

A Better Ride for All

RTA Travel Information Action Plan
May 2025





Acknowledgements

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Table of Contents

1. Executive Summary	3
2. Customer Information Inventory	16
3. Update Foundational Research	37
4. Transit Customer User Testing	47
5. Identify Further Coordination Opportunities	59

Introduction and Background

Transit works best when customer information is timely, accurate, and easy to understand. Creating an enjoyable transit experience depends on high quality data, communications, and the most up-to-date information available. Whether someone is a new rider or a seasoned commuter, this Action Plan charts a course for RTA, CTA, Metra, and Pace to improve how transit information is generated, shared, and delivered to riders, ensuring information is easy to access and understand no matter where or when they travel.

The purpose of this Action Plan is to detail steps that the RTA, CTA, Metra, and Pace are taking today and will take over the next three years to improve transit customer information. This includes investing in hardware and software technology, improving interagency coordination and communications, and expanding the use of shared services for a regionally consistent and seamless transit customer experience.

This Action Plan builds upon efforts undertaken by RTA, CTA, Metra, and Pace over two decades to address the evolution of technology and tools that customers use including smartphones and GPS, as well as improvements to transit infrastructure including LED screens, automatic vehicle location (AVL), and high-fidelity digital speakers. These advancements have improved how transit customers interact with transit and increase what they expect from transit providers.

Providing more accurate, real-time travel information for riders emerged as one of seven Action items in **Transit is the Answer**, the regional transit system's 5-year strategic plan adopted in 2023. Subsequently, improving customer information became one of the central areas of reform proposed in **Transforming Transit**, the vision set forth by the RTA in 2025 laying out what the agency would do if it secured \$1.5 billion in funding from the Illinois General Assembly.

Previous customer information research, recommendations, and standards developed by RTA are summarized on the following pages.



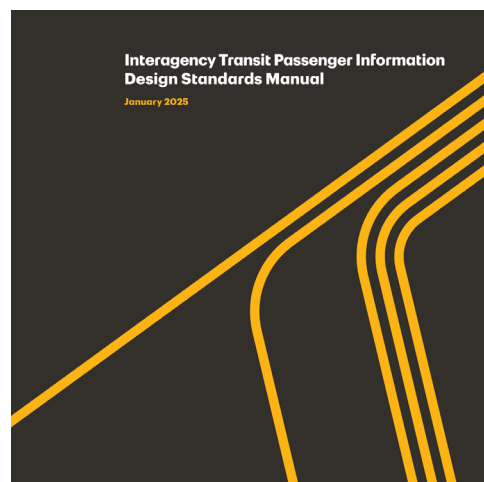
2005

In 2005, the RTA's Regional Coordination Division began working closely with CTA, Metra, Pace and stakeholders to improve interagency coordination of transit information. The primary objective for this regional coordination effort is to assist customers to more easily navigate the region using transit and improve the transit customer experience. That same year, the RTA's **Foundational Research: The Rider Experience** action plan laid the groundwork for the basic principles that should inform design and deployment of transit customer information.

2009

In 2009, RTA published the **Interagency Transit Passenger Information Design Standards Manual** to serve as the design guide for helping transit customers navigate transit within the region, including additional guidance for those transferring at locations with two or more different service types. The RTA has updated this manual periodically with the most recent version issued in 2025.

Foundational Research *The Rider Experience*



2023

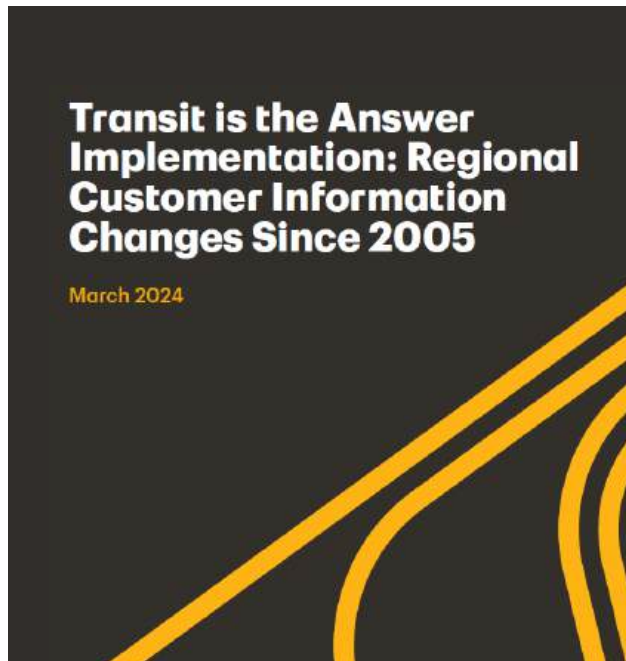
In 2023, RTA adopted the region's strategic plan – **Transit is the Answer** – with a vision for “safe, reliable accessible public transportation that connects people to opportunity, advances equity and combats climate change.” The plan sets forth a series of high-level action items:

- Make the transit system safer and more secure for everyone
- Use new funding as a catalyst to create a fully accessible transit system
- **Provide more accurate, real-time travel information for riders**
- Make paying for transit more seamless and more affordable
- Accelerate the transition to a zero emission regional transit system and prioritize communities burdened by poor air quality
- Assess the regional capital program in a new way including considerations for racial equity and mobility justice
- Adapt bus and rail service to meet the changing needs of riders

This Action Plan for improved transit customer information builds upon the third Action Item from **Transit is the Answer** with recommendations based on a thorough review and assessment of all information proved to riders throughout the region – with a particular focus on real-time information.

2024

The RTA's **Transit is the Answer Implementation: Regional Customer Information Changes Since 2005** report provided an update on implementation of recommendations from the Foundational Research. RTA, CTA, Metra, and Pace continue to seek opportunities to improve customer information by leveraging new technology and building upon traditional methods of communication like signage and announcements.



Summary of Initial Tasks Completed in 2025

To understand transit customer needs and test what works, the RTA embarked on the following tasks in 2024:

1. Steering Committee Engagement
2. Customer Information Inventory
3. Update Foundational Research
4. Transit Customer User Testing
5. Identify Further Coordination Opportunities

1. Steering Committee Engagement

The RTA convened a Steering Committee consisting of representatives from CTA, Metra, Pace, the RTA, and stakeholders representing transit customers and advocates for improved customer information. Steering Committee members provided feedback over the course of three meetings and provided comments on draft action plans, preliminary findings, and opportunities for improved coordination between RTA, CTA, Metra, and Pace.

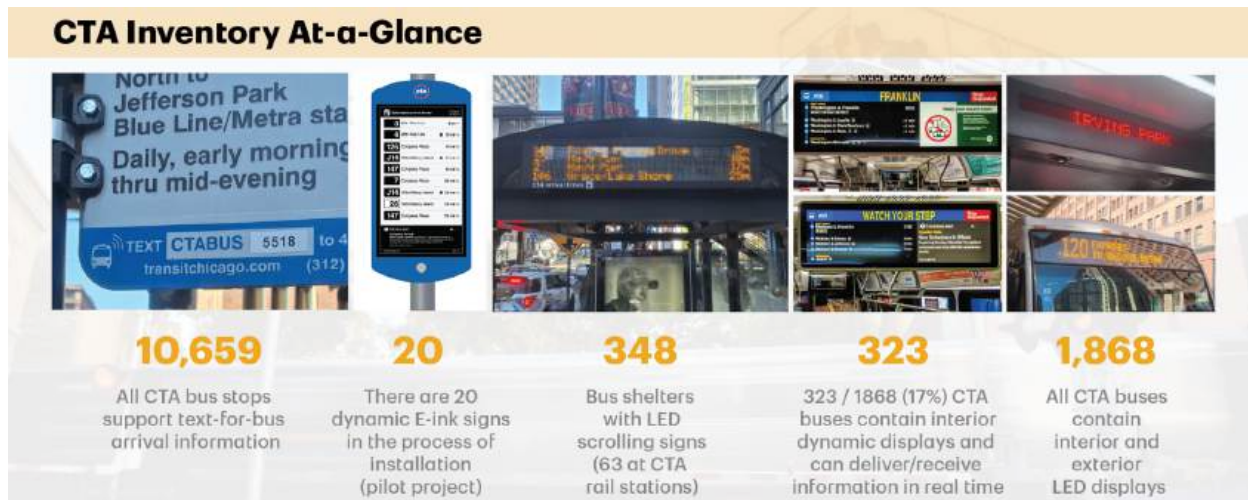
2. Customer Information Inventory

To develop a comprehensive understanding of all information that a transit customer may receive when planning a trip or riding transit, RTA documented the hardware, software and processes that RTA, CTA, Metra, and Pace use to generate and deliver transit information to the customer. This includes information found on each agency's websites and apps, text/SMS updates, third party applications like Ventra, aboard buses and trains, and at each of the region's more than 10,000 transit stations and bus stops. This information was sorted based on how this information is delivered, including static, recurring dynamic, or service alert-based methods. The sections below provide a highlevel summary of inventory used to deliver real-time information. For a more detailed inventory, refer to the inventory summary in Appendix A.

CTA BUS

The CTA bus network consists of 10,659 bus stops with signs offering text-for-mobile bus arrival information and is served by 1,889 CTA buses operating along 127 local and express routes. All CTA buses include interior and exterior LED displays. There are 1,868 buses with interior and exterior LED displays, and 348 bus shelters with push buttons for audio arrival announcement information. Dynamic display screens are currently installed aboard 323 CTA buses with all new buses expected to be equipped with these digital display screens in the future.

CTA Inventory At-a-Glance

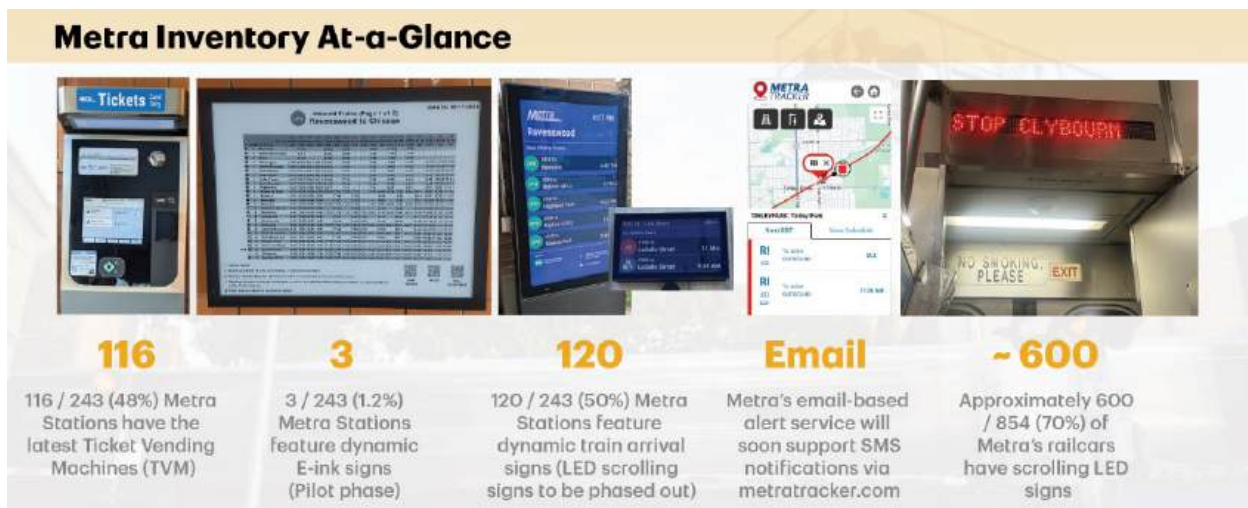


CTA RAIL

The CTA rail network is served by 1,480 CTA railcars operating on 8 rapid transit lines across 224 miles of track, serving 146 stations. There is at least one dynamic sign at each station and several stations have multiple displays. CTA bus and train tracker are used to track the location of 18,503 bus and 2,336 train trips during a typical weekday.

METRA

Metra operates a system consisting of more than 500 miles of track across 11 transit lines with 243 train stations covering 3,700 square miles. Metra currently provides ticket vending machines (TVMs) at 116 of its stations, and it has piloted the installation of three E-ink signs to enable periodic updates to signs that don't require manual replacement of printed material. Sixty-three of its stations feature dynamic train arrival signs with the objective to phase out and replace its LED signs for this purpose. The network is served by 854 passenger cars, 600 of which are equipped with on-board dynamic audio and visual communication devices. Metra's downtown terminal stations feature gate board displays with audio and visual announcements, and Metra will soon amend its email alert service to support SMS notifications via metratracker.com.



PACE

Pace operates bus transit service to 13,482 bus stops along 134 fixed bus routes and 11 on demand services. It operates 733 buses and 1,373 paratransit vehicles. Each of its buses is equipped with audio and visual communication, and 11 of these Pace buses operating along its Pace Pulse line have dynamic interior screen devices. There are 1,241 Pace bus shelters across the system and 183 (14%) of these contain push buttons for audio announcements and 116 (9%) have real-time arrival signs. There are 28 dynamic E-ink signs installed by Pace as part of a pilot.

Approximately 50% of Pace bus stops support text-for-bus arrival information and its website provides instructions for how to obtain arrivals for the rest of its stops.

Pace Inventory At-a-Glance



3. Update Foundational Research

Transit is evolving to remain current and efficient in an increasingly digital world where access to real-time information is in high demand. With the proliferation of smart devices, the RTA, CTA, Metra and Pace embrace innovations in the digital world while remaining committed to ensuring transit customer information remains accessible in all formats, including conventional signs, maps and other printed materials. With the advancement of digital interfaces, this task identified usability principles to ensure digital and printed materials align with three key findings and 10 best practices in user experience (UX) design.

Key Findings

- Digital interfaces containing transit customer information are an extension of the transit network. While not every website or app containing transit information is maintained by RTA, CTA, Metra, or Pace, it is important to ensure the data published is of the highest quality available to ensure information appears as intended.
- Consistency is required and redundancy is preferred. If a customer sees different arrival times from two sources, they may begin to doubt the accuracy of both.
- Every transit employee is a potential source of transit customer information. The design of transit customer information products should be viewed as a means of helping transit customers directly as well as employees who may assist them.

User Experience Best Practices

Visibility of System Status: Transit customers should be able to verify that their preferred mode of transit is working as intended and be able to adjust travel plans efficiently when conditions change.

Match Between System and the Real World: Audio and visual communications should align with what transit customers are experiencing when waiting for transit, and digital environments should be consistent with printed items and landmarks customers use to navigate the system.

User Control and Freedom: Customers should be guided through their trip but also informed about how to enter, transfer or exit the system at will.

Consistency and Standards: Consistent information helps a customer navigate an entire trip and provides support on how to get there safely and comfortably, regardless of familiarity with the system or ability.

Error Prevention: The transit customer user experience relies on information being delivered in a consistent manner and helping customers confirm their choices regarding when, where, and how to pay and ride.

Recognition Rather than Recall: Quality user experience requires that transit customers be provided with the appropriate amount of information at key decision points and with confirmation when they have reached the correct stop, station, or platform.

Flexibility and Efficiency of Use: Information should be easy to understand by the novice and experienced transit customers alike.

Aesthetic and Minimalist Design: Simple, clear communication that is supported by numbers and international symbols helps communicate to a wide audience and helps customers complete their trip, including those who do not speak English. Standardized audio tones also help confirm recurring activities (e.g., “Door is Closing”) and promote comfort among customers.

