

CDOT Statewide Transit Pass Exploratory Research

Final Report



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Table of Contents

Table of Contents	2
Executive Summary	3
Background	3
Topics for Exploratory Committee Review:	3
Research Topic Required by SB24-032	3
Project Overview and Research Summary	9
Project Overview	9
Section 1 - Existing Integrated Transit Pass Programs, Best Practices, and Case Studies	10
Summary of Trends and Findings	10
Integrated Transit Pass System Best Practices	11
Case Studies	27
Conclusion and Next Steps	41
Section 2 - Statewide Transit Pass Program Components	42
Initial Program Goals and Governance	42
Program Implementation: Defined Roles and Responsibilities	43
Cost Management and Revenue Sharing	48
Technology Requirements and Integration	54
Statewide Pass Marketing Plan Components	60
Pass Deployment - Pilot Programs	63
Ongoing Program Management and Evaluation	66
Conclusion and Next Steps	66
Section 3 - Statewide Pass Program Considerations and Colorado Transit Agency Insights	67
Common Goals of Integrated Pass Design	67
Pass Structure and User Implications	76
Survey Findings: Colorado Transit Agency Perspectives	81
Conclusion	112
Section 4 - Statewide Transit Pass Committee Recommendations	114
Background	114
Viability	114
Cost Sharing	115
Sale Structure	115
Services Covered	116
Tabor & Federal Laws	116
Pass Duration and Type	117
Technology	117
Summary	118

Executive Summary

Background

SB24-032 created the Statewide Transit Pass Exploratory Committee to produce a viable proposal for the creation, implementation and administration of a statewide transit pass, including recommendations for any necessary legislation in connection with the proposal. The legislation also directed that a pass be implemented by January 1, 2028.

Staff within the Office of Innovative Mobility (OIM) at the Colorado Department of Transportation (CDOT) served as project managers for this exploratory committee effort, supplemented by research support from the consulting firm of Felsburg Holt & Ullevig (FHU). The work of the exploratory committee was further informed by conversations with the Transit and Rail Advisory Committee (TRAC), the Colorado Association of Transit Agencies (CASTA), and a transit agency survey distributed to staff at 86 Colorado transit agencies that received 68 responses. Public input was solicited on the draft report through the project website.

Topics for Exploratory Committee Review:

As directed by the legislation, the Statewide Transit Pass Exploratory Committee was appointed by the Executive Director of CDOT by October 1, 2024 and met regularly between November 2024 and April 2026 to review, discuss and provide feedback on research related to the twelve distinct questions posed by the legislature for creation of a statewide transit pass. The questions from the legislation are summarized in Table 1 with page references for where to find detailed information in the full report.

Research Topic Required by SB24-032

Table 1. Research Topics and Summary of Key Findings

Research Topic Required by SB24-032	Summary of Key Findings	Report Page References
The logistics of creating a statewide transit pass	It is recommended that a statewide pass could be a central hub where users can purchase tickets for each leg of their trips. A pass system should emphasize interoperability (working across multiple agencies), open payment standards, and scalable technology. Strategic phasing of pass implementation avoids service delays and cost overruns for program and partner agencies.	42-47

Research Topic Required by SB24-032	Summary of Key Findings	Report Page References
A method for determining the price of a statewide transit pass	Revenue sharing and pricing negotiation are important and complex. Maintaining local control over fares is a top concern. Transit agencies prefer to control the fares and pass types for each of the services they offer. A future governing board will need to develop cost sharing and revenue sharing formulas to support a pass.	50 - 53, 74 - 75
A structure for the sale of the statewide transit pass to individuals and to employers for their employees	An app or web portal for users to create accounts and pay fares would need to be created and maintained. Ticket vending machines and retail vendors would also be required to provide options for cash riders and support equity.	55- 56
The services that will be offered to statewide transit pass holders	Multimodal and microtransit integration is important to address first-last mile considerations and seamless trip planning, but adds additional complexity to pricing and third-party integration. Inclusion of these features would likely need to occur in future phases to avoid overcomplication of the initial launch of a statewide transit pass.	59 - 60
The types of statewide transit passes that would be offered including different options for the duration of the pass to accommodate residents and visitors	It is suggested that a statewide transit pass offer daily, 3-day, weekly, and monthly passes.	75 - 77

Research Topic Required by SB24-032	Summary of Key Findings	Report Page References
Additional opportunities for collaboration across transit agencies in the state to make it easier and more appealing for people to use transit	A governing board will need to develop a comprehensive marketing and communications strategy designed to elevate awareness of a statewide transit pass, clearly articulate features and benefits, and foster confidence in its ability to meet current needs while adapting to future demands. This strategy will be tailored to engage transit riders, transit providers, and key third-party stakeholders.	60 - 63
The technology that would be needed to monitor the use of the statewide transit pass and track ridership across transit agencies to assist transit agencies in determining and understand the financial impact of the pass in the future	Aligning program goals with technology requirements early in the development phase of an integrated transit pass is critical to success. This conceptual architecture includes hardware, network connectivity, data management and platforms, and the software/applications that help manage an integrated pass system.	54 - 60
	Ongoing program management and evaluation can help achieve continual improvement of a fully implemented integrated transit pass program.	66
	Fare payment technology integration represents a major hurdle.	68-69

Research Topic Required by SB24-032	Summary of Key Findings	Report Page References
Any additional local, tribal, state or federal laws, rules or regulations that need to be considered in connection with the creation of a statewide transit pass	A pass would need to abide by the Americans with Disabilities Act and Rehabilitation Act of 1973 Section 504. These laws require that a transit pass system is fully usable by people with disabilities, not just the transit service itself. The pass will also need to adhere to the Civil Rights Act of 1964 Title VI which requires fare policies to include Title VI equity analysis. Since a pass will likely be electronic, it will also need to comply with the Electronic Funds Transfer Act and the Privacy Act of 1974. When designing the application, the design team must prioritize clear user experience around billing, notifications, and account management while avoiding hidden fees or confusing reload rules. The application will minimize the collection of personally identifiable information, be transparent about how rider data is used, and establish strong data sharing agreements between agencies.	116 - 117
The potential impacts that a statewide transit pass will have on transit pass programs that are currently offered by transit agencies	Transit agencies overwhelmingly support keeping their existing fare structure. Fare free systems can be included in a statewide pass.	72 - 74, 112



Research Topic Required by SB24-032	Summary of Key Findings	Report Page References
The potential impacts of section 20 of article X of the state constitution to local governments in connection with revenue generated by the sale of a statewide transit pass	The TABOR impact will depend on the amount of revenue raised and how the fare pass is structured. Any new revenue collected at the state level in excess of current revenue has a potential TABOR impact. If the fare revenues for all of the state's transit agencies are centrally collected by CDOT, and the final proposal did not meet the definition of "collections for a local government," then all of the fare revenue we collect on behalf of/in lieu of local transit agencies through the pass program would count toward the state's TABOR cap (unless the program lives in a state Enterprise).	116
A proposal for the structure and composition of a permanent advisory board to oversee the creation, implementation and administration of a statewide transit pass	Multi-agency coordination is crucial to ensure fairness. It is recommended that a governing board structure be adopted for the statewide transit pass composed of transit agencies, elected officials, and CDOT staff, along with a project team of CDOT staff and local agencies to manage the creation and maintenance of a central statewide transit pass hub. Additional participants may also be included representing transit riders and/or disability communities	42 - 46

Research Topic Required by SB24-032	Summary of Key Findings	Report Page References
Any other issues that need to be discussed or addressed as deemed necessary and appropriate by a majority vote of the members of the committee	<u>Transit Pass Development Costs:</u> A new revenue stream would be required to support development of a statewide transit pass. Research from comparable projects indicates the costs for developing this system could range from \$4 million to \$25 million with annual operating costs ranging between \$500,000 and \$11 million. <u>Equity:</u> Cashless fare systems are important for an equitable integrated pass. Ticket vending machines and retail vendors would also be required to provide options for cash riders and support equity.	48 - 53 12, 17 - 18, 21 - 23, 69 - 71

Conclusion and Recommendations

The primary goal of this report is to answer the twelve technical questions specifically posed in SB24-032. Given the extensive research conducted and the conversations held, the exploratory committee recommends the following path forward.

Conversations and surveys with transit agencies indicate mixed opinions about the utility and necessity of a statewide pass. In particular, there is very little interest and willingness to use a common fare structure. Maintaining local control over fares has been a top concern cited by agencies throughout the exploratory committee process. Although many transit agencies indicated they would participate in a statewide pass, especially if they did not need to dedicate significant (or any) local resources to implementing the pass, pursuing a statewide pass program is not currently a high priority for most agencies.

Should the state desire to stand up a statewide pass program for Colorado transit, it would first need to form a governing body and identify a dedicated revenue stream to cover development and implementation costs. Transit agencies and CDOT do not have available resources to implement a common fare system technology prior to revenue being generated from the pass, so “seed funding” is necessary both for initial adopters of the pass and for agencies that may wish to adopt the pass at a later date.

The likely path for implementation of a statewide pass is for a coalition of willing transit agencies to form a governing body and participate in the development and implementation of a pass



program, with the ability to add additional agencies in phases as resources permit. With CDOT's Bustang transit system serving as the statewide connector service between local transit agencies, it could make sense for Bustang to be a first mover in this endeavor. Furthermore, Colorado Transportation Investment Office's (CTIO) development of a multimodal back office has the potential to incorporate many of the desired elements of a statewide pass as it matures and is launched. The early phases of the back office project are associated with tolling and back office functions, with transit functionality being an important consideration for future phases of its development. With the launch of CTIO's back office functions expected no sooner than Fall 2027, this would be a logical starting point for engaging in discussions with willing transit agencies.

Given the complexity of developing and implementing a statewide transit pass, the costs comparisons to similar pass programs, the lack of consensus among transit agencies for a statewide pass program, and the fiscal year 2028 timeline for launch of CTIO's back office project, the legislature's desired implementation of a statewide pass program in January 2028 is not feasible, especially without dedicated staff and financial resources to advance the project. Should the legislature have an interest in a pass system moving forward, it would need to provide financial support for the hardware and technological development of a pass system, in addition to funding for staff and consultant support of this project at CDOT. It is estimated that the technology for a statewide transit pass could be implemented with pilot agencies within at least 2 years of project launch, with additional agencies added in subsequent years.

Project Overview and Research Summary

Project Overview

Per Colorado State Senate Bill 24-032 (SB24-032), Methods to Increase the Use of Transit, the Colorado Department of Transportation (CDOT) established a Statewide Transit Pass Exploratory Committee (the "Committee") to explore and develop a viable proposal for the creation, implementation, and administration of a statewide transit pass. The Committee is required to meet as necessary to produce a viable proposal by July 1, 2026, with the goal of implementing a statewide transit pass by January 1, 2028. CDOT's Office of Innovative Mobility (OIM) is supporting Committee decision-making by conducting research, facilitating discussions, and developing a comprehensive report that answers key questions related to a statewide transit pass. This report includes four major sections:

- Research and Analysis of Existing Programs
- System Design and Implementation Considerations
- Pricing, Structure, and Accessibility
- Statewide Transit Pass Advisory Board Options

Throughout the development of this report, the Committee received briefings as each major sub section became available. These briefings helped to inform the Committee's decision-making and the production of a viable statewide transit pass proposal by July 1, 2026.

Section 1 - Existing Integrated Transit Pass Programs, Best Practices, and Case Studies

This section is the first of the four report sections: Research and Analysis of Existing Programs. The project team conducted research about existing integrated transit pass systems in the United States (U.S.) and internationally to understand best practices, challenges, and solutions for implementing integrated transit pass systems. For this research, an integrated transit pass is defined as a system that allows riders to access transit services, across different transit agencies and modes, using a single, unified payment method.

The project team identified more than 30 existing integrated transit pass systems operating in metropolitan regions, rural areas, and recreational destinations. The diverse nature of Colorado makes it important to understand how passes work in different contexts. In addition, the project team identified several international pass examples from Europe and Asia. This research, coupled with analysis of planning and transit association publications, academic journal articles, and technology vendor case studies, helped the project team understand how passes are implemented and operated today.

Summary of Trends and Findings

The identified transit pass partnerships ranged from as few as 2 participating transit agencies to more than 25 agencies coordinating on a single transit pass. In all cases, phased implementation is critical. Forming partnerships and developing integration plans are the groundwork of these passes. Close coordination among transit agencies, municipalities, and technology vendors is key to a successful pass roll out. Key questions considered during the planning phase focus on:

- Identifying consistent funding sources for pass operations
- Understanding underlying pass technologies, pass distribution, and sale strategies
- Documenting what payment mediums can be used
- Determining if a unified fare structure across all agencies will be implemented

As presented in the **Case Studies** sub-section of this section, these critical decisions inform the success and failure of a pass. Based on case study findings, the project team detailed specific best practices for integrated transit passes and identified agencies that have implemented these best practices. The five integrated transit pass case studies presented in the sub-sections dig deeper into program elements, key takeaways, and lessons learned from each pass system.

Integrated Transit Pass System Best Practices

Across the U.S., existing integrated transit pass programs offer lessons for agencies and states planning integrated passes at any scale. The best practices identified from these transit passes fall into three categories:

- Fares and Payments
- Data and Technology
- Funding and Policy

Within these categories, this section identifies a number of best practices that can meaningfully inform future integrated transit pass efforts.

Fares and Payments best practices include account-based ticketing (ABT), open payment, fare capping, fare integration, revenue sharing, and regional (zone) pricing. When reviewing existing integrated transit passes, ABT, open payment, and fare capping technologies and policies often go hand in hand. Account-based ticketing is linked to open payments, and accounts are linked to payment methods to track ridership for fare capping purposes. In addition, fare integration, revenue sharing, and regional (zone) pricing are typically combined, as fare integration across a system leads to the need for interagency revenue sharing. Regional zone pricing also requires revenue sharing among agencies if all transit providers adopt the same zonal fare system. While these Fares and Payments best practices could be adopted on their own, they seem to work effectively when combined to facilitate ease of use and regional price cohesion.

Data & Technology best practices include integrated mobile ticketing, ticket vending, and validation systems. There are also instances where microtransit and micromobility services are integrated. These technologies are common for individual transit agencies, but within integrated transit pass systems, mobile ticketing, ticket vending, and validators must have shared equipment and technology integration to ensure that passes work across multiple agencies. Fares and passes are purchased through mobile apps/websites and ticket vending machines (TVMs), and they are validated through on-board technology. Within this system, certain modifications can be made to enhance rider experience. For example, some TVMs can add purchased fares to mobile apps, and some validators are also designed to accept both old (physical card) and new (QR code) pass technologies.

Funding & Policy best practices include partner agency coordination to ensure smooth implementation and operation of integrated passes. Best practices include shared funding and procurement approaches, multicounty/multistate coordination, and equity policies. Equity considerations include cash payment options, integrating retail locations for pass reloading, multiple language options, and pass discounts for vulnerable populations. Because these policies may differ among partner agencies, it is important to consider technologies that allow different policies or pass promotions to be implemented by individual agencies.

Fares & Payment: Account-Based Open Payments with Fare Capping

Account-Based Ticketing and Open Payment

ABT stores rider payment and trip records typically in a cloud-based account rather than on an individual non-integrated ticket or card.¹ In this integrated system, riders instead use a mobile wallet, scan a QR code, tap a credit card/bank card, or tap a transit smart card to pay. This integrated system helps agencies track ridership and fares from customers using an integrated pass. ABT also works with fare capping programs and reduces the need for ticket sales-related infrastructure.² Unbanked customers or those without smart phones still have the option to load cash onto smart cards.³ These cloud-based, contactless payment systems form the backbone of integrated transit passes and require significant vendor evaluation to ensure a smooth and timely system rollout.

Fare Capping

Fare capping policies track a customer's trip payments and automatically stop charging the customer once a total fare threshold has been met.⁴ Fare capping can be implemented at various time intervals (day/week/month threshold). This approach ensures that frequent riders get the best possible price over a set time.⁵ However, some legacy systems require customers to use the same card to achieve this cap; otherwise, the system may not accurately track rides.⁶ ABT systems address this challenge by determining fare capping through a user's account, regardless of payment method. Doing so is critical for integrated pass systems, as many of these passes want to ensure fare capping can still happen when a customer is taking trips with different partner agencies.

Certain characteristics of fare capping are well-researched, such as implementation challenges for fare capping programs, overall customer costs per trip, and benefits of fare capping from an equity standpoint. However, there is limited research on how fare capping affects transit agency revenues. Most agencies report that the overall financial impact remains unclear.⁷ From the limited available research, agencies that experienced losses in fare revenue expect the loss will be made up by the implementation of more efficient payment systems for integrated transit pass systems.⁸ For example, TriMet, one of the participating agencies in Hop Fastpass in Portland, Oregon, experienced a 1-1.5 percent reduction in revenue after implementing an integrated transit pass

¹ Vix Technology. "Account-Based Ticketing (ABT) Solutions."

<https://vixtechnology.com/solutions/account-based-ticketing/>.

² Vix Technology. "How Does Account-Based Ticketing Improve Mobility?"

<https://blog.vixtechnology.com/blog/how-does-account-based-ticketing-improve-mobility>.

³ Mobility Payments. "In-Depth: Agencies See Opportunities—as Well as Challenges—in Rolling Out Account-Based Ticketing." December 5, 2024.

<https://www.mobility-payments.com/2024/12/05/in-depth-agencies-see-opportunities-along-with-challenges-in-rolling-out-account-based-ticketing/>.

⁴ National Academies of Sciences, Engineering, and Medicine. *Account-Based Ticketing and Fare Collection: TCRP Report 237*. Washington, DC: National Academies Press, 2021. <https://nap.nationalacademies.org/read/26510/chapter/2>.

⁵ New York Public Interest Research Group. *Fare Equity Fact Sheet 2024*. 2024.

https://www.nypirg.org/pubs/202406/Fare_Equity_Fact_Sheet_2024.pdf.

⁶ Metropolitan Transportation Authority. "OMNY FAQ." <https://omny.info/faq/>.

⁷ National Academies of Sciences, Engineering, and Medicine. *Fare Capping: Balancing Revenue and Equity Impacts*. Washington, DC: National Academies Press, 2022. <https://doi.org/10.17226/26510>.

⁸ TransitCenter. "Cap and Ride." <https://transitcenter.org/capandride/>.



with fare capping. Over time, TriMet expects to offset most of these costs because the program's tap-to-pay fare system has infrastructure and maintenance efficiencies over the previous cash-based system.⁹ Overall, the impacts of fare capping on agency revenues are not completely understood, and 10 of 35 agencies surveyed by the Transportation Research Board¹⁰ have concerns about potential revenue loss.

Best Practices in Action – Flamingo Fares

Transit agencies in the Tampa Bay/St. Petersburg Region, which include HART/TECO Line Streetcar System, and PSTA/Jolley Trolley, have partnered to develop the Flamingo Fares integrated transit pass system, the first system of its kind in Florida. Flamingo Fares has implemented ABT, combined with open payments and fare capping, to improve rider experience and increase ridership on the partners' transit systems. Riders pay by tapping their Flamingo card or the other contactless payment methods previously detailed. Cards, linked to a customer's account, enable fare tracking. Riders who board twice a day or more have their fares automatically capped. Once a rider pays the equivalent of a monthly pass, Flamingo Fares caps rider fares for the month.¹¹

Best Practices in Action – TAP Card (Los Angeles County)

LA Metro, along with its other 26 partners on LA County's TAP Card integrated pass, has implemented new fare system equipment to replace existing validator equipment and enable contactless payment. LA Metro has rolled out new bus mobile validators and station validators that accept contactless payment and TAP cards, which can be purchased using cash at TVMs.¹² In addition, LA Metro has launched a multimedia campaign to advertise how their new pass system and fare capping works to reduce trip costs and increase rider convenience.¹³

Best Practices in Action – TriMet Hop Fastpass (Portland, OR Metro Area)

Many transit agencies face the challenge of ensuring that unbanked customers have access to modern payment systems. This challenge can be multiplied with integrated pass systems where partner agencies may have different policies. An integrated pass used by TriMet, C-TRAN, and the Portland Streetcar System, Hop Fastpass has addressed this issue by offering TVMs in both stations and partner retail locations where Hop Fastpass cards can be loaded with cash.¹⁴ In addition, HOP Fastpass links riders with their online profile showing which discounts they qualify for and automatically applies those discounts when trips are taken on a partner agency service.

⁹ TransitCenter, "Cap and Ride."

¹⁰ Transportation Research Board. "TRB Webinar: Fare Capping—Balancing Revenue and Equity Impacts." October 26, 2022. <https://webinar.mytrb.org/Webinars/Details/1615>.

¹¹ Hillsborough Area Regional Transit Authority, Pinellas Suncoast Transit Authority, and Pasco County Public Transportation. "Frequently Asked Questions." <https://www.flamingofares.com/frequently-asked-questions/>.

¹² Los Angeles County Metropolitan Transportation Authority. "Board Report." <https://metro.legistar.com/ViewReport.ashx?GID=557&GUID=LATEST&ID=10174&M=R&N=TextL5&Title=Board+Report>.

¹³ Streetsblog Cal. "Metro Fare Capping Starts July 1." June 7, 2023. <https://cal.streetsblog.org/2023/06/07/metro-fare-capping-starts-july-1>.

¹⁴ TriMet. "Paying Cash for Hop Fastpass." <https://trimet.org/fares/cash>.

Fares & Payment – Integration, Revenue Sharing, and Regional Pricing

Fare Integration

Fare integration is a unified fare policy across unified pass partner transit agencies. It enables riders to pay a consistent price regardless of transfers or operator. Fare integration is beneficial for an integrated transit pass because it establishes a uniform fare policy (for example, common fare zones, free transfers, multiagency discount policies, fare caps, etc.). Unified policies help reduce rider confusion, boost ridership, and make transit more affordable.¹⁵ Fare integration requires coordination and policy setting among agencies. An integrated pass decision-making body and a governance structure are critical to addressing political and operational challenges. Agencies must determine how to distribute revenue equitably and must agree on common discounts and funding obligations.¹⁶

Revenue Sharing

Common integrated pass revenue sharing policies distribute fares to participating transit pass agencies, while more complex systems may also distribute a portion of fares to pass oversight organizations, government partners, or nonprofits that assist with operations, capital, and/or maintenance. Revenue sharing approaches are based on a number of considerations, including agency size,¹⁷ ridership,¹⁸ or a more complicated formula that considers equity or the need to make pass acceptance worth an agency's efforts.¹⁹ Revenue sharing can create a predictable cash flow for each agency when apportionment rules are well defined. In addition, all partners can promote a pass with revenue sharing to increase awareness about regional, inter-county, or inter-state trip opportunities.

However, revenue sharing requires agreement on a sharing formula, and it can be challenging to align these fare policies. One agency that provides more rides may not receive as much money as they would if they were operating independently. In addition, there may be power imbalances between agencies that are large and well-funded and those that are smaller and have more limited operations.²⁰ In some cases, transit agencies have opted to form or appoint one agency as the management and implementation organization to conduct revenue sharing and other transit pass responsibilities. For example, ORCA card's Regional ORCA Operations Team (ROOT)²¹ and Clipper

¹⁵ Seamless Bay Area. "Integrated Fare Vision." <https://www.seamlessbayarea.org/integrated-fare-vision>.

¹⁶ Urban Institute. *Fare Policy and Equity*. 2020. <https://www.jstor.org/stable/pdf/resrep26074.6.pdf>.

¹⁷ Eno Center for Transportation. *MOD Fare Integration for Transit*. 2023.

<https://enotrans.org/wp-content/uploads/2023/02/MOD-Fare-Integration-for-Transit.pdf>.

¹⁸ SPUR. *Integrated Fares Presentation by Knott*. 2021.

<https://www.spur.org/sites/default/files/2021-08/Presentation%20by%20Knott.pdf>.

¹⁹ Los Angeles County Metropolitan Transportation Authority. *Procurement & Purchasing Committee Item 6*. 2007.

https://libraryarchives.metro.net/board/items/2007/09_september/20070919P%26Item6.pdf.

²⁰ Eno Center for Transportation. *MOD Fare Integration for Transit*. 2020.

<https://enotrans.org/wp-content/uploads/2023/02/MOD-Fare-Integration-for-Transit.pdf>.

²¹ ORCA Joint Board. *Approve ROOT Implementation Organization*. 2020.

<https://www.soundtransit.org/sites/default/files/documents/orca-joint-board-action-approve-root-implementation-organization-20200608.pdf>.



Pass's Metropolitan Transportation Commission (MTC)²² both act as management bodies that distribute revenue to participating agencies.

Zone Pricing

Zone pricing is a fare payment model where riders pay a different price depending on which zones they are traveling to or through. Fares can be priced by number of zones traveled through (origin to destination = 8 zones = \$8)²³ or by geography (\$2 within city/town, \$4 within county, \$6 everywhere else in the system).²⁴ Zone pricing is common among transit agencies in large urban areas with a large coverage area and longer commuter service routes. Zone pricing is also typically more straightforward for customers.²⁵ It supports regional integration and pairs well with account/mobile ticketing and partner connections.²⁶ However, boundaries may be inequitable for rural riders who have to travel through multiple zones to reach urban areas.²⁷ In addition, redrawing boundaries as growth occurs can be expensive.²⁸

Best Practices in Action – San Francisco Bay Area Clipper Pass

The 24 San Francisco Bay Area transit agencies that participate in the Clipper Pass integrated pass system have several projects in which they are studying and implementing the fare and payment best practices detailed previously:

- The Metropolitan Transportation Commission (MTC), which is Clipper Pass' governing body, conducted a Fare Coordination/Integration Study and determined opportunities to improve integration among Clipper Pass partners and other regional transit services.²⁹
- The Seamless Bay Area Project also describes a vision for integrated fares across nearly 80 defined zones in the Clipper Pass' nine-county service area to make fares uniform and equitable.³⁰
- MTC has set up a Clipper Pass Funds Pool, which acts as the central accounting system for Clipper Pass revenues.³¹ Payments to transit operators for Clipper Pass trips provided by each agency are made through this system.

²² Metropolitan Transportation Commission. *RES-3983: Appendix V*.

https://mtc.ca.gov/sites/default/files/Appendix_V-RES-3983_final.pdf.

²³ Seamless Bay Area. "Integrated Fare Vision (Detail Page)." <https://www.seamlessbayarea.org/integrated-fare-vision>.

²⁴ Capital Area Rural Transportation System (CARTS). "Fares & Passes." <https://www.ridecarts.com/fares-passes>.

²⁵ Transportation Research Board. *Traveler Response to Transportation System Changes Handbook: Chapter 12—Transit Pricing and Fares*. 2007. https://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_95c12.pdf.

²⁶ Capital Metropolitan Transportation Authority. "CARTS Connections & Fares." <https://www.capmetro.org/carts>.

²⁷ Transportation Research Board. (2007). *Traveler Response to Transportation System Changes Handbook: Chapter 12—Transit pricing and fares* [TCRP Report 95, Ch. 12]. https://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_95c12.pdf

²⁸ "Open to Open-Loop Payments: Challenges for Public Transit." *arXiv*. <https://arxiv.org/pdf/2502.08228>.

²⁹ Metropolitan Transportation Commission. "Transit Fare Coordination & Integration Study."

<https://mtc.ca.gov/planning/transportation/regional-transportation-studies/transit-fare-coordination-integration-study>.

³⁰ Seamless Bay Area. (n.d.). Integrated fare vision (detail page).

<https://www.seamlessbayarea.org/integrated-fare-vision>

³¹ Metropolitan Transportation Commission. *RES-3983: Appendix V*.

https://files.mtc.ca.gov/pdf/title_vi/Appendix_V-RES-3983_final.pdf.

Best Practices in Action – ORCA Pass (Seattle/Puget Sound, WA)

The seven Seattle/Puget Sound transit member agencies of the ORCA integrated pass system created an Interlocal Agreement, which sets the framework for revenue allocation and regional cost sharing. This agreement created the Regional ORCA Operations Team, which is authorized to make contracting decisions, collect fares from the ORCA pass for redistribution, and conduct day-to-day operations. Each ORCA partner agency still maintains its own fare setting authority, compliance and controls, customer service, accounting systems, and vendor relationships, particularly as these apply to their “non-ORCA” rides.³²

Best Practices in Action – Vancouver, Canada Metro Area Transit Coordination

The SkyTrain, SeaFare, TransLink, HandyDART, and West Coast Express transit agencies in Vancouver, Canada, completed a study on how to solve the inequities long-distance riders face because of TransLink’s regional (zone) pricing model. Despite the benefits of zone pricing models in some areas, the study found that distance-priced fares were a more equitable option in this situation.³³ This example shows how zone pricing is not a one-size-fits-all model, and local travel patterns and policies must be considered when setting fare systems.

Pass Integration Technology – Mobile Platforms and Data Sharing

Mobile Ticketing

This sub-section builds on the **Account-Based Ticketing and Open Payment** sub-section by detailing key technological components of these systems.

Mobile ticketing platforms allow riders to buy, store, and present fares or passes on their mobile phone, usually via an integrated pass app. Mobile ticketing can lower boarding times and queue versus on-board cash and, therefore, reduce bus idling/waiting. In addition, agencies can implement flexible channels to show proof of payment (visual validation, barcode/QR code, etc.). However, users without smartphones or those with device connectivity issues can be excluded unless parallel options like cash-based contactless transit cards exist. Additional security and fraud protection measures are necessary for these systems, and evolving standards can increase operational, maintenance, data, and testing costs.³⁴

State General Transit Feed Specification (GTFS) Integration

GTFS is a standardized data format that provides a structure for public transit agencies to describe the details of their services such as schedules, stops, and fares.³⁵ Incorporating GTFS data into a unified transit pass can help partner agencies organize all transit providers’ data into consistent

³² ORCA Joint Board. *System Implementation, Operation, and Maintenance Interlocal Agreement*. 2019. https://www.kitsaptransit.com/uploads/pdf/ila/orca-system-implementation-operation-and-maint_2019.pdf.

³³ TransLink. *Transit Fare Review: Final Recommendations Report*. 2025. <https://www.translink.ca/-/media/translink/documents/plans-and-projects/transit-fare-review/tfr-final-recommendations-report.pdf>.

³⁴ Seaborn, J., et al. “Distance-Based Fares and Equity.” *Transport Policy* 79 (2019): 201-210. <https://www.sciencedirect.com/science/article/pii/S0967070X19304056>.

³⁵ GTFS.org. “GTFS: Making Public Transit Data Universally Accessible.” <https://gtfs.org/getting-started/what-is-GTFS/>.



GTFS/GTFS-realtime (and often GTFS-Flex) feeds and validate/republish it through a single portal. This approach allows integrated pass partners to create tools with one-stop trip planning, performance analytics, and open data access for agencies, apps, and riders. Integrated pass programs can set guidelines for completeness, accuracy, and timeliness. Doing so helps improve integrated pass systems by analyzing data to see where service is late or missing, track trends, and make policy decisions that benefit all partner agencies. However, cleaning up data and implementing standards can be both time-consuming and costly.³⁶ Fortunately, CDOT, through its CO Transit project, has worked with transit agencies and supported the creation of GTFS feeds for agencies across Colorado.

Best Practices in Action – The California Department of Transportation (Caltrans)

Caltrans, in partnership with Cal-ITP, developed a set of guidelines to help agencies in California produce high-quality data that can be used by both transit agencies and riders. The guidelines encourage agencies to follow clear compliance steps to help data appear reliably in major trip planners. In addition, Caltrans offers no-cost check-ins, quality assurance, and guidance to help agencies fix errors and keep their GTFS schedule and real-time data accurate, up to date, and consistent with standards.³⁷

Pass Integration Technology – Pass Equipment

Ticket Vending

TVMs are self-service kiosks at stations where riders can buy passes. For integrated transit systems, these passes are commonly contactless smart cards. The TVMs typically accept cash and credit/debit cards and issue cards immediately at the time of purchase. Transit agency partners must consider the high lifecycle costs for TVM equipment, including capital, cash collection, vandalism,³⁸ and digital system upgrades.³⁹ In addition to TVMs, some pass systems also allow customers to purchase passes online or through an employer, with the card being mailed or given to the customer rather than printed at a TVM.

Pass Validation

A validation system checks customer passes and logs the trip for revenue and planning purposes. Validators are usually placed at an entrance point, such as at station entrances/gates, on platforms, or within a vehicle. These systems make the boarding process quicker and improve timeliness for transit routes.⁴⁰

³⁶ California Department of Transportation. “Cal-ITP GTFS Guidelines & Resources.” <https://dot.ca.gov/cal-itp/cal-itp-gtfs>.

³⁷ California Department of Transportation. “Cal-ITP GTFS Guidelines & Resources.” <https://dot.ca.gov/cal-itp/cal-itp-gtfs>.

³⁸ Li, Yanshuo, Hao Zhu, Weigang Tian, and Chengshun Xiao. “Management of New Automatic Ticket Vending Machine System in Urban Rail Transit.” *International Journal of Ambient Computing and Intelligence* 15, no. 1 (2024). <https://www.sciencedirect.com/science/article/pii/S1941623724000020>.

³⁹ International Association of Public Transport. *Demystifying Ticketing and Payment in Public Transport*. 2023. <https://www UITP.org/publications/demystifying-ticketing-and-payment-in-public-transport/>.

⁴⁰ Mass Transit Magazine. “Innovating Fare Collection: How Three Transit Agencies Are Rethinking Revenue, Ridership, and the Rider Experience.” 2024.



Modern validation systems have flexible architectures that integrate with ABT systems and future pass media while avoiding vendor lock-in.⁴¹ Compared to manual validation or legacy systems that validate paper passes, new validation technologies have higher up-front device and integration costs—especially when connecting to secure networks. A total cost of ownership that includes device IT factors, security, and maintenance factors must be considered for any integrated pass system. Customers must also be aware of changes involving these systems and potential fare medium updates as well.

Integration with Existing Validation Systems

Equity concerns arise if new contactless ticketing systems and associated validation systems do not provide a cash option (or a cash to card deposit option). Partner agencies may consider validation systems that accept both contactless and paper pass/cash payments to provide continuity for riders. Doing so allows for fewer customer changes, but it does not integrate all customers into a unified payment system that helps track fare capping, transfers across agencies, and fare revenue distribution to partner agencies in an integrated pass system.

Multiple systems for fare collection can lead to higher operating costs and slow the transition to contactless payment systems while creating customer confusion about multiple fare systems.⁴²

Best Practices in Action – Ventra Pass

Chicago Transit Authority's (CTA) Ventra Pass contactless payment system, in conjunction with the Chicago Transit Authority (CTA), has implemented dual ticketing/validating systems for their regular tickets and Ventra passes.⁴³ This creates the opportunity to continue using tickets that riders are familiar with, or allowing them to upgrade to a contactless payment system. Ventra passes can be purchased or loaded at TVMs, retail locations, online, at the Ventra Customer Service center, over the phone, or through the mobile app. Riders then tap physical, mobile, or smart wallet tickets on Ventra's validators.

