SFMTA | Municipal Transportation Agency

PRELIMINARY RESPONSE TO CIVIL GRAND JURY REPORT "BETTER MUNI SERVICE NEEDED, WITHOUT SWITCHBACKS"

08 | 09 | 2012

SAN FRANCISCO, CALIFORNIA

Grand Jury Report Ignores Presented Evidence

- ***IGNORES*** use of switchbacks as one of many strategies SFMTA uses to restore service reliability
- ***IGNORES*** progress in reducing switchbacks
  - Report states SFMTA had 200-440 switchbacks
  - We have shown consistent declines in switchbacks and had only 82 occurrences in July 2012
  - Improvements made in verifying proper headsigns, making announcements, and use of social media
- ***IGNORES*** improvements underway such as radio replacement, tablet based supervision tool, train control upgrades, and vehicle and rail infrastructure rehabilitation and replacement
- ***IGNORES*** our unique operating environment and conditions such as our extensive operations in mixed-flow traffic and as a result, traffic and private vehicle delays unlike peer agencies who operate in private, exclusive right-of-way
- ***IGNORES*** input from peers that have similar operating characteristics that switchbacks are necessary.

Summary of Findings and Response

Finding 1: ***"Switchbacks violate the spirit of Charter"***

- **Switchbacks help improve service**
- **Our riders routinely cite service reliability and on-time performance as their key concern.**
- **Switchbacks allow us to reduce bunches and gaps and restore the scheduled service after delays.**

- ***Finding 2:*** ***"Muni has very little interest in finding alternatives"***
- **We use alternatives daily:** changing train routes at terminals, holding headways, moving scheduled trains up, deadheading trains, reducing recovery time, and using relief trains.
- **These are alternatives available to us given the nature of our infrastructure.**

Summary of Findings and Response

Finding 3: "No evidence that switchbacks improves service"

- **There is ample evidence of service improvement but you must look at individual events.**

Finding 4: "A callous disregard for the welfare of riders re: switchbacks"

- **We strive to reduce and minimize the use of switchbacks**
- **We have made significant progress in reducing switchbacks.**
- **In July 2012, we had 82 occurrences and have showed a steady decline in use.**

Summary of Findings and Response

Finding 5 & 6: **"Switchbacks are not used by other transit systems in their day-to-day operations"**

- **Finding is false and based on a very limited sample of peers not comparable to SFMTA.**
- **TriMet (Portland, Oregon), SEPTA (Philadelphia, Pennsylvania), New Jersey Transit, Greater Cleveland Regional Transit Authority, Chicago Transit Authority), and Santa Clara Valley Transit Authority, BART, MBTA (Boston).**

Finding 7 & 8: ***"*****Failed to fully implement basic technological improvements"**

- **Improvements are underway:**
  - New radio communications system
  - Tablet based service management tool for field supervisors
  - Train control systems upgrade
  - Line Management Center staffing
  - Overhaul & rehabilitation programs on vehicles and rail infrastructure

Summary of Findings and Response

Finding 9: **"Muni has failed to conduct and publish monthly rider surveys"**

- **Annual customer satisfaction survey**
- **Conducting a comprehensive line-by-line on-board passenger survey in early 2013.**

Summary of Recommendations and Response

Grand Jury Finding	SFMTA Response
Recommendation 1: Eliminate switchbacks except for equipment breakdowns, accidents, or unavoidable emergencies	We disagree with this recommendation and reassert that switchbacks are a valid and necessary service management strategy given our operating environment. We have made significant progress in reducing switchbacks and improving customer information through verifying proper headsigns, making announcements, and using social media. Unilaterally eliminating switchbacks would lead to further denigration of service and safety and lead to an increase in vehicle gaps and bunching.
Recommendation 2: Contact and learn from comparable transit systems that do not resort to switchbacks	We agree that there is always room for improvement and to learn from peer operators. We routinely reach out to peers and will reach out again to learn what their standard operating procedures and service recovery techniques are in order to better manage our service.
Recommendation 3: The Controller audit Muni funds to determine if there are additional resources that may be available to rectify delays and scheduling problems	The City Controller's Office routinely audits targeted SFMTA programs and we welcome the opportunity to work with the Controller's Office to determine if additional resources are available to improve service reliability.
Recommendation 4: Train and employ sufficient staff to operate the new control center and establish communication from there with Muni drivers	Staffing of the Line Management Center (referred to as "new control center" and internally referred to as the LMC) is underway this fiscal year with implementation of a supervisor sign-up which allowed us to modernize our service supervision approach and redistribute resources. In addition, new transit supervisors started working this month which will help staffing levels. A contractor has been hired and the radio replacement project is underway which will replace our 1970s era radio communications system with a state of the art radio, dispatching, and vehicle locating system that will allow direct communications between operators and supervisors.
Recommendation 5: Conduct and publish monthly rider satisfaction surveys in accordance with the FY 2008 and FY 2010 quality review recommendations	This recommendation is under review. As stated in Finding 9, annual surveys are completed and a comprehensive on board survey is planned for early 2013.