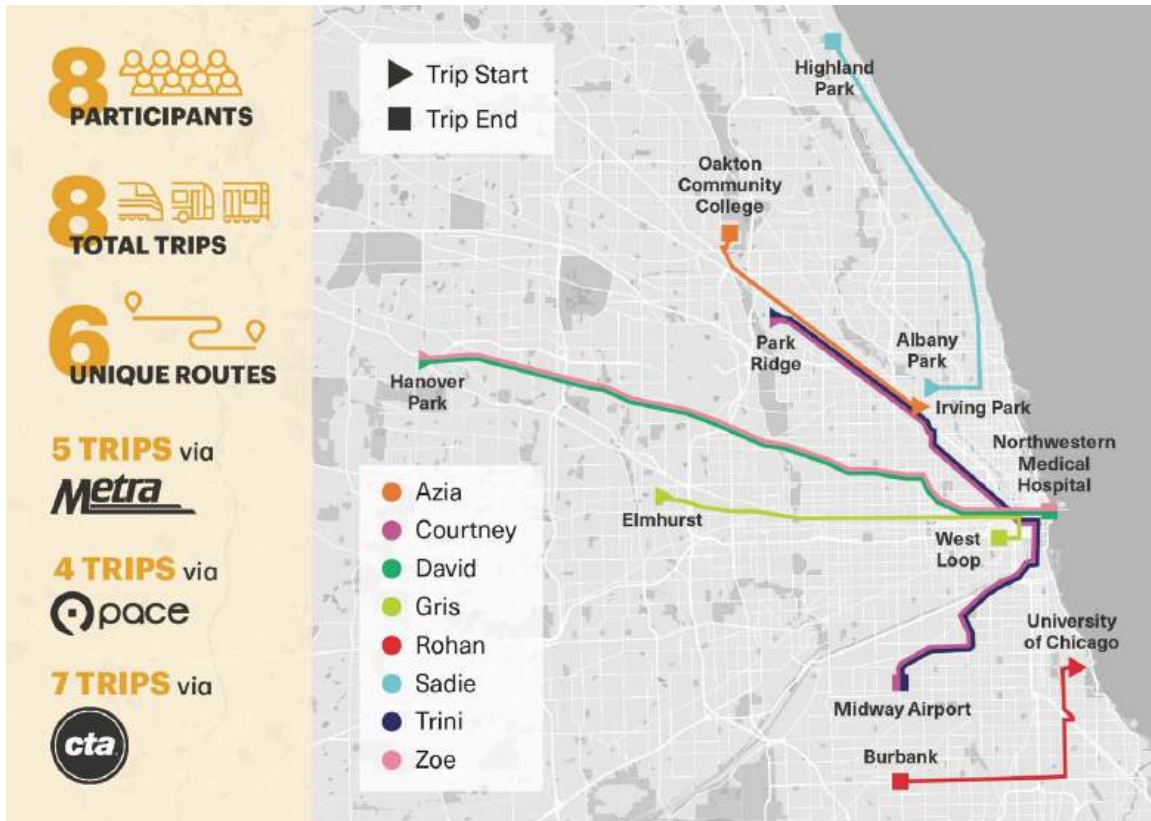
Helping Users Identify, Diagnose, and Recover from Errors: Transit customer information including service alerts should communicate how a transit trip is impacted, as customers depend on timely information to make alternate plans. High quality information helps reduce uncertainty and promote transit customer confidence.

10. Help and Documentation: Customers benefit from knowing where to seek additional information regarding a current or prospective transit trip.

4. Transit Customer User Testing

Since 2005, RTA has been diligent in testing new products and innovations to obtain feedback in real world transit situations with actual transit customers. This includes trip planning, wayfinding, fare payment, boarding and alighting transit, and completing transfers. The purpose of this activity is to understand how transit customer information impacts decision-making and the trip experience.

For this Action Plan, RTA’s project team recruited eight participants with a range of diverse perspectives that are reflective of transit customers in the region. Factors considered included the participant’s age, background, mobility preferences and ability, language spoken at home, frequency of transit use, and the types of tools used (smartphone and internet use vs. analog or non-digital maps and schedules) to plan and complete transit trips. RTA’s project team designed the routes for each of these participants to include an interagency transfer between CTA, Metra, or Pace.



Participant observations focused on three forms of transit customer information:

- Printed signs and maps
- Announcements on buses and trains
- Digital and electronic information shown at transit stations and stops, onboard buses and trains, or online via apps and websites

The team collected observations, photographs, and interviewed each participant to document the transit customer experience before, during, and after each trip. These were supplemented with a “transit passport” carried by each participant to document their own notes and observations and evaluate customer information in four areas:

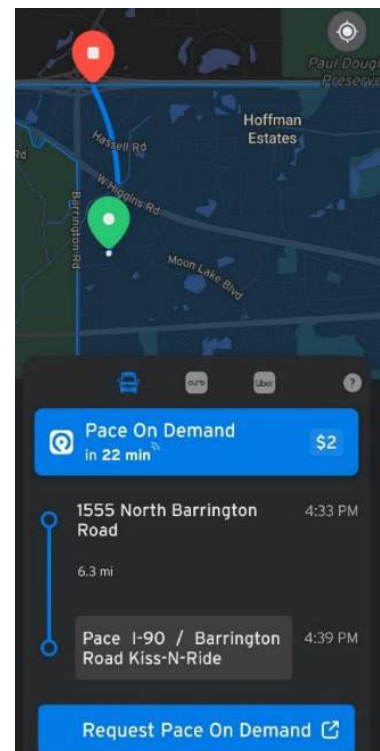
- **Information Availability:** Can the customer easily and efficiently locate and access information?
- **Information Clarity:** Can the customer hear, read, and understand communications clearly?
- **Information Accuracy:** Was real-time information correctly displayed and posted?
- **Trip Confidence and Comfort:** Does the customer feel confident and at ease when completing the transit trip?

User observations conducted as part of this study revealed that the recent advancements in real-time tracking and improved signage provide customers with more confidence in the transit system, but there is room for improvement. Recommendations as part of this study were evaluated against established standards of user experience design and accessibility to ensure they meet the goals of improving customer experience.

5. Identify Further Coordination Opportunities

The purpose of this task was to identify opportunities to improve the delivery, accuracy, and consistency of transit customer information across the region and between CTA, Metra, and Pace. The coordination opportunities identified below were the outcomes of research conducted to date, including Steering Committee engagement, inventory of transit customer information, review and update of foundational research, transit customer user testing, and monthly meetings with Service Board representatives. The following coordination opportunities were established:

1. Increase Coordination and Consistency of Information Products and Services
2. Develop a Standard Means of Information Reporting Using the General Transit Feed Specification (GTFS)
3. Improve Delivery of Service Alerts
4. Expand Utility of Dynamic Signage at Stations and on Transit Vehicles
5. Refine Communication Strategies Around Special Events
6. Improve Interagency Signage for Clarity and Accessibility
7. Improve Delivery of Recurring Dynamic Audio and Visual Announcements at Stations and On Transit Vehicles
8. Implement Consistent Language Support Across All Service Boards



How to Use This Action Plan

The goal of this action plan is to eliminate key pain points experienced by transit customers over a three-year period. To do so, it identifies tasks for the RTA, CTA, Metra, and Pace to complete for the purposes of improving transit customer information. This includes activities that will continue to improve interagency coordination, establishment of standards, making updates to hardware and software, and tasks affecting future procurement decisions. Work to complete some of these tasks is already underway, and that progress has been accounted for in the completion timelines.

These efforts focus on how the information provided by RTA, CTA, Metra, and Pace affects the customer to ensure that transit customers receive the best quality information available to guide them in riding transit. By improving the quality, accuracy, and timeliness of information, transit customers will be better informed about their trips and more confident in their mobility choices.

A key innovation in transit customer information has been the creation of the General Transit Feed Specification (GTFS). GTFS is the standard format for how transit agencies organize and communicate information regarding schedules, stops, and fares. By the end of 2025, all transit agencies in the region will be utilizing GTFS Realtime. Action items listed in this plan regularly reference ways in which GTFS should be used to improve customer information.

Recommended actions vary from technical tweaks in reporting delayed or canceled trips on GTFS feeds to larger scale changes such as development of a regional fare payment and customer information application. Actions listed below will result in incremental improvements to the transit customer experience in the following ways:

- By the end of 2025, customers will have access to better real-time information at their fingertips and access to an increased amount of digital infrastructure at transit stops and stations.
- Advancements in 2026 will ensure more standardized information across all agencies, allowing further integration and consistency for riders who transfer between agencies.
- By the end of 2027, upgrades to digital infrastructure will improve accuracy of real-time estimates, allowing customers to see reroutes in real time and be provided real-time estimates for connecting services on digital screens in transit vehicles.

Year 1 Action Items

- Continue Regional Coordination to Collectively Implement Advancements in Customer Information (See Action Item 1.1)
- Report Delayed and Cancelled Trips (See Action Item 2.1)
- Help Customers Better Understand the Difference Between Scheduled versus Real-Time Arrivals (See Action Item 2.2)
- Improve Reporting of Vehicle Locations (See Action Item 2.3)
- Establish a Common Definition of When an Arrival is “Due” (See Action Item 2.4)
- Incorporate Bus Stop Identification Letters in Customer Information Displays (See Action Item 6.1)

A summary table of all action items is provided on the following page. A brief description of each action item is provided later in this action plan under Task 5: Identify Further Coordination Opportunities.

Action Item Summary Table

Category	Item Number	Action Item	Timeline	Relative Cost*
1. Increase Coordination and Consistency of Customer Information Products and Services	1.1	Continue Regional Coordination to Collectively Implement Advancements in Customer Information	1 year	\$
	1.2	Establish and Implement Regional Standards for Design and Information Reporting Across Agencies	1-3 years	\$\$
	1.3	Procure a Regional, Unified Fare Payment, Schedule, and Real-Time Transit Customer Information Application	3+ years	\$\$\$\$
2. Develop a Standard Means of Information Reporting Using the General Transit Feed Specification	2.1	Report Delayed and Cancelled Trips	1 year	\$
	2.2	Help Customers Better Understand the Difference Between Scheduled versus Real-Time Arrivals	1 year	\$\$
	2.3	Improve Reporting of Vehicle Locations	1 year	\$\$
	2.4	Establish a Common Definition of When an Arrival is "Due"	1 year	\$
	2.5	Increase Awareness of On Demand Services in Areas with Limited Fixed Route Service	1-3 years	\$\$
	2.6	Establish Naming Conventions for Routes, Stops, and Stations	1-3 years	\$\$\$\$
3. Improve Delivery of Service Alerts	3.1	Standardize Service Alert Communication Protocols	1-3 years	\$\$\$
	3.2	Improve Staff Empowerment for Service Alerts	1-3 years	\$\$
4. Expand Utility of Dynamic Signage at Stations and on Transit Vehicles	4.1	Expand Use of Dynamic Signs on Vehicles to Facilitate Transfers	1-3 years	\$\$\$\$
	4.2	Increase the Use of Shared Displays at Interagency Locations	1-3 years	\$\$\$\$
5. Refine Communication Strategies Around Special Events	5.1	Show Real-Time Transit Services for Special Events and Game Days	1-3 years	\$\$
	5.2	Deploy and Share Geographically Based Service Alerts Before and During Special Events	1-3 years	\$\$
	5.3	Implement GTFS Trip Modifications Functionality	1-3 years	\$\$\$
	5.4	Improve Utilization of Existing Audio and Visual Equipment to Communicate Special Events	1-3 years	\$\$
	5.5	Improve Communication of Bus Bunching During Special Events	1-3 years	\$\$
6. Improve Signage for Clarity and Accessibility	6.1	Incorporate Bus Stop Identification Letters in Customer Information Displays	1 year	\$
	6.2	Upgrade Comprehensive Wayfinding with Replacement of Metra Platform Signs	3+ years	\$\$\$\$
7. Improve Delivery of Recurring Dynamic Audio and Visual Announcements at Stations and on Transit Vehicles	7.1	Develop Standard Audio and Visual Announcements for Incoming CTA Trains at Multi-Line Stations	1-3 years	\$\$\$
	7.2	Standardize Alert Tones	1-3 years	\$\$
	7.3	Add Platform Information to Recurring Arrival Announcements at Rail Stations	1-3 years	\$\$\$
	7.4	Adjust Track Number Announcements at Metra Terminus Stations	3+ years	\$\$\$
	7.5	Improve Announcements for Transfers	3+ years	\$\$\$
8. Standardize and Improve Support for Multiple Languages	8.1	Provide Consistent Language Support	1-3 years	\$\$
	8.2	Provide Professional Translations of Standard Service Alert Messages	1-3 years	\$\$\$
	8.3	Create a Website to Introduce Customers to Audio and Visual Prompts Used Across the Transit System	1-3 years	\$\$
	8.4	Incorporate Language Support on Signage	3+ years	\$\$

***Relative Cost Definitions:**
\$ = Action item involves implementation of a policy, but capital costs and professional service costs would be minimal. **\$\$** = Action item involves implementation of a policy and includes procurement of professional services. **\$\$\$** = Action item involves user testing, procurement of new capital infrastructure and/or professional services. **\$\$\$\$** = Action item involves procurement of capital costs and professional services across multiple agencies or requires modernization of existing infrastructure.



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Task 2: Customer Information Inventory

Overview

Transit information for customers is delivered to customers using audio and visual conveyances, including (1) static (e.g., printed signs and maps), (2) recurring dynamic (e.g., Metra train departure displays or next train/bus signs), and (3) service alerts (e.g., an operator-announced delay). The purpose of this action plan is to inventory all methods currently employed to deliver transit customer information to establish a baseline for identifying potential improvement opportunities.

AGENCIES RESPONSIBLE FOR CREATION AND DELIVERY OF TRANSIT CUSTOMER INFORMATION

- RTA
- CTA
- Metra
- Pace

Customer information is delivered to the customer online through agency websites and agency-controlled apps, aboard buses, at bus stops, aboard trains and inside train stations (Figure 1). As this study progresses, web and app-based communications will be explored further as indicated by user experience interviews.

INFORMATION DELIVERY LOCATIONS

- Online via (1) agency-based websites and apps and (2) text-for-mobile updates and (3) third-party websites and apps
- Aboard buses
- At bus stops / shelters / terminals
- Aboard trains
- At train stations / terminals

Figure 1: Transit Customer Information Delivery Conveyances

	Station/Stop	Bus/Train (Vehicle)
Audio	Static (S)	S
	Recurring Dynamic (D)	D
	Service Alert (A)	A
Visual	S	S
	D	D
	A	A

Information delivery by agency and location is summarized in Figure 2.

Figure 2: Information Delivery by Agency and Location

	RTA	CTA	Metra	Pace
Online	S, D	S, D, A	S, D, A	S, D, A
Aboard Buses	N/A	S, D, A	S, D, A	S, D, A
Bus Stop / Terminal	S	S, D, A	S, D, A	S, D, A
Aboard Trains	N/A	S, D, A	S, D, A	S, D, A
Train Station / Terminal	S	S, D, A	S, D, A	S, D, A

S = Static; D = Recurring Dynamic; A = Service Alert

RTA

ONLINE

- [RTA Regional Trip Planner](#) - Prescriptive transit information opens in Google Maps based on data entered by the customer.
- [Systemwide Maps](#) - The RTA provides online versions of systemwide maps; a regional map (also in Spanish), a train connections map, and a downtown map. Regional maps are current as of 2024. Riders are encouraged to visit each service providers website for the most up-to-date information. Sub-regionally, RTA provides static maps of suburban service areas in Aurora- Naperville, Elgin-NW Cook, Joliet, Lake-McHenry, North Cook, Southland, and West Cook. static maps of suburban service areas in Aurora-Naperville, Elgin-NW Cook, Joliet, Lake-McHenry, North Cook, Southland, and West Cook.
- [RTA Train Connections Map \(TC\)](#) - RTA product showing the extent of the regional rail transit network and key transfers/interagency connection points.
- [Downtown Chicago Transit Map](#)
- [RTAMS Interactive Main Map](#) - System information provided in an interactive map. Transit agency information opens in a new window by mode when clicked (e.g., CTA Blue Line information, CTA Bus Route #50, Pace Route #226, etc.)
- [Service feeds](#) - The RTA provides links to the service feeds of CTA, Metra, and Pace
- [Fare information](#) - Fare information for all service boards

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- **Systemwide maps** - The RTA provides static systemwide maps; a regional map (also in Spanish), a train connections map, and a downtown map. Regional maps are current as of 2024. Riders are encouraged to visit each service providers website for the most up-to-date information. Subregionally, RTA provides static maps of suburban service areas in Aurora-Naperville, Elgin-NW Cook, Joliet, Lake-McHenry, North Cook, Southland, and West Cook.

VEHICLES

- RTA does not maintain nor operate any vehicles and does not provide information on-board vehicles.

INTERAGENCY BUS STOPS AND TRAIN STATIONS

- While RTA does not maintain nor operate its own stations, RTA interagency sign products include Train Connections (TC), Bus Connections (BC), Train Times (TT), Bus Times (BT), Boarding Area (BA) and Neighborhood Maps (MN), Neighborhood Bus Maps (NB), Transit Identity (ID) maps and a variety of directional signs at interagency locations where transit service is provided by two or three transit service providers.

