

AC TRANSIT TEMPO FARE COLLECTION POLICY ANALYSIS



Prepared for:
Alameda-Contra Costa Transit District

PRESENTED TO
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AN ANALYSIS BY
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Author's Note

Prepared for Alameda-Contra Costa Transit District (AC Transit).

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Executive Summary

The Alameda-Contra Costa Transit District has decided to reexamine the systems to support an improved, equitable fare collections process of the Tempo Bus Rapid Transit (BRT) Line due to decreasing fare compliance on this line. While lower fare compliance may indicate higher fare evasion, which is a problem faced by many public transit systems, implementing common policies such as increased inspections and fines may oversimplify the underlying issue. It is essential to understand the demographics of riders and communities and reasons for lower fare compliance. Any policy implemented must align with the District’s goals and objectives to increase fare compliance while having positive social impact.

Given the District’s predominantly low-income, minority community’s heavy reliance on the bus service, ensuring the sustainability of the Tempo Line is critical, while avoiding any adverse effects on other bus routes. If fare box recovery continues to fall short, the District may need to reallocate funds from the general budget to cover the deficits. However, this could lead to further inefficiencies and inequalities by taking away from the other bus lines to support the Tempo Line’s essential role in the District’s transit network and high ridership level. Therefore, it is vital to maintain a balance between serving the community’s needs and managing the budget effectively to achieve higher fare compliance while maintaining equitable service on the District’s lines.

This report explores various alternatives for improving fare compliance on the Tempo Line, including increasing fare enforcement, implementing free fare, and modifying the process design, as well as the status quo scenario of not taking any action. The alternatives were assessed against six criteria: efficacy, social efficiency, operational efficiency, equity, financial soundness, and political feasibility. Each alternative received a high, medium, or low score, and the proposed outcome with the highest score was considered the most beneficial and desirable. The results can be seen here:

Alternative/Criteria Matrix Results

Alternative	Efficacy	Social Efficiency	Operational Efficiency	Equity	Financially Sound	Politically Feasible	Average
	Increase fare compliance	Improve social welfare	Maintain OTP	Access to service w/o disproportionate negative impact	Improve recovery and Affordable	Policy is politically acceptable	
Let Present Trends Continue	●○○	●○○	●●○	●○○	●○○	●○○	●○○○
Implement Fare Enforcement	●●○	●○○	●○○	●●○	●○○	●●○	●●○○
Free Fare Program	●●●	●●●	●●●	●●○	●○○	●●●	●●●○
Modify Design	●●●	●○○	●○○	●●●	●●○	●●○	●●○○

Each alternative has been analyzed, and recommendations have been provided to achieve the desired outcome. The path forward for the District will be dependent on the strategic direction chosen by its leadership, which will involve prioritizing and balancing of revenue, equity, social welfare, operational efficiencies, and political feasibility. Recommendations for each alternative include:

Alternative 1. Let present trends continue.

Not recommended.

Alternative 2. Implement Fare Enforcement.

Recommendation 1: Formalize a Fare Enforcement program including establishing a baseline and setting targets.

Recommendation 2: Conduct a fare evasion study to understand demographics, actual level of fare evasion, and trends prior to considering implementing fare enforcement.

Recommendation 3: Establish a performance management framework for fare enforcement, including establishing a baseline, setting targets, and developing measures for outputs and outcomes.

Recommendation 4: Conduct a cost analysis to determine the expenses associated with enforcing regulations, processing violations, and the expected rate of citation payments.

Recommendation 5: Conduct a cost-benefit and position analysis of the Platform Agent position.

Alternative 3. Implement Free Fare Program on Tempo Line

Recommendation 1: Conduct cost analysis to determine the required funding for running a pilot program with free fares on the Tempo Line.

Recommendation 2: Modify security plans and goals to accommodate needs of free fare system.

Recommendation 3: Conduct a free fare program evaluation to identify access, equity and mobility, operational efficiency, financial health, and community impacts.

Recommendation 4: Consider conducting a free fare pilot, to obtain additional required information to confirm Title VI compliance.

Recommendation 5: Develop a surge plan to maintain OTP, as increased ridership is typical outcome of a free fare program.

Alternative 4: Modify Design (front door boarding, on-board payment)

Recommendation 1: conduct a cost analysis to evaluate the expenses and maintenance related to the design changes.

Recommendation 2: Verify if additional amendments are required for the close out to the Small Starts Grant Agreement.

1. Problem Overview

1.1. Problem Statement

The low fare compliance on District's highest ridership Tempo Bus Rapid Transit (BRT) is contributing to the District revenue shortfalls. The Tempo bus line is currently experiencing chronic fare evasion, with an average farebox recovery of 31% in FY19, dropping to a mere 3% in FY22¹. Even more alarming, despite the Tempo Line's ridership nearly doubling from FY19 to FY22, its farebox revenue has dropped by \$5 million².

Prior to the pandemic, the District generated nearly \$60 million in fare box revenue annually from its buses. However, ridership across all bus lines decreased by almost 50%, ridership was just over 26 million in FY22, compared to over 53 million FY19. As a result, districtwide farebox recovery fell below its expected \$30 million³ in FY22 to only \$23 million, mainly due to a significant drop in ridership and payment compliance issues. If the District continues to run deficits of a similar amount in the near future, after the Covid emergency federal funding is depleted, it could have a severe impact on the District's service, especially as it tries to rebuild after the pandemic.

The pandemic has also drawn attention to the transit-dependent riders who relied on buses throughout the crisis. These individuals were predominantly lower-income and people of color. Without improvements in payment compliance or an alternative revenue stream to cover its operational costs, the community could lose access to this crucial transportation.

1.2. Problem Diagnosis

Before implementing the BRT system and switching to off-boarding proof-of-payment (PoP), the compliance level exceeded the districtwide average. However, there has been a downward trend in compliance since the conversion. It appears that the shift to this off-boarding PoP, without any effective evasion deterrents such as gates, turnstiles, or barriers, is a significant factor contributing to the rise in fare evasion in the open fare system.

Given the District's predominantly low-income, minority community's heavy reliance on the bus service, ensuring the sustainability of the system is critical, while avoiding any adverse effects on other bus routes. If the operational funds continue to fall short, funds from the general budget would need to be reallocated to cover the deficits, which could lead to further inefficiencies and inequalities by taking away from the other bus lines. Therefore, it is essential to maintain a balance between serving the community's needs and managing the budget effectively. To achieve higher fare compliance while maintaining equitable service on the Tempo Line, a variety of alternatives will be examined.

¹ Although the parameters of Line 1 and Line 1T are not identical, their rider profiles are similar, and the revenue difference is so significant that the parameter distinction becomes less significant.

² Ridership in FY19 was 1,839,048 with revenues of \$5,606,526; FY22 ridership was 3,227,403 and revenues of \$611,058.

³ Per Staff Report No. 22-543, the projected farebox recovery amount for FY22 is \$30m, considering the significant decline in ridership.

2. Tempo Line Background

2.1. Tempo BRT Line

The District aimed to modernize its bus service by providing more reliable service and improved rider experience, including safe, well-lit, and sheltered waiting areas. After careful consideration, the District identified a BRT as the optimal solution to achieve these objectives. The corridor chosen, originally called Line 1 and now Line 1T, was chosen for Tempo because it carried the highest ridership among more than 150 lines, accounting for 13% of the total ridership. Currently, the Tempo (1T) Line remains the line with the highest ridership. *See Table 1*, highlighting the District’s top 20 lines with the highest ridership.



Table 1: Top 20 lines with highest daily ridership.

The Tempo BRT Line launched service in August 2020, during the peak of the pandemic. To aid riders during the crisis, fares were waived for the first three months of service. The Tempo BRT Line is a unique line to the district and was initiated through a Small Starts Grant Agreement with the Federal Transit Administration (FTA) and Alameda-Contra Costa Transit District (AC Transit), this project used a combination of local, state, and Federal funds to finance the cost of this \$232 million investment. The Tempo BRT is a 9.5 mile line, of which 7.5 miles are dedicated travel lanes, with 34 stations that connects downtown Oakland and San Leandro Bay Area Rapid Transit District (BART) station.

To reduce dwell time and improve service quality, the line was designed with an off-board fare collection, through a proof-of-payment (PoP) or barrier-free (self-service) system, and utilizes an all-door boarding system, unlike the District’s other lines that use the traditional front-door boarding. All-door boarding allows riders to enter all available doors at a stop. Passengers pay for their ride prior to boarding at the platform stations or on-line. This system requires riders to have a valid paper ticket, mobile ticket, clipper card or pass when riding the bus.

Agencies considering the implementation of this system have recognized its efficiencies and ability to enhance rider experience. However, these benefits come with the unfortunate but expected draw backs of reduced fare compliance, enforcement challenges, and potential revenue loss or delays. The District has hired staff to serve as Platform Agents along the line to assist riders in navigating the Tempo fare payment system, among other tasks, and has phased proof-of-payment compliance checks by Deputy Sheriffs. While fare compliance checks are being conducted, the management and the policy makers have not yet made a definitive decision to begin issuing citations to those who evade paying fares.

2.2. What is a BRT?

Many definitions can be found on a Bus Rapid Transit (BRT) however they all frame BRT as a bus -based transit system that mimics the high-capacity, high-performance characteristics of urban rail systems at a much lower price. The Federal Transit Administration (FTA) in cooperation with communities across the nation, are pursuing BRT programs with goals to increase the level and quality of bus service through the integration of vehicles, facilities, services, and intelligent transportation systems. As a result, BRT service delivers faster, more comfortable, and cost-effective service at metro-level capacities, with low environmental impacts.

