

File No. 110817

Committee Item No. 2

Board Item No. _____

COMMITTEE/BOARD OF SUPERVISORS

AGENDA PACKET CONTENTS LIST

Committee: Government Audit & Oversight

Date: October 27, 2011

Board of Supervisors Meeting

Date: _____

Cmte Board

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Completed by: Andrea S. Ausberry

Date October 20, 2011

Completed by: _____

Date _____

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OFFICE OF THE MAYOR
SAN FRANCISCO



EDWIN M. LEE
MAYOR

August 30, 2011

The Honorable Katherine Feinstein
Presiding Judge
Superior Court of California, County of San Francisco
400 McAllister Street
San Francisco, CA 94102

Dear Judge Feinstein:

The following is in response to the 2010-2011 Civil Grand Jury report, "Central Subway Too Much Money For Too Little Benefit." The Central Subway project is a product of extensive community feedback and planning. When it is completed, the Central Subway will carry an estimated 43,900 passengers every day and serve as a vital transit link to an under-served area of the City that continues to experience significant growth in its commercial and residential sectors. The Central Subway will also reduce travel times from Chinatown to the Caltrain station at Fourth Street and King Street considerably from approximately 20 minutes to eight minutes.

While I appreciate the Civil Grand Jury's interest in the Central Subway project, I do not believe that the Civil Grand Jury's recommendations to alter or halt construction of this vital transit line at this time are warranted or reasonable. The San Francisco County Transportation Authority (SFCTA) identified the Third Street Corridor with an extension to Chinatown as a priority in the late 1980s. The need to better serve the Chinatown neighborhood was further necessitated by the 1989 Loma Prieta Earthquake. Since then, the City and the San Francisco Municipal Transportation Agency (SFMTA) have explored numerous alignment options for the Central Subway, conducted comprehensive public outreach and planning, and have coordinated with land use planning in conjunction with the City's General Plan, the Downtown Plan, the Chinatown Area Plan, the East SoMa Area Plan, and the pending Western SoMa Area Plan.

The Central Subway project solicited community feedback prior to the adoption of the current route alignment by the SFMTA Board in 2005. The route alignment selected was based on the public feedback, engineering analysis and a 24-month long supplemental Impact Study/Environmental Impact Report (EIS/EIR), which concluded in 2008.

The Civil Grand Jury's assertion that the SFMTA has developed a poor financial plan that will lead to cost overruns for the Central Subway project is inaccurate. The Central Subway project has a significant level of federal and local oversight and review. The project's cost projections are subject to independent review. The Federal Transit Administration's (FTA) Financial Management Oversight Consultant (FMOC) reviews the project as well as the SFMTA's financial plans. Additionally, the FTA reviews the SFMTA's federal grant management process, which helps the SFMTA properly receive all available federal funds. Furthermore, the City provides additional oversight with regular financial and performance audits conducted by the Controller's Office. The SFCTA provides continuous oversight of the project as well.

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SAN FRANCISCO, CALIFORNIA 94102-4681
TELEPHONE: (415) 554-6141

File No. 110917

Moreover, the Central Subway project is important to the recovering local economy. The Central Subway project provides thousands of jobs and job training opportunities for those in the construction trades, which has faced significant challenges over the last several years. Also, the Central Subway will run through the heart of our tourism and convention centers as well as a vibrant shopping and entertainment district, and provide a convenient system for visitors to use and provide a benefit for our City's largest industry. With the Central Subway, the City will help revitalize our local businesses and services in the communities the project supports by adding a new public transportation option to those areas.

It would be imprudent and not in the public's interest to re-route or delay the Central Subway project. However, the City and the SFMTA will continue to monitor the project and look at areas that may need improvement. Furthermore, the SFMTA will look at how it can improve its services system-wide by finding operational efficiencies, reducing operating costs and better maintaining its fleet.

The Mayor's Office responses to the Civil Grand Jury's findings are as follows:

Finding 3: Muni is not providing adequate service to its customers.

Response: Partially Disagree. The San Francisco Municipal Railway (Muni) has an average weekday boarding of over 705,000 passengers on its rail lines, motor coaches, and cable cars. As the eighth largest transit system in the United States operating in one of the most densely populated regions in the country, Muni faces many challenges as it provides its services to its customers. In the last several years, Muni has improved communications to its customers, informing them in real-time the location of the next vehicle.

Additionally, Muni has made improvements and it continues to make improvements on the most congested and heavily traveled routes in the system. Through better enforcement of roadway rules to limit double parking, Muni is able to remove obstructions to motor coach routes and speed up travel times. Muni is also working to ensure all of its customers are safe on its routes through increased patrol by the San Francisco Police Department (SFPD) and the Community Ambassadors Program (CAP).

In addition to improving its on-time performance, communicating with customers and keeping customers safe, the SFMTA is also working to improve its vehicle fleet and implement the City's Bicycle Plan to assist the bicycle riding public with safe and efficient bicycle routes. In all of these areas, Muni continues to review the needs of its customers and work towards ensuring it provides the most effective service to the customer.

However, we can do better, and it is a priority for my administration and for SFMTA's new Executive Director, Ed Reiskin, to improve the service Muni provides to its customers.

Finding 4: Muni has had financial troubles in recent years and, absent an unforeseen windfall, will continue to have financial troubles in the foreseeable future.

Response: Partially Disagree. I agree that in addition to prior funding needs, Muni has been severely impacted by reduced transit funding from the State and decreased support from the City's General Fund

due to the recent recession. However, the Agency has sought to mitigate the impact of this reduced funding by finding operational efficiencies, reducing operating costs, and raising other revenues.

Finding 5: Given the current and projected state of Muni's funding, difficult times lie ahead. This will impact the agency's ability to deliver the level of performance demanded by the charter.

Response: Partially Disagree. Although the SFMTA faces financial challenges, Muni is committed to delivering the highest level of performance and continues to work on ways to improve its performance. Recent changes to the Memorandum of Understanding between the SFMTA and the Transit Workers Union will allow the Agency to implement changes to improve performance and decrease operating costs. The SMTA is also continuing its efforts to implement the recommendations of the Transit Effectiveness Project (TEP).

Finding 6: Raising passenger fares can only have a minimal impact on Muni's financial shortfalls.

Response: Agree. While passenger fares account for approximately 20% of the SFMTA's revenues, the Agency's shortfalls must also be addressed by increased local, state and federal funding, and by finding operational efficiencies and controlling costs.

Finding 11: Following the manufacturer's suggested preventative maintenance program is inadequate for maintaining Muni's fleet. This inadequate preventative maintenance negatively impacts Muni's ability to properly serve its riders.

Response: Agree. The SFMTA is aware of the risks of an inadequate preventative maintenance program and it has expanded its Preventative Maintenance Program beyond the manufacturer's recommendations.

Finding 12: Mid-life overhauls are not enough to properly maintain Muni's fleet. Targeted component rebuilds are essential to their maintenance.

Response: Agree. The SFMTA agrees that mid-life overhauls and targeted component rebuilds are essential to Muni's fleet maintenance and it has taken steps to properly maintain its fleet. The SFMTA has designed and implemented a Component Rebuild Program for key systems. The SFMTA has worked with its manufacturer of Light Rail Vehicles to complete an overhaul of key systems, such as doors and steps. The SFMTA's program works to improve reliability and extend the life of its vehicles.

The Mayor's Office responses to the Civil Grand Jury's recommendations are as follows:

Recommendation 3: Either the City and SFMTA need to increase Muni's funding, or the City and SFMTA need to lower their expectations for Muni's performance.

Response: Requires Further Analysis. I agree that decreased funding has presented a challenge to Muni's ability to meet its performance goals. The City expects the SFMTA to develop operational efficiencies and decrease costs while also looking at ways to increase revenues.

Mayor's Office Response to the Civil Grand Jury
August 30, 2011

Recommendation 4: The SFMTA should hire an outside auditor to evaluate the potential gains in revenues brought by higher fares against the potential loss in total ridership due to such higher prices.

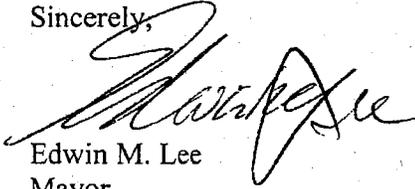
Response: Disagree; Will Not be Implemented. The SFMTA has indicated in its response that it has extensively researched scenarios that would allow it to maximize revenues and also identify the impacts of fare increases and service reductions. Therefore, this recommendation is not warranted.

Recommendation 8: The Board of Supervisors, SFCTA, and SFMTA should determine how to fund adequate preventative maintenance and a targeted component rebuild program on an ongoing basis.

Response: Disagree; Will Not be Implemented. The SFMTA will continue to work with its funding partners to meet its maintenance needs on an ongoing basis.

Thank you again for the opportunity to comment on this Civil Grand Jury report.

Sincerely,

A handwritten signature in black ink, appearing to read "Edwin M. Lee". The signature is stylized and cursive, written over the printed name and title.

Edwin M. Lee
Mayor

August 30, 2011

Honorable Katherine Feinstein
Presiding Judge
Superior Court of California
400 McAllister Street, Room 008
San Francisco, CA 94102

Subject: Civil Grand Jury Report – Central Subway – Too Much Money for Too Little Benefit

Dear Ms. Feinstein:

This letter is in response to the subject report as required by California Penal Code, Section 929. As directed, our responses are confined to the findings and recommendations specifically identified as requiring our response. We note that despite the Civil Grand Jury Report's being titled "Central Subway," few of the findings and recommendations in the report, and none of those for which the Court has specifically mandated an Authority response, are directly related to the Central Subway project.

Finding 3

Muni is not providing adequate service to its customers.

The Authority disagrees with this finding. Muni's organization and performance reflect a balance among competing goals. The agency serves more than 700,000 riders each day and provides service to all areas of the city, most of it within walking distance of homes and businesses. Muni is a public agency that must respond to the public will as expressed through decisions taken by elected and appointed officials. Reducing costs, increasing service or improving efficiency must be balanced against the agency's charter-mandated responsibility to provide service everywhere in San Francisco and against the constraints inherent in binding collective bargaining agreements and in local, state and federal regulations intended to ensure the well-being of the SFMTA's employees and the traveling public.

Still, improvements are possible and highly desirable, particularly as regards speed and on-time performance. The SFMTA has never been able to achieve the on-time performance standard mandated by Prop E (1999), but it has taken steps to move Muni service performance in the direction of those standards. Improvements in service and performance can be expected with implementation of the Transit Effectiveness Project, the first enterprise-wide overhaul of Muni's system in 25 years. The Central Control Center project, currently underway, will replace the outmoded transit management center with a state-of-the-art command and control facility and bring about additional efficiencies and improvements in service. Implementation of the two bus rapid transit lines, currently being cleared environmentally by the Authority, will also likely result in tangible improvements in service levels and service reliability. Ultimately, we believe that service adequacy is not the relevant question. As the City begins to address climate change imperatives and the implications of continued demographic growth, there will be pressure on transit to provide an increasingly more attractive and viable option to

driving. Transit may have to evolve from its current state to meet that challenge, well beyond adequacy.

Recommendation 3

Either the City and SFMTA need to increase Muni's funding, or the City and SFMTA need to lower their expectations for Muni's performance.

The Authority agrees that additional public funding will be needed in order for Muni to continue operating, because costs are increasing at a faster pace than revenues. The Authority notes that not all performance improvements will require additional ongoing operating funds. Some improvements in performance should be possible through efficiency and streamlining.

Finding 4

Muni has had financial troubles in recent years and, absent an unforeseen windfall, will continue to have financial troubles in the foreseeable future.

The Authority agrees with this finding.

Finding 5

Given the current and projected state of Muni's funding, difficult times lie ahead. This will impact the agency's ability to deliver the level of performance demanded by the charter.

The Authority agrees that difficult times lie ahead. A continuing weak economy, federal retrenchment and operating costs that grow faster than inflation and revenues present challenges to the SFMTA. The SFMTA has been working on ways to improve service and performance that may lessen the adverse effects of these conditions.

Finding 6

Raising passenger fares can only have a minimal impact on Muni's financial shortfalls.

The Authority agrees. However, given the financial challenges facing Muni, it might be time to at least analyze alternate approaches to meeting the city's transportation needs. A full-spectrum review could consider strategies such as value pricing, use of privately-operated shuttles, further service optimization, and other innovations.

Recommendation 4 (covers Findings 4 - 6)

The SFMTA should hire an outside auditor to evaluate the potential gains in revenue brought by higher fares

The Authority disagrees with this recommendation. Although it would be useful to look at ways in which Muni could optimize its service and fare structure, it is unlikely that an auditor would be best qualified to perform this analysis. Financial audits are appropriate for evaluating compliance but a useful study of costs and revenues would involve other financial and transportation consultants.

Finding 11

Following the manufacturer's suggested preventive maintenance program is inadequate for maintaining Muni's fleet. This inadequate preventive maintenance negatively impacts Muni's ability to properly serve its riders.

The Authority agrees that following the manufacturers' suggested preventive maintenance programs

may not be adequate. In particular, San Francisco's topography imposes non-typical operating demands on transit equipment that can result in additional preventive maintenance needs. The SFMTA is fully aware of this, of course, and has adopted preventive maintenance programs that are, in general, more extensive than the manufacturers' recommendations.

Finding 12

Mid-life overhauls are not enough to properly maintain Muni's fleet. Targeted component rebuilds are essential to their maintenance.

The Authority agrees but Muni is already operating in a manner consistent with this finding. Muni has implemented a targeted component rebuild program in addition to the mid-life overhauls.

Recommendation 8 (covers Findings 11-12)

The Board of Supervisors, Authority, and SFMTA should determine how to fund adequate preventive maintenance and a targeted component rebuild program on an ongoing basis.

The Authority disagrees with this recommendation. The Authority exists as a result of a voter mandate to fund and implement transportation capital projects and cannot legally fund day-to-day operations and maintenance. The Prop K sales tax Expenditure Plan already includes \$1 billion for the rehabilitation of transit systems and fleet. This local sales tax funding is intended to serve as required local match to leverage other federal and state funding thereby making available multiples of this \$1 billion in seed funding. With these funds, Muni is currently providing preventive maintenance over and above the levels recommended by the manufacturers, resulting in extended life of the vehicles beyond their nominal life expectancy. Muni also has implemented targeted maintenance programs to address high-frequency incidents to improve vehicle reliability.

I trust you will let me know if you require additional information.

Sincerely,



José Luis Moscovich
Executive Director

Edwin M. Lee | Mayor
Tom Nolan | Chairman
Jerry Lee | Vice-Chairman
Leona Bridges | Director
Cheryl Brinkman | Director
Malcolm Heinicke | Director
Bruce Oka | Director
Joël Ramos | Director
Edward D. Reiskin | Director of Transportation

August 18, 2011

Hon. Katherine Feinstein
Presiding Judge of the Superior Court
Superior Court of California
County of San Francisco - Grand Jury
400 McAllister St., Rm. 008
San Francisco, CA 94102

SUBJECT: Response to the Civil Grand Jury's Report, "Central Subway
Too Much Money for Too Little Benefit," released on July 7, 2011

Dear Judge Feinstein:

Enclosed is the San Francisco Municipal Transportation Agency's (SFMTA) response to the findings and recommendations made by the Civil Grand Jury in the above-titled report. While the SFMTA appreciates the Civil Grand Jury's interest in the Central Subway project, a common theme running throughout the recommendations and findings is that the Agency must make a choice between expanding the system to provide more service and preserving the existing system.

SFMTA's Municipal Railway ("Muni") is one of the most comprehensive transit systems in the United States. Preservation of its assets is essential, but the system endures because of its adaptability and its ability to grow and service emerging markets as the City has expanded. The choice is not between expansion and preservation. Any world class transportation system has to have the ability to reinvest in its core structure while expanding to meet existing and emerging customer demands. The SFMTA will continue to work diligently to ensure the Central Subway project comes to fruition while maintaining our current transit network.

Please contact Kathleen Sakelaris, Regulatory Affairs Manager, at 415.701.4339 if you require any further information.