CTA

ONLINE

- [CTA Updates](#) - Subscription-based updates that can be received by email or text message
- **Chat with CTA** - A chatbot that allows customers to obtain service alert and vehicle arrival info, in addition to reporting various incidents. (Found on every page of the CTA website)
- [CTA Bus Tracker](#) - Trip planning
 - [CTA Bus System Alerts](#) Delays, reroutes, bus stop changes
 - [CTA Bus System Upcoming Alerts](#) - Delays, reroutes, bus stop changes
 - [CTA Bus System Status Snapshot](#)
- [Fare information](#)
- [CTA Train Tracker](#)
 - [CTA 'L' \(train\) System Alerts](#) - Delays, reroutes, rail stop changes
 - [CTA 'L' \(train\) System Upcoming Alerts](#) - Delays, reroutes, bus stop changes
- [Ventra App Website](#) - For account management
- [Ventra App](#) - May be downloaded from Google Play or App Store, and is accessible from the Ventra App website.
- [Brochures and Maps](#)
 - CTA System Map brochure (bus and rail)
 - 'L' System Map brochure (rail)
 - CTA Downtown Transit Sightseeing Guide (bus and rail)
 - CTA Night Owl Service brochure (bus and rail)
 - Bike and Ride brochure (bus and rail)
 - DIY Transit Info Display brochure (bus and rail).
 - Security Tips for Bus and Rail brochure (bus and rail)
 - Safety Tips at Roadway-Rail Grade Crossings brochure (bus and rail)
 - Train Emergency Evacuation Instructions brochure (rail)
 - Train Emergency Evacuation Instructions for People with Disabilities brochure (rail)

CTA

BUS (VEHICLES)

● Audio

- **Approaching bus stops.** Automated recurring dynamic audio announcements over interior bus speakers of approaching stops when bus is in service.
- **Arrival at bus stop.** Automated audio announcement delivered to interior and exterior bus speakers upon doors opening when bus arrives at stop (e.g., Dearborn and Wacker).
- **Request for stop.** Audible tone on interior bus speakers and scrolling LED interior sign when a stop is requested.
- **General announcements.** Automated audio about safety, etiquette, and what to do in case of an emergency, thank you for riding, etc.
- **Operator announcements.** There are no opportunities for operator announcements as there are no microphones on board. In practice, bus operators yell towards the rear of the bus when an unplanned detour occurs or omit manual announcements entirely.

● Visual

- **Route information (all 1,868 CTA buses).** Text displayed on dynamic exterior LED displays with the route number and direction of travel (e.g., J14 to 103rd/Stony Island).
- **Stop information (all 1,868 CTA buses).** Text displayed on dynamic interior LED displays with approaching stops and stop arrival.
- **Request for stop (all 1,868 CTA buses).** Audible tone on interior bus speakers and scrolling LED interior sign when a stop is requested.
- **Interior dynamic signage (323 CTA buses).** 300 8350-series and 23 600-series buses can receive information in real time. Any route information that is currently displayed is either derived from CTA's static GTFS file or the service alerts API, therefore, information on those interior bus signs is functionally static. The vendor is a subcontractor to the bus manufacturers. CTA has yet to purchase the software to fully manage the signs.

BUS (STATIONS/STOPS)

● Audio

- **JCDecaux Bus shelter push buttons (348 of 1,889 CTA bus stops with JCDecaux Shelters).** Select JCDecaux bus shelters are equipped with a push button and speaker to announce estimated arrival times for buses serving the shelter. These are outfitted with chirp tones to communicate the presence of this button to transit customers who are blind, have limited vision, or wish to hear information delivered audibly. A single button push announces upcoming arrivals. If the audio says "push again for alerts" at the end of a sequence of arrivals, a second push of the button announces service alerts about reroutes or other information that may affect bus service impacting the stop.

● Visual

- **Arrival time information (411 total: 348 at JCDecaux bus shelters, 63 at CTA train stations).** Some locations have dynamic signage that updates the approximate time of arrival for each route, including each trip, at that stop.
- **Text-for-mobile updates (all 10,659 CTA bus stops).** A portion of a bus stop sign with information to request recurring dynamic and service alert information to be delivered to a transit customer mobile device.
- **Temporary Bus Stop Signage. Signage (either paper sheets or foam board)** posted when a planned detour occurs.

- **Bus Tracker Text Signs.** Certain CTA stops at key locations are fitted with a 3" x 5" sign at 50" from ground level that lists the CTA bus tracker ID number for that stop.
- **Route maps (all 10,659 CTA bus stops).** General route diagrams on bus stop signs showing key rail intersections and assorted landmarks along the specific route served by that bus.
- **Tactile Bus Stop Sign (3,095 CTA bus stops).** CTA is currently installing tactile bus stop signs at stops. The signs, which are 4" X 6.5", feature the words "BUS STOP" in Braille and raised type face. The tactile signs are centered on the pole of the existing bus stop, between 48" and 60" from ground level, and positioned in the direction of travel of the approaching bus.
- **Bus Times (BT) Diagram.** Diagram provided at select interagency bus stop locations showing key transfer points for buses departing from a particular interagency location.
- **Bus system maps (all 1,889 CTA bus stops with JCDecaux Shelters).** A bus system map found at JCDecaux bus shelters that shows the extent of the bus system (same for all locations).

TRAIN (VEHICLES)

● Audio

- **Operator announcements.** Operators speaking through the PA system to provide dynamic updates (e.g., This train will be running express until Clark/Lake, end of line)
- **Approaching station.** Automated audio announcement of when stops are approaching (e.g., The next stop will be Logan Square)
- **Doors opening.** Automated audio announcement of which side of the vehicle the doors will open (e.g., In the direction of travel, doors will open on the left/right at Logan Square)
- **Arrival at station.** Automated audio announcement of when the train arrives at a station (e.g., This is Logan Square)
- **Doors closing.** Automated audio announcement stating the doors are closing (with noise) inside and outside of the vehicle
- **General announcements.** Automated audio announcement about trip or run number, safety, etiquette, and what to do in case of an emergency, thank you for riding, etc.

● Visual

- **Route and station information (1,096 CTA railcars).** Text on dynamic interior LED display for route/station information
- **Final destination signage (all 1,480 CTA railcars).** Text display on the exterior and interior of most trains for route information. (e.g., signs outside the train that state their final destination; UIC, O'Hare, Harlem, Cottage Grove, etc.) (note: final destination signage on 491 2600-series railcars use illuminated rolling signs instead of LED signs)
- **Line maps.** Map of line route (e.g., maps only showing line that customers are on)
- **System maps.** Map of "L" system (e.g., maps showing the "L" system and connections)
- **Accessible signage.** Braille available for railcar number and the emergency signage near the operator intercom
- **Dynamic signage (400 7000-series CTA railcars).** Newer CTA 7000-series trains are equipped with a digital display of the train route, past and upcoming stations, transfer opportunities, and service alerts

TRAIN (STATIONS/STOPS)

● Audio

- **Station wide announcements.** Announcements are made by the Control Center or by CTA's Customer Information General Manager from their desk at CTA's headquarters to provide updates (e.g., Train number 509 will be running express until Clark/Lake)
- **Customer assistance button.** When a customer presses the customer assistance button, an audio loop plays.

● Visual

- **Line maps.** Map of line route (e.g., maps only showing line that customers are on) which show the range of time service is provided at the station.
- **System maps.** Map of "L" system (e.g., maps showing the "L" system and connections)
- **Platform wayfinding.** Static signage directing customers (e.g., board here for Forest Park, board here for O'Hare)
- **Transit connection wayfinding.** Static signage directing customers to connections (e.g., at Clark/Lake there are signs between the elevated lines and the subway line)
- **Wayfinding to key destinations.** Static signage directing customers to major streets or key destinations (e.g., Wells Street, Thompson Center, etc.)
- **Station wayfinding.** Static signage informing customers which station they are at so customers can orient themselves where they are in the system
- **Train Station Dynamic Sign (all 146 CTA train stations have at least one real-time arrival dynamic sign dedicated to CTA information).** Dynamic video monitors with minutes until arrival for each route. Larger displays, owned by Intersection (a media agency), displays arrival information, alerts, and advertising.
- **Accessible signage.** Braille available at the entrance of a station that describes the station, plus a Braille sign near each direction of travel.
- **Fare information (all 146 CTA train stations have at least two Ventra vending machines).** Fare vending machines

Metra

ONLINE

- [Metra Train Tracker](#)
- [My Metra](#) - Subscription-based e-mail service for service alerts
- [Downtown Stations Map](#)
- [System Map](#)
- [Fare Information](#)
- [Ventra App Website](#) - For Metra Ticket account management
- [Ventra App](#) - May be downloaded from Google Play or App Store, and is accessible from the Ventra App website
- [Train Routes and Schedules](#)
- [Metra Stations Guide for Visually Impaired](#)
- [Station Accessibility and Maps](#)

PRINTED

- Train Routes and Schedules
- Metra Stations Guide for Visually Impaired
- Station Accessibility and Maps

TRAIN (VEHICLES)

- Audio - Courtesy of the TRACC (Train Reporting and Communications Center)
 - **Train Route and Service Announcement.** Automated audio announcement over interior speakers of train number, departure time and stations where the train will stop. Usually delivered 1-2 minutes before departure
 - **Operator announcements.** Operator announcements over interior speakers regarding, which car doors will be opening, which side of the vehicle the doors will open, whether certain train car doors will not open, special announcements, reminders, etc. The operator can announce stations when automated service is not functioning
 - **Approaching station announcements.** Automated audio announcement when stops are approaching (e.g., The next stop will be Hazel Crest)
 - **Arrival announcements.** Automated audio announcement when the train arrives at a station (e.g., This is Hazel Crest)
 - **Doors closing announcements.** Automated audio announcements (with tone) inside and outside of the vehicle (e.g., The doors are about to close)
 - **Delay announcements.** Service alerts announced over interior train speakers when a train is running behind schedule
 - **General announcements.** Automated audio announcement about safety, etiquette, and what to do in case of an emergency, thank you for riding, etc.
- Visual (all Metra trains are equipped with vehicle interior scrolling LED displays)
 - **Control center-initiated announcement.** Text on interior LED display with trip updates (e.g., How many minutes for delays and the reasoning behind it).
 - **Departure text display.** Text on interior LED display of train number, departure time and stations where the train will stop

- **Next stop display.** Text on interior LED display showing the next stop the train will make
- **Approaching station text display.** Text on interior LED display when stops are approaching (e.g., Now approaching Hazel Crest)
- **Arrival text display.** Text on interior LED display when the train arrives at a station (e.g., This is Hazel Crest)
- **General scrolling text display.** Text on interior LED display for advertisements or announcements regarding surveys, end-of-month ticket renewals, 1-800-MY-METRA, etc.

TRAIN STATIONS/STOPS

● Audio

- **Track number audio announcement.** Static audio announcement of track number (located at major transportation centers, e.g., Ogilvie)
- **Arrival Prediction Announcements.** Recurring dynamic audio announcements to station speakers (interior and exterior) with estimated arrival times of trains from either direction. Service alerts can be communicated over platform speakers if trains are delayed
- **Train Approaching Station Announcement.** Dynamic safety audio announcement to station speakers (interior and exterior) indicating a train is approaching the station and stand behind the yellow line
- **Control center-initiated announcements.** Announcement of delays, express runs, special events (e.g., Ravinia, Lollapalooza, etc.) or track reassignment

● Visual

- **Train Departure Info Display (37 total at 5 Chicago terminal stations).** Text on LED display of train number, departure time, and terminus station (located at major transportation centers, e.g., Ogilvie)
- **TROI-NET Train Station Dynamic Sign (63 stations).** Dynamic video monitors with minutes until arrival for each route, visual accompaniment to audio announcements, and Metra advertisements
- **Scrolling LED Train Station Dynamic Sign (180 stations).** Dynamic scrolling LED signs that display safety alerts, estimated arrival times (accompanying audio announcements), and train arrivals. These signs are in the process of being replaced with TROI-NET LED signs.
- **E-Ink Train Station Dynamic Sign (3 stations).** Metra's E-Ink project is in the Pilot Phase and as of December 2024, there are 3 stations with E-Ink showing Metra schedule information. There is only one template in use that may contain multiple flips, dependent upon the number of trains within the timetable. They also display QR codes for full schedule information and other helpful Metra links.
- **Fare information (116 of 246 Metra stations have ticket vending machines).** Fare vending machines.
- **Gate Board display (95 total at 5 Chicago terminal stations).** Located at downtown stations showing train and track association as well as train status (e.g., Boarding)

Pace

ONLINE

- [Alerts and notices](#)
- [Trip planner](#)
- [Schedules and maps](#)
- [Ventra App](#) - May be downloaded from Google Play or App Store, and is accessible from the Ventra App website
- [Transit App](#) - Pace's recommended trip planner app

PRINTED

- [Schedules and maps](#)

BUS (VEHICLES)

- Audio
 - **Operator announcements.** Operator speaking through the PA system to provide updates
 - **Approaching bus stop.** Automated audio announcement of when stops are approaching (e.g., The next stop will be...)
 - **Arrival at bus stop.** Automated audio announcement (interior and exterior) upon doors opening when bus arrives at stop (e.g., Golf Road and Arlington Heights Road)
 - **Request for stop.** “Ding” sound when a stop is requested by customer
 - **General announcements.** Automated audio announcement about safety, etiquette, and what to do in case of an emergency, thank you for riding, etc.
- Visual
 - **Route information (all 728 buses).** Text displayed on dynamic LED displays on the exterior of the bus with the route number and direction of travel (e.g., 352 Halsted)
 - **Stop information (all 728 buses).** Text displayed on dynamic LED displays on the interior of the bus with approaching stops and stop arrival
 - **Request for stop (all 728 buses).** Text displayed on dynamic LED displays when a customer requests a stop
 - **Route maps.** Printed route maps and connecting bus routes
 - **Dynamic signage (11 buses).** Pace Pulse bus interiors are equipped with a digital display of the Pulse route, past and upcoming stops, transfer opportunities, and service alerts

BUS (STATIONS/STOPS)

- Audio
 - **Pace bus tracker signs (183 total installations).** A push-button audio that ‘speaks’ the content being displayed on the sign.
- Visual
 - **Text to update signage (approximately 10,000 out of ≈20,000 Pace bus stops).** A sign (usually a part of the bus stop sign) indicating that customers can text their bus stop code number to a phone number to receive an update
 - **LED Scrolling Arrival time information (116 signs).** Some locations have LED text dot signs that updates the approximate time of arrival for each route at that stop
 - **E-Ink Bus Stop Dynamic Sign (28 signs).** Some locations have e-ink signs to display timetable information
 - **Route and system maps.** General route diagram on bus stop shelters with a description of key streets and destinations. A bus network system map created by the RTA are found within certain Pulse shelters and transit centers.

Glossary of Terms

The following terms are used throughout this document and refer to conveyances of customer information or the physical delivery methods (i.e., fixtures and hardware).

- **Static Communication.** Information delivered as a single visual occurrence (e.g. train connections map, bus stop sign) or an audio announcement that does not change based on context. Examples of static audio communications include audio track announcements, “Door is closing” announcements, advertisements or transit rider etiquette notices. Most static visual communications consist of bus stop and train station signs, maps, timetables and wayfinding signs to help transit customers navigate stops and stations. For more information on static visual communication, refer to each transit agency’s sign standards manual and the [RTA Interagency Transit Information Design Standards Manual](#).
- **Recurring Dynamic Communication.** Information delivered based on location or activity. Most recurring dynamic communications are audio/visual announcements when transit vehicles are approaching stations/stops and estimated train/bus arrival times at stops/stations. Some bus stops are equipped with push buttons that provide estimated bus arrival times.
- **Service Alert.** Information delivered when service is affected and may deviate from the schedule. Examples of these include audio or visual announcements about delays, track changes, police activity on tracks, express runs, etc. Service alerts are standardized as much as possible and are more commonly delivered as audio announcements. One example of visual service alert communications is station dynamic signs installed at some Metra stations and CTA bus stops that communicate when trains or buses are delayed.
- **Vehicle Interior Sign.** Signs aboard trains and buses that provide static and recurring dynamic information regarding transit vehicles in service, at stops, or at stations. Newer CTA buses and trains are equipped with a digital display of the route, past and upcoming stops, transfer opportunities, and service alerts (Figures 3 and 4).



Figure 3 and Figure 4: Examples of dynamic signage aboard CTA buses and CTA trains. (Source: CTA)

Figure 5: Interior CTA bus information (Source: www.timeout.com)



- **Vehicle Interior LED Displays.** A dynamic, scrolling text screen found inside CTA buses (Figure 5), CTA trains (Figure 6), Metra trains (Figure 7), and Pace buses. The screen displays when the vehicle is approaching or has arrived at a stop or station, when a stop has been requested (buses only) and communicates safety or delay information.

Figure 6: Route and system signage aboard a CTA train (Source: RTA)



Figure 7: Interior Metra LED signage (Source: HNTB)



Figure 8: Exterior CTA bus route information (Source: RTA)



- **Vehicle Exterior LED Displays.** A Display signs posted on the exterior of CTA buses (Figure 8), CTA trains (Figure 9), and Pace buses (Figure 10) that display the route, destination station, and whether the vehicle is out of service.

Figure 9: Destination signage on the exterior of a CTA train (Source: RTA)



Figure 10: Route information and destination on the exterior of a Pace bus (Source: Pace Suburban Bus)

- **Bus Stop Dynamic Sign.** A dynamic sign at select CTA (Figure 11) and Pace (Figure 12) bus stop shelters that display arrival times for buses serving that stop. These signs also communicate when a bus is delayed.



