



Chicago Transit Authority

# CTA

# A Vision for The Future

ACEC Illinois

April 19, 2023

# Agenda

- Meeting the Moment
- Access For All- All Stations Accessibility Program
- Forest Park Branch to the Future
- Charging Forward, How We Get There
- How We Build and What Works
- Red Purple Modernization Project, Innovations & Lessons Learned
- Red Line Extension- A Vision For the Future





Chicago Transit Authority

# Meeting the Moment Update

# Meeting the Moment: Transforming CTA's Post-Pandemic Future

- Launched in August 2022, the Action Plan focuses on immediate investments and actions the Agency is taking or has recently undertaken to directly address rider concerns
- Five Pillars – Foundational to Rider Experience and CTA Service
  - **Deliver Reliable and Consistent Service**
  - **Enhance Safety and Security of CTA Riders**
  - **Improve Customer Experience on our Facilities**
  - **Upgrade Digital Tools to Improve Rider Communication**
  - **Invest in Our Employees**



# Investments Delivered under Action Plan

- Multiple new bus and rail schedules that improved service delivery and reduced large gaps in service
  - Bus Service Delivered: 94.9% in March '23 (up 15% since July '22)
  - Rail Service Delivered: 84.8% in March '23 (up 5% since July '22)
- New bus tracker website and various enhancements to backend systems for bus and train tracker to improve accuracy
- Refresh and Renew activities to improve station appearance
- Expanded partnership with Chicago Police Dept., including SDSC rooms, more police patrols on CTA
- Employee hiring and retention bonuses and other investments to improve hiring and retention
- On track to hire at least 700 bus operators, helping us to improve overall workforce
- Partnering with DFSS to invest over \$2M in expanded outreach and engagement with unhoused and individuals suffering from mental health challenges
- Launched a new, interactive scorecard for riders to track Agency's progress



# Access For All- All Station Accessibility Program



**Erin Fiorini**  
**Director, Infrastructure Capital Program**  
**Oversight**

# All Stations Accessibility Program (ASAP)

## Program Budget:

- Total Twenty-Year Cost: \$2.1 Billion
  - Phase One Stations, plus Racine Phase Two: \$467 million
  - Systemwide Elevator Replacement: \$25 million (funded to-date)

## Program Schedule:

- Phase One project completion dates range between 2023-2025
- Revision to the ASAP Plan will be published in 2024, which will be updated with new phasing, updated estimate of the program and additional narratives of programs.

## ASAP Program Scope:

- The goal of ASAP is to make the system completely accessible to people with disabilities in the next 20 years.
- Forty-two stations are inaccessible and are included either in ASAP or in one of CTA's other major programs.
- ASAP Phase One includes eight (8) prioritized stations plus one station from Phase 2.
- Throughout all phases of ASAP, 162 existing elevators will be replaced or rehabbed.

## All Stations Accessibility Plan

- [https://www.transitchicago.com/assets/1/6/ASAP\\_Strategic\\_Plan\\_508\\_FINAL.pdf](https://www.transitchicago.com/assets/1/6/ASAP_Strategic_Plan_508_FINAL.pdf)



# All Stations Accessibility Program (ASAP)

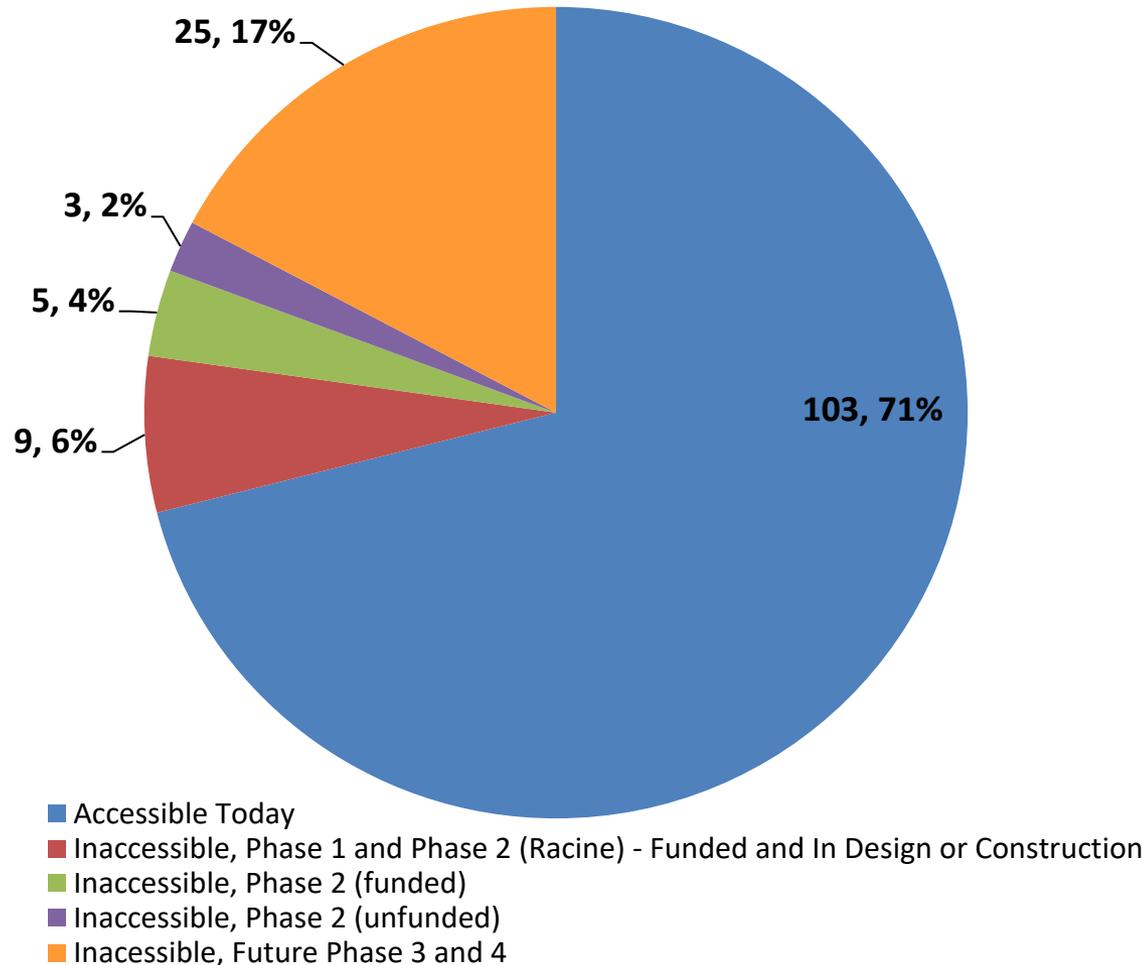


Nine (9) stations fully funded and in implementation



# All Stations Accessibility Program (ASAP)

Current CTA ASAP Overview



# All Stations Accessibility Program (ASAP)



\$118M from FTA All Stations Accessibility Program Grant will fund three stations (\$148M total project cost):