2.3. Off-board Proof-of-Payment

Proof-of-payment (PoP) places the responsibility for correct fare payment and possession of valid PoP on the rider. In many readings related to off-boarding fare payment and PoP verification, the discussion often shifts towards the importance of enforcement practices in ensuring successful PoP fare collection. However, it is important to note that this topic is more complex than just evasion rates, it also involves inspection rates, enforcement techniques, duties of the fare inspectors, adjudication process, and penalties for fare evasion. To enforce payment, fare inspectors typically check riders throughout the transit system, ask for proof of fare payment, and issue citations imposing a fine to riders without a valid pass. Moreover, the regular presence of uniformed officers on transit vehicles provides additional benefits, such as making riders feel safer while traveling.

The Transportation Research Board of the National Academies notes PoP fare collection has been found to have application for BRT services, but whether it will prove to be cost-effective will largely depend on the loading volumes at BRT stops/stations, which the Tempo Line appears to be able to capitalize on if fare compliance improves.

2.4. Fare Evasion and Enforcement

Fare evasion refers to the act of intentionally riding the public transit without purchasing a valid fare. However, unintentionally riding the system without a valid fare can also be considered fare evasion. Fare evasion is distinct from noncompliance, which occurs when a person has a valid fare but fails to go through the proper payment process. For instance, fare noncompliance occurs on the Tempo Line when a passenger possesses a Clipper Card with a prepaid monthly pass but does not tag the card before boarding the bus. However, both evasion and noncompliance lead to a loss of revenue.

Ordinance No. 17, regulates the citation and adjudication process for fare evasion on the District's bus services. Notices of fare evasion violations or citations are processed through a contract with the Alameda County Sheriff's Office. This contract is in addition to the larger contract that covers protective services for all of AC Transit's 150 bus lines and is specific to the Tempo bus line. The contract employs two Deputy Sheriffs to provide security and protective services and fare inspections on this corridor Monday – Friday, 8am-5pm.

Although the Ordinance authorizes fare enforcement, currently the District does not have a formalized program to enforce fares or a performance management framework and therefore, it does not issue fare evasion citations. The off-board fare-payment on the Tempo line was originally planned to be enforced through a PoP compliance system, but enforcement has been limited to educational efforts to date. The Deputies, that serve as fare inspectors, conduct random compliance checks 2x per week, either onboard the bus or at stations, and provide reminders for passengers to

tag their card or pay at the ticket vending machine (TVM) before boarding or asks the passenger to off-board and pay their fare. Additionally, six Platform Agents (originally called Ambassadors), assist with encouraging fare compliance with their presence. Their original goal of the Platform Agent was to educate riders on the new BRT system and fare payment process, but without the authority to issue disciplinary measures. Currently, the Platform Agents still assist with system questions passengers may have in addition to silently observe and capture fare evasion data. The agents use random sampling techniques, during business hours (weekend and evening data not captured).

2.5. Fare Payment Compliance

The Tempo Line is the only line in the District with additional service to assist with fare compliance. Despite the presence of 2 uniformed officers, 6 platform agents and widespread public rider outreach on platform kiosk ticket machines usage, digital fare payment, and potential of citations for fare evasion; efforts do not appear to reduce fare evasion on the Tempo Line. Although it is acknowledged that there is no universal solution to addressing fare evasion or a prescribed ratio of fare inspectors to rider, much depends on the environment in which the transit agency operates and its agency culture. It is worth noting that many large agencies with BRT systems have substantially more law enforcement presence than the Tempo Line.

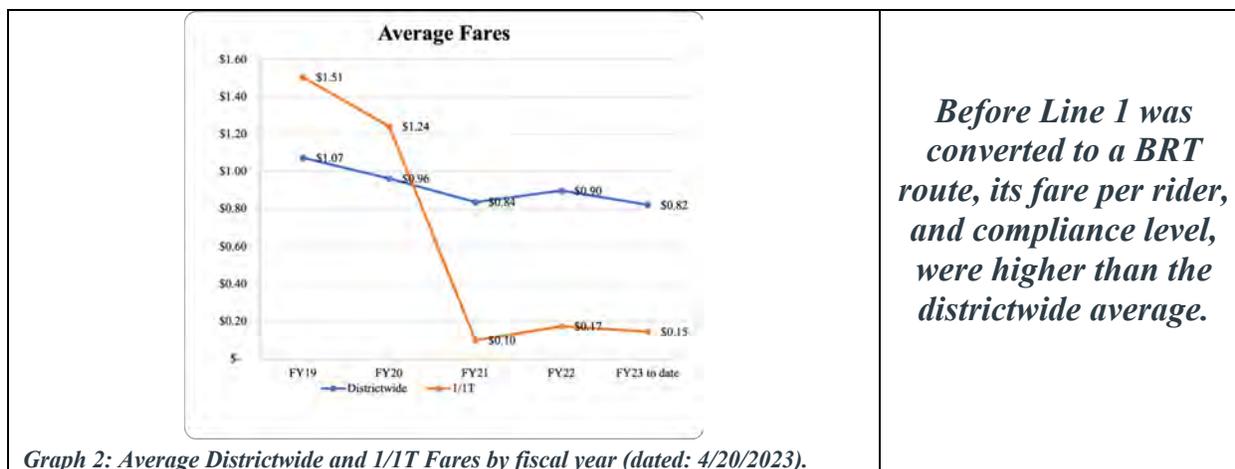
Although the District lacks a comprehensive performance management framework to track and evaluate fare evasion and enforcement, it is not a purely anecdotal observation that fare evasion is occurring. Following the pandemic ridership has recovered however, fare box recovery has plummeted. Today fewer riders are paying than they have in the past. The following, **Graph 1**, shows that the Tempo Line’s ridership almost doubled in FY22, relative to FY19, however farebox revenue dropped by \$5 million.



Across the nation, fares cover approximately one-third of the operating cost of a transit system, with government subsidies covering the remaining two-thirds. However, farebox recovery rates can vary significantly between different agencies and with different types of service, with rail systems typically having higher rates than bus systems. For example, LA Metro and BART, two other transit agencies in California, have vastly different farebox recovery rates. LA Metro’s farebox recovery rate is in the teens, while BART’s rate is closer to 50 percent.¹⁹ In FY19, the

Tempo Line’s farebox recovery was comparable to the national average at 31% but has since dropped significantly to only 3% in FY22.

It’s worth noting that before Line 1 was converted to a Bus Rapid Transit (BRT) route in August 2020, its fare per rider, were higher than the districtwide average. *See Graph 2*, in FY19, the districtwide fare average was \$1.07, whereas Line 1 averaged \$1.51 per rider. Similarly, in FY20 the district fare average was \$0.96, while Line 1 averaged \$1.24 per rider. Based on relative average, the Tempo Line’s compliance level is approximately one-fourth the districtwide compliance average.



Before Line 1 was converted to a BRT route, its fare per rider, and compliance level, were higher than the districtwide average.

Graph 2: Average Districtwide and 1/1T Fares by fiscal year (dated: 4/20/2023).

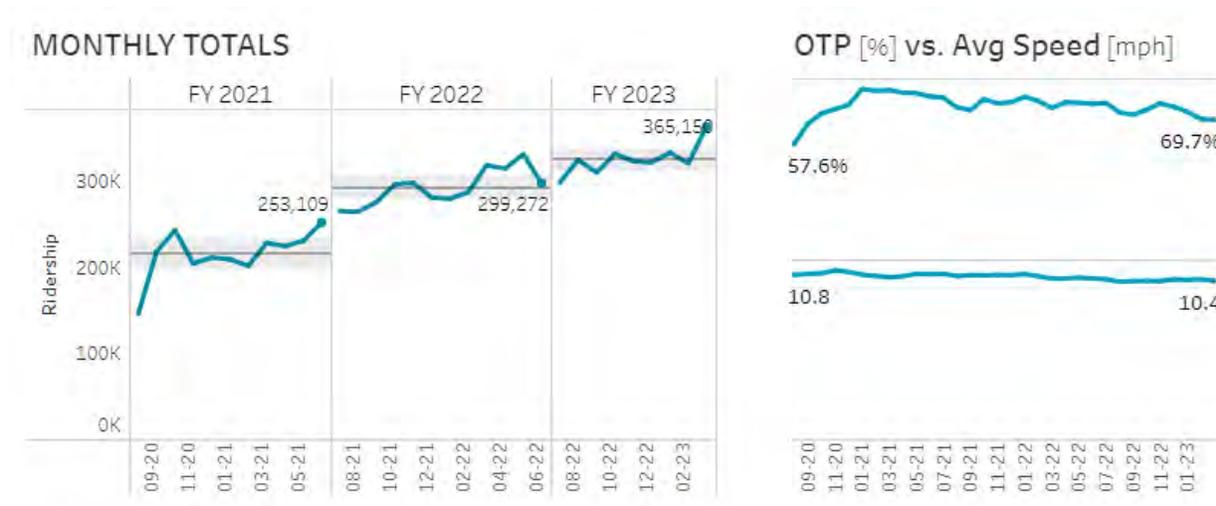
2.6. On-time Performance

On-time Performance (OTP) is a widely used metric for assessing the reliability and punctuality of transportation services. Using this metric, a bus is “on time” when it arrives at a bus stop within a certain range of its scheduled arrival. If the bus arrives outside of that range, it's considered either early or late. This measure provides a standardized means of comparing how well an agency operates according to its published schedule. In general, the BRT service with higher quality offers faster operating speeds with less dwell time, resulting in higher OTP scores.