Figure 11: Dynamic arrival times on CTA bus shelters (Source: RTA)



Figure 12: Dynamic arrival times on Pace bus shelters and interagency locations (Source: RTA)

- **Vehicle Speaker.** Speaker on trains and buses that provides static, dynamic, and service alert audio announcements. May be automated by the vehicle or delivered as-needed directly from the operator. Announcements can only be delivered to a single vehicle at a time.
- **Station Speaker.** Speaker at train stations and some bus stops that provide static, dynamic, and service alert audio announcements. May be automated, delivered as-needed directly from a station attendant, or from a transit agency's operations center. Announcements can be delivered to one or more stations at a time.
- **Text-for-Mobile Updates.** A mobile phone-based conveyance of recurring dynamic and service alert information for specific CTA (Figure 13) and Pace (Figure 14) bus stops. Requires the transit customer to request information to be pushed to their device.



Figure 13: Text-for-mobile updates and bus route information sign at CTA bus stop (Source: RTA)



Figure 14: Text-for-mobile updates sign at Pace bus stop (Source: Pace Suburban Bus)

- **Tactile Static Signage.** Signage with braille or raised lettering at a bus stop or transit station. Tactile signage examples are shown in Figure 15 and Figure 16 at a CTA train station.



Figure 15: Tactile CTA Bus Stop Sign (Source: RTA)

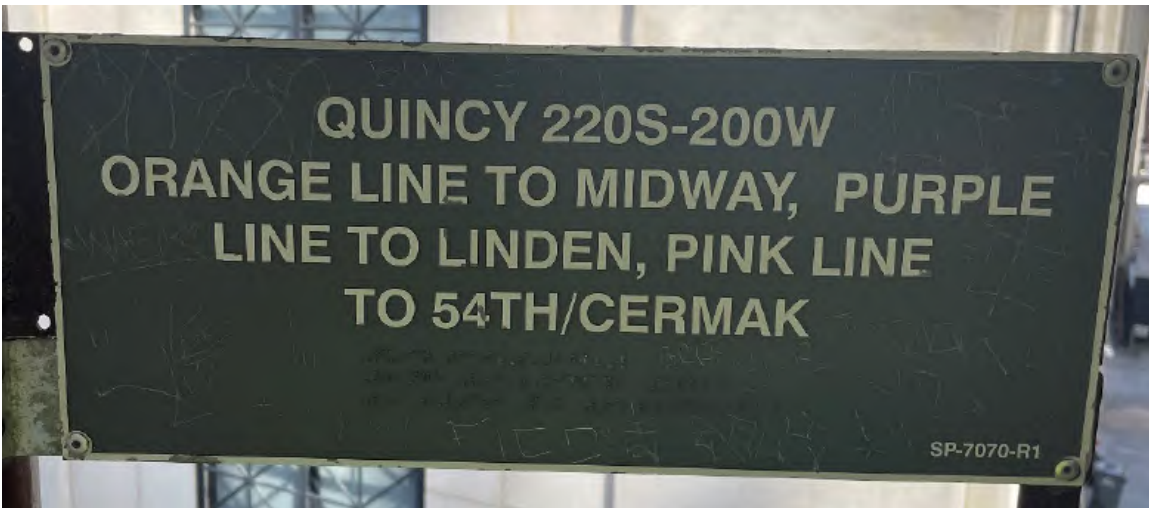


Figure 16: Tactile sign at Quincy CTA train station (Source: RTA)

- **Systemwide and Route Maps.** Static systemwide and route maps that are present on CTA bus shelters (Figure 17), in CTA train stations (Figure 18), and inside CTA trains (Figure 19 and 20).



Figure 17: CTA bus and rail system map within a bus shelter (Source: RTA)



Figure 18: Systemwide and route maps within the Quincy CTA train station (Source: RTA)



Figure 19: Route map on interior of CTA Pink Line train and Figure 20: CTA 'L' system map on the interior of a CTA train (Source: RTA)



Figure 21: Platform wayfinding to the direction of O'Hare at the Clark/Lake CTA rail station (Source: HNTB)



Figure 22: Platform wayfinding at the Howard Red Line CTA rail station (Source: RTA)

- **Platform wayfinding.** Static and dynamic signage to inform customers where to board trains based on the direction of travel or route. CTA train signage examples, Figures 21 and 22, and Metra example, Figure 23.



Figure 23: Metra's Rock Island departing, route, and stop information at LaSalle Street Station (Source: RTA)

- **Station and destination wayfinding.** Static signage at each CTA train station informs customers of the station name and the direction of key destinations or street as shown in Figure 24.



Figure 24: Station and destination wayfinding at the Clark/Lake CTA rail station (Source: HNTB)



Figure 25: CTA rail connection and station wayfinding signage at Clark/Lake CTA rail station (Source: HNTB)

- **Static transit connections wayfinding.** Static signage found in CTA train stations, Metra stations, and transportation centers directing customers to transit connections. An example at the Clark/Lake CTA train station is shown in Figure 25 and an example at transportation center is shown in Figure 26.



Figure 26: Wayfinding signage at the Pace Suburban Bus I-90/Barrington Road Park-n-Ride (Source: RTA)

- **Station Dynamic Sign.** A dynamic sign at Metra and CTA stations that display arrival times for trains serving the station. These signs also communicate when trains are delayed. Figure 27 shows examples of station dynamic signs at CTA train stations. Figures 28 and 29 are examples of dynamic signage at Metra stations. Figure 30 is an example of a station dynamic sign of CTA buses within Union Station. An e-ink timetable is shown in Figure 31 at the Ravenswood Metra station.



Figure 27: Arrival information at the Clark/Lake CTA rail station (Source: RTA)

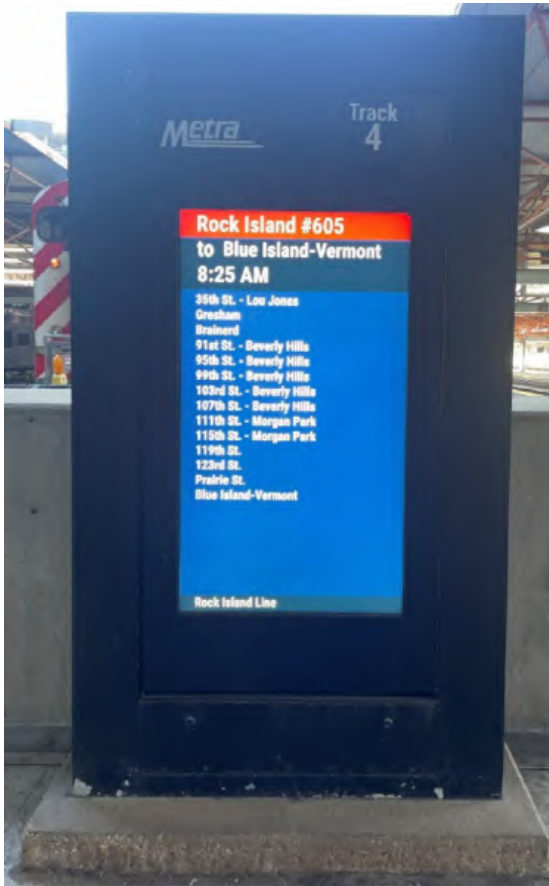


Figure 28: Metra departure information at Track 4 at LaSalle Street Station (Source: HNTB)



Figure 29: TROI-NET station dynamic signage at 35th Street/"Lou" Jones Metra station in Bronzeville (Source: RTA)

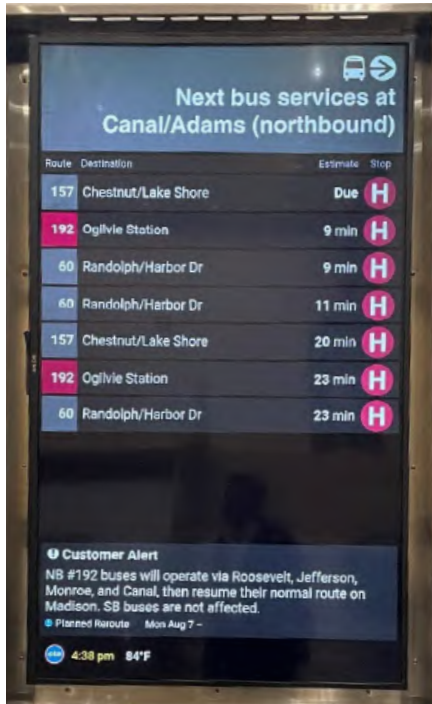


Figure 30: Station dynamic signage depicting CTA buses at Union Station (Source: RTA)



Figure 31: E-ink station dynamic signage depicting Metra timetable (Source: HNTB)

- **Fare vending machines.** Informs customers of the fare rate, how to purchase fares and tickets, and how to ride as shown in Figure 32.



Figure 32: Ventra fare vending machines at the O'Hare Blue Line CTA rail station (Source: CTA)

- **Bus stops at interagency locations.** At interagency locations, bus stops are denoted by large letters in a red circle. The letters aid customers in spotting their desired bus route quickly and easily. Figure 33 is an example of CTA buses at the Jefferson Park Transit Center. Figure 34 is an example of a Pace bus at the Joliet Transit Center.



Figure 33: Various CTA bus connections at Jefferson Park Transit Center (Source: RTA)



Figure 34: Pace Bus Route 505 at the Joliet Transit Center (Source: RTA)

- **Special event static signage.** Static signage to denote service changes due to a special event, such as Lollapalooza, sporting events, NASCAR, etc. Figure 35 is an example of a change in CTA service due to Lollapalooza.



Figure 35: Special event static signage for the addition of CTA service during Lollapalooza (Source: RTA)



3

Task 3: Update Foundational Research

Overview

The RTA and Service Boards are continually looking for opportunities to improve customer communication by leveraging new technology and building upon traditional means of communication like signage and announcements. To maximize the utility of Service Boards' investment in real-time tracking and digital signage, improvements must be rooted in good user experience design and input from riders. User observations conducted as part of this Study revealed that the recent advancements in real-time tracking and improved signage provide customers more confidence in the transit system, but there is room for improvement. Recommendations as part of this study were evaluated against established standards of user experience design and accessibility to ensure they meet the goals of improving the customer experience.

Design heuristics are a critical part of evaluating a system for usability. It places the user at the center of design approaches that ultimately result in thoughtful, human-centered design solutions. The following will reflect on what RTA has done to date, study how the proliferation of smartphones has impacted the transit user experience, and evaluate current recommendations against the UX design heuristics.

Previous RTA Research and Work Completed to Date

RTA conducted an initial user research study in 2005, summarized in the Foundational Research – The Rider Experience action plan. The study evaluated transit rider experiences to help identify user pain points and to find potential solutions to common problems. Methods used in this study included field studies, user interviews, surveys, and user journey mapping. These are strong methods of UX research as they evaluate quantitative and qualitative factors, as well as attitudinal and behavioral factors.

Figure 1 below illustrates the landscape of research methods that, when studied together, provide a comprehensive look into the user's experience and informs thoughtful design solutions.

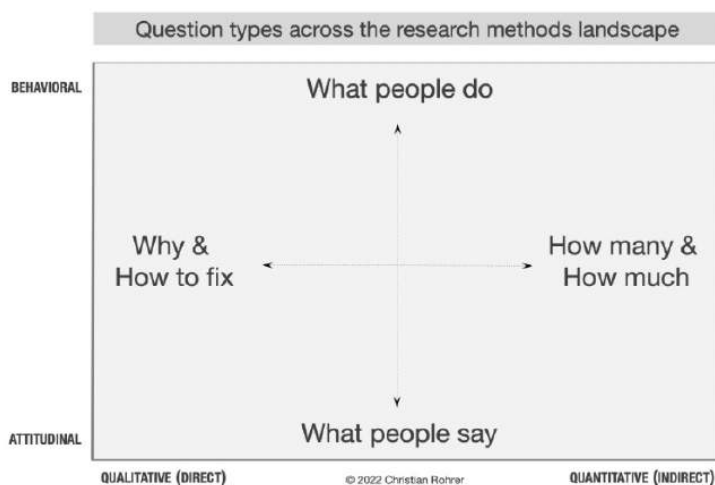


Figure 1: Diagram of different UX research methods and the type of data that comes from different methods.

Additionally, user insights are often found where there is a mismatch between the attitudinal and behavioral dimensions. For example, a user may reveal that they feel a certain way about making a transfer, but the field study reveals something different.

This initial user research identified pain points in the following areas: maps, naming conventions, hierarchy of information, managing evolution of the system, continuing education about public transportation, fares, route sampling, rider over-rides, and verification assurance. Most of these pain points had to do with inconsistent wayfinding across the Service Boards, lack of standardized methods of information delivery, inconvenience of necessary actions like payment or adjusting to unexpected changes, and a general lack of confidence users have with the system. The study identified a list of recommendations based on these findings to help guide future work to improve transit user experience.

Since the initial research, the RTA has summarized the work done to date in the Transit is the Answer Implementation: Regional Customer Information Changes Since 2005 action plan. Major updates to the system that have occurred since the initial research include the following:

- Standardized map elements such as station names and visual keys that help improve transit user experience
- Created an Interagency Signage Standards manual for agencies to reference
- Improved consistency of information by using similar iconography based on Interagency Signage Standards
- Providing real-time information at stations and on websites
- Offering language translation services
- Made Interagency fare payment easier

Simultaneously, the proliferation of smartphone technology has transformed how users expect to receive and interact with transit information today. Real-time technology has vastly increased the amount of information users can expect to find online such as up-to-date schedules, arrival and departure times, service disruptions, rerouting, and more. Changes in user expectations in one area may carry over in others, such that transit agencies are having to meet demands of new user expectations because of real-time information. This shift is important to note from a UX perspective because it impacts how research is conducted to collect both qualitative and quantitative factors and assess how attitudes have changed over time.

The following section briefly reflects on the 2024 user research conducted by the RTA before discussing how the recommendations align with UX design heuristics and user observations.

Current User Findings

This action plan identifies key results based on user observations gathered by the project team and the inventory of communication methods and devices deployed by Service Boards.

Digital interfaces containing transit customer information are embraced as an extension of RTA and Service Board communication environments.

RTA and Service Boards utilize their websites and the Ventra app for displaying information regarding transit service. Pace entered into an agreement with the Transit App as the preferred provider of transit information for Pace buses and demand-response services. Members of the Steering Committee discussed the use of map and trip planning apps (e.g., Google Maps, Apple Maps) as an additional resource when planning or completing a trip.

Participants who were observed using these devices referred to them often during their trip. While RTA and Service Boards operate transit service and provide transit customer information that appear in digital environments, these agencies are not responsible for the design of the apps themselves. Ventra to a certain extent is managed by the transit agencies, but user interface design remains the responsibility of the vendor.

To ensure that the customer experience is of the highest quality, RTA and Service Boards should remain focused on delivering consistent and standardized transit customer information. This will enable RTA and Service Boards to compare potential app solutions against each other when procuring or partnering with vendors and engage the private sector to produce solutions that optimize the transit customer user experience.

Consistency is required and redundancy is preferred.

Steering Committee participants, Service Board representatives, and user testing participants cited the use of multiple sources of information at multiple times when planning or completing a transit trip. This desire to compare and confirm information sources becomes more urgent during delays or other service alerts. This is an indication that transit customers expect information to be provided in several places at once and it should be consistent across all platforms. This underscores the need for information delivery (e.g., real time arrival estimates) to be generated and delivered in a consistent manner.

If a customer sees two different arrival times for the same bus in two sources, they doubt both and trust neither.

All Transit Employees Are Potential Sources of Transit Customer Information.

Customers who are unfamiliar with transit service seek out multiple sources of information as indicated above, and many customers also prefer the confirmation of information from human sources. This was noted most acutely among analog customers who referred questions to CTA and Pace bus operators, Metra conductors and trainmen traveling on Metra trains, and customer assistants stationed at CTA stations. On some occasions, members of the Steering Committee or user testing participants cited CTA train conductors as a potential source of information. Even if these individuals are not trained specifically for transit customer information delivery, transit customers expect to receive some form of information and confirmation during their trip.

Development of transit customer information should consider how and where transit employees are trained or directed on how best respond to customer questions. Best practices indicate that this is an opportunity for transit employees to direct and coach customers on how to consume this information using the various delivery methods developed by RTA and Service Boards.

Recommendations from the Current User Research

RTA conducted additional user research in the summer of 2024 where participants were interviewed and observed while completing predetermined transit trips. An objective of these user testing experiences was to understand how transit customer information impacts decision-making and the user's transit experience. A combination of pre- and post-trip interviews combined with field observations are considered strong methods for evaluating attitudinal and behavioral dimensions of the transit user experience.

