

## 9. Expanding Proof of Payment to Buses

- The San Francisco Municipal Transportation Agency (SFMTA) is in the process of implementing Proof of Payment (POP) on buses. The SFMTA's buses handle more than three times the passenger volume of its light rail system: the current domain of the POP program. POP has conducted three phases of a pilot expansion to buses, focused on portions of three bus transit corridors. The goals of this expansion are reducing boarding times and improving on-time performance, increasing fare box revenue collection, assisting in orderly and compliant boarding, and providing customer service. To date, only one other transit system in North America has expanded POP to an entire bus fleet.
- The SFMTA is now considering implementing Phase IV of the bus pilot program, including hiring 14 Transit Fare Inspectors (TFIs) with annual salary and benefit costs of \$1.2 million. Under the first three phases of the pilot program, TFIs facilitated back door bus boarding at specific locations while under Phase IV, the SFMTA plans for TFIs to board and ride buses along two major corridors.
- The SFMTA has implemented its bus pilot program one phase at a time without a longer term plan for piloting POP on the buses. The SFMTA has moved forward with Phase IV, although a formal plan has not been made public or approved by the SFMTA Board of Directors, and without first defining the specific goals of Phases I, II, or III or evaluating if these phases have achieved set goals. The goals of Phase IV are as yet unclear.
- The SFMTA is not currently well-situated to expand POP to the bus fleet. The POP program has difficulty conducting performance management at the program's current scale, and increasing the size and scope of the program will only exacerbate this problem. Expanding POP to buses poses a number of new obstacles that the POP and its pilot program have not addressed, including communication, cultural, and physical obstacles.
- The SFMTA should discontinue the pilot program to expand POP to the SFMTA bus fleet, including suspending hiring for the 14 Transit Fare Inspectors, until a bus pilot program implementation plan is approved. Before POP can expand to buses, it must improve its overall performance management, while also developing a full implementation plan for bus POP that includes defining the main goals of Proof of Payment on the buses, developing criteria for selecting bus routes that are consistent with program goals, developing bus-specific program measures and goals to evaluate its performance, and conducting a cost assessment of upgrading buses and bus shelters to facilitate POP.

## **SFMTA's Bus Fleet**

The SFMTA bus system handles more than three times as many passengers as the light rail system—nearly 80 percent of all SFMTA transit boardings. The bus system's 72 number routes carry more than 3 million passengers per week and more than 160 million passengers per year. Passenger traffic on several Muni bus routes exceeds Muni light rail lines; the 38 Geary and 14 Mission bus routes carry more passengers than any of SFMTA's light rail lines, except for the N Judah line. To date, the SFMTA has focused Proof of Payment (POP) enforcement on the City's light rail lines. Given the scale of the bus system, expanding POP to buses is a major undertaking.

## **Fare Evasion on Buses**

Fare evasion on buses is often conspicuous. Passengers may board a bus through the rear-door, may present counterfeit and invalid passes, may display illegally purchased or expired transfers, or may simply refuse to pay. The SFMTA does not know the frequency of these individual incidents, the overall fare evasion rate, or the total revenue loss.

### Rear-door Boarding

The SFMTA prohibits rear-door boarding on buses with few exceptions. Despite this prohibition, rear-door boarding occurs regularly on Muni buses. Valid pass or transfer holders will sometimes use a rear door if the front of the car is crowded or to hasten boarding, and vehicle operators will occasionally facilitate this behavior by opening the rear doors. Regardless of whether an individual has proof-of-payment, rear-door boarding is a violation of SFTMA policy and is conspicuously posted on the outside of vehicles (see Figure 9.1, below).

### Front-door Evasion

Fare evasion occurs on the front-door of buses as well. SFMTA staff report riders refusing to pay, although they do not collect a count of such instances. An evader may also enter the front door without a vehicle operator checking for valid proof of payment. The SFMTA is also aware of numerous instances of passengers providing counterfeit passes, although it does not have an estimate for their use.