For riders, travel time is often the most critical factor to satisfaction, especially for recurring trips such a commuting to work. Passengers expect their trips to be reliable and predictable. The Tempo BRT’s faster running speeds and reduced station dwell times make it more appealing to riders seeking an efficient and dependable transportation option.

Although the Tempo Line has the highest ridership it also had the highest OTP within the district. A large factor to this impressive OTP is its all-door boarding system with off-boarding PoP fare collection design. The Tempo Line met its peak performance in FY21, where it’s average OTP was 82.94% with service consistently running in the mid-80 percent range.⁴ This was well above the districtwide OTP target of 72%.

As **Graph 3** indicates, ridership has been increasing since FY21, but OTP has been trending downwards. In FY22, the average hovered in the mid to low 70s, and as of March 2023, it stands at 69.7%. To accommodate the rise in ridership, the line has added two more buses, bringing the total number to 18. However, the continuing increases in ridership may still be negatively affecting OTP. With the transition to a new post-pandemic normal and the rise in vehicular traffic, bus operators must exercise heightened caution to ensure safety. Furthermore, it should be noted that the City of Oakland has not yet fully optimized the deployment and management of transit signal priority (TSP) along the corridor, which may also have a potential impact on OTP. The transportation team is closely monitoring the situation to make further adjustments as needed. However, any efforts aimed at increasing fare recovery should ideally not come at the expense of further decrease OTP.



Graph 3: Average 1T ridership and Average OTP (dated: 4/20/2023).

⁴ Data taken from Tempo Project Close Out Deck dated October 27, 2021.

3. Options to Address Fare Collections Policies

The discourse surrounding fare evasion on public transportation often goes beyond the issue of fares themselves and touches upon topics such as police racism, criminalizing poverty, and public safety. As alternatives to combat revenue loss, the proposed alternatives focus on limiting/decreasing revenue loss rather than addressing crime or disorder. The aim is to create a fare system that enables passengers to ride the bus quickly, easily, and safely. The options to be considered are either to 1) maintain status quo, 2) change riders' behavior, or 3) offer alternative options to make it easier for riders to comply with the rules.

Status Quo	Alternative 1. Let present trends continue.
Change Behavior	Alternative 2. Implement fare enforcement.
Change Option	Alternative 3. Free fare program. Alternative 4. Modify design.

3.1. Criteria for Examination

The following criteria have been identified as the most suitable evaluative standards to measure the effects of the proposed policy outcomes for each alternative.

Efficacy: Increase fare compliance.

- Current acceptable fare evasion rate is at the same districtwide fare evasion rate. Will the proposed alternative improve fare compliance?

Social Efficiency: Improve social welfare.

- Are social resources allocated efficiently?

Operational Efficiency: Maintain on-time performance (OTP).

- The districtwide OTP target is 72%. Will the proposed alternative negatively affect OTP?

Equity: Does not disproportionately negatively impact low-income or disadvantaged riders.

- Will the proposed alternative maintain accessibility to passengers?

Financially Sound: Improve recovery and an affordable solution.

- The proposed alternatives will be weighed against the amount it would cost to implement against increased farebox recovery, where applicable.

Politically Feasible: Politically acceptable.

- The proposed alternatives will be weighed against their political acceptance by the public stakeholder.

4. Projecting the Alternative Outcomes

Alternative 1. Let Present Trends Continue

AC Transit is now operating in a new post pandemic environment where there has been a significant decrease in ridership and farebox revenues, factors that are beyond its control. Moreover, the long-term economic impacts of the pandemic and the uncertainty surrounding inflation in the near-term remain unknown. Although the operational funds of the District are supplemented by federal, local, regional, and state funds; bus farebox revenue is still a critical source of income. Currently, farebox revenues represent approximately 5.3% of the District's operating revenues, a sharp decline from 12.6% in FY 2019-20; with Tempo's high ridership with low farebox recovery heavily affecting this decline.

Additionally, the District received a significant amount of federal emergency operating funds that helped to sustain bus service during the pandemic. The FY22-23 Adopted Budget Book identifies these funds include "\$114.2 million from the federal Coronavirus Aid, Relief, and Economic Security (CARES) Act, \$55.5 million from the Coronavirus Response and Relief Supplemental Appropriations (CRRSA) Act, and \$10.0 million in American Rescue Plan (ARP) Act funds" were utilized, and the remaining \$106.0 million will be used in FY22-23 through FY23-24 to offset projected shortages.

Allowing current trends to continue would mean accepting the status quo and settling for an inefficient Tempo system. This in turn, would likely impede any progress towards achieving optimal farebox recovery through improved fare payment compliance. The farebox recovery rates could continue to decline if passengers perceive it is unfair and inequitable to pay for their own fares when they believe others are not paying, leading to continued decline in farebox recovery rates. In conjunction with the depleting emergency operating funds, it may be necessary to reallocate funds from other operational streams to sustain operations. This could lead to a reduction in service levels. Given the Tempo Line's essential role in the District's transit network and high ridership levels, any necessary service reductions would likely come at the expense of other lines.

Alternative 2. Implement Fare Enforcement

Fare enforcement is a highly visible aspect of a transit agency’s system with advocates stating enforcement unnecessarily heightens the tension between police and riders of color. Other advocates state fare enforcement criminalizes poverty and the District’s ridership is majority low-income riders of color. In addition, other agencies that have implemented a policing model with even the lightest touch (such as ambassador/platform agent) have faced political and legal challenges. There have been questions raised about the legality of on-board checks on riders rather than using turnstiles or barriers to deny entry to non-paying passengers.⁷

However, fare collection is a fundamental component for the sustainability of many public transport system; therefore, fare evasion generates a negative impact on the finances and even affects the perception of the system. While there are conflicting views on fare evasion and fare enforcement, enforcement is a policy that many other agencies deploy and should be considered for the District.

For alternative 2, Implement Fare Enforcement, the behavior change theory is as follows:



If implemented, it is important to establish an effective program that allows the agency to assess its efficacy. Additionally, fare enforcement’s impacts on specific demographics may be significant if its enforcement goals do not align with the agency goals, including equity and social justice.

At present, the District has an approved Fare Enforcement Ordinance No. 17 that permits districtwide fare enforcement. However, the decision to start citing fare evaders, on any of its lines, has not yet been made. Furthermore, the District has not implemented a comprehensive Fare Enforcement Policy that specifies its goals and objectives.

To create an effective fare enforcement program, it is essential to develop a program that defines its goals and objectives, establishes a performance management framework to capture and assess fare evasion and enforcement, and guides the program’s design, development, implementation, and execution. **Table 1** provides a sample fare enforcement program that outlines actionable goals and their corresponding objectives. These goals include reducing fare evasion and loss, increasing fare compliance, deploying fare enforcement efficiently and effectively, and avoid bias in conducting fare enforcement. Once the program’s goals and objectives are aligned with the

Recommendation 1

Formalize a Fare Enforcement Program including establishing a baseline and setting targets. (See Table 1.)

agency goals, a performance management framework can be built out to capture and assess fare evasion for continued improvements and modifications as the environment changes.

How many people are evading fares on Tempo?

Although AC Transit does not have a performance management framework to confirm the actual number of fare evaders, the fare evasion is not merely an anecdotal observation. Reports show an increasing trend in its Tempo Line’s ridership, which almost doubled in FY22, relative to FY19, however fare box recovery is \$5 million less than FY19. (See Graph 1, below).



Graph 1: Tempo Line ridership and fare box revenues received by fiscal year.

Is the lack of enforcement the reason fare evasion appears so high?

Although it is often assumed that fare enforcement reduces fare evasion, the relationship between the two is not clear. Fare enforcement appears to work in some environments and not others. For example, the New York MTA has identified that fare enforcement can increase fare compliance and in July 2022, they announced plans to spend an additional \$10 million per year to add 77 inspectors on local buses to conduct fare inspections.⁴⁶ This is in addition to their current 172 security unit that conducts PoP checks on select bus routes. SFMTA, however, stated “there is no real correlation between fare enforcement and seeing the evasion rate change” from a targeted inspection they launched for their Line 38 in September 2022. They found the fare evasion rate actually increased the following month.¹⁵

These differing outcomes may be due to a variety of factors, including differences in the enforcement methods used, the frequency and intensity of enforcement, the demographics of the ridership, and the cultural norms surrounding fare payment in different regions. Therefore, it is important to

Recommendation 2

Conduct a fare evasion study to understand demographics, actual level of fare evasion, and trends prior to considering implementing fare enforcement.

carefully evaluate the effectiveness of fare enforcement strategies before implementing them on a large scale.

Additionally, in the case of the SFMTA targeted fare enforcement If the targeted enforcement was only conducted for a limited period of time and not continued into the following month when collecting fare evasion data, it is possible that riders had rational expectations and adjusted their behavior accordingly. They may have avoided the targeted line or paid their fare during the inspection period and then returned to their previous behavior afterward.

This highlights the importance of carefully designing and implementing fare enforcement strategies to avoid unintended consequences. Riders may adapt to enforcement efforts by changing their behavior or finding ways to evade enforcement measures. Therefore, it is important to continuously monitor and evaluate the effectiveness of fare enforcement strategies and adjust them as necessary.

Research has also indicated that certain set of transit riders will evade fares regardless of the consequences.⁵⁴ (See *Figure 1, below*). Therefore, regardless of how many resources are deployed or how many fares are checked, there will always be a small subset who will never pay their fare. Additionally, several variables may impact the evasion rate that have nothing to do with fare enforcement. Such as low income, high unemployment rates, and the availability of employer-sponsored transit benefits.