In-field observations focused primarily on visual-only communications (e.g., signs), visual and audio communications, transit apps like Ventra and Transit on mobile devices, and real-time displays. These were assessed for information availability, clarity, and accuracy, as well as how the presence and quality of these impacted a user's confidence and comfort when completing a transit trip. Findings from this study identified pain points in areas such as the lack of directional signage, poor or inconsistent audio communication, the confidence a user placed in the accuracy of information provided, and lack of language translation.

A new observation made during this research was that many riders use more than one website, app, or device to track their trip and generally felt more confident when using multiple methods. This enabled users to confirm their stop or transfer location. This type of behavioral observation was key when considering potential design solutions, as it identifies the workarounds (a type of user over-ride) or paths that the system does not currently support to help users complete their task. These gaps in the system are opportunities for improving information delivery and quality, with the outcome of increasing customer trust and confidence.

Findings from this recent research informed the following general recommendations:

1. Implement a shared, standardized means of information reporting using the General Transit Feed Specification (GTFS)
2. Improve delivery of service alerts
3. Expand utility of dynamic signage at stations/stops and on transit vehicles
4. Improve communication strategies for predetermined service alerts (e.g., special events with impacts that are known in advance)
5. Continue improving fixed information signage for clarity and accessibility
6. Improve Delivery of Recurring Dynamic Announcements and Service Alerts At Stations and In Transit Vehicles
7. Standardize and improve support for multiple languages across all agencies

The following section discusses how these recommendations align with standard UX design heuristics to create thoughtful, human-centered design solutions.

Evaluating Recommendations against User Observations and Heuristics for Validity

User heuristics act as guiding principles when designing and evaluating a system for its user experience utility. These heuristics originally were derived for how they apply to digital interface design. As advances are made in technology involving smartphones, real-time arrival signs, and touchscreen interfaces for vending machines, the heuristics derived for digital interface design are applicable to how RTA and Service Boards evaluate transit information and its impact on overall customer user experience.

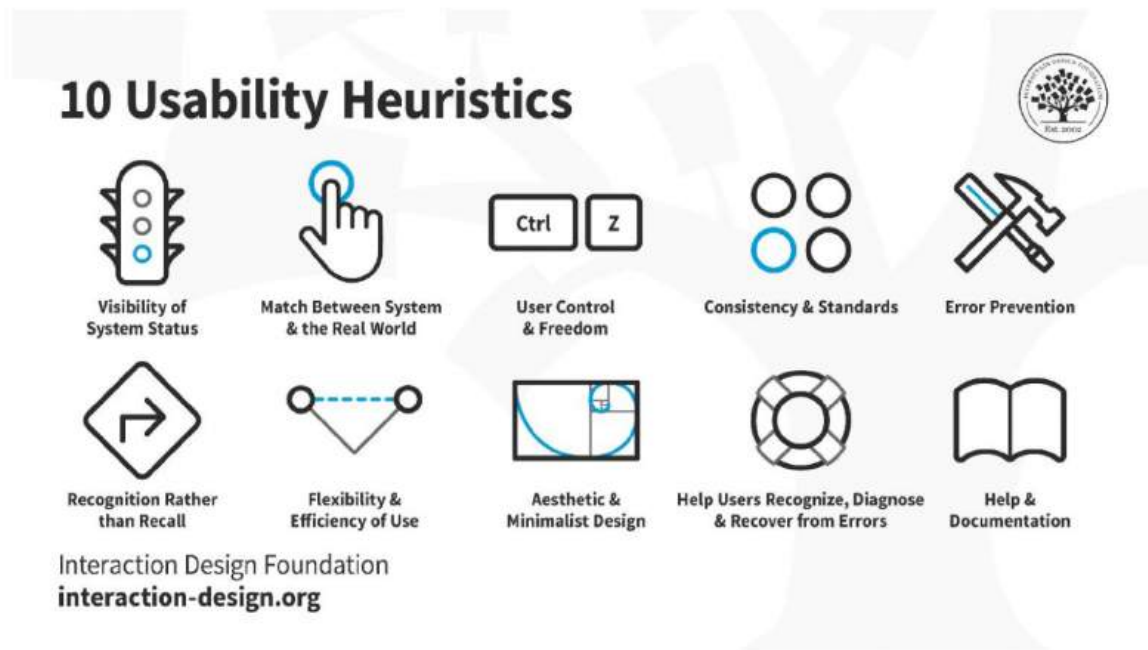


Figure 2: The 10 Usability Heuristics of UX Design. (Interaction Design Foundation)

The following is an assessment of how these heuristics relate to recommendations for improving transit customer information.

1. Develop a Standard Means of Information Reporting Using the General Transit Feed Specification

- Relevant user observations:
 - Riders during user observations were impacted by “ghost buses,” or cancelled bus trips that are still shown as scheduled trips on real-time tracking mobile applications and on station dynamic signage.
 - Another rider during user observations was unable to determine when her bus would arrive using real-time tracking mobile applications or posted timetables. Only after searching through several layers of the agency’s website was she able to find an accurate arrival time, which was inconsistent with the scheduled arrival times she found on real-time tracking mobile applications.

- Key heuristics that apply:
 - Consistency and standards: Development of a shared standard will provide more consistency to how data are presented and thus more consistent with customer expectations.
 - Match between system and the real world: Transit customers expect to see information that reflects what they are observing when waiting, boarding, riding, transferring, and alighting transit.
 - Recognition rather than recall: Consistency allows transit customers to confirm information that they see on a regular, repeated basis. This minimizes the need for customers to memorize or remember information from earlier in a trip or decision-making process, and instead allows the customer to recognize that information is consistent through time.
- UX Discussion:
 - It is best practice to ensure that designs are consistent across the system, as it helps users know what information to expect. Consistent naming conventions and iconography across agencies have made it easier for users to identify information that pertains to their journey, which in turn builds trust and confidence with the system. When transitioning to a digital interface, the use of these same standards will help the analog experience blend with the digital.
 - Consistency helps reduce the cognitive load on users, especially when deciding on next steps. The goal is to reduce user anxieties around decision-making and provide information that supports the user's transit trip, so they do not have to rely on recall memory to make the system work for them.

2. Improve Delivery of Service Alerts

- Relevant user observations:
 - One rider during the user observations was on a bus that took a detour due to road construction that was not communicated on the vehicle or on real-time tracking applications.
- Key heuristics:
 - Consistency and standards: When things don't occur as planned, consistency helps to reassure customers that even while service may be disrupted, there is a consistent means of communication what is known, when it becomes known.
 - Visibility of system status: Visual indication of a bus or train operating as intended is a comfort and reassurance to a customer; advance notice of a service alert gives time for a customer to make an edit to their planned trip before having to adjust in transit.
 - Help users recognize, diagnose, and recover from errors: When a customer is informed that a route, station or stop is unavailable or may be subject to a delay, they are provided with information and the opportunity to make a decision to adjust their trip.
- UX Discussion:
 - Providing users with information on system status without overwhelming helps alleviate anxieties of the unknown. Transparency and predictability can comfort users during an unfamiliar and possibly stressful situation. Where feasible, providing customers with consistent information on facts and timing of a service helps users confidently make decisions to recover from unexpected changes during a transit trip.

3. Expand Utility of Dynamic Signage at Stations and on Transit Vehicles

- Relevant user observations:
 - Riders found the digital upcoming stop display on newer CTA buses to be very helpful to anticipate arriving at their intended stop, especially if they are not familiar with the area they are in.
- Key heuristics:
 - Visibility of system status: The ability to view the status of connected systems at transfer locations helps a transit customer to validate the status of a potential trip, rather than a trip segment.
 - User control and freedom: The use of shared interfaces acknowledges that a transit customer may be using more than one mode to complete a trip. Ability to verify this information at decision points (e.g., a transfer location), gives customers control over the decision and freedom to adjust as needed.
 - Flexibility and efficiency of use: Information terminals may need to change what and how they communicate information to customers. Shared terminals offer increased flexibility to RTA and Service Boards to adjust this information deliver as needed.
- UX discussion:
 - Standardizing transit information across RTA and Service Boards provides users the autonomy and flexibility to navigate their own journey regardless of mode. If users are presented with information across the system, they are given the freedom and control to decide what option best suits their needs.

4. Refine Communication Strategies Around Special Events

- Key heuristics:
 - Flexibility and efficiency of use: When customers are used to viewing information during regular transit service, providing this information in a predictable interface maximizes the use of the website, app, or sign interface.
 - Error prevention: Consuming service alert information prior to embarking on a trip helps customers to anticipate changes to a transit trip before or during the trip itself.
 - Help users recognize, diagnose, and recover from errors: Consuming service alert information during a trip helps customers select alternative methods to avoid over-rides or mitigate increased anxiety.
 - Help and documentation: Providing information in these formats helps provide transit customers with information on where to seek information during a future service alert condition.
- UX discussion:
 - Providing users with information before or during a transit trip helps to reduce the likelihood of overwhelming them. This helps novice and regular transit customers stay informed of changes to regular routes while providing novice users enough information to successfully navigate the system during an event.
 - Improvements can also help prevent user errors from occurring. For example, signage and wayfinding improvements help users identify or confirm if they have selected the wrong stop or platform, and provides them with the opportunity to correct the error. This helps users build confidence in themselves and trust in the transit system.

5. Improve Signage for Clarity and Accessibility

- Relevant user observations:
 - Many riders found it difficult to locate connecting bus and train services at Metra terminus stations and CTA Rail stations.
 - Most riders at neighborhood Metra stops were not sure what platform they should use to board their train.
- Key heuristics:
 - Visibility of system status: Acknowledge that transfer locations require users to reorient themselves between modes and Service Boards.
 - Error prevention: Interagency locations regularly involve payment of an additional fare (with some exceptions), so this is an opportunity to confirm this requirement or provide additional fare payment opportunities (e.g., Metra ticket vending machines placed at street level and at platform level.)
 - Recognition rather than recall: Consistent use of Service Board colors and logos helps to identify a system of coordinated but separate Service Board requirements.
- UX Discussion:
 - Addressing pain points around the lack of directional signage (at stations not yet part of the interagency program) helps users feel more confident when arriving or departing a station or stop. When transit customers are provided with information at the decision point, it reduces the cognitive load and anxiety.
 - Recognition rather than recall helps a customer to confirm and validate information rather than trying to recall all steps during a trip.

6. Improve Signage for Clarity and Accessibility

- Relevant user observations:
 - Most of the riders during observations on Metra were not able to hear upcoming station announcements, which required them to use real-time tracking applications on their phones and area landmarks to know when to get off. Two users on CTA trains had similar issues and used platform signage to determine their location.
 - A majority of riders said they feel more comfortable on newer vehicles since the audio announcements were easier to hear and digital signage relays visual accompaniment to audio announcements.
- Key heuristics:
 - Flexibility and efficiency of use: Offering audio and visual information enables customers to consume information in either format and confirm what they saw or heard is accurate.
 - Visibility of system status: By providing both audio and visual communications, customers are provided with a more comprehensive understanding of the transit system in operation
- UX Discussion:
 - It is considered best-practice to design for accessibility. Presenting information in audio and visual formats helps ensure information reaches all customers including those who are blind, those with low vision, or those with a hearing impairment. It provides customers the ability to consume information that is most helpful to them and to feel included.

7. Standardize and Improve Support for Multiple Languages

- Relevant user observations:
 - One Spanish-speaking rider during observations utilized the Spanish version of the Pace website to find the departure time of her bus since the times shown on real-time tracking information at the station and on mobile applications was not consistent.
- Key heuristics:
 - Consistency and standards: Consistent use of multiple languages across RTA and Service Board communication helps unify the region under a consistent means of communication.
 - Flexibility and efficiency of use: By offering consistent language support, customers are less likely to be required to switch languages when making a transfer or look for other solutions to assist them in translating information.
 - User control and freedom: By providing language support across an entire trip, a transit customer may feel more comfortable navigating a new or unfamiliar route, line, stop, or station.
- UX discussion:
 - Improving support for other languages is considered accessible design. It provides users the flexibility and autonomy to navigate a transit trip without needing to translate information while traveling.

RTA transit customer research, coupled with user experience testing and the advancement of digital, real-time communications, has helped establish new expectations and heuristics to which RTA and Service Board communications should align. While the emergence of digital communications may pose challenges for ensuring consistent and trustworthy information, the use of digital interface user experience heuristics provides a helpful framework for incorporating these best practices into an increasingly digital environment for transit customer information.



4

Task 4: Transit Customer User Testing

HNTB and Blue Daring conducted an assessment in which hired participants were interviewed and observed while completing predetermined transit trips. The purpose of these activities was to understand how transit customer information impacts decision-making and a transit customer's trip experience.

User Experience Assessment Methods

The project team recruited with the objective of selecting individuals possessing a range of diverse perspectives that are reflective of transit customers in the region. Factors considered included the participant's age, background, mobility preferences and ability, language spoken at home, frequency of transit use, and the types of tools used (smartphone and internet use vs. analog or non-digital maps and schedules) to plan and complete transit trips. From a list of 20 potential participants, eight individuals were selected for the assessment.

Meet the Participants

**Azia**

A lifelong regional transit user who relies heavily on Google Maps to plan her travel.

**Rohan**

An adult who likes to wear headphones while riding the train and relies heavily on digital signage.

**Courtney**

A young adult who uses a wheelchair and has extensive experience traveling on all forms of transit in the region.

**Sadie**

A college student who uses the Transit app to track arrival information and limit wait times.

**David**

An older adult with visual and mobility impairments. He only rides on Metra and uses printed materials to plan and complete his trips – no smartphone used.

**Trini**

A native Spanish speaker and English language learner who relies on multiple digital tools to track and navigate transit.

**Gris**

A Spanish-only speaker who does not plan transit trips in advance but uses all available apps and transit websites to track and complete her travel.

**Zoe**

A young adult who relies primarily on Google Maps to plan her trips.



Trip Criteria

The project team used the criteria below to identify trip routes for the participants to take.

Individually, each trip should...

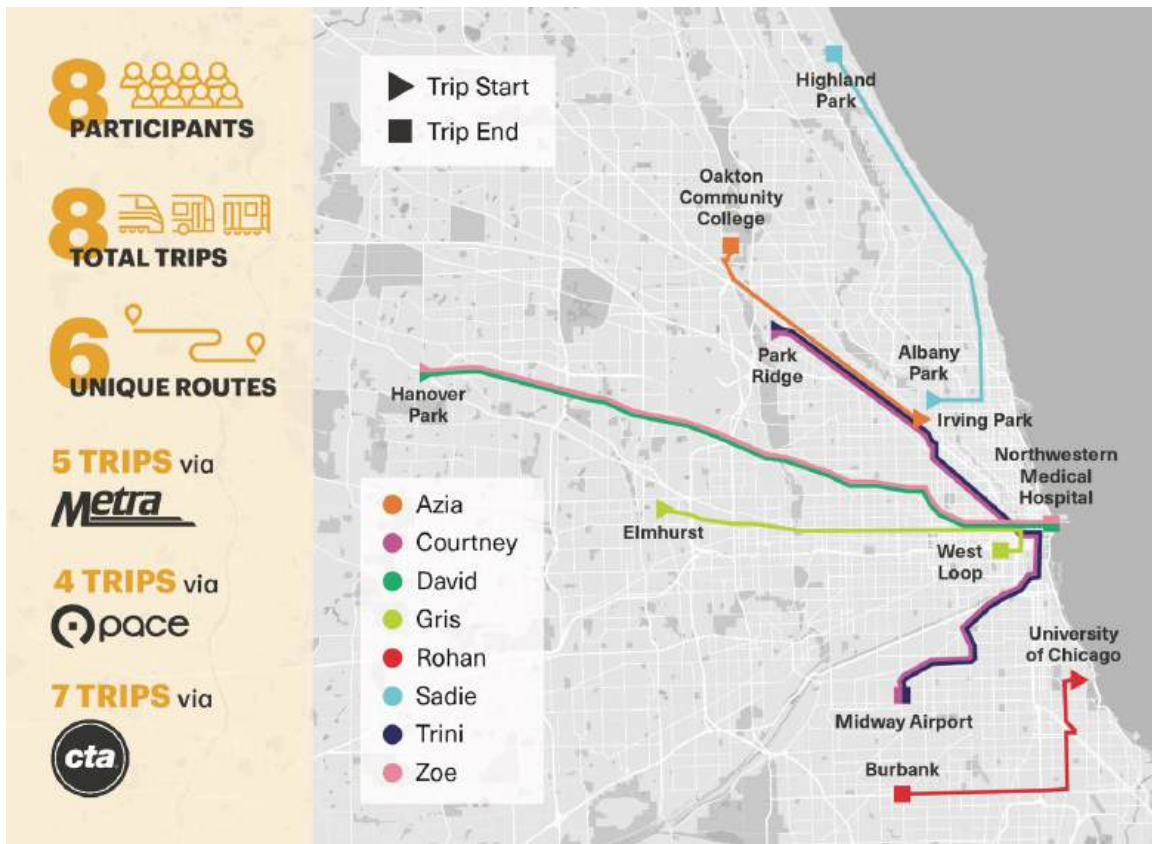
- Feel natural for the participant to take.
- Not be overly familiar to the participant (e.g., not their daily work commute).
- Include one transfer and involve travel on at least two modes of transit (e.g., bus and train on Metra, CTA, and/or Pace).
- Travel between two areas of the region (e.g., between the city of Chicago and northern suburbs, southern suburbs, and western suburbs or vice-versa).