Conclusion

- The Grand Jury Report shows an extreme institutional bias and is fraught with inflammatory language
- SFMTA provided the Grand Jury with ample evidence on the operational need of switchbacks which they chose to ignore
- The Grand Jury has not acknowledged our major steps to significantly reduce the number of switchbacks, improve customer communication, and upgrade technology and infrastructure
- The Grand Jury peer review of operators was very limited and was not directed towards comparable peers and does not acknowledge our unique operating environment with mixed-flow traffic and frequent stops
- Despite our efforts, the Grand Jury chose to ignore our progress or acknowledge switchbacks as a valid service management strategy

August 9, 2012

On Monday, August 7, 2012, SFMTA received an advanced copy of the Civil Grand Jury's report "Better Muni Service Needed, Without Switchbacks". We respectfully disagree with the Civil Grand Jury's recommendation that Muni "eliminate switchbacks except in cases of equipment breakdowns, accidents, and unavoidable emergencies" and with statements including that the MTA "expressed very little interest in finding alternatives to switchbacks" and that we are "mistaken in [our] belief that switchbacks are used extensively by other transit systems in their day-to-day operations".

Our ultimate goal is to minimize the impacts of switchbacks on our customers, but this service tool is an essential service management strategy. While we implement switchbacks less than 1 percent of the time, we utilize this tool to improve service for the vast majority of our daily passengers. Switchbacks allow us to reduce vehicle bunching and gaps which are routinely mentioned as a primary concern and area for improvement by Muni riders[1]. Unlike systems across the country and globe which operate primarily on exclusive, dedicated right of way, Muni light rail vehicles (LRVs) operate extensively in mixed flow traffic with private automobiles and as a result are subject to routine delays caused by automobile traffic, double parked cars, and other incidents not experienced by trains operating on private, exclusive right of way. In addition, our light rail operation features a modern, fully automated train control system in the subway blended with manual operations on the surface requiring a seamless transition in train control as trains enter and exit the three portals. This system is not duplicated anywhere in North America. Because of these infrastructure challenges, our service is very susceptible to delays out of our control and we must rely on a host of methods to keep the trains on schedule. Besides switchbacks, other methods used to restore scheduled service include holding in headways, changing the route of trains, and deadheading when possible. Each of these strategies return vehicles to their schedules and have unavoidable passenger impacts in the instance of deployment in order to restore service reliability to a line overall.

Switchbacks are a regular service management strategy deployed by operators across the United States in order to restore the scheduled service. We reached out to our colleagues at several transit properties including:

- TriMet, Portland, Oregon
- SEPTA, Philadelphia, Pennsylvania
- New Jersey Transit, Newark, New Jersey
- Greater Cleveland Regional Transit Authority, Cleveland, Ohio
- Chicago Transit Authority, Chicago, Illinois

[1] SFMTA Annual Ridership Survey for 2010 and 2011 completed by Corey, Canapary, and Galanis Research.

All stated that switchbacks are used in operations of their systems. In addition, as mentioned in the report, Santa Clara VTA, our neighbor in Santa Clara County, uses switchbacks. We also contacted BART and they confirmed they use both scheduled and unscheduled switchbacks routinely. The MBTA in Boston also confirmed their use of switchbacks to address significant delays on their Green Line (light rail line).

In addition to the unique operating characteristics of our service, SFMTA is facing increased service delays due to aging infrastructure, systems, fleet, and operator availability issues. The Grand Jury chose to ignore our progress in proceeding with the radio communications systems replacement and upgrade, train control system upgrade, tablet based supervision management tool, and vehicle and infrastructure rehabilitation and replacement. While these projects are in progress, improvements will take time and the level of service management actions needed to address these delays will remain high for the short term.