Sincerely,



Edward D. Reiskin
Director of Transportation

Enclosure: SFMTA Response Table to the 2011 Civil Grand Jury Report

cc: Gary Giubbini, Civil Grand Jury

SFMTA Response Table to 2011 Civil Grand Jury 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 - Anticipated Timeframe for Implementation 3. Requires Further Analysis - Explanation - Timeframe 4. Will Not Be Implemented: Not Warranted or Not Reasonable - Explanation
<p><u>Finding 1</u> The Central Subway's financial planning appears seriously flawed. Cost estimates have risen 143% from 2003 to 2011.</p>	<p>Disagree wholly. The Central Subway must submit an annual financial report to be evaluated under the Federal New Starts Review program. Under this program, all aspects of the project are scrutinized by the Federal Transit Administration (FTA), including the benefit-to-cost ratios, ridership, technical approach and financial capacity. In any large construction project, costs are continually refined as more detailed engineering work is completed. In addition, the prices of other components beyond the control of the SFMTA, such as materials, labor and real estate, also vary and can change over eight years.</p>	<p><u>Recommendation 1</u> Given that San Francisco is responsible for any cost overrun of the Central Subway project, the San Francisco Municipal Transportation Agency (SFMTA) should hire an independent entity to investigate whether the \$1.578 billion budget is a realistic estimate.</p>	<p>SFMTA</p>	<p>4 – Will Not Be Implemented: Not Warranted. As was previously provided to the Civil Grand Jury (CGJ), independent, significant federal and local resources conduct oversight and continuous review of the project's estimated and actual costs to date. Foremost, the FTA's substantial professional oversight resources provide monthly assessments, suggestions and guidance to adhere to the \$1.578 billion budget. This national methodology is referred to as the "FTA New Starts Program" and provides a process by which the Central Subway has earned a medium-high overall New Starts national rating for four consecutive years. Specifically, the FTA's Project Management Oversight Consultant (PMOC) program assigns highly trained, expert project cost investigators with national experience to track and take part in each New Start project's development, often over a several-year period. This oversight follows prescribed national review standards. The PMOC carries out continuous oversight of cost records, cost estimates, cost controls, and costs to complete. The PMOC attends Project meetings on a continuous basis and assesses the capability and capacity to carry out the project by reviewing the project and Agency organization, the project's management plans, and procedures for executing a quality project, while maintaining schedule and budget. The New Starts methodology requires annual, quarterly and monthly reviews of costs, of potential cost increases and a review and decision process to reduce costs as appropriate during work in progress. In parallel, the FTA's independent Financial Management Oversight Consultant (FMOC) separately oversees the Central Subway and Agency's financial plans. The FMOC has produced detailed, rigorous reviews and recommendations to enhance these financial plans. In response to the PMOC and FMOC, the project has responded to and carried out the extensive suggestions and recommendations on a continuous and timely basis. The SFMTA also is subject to FTA-sponsored reviews of its federal grants management process and related systems and is required to address any findings from these reviews within set timeframes to avoid jeopardizing receipt of federal funds. Local sources provide additional independent oversight. The City Controller, who is responsible for the financial systems, procedures, internal controls and reports that impact the City's fiscal condition, conducts regular financial and performance audits of the project. In 2011, the Controller completed its first one-year audit of the CS project with minor findings that were all acted upon. The Project also receives the benefit of continuous oversight by the San Francisco County Transportation Authority (SFCTA).</p>

SFMTA Response Table to 2011 Civil Grand Jury 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 - Anticipated Timeframe for Implementation 3. Requires Further Analysis - Explanation - Timeframe 4. Will Not Be Implemented: Not Warranted or Not Reasonable - Explanation
<p><u>Finding 2</u> Muni has done a very poor job of meeting, or even nearing, the requirements of Proposition E.</p>	<p>Disagree partially. The SFMTA has attempted to meet many of the service standards under Proposition E and we will continue working to improve Muni service.</p>	<p><u>Recommendation 2</u> SFMTA should hire an independent auditor to conduct an analysis of whether its internal goals and the requirements in Proposition E are realistic, why Muni has been unable to meet them, and what should be done to improve Muni's service levels.</p>	<p>SFMTA</p>	<p>4 - <u>Will Not Be Implemented: Not Warranted.</u> Section 8A.107 of the City Charter already requires that the SFMTA contract on a biennial basis with a nationally recognized management or transportation consulting firm for an independent review of the extent to which the SFMTA has met, and is expected to meet, the goals, objectives, and performance standards it is required to adopt under Section 8A.103.</p>
<p><u>Finding 3</u> Muni is not providing adequate service to its customers.</p>	<p>Disagree partially. SFMTA strives to provide excellent customer service. Muni has among the highest bus boardings per hour among major transit agencies in the country. We serve over 700,000 riders each weekday and provide more than 1,200 daily trips through the subway. Last year, the SFMTA reached the highest on-time performance in the</p>	<p><u>Recommendation 3</u> Either the City and SFMTA need to increase Muni's funding, or the City and SFMTA need to lower their expectations for Muni's performance.</p>	<p>SFMTA SFCTA Board of Supervisors Mayor</p>	<p>2 - <u>Will be implemented in the Future</u> As part of our Agency's efforts to improve Muni service, the SFMTA will continue to look at ways to improve efficiencies, decrease costs and increase funding. We are very committed to meeting the expectations of our customers for performance and will be evaluating the appropriateness of reporting criteria as outlined in the Charter.</p>

SFMTA Response Table to 2011 Civil Grand Jury 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 - Anticipated Timeframe for Implementation 3. Requires Further Analysis - Explanation - Timeframe 4. Will Not Be Implemented: Not Warranted or Not Reasonable - Explanation
	<p>Agency's history for one quarter and the highest overall performance for a single year. The Agency is constantly seeking ways to improve service to customers, such as through the Transit Effectiveness Project (TEP), a comprehensive review of SFMTA's Muni system to improve performance, and implementing the Nix pilot project, which relieves pressure from the N Judah, the busiest Light Rail line, and gives customers a faster alternative during peak hours. The Agency has also established a line-management center to help supervisors better assess daily needs with real-time information and make required adjustments. In addition, the Agency has instituted a number of upgrades to the Advanced Train Control System (ATCS), including improvements to the Vehicle On-Board Computer (VOBC). These changes have led to increased reliability of subway service. The SFMTA is also continually working on</p>			

SFMTA Response Table to 2011 Civil Grand Jury 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 - Anticipated Timeframe for Implementation 3. Requires Further Analysis - Explanation - Timeframe 4. Will Not Be Implemented; Not Warranted or Not Reasonable - Explanation
	ways to improve on time performance, including expediting boarding procedures by fully integrating Clipper cards and exploring all door boarding methods. Despite its financial challenges, the SFMTA was able to partially restore service that was cut during the latest economic downturn.			
<u>Finding 4</u> Muni has had financial troubles in recent years and, absent an unforeseen windfall, will continue to have financial troubles in the foreseeable future.	Agree. In addition to prior funding needs, Muni has recently been severely impacted by reduced transit funding from the State and decreased support from the City's General Fund, due to the recent recession.	<u>Recommendation 4</u> (covers Findings 4 - 6) The SFMTA should hire an outside auditor to evaluate the potential gains in revenue brought by higher fares against the potential loss in total ridership due to such higher prices.	SFMTA SFCTA Board of Supervisors Mayor	<u>4 - Will Not Be Implemented: Not Warranted.</u> The SFMTA disagrees with this recommendation. The Agency fully understands the elasticity of fare increases on the system. There is a much stronger nexus between service reductions and impact to ridership, as opposed to fare increases, as has been confirmed by both the Transit Effectiveness Project and recent actions on service and fare changes. The Agency has conducted extensive research on its policies to identify the optimal scenario for maximum revenue generation. Given challenging economic times with limited funding for operations, the effect of fare increases on the system has been heavily weighed against service reduction in regards to ridership and resulting revenue impacts.
<u>Finding 5</u> Given the current and projected state of Muni's funding, difficult times lie ahead. This will impact the agency's ability to deliver the level of performance	Disagree partially. The SFMTA, along with numerous public transit agencies across the nation, is facing severe financial challenges, but we will continue our efforts to improve performance.			

SFMTA Response Table to 2011 Civil Grand Jury 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 - Anticipated Timeframe for Implementation 3. Requires Further Analysis - Explanation - Timeframe 4. Will Not Be Implemented: Not Warranted or Not Reasonable - Explanation
demanded by the charter.				
<u>Finding 6</u> Raising passenger fares can only have a minimal impact on Muni's financial shortfalls.	Agree. User fares and fees alone cannot address the funding shortfall. Passenger fares represent approximately 20% of Muni's total operating revenues. New revenue sources will need to be identified locally and regionally to fund transit operations.			
<u>Finding 7</u> New financial stresses are adding to Muni's already-existing financial troubles. These stresses will potentially worsen the state of Muni service.	Disagree partially. The SFMTA agrees that it is facing continued financial challenges. However, we are striving to reinvest in the system to ensure we are providing the best level of service possible through initiatives such as the TEP, the NX pilot project and establishing the Line Management Center. In addition, in late 2012, a unified Transit Management Center is scheduled to come on-line and will unite in one location all of the SFMTA's emergency response teams and control centers.	<u>Recommendation 5</u> SFMTA should publicly explain if and when the remaining cuts to Muni service will be restored.	SFMTA	2 - Will Be Implemented: in the Future The SFMTA develops an annual service plan as part of the budget process and regularly reviews the performance of that plan, making adjustments based on ridership and other performance criteria. Restoration of the remaining service cuts will be addressed as part of that process.

SFMTA Response Table to 2011 Civil Grand Jury 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 - Anticipated Timeframe for Implementation 3. Requires Further Analysis - Explanation - Timeframe 4. Will Not Be Implemented: Not Warranted or Not Reasonable - Explanation
	including dispatch for Parking Control Officers and towing, SFGO, security monitoring and desks will be available for power control and SFPD.			
<p><u>Finding 8</u> Maintenance of vehicles impacts the agency's ability to provide day-to-day service. Poorly maintained vehicles have negatively affected Muni's ability to operate as many vehicles as needed to meet peak demand.</p>	<p>Agree. The SFMTA agrees that maintenance of vehicles has a direct impact on the Agency's ability to provide day-to-day service.</p>	<p><u>Recommendation 6</u> (covers Findings 8 – 9) Maintenance should be given a higher priority in the budget than it currently is.</p>	<p>SFMTA</p>	<p><u>1 - Recommendation Implemented.</u> Maintenance needs are evaluated and considered as part of every budget process and will be evaluated as part of the FY12/13 and FY13/14 budget cycle.</p>
<p><u>Finding 9</u> As a result of forcing maintenance demands to compete with other system demands, maintenance has regularly been underfunded.</p>	<p>Disagree partially. Under any circumstances with a constrained budget and funding limits as discussed above, choices need to be made. Like transit agencies across the country, the SFMTA is facing a decline in transportation funding. The SFMTA will continue to work on an ongoing basis to secure the revenues needed to meet its maintenance needs.</p>			

SFMTA Response Table to 2011 Civil Grand Jury Report Findings and Recommendations

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<p><u>Finding 10</u> Stripping wrecked vehicles for parts is an inefficient way to save money. It would be cheaper to repair the wrecked vehicle and buy new parts for other vehicles than to buy a completely new vehicle to replace the cannibalized one.</p>	<p>Agree.</p>	<p><u>Recommendation 7</u> Muni should end its practice of cannibalizing wrecked vehicles to repair other vehicles.</p>	<p>SFMTA</p>	<p><u>4 - Will Not Be Implemented: Not Warranted.</u> The SFMTA has an existing policy prohibiting cannibalizing wrecked vehicles.</p>
<p><u>Finding 11</u> Following the manufacturer's suggested preventive maintenance program is inadequate for maintaining Muni's fleet. This inadequate preventive maintenance negatively impacts Muni's ability to properly serve its riders.</p>	<p>Agree. The SFMTA has expanded its Preventative Maintenance Program beyond the Manufacturer's recommendations. We conduct inspections at more frequent mileage intervals and have expanded the scope of items checked as well.</p>	<p><u>Recommendation 8</u> (covers Findings 11-12) The Board of Supervisors, SFCTA, and SFMTA should determine how to fund adequate preventive maintenance and a targeted component rebuild program on an ongoing basis.</p>	<p>SFMTA SFCTA Board of Supervisors Mayor</p>	<p><u>4 - Will Not Be Implemented: Not Warranted.</u> The SFMTA continues to work on an ongoing basis to secure the revenues needed to meet its preventive maintenance and other operating needs.</p>

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<p><u>Finding 12</u> Mid-life overhauls are not enough to properly maintain Muni's fleet. Targeted component rebuilds are essential to their maintenance.</p>	<p>Agree. The SFMTA agrees that mid-life overhauls and targeted component rebuilds are essential to Muni's fleet maintenance. The SFMTA has an existing contract with the manufacturer of its current Light Rail Vehicles to complete an overhaul of key systems, such as doors and steps. This program will both improve reliability and extend the service life of the vehicles. In addition, all service delays caused by mechanical failures are reviewed on a daily basis. Based on this analysis, the SFMTA has designed and implemented a Component Rebuild Program for key systems such as brakes and Vehicle On-Board Computers (VOBC) that can be done in-house and yield improvements in service reliability.</p>			

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<p><u>Finding 13</u> While Muni has come close to or exceeded its goals for hours of bus use between failures, it is nowhere near achieving its goal for LRV hours. These failures, some due to a lack of maintenance, are impacting Muni's ability to deliver adequate service to its customers.</p>	<p>(1) Agree or (2) Disagree wholly or partially, with explanation</p> <p>Agree.</p>	<p><u>Recommendation 9</u> SFMTA should conduct a comparison of Muni's "mean time between failures" against other cities' to gauge the impact of Muni's current maintenance practices on its fleet. It should also take into account any unique aspects of San Francisco transit that might affect its "mean time between failures."</p>	<p>SFMTA</p>	<p><u>4 - Will Not Be Implemented: Not Warranted.</u> This recommendation was implemented prior to the CGJ process. The SFMTA's Planning staff has been in the process of conducting a survey of a number of North American LRV agencies to gather information regarding their maintenance and procurement practices. Part I of the survey has been distributed and interviews are in the process of being scheduled. Interviews should be completed in Fall/Winter 2011 and information will be compiled thereafter.</p>
<p><u>Finding 14</u> The SFMTA's inability to recognize the obvious need to allot time to train new operators causes this July to lose faith in the agency's ability to efficiently manage its own projects.</p>	<p>Wholly disagree. The SFMTA uses best practices to train its operators and will do so in advance of the Central Subway start-up.</p>	<p><u>Recommendation 10</u> The SFMTA should explain when it plans to hire and train new operators to ensure a smooth rollout of the Central Subway.</p>	<p>SFMTA</p>	<p><u>2 - Will Be Implemented in the Future</u> In 2011, the SFMTA produced an FTA approved T-Third-Central Subway Service Integration Plan that defines the service plans, levels of service, days and hours of operation and vehicles required for 2018 through 2025. This Plan will be the basis for preparing the T-Third Central Subway Start Up Plan (SUP) that will be completed as a working draft in the first quarter of 2014. The timing of training and selecting of operators for the integrated T-Third service will be finalized in the Start Up Plan. The SUP will present the Agency staffing plan and schedule to achieve new hires as needed, the projection of retirees, the operator sign-up process, the operator training period, the integrated service testing period and the formal final schedule cut that will assign vehicles, hours of service and personnel levels needed for the first year of revenue service.</p>
<p><u>Finding 15</u> Using the numbers supplied by SFMTA, it</p>	<p>Disagree wholly. A sufficient number of LRVs are being procured to provide</p>	<p><u>Recommendation 11</u> The SFMTA should look at the peak</p>	<p>SFMTA</p>	<p><u>2 - Will Be Implemented in the Future</u></p>

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<p>appears that the problem of insufficient LRV fleet size experienced during the T-Third rollout will also plague the Central Subway rollout. This will translate to either a delayed opening or further diminished service on the other LRV lines.</p>	<p>reliable and timely service on the T Third line. Central Subway Transmittal 1476, dated April 22, 2011, provides further details.</p>	<p>demand for vehicles at the time it proposes to conduct new operator training and ensure that such training will not impact its ability to meet peak LRV demand.</p>	<p>From the Agencies specified by the CGJ.</p>	<p>The SFMTA has a training process in place so that new operator training, for any reason, not just start-up of the T-Third with the Central Subway 1.7 mile extension, has no negative impact on peak LRV demand.</p>
<p><u>Finding 16</u> There was an 18-month delay on finishing the 3-year T-Third project. This represents a 50% delay. With a commensurate or fractional delay on the 7-year Central Subway project, it will exceed current cost and contingency projections.</p>	<p>Disagree partially. Phase 2 is underway with plans in place to maintain cost and contingency projections. Please see response to Recommendation 12 for additional details, as well as the Agency response provided in the "Response to Follow-up Civil Grand Jury Questions," dated March 15, 2011.</p>	<p><u>Recommendation 12 (covers Findings 16-20)</u> The SFMTA should explain what changes to the internal decision-approval processes have been put into practice to prevent the types of problems that affected the T-Third project. It should be noted that merely changing staff does not suffice to fix these problems. If such changes have yet to be made, the SFMTA should hire an external management</p>	<p>SFMTA</p>	<p><u>4 - Recommendation Will Not Be Implemented: Not Warranted.</u> This Recommendation is not warranted because the action proposed by the CGJ has been actively underway before, during and after the CGJ Report. This recommendation was implemented in conjunction with the New Starts implementation program. The Phase 2 extension is expected to be completed on time because the implementation is based on resources, procedures and practices to select and manage the construction contracts and contractors that did not exist or were not available for Phase 1. Phase 2 is being managed using the New Starts Implementation Program. Phase 1 vs. Phase 2 processes include: construction management differences, the requirement that the Project own and operate a Project Management Plan and contractor selection differences. Further details are included in the "Response to Follow-up Civil Grand Jury Questions" dated March 15, 2011, which responded to this same concern.</p>

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<p><u>Finding 17</u> Individuals will sometimes make poor decisions. However, a good management and implementation process will catch and correct these decisions. The SFMTA has not shown that it has corrected the internal management and implementation problems from the T-Third project which allowed poor decision-making to go undetected.</p>	<p>Disagree wholly. As stated in the response to Recommendation 12, changes have been made and processes are in place as part of the FTA's New Starts implementation program to successfully guide the Central Subway to completion.</p>	<p>consultant to advise it on how best to change its processes.</p>		
<p><u>Finding 18</u> Though there are some differences between the T-Third project and the Central Subway project, which suggest the latter might be better</p>	<p>Disagree partially. As stated in the response to Recommendation 12, the Central Subway project has established plans and processes as part of the FTA's New Starts implementation program, so there is guidance and federal</p>			