**Figure 9.1**

**“Enter Through Front Door Only” Decals on Muni Bus Windows**



Source: Flickr.com

Confrontation Concerns

Vehicle operators who recognize a fare evasion may choose not to confront the fare evader. Vehicle operators are under pressure from operations managers to minimize vehicle delays. They are also reluctant to create a conflict that may escalate into verbal or physical confrontation, knowing that such incidents have taken place. Therefore, vehicle operators will often tolerate fare evasion in order to avoid delaying a bus trip, inciting a violent reaction, or both.

Public Perception

As is discussed in Section 4, *Complaints and Complaint Handling*, few of the complaints lodged with the SFMTA concern fare evasion, and fewer, still, concern back-door boarding. From January 1, 2005 to October 31, 2008, “Fare Evasion” and “Non-Enforcement of Fare Collection” combined for less than 0.5 percent of all SFMTA Passenger Service Reports. In 2008, out of 29,273 SFMTA Passenger Service Reports, 6 reports (less than 0.1 percent) concerned public requests for POP on buses.

## **POP on Buses, In Perspective**

There is little precedent for conducting POP on buses. The Budget Analyst is only aware of one transit system in North America that has expanded POP inspections to an entire bus fleet (Portland's TriMet, where back-door boarding is prohibited). The Federal Transit Administration's Transit Cooperative Research Program (TCRP) found that bus POP exists in "cases where minimizing boarding time is critical because a multiple-unit streetcar or articulated bus is used." The TCRP notes, however, that in these situations POP was not the only fare collection method employed. In other places where POP has been expanded to buses, it has been relegated to select corridors or Bus Rapid Transit (BRT) lines. Los Angeles County MTA, York Region Transit in Ontario, Canada, and the New York City MTA conduct POP on select bus routes. These bus POP systems also employ bus shelter design improvements, such as designated proof-of-payment zones, ticket machines, and off-board fare collection to facilitate POP implementation and enforcement.

## **POP on Muni Buses**

The SFMTA provided funding for the expansion of POP to buses beginning in FY 2006-07. Its expansion initiative intended for POP to more than double its inspection staff levels in order to target the busiest light-rail lines as well as bus routes 1, 14, 15, 30, 38, and 49.

## **Bus Pilot Program**

The SFMTA has implemented its pilot program for expansion to the buses one phase at a time, without specific goals or a longer-term implementation plan. In April 2008, the POP program launched a three-phase bus pilot program. The SFMTA has identified several goals for the three-phase pilot program, which involves Transit Fare Inspectors (TFIs) checking for proof of payment on boarding passengers. The goals of the pilot include:

- Reduced boarding times and improved on-time performance
- Increased fare box revenue collection
- Orderly boarding
- Customer service
- Fare payment compliance

TFIs have not issued citations during the first three phases of the pilot program, nor have they conducted fare inspections on buses.

The phases of the pilot are described below.

Phase I: Van Ness at Market

Phase I of the pilot program commenced April 1, 2008. TFIs were trained to check for proof of payment for riders boarding buses, allow those with valid passes or transfers to board through the rear of the bus, and direct those without valid passes or transfers to the front of the bus. Four TFIs per day facilitated rear door boarding at the bus shelters at the intersection of Van Ness Avenue and Market Street, focusing on the 47 and 49 bus routes. The rear-door boarding facilitation occurred on weekdays, from 7 a.m. to 9 a.m. and 3 p.m. to 6 p.m. TFIs did not board buses. In all, 10 TFIs were trained to facilitate rear-door boarding during Phase I.

Phase II: Van Ness at Market, O'Farrell, and Geary

Phase II of the pilot program commenced April 29, 2008, four weeks after the commencement of Phase I. Phase II was the same as Phase I, with the added inspection of the 38 Geary bus route at Van Ness Avenue and O'Farrell Street in the morning (inbound) and Van Ness Avenue and Geary Boulevard in the afternoon (outbound). Phase II also expanded the inspection times, from 6 a.m. to 9 a.m. and from 3 p.m. to 7 p.m. The March 2008 class of TFI trainees was trained on rear-door boarding facilitation during Phase II.