- O'Hare (Blue) Irving Park
- O'Hare (Blue) Belmont
- Congress (Blue) Pulaski

Federal formula and State funds will fund the design and construction for two stations:

- Lake (Green) Oak Park
- Lake (Green) Ridgeland

Remaining Phase 2 Unfunded:

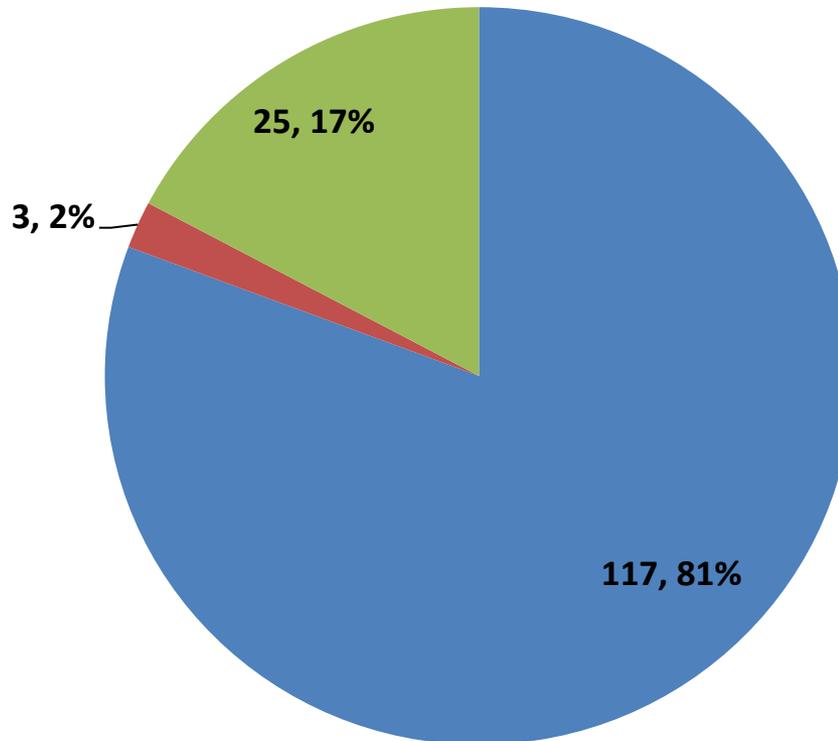
- Congress (Blue) Cicero
- Congress (Blue) Austin
- State Street Subway (Red) North/Clybourn

With the completion of Phase 1 and Phase 2 the Green Line will be fully accessible and the Blue Line will be fully accessible from O'Hare to California.



# All Stations Accessibility Program (ASAP)

CTA ASAP after Phase 1 (all) and Phase 2 (partial)



■ Accessible   ■ Inaccessible, Phase 2 (unfunded)   ■ Inaccessible, Future Phase 3 and 4



# All Stations Accessibility Program (ASAP)

Station	Phase	Project Budget	Funding
Lake Line - Austin Station	1	\$25M	STP and Rebuild IL
Logan Square Line - California Station	1	\$36M	Rebuild IL and TIF
O'Hare Line - Montrose Station	1	\$25M	Rebuild IL
North Mainline - Lawrence, Bryn Mawr, Berwyn, Argyle Stations	1	\$95M	Core Capacity
Loop Line - State/Lake Station (CDOT)	1	\$180M	CMAQ
Congress Line - Racine Station	2 (original)	\$106M	Rebuild IL
Lake Line - Oak Park Station	2 (revised)	\$45M	Federal Formula and Rebuild IL
Lake Line - Ridgeland Station	2 (revised)	\$40M	Federal Formula and Rebuild IL
O'Hare Line - Irving Park Station	2 (revised)	\$42M	Federal ASAP
O'Hare Line - Belmont Station	2 (revised)	\$47M	Federal ASAP
Congress Line - Pulaski Station	2 (revised)	\$59M	Federal ASAP
Systemwide Elevator Replacements	--	\$25M	Rebuild IL
<b>14 Stations + Elevator Replacements Funded</b>		<b>\$725M</b>	



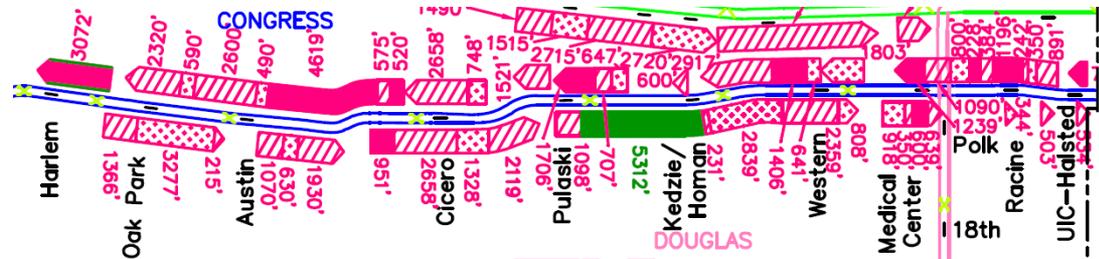
# Forest Park Branch to the Future



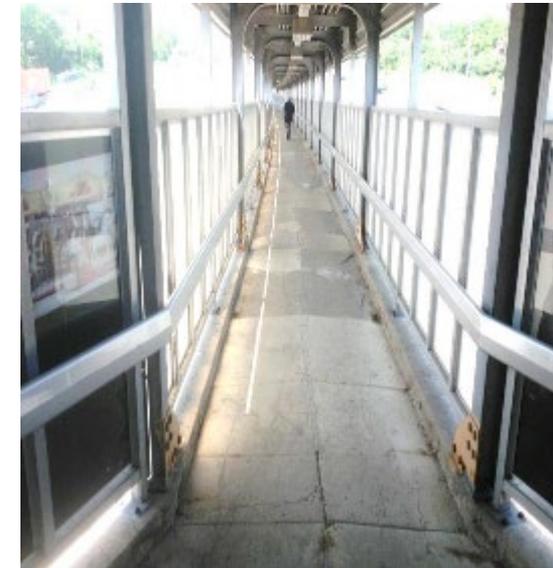
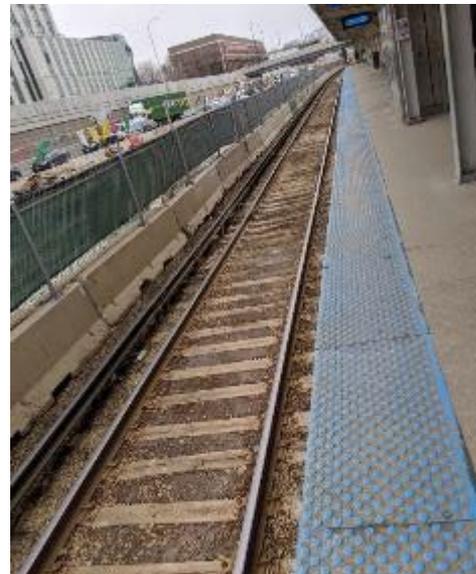
**Erin Fiorini**  
**Director, Infrastructure Capital Program**  
**Oversight**