In 2024, CTA began testing new fareboxes on in-service buses before gradually rolling them out fleet wide. New validators were first tested on CTA's most popular routes.⁴⁴ These new validators that still allow payment using cash or paper transit passes. Fare validation upgrades focused on farebox hardware and reliability, rather than on removing payment options.

Best Practices in Action – Capital Area Rural Transportation System (CARTS)

Manual pass validation, especially in rural areas, can help address network connectivity issues that rural riders may face. For example, CARTS in Central Texas uses the Token Transit app, which can be either scanned or visually validated. Agencies that use the Token Transit app can ask riders to

<https://www.masstransitmag.com/technology/fare-collection/article/55287733/innovating-fare-collection-how-three-transit-agencies-are-rethinking-revenue-ridership-and-the-rider-experience>.

⁴¹ HID Global. "What Is a Ticket Validator? Understanding Its Function and Importance in Mass Transit."

<https://blog.hidglobal.com/what-ticket-validator-understanding-its-function-and-importance-mass-transit>.

⁴² Chicago Transit Authority. (2024). CTA approves contract for next-generation bus farebox system.

<https://www.transitchicago.com/cta-approves-contract-for-next-generation-bus-farebox-system>

⁴³ Ventra. (n.d.). How to use Ventra. <https://www.ventrachicago.com/how-to>

⁴⁴ Chicago Transit Authority. (2023). CTA begins testing next-generation bus farebox system.

<https://www.transitchicago.com/-cta-begins-testing-next-generation-bus-farebox-system>

scan at entry points, and if that fails, the pass can be shown to a driver. Drivers know that passes are real and valid if the ticket screen shows: 1) circle around logo is in motion, 2) time of day is current, and 3) type/quantity of fare(s) is valid. This approach ensures customers are not precluded from trips due to connectivity issues, while also preventing pass fraud and payment avoidance.⁴⁵

Pass Integration Technology – Travel Mode Integration

Integrated transit pass systems can also be designed to work with other modes such as microtransit or micromobility.

Integration with Microtransit

A transit agency or a third party can operate microtransit services. Agencies can enable fare payment integration between transit and microtransit trips to create seamless transfers between modes, especially for first/last mile purposes.⁴⁶ These passes can be designed so that customer discounts can carry over and fares can be capped.⁴⁷

However, microtransit pricing often differs from that of fixed-route transit. Integration requires decisions about transfers, zones, and if/when a microtransit trip is applied toward fare capping. In addition, microtransit booking platforms must be integrated into the transit pass platform. This integration can be challenging, especially with third-party providers that may use different operational platforms or have data sharing concerns.⁴⁸

Integration with Micromobility

Since a third party typically operates micromobility, the integrated pass system is connected with the third-party provider. Integration makes transitioning from transit services to micromobility for first/last mile purposes more seamless and can increase combined use of micromobility with transit.⁴⁹ Pass systems must also consider how their low-income fare programs, for example, will integrate with micromobility pricing structures.⁵⁰

Best Practices in Action – Clipper Pass Integration with Microtransit and Micromobility

The Bay Area's Clipper Pass is currently integrated with Bay Wheels bikeshare and several on-demand programs in the Clipper Pass service area. Riders wanting to use Bay Wheels through Clipper Pass must register through the Bay Wheels or Lyft apps.⁵¹ They can then add their Clipper Pass serial number to their accounts to unlock bikes and take free rides under 45 minutes in duration via a Bay Wheels membership.⁵²

⁴⁵ Token Transit. *Operator Validator Training*.

<https://storage.googleapis.com/token-transit-public/documents/Token%20Transit%20-%20Operator%20Validator%20Training.pdf>.

⁴⁶ Los Angeles County Metropolitan Transportation Authority. "Metro Micro." <https://www.metro.net/micro>.

⁴⁷ Dallas Area Rapid Transit. "Fares Overview." <https://www.dart.org/fare/general-fares-and-overview/fares>.

⁴⁸ National Center for Applied Transit Technology. "Micromobility and Transit." <https://n-catt.org/guidebooks/micromobility-and-transit/micromobility-and-transit>.

⁴⁹ National Center for Applied Transit Technology. "Micromobility and Transit."

⁵⁰ National Association of City Transportation Officials. "Shared Micromobility."

<https://nacto.org/topic/shared-micromobility>.

⁵¹ Clipper. "Bay Wheels & Clipper Integration." <https://www.clippercard.com/ClipperWeb/bay-wheels.html>.

⁵² Lyft. "Bay Wheels." <https://www.lyft.com/bikes/bay-wheels>.

Customers for area on-demand services, such as SamTrans Ride Plus, must book a ride through the Ride Plus app, or they can call a dial-a-ride number.⁵³ Customers can use their Clipper Pass to pay on the vehicle, which ensures that the rider gets a discounted Clipper Pass rate and can use Clipper's transfer rules.

Best Practices in Action – Dallas Area Rapid Transit (DART)

In 2025, DART standardized fares across its several modes, including its GoLink microtransit service. As a part of standardization, DART introduced a 3-hour pass that can be used for any DART service within that timeframe, including Go-Link. This change helps riders access on-demand microtransit services to address critical first/last mile gaps while still paying an affordable price for multiple transit services.⁵⁴

Funding and Policy – Governance Structures

Local Autonomy

Local autonomy ensures that fare policies and collection decisions are left up to individual agencies while still enabling them to participate in integrated transit pass systems.⁵⁵ When opting for individual fare policies, agencies must consider how different fare structures across a single pass may confuse customers. In addition, transfer rules may differ across agencies if not made uniform through a transit pass.⁵⁶

Multiagency Coordination

Multiagency coordination for integrated transit passes is critical for determining policies involving fares, transfers, eligibility/discounts, and service coordination. This approach typically entails an interagency agreement for governance, revenue sharing, and data standards. Coordination also supports region-wide planning, coordination for major events, and visitor mobility across larger areas without taking car trips. Individual agency policies, procurement rules, and labor agreements make it hard to adopt one set of pass rules and contracts. Agreeing on fare policies, joint operations, and technology can also be challenging.⁵⁷

⁵³ San Mateo County Transit District. "Ride Plus to Launch with Clipper Payment System." 2025. <https://www.samtrans.com/news/ride-plus-set-launch-clipper-payment-system-fare-collection>.

⁵⁴ Dallas Area Rapid Transit. "DART Announces Streamlined Fare Structure." March 1, 2025. <https://www.dart.org/about/news-and-events/newsreleases/newsrelease-detail/dart-announces-streamlined-fare-structure-effective-march-1--2025>.

⁵⁵ The Urbanist. "New ORCA Card System Launches May 16 with Weekend Fare Holiday for Transit Riders." May 3, 2022. <https://www.theurbanist.org/2022/05/03/new-orca-card-system-launches-may-16-with-weekend-fare-holiday-for-transit-riders>.

⁵⁶ Metropolitan Transportation Commission. *Transit Fare Coordination and Integration Study (Draft)*. 2021. https://mtc.ca.gov/sites/default/files/documents/2021-10/Draft_FCIS_Report.pdf.

⁵⁷ Mid-Columbia Economic Development District. *Gorge Regional Transit Strategy*. 2023. https://gorgetransit.com/wp-content/uploads/2023/06/Gorge_Regional_Transit_Strategy_FINAL_REMEDIATED_061423.pdf.

Best Practices in Action – Gorge Pass: Local Autonomy, Tourism Tool, Cross-Border Collaboration

The Gorge Pass is an example of an integrated transit pass among five partner agencies that has helped both local community members and tourists travel more seamlessly through the 116-mile Columbia River Gorge area, while still providing each participating agency with a good deal of local autonomy. The Gorge Pass enables riders to travel the entire Gorge Transit system for a set annual price,⁵⁸ while each agency can maintain its own local fares.⁵⁹ The Gorge Pass is the result of a shared regional framework designed in partnership with an oversight body: the Mid-Columbia Economic Development District (MCEDD),⁶⁰ which is further enhanced by state DOT involvement and cross-border funding between Oregon and Washington State.⁶¹ Together, these agencies have created regional transit opportunities that link rural and urban areas and provide critical transportation services to residents and visitors.

Best Practices in Action – The California Integrated Transportation Project (Cal-ITP)

The California Mobility Marketplace, managed by Cal-ITP, helps facilitate multiagency coordination through an online catalog of standardized, pre-competed products and services that help transit providers procure technologies for buses, rail, and other modes. Agencies that have formed transit pass partnerships can browse contracts to assemble customized, cost-effective technology stacks, while vendors can submit offerings for inclusion in the Marketplace. The goal of the Marketplace is to reduce procurement friction, support statewide goals to improve rider experience, boost ridership, cut costs and emissions, and promote equitable access.⁶²

Funding and Policy – Equity

Cash Payment Options

Cash payment options for integrated transit passes are a key equity approach used by many integrated pass systems. The transition to smart, contactless cards considers payment equity needs by allowing riders to purchase or reload mobile or physical passes at TVMs or retail locations. The ability to buy passes with cash ensures equitable access for riders without bank accounts, credit cards, or smartphones. Cash options are also a form of resilience during network outages or contactless pass glitches.⁶³ In addition, cash options support “cash-to-account” models so that cash users still access ABT features, and retail cash reloads reduce lines at stations and distribute demand.⁶⁴

⁵⁸ Gorge TransLink Alliance. “Gorge Transit.” <https://gorgetransit.com>.

⁵⁹ Mid-Columbia Economic Development District. *Gorge Regional Transit Strategy*.

https://gorgetransit.com/wp-content/uploads/2023/06/Gorge_Regional_Transit_Strategy_FINAL_REMEDIATED_061423.pdf

⁶⁰ Mid-Columbia Economic Development District. “Transportation.” <https://mcedd.org/transportation>.

⁶¹ Oregon Department of Transportation. *Combined Letters of Support for Gorge Transit Projects*. 2023.

https://www.oregon.gov/odot/RPTD/STIFDiscretionary/37_1_Combined%20Letters%20of%20Support%20for%20Gorge%20Transit%20Projects.pdf.

⁶² Cal-ITP. “California Mobility Marketplace.” <https://www.camobilitymarketplace.org>.

⁶³ The San Francisco Standard. “Clipper Card Outage Costs BART, Muni, Bay Area Transit.” July 11, 2025.

<https://sfstandard.com/2025/07/11/clipper-card-outage-costs-bart-muni-bay-area-transit>.

⁶⁴ TriMet. “Add Fare / Ticket Machines.” <https://trimet.org/cardmachines>.

Retail Location for Pass Reloading

Retail locations for pass reloading enable riders to add value to transit passes at a nearby retail location. Retail locations provide convenient cash-to-account access for unbanked riders or those without smartphones and may be easier to reach than a station or transit agency customer service location. In addition, multiple locations for loading value creates resiliency and redundancy if stations/apps are down, and retail locations can link customers to their accounts to support ABT.⁶⁵ Notably, fare reloading can provide useful data: agencies can track where reloads are happening to understand community needs for transit.⁶⁶ However, offering fare loading at many different retail locations can lead to additional complexity for agencies, including reconciliation of pass purchases, training for retail workers, fees/commission, contract management, and security concerns at retail locations. In addition, riders in rural areas may not have retail locations with pass reloading offerings nearby.

Multiple Language Options

Having multiple language options available for customers when purchasing transit passes is another critical equity feature. Transit pass apps also need to have a multilingual interface, translated receipts/alerts, and support scripts.⁶⁷ Additional considerations also include text-to-speech and braille to ensure that all customers can understand critical information such as pricing, eligibility, and transfer rules. Having multiple language options also ensures ADA/Title VI compliance and reduces barriers for Limited English Proficiency riders.⁶⁸ In addition, new technologies are more likely to be adopted when riders can understand changes in their language. However, maintaining accurate translations across fast-changing fare rules and promotions can create challenges for agencies and lead to additional costs for professional translation.⁶⁹ TVM technology needs to be designed to handle complex layouts (such as right-to-left scripts⁷⁰), character sets, and longer strings on small screens, and frontline staff and retailers must be trained to support multiple languages.⁷¹

Common Discounts

Common discounts on an integrated transit pass, such as discounts for students, low-income community members, and/or elderly community members ensure that those needing reduced fares are granted those discounts across an entire pass system. Systemwide common discounts ensure equity, affordability, and consistency across operators. Common discounts may lead to higher

⁶⁵ TriMet. “Hop Fastpass.” <https://myhopcard.com/home>.

⁶⁶ Center for Neighborhood Technology. *Equity in Practice*. <https://cnt.org/sites/default/files/publications/Equity-in-Practice.pdf>.

⁶⁷ Center for Neighborhood Technology. *Equity in Practice*. <https://cnt.org/sites/default/files/publications/Equity-in-Practice.pdf>.

⁶⁸ U.S. Department of Transportation. “Policy Guidance Concerning Recipients’ Responsibilities to Limited English Proficient (LEP) Persons.” *Federal Register*, December 14, 2005. <https://www.govinfo.gov/content/pkg/FR-2005-12-14/html/05-23972.htm>.

⁶⁹ Washington Metropolitan Area Transit Authority. *WMATA Language Assistance Plan (LAP)*. 2022. https://www.wmata.com/rider-guide/language-assistance/upload/WMATA_LAP_PLAN.pdf.

⁷⁰ World Wide Web Consortium. “Authoring HTML & Bidi—Internationalization Techniques.” <https://www.w3.org/International/geo/html-tech/tech-bidi.html#ri20030912.142608197>.

⁷¹ Washington Metropolitan Area Transit Authority. *WMATA Language Assistance Plan (LAP)*. 2022. https://www.wmata.com/rider-guide/language-assistance/upload/WMATA_LAP_PLAN.pdf.



ridership when discounts are embedded in the same products and validators. However, verifying eligibility (e.g., seniors, disability, low-income, student) consistently across all modes/operators can be time and capital intensive to keep records current.

Best Practices in Action – Equity Initiatives through the LA County TAP Pass

The TAP Pass integrates 25+ LA County transit agencies and allows system-wide equity policies. For example, TAP Pass partner agency LA Metro’s LIFE (Low-Income Fare is Easy) program discounts are honored across the whole TAP system.⁷²

In addition, language options across Los Angeles metro and beyond are robust. Key programs like LIFE (Low-Income Fare is Easy) publish applications in multiple languages (English, Spanish, Chinese, Korean, Japanese, Vietnamese, Armenian, Russian), and Metro’s Transit Watch app supports 14 commonly spoken languages as a part of a broader commitment to multilingual rider tools.⁷³

Ridership Impacts of Integrated Passes

There have been no studies specifically measuring the impacts of integrated pass systems on transit ridership, largely due to the complexities of ridership patterns. However, several pass rollouts have offered key takeaways that show how these systems can influence pass use and, in some cases, ridership. Overall, successful pass rollout and management can have a strong positive impact on both pass adoption and transit ridership. When rollout is smooth and the new pass system is easy to use, adoption of new pass options tends to be high, and ridership can increase as a result. Successful rollouts often incorporate many of the previously discussed best practices, with each component playing a critical role in ensuring a strong and effective launch.

An example of a successful rollout is the Clipper Pass’ fare free pilot called the Clipper BayPass. This pass given to a select group of students and residents has shown the following positive outcomes:⁷⁴

- The new Clipper BayPass cards are logging 40 percent more trips than the average single-agency Clipper card.
- The BayPass has led to a 74 percent increase in transfers between transit operators.
- 85 percent of Clipper BayPass users agree that the pass helps them travel to new locations in the Bay Area.

Since this pass is free, it certainly leads to increased adoption, but the large adoption rates show that a well-integrated pass is one factor related to ridership increases.

⁷² Los Angeles County Metropolitan Transportation Authority. “Low-Income Fare Is Easy (LIFE) Program.” <https://www.metro.net/riding/fares/life>.

⁷³ Los Angeles County Metropolitan Transportation Authority. “Transit Watch 3.0 Launch: Improved UI and Accessibility Features.” 2024. <https://www.metro.net/about/la-metro-launches-transit-watch-3-0-with-improved-user-interface-and-accessibility-features>.

⁷⁴ Frankland, S. “The Unlimited Multi-Agency Pass That’s Reshaping Bay Area Public Transit.” *Sengerio*, March 2, 2023. <https://www.sengerio.com/blog/the-unlimited-multi-agency-pass-thats-reshaping-bay-area-public-transit>.

Another example of a successful rollout is the Deutschland ticket in Germany, where 13 million people, around 15 percent of the country's population, became passholders within a year of pass implementation.⁷⁵ While it is unclear if the Deutschland ticket is the cause, there was a 6 percent increase in ridership on local bus and train services in the first half of 2024, compared to ridership during the same period of time in 2023.⁷⁶

On the other hand, if pass rollout does not go well, and there are technological or other issues, as there were with the OMNY pass in New York, pass adoption will be slow, and ridership will see little to no changes.⁷⁷ OMNY pass adoption has been slow, with only 25 percent of all MTA trips using the pass three years after pass rollout.

Implementation Costs

Implementation costs for updated electronic tap-to-pay pass systems can vary widely and are influenced by many factors. Factors include, but are not limited to, agency size and number of agencies involved in the integration, existing technologies already integrated into the system, system integration and installation costs, and operating costs. This sub-section provides examples of agency costs for transitioning to electronic fare systems, but the level of detail available varies significantly.

Agency Name(s): Multiple Agencies (11 separate suburban and rural transit agencies in Oregon)

System Implementation Type: Electronic Fare System with contactless payment

Cost information (2020 dollars): Per the US Department of Transportation (USDOT) cost report, the estimated capital cost for implementing this electronic fare system across the 11 evaluated agencies ranged between \$2,970,000 and \$9,991,000, depending on the selected vendor. The operating cost was estimated to be at least \$489,000 or \$667,900 when choosing between the two eFare technology vendors.⁷⁸

Agency Name: San Diego Metropolitan Transit System

System Implementation Type: Account-Based Mobile Ticketing System, including contactless payment mediums and fare-capping functionality.

Cost Information (2018 dollars): See Figure 1 on the following page.

⁷⁵ Wehrmann, B. "Flat-Rate Germany Public Transport Ticket Secure for 2025 after Conservatives Consent to Funding." *Clean Energy Wire*, November 15, 2024.

<https://www.cleanenergywire.org/news/flat-rate-germany-public-transport-ticket-secure-2025-after-conservatives-consent-funding>.

⁷⁶ Statistisches Bundesamt (Destatis). "6 % mehr Fahrgäste in Bussen und Bahnen im 1. Halbjahr 2024" (Pressemitteilung Nr. 362). September 20, 2024. https://www.destatis.de/DE/Presse/Pressemitteilungen/2024/09/PD24_362_461.html.

⁷⁷ Cubic Transportation Systems. *New York OMNY Case Study*. <https://go.cubic.com/hubfs/CTS%20Collateral/CTS/Case%20Studies/Cubic%20Transportation%20Systems%20OMNY%20Case%20Study.pdf>.

⁷⁸ U.S. Department of Transportation. *Planning Study of Electronic Fare Systems in Oregon*. May 30, 2025. <https://www.itskrs.its.dot.gov/2025-sc00569>.

Figure 1: Cost Table from the San Diego MTS System Procurement

Capital Costs	
Item	Amount (\$)
Program and Contract Management	1,803,997
System Software and Design	3,516,294
Equipment	15,491,013
Testing	679,845
Installation	1,549,938
Training and Manuals	184,332
Total Capital Costs	23.2 million
Operating Costs	
Item	Amount (\$)
Operations and Maintenance	8,374,420
System Hosting	2,629,896
Total Operating Costs	11.0 million

Source: U.S. Department of Transportation. *The Cost to Design and Implement a Mobile Transit Fare Payment Ticketing System*. April 17, 2020. <https://www.itskrs.its.dot.gov/2020-sc00450>.

Agency Name: New York Metropolitan Transportation Authority (MTA)

System Implementation Type: Contactless payment at turnstiles via bank cards and smartphone payment apps. In addition to this payment platform, contactless payment devices would be installed throughout the MTA system.

Cost Information (2022 dollars): The initial vendor contract value was \$640 million in 2020,⁷⁹ but the overall program budget grew to \$772 million in 2022.⁸⁰

⁷⁹ U.S. Department of Transportation. "The Estimated Cost to Upgrade New York City's Fare Collection System Was \$640 Million Dollars." September 16, 2021. <https://www.itskrs.its.dot.gov/2021-sc00492>.

⁸⁰ Crain's New York Business. "Some MTA Riders Aren't Happy with the Tap-and-Go OMNY System, Survey Finds." July 11, 2025. <https://www.craigslist.com/transportation/some-nyc-transit-riders-arent-happy-mtas-omny-system>.

Agency Name: San Luis Obispo Transit (California)

System Implementation Type: Smart card based electronic fare collection system for an 18-vehicle fleet.

Cost Information (2010 dollars): See **Figure 2**.

Figure 2: Cost Table from the San Luis Obispo System Procurement

Fare Collection Components	Costs
Odyssey Electronic Revenue Center (fareboxes)	\$232,750
Smart Card Readers	\$6,175
Odyssey Test Simulator	\$12,250
Installation	\$5,400
Software and Configuration	\$16,500
Odyssey Spare Parts Kit (5)	\$37,975
Printing Encoding Machines (2)	\$32,450
Thermal Paper (5000)	\$5,500
Thermal Plastic (95,000)	\$29,450
Smart Card (1000)	\$2,350
Data Training	\$0
Maintenance Training	\$0
Total (excluding taxes):	\$380,800

Source: U.S. Department of Transportation. *Conversion to Card-Based Electronic Payment System for Small Transit Agency Costs \$380,800*. February 9, 2016.

<https://www.itskrs.its.dot.gov/2015-sc00357>.

Conclusion

Understanding the best practices of existing integrated transit pass systems helps inform CDOT decision-making involving key statewide pass elements related to fare integration, integrated pass technology, and policy considerations. The **Case Studies** sub-section that follows takes a deeper look at five existing integrated transit pass systems, highlighting their key successes and challenges.

Case Studies

Based on the analysis of existing pass systems and best practices, the project team identified five integrated pass systems for in-depth case studies. The goal is to feature pass systems in a variety of contexts that are relevant to Colorado, including urban metro areas, rural areas, and recreational/tourist locations. Each case study includes a one-page summary and additional information about each pass. The case studies include the following:

1. TAP Card (Los Angeles County)
2. Clipper Pass (nine-county San Francisco Bay Area)
3. CharlieCard (Boston metro area and surrounding transit associations)
4. OMNY Card (New York City metro area)
5. The Deutschland-Ticket (nationwide in Germany)
6. The Gorge Transit Pass (the 116-mile Columbia River Gorge corridor in Oregon and Washington State)

The following identify other case study options, but these options did not include the key features of an integrated transit pass system:

- **Metro (Minneapolis, Minnesota):** Metro's Go-To Card works with other surrounding agencies, but there is minimal promotion of this feature from Metro or partner agencies. Unlike other integrated transit passes, the Go-To Card webpage does not specify which partner agencies to which the pass is integrated.
- **EZ Fare** (a partnership of rural transit agencies across Michigan, Indiana, Ohio, Pennsylvania, Kentucky, and West Virginia): Rather than providing an integrated pass service, the EZ Fare app provides links to only the disparate payments systems of all partner providers.
- **Capital Area Rural Transportation System (CARTS - service in rural areas outside of Austin, Texas):** CARTS integrates with Austin's CapMetro for transit scheduling coordination and provides direct transit connections into Austin, but there is no integrated payment system between the two agencies.
- **NW Connector** (Northwest Oregon): This pass integrates services from five local transit agencies, but it is available to only tourists as a 3-day or 5-day pass. Local residents must pay for trips from each transit agency separately.



Case Study: TAP Card



TAP is a reloadable, contactless fare card that gives riders a single, reloadable card that works across all 27 transit systems in Los Angeles County. Riders can add funds to their account online, with a debit or credit card, or with cash at dedicated kiosks. The card automatically deducts the correct fare and enables easy transfers between agencies.

Geographic Context: Los Angeles County, which includes 10 million people in 88 incorporated cities and 101 unincorporated areas over 4,084 square miles (*City and County of Denver is only 156 square miles*)

Integrated Agencies: Angels Flight Railway, Antelope Valley Transit Authority (AVTA), Baldwin Park Transit, Beach Cities Transit, BurbankBus, Carson Circuit, Compton Renaissance Transit Systems, Culver CityBus, Foothill Transit, Gardena GTrans, Glendale Beeline, Glendora Transportation Division, Huntington Park Transit Unlimited, LA County Department of Public Works, LADOT Transit, Lawndale Beat, Long Beach Transit, Los Angeles World Airports (LAWA), Montebello Bus Lines, Metro, Monterey Park Spirit Bus, Norwalk Transit System, Palos Verdes Peninsula Transit Authority, Pasadena Transit, Santa Clarita Transit, Santa Monica Big Blue Bus, and Torrance Transit

Integrated Services:



Light Rail &
Commuter Rail



Local Bus, BRT,
Regional Bus &
Commuter Bus



Micromobility



Paratransit



On-Demand*



Rideshare*



EV Charging
Stations*



Park-n-Ride*

*Coming Soon

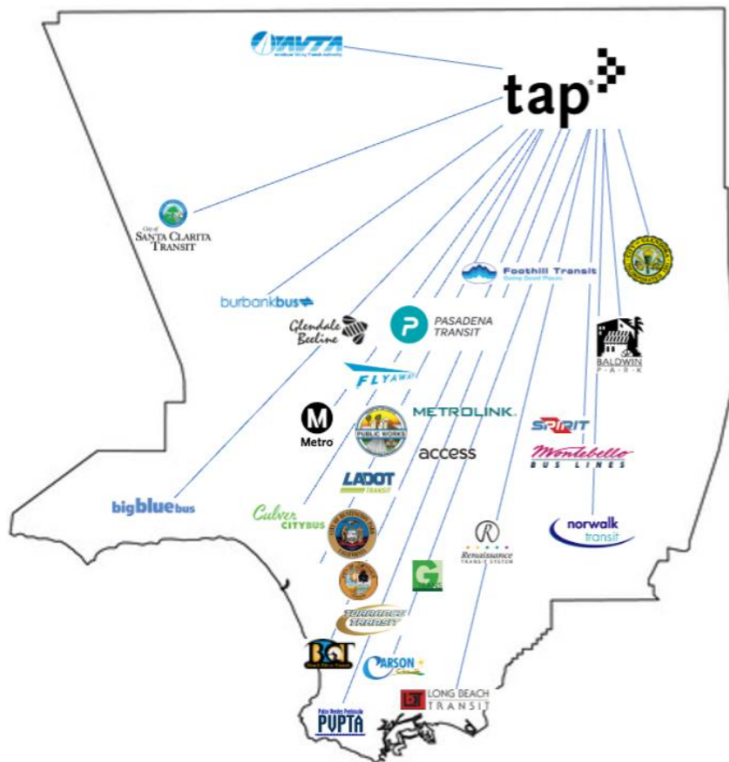
Key Takeaways:

Pass Technology Guides Program Framework:

In August 2001, the Board adopted smart card technology as the regional integrating technology for TAP. TAP was piloted in 2007 and rolled out in 2008.

Rapid Deployment of Multiagency Programs: LA Metro developed the GoPass program, which provides free transit trips for students. TAP enabled quick GoPass implementation for other participating agencies in LA County.

TAP Card Distribution: Partner agencies initially provided complimentary TAP cards to riders purchasing individual agency passes. 1 million cards were also distributed at major transfer points.



Source: TAP (@tapgreaterlosangeles). “Instagram Post.”
Instagram, January 2024.

<https://www.instagram.com/p/C1qLxs3ut0y/>.



The concept for a regional fare card for the Los Angeles metro area began in the early 1990s.⁸¹ As technology caught up to this vision, LA Metro phased out monthly paper passes in 2009. By 2015, 26 LA County transit agencies had joined the TAP system.⁸² For this partnership to work, participating transit agency managers needed assurance that the system would track fares and that revenue reimbursements from the centralized TAP system would be accurate. Over 650 individual pass projects are integrated into the TAP Card, and unique fares are charged depending on the transit provider. A hybrid cloud system that enables centralized user sign-up and payment tracking makes this possible.⁸³ This system also integrates payment for Metro Bikeshare and is being tested on LA County's Micro Metro on-demand service.⁸⁴ TAP is also addressing inequities faced by riders who pay fares in cash.⁸⁵ By 2026, TAP will allow cards to be loaded with cash at TVMs or other partner locations. This solution allows users to avoid the use of a bank debit or credit card and allows lower

balances to be stored on a card. It also enables customers to have cash available for other purchases. This cash reload system is also compatible with mobile wallets on smartphones.

⁸¹ Metro's Primary Resources. "TAP Cards and Universal Fare Media in Los Angeles Transit: History & Resources." June 12, 2025.
<https://metroprimaryresources.info/hub/tap-cards-and-universal-fare-media-in-los-angeles-transit-history-resources>.

⁸² Los Angeles County Metropolitan Transportation Authority. "26 Agencies Now on TAP." September 17, 2015.
<https://thesourcearchives.metro.net/2015/09/17/metro-holds-news-event-to-celebrate-all-l-a-county-transit-agencies-adopting-tap-cards>.

⁸³ Metro Magazine. "L.A. Metro, Salesforce Unveil Unified Payment System." November 29, 2018.
<https://www.metro-magazine.com/10032025/l-a-metro-salesforce-unveil-unified-payment-system>.

⁸⁴ Los Angeles County Metropolitan Transportation Authority. "Metro Micro." <https://www.metro.net/micro>.

⁸⁵ Los Angeles County Metropolitan Transportation Authority. "The Future of the TAP Payment System." Threads post.
<https://www.threads.com/@numble/post/DG4NUh5ynQK/february-2025-la-metro-presentations-on-future-of-tap-payment-system-they-want-t?hl=en>.



Case Study: Clipper Pass



Clipper is the San Francisco Bay Area's all-in-one transit card, with discounts for youth, seniors, people with disabilities and people with low incomes. Clipper is the Bay Area's easiest way to pay for transit by bus, train or ferry. Accepted by all of the Bay Area's 24 transit agencies, your Clipper card holds cash value, transit passes or a combination.

Geographic Context: Large urban area, surrounding suburbs and rural areas

Integrated Agencies: AC Transit, BART, Caltrain, County Connection, Dumbarton Express, FAST, Golden Gate Ferry, Golden Gate Transit, Marin Transit, Petaluma Transit, SamTrans, San Francisco Bay Ferry, Santa Rosa CityBus, SFMTA, SMART, Soltrans, Sonoma County Transit, Tri Delta Transit, Union City Transit, Vacaville City Coach, VINE, VTA, WestCAT, and Wheels

Integrated Services:



Key Takeaways:

Executive Board Structure: Clipper's executive board was formed by an MOU between the Metropolitan Transportation Commission (MTC) and all participating Bay Area Transit Agencies. The MTC approves Clipper's annual operating budget.

Phased Fare Integration: 1) Price capping across all agencies, 2) Free or discounted transfers between services, 3) Common distance-based or zone based fare system for regional transit, 4) Common distance-based or zone based fare system for all Bay Area transit.

Rolling Out New Technologies: 8 to 12 week transition time to roll out new cloud-based contactless bank card payment system.



Source: University of California, Berkeley Parking and Transportation. “BayPass Information.”
<https://pt.berkeley.edu/public-transportation/baypass-information>.

Similar to the TAP Card, the concept of a single payment system in the Bay Area dates back to the 1990s. Clipper Pass debuted in 2006 as a partnership among AC Transit (East Bay Area), Golden Gate Transit, and San Francisco Bay Ferry. By 2016, 20 Bay Area agencies had accepted the pass, which accounted for half of all partner agency trip payments.⁸⁶

⁸⁶ Metropolitan Transportation Commission. “Clipper Turns 10: Bay Area’s Transit Fare Payment Card Marks Milestone.” November 16, 2016.
<https://mtc.ca.gov/news/clipperr-turns-10>.

Clipper is working to integrate with other modes, such as micromobility and paratransit. Riders can currently use Clipper Passes to unlock Bay Wheels bikeshare bikes (managed by Lyft), and the bank card associated with a Clipper Pass can be used for pay for the bikeshare trip. However, funds cannot be deducted from a rider’s Clipper balance.⁸⁷ The Next Generation Clipper Pass (implemented in 2025) allows paratransit riders to pay for trips using their Clipper balance. The Next Generation Clipper Pass is a cloud-based system with the following major benefits:⁸⁸

- It provides riders instant availability of deposited funds across fare mediums (including plastic Clipper cards and mobile device Clipper cards) no matter how funds are added (cash, debit card, etc.).
- Riders can manage multiple Clipper accounts online, which is especially useful for families.
- Agency partners have access to an online promotion portal that allows them to set discounted fares for specific times and events.
- Riders can transfer discounts between partner agencies. Riders transferring between transit operators will be charged full fare by only the first operator. They will receive a transfer discount for their trip with the second operator.

⁸⁷ Lyft. “Use Your Clipper Card to Unlock a Bike | Bay Wheels.”
<https://www.lyft.com/bikes/bay-wheels/clipper-card>.

⁸⁸ Metropolitan Transportation Commission. “The Future of Clipper.”
<https://www.futureofclipper.com>.

Case Study: CharlieCard



CharlieCard

CharlieCard is a transit pass system used by the Massachusetts Bay Transportation Authority (commonly called the T) and 11 nearby regional transit authorities. In addition to reusable cards and cash, a contactless CharlieCard system was implemented in 2023. This system provides additional payment methods, including tap-to-pay with a physical CharlieTicket, credit card, smartphone mobile wallet, the CharlieCard App, or cash.