The Grand Jury also chose to ignore our progress on reducing switchbacks. The report states that SFMTA had "200-440 switchbacks a month" on LRVs alone. We have significantly reduced that number and had 82 switchback occurrences in July 2012. These events are heavily concentrated on off-peak times (77%) when ridership is generally lower and 95% occur when another train is either directly behind the switched back vehicle or less than five minutes away. Switchbacks are also heavily concentrated towards the end of rail lines in order to minimize the number of passengers impacted. We have also made significant progress in verifying proper headsigns on switched back vehicles, and making announcements and using social media to announce delays. Switchbacks are tracked daily and reported on monthly to SFMTA management.

Based on our service operating environment and infrastructure, and industry use of switchbacks, we reassert that switchbacks are a valid and necessary service management strategy. The best way to reduce switchbacks is to provide reliable, consistent service through adequate operator and supervision staffing and investment in vehicle and infrastructure maintenance. Switchbacks are not the problem; they are a tactic deployed to remedy service disruptions. We agree that improvement is needed and the root causes of our service delays need to be addressed by renewing our fleet, replacing outdated systems and infrastructure, and improving operator and staff availability.

SFMTA Response to Grand Jury Findings

Finding 1: Muni switchbacks violate the spirit of the San Francisco Charter
We disagree with this statement. Our customers' number one concern is on-time performance and service reliability. In our 2010 annual customer satisfaction, the number one response to "what aspects of Muni would you most like to see improved?" was "service reliability" at 35% and in 2011, the top response to the same question was "more accurate schedules/on-time performance". (Both of these surveys were delivered to the Grand Jury with a cover letter dated April 25, 2012.) Use of switchbacks is an important service management strategy we use to get trains back on schedule, to reduce train bunching, and to reduce train gaps after delays.

Finding 2: Muni management has expressed very little interest in finding alternatives to switchbacks
Our service infrastructure limits us in the techniques available to return vehicles to their proper schedule without the use of switchbacks. We do, however, use any and all management strategies at our disposal every day. These include:

- Changing the train route
  - Impact: Results in a missed train on a line in order to fill a gap on another line or prevent line bunching
- Holding in headways at terminals
  - Impact: Delays service on a line temporarily in order to prevent bunching
- Moving scheduled trains up
  - Impact: Results in early service on a line and could lead to bunching
- Deadheading trains to make up time
  - Impact: Very limited in ability [Not very useful because] we only have one track in each direction and, as a result, trains cannot pass each other easily
- Using recovery time at terminals
  - Impact: Operator loses break which may cause a delay during another part of the line
- Pulling out relief trains to replace missing trains and/or headways
  - Impact: Our ability to do this is limited to due vehicle and operator availability and budget constraints

The Civil Grand Jury's report provided examples of possible alternatives to preventing switchbacks, which we are carefully reviewing. Our initial responses are as follows:

- Establish a shop that makes its own parts and keep an inventory on hand for recurrent mechanical problems – Creating parts would be very costly and time consuming when parts are already available from qualified manufacturers. Parts are kept on hand for all vehicles.
- Educate customers on how to avoid forcing open vehicle doors – Doors problems are a primary cause for mechanical failures and delays. An education campaign could help reduce these incidents.
- Establish a program to gradually purchase a more flexible and interchangeable fleet – Our existing fleet is interchangeable providing us the ability to use any car on any line in either a one or two car configuration. But we prefer fleet standardization (one type of vehicle) to diversification (many types of vehicles) in order to standardize maintenance practices, standardize parts and maximize operational flexibility. In addition, we have undertaken a series of major overhaul programs to improve the reliability and availability of our light rail vehicle (LRV) fleet, and extend its life.
- Reduce traffic on tracks and at stops – We wholeheartedly agree that less traffic on the tracks and at stops would greatly improve rail service. We are actively pursuing through the TEP expansion of the network of dedicated bus and rail lanes across the City in order to create a more reliable service.
- Immediately tow blocking vehicles – When vehicles block the tracks, tow trucks are immediately contacted. Tow trucks, however, cannot be on the scene instantaneously and, as a result, most double-parked cars move before a tow truck arrives.
- Timed lights – The T Third has timed lights along Third Street in order to improve system performance and this segment provides the highest average speed on our surface light rail network. SFMTA is dedicating significant capital funding to expand “transit signal priority” across the City in order to improve reliability.
- Use of dedicated lanes – As stated above, the TEP is seeking to increase dedicated transit lanes, and this action would improve transit reliability.
- Add short runs in dense areas during rush hour - “Short runs” is another term for a scheduled “switchbacks” for example, BART operates several scheduled switchbacks during their peak periods. While short runs are not currently a permanent fixture in our rail schedules, we have successfully tested a short run N Judah schedule and plan to build them into our schedules this fiscal year. When unscheduled “short runs” or

"switchbacks" do occur, we make it a priority to change the headsigns noting the correct destination and inform customers.