# Forest Park Branch Reconstruction

Congress Branch was built in 1958 alongside the I-290 expressway. Since then, only limited investment in tactical signal upgrades, limited investments at select stations, and routine track maintenance has occurred.



- ▶ Significant delays due to slow zones – 82% of the branch has slow zones
- ▶ Track condition is significantly beyond the useful life – worst average condition in the system
- ▶ Traction power upgrades are required to meet the projected demand
- ▶ 7 of 11 stations are not accessible



# Blue Line Vision Study

Blue Line Vision Study, completed in 2017, identified improvements on the Congress Branch for State-of-Good Repair (SOGR) and Operational Improvements.

Currently, there is a Blue Line Capacity Study ongoing that is evaluating existing, near-term (5 year), and long-term (20 year) capacity constraints on the system and develop potential project elements as well as a recommended program to alleviate capacity constraints on the line.

Total program cost is \$3 Billion with Phase 1 funded.

Current planning has the project sectioned into four phases components, which may be adjusted by funding:

- ☑ • Phase 1: Track, Morgan Middle, Traction Power, and Racine Station (Dearborn Subway to IMD Station) **Funded**
- Phase 2: Track, Interlockings, Traction Power, and Western, Kedzie-Homan, Pulaski, and Cicero Stations (IMD Station to Cicero Station)
- Phase 3: Track, Interlockings, Traction Power, and Austin, Oak Park, and Harlem Stations (Cicero Station to Forest Park)
- Phase 4: Des Plaines Yard and Forest Park Terminal Reconstruction



# Forest Park Stations Overview

Current Phase	Forest Park Stations	Notes
Completed	UIC Halsted 	
Phase 1	Racine	Estimated completion 4Q 2025; funded via Rebuild IL
Completed	Illinois Medical District 	Funded via TIF; completed in 3Q 2018
Phase 2	Western	
Phase 2	Kedzie-Homan 	
Phase 2	Pulaski	Estimated completion in 2027; funded via Federal ASAP
Phase 2	Cicero	Applied for Mega Grant in 2022 w/IDOT
Phase 3	Austin	Applied for Mega Grant in 2022 w/IDOT
Phase 3	Oak Park	
Phase 3	Harlem	
Phase 4	Forest Park 	



# Moving Forward on the Forest Park Branch

- The Forest Park Branch will need to be built in phases and reconstruction efforts will be highly dependent on available funding programs
- Coordination of work between CTA and IDOT is essential to promote efficiencies of work and lessen impacts to customers (for both CTA riders and cars on the highway)
- Need to look at innovation in design and construction, including procurement options
- Need support, collaboration and partnership with various agencies, entities and local community groups.



# Charging Forward, How We Get There



**James Harper, P.E.**  
**Chief Engineer**

# Current Fleet Make Up

- Size of existing diesel bus fleet: 1,888
- Number of bus routes: 130
- Bus route miles: 1,301 miles
- Bus miles travelled per day: 159,547 miles
- Longest bus route: 19 miles (#9 route)
- Shortest bus route: 0.62 miles (#34 route)
- Bus riders (2016) 873,147/weekday