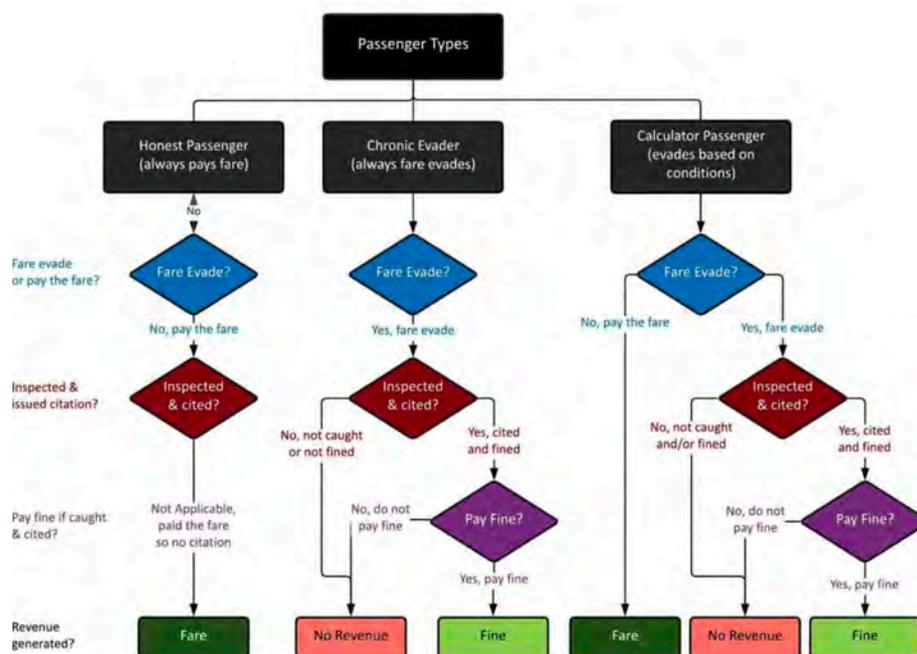


Figure 1: Passenger types and impact of revenue collected.

Recommendation 3

Establish a performance management framework for fare enforcement, including establishing a baseline, setting targets, and developing measures for outputs and outcomes.

An additional example, in 2009, a performance audit of SFMTA's PoP program noted that the Enforcement Division responsible for PoP inspections had not developed any goals for the program.⁵⁴ As a result, SFMTA was unable to assess whether the PoP payment program on buses was meeting its objectives. The audit recommended that SFMTA develop fare inspection – and evasion-related goals and objectives specific to the PoP program. The audit suggested structuring a primary program goal with short- and long-term quantifiable objectives and implementation strategies to meet those objectives. Additionally, the audit recommended establishing clear and quantifiable criteria for evaluating the program's achievements.

How does fare inspection work on the Tempo Line?

The Alameda County Sheriff's Office has a contract to provide supplemental protective and fare inspection services for the 1T corridor. Two Deputy Sheriffs are responsible for providing these services from Monday to Friday, 8am to 5pm. During their rounds, the Deputies work in teams of two and conduct random compliance checks twice a week. They will ask riders to show their ticket received from the TVM or they will use a handheld device to scan their clipper card to ensure they tagged in. If they come across a fare evader, they remind the passenger to pay and may ask them to exit the bus and pay before boarding the next bus.

Although, the Deputies have found that most riders comply with their requests without confrontation, some riders do exit the bus and board the next bus without paying. Quantitative data that is reliable and accurate is not being recorded, so it is unclear the number of passengers checked, the number of fare evaders who are educated or asked to off-board and pay, or how many riders actually pay before reboarding.

How is Tempo different from other AC Transit regular buses?

For non-BRT routes, riders enter through the front door of the bus and pay as they board. The bus operator serves as a visual deterrent to fare evasion, even though they are instructed not to confront riders who board without payment. However, if there is a safety issue on a regular bus, such as a threat against the driver or passenger, the driver can notify law enforcement. It is important to note that the lack of payment alone would not normally lead to any interaction with the rider.

What does fare inspection cost on the Tempo Line?

The estimated cost for each Deputy Sheriff is approximately \$236,500 per year, while for each Platform Agent is around \$160,00 per year. Thus, the total annual cost for the 2 Deputies and 6 Platform Agents is just over \$1.4 million. However, in FY22, the Tempo Line generated \$611,058 in farebox

revenue for its 3,227,403 riders, resulting in a net loss of approximately \$820,000.

What would it cost to do effective fare inspections on the Tempo Line?

From the case studies comparison (Appendix A), approximately one third of total funds collected were allocated back into fare enforcement with LA Metro, NYCT, and SFMTA. While fare compliance has been decreasing for many agencies, pre pandemic averages were similar to the District's at 80-90 percent. Using these ratios as a rough estimate for the potential fare enforcement costs on the 1T, with the average fare being \$1.75 (\$1.25 discounted and \$2.25 full fare) at 13,000 riders per day, the estimated full farebox revenue would be \$8,303,750.

Annual riders: 4,745,000

Revenue (at \$1.75): \$8,303,750

80% compliance: \$6,643,000

30% to fare enforcement: \$1,992,900

\$236,500 per deputy sheriff: 8.5 deputies

Therefore, assuming an 80% compliance level, revenue would be \$6,643,000, and after deducting the fare enforcement cost for 8 deputies at \$1,892,000, the expected net revenue would be \$4,751,000.

What are the direct costs of processing infractions?

It is difficult to determine the full amount due to the inactivity of fare enforcement ticketing. However, with Ordinance 17, citations will no longer be processed through the criminal justice system, and instead will be handled internally. The number of full-time employees required to process these citations is expected to be similar to that of a parking citation. Furthermore, an estimate of the number of fines paid should be projected, as the current trend shows a low citation payment rate.

Are Platform Agents effective?

While the initial purpose of the Platform Agent's position provided passengers benefits such as wayfinding assistance, education of how to use new system, guidance with schedule and fare questions, and on- and off-boarding support; it is unclear if the position continues to add impactful value. The system has been in operations for over two years, and rider needs may have changed. While Platform Agents do capture fare evasion data, it does not appear to be done in a statistically valid way, and the information is not usable to identify time, location, and day of peak evasion. This lack of reliable data makes it challenging for the District to formulate plans to take any action. Additionally, with the increasingly large amount of fare evasion, it does not appear that their presence acts as a deterrent to fare evasion.

Recommendation 4

Conduct a cost analysis to determine the expenses associated with enforcing regulations, processing violation, and the expected rate of citation payments.

Recommendation 5

Conduct a cost-benefit and position analysis of the Platform Agent position.

Although the current role of the Platform Agents may no longer add significant value as it did at the beginning, if a Fare Enforcement Program is formalized, new duties may be assigned to better align with the program's goals and objectives. For instance, Sound Transit had a policy change in 2022 and replaced fare enforcement officers with Fare Ambassadors (like Platform Agents) whose duties include issuing citations to passengers without proof of payment. Alternatively, the position of Platform Agents could be modified to include other roles that help with fare compliance, without requiring a policy change. This would involve changing the duties assigned to the agents. Examining the benefits of reallocating the operational expense of this position or modifying the job description could be worthwhile. Although it falls outside the scope of this assessment, it was noted that obtaining concurrence from ATU Local 192 would be necessary to implement these changes.

Title VI implications to fare enforcement.

While there are no direct implications of a Title VI analysis to implement fare enforcement, there is a growing national emphasis on Title VI analysis and making policy adjustments accordingly. Concerns around social justice and inequality have led to lawsuits against transit agencies due to their fare enforcement policies and programs.

A functional example of a Title VI compliant enforcement action plan was developed by Sound Transit, Seattle, WA. In 2019, an interdisciplinary working group comprised of representatives from Passenger Experience, Public Safety (Operations), Equity and Inclusion (including Title VI), Research and Innovation, Finance, Government and Community Relations, Business/Labor Compliance, Communications, Legal, Office of the CEO, and Operations conducted a comprehensive review of Sound Transit's current inspection and enforcement practices. As stated in its Fare Enforcement Action Plan, the workgroup aimed to "understand the impacts of our current program and develop recommendations that provide an equitable and customer-focused experience, including safety for all riders and integrity of decision-making, while ensuring strong financial stewardship of taxpayer dollars."³⁴ The workgroup translated the vision, mission, and objectives into criteria that could be used to evaluate and prioritize proposals and recommendations.

Sample actionable fare enforcement program goals and objectives.