Finding 3: There is no statistical or other evidence that switchbacks alleviate delays or improve service

There is ample evidence of the improvement to overall service that switchbacks give our customers. To see the benefits, you must look at the individual events. Switchbacks restore proper vehicle spacing and reduce bunches and gaps, a primary customer concern.

Finding 4: Muni officials show a callous disregard for the welfare of riders overall in their use of switchbacks

We find this finding offensive and strongly disagree. We do not order a switchback unless one is merited, and we strive to reduce the impact to customers. As stated previously in response to Finding 1, above, switchbacks are a management strategy we use in order to get trains back on schedule and improve reliability – a top concern of MUNI customers as noted in the 2010 and 2011 customer satisfaction surveys. In July 2012, we had 82 LRV switchbacks, significantly less than the 200-440 quoted in the Grand Jury Report, and we have shown a consistent decrease in the use of switchbacks month over month. In addition, switchbacks are heavily concentrated on off-peak times (77%) when ridership is generally lower and 95% occur when another train is either directly behind the switched back vehicle or less than five minutes away. Switchbacks are also heavily concentrated toward the end of rail lines in order to minimize the number of customers impacted. Switchbacks are tracked daily and reported on monthly to MTA management.

Finding 5: Muni officials are mistaken in their belief that switchbacks are used extensively by other transit systems in their day-to-day operations

This assertion is untrue, and indicates that the Civil Grand Jury's lacks familiarity with transit operations in San Francisco, throughout the country. and around the world. The small sample taken by the Grand Jury was from Boston, New York, Oakland (AC Transit), San Jose, Seattle, BART, and systems in Paris, France. Below is a description of the operating characteristics of each system reviewed by the Civil Grand Jury:

1. AC Transit, Oakland – Does not operate rail service.
2. Santa Clara Valley Transportation Authority (VTA) – Operates mostly on exclusive, private right of way, and nevertheless stated that it used switchbacks regularly to reduce delays, according to the Grand Jury Report
3. BART - Operates in exclusive, private right of way, and does not operate in mixed flow traffic on city streets. ButBART uses both scheduled switchbacks and unscheduled switchbacks to assist recovery from long delays.

4. New York Subway – Operates in exclusive, private right of way, and does not operate in mixed flow traffic on city streets.
5. King County Metro, Seattle – Operates one monorail line and a light rail line, both on exclusive, private rights of way.
6. Massachusetts Bay Transit Authority (MBTA), Boston – Most lines operate on an exclusive, private right of way similar to BART and the New York Subway. The Green Line light rail line has a 1-mile segment in mixed-flow traffic and it regularly uses switchbacks in order to rebalance service.
7. RER, Paris – Express train service operating on exclusive, private right of way connecting suburban Paris to metropolitan Paris.
8. Paris Metro – Operates primarily underground and in private, exclusive right of way (comparable to New York Subway).
9. RATP, Paris – Operator of Paris Metro, Paris tram system, and some RER lines – All rail services operate primarily in exclusive, private right of way.

All of the operators of rail service on the list of operators contacted by the Civil Grand Jury operate primarily, if not exclusively, on private right of way. Muni does not have this luxury. Most Muni rail service must compete with private automobiles, and that increase delays and incidents that are beyond our control. As stated previously, we contacted colleagues at transit operations across the country and confirmed their use of switchbacks in regular transit operations.

- TriMet, Portland, Oregon
- SEPTA, Philadelphia, Pennsylvania
- New Jersey Transit, Newark, New Jersey
- Greater Cleveland Regional Transit Authority, Cleveland, Ohio
- Chicago Transit Authority, Chicago, Illinois

Finding 6: Other comparable transit systems refuse to subject customers to switchbacks for any reasons other than equipment breakdowns, accidents, or unavoidable accidents

As stated in Finding 5, we wholly reject this assertion and, based on our review of a more comprehensive set of peers, we conclude that other transit operators also use switchbacks in regular operations.

