

ALAMEDA-CONTRA COSTA TRANSIT DISTRICT



STAFF REPORT

MEETING DATE: 4/24/2024

Staff Report No. 24-253

TO: AC Transit Board of Directors
FROM: Michael A. Hursh, General Manager/Chief Executive Officer
SUBJECT: Accessible Wayfinding Technology Opportunities

BRIEFING ITEM

AGENDA PLANNING REQUEST:

RECOMMENDED ACTION(S):

Consider receiving a briefing item related to accessible wayfinding hardware and software technology solutions. [Requested by Vice President Shaw - 9/13/23.]

Staff Contact:
Ahsan Baig, Chief Information Officer

STRATEGIC IMPORTANCE:

Goal - Prioritize Diversity, Equity, Inclusion and Accessibility

Initiative - Internal and External Diversity, Equity, Inclusion and Accessibility Programs and Priorities

Convenient, safe, and accessible wayfinding through the District's transit service remains a challenge to the diverse ridership, so incorporating modern and accessible technology can equally assist ridership more effectively.

BUDGETARY/FISCAL IMPACT:

There is no fiscal impact associated with this report.

BACKGROUND/RATIONALE:

At the request of the Vice President Shaw, a focused initiative has been launched to explore and pilot innovative accessible wayfinding solutions within our service area. This effort seeks to assess the feasibility and impact of various accessible technology solutions on enhancing the transit experience for our diverse ridership. Accessible wayfinding technologies play a crucial role in enhancing the autonomy and mobility of individuals with disabilities, particularly those with visual impairments or mobility challenges. By leveraging advancements such as GPS navigation, audio guidance, tactile paving, and digital signage, these technologies provide the necessary tools for safer, more confident navigation through various environments, from urban streets to public buildings and transport systems. They bridge significant gaps in traditional navigation aids, offering real-time information, guidance, and feedback that cater to the unique needs of users. The importance of accessible wayfinding technologies extends beyond individual users, contributing to a more inclusive society by fostering greater independence, reducing barriers to participation in public life, and

enhancing the overall quality of life for those with disabilities. This progressive step towards inclusivity not only complies with legal standards for accessibility but also highlights the societal shift towards embracing diversity and ensuring equal opportunities for all.

The Innovation and Technology Department in collaboration with Accessible Services and Marketing and Communications Departments have been assessing various promising technological advancements in the marketplace and identifying strategies to seamlessly integrate into our rider-facing communication channels. These solutions aim to address the critical need for convenient, safe, and accessible wayfinding, thereby fostering a more inclusive and reliable transit service.

Among the identified solutions are initiatives such as the ACT Rider Chatbot, a newly developed features in Mobile App 2.0, and Digital At-Stop Pages, each designed to integrate seamlessly with current and prospective needs of riders with disabilities. These solutions leverage advancements in technology and user experience design to provide real-time information, improved trip planning, and enhanced accessibility features. The adoption of these technologies is anticipated not only to improve the navigational experience for all riders but also to bridge accessibility gaps that have historically challenged certain segments of our ridership.

The exploration extends to additional selected technology solutions for consideration, including Driver Hailing Requests and Crowdsourcing Pathways, alongside the endorsement of third-party wayfinding apps. These efforts underscore our commitment to leveraging technology to enhance service accessibility, reliability, and convenience. These initiatives and in-motion efforts are a testament to our ongoing dedication to Diversity, Equity, Inclusion, and Accessibility (DEIA) principles, aligning with our strategic goals to provide a transit service that meets the evolving needs of our community.

Upcoming Technology Solutions:

ACT Rider Chatbot: This upcoming feature is currently in development and will harness AI chat technology. It aims to provide real-time information through natural language conversations, facilitating two-way interactions with ACT RealTime, Trip Planning, Customer Relations Tickets, and general information from the district website. The chatbot will be accessible across important communication channels, including SMS, text apps, voice chat, and specialized platforms catering to users with disabilities and can work in any language a bus rider would like.

ACT Mobile App 2.0: This new innovation platform takes the current mobile app's features and extends it with features such as: ACT Rider Chatbot, user experience focus-groups, accessible wayfinding, trip planning, crowdsourced data for better asset maintenance and service planning, gamified rewards to encourage participation, and rider safety and security features. Although the feature set is not yet finalized, having it in-house enables us to seamlessly add new features moving forward.

