefit to System:	A reliable secondary power system to the relay houses that provide signal protection to CTA rail operations. The inverters will ensure continued operations of the Dan Ryan branch of the Red Line in the event of a primary power failure to the existing signal system.
Benefit to Community:	Continued operations of the Dan Ryan branch of the Red Line in the event of a primary power failure to the existing signal system.
Impact on Accessibility:	No impact to accessibility
Customer Communication Need:	No customer communication needed.

Comparable Projects:		
N/A		

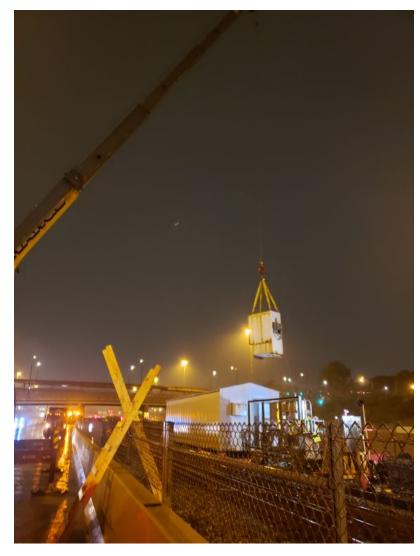


#### **Construction Progress**

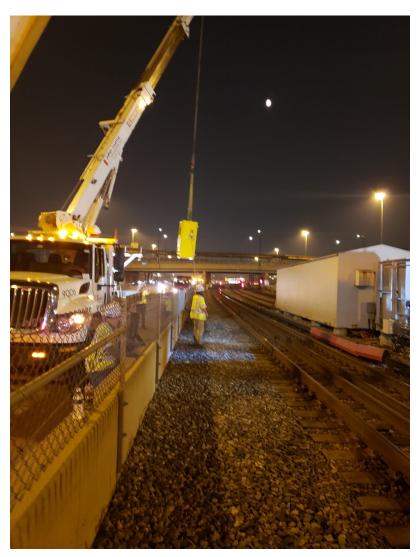
Phase	Description	Status
Construction	59 <sup>th</sup> Interlocking     Mobilization     Temporary AC cut-over     Removal/replace Equipment     Permanent AC cut-over     Start-up/Testing	Complete Complete Ongoing Upcoming Upcoming
	63 <sup>rd</sup> Interlocking     Mobilization     Temporary AC cut-over     Removal/replace Equipment     Permanent AC cut-over     Start-up/Testing	Upcoming Upcoming Upcoming Upcoming Upcoming Upcoming
	45 <sup>th</sup> Interlocking	Upcoming Upcoming Upcoming Upcoming Upcoming Upcoming
	79 <sup>th</sup> Interlocking     Mobilization     Temporary AC cut-over     Removal/replace Equipment     Permanent AC cut-over     Start-up/Testing	Upcoming Upcoming Upcoming Upcoming Upcoming Upcoming

Delay Explanation:	
N/A	





Removal of Existing Equipment at 59<sup>th</sup> Interlocking



Hoisting into Place of New Equipment at 59th Interlocking

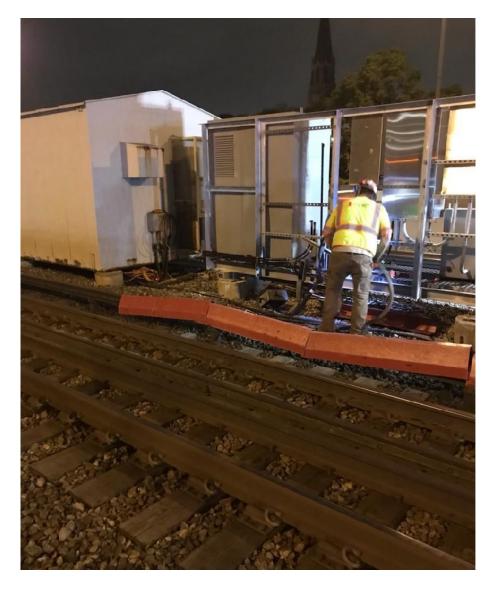






### **New Equipment Installation at 59th Interlocking**





Power installation to New Equipment at 59th Interlocking



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:	40%	
Percent Change Orders to Construction Contract:	-0.25%	
Percent Time Used:	44%	
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.



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



Phase	Description	Status
Administrative / Design:	<ul> <li>Continued submittal/revisions of required management plans.</li> <li>Continued Design Development in support of Red-Purple Bypass, Lawrence to Bryn Mawr Modernization, and Corridor Signal Improvements.</li> </ul>	Ongoing Ongoing
	<ul><li>Pre-Stage Work</li><li>– Punchlist work</li></ul>	Ongoing
Construction:	<ul> <li>Red-Purple Bypass (RPB).         <ul> <li>Red-Purple Bypass track structural steel installation.</li> <li>Prep work for Belmont slide-in structure</li> <li>Track installation on concrete track deck.</li> <li>Ravenswood structure rehabilitation.</li> <li>Ravenswood temporary track steel installation.</li> <li>Factory testing Kenmore relay house.</li> <li>Prep work for Vautravers Building relocation</li> </ul> </li> <li>Corridor Signal Improvements (CSI)         <ul> <li>DGTrack Circuit Testing.</li> </ul> </li> </ul>	Complete Ongoing Ongoing Ongoing Ongoing Ongoing Ongoing Ongoing
	<ul> <li>Lawrence to Bryn Mawr Modernization</li> <li>Continued production of Pre-cast Box Girder Segments.</li> <li>Continued existing conditions survey.</li> <li>Sheeting, tieback installation and excavation.</li> <li>Embankment wall and viaduct demolition.</li> <li>Salvage and demolition of Berwyn and Lawrence Stations.</li> </ul>	Ongoing Ongoing Ongoing Ongoing Ongoing
Delay Explanation:		





**RPB – Prep work for Belmont slide-in structure** 





**RPB – New Bypass sound walls** 





**RPB – Ravenswood Temp Track Steel** 





**RPB – Vautravers Building Relocation Prep Work** 





**LBMM – Hollywood Viaduct Demolition** 



**LBMM – Sheeting installation north of Foster** 



Outreach type	Major Activities	Timing
New RPM Outreach Office, 5137 N Broadway	<ul> <li>Weekly Red-Purple Bypass Project updates for 44<sup>th</sup> ward</li> <li>State of Edgewater Event</li> <li>Uptown United Chamber of Commerce walk-thru</li> <li>RPM monthly virtual office session/responses provided</li> <li>48<sup>th</sup> ward/DPD/BACP monthly small business coordination mtg</li> <li>RPM Outreach Office grand opening</li> </ul>	Weekly June 17 June 28 July 13 July 13 July 26
CHICAGO COOK WORKFORCE PARTNERSHIP A proud partner of the American Job Center network  Union Trades Event 7/28	<ul> <li>Monthly DBE/Workforce Outreach &amp; Compliance Meeting (Ongoing)</li> <li>Union Trades Information Event</li> <li>DBE Dollars Awarded To Date: \$169MM</li> <li>Unique DBE Firms To Date: 68</li> </ul>	Ongoing July 28