Geographic Context: The Boston metro area and surrounding suburban and rural areas

Integrated Agencies: Berkshire RTA, Brockton Area Transit, Cape Ann Transportation Authority, Cape Cod RTA, Lowell Regional Transit Authority, Massachusetts Bay Transportation Authority, Merrimack Valley RTA, MetroWest RTA, Montachusett RTA, Southeastern RTA, and the Worcester RTA

Integrated Services:

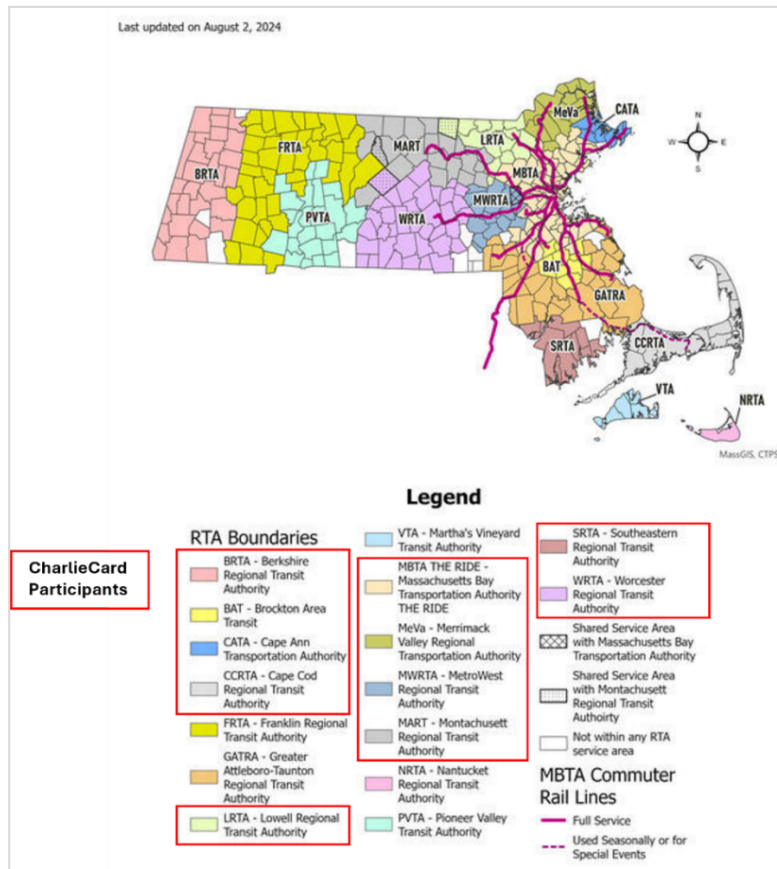


Key Takeaways:

Importance of Pass Promotion: The partner agencies promote that CharlieCard is accepted on their buses, but the CharlieCard page on the T website does not promote these partnerships.

Limited Integration: Some partner agencies require transferring CharlieCard funds into an agency-specific transit pass for usage.

Security Vulnerabilities: After vulnerabilities were first identified over a decade ago, it is still possible (as of 2023) to: 1) provision a new CharlieCard with funds on it without actually paying, and 2) steal a CharlieCard's value with a single physical tap of a phone.



First implemented in 2006 as a paper card, CharlieCard updated to a plastic smart card in 2007 and provided access to MBTA buses and subways, commuter trains, and ferries.⁸⁹ In 2010, the MetroWest Regional Transit Authority (MWRTA) became the first of 11 regional transit authorities to integrate with CharlieCard. MBTA and MWRTA coordinated 18 months to implement interoperable fare collection systems that enables MWRTA customers to add stored value at all ticket machines and through the MBTA website.⁹⁰

In 2024, the CharlieCard payment system expanded to include a contactless system using a phone or debit/credit card. CharlieCard can also be used on the RIDE paratransit service, which is available in almost 60 cities and towns in the Boston metro area.⁹¹ CharlieCard users who are enrolled in MBTA's senior or income-eligible reduced fare programs will automatically get eligible discounts when paying for RIDE services with their card. Security vulnerabilities from almost a decade ago were related to the paper CharlieCard. The previously mentioned 2023 hack by a group of teenagers exploited similar vulnerabilities in the contactless CharlieCard. The hackers were able to add any values they chose to CharlieCards and to change card settings. MBTA met with the hackers to learn how these vulnerabilities can be patched for the updated 2024 payment system rollout.⁹² It is unclear if the new payment system addresses these security issues.

Source: Commonwealth of Massachusetts. "Public Transportation in Massachusetts."
<https://www.mass.gov/info-details/public-transportation-in-massachusetts>.

⁸⁹ Commonwealth of Massachusetts. "Introduction of the MBTA CharlieCard." February 23, 2007.

<https://www.mass.gov/doc/2007-03-the-introduction-of-the-mbta-charliecard-and-the-public-transit-discount-in-private-0>.

⁹⁰ MetroWest Daily News. "MWRTA Riders Will Be Able to Use MBTA CharlieCards." October 27, 2010.
<https://www.metrowestdailynews.com/story/news/2010/10/27/metrowest-rta-riders-will-be/41282333007>.

⁹¹ Massachusetts Bay Transportation Authority. "The RIDE."
<https://www.mbta.com/accessibility/the-ride>.

⁹² Wired. "Teens Hacked Boston Subway Cards to Get Infinite Free Rides—and This Time, Nobody Got Sued." August 10, 2023.
<https://www.wired.com/story/mtba-charliecard-hack-defcon-2023>.

Case Study: OMNY Card

OMNY OMNY Card

OMNY is the New York City’s regional transit pass. Originally rolled out in 2019, the pass aimed to replace the MTA MetroCard with a contactless payment system that uses an OMNY card, a credit/debit card payment, or a digital wallet. No sign-up is required and users receive a free transfer when using the same payment card or device for both legs of a trip.

Geographic Context: The New York City metro area

Integrated Agencies: MTA buses and subway lines, the Staten Island Railway (owned/operated by MTA), the Hudson Rail Link (owned/operated by MTA), the Roosevelt Island Tram, the JFK AirTrain (operated by the Port Authority of New York and New Jersey - PATH), and “more services to follow”

Integrated Services:



Local Bus &
Commuter Bus



Subway, Tram &
Commuter Rail



Paratransit

Key Takeaways:

Tech Contractor Selection: OMNY Card’s technology contractor, Cubic, has been plagued with system development issues, code glitches, and other issues that have delayed full OMNY implementation by years and led to cost overruns (\$772 million vs. the initial cost of \$645 million).

Delayed Rollout: Integration of services such as the Long Island Rail Road and Metro-North Railroad was originally planned for 2021 but has yet to occur. As a result, other major agencies like PATH and NJ Transit have cancelled their OMNY integration plans and are developing their own contactless passes.

Low Adoption Rates: As of 2024, only 52 percent of MTA riders have switched to the OMNY pass. Many continue to use the MetroCard, originally scheduled to be phased out in 2023. OMNY integration challenges with free student fare programs and pre-tax monthly pass options have delayed the transition.



Source: NJ Transit and MTA

As detailed previously, cost overages and implementation delays have plagued the OMNY Card and squandered integration opportunities with other major transit agencies in the New York metro area. The core issues lie with the contractor Cubic, tasked with developing the digital infrastructure for OMNY. A 2024 MTA audit found that Cubic's insufficient staffing resources, inadequate quality assurance, and software defects have delayed key elements of the OMNY rollout.⁹³

Instead of integrating the Long Island Railroad and Metro-North railroads into OMNY, MTA has opted to hire a separate contractor to integrate both lines into the MTA TrainTime ticketing app (LINK). According to the MTA, there is potential for TrainTime to integrate fares between these railroad lines and the MTA subway, which OMNY has not been able to accomplish to date.⁹⁴ Other potential OMNY transit partners (Nassau Inter County Express and Westchester County Bee) had separate contracts with Cubic to integrate OMNY with their transit services, and they are also experiencing integration delays.⁹⁵

These issues demonstrate the importance of vetting and selecting technology partners that can implement an integrated pass on time. If other agencies have planned for an integrated pass, but there are major delays, they may begin developing their own solutions that do not accomplish the goals of a unified payment system.

⁹³ Metropolitan Transportation Authority. *Capital Program Committee Meeting*. May 2024. <https://www.mta.info/document/140456>.

⁹⁴ Streetsblog NYC. "MTA Demotes OMNY Contractor Cubic in Hopes of Speeding Up Commuter Rail Fare Integration." May 20, 2024. <https://nyc.streetsblog.org/2024/05/20/mtas-demotes-omny-contractor-cubic-in-hopes-of-speeding-up-commuter-rail-fare-integration>.

⁹⁵ Metropolitan Transportation Authority. *Capital Program Committee Meeting*. May 2024. <https://www.mta.info/document/140456>.

Case Study: Deutschland-Ticket



The Deutschland-Ticket (D-Ticket) was established in 2023 and can be used throughout Germany on all local trains, buses, trams, subways for €58 per month. The partnership consists of over 75 different local agencies in 16 states across Germany. The D-Ticket was designed to simplify the myriad of fare options from local agencies.

Geographic Context: Country-wide across Germany, which is 138,000 square miles (Colorado is 104,000 square miles)

Integrated Agencies: Over 75 agencies across Germany. The pass can also be used for travel into nine other countries

Integrated Services:



Key Takeaways:

Subscription-based pass: The €58 pass requires (€63 in 2026) a monthly subscription that is not pro-rated. Users can also cancel at any time. About 15 percent of Germany's 84 million residents subscribe.

Pass Iteration Over Time: The pass started as the €9 Ticket in 2022, which was piloted for three months but not seen as financially viable. Negotiations among the federal government, states, and transit agencies led to the creation of the D-Ticket.

Major Funding Effort: The federal government provides €1.5B annually for the D-Ticket, and all states combine funds to provide a matching €1.5B annually to operate the program and compensate local agencies for losses. A recent study projects the program will cost €3.6B in 2026.



€63 starting in 2026, leading to concerns that continued price increases will make the pass unaffordable. The combined €3B contributed each year by the federal and state governments does not offset revenue losses by regional and local transit agencies.⁹⁶

Revenue loss stems from the D-Ticket acting as price cap for these transit agencies, and they are now missing out on additional revenue, such as single tickets and monthly passes, previously factored into their fare schemes.⁹⁷ The price cap benefits passengers and increases ridership, but the current structure is not financially sustainable.

There is also a significant gap between when service is provided and when regional and local agencies are reimbursed for the services provided to D-Ticket passengers. A recent federal funding bill would not pay agencies their share of federal funds (€350M) for their 2025 D-Ticket operations until late 2026. The long processing and payment period creates a funding gap that is not feasible for most agencies. Due to this uncertainty, a major German passenger rail association is calling on all parties involved to put a longer-term funding plan in place to ensure pass price stability and reduce the need for annual negotiations about pass funding.⁹⁸

⁹⁶ IamExpat. "Deutschlandticket in Danger from 2026, German Cities Warn." August 6, 2025.

<https://www.iamexpat.de/expat-info/germany-news/deutschlandticket-danger-2026-german-cities-warn>.

⁹⁷ DW. "Germany Increases 'Deutschlandticket' Price to €58." September 23, 2024. <https://www.dw.com/en/germany-increases-deutschlandticket-price-to-58/a-70300975>.

⁹⁸ Urban Transport Magazine. "Will the Deutschland-Ticket Become More Expensive from 2025?" July 12, 2024. <https://www.urban-transport-magazine.com/en/wird-das-deutschland-ticket-ab-dem-jahr-2025-teurer>.

Map Source: Transit Maps. "Unofficial Map: German Intercity Rail Network, 2020 by u/theflyingindonesian."
<https://transitmap.net/german-intercity-2020-theflyingindonesian/>.

Ongoing funding issues do not guarantee the long-term feasibility of the D-Ticket. The price of the pass has increased from €49 in 2023 to

Case Study: Gorge Transit Pass



Gorge Transit Pass

The Gorge Transit Pass offers unlimited access to fixed-route services throughout the Columbia River Gorge region for only \$40 per year. The pass provides residents and visitors with convenient travel throughout the Gorge by connecting them to trails, parks, or other attractions. The pass also supports everyday mobility needs, such as work trips, shopping, medical appointments, and more.

Geographic Context: Rural and recreational areas: 21 communities and 22 trailheads spanning across 7 counties in the 116-mile Columbia River Gorge. Services to Portland, OR are also offered

Integrated Agencies: Columbia Area Transit, The LINK, Mt. Adams Transportation Services, and Skamania County Transit

Integrated Services:



Local Bus(fixed route & deviated fixed route)
& Regional Bus



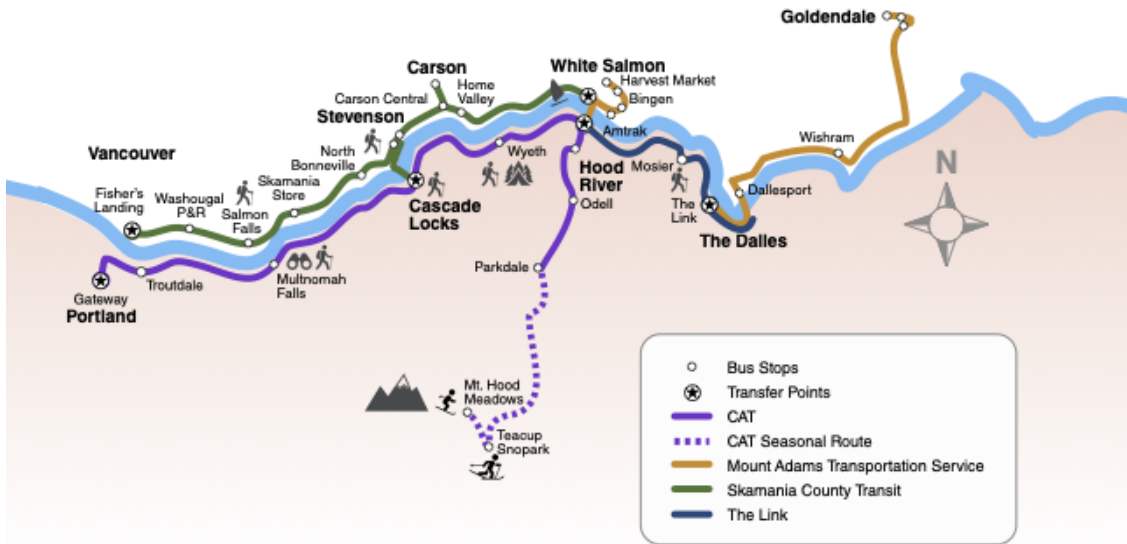
On-Demand
(reduced fee
with Gorge Pass)

Key Takeaways:

Third Party Partnership Facilitation: The Mid-Columbia Economic Development District led the pass development process through close collaboration with four transit providers of the Gorge.

Phased Implementation: The initial phase focused on building agency partnerships and aligning program goals. The second phase developed an implementation strategy, including funding strategies, evaluation of potential regional organization structures, and operational strategies.

Long-Term Funding Concerns: Key routes are currently funded by discretionary funding from Oregon's Statewide Transportation Improvement Fund (STIF) Grants. Transit agencies must apply for funding bi-annually.



Source: Mid-Columbia Economic Development District. “Transit Passes.” <https://mcedd.org/transportation/transit-passes/>.

Gorge Transit’s partner agencies developed a Regional Transportation Service Vision and Funding Opportunities Plan in 2022. This comprehensive plan built on the shared goals of these agencies to further integrate their services to most effectively serve their community members and visitors alike. This Plan is an example of taking the integrated transit pass model further and exploring how deeper partnerships can benefit all agencies. Examples from the Plan include:

- Developing a preferred vision map that identified service gaps and additional stops to further serve employment locations, schools, and recreational areas.
- Creating a defined decision-making and organizational structure.
- Identifying potential long-term funding scenarios and opportunities.
- Developing a spectrum of interaction between partner agencies—ranging from knowledge sharing to developing a single low-income pass, collaborating on route-sharing opportunities, developing unified employee training programs, and forming a grant application partnership.

Conclusion and Next Steps

This section identified existing integrated transit pass systems to better understand best practices, challenges, and lessons learned to inform additional consideration of a statewide transit pass in Colorado. Identifying best practices helps understand the state of integrated pass systems today and the key components of these pass systems. The case studies took a deeper dive into understanding how integrated pass systems work in practice today by highlighting both successes and challenges. These findings provide a foundation for the rest of the report, which will assess how a statewide transit pass system could work in Colorado, considering the specific challenges posed by the state's numerous transit providers, urban/rural/resort contexts, demographic characteristics, transit infrastructure, and technology.

Section 2 - Statewide Transit Pass Program Components

Building on the Section 1 research, Section 2 identifies the key elements and considerations for development and implementation of a potential statewide pass. Focus areas include program goals and governance, roles and responsibilities, cost management and revenue sharing, technology integration, marketing, pilot deployment, and ongoing program management.

Initial Program Goals and Governance

When setting out to implement an integrated transit pass program, partner agencies typically establish a task force or committee to develop a program vision statement and goals. These goals may be articulated through an official regional transit plan,⁹⁹ legislative policy,¹⁰⁰ or a more informal goal-setting process.

Analyzing existing conditions for partner agencies (e.g., agency service characteristics, ridership, existing passes, pass pricing, and other elements) can help inform this process. Regardless of the approach, the goal-setting process establishes a baseline for the program and is an important first step in developing an integrated transit pass.

Establishing a program governance structure is the next critical step in developing a statewide transit pass program. Program governance provides a clear framework that ensures effective decision-making, defines stakeholder responsibilities, establishes policies for cost and revenue sharing, and ensures accountability for all partners.¹⁰¹ Common governance documents include Intergovernmental Agreements (IGAs),¹⁰² Interlocal Cooperation Agreements (ILAs),¹⁰³ Memorandums of Understanding (MOUs),¹⁰⁴ or other similar documents.

These first steps of establishing a task force or committee, analyzing existing conditions, and reaching an agreement about program governance structure are essential, as these documents and initial agreements serve as the foundation for the integrated pass program as its development and implementation continue.

⁹⁹Livermore/Amador Valley Transit Authority. *No-Cost and Reduced Cost Interagency Transfer Pilot MOU*. July 1, 2024.

https://wheelsbus.com/wp-content/uploads/2024/06/4.f.1_SR_No-Cost-Reduced-Cost-Interagency-Transfer-Pilot-MOU.pdf; Mid-Columbia Economic Development District. *Gorge Regional Transit Strategy*. 2023. https://gorgetransit.com/wp-content/uploads/2023/06/Gorge_Regional_Transit_Strategy_FINAL_REMEDIATED_061423.pdf.

¹⁰⁰ Colorado General Assembly. “SB24-032: Methods to Increase the Use of Transit.” 2024. <https://leg.colorado.gov/bills/sb24-032>.

¹⁰¹ PMO Advisory. “The Importance of Implementing Program Governance.” July 31, 2024. <https://www.pmoadvisory.com/blog/the-importance-of-implementing-program-governance/>.

¹⁰² TriMet and C-TRAN. *TriMet/C-TRAN IGA Related to Hop Fastpass Electronic Fare Collection System*. March 2023. https://mail.c-tran.com/images/Intergovernmental_Agreements/2023/C-TRAN-TriMet-Hop-Fastpass-IGA_March2023-Final-2-Signed.pdf.

¹⁰³ ORCA System. *Interlocal Cooperation Agreement for Implementation, Operation and Maintenance of the ORCA System*. June 13, 2019. https://www.kitsaptransit.com/uploads/pdf/ila/orca-system-implementation-operation-and-maint_2019.pdf.

¹⁰⁴ Clipper. *2022 Amended and Restated Clipper Memorandum of Understanding*. 2022. http://clipper.mtc.ca.gov/pdf/2022_Amended_and_Restated_Clipper_MoU-Final_Signed.pdf.

Program Implementation: Defined Roles and Responsibilities

With the key elements of program goals and governance in place, partner agencies can begin developing an integrated transit pass program. Typically, several groups play key roles in program implementation, including the program board, the integrated transit pass operations team, and partner transit agencies. These roles are broadly defined below and further detailed in the following sub-sections:

- A **program board** is the pass oversight body responsible for setting program goals and policy, approving budgets and major contracts, and ensuring partner agency accountability.
- The **pass operations team** is responsible for day-to-day program management related to customer-facing responsibilities, program budgeting, program performance evaluation and reporting, and coordination with partner transit agencies. The pass operations team typically reports to the program board. In addition, they strive to implement the program with local agency goals and individual service area contexts in mind.
- **Partner transit agencies** that participate in the pass program have a range of roles depending on the program structure. Agency leadership will sometimes serve on the program board, and agency staff typically coordinate with the pass operations team both informally and formally through working groups or other committees.

Program Board

A program board typically serves as the oversight body responsible for setting program goals and policies, approving budgets and major contracts, and ensuring accountability among partner agencies. Board member composition can vary and may include elected officials from participating governing authorities, state staff, representatives from each participating transit agency, or appointed or elected community members.¹⁰⁵ Regardless of its exact makeup, a well-organized program board provides the oversight, coordination, and authority necessary for the success of an integrated transit pass program.¹⁰⁶

¹⁰⁵ Chicago Metropolitan Agency for Planning and Eno Center for Transportation. *Coordination and Governance in Transit: Lessons from Six Case Studies*. 2023. https://cmap.illinois.gov/wp-content/uploads/dlm_uploads/PART_ENO-case-studies-on-coordination-and-governance-in-transit.pdf.

¹⁰⁶ Eno Center for Transportation. *Coordination and Governance in Transit: Lessons from Six Case Studies*. Prepared for the Chicago Metropolitan Agency for Planning. 2023. https://cmap.illinois.gov/wp-content/uploads/dlm_uploads/PART_ENO-case-studies-on-coordination-and-governance-in-transit.pdf.

Specific responsibilities of the program board may vary but typically center on budget and financial management. Budget management tasks often include establishing revenue-allocation formulas, distributing revenues, approving vendor contracts, and approving the pass operating budget.¹⁰⁷ In addition to budget operations, integrated pass program boards usually set system-wide policies, approve the admission of new transit agencies into the pass agreement, and conduct annual reviews of an integrated pass system and its vendors.¹⁰⁸ Overall, the board acts on behalf of transit agencies to ensure effective and efficient management of the integrated pass program.

Integrated Transit Pass Operations Team

An integrated transit pass operations team is typically responsible for day-to-day program management and for implementing the policies and processes established by the board. The operations team typically reports directly to the board. While the size and structure of the operations team varies based on the scale of the pass program and number of participating agencies, typical responsibilities include program budgeting, work plan development, funding applications, recordkeeping, program performance evaluation and reporting, and coordination with partner transit agencies.

Figure 3 shows an example of a transit pass operations team structure for the ORCA Pass, which is the integrated transit pass for seven agencies in the greater Seattle area. ORCA's Regional ORCA Operations Team (ROOT) manages pass operations and was recently responsible for implementing a new integrated, open-fare payment program with ORCA's seven partner agencies.

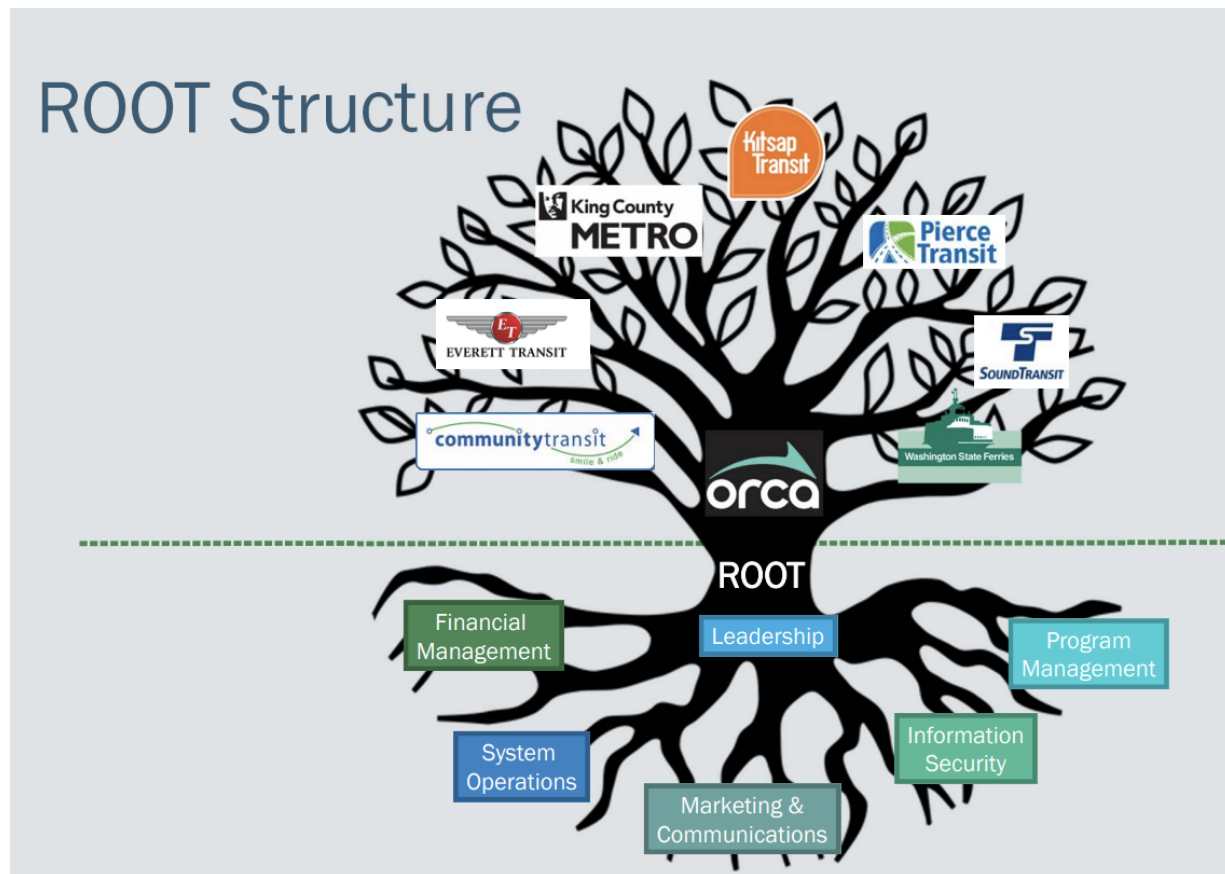
¹⁰⁷ Snohomish County Public Transportation Benefit Area Authority et al. *Interlocal Cooperation Agreement for Implementation, Operation, and Maintenance of the ORCA System*. 2019.

https://www.kitsaptransit.com/uploads/pdf/ila/orca-system-implementation-operation-and-maint_2019.pdf.

¹⁰⁸ Snohomish County Public Transportation Benefit Area Authority et al. *Interlocal Cooperation Agreement for Implementation, Operation, and Maintenance of the ORCA System*. 2019.

https://www.kitsaptransit.com/uploads/pdf/ila/orca-system-implementation-operation-and-maint_2019.pdf.

Figure 3: ORCA ROOT Operational Structure

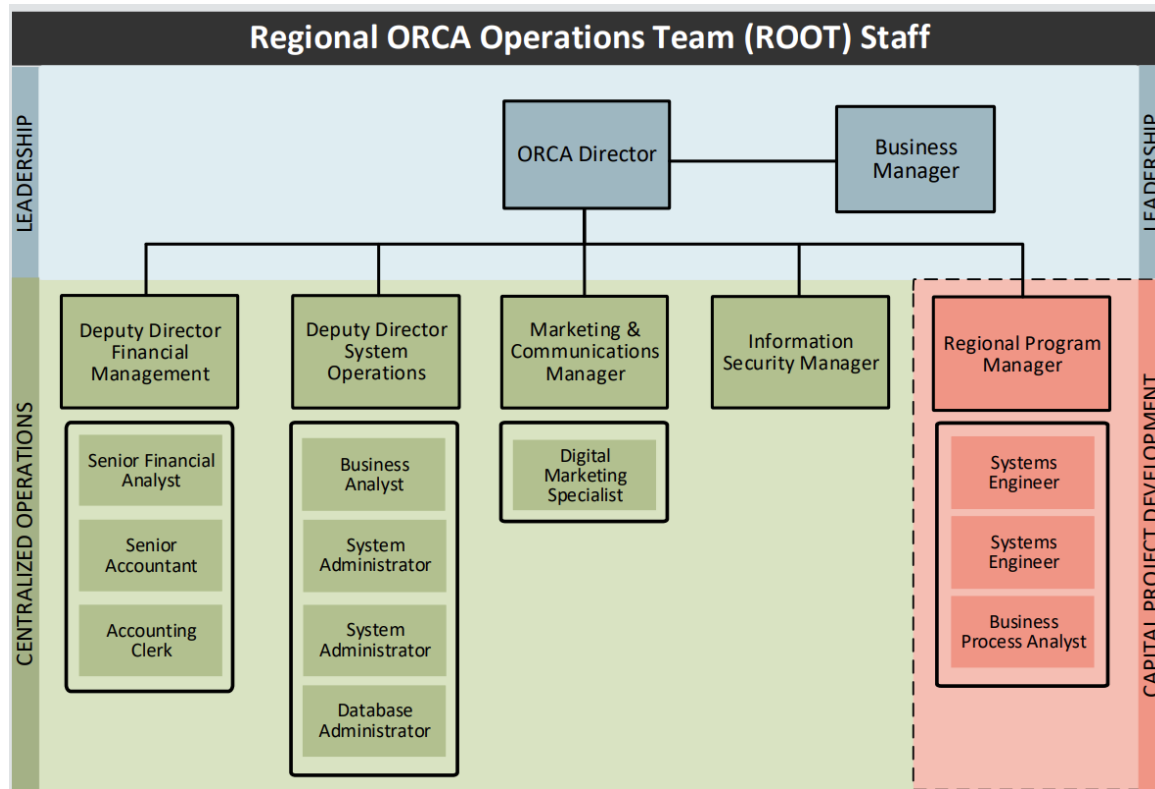


Source: ORCA Joint Board. *ROOT Staffing Plan Overview*. June 8, 2020.

<https://www.soundtransit.org/sites/default/files/documents/orca-joint-board-briefing-root-staffing-plan-overview-20200608.pdf>.

Program staffing is organized across several groups, with eighteen full-time equivalent staff positions identified in the organizational chart (**Figure 4**). ROOT takes an agency-operated approach, with consultants operating in a support role. Regardless of the staffing balance between agency staff and consultant staff, this example provides a helpful overview of key program roles.

Figure 4: ROOT Operations Team Organizational Chart



Source: ORCA Joint Board. *ROOT Staffing Plan Overview*. June 8, 2020.

<https://www.soundtransit.org/sites/default/files/documents/orca-joint-board-briefing-root-staffing-plan-overview-20200608.pdf>.

Another key responsibility of an integrated transit pass operations team is to maintain relationships with participating agencies to ensure shared goals are achieved. Through ongoing coordination and engagement, the integrated transit pass operations team can understand localized challenges in pass implementation and operational constraints. This understanding allows the program to be implemented with local agency goals and service area contexts in mind. In addition, the pass operations team may develop a regional or statewide marketing plan. Such a plan typically details outreach responsibilities, key messages, target audiences, and engagement metrics.¹⁰⁹ While the integrated transit pass operations team oversees day-to-day administration, including contracting, purchasing, procurement, and other responsibilities as discussed, materials and recommendations developed by the pass operations team are typically submitted to the board for review and final approval.

¹⁰⁹TriMet and C-TRAN. *TriMet/C-TRAN IGA Related to Hop Fastpass Electronic Fare Collection System*. March 2023. [https://mail.c-tran.com/images/Intergovernmental Agreements/2023/C-TRAN-TriMet-Hop-Fastpass-IGA_March2023-Final-2-Signed.pdf](https://mail.c-tran.com/images/Intergovernmental%20Agreements/2023/C-TRAN-TriMet-Hop-Fastpass-IGA_March2023-Final-2-Signed.pdf); Gorge TransLink Alliance. *Gorge Regional Transit Strategy*. April 28, 2023. https://gorgetransit.com/wp-content/uploads/2023/05/Memo_6_Final.pdf; ORCA System. *Interlocal Cooperation Agreement for Implementation, Operation and Maintenance of the ORCA System*. June 13, 2019. https://www.kitsaptransit.com/uploads/pdf/ila/orca-system-implementation-operation-and-maint_2019.pdf.

Partner Transit Agencies

Partner transit agencies that participate in an integrated pass program have a range of roles depending on the program structure. Agency leadership may serve on the program board, and agency staff typically coordinate with the pass operations team both informally and formally through working groups or other committees. While specific responsibilities and levels of involvement will vary based on the structure of the program board and pass operations team, the most important responsibility of participating transit agencies is to continue focusing on operations of their system.¹¹⁰ Although pass implementation requires coordination and effort, maintaining day-to-day operations is essential for a successful pass rollout.

Transit agencies should be in contact with the integrated transit pass operations team early in the implementation process to ensure that a pass integrates effectively with existing operations. Early coordination helps agencies identify any required changes to fare collection systems and provides an opportunity to offer input on integrated pass policies and procedures. After initial agreements are established, transit agencies should maintain regular communication with the integrated transit pass operations team to ensure they remain in compliance with all policies and agreements. In addition to these ongoing responsibilities, transit agencies play an important role in providing feedback on the pass to help the pass operations team and the board understand how it can be continuously improved for both riders and participating agencies.

Overall, policy direction and approval of actions come from a board, with a pass operations team responsible for implementing this policy, and local transit agencies coordinating with the pass operations team to ensure mutual benefit. A pass program will be most effective when these roles are clearly defined, and each group fulfills their responsibilities effectively and regularly.

¹¹⁰ Metropolitan Transportation Commission and ORCA Joint Board. *ORCA Regional Operating Budget Policy*. June 14, 2021. Sound Transit.
<https://www.soundtransit.org/sites/default/files/documents/orca-joint-board-action-approve-orca-regional-operating-budget-policy-20210614.pdf>.

Cost Management and Revenue Sharing

Program cost management and revenue sharing structures are typically established during development of the program's governance structure. Clear agreement about these elements is critical to program success. This sub-section identifies a range of program costs, how cost responsibilities are typically allocated among program stakeholders, how fares are determined, and how revenue is allocated to partner agencies.

Program Costs

Major program cost categories include startup costs, operating costs, administrative costs, and capital costs. These costs can be shared among agencies, typically with the cost-sharing structure established during the Governance phase through an MOU or similar agreement.¹¹¹

Startup Costs

After a governance structure is established, an integrated pass program may be implemented through a pilot program or a full program rollout. Cost categories will be similar between these two approaches, but costs will vary in scale. Two major startup cost categories are related to program operations team staffing and technology and system integration.

- **Pilot program staffing:** Program costs, and budget priorities will shift away from planning activities to a focus on program operating and administrative costs.¹¹²
- **Technology and system integration:** All partner agencies will need to be integrated into an existing pass platform, or a new integrated pass platform will need to be developed and implemented.¹¹³

Operating Costs

Many program operational items identified in the **Program Implementation: Defined Roles and Responsibilities** sub-section would be part of ongoing operating costs. These include day-to-day program management costs related to:

- Program budgeting
- Customer-facing support and communications
- Program performance evaluation and reporting
- Coordination with partner transit agencies

¹¹¹Metropolitan Transportation Commission. *2022 Amended and Restated Clipper® Memorandum of Understanding*. October 1, 2022. https://clipper.mtc.ca.gov/pdf/2022_Amended_and_Restated_Clipper_MoU-Final_Signed.pdf; Sound Transit. "ORCA Joint Board Action: Approve ORCA Regional Operating Budget Policy." June 14, 2021. <https://www.soundtransit.org/sites/default/files/documents/orca-joint-board-action-approve-orca-regional-operating-budget-policy-20210614.pdf>.

