

**FY 2023 Unified Work Program (UWP)
for Northeastern Illinois
Competitive Projects Proposal Form
State Fiscal Year (July 1, 2022 – June 30, 2025)**

Project Title	Loop Rail Capacity Modeling
Sponsoring Agency	CTA
Federal Amount Requested	\$300,000
Local Match Amount	\$75,000
Total Project Cost (Local Match Amount must be at least 20% of Total Project Cost.)	\$375,000
UWP Eligibility Timeframe (Estimated Date of Completion)	June 30, 2024

Description and Justification
<p>Brief Description - Please provide information so that all relevant Committee, CMAP/MPO Policy Board members, and the public are able to understand the general scope and goals of the project. This information will showcase your project in future documentation, including the UWP Document.</p> <p>The project will analyze existing rail capacity and potential solutions to maximize capacity in the elevated Loop through rail simulation modeling. The elevated Loop is a critical piece of CTA infrastructure with five rail lines operating through it– Brown, Orange, Purple, Green, and Pink, each with its own routing pattern. This complexity, without precedent in North American rail transit operations, makes assessment of Loop capacity and evaluation of capacity-focused capital projects analytically challenging. The rail simulation modeling would allow for accurate assessment of the complex operations and capacity solutions. Maximizing CTA system capacity around the Loop is vital to supporting growth in access to employment, education, services, and entertainment in downtown and improving utilization of any of these five lines.</p>
<p>Statement of Work, Objectives, and Goals - Please provide a statement of work proposed to be completed with project. The narrative should include key objectives and goals expected to be met throughout the duration of the project.</p> <p>The project goal is to analyze rail capacity in the elevated Loop and alternatives to maximize capacity through potential routing changes, schedule modifications, or capital investments such as changes to station locations and configurations, signalization refinements, or turn-back tracks.</p>

FY 2023 Unified Work Program (UWP)
for Northeastern Illinois
Competitive Projects Proposal Form
State Fiscal Year (July 1, 2022 – June 30, 2025)

Capacity refers to the number of passengers that trains can carry over a given timeframe. The analysis would help CTA with formulating recommendations for Loop operations and support decision making for rail capital projects.

The Loop is a complex system not suited to basic analysis techniques. The analysis would be conducted through a dynamic rail simulation model of the Loop and surrounding areas. CTA intends to utilize rail simulation software such as OnTrack, which uses the CTA signal system as the foundation and comprehensively models all operational aspects of CTA's rail system. Network simulation is a powerful tool in quantifying whether an assumed set of infrastructure can reliably support an assumed operating plan. CTA has used OnTrack in the past to inform planning and operations decisions, particularly in support of major infrastructure projects.

The project scope of work would include –

- Review and update CTA's OnTrack model for recent capital improvements
- Recalibrate model to existing operations using CTA data and field observations
- Test different service scenarios on each of the five elevated lines including potential impacts to lines utilized for rerouting scenarios (such as the subway system in the Loop)
- Test dwell time reduction strategies
- Summarize and present technical analysis
- Develop service, operations, and capital improvement related recommendations

Competitive Justification - Please provide detail on how the project aligns with the State's Long Range Transportation Plan

This project supports *LRTP Mobility Objective 2: Invest in and support multimodal transportation infrastructure improvements and strategic performance-based expansion of services that support the effective movement of passengers*. The elevated Loop is a critical component of CTA infrastructure, with five rail lines utilizing the trestle structure and the eight Loop stations. Existing routing is complex, limiting capacity on all five lines. Customers often experience delays traveling through the Loop due to train congestion. A dynamic rail simulation model of the Loop and surrounding areas would allow analysis of potential routing changes or schedule modifications to maximize available capacity, and potential capital investments, such as changes to station locations and configurations, signalization refinements, or turn-back tracks.

This project also supports *LRTP Economy Objective 1: Encourage regional coordination in the identification of solutions to transportation problems to provide for efficient movement of people and services supporting economic growth*. The Loop is the economic engine of the Chicago region, and efficient CTA rail service is foundational to the economy by being a primary means of transportation for workers, residents, students, customers, and tourists in the area.

**FY 2023 Unified Work Program (UWP)
for Northeastern Illinois
Competitive Projects Proposal Form
State Fiscal Year (July 1, 2022 – June 30, 2025)**

Competitive Justification - Please identify at least one principal of the regional priorities associated with this project and/or the required MPO activities. If there is more than one, please state which you consider to be the main regional priority.