Phase III: Van Ness, Market, and Geary Bus Transit Corridors

Phase III of the pilot program commenced December 8, 2008, seven months after the commencement of Phase II. Phase III expanded Phase II by focusing on some of the busiest Muni transfer points, as identified by the Transit Effectiveness Project, as well as a greater number of stops along Van Ness Avenue (between Chestnut Street and Market Street), Market Street (between 3<sup>rd</sup> Street and Castro Street), and Geary Boulevard (between Divisadero Street and Van Ness Avenue). In addition to the 38, 47, and 49, TFIs began facilitating rear-door boarding for the F Market & Wharves and J Church street cars, and the 6, 7, 9X, 22, 24, 30, 30X, 31, 35, 27, 41, 45, and 71 bus routes. During Phase III, the POP program authorized TFIs to issue citations to "egregious" evasions; however, TFIs issued no actual citations during this phase.

Proposed Phase IV of the Bus Pilot

During the management audit, the SFMTA had not developed a longer range plan for the bus pilot program. The SFMTA was completing Phase III of the bus pilot at the same time that the management audit was completed but had not reported on what were the Phase III main goals (whether reduced boarding times, increased fare box revenues collection, orderly boarding, or other goals) or analyzed the extent to which these goals had been achieved.

The POP program informed the Budget Analyst of the proposed implementation of Phase IV, with TFIs boarding and conducting fare inspections along two bus routes, although the intent of Phase IV, following on Phase III, was not clear. The Proof of Payment program had not fully developed the Phase IV plan at the time of the management audit

nor had the SFMTA Board of Directors approved the plan. Nonetheless, the SFMTA had advertised 14 vacant Proof of Payment positions, planning to hire these positions for the bus pilot program.

In expanding the POP program to the buses, the POP program has considered distributing flyers and using other public education techniques to educate bus riders about the requirement of carrying proof of payment. The SFMTA will also need to add signage to buses about proof of payment and remove existing signs prohibiting rear-door boarding. The POP program has not developed the formal plan for increasing public communication, removing contrary messaging, or deploying fare inspectors to buses. Other obstacles to expanding POP to buses are discussed below.

## **POP Is Not Ready to Expand to Buses**

Expanding the POP program to include the SFMTA's much larger and more dispersed bus system is a challenge in itself. However, the system poses additional bus-specific obstacles to POP expansion, as well as significant hiring expenses and other costs.

## **The POP Program Must Overcome Obstacles to Expand to Buses**

The POP program must overcome several obstacles in order to effectively and efficiently implement POP on buses.

### Communication Obstacles

Implementing POP on buses involves communication hurdles.

- Throughout the pilot phases, the SFMTA has failed to adequately communicate the existence and the purpose of the pilot program to vehicle operators. As TFIs have attempted to facilitate rear-door boarding, many vehicle operators were not aware of the program. Although some teams of TFIs were able to explain the program to vehicle operators, in other instances vehicle operators failed to allow rear-door boarding. The POP program did not develop alternate methods to communicate POP to vehicle operators.
- Communicating the program to the ridership will require a multilingual rider outreach effort. Despite some signage on buses, POP management believes riders of all language backgrounds are not aware of the SFMTA's proof-of-payment requirements.
- SFMTA senior managers have different understandings as to the existing legality of rear-door boarding. Furthermore, the POP program has not informed all senior managers about the existence of the POP pilot program.

### Physical and Mechanical Obstacles

Implementing POP on buses faces practical and structural hurdles.

- As noted above, Muni buses currently display signage on and around the rear doors expressly prohibiting rear-door boarding. This signage would need to be removed from buses allowing rear-door boarding. According to the SFMTA, approximately 530 staff hours would be required to remove decals from the buses.
- Bus shelters are not designated Proof of Payment zones. They are not designed to facilitate off-board fare inspections or collections, nor are they designed to facilitate staffed rear-door boarding.
- On some newer bus models, drivers are not able to open rear doors from the driver's seat, making rear-door boarding on these buses impractical without retrofitting the vehicle.