¹¹² Clean Mobility Options. *Calculate Costs: Project Implementation Toolkit*. 2022. https://cleanmobilityoptions.org/wp-content/uploads/2023/06/Calculate-Cost-Guide_Project-Implementation-Toolkit_2023.pdf.

¹¹³ Shared-Use Mobility Center. "Transit Innovation Workshop Series Workshop #3: Integrated Payment: Coordinating Payment Solutions across Transportation Services." May 13, 2025. <https://learn.sharedusemobilitycenter.org/casestudy/transit-innovation-workshop-series-workshop-3-integrated-payment-coordinating-payment-solutions-across-transportation-services/>.

- Management of operational technology costs, fare technology platform fees, data analytics and reporting tools, and software tools for integrating other mobility modes such as micro transit, micromobility, or ride hailing into the pass system¹¹⁴
- Program administrative costs, such as finance and accounting, reconciliation, vendor management, billing, banking, reporting, auditing, and other back-office functions¹¹⁵

Ongoing Capital Costs

Most program capital costs fall with the agency partners (fleet vehicles, station areas, etc.), but there could be some potential program capital costs if the entity managing the pass purchases and installs pass-related equipment. Examples include:

- Any physical fare media and associated ticket vending machines at station third party retail locations¹¹⁶
- Tap to pay equipment or other physical technology infrastructure
- Staff labor and consultant costs associated with the installation or improvement of items above

Figure 5 shows a comprehensive example of operating costs, and **Figure 6** shows capital costs for implementation of the Next Generation Clipper Pass.¹¹⁷ This initiative primarily focused on upgrading the Clipper Pass program to a new tap to pay contactless system and managing this system.¹¹⁸ Implementing a statewide tap to pay system may go beyond the scope of a statewide pass program, but there are some common features such as enabling free and discounted transfers between transit agencies, fare capping, and integration with other services such as paratransit.

¹¹⁴ Pettine, A. "Fare Capping: Balancing Revenue and Equity Impacts." Transportation Research Board, October 26, 2022. <https://onlinepubs.trb.org/onlinepubs/webinars/221026.pdf>.

¹¹⁵ Renaud, R. N., and L. Paget-Seekins. *Fare Transformation Update*. April 27, 2020. Massachusetts Archives Digital Repository. <https://archives.lib.state.ma.us/server/api/core/bitstreams/c0702ac7-39a7-4580-bc1c-c204b3dec444/content>.; Sound Transit. "ORCA Joint Board Action: Approve ORCA Regional Operating Budget Policy." June 14, 2021. <https://www.soundtransit.org/sites/default/files/documents/orca-joint-board-action-approve-orca-regional-operating-budget-policy-20210614.pdf>.; Metropolitan Transportation Commission. *Amendment No. 1 to the 2022 Amended and Restated Clipper Memorandum of Understanding*. November 2, 2024. https://mtc.ca.gov/sites/default/files/meetings/attachments/6089/4ci_Amendment_No_1_to_2022_Amended_Restated_Clipper_MOU.pdf.

¹¹⁶ Oregon Department of Transportation, Rail and Public Transit Division. *eFare-Hop Program Expansion: Project Management Plan*. August 31, 2017. <https://www.oregon.gov/ODOT/RPTD/RPTD%20Document%20Library/eFare-Expansion-Project-Management-Plan.pdf>.

¹¹⁷ Metropolitan Transportation Commission. *Operating and Capital Revenue and Budget (Agenda Item 3bi)*. October 29, 2024. https://mtc.ca.gov/sites/default/files/meetings/attachments/6167/3bi_OCT_29_2024_Operating_and_Capital_Revenue_and_Budget.pdf.

¹¹⁸ Metropolitan Transportation Commission. "Enhanced Features – Clipper." 2025. <https://www.clippercard.com/enhanced-features>.

Cost Sharing

Program costs are typically shared among partner agencies and the program's governing entity or a centralized funding entity (such as the state, metropolitan planning organizations, or regional planning organizations). Programs commonly employ a usage-based allocation, where agencies pay their cost share based on ridership, validator taps, or fee generating transactions.¹¹⁹

Cost sharing responsibilities may also evolve over time. For example, the Hop Fastpass' organizing body, TriMet, paid for initial program implementation costs before using the ridership-based approach to share costs with agencies.¹²⁰

Figure 5: Next Gen Clipper – 2024 Operating Costs Budget

CLIPPER® OPERATING BUDGET - OCTOBER 29, 2024								
Item No.	Descriptions	Actual FY 23/24 (\$M)	FY 24/25 (\$M)	FY 25/26 (\$M)	FY 26/27 (\$M)	FY 27/28 (\$M)	FY 28/29 (\$M)	5 YEAR TOTAL - FY 24/25 - 28/29 (\$M)
MTC Operating Costs								
1	MTC Staff - Current Clipper Operating	0.8	0.3	0.1	0.0	0.0	0.0	0.4
2	MTC Staff - Next Gen Clipper Operating	1.3	2.4	2.7	2.9	3.0	3.2	14.2
3	Current Clipper Operating Costs - MTC	13.0	22.7	4.2	0.0	0.0	1.0	27.9
4	Next Gen Clipper SI Operating Costs - MTC	1.9	8.7	9.6	9.9	10.2	10.5	48.9
5	Next Gen Clipper CSC Operating Costs - MTC	0.0	2.1	2.2	2.2	2.3	2.4	11.1
6	Next Gen Clipper Fare Media Operating Costs - MTC	0.0	1.3	1.3	1.3	1.4	1.4	6.6
7	Mobile App Fees - MTC	1.2	1.5	1.5	1.5	2.0	3.0	9.5
8	Clipper Operations - Misc.	0.6	0.7	0.7	0.7	0.8	0.8	3.6
9	In Person Customer Service Centers	1.1	1.2	1.2	1.3	1.3	1.4	6.4
10	Customer Education Program	2.1	2.8	2.0	2.1	2.2	2.3	11.4
11	Subtotal MTC expenses	22.0	43.6	25.5	21.9	23.2	26.0	140.0
Transit Agency Operating Costs								
12	Current Clipper Operating Costs - Transit Agencies	16.9	10.3	4.2	0.0	1.0	2.0	17.5
13	Next Gen Clipper SI Operating Costs - Transit Agencies	1.9	9.0	9.6	9.9	10.2	10.5	49.2
14	Next Gen Clipper CSC Operating Costs - Transit Agencies	0.0	2.1	2.2	2.2	2.3	2.4	11.1
15	Next Gen Clipper Payment Services Operating Costs -Transit Agencies	0.0	3.5	3.6	3.7	3.8	3.9	18.6
16	Retail Commissions	0.3	0.6	0.6	0.7	0.7	0.7	3.3
17	RTC Program	0.6	0.8	0.8	0.8	0.8	0.8	4.0
18	Subtotal Transit Agency expenses	19.6	26.2	21.0	17.3	18.8	20.4	103.7
19	Total Operating Costs (Rows 11 + 18)	41.6	69.8	46.4	39.2	42.0	46.4	243.8
Operating Revenues								
20	Transit Agency Revenue	19.6	26.2	21.0	17.3	18.8	20.4	103.7
21	Total STA Revenues	7.7	8.0	8.0	8.0	8.0	8.0	40.0
22	Regional Measure 2 (RM2) ¹	5.7	4.5	4.8	4.8	4.8	4.8	23.7
23	Low Carbon Transit Operations Program (LCTOP)	1.0	6.5	6.8	0.0	0.0	0.0	13.3
24	State of Good Repair (SB1) ²	2.9	3.6	0.0	0.0	0.0	0.0	3.6
25	Card and Fare Media Fees	1.2	1.3	1.3	1.3	1.4	1.4	6.6
26	Inactive Card Funds	2.7	2.6	0.0	0.0	0.0	0.0	2.6
26	Clipper Float Interest Account	0.7	10.5	0.0	0.0	0.0	0.0	10.5
27	Total Operating Revenue	41.6	63.2	41.8	31.4	33.0	34.6	89.8
27	Prior Year Carry Forward	7.3						
28	Net Operating Budget	7.3	0.7	(3.9)	(11.7)	(20.7)	(32.4)	

¹ Contingent upon availability and MTC Commission Approval

² Used for Next-Gen Clipper Operating Startup Costs

Source: Metropolitan Transportation Commission. *Operating and Capital Revenue and Budget (Agenda Item 3bi)*. October 29, 2024.

https://mtc.ca.gov/sites/default/files/meetings/attachments/6167/3bi_OCT_29_2024_Operating_and_Capital_Revenue_and_Budget.pdf.

¹¹⁹ Metropolitan Transportation Commission. *2022 Amended and Restated Clipper® Memorandum of Understanding*. October 1, 2022. https://clipper.mtc.ca.gov/pdf/2022_Amended_and_Restated_Clipper_MoU-Final_Signed.pdf.

¹²⁰ Oregon Department of Transportation, Rail and Public Transit Division. *eFare-Hop Program Expansion: Project Management Plan*. August 31, 2017. <https://www.oregon.gov/ODOT/RPTD/RPTD%20Document%20Library/eFare-Expansion-Project-Management-Plan.pdf>.

Figure 6: Next Gen Clipper – 2024 Capital Costs Budget

CLIPPER® CAPITAL BUDGET - OCTOBER 29, 2024								
Item No.	Description	ACTUAL FY23/24 (\$M)	FY 24/25 (\$M)	FY 25/26 (\$M)	FY 26/27 (\$M)	FY 27/28 (\$M)	FY 28/29 (\$M)	5 YEAR TOTAL - FY 24/25 - 28/29 (\$M)
Capital Costs								
1	MTC Staff	\$3.0	\$3.7	\$3.9	\$4.1	\$4.3	\$4.6	\$20.7
2	Current Clipper Cards & Fare Media	\$6.3	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0
3	Next Gen Clipper Cards & Fare Media	\$0.0	\$3.4	\$2.0	\$1.0	\$1.0	\$1.0	\$8.4
4	Consultants	\$1.9	\$2.3	\$1.5	\$1.5	\$1.5	\$1.5	\$8.3
5	C1 Capital Contract Extension	\$0.0	\$1.2	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2
6	System Integrator Contract	\$32.8	\$1.7	\$6.1	\$0.0	\$0.0	\$0.0	\$7.8
7	TR4 Integration and Open Payment Deployment	\$0.8	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6
8	Next Gen Clipper Equipment	\$24.2	\$4.7	\$0.0	\$0.0	\$0.0	\$0.0	\$4.7
9	Operator Paratransit Integration	\$0.0	\$2.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2.0
10	C2 CSC / Fare Media	\$6.2	\$0.0	\$1.0	\$1.0	\$1.0	\$1.0	\$4.0
11	RTC and Clipper START Enhancements and Support	\$0.4	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0
12	System Enhancements and Infrastructure Replacement	\$0.0	\$3.0	\$5.0	\$5.0	\$5.0	\$5.0	\$23.0
13	Total Expenses	\$75.6	\$24.6	\$19.5	\$12.6	\$12.8	\$13.1	\$82.6
Capital Revenue								
14	RM3	\$30.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
15	SGR	\$14.8	\$9.3	\$0.0	\$0.0	\$0.0	\$0.0	\$9.3
16	Fare Media and Card Fee Revenue	\$6.6	\$5.1	\$1.0	\$1.0	\$1.0	\$1.0	\$9.1
17	STA	\$0.0	\$2.1	\$0.0	\$0.0	\$0.0	\$0.0	\$2.1
18	Total Annual Revenue	\$51.8	\$16.5	\$1.0	\$1.0	\$1.0	\$1.0	\$20.5
19	Capital Carry Forward (prior years)	\$59.8						
20	Net Surplus / Deficit	\$36.0	\$28.0	\$9.4	(\$2.2)	(\$14.1)	(\$26.1)	

Source: Metropolitan Transportation Commission. *Operating and Capital Revenue and Budget (Agenda Item 3bi)*. October 29, 2024.

https://mtc.ca.gov/sites/default/files/meetings/attachments/6167/3bi_OCT_29_2024_Operating_and_Capital_Revenue_and_Budget.pdf.

Fare Structure and Revenue Sharing

Fare Structure

Depending on the program, agencies can determine their own fare structures, or a centralized fare structure can be developed with the goal of simplifying cost for customers. The ORCA pass and the Hop Fastpass are two examples of programs where agencies set their own fare structures. ORCA partner agencies also set their own fares and transfer policies.¹²¹

Participating Hop agencies set their own prices for all pass types (two-and-a-half hour passes, day passes, monthly passes).¹²²

On the other hand, some programs have centrally organized policies for transfers and fare capping, but they do not have a common fare structure across all agencies.¹²³ As an aspirational goal, Clipper aims to develop a common zone-based fare system for all participating agencies, such as the common fare system established in the greater Berlin, Germany area by transit association Verkehrsverbund Berlin-Brandenburg.¹²⁴ This system provides a common fare system across more than forty transit agencies in the

¹²¹ ORCA. "Terms of Use." <https://www.myorca.com/terms-of-use/>.

¹²² TriMet. "Hop Fastpass Fares." <https://myhopcard.com/home/fares>.

¹²³ TAP. "TAP Overview." <https://www.taptogo.net/about-tap>.

¹²⁴ Seamless Bay Area. "Integrated Fare Vision." <https://www.seamlessbayarea.org/integrated-fare-vision>.

region.¹²⁵ A zone based approach simplifies fare calculation for trips that span multiple agencies and can make these trips feel more seamless from a payment perspective.¹²⁶ However, a short trip that crosses a zone boundary can be much more expensive than a longer trip within a single zone. This approach also requires additional agency coordination and agreement on zone boundaries and integrated fare structures.¹²⁷

Fare discount programs, such as discounts for students, low-income community members, and/or elderly community members, can be determined at the local agency level, while statewide equity or clean air initiatives could have system-wide discount programs.¹²⁸

Revenue Sharing

Revenue sharing determines how fare revenue is distributed among participating agencies. Pass revenue allocation is typically based on individual agency ridership.

Clipper Pass has evolved their revenue sharing program over time to ensure payments are calculated and distributed in a simple manner. First, the program evolved from a revenue sharing formula based on a combination of cards used, transactions, and revenue processed to a simple ridership based formula.¹²⁹ The Clipper BayPass pilot program collects revenues from participating universities and corporate partners and allocates these dollars to transit operators twice per year on a consistent basis. (See the **Pass Deployment - Pilot Programs** report section for more information about this program.) The benefit of this approach is a consistent and timely payment schedule; however, these allocations are revised up or down several months after the initial payment when actual ridership numbers are reported.

Table 2 shows an example of Clipper BayPass revenue and trip tables that illustrate how revenue was allocated across transit providers during the first six months of 2025.¹³⁰ As indicated, revenue is allocated in advance and then costs are revised after ridership. BayPass revenue is collected up front from eligible participating organizations (businesses, universities, affordable housing residents) and then held centrally for reimbursement. Specifically, according to the BayPass Participation Agreement, MTC sells BayPass to eligible participants and is responsible for allocating the revenue generated from those sales to transit operators twice per year. These allocations may be revised slightly after complete ridership data is reported by agencies. This approach lets MTC make an initial allocation on a set schedule and then revise the allocation as needed when full ridership data becomes available.¹³¹

¹²⁵ Verkehrsverbund Berlin-Brandenburg (VBB). "About Us." <https://unternehmen.vbb.de/en/the-vbb/about-us/>.

¹²⁶ San Francisco Bay Area Planning and Urban Research Association. *Solving the Bay Area's Fare Policy Problem*. May 2019.

https://www.spur.org/sites/default/files/2019-11/SPUR_Solving_the_Bay_Area%27s_Fare_Policy_Problem.pdf.

¹²⁷ Hoshino, R., and J. Bearisto. "Optimal Pricing for Distance-Based Transit Fares." 2018.

<https://www.khoury.northeastern.edu/home/rhoshino/papers/quest2.pdf>.

¹²⁸ Los Angeles County Metropolitan Transportation Authority. "Low-Income Fare Is Easy (LIFE) Program." January 10, 2026. <https://www.metro.net/riding/fares/life/>.

¹²⁹ Edwards, T. *2022 Amended and Restated Clipper MOU*. October 3, 2022.

<https://countyconnection.com/wp-content/uploads/2022/09/4.i.-2022-Amended-and-Restated-Clipper-MOU.pdf>.

¹³⁰ Clipper. *Clipper BayPass Phase 2 Pilot Program - Allocation of Revenue to Transit Operators*. September 25, 2024.

https://es.mtc.ca.gov/sites/default/files/meetings/attachments/6426/2biii_25_1135_MTC_RES_4662_Attachment_A_Clipper_BayPass_Phase_2_Allocations_0.pdf?cb=ceea89d4

¹³¹ Metropolitan Transportation Commission. *MTC Resolution No. 4662, Revised: Clipper BayPass Phase 2 Pilot—Allocation and Authorization to Distribute Revenues to Transit Operators*. April 11, 2025.

Cost Management and Revenue Sharing Conclusion

The cost and revenue sharing components of an integrated transit pass program illustrate the key elements that must be considered during pass development. Because a clear financial structure is key to the success of an integrated transit pass program, establishing this structure early enables the program to adapt with new costs, ridership levels, and additional agency partners.

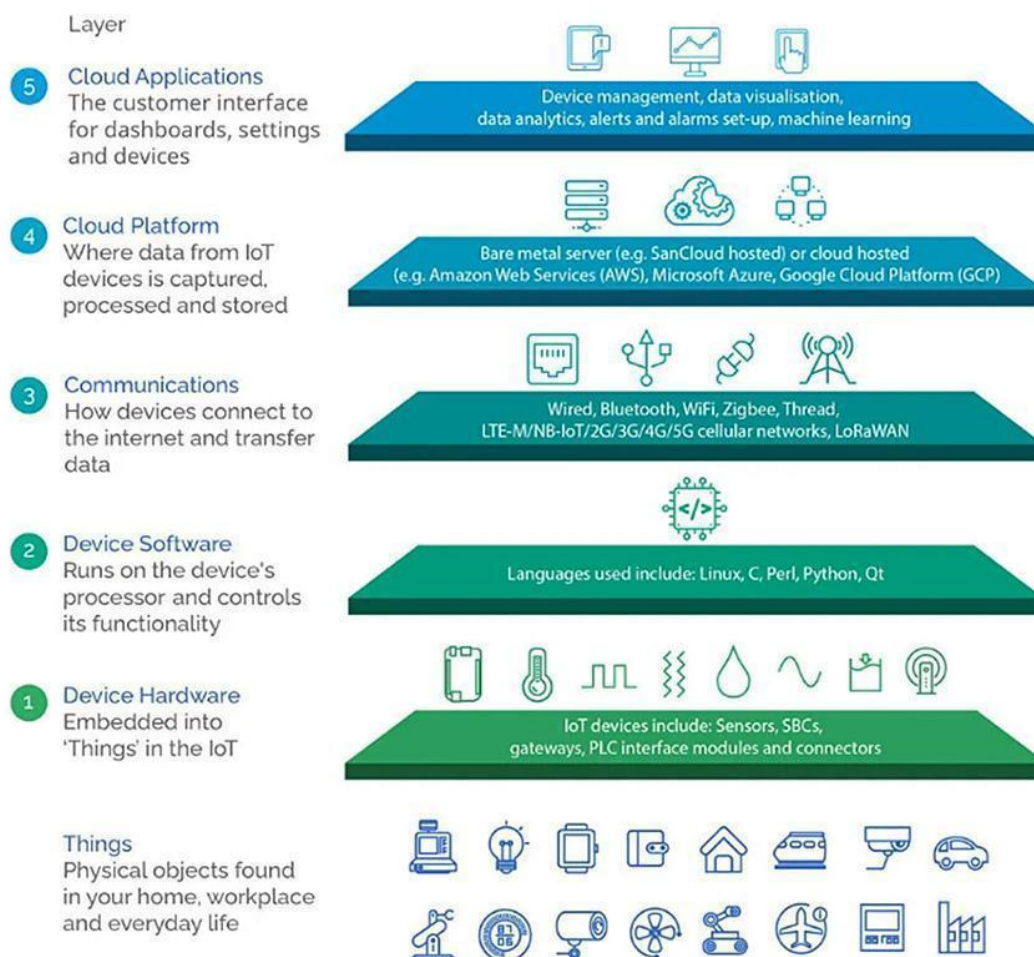
Table 2. Example Integrated Pass Revenue Distribution

Transit Operator	Revenue Distribution (\$): 1/1/2025 to 6/30/2025	Revenue Distribution (percentage): 1/1/2025 to 6/30/2025
BART	\$2,731,417	46.0%
SFMTA	\$1,943,665	32.8%
Caltrain	\$541,686	9.1%
WETA	\$243,198	4.1%
AC Transit	\$200,791	3.4%
SamTrans	\$136,727	2.3%
GGBHTD	\$99,414	1.7%
VTA	\$11,315	0.20%
WestCAT	\$9,056	0.20%
SolTrans	\$3,936	0.07%
SMART	\$3,512	0.06%
CCCTA	\$2,553	0.04%
ECCTA	\$2,374	0.04%
Marin Transit	\$2,275	0.04%
LAVTA	\$894	0.02%
Union City Transit	\$274	< 0.01%
NVTA	\$173	< 0.01%
Sonoma County Transit	\$163	< 0.01%
Santa Rosa CityBus	\$114	< 0.01%
FAST	\$8	< 0.01%
Vacaville City Coach	\$2	< 0.01%
Total	\$5,933,546	

Technology Requirements and Integration

It is critical to align program goals with technology requirements early in the development phase of an integrated transit pass. This sub-section provides an overview of key technologies required for this integration. These technology needs are discussed in the form of a technology stack (tech stack), which serves as a conceptual architecture that broadly organizes key technology elements into layers that include hardware, network connectivity, data management and platforms, and the software/applications that help manage an integrated pass system. **Figure 7** presents an example of a common tech stack. This sub-section is organized around these common tech stack elements.

Figure 7: Illustrative Tech Stack



Source: IoT Business News. "IoT Technology Stack Diagram." July 13, 2022.
<https://iotbusinessnews.com/2022/07/13/86750-what-is-the-iot-technology-stack>.

Hardware Requirements: Fare Collection and Validation

Fare Media (Physical and Digital)

The hardware layer encompasses the physical components that riders interact with directly to facilitate fare transactions. Physical media includes agency-issued smart cards, which are proprietary to a closed-loop system and require production, distribution, and reloading infrastructure such as Ticket Vending Machines (TVMs) and retail networks.¹³² Conversely, open-loop systems use payment instruments riders already possess, primarily contactless credit or debit cards, which are not proprietary to the transit system.¹³³ Digital fare media options include mobile wallets for tap-to-pay (e.g., Apple Pay, Google Pay), and mobile ticketing apps that generate QR codes or barcodes for visual or scanner validation.¹³⁴ The selection of supported media directly influences hardware requirements, as validators must be equipped to read the chosen mix of smart cards, bank cards, and digital codes.

Fare Validators and Readers

A statewide system could incorporate different validators and readers capable of processing multiple types of fare media. These could include contactless smart card readers compatible with a proprietary transit card, as well as validators that accept contactless credit/debit cards and mobile Near Field Communication (NFC) payments.¹³⁵ The hardware ecosystem also includes on-bus and at-station validators capable of reading QR codes and barcodes.

Ticket Vending Machines and Fare Boxes

TVMs are necessary for dispensing and reloading physical cards or tickets. For unbanked or underbanked populations, who may not have access to credit or debit cards, providing convenient alternative cash options is critical. This feature also supports populations with limited technological capabilities or access to smart phones. Retail sales networks are also essential infrastructure for this purpose, allowing riders to load cash value onto fare media. The Roaring Fork Transportation Authority (RFTA) uses grocery stores and corner markets to sell stored value cards, which are discounted twenty five percent upfront.¹³⁶ Companies such as VanillaDirect™ and PayNearMe facilitate retail transactions.¹³⁷ As noted in the ‘Funding and Policy - Equity’ report section, adding stores and multiple payments adds complexity into managing a statewide pass. TVMs can add an expense and are subject to vandalism. Cash-paying customers are difficult to integrate into the pass system. For instance, Bustang uses GenFare¹³⁸ fareboxes on their main lines (North-South and West) and manual lockboxes

¹³² National Academies of Sciences, Engineering, and Medicine. *Considering the Unbanked in Cashless Fare Payment at Point of Service for Bus/Demand-Response Services*. Washington, DC: National Academies Press, 2022. <https://doi.org/10.17226/26589>.

¹³³ National Center for Applied Transit Technology. “Fare Background: Systems, Payments, and Policies.” November 8, 2022. <https://n-catt.org/guidebooks/new-fare-payment-systems-and-payment-technology/fare-background-systems-payments-and-policies/>.

¹³⁴ International Association of Public Transport. *Demystifying Ticketing and Payment in Public Transport*. 2020. <https://www.uitp.org/publications/demystifying-ticketing-and-payment-in-public-transport/>.

¹³⁵ Shayan, A. “The Fundamentals of Transit Payments Explained: Introduction to Contactless Payments (cEMV) in Transit.” *Littlepay*, December 1, 2023.

<https://content.littlepay.com/the-fundamentals-of-transit-payments-explained>.

¹³⁶ Roaring Fork Transportation Authority. “Where to Buy Fares.” <https://www.rfta.com/fares/where-to-buy/>.

¹³⁷ InComm Payments. “VanillaDirect.” <https://vanilladirect.com/index.html>; PayNearMe. “Retail Partners.” https://home.paynearme.com/partners/#retail_partners.

¹³⁸ Genfare. “Genfare.” <https://genfare.com/>.

on their rural Outrider services to accept cash payment on board. However, the electronic fare boxes and TVMs pose a challenge in terms of cash recovery, maintenance and operations.

Supporting Hardware

Supporting equipment such as Computer Aided Dispatch/Automatic Vehicle Location (CAD/AVL) provides the real-time positional data necessary for advanced trip planning and service monitoring. Currently, efforts to expand CAD/AVL in local transit fleets are in progress by the CDOT COtransit project. So far, more than fifty AVLs have been installed throughout various agencies. COtransit aims to pilot an easy-to-use mobile application (app) and web platform to allow the public to plan their entire trip and pay online, while supporting better coordination and data sharing between local transit providers.¹³⁹

Network Connectivity and Near-Field Communication

On-Vehicle/Point-of-Sale Connectivity

This layer provides the communication pathways linking hardware to central systems. To synchronize data with central platforms in an instant, on-vehicle and point-of-sale hardware rely on cellular networks (4G/5G).¹⁴⁰ Real-time transaction processing enables important functions like checking a card at the point of tap against a deny list, which is a security feature that blocks cards identified as lost, stolen, or with unpaid fares. For stationary infrastructure like major transit hubs or TVMs, wired broadband connections provide a stable and high-bandwidth link.

Near-Field Communication

At the point of interaction between fare media and validators, short-range communication technologies are paramount. Near-Field Communication (NFC) is the proven technology for enabling both the proprietary statewide smart card and the tap-to-pay functionality of open-loop bank cards and mobile wallets like Apple Pay and Google Pay.¹⁴¹

Transit Program Data Management and Platforms

Fare System Typologies: Open-Loop and Closed-Loop

The platform layer hosts the core software and data systems that manage fares, process payments, and enforce business rules. A fundamental architectural decision is the choice between open-loop, closed-loop payment systems, or both, with each choice carrying distinct characteristics, benefits, and drawbacks.¹⁴² An open-loop system allows riders to use payment methods they already have, such as contactless bank cards or digital wallets. This type of

¹³⁹ Colorado Department of Transportation. "COtransit."

<https://www.codot.gov/programs/innovativemobility/mobility-technology/cotransit>.

¹⁴⁰ National Academies of Sciences, Engineering, and Medicine. *Statewide Approaches to the Development of Comprehensive Transit Information Systems*. Washington, DC: National Academies Press, 2023.
<https://doi.org/10.17226/27438>.

¹⁴¹ Shayan, A. "The Fundamentals of Transit Payments Explained: Introduction to Contactless Payments (cEMV) in Transit." *Littlepay*, December 1, 2023.

<https://content.littlepay.com/the-fundamentals-of-transit-payments-explained>.

¹⁴² National Center for Applied Transit Technology. "New Fare Payment Systems and Payment Technology: Best Practices and Recommendations." November 9, 2022.

<https://n-catt.org/guidebooks/new-fare-payment-systems-and-payment-technology/best-practices-and-recommendations>.

system can lower the barrier to entry for casual riders. However, open-payment necessitates that riders have a bank account, and processing bank-issued cards poses a fee.¹⁴³ Additionally, applying nuanced fare policies like capping and discounts for eligible populations can be complex. In contrast, a closed-loop system relies on agency-issued fare media, such as a transit smart card. This type of system gives agencies direct control over fare policy and supports cash-based users but requires building and maintaining a card distribution and retail network.¹⁴⁴ It is possible to have a system that accepts both open-loop and closed-loop cards, yet this would require an Account-Based Ticketing (ABT) structure, where payment methods are unified under a rider account.

Account-Based Ticketing as an Architectural Foundation

ABT is an architecture where fare calculations and a rider's transactional data, such as their balance, trip history, and applicable passes, are managed in a centralized cloud account.¹⁴⁵ This process contrasts with media-based ticketing, where monetary value or a specific fare product is stored directly on a physical card or device. An ABT approach decouples the payment instrument from the fare calculation, allowing both open-loop and closed-loop payment methods to be linked to a single rider account. ABT is viewed as enabling more flexible fare policies, such as sophisticated fare capping, and is a prerequisite for integrating multiple mobility services under one account.¹⁴⁶

Automated Fare Collection Models: Service-Based vs. Bespoke

A back-end fare management platform can be procured and operated under different models. A "Fare Payments as a Service" model is typically hosted online, on a cloud system. A vendor provides and maintains the system after configuring it to an agency's needs. This model often features lower upfront capital costs, easy updates, and compatibility with ABT.¹⁴⁷ Bustang, RFTA, and Mountain Metro currently use the vendor Masabi for their fare management systems.¹⁴⁸ On the other hand, a "Bespoke Automated Fare Collection" system involves an agency hosting on its own servers or heavily customizing its own system. This process offers deep control but entails higher upfront costs, longer deployment times, and greater responsibility for maintenance and upgrades.

Data Integration, Standards, and Cybersecurity

A statewide system requires robust data integration. Adherence to the General Transit Feed Specification (GTFS) for schedules and real-time data is essential for trip planning and

¹⁴³ National Academies of Sciences, Engineering, and Medicine. *Fare Capping: Balancing Revenue and Equity Impacts*. Washington, DC: National Academies Press, 2022. <https://doi.org/10.17226/26510>.

¹⁴⁴ National Academies of Sciences, Engineering, and Medicine. *Considering the Unbanked in Cashless Fare Payment at Point of Service for Bus/Demand-Response Services*. Washington, DC: National Academies Press, 2022. <https://doi.org/10.17226/26589>.

¹⁴⁵ International Association of Public Transport. *Demystifying Ticketing and Payment in Public Transport*. 2020. <https://www.uitp.org/publications/demystifying-ticketing-and-payment-in-public-transport/>.

¹⁴⁶ Transportation Research Board and National Academies of Sciences, Engineering, and Medicine. *Multimodal Fare Payment Integration*. Washington, DC: National Academies Press, 2020. <https://doi.org/10.17226/25734>.

¹⁴⁷ National Center for Applied Transit Technology. "Fare Background: Systems, Payments, and Policies." November 8, 2022. <https://n-catt.org/guidebooks/new-fare-payment-systems-and-payment-technology/fare-background-systems-payments-and-policies/>.

¹⁴⁸ Masabi. "Masabi." <https://www.masabi.com/>.

interoperability with third-party applications.¹⁴⁹ COtransit is piloting a statewide, centralized platform that provides GTFS data, trip planning, and universal ticketing for Colorado travelers and transit providers. CDOT engages with Trillium to create and maintain GTFS data for fixed and demand response routes across Colorado transit agencies. Expanding available GTFS data via CAD/AVL hardware installations is crucial for improving transit connectivity.

Cybersecurity is a growing concern, especially with increased reliance on digital systems and third-party vendors. The transit industry faces challenges with evolving threats, a lack of transit-specific guidance, and complexities in managing third-party risk.¹⁵⁰ All payment processing must comply with the Payment Card Industry Data Security Standard (PCI DSS), with responsibilities for security assessments shared between the agency and its vendors.¹⁵¹ For example, Masabi's payment service providers primarily use Visa Cybersource for open payment transactions and Mastercard Payment Gateway Services for mobile ticketing.

Public-Facing Transit Software and Applications

Statewide Transit Mobile Applications and Web Portal

Mobile applications and web portals sit at the top layer of the tech stack. These are the primary interface for riders and transit agency staff, translating the complex back-end systems into simple usable tools. A statewide mobile app and web portal would serve as the central digital interface for riders, offering core functionalities designed to simplify the transit experience. Mobile ticketing via QR codes or NFC provides a direct alternative to physical fare media, offers convenience, and reduces dependency on specific hardware for all riders. Integrating trip planning with real-time arrival data is essential for building a usable, reliable system that allows passengers to make informed decisions using unified schedules and live vehicle locations from all participating agencies. Centralized account management is critical for a statewide system that enables users to maintain passes, payment methods, and trip history in one place, regardless of which local agency's service they are using.

When procuring an application, agencies have several business models to consider. Many agencies deploy mobile fare payment apps in arrangements with no upfront costs. Instead, those agencies pay a vendor a percentage of sales to cover operational expenses. The "White Label App" model, where a vendor provides an app rebranded for the transit agency, is a common and relatively low-cost approach, as demonstrated by Denver's Regional Transportation District (RTD).¹⁵² By offering a "White Label App," Masabi's Justride platform can be customized to include up to ten languages, although the agency must provide the translations. Also, Masabi regularly audits for accessibility across mobile and web platforms to ensure compliance with the Americans with Disabilities Act.¹⁵³ This process differs from that of a "Shared App" model, where multiple transit agencies in different regions use the same

¹⁴⁹ Shared-Use Mobility Center. "The Role of Data Specifications in Creating an Interoperable Transportation System." January 13, 2025.

<https://learn.sharedusemobilitycenter.org/casestudy/the-role-of-data-specifications-in-creating-an-integrated-transportation-system/>.

¹⁵⁰ Transportation Research Board and National Academies of Sciences, Engineering, and Medicine. *Cybersecurity in Transit Systems*. Washington, DC: National Academies Press, 2022. <https://doi.org/10.17226/26475>.

¹⁵¹ California Integrated Travel Project. "Cal-ITP: California Integrated Travel Project." January 9, 2021. <https://www.calitp.org>.

