

# Advancing Innovative Program Controls on a Mega Program



# AGENDA



Overview – Setting the Context



Foundation & Implementation



Dashboards – Bringing it All Together



Key Results & Impact





Hans Hoppe, PMP



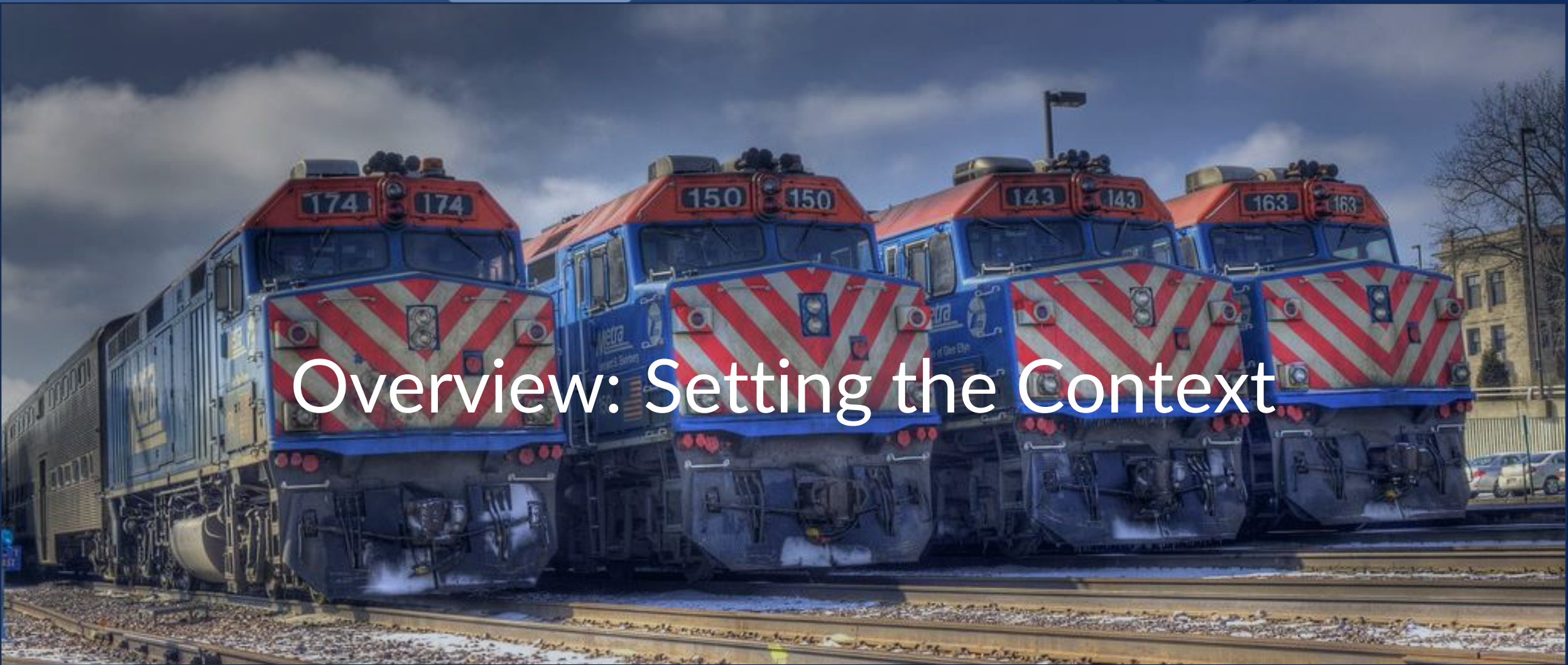
Maria Mata-Zurita



Drew Pearce