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<p>managed, such as federal oversight, this will be a more complex, and therefore harder to manage project.</p>	<p>oversight to ensure the successful management of this project.</p>			
<p><u>Finding 19</u> The SFMTA has allocated an appropriate amount of the budget for the Central Subway project to cover contingencies and cost overruns.</p>	<p>Agree.</p>			
<p><u>Finding 20</u> The SFMTA is unreasonably optimistic that Third project will not reoccur during the Central Subway project.</p>	<p>Disagree wholly. As stated in the response to Recommendation 12, the Central Subway project has established plans and processes as part of the FTA's New Starts implementation program, so there is guidance and federal oversight to ensure that problems are identified quickly or avoided altogether.</p>			

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<p><u>Finding 21</u> Simply having various employees in a common organization or reporting structure does not mean that they necessarily communicate with each other.</p>	<p>Agree. The Central Subway development team uses the SFMTA's best practices to maintain and continue to enhance internal communication. As one example, previously presented to the CGJ, the team uses a SharePoint application to collaborate and maintain common documentation.</p>			
<p><u>Finding 22</u> Though the specific problems of interagency communication during the T-Third project can be avoided due to the creation of the SFMTA, the Central Subway's effect on a separate agency's system (BART) can pose new problems.</p>	<p>Disagree wholly. See Response to Recommendation 14 below.</p>			
<p><u>Finding 23</u> SFMTA appears to be adequately in touch with BART regarding</p>	<p>Agree.</p>	<p>Recommendation 13 (covers Findings 21-23) The SFMTA should explain how its internal</p>	<p>SFMTA</p>	<p>1 – Recommendation Implemented. The Central Subway Project relies on the involvement, cooperation and participation of a number of City, County, State and utility entities for design, design review and construction coordination. The participating agencies are listed in detail on pages 14-1 and 14-2 in the Project Management Plan</p>

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the Central Subway project.		communication process will facilitate cooperation and discussion between various people and agencies involved in the Central Subway project.		that was previously provided and discussed with the CGJ. Inter-agency agreements, developed with the participating entities, provide for planning, and plan review and construction coordination of work within their jurisdictions. Provisions for public works coordination, facilities coordination, right-of-way, traffic control, fire safety inspection and other impacts are agreed upon and documented in specific agreements.
<p><u>Finding 24</u> It is imperative that the SFMTA ensure that all parties involved in the technical aspects of the Central Subway project have access to a unified, official Master Plan.</p> <p style="text-align: center;">Agree.</p>		<p><u>Recommendation 14</u> The SFMTA should maintain a single, unified Master Plan for the Central Subway project that can be accessed, though not changed, by all parties involved in the project.</p>	SFMTA	<p><u>4 – Recommendation Will Not Be Implemented: Not Warranted.</u> This recommendation was actively underway prior to the CGJ process. An FTA required approved Program Management Plan (PMP) is a Master Plan for all aspects of project conduct and multiparty involvement and is already in use. The PMP includes continuous use of the Master Project Schedule (MPS) and presents all significant project activities and their interactions throughout the various phases to ultimately complete the entire project scope. The activities include: critical FTA submittals and milestones; design and construction contract selection processes and notices to proceed; real estate/right-of-way acquisitions; environmental and construction permits; impacted transit operation work-arounds; design deliverables; key equipment and vehicle procurements; construction operations; certification, startup and commissioning. With the establishment of a baseline schedule, Project Controls personnel conduct a monthly update that reflects the progress and any changes based on a prescribed procedure. The cost-loaded MPS is the vehicle for producing an up-to-date CSP cash flow curve. Project Controls conveys this information monthly to the SFMTA finance/grants staff to ensure that adequate project funding is maintained to address the project's needs over the project life and thereby fulfilling the ongoing obligation by the SFMTA that, as the grantee, it can meet its capital, operating, and maintenance commitments each year, including providing an allowance for contingencies.</p>

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<p><u>Finding 25</u> Though it may appear pedantic for this Jury to point out incorrect factual details published by the SFMTA, the Jury sees this as a symptom of a bigger problem. The Jury finds that the lack of care in its public communications can lead to a lack of confidence in the SFMTA's ability to accurately communicate both internally and with outside entities.</p>	<p>Disagree wholly. The SFMTA responds to hundreds of inquiries and presents new Central Subway information on a continuous daily, weekly and monthly basis across all media. Public documents are reviewed with careful attention to details and accuracy and routed for formal sign-off and approvals.</p>	<p><u>Recommendation 15</u> All communications and publications regarding the Central Subway project should receive more accurate fact-checking.</p>	<p>SFMTA</p>	<p><u>4 - Will Not Be Implemented: Not Warranted</u> The Central Subway has an existing comprehensive public outreach program that includes a robust social media program to inform the community in real time. All documentation is reviewed by professionals in the public communications field, who pay careful attention to the details and accuracy of the information that is being distributed.</p>
<p><u>Finding 26</u> Direct connectivity from the T-Third line to the Muni Metro will be eliminated by the Central Subway alignment.</p>	<p>Disagree wholly. Finding 26 is incorrect. The Union Square/Market Street station has direct connectivity to the Powell Street Station. In addition, the Central Subway will provide a more direct path to activities in the vicinity of Union Square, Market Street and Stockton Street than the current roundabout alignment along the South Embarcadero and will</p>	<p><u>Recommendation 16</u> The SFMTA should consider a realignment of the Central Subway which allows for a more direct connection to the Muni Metro.</p>	<p>SFMTA</p>	<p><u>4 - Will Not Be Implemented: Not Warranted and Not Reasonable.</u> The Union Square/Market Street Station provides a direct, underground connection to the Powell Street Muni/BART Station via a modern, well-lit concourse. In addition, the north end of the station connects with the major shopping district at Union Square. The direct Muni to Muni connection is an estimated walk of 4.8 minutes from platform to platform.</p>

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	allow passengers to have a direct route back to Chinatown.			
<p><u>Finding 27</u> If the design of the Union Square/Market Street station does not allow for future connectivity of a possible Geary LRV corridor, the SFMTA made a serious design error.</p>	<p>Agree. However, the design of Union Square/Market Street station does allow for future connectivity to a possibly Geary LRV corridor. See connectivity options in the response to Recommendation 17.</p>	<p><u>Recommendation 17</u> The Union Square/Market Street station should be designed to allow a future Geary light rail vehicle line to access it.</p>	<p>SFMTA</p>	<p><u>1 - Recommendation Implemented</u> From CS Transmittal No. 1403 dated February 18, 2011. Geary corridor cars would be able to use the Central Subway line for pull-in and pull-out to lead a possible future Geary route for revenue service. Alternative concepts have been raised by the San Francisco Planning and Urban Research Association and other stakeholders to improve the Geary corridor route concept by using Post Street as the preferred alignment. This route could provide an efficient transfer junction to the UMS station with a direct mezzanine passage between the T Third and the new subway line at Post and Stockton. The Post alignment could also provide a route to the Muni Metro system at the foot of Post and Market Street to the Montgomery Street Station to connect to the Muni Metro and possibly continue to the Transbay Terminal. This route would distribute the system access, capacity and mobility across the Central Business District instead of a single concentration of service at UMS.</p>
<p><u>Finding 28</u> A route that benefits both the Chinatown community and the Financial District is preferable to one that only benefits Chinatown.</p>	<p>Disagree wholly. Based on community feedback and further engineering analysis, we reevaluated the initial proposed alignment along Third Street. The new alignment along Fourth Street was adopted by the SFMTA Board in 2005. The selected route will directly link major retail, BART/Muni, high density housing, Caltrain and Mission Bay residential, educational and office development. An alignment such</p>	<p><u>Recommendation 18</u> The Central Subway should be redesigned to serve both the Financial District and Chinatown. If SFMTA thinks the current alignment already serves both neighborhoods, it should explain how.</p>	<p>SFMTA</p>	<p><u>4 - Will Not Be Implemented: Not Warranted and Not Reasonable</u> After years of planning and analysis, it is not in the public's interest to re-route the Central Subway or implement other costly changes. The SFCTA identified the Third Street Corridor with an extension to Chinatown as a priority in the late 1980s. The need to better serve the Chinatown neighborhood was further necessitated by the 1989 Loma Prieta Earthquake. Since then, the City and the SFMTA have explored numerous alignment options for the Central Subway, conducted comprehensive public outreach and planning, and have coordinated with land use planning in conjunction with the City's General Plan, the Downtown Plan, the Chinatown Area Plan, the East Soma Area Plan and the pending Western Soma Area Plan. Based on the above extensive community feedback and preference and further engineering analysis, the initial proposed alignment along Third Street was re-evaluated. Recommendation #18 touches on the challenge inherent to all transit corridor assessments and commitments: a route that provides maximum access is often the most intrusive; a line that links many potential station sites may also be</p>

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	as that proposed by the Civil Grand Jury would be indirect and require multiple turns.			<p>the longest distance between the important sites. The new Fourth Street alignment, adopted by the SFMTA Board in 2005, required a supplemental Environmental Impact Study / Environmental Impact Report (EIS/EIR) that was completed in 2008. That analysis confirmed the selected route would directly link major retail, BART/Muni, high density housing, Caltrain and Mission Bay residential, educational and offices development. Concurrently, enhancements to the financial District proceeded with the post-freeway Embarcadero public space and transit plans such as the emerging E line and the beginning of a new vision of Market Street – all of which are now underway.</p> <p>In November 2008, the Central Subway project received a Record of Decision (ROD) from the Federal Transit Administration. The ROD is required under the National Environmental Policy Act and represented the final environmental clearance for the project. Therefore, the SFMTA is implementing the route that was selected by public preference and received the approval of the SFMTA Board.</p>
<p><u>Finding 29</u> There does not seem to be an SFMTA plan to address the current problems on existing bus lines that travel the Stockton corridor. Presumably the quality of service will not improve between now and 2019.</p>	<p>Disagree wholly. The Transit Effectiveness Project includes recommendations to improve transit travel times for the 30 and 45 routes. The Columbus and Stockton segments of the routes are among the highest priority and design improvements will be cleared at the project level as part of the TEP EIR. Project improvements will include signal priority, traffic engineering changes to relieve bottlenecks and customer amenities such as ticket vending machines and improved signage.</p>	<p><u>Recommendation 19</u> The SFMTA should enact a plan to improve service on the Stockton corridor prior to completing the Central Subway.</p>	SFMTA	<p>4 - Will Not Be Implemented: Not Warranted and Not Reasonable This Recommendation is not warranted because the action proposed by the CGJ has been actively underway before, during and after the CGJ Report. The Transit Effectiveness Project includes recommendations to improve transit travel times for the 30 and 45 routes. The Columbus and Stockton segments of the routes are among the highest priority and design improvements will be cleared at the project level as part of the TEP EIR.</p>

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<p><u>Finding 30</u> The transfer between the Union Square/Market Street station and Powell Street station is terrible. The 1,000 foot distance is an unreasonably long transfer, especially for the elderly and disabled.</p>	<p>Disagree wholly. The transfer will be a seamless, underground and direct transfer within a controlled transit environment with vertical circulation aided by escalators and elevators in both directions. This is an improvement over the current bus to rail transfer that is partially outside in an uncontrolled environment.</p>	<p><u>Recommendation 20</u> SFMTA needs to fix the transfer between the Central Subway and Muni Metro.</p>	<p>SFMTA</p>	<p>4-Will Not Be Implemented; Not Warranted. The comparable current connection is from the 30 Stockton and 45 Union trolley bus routes to the Powell or Montgomery Muni Metro stations. Essentially, there is no difference in travel distance for current Muni bus customers and future Central Subway customers. In fact, the transfer from Central Subway would be better in comparison – a seamless, underground, and direct transfer within a controlled transit environment with vertical circulation aided by escalators and elevators in both directions. The transfer distance between the T-Third Union Square/Market Street (UMS) Station and Powell Street Muni Metro Station is similar to the existing transfers between the closest southbound Bus Stop and Powell Street Station. The new northbound transfer distance is shorter than the current transfer from the Montgomery Muni Metro Station to the closest northbound bus stop. Figure 1 below presents the walking segments. See Figure 1 below.</p>

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				<p>Figure 1: Point-to-Point Walking Segments, UMS Station to Powell Street Station vs. Southbound Trolley Bus to Powell Street Station</p> <p>The map illustrates the walking segments and bus routes between Union Square/Market St. Station and Powell Street Station. Key streets shown include O'Farrell Street, Ellis Street, Market Street, and Powell Street. A bus stop for buses #45, 30, and 9x is located near Powell Street. The map also shows the current bus/subway transfer path, a path at the platform level, and a path at the concourse level.</p>

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<p><u>Finding 31</u> The "Union Square/Market Street" station is incorrectly named because it is not on Market Street.</p>	<p>Disagree wholly. The station has an exit on Market Street at Ellis and Market.</p>	<p><u>Recommendation 21</u> SFMTA should change the name of the "Union Square/Market Street" station to simply "Union Square" for an accurate description.</p>	<p>SFMTA</p>	<p><u>4.-Will Not Be Implemented: Not Warranted.</u> There will be two entrances for the Union Square/Market Street Station. These entrances will be located at Ellis and Market Streets and at Geary and Stockton Streets. The Central Subway will also directly connect from the current Powell Street Station to the Union Square/Market Street station at the concourse level underground.</p>												
<p><u>Finding 32</u> The SFMTA has designed a subpar escalator system for all three underground stations because they lack redundancy.</p>	<p>Disagree wholly. The paths of travel for customers to transfer between lines and modes in each station include escalators and elevators that meet all applicable codes and passenger volume projections.</p>	<p><u>Recommendation 22</u> SFMTA should add escalator redundancy to all stations on the Central Subway.</p>	<p>SFMTA</p>	<p><u>4.-Will Not Be Implemented: Not Warranted and Not Reasonable</u> From CS Transmittal No. 1403 dated February 18, 2011. The following table shows how many escalators will be available in each of the three underground stations on the Central Subway line.</p> <table border="1" data-bbox="852 283 1133 1039"> <thead> <tr> <th>Subway Station Information</th> <th>Union Square / Market Street Station (UMS)</th> <th>Chinatown Station (CTS)</th> <th>Moscone Station (MOS)</th> </tr> </thead> <tbody> <tr> <td>Number of Escalators (from platform to concourse)</td> <td>5</td> <td>2</td> <td>2</td> </tr> <tr> <td>Number of Escalators (from concourse to surface)</td> <td>2 (Opposite Ends, both primarily up)</td> <td>2</td> <td>2</td> </tr> </tbody> </table> <p>Redundancy is available at all stations from platform to concourse and from concourse to surface. Additional information was provided in CS Transmittal No. 1571 dated May 22, 2011 regarding escalators and other paths of travel from the surface to the mezzanine. The Central Subway stations will provide assisted paths of travel via escalators and elevators between surface and concourse levels in addition to stairs. From the concourse paid area, there are another group of escalators and elevators</p>	Subway Station Information	Union Square / Market Street Station (UMS)	Chinatown Station (CTS)	Moscone Station (MOS)	Number of Escalators (from platform to concourse)	5	2	2	Number of Escalators (from concourse to surface)	2 (Opposite Ends, both primarily up)	2	2
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SFMTA Response Table to 2011 Civil Grand Jury 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 - Anticipated Timeframe for implementation 3. Requires Further Analysis - Explanation - Timeframe 4. Will Not Be Implemented; Not Warranted or Not Reasonable - Explanation
				<p>to the platform area below. The following is a detailed summary of the assisted paths of travel between surface and concourse level by station:</p> <p>Moscone: One escalator up, one escalator down in addition to two elevators.</p> <p>Union Square/Market Street: North and South Entrances will have one escalator up in addition to two elevators.</p> <p>Chinatown: One escalator up, one escalator down in addition to two elevators.</p>
<p><u>Finding 33</u> It seems disingenuous that the SFMTA would point to the station design as the reason for not including moving sidewalks as they themselves designed the stations. Or, as a Central Subway manager attempted to explain, "perceived design flaws were actually practical decisions."</p>	<p>Disagree wholly.</p> <p>A response to this Finding was also provided in Transmittal No. 1403 dated February 18, 2011.</p> <p>Moving walkways were not included in the design of UMS station for functional reasons. Moving walkways are most appropriate in long, straight sections of passageway with enough width to accommodate moving sections in both directions and enough room for a parallel, non-moving path. The geometry of the connection between UMS and Powell Stations does not favor this application without extensive modifications to Powell Station as well as increased excavation for UMS. Moving walkways are not typically used for underground connections, where space is more limited than in the</p>		<p style="text-align: center;">SFMTA</p>	

SFMTA Response Table to 2011 Civil Grand Jury Report Findings and Recommendations