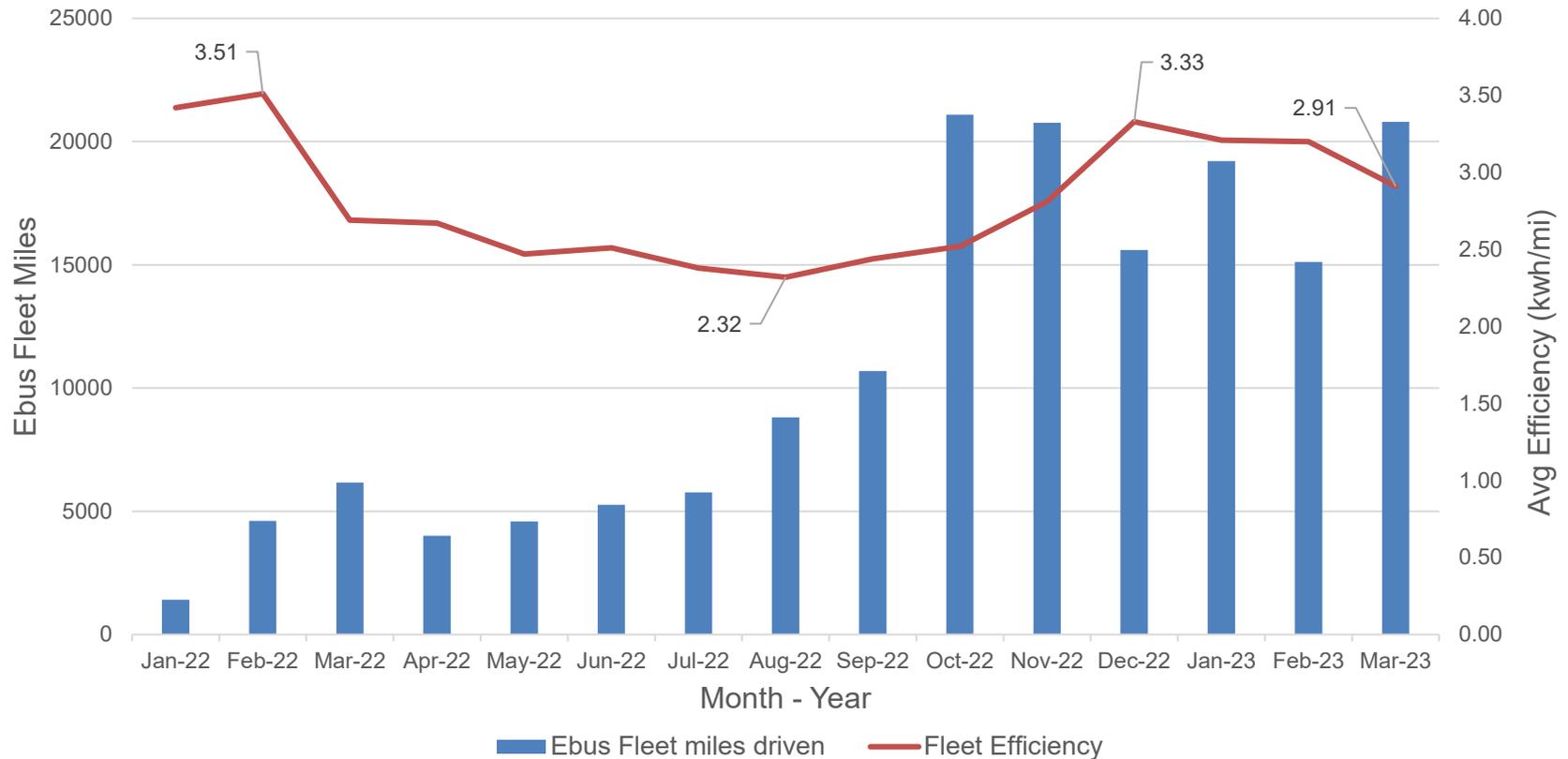


# Recently Completed E-Bus Pilot

- Turnkey Project with Protera
- 20 Bus Base Order with options for 23 more
- 23 buses currently on property
- Remaining options will be exercised by June, 2023
- Buses operate on the 66 Chicago Avenue Route from Navy Pier to Chicago/Austin
- Buses originate at Chicago Garage
- Fast charging facilities were constructed at Chicago/Austin, Chicago Garage and Navy Pier
- Buses operate up to 20,000 miles/month
- Buses are averaging 2.7 kWhr/mile consumption (3.5 kWhr/mile in winter)



# Recently Completed E-Bus Pilot

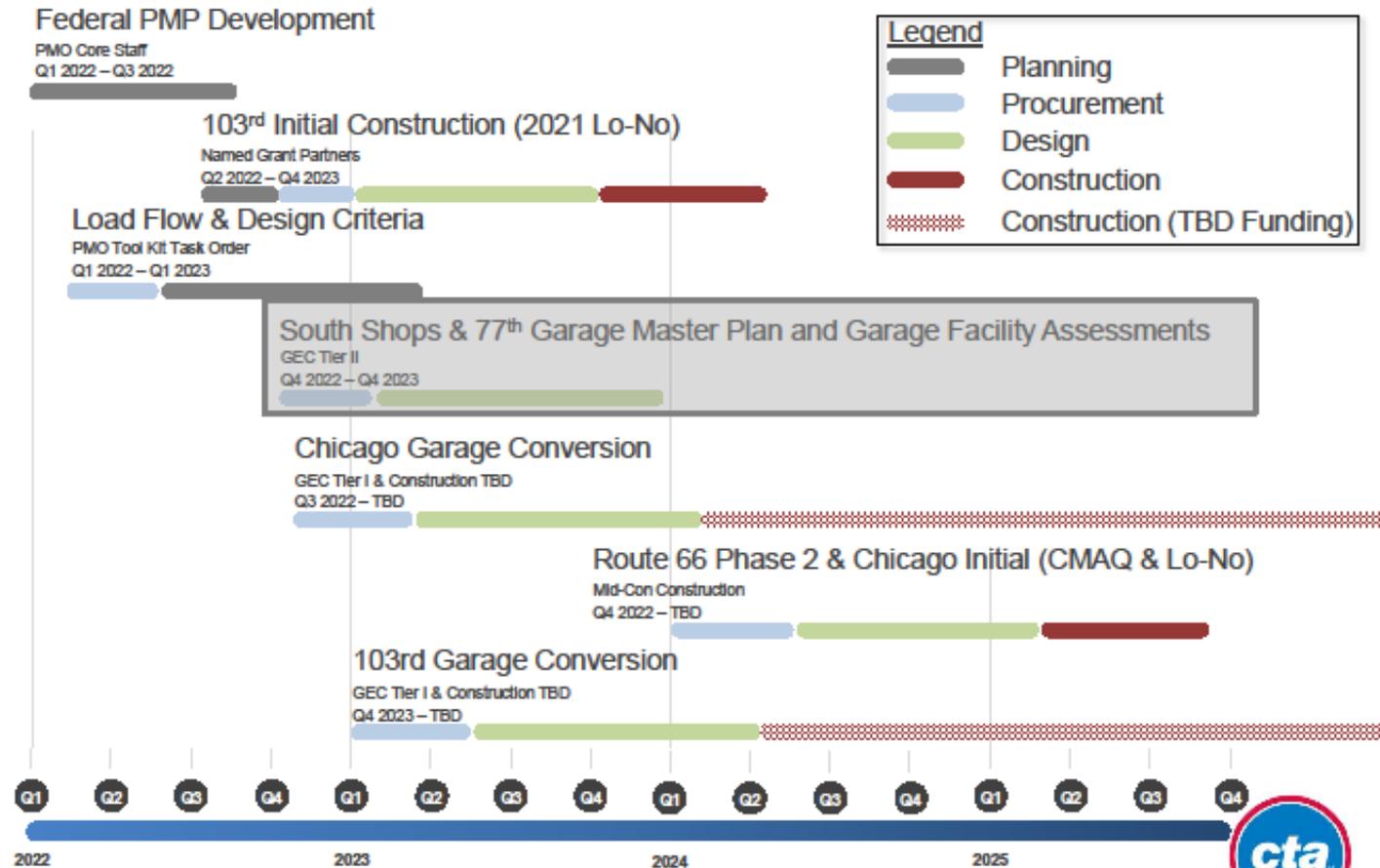


# Recently Completed E-Bus Pilot



# Upcoming Projects & Ultimate Build Out

## Electric Bus Implementation Schedule



Schedule reflective of current information as of 8/24/22 and pending environmental / grant approvals.