# Introductions





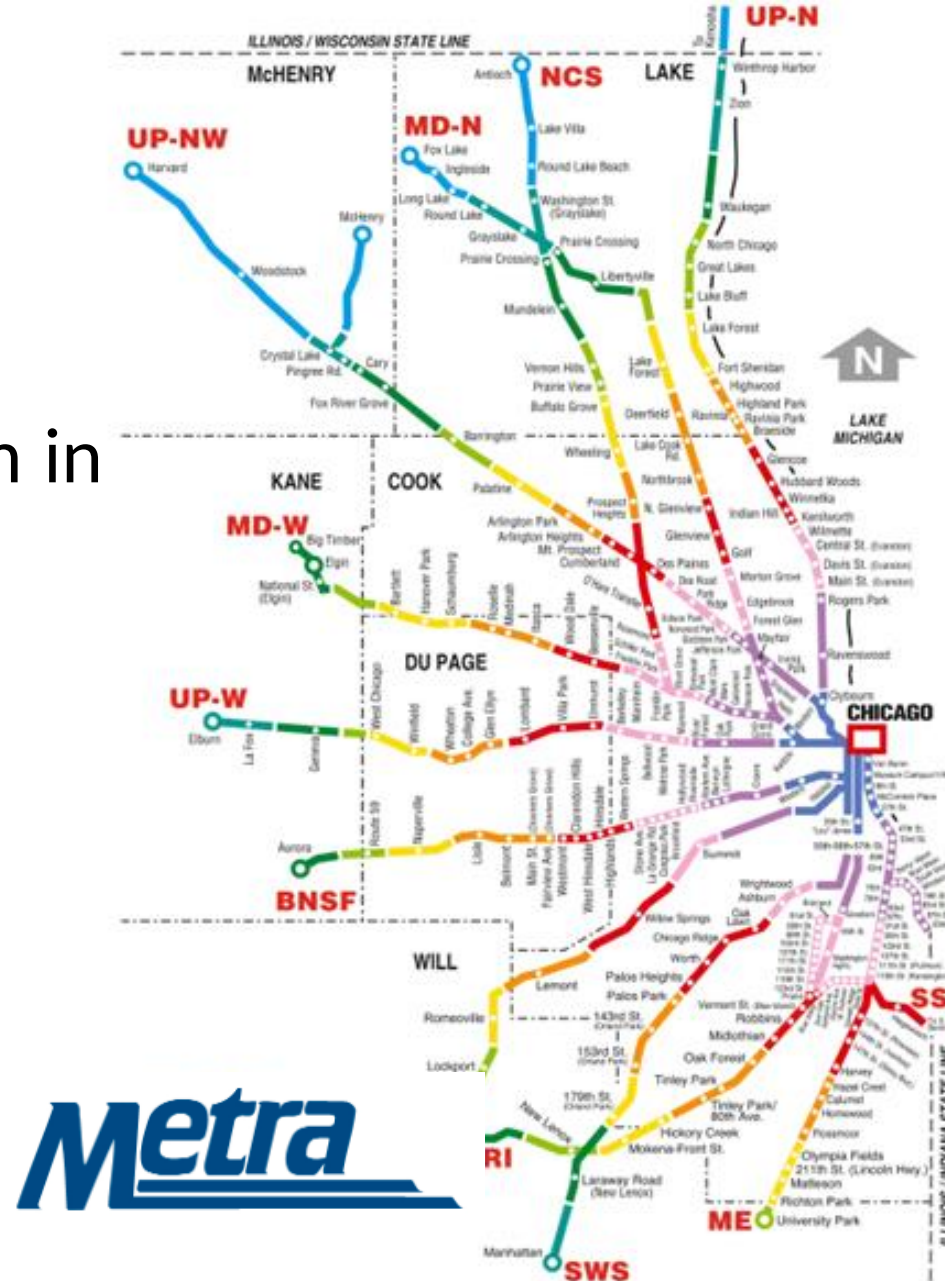
# Overview: Setting the Context



# Chicago Metra

4<sup>th</sup> Busiest Commuter Rail System in the US:

- 74M Passenger trips
- 1,155 miles of track across 11 rail lines
- 242 Stations
- 926 Bridges
- 565 Grade Crossings
- 24 Rail Yards
- 92,000 Parking Spaces