Fare Enforcement Goal	Objectives
Reduce fare evasion and revenue loss	<ul style="list-style-type: none"> • Collect data needed to measure the fare evasion rate by mode/line/key location. • Establish targets for fare evasion and inspection rates. • Determine fare enforcement staffing necessary to achieve fare evasion and inspection targets. • Develop, test, and implement a methodology for estimating the amount of fare revenue lost as a result of fare evasion. • Increase the probability of encountering fare enforcement personnel by X% by coordinating fare enforcement assignments with ridership levels by route and time of day. • Schedule inspections so that that passengers may expect to be inspected anywhere, anytime. • Right-size fare enforcement staffing and shift assignments to increase shift coverage during peak. • Reduce nonauthorized entry at secondary station entrances by X% by increasing uniformed staff at the stations with secondary entrances with the highest evasion rates.
Increase fare compliance	<ul style="list-style-type: none"> • Build a culture of fare compliance by focusing on customer education. • Encourage a positive customer culture and behavior to tap every time. • Modify fare payment behavior and increase fare compliance by issuing warnings and citations. • Implement zero-tolerance policy and require fare enforcement to cite all passengers who do not have proof of payment.
Deploy fare enforcement efficiently and effectively	<ul style="list-style-type: none"> • Deploy fare enforcement personnel to locations experiencing recurring or high fare evasion rates. • Maximize contacts by deploying fare enforcement personnel to high ridership routes. • Optimize fare enforcement effectiveness by scheduling shifts to align with ridership patterns and peak times of fare evasion. • Collect data needed to determine fare evasion rates and revenue loss and use them to make fare enforcement deployment decisions. • Evaluate designation of rail and BRT platforms as fare-paid areas. • Maximize time spent conducting fare inspections by developing a staffing deployment strategy. • Minimize impacts of lunch breaks and shift changes on coverage during peak ridership periods.
Avoid bias in conducting fare enforcement	<ul style="list-style-type: none"> • Develop and implement standard operating procedures for systematically inspecting every passenger on a vehicle. • Mandate consistent use of standard operating procedures for conducting 100% inspections. • Assess staffing and budgetary impacts of employing/contracting sufficient resources to conduct fare. • Develop deployment guidelines to deploy fare enforcement personnel equitably across all routes (e.g., difference in hours that fare enforcement personnel are deployed on routes with the highest and lowest rates of fare evasion is no more than X%). • Distribute fare enforcement resources proportionately on the basis of ridership. • Develop a methodology and conduct a racial/ethnic equity impact assessment. • Determine the requirements and resources for implementing a methodology for measuring and characterizing instances of systemic racism. • Review employment policies and practices and identify barriers to recruitment, hiring, and promotion of diverse employees. • Develop awareness of bias through training for employees and leadership

Table1: Sample fare enforcement program actionable goals and objectives

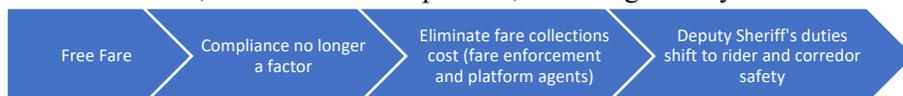
Alternative 3. Free Fare on Tempo

A free fare alternative is becoming increasingly politically appealing, with growing arguments supporting its benefits for the environment, economic opportunity, and social mobility. Eliminating fares can also eliminate costs related to fare collection, such as removing the Platform Agent position and refocusing the Sheriff's contract so the Deputies can solely focus on rider and corridor safety rather than fare enforcement. Additionally, with the District's ridership being majority low-income riders of color targeting this corridor based on ridership demographics, this alternative could help promote equity without the need for significant financial investment required to make the entire system fare free.

However, offering free fares comes with risks. Eliminating fares would remove the expenses related to enforcement, but it would also reduce revenue collection to zero.

The District is experiencing declining farebox recovery ratios, combined with rising operating costs due to inflation. In FY22, the farebox recovery was \$611,058, which represents approximately 3% of the lines operating costs covered by fare revenue. *Considering these trends, it may be worth questioning the value of spending resources to collect a diminishing amount of revenue from transit riders, many of whom are low-income.*

For alternative 3, Free Fare on Tempo Line, the change theory is as follows:



Why are some agencies considering free fare?

While free fare policies exist in nearly 100 localities worldwide, it has not been thoroughly researched.¹⁸ Fare free policies and programs, however, are increasingly viewed as an effective tool to achieve various goals in the United States such as increasing ridership, improving operational efficiency, reducing costs, promoting accessibility and social equity, and reduce congestion and greenhouse gas emissions. Partial free fare, like the proposed free fare alternative for the Tempo Line and not districtwide, can also advance these goals with less impact on the District's overall farebox recovery.

In recent years, free fare policies have garnered attention due in part to political and social justice movements advocating for governments to prioritize social equity. Eliminating financial barriers through a free fare program could improve access for vulnerable populations and promote mobility. Advocates argue that financial barriers disproportionately affect

marginalized communities and limit their ability to access essential services and operations.

The effectiveness of free fare policies and programs varies across transit agencies and communities, as there is not a universal approach to achieving agency and community goals and fare collection cost vary significantly among transit agencies. While many agencies rely on fare revenues to fund a significant portion of their operations, they also operate with limited budgets and must carefully consider how to allocate their resources to achieve the best outcomes.

The District does not have a set formula or standard percent of operating revenues dedicated to Tempo, as operational expenses encompass all its lines. A rough FY22 cost comparison of fare enforcement efforts against a hypothetical free fare option is calculated here:

FY22 Revenue: \$611,058

2 Deputy Sheriffs: \$473,000

6 Platform Agents: \$960,000

In FY22 revenues generated were \$611,058 while fare enforcement efforts cost \$1,433,000, leaving a net loss of \$821,942. With Tempo's fare collection cost exceeds the revenues collected, there is no net income generated from collecting fares.

If a free fare program were in place in FY22, with the current Sheriff's contract, there would have been no farebox revenue, but the cost for the protective services for the 2 deputies would be \$473,000. This would have resulted in a \$348,942 savings of the free fare program compared to fare enforcement.

Additional note, when Tempo was launched in August 2020 amidst the pandemic, no fares were collected for the first three months of its operation. Operations staff reported an increase in the number of unhoused individuals using the bus as a means of shelter, especially on late night runs. However, this trend significantly decreased once the District resumed charging fares. If a free fare program is implemented, a similar situation could potentially occur.

After the completion of this assessment on May 15, 2023, discussions with the Operations staff revealed that they had previously evaluated the need for additional resources to address the challenge arising from the absence of fare charges. A comprehensive assessment determined that approximately 36 additional supervisors would be necessary. The proposed approach involved deploying two supervisors at each end of the line layover point (excluding BART stations) during all operating hours. This plan also accounted for the northern layover point for Tempo. Therefore, in a scenario where fares are not collected, it may be necessary to staff six or more supervisors at the

Recommendation 1

Conduct cost analysis to determine the required funding for running a pilot program with free fares on the Tempo Line.

Recommendation 2

Modify security plans and goals to accommodate the new needs of a free fare system.

northern layover point at all times. Their role would be to assist operators in ensuring that all passengers exit the bus at the end of the line. Additionally, it was noted that there may be a need to involve sheriffs to assist in the issue or to augment the sheriff staffing if the situation worsens significantly.

Social-equity and environmental benefits of spending money to eliminate fares.

Connectedness is a foundation for equitable access to opportunities, which in turn is dependent on the ability to get around. A longitudinal study conducted by Harvard in 2015 revealed that the factor most closely associated with a family's ability to rise out of poverty was not the test scores of schools or public-safety statistics, but rather the average commute time to work.⁶ Therefore, public transportation policies and programs have significant impact on which communities have access to economic mobility.

Additionally, cars contribute significant negative externalities, including pollution and congestion. According to the FTA, transportation is the largest contributor to greenhouse gas emissions, with each vehicle on the road releasing an average of one pound of CO₂ per mile driven. However, taking public transportation reduces CO₂ emissions by 45% compared to drive alone.³⁰ In the U.S., public transportation is estimated to save 37 million metric tons of carbon dioxide annually, leading to improved air quality and potentially reducing respiratory ailments such as asthma and cancer.⁴⁹ In contrast, an increase in the number of cars on the road requires construction of more roads, leading to water runoff and contributing to ground and water pollution. Therefore, investing in free fare to increase the use of public transportation can have significant benefits for both the environment and public health.

Those against free fare.

Advocates against free fare policies on buses claim that it may not be a financially sustainable solution for transit agencies, which rely on fare revenue to support operations and maintenance, but as previously noted fare reliance varies by agency. They also contend that free fare policies may not necessarily lead to increased ridership or better transit access, as other factors such as service quality, frequency, and reliability may be more critical for ridership growth. In addition, they may argue that free fare policies could result in increased transit system demand and potential service overcrowding, leading to further operational challenges. It is worth noting that the Tempo Line has 27 BRT vehicles, with the capacity to operate up to 22 buses simultaneously to accommodate surges in demand. Presently, 18 buses are in operation on the line.

Where have free fare policy/programs succeeded?

Although free fare transit has garnered increasing interest among US transit agencies, there have been few comprehensive studies on its implementation. However, a study conducted by the Transit Cooperative Research Program's (TCRP) 2012 Synthesis 101: Implementation and Outcomes of Fare-Free Transit Systems Report⁵¹ has identified that of its 39 public transit systems assessed all were in one of three categories: small urban and rural communities, university dominant communities, and resort communities.

Major findings from this report include:

- Most fare free transit agencies serve small communities.
- Agencies with low farebox recovery ratios are most likely to implement free fare.
- Some funding sources reward transit agencies for operating fare free.
- Fare free transit can improve operations on high-volume services.
- Implementing fare free transit typically increases ridership by 20% to 60%.
- Free fare eliminates operator fare disputes but can increase the presence of disruptive passengers.
- There can be new or increased costs associated with free fare.
- About 5% to 30% of new riders are people switching from other motorized modes.
- Fare free transit can be a point of community pride.

Does a free fare program make sense for the Tempo corridor?

The demographic composition of an agency's ridership varies across different agencies, and therefore, the needs of the riders will differ as well. Understanding the rider profile is crucial to ensure that the benefits are targeted to the right population. For example, it would not be effective to provide this benefit to wealthy riders who are not price sensitive. Conversely, if the benefit were to go to low-income, disadvantaged population, it would have more significant impact. Consideration should be around the opportunity cost of investing in free fares. What alternative uses of those funds might provide greater value to riders or society as a whole?