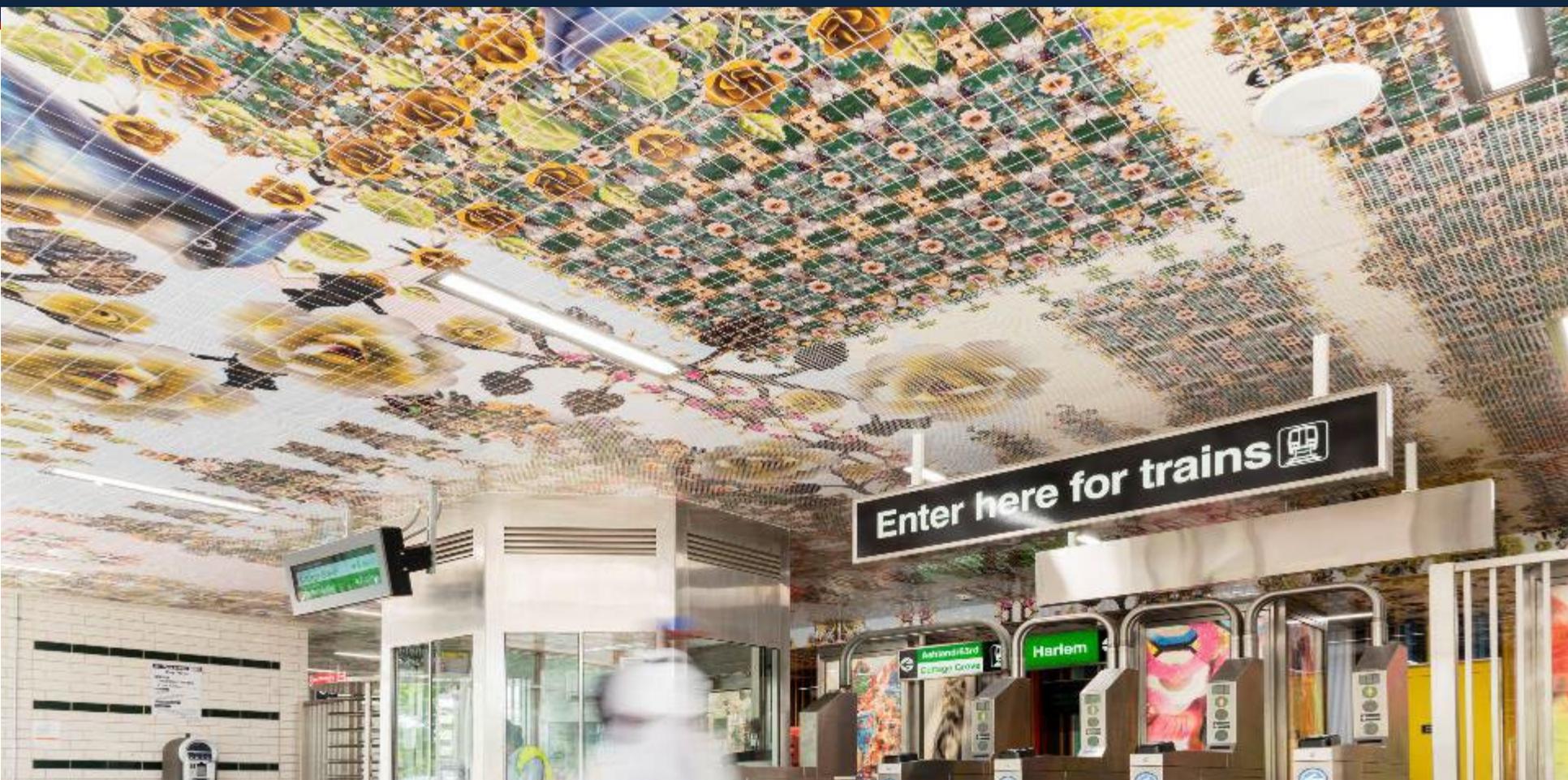


# Challenges of Electrification Program

- Milage still a problem on longer routes (especially in winter)
- Lack of industry standards
- Uncertainty of where technology is going
- Proprietary equipment
- Lack experience with large scale deployment
- “Pan-up” vs “Pan-down” pros/cons
- Thermal run-away risks, in particular in bus storage bays
- Emergency responder training
- Additional space/facilities needed for charging infrastructure
- Large scale power upgrades needed in garages (10 MW)
- Changes in maintenance procedures
- Alternatives to electric propulsion still being pushed from Green perspective



# How We Build & What Works



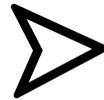
**Steve Mascheri**

**Vice President, Capital Construction**

# Construction Procurement

## Procurement Types

- Design/Bid/Build
- Mid-Con



## Basis of Award

Low Bid  
Low Bid: A + B

- Design/Build
- Progressive Design/Build



Project Approach  
Total Cost  
Firm & Personnel  
Qualifications



# Projects Under Construction

- Congress Phase 1 Track
- Congress – Racine Station
- Non-Revenue Shop
- Barry/Damen/Canal Substations
- Belmont Crossover Replacement
- Damen/Lake (CDOT)



