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Edward D. Reiskin | Director of Transportation

September 27, 2012

**The Honorable Katherine Feinstein
Presiding Judge of the Superior Court
Superior Court of California
County of San Francisco - Grand Jury
400 McAllister St., Room 008
San Francisco, CA 94102**

Re: SFMTA's Response to the Civil Grand Jury's Report: "Better Muni Service Needed, Without Switchbacks"

Dear Judge Feinstein:

The San Francisco Municipal Transportation Agency (SFMTA) has carefully reviewed 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 SFMTA "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 one 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 riders¹. Unlike systems across the country and world 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. Because of these infrastructure challenges, our service is very susceptible to delays that are 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 routes of trains and deadheading when possible. Each of these strategies returns vehicles to their schedules but 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

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



- New Jersey Transit, Newark, New Jersey
- Greater Cleveland Regional Transit Authority, Cleveland, Ohio
- Chicago Transit Authority, Chicago, Illinois

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 routinely both scheduled and unscheduled switchbacks. 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, the 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 service management strategies such as switchbacks will be used occasionally to reduce service bunches and gaps.

The SFMTA has made significant progress in reducing its use of switchbacks. The report states that the SFMTA had "200-440 switchbacks a month" on LRVs alone. We have reduced that number and, in July 2012, had 82 switchback occurrences. These events are heavily concentrated during off-peak times (77 percent) when ridership is generally lower; 95 percent occurred 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, making announcements and using social media to announce delays. Switchbacks are tracked daily and reported on a monthly basis 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.

Please find attached our official response to the Civil Grand Jury report.

Sincerely,



Edward D. Reiskin
Director of Transportation

cc: San Francisco Board of Supervisors
San Francisco MTA Board of Directors

SFMTA Response Table to 2012 CGJ Switchbacks Report Findings and Recommendations

FINDINGS	RESPONSE TO FINDINGS: (1) Agree or (2) Disagree wholly or partially, with explanation	RECOMMENDATIONS	RESPONSE REQUIRED From the Agencies specified by the CGJ.	RESPONSE TO RECOMMENDATIONS: 1. Recommendation Implemented - Date Implemented - Summary of Implemented Action 2. Will Be Implemented in the Future - Timeframe for Implementation 3. Requires Further Analysis - Explanation/Scope/Parameters - Timeframe (not to exceed 6 mos) 4. Will Not Be Implemented: Not Warranted or Not Reasonable - Explanation	
<p><u>Finding 1</u></p> <p>Muni switchbacks violate the spirit of the San Francisco Charter</p>	<p><u>Disagree wholly.</u></p> <p>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". 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.</p>		<p>SFMTA Director of Transportation</p>		
<p><u>Finding 2</u></p> <p>Muni management has expressed very little interest in finding alternatives to switchbacks</p>	<p><u>Disagree wholly</u></p> <p>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:</p> <ul style="list-style-type: none"> • Changing the train route • Holding in headways at 		<p>SFMTA Director of Transportation</p>		

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	terminals <ul style="list-style-type: none"> • Moving scheduled trains up • Deadheading trains to make up time • Using recovery time at terminals • Pulling out relief trains to replace missing trains and/or headways All alternates have impacts on passengers.				
<u>Finding 3</u> There is no statistical or other evidence that switchbacks alleviate delays or improve service	<u>Disagree wholly</u> 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.		SFMTA Director of Transportation		
<u>Finding 4</u> Muni officials show a callous disregard for the welfare of riders overall in their use of switchbacks	<u>Disagree wholly</u> We do not order a switchback unless one is merited, and we strive to reduce the impact to customers. As stated in response to Finding 1, above, switchbacks are a management strategy we use in order to get trains back on schedule and		SFMTA Director of Transportation		

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	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 in 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 a monthly basis to MTA management.			
<u>Finding 5</u> Muni officials are mistaken in their belief that switchbacks are used extensively by other transit systems in their day-to-day	<u>Disagree wholly</u> 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		SFMTA Director of Transportation	

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operations	<p>rail service must compete with private automobiles, that increase delays and incidents that are beyond our control. We contacted the following colleagues at transit operations across the country and confirmed their use of switchbacks in regular transit operations:</p> <ul style="list-style-type: none"> • TriMet, Portland, Oregon • SEPTA, Philadelphia, Pennsylvania • New Jersey Transit, Newark, New Jersey • Greater Cleveland Regional Transit Authority, Cleveland, Ohio • Chicago Transit Authority, Chicago, Illinois <p>In addition, as noted in the Grand Jury report, VTA in San Jose uses switchbacks and follow up with BART and Boston's MBTA confirmed their use of scheduled and unscheduled switchbacks.</p>			