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	familiar application of long, above-ground hallways in airports.			
<p><u>Finding 34</u> Though designing the Central Subway for hybrid boarding gives SFMTA the benefit of uniformity of its LRV fleet, this benefit is outweighed by the long-term benefit of beginning a transformation to a system using a dedicated level-boarding vehicle.</p>	Agree.	<p><u>Recommendation 23</u> SFMTA should purchase dedicated level-boarding vehicles for the Central Subway.</p>	SFMTA	<p><u>3 - Requires Further Analysis</u> This recommendation requires further analysis. The LRV Procurement Steering committee is now investigating a specification for the next procurement that may be dedicated level-boarding or another variation of flow/platform interface from the existing moveable steps. This analysis will be conducted by the Operations and Long Range Planning & Policy staff. This would include procurement of 23 LRVs by 2018. If the Executive Team agrees with the Committee's recommendation, a committee of key staff from planning, engineering, operations, maintenance, safety, accessible services and finance, representing disciplines involving vehicles, infrastructure and facilities, must be convened to analyze the issues involved with this recommendation. Staff would need to secure funding and then develop cost estimates and initial implementation schedule and a Conceptual Engineering Report for the system modifications to procure these LRVs.</p>
<p><u>Finding 35</u> With proof-of-payment as the sole method of fare collection, there is no apparent justification for mezzanines in the Central Subway stations.</p>	Disagree wholly. This finding was previously addressed in CS Transmittal No. 1294, January 21, 2011. The SFMTA uses proof-of-payment and has had Barrier Fee Fare Collection in the Muni Metro subway since the subway's inception in 1980. Please see responses to Finding 37 and Recommendation 24 for further details.	<p><u>Recommendation 24</u> The SFMTA should consider eliminating the mezzanines from the Central Subway station designs.</p>	SFMTA	<p><u>4 - Will Not Be Implemented: Not Warranted.</u> The mezzanine level plays an important role in a transit station and should not be eliminated. The Union Square/Market Street Station's mezzanine level is needed to connect to the mezzanine level already present in the Powell Street Station (as well as all Market Street Muni Metro stations). In general, the mezzanine level provides the functionality of space desired in all subway stations as well as all mass transportation portals: arriving and departing passengers need a transition zone to wait, meet others, confirm time and direction information, to purchase tickets, to ask for assistance, etc. The mezzanine serves the important function of providing a transition zone outside of the passenger traffic area and away from arriving and departing vehicles. The mezzanine level also increases the efficiency of passenger movement, both the collection of passengers toward the service and distribution of passengers away from the service, by providing paths of travel independent of the surface sidewalk system. This benefit is also commonly desired in all mass</p>

SFMTA Response Table to 2011 Civil Grand Jury 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 - Anticipated Timeframe for implementation 3. Requires Further Analysis - Explanation - Timeframe 4. Will Not Be Implemented; Not Warranted or Not Reasonable - Explanation
<p><u>Finding 36</u> Proof-of-payment is the preferred method of fare collection for the Central Subway.</p>	<p>Agree. However, the proof-of-payment system does not preclude having barriers at subway stations, including the Central Subway stations and Muni's existing underground stations. Barriers help clearly distinguish paid and non-paid areas and facilitate proof-of-payment enforcement.</p>			<p>transportation stations with high levels of passenger traffic, such as the Union Square/Market Street Station. Finally, the use of Barrier Fee Fare Collection is an important part of the Muni Metro system, similar to many other systems, so the mezzanine level is a crucial component of the customer flow through the station to process fare collection.</p>
<p><u>Finding 37</u> The SFMTA has not established that the use of barriers for fare collection instead of proof-of-payment in the Central Subway will reduce fare evasion.</p>	<p>Disagree wholly. Muni's Metro station fare collection has used banks of traditional barrier fee entrance and exit fare gates since the subway opened in 1980. In the 1990s, proof-of-payment was also introduced on light rail vehicles, with a focus on stations/platforms outside of the Metro subway. This approach included all-door boarding at surface stops to speed up operations and make fare collection more efficient. Proof-of-payment at all light rail stops</p>			

SFMTA Response Table to 2011 Civil Grand Jury Report Findings and Recommendations

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	<p>and fare gates at the Metro stations, the busiest of the Muni Metro system, continues to be used. In the past year, the first-generation gates were replaced with gates designed around the Clipper smart card technology. The new gate-fare system provides better security, reduces evasion, gives a stronger visual guidance for customers and provides ridership data that was not previously available. It also makes it easier for fare inspectors to enforce proof-of-payment policies for the large volume of customers that are found in Muni Metro stations, as their current practice is to stand inside the fare gates and check proof-of-payment as customers are exiting the gates.</p> <p>Many large volume systems similar to Muni's employ proof-of-payment and barrier fee fare gates, e.g., Los Angeles, Montreal, and soon Vancouver, B.C. The combination of gates and fare inspection has cut the percentage of customers without valid proof-of-payment to 5 percent or under on Muni light rail, significantly better than on</p>			

SFMTA Response Table to 2011 Civil Grand Jury Report Findings and Recommendations

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	<p>routes without barrier fee fare gates.</p> <p>This explanation was provided in CS Transmittal No. 1294, January 21, 2011.</p>			
<p><u>Finding 38</u></p> <p>The SFMTA has not established that the use of barriers for fare collection provides a strong advantage in regard to giving passengers visual guidance.</p>	<p>Disagree wholly. Physical barriers make it easy for customers to distinguish which part of the stations are paid versus unpaid areas and where valid proof of payment is required. They also make it easier for fare inspectors to enforce proof-of-payment for the large volume of customers that are found in Muni Metro stations.</p>	<p><u>Recommendation 25 (covers Findings 36-38)</u></p> <p>The SFMTA should conduct an analysis of whether a proof-of-payment system is preferable to its planned hybrid fare collection system for the Central Subway.</p>	<p>SFMTA</p>	<p>4-Will Not Be Implemented; Not Warranted.</p> <p>The SFMTA conducted a comprehensive proof-of-payment study in 2009 and found that fare evasion was 50 percent less in the light rail system than on the buses, thereby reinforcing the importance of maintaining proof-of-payment and barrier fee fare collection.</p>
		<p><u>Recommendation 26</u></p> <p>The SFMTA should redesign the Central Subway to better serve the San Francisco population.</p>	<p>SFMTA</p>	<p>4-Will Not Be Implemented; Not Warranted.</p> <p>Background:</p> <p>The Southeastern area of the City has long been recognized as being underserved by high capacity transit. In the late 1980s an extensive planning process was undertaken by the San Francisco County Transportation Authority (SFCTA) to prioritize transit corridors in the City. Four corridors that needed enhanced transit service were identified, studied, and prioritized as follows: Third Street, Chinatown as an extension of the Third Street Corridor (now referred to as the Central Subway), Geary, and Van Ness. The prioritization was also influenced heavily by environmental justice considerations as a result of the low income and transit dependent nature of the communities served along the corridors. The disruption of access to Chinatown resulting from the 1989 Loma Prieta earthquake was also a factor in the prioritization.</p> <p>A number of specific alignment options were considered for the Central Subway during the original environmental study including using Third Street, Fourth Street, Kearny Street and Stockton Street.</p>

SFMTA Response Table to 2011 Civil Grand Jury Report Findings and Recommendations

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				<p>Extensive public outreach, planning, and decision making resulted in the current alignment extending from Fourth and King streets along Fourth and Stockton streets to Chinatown.</p> <p>Connecting Communities:</p> <p>Construction of the Central Subway has been developed in coordination with land use planning already adopted in the City's General Plan, including the Downtown Plan, the Chinatown Area Plan, the East SoMa Area Plan, and the pending Western SoMa Area Plan.</p> <p>Moving Commuters:</p> <p>Within a half-mile of the Central Subway corridor the average population density is approximately 53,000 per square mile and the total number of jobs exceeds 215,000. The Central Subway Corridor is located between the regional job hubs of Mission Bay and downtown San Francisco, making it a logical location for new workspace uses. Additionally, work destinations are likely to increase usage of the Central Subway, as workplace transportation options are a significant factor shaping travel choice. A sample of companies already in the corridor include Twitter, Zynga, Salesforce.com, Yelp Inc., Ubisoft Entertainment SA and UStream Inc. - all national leaders in their class. The Wall Street Journal recently highlighted office space at 410 Townsend St. one block from the planned Central Subway stop at Brannan Street. Suffering 60% vacancy in late 2008, the 75,000 square foot building is now 100% full with internet start-ups. A San Francisco Chronicle article on August 20, 2010 describes high demand for space in SoMa by technology companies.</p>

SUPERIOR COURT OF CALIFORNIA
COUNTY OF SAN FRANCISCO
GRAND JURY

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OFFICE
400 MCALLISTER ST., ROOM 008
SAN FRANCISCO, CA 94102
TELEPHONE: (415) 551-3605

July 1, 2011

Supervisor David Chiu, President
San Francisco Board of Supervisors
#1 Dr. Carleton B. Goodlett Place
City Hall, Room 244
San Francisco, CA 94102

Dear Supervisor Chiu:

The 2010-2011 San Francisco Civil Grand Jury will release its report to the public entitled "Central Subway Too Much Money For Too Little Benefit" on Thursday, July 7, 2011. Enclosed is an advance copy of this report. Please note that by order of the Presiding Judge of the Superior Court, Katherine Feinstein, this report is to be kept confidential until the date of release.

California Penal Code section 933.05 requires the responding party or entity identified in the report to respond to the Presiding Judge of the Superior Court, within a specified number of days. You may find the specific day the response is due in the last paragraph of this letter.

For each Finding of the Civil Grand Jury, the response must either:

- (1) agree with the finding; or
- (2) disagree with it, wholly or partially, and explain why.

Further as to each recommendation made by the Civil Grand Jury, the responding party must report either:

- (1) that the recommendation has been implemented, with a summary explanation of how it was implemented;
- (2) the recommendation has not been implemented, but will be implemented in the future, with a time frame for the implementation;
- (3) the recommendation requires further analysis, with an explanation of the scope of that analysis and a time frame for the officer or agency head to be prepared to discuss it (less than six months from the release of the report); or

(H) 110817
(R) 110818



- (4) that the recommendation will not be implemented because it is not warranted or reasonable, with an explanation of why that is. (California Penal Code sections 933, 933.05)

Please provide your responses to the Findings and Recommendations in this report to the Presiding Judge of the Superior Court, Hon. Katherine Feinstein, not later than Thursday, September 29, 2011, with an information copy sent to the Grand Jury Office at the above address.

Very truly yours,

A handwritten signature in cursive script that reads "Linda A. Clardy". The signature is written in black ink and is positioned above the printed name.

Linda A. Clardy, Foreperson
2010-2011 San Francisco County Civil Grand Jury

cc: Members of the Board of Supervisors
Angela Calvillo, Clerk of the Board

1
2
3 CALIFORNIA SUPERIOR COURT
4 CITY AND COUNTY OF SAN FRANCISCO
5

6 In The Matter of the 2010-11)
7 Civil Grand Jury of the City)
8 And County of San Francisco)

Finding Re:
Final Grand Jury Report

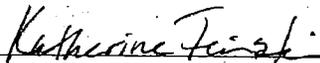
9 The 2010-2011 Civil Grand Jury of the City and County of San Francisco having
10 submitted its Final Report entitled, "Central Subway Too Much Money for Too Little
11 Benefit" a copy of which is attached and marked as "Exhibit One"

12 The Court finds that this Final Report is in compliance with the Part II, Title 4, of
13 the Penal Code, commencing with section 888. The Final Report reflects the investigative
14 work, findings, conclusions and recommendations of the Civil Grand Jury. It does not
15 reflect the investigative work, findings, conclusions or recommendations of the Superior
16 Court or any of its members.

17
18 GOOD CAUSE APPEARING THEREFOR, IT IS HEREBY ORDERED that a
19 copy of the report is to be placed on file with the clerk of the court and is to remain on
20 file with the office of clerk of the court as provided in Penal Code section 933(b).

21
22 IT IS FURTHER ORDERED that the attached report is to be kept confidential
23 until said report is released to the public by the Civil Grand Jury of the City and County
24 of San Francisco.

25
26 June 29, 2011

27 
28 KATHERINE FEINSTEIN
PRESIDING JUDGE

CENTRAL SUBWAY
Too Much Money For Too Little Benefit



CIVIL GRAND JURY
CITY AND COUNTY OF SAN FRANCISCO
2010-2011

THE CIVIL GRAND JURY

The Civil Grand Jury is a government oversight panel of volunteers who serve for one year. It makes findings and recommendations resulting from its investigations.

Reports of the Civil Grand Jury do not identify individuals by name. Disclosure of information about individuals interviewed by the jury is prohibited. California Penal Code, section 929

STATE LAW REQUIREMENT

California Penal Code, section 933.05

Each published report includes a list of those public entities that are required to respond to the Presiding Judge of the Superior Court within 60 to 90 days as specified. A copy must be sent to the Board of Supervisors. All responses are made available to the public.

For each finding the response must:

- 1) agree with the finding, or
- 2) disagree with it, wholly or partially, and explain why.

As to each recommendation the responding party must report that:

- 1) the recommendation has been implemented, with a summary explanation; or
- 2) the recommendation has not been implemented but will be within a set timeframe as provided; or
- 3) the recommendation requires further analysis. The officer or agency head must define what additional study is needed. The Grand Jury expects a progress report within six months; or
- 4) the recommendation will not be implemented because it is not warranted or reasonable, with an explanation.

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SUMMARY

The Central Subway project is ambitious, complex, breathtakingly expensive and very controversial. In its decision to investigate the project, the San Francisco Civil Grand Jury based its analysis on two premises:

- The project will proceed.
- San Francisco Municipal Transportation Agency's (SFMTA) past and present performance is the proper tool to measure the Agency's competence to build and run the Central Subway.

Seven months later, the Civil Grand Jury has concluded the Central Subway project should be redesigned.

- The Jury believes SFMTA is currently unable to adequately maintain its fleet in good working order. Adding a new capital project while struggling to meet current needs could overwhelm the agency's ability to deliver service.
- The Jury believes the SFMTA could design a better system to more fully address transit needs along the Chinatown/Financial District corridor.

In conversations with the Jury, SFMTA officials have declared the Central Subway "the highest priority transit project for San Francisco."

The Civil Grand Jury does not agree.

As the Jury began its process of investigating the Central Subway project, it became clear that a project of this scope and magnitude would affect the entire SFMTA system. The Jury found it crucial to investigate not only the Central Subway project, but also aspects of the current and future state of SFMTA in light of the project.

The investigation proved timely. The SFMTA is in the final stages to obtain full funding to build a subway of 1.7 miles. The current cost of this project is \$1.578 billion, or \$176,000 per foot of construction. It is the most expensive public transit project currently considered for federal funding under the New Starts Program.

An investigation of several months has answered many of the Jury's concerns. It also led to many unanswered and new questions.

BACKGROUND

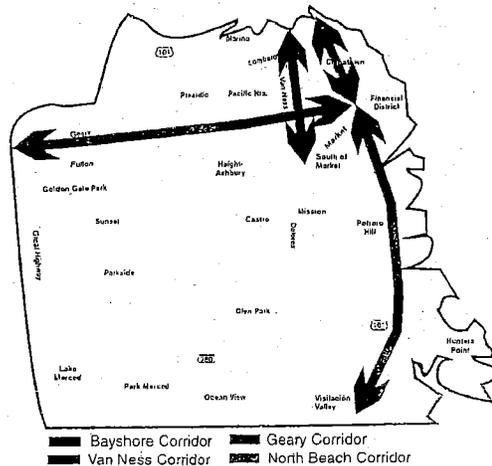
San Francisco's topography is both a gift and a challenge. Its steep hills create fabulous views and a magnificent landscape. They also divide the small, dense city into distinct neighborhoods or mini-villages. It is rare to find a city with such diverse topography in a small peninsula of 49 square miles.

Keeping these neighborhoods connected and giving its inhabitants a sense of the whole is a challenge. The San Francisco Municipal Transportation Agency (SFMTA) aims to meet that challenge. For its latest construction project the SFMTA chose as its motto, "Connecting People. Connecting Communities."

The challenge to connect is not new. When the City was rebuilt after the 1906 earthquake and fire, plans were made to address this goal. The Municipal Railway was established in 1912, and two years later City Engineer Michael O'Shaughnessy envisioned a Four Corridors Plan.¹ From 1914 to 1927 he built an intricate transportation system linking Potrero Hill in the south northward to the Marina, and from Downtown to what was then known as the Outlands.

Nearly a hundred years later, the names have changed, but those basic corridors remain the City's main thoroughfares: Bayshore, Geary, North Beach and Van Ness.²

SAN FRANCISCO COUNTY TRANSPORTATION AUTHORITY



THE FOUR CORRIDOR PLAN

LONG-RANGE FIXED GUIDEWAY PLAN

JUNE 1995

The subway's original opening date was to be this year, 2011. Its earliest completion date is now projected to be 2019.

Project Scope

The Central Subway is not only the agency's single largest capital project. At \$1.578 billion, it is also the most expensive 1.7 miles of construction in the City's history. To put this into a familiar perspective, compare its length to that of the Golden Gate Bridge. Both are 1.7 miles long. If the bridge needed to be replaced, figures from 2003 estimated it would cost \$1.2 billion.⁵

The Central Subway project has a pattern of sharply rising estimates: from \$648 million in November 2003, to \$763 million in 2004, to \$994 million in 2006, and now to \$1.578 billion.

The Central Subway's construction scope is as grand as its financing. When completed the T-Third line and its subway extension will be a "stand-alone" line, meaning it will operate "separate from the guideway, signal system, and schedules of the existing Muni Metro service under Market Street."⁶ The SFMTA declares this "equivalent to starting up a new light rail system."