# Congress Phase 1 Overview

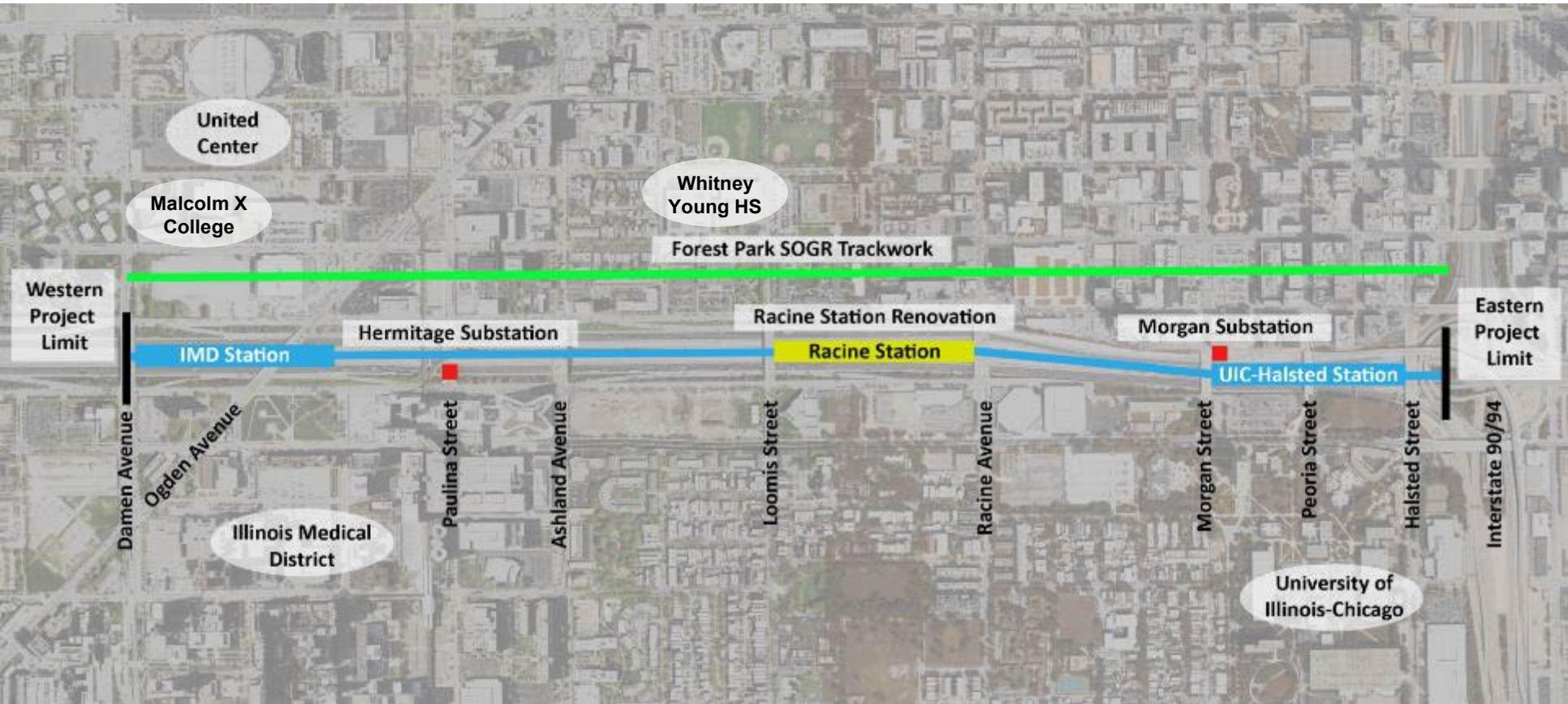
**Project Budget: \$268M**

## **Scope of Work**

- ▶ Track Reconstruction
  - ▶ Complete replacement of all track including subgrade, ballast, ties, rail, fasteners, and other material.
  - ▶ Reconstruction of the track drainage system.
  - ▶ Replacement of Morgan Middle turnouts
  - ▶ Reconstruction of wayside traction power and signal components to accommodate trackwork
- ▶ Traction Power Improvements
  - ▶ New Morgan Street Substation
  - ▶ Upgrades to Hermitage Substation
- ▶ Racine Station Improvements
  - ▶ New elevator and station house renovations at main Racine entrance
  - ▶ Platform Extension at Racine entrance
  - ▶ Upgrades to the Loomis auxiliary entrance



# Congress Phase 1 Overview



# Congress Phase 1 Overview



*Rendering of new Racine Station house from expressway level*



*Rendering of new Morgan Substation*



# Construction Out To Bid

- Harlem Bus Bridge Replacement
- Austin/Lake ASAP
- Des Plaines Track Replacement
- State/Lake (CDOT)



# On The Horizon

## Upcoming Projects

- ASAP Program
- eBus Program
- Infrastructure Improvements
- Station & Facility Improvements
- General Engineering - MSA
- Environmental Engineering - SME

## Challenges & Opportunities

- Substantial Industry Work
- Agency Coordination
  - Permitting
  - Collaboration & Partnering
- Staffing Challenges
- Cost Volatility
  - Labor & Commodity



# Professional Services

## Current Basis of Award

Task Orders: Key  
Personnel



## Future Basis of Award

Adding:

Design Approach

Constructability

And Cost Considerations





**RED AHEAD**  
*Moving Ahead to a Better Red*



Red and Purple Modernization

# **INNOVATION AND LESSONS LEARNED....**

**Grace Ohs**

**Vice President, Red Purple Modernization**



# Early Risk Mitigation Measures

- CTA performed/contracted advance work ahead of design-build contract:
  - Broadway Substation Upgrade
  - **Advance Utility Relocation**
  - Procurement of Special Trackwork
  - Real Estate acquisition, Property Management, and Demolition

## Design-Build Advantages

- Design-build delivery offers opportunity for innovation in design while transferring some risk from CTA to the design-build contractor.
  - Performance specifications written in Design-Build RFP for station and structural design
  - Prescriptive specifications written for systems (signals, electrification) design
  - **Design-build proposers offered opportunity to propose Alternative Technical Concepts (ATCs) through procurement process**



**RED AHEAD**  
Moving Ahead to a Better Red



# ATC: Precast Segmental Box Girder





# Create New Opportunities

- New Goals for DBE and Workforce
- Scholarship Fund
- Open For Business Campaign
- Community Office



## Other Lessons Learned

- Build the best team you can, plan for succession
- Continue to engage with Stakeholders and Third Party Agencies
- Talk to other projects