¹⁵² Transportation Research Board and National Academies of Sciences, Engineering, and Medicine. *Business Models for Mobile Fare Apps*. Washington, DC: National Academies Press, 2020. <https://doi.org/10.17226/25798>.

¹⁵³ Masabi. "Justride." <https://www.masabi.com/justride/>.

vendor application with minimal customization, trading deep agency-specific branding for rapid deployment and lower cost. COtransit is most similar to a “Shared App” model, with ZED Digital providing the Mobility-as-a-Service software to integrate trip-planning, multiple payment methods, and ticketing across agencies on one platform.¹⁵⁴ A more customized “White Label App with Validation Hardware” would be necessary for full back-end integration with physical fare validators on vehicles.¹⁵⁵ Regardless of the model, the app must be designed to function without cellular service for ticket activation to avoid stranding riders in areas with poor connectivity.¹⁵⁶ For instance, Bustang’s mobile tickets can be activated and visually validated without cellular service yet require internet connection for purchases.

Third-Party Integrations

A successful ecosystem requires seamless integration with other mobility services and existing agency apps, including micromobility (e.g., scooters, bikeshare) and microtransit (on-demand ride-pooling). Integration can take several forms: physical collocation of services, informational wayfinding, digital integration within trip-planning apps, and fare integration through a common payment method.¹⁵⁷ The State of Colorado could play a central role, similar to the City of Antwerp, Belgium, by setting a regulatory framework and encouraging coordination among mobility providers.¹⁵⁸ Furthermore, the system could allow for institutional integration that would provide access to back-end systems for partners like universities to manage student pass programs efficiently. This type of system requires strong communication and clear formal agreements.¹⁵⁹ The system could also be designed for integration with existing transit agency apps to provide a cohesive experience without immediately replacing familiar tools.

Technology Procurement Strategy

Procurement strategy significantly influences system flexibility and cost. A modular approach separating the procurement of hardware, payment processing, and back-office software into different contracts can encourage competition and prevent vendor lock-in.¹⁶⁰ Alternatively, a single-vendor integrated solution simplifies project management but may restrict flexibility. These tools add multiple ticketing pricing platforms, various payment methods, mobile and print ticket mediums, picture or timestamp clock ID verification, and many transit integrations. Whether based on upfront capital expenditure, ongoing operational expense

¹⁵⁴ ZED Digital. “Multimodal Trip Planner.” <https://zed.digital/multimodal-trip-planner/>.

¹⁵⁵ Transportation Research Board and National Academies of Sciences, Engineering, and Medicine. *Business Models for Mobile Fare Apps*. Washington, DC: National Academies Press, 2020. <https://doi.org/10.17226/25798>.

¹⁵⁶ National Center for Applied Transit Technology. “New Fare Payment Systems and Payment Technology: Best Practices and Recommendations.” November 9, 2022. <https://n-catt.org/guidebooks/new-fare-payment-systems-and-payment-technology/best-practices-and-recommendations>.

¹⁵⁷ National Center for Applied Transit Technology. “Micromobility and Transit.” March 30, 2023. <https://n-catt.org/guidebooks/micromobility-and-transit/micromobility-and-transit/>.

¹⁵⁸ Transportation Research Board and National Academies of Sciences, Engineering, and Medicine. *Multimodal Fare Payment Integration*. Washington, DC: National Academies Press, 2020. <https://doi.org/10.17226/25734>.

¹⁵⁹ Han, B., S. J. Barbeau, D. Chimba, J. M. Barajas, and P. L. Winters. “Elements of Successful Universal Student Transit Pass Programs from Planning to Implementation: A Benchmark Study.” *Transportation Research Record: Journal of the Transportation Research Board* 2673, no. 4 (2019): 833-843. <https://doi.org/10.1177/0361198119834916>.

¹⁶⁰ Shayan, A. “The Fundamentals of Transit Payments Explained: Introduction to Contactless Payments (cEMV) in Transit.” *Littlepay*, December 1, 2023. <https://content.littlepay.com/the-fundamentals-of-transit-payments-explained>.

subscriptions, or revenue-sharing agreements, the chosen financial model further shapes the operational relationship with vendors.¹⁶¹

Another factor in price is being able to procure equipment at scale. Washington and California State DOTs led the competitive procurement process and provided negotiated agreements to simplify the procurement process for local transit agencies.¹⁶² This allowed local transit agencies to receive a lower price to upgrade their equipment than they would have otherwise been able to negotiate on their own. A similar process was recommended by Colorado transit agencies, and this would help transit agencies upgrade their technology to meet the necessary technology requirements to be integrated into a statewide pass.

Technology Requirements and Integration Conclusion

Developing a statewide transit pass system would involve a series of interconnected technological decisions. Decisions about fare media, hardware, and an automated fare collection back-end platform model carry significant implications for upfront capital cost, ongoing operational complexity, and long-term flexibility.¹⁶³ Looking ahead, the implementation of a complex multiagency system is typically completed in stages, with phased deployment allowing testing on a smaller scale before full launch. Additional technology analysis would require a detailed evaluation of these technological, procurement, and implementation tradeoffs, focusing on interoperability, lifecycle costs, and alignment of specific system capabilities with broader program goals of statewide transit pass implementation.

Statewide Pass Marketing Plan Components

A major component of pass implementation would be ensuring that riders are aware of the pass, especially during its initial launch. To support consistent messaging and user understanding across the state, a coordinated approach is essential. This coordinated effort should include opportunities for statewide messaging, along with steps that local agencies could take to advance pass implementation at a local or regional level.

Marketing efforts should remain coordinated throughout all stages of pass implementation. Regular communication between the pass operations team, who would be the state-level managers of the marketing plan, and partner transit agencies, who would be working to implement the marketing plan locally, is critical to maintaining consistency and effectiveness.

¹⁶¹ International Association of Public Transport. *Demystifying Ticketing and Payment in Public Transport*. Brussels, 2020. <https://www.uitp.org/publications/demystifying-ticketing-and-payment-in-public-transport/>.

¹⁶² Tovar, A. "Caltrans Integrated Mobility: Connecting the Dots on Transportation Innovation across California, the U.S., and the World." *Rebel Group*, January 21, 2025. <https://caltransitdashboard.net/wp-content/uploads/2025/01/Caltrans-Integrated-Mobility-Newsletter-Onboarding-January-21st-2024.pdf>; La Brayere, A. *Contract Summary: Transit Buses*. Contract No. 06719. Washington State Department of Enterprise Services, April 1, 2021. <https://apps.des.wa.gov/DESContracts/Home/ContractSummary/06719>.

¹⁶³ National Center for Applied Transit Technology. "Fare Background: Systems, Payments, and Policies." November 8, 2022. <https://n-catt.org/guidebooks/new-fare-payment-systems-and-payment-technology/fare-background-systems-payments-and-policies/>.

Pass Operations Team Responsibilities

As the group typically responsible for the marketing plan, the pass operations team plays a central role in program- and state-level marketing strategy and coordination. Typical responsibilities include developing the marketing plan and materials, ensuring consistency in messaging and branding, and supporting participating agencies in implementation.

Marketing plans generally include several core elements, such as messaging goals and branding standards. Messaging goals typically define:

- Target audiences
- How each audience should be engaged
- Campaign timing
- Budget considerations
- Accessibility and language standards
- Evaluation metrics to track performance

Messaging typically includes clear, simple language on what the pass is, how it works, and how to use it.

Branding is another essential piece of a marketing plan, as the creation of a brand and logo can help to create consistency and repetition in the brand, to increase recognition. Many peer programs recommend adding decals with the pass logo to transit vehicles of participating agencies to help users clearly understand where the pass can be used and recognize the program as a unified system.¹⁶⁴

The pass operations team may also be responsible for larger-scale marketing campaigns that target statewide or regional audiences, particularly during key times in the pass's implementation, such as the initial rollout. These larger campaigns typically last around six to eight weeks and occur when major changes take place in the system.¹⁶⁵ Alternative marketing campaigns involve more regular program updates to the public all year round, often taking advantage of social media and other lower-cost promotion efforts.¹⁶⁶ By taking advantage of social media ads, the marketing team could easily promote the pass to a wide audience and target a different group than may be reached by more traditional forms of advertising.¹⁶⁷

¹⁶⁴ San Luis Obispo Regional Transit Authority. *Appendix I: Communication and Marketing Plan*. 2024. <https://www.slorta.org/wordpress/wp-content/uploads/RTA-Appendix-I-Marketing.pdf>. ; FLT Consulting Inc. and GMP Consulting. *Transit Marketing Plan (Draft)*. Gorge Trans-Link, 2003.

https://gorgetransit.com/wp-content/uploads/2020/05/TransLink_MarketingPlan_2003.pdf.

¹⁶⁵ FLT Consulting Inc. and GMP Consulting. *Transit Marketing Plan (Draft)*. Gorge Trans-Link, 2003.

https://gorgetransit.com/wp-content/uploads/2020/05/TransLink_MarketingPlan_2003.pdf.

¹⁶⁶ San Luis Obispo Regional Transit Authority. *Appendix I: Communication and Marketing Plan*. 2024.

<https://www.slorta.org/wordpress/wp-content/uploads/RTA-Appendix-I-Marketing.pdf>.

¹⁶⁷ San Luis Obispo Regional Transit Authority. *Appendix I: Communication and Marketing Plan*. 2024.

<https://www.slorta.org/wordpress/wp-content/uploads/RTA-Appendix-I-Marketing.pdf>.

To support local implementation, the pass operations team may develop standardized marketing toolkits and templates for participating agencies to use. Toolkits could include:

- Digital assets (such as logo files)
- Print materials
- Web content
- Frequently Asked Questions (FAQs)¹⁶⁸

Regional or statewide transit guides could also be considered as a way to educate riders on connections that can be made between transit systems with a pass.¹⁶⁹ The pass operations team may also choose to create physical marketing kits for participating brick-and-mortar retailers to display at the point of pass sales.¹⁷⁰ The materials developed could be used on both the statewide website and on local agency websites to ensure consistent and accurate information. Management of the statewide website, social media campaigns, and system-wide announcements is typically an associated responsibility of the pass operations team.

Finally, the pass operations team may be responsible for coordinating marketing efforts with partner agencies to ensure that they have the materials, guidance, and support necessary to market the pass to their riders and broader community. Coordination may also include tracking marketing performance measures, such as engagement and other metrics, and reporting progress to the program board.

Partner Transit Agency Responsibilities

Partner transit agencies primarily support the marketing plan through local outreach and implementation of the materials and strategies provided by the pass operations team. Support typically includes adapting and amplifying statewide messaging in ways that make sense for their local transit context and community members. To maintain consistency in pass marketing, local participating agencies typically rely on materials provided by the pass's statewide marketing plan and materials.

Partner agencies may implement the marketing plan in many ways, including agency websites, social media channels, onboard transit advertising, and community events.¹⁷¹ Locally focused efforts are particularly valuable because they reach riders in spaces and places they already frequent and can engage audiences that may not be easily reached through statewide or digital campaigns alone.

¹⁶⁸ Metropolitan Transportation Commission. *Next Generation Clipper Marketing and Communications Plan (Agenda Item 3c)*. June 24, 2024.

https://mtc.ca.gov/sites/default/files/meetings/attachments/6042/3ci_Next_Generation_Clipper_Marketing_and_Communications_Plan.pdf.

¹⁶⁹ FLT Consulting Inc. and GMP Consulting. *Transit Marketing Plan (Draft)*. Gorge Trans-Link. 2003.

https://gorgetransit.com/wp-content/uploads/2020/05/TransLink_MarketingPlan_2003.pdf.

¹⁷⁰ Sound Transit. *ORCA Joint Board Briefing: Next Generation ORCA Marketing Overview (Agenda)*. June 14, 2021. <https://www.soundtransit.org/sites/default/files/documents/orca-joint-board-briefing-next-gen-orca-marketing-overview-20210614.pdf>.

¹⁷¹ Sound Transit. *ORCA Joint Board Briefing: ROOT Marketing Campaign (Agenda)*. November 8, 2021. <https://www.soundtransit.org/sites/default/files/documents/orca-joint-board-briefing-root-marketing-campaign-20211108.pdf>.

Finally, partner agencies play an important role in providing the pass operations team feedback on both the marketing plan and overall pass implementation. If local agencies encounter recurring questions or challenges related to a certain aspect of the pass, they can communicate this back to the pass operations team so that marketing efforts can be tailored to address these concerns. Agencies may also report on the effectiveness of local marketing efforts, thereby contributing to the performance metrics measured by the pass operations team.

Statewide Pass Marketing Plan Conclusion

Integrated transit pass marketing efforts must be clear, coordinated, and consistent throughout implementation to best serve riders and maximize public awareness of a pass program and its applicability across the state. By working with a pass operations team, participating transit agencies can strengthen local understanding of an integrated pass while taking advantage of marketing materials and language, contributing to consistency of pass implementation across the state. Ongoing coordination and performance tracking further allow marketing efforts to be refined over time and improve clarity, accessibility, and overall rider experience.

Pass Deployment – Pilot Programs

A pilot program offers a more conservative approach to integrating transit pass deployment by allowing agencies to refine program elements and assess feasibility before full implementation.

Pilot Program Testing

The temporary nature of pilot programs helps determine program feasibility and next steps. Common next steps after a pilot include permanent implementation, discontinuing the program, adapting key program elements and continuing pilot testing, or transitioning the program to a better suited oversight body or agency for full program implementation.¹⁷² Common benefits of transit-related pilot programs include:¹⁷³

- The ability to test a proposed program without prematurely committing to permanent implementation
- Having the flexibility to adapt the program in real-time to improve operations and better meet program goals
- Soliciting community member and stakeholder input to improve program elements before full implementation
- Demonstrating tangible results that support proposed funding for full implementation

Integrated transit pass programs are frequently introduced through pilot programs that are scoped to test specific aspects of program design. Rather than implementing an integrated transit pass at scale, agencies often structure pilots around defined focus areas, such as

¹⁷² Lane Transit District. *Pilot Program Implementation Guide*. May 2023.
https://ltd.org/wp-content/uploads/2025/08/06-LTD-MMS-Pilot-Guidance_v5.pdf.

¹⁷³ The Routing Company. “Why Pilots Work.” <https://theroutingcompany.com/newsroom/whypilotswork>.

targeted customer types, equity-focused pilots, limiting participation to select transit agencies, or testing integration across specific modes (e.g., buses only).

Pilot Focus Area: Target Customer Types

Inspired by similar pilot approaches from CalTrain, AC Transit, and ORCA, Clipper Pass implemented the Clipper BayPass pilot program in 2022, which served students at educational institutions and residents of affordable housing properties.¹⁷⁴ The first phase of the pilot program served more than 50,000 individuals at four Bay Area universities and twelve affordable housing properties. This approach helped evaluate the viability of an integrated transit pass while also serving the needs of local riders.¹⁷⁵

In early 2024, the pilot program expanded to serve employees at twenty Bay Area companies in the healthcare, retail, manufacturing, affordable housing, education, government, and technology sectors. In just a single year, this expanded pilot program recorded more than 1.6 million trips using the integrated transit pass.¹⁷⁶

Pilot Focus Area: Specific Transit Agencies

Clipper Pass also conducted pilots that began with several core transit agencies before expanding to all twenty-seven agencies once the program was deemed feasible.¹⁷⁷ Similarly, the California Integrated Travel Project (Cal-ITP) conducted a transit pass pilot in 2021 with four agencies that represented a cross section of transit providers across the state: Monterey-Salinas Transit (175,000 annual riders), Santa Barbara County's Clean Air Express (110,000 annual riders), Santa Barbara Metropolitan Transit District (4.8 million annual riders), and Sacramento Regional Transit (15.8 million annual riders).¹⁷⁸

Pilot Focus Area: Specific Transit Modes

While not specifically related to an integrated pass program, LA Metro piloted a fare free ridership program that focused solely on Metro's bus and rail service. The pilot did not include Metro's other services such as commuter rail, and it also did not include integration with other partner agencies that typically coordinate with Metro.¹⁷⁹

¹⁷⁴ Caltrain Citizens Advisory Committee. *Fare Coordination and Integration Initial Findings Discussion*. Caltrain, November 17, 2021. <https://www.caltrain.com/media/20738/download>.

¹⁷⁵ Metropolitan Transportation Commission. "Clipper BayPass Pilot Program." October 16, 2025. <https://mtc.ca.gov/operations/traveler-services/clipperr/clipperr-baypass>

¹⁷⁶ Metropolitan Transportation Commission. "Clipper BayPass Pilot Program." October 16, 2025. <https://mtc.ca.gov/operations/traveler-services/clipperr/clipperr-baypass>.

¹⁷⁷ All Aboard Bay Area. "Coordinating for You." <https://www.allaboardbayarea.com/coordinating-for-you>.

¹⁷⁸ California Integrated Travel Project. *Contactless Payments and Data: Case Study*. 2022. <https://www.calitp.org/assets/Cal-ITP.Contactless.Payments.Data.CaseStudy.2022.pdf>.

¹⁷⁹ Urbanize LA. "Metro's Fareless System Pilot Program Could Launch in 2022." July 15, 2021. <https://la.urbanize.city/post/metros-fareless-system-pilot-program-could-launch-2022>

Pilot Program Development Timeframe Example

The Clipper Pass was first conceptualized in 2008 as part of a Transit Fare Coordination & Integration Study. The integrated pass pilot program was jump started in 2020 in response to falling ridership due to the COVID-19 pandemic. Below is a timeframe of pilot program development.¹⁸⁰

- **Spring 2020:** A Fare Integration Task Force was established to oversee an update of the Transit Fare Coordination & Integration Study.
- **May 2020 to September 2021:** Development of updated Fare Coordination & Integration Study
- **November 2021:** Fare Integration Task Force adopts the Fare Policy Vision Statement.
- **August 2022:** Clipper BayPass pilot (Phase 1) was launched at University of California Berkeley, San Francisco State, San Jose State University, and Santa Rosa Junior College.
- **October 2022:** Clipper BayPass pilot (Phase 1) was launched at affordable housing sites.
- **January 2024:** Clipper BayPass pilot (Phase 2) was launched for institutional participants.
- **June 2025:** Phase 1 Pilot Program Evaluation Report was published.
- **September 2025:** Phase 2 Pilot Program Preliminary Evaluation Report was published.

Full Program Implementation

After evaluating pilot program results, key decision points typically include implementing the full program, continuing the pilot program with adjustments or expansions, transferring the pilot program to another oversight body, or discontinuing the program.¹⁸¹ If the decision is made to implement the integrated pass program, the following next steps should be considered:

1. Scale up operational and support staff.
2. Address operational and technological issues that must be resolved before full implementation.¹⁸²
3. Use pilot results to estimate long-term program revenue and ridership impacts.¹⁸³
4. Use pilot results for stakeholder discussions and program marketing. For example, use ridership increases or survey feedback to promote program benefits. In addition, in marketing materials, address customer challenges or questions identified during the pilot.¹⁸⁴
5. Transition to permanent governance agreements and structures.

¹⁸⁰ Metropolitan Transportation Commission. "Transit Fare Coordination and Integration." <https://mtc.ca.gov/operations/transit-regional-network-management/transit-fare-coordination-integration>.

¹⁸¹ Lane Transit District. *Pilot Program Implementation Guide*. May 2023. https://www.ltd.org/wp-content/uploads/2025/08/06-LTD-MMS-Pilot-Guidance_v5.pdf.

¹⁸² Metropolitan Transportation Authority. *Fare-Free Bus Pilot: 1-Year Evaluation and Redesign Goals*. June 2025. <https://www.mta.info/document/177466>.

¹⁸³ Metropolitan Transportation Authority. *Fare-Free Bus Pilot: 1-Year Evaluation and Redesign Goals*. June 2025. <https://www.mta.info/document/177466>.

¹⁸⁴ Metropolitan Transportation Commission. *Clipper BayPass Phase 1 Evaluation Report*. June 23, 2025. https://mtc.ca.gov/sites/default/files/documents/2025-06/Report_BayPass_Phase_1_Evaluation.pdf.

Pass Deployment Conclusion

Pilot programs are an iterative, lower-risk approach for testing a proposed integrated transit pass program before full program implementation. As discussed, several possible approaches to pilot programs allow agencies to evaluate key components of integrated passes, while also benefiting community members. Ultimately, this approach helps provide informed decision-making on whether an integrated pass program should move forward to full implementation.

Ongoing Program Management and Evaluation

Ongoing program management and evaluation can help achieve continual improvement of a fully implemented integrated transit pass program. Programs typically establish ongoing program governance and agency coordination procedures to ensure that governance policies are updated as the program evolves. Key agency coordination factors include:¹⁸⁵

- Maintaining fare policy alignment among partner agencies
- Agreeing on common ticketing protocols established by the program's governing agency, such as discount incentives, honoring free transfers, or other customer-facing policies
- Implementing policy changes across all agencies
- Updating the pass operations team about fare reimbursement, ridership trends, community feedback about the pass, and any challenges

The pass operations team typically oversees all agency coordination and works closely with agency representatives to ensure smooth operations, manage vendors associated with the program, and address program level issues.¹⁸⁶ In addition, the pass operations team typically continues to manage day-to-day program operations and administrative responsibilities. Taking this approach ensures that no single agency is overburdened by the pass program.

Conclusion and Next Steps

The roadmap presented in this section draws on best practices and existing programs to broadly identify the implementation steps and level of coordination required to establish an integrated transit pass program. The Exploratory Committee can use these key logistical steps as a starting point in considering how an integrated transit pass would be managed and implemented at a statewide level. The next section will evaluate program considerations, best practices, and insights from Colorado transit agencies on the potential implementation of a statewide transit pass.

¹⁸⁵ Eno Center for Transportation. *Coordination and Governance in Transit: Lessons Learned from Six Case Studies*. June 29, 2023.
https://cmap.illinois.gov/wp-content/uploads/dlm_uploads/PART_ENO-case-studies-on-coordination-and-governance-in-transit.pdf.

¹⁸⁶ Sound Transit. *ORCA Joint Board Action: Approve the ROOT Operations Master Service Agreement*. July 12, 2021.
<https://www.soundtransit.org/sites/default/files/documents/orca-joint-board-action-approve-the-root-operations-master-service-agreement-20210712.pdf>.

Section 3 – Statewide Pass Program Considerations and Colorado Transit Agency Insights

This section identifies what statewide pass development would need to consider, based on program goals, user needs, peer agency best practices, and feedback from Colorado’s transit agencies. Specifically, this section builds on prior research identifying existing pass systems, best practices, and case studies by identifying how all of these components are structured to meet integrated pass program goals. It also expands upon the research, discussing an overview of the steps necessary to develop and implement a statewide transit pass by identifying key considerations for the potential development of a Colorado statewide transit pass. This is further informed by analysis of the Colorado transit agency survey. In addition to the statewide survey of transit agencies, the project team conducted follow-up interviews with representatives from several transit providers across Colorado to provide additional context on agency perspectives related to a potential statewide transit pass. This section concludes with questions for the Exploratory Committee and legislature to consider when addressing key requirements within Senate Bill 24-032, ultimately enabling the Exploratory Committee to produce a viable proposal to the State Legislature detailing potential steps for the creation, implementation, and administration of a statewide transit pass.

Common Goals of Integrated Pass Design

Successful integrated transit pass programs are informed by a clear set of goals that shape pass structure and implementation. Identifying these common goals provides a framework for discussing how existing pass programs approach these goals and considerations for potential pass development. Five broad goals discussed in this section are:

- Simplicity for users
- Customer equity and accessibility
- Local agency flexibility
- Compatibility with fare systems and standards
- Revenue disbursement and financial management

Each goal is defined and then observations of common approaches leveraged by other pass programs are listed. Broad considerations related to a potential Colorado statewide transit pass are also identified.

Goal: Simplicity for Users

Integrated transit passes can help simplify trip planning for riders navigating multiple modes or agency services. Meeting this goal can lead to increased ridership and a better user experience.

Existing Program Approaches

To improve ease of use, integrated pass design components for existing programs include the following:

- A **reduced number of required pass products** (multiple agency-specific passes, apps, or accounts) and **pass duration inconsistency**. For example, someone needs to travel throughout the state by transit over three days, but one agency offers only a daily or monthly pass, while another offers only a daily or five-day pass.¹⁸⁷
- **Integrated pass system design** can lead to evaluation of whether more coordinated pricing and transfer rules improve usability and multiagency network travel.¹⁸⁸
- **Multiagency fare capping** also increases trip affordability and reduces reliance on multiple pass products.¹⁸⁹ In addition, subsidized integrated passes like Clipper BayPass can reduce price barriers for users and increase transit ridership.¹⁹⁰

Colorado Statewide Pass Considerations

Statewide pass user simplicity can lead to potential challenges during development of a statewide pass, as follows:

- Pass simplicity may be constrained by each transit agency still setting their own fare policies and the diversity of agencies across the state make it challenging to agree upon a uniform fare policy.¹⁹¹
- It is important to note that fare equity analyses required by the Federal Transit Administration (FTA) applies to transit providers operating 50 or more fixed-route vehicles in peak service within an urbanized area (UZA) of 200,000 or more people. Fare equity analyses are required for all fare changes, regardless of the size of the increase or decrease. Similar to service equity analyses, FTA requires providers to assess impacts on low-income and Title VI-protected populations.
- Providing additional benefits to customers such as transfer discounts or free transfers between agencies may require complex trip tracking and fare allocation management.¹⁹²

¹⁸⁷ Metropolitan Transportation Commission. *Bay Area Fare Coordination and Integration Study: Draft Business Case*. October 22, 2021. https://mtc.ca.gov/sites/default/files/documents/2021-10/Draft_FCIS_Report.pdf; Los Angeles County Metropolitan Transportation Authority. "Fare Capping on Metro." <https://www.metro.net/about/farecapping/>.

¹⁸⁸ Metropolitan Transportation Commission. *Fare Coordination/Integration Study + Business Case*. October 7, 2021. <https://www.caltrain.com/files/2022-05/Regional%20Fare%20Coordination%20PPT.pdf>.

¹⁸⁹ National Academies of Sciences, Engineering, and Medicine. *Fare Capping: Balancing Revenue and Equity Impacts*. Washington, DC: National Academies Press, 2022. <https://doi.org/10.17226/26510>; Los Angeles County Metropolitan Transportation Authority. "Fare Capping on Metro." <https://www.metro.net/about/farecapping/>.

¹⁹⁰ Metropolitan Transportation Commission. "Transit Fare Coordination & Integration." December 15, 2025. <https://mtc.ca.gov/operations/transit-regional-network-management/transit-fare-coordination-integration>.

¹⁹¹ Metropolitan Transportation Commission. *Transit Fare Coordination & Integration*. October 13, 2023. https://es.mtc.ca.gov/sites/default/files/meetings/attachments/5814/4aii_23_1202_PowerPoint_Fare_Integration_Update.pdf.

¹⁹² Mark, K. "The Long Road to Free Transfers." *Seamless Bay Area*, January 29, 2026. <https://www.seamlessbayarea.org/blog/2026/1/29/the-long-road-to-free-transfers>; Toronto Transit Commission. *For Action Status Update - Fare Integration*. November 22, 2023. https://cdn.ttc.ca/-/media/Project/TTC/DevProto/Documents/Home/Public-Meetings/Board/2023/November-22/4_Status_Update_Fare_Integration.pdf.

- Even relatively simple service and fare coordination may require complex technical coordination related to both software and ticketing equipment.¹⁹³
- Other items that may require balancing between simplicity and local agency autonomy include different transit modes, service models, and operating structures.

Goal: Customer Equity and Accessibility

The shift toward tap-to-pay or other digital payment systems can lead to the risk of excluding unbanked riders or riders limited to smartphone access. It is critical to ensure that pass design continues to provide cash options to riders through targeted equity-based policies and pass features.

Existing Program Approaches

Additional coordination is required to address a wide range of equity-focused barriers, but this can also lead to opportunities.

- **Customers who do not have access to a bank account** may have to depend on reloadable contactless fare cards that are loaded with cash. It is costly if someone loses their reloadable card, and it can also be burdensome to locate a farecard machine that accepts cash.¹⁹⁴
- **To address equity of contactless payment systems**, agencies are installing more versatile fare box systems that integrate cash/coins, smart card/tap to pay, open payment, and QR code validation into one payment point.¹⁹⁵ A statewide pass could trigger the rollout of new fare boxes with these features.
- Importantly, agencies would still need to evaluate how removing cash as a fare option could impact vulnerable riders and take steps to avoid or minimize any negative effects. This process typically involves:
 - Analyzing rider data to understand who currently relies on cash and how different groups would be affected
 - Comparing impacts across populations to identify whether low-income or minority riders would be disproportionately affected
 - Applying agency-defined equity thresholds (established through public engagement) to determine if the impact is significant
 - Engaging the public, particularly affected communities, to gather input and inform decision-making
 - Identifying mitigation strategies if impacts are identified (e.g., expanding access to alternative payment options, adding retail locations, or providing subsidies)

¹⁹³ Metropolitan Transportation Commission. *Transit Fare Coordination & Integration*. October 13, 2023. https://es.mtc.ca.gov/sites/default/files/meetings/attachments/5814/4aii_23_1202_PowerPoint_Fare_Integration_Update.pdf.

¹⁹⁴ Cities for Financial Empowerment Fund. *How Two Transit Agencies Leveraged Payment System Changes as Banking Access Opportunities*. https://cfefund.org/wp-content/uploads/2025/06/Transit-Skyline_v2.pdf.

¹⁹⁵ National Center for Applied Transit Technology. *Fare Collection Technologies: Trends, Opportunities, and Coordination*. September 4, 2024. https://mopublictransit.org/wp-content/uploads/2024/09/N-CATT_Fare-Payment_09-04-2024.pdf.

- This process and other potential mitigation measures ensures that any fare change such as removing cash, does not create unfair barriers and that agencies take proactive steps to maintain equitable access to transit.



Source: Genfare. “Fast Fare Passenger Interface.”

<https://genfare.com/wp-content/uploads/2025/11/Fast-Fare-Passenger-Interface-04.png>.

- **Multiagency coordination on integrated pass equity program design elements** can provide an opportunity to implement new equity measures. For example, pass programs and agencies can implement fare capping programs enabled by account-based, contactless payment systems (cost savings), and one program recently helped unbanked riders start bank accounts when signing up for their passes.¹⁹⁶
- In addition to existing discount verification processes, **agencies are introducing digital verification** for specific rider discounts for people with lower incomes, older adults, youths, veterans, and people with disabilities. This feature enables customers to use transit with lower verification wait times.¹⁹⁷

¹⁹⁶ Cities for Financial Empowerment Fund. *How Two Transit Agencies Leveraged Payment System Changes as Banking Access Opportunities*. https://cfefund.org/wp-content/uploads/2025/06/Transit-Skyline_v2.pdf.

¹⁹⁷ National Center for Applied Transit Technology. *Fare Collection Technologies: Trends, Opportunities, and Coordination*. September 4, 2024. https://mopublictransit.org/wp-content/uploads/2024/09/N-CATT_Fare-Payment_09-04-2024.pdf; California Department of Transportation. “Open Loop in California: Cal-ITP’s 2024 in Review.” *Caltrans Integrated Mobility Newsletter*, January 21, 2025. <https://caltransitdashboard.net/>.

Colorado Statewide Pass Considerations

Ensuring pass program equity can lead to additional coordination, technological, and administrative needs beyond what agencies do today. Colorado specific considerations include:

- Pass-wide equity initiatives may be hard to tailor to meet different agency needs across the state.
- Ensuring local control of equity measures/discounts while making these measures accessible as part of a statewide pass can help maintain agency-specific benefits/programs.
- Pass-wide discount program benefits can lead to eligibility verification delays if eligibility cannot be verified electronically or otherwise expedited.
- Integrating new statewide fare products or purchase channels may require additional assessment of Title VI compliance.

Goal: Local Agency Flexibility

Balancing consistent pass-wide policies with local flexibility can help ensure local agency autonomy, especially when agency service goals and geographic contexts vary widely among pass partners. Ensuring flexibility ultimately ensures that local agencies can better serve their customers.

Existing Program Approaches

The following examples illustrate the implications of balancing local agency flexibility and pass-wide coordination:

- **Integrated transit passes typically provide local agencies with fare autonomy**, but a broad number of fare policies can present challenges for program integration.¹⁹⁸
- **Pass programs understand that agencies vary in size, staffing levels, and technical capabilities**, especially for small, rural, and tribal transit agencies. Key challenges include navigating the technology landscape and fare payment technologies required for integrated pass systems, or service coordination strategies with other agencies. Marketing, procurement, and customer support can also strain local agency staffing.¹⁹⁹ These challenges reinforce the importance of a pass operations team that takes the lead on these items while enabling local agencies to continue their core service functions.

¹⁹⁸ California Integrated Travel Project. *Statewide Fare Guidelines Toolkit*.

<https://www.camobilitymarketplace.org/uploads/resources/Cal-ITP.Statewide.Fare.Guidelines.Toolkit.pdf>.

¹⁹⁹ National Center for Applied Transit Technology. *Data Literacy Among Small Transit Agencies*.

https://n-catt.org/wp-content/uploads/2025/10/NCATT_FTA_LiteracySurey_Results.pdf.

- To address these challenges, **integrated pass programs sometimes implement a phased implementation approach** to accommodate agencies at different readiness levels. Readiness categories can include fare payment software and hardware, staffing, policy alignment, or other considerations. Leveraging master service agreements for technology purchases or open-source technology standards across participating agencies can help agencies reach a level playing field for implementing the technologies that enable pass integration.²⁰⁰
- **Fare-free agencies still have a defined role** in an integrated pass program, specifically related to trip planning, transfers between agencies, fare capping, and other considerations. Research has also found that there is a ridership incentive for fare-free agency coordination; increased transit system integration leads to a more positive effect on ridership when compared to fare removal alone.²⁰¹

Colorado Statewide Pass Considerations

The following considerations are important to contemplate during the development of an integrated pass program:

- Uneven agency participation may lead to a patchwork experience and customer confusion if opt-in levels are different.
- Uneven technology integration/readiness can constrain flexibility and coordination.
- Integrating fare-free services into a statewide pass program may complicate decisions related to pass pricing, revenue allocation, and agency coordination.
- Pass coverage gaps can arise if fare-free agencies are not involved in the pass program (pass promotion, transfer rules, etc.)

Goal: Compatibility with Fare Systems and Standards

Due to participation of multiple agencies, integrated pass programs typically operate on a mix of legacy and modern fare collection systems. System compatibility can impact which agencies can participate in an integrated pass program or the level of upgrades required for agency participation.