Metra is a large, complex organization with many key stakeholders



# WSP's Scope of Work

## Program Management Oversight (PMO)

- 10-year contract (2021 - 2031)
- 80 FTEs
- Integrated with Metra staff

## Metra Capital Delivery Portfolio

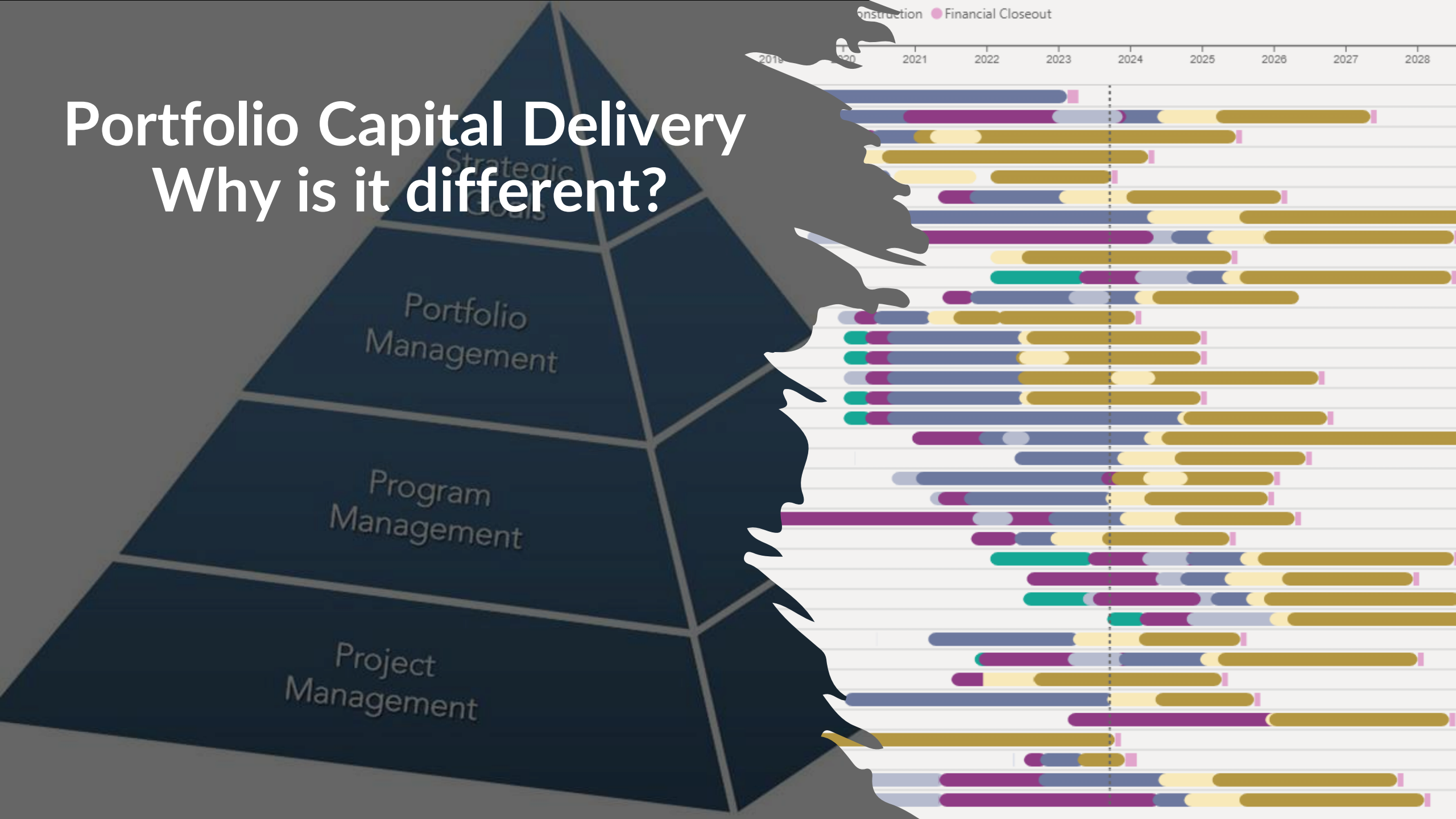
- Operational Environment
- 125 Active Capital Project
- \$5 Billion estimated cost
- Design Bid Build projects include:
  - Stations
  - Bridges
  - Mechanical / Electrical



**Metra wants  
on-time and on-budget projects  
to maximize use of  
available funding**



# Portfolio Capital Delivery Why is it different?





# Foundation & Implementation





# Initial State & Gap Analysis

## Review and assess the initial state

- Governance (policies, standards, manuals, procedures)
- Existing Systems and Data Sources
- Organizational Culture (willingness to change)

## Create a Vision & Implementation Roadmap



# Implementation Strategy

Select and procure PMIS

## Incremental Implementation Methodology

- Set expectations early and over-communicate
- Establishing fundamental processes
  - Process standardization and consistency
  - Ensure all data sources are time-synchronized

**Don't let perfection stand in the way of progress**



# Technology Selection

## WSP's tool selection process

- We are tool agnostic – select the best tool for the job
- Each job has different requirements and priorities
- Established selection matrix and process