The Central Subway will start at an above ground station at Fourth & Brannan and then travel underground with stops at Moscone Center, Union Square and Chinatown. To make this connection, the current T-Third route will no longer turn right at Fourth and King to travel down Embarcadero to Market Street. Thus, direct connectivity to the Muni Metro is eliminated from the T-Third route.⁷

Project Funding

Funds to build the Central Subway are slated to come from three sources:

The Federal Government:	61%	\$966 million
The State of California	31%	\$488 million
San Francisco (Proposition K)	8%	\$124 million
	TOTAL	<u>\$1.578 billion</u> ⁸

It appears that for San Francisco to successfully fund this project, sacrifices must be made. "Due to budget constraints, SFMTA has deferred certain capital projects that include expenditures to maintain its transit assets in a SOGR (State of Good Repair.)"⁹ Translated, that means maintenance funding, which the Jury investigated in detail as described below. In addition to maintenance, other projects such as a new communications system were deferred.

MUNI MANAGEMENT AND FUNDING ASSESSMENT

Financial and operational stability is critical to any business, community or agency about to develop a major capital project. One way to determine how well a transit agency is funded and managed is to examine its performance levels.

To this end, the Jury reviewed publicly available data on the SFMTA's website.¹⁰ The website has data for numerous measurement metrics. To contain the scope of this report, the Jury focused on "schedule adherence," "headway adherence," and "scheduled service hours delivered."

Performance Levels

"Schedule Adherence" measures Muni's adherence to its published schedule of delivering transit services. This is the percentage of time that Muni vehicles appear at stops on time. In 1999, San Francisco voters approved Proposition E which included the requirement that Muni would have at least an 85% on-time record by July 1, 2004.

The Jury's review of available data showed that Muni has never met this requirement.

For example:

- in fiscal year 2007-2008, Muni averaged 70.5% on-time performance;
- in fiscal year 2008-2009, that number increased to 73%; and,
- in fiscal year 2009-2010, that number remained at 73%.

For the first two quarters of fiscal year 2010-2011, that number decreased to 72%.

"Headway Adherence" measures Muni's adherence to its published schedule of elapsed time between vehicle arrivals at a given stop on any particular line. This is measured as the percentage of time that Muni vehicles are properly spaced to arrive at any given stop at regularly timed intervals. Muni's internal goal for this metric is at least 85% headway adherence.

The Jury's review of available data showed that, for the last three years, Muni has not met this goal either:

- in fiscal year 2007-2008, Muni averaged 63% headway adherence;
- in fiscal year 2008-2009, that number decreased to 60%; and,
- in fiscal year 2009-2010, that number increased slightly to 61%.

For the first two quarters of fiscal year 2010-2011, that number increased to 64%.

“Scheduled Service Hours Delivered” measures the percentage of Muni’s actual delivery of service hours as compared to what is publicly scheduled. Its goal is to deliver at least 98.5% of its scheduled service hours. As with the other measures, Muni has failed to meet its own goals for at least the last three fiscal years:

- in fiscal year 2007-2008, Muni delivered an average of 96% of the scheduled service hours;
- in fiscal year 2008-2009, that number increased to 97%; and,
- in fiscal year 2009-2010, that number did not change.

For the first two quarters of fiscal year 2010-2011, that number has not changed. Though Muni is closer to meeting its goal of scheduled service hours delivered than the previous two metrics, it is still failing to meet its goals. Muni is not providing adequate service to its customers.

Muni’s Current Fiscal Condition

Muni is funded from many sources: Federal grants, state grants, local grants via Proposition K, San Francisco general funds, the SFMTA revenue stream (i.e. parking fines), and fare box collections. Fare box collections account for only 23% of Muni’s revenue.

An SFMTA official informed the Jury that “Muni currently has an annual structural operating deficit of approximately \$150 million.” This number has remained essentially unchanged for each of the last five years.

That official explained that, in addition to its current funding levels, Muni needs this amount of money to meet its reliability and on-time performance requirements as set out in the city charter. Due to the recent economic downturn, the SFMTA has lost almost \$180 million of funding from the state of California and almost \$50 million from local funding over the last three years.

Over the next five years, Muni has planned for \$4.5 billion in capital needs. Currently, SFMTA has only been able to identify sources for \$2 billion, less than half of what it says it will need. The source for the remaining \$2.5 billion that SFMTA needs to fund future capital needs has yet to be identified.

A panel of financial experts informed the agency’s Board of Directors on 2/15/11 that unless the SFMTA can slash \$30 million in spending and generate \$50 million in new revenue annually, it faces a \$1.6 billion deficit over the next 20 years.¹¹

2010 Service Cuts

In May 2010, Muni transit service was cut by an unprecedented 10%. These cuts were due to a loss of state and local funding to the agency. While 61% of those cuts were restored in September 2010, the remaining 39% of those cuts have yet to be restored.

The Jury was informed that plans to restore the remaining cuts are currently “only in the conceptual phase.” An unpublicized, early plan targets “addressing [though not necessarily fully restoring] the remaining cuts in fiscal year 2013-14 and 2015-16.”

Recent events suggest that more service cuts could happen in fiscal year 2012. In March 2011, the Mayor’s office asked city departments to figure out how to cut 10% from their budgets and another 10% in contingency reductions. At the time of writing this report, there has been no news about how SFMTA plans to meet this goal.

However, in speaking with SFMTA, it was one official’s opinion that the last time SFMTA cut Muni’s budgets the process was not done “surgically.” This employee metaphorically conveyed the impression that the cuts were not done in a way that minimized the overall impact on the entire system.

Maintaining the Existing Fleet

One of the myriad costs of operating a public transit system is maintenance. In order to have vehicles available for transit service, a transit system must maintain the vehicles in a state of good repair throughout their lifetime. Additionally, vehicles need ongoing repair in order to stay in service for a manufacturer’s expected useful life. In speaking with SFMTA officials, the Jury learned how inadequate the budget is to maintain Muni’s existing fleet and how little is dedicated to buying vehicle parts.

The SFMTA recently conducted a “high level capital asset inventory.” This inventory looked at the state of condition for its vehicles and quantified the yearly maintenance needs that would be required to have a vehicle in service for its “useful life.” The maintenance needs were calculated from 2010 through 2029.

The SFMTA calculated it will need \$2.9 billion to satisfy anticipated maintenance needs. Of that amount, the agency is able to identify sources of financing for \$2.5 billion, or 86%. The agency has yet to identify a source for the additional \$400 million.

According to the SFMTA, even this partial financing assumes that:

“adequate funding is identified to purchase new vehicles and rehabilitation of the historic fleet as required during the 20-year period. If this funding is not available, the deferred maintenance figures will increase accordingly. We will continue to work with our funding partners at the federal, state and local levels to close the shortfall.”

Generally speaking, there are two types of scheduled vehicular maintenance: 1) ongoing, preventive maintenance and 2) mid-life overhauls. Muni’s existing fleet is not currently receiving enough maintenance of either type.

Manufacturers set maintenance guidelines for the vehicles they make and sell. These guidelines lay out the expected maintenance for its vehicles if an agency expects those vehicles to remain in use for their expected lifetime. San Francisco’s unique geography, combining extremely steep hills, narrow streets, few dedicated transit lanes, heavy stop-and-go driving, and tight turns puts more wear and tear on transit vehicles than would be expected in the “average” city. Therefore, San Francisco’s transit vehicles tend to require more maintenance, and that maintenance must occur more frequently.

Regarding ongoing, preventive maintenance, the SFMTA official we spoke with stated that when SFMTA allocated money to Muni, not enough importance was placed on budgeting for maintenance. This official stated there are periods when not enough money is budgeted for maintaining vehicle parts. To quote that official, “that part of the budget has been starved.” Rather than having its own budget line item, parts maintenance was to be funded from a central budget area.

Support for this official’s assertion can be found in the City and County of San Francisco’s Proposed Capital Plan for fiscal years 2012-2021. It notes that:

“Unless additional funding can be secured, a number of important capital projects will need to be deferred beyond the next 10 years. While the federal economic stimulus (ARRA) of the past two years has helped, it will most probably be terminated in 2011, once again leaving the SFMTA with a budget gap on a number of projects. Potential deferred projects include . . . [the] Shop Equipment Program. [SFMTA will need to defer] the acquisition and replacement of the equipment needed to support all aspects of SFMTA’s operations and maintenance functions. A significant backlog of equipment needs exists due to the lack of capital grants available for equipment replacement.”

San Francisco has a unique maintenance situation: If a certain part of a vehicle needs to be replaced, and funding is available for a replacement, one will be ordered. However, rather than throwing out the part to be replaced, it is cleaned up and stored for future use elsewhere in the system. That way, if the same type of part breaks down in the future and there is no funding available for a replacement, there is a backup plan.

Though the effort of SFMTA to live by the "reduce, reuse, recycle" motto is commendable, this example illustrates how little funding is available for fleet maintenance.

Another example of the City's "reduce, reuse, recycle" motto being taken to extremes is the cannibalizing of wrecked light rail vehicles for parts. When a light rail vehicle is involved in a crash, it is sent to a repair yard to be repaired.

However, there is not always enough budget for the parts and/or manpower required to repair the wrecked vehicle. Additionally, there is not always enough budget to buy parts required for preventive/reparative maintenance on other vehicles. Rather than have the wrecked vehicle sit unused, Muni repair crews regularly strip these wrecked vehicles for parts to repair other vehicles.

Stripping wrecked vehicles for parts is an ineffective way to save money. It would be cheaper to repair the wrecked vehicle and buy new parts for other vehicles rather than buy a completely new vehicle to replace the cannibalized one.

One way to illustrate how vehicle maintenance impacts Muni's reliability is to examine the state of the Light Rail Vehicle fleet. Currently, Muni owns 151 LRVs. Of these vehicles, about eight have been cannibalized as described above. These vehicles cannot be driven. Therefore, they are unavailable for use. That leaves around 143 vehicles that could, theoretically, be put into service.

However, due to maintenance demands, all 143 vehicles are not available for use. In fact, over a six-week period during the first quarter of 2011, Muni was unable to have 119 vehicles available to meet peak demand. Neither was it able to achieve its internal goal of 114 vehicles. It is worth noting that Muni's internal goal of LRV availability is less than the number needed to meet peak demand.

In addition to ongoing, preventive maintenance, manufacturers also suggest a mid-life overhaul for vehicles to ensure they can be used for their entire expected lifespan. Muni's light rail

vehicle fleet consists solely of Breda-brand vehicles. The average expected lifespan for these vehicles, assuming appropriate preventive maintenance and a mid-life overhaul, is 25-30 years.

However, a Muni official said the fleet is "limping" to reach that age. As discussed above, San Francisco's geography, combined with heavy system use, can lower that number. Accordingly, a mid-life overhaul of light rail vehicles should take place no later than 15 years after they are put into service. The current light rail vehicle fleet is, on average, 15 years old. Therefore, it is the appropriate time for a mid-life overhaul.

Mid-life overhauls are not cheap. However, when viewed as an investment to get the most out of an expensive asset already owned, it is a highly valuable and wise use of funds. As a sign that Muni does not have enough funds for sufficient maintenance, the City and County of San Francisco's Proposed Capital Plan for fiscal years 2012-2021 notes that:

"Unless additional funding can be secured . . . [p]otential deferred projects include . . . Mid-life Rebuilds of the Fleet. Motor coaches, trolley coaches, and light rail vehicles all require mid-life rebuilds in order to attain the required usable life and maintain adequate vehicle availability throughout that period. Funding priorities for federal transit capital dollars in the region do not give priority for mid-life rebuilds, and funding availability is limited."

On October 14, 2010, SFMTA officials announced that they had secured enough federal funding to perform mid-life overhauls on the 143 operating light rail vehicles.¹² SFMTA plans to overhaul all vehicles over a span of six years. This averages two vehicles per month. Accordingly, when the last vehicles are getting their overhaul, they will be 21 years old, well past their mid-life.

Officials at Muni have also requested a one-time \$4 million funding to cover a mid-life "targeted component rebuild" of the light rail vehicles. This request will focus on four key system components in the light rail vehicles: propulsion, brakes, on-board computers, and doors/steps. Because these parts get more wear and tear during operation, they require more focused attention than they will receive in a generalized mid-life overhaul.

Investing in major mid-life maintenance ensures a capital asset can be used for as long as safely possible. It is a wise use of transit funds.

In analyzing the level of maintenance of Muni vehicles, one of Muni's internal metrics provides great insight: "mean distance between failures."¹³ This metric measures the average number of hours a vehicle is in use before it needs to be taken out of service to be fixed.

For Muni's buses (both electric and diesel) in fiscal years 2008-2009 and 2009-2010, the SFMTA had an internal goal of averaging 2,611 hours of use between failures. Muni exceeded this goal by 8 hours in 2008-2009 and fell short by 142 hours in 2009-2010. These numbers represent an excess of 0.3% and a shortfall of 5.4%, respectively.

SFMTA has raised its goal for fiscal year 2010-2011 to 2,669 hours of use between failures. For the first two quarters of 2010-2011, Muni buses have averaged 2,666 hours of use between failures. This represents a shortfall of 0.1%.

Unfortunately, the numbers for the light rail vehicles paint a much grimmer picture. For Muni's LRVs in fiscal years 2008-2009 and 2009-2010, the SFMTA had an internal goal of averaging 5,000 hours of use between failures. Muni fell short of this goal by a whopping 2,220 hours in 2008-2009. The numbers were even worse for 2009-2010: a shortfall of 2,539 hours. These numbers represent a shortfall of 44% and 51%, respectively.

Perhaps recognizing its inability to even remotely approach its own goal for this metric, the SFMTA substantially lowered its goal for fiscal year 2010-2011 from 5,000 hours to 3,500 hours, a 30% decrease. Yet, it appears Muni will still have substantial trouble getting close to meeting these lowered expectations.

For the first two quarters of this fiscal year, Muni's LRVs had a mean distance between failures of 2,164 hours. This is 1,336 fewer hours, or 38% lower, than its goal. In fact, the average number of hours of use between failures for LRVs has steadily declined over the last three fiscal years from 2,780 to 2,461 to 2,164.

Having examined just some of SFMTA's current problems with funding, operating, and maintaining Muni and its vehicles, the Jury next investigated the last major capital project the SFMTA completed and an upcoming major capital project: the T-Third line and the Central Subway.

OVERSIGHT & IMPLEMENTATION

Through interviews with transit professionals, the Jury learned that the biggest reason a transit project goes over budget is its inability to stay on schedule. Some examples of how a delay can increase the cost of a project include:

- a longer duration of insuring the project,
- a longer duration of renting construction equipment,
- a longer disruption of normal activity caused by maintaining a construction site,
- a “snowball” effect of delays causing other delays.

Additionally, delays affect when a transit agency starts collecting revenue from passengers.

To help predict whether the SFMTA can reasonably be expected to complete the Central Subway according to its own schedule, the Jury looked at the SFMTA’s rollout of its most recent light rail vehicle service expansion, the T-Third line. The T-Third line was given final design approval in 2002. The projected date of revenue service was October 5, 2005. Full revenue service actually started on April 7, 2007. This represents a one and a half year delay on what was slated to be a three-year construction project.

When queried by the Jury about the reasons for the delay in the rollout of T-Third service, the SFMTA cited numerous causes. These causes can roughly be divided into two categories: Internal Factors and External Factors.

Internal Factors

The first factor cited was the extra time required to hire and train operators. Since the SFMTA was clearly planning on having operator-driven trains (as opposed to completely computer-driven), it stands to reason that these would-be operators would need to be trained in operating LRVs.

However, this need was either not noticed by anyone planning the T-Third project or it was noticed and consciously disregarded. The SFMTA did not explain why this oversight happened. It is difficult to understand how something as seemingly obvious as operator hiring and training for a new part of the Muni system could go unnoticed when planning the T-Third project.

The second factor cited was the need to take light rail vehicles out of regular service to provide training on the new T-Third alignment. Muni was unable to train its operators because if all the vehicles needed for training were taken out of service, the remaining day-to-day LRV service would have suffered. It seems this will be a problem again in the rollout of the Central Subway.

The SFMTA gave the Jury a spreadsheet detailing vehicle availability and necessity by fiscal year, through fiscal years 2029-30. Currently, the Central Subway line is slated to open in the beginning of calendar year 2019. According to the vehicle availability spreadsheet, the peak vehicle demand for LRVs in 2018-19 is 147 vehicles. An additional 32 vehicles are slated to be unavailable due to maintenance demand.

This means Muni will need a total of 179 vehicles in its fleet in order to meet expected peak demand. However, the fleet in 2018-19 will consist of only 175 vehicles. Therefore, there will be a vehicle deficit of 4 cars. This means that Muni currently forecasts an inability to meet peak vehicle demand for all LRV lines when the Central Subway opens.

Interestingly, for the fiscal years 2011-25, SFMTA forecasts a light rail vehicle deficit of between two and fifteen cars every year except 2017-18. Beginning in 2025-26, SFMTA forecasts a light rail vehicle surplus.

In predicting the peak vehicle demand, SFMTA shows a regular annual increase of 3-4 vehicles per year. There does not seem to be any allocation between now and 2019 for additional vehicle demand for training.