Existing Program Approaches

Enabling compatibility requires both an understanding of existing fare system technologies and planning efforts to accomplish integration:

- **Long-term planning and phased transition approaches** are required to integrate disparate, legacy fare systems.²⁰²

²⁰⁰ National Center for Applied Transit Technology. *No-Cost Technical Assistance Opportunities with N-CATT*. Michigan Department of Transportation.

<https://www.michigan.gov/mdot/-/media/Project/Websites/MDOT/Travel/Mobility/Public-Transportation/Tech-Talk/January-2025-N-CATT-Technical-Assistance.pdf>.

²⁰¹ Pike, S. *Transit Fare Policies, Including Fare-Free Transit*. April 2025.

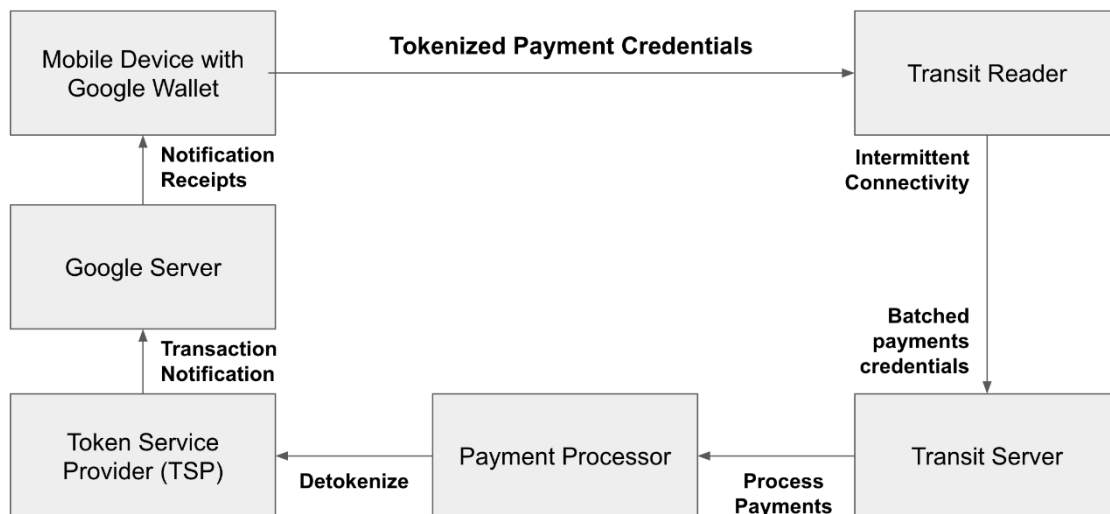
<https://www2.arb.ca.gov/sites/default/files/2025-11/Transit%20Fare%20Policies%20-%202025%20Policy%20Brief.pdf>.

²⁰² Washington Metropolitan Area Transit Authority. *Finance and Capital Committee Information Item III-B*. September 11, 2025.

<https://www.wmata.com/about/board/meetings/board-pdfs/upload/3B-Fare-Modernization.pdf>.

- Using open-source standards that support a wide range of payment and transaction methods can enable fare system interoperability.²⁰³
- While a mix of systems may exist across agencies, a minimum device capability baseline is typically defined. For example, open loop payment systems (which often use tap-to-pay technology) require pass readers that comply with the Europay, Mastercard, and Visa (EMV) protocol to accept any form of contactless payments. EMV is the global standard that defines how chip and contactless cards and the reader terminal securely communicate to authenticate and process electronic payments.²⁰⁴ Figure 8 shows the Google Wallet open loop transit payment system architecture.
- To address these challenges, programs can establish governance structures to define a fixed timeline to implement technology that enables a fully integrated fare system.²⁰⁵

Figure 8: Google Wallet Open Loop Transit Payment System Architecture



Source: Google. "Technical Architecture | Open Loop Transit | Google for Developers." <https://developers.google.com/wallet/tickets/open-loop/setup/technical-architecture>.

²⁰³ OSPT Alliance. *Implementing Account-Based Ticketing (ABT)*. https://osptalliance.org/wp-content/uploads/2023/12/OSPT_AB_Ticketing_eBook.pdf.

²⁰⁴ Google. "Technical Architecture | Open Loop Transit | Google for Developers." <https://developers.google.com/wallet/tickets/open-loop/setup/technical-architecture>; EMVCo. "What Are EMV® Specifications?" <https://www.emvco.com/what-are-emv-specifications/>.

²⁰⁵ Chicago Metropolitan Agency for Planning. "Fare Integration." October 4, 2023. https://cmap.illinois.gov/wp-content/uploads/PART_recommendations-b4-fare-integration.pdf.

Colorado Statewide Pass Considerations

Fare payment technology integration represents a major hurdle:

- The various systems that agencies use today and the challenges associated with integrating them can constrain technology integration. This effort can be especially costly for agencies that have recently upgraded their systems.
- A phased implementation approach can create inconsistent rider experiences during transition.
- If a unified payment system for a statewide pass is a priority, multiagency system integration and compatibility can affect how the pass can be implemented and how many agencies can participate as pass partners.
- Agency integration for a statewide pass may require balancing the risk of technology and equipment vendor lock-in vs. the interoperability benefits of working with a small number of vendors.

Goal: Revenue Disbursement and Financial Management

Integrated pass programs shift fare revenue flows and increase the need for additional accounting and administrative functions. Addressing revenue impacts is critical to sustaining agency participation in a pass program.

Existing Program Approaches

Pass programs must clearly define allocation, reimbursement, and data structures to accomplish this goal:

- **Pass revenue allocation requires a distribution approach** that ensures transit agencies are reimbursed on a predefined basis.²⁰⁶
- **Explicit revenue-protection features**, such as pass participation agreements, are needed to maintain current fare revenue and service consistency for existing customers.²⁰⁷
- **Passes with cross-agency transfer discounts/benefits or cross-agency fare capping** require a reimbursement mechanism for unrealized revenue by one or both agencies.²⁰⁸
- **The complexities of pass program ridership tracking, revenue allocation, and program reporting** depend on well-defined data management and sharing approaches.²⁰⁹

²⁰⁶ Metropolitan Transportation Commission. *MTC Resolution No. 4662: Clipper BayPass Phase 2 Pilot—Allocation and Authorization to Distribute Revenues to Transit Operators*. September 13, 2024. https://mtc.ca.gov/sites/default/files/meetings/attachments/6082/8j_24_1040_Summary_Sheet_Clipper_BayPass_Phase_2_Allocations.pdf.

²⁰⁷ Caltrain. *Clipper BayPass Pilot Participation Agreement*. September 27, 2023. <https://www.caltrain.com/media/31695/download>.

²⁰⁸ Toronto Transit Commission. *For Action Status Update - Fare Integration*. November 22, 2023. https://cdn.ttc.ca/-/media/Project/TTC/DevProto/Documents/Home/Public-Meetings/Board/2023/November-22/4_Status_Update_Fare_Integration.pdf.

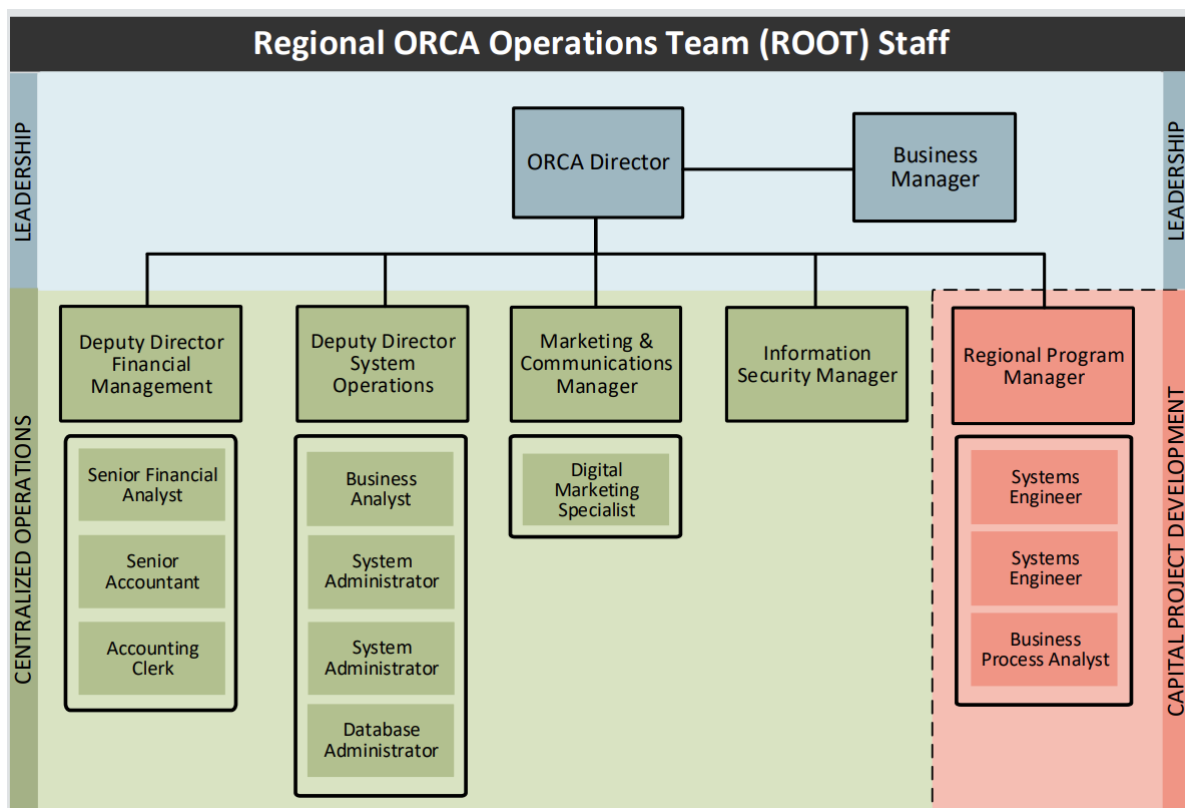
²⁰⁹ Transportation Research Board and National Academies of Sciences, Engineering, and Medicine. *Multimodal Fare Payment Integration*. Washington, DC: National Academies Press, 2020. <https://www.nationalacademies.org/read/25734/chapter/1>.

Colorado Statewide Pass Considerations

Operational and data factors can influence revenue management:

- Timely revenue allocation depends on a pass operations team developing a strong accounting structure that includes specialized financial staff (**Figure 9** shows example roles).
- If an agency cannot provide accurate ridership data, this may lead to revenue allocation challenges.
- Fare allocation planning can be undermined when ridership behavior shifts in response to newly implemented pass features such as fare capping or transfer benefits between agencies.
- Coordination with fare-free agencies is important to ensure high-quality statewide pass service, but their involvement can make revenue distribution to agencies with fares more complex.

Figure 9: ROOT Operations Team Organizational Chart



Source: ORCA Joint Board. *ROOT Staffing Plan Overview*. June 8, 2020.

<https://www.soundtransit.org/sites/default/files/documents/orca-joint-board-briefing-root-staffing-plan-overview-20200608.pdf>.

Conclusion: Identifying Common Pass Goals

A typical first step when developing an integrated transit pass program is developing goals to guide program decision making. These goals may focus on customer-facing needs, overall program coordination, or assurance that agency-specific priorities are integrated into the pass. Identifying goals early on can clarify program direction, increase the likelihood of agency participation in a pass program, and provide benefits to riders.

Pass Structure and User Implications

Building on the existing program approaches identified in the **Common Goals of Integrated Pass Design** sub-section, this sub-section identifies more specific characteristics of existing pass programs. The goal of this sub-section is to review existing integrated pass programs that may serve as examples for a statewide transit pass. The following information summarizes what other programs commonly offer for pass products, pricing structures, discount programs, and equity considerations. This sub-section concludes by discussing the implications of these pass elements for pass users.

Existing Integrated Pass Program Characteristics

Project research identified more than 20 existing integrated pass programs, twelve of which share structural characteristics that are relevant to a potential statewide pass program. Across these peer programs, approaches to pass components vary widely. These commonalities and differences offer important insights to consider during the development of a potential statewide pass.

Pass Products Commonly Offered

For existing integrated pass programs, monthly, weekly, and single day passes are the most common offerings. Monthly passes, such as those offered by HopFastpass, are most commonly targeted toward commuters. Weekly and single day passes are less specifically targeted and work well for commuters and visitors. Other less-common pass types include annual or multiday passes. Multiday passes include the Northwest Connector, Flamingo Fares, and Ventra. Many of these programs, such as the Northwest Connector, have three-day passes for visitors to use. The Gorge Pass, the only annual pass, is targeted toward residents of the region, with the stated goal of the pass being a reduction in congestion while also reducing environmental impacts.

Some of these passes are available for direct purchase, while others are offered through fare capping structures. Under fare capping, riders who reach the cost of a specific pass within a set time period are automatically upgraded to that pass, and any additional rides during that period are free. The range of pass types offered by other integrated pass programs provides useful considerations for a Colorado Statewide Integrated Pass. Different pass types serve different target user groups, as rider needs and preferences vary. For example, students and regular commuters are typically best served by monthly passes, while more infrequent riders, such as tourists, are more likely to benefit from daily passes.

Pass Pricing Structures

Of the integrated passes analyzed, most pass programs retain existing individual agency fare structures. These passes focus more on technology and payment integration rather than on full fare unification. An example is the Clipper Transit Card, which uses existing agency fare structures, with some agencies offering discounts for the use of a Clipper Card to pay for fares. Four pass programs do have a unified fare structure as a part of their integrated pass program, all Tier 1 pass programs. The CARTS pass is one of these programs; it charges fares based on zones traveled, with unified fares across agencies for each type of zone.

The following represent typical steps completed when developing pass pricing structures:

- **Set revenue goals and projections.** Revenue neutral or revenue positive goals help ensure cash flow for transit agency reimbursement. In addition, setting clear reimbursement policies at this time enables agencies to confidently project the pass-related funds they will receive. For example, for the Clipper BayPass pilot, agencies are reimbursed for trips based on actual passenger usage at a rate equal to a full adult Clipper Fare.²¹⁰
- **Use ridership data and travel patterns for pass price scenario modeling.**²¹¹ Fare revenue projections and fare elasticity, which is the impact on ridership given pass pricing, can be key inputs for scenario modeling.²¹²
- **Align fare caps with existing pass prices.** Fare caps will typically align with the price of the pass for the same duration. For example, a daily fare cap can be set for the day-pass price so that riders will not pay more than the cost of a day pass. A similar approach can be applied for weekly or monthly fare capping in relation to weekly or monthly pass costs. This guarantees the best fares for riders so that they are never overcharged for their trips and helps riders be confident that they are buying the best value ticket.²¹³ Account-based ticketing is not a requirement for fare capping; however, fare capping does require a system that can keep track of trips over time. ABT systems are usually the most effective approach, especially when the goal is to implement fare capping for trips across multiple agencies or when using multiple payment methods.
- **Compare fare prices and cost-recovery targets to peer programs.** Other fare structures can help provide fare targets or be used as guardrails when evaluating pass price scenarios.²¹⁴

²¹⁰ Metropolitan Transportation Commission. *MTC Resolution No. 4519 (Revised): Clipper BayPass Phase 1 Programming Update*. San Francisco, CA, 2024.
https://planbayarea.org/sites/default/files/meetings/attachments/6093/2b_24_1017_MTC_Resolution_No_4519_8.pdf.

²¹¹ Mahmoud, Mohamed Salah. "Estimating Transit Fare Elasticity Using Panel Models: Metro Vancouver Case Study." Presentation, TRB Innovations in Travel Modeling Conference, June 26, 2018.
<https://onlinepubs.trb.org/onlinepubs/Conferences/2018/ITM/SMahmoud.pdf>.

²¹² Sound Transit Board of Directors. *Resolution No. R2024-08*. Seattle, WA, 2024.
https://www.soundtransit.org/st_sharepoint/download/sites/PRDA/FinalRecords/2024/Resolution%20R2024-08.pdf.; De Gruyter, C., G. Currie, and G. Rose. "The Impact of Fare-Free Public Transport on Ridership: A Review of Evidence." *Transport Policy* 105 (2021): 1-12.
<https://www.sciencedirect.com/science/article/pii/S0967070X2100055X>.

²¹³ Masabi. "Fare Capping: What Is It and How Does It Work?" February 21, 2022.
<https://www.masabi.com/2022/02/21/fare-capping-what-is-it-and-how-does-it-work/>.; American Public Transportation Association. *Pilot of the Month: June 2027*. Washington, DC, 2020.
<https://www.apta.com/wp-content/uploads/Pilot-of-the-Month-June-27Final.pdf>.

²¹⁴ Sound Transit. *Fares Strategy and Farebox Recovery*. Presentation to the Sound Transit Board of Directors, May 4, 2023.

Pass Payment and Technology Models

The most prominent payment model for the identified integrated pass programs is a closed-loop system, which include pass-specific smart cards and mobile ticketing apps. These account-based fare systems support fare capping and free transfers. Many pass programs are also integrating open-loop, tap-to-pay systems with credit/debit cards or mobile wallets. Smaller or more rural programs typically retain cash and printed passes as options in lieu of or in addition to the payment models listed previously.

Pass Discount and Equity Programs

A small number of integrated pass programs use local agency-specific discount programs, including Ventra and the TAP card. However, most incorporate discount programs into the integrated pass system so that they apply across the whole network of participating transit providers. The most common program-wide discount categories are for individuals with disabilities, seniors 65+, and income-based fare programs. Hop FastPass is an example of a program with all three of these most common equity programs.

Other discount programs include those for students and youth, business and commuters, Medicare card holders, and veterans. Clipper and the Go-To card are examples of passes that offer business, commuter, and youth passes. Because many pass programs that participate still use existing agency pricing structures, individuals who are eligible for discount and equity programs may still be paying different fares for each agency, but they are able to apply for discounted fares for all agencies at the same time. While most integrated pass programs offer systemwide discounts, some continue to rely exclusively on agency-specific discounts. The most appropriate discount structure for a statewide integrated pass in Colorado will likely depend on the broader fare model the State chooses to implement. For example, if transit fares are unified statewide, a unified discount structure would provide the greatest consistency and simplicity for riders.

A common equity consideration that is implemented in integrated transit pass programs is the ability to pay cash for integrated pass products. Even though many transit agencies with integrated passes transition to not accepting cash fares on transit vehicles, they still offer the option to purchase fares with cash at fare vending machines, transit centers, and partner retailers.

Conclusion: Patterns Across Existing Pass Programs

Several clear patterns emerged from this analysis. Given the challenges with full fare integration across multiple agencies, many pass programs will first prioritize consistent pass options or payment methods across the partner agencies. Pass discount programs can also be integrated into pass-wide discounts, but many agencies prefer to offer their own discount programs that best meet customer needs. Overall, these programs integrate individual components or characteristics to serve target users. Design implications for users are further discussed below.

User Needs and Implications for Pass Structure

Individual pass components can be combined in a way that serves a range of users. This user-centric perspective focuses on who is traveling and using these passes rather than on individual pass elements. **Table 3** summarizes characteristics commonly associated with different user types for fare-based programs.

Identifying key user groups helps develop a pass program structure that is flexible enough to meet a variety of user needs. Given the diverse set of transit riders across Colorado, it is important to consider how different user groups may be best served by a pass.

Table 3. Fare-based Program User Types

User Type	Primary Travel Needs	Common Pass Durations	Common Payment Options	Common Discount Programs	Considerations
High-frequency riders	Frequent, predictable trips to work or other key destinations	Monthly pass, annual pass	Employer payroll deduction; automated pass billing and payment	Older adults, students, youths, low-income community members, employer transit subsidies	May be subsidized by employers. Low-income and unbanked riders may still rely on daily passes or stored value cards.
Occasional Riders	Infrequent, flexible travel	Pay-per-trip, day pass	Mobile ticketing app, tap-to-pay (smart card, debit/credit card, mobile wallet, etc.), stored value card, cash	Older adults, students, youths, low-income community members, employer transit subsidies	Pass branding should be clear; purchase and usage should also be simple. It should also be clear how the pass is compatible across agencies.
Tourists/Visitors	Short-term, high convenience	Pay-per-trip, day pass, multi-day pass (3-day, 7-day, etc.)	Mobile ticketing app, tap-to-pay, pass provided by hotel or resort	Tourist/visitor discounts	Similar considerations to the “Occasional Riders” user type. Since some passes may be supplemented by towns or resorts where tourists are staying, this is an important integration to consider.
Part-Time Residents	Periodic but repeat use	Pay-per-trip, day pass, multi-day pass, monthly or seasonal pass	Mobile ticketing app, tap-to-pay (smart card, debit/credit card, mobile wallet, etc.)	Older adults, employer transit subsidies	Common in resort areas. Rolling validity may be more attractive than calendar-based.
Seasonal Workers	High use for limited period; affordable transportation	Monthly pass, seasonal pass	Employer payroll deduction, mobile ticketing app, tap-to-pay (smart card, debit/ credit card, mobile wallet, etc.), stored value card, cash	Low-income community members, employer transit subsidies, employer subsidies	Common in resort and rural areas. May be subsidized by employers.

Survey Findings: Colorado Transit Agency Perspectives

This section examines some of the previously identified elements in the context of Colorado's transit agencies today, while also working to understand what agencies see as potential benefits and challenges of a statewide pass.

As a part of the Statewide Transit Pass research project, the project team surveyed Colorado transit agencies. The survey goal was to gain a better understanding of existing pass structures, partnerships with nearby transit agencies, and perspectives on the benefits and challenges associated with the potential implementation of a statewide pass program. The project team identified agency representatives best suited to answer these questions and sent the survey to them via email. These representatives were primarily identified through a Colorado Association of Transit Agencies (CASTA) contact list. Any agency contacts missing from this list were identified through the project team's existing network of Colorado transit agency staff. The survey was distributed to 109 staff members across 86 agencies. Ultimately, 68 survey responses were received. There were no instances where a single agency submitted multiple survey responses. The surveys were seen as representative of individual agency staff member opinions, rather than the agency's official position on a statewide pass program.

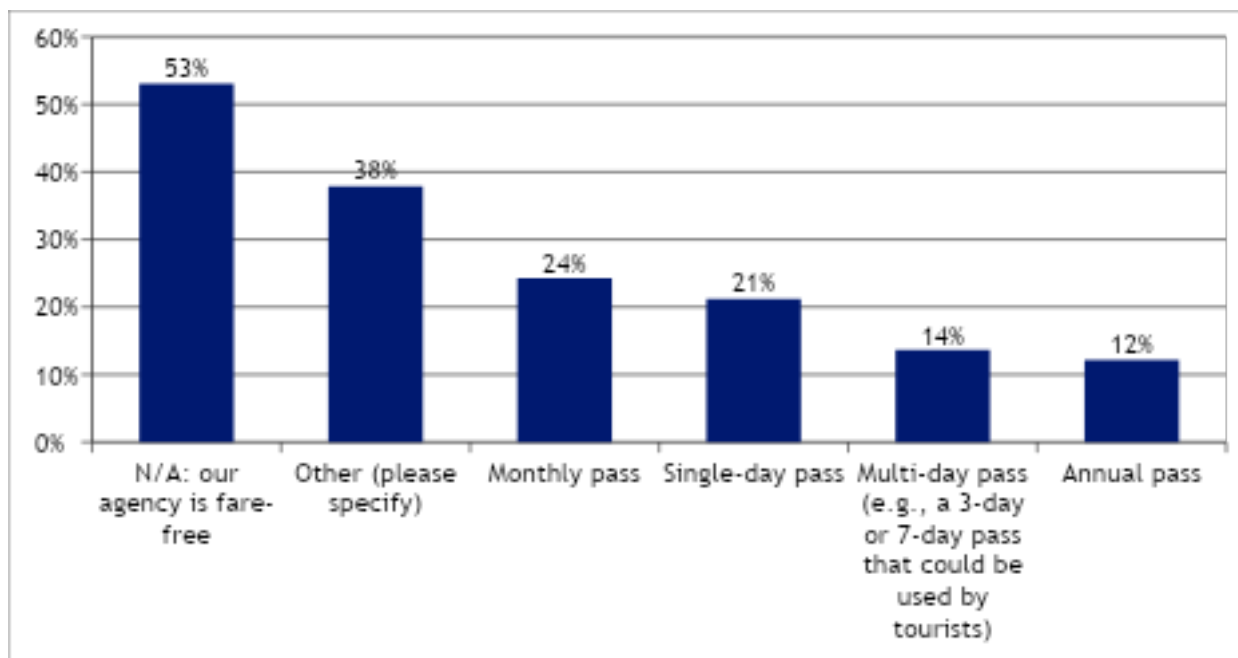
Overall, most agencies see the value of a statewide transit pass, but they have various concerns related to additional costs and/or staff time that their agency may incur with the implementation of the pass, technological or operational issues with integrating payments, confusion for customers, and a loss of cash fare payment options. Agencies also see benefits in the integration of a statewide pass, including more robust ridership data, increased collaboration between transit agencies, improved customer experiences, and support for overall ridership growth.

Existing Conditions

As shown in **Figure 10**, most responding agencies (53 percent) report being fare-free, and as a result, currently do not offer any passes. For agencies collecting fares, monthly passes are the most commonly offered option (24 percent), followed closely by single-day passes (21 percent). Other pass types include multi-day passes (14 percent) and annual passes (12 percent). [Figure 10:](#)

Current Transit Pass Options

What transit pass options does your agency currently provide? Select all that apply.²¹⁵



Thirty-eight percent of respondents reported offering “other” types of passes. “Other” responses varied but center on a few key themes, including:

- Multi-ride/punch passes
- Time-based passes
- Fare-free service (full or partial)
- No passes offered
- Eligibility-restricted access
- Partner-provided or reimbursed passes
- Per-trip/stored value fares
- Employer/institutional pass programs

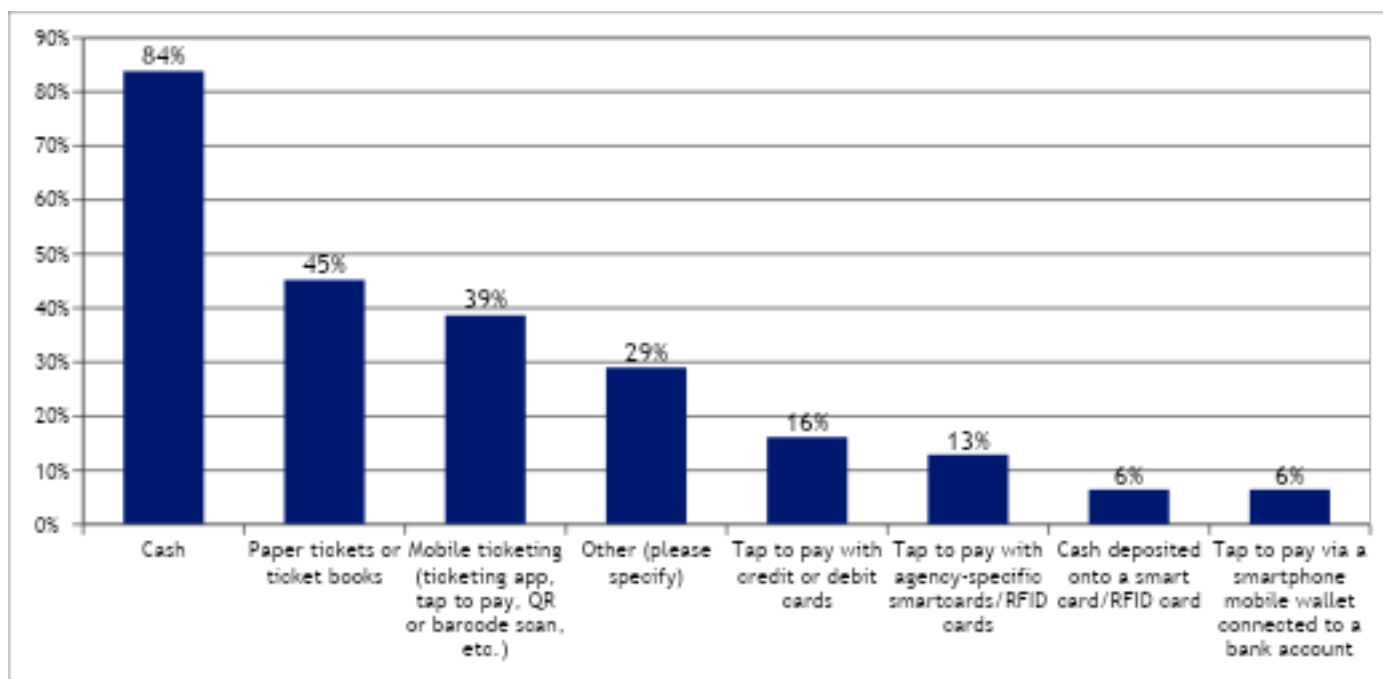
Agencies who currently charge fares were also asked about the fare payment methods that they currently accept. As shown in **Figure 11**, nearly all participating transit agencies accept cash (84 percent). As noted earlier, any consideration of removing cash as a fare option would require further analysis and mitigation to ensure it does not disproportionately impact vulnerable populations. This includes evaluating who relies on cash today, assessing potential equity impacts, engaging affected communities, and identifying strategies to minimize barriers and maintain equitable access to transit. Paper tickets or ticket books (45 percent) and mobile ticketing (39 percent) are also commonly accepted payment methods. In contrast, tap-to-pay and other “smart”

²¹⁵ For questions where respondents can select all that apply, percentages may total more than 100%.

payment options are much less prevalent. Only 16 percent of agencies accept tap-to-pay using credit or debit cards, and even smaller percentages accept other tap-based options.

Figure 11: Current Fare Payment Methods

What fare payment methods does your agency currently accept? Select all that apply.



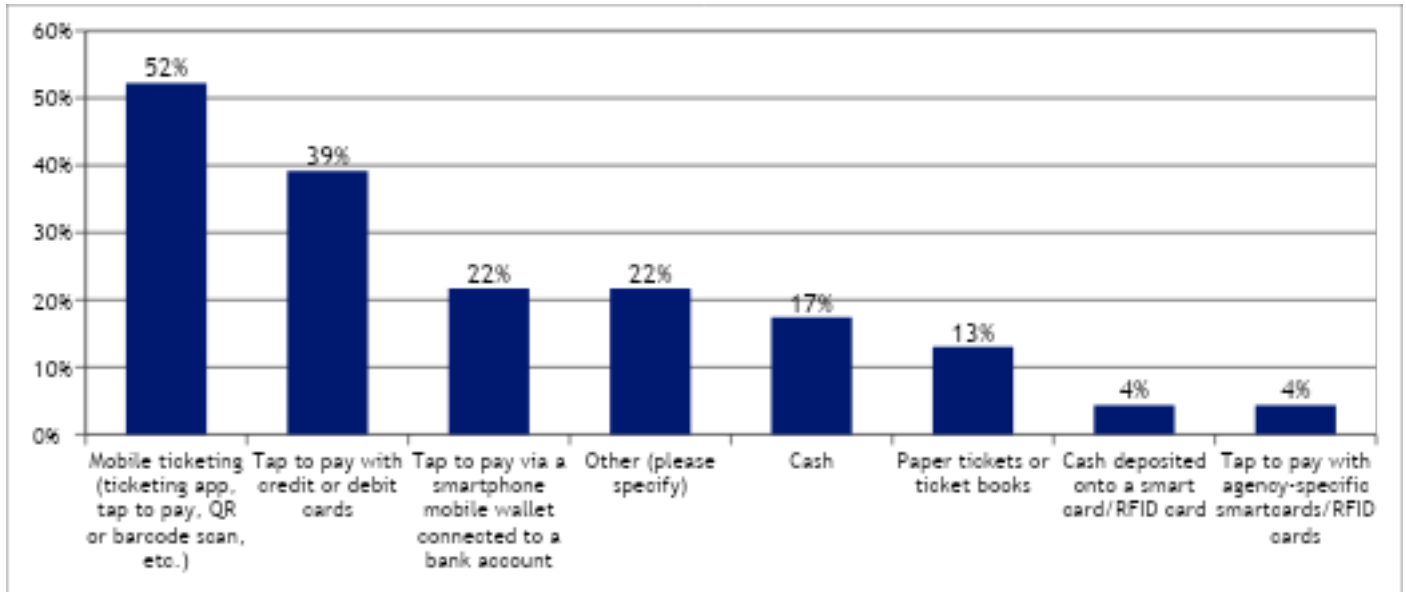
“Other” responses accounted for 29 percent of responses. “Other” responses varied but center on a few key themes, including:

- Credit/debit cards
- Cash/check/donations
- Mobile/app-based payments
- Contactless/tap-to-pay
- Stored Value/account-based payment
- Smart Cards/physical fare media
- Institutional or organizational passes

Agencies were then asked about their plans for fare payment methods in the next five years and if there were any planned implementations of new fare payment methods, as shown in **Figure 12**. Many agencies are looking to shift toward more digital payment methods. More than half (52 percent) report plans to implement mobile ticketing, followed by 39 percent planning to implement tap-to-pay with credit or debit cards, and 22 percent planning to offer tap-to-pay via smartphones or mobile wallets.

Figure 12: Plans for Fare Payment Methods

What new fare payment methods does your agency plan to implement in the next five years?
Select all that apply.



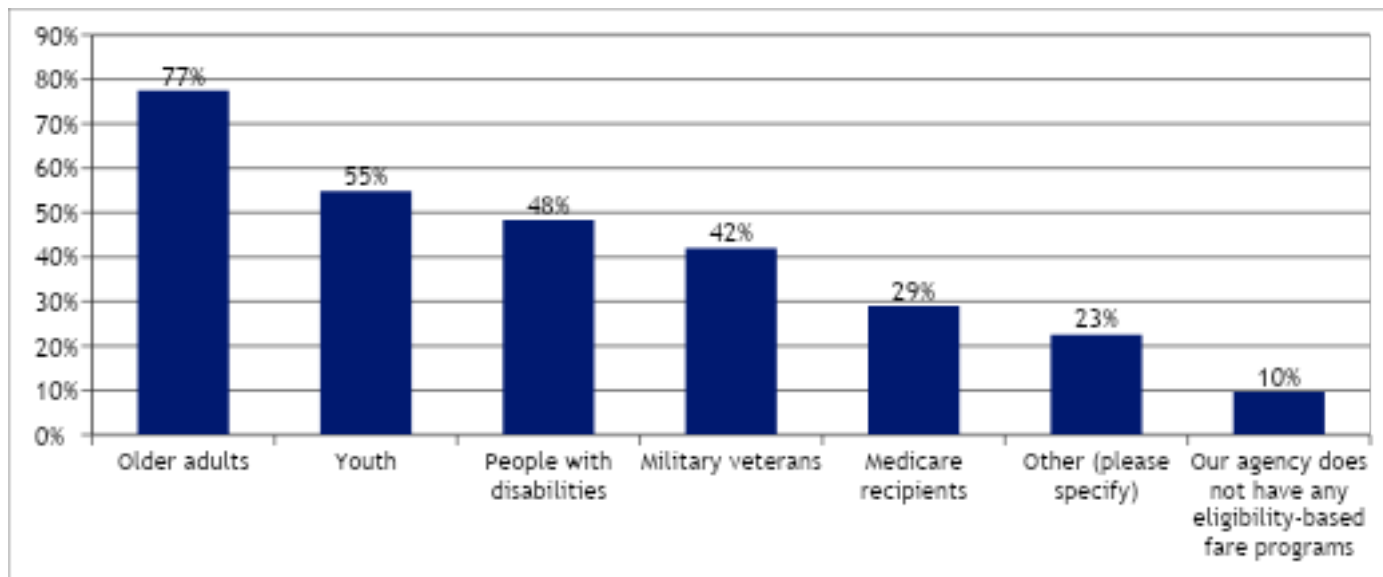
“Other” planned payment methods were reported by 22 percent of respondents. “Other” responses varied but center on a few key themes, including:

- No planned changes to fare payment
- Transition to fare-free service
- Enhancements to existing fare payment systems
- Mobile/app-based fare payment (microtransit-specific)
- Integrated or event-based fare models

Agencies were also asked about special fare types and the specific groups of community members who are eligible. As shown in **Figure 13**, 77 percent of agencies offer special fares for older adults, followed by 55 percent offering special fares for youth. Smaller percentages of agencies offer reduced fares for people with disabilities (48 percent) and veterans (42 percent).