Modernization of the Public Transit System

Loop Rail Capacity Modeling will help CTA understand where there is opportunity to maximize available capacity on each of the five rail lines that utilize the Loop elevated. Potential schedule changes, potential changes to station locations and configurations, potential signalization refinements, and potential routing options will be evaluated. Increased capacity and fewer delays due to train congestion on the five Loop elevated rail lines will improve travel times and reliability for CTA riders along entire rail lines, even for those whose trips are outside the Loop.

Loop Rail Capacity Modeling will also provide an important component of capacity analysis for CTA to advance planning work on rail capital projects such as North Red/Purple Modernization (RPM) Future Phases, as most of CTA's rail lines are constrained by Loop routing patterns on the Elevated or in the subway. For example, the Purple and Brown line frequencies are constrained downline by Loop routing patterns. Understanding where system capacity exists around the Loop and evaluating potential changes to schedules, signals, and routing options will allow CTA to increase capacity on these lines and better plan for the RPM Future Phases capital projects.

Competitive Justification - How does the project benefit disadvantaged/economically disconnected communities as defined in ON TO 2050? Please explain.)

Because five lines operate through the loop track sections, the capacity in the Loop impacts the rider experience on all five lines. The Green, Orange, and Pink lines serve several areas identified in On To 2050 as Economically Disconnected Areas (EDAs) and Disinvested Areas. For those living in these areas and relying on transit, Loop capacity improvements will improve the rider experience on trips both inside and outside the Loop. Additionally, rail riders within CTA's entire service area stand to benefit from increased efficiency of trains in the Loop.

Competitive Justification (which particular GO TO 2050 recommendation(s) will this project contribute to or implement?)

- The project "*Makes Transit More Competitive*" by identifying potential for improvements to rail travel times and reliability on the five Loop elevated lines.

**FY 2023 Unified Work Program (UWP)
for Northeastern Illinois
Competitive Projects Proposal Form
State Fiscal Year (July 1, 2022 – June 30, 2025)**

The project “*Prioritizes investment of limited resources to efficiently maintain existing infrastructure*” by helping the CTA make more efficient and effective use of one of its most critical pieces of rail infrastructure. Also, improvements made in the Loop have positive effects on the five rail lines in areas outside of downtown.

- The project helps “*Build Regionally Significant Projects.*” The downstream capacity analysis for the Purple line and other Loop lines can be used to better plan for the North Red/Purple Modernization Future Phases, identified as a regionally significant project in ON TO 2050.

Is this project a continuation of previous work? If so, please explain.

CTA has studied the Loop capacity constraints and routing options with limited staff and academic resources in the past. These efforts have identified the need for more complex analysis on capacity constraints to examine and improve the operations through Loop.

The Loop Capacity modeling work will have broader applicability but will also benefit and inform the ongoing Red and Purple Modernization Future Phases study.

What is the source of funds for the local match portion of this project?

CTA Operating Funds

Project Performance (Project Timeline, Product Completion Schedule, and Spend Plan)			
Key Objectives, Goals, Milestones, and Deliverables	Type	Completion Date* (Provide actual dates or quarter in which competed)	Spend Estimate

**FY 2023 Unified Work Program (UWP)
for Northeastern Illinois
Competitive Projects Proposal Form
State Fiscal Year (July 1, 2022 – June 30, 2025)**

Procurement	Goal	CTA has identified an opportunity to amend an existing contract vehicle (federally-compliant) in order to expedite procurement. With pre-award authority, CTA could begin procurement upon notification of grant award. This would allow for an expedited start date of this work. Procurement will be complete no later than Q1 FY 2023. (State Fiscal Year)	
Review and update CTA OnTrack model for recent capital improvements	Milestone	Q2 FY 2023	\$25,000
Recalibrate model to existing operations using CTA data and field observations	Milestone	Q2 FY 2023	\$75,000
Test different service scenarios on each of the five elevated lines including potential impacts to lines utilized for rerouting scenarios	Milestone	Q4 FY 2023	\$150,000
Test dwell time reduction strategies	Milestone	Q4 FY 2023	\$50,000
Summarize and present technical analysis	Deliverable	Q1 FY 2024	\$37,500
Develop recommendations	Deliverable	Q1 FY 2024	\$37,500
Project Closeout	Goal	Q4 FY 2024	