Related to the second factor is a third: the lack of available LRVs to make pullouts for all scheduled service and insufficient maintenance staff to maintain target goal of pullouts. This Jury understands the term "pullout" to mean a vehicle being put into service on a scheduled run. As discussed above, Muni is currently unable to meet peak demand for LRVs or adequately maintain its fleet of vehicles, including LRVs.

The remaining internal factors are: extended testing of signaling systems at freight rail crossings, turnout switches and lift bridges; unavailability of the Muni Metro East Maintenance Facility and the need to develop a new satellite yard at 6th Street. It appears that these factors were unique to the T-Third project and will not affect the Central Subway project. Additionally, the Muni Metro East Maintenance facility is now built and the SFMTA has informed the Jury that it is fully staffed and operational.

External Factors

To explain the delays in the T-Third rollout, SFMTA cited:

- completion delay of the Fourth Street Bridge;
- Islais Creek bridge construction issues including unforeseen site conditions; and
- schedule changes addressing neighborhood traffic routes.

It appears that these particular factors were unique to the T-Third project and will not affect the Central Subway Project. This does not guarantee, however, that the new project will be free from different but unexpected problems.

The Central Subway project was given final design approval in 2010 with construction projects beginning in 2011. Construction is scheduled to finish in 2018 with full revenue service starting in January 2019.

DIFFERENCES BETWEEN THE T-THIRD AND CENTRAL SUBWAY PROJECTS

Ridership Modeling for a New LRV Line

Anyone who was using Muni regularly around the time of the T-Third rollout should remember the process as being anything but smooth. One of the reasons cited for the bumpy rollout was the internal decision to use outdated ridership models. The original ridership models forecasted a 2005 opening for the line. However, the line did not open until 2007.

Leading up to this delayed rollout, the question was raised whether SFMTA should ask the County Transportation Authority (SFCTA) to perform updated ridership modeling based on the changed circumstances. The SFMTA employee charged with answering this question opted to forego running updated modeling.

This Jury found no information suggesting that there were any internal challenges to this decision. The SFMTA has assured the Jury that the person involved in making this decision is no longer with the agency.

Federal Oversight

In its communications with SFMTA, the Jury found optimism within the agency regarding its ability to manage this project more efficiently than its last major LRV installation, the T-Third line. This confidence appears to be based on the heightened Federal Transit Administration (FTA) oversight for Central Subway construction that was not in place for T-Third construction.

As an example, the SFMTA refers to the FTA's requirement that the agency develop and implement a Project Management Plan. This "establishes a master plan of best practices for controlling costs, schedule and scope." The presence of a separate body helping oversee the Central Subway's construction appears to give some relief to the anxiety many San Franciscans feel about SFMTA's ability to adequately manage this project. However, the actual management and implementation of the program will be left to the control of the SFMTA.

Irrespective of the federal oversight on the Central Subway project, there have been numerous changes in the project's cost, scope, and projected opening date since its inception. For example, in its November 2008 filing with the FTA, the SFMTA proposed the Central Subway Project would have 3 stations and cost \$1,297,950,000. When the SFMTA made the same filing in November 2010, those numbers had increased to 4 stations and a cost of \$1,578,300,000.

Additionally, both the 2008 and 2010 filings describe an "Opening Year Ridership" for 2016. However, the SFMTA's "Central Subway, Upcoming Contracts" pamphlet, published around the third quarter of 2010, claimed revenue service was projected to start in 2018. The SFMTA's own "Risk and Contingency Management Plan," dated April 1, 2011, projects revenue service will begin in the fourth quarter of 2018. As of the writing of this report, projections have been moved out to January 2019.

Track Alignment and Construction Conditions

Another reason the SFMTA thinks it can manage the Central Subway project better than the T-Third project is that there are differences in the track alignment and construction conditions. For example, the T-Third railway was a 5.1 mile alignment. By contrast, the Central Subway is only 1.7 miles long.

The SFMTA reasons that a shorter line will be easier to install. However, the T-Third railway was entirely above ground, whereas the vast majority of the Central Subway is underground. Underground construction raises hydrology and seismology issues that were not present in the T-Third project.

A second construction difference between the two projects is the construction of the stations and stops. Construction of the T-Third line included 18 new stops. The Central Subway will only require construction of 4 stops. Fewer stops should, in theory, mean that part of the project will be simpler.

However, the T-Third stops are merely raised, concrete "pedestrian islands", whereas three of the Central Subway stops will be underground stations. Clearly, underground stations involve many more complex construction issues than a concrete "pedestrian island." Hydrology and seismology issues, construction of mezzanines, platforms, staircases, escalators, and elevators all bring additional complications.

The SFMTA states that the subway stations will each be a "confined workspace" and the "management of the vertical structure within these enclosed sites is based on conventional vertical structure construction methodology."

It is worth noting that the last time SFMTA oversaw the building of a confined, underground station was 1978. It is doubtful that anyone who oversaw the underground work in the 1970s and could provide insight into underground construction in San Francisco is still with the agency. No one at SFMTA has informed the Jury that any agency employee involved in the Central Subway project has practical experience managing this type of construction.

Contract Bidding Process

The third difference SFMTA cites is the process of putting contracts out to bid. When constructing the T-Third line, SFMTA divided the project into a dozen segments. In contrast, the Central Subway project has only six segments: tunneling, utility relocation, three underground stations, one multi-faceted segment covering track work, systems, and the surface station.

Though the Central Subway project has been divided into fewer segments than the T-Third project, the Central Subway project raises complex construction issues that were not present in the T-Third project. This will be a more complex, and therefore, harder to manage, project.

T-Third Cost Overruns – Can We Expect the Same for Central Subway?

At the time of final design, the budget for the T-Third project was approximately \$567 million. This amount included a contingency of \$35.6 million. Put another way, the project was expected to cost \$531.4 million and an extra \$35.6 million was included in the budget in case cost estimates proved inaccurate. This represents less than a 7% contingency. The final cost was \$648 million - \$81 million more than originally budgeted. This \$81 million cost overrun is in addition to the originally planned \$35.6 million contingency. Therefore, had the project been properly budgeted, it would have allotted \$116.6 million to contingency, or about 22%.

In researching this report, the Jury spoke with a high level transit official experienced in managing large projects like the Central Subway. This person said that transit agencies can generally expect an overage of 20% of the originally planned cost on large construction projects. Thus, the 22% cost overrun on the T-Third project is substantially in line with industry expectations.

The Central Subway project is currently estimated to cost \$1,578,300,000. The SFMTA's Risk and Contingency Management Plan for the Central Subway project allocates \$262,809,536 for contingencies. Put another way, the project is expected to cost about \$1,315,490,464 and an extra \$262,809,536 is included in the budget in case cost estimates prove inaccurate. This represents a 20% contingency. If the Central Subway project ends up requiring the same 22% contingency as the T-Third project, that amounts to an extra \$26,598,366.

Having said that, it is worth noting that if the Central Subway project goes over its budget, neither federal nor state funds will be made available for cost increases.

San Francisco will be liable for any cost overruns.

SFMTA cites the following factors as having contributed to the cost increase for the T-Third project:

“Added/changed (post-final design) scope of project, rebidding based on the changed scope, significant increase in material costs due to world market, additional traffic control on Highway 101 during certain construction, various change orders for certain segments of the project, including unforeseen site conditions, various change orders due to delays by ongoing work of other contracts, added insurance payments due to the extended schedule, staff costs for extended schedule and additional start-up and testing effort.”

Through the many communications the Jury had with the SFMTA, the Jury gets the impression that the SFMTA believes that none of these factors which affected the T-Third project will affect the Central Subway project.

However, it seems that any or all of these factors that occurred with the first project can again occur during the second. Once the contractors begin boring tunnels, it is quite possible that an unexpected situation, such as ground water issues or land subsidence, will be encountered. This could lead to a changed scope of the tunneling project requiring rebidding.

As for an increase in material costs due to the world market, there is no accurate way to predict what will happen to the price of construction materials. However, based on project experiences in recent years¹⁴, it is reasonable to expect that the price of the materials will either stay the same or continue to rise over the 7-8 years it takes to complete the Central Subway.

Finally, given that the schedule of the project has been changed multiple times, with the end date being pushed further out, the Jury expects that these changes will increase the cost of the project for the reasons cited by the SFMTA regarding the T-Third's delays.

Interagency Communication

In speaking with Muni officials about the lessons learned from the T-Third construction project, the issue of interagency coordination was raised. New transit line construction can impact agencies not directly involved in the project. Therefore, the various agencies must coordinate to minimize a project's collateral impact.

For example, during the T-Third development, aspects of Muni's project required input and information from City parking and traffic engineers who were not employed by Muni. According to Muni officials, a lack of interagency coordination complicated communications between parking and traffic engineers and Muni engineers.

In 1999, San Francisco voters approved the creation of the SFMTA. This agency is responsible for the following aspects of transportation in San Francisco: public transit, bicycle, walking, taxis, parking, and traffic. Muni officials pointed to the SFMTA's creation as a reason why interagency communication would no longer be a problem: traffic engineers, parking engineers, and Muni engineers all now work in the same agency.

The T-Third project was formalized in 1995 and opened in 2007. It stands to reason that during at least some the T-Third construction, the city's parking and traffic engineers were employed by a different agency than the Muni engineers. Since all involved engineers now work for the same agency, the inefficiencies experienced during the T-Third construction should, theoretically, not be present during the Central Subway's construction. However, the SFMTA did not explain to the Jury what specific steps have been enacted to facilitate better intra-agency communication.

Though the specific interagency communication problems during T-Third construction might be avoided due to the creation of the SFMTA, the Central Subway project can pose new problems.

Central Subway construction will have an impact on the BART system, and interagency communication will be crucial. The tunnel under Fourth Street will turn right at Stockton Street to continue traveling north. Along this path, the Central Subway will pass underneath the BART tunnel at the Powell Street station.

According to a BART official, construction of this segment of the Central Subway tunnel could have adverse impacts on the BART Powell Street tunnel. For example, water displacement and soil removal occurring during the Central Subway construction "could affect the integrity of BART's tunnel."

This same official also explained that the transfer between the Central Subway's Union Square/Market Street station and the Metro's Powell Street station will yield increased pedestrian traffic through the Powell station. This increased traffic can affect BART customers' use of that station.

In April 2011, SFMTA and BART signed a "Cooperative Agreement between the City and County of San Francisco and the San Francisco Bay Area Rapid Transit District." Based on its contents, it appears that the two agencies are aware that communication is critical during this project.

Accuracy of Communications

As the Central Subway project has moved forward, the SFMTA has been regularly publishing written material about the project's progress. This material can be found online, at the SFMTA's office, and the SFCTA's office. In reviewing some of these materials, the Jury has discovered numerous factual inconsistencies and inaccuracies.

In drawings on an official SFMTA publication regarding the Central Subway, there are two renderings of the Union Square/Market Street "Redesign Passed by the Recreation & Park Commission." (Appendix A) One is a "bird's eye" view of the entrance on Geary and Stockton streets. The other is a "[b]elow ground cut-away rendering of the station levels." In comparing these two renderings, it is quite easy to notice that they do not match each other. For example, an elevator shaft in the cut-away does not appear in the "bird's eye" view.

Additionally, the drawing that SFMTA has published for the Chinatown station depicts three pairs of escalators, or a total of six, for descending from street level to the subway platform.¹⁵ (See page 26) However, as discussed in "The Mechanical Conveyances" below, the SFMTA has informed the Jury that the Chinatown station will only have four escalators.

More important than ensuring that artists' renderings remain constant in SFMTA's communications (or that any changes are noted and explained) is whether the architects, engineers, and contractors have access to a single, official set of plans. It is unknown whether the disunity affecting renderings and public communications also affects the communication among architects, engineers, contractors, and the SFMTA.

While it is possible that these are merely artists' renderings with little/no bearing on the architectural layout of the station, it is curious that the SFMTA employee who is charged with overseeing such renderings wouldn't ensure consistency of the station's portrayal. Also, if these artists' renderings are not meant to convey accuracy, it begs the question of why they have the renderings in the first place.

There are also mislabelings of traffic and neighborhood features impacted by the project. On a "CTA Fact Sheet" about the Central Subway project, published in January 2011, Interstate 80 is incorrectly identified as Highway 101. (Appendix B) In a pamphlet from the SFMTA entitled "Upcoming Contracts", published around the third quarter of 2010, the Financial District is

incorrectly labeled as Chinatown. (Appendix C) These mistakes are being made by city employees who work in transportation agencies and are expected to have more than a passing familiarity with the city's traffic and neighborhood configurations.

After analyzing SFMTA's ability to oversee and implement the construction of a new LRV line, the Jury investigated aspects of the Central Subway's design.

THE CENTRAL SUBWAY PLAN

“CONNECTING PEOPLE. CONNECTING COMMUNITIES.”

The case for completing the T-Third/North Corridor is simple and noble: to serve the public and strengthen connections between neighborhoods. Its completion would fulfill O’Shaughnessy’s early vision.

The City has used several means of transportation, and certainly subways have proven useful. If done in the right way, with efficiency and economy, a subway is often the best solution. San Francisco has been served well by the tunnel connecting West Portal and downtown San Francisco, by the tunnel connecting Duboce Park with Cole Valley. Such projects cover large distances, cut travel time and avoid hilly topography.

A successful route from the T-Third line to the Financial District, Chinatown and North Beach is of prime importance. A direct route would serve all communities and create quick connections to other major transit lines. Unfortunately, the Central Subway as currently designed does neither.

The Route

Currently the T-Third line turns right on 4th and King Streets and runs down the Embarcadero to Market Street. Here, at the Ferry Building, it brings passengers to the Muni Metro, BART and the Ferry system. It also becomes the “K-Ingleside” and travels across town to the Balboa Park station. This is a line which truly connects communities.

If connectivity is in fact the overarching goal of the project, then its design is flawed. In 2019, the T-Third/Central Subway will become an independent train system with no direct connection to the rest of Muni Metro, BART and the ferry system. Instead, the surface train travels below ground at 4th and Brannan, stops at Moscone Center, then stops at what is called the Union Square/Market Street station, and terminates at Stockton and Washington Streets. Reconfiguration of the current T-Third route to mesh with the subway extension does little to offer passengers a seamless transportation experience.

By naming this station “Union Square/Market Street,” SFMTA clearly hopes to convince the public that it is a direct connection to Muni Metro below Market Street. As described in detail below, passengers will be faced instead with an underground trek of over a thousand feet from the Union Square station to the Muni Metro.

Missed Connections

One other vital transit point would be a connection between the Central Subway line and a future Geary light rail corridor. The Jury has received conflicting information about whether the current configuration of the Central Subway's Union Square/Market Street station will allow for future connectivity between the two lines.

A BART official, with expansive knowledge of Bay Area public transit, explained to the Jury why the underground positioning of the proposed Union Square station and the existing Powell Street station make it impossible for a future Geary light rail corridor to connect with the Central Subway there. This lack of possible connectivity is noted by this official as one reason why the Central Subway has lost his support. However, in written communications with the Jury, the SFMTA declared that future light rail connectivity is, in fact, possible.

The stated purpose for the Central Subway's placement is that it will serve Chinatown's residents and shoppers. No one could argue that this extremely densely populated area is now well-served. In fact, SFMTA admits that the Stockton corridor is already operating at capacity.¹⁶ The 30-Stockton is infamous for its crowded and cumbersome route, leaving both resident and visitors to Chinatown frustrated and ill-served.

However, to say that the Central Subway will alleviate this problem is disingenuous.

The subway station is on Washington Street, blocks south of the commercial hub. Even more disturbing, the SFMTA has no current plans to alleviate the neighborhood's public transit problems before the project's completion currently slated for 2019. Chinatown residents and visitors face at least eight more years of lost connections.

By choosing a route traveling up Stockton, only Chinatown is served. Had the subway been on Kearny, both the Chinatown community and the Financial District could have been served.

The Walk

"There's no question that the transfer between [Central Subway and Muni Metro] is probably just as important as the connection to Chinatown."

Nationally respected transit engineer,
Civil Grand Jury Interview

This statement to the Jury by a noted transportation engineer highlights one major problem with the Central Subway design. As noted in the introduction, by changing the current T-Third route, direct connectivity to the Muni Metro is eliminated.

Riders not only lose direct connections. They face "The Walk." According to the SFMTA, "to get from the Union Square/Market Street Station to the Powell Street Muni Metro Station is about a thousand feet."

"It's awkward." (a noted transportation engineer)

"It's too long." (an influential city planner)

"It's a significant distance." (a former City Supervisor)

Grand Jury interviews

To put this in perspective, imagine running a 100-yard touchdown on Candlestick Park three times in a row. Meanwhile, you are jostling other commuters. Fortunately, unlike those who regularly play at Candlestick Park, the commuters are not determined to tackle you.

The SFMTA believes passengers can make that walk in less than five minutes. Many can. But what about the disabled? The elderly? Those burdened by shopping bags, luggage and briefcases? In such situations, consumers rely on a system's mechanical conveyances.

The Mechanical Conveyances

Moving sidewalks are useful conveyances for covering long distances, particularly for the elderly and disabled. They were cited by a noted urban planner as an advantageous design feature. In the Jury's investigation, sources conflict as to whether these features were part of the original plan. If they had been, they were removed years ago. When queried by the Jury, SFMTA explained the lack of moving sidewalks by saying:

"[They] are not typically used for underground connections, where space is more limited than in the familiar application of long, above-ground hallways in airports."