**TaNesheha Marshall, P.E.**  
**Vice President, RLE**

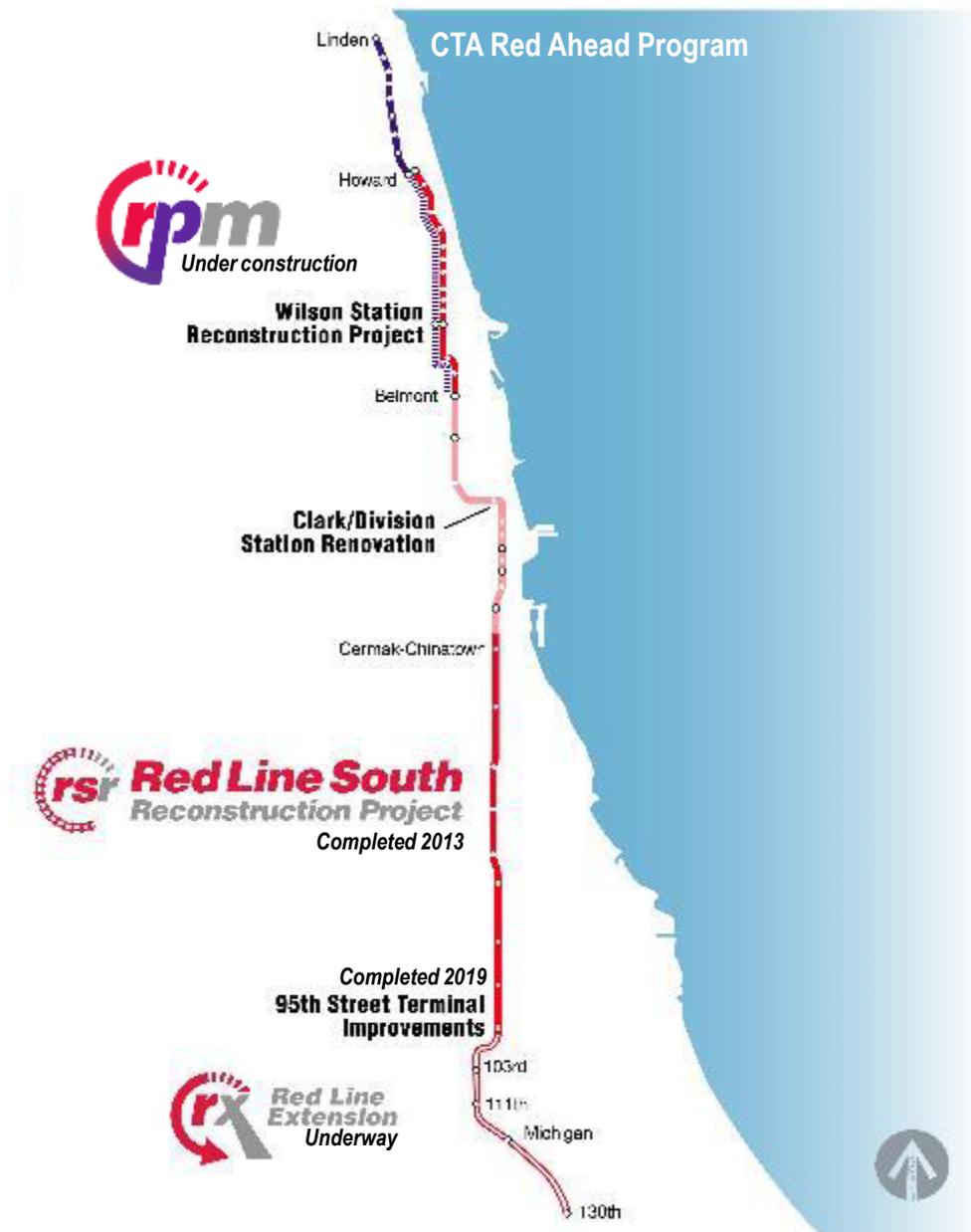


# Improving Red Line from End to End

RED AHEAD



- RPM Phase One
- RPM Future Phases – In Planning
- Wilson Station
- Clark and Division Station
- Red Line South
- 95th Street Terminal Reconstruction
- Red Line Extension



# The Red Line Extension

RED AHEAD



- 5.6-mile rail extension from 95th/Dan Ryan Terminal
- Four new fully accessible stations:
  - 103rd Street (near Eggleston)
  - 111th Street (near Eggleston)
  - Michigan Avenue (near 116th St)
  - 130th Street (near Altgeld Gardens)
- Multimodal connections at each station will include bus, bike, pedestrian, and park & ride facilities
- Train storage yard & shop facility at 120th Street



# Four New Rail Stations

**RED AHEAD**



Note: conceptual renderings, for illustrative purposes only.





## EQUITY

24% of RLE Project Area residents live below the poverty level, compared to the City average of 18%.



## FREQUENCY

Up to 30-minute time savings to riders traveling from the 130th St station to the Loop. By 2040, RLE will carry approx. 40,000 trips per day.



## CONNECTIVITY

Fewer than 30% of riders traveling on the Red Line from the 95th St Terminal end their trips in the Loop; connections to the broader CTA system are critical.



## OPPORTUNITY

47% increase in newly accessible jobs within a 45-minute commute of the RLE Project Area.



## SUSTAINABILITY

RLE will improve air quality, reduce greenhouse gas emissions, and save energy.

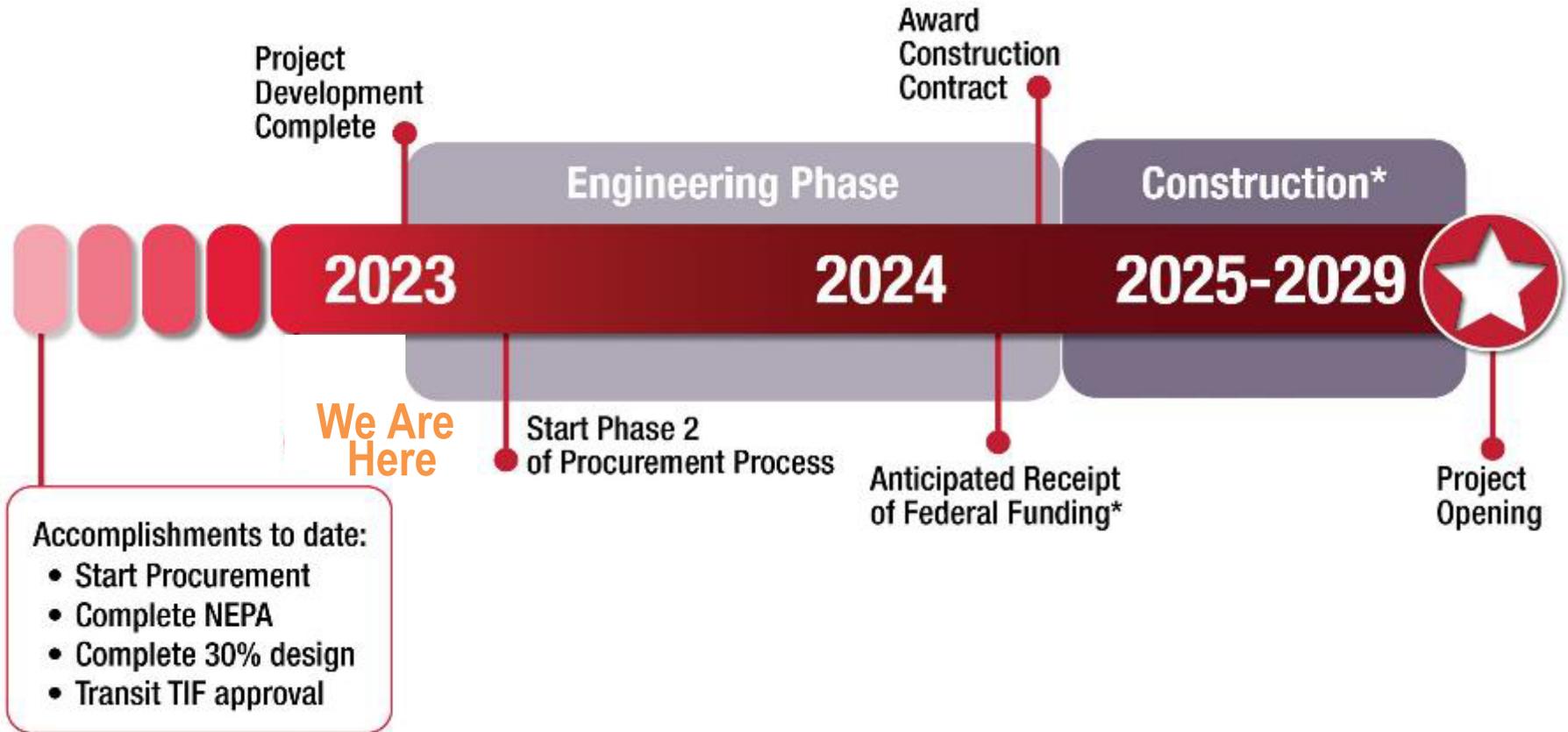
# Transit-Supportive Development Plan

**RED AHEAD**



View the Draft TSD Plan at  
[transitchicago.com/rle/tsd](https://transitchicago.com/rle/tsd)