**No perfect, out-of-the-box solution**

## PMIS Selection Criteria for Metra

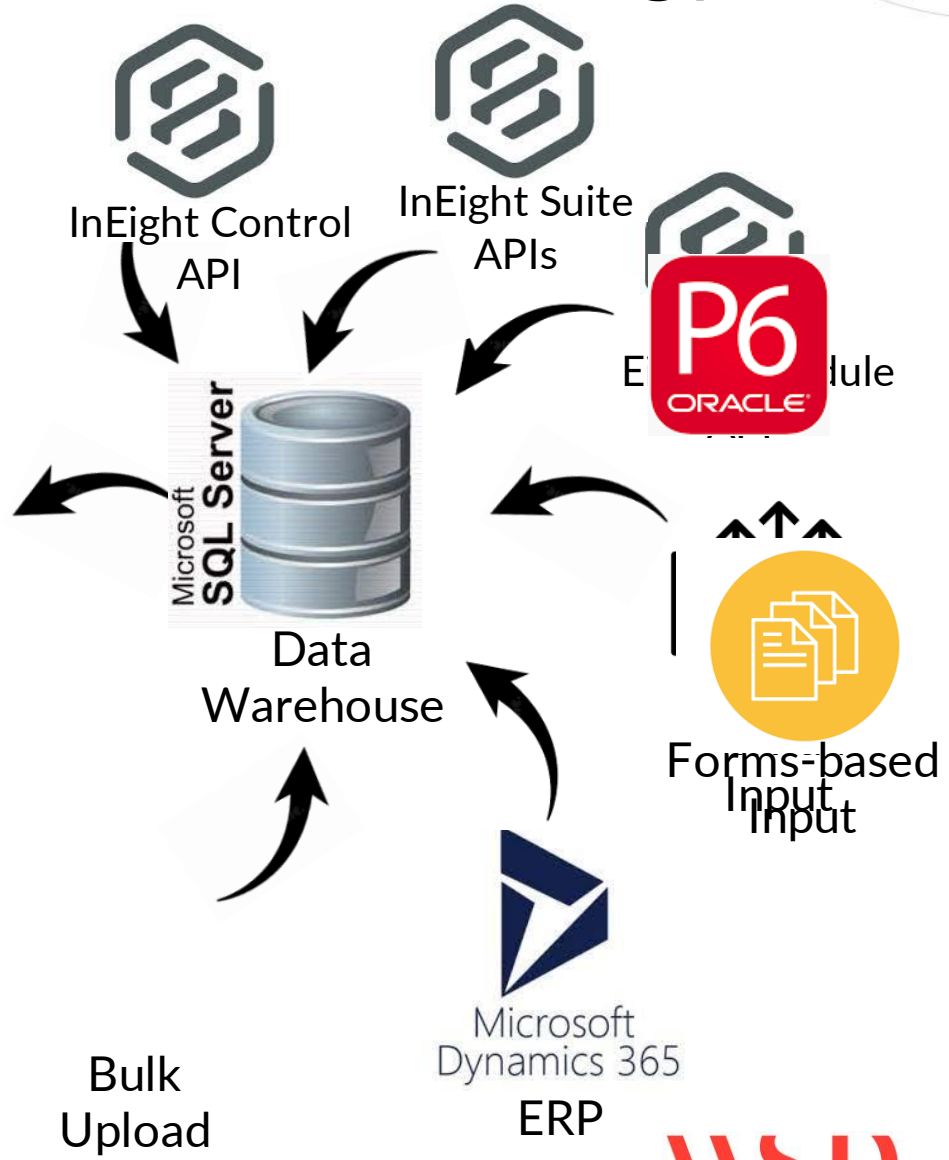
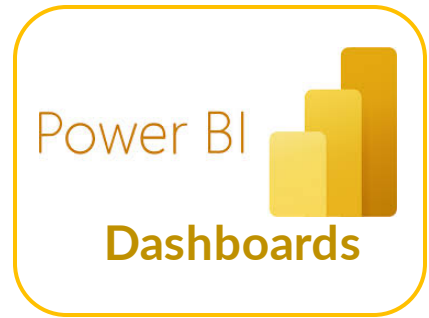
- All controls functionality in the same tool
  - Cost, schedule, estimating, contracts, change, quality, document, workflow
- 100% cloud based
- Robust API visibility



# Iterative Implementation Methodology

User Interface Remains **Consistent** with **Continuous Back-End Changes**

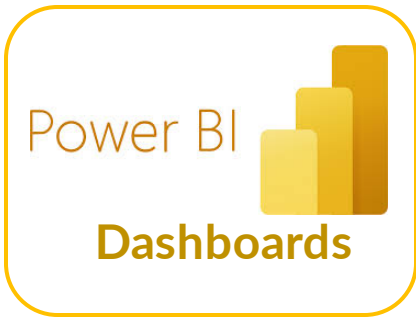
Use dashboards as primary interface of the backend



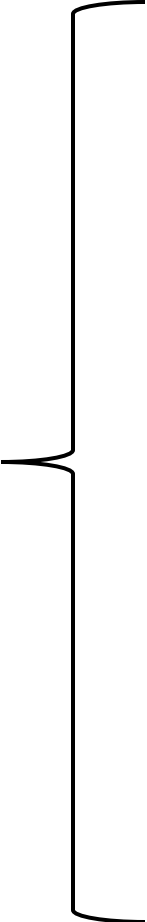
Intermediate State



# Process Standardization & Consistency



- Project WBS
  - Schedule
  - Cost Breakdown
- Invoice Review & Processing
- Contingency Management
- Design Review
- Requests for Information
- Submittal Review
- Change Order Process
- Etc.