Digital At-Stop Signs using QR Codes: This new district website feature is in advanced stages of development with a digital representation of the currently used At-Stop printed timetables. QR Codes will be placed onto the print media, which will direct riders to the "stop pages". With that, we can take this one step further and try using high-contrast printed Scan Codes solutions for longer distance use cases. NaviLens is one accessible solution which includes a mobile app to decode their scan codes, available through the district's CAD/AVL vendor.

Website ADA Audits: Approved by the Board, all website information and assets are scheduled for annual audits and remediation efforts incorporating feedback and new standards.

Emerging Technologies and Proof-of-Concept Solutions (POCs):

The future of technological innovations for accessibility within public transit systems heralds a transformative era for individuals with disabilities, aiming to drastically improve their travel experience and independence. Advancements in artificial intelligence (AI), augmented reality (AR), and the Internet of Things (IoT) are set to redefine accessible public transportation. AI could offer dynamic, real-time assistance, providing personalized route planning and updates, while AR might project navigational cues and transit information directly into the visual field of users, making public spaces more navigable for those with visual impairments. Furthermore, IoT integration in transit systems could allow for seamless operation of and interaction with gates, ticketing machines, and real-time updates on service changes, significantly reducing barriers for those with physical and sensory disabilities. These technologies aim to create an inclusive public transit environment where information and services are universally accessible, ensuring that mobility is not just a convenience but a right accessible to all, regardless of their physical capabilities.

These options are being explored and their advantages or disadvantages are not fully vetted.

Driver Hailing Requests: This new feature can enable the riders to make requests to Operators when Bus is not moving through the OCC staff. Pursue a new CAD/AVL feature to issue on-screen requests from riders to the operator's Transit Control Head (TCH) in the form of "meet at stop" and "request to exit" messages, which is a significant improvement over "waving down" the driver, leaving no rider behind, especially for early running trips.

Crowdsourcing Pathways: Sharing of successful paths through many apps, standards-based information sources, such as General Transit Feed Specification Pathways (GTFS-Pathways extension), and other means simplifies the traversing of itineraries and legs of not just one rider's journey but for all riders.

Endorse/sponsoring of third-party wayfinding apps: The popular Microsoft Research Soundscape app is now an open-source community, actively working on improvements that would benefit from sponsorship for the benefit of everyone, everywhere. Another vendor is GoodMaps, which uses different technologies and accumulates data through many collaborations, but it is less open source than Soundscape.

Beyond vendor or district funding, various grant opportunities are available through the FTA or other Federal programs, coordinated and in cooperation with the Grants department. Some grants of note are FTA's Innovative Coordinated Access and Mobility Grants and Strengthening Mobility and Revolutionizing Transportation (SMART) Grants.

Regional Wayfinding Effort:

AC Transit staff is working with the Metropolitan Transportation Commission (MTC) on the Regional Signage & Wayfinding Pilot Project. MTC has engaged an accessibility consultant and is examining ways to improve accessibility through regional signage standards, with regular updates provided to AC Transit leadership. Staff

is also currently working with the General Manager's Access Committee to nominate a member to MTC's signage and wayfinding accessibility advisory committee. MTC's regional pilot is exploring a uniform signage approach across the Bay Area's 27 transit agencies, and District staff is working to ensure that accessible customer information can be maintained and expanded as standards are developed.

ADVANTAGES/DISADVANTAGES:**Advantages:**

- Inclusion of new riders with transit service and system wayfinding information that may not be currently accessible.
- Socially responsible assistance.

Disadvantages:

- Increased ongoing and variable budget.
- Data unavailable of exact improvements from presented ideas.

ALTERNATIVES ANALYSIS:

Do not implement additional selected technology solutions - current, ongoing, and knowledge issues will not be addressed by doing anything and will be reliant on dispersed and unknown solutions.

Wait for MTC digital wayfinding - they will address a subset of the District issues defined above.

PRIOR RELEVANT BOARD ACTION/POLICIES:

No prior relevant board actions to date.

ATTACHMENTS:**Prepared by:**

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