The equity argument to implement a partial free fare program that targets the Tempo Line instead of the entire district, is compelling. By having a free fare program on the Tempo Line, the District could prioritize the known low-income people of color demographic on this corridor and ensure that the benefit is directed to those who will benefit the most.

The Massachusetts Bay Transportation Authority (MBTA) conducted a successful free fare pilot study in a corridor with a ridership profile and environment similar to the Tempo Line. The following reasons were considered for selecting this corridor:³⁵

Recommendation 3

Conduct a free fare program evaluation to identify access, equity and mobility, operational efficiency, financial health, and community impacts. *(See Figure 1.)*

Essential travel connection	High ridership route	Covid relief	Serves socially vulnerable population
<ul style="list-style-type: none"> • Key connector for many Boston neighborhoods. • Many residents in area rely on daily bus service. • Neighborhoods home to many minority-owned business. 	<ul style="list-style-type: none"> • One of MBTA’s highest ridership routes. • Pre-pandemic served 12,500 daily trips. • Ridership is steady during day compared to most other routes. 	<ul style="list-style-type: none"> • More than 2/3 riders classified as low-income. • Free fares intended to lessen riders’ financial burden. 	<ul style="list-style-type: none"> • 95% of riders are considered transit critical. • The route runs through some of the city’s most socially vulnerable areas.

How have other agencies paid for their “free fares” pilot?

Kansas City (KCATA), Budget Reallocation and Public-Private Partnership

KCATA’s decision to convert to free fare came in before the pandemic. Their farebox recovery brings in about \$8 million in revenue. For this free fare pilot, the agency re-allocated \$4 million from the regular budget and acquiring \$4 million in a public-private partnership. Although equity measures have improved, the system is facing ongoing challenges, including operator shortages and concerns from riders about long wait times and no-show buses. Additionally, KCATA plans to seek additional funding to extend the initiative past 2023. They have received a \$500,000 grant FTA grant, to assess its feasibility of continuing free service after pandemic relieve is exhausted.

Boston, MA (MBTA), Utilized Pandemic Federal Recovery Funds.

MBTA Implemented a two-year free fare pilot (2023-2024) on three of its lines, that is being paid for with \$8 million of federal recovery funds. This free-fare experiment has been popular so far. However, it is unclear where future funds will come from or if it will expand to more routes. By targeting specific bus routes based on ridership demographics, the pilot was able to equity without investing the dollars it would take to make the entire system fare free.

Los Angeles (LA Metro), Short-term funding through Budget Reallocation

LA Metro utilized a short-term funding opportunity in re-tooling the present budget, and a long-term opportunity through a mixture of federal funding and possible congestion pricing, harnessing the market to reduce the waste associated with traffic congestion.

Title VI implications to Free Fare on Tempo Line.

The compliance guidelines of the Federal Transit Administration’s Title VI (Civil Rights Act) mandate that larger transit providers must gather and report survey data on passenger demographics and travel patters at least once every 5 years. The collection of survey data in ridership is crucial when conducting equity analysis under Title VI. The District has collaborated with the Metropolitan Transportation Commission (MTC) to conduct a comprehensive rider survey on a large scale. This analysis is conducted every five years, with the most recent one completed in 2017. A survey was

Recommendation 4

Consider conducting a free fare pilot, to obtain additional required information to confirm Title VI compliance.

scheduled for 2022 however, due to the Covid-19 pandemic, it was postponed and rescheduled for 2024. The survey effort takes around 9 months, excluding data preparation, analysis, and report generation. Before implementing any proposed changes, it is necessary to conduct this analysis to determine if the changes will have an adverse impact on low-income and minority passengers.

Title VI does allow for work arounds that would assist with gathering the additional information needed prior to an agency making a policy change. That is an agency can choose to conduct pilots when policy changes involve a 1) service change or 2) fare change without having to wait for the completion of a Title VI analysis.

If a free fare pilot is considered FTA Title VI guidance offers an option for agencies to conduct a pilot for a fare change without the requirement to conduct equity analysis. A pilot can be run for 6 months or less, if longer than 6 months and equity analysis is required.

Recommendation 5

Develop a surge plan to maintain OTP, as increased ridership is typically an outcome of a free fare program.

Fare Free Transit Evaluation Framework

Transit practitioners can focus on evaluating fare-free transit across four themes of impacts: access, equity, and mobility; operational efficiency; financial health; and community impacts. The Free Fare Transit Evaluation Framework²⁰ below, shows these themes along with example questions that can guide the evaluation. This Framework will assist to evaluate potential benefits, costs, and trade-offs of implementing a fare free program. Because the framework follows the general principals of program evaluation, it may also be used after implementation to evaluate the long-term feasibility of a fare free program.

The evaluation framework has ten steps that describe the process for getting organized, making a plan, and evaluating fare-free transit (Figure 2-1).

Figure 2-1 Evaluation Framework Steps



Figure 2-2 Example Framework Questions

Theme	Evaluation Questions
Access, Mobility & Equity 	<ul style="list-style-type: none"> Which fare-free transit alternatives best improve access, mobility, and equity? How much will ridership increase on various transit services? Will ridership increases come from existing riders or new riders?
Operational Efficiency 	<ul style="list-style-type: none"> Is there capacity on transit services to accommodate additional ridership? Will fare-free transit improve the operating efficiency of existing services? What will be the operational impacts of increased ridership on various transit services (e.g., service hours, on-time performance, employees)? What will be the capital impacts of fare-free transit (e.g., facilities, vehicles)? Without fare collection, how can the transit agency manage use of transit services by non-destination riders? Will there be additional safety and security impacts and costs? Will the elimination of fare collection affect the transit agency's ability to collect ridership data? How does fare-free transit at one transit agency affect inter-agency transfers? How does fare-free transit on specific services affect intra-agency transfers? Do any federal requirements impact the transit agency's ability to pilot or implement fare-free transit (e.g., Title VI)?
Financial Health 	<ul style="list-style-type: none"> Are there any additional costs or savings that would result from fare-free transit (e.g., program administration, marketing)? Does the elimination of fare revenue restrict the transit agency's ability to receive funding from external partners (e.g., employers, universities, schools)? What will be the net financial impacts, including the loss of fare revenue, savings on fare collection costs, and additional operating costs? How will lost revenue be replaced? Can fare revenue be replaced with a less-regressive funding source? Will fare-free transit make the transit agency eligible for additional funding? Will the loss of fare revenue threaten current or future service levels?
Community Impacts 	<ul style="list-style-type: none"> Will fare-free transit result in any external impacts to the surrounding community (e.g., air quality, congestion, economic development, public health)? Is the community supportive of fare-free transit?

Figure 1: Free Fare Transit Evaluation Framework

Alternative 4. Modify Design (Front door boarding, on-board payment)

While this alternative may appear counterintuitive as it challenges the purpose of implementing the BRT on its current corridor, it is understandable. The primary goal of a BRT program is to increase the level and quality of bus service through faster, more comfortable, and cost-effective service at metro-level capacities, with low environmental impacts. To improve OTP and enhance rider experience, the Tempo Line was designed with an open PoP system, which requires payment before boarding the bus. Unlike close systems that utilize expensive gates, turnstiles, or barriers at each station to improve fare compliance, the Tempo Line employs an open, honor system.

Before switching to the off-boarding PoP payment system, the average per fare was above the districtwide average. However, after the conversion, the average per fare and compliance level has been trending downwards. It appears this shift to an the off-boarding PoP payment design, with no effective evasion deterrent, is a leading reason for the fare evasion.

Although there are many benefits to a BRT in general and many benefits this BRT offers on the Tempo Line; efficiency and sustainability may not be one of them. This alternative modifies the design of the BRT back to the traditional design of the District’s other lines with front door boarding and on-board payment.

For alternative 4, Modify Design, the change theory is as follows:



Implement this change would require an upfront purchase cost of \$20,000 per farebox for each of the 27 BRT buses, in addition to the installation. Additionally, justification may need to be submitted to the Federal Transit Administration, as this modification would violate the Small Start Grant Agreement with FTA.

While fare compliance has decreased for many agencies, the District’s pre-pandemic average was comparable at 80-90 percent. Assuming an 80% compliance level, modifying the design has a potential to generate an estimated fare revenue of \$6,643,000. After deducting the bus retrofitting cost of \$540,000, and operational fare enforcement costs of \$1,430,000, the rough net revenue projection the first year would be \$4,672,667.⁵

⁵ Average Fare \$1.75 (\$1.25 discounted & \$2.25 full fare) at 13,000 riders per day, estimated full farebox revenue would be \$8,303,750. Annual riders: 4,745,000 | Revenue (at \$1.75): \$8,303,750 | 80% compliance: \$6,643,000 | Current fare enforcement efforts: \$1,430,333 | Cost to retrofit buses: \$540,000.

Recommendation 1

Conduct cost analysis to evaluate the expense and maintenance related to the design changes.

Recommendation 2

Verify if additional amendments are required for the close-out of the Small Starts Grant Agreement.

5. Summary of Projecting the Alternative Outcomes

Alternative 1:

Let Present Trends Continue

Efficacy	Social Efficiency	Operational Efficiency	Equity	Financially Sound	Politically Feasible	Average
•○○	•○○	•○○	•○○	•○○	•○○	•○○

Allowing current trends to continue would mean accepting the status quo and settling for an inefficient system. This in turn, would likely impede any progress towards achieving optimal farebox recovery through improved fare payment

compliance. The farebox recovery rates could continue to decline if passengers perceive it is unfair and inequitable to pay for their own fares when they believe others are not paying, leading to continued decline in farebox recovery rates. In conjunction with the depleting emergency operating funds, it may be necessary to reallocate funds from other operational streams to sustain operations. This could lead to a reduction in service levels. Given the Tempo Line’s essential role in the District’s transit network and high ridership levels, any necessary service reductions would likely come at the expense of other lines.