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<p><u>Finding 6</u></p> <p>Other comparable transit systems refuse to subject customers to switchbacks for any reasons other than equipment breakdowns, accidents, or unavoidable accidents</p>	<p><u>Disagree wholly</u></p> <p>As stated in Finding 5, we 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, improvements have been made in reducing switchbacks, making customer announcements for switchbacks, synchronizing signage (platform and vehicle) to reflect switchbacks, and using social media to update customers on system delays.</p>		<p>SFMTA Director of Transportation</p>	
<p><u>Finding 7</u></p> <p>Muni has failed to fully implement basic technological improvements in the system</p>	<p><u>Disagree wholly</u></p> <p>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:</p> <ul style="list-style-type: none"> • <i>New Radio System:</i> 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 		<p>SFMTA Director of Transportation</p>	

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	<p>operators. A contractor has been hired and the radio replacement project is underway.</p> <ul style="list-style-type: none"> • <i>SmartMUNI</i>: A tablet-based service management application called "SmartMUNI" is under development and is expected to launch in early 2013 and 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. • <i>Upgrades to Automatic Train Control System in Subway</i>. The train control system is 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 			

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	<p>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.</p> <ul style="list-style-type: none"> • <i>Line Management Center (LMC)</i>: Staffing of the LMC 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 were hired in August, resulting in improved staffing levels. • <i>Capital Improvements</i>: An overhaul program is underway on 143 LRVs by Breda to rehabilitate the most problematic systems on the LRVs. To date, 33 vehicles have been completed. Major rail replacement projects are 				

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	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.			
<u>Finding 8</u> Muni's newest and most advanced control centers lack adequate operating personnel and cannot communicate directly with Muni drivers	<u>Agree</u>		SFMTA Director of Transportation	
<u>Finding 9</u> Muni has failed to conduct and publish monthly rider surveys as recommended in the FY 2008 and FY 2010 quality review	<u>Agree</u>		SFMTA Director of Transportation	

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		<u>Recommendation 1</u> Eliminate switchbacks except for equipment breakdowns, accidents, or unavoidable emergencies	SFMTA Director of Transportation	<u>4 – Will not be implemented: Not reasonable</u> 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.
		<u>Recommendation 2</u> Contact and learn from comparable transit systems that do not resort to switchbacks	SFMTA Director of Transportation	<u>2 – Will be implemented in the future</u> We agree that there is always room for improvement. We will reach out to peers within six months and study their standard operating procedures and service recovery techniques in order to better manage our service. As noted in our response to Finding 5, switchbacks are used as a regular service recovery technique for transit operations.
		<u>Recommendation 3</u> The Controller audit Muni funds to determine if there are additional resources that may be available to rectify delays and scheduling problems	SFMTA Director of Transportation	<u>1 – Recommendation Implemented</u> The Board of Supervisors has asked the Controller to complete multiple audits of SFMTA, including Muni operations. The Controller began these audits two years ago. In addition, the Controller has a regular audit program of SFMTA programs and projects, which has included review of work orders, cash handling, fare collection and other areas. The Transit Effectiveness Project (TEP), a joint effort of the Controller's Office and SFMTA, has completed comprehensive analyses of service needs and operating requirements throughout the MUNI system. The project includes infrastructure investment, route upgrades, travel time improvements, scheduling and operating changes to improve service and increase speed on MUNI. The Project is currently in the environmental analysis process. The SFMTA and the Controller's Office are working on the TEP as the preferred avenue for service improvements on the system. Pilot projects are underway on certain routes which are informed from the TEP analyses including the installation of transit signal priority, bus bulb outs and bus only lanes.

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				Finally, the SFMTA has had two revenue panels over the past five years, which have included the Controller, to review the revenues required to adequately address SFMTA services particularly Muni services and has made many recommendations which are in the process of being implemented or have already been implemented.
		<u>Recommendation 4</u> Train and employ sufficient staff to operate the new control center and establish communication from there with Muni drivers	SFMTA Director of Transportation	<u>2 – Will be implemented in the future</u> Staffing of the Line Management Center (referred to as “new control center” and internally referred to as the “LMC”) is underway as of FY 2013 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. Supervisor staffing of LMC – completed by end of FY 2013 New radio communications system – completion expected in 2015
		<u>Recommendation 5</u> Conduct and publish monthly rider satisfaction surveys in accordance with the FY 2008 and 2010 quality review recommendations	SFMTA Director of Transportation	<u>4 – Will not be implemented: Not warranted</u> The SFMTA agrees that periodic customer surveys are important to gauge customer satisfaction with Muni service. As outlined in the FY 2013-FY 2018 Strategic Plan, the SFMTA will be conducting quarterly surveys starting in September 2012. This frequency of surveying will provide valuable customer feedback given available resources. In addition, SFMTA will continue to conduct an annual customer service survey and will be performing a comprehensive on-board passenger survey in early 2013. Results for all surveys will be published on our website, www.sfmta.com .