#### Citation Obstacles

POP managers and TFIs express concern over the practicality of issuing POP citations on- and off-board buses.

- TFIs may have difficulty issuing citations onboard buses due to crowding and to the regular stopping and starting of vehicles.
- TFIs may have difficulty issuing citations off-board buses because bus shelters are not recognized as POP zones and there is no structure preventing passengers from walking away.

#### Cultural Obstacles

Implementing POP on buses faces cultural hurdles.

- Although the SFMTA does not know the degree to which fare evasion occurs on the bus system, staff report that a portion of the ridership has become accustomed to not paying, whether they board in the front or rear of the bus.
- Riders have developed a habit of enabling rear-door boarding by opening and holding doors for patrons boarding the back of the bus.
- Drivers are often reluctant to insist that passengers pay fares or check for proof of payment, whether a passenger boards by the front or rear of the bus.

#### Geographic Obstacles

Fare evasion on buses occurs outside of the Van Ness/Market/Geary corridors.

- Illegal rear-door boarding was prevalent enough along Mission Street to garner its own previous effort to combat fare evasion in FY 2004-05. Furthermore, according to the FY 2004-05 survey used to inform the POP pilot program, 4 of

the top 12 Muni-to-Muni transfer sites occur on Mission Street, at Geneva Ave (8<sup>th</sup> overall), 16th Street (9<sup>th</sup>), 24th Street (11<sup>th</sup>), and 1st Street (12<sup>th</sup>).

- The Transit Effectiveness Project found that the key bus corridors with notably poor on-time performance are Mission Street, Haight Street, Potrero-San Bruno Avenues, and Sunset Boulevard. If one of the purposes of the POP expansion is to reduce boarding times and improve on-time performance, the POP program should explore conducting POP in these transit corridors.
- Expanding POP to buses may require additional research and configuration to deploy TFIs to all heavy bus-use corridors.

### Performance Management Obstacles

As is discussed in Section 1, *Proof of Payment Performance Management*, the POP program is not managing its existing operations to achieve results. Implementing POP on buses creates additional performance management obstacles for the POP program.

- The SFMTA does not currently record fare box collections for individual buses or bus lines and therefore can not determine any fare box revenue changes attributable to POP, although the SFMTA system improvements may allow more specific revenue tracking in the future.
- The POP program has not determined a fare evasion rate for the bus fleet or individual bus lines, therefore it does not have a baseline evasion rate. The SFMTA reports that the Transit Effectiveness Project is in the process of conducting such an assessment.
- Boarding time is not the only factor affecting bus on-time rates, therefore the SFMTA will have a challenge in attributing changes in on-time performance to the POP program.
- Because of the sheer scale of the bus system, the POP program needs to develop criteria for implementing POP on buses, including methods for selecting bus lines and stops appropriate for POP.

### **Expanding POP to Buses Requires Significant Financial Investments**

The primary cost of expanding POP to buses would be salaries and benefits. Although the POP program currently has 6 Transit Fare Supervisor/Investigators (Supervisors) and 46 TFIs on staff, the SFMTA FY 2009-10 budget, as of May 12, 2009, included a total of 9 Supervisors and 60 TFIs. The purpose of these additional positions is fare enforcement in the bus system. Hiring 14 additional TFIs would cost the SFMTA approximately \$1.2 million in additional salary and fringe benefit costs annually. These costs do not include human resources, training, uniforms, materials, and other costs related to the hiring, training, and deployment of 14 additional TFIs.



The SFMTA would need to address and additional costs related to facilitating POP on buses. Several bus shelters are not designed to facilitate back-door boarding or proof-of-payment inspection. Removing signage from buses that discourages rear-door boarding would be another necessary cost, requiring approximately 530 staff hours at a cost of approximately \$30,000.