Figure 13: Special Fare Types

Does your agency have eligibility-based fare programs for any of the following groups of community members? Select all that apply.



“Other” special fare categories were reported by 23 percent of respondents. “Other” responses varied but center on a few key themes, including:

- No eligibility-based fare programs
- Student-based fare programs
- Senior-based fare programs
- Income-based or equity-focused fare programs
- Disability-related fare programs
- Employee-, affiliate-, or organization-based fare programs
- Fare-free or donation-based models

Transit Agency Interview Insights

To supplement the statewide survey results, the project team conducted interviews with transit agencies that indicated in the survey they were willing to participate in a follow-up discussion. The goal of these interviews was to gather additional qualitative insights into the potential opportunities and challenges associated with a statewide transit pass.

While the survey provided a broad overview of agency perspectives across the state, the interviews offered additional detail regarding agency priorities and implementation considerations. Several common themes emerged from these discussions. These themes included interest in improving

regional connectivity and customer experience, concerns related to technology integration and administrative capacity, and the importance of maintaining flexibility for local fare policies and operational practices.

These interview insights are referenced throughout the following sub-sections to provide additional context for the survey findings. Agencies were asked a set of broad questions, along with more specific questions related to their agency and the responses they provided in the survey. Responses were summarized across agencies and aggregated to preserve anonymity; feedback should not be interpreted as the official position of any individual transit agency.

Statewide Pass Implications for Colorado Transit Agencies

This sub-section analyzes the survey questions related to a potential statewide pass.

In the next sub-section of the survey, respondents were asked about potential benefits of a statewide pass program. The first question focused on potential customer-facing benefits, and the second question focused on transit agency-specific benefits.

The analysis that follows is summarized across four tables:

- An overall summary
- Responses from agencies that support a statewide pass compared to those that do not
- Responses from agencies that charge fares compared to those that are currently fare-free
- Responses from urban, rural, and resort agencies

As shown in **Figure 14**, most agencies (66 percent) are in favor of a statewide transit pass.

Figure 14: Statewide Transit Pass Favorability

Overall, are you in favor of a statewide transit pass?

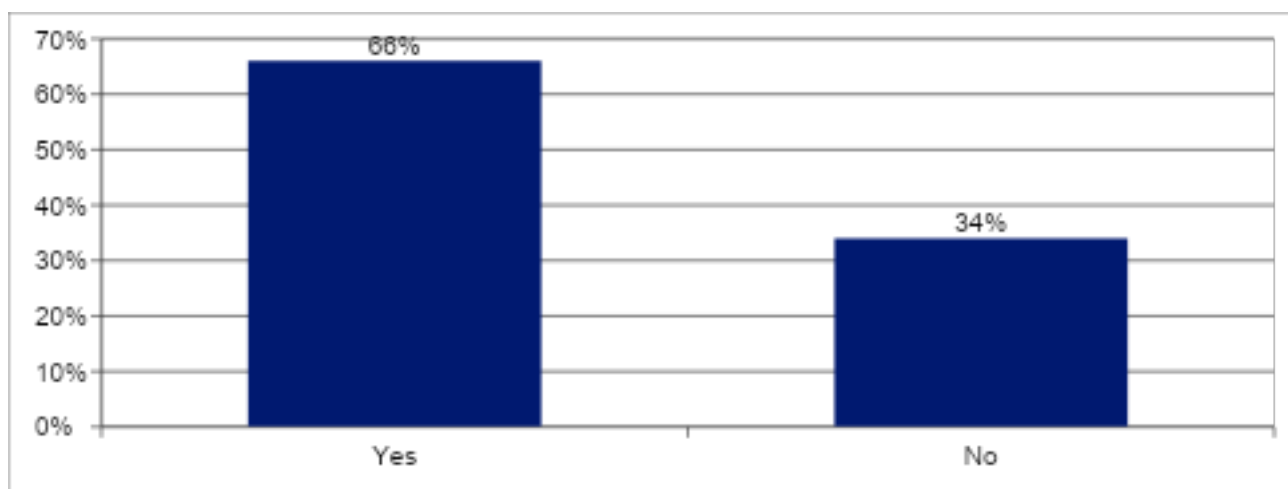


Figure 15 displays these same results for statewide pass favorability broken out by service context (urban, rural, resort area), and Figure 16 displays the results broken out by agencies with fares and fare-free agencies. These results are further analyzed in the benefits and challenges sub-sections below.

Figure 15: Statewide Pass Favorability – Service Context

Overall, are you in favor of a statewide transit pass?

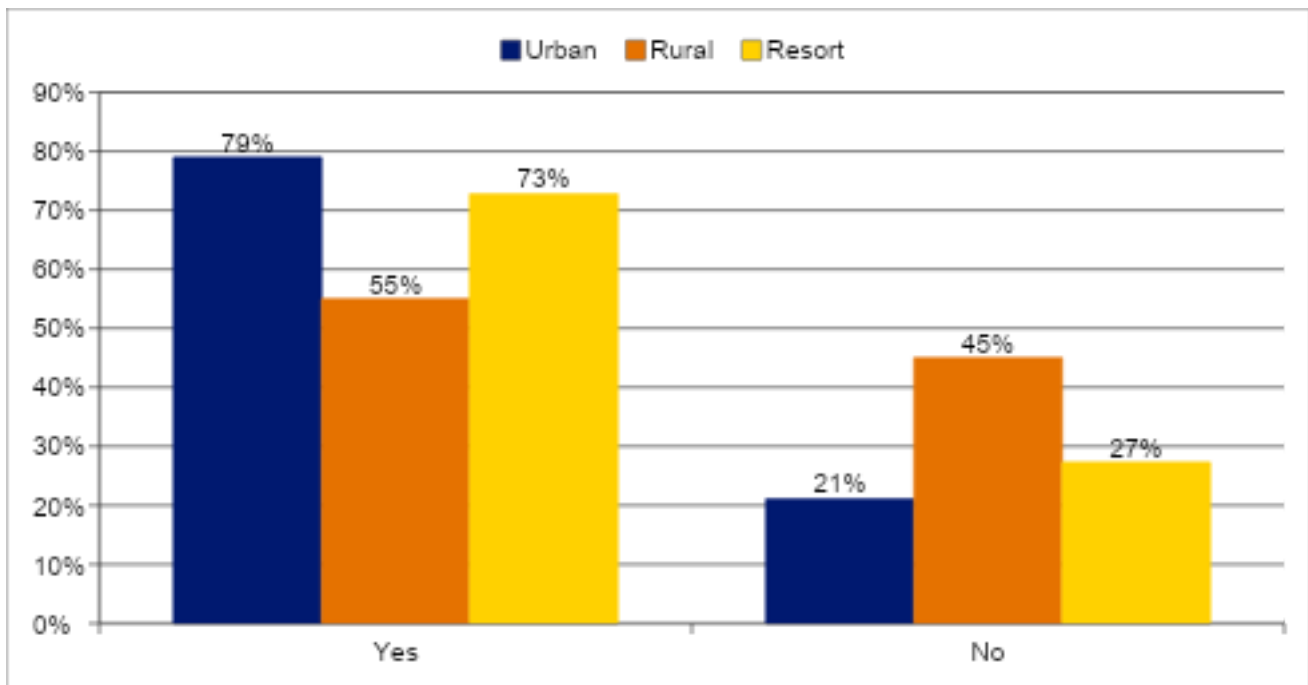
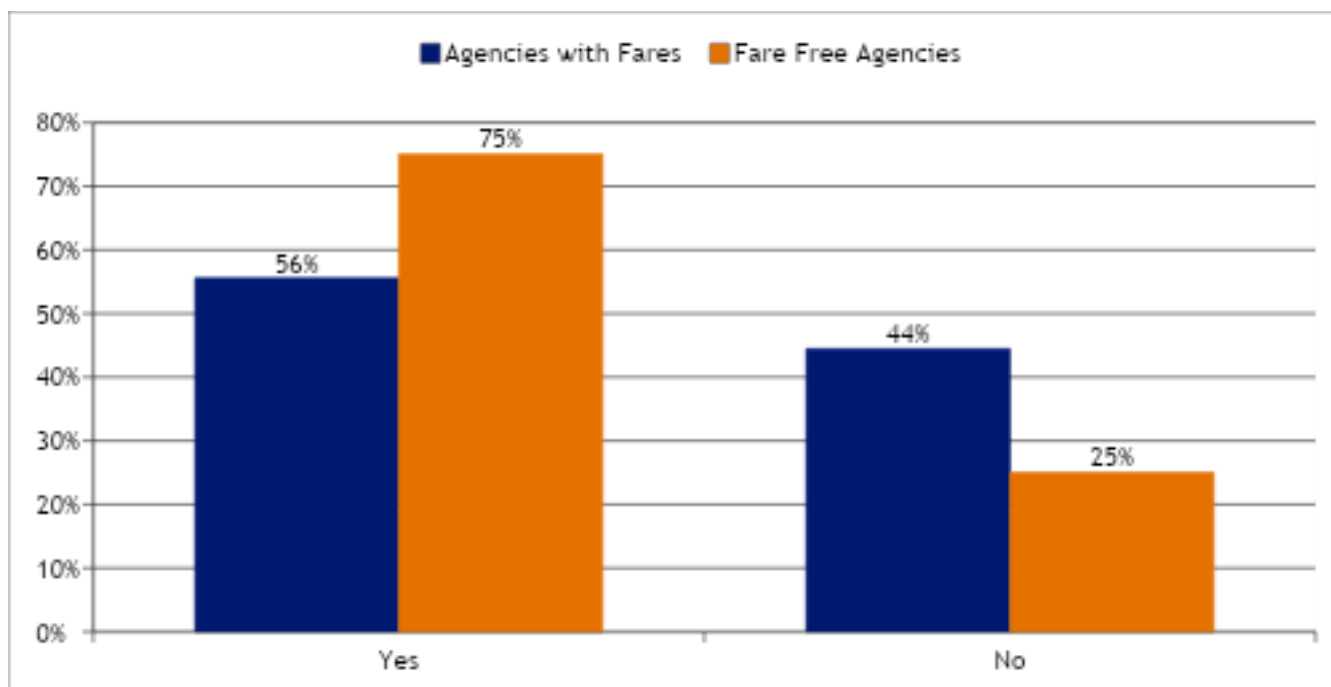


Figure 16: Statewide Pass Favorability – Agencies with Fares vs Fare-free Agencies
Overall, are you in favor of a statewide transit pass?



Customer-Facing Benefits

Question 10 asked respondents “If a statewide transit pass were developed in the future, how important would each of the following customer-facing benefits be to your agency?”. As shown in **Table 4**, the most important customer-facing benefit of a statewide transit pass was “Supporting overall ridership growth” (86 percent), followed closely by “Improving customer experience and satisfaction” (83 percent). These and the other important benefits identified are common goals shared by most transit agencies, regardless of whether or not they support a statewide transit pass.

The benefits that resonated least with agencies included “Making it easier for customers to enroll in the agency’s discount programs (e.g., older adults, people with disabilities, students, and veterans)” and “Enabling fare capping for trips that include multiple transit agencies.” Unlike the benefits related to broad goals across agencies, these benefits are more challenging to accomplish without significant interagency coordination. Because these benefits would likely be enabled statewide by an integrated pass, they may have less support from those not in favor of a statewide pass.

Table 4. Importance of Customer-Facing Benefits

If a statewide transit pass were developed in the future, how important would each of the following customer-facing benefits be to your agency?

Importance of Customer-Facing Benefits	Very or Somewhat Important*	Neutral	Not Very Important or Not Important at All**
Supporting overall ridership growth	86%	2%	12%
Improving customer experience and satisfaction	83%	5%	12%
Increasing inter-regional and interagency travel	74%	16%	10%
Allowing customers to purchase a single pass for trips that include multiple transit agencies	64%	15%	20%
Coordinating eligibility-based discount programs (e.g., older adults, people with disabilities, students, veterans) across all agencies	60%	19%	21%
Offering reduced-cost or free transfers between different transit agencies	60%	21%	19%
Making it easier for customers to enroll in your agency's discount programs (e.g., older adults, people with disabilities, students, veterans)	52%	22%	26%
Enabling fare capping for trips that include multiple transit agencies	40%	40%	21%

*Includes responses for both "Very Important" and "Somewhat Important"

**Includes responses for both "Not Very Important" and "Not Very Important at All"

Table 5 shows the same results for the customer-facing benefits question, with results broken out by agencies in favor of a statewide pass and agencies not in favor of a statewide pass. This distinction helps understand how potential customer-facing benefits are prioritized between these two respondent groups. Agencies in favor of a statewide pass are much more supportive of features that would be enabled by a statewide pass or other similar integrated system. Specifically, among agencies that are in favor of a statewide pass, the most important customer-facing benefit was "Allowing customers to purchase a single pass for trips that include multiple transit agencies" (82 percent).

While there are major differences between these groups, both see supporting overall ridership growth and improving customer experience as top priorities. **Table 5** presents the relative importance of the remaining customer-facing benefits for agencies in favor of a statewide pass and those not in favor, along with the differences between the two groups.

Table 5. Importance of Customer-Facing Benefits - Agencies that Support vs Oppose a Statewide Pass

If a statewide transit pass were developed in the future, how important would each of the following customer-facing benefits be to your agency?

Importance of Customer-Facing Benefits	In Favor of Statewide Pass: Very or Somewhat Important	Not in Favor of Statewide Pass: Very or Somewhat Important	% Difference ²¹ ₆
Allowing customers to purchase a single pass for trips that include multiple transit agencies	82%	38%	In Favor +44%
Making it easier for customers to enroll in your agency's discount programs (e.g., older adults, people with disabilities, students, veterans)	63%	32%	In Favor +31%
Offering reduced-cost or free transfers between different transit agencies	74%	44%	In Favor +30%
Coordinating eligibility-based discount programs (e.g., older adults, people with disabilities, students, veterans) across all agencies	69%	44%	In Favor +25%
Increasing inter-regional and interagency travel	83%	69%	In Favor +14%
Supporting overall ridership growth	84%	82%	In Favor +2%
Improving customer experience and satisfaction	86%	88%	Not in Favor +2%
Enabling fare capping for trips that include multiple transit agencies	54%	63%	Not in Favor +9%

Table 6 shows the results to the same question broken out by agencies with fares and fare-free agencies. Agencies with fares prioritize potential customer benefits related to fares and discount programs, while fare-free agencies support benefits that would reduce overall costs, such as fare capping or free transfers between agencies. Of agencies that currently charge fares, the most important customer-facing benefit was “Improving customer experience and satisfaction” (**Table 6**). This sentiment is shared by fare-free agencies, with 78 percent of respondents, a 2-percentage point difference, also stating this was very or somewhat important. The most important goal for fare-free agencies was to “Support overall ridership growth” (88 percent). This was also relatively important for agencies with fares, at 79 percent.

²¹⁶ Results are sorted by the “% Difference” column to highlight which benefits are prioritized more by agencies with fares compared to fare-free agencies.

Table 6. Importance of Customer-Facing Benefits – Agencies with Fares vs Fare-free

If a statewide transit pass were developed in the future, how important would each of the following customer-facing benefits be to your agency?

Importance of Customer-Facing Benefits	Agencies with Fares: Very or Somewhat Important	Fare-free Agencies: Very or Somewhat Important	% Difference
Making it easier for customers to enroll in your agency's discount programs (e.g., older adults, people with disabilities, students, veterans)	62%	46%	Agencies w/ Fares +16%
Coordinating eligibility-based discount programs (e.g., older adults, people with disabilities, students, veterans) across all agencies	66%	57%	Agencies w/ Fares +9%
Improving customer experience and satisfaction	82%	78%	Agencies w/ Fares +4%
Increasing inter-regional and interagency travel	72%	72%	0
Allowing customers to purchase a single pass for trips that include multiple transit agencies	60%	63%	Fare-free +3%
Enabling fare capping for trips that include multiple transit agencies	38%	42%	Fare-free +4%
Supporting overall ridership growth	79%	88%	Fare-free +9%
Offering reduced-cost or free transfers between different transit agencies	52%	66%	Fare-free +14%

Table 7 shows the results of the same question broken out by service context: urban, rural, or resort area. For urban agencies, the most important benefits are to increase inter-regional and interagency travel and to support overall ridership growth. Supporting overall ridership growth is a top priority for agencies within all three service area contexts. Rural and resort area agencies also view improving customer experience and satisfaction as important benefits.

Table 7. Importance of Customer-Facing Benefits - Service Context

If a statewide transit pass were developed in the future, how important would each of the following customer-facing benefits be to your agency?

Importance of Customer-Facing Benefits	Urban Agencies: Very or Somewhat Important	Rural Agencies: Very or Somewhat Important	Resort Area Agencies: Very or Somewhat Important
Increasing inter-regional and interagency travel	91%	60%	71%
Supporting overall ridership growth	91%	80%	93%
Allowing customers to purchase a single pass for trips that include multiple transit agencies	86%	52%	50%
Improving customer experience and satisfaction	82%	80%	93%
Offering reduced-cost or free transfers between different transit agencies	77%	50%	57%
Coordinating eligibility-based discount programs (e.g., older adults, people with disabilities, students, veterans) across all agencies	68%	60%	57%
Making it easier for customers to enroll in your agency's discount programs (e.g., older adults, people with disabilities, students, veterans)	68%	50%	36%
Enabling fare capping for trips that include multiple transit agencies	59%	30%	29%

Interview Findings

Interview discussions also reflected many of the customer-facing benefits identified in the survey results. Participants indicated that a statewide transit pass could simplify travel for riders using services operated by multiple agencies. Interviewees noted that a single pass could reduce confusion associated with different fare structures, payment platforms, and pass products across transit providers.

Participants also noted that improved fare integration could support travel between regions of the state. Several agencies indicated that improved connectivity between urban areas and surrounding rural or resort communities could expand access to employment, healthcare, and other services for transit riders.

Agency-Specific Benefits

Next, respondents were asked “If a statewide transit pass were developed in the future, how important would each of the following transit agency-specific benefits be to your agency?” As shown in **Table 8**, the most important transit-agency specific benefit of a statewide transit pass is “Collaboration between transit agencies on operations and service planning,” with 84 percent of respondents noting this benefits is very or somewhat important. This is followed closely by having more robust ridership and transfer data across the state helps better justify funding requests and optimization. Most agencies saw almost all of these potential benefits as very or somewhat important. The benefit that is least important to agencies is “The ability to use integrated pass technology to quickly implement your agency’s discount programs” (39 percent).

Table 8. Importance of Agency-Specific Benefits - Summary

If a statewide transit pass were developed in the future, how important would each of the following transit agency-specific benefits be to your agency?

Importance of Transit Agency-Specific Benefits	Very or Somewhat Important	Neutral	Not Very Important or Not Important at All
Ridership: Collaboration between transit agencies on operations and service planning	84%	3%	12%
Ridership: More robust ridership and transfer data across the state helps better justify funding requests and route optimization	82%	5%	12%
Technology: Reduced technology fragmentation through unified hardware and software systems	67%	18%	16%
Fares: A consistent, simple fare structure across agencies that helps reduce confusion for riders who travel through multiple agency service areas	66%	13%	21%
Ridership: Opportunities for increased ridership and additional fare revenue	66%	17%	17%
Fares: Revenue sharing across agencies to improve financial stability and consistency	65%	19%	16%
Technology: Reduced administrative burden through centralized fare management, customer service, verification for discount programs, and financial reconciliation	64%	17%	19%
Ridership: Unified branding and shared marketing campaigns to better promote transit ridership across the state	62%	26%	12%

Importance of Transit Agency-Specific Benefits	Very or Somewhat Important	Neutral	Not Very Important or Not Important at All
Fares: Agency fare reimbursement that is proportional to the actual service your agency provides and distributed on a clear, agreed-upon schedule	60%	24%	16%
Technology: Shared procurement opportunities for technology upgrades (e.g., new ticket kiosks, contactless payment systems, account-based ticketing systems, etc.)	58%	26%	16%
Fares: Ability to use integrated pass technology to quickly implement your agency's discount programs	39%	38%	23%

Table 9 shows the results of this question broken out by agencies in favor of a statewide pass and those not in favor of a statewide pass. These results show a clear trend that agencies in favor of a statewide pass were more likely to rate the potential pass benefits as important or very important. Meanwhile, agencies not in favor of a statewide pass saw these as lower priorities.

Table 9. Importance of Agency-Specific Benefits – Agencies that Support vs Oppose a Statewide Pass

If a statewide transit pass were developed in the future, how important would each of the following transit agency-specific benefits be to your agency?

Importance of Transit Agency-Specific Benefits	In Favor of Statewide Pass: Very or Somewhat Important	Not in Favor of Statewide Pass: Very or Somewhat Important	% Difference
Technology: Shared procurement opportunities for technology upgrades (e.g., new ticket kiosks, contactless payment systems, account-based ticketing systems, etc.)	69%	44%	In Favor +25%
Fares: A consistent, simple fare structure across agencies that helps reduce confusion for riders who travel through multiple agency service areas	79%	56%	In Favor +23%
Ridership: Collaboration between transit agencies on operations and service planning	94%	75%	In Favor +19%
Ridership: More robust ridership and transfer data across the state helps better justify funding requests and route optimization	91%	75%	In Favor +16%

Importance of Transit Agency-Specific Benefits	In Favor of Statewide Pass: Very or Somewhat Important	Not in Favor of Statewide Pass: Very or Somewhat Important	% Difference
Fares: Ability to use integrated pass technology to quickly implement your agency's discount programs	47%	31%	In Favor +16%
Fares: Revenue sharing across agencies to improve financial stability and consistency	71%	56%	In Favor +15%
Technology: Reduced technology fragmentation through unified hardware and software systems	71%	63%	In Favor +9%
Ridership: Unified branding and shared marketing campaigns to better promote transit ridership across the state	69%	63%	In Favor +6%
Ridership: Opportunities for increased ridership and additional fare revenue	69%	69%	0
Technology: Reduced administrative burden through centralized fare management, customer service, verification for discount programs, and financial reconciliation	66%	69%	Not in Favor +3%
Fares: Agency fare reimbursement that is proportional to the actual service your agency provides and distributed on a clear, agreed-upon schedule	60%	69%	Not in Favor +9%

Table 10 shows the same question with results broken out by agencies with fares and fare-free agencies. Similar to the results in **Table 9**, there is a large difference in perceived pass benefits between these two groups. Agencies with fares see potential benefits as much more important; unsurprisingly, agencies without fares do not prioritize implementation of fare discount programs or fare reimbursement approaches. Fare-free agencies were more likely to support benefits related to service planning collaboration among agencies and collection of more robust ridership data to assist with this planning.

Table 10. Importance of Agency-Specific Benefits – Agencies with Fares vs Fare-free

If a statewide transit pass were developed in the future, how important would each of the following transit agency-specific benefits be to your agency?

Importance of Transit Agency-Specific Benefits	Agencies with Fares: Very or Somewhat Important	Fare-free Agencies: Very or Somewhat Important	% Difference
Ridership: Opportunities for increased ridership and additional fare revenue	79%	52%	Agencies w/Fares +28%
Fares: Ability to use integrated pass technology to quickly implement your agency's discount programs	50%	25%	Agencies w/Fares +25%
Fares: Agency fare reimbursement that is proportional to the actual service your agency provides and distributed on a clear, agreed-upon schedule	72%	48%	Agencies w/Fares +24%
Technology: Reduced administrative burden through centralized fare management, customer service, verification for discount programs, and financial reconciliation	69%	58%	Agencies w/Fares +11%
Technology: Shared procurement opportunities for technology upgrades (e.g., new ticket kiosks, contactless payment systems, account-based ticketing systems, etc.)	62%	53%	Agencies w/Fares +9%
Technology: Reduced technology fragmentation through unified hardware and software systems	69%	66%	Agencies w/Fares +3%
Ridership: Unified branding and shared marketing campaigns to better promote transit ridership across the state	59%	61%	Fare-free Agencies +2%
Ridership: Collaboration between transit agencies on operations and service planning	79%	85%	Fare-free Agencies +6%
Fares: A consistent, simple fare structure across agencies that helps reduce confusion for riders who travel through multiple agency service areas	59%	65%	Fare-free Agencies +6%
Fares: Revenue sharing across agencies to improve financial stability and consistency	59%	66%	Fare-free Agencies +7%
Ridership: More robust ridership and transfer data across the state helps better justify funding requests and route optimization	76%	84%	Fare-free Agencies +9%

Table 11 shows the same question broken out by urban, rural, and resort service contexts. Across the board, urban agencies found these benefits to be more important than their rural and resort area counterparts. For urban agencies, the most important transit agency-specific benefit is a consistent, simple fare structure across agencies that helps reduce confusion for riders who travel through multiple agency service areas. On the other hand, both rural and resort area agencies view collaboration between transit agencies on operations and service planning as the most important transit agency-specific benefit. All three agency types are least supportive of using integrated pass technology to implement agency discount programs. This is likely due to the variety of discount programs offered by each agency and the complexity of integrating these programs into an integrated pass.

Table 11. Importance of Agency-Specific Benefits – Service Context

If a statewide transit pass were developed in the future, how important would each of the following transit agency-specific benefits be to your agency?

Importance of Transit Agency-Specific Benefits	Urban Agencies: Very or Somewhat Important	Rural Agencies: Very or Somewhat Important	Resort Area Agencies: Very or Somewhat Important
Fares: A consistent, simple fare structure across agencies that helps reduce confusion for riders who travel through multiple agency service areas	90%	60%	38%
Ridership: More robust ridership and transfer data across the state helps better justify funding requests and route optimization	86%	75%	92%
Ridership: Collaboration between transit agencies on operations and service planning	86%	80%	93%
Fares: Revenue sharing across agencies to improve financial stability and consistency	81%	55%	57%
Technology: Reduced technology fragmentation through unified hardware and software systems	76%	55%	79%
Fares: Agency fare reimbursement that is proportional to the actual service your agency provides and distributed on a clear, agreed-upon schedule	73%	55%	57%
Ridership: Opportunities for increased ridership and additional fare revenue	73%	70%	50%
Technology: Reduced administrative burden through centralized fare management, customer service, verification for discount programs, and financial reconciliation	73%	65%	50%

Importance of Transit Agency-Specific Benefits	Urban Agencies: Very or Somewhat Important	Rural Agencies: Very or Somewhat Important	Resort Area Agencies: Very or Somewhat Important
Technology: Shared procurement opportunities for technology upgrades (e.g., new ticket kiosks, contactless payment systems, account-based ticketing systems, etc.)	71%	50%	50%
Ridership: Unified branding and shared marketing campaigns to better promote transit ridership across the state	68%	65%	57%
Fares: Ability to use integrated pass technology to quickly implement your agency's discount programs	52%	40%	23%

Interview Findings

Themes identified through agency interviews also align with several of the agency-specific benefits identified in the survey results. Interviewees noted that a statewide transit pass could support greater coordination among transit providers, particularly in areas such as service planning, regional partnerships, and marketing.

Some participants also noted potential operational benefits associated with coordinated technology investments. For agencies planning future upgrades to fare collection systems, participation in a statewide initiative could provide opportunities to align technology procurement and reduce fragmentation across transit systems within the state.

Potential Statewide Pass Challenges

In the next section of the survey, respondents were asked about potential challenges associated with the implementation of a statewide pass program. The first question focused on customer-facing challenges and the second focused on agency-specific challenges. The analysis is summarized across four tables:

- An overall summary
- Responses from agencies that support a statewide pass compared to those that do not
- Responses from agencies that charge fares compared to those that are currently fare-free
- Agency context (urban, rural, or resort area)

The first question asked, “If a statewide transit pass were developed in the future, how concerned would your agency be about the following customer-facing challenges?” The most concerning challenge was related to “technical or operational issues integrating payments across fixed-route, on-demand, and micromobility services,” with 69 percent of agencies concerned about this issue.

Least concerning were pass distribution, low pass adoption rates, and confusion between statewide pass and local agency branding.

Table 12. Customer-Facing Challenges – Summary

If a statewide transit pass were developed in the future, how concerned would your agency be about the following customer-facing challenges?

Concern About Customer-Facing Challenges	Very or Somewhat Concerned	Neutral	Not Very Concerned or Not Concerned at All
Technical or operational issues integrating payments across fixed-route, on-demand, and micromobility services	69%	11%	20%
Confusion between using a new statewide pass and existing local passes	55%	18%	27%
Loss of cash fare payment options or reduced accessibility for riders who rely on cash (including ADA riders)	49%	25%	25%
Confusion about branding or appearance of the statewide pass compared to local passes	47%	22%	31%
Low adoption or use of the new pass by riders	44%	30%	26%
Challenges distributing passes to community members	45%	25%	30%

Table 13 shows that agencies not in favor of a statewide pass have higher levels of concern about customer-facing challenges than agencies that are in favor of a statewide pass. Given that agencies not in favor of a statewide pass have concerns across the board, it is possible that pass opposition is closely tied to these customer-facing challenges.

Table 13. Customer-Facing Challenges – Agencies that Support vs Oppose a Statewide Pass

If a statewide transit pass were developed in the future, how concerned would your agency be about the following customer-facing challenges?

Concern About Customer-Facing Challenges	In Favor of Statewide Pass: Very or Somewhat Concerned	Not in Favor of Statewide Pass: Very or Somewhat Concerned	% Difference
Confusion between using a new statewide pass and existing local passes	44%	76%	Not in Favor +32%
Confusion about branding or appearance of the statewide pass compared to local passes	38%	69%	Not in Favor +31%
Challenges distributing passes to community members	35%	65%	Not in Favor +29%
Loss of cash fare payment options or reduced accessibility for riders who rely on cash (including ADA riders)	41%	69%	Not in Favor +28%
Technical or operational issues integrating payments across fixed-route, on-demand, and micromobility services	62%	88%	Not in Favor +26%
Low adoption or use of the new pass by riders	39%	56%	Not in Favor +17%

Table 14 demonstrates that agencies that currently charge fares have higher levels of concern about customer-facing challenges when compared to fare-free agencies. Of particular concern is the potential loss of cash fare payment options if a statewide pass is implemented.

Table 14. Customer-Facing Challenges – Agencies with Fares vs Fare-free

If a statewide transit pass were developed in the future, how concerned would your agency be about the following customer-facing challenges?

Concern About Customer-Facing Challenges	Agencies with Fares: Very or Somewhat Concerned	Fare-free Agencies: Very or Somewhat Concerned	% Difference
Loss of cash fare payment options or reduced accessibility for riders who rely on cash (including ADA riders)	74%	28%	Agencies w/Fares +46%
Confusion about branding or appearance of the statewide pass compared to local passes	63%	34%	Agencies w/Fares +29%
Confusion between using a new statewide pass and existing local passes	71%	44%	Agencies w/Fares +28%
Challenges distributing passes to community members	54%	38%	Agencies w/Fares +16%
Technical or operational issues integrating payments across fixed-route, on-demand, and micromobility services	78%	63%	Agencies w/Fares +15%
Low adoption or use of the new pass by riders	50%	41%	Agencies w/Fares +9%

When analyzing these results by service area context (**Table 15**), levels of concern vary. Technical or operational issues and confusion between using a statewide pass and a local agency pass are the most common concerns. Overall, the broad difference in responses among urban, rural, and resort agencies suggests that their operating environment influences how challenges are perceived.

Table 15. Customer-Facing Challenge – Service Context

If a statewide transit pass were developed in the future, how concerned would your agency be about the following customer-facing challenges?

Concern About Customer-Facing Challenges	Urban Agencies: Very or Somewhat Concerned	Rural Agencies: Very or Somewhat Concerned	Resort Area Agencies: Very or Somewhat Concerned
Technical or operational issues integrating payments across fixed-route, on-demand, and micromobility services	76%	78%	50%
Confusion between using a new statewide pass and existing local passes	57%	63%	43%
Loss of cash fare payment options or reduced accessibility for riders who rely on cash (including ADA riders)	52%	61%	29%
Confusion about branding or appearance of the statewide pass compared to local passes	48%	56%	36%
Challenges distributing passes to community members	38%	58%	36%
Low adoption or use of the new pass by riders	35%	61%	36%

The second challenges-related question asked respondents: “If a statewide transit pass were developed, how much would the following concern your agency?” At least 45 percent of all respondents noted they were very or somewhat concerned about each agency-specific challenge. The most concerning transit-agency specific challenge was “Additional costs and/or staff time for ongoing pass coordination, data reporting, or other requirements” (73 percent very or somewhat concerned). The least concerning issue was “Loss of pass pricing autonomy (e.g., pass pricing is not consistent with my agency’s existing fare structure).”

Table 16. Agency-Specific Challenges – Summary

If a statewide transit pass were developed, how much would the following concern your agency?