In addition, the Civil Grand Jury fails to acknowledge the improvements the agency has made in making customer announcements for switchbacks, synchronizing signage (platform and vehicle) to reflect switchbacks, and using social media to update customers on system delays.

Finding 7: Muni has failed to fully implement basic technological improvements in the system

We are constantly seeking to improve service delivery and take advantage of new technology. We have a number of projects underway to improve our service through technology.

- New Radio System: We are currently in the design phase of replacing our 1970s radio communications system with a state of the art radio, dispatching, and vehicle locating system that will allow direct communications between supervisors and operators. A contractor has been hired and the radio replacement project underway.
- SmartMUNI: A tablet-based service management application called "SmartMUNI" is under development and expected to launch in early 2013 that will allow supervisors to better track all vehicles in service and manage the system more effectively. This is directly in contradiction to the Grand Jury's statement on Page 6, Section 4, Paragraph 3.
- Upgrades to Automatic Train Control System in Subway: The train control system is current being upgraded to make the system more reliable. Currently automatic train control disengages from trains numerous times per day. Each time automatic control cannot be established, the operator must contact Central Control, the train must be reset in manual mode, and the operator must drive the train at a much slower speed than it can operate in automatic mode. Each of these delays the entire subway in one direction for approximately eight minutes which leads to vehicle bunching and as a result, switchbacks. A system upgrade is expected to decrease these events.
- Line Management Center (LMC): Staffing of the LMC (mentioned on Page 6, Section 4, Paragraph 2) is underway as of this fiscal year with the implementation of a supervisor sign-up which allowed us to modernize our service supervision approach and redistribute resources to staff the LMC. In addition, new transit supervisors started work in August which will help improve staffing levels
- Capital Improvements: In addition to these improvements, an overhaul program is underway on 143 LRVs by Breda to rehabilitate the most problematic systems on the LRVs. To date, 33 vehicles are complete. Major rail replacement projects are also underway at Church and Duboce Streets, Carl Street, and between Castro and Forest Hill Stations. All these improvements will improve system reliability, reduce delays, and reduce the need for service management strategies such as switchbacks.

Finding 8: Muni's newest and most advanced control centers lack adequate operating personnel and cannot communicate directly with Muni drivers

As stated in Finding 7, we are improving this situation through replacing the radio system (Finding 7, Bullet 1) and staffing the LMC (Finding 7, Bullet 4).

Finding 9: Muni has failed to conduct and publish monthly rider surveys as recommended in the FY 2008 and FY 2010 quality review

The SFMTA completes an annual customer satisfaction survey and will be conducting a comprehensive line by line on-board customer survey in early 2013. This finding is under review.

SFMTA Response to Grand Jury Recommendations

Recommendation 1: Eliminate switchbacks except for equipment breakdowns, accidents, or unavoidable emergencies

We disagree with this recommendation and reassert that switchbacks are a valid and necessary service management strategy given our operating environment. We have made significant progress in reducing switchbacks and improving customer information through verifying proper headsigns, making announcements, and using social media. Unilaterally eliminating switchbacks would lead to further denigration of service and safety and lead to an increase in vehicle gaps and bunching.

Recommendation 2: Contact and learn from comparable transit systems that do not resort to switchbacks

We agree that there is always room for improvement and to learn from peer operators. We will reach out to peers and study their standard operating procedures and service recovery techniques in order to better manage our service.

Recommendation 3: The Controller audit Muni funds to determine if there are additional resources that may be available to rectify delays and scheduling problems

The City Controller's Office routinely audits targeted SFMTA programs and we welcome the opportunity to work with the Controller's Office to determine if additional resources are available to improve service reliability.

Recommendation 4: Train and employ sufficient staff to operate the new control center and establish communication from there with Muni drivers

Staffing of the LMC (referred to as "new control center" and internally referred to as the LMC) is underway as of this fiscal year with the implementation of a supervisor sign-up. The sign-up allowed us to modernize our service supervision approach and redistribute resources to staff the LMC. In addition, new transit supervisors started work in August, and this will improve staffing levels In order to establish direct communications between the LMC and the operators, a new radio system is needed to replace our 1970s communications equipment. A contractor has been hired and the radio replacement project is underway.

Recommendation 5: Conduct and publish monthly rider satisfaction surveys in accordance with the FY 2008 and 2010 quality review recommendations

This recommendation is under review. As stated in Finding 9, annual surveys are completed and a comprehensive on board survey is planned for early 2013.