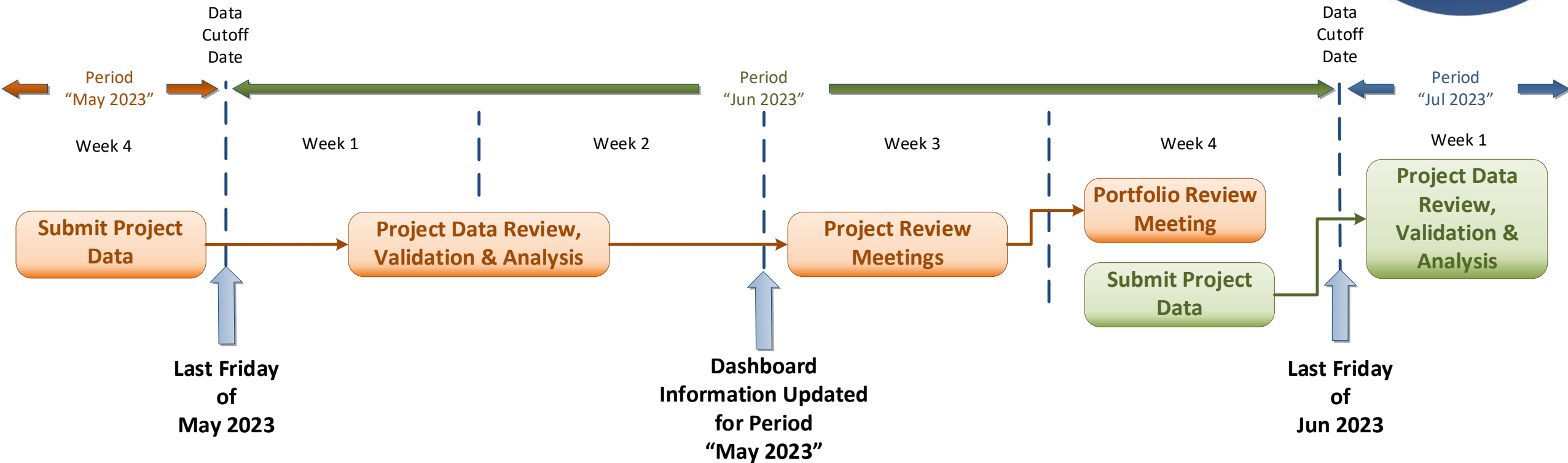


PPN	PPN Description
10353	103rd Street - Rosemoor Station
10354	111th Street - Pullman Station
10438	115th Street Station and Parking Facilities
10348	147th Street - Sibley Blvd Station
10583	14th Street BNSF Yard Roof Replacement
10427	14th Street Yard Overhead Piping
10291	16th Street Interlocker
10568	16th Street Substation Rectifier Replacement
10604	27th Street Stair and Retaining Wall
10576	47th Street Transfer Table
10523	47th Street Yard Coach and Diesel Buildings Heating Systems
10478	47th Street Yard Improvements - Fire Protection
10343	47th Street Yard Medium Voltage Distribution Replacement
10089	51st Street Coach Maintenance Building Demolition
10032	547 W Jackson Blvd HVAC Upgrades
10223	59th - 60th Street Station - University of Chicago
10350	79th Street - Chatham Station
10351	87th Street - Woodruff Station
10352	95th Street Station - Chicago State University
10567	95th Street Substation Water Service
10569	A-2 Interlocking Reconfiguration
10303	A-20 Interlocking
10560	Arlington Park Station - Parking
10226	Auburn Park New Station

Data Hierarchy and Processes **MUST** be Consistent across **ALL** projects for Portfolio Reporting to work



# Synchronizing Dashboard Data Implementing a Monthly Reporting Cadence



**Ensures**  
**Scope, Schedule, Cost, Risk and Change**  
**are Synchronized on the Dashboard**





# Dashboards – Bringing It All Together





# Program Schedule

Upcoming Project Reviews

Upcoming Procurement

Program Schedule

Permit Status

Program Funding

Discipline Group Filter

Civil/Structural

Project Phase Filter

All

Project Manager Filter

All

Schedule Type Filter

Current Schedule

Filter Phase Start Date

12/23/2013

12/11/2031

Filter Phase Finish Date

10/10/2017

1/21/2032

See Project Details

● PE/NEPA Procurement ● PE/NEPA ● Design Procurement ● Design ● Construction Procurement ● Construction ● Financial Closeout

2021

2022

2023

2024

2025

2026

2027

2028

2029

2030

10089 51st Street Coach Maintenance Building Demolition

10218 Fox Lake Crew Facility

10271 Bridge 275 - Old 96th Avenue Bridge

10289 UP North Line Bridges - South

10360 Bridge Replacement A-32 Over Milwaukee Avenue and Grayland Station

10377 Western Avenue Yard Engineering Bldg. B-2 Roof Replacement

10382 CREATE Program P2 RID Flyover Connection

10383 Reconstruction of Bridges 40 and 42 - Root Street and 43rd Street Bridge

10415 Replacement of MDN Bridge A110

10416 Rehabilitation of MDN Bridge A318

10417 Hickory Creek Bridge 377 Rehabilitation

10419 CREATE Program EW2 Bridge Lift - Bridge 87th at 79th Street

10430 Western Avenue - WACY Crew Facility

10432 Metra 10th Floor Remodeling - Control Center

10471 Stony Creek Bridge

10472 Replacement of Bridge A6 over Grand Avenue

10473 Bridge A418

10474 Bridge Z14C - Keystone Avenue and Bridge Z14A - Pulaski Avenue

10485 Van Buren Street - 4th Track NICTD Connection

10546 Vincennes Bridge Rehabilitation - Gresham Area Bridges

10547 Morgan Street Bridge Replacement - Gresham Area Bridges

10553 Replacement of RID Bridge 86 and 78th Street Entrance (to Auburn Park Station)



Home

**Overview**

Budget

Schedule

Schedule Variance

Risk

Purchase Orders

Permit Status

**Project Details**

**Homewood Station**

PPN Description

10311

PPN

**Stations and Parking**

Discipline Group

**Cameron Puetz**

Project Manager

**None listed**

NEPA Coordinator

**Maurice Covington**

Construction Engineer

**Project Description**

The Homewood Station will service the Homewood community, and is serviced by Med Electric (MED) Line. This project improves a multi-modal station that serves Metra and multiple Pace lines, as well as coordinates with Amtrak service to downstate Illinois and Chicago.