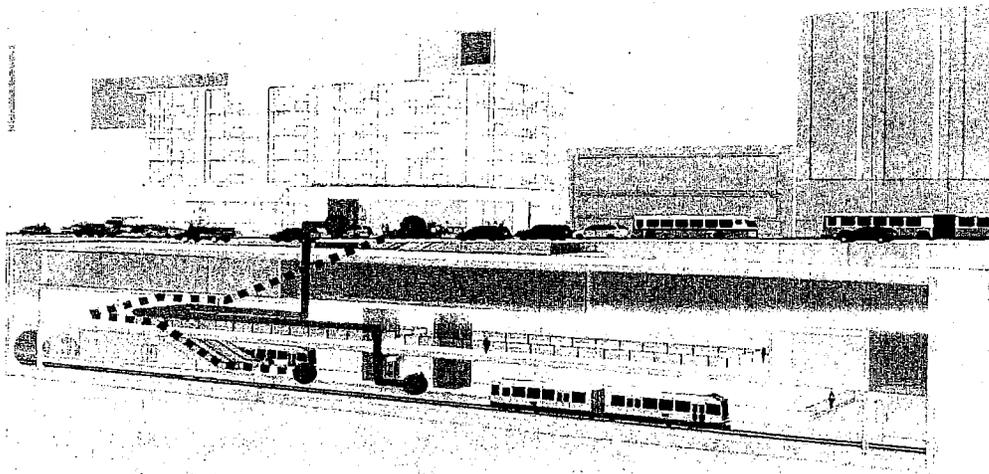
SFMTA stated that moving sidewalks were not included in the plans because the passages are too narrow.¹⁷ It is worth noting that the SFMTA has been in control of drafting passageway designs.

Equipment failures are a nuisance for most riders, but for the disabled a broken escalator or elevator can create an uncertain environment. Physically able passengers compete with less mobile people for elevators when escalators are broken.

The Jury paid particular attention to the plans for elevators and escalators. Because the SFMTA has a long history with escalators, the Jury was able to investigate their service and maintenance. On average, one Muni escalator is broken every two days. Their repairs cost Muni nearly \$5 million a year.¹⁸

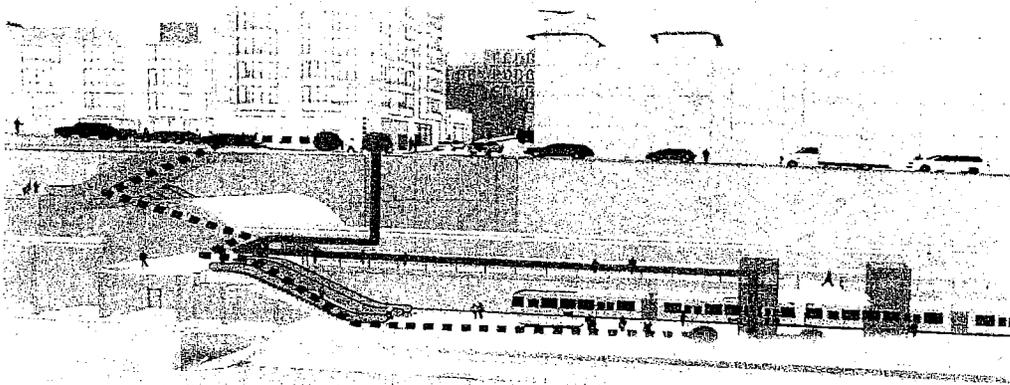
In its correspondence with the Jury, the SFMTA noted the following number of escalators and elevators per station:

Moscone - 4 escalators, 4 elevators



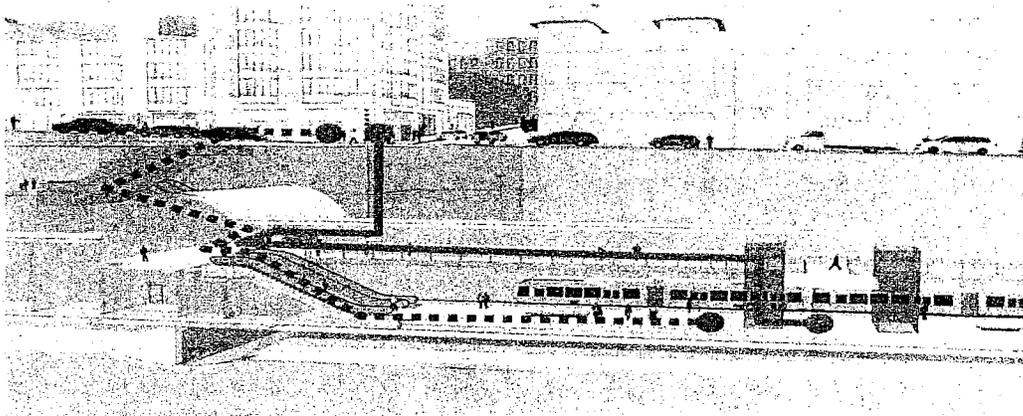
MOSCONE STATION

Union Square - 7 escalators (2 "primarily up"), 6 elevators



UNION SQUARE/MARKET STREET STATION

Chinatown - 4 escalators, 4 elevators



CHINATOWN STATION

The plans call for a total of 29 conveyances.

Redundancy of mechanical conveyances is a valuable aspect of transit. For instance, if a descending escalator breaks down, another descending escalator should be available. In most situations, redundancy requires three escalators.

The four escalators at the Moscone and Chinatown stations will be arranged identically: Each station will have two escalators to carry passengers between the street and mezzanine levels, and another two escalators between the mezzanine and subway platform. This design does not provide for redundancy. Should one of the escalators between the street and mezzanine levels breakdown, there will only be one functioning escalator between levels. Therefore, either the ascending or descending passengers will have to use the stairs instead of an escalator.

The Union Square/Market Street station has seven escalators. Five escalators will move passengers between the subway platform and the mezzanine. Three escalators will be at one end of the platform and two will be at the other. Therefore, the design provides for escalator redundancy between these two levels.

However, between the mezzanine and street levels, there are only two escalators. SFMTA noted these escalators will be on "opposite ends, both primarily up." When asked where these escalators would be located, SFMTA did not respond in a timely manner. Regardless of their location, descending passengers will almost always have to use the stairs. Additionally, if one of the escalators breaks down, the ascending passengers, too, will be relegated to the stairs.

While elevators can be an alternative to escalators, they lack the ability to move large volumes of people quickly.

The Muni system has a record of mechanical failures. The Civic Center station escalators are a particular bane. Can we predict more reliable elevator and escalator service for the Central Subway line?

This is not a small matter. Escalators in the Union Square station descend a total of 80 feet, or 8 stories. The elevators, of course, descend the same distance. Muni is relying on better escalator technology as well as expertise learned from past history. It informed the Jury that:

“Similar to other transportation technology such as autos or airplanes, the procurement of new escalators will call for proven improvements over past systems that should achieve greater reliability for sources of downtime described . . . (micro switches, tension carriages and chains.) In addition, the experience of maintaining escalators open to the elements as designed at the time BART was constructed – the first new rapid transit line in the US in 50 years – is reflected in the Central Subway’s design to place canopies or other architectural covers over all surface escalators.”

Yes, engineers have made technological advances with mechanical equipment. At the same time, this equipment is still mechanical, vulnerable to failures and power outages.

Hybrid vs. Level-Boarding Light Rail Vehicles

Currently, any passenger boarding an outbound train in the Muni Metro steps directly from the platform onto the train. This is level-boarding.



LEVEL-BOARDING
PASSENGERS SIMPLY WALK STRAIGHT ABOARD

However, when the train exits the Metro and begins traveling on the streets, a set of steps inside the door descends. When the doors open at any stop, boarding passengers climb up three steps. Thus, SFMTA's current fleet of light rail vehicles supports a hybrid boarding system.



NON-LEVEL-BOARDING
PASSENGERS MUST STEP UP TO BOARD

Vehicles dedicated solely to level-boarding have fewer moving parts than hybrid vehicles. Therefore, they are cheaper and easier to maintain in a state of good repair. Additionally, level-boarding “offers quicker boarding and alighting for passengers and accommodation of people with disabilities.”¹⁹

Uniformity of design specifications within a single system has an impact on financial, procurement and maintenance issues. Therefore, it seems logical for SFMTA to buy hybrid vehicles for the Central Subway. However, since the route will be stand-alone, for all practical purposes, its vehicles need not be compatible with the rest of the system.

SFMTA is planning to buy four new hybrid boarding light rail vehicles for the Central Subway. However, all stops within the Central Subway and along the remainder of the T-Third route use level-boarding. Therefore, a vehicle dedicated to level-boarding would suffice.

Methods of Fare Collection

There are two main styles of fare collection used by public transit agencies. Proof-of-payment, or POP, is akin to an honor system. A passenger’s fare is collected when buying a ticket before or upon entering a vehicle. The rider then holds the ticket as proof of fare payment. Fare gates, or barriers, require a passenger to put money into a turnstile. That then allows the passenger to pass through, entering the station’s paid area. Fare gates are not used on vehicles; they are only used in stations.

Just as the SFMTA has a hybrid boarding system, it also has a hybrid fare collection system: proof-of-payment and fare gates.

With the introduction of the Clipper smart card, SFMTA provided easier access on surface lines. Passengers can enter any door and swipe the transmitter. The scanned card is the passenger’s proof-of-payment. For passengers with cash, it’s just like the old days: enter at the front of the vehicle, pay the fare, and get a transfer. That transfer then acts as proof-of-payment.

On the other hand, those entering below the surface, such as in Muni Metro, must pass through fare gates. Station fare gates no longer accept cash fares. They only accept payment by Clipper cards. Although these gates are faster today due to improved technology, they still create bottlenecks. Indeed, when exiting a Muni Metro station, passengers need to stop momentarily in front of a barrier gate until the motion sensor allows the gate to open.

Additionally, a Bay Area transit manager explained that a physical barrier can create a “psychological” barrier that makes people reluctant to use public transit. By eliminating barrier gates, a transit agency can avoid the installation and maintenance costs associated with the gates.

One of the consequences of using barrier gates for fare collection is they typically are located on mezzanines. All Muni Metro stations have barrier gates on mezzanines, and this design is planned for all three Central Subway stations. When queried by the Jury as to why the new stations are designed with mezzanines, SFMTA could only identify two possible reasons: the use of fare gates and a vague reference to possible future security measures.

If the Central Subway were designed to use proof-of-payment only, the mezzanines could become unnecessary. As for future security use, the Jury was not given enough information to analyze whether this is a valid justification for mezzanines. If neither of these reasons were enough to justify the use of mezzanines in the Central Subway, they could be taken out of the design. This would save both construction costs and shorten the travel time for passengers arriving and departing the stations.



FARE GATE

If the Clipper card acts as proof-of-payment above ground, why not underground also?

SFMTA cites several reasons: "The new gate-fare system provides better security, reduces evasion, gives stronger visual guidance to guide patrons and provides ridership data that was not previously available." The Jury analyzed each reason in turn:

- Security

When interviewed by the Jury, an SFMTA manager was able to offer only a vague explanation of how a barrier gate system offers better security than proof of payment. This manager explained that in the future, the gates could be equipped with sensors that could detect such things as explosives. However, there was no indication that this idea has moved beyond even the discussion phase. The Jury does not have enough information to analyze the strength of this explanation.

- Evasion of Payment

The SFMTA claims that a barrier system of fare collection is preferable to a proof-of-payment system because it reduces the rate of fare evasion. In analyzing whether a proof-of-payment system is better to reduce fare evasion than a barrier system, it is helpful to first understand two terms: enforcement rate and evasion rate.

Enforcement rate refers to a passenger's chance of being stopped by a fare inspector for proof-of-payment. For example, a 40% enforcement rate means that any passenger has a 40% chance of being stopped by a fare inspection officer. Evasion rate refers to the percentage of passengers who can ride on public transit without paying and not get caught. A 10% evasion rate means that 10% of the people who ride transit without paying do so without getting caught.

SFMTA informed the Jury that a combination of "gates and fare inspection has cut the percentage of customers without valid proof-of-payment to 5% or under on light rail, significantly better than on routes without [barrier] gates." This means that, under the SFMTA's current system of fare collection, there is a 5% evasion rate. The Jury was unable to find out what the SFMTA's enforcement rate is.

In talking with a Bay Area regional transit manager, the Jury was told that on a system which solely uses proof-of-payment, a 25% enforcement rate results in a 4% evasion rate. In order to compare the success of SFMTA's current fare collection system to a strictly proof-of-payment system, the Jury would need to know what its current enforcement rate is.

- Visual Guidance

The SFMTA asserts that a barrier system on the Central Subway is preferable to a POP system because it gives stronger visual guidance for patrons. By placing barrier gates along the desired walking route, the passenger is guided by visual markers. However, it would seem that barrier gates are not the only way to clearly indicate passenger routes. Signage with arrows clearly indicates the direction to the subway platform. Indeed, all underground stations currently have such signage. Additionally, the subway stations in San Francisco do not tend to be labyrinthine, such as the subway stations in New York City. Therefore, the need for strong visual guidance is lessened.

- Collection of Data

The final reason cited by the SFMTA for a barrier system is that it allows the agency to collect ridership data. SFMTA did not elaborate on what kind of data it collects from its barrier gates. Presumably, the agency is able to count the number of passengers entering and exiting the system at any station over any period of time.

It would seem that at least some of this same information would be still available to the agency if it used a POP system. Under a POP system, just like a barrier system, a rider “tags” their Clipper card before, or upon, entering a vehicle. Regardless of whether that “tag” opens a gate or simply acts as proof-of-payment, the agency is still able to collect information about when and where passengers are entering the system. However, a POP system does not gather data about when riders exit the system.

Because the Jury is unable to determine what data SFMTA is interested in gathering from barrier gates, a finding cannot be made as to whether one fare collection system is preferable for data collection over another.

CONCLUSION

Over the course of a seven-month investigation, the Jury discovered many problems with the Central Subway plan.

- It has a pattern of increasing cost estimates.
- San Francisco will be responsible for any cost overruns which could be substantial.
- The addition of a new subway line will add to an existing operating deficit and could stretch the existing maintenance environment to the breaking point.
- There are no plans to address existing problems on the Stockton corridor before project completion.
- There is no effective transfer to the Muni Metro and BART systems.
- It ignores service to the Financial District.
- It ignores current transportation trends.

In 2006, the SFMTA commissioned an independent engineering firm to review the Central Subway design. The resulting report contained the following passage:

“Very broadly, what is the role of capital investment in a transit system? It should represent either an opportunity to reduce operating expenses, or represent the most efficient way to bring better service to additional markets. As proposed, this project does not appear to do that – it promises to combine high capital costs with higher operating costs, and . . . does not, apparently, effectively meet the market needs in the corridor it is intended to serve.”²⁰

The Civil Grand Jury agrees that the present project fails to answer San Francisco’s transportation needs.

The Civil Grand Jury supports the expansion of its transit system to fulfill O’Shaughnessy’s Four Corridor vision.

The Civil Grand Jury concludes that the project must be redesigned.

METHOD OF INVESTIGATION

The Jury began its investigation in October 2010 with research concerning planning issues and both local and national transit history.

In November the Jury continued its research with a series of interviews which lasted until May 2011. These twenty sessions included taped interviews with:

- Present and former members of the City's administration

- A former member of the Board of Supervisors

- Current and former administrators, managers and employees of SFMTA

- Current and former employees of SFCTA

- Neighborhood groups affected by the Central Subway plan including Chinatown

- A BART official

- A member of the California Assembly

- Officers of San Francisco Neighborhood Associations

- Urban planners, engineers, transit professionals and administrators

The Jury also conducted correspondence with the Federal Transit Administration, the SFMTA, the SFCTA, and community organizers.

Finally, Jury members attended various public meetings including the Board of Supervisors and the SFCTA.

ENDNOTES

- ¹ Robert Cherny, "Historical Essay", 1994
- ² SFCTA, "The Four Corridor Plan", June 1995
- ³ SFMTA, Third Street Light Rail Phase 1 + 2 Service Integration, Executive Summary, August 2010
- ⁴ <http://www.sfmta.com/cms/mcsp/cspover.htm>
- ⁵ <http://goldengatebridge.org/research/facts.php#GGBOpened>
- ⁶ SFMTA, Third Street Light Rail Phase 1 + 2, August 2010
- ⁷ LTK Engineering Services, "Review of Central Subway Alternatives Project Report," April 27, 2006
- ⁸ SFCTA – Fact Sheet, Jan. 2011
- ⁹ SFMTA, 2011 FFGA Financial Plan
- ¹⁰ A review of Muni's performance, as measured against various metrics, can be found at <http://www.sfmta.com/cms/rstd/sstdindx.htm>.
- ¹¹ SFMTA, 2011 FFGA Financial Plan
- ¹² <http://sf.streetsblog.org/2010/10/14/sfmta-reveals-breda-light-rail-vehicle-refurbished-with-federal-stimulus-funds/>
- ¹³ The actual metric uses the singular "failure." However, this Jury thinks the plural "failures" makes more sense.
- ¹⁴ For example, the rapid increase in the price of steel in the early 2000s caused a commensurate increase in the construction costs of the new Bay Bridge replacement and the new Laguna Honda Hospital. See http://articles.sfgate.com/2004-06-10/business/17429261_1_steel-price-hot-rolled-steel-steel-plate.
- ¹⁵ <http://www.sfmta.com/cms/mcsp/cspover.htm>
- ¹⁶ <http://www.sfexaminer.com/local/subway-travel-times-disputed>
- ¹⁷ <http://www.sfexaminer.com/local/transportation/2011/03/central-subway-design-moscone-center-san-francisco-called-inefficient>
- ¹⁸ <http://www.sfexaminer.com/local/transportation/2010/12/muni-renews-effort-keep-escalators-moving>
- ¹⁹ http://www.ottawa.ca/residents/public_consult/tmp/lrt/discussion_papers/floor_en.html
- ²⁰ LTK Engineering Services, "Review of Central Subway Alternatives Project Report," April 27, 2006

FINDINGS

Finding 1

The Central Subway's financial planning appears seriously flawed. Cost estimates have risen 143% from 2003 to 2011.