***Please include key procurement dates in this timeline, including if they occur before the start of the project**

**FY 2023 Unified Work Program (UWP)
for Northeastern Illinois
Competitive Projects Proposal Form
State Fiscal Year (July 1, 2022 – June 30, 2025)**

Expense Breakdown	
Staff Cost associated with this Project	No funding for CTA staff is requested
Overhead Cost associated with this Project	\$ 0
Total Person Months	15
Consultant Cost	\$ 375,000
Other Costs (provide details below)	\$
Total Project Cost	\$ 375,000
Please specify the purpose of consultant costs Consultant expertise is required to conduct the complex capacity analysis and develop recommendations. Consultant expenditures will occur throughout the duration of the project.	
Please specify the purpose of other costs N/A	
Feel free to provide additional information regarding this project plan as an attachment to your application. BOBs 2832 requires agencies to report quarterly on the performance of their project or budget to actual expenditures.	

**FY 2023 Unified Work Program (UWP)
for Northeastern Illinois
Competitive Projects Proposal Form
State Fiscal Year (July 1, 2022 – June 30, 2025)**

Project Title	SSMMA ADA TRANSITION PLAN
Sponsoring Agency	SSMMA
Federal Amount Requested	\$250,000
Local Match Amount	\$50,000
Total Project Cost (Local Match Amount must be at least 20% of Total Project Cost.)	\$250,000
UWP Eligibility Timeframe (Estimated Date of Completion)	June 2025

Description and Justification
<p>Brief Description - Please provide information so that all relevant Committee, CMAP/MPO Policy Board members, and the public are able to understand the general scope and goals of the project. This information will showcase your project in future documentation, including the UWP Document.</p> <p>The fundamental goal of the SSMMA ADA Transition Plan is to ensure equal access to civic life by people with disabilities. The plan also provides guidance for removal of accessibility barriers. The Plan is intended to be a living document that will be updated regularly to track ongoing achievements toward compliance. Nineteen SSMMA communities have signed on to be a part of this regional planning process.</p>
<p>Statement of Work, Objectives, and Goals -</p> <p>Project Management- The consultant will work closely with SSMMA staff and communities participating in the ADA Transition Plan.</p> <p>Management System- Establish an actively managed tracking system database to update barrier removal as they are performed by community staff. This will provide a medium for monitoring and updating the process. SSMMA will provide training, as needed, to community staff and consultants.</p>

**FY 2023 Unified Work Program (UWP)
for Northeastern Illinois
Competitive Projects Proposal Form
State Fiscal Year (July 1, 2022 – June 30, 2025)**

Sidewalk and Curb Ramp Survey- The consultant shall conduct field investigations of the SSMMA community’s sidewalks, shared-use paths, street intersections (curb ramp and crosswalks), pedestrian signals, parking lots and on-street transit facilities (bus stops and bus shelter locations). The consultant will utilize the SSMMA ADA Management System for data collection.

Municipal Public Buildings and Parks Evaluated- The consultant will conduct field surveys of each of municipality’s public buildings and parks. The assessment will include all facilities that can be accessed by the public and are therefore required for review and inclusion by ADA. The surveys will focus on the evaluation of architectural barriers, including path of travel, both in the public right of way within and around the facility, and provide an initial recommendation in terms of priority for barrier removal.

Policy Review- The consultant will identify all necessary documents and materials for each community to conduct a self-evaluation of policies, programs, and practices. The consultants will review each community’s self-evaluation and provide feedback.

Public Involvement- Community stakeholder meetings will be held with the 19 SSMMA community staff participating in the ADA Transition Plan process. The consultant will coordinate the involvement with disability advocacy groups and the general public.

Competitive Justification -

Mobility is a core component of the vision of the Illinois’ LRTP. The strategies and implementation programs outlined in this chapter look at all modes of transportation in Illinois in an effort to link transportation and planning intended to improve mobility, while also managing existing issues.

Competitive Justification - Local Technical Assistance and the Formation of Collaborative Planning Effort is the main regional priority by advancing the SSMMA ADA Management System for cohort 4 communities.