**Cost Overview**

\$25,281,011	\$21,308,841	\$0	\$3,972,170
Total Budget	Total Funded	Future Planned Funds	Delta

**Key Schedule Dates**

Preliminary Engineering/NEPA Phase	(Blank)	(Blank)
	Start	Finish

**Contracts Overview**

Contract #	Company	Contract Title	Phase
K43137 - TO 04	Legat	Conceptual Design for Homewood Station	PE
K60448 - TO 03	Muller & Muller	Design for Homewood Station Renovation	Design
PO0135589	IHC Construct ion Company	Construction Services for the Homewood Metra Station Renovation	Construction
PA0001480 - TO 14	Arcadis	CM Services - Homewood Station	CM

Design Phase	03/01/2022	08/31/2023
	Start	Finish
Construction Phase	03/01/2022	06/01/2025
	Start	Finish

**Project Details**  
**Auburn Park New Station**  
 PPN Description  
 10226  
 PPN

**Stations and Parking**  
 Discipline Group

**Ken Schultz**  
 Project Manager

**None listed**  
 NEPA Coordinator

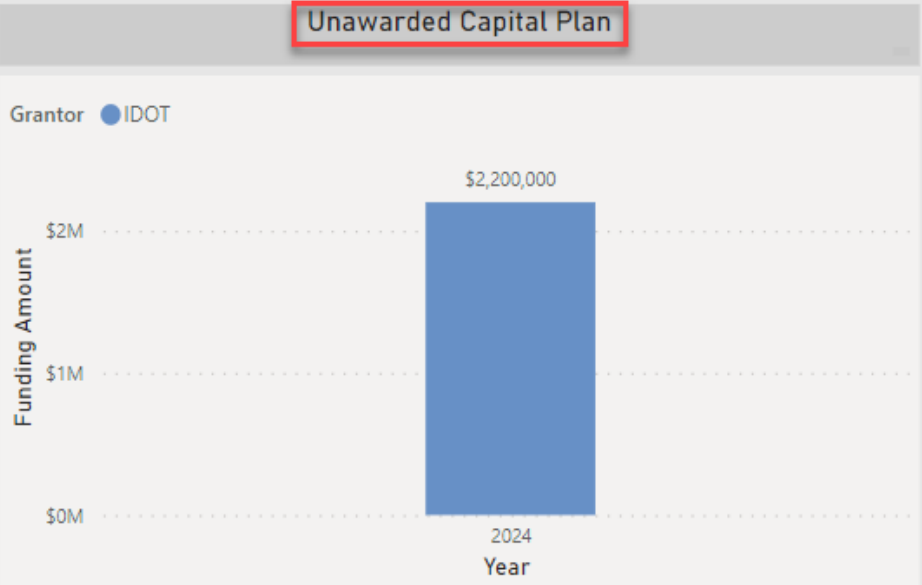
**Kevin Nolan**  
 Construction Engineer

[See Cost Detail](#)

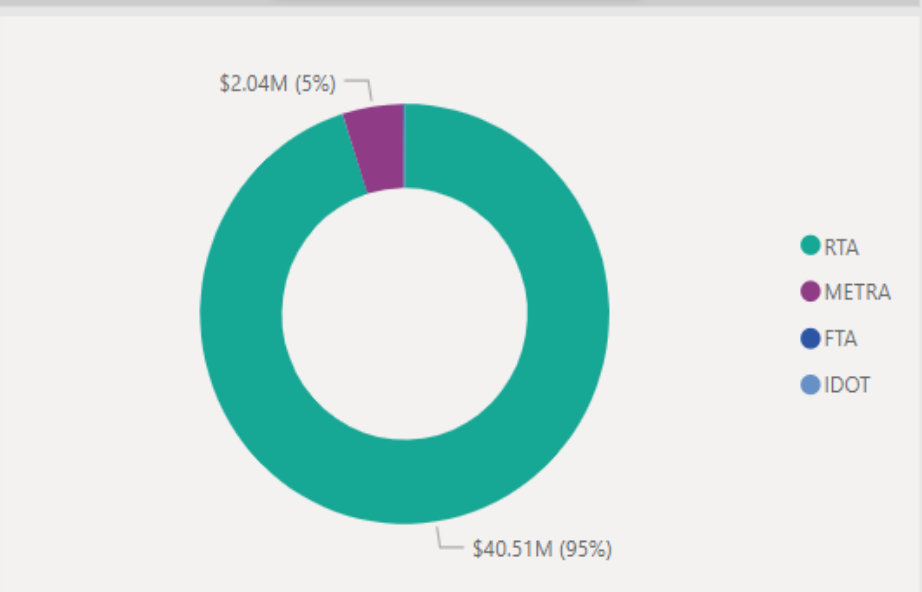
Project Funding Overview Title		
\$42,606,185 Current Estimate	\$42,606,185 Current Baseline	\$42,606,185 Total Funded
\$0 Total Unfunded	\$2,200,000 Programmed Funds	(\$2,200,000) Funding Variance
\$0 Total Contingency	\$0 Contingency Funded	\$6,177,818 Total Spent