## Conclusions

The SFMTA is in the process of expanding POP from light rail to its larger and more-dispersed bus system. The goals of this expansion are to increase revenue through fare payment, improve and hasten bus boarding, and improve vehicle on-time performance. A phased pilot program is underway. If the SFMTA successfully implements POP on buses, it will only be the second transit system in North America to have done so.

POP is not currently well-situated to expand fare inspection to the bus fleet. The POP program has difficulty conducting performance management at the program's current scale and scope, and increasing the scale and scope of the program will only exacerbate this problem. Expanding POP to buses poses a number of new obstacles that the POP and its pilot program have not addressed. Budgetary constraints on the system will make dollars for staffing, equipment, and signage changes more difficult to come by.

The SFMTA has been conducting a pilot program on the buses without a long term plan for implementing the succeeding phases of the pilot program. The SFMTA is considering establishing Phase IV of the pilot, placing TFIs on two bus routes, without specifically defining the goals of Phase IV or how Phase IV will be evaluated. SFMTA completed Phase III without defining the main goal of the pilot. To date, the SFMTA has not reported on the achievement of the pilot's goals (once defined) while moving forward to Phase IV.

The SFMTA does not know the magnitude of the problems it is trying to solve by expanding POP to buses. Before the SFMTA expands POP to the bus fleet, it should make an effort to quantify the problem of fare evasion on buses as well as the extent that facilitating rear-door boarding can actually improve on-time performance. It should then develop a full implementation plan that matches bus routes and transit corridors to its program goals and measures and evaluates its performance on buses. The POP program should also work closely with SFMTA's Operations Division to determine the best ways that vehicle operators and fare inspection staff can communicate and cooperate to curtail fare evasion.

## Recommendations

In order to provide the SFMTA with immediate budget savings and avoid an unprepared expansion of POP to the Muni bus fleet, the SFMTA Board of Directors should:

- 9.1 Direct the Security and Enforcement Division to discontinue the pilot program to expand POP to the SFMTA bus fleet until an implementation plan is approved (see Recommendation 9.4)
- 9.2 Immediately suspend hiring of vacant 8124 Supervisor/Investigators and 9132 Transit Fare Inspectors positions until the pilot program implementation plan is completed and approved by the Board of Directors.

Before proceeding with future plans to expand POP to the Muni bus fleet, the Director and Deputy Director of Security and Enforcement and the POP Operations and Investigations Manager should:

- 9.3 Measure fare evasion on SFMTA buses and compare the evasion rate with other bus systems.
- 9.4 Develop an implementation plan for Phase IV of the bus pilot. In doing so, the Security and Enforcement Division should:
  - (a) Define the main goal(s) of the Phase IV bus pilot (e.g., reduce boarding time through facilitating back door boarding; increase revenue collection from reduced fare evasion);
  - (b) Develop criteria for the selection of bus lines that are in concert with the goals of the POP program and any POP bus expansion (e.g., main transfer points, high rider volume, high incidence of fare evasion);
  - (c) Develop specific performance measures and identify required data to measure performance that aligns with the Phase IV bus pilot goals (e.g., bus dwell times; increased revenue collection specific to bus route);
  - (d) Adapt light rail POP best practices, as well as those from other systems, in order to develop best practices that can be adapted to the bus system; and
  - (e) Conduct a cost assessment of upgrading buses and bus shelters to facilitate POP.

## **Costs and Benefits**

The SFMTA has included funds in the FY 2009-10 budget to pay for the 14 Transit Fare Inspector positions, with annual salary and fringe benefit costs of \$1.2 million. Hiring these positions and placing them on buses as part of the Phase IV bus pilot is ineffective if the program goals have not been determined. The SFMTA could avoid these costs by delaying hire of new positions until the implementation plan for Phase IV has been fully formed, resulting in a more effective pilot and evaluation. To eventually expand the Proof of Payment program to the larger bus fleet will be costly and SFMTA should only proceed once the pilot has been successfully evaluated and the Proof of Payment program's impact on fare revenues can be calculated.