Alternative 2:

Implement Fare Enforcement

Efficacy	Social Efficiency	Operational Efficiency	Equity	Financially Sound	Politically Feasible	Average
••○	•○○	•○○	••○	•○○	••○	••○

Implementing fare enforcement policy change ranks the second lowest rating according to this evaluation criteria. This alternative may not meet the social efficiency, operational efficiency, or financial soundness criteria as it will not improve social welfare, may slow down bus service, impacting OTP, and result in increased costs associated with hiring additional deputies to conduct the fare inspections. This alternative also rates medium under political feasibility due to potential division in views. Furthermore, its efficacy is uncertain as conflicting views exist in the literature regarding whether fare enforcement

leads to compliance, and the current staff presence does not serve as an effective deterrent.

It is important to note that this alternative policy solution is likely to face significant equity challenges and could become a controversial stakeholder aspect that frequently receives media attention. If this policy is implemented, it must be applied districtwide to avoid potential equity issues. It is important to clarify that the suggestion to implement a districtwide fare enforcement program does not necessarily mean always conducting fare inspections on every line. Rather, such a program should establish districtwide goals and objectives, and conduct a holistic assessment of root causes of fare evasion, types of evaders, and factors that influence fare evasion. This would enable the deployment of fare enforcement personnel in a strategic and targeted manner to encourage fare compliance across the entire system.

Alternative 3:

Implement Free Fare Program

Efficacy	Social Efficiency	Operational Efficiency	Equity	Financially Sound	Politically Feasible	Average
●●●	●●●	●●●	●●○	●○○	●●●	●●●

The implementation of a free fare program is the most highly rated alternative based on the evaluation criterion of efficacy, social efficiency, operational efficiency, and political feasibility. This program would benefit the environment, economic opportunities, and social mobility. Therefore, would be less subject to public scrutiny and fare compliance would no longer be an issue. While there would be no new barriers that would decrease operational efficiency, OTP, if the District is unable to staff bus operators to handle a

potential increase in ridership, it could have an impact on OTP.

The biggest challenge to this alternative would be identifying a sustainable revenue stream to support it in the long-term. Additionally, this alternative could be found inequitable as it would provide free rides to passengers on the 1T line while other passengers living in the same corridor would have to pay for their rides on a different line, or passengers with similar demographics using a different line on another route would have to pay.

It is important to note that a future required Title VI analysis may necessitate the consideration of this alternative solution for other lines with a similar rider profile, to ensure equity. Ultimately, this could further strain the District’s budget.

Alternative 4:

Modify Design

Efficacy	Social Efficiency	Operational Efficiency	Equity	Financially Sound	Politically Feasible	Average
●●●	●○○	●○○	Equity	●●○	●●○	●●○

Modifying the design and switching to front-door boarding with on-board payment may appear counterintuitive as it challenges the purpose of implementing the BRT on its current corridor. The primary objective of a BRT program is to enhance the level and quality of bus service through delivery of faster, more comfortable, and cost-effective service at metro-level capacities, with low environmental impact.

Before implementing the BRT and switching to the off-boarding PoP payment system, the average per fare was above the districtwide average. However, after the conversion, the average per fare and compliance level has been trending downwards. It appears that shift to an the off-boarding PoP payment design, with no effective

evasion deterrent, is a leading reason for the fare evasion.

Although there are many benefits to a BRT in general and many benefits this BRT offers to the Tempo Line; efficiency and sustainability may not be one of them. This alternative modifies the design of the BRT back to the traditional design of the District’s other lines with front door boarding and on-board payment.

If the primary goal is to improve farebox recovery through relatively affordable measures, this alternative should be considered due to its high efficacy rating. Moreover, this alternative is a more equitable approach as the fare payment process is systematic across the district, and the high fare evasion rate on the Tempo would not have to be covered at the expense of the other lines. However, it is important to note that this alternative may lead to reduced OTP, does not add social value, and underutilizes the BRT infrastructure investment.

5.2 Measurement Scale

To assess the policy alternatives based on the evaluation criteria, I have incorporated circular ideograms to indicate how well each alternative meets each evaluation criterion, using the following scale: HIGH = 3, MEDIUM = 2, and LOW = 1. The policy alternative with the highest numerical average is considered to produce the greatest benefit and desired outcome.

- HIGH:** The policy alternative/element meets or exceeds the desired efficacy of the evaluation criteria.
- MEDIUM:** The policy alternative approaches the desired efficacy of the selection criteria, however, falls short of key components.
- LOW:** The policy alternative does not approach standards and is lacking critical components in achieving the efficacy of the evaluation criteria.

Alternative/Criteria Matrix Results

Alternative	Efficacy	Social Efficiency	Operational Efficiency	Equity	Financially Sound	Politically Feasible	Average
	Increase fare compliance	Improve social welfare	Maintain OTP	Access to service w/o disproportionate negative impact	Improve recovery and Affordable	Policy is politically acceptable	
Let Present Trends Continue	●○○	●○○	●●○	●○○	●○○	●○○	●○○○
Implement Fare Enforcement	●●○	●○○	●○○	●●○	●○○	●●○	●●○○
Free Fare Program	●●●	●●●	●●●	●●○	●○○	●●●	●●●○
Modify Design	●●●	●○○	●○○	●●●	●●○	●●○	●●○○

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APPENDIX A: Case Study Comparisons

The Covid-19 pandemic has had significant impact on transit ridership across the United States, leading to a sharp decline in usage. As the country looks towards recovery, transit agencies are faced with the challenge of addressing the increased incidence of fare evasion. While there has been substantial research on fare evasion and its management prior to the pandemic, limited aggregate attention has been given to this issue since the outbreak. Many agencies, including AC Transit, are currently evaluating their fare compliance strategies, and exploring new methods to tackle the issue.

It is recognized that there is no universal solution to addressing fare evasion, and that much is dependent on the environment the transit agency functions in and its agency culture. The aim of this Case Study Comparison is to gain insights into the strategies adopted by different transit agencies to manage this issue. Additionally, the study includes an overview of these agencies' free fares approach on their bus lines.

Information was gained from the Transit Cooperative Research Program Reports 96 (2012) and 234 (2022) in addition to multiple media articles for the following four case studies:

- Boston, Massachusetts – Massachusetts Bay Transportation Authority (MBTA)
- Los Angeles, California – Los Angeles County Metropolitan Transportation Authority (LA Metro)
- New York City, New York – New York City Transit (NYCT)
- San Francisco, California – San Francisco Municipal Transportation Agency (SFMTA)

Massachusetts Bay Transportation Authority (MBTA), Boston, MA	
Overview of Agency	MBTA operates bus, BRT, light rail, heavy rail, commuter rail, and ferry services.
Fare Collection Overview	On surface BRT and bus, passengers pay on board. BRT stations are gated.
Fare Enforcement Overview	BRT, fare payment is observed by the operator.
Fare Enforcement Personnel	MBTA transit police officers can monitor fare evasion at gates, although fare enforcement is not their primary responsibility. As MBTA implements Fare Transformation, the agency's new fare collection system, MBTA will migrate to proof of payment systemwide and discontinue cash on board. <ul style="list-style-type: none"> - Although MBTA is authorized to use civilian fare inspectors, MBTA recently received legislative approval to designate the employees who may issue fare citations. - This will allow MBTA to hire a civilian fare verification team, which will be needed to conduct proof-of-payment fare inspections.
Fare Enforcement Deployment	Under Fare Transformation, MBTA plans to deploy enforcement equally across the whole system rather than at locations with high evasion. <ul style="list-style-type: none"> - MBTA views <u>random deployment as critical to ensure equity</u>.
Fare Citation Practice	The issuance of citations is at the discretion of the police officer. MBTA is exploring what its fare citation practice will look like under Fare Transformation and how technology can be used to support the practice.
Fare Evasion Penalties	MBTA issues noncriminal citations. Fare evaders are charged escalating fines: \$100 for 1st offense, \$200 for 2nd offense, and \$600 for each offense after that.