**Budget by Project Phase**

Project Phase	Current Estimate	Current Baseline	Total Unfunded	Total Spent
<input type="checkbox"/> <b>Preliminary Engineering/NEPA Phase</b>	\$0	\$0	\$0	\$0
NEPA Process	\$0	\$0	\$0	\$0
Preliminary Engineering	\$0	\$0	\$0	\$0
<input type="checkbox"/> <b>Design Phase</b>	\$3,310,955	\$3,310,955	\$0	\$3,310,820
Design Procurement	\$0	\$0	\$0	\$0
Design Permitting	\$0	\$0	\$0	\$0
Design Development	\$3,310,955	\$3,310,955	\$0	\$3,310,820
<input type="checkbox"/> <b>Construction Phase</b>	\$36,716,649	\$36,716,649	\$0	\$2,866,998
Construction Permitting	\$0	\$0	\$0	\$0
Design Services For Construction	\$0	\$0	\$0	\$0
Construction Management	\$2,429,873	\$2,429,873	\$0	\$1,123,158
Construction	\$34,286,776	\$34,286,776	\$0	\$1,743,840
<b>Total</b>	<b>\$42,606,185</b>	<b>\$42,606,185</b>	<b>\$0</b>	<b>\$6,177,818</b>



**Budget by Funding Source**



**Project Details**

**Homewood Station**  
PPN Description

**10311**  
PPN

**Stations and Parking**  
Discipline Group

**Cameron Puetz**  
Project Manager

**None listed**  
NEPA Coordinator

**Maurice Covington**  
Construction Engineer

## Project Milestones

Activity Description	Activity Description	Current Start	Actual	Current Finish	Actual
<b>Construction</b>					
<b>Construction Management Procurement</b>					
A133010	Consultant Receives NTP (Proc)	10/27/2022	A	10/27/2022	A
<b>Construction Procurement</b>					
A93030	Metra Issues Notice to Proceed (NTP) (Proc)	11/14/2022	A	11/14/2022	A
<b>Construction/Installation</b>					
A93110	Start Homewood Station Construction	04/01/2023	A	04/01/2023	A
A93100	Homewood Station Construction Completion	04/02/2025		04/02/2025	
A3147791	Construction Contract Closeout Completion	06/01/2025		06/01/2025	
<b>Project Closeout</b>					
<b>Project Closeout</b>					
A3147821	Project Completion	07/01/2025		07/01/2025	

## All Project Activities

Activity Description	Activity Description	Current Start	Actual	Current Finish	Actual
A133000	Send Signed Task Order Documents to Consultant and Request Signature (Proc)	10/26/2022	A	10/26/2022	A
A133010	Consultant Receives NTP (Proc)	10/27/2022	A	10/27/2022	A
<b>Construction Permitting</b>					
A93080	Homewood Station Construction Permitting	08/07/2022	A	08/07/2022	A
<b>Construction/Installation</b>					
A102010	Plan Ground Breaking	04/01/2023	A	04/01/2023	A
A93110	Start Homewood Station Construction	04/01/2023	A	04/01/2023	A
A93090	Homewood Station Construction	04/03/2023	A	04/02/2025	
A102020	Ground Breaking Ceremony	05/04/2023	A	05/04/2023	A
A102030	Ribbon Cutting	02/17/2025		02/23/2025	
A93100	Homewood Station Construction Completion	04/02/2025		04/02/2025	
A3147771	Construction Contract Closeout	04/03/2025		06/01/2025	
A3147791	Construction Contract Closeout Completion	06/01/2025		06/01/2025	
<b>Project Closeout</b>					
<b>Project Closeout</b>					
A3147801	Project Closeout	06/02/2025		07/01/2025	
A3147821	Project Completion	07/01/2025		07/01/2025	

**Project Details**

**Homewood Station**  
PPN Description

**10311**  
PPN

**Stations and Parking**  
Discipline Group

**Cameron Puetz**  
Project Manager

**None listed**  
NEPA Coordinator

**Maurice Covington**  
Construction Engineer

**Project Risks**

Risk ID	Risk Status	Risk Title	Phase	Date Identified	Risk Statement	Risk Owner	Risk Rating
1	Open	MWRD permit approval	Construction	03/01/22	There is a risk that there may need to be a change order to address MWRD comments on shop drawing submittals for approval of permit, and purchase of storm water detention system This could result in: - project schedule delay may construction schedule (and therefore project schedule)		Low
2	Open	Risk of updated code summary	Construction	03/01/22	There is a risk that there may need to be an addendum to address requested changes for approval of permit. This could result in: - permit approval delay may construction schedule (and therefore project schedule)		Low
3	Open	Risk of Potential Claim for Additional Design Services	Design	12/28/22	There is a risk that M2 will attempt to make a claim for additional design structural and civil (not verified yet) design work performed prior to the IFB set. This could result in a delay in completing the TOA for Design Services During Construction (the PR is nearly through D365 workflow, and is awaiting Procurement approval). There is also a risk that there will be additional design fee required.	M2/Metra	Medium
4	Open	Risk of Budget Increase for Additional	Construction	04/03/23	The CN Railroad has confirmed 5-6 flaggers are needed while the contractor is driving sheeting for the ERS based on the crane size used by the contractor. Before the sheeting operation started, IHC	M. Covington	Medium