Altogether, trips should...

- Provide generally representative coverage of the transit service area while limiting total travel time by the participant to and from the origin and destination.
- Reflect a range of transit mode boarding and alighting interactions (e.g., trips should vary by starting mode, location, and service board).

Trip Details

Six transit trips were selected based on the above criteria. Each participant was hired to complete an individual, one-way trip. In order to provide a means of comparison, two of the eight transit trips were completed by two different participants traveling separately. All trips were conducted during daylight hours and under favorable weather conditions. During observations, participants identified when they relied on external reference points such as buildings, street signs, and station signage to confirm trip details. However, landmarks identified may not be visible at night or in adverse weather conditions, such as heavy rain, snowstorms, or fog.



Trip 1: Azia

Irving Park to Des Plaines,
Oakton Community College

Service Boards: Metra, Pace

Trip 2: Sadie

Albany Park to Highland Park

Service Boards: CTA, Metra

Trip 3: David, Zoe

Hanover Park to Downtown,
Northwestern Medical Hospital

Service Boards: Metra, CTA

Trip 4: Gris

Elmhurst to West Loop

Service Boards: Pace, CTA

Trip 5: Rohan

Hyde Park, University of
Chicago, to Burbank

Service Boards: CTA, Pace

Trip 6: Courtney, Trini

Park Ridge to Midway Airport

Service Boards: Metra, CTA and Pace, CTA



Participant Observations

Types of Information Assessed

Participant observations focused on three forms of transit customer information:

- Visual-Only Communications: Printed signs and maps
- Visual and Audio Communications: Announcements on buses and trains
- Real-Time Displays: Digital and electronic information shown at transit stations and stops, onboard buses and trains, or online via apps and websites

Participants also stated that transit employees (train conductors, vehicle operators, station attendants, etc.) are viewed as a key source of information and often viewed as being equally important as other sources of transit customer information.

Evaluation Criteria

During each trip, participants were asked to evaluate and record feedback about the transit trip experience using four evaluation criteria:

- **Information Availability** - Are you able to easily and efficiently locate and access information and communications?
- **Information Clarity** - Are you able to hear, read, and understand communications clearly?
- **Information Accuracy** - Are the real-time information and communications correctly displayed and posted?
- **Trip Confidence and Comfort** - Does the available information and communications help you feel at ease during the transit trip?

Key takeaways and preliminary recommendations are recorded on the following page based on these criteria.

Information Availability

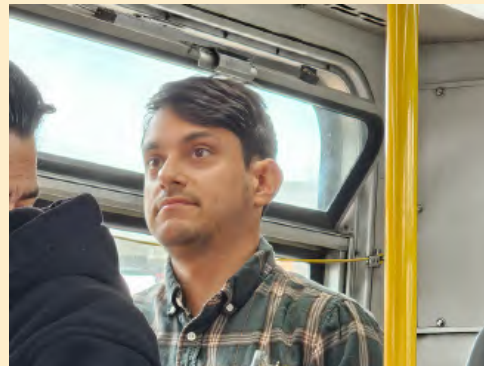
Are you able to easily and efficiently locate and access information and communications?

General Findings

- Participants found terminal stations or major transfer locations (e.g., Union Station, Clark/Lake, Ogilvie and Midway) to be lacking in directional signage. Once participants reached these locations, they noted that signs indicating where they needed to go next to board their bus or train were not available.
- Participants stated that detours and delays caused by construction are poorly communicated.
- Bilingual and Spanish speaking participants commented they would have benefitted from communications in their preferred language.

Findings by Transit Agency

- **CTA Bus/Train.** Participants expressed that realtime information displays on buses and bus shelters were easy to locate. However, train stations did not have enough directional signage displayed outside the stations. Several participants noted that the upcoming stop tracker display on CTA buses is helpful when completing a trip.
- **Metra.** At community and neighborhood stops, most participants noted difficulty identifying which train platform is the correct boarding location. Directional and station signage was either not visible or unclear. Due to the lack of available signage, participants expressed an interest in seeking out a Metra employee, only to learn that many stations are not staffed. Some of the Metra rail cars did not have digital signage or audio announcements of upcoming stops. Participants on these trips were observed looking to their phones for third-party apps to provide information on upcoming stops, and some looked out the windows to platform signage to track their route.



Rohan's Ride

- Rohan's trip was affected by two glitches with tracking and communications. First, the CTA bus he was riding took a detour due to roadway construction. This detour was not communicated on the audio or visual announcements on the bus, nor in any transit apps utilized by Rohan or the consultant team observing him during the trip. While waiting to transfer to a Pace bus, Google Maps indicated Rohan's bus would arrive in about 10 minutes. However, this bus never showed. After rejecting this arrival as a "ghost bus," Rohan selected another Pace bus on a different route to reach his destination. That bus was delayed by several minutes past its scheduled arrival time. Taken together, these disruptions to the planned trip made Rohan's trip significantly longer than anticipated.

- **Pace.** Half of the participants taking trips on Pace noted that there was a lack of printed signage and some of the text on the signage was too small to read, making it not helpful. Instead, these participants utilized real-time information (i.e., Google Maps) to determine trip details.

Preliminary Coordination Opportunities

- Continue to implement directional, wayfinding, and interagency sign standards at transportation terminals and known transfer locations. Standardize the reporting of boarding location information for buses and trains in transit agency communications and third-party websites or apps.
- Develop a consistent and predictable method to convey information regarding known construction and detours.
- Enhance language and literacy inclusiveness by prioritizing standard icons over text. Utilizing icons and illustrations can effectively communicate information while reducing reliance on written language.

Information Clarity

Are you able to hear, read, and understand communications clearly?

General Findings

- Participants consistently reported difficulty hearing and understanding audio announcements. This was primarily due to muffled sound quality, inconsistent alert tones, and inconsistent use of repetition.
- One participant expressed a desire for more interactive features on RTA's Downtown Chicago Transit Map (currently available online as a static PDF). For example: the ability to test and assess different route options across service boards.

Findings by Transit Agency

- **CTA Bus/Train.** The majority of the participants found communications to be clear. There was a noticeable difference, however, between the newer and older trains. The newer trains had clearer audio announcements and digital signage, which made participants feel more comfortable during their trip.
- **Metra.** Most of the participants noted the audio was unclear or nonexistent. The lack of clear audio announcements and printed signage inside the train made participants rely on third-party apps and outdoor platform signage to track their trip. Members of the consultant team observed participants asking other riders about upcoming stops.
- **Pace.** Half of the participants found the onboard communications to be clear and easy to understand. One participant had never traveled on a Pace bus before and was pleased by the amount of signage available onboard. The other half experienced inconsistencies between audio announcements and digital signage. Not all stops were announced, and sometimes the digital stoptracking signage was delayed by one or two stops. As a result, participants utilized Google Maps and outdoor street signs to track their trip.



Zoe's Ride

- Zoe tried to use signs posted at her transfer location (MD-W Western Ave) but was unable to understand how to use the numbers and letters posted at the bus stop. This made it difficult for her to understand where she needed to go. She turned to Google Maps for directional support.

Preliminary Coordination Opportunities

- Routinely test the performance of audio speakers and announcements at transit stations. Consider a sample audit of stations within the region.

Case Study: [Evaluation and Testing of Public Address Systems at Metro Stations](#)

- Accompany all audio announcements with a visual accompaniment. For individuals with hearing or visual impairments, optimize the speed, duration, and repetition of announcements to improve accessibility. Consider adjusting repetition and delivery methods when transit vehicles are loud or crowded.
- Develop interactive, digital maps that can be displayed on the RTA website that enable a user to click or tap for route, station, stop, schedule, and fare information. Interactive maps would serve as a companion to existing static PDF maps on the website.



Gris' Experience

- A Spanish speaking participant who traveled on a Sunday found weekend service especially difficult to track. She used several methods to track bus arrival information and was unable to find a scheduled or estimated arrival time that matched actual arrival time. She waited several minutes after the last delayed time she observed before searching directly within the Spanish version of the Pace website. Once there, she searched through several layers to find real-time arrival information, which ended up aligning with the actual bus arrival time.



- **Observer Notes:** *During the trip, two observers attempted to track bus arrival times using the Bus Tracker by Text number on the bus stop sign. One observer was receiving updates, but arrival times did not align with actual boarding time. The second observer did not receive any updates to their phone until after they boarded the bus.*

Information Accuracy

Are the real-time information and communications correctly displayed and posted?

General Findings

- Most participants used more than one app or device to track their trip. Trains were regarded as more reliable to track.
- Participants using apps stated higher levels of confidence in their trip because they had multiple methods to confirm their stop or transfer location.

Findings by Transit Agency

- **CTA Bus/Train.** Two participants traveled on CTA trains that did not offer real-time digital signage of upcoming stops. Participants mentioned that, due to insufficient information inside, they looked outside the vehicle for external reference points, such as buildings, street signs, and platform signage. One participant who does not use a smartphone did not know when the bus would arrive but did not have to wait, and the trip took approximately as long as he anticipated. A second participant experienced a detour during the trip, but was unable to find an update or service alert on the vehicle or any website or app.
- **Metra.** Most of the participants reported information accuracy was reliable, noting a positive experience with third-party apps and audio announcements delivered while waiting on the train platform. One of the five participants could not rely on the Ventra app for tracking. The Ventra app showed a scheduled trip time that was 30 minutes longer than actual trip time.
- **Pace.** During a weekend trip, it was unclear to our Spanish-speaking participant whether the times displayed on third-party apps were real time, scheduled arrival time, or expected departure time, as these did not align with actual boarding time. To find more accurate information, this participant searched a Spanish version of Pace's website to find real-time bus updates. On a different trip, a bus arrived earlier than the participant anticipated, causing the participant to question if it was the correct bus to board. The bus did not depart for a few minutes, which caused the participant to determine the time displayed on the digital sign was the anticipated departure time rather than scheduled arrival time.

Preliminary Coordination Opportunities

- Enhance the accuracy of live tracking information to more explicitly state whether the time shown is a scheduled arrival or a real-time estimate.
- Clearly communicate information delivery or refresh intervals, or provide an estimated amount of variance (e.g., +/-2 minutes between estimated and actual).

Trip Confidence and Comfort

Does the available information and communications help you feel at ease during the transit trip?

General Findings

- The participant who uses a wheelchair relies heavily on staff support to complete her trips (e.g., ramp assistance during boarding and alighting; communicating where and when she intends to stop so assistance can be provided). Although priority seating for people with disabilities is clearly indicated by signage and audio announcements, the participant noted this can be difficult to enforce if the operator is not present to assist.
- Participants remarked that CTA train mapping and color coding is easy to understand. Metra line color coding does not show up consistently along the route or system.

Findings by Transit Agency

- **CTA Bus/Train.** Most participants attributed a high level of confidence to trip planning and the use of third-party apps and service board websites to confirm information. However, they indicated their reliance on these tools might be reduced if presented with an overall map on the bus and directional signage to the train and/or bus stops.
- **Metra.** The majority of participants relied on their smartphone and Google Maps to provide reassurance they were traveling in the correct direction.
- **Pace.** Of the four participants, only one noted the lack of available information decreased his confidence in completing his trip— especially when the bus was delayed and there was no real-time update to assure him a bus was going to arrive.

Courtney's Journey

- "I am completely reliant on the conductor to remember [which stop] to let me out on. It's not so much of a worry if I'm going [to the end of the line], but I am reliant on the conductor remembering that I said I need to get off. Conductors have forgotten in the past."
- When Courtney boards a bus or train, she relies on three things: clearly marked accessible signage, her knowledge as a frequent wheelchair traveler, and the assistance of train conductors and bus drivers to help her board with a ramp. For CTA trains, the ramp is normally unlocked and delivered by a station attendant, but if one is not available, the vehicle operator will exit the vehicle to assist. During Courtney's trip, the train operator exited the car to assist but did not announce a delay to the other customers aboard the train. The total elapsed time to assist this customer was approximately three or four minutes. It is unclear whether communication of assisting a boarding customer constitutes a delay per CTA policy, but dwell time to assist a customer requiring assistance can exceed typical dwell times. Other customers in the same car where this occurred would be able to see the cause of the delay, but customers farther down the train may not know the cause.



Preliminary Coordination Opportunities

- Improve the audio and visual consistency of signs and displays across service boards and station environments.
- While many users rely on their smartphone for information, some still rely on traditional trip planning methods. Work to format directions from websites to be more accessible, legible, and printer-friendly (e.g., format to print on letter-sized paper).
- Users look for confirmation, so repetition is key. Ensure information provided in different methods (audio, visual, apps) uses consistent messaging so customers can confirm information to feel oriented and comfortable.

Overall User Experience Findings

At the end of the trip, participants were asked to rate their overall experience (from 1-5) in the following categories:

Navigation - Were you easily able to complete your transit trip based on the information and communications available?

- **Average Rating: 4.4** (1 – Difficult; 5 – Seamless)
Pre-planning, real-time displays (mainly third-party apps), and general familiarity with the service boards made completing trips successful.

Signage Presentation - What was the quality and condition of the signage (static and/or digital displays) you encountered during your transit trip?

- **Average Rating: 3.9** (1 – Bad; 5 – Excellent)
While there were inconsistencies in available signage across service boards (some Metra signage was present at some stations but not others; newer CTA trains and Pace buses had better signage), signage is desired most at transit centers and hubs.

Quantity - Was there enough information and communications available to help you complete your transit trip?

- **Average Rating: 4** (1 – Not Enough; 5 – Perfect Amount)
Participants stated directional signs, particularly for accessibility purposes, could be increased, but trip planning and the use of third-party apps helped mitigate a lack of signage.





5

Task 5: Identify Further Coordination Opportunities

This action plan identifies opportunities to improve the coordination and delivery of transit customer information between RTA, CTA, Metra, Pace, and transit customers. The purpose of this action plan is to identify how RTA, CTA, Metra, and Pace create and deliver transit information, and to identify opportunities to improve how this information is shared with customers. Coordination opportunities identified below are the outcome of the following action plans and activities:

- Review of Prior User Research conducted by the RTA regarding Customer Information
- Inventory of Existing Customer Information Methods and Conveyances
- Steering Committee Engagement (May 2024, October 2024)
- Monthly Coordination Meetings with Service Board Representatives
- User Experience Research conducted between August 2024 and October 2024

Improved coordination between RTA, CTA, Metra, and Pace seeks to achieve three objectives:

1. Enable CTA, Metra, and Pace to communicate transit customer information between and among services and modes.
2. Allow CTA, Metra, and Pace to communicate using aligned methods and procedures.
3. Work towards creation of a customer experience that looks and feels like a single, unified transit agency.

Coordination Opportunities

The following coordination opportunities are presented as overall strategies followed by a series of tasks to be undertaken by RTA, CTA, Metra, and Pace.

1 Increase Coordination and Consistency of Customer Information Products and Services

CTA, Metra, and Pace, while operating as different agencies, work together on many critical aspects on the larger Chicago region transit system. Effective collaboration requires consistent communication, a shared understanding of standards and goals, and designating leaders to champion individual tasks. Implementing these recommendations that are intended to streamline the transit customer experience – especially customers who routinely transfer between different agencies – will require RTA, CTA, Metra, and Pace to continue collaborating and working together towards these shared goals.

1.1 Continue Regional Coordination to Collectively Implement Advancements in Customer Information

Leaders and technical staff at RTA, CTA, Metra, and Pace attend regular meetings to discuss upcoming changes, information sharing, and common challenges. As many of the recommendations in this document strive for standardization, collaboration between RTA, CTA, Metra, and Pace will be essential to determine realistic standards the agencies can work towards and delivering timely implementation of those standards. This can be accomplished by establishing a new standing meeting with relevant technical staff, or by consistently including discussion items related to transit customer information as part of routine coordination.