Transit Agency-Specific Challenges	Very or Somewhat Concerned	Neutral	Not Very Concerned or Not Concerned at All
Additional costs and/or staff time for ongoing pass coordination, data reporting, or other requirements	73%	11%	16%
Complexity of integrating statewide pass digital technology systems	70%	16%	14%
Additional costs and/or staff time for initial statewide pass integration	66%	18%	16%
Costs of integrating statewide pass digital technology systems	64%	18%	18%
Complexity of upgrading fare collection equipment for a statewide pass (e.g. installation of tap-to-pay equipment)	61%	20%	20%
Additional expenses for my agency related to marketing this pass	59%	20%	21%
Costs of upgrading fare equipment for a statewide pass (e.g., installation of tap-to-pay equipment)	59%	21%	20%
Delay in receiving fare revenue if all pass revenues were managed through a centralized entity or program	54%	18%	29%
Statewide pass compliance with Title VI requirements	50%	34%	16%
Loss of pass pricing autonomy (e.g., pass pricing is not consistent with my agency’s existing fare structure)	45%	23%	32%

Table 17 shows a clear divide between agencies in favor of a statewide pass and agencies not in favor of a statewide pass. Agencies not in favor express major concern across the board. This concern likely plays a major role in why these agencies do not support a statewide pass. Additional staff time, costs, complexity, and technology integration were seen as the largest challenges by this group.

Table 17. Agency-Specific Challenges – Agencies that Support vs Oppose a Statewide Pass

If a statewide transit pass were developed, how much would the following concern your agency?

Transit Agency-Specific Challenges	In Favor of Statewide Pass: Very or Somewhat Important	Not in Favor of Statewide Pass: Very or Somewhat Important	% Difference
Additional costs and/or staff time for initial statewide pass integration	51%	100%	Not in Favor +49%
Costs of upgrading fare equipment for a statewide pass (e.g., installation of tap-to-pay equipment)	46%	94%	Not in Favor +48%
Complexity of upgrading fare collection equipment for a statewide pass (e.g., installation of tap-to-pay equipment)	49%	94%	Not in Favor +45%
Additional expenses for my agency related to marketing this pass	43%	88%	Not in Favor +45%
Loss of pass pricing autonomy (e.g., pass pricing is not consistent with my agency's existing fare structure)	31%	75%	Not in Favor +44%
Costs of integrating statewide pass digital technology systems	51%	94%	Not in Favor +42%
Delay in receiving fare revenue if all pass revenues were managed through a centralized entity or program	40%	81%	Not in Favor +41%
Additional costs and/or staff time for ongoing pass coordination, data reporting, or other requirements	60%	100%	Not in Favor +40%
Complexity of integrating statewide pass digital technology systems	60%	94%	Not in Favor +34%
Statewide pass compliance with Title VI requirements	40%	69%	Not in Favor +29%

When comparing responses between agencies with fares and fare-free agencies (Table 18), another clear divide emerges. Agencies with fares are much more concerned with these challenges across the board.

Table 18 **Agency-Specific Challenges – Agencies with Fares vs Fare-free**

If a statewide transit pass were developed, how much would the following concern your agency?

Transit Agency-Specific Challenges	Agencies with Fares: Very or Somewhat Concerned	Fare-free Agencies: Very or Somewhat Concerned	% Difference
Loss of pass pricing autonomy (e.g., pass pricing is not consistent with my agency's existing fare structure)	71%	22%	Agencies w/Fares +50%
Complexity of upgrading fare collection equipment for a statewide pass (e.g., installation of tap-to-pay equipment)	86%	41%	Agencies w/Fares +45%
Costs of upgrading fare equipment for a statewide pass (e.g., installation of tap-to-pay equipment)	82%	41%	Agencies w/Fares +42%
Delay in receiving fare revenue if all pass revenues were managed through a centralized entity or program	75%	34%	Agencies w/Fares +41%
Costs of integrating statewide pass digital technology systems	86%	50%	Agencies w/Fares +36%
Additional expenses for my agency related to marketing this pass	75%	44%	Agencies w/Fares +31%
Additional costs and/or staff time for initial statewide pass integration	86%	56%	Agencies w/Fares +29%
Complexity of integrating statewide pass digital technology systems	86%	59%	Agencies w/Fares +26%
Additional costs and/or staff time for ongoing pass coordination, data reporting, or other requirements	89%	66%	Agencies w/Fares +24%
Statewide pass compliance with Title VI requirements	61%	41%	Agencies w/Fares +20%

Table 19 shows the results broken out by service context. The average level of concern across all three agency types is highest for “Additional costs and/or staff time for ongoing pass coordination, data reporting, or other requirements.” It is lowest for “Loss of pass pricing autonomy (e.g., pass pricing is not consistent with my agency’s existing fare structure).” Overall, rural agencies have more concern across the board compared to urban and resort area agencies.

Table 19. Agency-Specific Challenges – Service Context

If a statewide transit pass were developed, how much would the following concern your agency?

Transit Agency-Specific Challenges	Urban Agencies: Very or Somewhat Concerned	Rural Agencies: Very or Somewhat Concerned	Resort Area Agencies: Very or Somewhat Concerned
Additional costs and/or staff time for ongoing pass coordination, data reporting, or other requirements	71%	84%	64%
Complexity of integrating statewide pass digital technology systems	67%	74%	71%
Additional costs and/or staff time for initial statewide pass integration	62%	79%	57%
Complexity of upgrading fare collection equipment for a statewide pass (e.g., installation of tap-to-pay equipment)	62%	74%	36%
Costs of integrating statewide pass digital technology systems	62%	68%	64%
Delay in receiving fare revenue if all pass revenues were managed through a centralized entity or program	57%	63%	36%
Additional expenses for my agency related to marketing this pass	52%	68%	57%
Costs of upgrading fare equipment for a statewide pass (e.g., installation of tap-to-pay equipment)	52%	74%	43%
Statewide pass compliance with Title VI requirements	52%	47%	50%
Loss of pass pricing autonomy (e.g., pass pricing is not consistent with my agency’s existing fare structure)	43%	53%	36%

Interview Findings

The interviews also provided additional context for several of the challenges identified in the survey results. Participants noted that technology integration, staffing capacity, and implementation costs would likely be key considerations for agencies evaluating participation in a statewide pass program. Several agencies indicated that limited administrative capacity could affect their ability to support additional coordination, reporting, or customer service requirements associated with a statewide program.

Technology readiness was also identified as a potential challenge. Agencies reported varying levels of existing fare collection technology and digital payment systems. In some cases, participation in a statewide pass program could require equipment upgrades or integration with new software platforms. Several agencies have recently completed (or are in the process of) completing software and hardware technology upgrades. Completing these upgrades before understanding and statewide pass technology requirements could lead to technology architecture re-design soon after implementation or other inefficiencies.

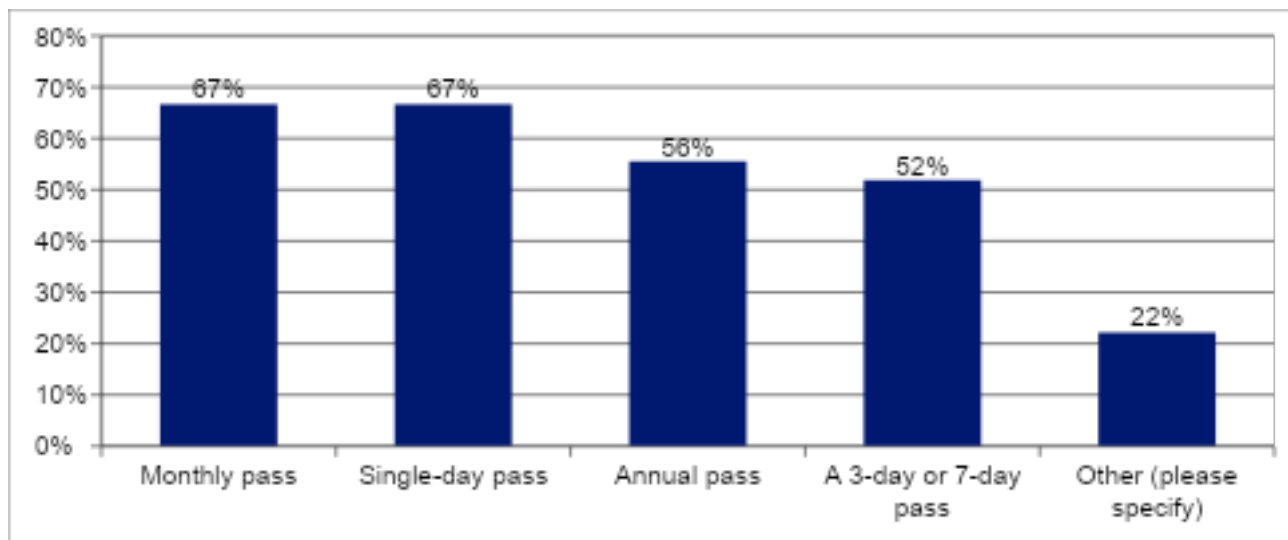
Finally, interviewees noted the importance of maintaining a level of local flexibility within any statewide pass framework. Because agencies operate in different service environments and funding structures, participants indicated that maintaining local control over fare policies, discount programs, and service priorities may be important for agency participation.

Potential Conflicts and Disruptions to Existing Fare Structures

As shown in **Figure 17**, if a statewide transit pass were developed, the most common types of passes agencies would like to see are monthly passes and single day passes. Many agencies would also like to see an annual pass or a multi-day pass. Overall, agencies favor the availability of multiple pass options.

Figure 17: Pass Types

If a statewide transit pass were potentially developed in the future, what type of passes would you like to see? Select all that apply.



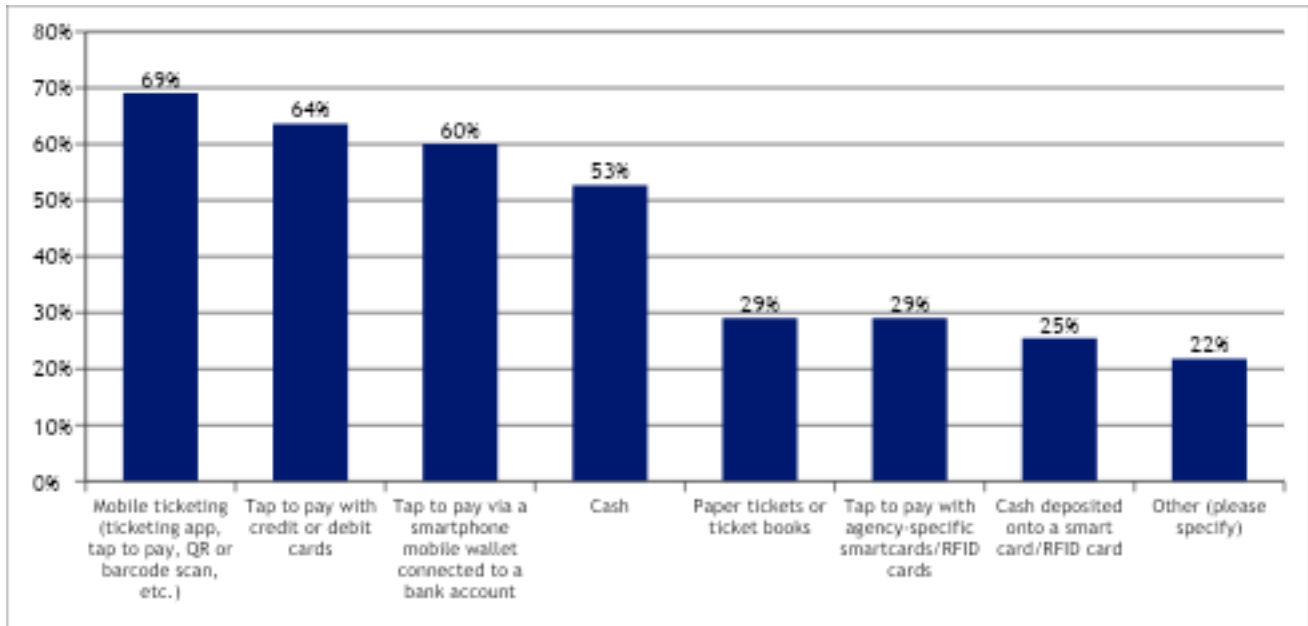
“Other” pass types were selected by 22 percent of respondents. The responses varied but center on a few key themes, including:

- Fare-free agencies indicate pass types are not applicable
- Preference for flexible, value-based passes
- Interest in time-based or predefined pass options
- No clear preference or pass type depends on implementation

As shown in **Figure 18**, 69 percent of responding agencies would like to see mobile ticketing options included if a statewide transit pass was implemented. Other popular fare options include tap to pay with credit or debit cards, tap to pay via a smartphone mobile wallet, and cash.

Figure 18: Fare Options

If a statewide transit pass were developed in the future, what fare options would you want included? Select all that apply.



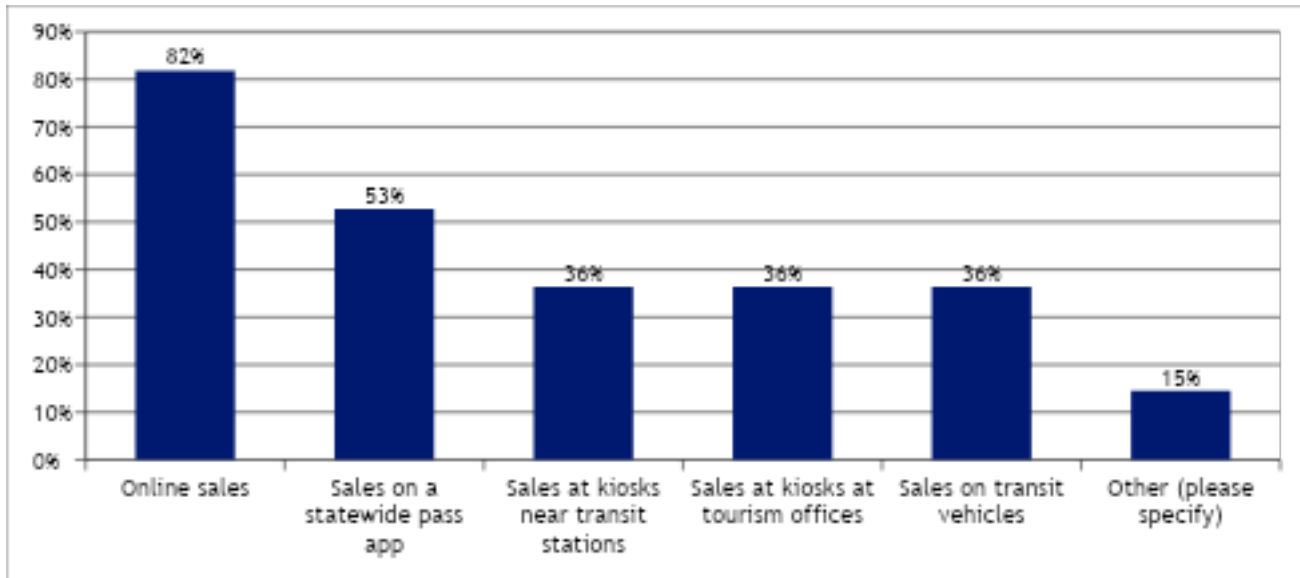
Twenty-two percent of respondents reported wanting “other” types of fare options included in a statewide pass. Key response themes included:

- Fare-free operating model makes fare options irrelevant
- Question not applicable / not necessary for agency
- Operational constraints prevent fare collection
- Conditional openness to fare options
- Preference for simple, low-complexity fare options
- Specific fare technologies mentioned in lieu of fare preferences (for example, Venmo, mobile barcodes, account-based ticketing/stored value)

For pass sale options, the most popular was online sales (82 percent). Support dropped significantly for other pass sale options (Figure 19).

Figure 19: Pass Sale Options

If a statewide transit pass were potentially developed in the future, what pass sale options would you support? Select all that apply.



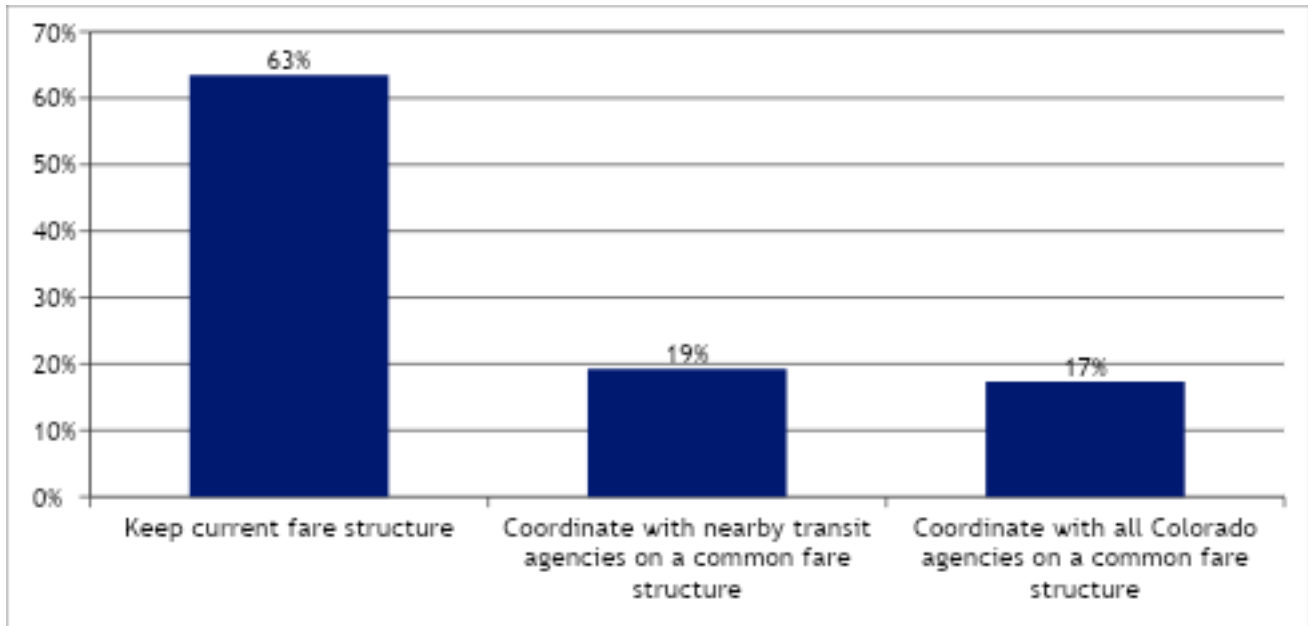
“Other” pass sale options were mentioned by 15 percent of respondents. Responses focused on the following areas:

- N/A, agency is fare-free
- Sales in an agency app
- Sales over the phone

Agencies were also asked about how or if they would change their existing fare structure if a statewide pass was implemented. As shown in **Figure 20**, agencies overwhelmingly support keeping their existing fare structure. Only 19 percent stated that they would coordinate with nearby transit agencies, and 17 percent would coordinate with all of Colorado.

Figure 20: Fare Structures

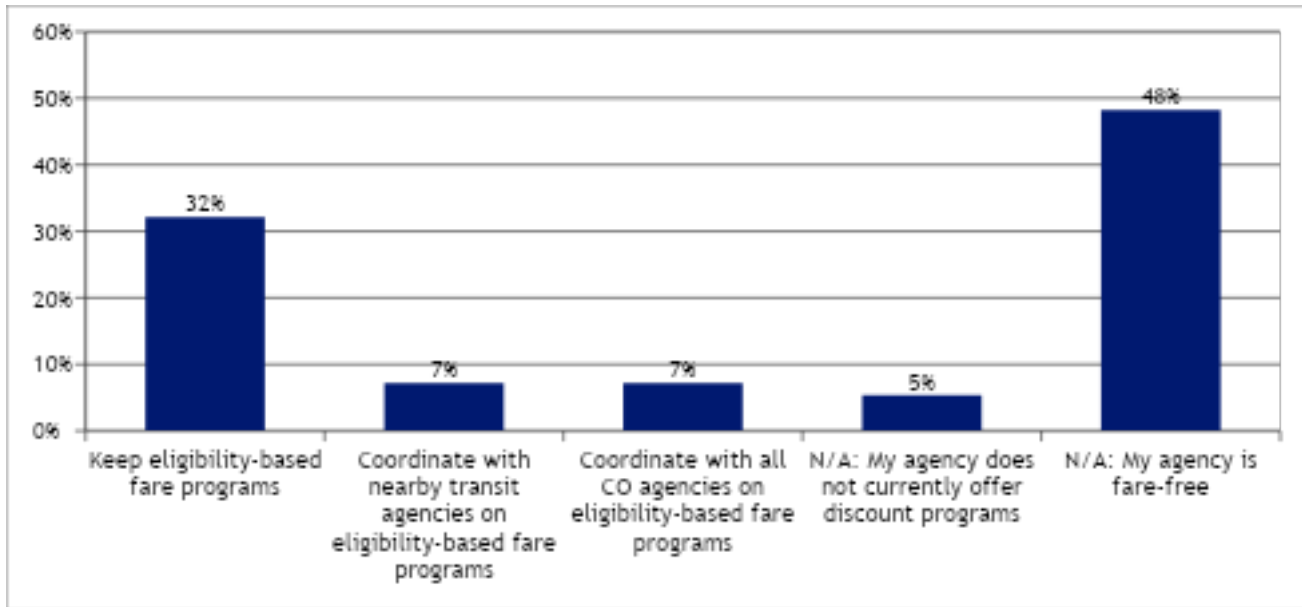
If a statewide transit pass were developed in the future, would you want to keep your current fare structure or coordinate with other agencies on a common fare structure?



Since many agencies have eligibility-based fare programs, they are an important consideration for a transition to a statewide pass program. For agencies with fares, most prefer to keep their current eligibility-based fare programs rather than coordinating with other agencies on these programs (Figure 21).

Figure 21: Eligibility-Based Fare Programs

If a statewide transit pass were potentially developed in the future, would you want to keep your agency's current eligibility-based fare programs (e.g., older adults, people with disabilities, students, veterans), or would you prefer to coordinate with other agencies on common discounts?



Survey Analysis Summary

Overall, most respondents expressed support for a potential statewide transit pass, especially to accomplish goals such as improving customer experience, increasing ridership, and fostering agency collaboration. However, respondents also noted a number of implementation concerns related to retaining fare autonomy, revenue allocation, technology integration, and local agency staffing needs. This is further complicated by the unique characteristics of many agencies: a number of agencies are fare-free, some are still primarily operating with cash payments, while others are implementing new technology like tap-to-pay systems. A statewide pass program would need to account for these concerns and different agency contexts.

Conclusion

Existing integrated pass models may be structured differently based on specific rider needs or agency coordination approaches. However, successful programs are all grounded in shared goals defined early in program development. This section's combined analysis of program goals, peer program approaches, and Colorado agency feedback provides a basis for understanding key considerations for statewide pass development. Development requires the identification of priority customer benefits, standards for agency coordination, and evaluation of program implementation feasibility. Specifically in Colorado, agencies are favorable toward the concept of a statewide pass,

and the customer goals it can help address, but they also have concerns about cost, revenue sharing, technology integration challenges, and increased staffing burdens. The diversity of Colorado transit agencies, the significant share of fare-free programs, and varying levels of technological readiness also represent challenges.

Major guiding questions to consider as this evaluation is carried forward:

- What top needs is the statewide pass intended to address? Customer simplicity, interregional mobility, equity access, agency coordination, or revenue stabilization?
- To meet the goal of customer simplicity, is the state willing to pursue a fare standardization policy, or is maintaining local fare structures a better approach?
- What level of statewide participation can be expected? Are there approaches or agency incentives that will help to avoid a fragmented pass experience?
- What type of program governance structure will instill confidence in the program? How would a governance structure define coordination responsibilities, cost-sharing, revenue distribution, fare pricing, pass options, and pass sales?
- What services would the pass program include?
- What funding sources are available to establish and manage the pass? How much staff time (at both the pass operations team and local agency levels) will need to be dedicated to the program?
- What is the role of a pass operations team? How does this team ensure they are not straining local agency budgets, over-burdening local agency staff, or diverting their attention from their core responsibilities?
- What would phased program implementation look like? Are there specific characteristics to prioritize for a pilot program, such as serving specific customer types, a location-based pilot, integration of agencies at similar technology stages, integration of diverse fare structures (including fare-free programs), or factors that meet program goals?

Considering these questions will help address key requirements within Senate Bill 24-032, understand baseline program feasibility, and ultimately enable the Exploratory Committee to produce a viable proposal to the State Legislature detailing potential steps for pass creation, implementation, and administration.

Section 4 - Statewide Transit Pass Committee Recommendations

Background

SB24-032 tasked CDOT to form an exploratory committee with the goal of producing a viable proposal for a statewide transit pass. The viable proposal covered: viability, revenue sharing, sale structure, marketing and promotion, services, ADA laws, TABOR, pass types, logistics, and legislative support. After several committee meetings, Transit and Rail Advisory Committee (TRAC) presentations, CASTA presentations, research into existing best practices, and a period for agencies and the public to review, the following proposal was created.

Viability

Maintaining local control over fares remained a top concern of local agencies, and changing those fares to integrate into a statewide pass would trigger fare change reviews from local boards and potential legal issues. Thus, it is recommended that a statewide pass would be a central hub where users can purchase tickets for each leg of their trips. This would require the creation of an app or web portal for users to create accounts and fares to be centralized as well as retail kiosks to support unbanked or underbanked users. It is recommended that a white-label app be utilized through a third party that can be customized and branded. This would require technological upgrades for many agencies to scan and validate the pass. The governance board would also need to create a policy for managing data sharing between agencies and third parties. It is suggested that the State lead procurement for agencies to purchase the necessary technology to allow for open-payments and account verification. This will require additional funding to support agencies in transitioning to an open-payment system. Research from comparable projects indicates the costs for developing this system could range from \$4 million to \$25 million with operating costs ranging between \$500,000 and \$11 million.

It is recommended that a governing board structure be adopted for the statewide pass comprising transit agencies, elected officials, and CDOT staff, along with a project team of CDOT staff and local agencies. Additional participants may also be included representing transit riders and/or disability communities. Local agencies noted concerns on the burden on staff time. The rollout of a pass, including hardware installation, system testing, and staff training, will require additional time and effort that many agencies currently do not have the budget to accommodate. At least one additional FTE for CDOT would be necessary to run the project team. The roles and responsibilities of each team are illustrated in Figure 22.

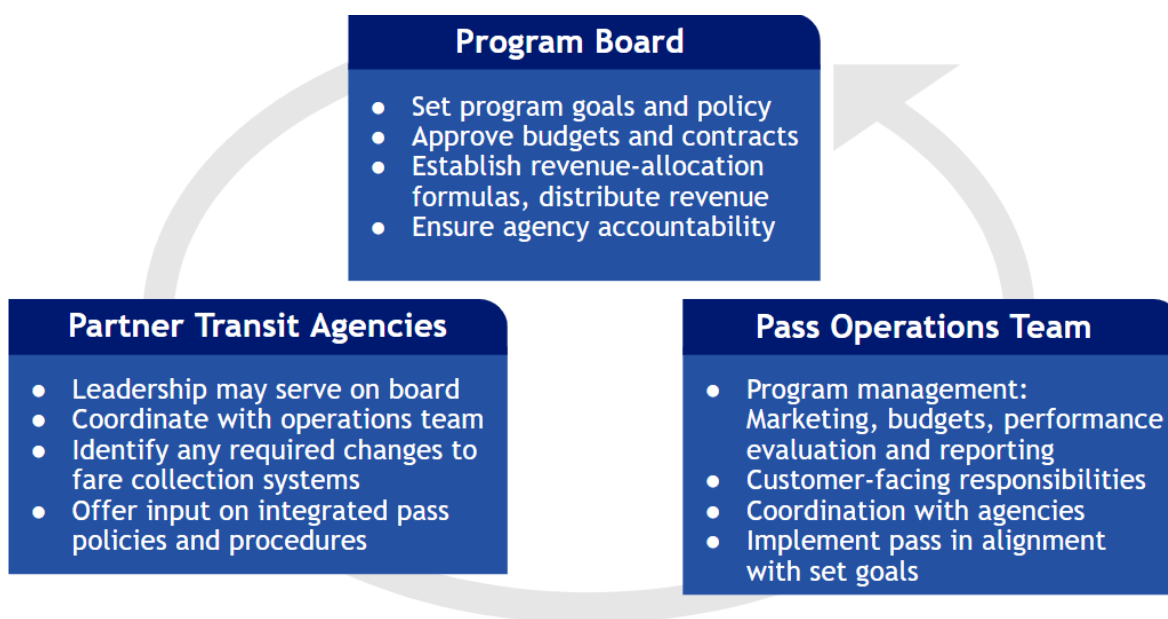


Figure 22: Board Structure

Cost Sharing

Since local agencies would prefer to keep their own fares, and a pass is a centralized ticketing hub, the simplest form of revenue sharing identified is to give each agency the amount that was spent on their tickets with a percentage of revenue held back to help cover the cost of administering the pass. However, there are various models of revenue and cost sharing a board will need to consider. The specifics of revenue and cost sharing should be determined by a board and project team with extensive input from the transit agencies. More complicated revenue sharing systems, such as zone-based fares and revenue can be explored as well. However, in early phases of a pass, proportional revenue sharing will reduce complexity. A governing board should evaluate and approve more complicated revenue sharing systems before they are put in place and review those systems periodically to make sure it is equitable for all agencies. This will be particularly important in later phases when a majority of agencies are onboarded into the pass and a statewide pass system is determined to be useful.

Sale Structure

Pass sales would be available through a statewide transit pass app or portal. This account-based ticketing system would allow for the tracking of sales and make it easier for revenue distribution, promotions, and marketing. Purchasing a pass at retail locations will be necessary to support unbanked and underbanked customers. Marketing and Promotion

A governing board would need to develop a comprehensive communications and marketing strategy designed to elevate awareness of the statewide transit pass, clearly articulate its features and

benefits, and foster confidence in its ability to meet current needs while adapting to future demands. This strategy would be tailored to engage transit riders, transit providers, and key third-party stakeholders.

Services Covered

The first iteration of a pass would incorporate fixed-route, on-demand, and paratransit services. Future iterations of the pass should work to incorporate micromobility, ride-sharing, carpool and vanpool matching, and other Transportation Demand Management strategies to support First-Last Mile transportation. However, incorporating ride-sharing and micromobility from the start will be too logistically complicated to be feasible. Agencies with free-fares can still be incorporated into a pass as part of the trip planning process.

Tabor & Federal Laws

Overall, it is difficult to assess the TABOR impact without full revenue estimates and detailed recommendations. The TABOR impact will very much depend on the amount of revenue raised and how the fare pass is structured. If a pass program is run by CDOT staff, then there may be a TABOR impact. However, if a pass is run by a state enterprise such as CTIO or the Clean Transit Enterprise (CTE) then there may not be a TABOR impact. Collections for another government are generally exempt under TABOR, and depending on how it is structured and if the revenue collected may qualify as "collections for another government." This would require further legal exploration, and any bill implementing this pass would need to be structured in a specific way. To the extent that the revenue collected through this program does not qualify as "collections for another government," all of the fare revenue collected on behalf of local transit agencies at the state level would count towards the state's TABOR limit (unless the program lives in a state Enterprise).

In general, any new revenue collected at the state level in excess of current revenue has a potential TABOR impact. If the fare revenues for all of the state's transit agencies are centrally collected by CDOT, and the final proposal did not meet the definition of "collections for a local government," then all of the fare revenue we collect on behalf of/in lieu of local transit agencies through a pass program would count toward the state's TABOR cap. The state is currently in a TABOR surplus situation, meaning any additional TABOR revenue generated at the state level will reduce the amount of state General Fund available (since General Funds are used for TABOR refunds).

A pass system should emphasize interoperability (working across multiple agencies), open payment standards, and scalable technology. Projects that integrate fare systems across regions or reduce barriers to access are more competitive for grants administered by the Federal Transit Administration (FTA). The pass would need to abide by the Americans with Disabilities Act and Rehabilitation Act of 1973 Section 504. These require that a pass system is fully usable by people with disabilities, not just the transit service itself.

That translates into multiple layers of design:

- Fare media must be accessible (e.g., physical cards for people without smartphones, accessible vending machines, screen-reader-compatible apps).
- Eligibility workflows for reduced fares must be straightforward and not burdensome.
- Paratransit integration should be considered. The same pass works across fixed-route and ADA complementary services where feasible.

Accessibility isn't a feature add-on; it needs to be built into every channel (digital, in-person, customer support). A Statewide Transit Pass can work with each agency in the state and build off of what they already have in place to meet the federal requirements.

A pass will also need to adhere to the Civil Rights Act of 1964 Title VI which has major implications for fare policy. In early phases of the recommended pass, agencies will control fares and complete any Title VI equity analysis. If statewide or regional monthly, weekly, or daily passes are offered, a governing board will need to complete the analysis before implementing those passes.

Since this pass will likely be an electronic pass, it would also need to adhere to the Electronic Fund Transfer Act and the Privacy Act of 1974. When designing the application, the design team must prioritize clear user experience around billing, notifications, and account management while avoiding hidden fees or confusing reload rules. The application should minimize the collection of personally identifiable information, be transparent about how rider data is used, and establish strong data sharing agreements between agencies.

Pass Duration and Type

With a pass being a centralized hub, agencies would be able to keep pass durations that work for their particular riders. It is suggested that a pass offers daily, 3 day, weekly, and monthly passes. Passes should be available through the app or physical tickets purchased through retailers. Agencies that upgrade their technology, or currently have the capability for open-payments, would also allow for credit card payments as part of the open-payment system.

Technology

As discussed earlier, a white label application would allow for account-based ticketing. A white-label app is an app managed by a third party that can be customized to meet the State's needs. This approach is already used by Bustang. In addition to the app, many local agencies would need to upgrade their technology to include on-vehicle validators and fare payment technology integration represents a major hurdle to a potential pass program. The state could support this transition by leading the procurement process to negotiate the lowest rate for local agencies.

Summary

A statewide transit pass has genuine appeal as a policy concept, and this report assesses what it would take to build one. This report was prepared in response to the direction provided in SB24-032 and reflects both extensive research and direct conversations with transit agencies across the state. The basic model would involve an app-based ticketing platform with retail cash payment options, local agency control over fares, a governing board, and a usage-based revenue sharing structure. Findings, however, point to meaningful obstacles. Transit agency interest is mixed, appetite for a common fare structure is low, and most agencies view a statewide pass as a low priority — particularly given the cost and technological demands involved.

Should the legislature wish to move forward, the path is neither quick nor inexpensive. Seed funding would be required before any revenue is generated, as neither CDOT nor local agencies have resources available to absorb early implementation costs. The most realistic path forward is a phased one — a coalition of willing agencies, a governing board, and Bustang as a likely early participant given its existing role connecting local systems statewide. The Colorado Transportation Investment Office's multimodal back office project may eventually provide relevant infrastructure, but transit functionality is not expected until well after its Fall 2027 toll processing launch.

A January 2028 implementation date is not achievable. The technology alone would take at least two years from the point a project formally launches — and that work has not begun. Moving forward would require the legislature to provide dedicated funding for hardware, technology, staff, and consultant support. Without that commitment, this report is best understood as a foundation for a future conversation rather than a mandate to act now.