	<ul style="list-style-type: none"> - Passengers who refuse to provide identification can no longer be subject to arrest for evading fare payment. While appeals are processed within the Transit Police Department, MBTA is exploring a way to move the appeals process to a different MBTA department.
Fare Enforcement Technology	MBTA is exploring potential software solutions for routing and scheduling fare enforcement to help improve the efficiency and equity of inspections.
Consideration of Free Fare	<p>Implemented a two-year free fare pilot 2023-2024 called “Free the T” on lines 23, 28, and 29 (note, transfers would still cost.) This expanded a previous six-month pilot that ran a single line (line 28) for free. The original pilot they deemed a success as it boosted ridership by 22% with 5% of riders who would have drove if the bus was not free.</p> <p>This free-fare experiment has been popular so far. However, it is unclear where future funds will come from or if it will expand to more routes. Boston is paying for its project with \$8 million of federal recovery funds.</p> <p>By targeting specific bus routes based on ridership demographics, the pilot can target equity without investing the dollars it would take to make the entire system fare-free.</p>

Los Angeles County Metropolitan Transportation Authority (LA Metro), Los Angeles, CA

Overview of Agency	LA Metro is a multimodal transportation agency that operates bus, light rail, heavy rail, and BRT services in Los Angeles County.
Fare Collection Overview	<p>On most buses, fares are paid at fareboxes using cash or TAP (Transit Access Pass) smart cards. Two BRT routes and two Rapid bus routes allow all-door boarding.</p> <ul style="list-style-type: none"> - On the Orange BRT route, fares must be paid using a TAP card at platform validators before boarding. - On the Silver BRT route and two Rapid bus routes with all-door boarding, TAP passengers may enter through any door and tap the validator; passengers paying with cash must board through the front door.
Fare Enforcement Overview	<p>Bus operators observe fare payment and request fares if passengers board without paying.</p> <p>Metro’s fare compliance officers, who can check fares and issue citations, conduct fare enforcement at stations.</p> <p>Although fare enforcement on bus services is not a primary focus for fare compliance officers, they may conduct fare enforcement at bus stops and terminal stations for BRT and Rapid bus routes with all-door boarding.</p>
Fare Enforcement Personnel	<p>Fare compliance officers are Metro employees who are deployed for fare compliance but are also able to issue citations for any other Code of Conduct violation.</p> <p>Metro has a contract for law enforcement services with the Los Angeles and Long Beach Police Departments and the LA County Sheriff’s Department. These agencies do not conduct fare enforcement, but they may be called in to assist with difficult passengers or passengers refusing to provide information for a citation.</p> <p>Under the LA County Sheriff’s Department contract, of the 300 law enforcement personnel, 71 (24%) are assigned to the Transit Service Bureau (TSB) to conduct fare enforcement on their rail and BRT.</p>
Fare Enforcement Deployment	<p>Fare compliance officers are deployed primarily to rail but may also inspect BRT and Rapid bus services with all-door boarding when enough personnel are available.</p> <p>Fare compliance officers are usually <u>deployed to stations where most passengers board.</u></p>
Fare Citation Practice	<p>Fare compliance officers try to educate passengers about fare requirements and get them to pay instead of issuing a citation.</p> <p>Passengers without a valid fare may be issued a warning or a citation and/or have a fare deducted from their TAP card on the spot using the mobile phone validator, at the fare compliance officer’s discretion.</p>
Fare Evasion Penalties	Fare compliance officers’ issue civil administrative citations for fare evasion.

	The fine levels are \$75 for adults and \$40 for minors. Individuals may be excluded from the service for escalating periods after a third citation in 12 months.
Fare Enforcement Technology	Fare compliance officers use mobile phone validators to check TAP fares, issue electronic citations, print citations, and deduct fares from TAP cards on the spot.
Consideration of Free Fare	<p>Completed a 22-month free fare on its buses. Currently launched GoPass pilot program, a 2-year free fare pilot for students through 12th grade.</p> <p>LA Metro’s fares are \$1.75, with total funds only making up 6% of total revenues – 1/3 of which goes back into fare enforcement. Much of its operational funding is generated from local taxes.</p> <p>Has good demographic ridership stats. The know “the ridership is overwhelmingly low-income, making \$18k/year or less, for half of the riders on the bus.” Yet, only one-fifth of the systems current daily ridership is enrolled in its low-income fare program.</p>

New York City Transit (NYCT), New York, NY	
Overview of Agency	NYCT operates the largest transit system in the United States, providing passengers with Regular Bus Service (RBS), Select Bus Service (SBS), and heavy rail service (subway).
Fare Collection Overview	<p>On RBS, passengers pay upon boarding at the front door.</p> <ul style="list-style-type: none"> - With the upcoming full rollout of One Metro New York (OMNY), NYCT’s contactless electronic smart card system, preparations are being made to enable all-door boarding. - On SBS, passengers must prepay at off-board TVMs to receive proof of payment before boarding the vehicle or tap their OMNY fare media upon boarding.
Fare Enforcement Overview	<p>On RBS, fares are collected at the farebox and overseen by the operator at the time of vehicle boarding.</p> <ul style="list-style-type: none"> - When a passenger does not pay the fare, the bus operator uses the F5 farebox key to record the unpaid boarding. - SBS is a proof-of-payment system with fares inspected by fare inspectors on board the vehicle at any point in a passenger’s journey.
Fare Enforcement Personnel	<p>Fare inspectors, conduct inspections and enforcement on the SBS system and some RBS services.</p> <ul style="list-style-type: none"> - New York Metropolitan Transportation Authority (MTA) Bridge and Tunnel Officers also conduct fare inspections and enforcement on RBS.
Fare Enforcement Deployment	<p>On SBS, fare inspectors are often assigned to one of the 17 lines, so that they come to recognize passengers on the vehicles.</p> <ul style="list-style-type: none"> - Fare inspectors also undertake “surges” where a supervisor and six fare inspectors will pick an SBS route and location and inspect all passengers on every vehicle in a specific timeframe, typically 60 minutes. - MTA Bridge and Tunnel officers develop their deployment plans on RBS.
Fare Citation Practice	Police officers and fare inspectors have discretion about whether to issue a verbal warning or summons.
Fare Evasion Penalties	<p>A fare evasion summons can be criminal (only NYPD can issue a criminal summons for fare violations – this is for subway) or civil [Transit Adjudication Bureau (TAB) or New York City Office of Administrative Trials and Hearings (OATH) summons].</p> <ul style="list-style-type: none"> - A criminal summons has been deemphasized in favor of a civil summons. <p>Agency reports >50% of all bus riders in the Bronx evade, 40% Staten Island, 30% Manhattan and Brooklyn, 15% Queens.⁴³ Losing >\$500 million in fares last year.</p>
Fare Enforcement Technology	<p>NYCT has invested in cameras to help monitor the system and measure/track fare evasion.</p> <ul style="list-style-type: none"> - They now have over 9,000 cameras on the system. - They have introduced video analytics software at five stations to automatically detect passengers going over/under turnstiles and going the wrong way through exit gates. In 2019, video screens showing passengers passing through turnstiles in real time were installed to encourage good behavior.
Enforcement Audit Findings (to use as lessons learned)	In 2009, a performance audit of SFMTA’s PoP program noted that the Enforcement Division responsible for PoP inspections had not developed any goals for the program. As a result, SFMTA was unable to assess whether the PoP payment program on buses was meeting its objectives. The audit recommended

	that SFMTA develop fare inspection – and evasion-related goals and objectives specific to the PoP program. The audit suggested structuring a primary program goal with short- and long-term quantifiable objectives and implementation strategies to meet those objectives. Additionally, the audit recommended establishing clear and quantifiable criteria for evaluating the program’s achievements.
Consideration of Free Fare	The CEO and Chairperson routinely calls for transit to be funded as an essential service. The is much argument that NYCT (or MTA) has argued it has a high reliance on farebox recover that covers about 50% of its annual operating budget. Its fares bring in \$6 billion annually, during non-pandemic years, its fares are too critical in keeping the service going. Therefore, their strategy to date has been to focus on fare compliance, even on buses.

San Francisco Municipal Transportation Agency (SFMTA), San Francisco, CA

Overview of Agency	The San Francisco Municipal Railway (Muni) is the transit division of SFMTA and operates bus, light rail, streetcar, and cable car services.
Fare Collection Overview	All Muni services, except cable cars, operate with all-door boarding and use a PoP system. <ul style="list-style-type: none"> - Clipper card validators are installed at all doors on buses, (streetcars, and light rail vehicles.) - At surface stops, cash-paying passengers board through the front door, pay at the farebox, and receive a proof-of-payment receipt/transfer.
Fare Enforcement Overview	Except for the cable cars, the SFMTA system is entirely all-door boarding and enforces proof of payment. <ul style="list-style-type: none"> - Proof-of-payment fare enforcement is conducted on board buses by SFMTA employees who are civilian fare inspectors. - Muni’s bus operators do not enforce fares and do not engage with passengers except to answer passengers’ questions.
Fare Enforcement Personnel	The SFMTA’s civilian fare inspectors conduct proof-of-payment inspections and issue citations to riders who do not produce valid proof of payment.
Fare Enforcement Deployment	For onboard inspections, fare inspectors are deployed on bus and ride each line to the end to provide equitable fare enforcement. <ul style="list-style-type: none"> - Fare inspectors <u>check everyone on board the vehicle and passengers as they board.</u> - The SFMTA’s target is to inspect each line at least once every 2 weeks, with more inspections on higher ridership lines. - Data from fare enforcement surveys are used to deploy fare inspectors, with fare enforcement focused on lines with high ridership. - While fare evasion patterns are considered, they do not drive deployment decisions.
Fare Citation Practice	The SFMTA’s approach to fare enforcement is to keep fare evasion rates low by educating passengers over enforcement and issuing citation. <ul style="list-style-type: none"> - The fare enforcement strategy creates the expectation that fare inspections may occur anytime, anywhere on the system. - Fare inspectors have discretion about whether to issue a citation. - Citations are issued as a last resort, to passengers who refuse to pay their fare or agree to enroll in a discounted fare program.
Fare Evasion Penalties	The SFMTA decriminalized fare evasion and enacted ordinances to adjudicate fare evasion through an in-house administrative process. <ul style="list-style-type: none"> - The fine for fare evasion is \$64 for youth and \$125 for an adult.
Fare Enforcement Technology	The SFMTA is working with its vendor for the parking citation app to enable the issuance of fare evasion citations. <ul style="list-style-type: none"> - The app would enable fare inspectors to access data on previous fare enforcement contacts and write citations. - Newer fareboxes issue a paper proof-of-payment receipt that includes a code identifying the date and time issued and, for short fares, the amount paid.
Consideration of Free Fare	Free fare for youth under 18 through fiscal year 2024.

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