1.2 Establish and Implement Regional Standards for Design and Information Reporting Across Agencies

The CTA, Metra, and Pace will be using GTFS Realtime for all regularly scheduled services by the end of 2025. This is an opportunity to establish regional design standards for digital customer information to ensure digital assets show real-time information for all transit services in a way that is easy for customers to understand, considering the operating agency, mode, service frequency, and location of the digital display.

1.3 Procure a Regional, Unified Fare Payment, Schedule, and Real-Time Transit Customer Information Application

With RTA funding, the CTA, Metra, and Pace are currently collaborating on implementing a joint regional day pass pilot for unlimited travel across the agencies. Further fare and customer information coordination will be possible with the development of a new mobile application with unified fare payment, schedule, and real-time information for the RTA region. The agencies have initiated this process internally.

2 Develop a Standard Means of Information Reporting Using the General Transit Feed Specification

To ensure consistent delivery of information to transit customers, RTA, CTA, Metra, and Pace should develop a shared standard for how transit information is represented in the General Transit Feed Specification (GTFS). While all local agencies utilize GTFS, minor differences exist in the order in which information is presented or naming conventions used. To better align information for the purposes of identifying connecting service or potential transfers that may be made by customers, adoption of a shared GTFS standard among RTA, CTA, Metra, and Pace will improve consistency in how information is shared with the transit customer.

2.1 Report Delayed and Canceled Trips

While delays and service alerts are inevitable, a standardized means of reporting them promotes consistency across the system and can help reduce confusion among transit customers. RTA, CTA, Metra, and Pace are implementing Automatic Vehicle Location (AVL) solutions that support GTFS Realtime and can update the status of transit trips as delayed or canceled. Currently, Metra deploys this standard in the Ventra App and on its train tracker and shows service alerts as updated or corrected where shown in Figure 1. In contrast, Figure 2 shows the GTFS feed in the Transit App on the Pace Pulse Dempster line where skipped runs are still shown as scheduled service, and significantly delayed runs are not distinguished from on-schedule runs.

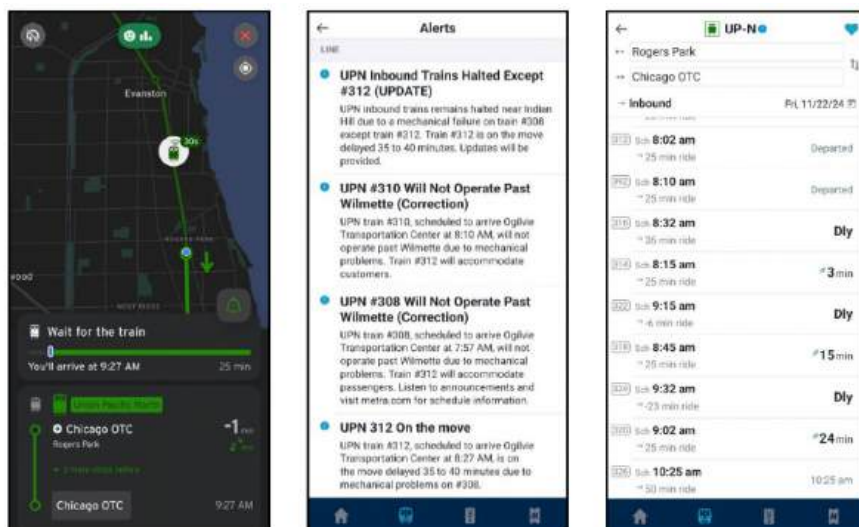


Figure 1:

Screen images from the same trip in the Transit App (left) showing a train one minute past due, (center) how delayed trains are displayed in the Ventra App, and (right) how service alerts to customers regarding delayed or cancelled trains are shown to customers.

AVL solutions are not able to account for unplanned disruptions, staffing shortages, or headway management occurring at CTA rail terminus stations. The CTA should collaborate with its rail operations teams to find solutions to streamline the reporting of cancelled and delayed trips, proactively updating real-time information to provide customers the most accurate information possible, particularly for customers near terminus stations.

2.2 Help Customers Better Understand the Difference Between Scheduled versus Real-Time Arrivals

Real-time arrival information for transit stops at the beginning of a route or run is based on when a vehicle is placed in service by the operator. Scheduled arrival times are displayed when a route or run has either not commenced or when AVL is not functioning. Currently, the differences between these two types of information are communicated visually on displays using the following standard:

When a predicted arrival time is based on real-time arrival information, the time is accompanied by a Wi-Fi icon. Third-party apps display this arrival time in a specific color (often matching the route color if present). When an arrival time is based on a scheduled arrival time, there is no icon (and third-party apps display this arrival time in a standard gray or black color).

As these are used as the standard across platforms, RTA, CTA, Metra, and Pace should show the definitions for these in the footers of real-time displays and explain this on bus and train trackers on websites. Including route color information in GTFS can help ensure this information is used more consistently by third-party apps and websites.

2.3 Improve Reporting of Vehicle Locations

The emergence of global positioning system (GPS) technologies has changed the way in which customers engage with transit services. Using GPS, CTA, Metra, and Pace now can communicate the real-time location of every vehicle in service to its own displays as well as to customers interacting with trackers on agency websites and third-party apps. Transit customers are observed to have confidence in real-time information when vehicles are in motion and information is refreshing on a regular basis. Third-party apps often show the number of seconds elapsed since the last refresh of information is provided. When vehicles are stopped for extended periods or refresh rates remain unchanged for more than one minute, confidence in the information begins to decline and some transit customers begin to seek other sources of information for confirmation. To maximize customer confidence in real-time information, RTA in conjunction with CTA, Metra, and Pace should establish a common target refresh rate that is as fast as existing hardware and software will support. CTA, Metra, and Pace should include this target refresh rate in contracts with vendors for procurement of new hardware and software for vehicles and stations.

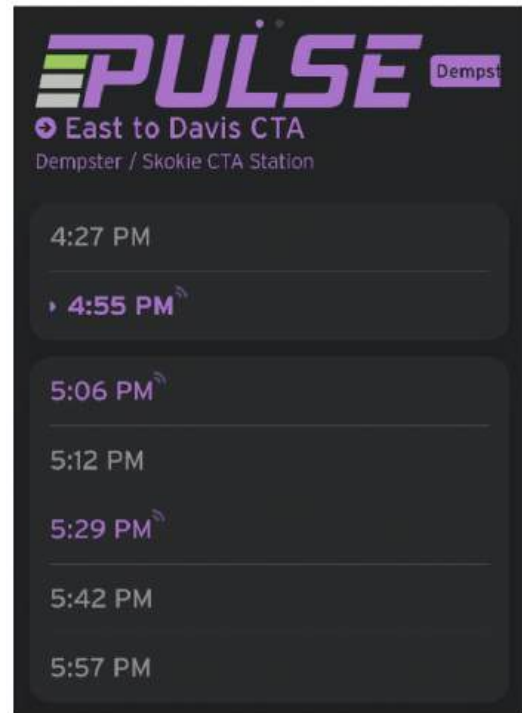


Figure 2:

An example of real time and scheduled arrival information for Pace Pulse service in the Transit app interface.

2.4 Establish a Common Definition of When an Arrival is “Due”

Providing reliable estimated arrival times for trains and buses requires extensive data on how quickly vehicles move along their route. Even in normal operating conditions, this varies by day of week, time of day, special events, and construction. GTFS Realtime uses historical data, scheduled timetables, and the actual travel times of recent trips to estimate arrival times of future trips. This allows the prediction algorithm to consider current traffic conditions. With limited data the accuracy of these predictions will always vary.

In conjunction with the CTA, Metra, and Pace, the RTA should establish a regional standard for the accuracy of these predictions and when to show a vehicle as “Due.” There are industry-standard benchmarks like the ETA Accuracy Benchmark that can be used to evaluate how reliable real-time estimates are. Using historical data and a common benchmark, CTA, Metra, and Pace can determine where estimates are frequently inaccurate and take steps to improve their accuracy by making edits to the prediction algorithm and identify locations where infrastructure improvements are required to improve transit reliability.

2.5 Increase Awareness of On Demand Services in Areas with Limited Fixed Route Service

Pace utilizes a version of the General On Demand Format Specification (GOFS-Lite) to provide information for On Demand services to customers. GOFS-Lite makes it possible to display estimated travel times, service zones, hours of service, and most importantly allows this information to be included in trip planning search results, shown in Figure 3. This information is viewable in the Transit App when searching for service in areas where Pace On Demand is offered. Pace is collaborating with the Transit App to further develop the GOFS-Lite standard as it is currently experimental and not part of the official GTFS standard. As GOFS-Lite is still experimental, it is not supported by most third-party transit planning software (e.g., Google Maps or Apple Maps).

GOFS-Lite currently does not support booking On Demand services. Customers using the Transit App to discover On Demand services are redirected to the Pace On Demand app to complete the booking process and pay fares. Pace should continue collaborating with the Transit App and the GTFS Consortium in the development process of GOFS-Lite, including working towards removing the second application required to use these services and including that functionality natively in the standard, free from third-party involvement.

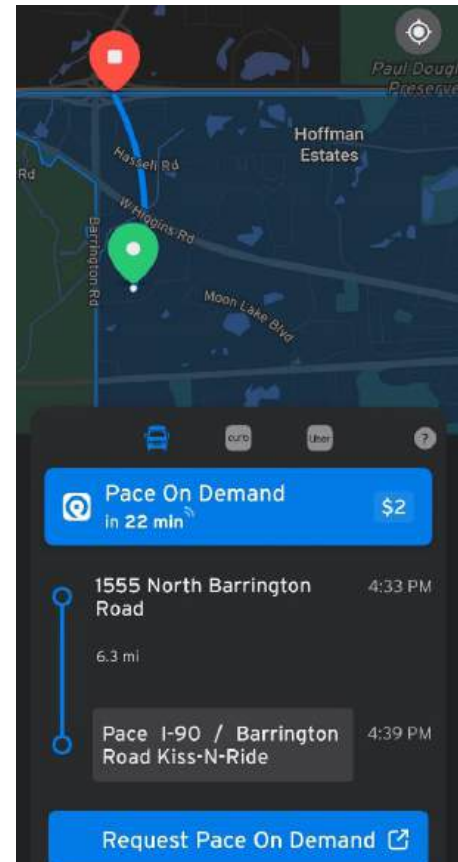


Figure 3:
Transit App screen showing the availability of
Pace On Demand in northwestern Cook County.

2.6 Establish Naming Conventions for Routes, Stops, and Stations

A key outcome of standardization will enable seamless display of transit services at the same stop or station and more consistently show direction and terminal destinations for each service. Duplication of route and stop IDs can create challenges when running analyses for capital improvements or when evaluating information regarding transit stop locations (e.g., when evaluating transit projects using the FTA Simplified Trips-on-Project Software (STOPS)). This may help to eliminate conflicts when considering system modifications or expansions. Agencies should establish a shared understanding for which data fields are used to identify transit routes, stops, and stations. These may include:

- Route identification number
- Route name
- Run name
- Run number
- Stop/station name
- Stop/station identification number
- Interagency transfer stop identification letter
- Direction, Terminal stop or station
- Bicycles permitted
- Which vehicle is preferred for accessible boarding (for Metra trains where ramp assistance is required)

RTA, CTA, Metra, and Pace should agree to a shared list of information that will be used to populate the name and number of routes, stops, stations, direction, and termini for all services operating within the RTA region. RTA, CTA, Metra, and Pace should verify that these appear as intended in trip planning and service trackers managed by RTA, CTA, Metra, and Pace.

3 Improve Delivery of Service Alerts

Service alerts are an essential communication tool transit customers rely on when transit service deviates from expected norms. Delayed, unclear, or the absence of alert communications creates confusion and stress, decreasing customer confidence in transit customer information and transit service. By standardizing how and when transit customer information is provided during these events, RTA, CTA, Metra, and Pace can help maintain transit customer confidence and contribute to timely restoration of transit service following a disruption. While there may be service alerts for more significant events that warrant a need for transit agencies to provide prescriptive information (e.g., communicate that customers should make other plans or exit the transit system), the primary focus of the following recommendations are intended to ensure that RTA, CTA, Metra, and Pace provide consistent and timely information to enable transit customers to make their own informed decisions about adjusting a transit trip.

3.1 Standardize Service Alert Communication Protocols

To maximize transparency and communications during a service alert, RTA, CTA, Metra, and Pace should develop a standard communication protocol that operates independent of and parallel to the activities of information discovery and service restoration. This standard protocol should include performance targets for time elapsed between an incident and the issuance of a service alert and how service alerts are issued via GTFS. The RTA should also host service alert feeds from each agency on a single webpage so customers transferring between agencies have a single location to find all relevant service alerts.

3.2 Improve Staff Empowerment for Service Alerts

Metra empowers vehicle operators to communicate service alerts directly to its operations division and across its communications hardware devices, train tracker, and website. This flow of communications minimizes the amount of time elapsed between when a service alert is identified and when it is communicated.

When transit customer information is consistent and frequent across all platforms, such as when signs on the train platform match what users see on their phone, customers can confirm the information, which may reduce reliance on methods that may impact restoration of service. User experience testing and steering committee interactions revealed that transit customers seek the nearest source of real-time information from a stop or station display, a website, or an app. Other, more analog-focused transit customers seek information from the nearest person. Consistent inspection of audio and visual technology in stations is required to ensure analog users have access to this information while in the system.

While this interaction is valued by customers seeking confirmation of transit information during service alerts, transit operators may be asked for this information while investigating or resolving issues related to the service alert and working to restore service. To avoid potential distractions to transit staff or vehicle operators from focusing on these tasks, RTA, CTA, Metra, and Pace should work to deliver timely and comprehensive service alert information across all managed platforms as well as any communications pushed to third-party services or apps (e.g., social media communication platforms such as X, Instagram, etc.).

RTA, CTA, Metra, and Pace should work to empower communication workflows that ensure service alerts are delivered with minimal delay to customers. This involves examining who is authorized to generate and issue service alerts, how frequently service alerts are communicated, and the process whereby service alerts are updated to inform customers. CTA, Metra, and Pace should develop preferred methods and text strings that can be used in service alerts for consistent messaging to meet target delivery timelines.

4 Expand Utility of Dynamic Signage at Stations and on Transit Vehicles

CTA, Metra, and Pace have deployed a variety of digital signage solutions at bus stops, transit stations, and on the inside and outside of transit vehicles. These are used to communicate real-time arrival information, service alerts, arrivals, upcoming stops, timetables, safety information, and public service announcements. Due to the methods by which these solutions are procured, CTA, Metra, and Pace have limited flexibility to change what is displayed. RTA, CTA, Metra, and Pace should work to expand the flexibility of these displays using the following strategies. (Note: Pace maintains signs that can show other transit agency information).

4.1 Expand Use of Dynamic Signs on Vehicles to Facilitate Transfers

Transfers are a common occurrence in the RTA Service Area affecting thousands of trips every day. Approximately 30 percent of Metra customers transfer to another mode or service during a typical trip. About 30 percent of Pace riders transfer to the CTA, and about four percent of Pace riders transfer to Metra. On an average weekday, CTA estimates that more than [64,000 cross-platform transfers occur on its rail system](#).

CTA, Metra, and Pace include digital dynamic displays on new vehicles, with a plan to provide digital dynamic displays on all vehicles, like one shown in Figure 4a. These digital displays can be utilized to show important information for transfers, including what lines are available at transfer locations and real-time estimates for those services. Agencies should consider the number and diversity of connecting services at certain transfer locations, frequency and service hours of individual services, the amount of time needed for customers to complete the transfer, the number of customers transferring to specific routes, and

available screen space on signage in vehicles. The RTA should assist CTA, Metra, and Pace by preparing a standard graphic design scheme for showing different services on screens in vehicles that are consistent with how these services are shown on screens in and outside stations.

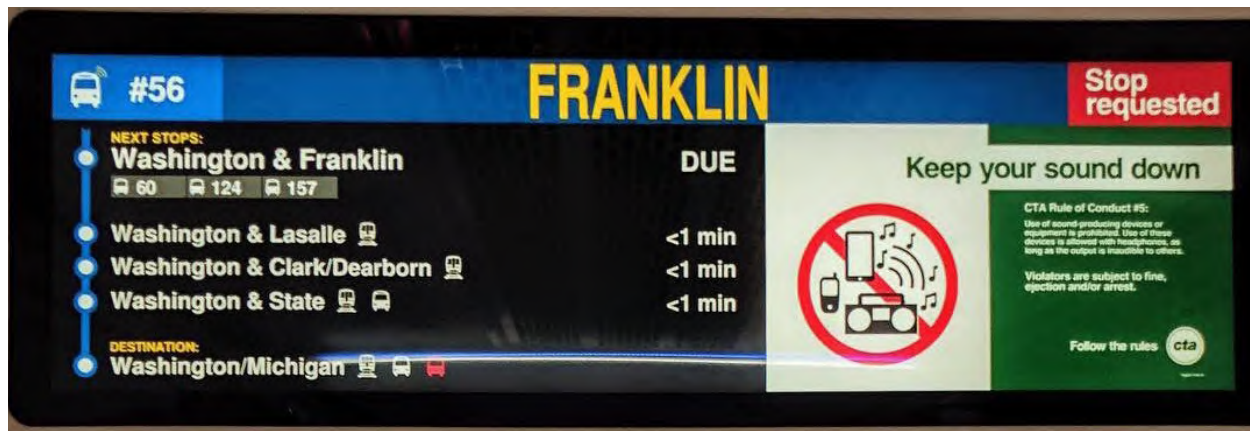


Figure 4a: An example of a dynamic displays on a CTA bus, showing upcoming stops and public service information.