*Note: Milestones dependent on funding and approvals.  
\*Exact dates subject to further refinement as project advances.*



- **Completing the multi-year federal Capital Investment Grant (CIG) program**

- Needed to secure the multi-billion dollar grant from FTA



- **Coordinating with third parties**

- Railroad coordination



- **Keeping this mega project on schedule**

- Construction start in 2025 and project opening in 2029



- **Navigating risk and uncertainty as an agency**

- Transit agencies across the U.S. have been affected by COVID

- Inflationary environment (costs), evolving travel patterns, and less fare revenue to fund operations

## General Engineering Consultant (GEC)

- **Tier 1 of GEC** (120th Yard & Shop Design)-Expected Award in May 2023.
- **Tier 2 of GEC** (Complex Property Demolition & Site Remediation Design Packages)
  - Proposals due May 2023.
- **SBE:** (Ordinary Building Demolition Design Packages)-Proposals due May 2023.
- **SBE:** (Community Office Design)-Expected Award in July 2023

## CM for Demolition/Advance Work Oversight

- . Expected Award in June 2023

## CM for Design-Build (Mainline) and Design-Bid-Build (Yard & Shop) Contracts

- Expected Award in October 2023.

## East Lake Management Group

### RLE Complex Demo Contractors

- John Burns Construction Company
- Kiewit Infrastructure Company

### RLE Ordinary Demo Contractors

- Foundation Mechanics (SBE)
- Taza Construction dba Tiles in Style, LLC (SBE)

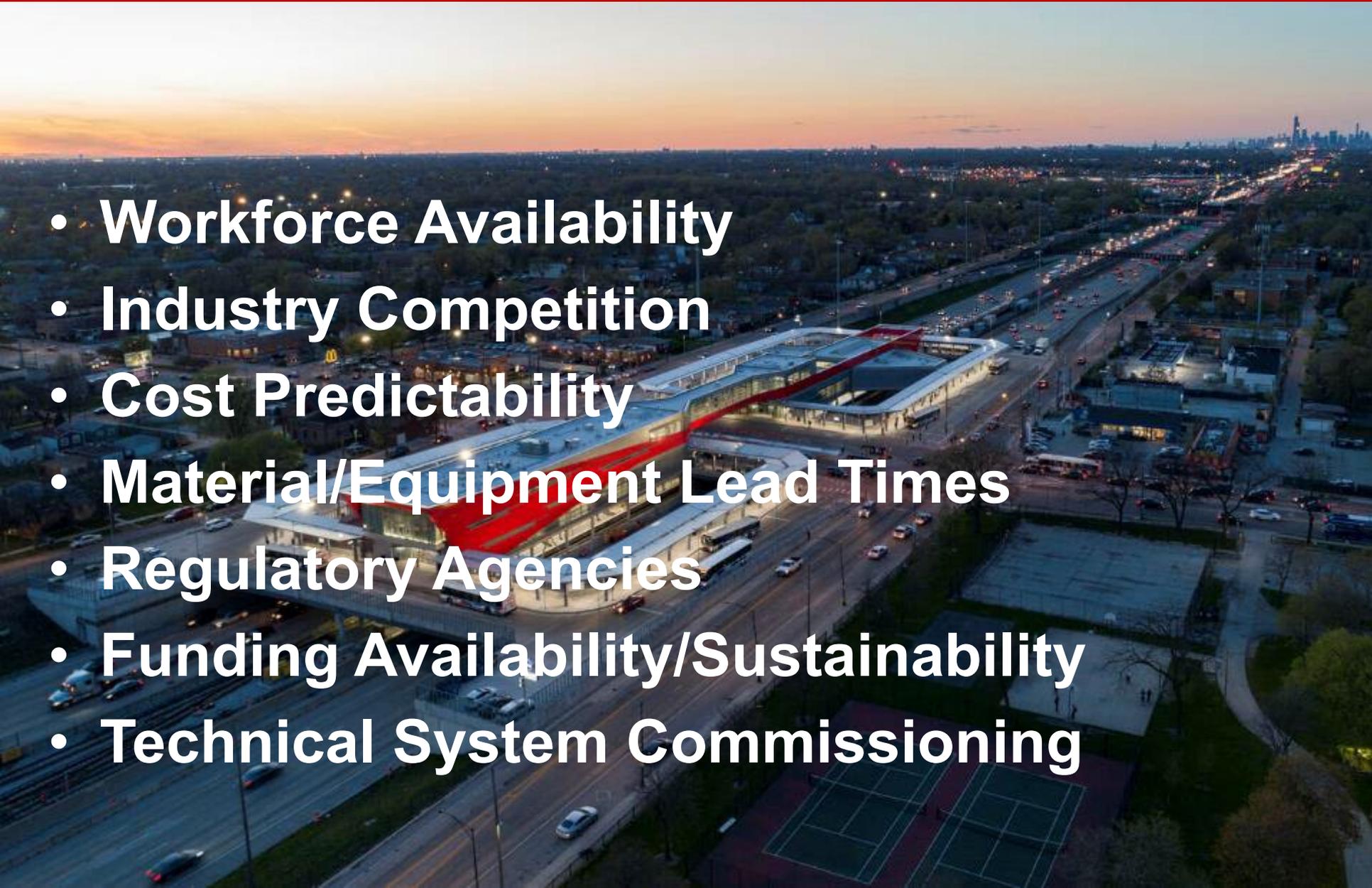
### RLE Design-Build Contract

- Expected to be awarded Q4 2024

### RLE Design-Bid-Build Construction Contract

- Expected to be awarded Q3 2025

# Challenges for Tomorrow

- **Workforce Availability**
  - **Industry Competition**
  - **Cost Predictability**
  - **Material/Equipment Lead Times**
  - **Regulatory Agencies**
  - **Funding Availability/Sustainability**
  - **Technical System Commissioning**
- 
- An aerial photograph of a city at dusk. The sky is a mix of orange, yellow, and blue. In the foreground, a large, modern building with a glass facade and a prominent red architectural element is highlighted. The building is surrounded by a parking lot and a road with traffic. In the background, a highway with many cars is visible, and the city skyline is in the distance.

# Questions