**Action Tracker Status**

All

**Project Risk Status**

All

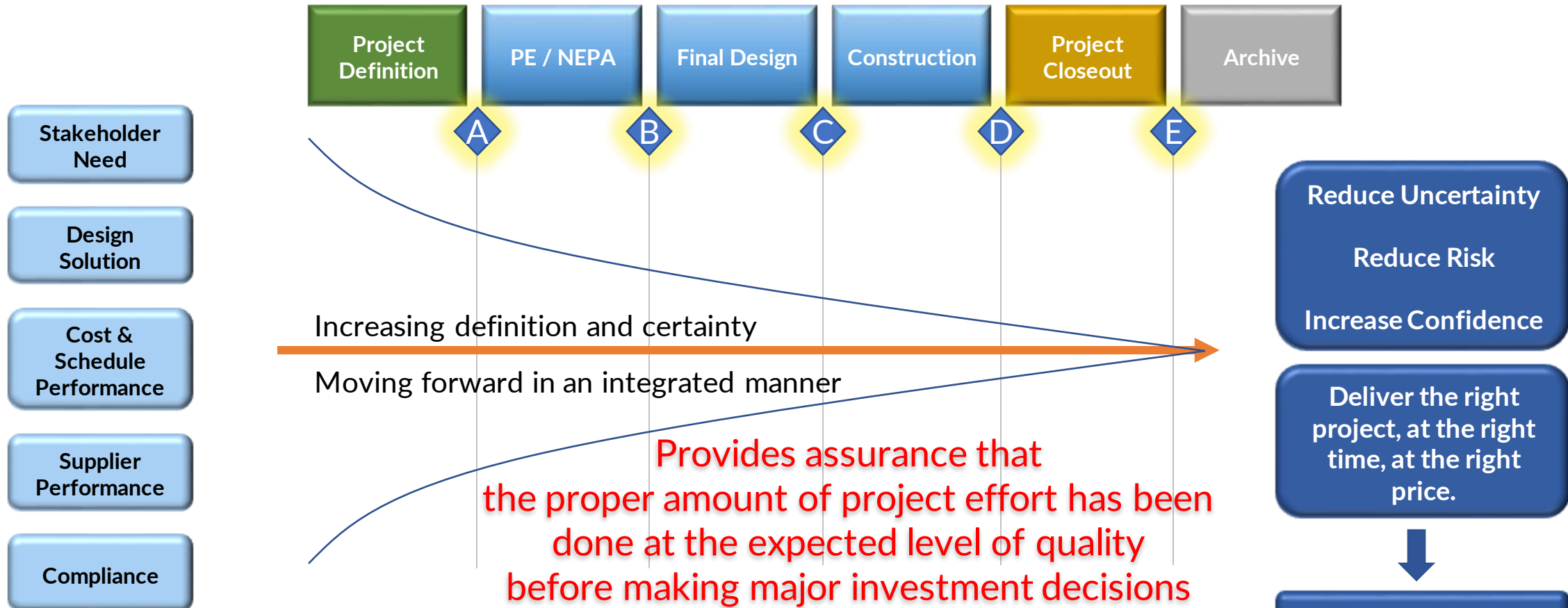
**Mitigation Actions**

Risk ID	Action Items	Action Owner	Action Due Date	Action Status
1	IHC has been requested to present the storm sewer system submittal in a timely manner. M2/TY Lin has been requested to review submittal in a timely manner to allow approved materials to be resubmitted by M2 to complete the MWRD permit application. This process was agreed to with MWRD.	IHC/M2		Active
2	Use contracted consultant permitting hours to address any required updates. Village has waived permit review and approval for documents.	M2/Village		Completed
3	Metra to request information from M2. M2 to identify scope of work and dates in question. Metra to review M2 information. Meeting scheduled for	RR/Metra	1/6/2023	Active
4	Metra to hold meeting with the CN to discuss the required protections for their track during the sheeting operation.	M. Covington	4/7/2023	Active
5	Metra and PMO need to come to an agreement regarding future CN flagging payments to the CN while working on private property	M. Covington	6/1/2023	Active
6	Put together a SOW and process a contract modification	M. Covington	6/15/2023	Active
7	n/a	M. Covington	10/1/2024	Active

# Key Results & Impact



# Stage Gate Assurance Framework



# Key Results & Impact Benefits to Metra

Complete project information across the entire portfolio in a single location

Rapidly respond to requests from political offices and other key stakeholders

Millions of discretionary grant \$\$\$ awarded based on demonstrated confidence in delivery

Precisely program limited funding and project funding spend





# Thank You!



Washington, DC - USA