**FY 2023 Unified Work Program (UWP)
for Northeastern Illinois
Competitive Projects Proposal Form
State Fiscal Year (July 1, 2022 – June 30, 2025)**

<p>Competitive Justification - How does the project benefit disadvantaged/economically disconnected communities as defined in ON TO 2050? Please explain.) CMAP’s Community Cohort tool has identified twenty-two disadvantaged communities in the South Suburbs. This plan will include nine Cohort 4 communities.</p>
<p>Competitive Justification (which particular GO TO 2050 recommendation(s) will this project contribute to or implement?) The SSMMA region has more Cohort 4 communities than any other COG. SSMMA and nineteen communities will work in partnership to complete and implement the ADA Plan. Improving the built environment for all users, especially in communities with one or no car households, will give additional mobility. These residents and visitors will be able to access store, transit, and local resources.</p>
<p>Is this project a continuation of previous work? If so, please explain. SSMMA continues to provide technical assistance to under-served communities. Many South Suburban communities do not have staff to allow them to get and manage funds. SSMMA continues to provide community support.</p>
<p>What is the source of funds for the local match portion of this project? In kind SSMMA staff time.</p>

Project Performance (Project Timeline, Product Completion Schedule, and Spend Plan)			
Key Objectives, Goals, Milestones, and Deliverables	Type	Completion Date* (Provide actual dates or quarter in which competed)	Spend Estimate
- Project Kick-off, Community Stakeholder meeting	Goal	January 2022	\$0
- RFQ released	Goal	February 2022	\$0
- RFQ Closes - Community Stakeholder Meeting	Goal	March 2022	\$0

**FY 2023 Unified Work Program (UWP)
for Northeastern Illinois
Competitive Projects Proposal Form
State Fiscal Year (July 1, 2022 – June 30, 2025)**

- Communities create a list of public facilities (including address, facility type)			
- Interviews of consultant - Consultant selection/contract	Goal	April	\$0
- Community Stakeholder Meeting - Consultant begins Sidewalk and Curb Ramp Survey	Objective	May 2022	\$10,000
- Consultant provides lists of documents and materials for each community to conduct a self-evaluation of policies, programs, and practices.	Objective	August 2022	\$30,000
- Training on ADA Title II regulations and grievance procedures - SSMMA will work to develop to SSMMA ADA Management System	Objective	September 2022	\$10,250
- Consultant provides training of community staff to conduct self-evaluation of policies, programs, and practices. - SSMMA ADA Management System training	Objective	November 2022	\$10,750
- Community Stakeholder Meeting - Communities complete self-evaluation of policies, programs, and practices. - Consultants begins evaluation of public buildings and parks	Objective	May 2023	\$80,500
- Consultant completes Community's self-evaluation of policies, programs, and practices and provides comments.	Objective	November 2024	\$5,000

**FY 2023 Unified Work Program (UWP)
for Northeastern Illinois
Competitive Projects Proposal Form
State Fiscal Year (July 1, 2022 – June 30, 2025)**

- Community Stakeholder Meeting			
- Community Stakeholder Meeting - Consultant completes Sidewalk and Curb Ramp Survey - Consultant completes evaluation of public buildings and parks	Objective	January 2025	\$85,500
SSMMA ADA Transition Plan complete	Objective	June 2025	\$13,000
Communities adopt SSMMA ADA Transition Plan	Objective	July 2025	\$0
- SSMMA provides trainings for communities to update SSMMA ADA Management System for their community. All SSMMA communities will have access to the SSMMA ADA Management System.	Goal	Ongoing	\$0

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**FY 2023 Unified Work Program (UWP)
for Northeastern Illinois
Competitive Projects Proposal Form
State Fiscal Year (July 1, 2022 – June 30, 2025)**

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Staff Cost associated with this Project	\$40,000 (In-kind)
Overhead Cost associated with this Project	\$5,000
Total Person Months	0
Consultant Cost	\$240,000
Other Costs (provide details below)	\$10,000
Total Project Cost	\$250,000
<p>Please specify the purpose of consultant costs The consultant will conduct field investigations of the SSMMA community’s sidewalks, shared-use paths, street intersections (curb ramp and crosswalks), pedestrian signals, parking lots and on-street transit facilities (bus stops and bus shelter locations), field surveys of each of municipality’s public buildings and parks. The consultant will identify all necessary documents and materials for each community to conduct a self-evaluation of policies, programs, and practices. The consultants will review each community’s self-evaluation and provide feedback.</p>	
<p>Please specify the purpose of other costs SSMMA will be developing and housing the SSMMA ADA Management System. Improved GIS software will be purchased.</p>	
<p>Feel free to provide additional information regarding this project plan as an attachment to your application. BOBs 2832 requires agencies to report quarterly on the performance of their project or budget to actual expenditures.</p>	