Figure 4b: An illustration of dynamic displays at a Metra station showing information for connecting services.

4.2 Increase the Use of Shared Displays at Interagency Locations

On platforms shared by more than one CTA train or at bus stops served by more than one bus, it is common to see a real-time interface showing arrival information for all vehicles serving that stop or station. Elsewhere in the region where transit modes from different agencies operate in the same location, shared displays are less common but are beginning to be deployed. While Recommendation 4.1 focuses on shared displays in vehicles, expansion of this concept may include shared displays that facilitate the ability to show real-time estimates, service alerts, public service announcements, or other information from all agencies serving a certain location.

Dynamic LED signs are present on transit platforms, at street level at transit stations, at bus stops, and on some trains and buses to provide real-time information. CTA has at least one dynamic LED sign at each station, mostly on platforms. Larger LED signs have been installed outside select CTA stations where transfers and pedestrian activity is high. These signs display arrival times for CTA trains and buses. Metra is installing dynamic LED signage at all Metra stations and piloting e-ink signage for timetables (Figure 5 & 6) Dynamic signage has been installed at 63 Metra stations. Pace has installed 28 e-ink dynamic signs, 116 LED scrolling text signs, and LCD dynamic displays at six transit centers to display bus arrival times at Pace bus stops. CTA, Metra, and Pace plan to install more of this signage to provide more information to customers at critical locations within the system.

Currently, most signs installed by each agency show information for service operated only by that agency. However, where transfer activity occurs, there is an opportunity to improve transit customer information for those transferring between CTA, Metra, and Pace by providing arrival times for connecting services at stations and on transit vehicles approaching a transfer location.

Potential examples of this solution include Pace buses in Elgin that display departure times for Metra Milwaukee District West Line trains when approaching the Elgin Transportation Center, and displays installed at street level at the Metra Union Pacific North Line Ravenswood Station that show departure times for CTA bus routes 9 and 81. Development and deployment of a standard for the display of interagency transfer information will help RTA, CTA, Metra, and Pace communicate information to customers for whom transfers are on occasional or regular occurrence.

Figure 5 shows a large e-ink display at Ravenswood Metra Station. The display is titled "Inbound Trains (Page 1 of 2) Ravenswood to Chicago" and "Valid for 10-17-2024". It lists various train lines and their arrival/departure times. The display is a large, rectangular screen with a black frame, showing a detailed timetable in a grid format. The text is white on a dark background, making it easy to read. The display is mounted on a wall, and the surrounding area is dimly lit, highlighting the screen.

Figure 5:

E-ink signage at the Ravenswood Metra Station displaying a Metra timetable. As the deployment of e-ink signage expands, CTA, Metra, and Pace should collaborate to provide timetables for connecting Pace and CTA bus services.

Figure 6 shows a Metra dynamic signage display at Ravenswood Station. The display is a large, rectangular screen with a black frame, showing the time "4:27 PM" and the station name "Ravenswood". It lists the "Next Metra Trains" with their destinations and departure times. The display is mounted on a wall, and the surrounding area is dimly lit, highlighting the screen.

Train	Destination	Time
#351 to	Kenosha	4:45 PM
#396 to	Ogilvie (OTC)	21 Min
#353 to	Highland Park	4:53 PM
#398 to	Ogilvie (OTC)	30 Min
#393 to	Ravinia Park	5:03 PM

Figure 6:

Station dynamic signage can be utilized to communicate real-time information for all services at a location.

5 Refine Communication Strategies Around Special Events

Annual events like the Chicago Marathon, Lollapalooza, the Taste of Chicago, Pride, St. Patrick's Day, and summer street festivals often involve disruptions to regular service, but also are an opportunity to introduce new customers to transit. To minimize confusion and anxiety that comes with reroutes, delays, or modifies service hours to new and regular riders, communication should be clear, consistent, and concise.

While special events pose challenges for service modification, they are known in advance. RTA, CTA, Metra, and Pace currently have practices in place for the development of reroutes and communication protocol for posting service alerts to each agency website, publication of alerts to transit feeds, and delivery to apps. Special events involve posting paper notices at stations, sandwich boards at street level, and on laminated cards placed on turnstiles at affected rail stations. However, physical limitations in congested urban environments involve tradeoffs for sign placement that may not be seen by all customers.

Delays caused by traffic congestion, road closures, and longer dwell times due to the presence of crowds can cause bus bunching and/or delayed trains and creates frustration among customers. The location and size of some events may impact several routes simultaneously. The following recommendations involve communication strategies and improvements to the use of website and app-based solutions to mitigate the disruptive effects of special events, helping to provide accurate and timely information to all customers.

5.1 Show Real-Time Transit Services for Special Events and Game Days

Some special event services like the CTA #19 United Center Express, CTA #128 Soldier Field Express, Pace Express to Events, and other contracted services are not shown in GTFS feeds. Attendees seeking transportation options prior to special events are not shown these options. Based on discussions with the RTA, CTA, Metra, Pace, and members of the steering committee, revenue service offered by transit agencies have the ability to be shown as viable transit options in all data formats.

5.2 Deploy and Share Geographically Based Service Alerts Before and During Special Events

Metra's communication system allows service alerts to be communicated based on geographic (geofenced) factors, such as playing emergency exit information for trains arriving or departing a downtown terminal station. CTA train cars communicate predetermined service alerts at specific locations based on run number or location on the system such as announcement of "Blue Line trains to downtown and Forest Park" shortly after departing O'Hare, or announcing run numbers for all Red, Purple, and Brown Line trains departing Belmont and Fullerton stations. Pace and CTA announce approaching bus stops and select transfer locations (e.g., transfers to CTA train stations) using a bus stop schedule supported by GPS location information. CTA also can play service alerts on a loop based on a fixed time interval for vehicles in service.

All agencies have methods for communicating regularly occurring information and should utilize these methods for service alerts regarding special events. Metra currently uses this feature to communicate service alerts near the United Center, Soldier Field, or for all trains traveling within a period before major downtown events. CTA and Pace should likewise utilize preferred times, intervals, and proxy locations to communicate service alerts related to special events. RTA, CTA, Metra, and Pace should establish shared communications for these events to ensure terminology is consistent across all agencies.

5.3 Implement GTFS Trip Modifications Functionality

The GTFS Consortium is finalizing development of a new functionality known as Trip Modifications. It is expected that this will be incorporated into the GTFS standard. This functionality allows agencies to publish detours, skipped or eliminated stops, temporary stops, and anticipated delays from typical timetables to GTFS. Updating this information in the GTFS feed allows RTA, CTA, Metra, and Pace to push this information to trip planning services, which enables transit customers to receive more accurate real-time information. The use of Trip Modifications is anticipated to reinforce customer confidence in transit service during special events. While not all third-party applications currently support Trip Modifications, adoption of the standard is expected to provide additional flexibility beyond what is offered by Trip Updates, a current feature of GTFS that is supported by most transit data-consuming vendors. Pace identified this opportunity in its most recent GTFS report. When new functionality is added to GTFS like Trip Modifications, RTA, CTA, Metra, and Pace should work to implement the functionality across all agencies.

5.4 Improve Utilization of Existing Audio and Visual Equipment to Communicate Special Events

Conversations with the Steering Committee and operations staff at CTA, Metra, and Pace have identified difficulties in posting temporary signs with information on special events, like reroutes, closed bus stops, and additional service. Temporary signs require a large amount of labor to install and maintain, and they are frequently damaged due to weather, diminishing their utility. CTA, Metra, and Pace should explore using dynamic signs installed in stations, on platforms, and outside of stations to also display this information, at important transfer locations. This will improve awareness of anticipated impacts during special events and reduce the total number of temporary signs that need to be installed, since temporary signage will still be required at bus stops where no digital signage exists.

5.5 Improve Communication of Bus Bunching During Special Events

Major events are known to cause traffic congestion, high levels of pedestrian traffic, and an increase in people walking, driving, and using transit in congested areas. As a result, bus and train service is prone to bunching, which can create delays. Real-time arrival information becomes more challenging to estimate during congested periods, which creates frustration for transit customers unaware of the event who may rely on real-time arrival information.

When bus or train bunching occurs, issuing service alerts can help to communicate delays. RTA, CTA, Metra, and Pace should identify when to communicate alternate routes, alternate stations, and the extent to which additional trains or buses can be placed into service and/or run express to alleviate congestion. Issuing service alerts specific to bus and train bunching will help to increase transparency of communications and increase customer confidence by providing the context and cause of the delay and offer alternative transit options.

6 Improve Signage for Clarity and Accessibility

One key finding from the User Experience Assessment was a desire for improved clarity and the need for improved directional signage at terminal stations, transfer locations, and on train platforms. This was highlighted by user experience testing participants on Metra platforms unsure whether their boarding location was on the “To Chicago” or “From Chicago” platform, and participants waiting for Pace buses who struggled to identify cardinal or terminal directions of routes based on their name, number, or boarding location. Since 2008, RTA, CTA, Metra, and Pace have been developing and implementing the Interagency Sign Program.

The Interagency Sign Program has developed standards for directing customers where to board transit vehicles during a trip. Signs have been installed at major transfer locations between Metra, CTA, and Pace for bus stops, accessible routes, available transit services at that location, and nearby destinations. The Interagency Sign Program applies a consistent standard across CTA, Metra, and Pace. RTA should continue implementing this program and continue to collaborate with the CTA, Metra, and Pace, including during the station design phase to consider wayfinding needs early in the design process. Recommendations below aim to provide additional guidance as the program continues to be implemented.

6.1 Incorporate Bus Stop Identification Letters in Customer Information Displays

During user experience testing and in conversations with members of the steering committee, it was noted that bus stop identification letters are unfamiliar to some transit customers. Customers may not know how this information may impact their trip. To further incorporate this into the user experience, bus stop designation letters should be shown as a visible component of the “stop_code” functionality of GTFS. This information would enable trip planning information to communicate bus stop ID letters and would become visible in third-party apps. This will help transit customers to know that bus stop ID letters are part of the stop infrastructure and can assist in the wayfinding process.

6.2 Upgrade Comprehensive Wayfinding with Replacement of Metra Platform Signs

Metra is already in the process of replacing “To Chicago” and “From Chicago” signs with signs that identify terminal destinations (e.g., Ogilvie Transportation Center, Chicago Union Station, etc.). This preference for communication was deployed by Metra and validated by user testing participants in Summer 2024. Participants noted difficulty identifying which train platform was the correct boarding location. Due to the left-side running standard of Union Pacific trains, it is not intuitive where customers should board. The latest Metra standard for platform signage shows the terminal station. Consistent use of terminal destination names reduces the amount of language translation that would be needed on RTA and agency websites, apps, and third-party applications.

Currently, terminal destinations are used in real-time transit information provided by the RTA, CTA, Metra, Pace, and third-party developers, so this recommendation will bring static signage standards in alignment with real-time information standards.

7 Improve Delivery of Recurring Dynamic Audio and Visual Announcements at Stations and on Transit Vehicles

Announcements and tones on transit vehicles and in stations are a key means of delivery of information regarding transit service. Announcements delivered via audio and visual means are the standard method of deployment, as this is required for accessibility purposes. However, crowded station or vehicle environments make hearing or seeing these announcements challenging. Service alerts and train announcements can “interrupt” regular visual communications on dynamic signs, which helps get the attention of customers when information is time sensitive.

7.1 Develop Standard Audio and Visual Announcements for Incoming CTA Trains at Multi-Line Stations

User experience testing has shown that some customers struggle to identify which train is approaching when at Loop stations with multiple interlined services. While approaching CTA trains display the line color and terminal station on the front of the leading car and the side of all cars on the train, there is no audio announcement or visual announcement on displays in the station, and audio announcement of the train itself does not begin until the train car doors are open. This can be done by the approaching train, the station speakers, or both. Visual announcements on station displays should also accompany the train’s arrival. Metra trains arriving at Metra transfer locations (e.g., Prairie Crossing on MD-N/NCS, Clybourn on UP-N/UP-NW, Western Avenue on MDN/MD-W/NCS) announce the line name and terminal station when arriving.

7.2 Standardize Alert Tones

Currently, CTA, Metra, and Pace use a variety of speaker equipment for which customization of audio tones is limited. However, as equipment is replaced and modernized, more flexibility is available, particularly as the industry more consistently embraces speech-to-text technology and speakers with a wider range of digital tone options. RTA, CTA, Metra, and Pace should coordinate and share alert tones to be used across agencies. This includes standardizing the sounds made when trains or buses arrive, when doors open and close, when stops are requested and announced, and development of signature tones to be applied at the beginning of a service alert. The RTA has begun auditing and developing new tone standards.

7.3 Add Platform Information to Recurring Arrival Announcements at Rail Stations

Due to the complexity of Metra’s operations, arriving trains may call at a different platform than customers anticipate as a result of freight interference, construction, and express trains. Metra currently uses an audio announcement to inform customers of platform changes, but this information is not reinforced by the recurring announcements. When recurring audio announcements are made to announce arriving trains, the platform number should be included. The platform number should also be included on digital dynamic signage when showing real-time estimates of arriving Metra trains.

7.4 Adjust Track Number Announcements at Metra Terminus Stations

During conversations with members of the Steering Committee, it was noted that audio announcements of track numbers at Metra terminal stations tend to overlap with nearby announcements, which makes it challenging for customers to identify their intended track. This is complicated by the fact that the environment, in particular ambient noise, in stations changes greatly throughout the day, with louder high-traffic periods during rush periods and quieter low-traffic periods at night. This can be addressed with determining announcement intervals to reduce overlap between announcements, acoustic treatments in stations to reduce echo, and adjusting the volume depending on time of day.

7.5 Improve Announcements for Transfers

When approaching transfer locations, CTA, Metra, and Pace should include audio announcements for connecting services. When approaching transfer locations with multiple transfers (e.g., downtown terminals), RTA, CTA, Metra, and Pace should work to identify which services should be announced as announcing all connecting services would not be feasible. These announcements will also need to consider what times particular services run.

8 Standardize and Improve Support for Multiple Languages

Customers using transit in the RTA Service Area speak a variety of languages. CTA officially supports Spanish, Polish, Chinese, and Tagalog on its website. Pace maintains a Spanish version of their website. Metra does not have official language options on its websites. While some materials created by Pace and Metra have Spanish equivalents, these versions must be accessed using an English-only website. During user testing, one participant sought information on the Pace website using the Spanish version of the information to answer questions regarding her trip. Inconsistency in language support limits access for customers who do not speak English. RTA, CTA, Metra, and Pace should implement the following changes to standardize and improve language support across the transit system.

8.1 Provide Consistent Language Support

RTA, CTA, Metra, and Pace should agree to a standard set of professionally translated language options to be used across all agency publications directly related to customer information on websites, printed customer materials (e.g., schedules, pamphlets, etc.), and the Ventra app. Work to update websites and the Ventra app to enable customers to change their preferred language, including a multilingual button or bar for language translation.

8.2 Provide Professional Translations of Standard Service Alert Messages

To improve the speed of issuing service alerts and increase the reach of these alerts, professional translations of standard service alert messages should be prepared so they can be pushed out with English versions simultaneously. These translated alerts can be available to customers who indicate their preferred language on the Ventra app, agency websites, and through QR codes on signage.

8.3 Create a Website to Introduce Customers to Audio and Visual Prompts Used Across the Transit System

Customers who speak languages other than English and/or are not familiar with the system may be caught offguard by tones and recurring announcements they encounter on the transit system. Simple messages like “doors closing”, next stop announcements, and stop requests may be unfamiliar with new transit users. Allow customers to play audio tones on command that announce standardized arrivals, departures, stops, and service alerts to increase rider confidence, especially for new riders.

8.4 Incorporate Language Support on Signage

While there is only so much room on permanent and temporary signage to provide information in additional languages, these users can be directed to information in their language using QR codes. CTA, Metra, and Pace should ensure that customers can identify where to find more information in their language without relying on English text on the signs.