Finding 2

Muni has done a very poor job of meeting, or even nearing, the requirements of Proposition E.

Finding 3

Muni is not providing adequate service to its customers.

Finding 4

Muni has had financial troubles in recent years and, absent an unforeseen windfall, will continue to have financial troubles in the foreseeable future.

Finding 5

Given the current and projected state of Muni's funding, difficult times lie ahead. This will impact the agency's ability to deliver the level of performance demanded by the charter.

Finding 6

Raising passenger fares can only have a minimal impact on Muni's financial shortfalls.

Finding 7

New financial stresses are adding to Muni's already-existing financial troubles. These stresses will potentially worsen the state of Muni service.

Finding 8

Maintenance of vehicles impacts the agency's ability to provide day-to-day service. Poorly maintained vehicles have negatively affected Muni's ability to operate as many vehicles as needed to meet peak demand.

Finding 9

As a result of forcing maintenance demands to compete with other system demands, maintenance has regularly been underfunded.

Finding 10

Stripping wrecked vehicles for parts is an inefficient way to save money. It would be cheaper to repair the wrecked vehicle and buy new parts for other vehicles than to buy a completely new vehicle to replace the cannibalized one.

Finding 11

Following the manufacturer's suggested preventive maintenance program is inadequate for maintaining Muni's fleet. This inadequate preventive maintenance negatively impacts Muni's ability to properly serve its riders.

Finding 12

Mid-life overhauls are not enough to properly maintain Muni's fleet. Targeted component rebuilds are essential to their maintenance.

Finding 13

While Muni has come close to or exceeded its goals for hours of bus use between failures, it is nowhere near achieving its goal for LRV hours. These failures, some due to a lack of maintenance, are impacting Muni's ability to deliver adequate service to its customers.

Finding 14

The SFMTA's inability to recognize the obvious need to allot time to train new operators causes this Jury to lose faith in the agency's ability to efficiently manage its own projects.

Finding 15

Using the numbers supplied by SFMTA, it appears that the problem of insufficient LRV fleet size experienced during the T-Third rollout will also plague the Central Subway rollout. This will translate to either a delayed opening or further diminished service on the other LRV lines.

Finding 16

There was an 18-month delay on finishing the 3-year T-Third project. This represents a 50% delay. With a commensurate or fractional delay on the 7-year Central Subway project, it will exceed current cost and contingency projections.

Finding 17

Individuals will sometimes make poor decisions. However, a good management and implementation process will catch and correct these decisions. The SFMTA has not shown that it has corrected the internal management and implementation problems from the T-Third project which allowed poor decision-making to go undetected.

Finding 18

Though there are some differences between the T-Third project and the Central Subway project which suggest the latter might be better managed, such as federal oversight, this will be a more complex, and therefore harder to manage project.

Finding 19

The SFMTA has allocated an appropriate amount of the budget for the Central Subway project to cover contingencies and cost overruns.

Finding 20

The SFMTA is unreasonably optimistic that problems with the T-Third project will not reoccur during the Central Subway project.

Finding 21

Simply having various employees in a common organization or reporting structure does not mean that they necessarily communicate with each other.

Finding 22

Though the specific problems of interagency communication during the T-Third project can be avoided due to the creation of the SFMTA, the Central Subway's effect on a separate agency's system (BART) can pose new problems.

Finding 23

SFMTA appears to be adequately in touch with BART regarding the Central Subway project.

Finding 24

It is imperative that the SFMTA ensure that all parties involved in the technical aspects of the Central Subway project have access to a unified, official Master Plan.

Finding 25

Though it may appear pedantic for this Jury to point out incorrect factual details published by the SFMTA, the Jury sees this as a symptom of a bigger problem. The Jury finds that the lack of care in its public communications can lead to a lack of confidence in the SFMTA's ability to accurately communicate both internally and with outside entities.

Finding 26

Direct connectivity from the T-Third line to the Muni Metro will be eliminated by the Central Subway alignment.

Finding 27

If the design of the Union Square/Market Street station does not allow for future connectivity of a possible Geary LRV corridor, the SFMTA made a serious design error.

Finding 28

A route that benefits both the Chinatown community and the Financial District is preferable to one that only benefits Chinatown.

Finding 29

There does not seem to be an SFMTA plan to address the current problems on existing bus lines that travel the Stockton corridor. Presumably the quality of service will not improve between now and 2019.

Finding 30

The transfer between the Union Square/Market Street station and Powell Street station is terrible. The 1,000 foot distance is an unreasonably long transfer, especially for the elderly and disabled.

Finding 31

The "Union Square/Market Street" station is incorrectly named because it is not on Market Street.

Finding 32

The SFMTA has designed a subpar escalator system for all three underground stations because they lack redundancy.

Finding 33

It seems disingenuous that the SFMTA would point to the station design as the reason for not including moving sidewalks as they themselves designed the stations. Or, as a Central Subway manager attempted to explain, "Perceived design flaws were actually practical decisions."

Finding 34

Though designing the Central Subway for hybrid boarding gives SFMTA the benefit of uniformity of its LRV fleet, this benefit is outweighed by the long-term benefit of beginning a transformation to a system using a dedicated level-boarding vehicle.

Finding 35

With proof-of-payment as the sole method of fare collection, there is no apparent justification for mezzanines in the Central Subway stations.

Finding 36

Proof-of-payment is the preferred method of fare collection for the Central Subway.

Finding 37

The SFMTA has not established that the use of barriers for fare collection instead of proof-of-payment in the Central Subway will reduce fare evasion.

Finding 38

The SFMTA has not established that the use of barriers for fare collection provides a strong advantage in regard to giving passengers visual guidance.

RECOMMENDATIONS

Recommendation 1

Given that San Francisco is responsible for any cost overrun of the Central Subway project, SFMTA should hire an independent entity to investigate whether the \$1.578 billion budget is a realistic estimate.

Recommendation 2

SFMTA should hire an independent auditor to conduct an analysis of whether its internal goals and the requirements in Proposition E are realistic, why Muni has been unable to meet them, and what should be done to improve Muni's service levels.

Recommendation 3

Either the City and SFMTA need to increase Muni's funding, or the City and SFMTA need to lower their expectations for Muni's performance.

Recommendation 4

The SFMTA should hire an outside auditor to evaluate the potential gains in revenue brought by higher fares against the potential loss in total ridership due to such higher prices.

Recommendation 5

SFMTA should publicly explain if and when the remaining cuts to Muni service will be restored.

Recommendation 6

Maintenance should be given a higher priority in the budget than it currently is.

Recommendation 7

Muni should end its practice of cannibalizing wrecked vehicles to repair other vehicles.

Recommendation 8

The Board of Supervisors, SFCTA, and SFMTA should determine how to fund adequate preventive maintenance and a targeted component rebuild program on an ongoing basis.

Recommendation 9

SFMTA should conduct a comparison of Muni's "mean time between failures" against other cities' to gauge the impact of Muni's current maintenance practices on its fleet. It should also take into account any unique aspects of San Francisco transit that might affect its "mean time between failures."

Recommendation 10

The SFMTA should explain when it plans to hire and train new operators to ensure a smooth rollout of the Central Subway.

Recommendation 11

The SFMTA should look at the peak demand for vehicles at the time it proposes to conduct new operator training and ensure that such training will not impact its ability to meet peak LRV demand.

Recommendation 12

The SFMTA should explain what changes to the internal decision-approval processes have been put into practice to prevent the types of problems that affected the T-Third project. It should be noted that merely changing staff does not suffice to fix these problems. If such changes have yet to be made, the SFMTA should hire an external management consultant to advise it on how best to change its processes.

Recommendation 13

The SFMTA should explain how its internal communication process will facilitate cooperation and discussion between various people and agencies involved in the Central Subway project.

Recommendation 14

The SFMTA should maintain a single, unified Master Plan for the Central Subway project that can be accessed, though not changed, by all parties involved in the project.

Recommendation 15

All communications and publications regarding the Central Subway project should receive more accurate fact-checking.

Recommendation 16

The SFMTA should consider a realignment of the Central Subway which allows for a more direct connection to the Muni Metro.

Recommendation 17

The Union Square/Market Street station should be designed to allow a future Geary light rail vehicle line to access it.

Recommendation 18

The Central Subway should be redesigned to serve both the Financial District and Chinatown. If SFMTA thinks the current alignment already serves both neighborhoods, it should explain how.

Recommendation 19

The SFMTA should enact a plan to improve service on the Stockton corridor prior to completing the Central Subway.

Recommendation 20

SFMTA needs to fix the transfer between the Central Subway and Muni Metro.

Recommendation 21

SFMTA should change the name of the "Union Square/Market Street" station to simply "Union Square" for an accurate description.

Recommendation 22

SFMTA should add escalator redundancy to all stations on the Central Subway.

Recommendation 23

SFMTA should purchase dedicated level-boarding vehicles for the Central Subway.

Recommendation 24

The SFMTA should consider eliminating the mezzanines from the Central Subway station designs.

Recommendation 25

The SFMTA should conduct an analysis of whether a proof-of-payment system is preferable to its planned hybrid fare collection system for the Central Subway.

Recommendation 26

The SFMTA should redesign the Central Subway to better serve the San Francisco population.

GLOSSARY

Since its inception under Michael O'Shaughnessy, the titles given to the elements of the Four Corridors plan have changed. The general directions have remained the same, but the nomenclature has not.

Many examples can be found in this particular corridor studied by the Civil Grand Jury. It is not unusual to find varying titles used in the same year. To give a few examples, we have found: Bayshore Corridor, Bayshore/North, Bayshore/North Beach, Phase One, Phase Two, the T line, the T-Third, etc. The list is long. To present a clear narrative, the Jury decided to use the following terms:

Transit Lines

- Bayshore/North Beach Corridor
- Geary Corridor
- Van Ness Corridor
- T-Third Line
- Central Subway

Agencies

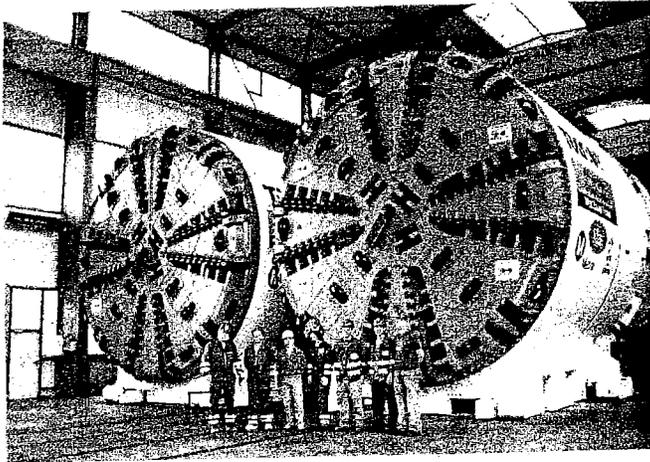
- ARRA American Recovery and Reinvestment Act
- BART Bay Area Rapid Transit
- FTA Federal Transit Administration
- SFCTA San Francisco County Transportation Authority
- SFMTA San Francisco Municipal Transportation Agency

Terms

- Schedule Adherence
 - % of time that Muni vehicles appear at stops on time.
- Headway Adherence
 - % of time that Muni vehicles are properly spaced to arrive at any given stop at regularly timed intervals.
- Scheduled Service Hours Delivered
 - % of Muni's actual delivery of service hours as compared to what is publicly scheduled.
- Level-Boarding
 - Passengers step directly from the platform onto the vehicle.
- Non-Level-Boarding
 - Passengers use stairs to enter or exit the vehicle.



Central Subway Project



The Central Subway is the second phase of the Third Street Light Rail line, which opened in 2007. The Central Subway will extend this line northward from its current terminus at 4th and King Streets to a surface station south of Bryant Street and go underground at a portal under US 101. From there it will continue north to stations at Moscone Center, Union Square—where it will provide passenger connections to the Powell Street Station and BART—and at Chinatown, where the line will terminate. The Central Subway is a project to carry nearly 73,000 passengers a day, making it the second most utilized rail project in the Federal New Starts Program.

2010 was another successful year for the Central Subway Project. In January 2010 the San Francisco Municipal Transportation Agency (SFMTA) received authorization from the Federal Transit Administration (FTA) to enter into the Final Design Phase of the project, a major milestone in the federal New Starts process. Also in January, SFMTA awarded contracts for the three Final Design contracts—tunnels, stations, and systems. Shortly thereafter, the three design teams moved into a project design office on Brannan St, where they will co-locate for the duration of their services. The first construction package—Utilities Relocation 1—for the relocation of utilities in the area near the Moscone Center and at the tunnel portal site under the Interstate-80 (I-80) Freeway, mobilized on January 4. A groundbreaking ceremony took place on February 9, 2010.

Also in February, the project once again received a medium-high rating from the FTA on its New Starts Report. The project team is now concentrating on the deliverables required for obtaining a Full Funding Grant Agreement (FFGA) from the FTA, which is scheduled for the end of 2011. One of the deliverables required for obtaining an FFGA is the full funding plan.

continued on p. 206



Left: tunnel boring machines, similar to these, will make their way beneath the city from 4th and Harrison Streets to Stockton and Clay Streets; above: Mayor Newsom at the groundbreaking ceremony for utility relocation in February, 2010; below: The San Francisco Arts Commission is conducting the Central Subway Public Arts program to place art in the subway stations, including that of Tom Otterness.



Contact Us!

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APPENDIX C

Second Quarter of 2010 Highlights
 March/April

Notice to Proceed for Final Design Station and System Contract.

California Transportation Commission awards Central Subway \$27M for high-speed rail feasibility.

Participated in the North American Tunnel Experience Poster Session.

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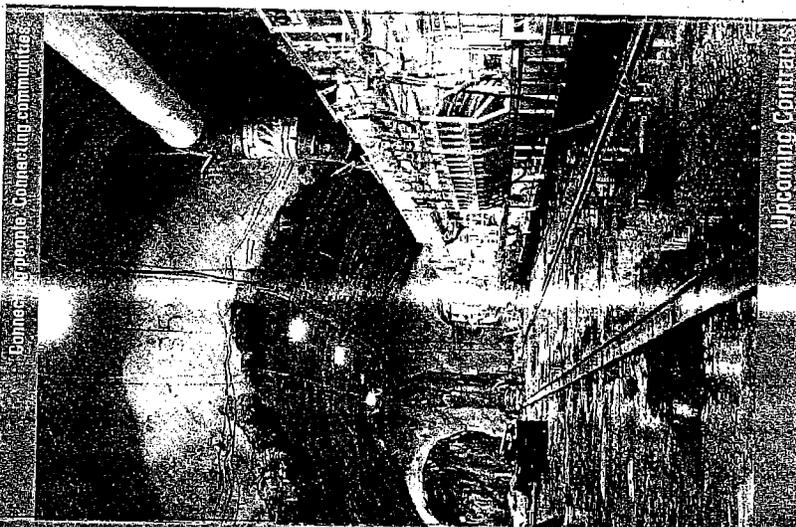
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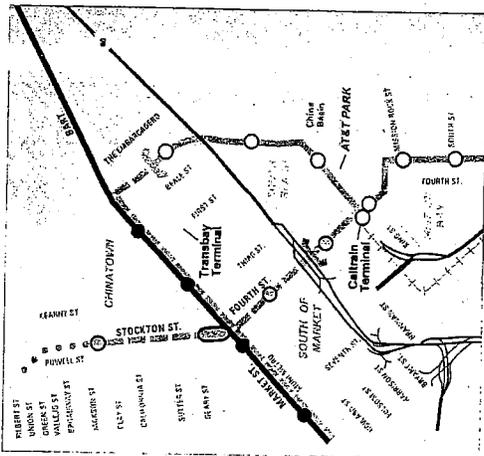
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Central Subway Route



- Legend**
- Existing T Third Alignment (Phase 1)
 - Central Subway Alignment (Phase 2)
 - Central Subway North Beach Tunnel Extension
 - Central Subway Stations
 - T Third Stations
 - BART and Mini Metro Stations
 - ||||| Caltrans
 - BART
 - Surface to Subway Portal

SFMTA | Municipal Transportation Agency

RESPONSE MATRIX

FINDINGS	RECOMMENDATIONS	RESPONSE REQUIRED
<p><u>Finding 1</u> The Central Subway's financial planning appears seriously flawed. Cost estimates have risen 143% from 2003 to 2011.</p>	<p><u>Recommendation 1</u> Given that San Francisco is responsible for any cost overrun of the Central Subway project, SFMTA should hire an independent entity to investigate whether the \$1.578 billion budget is a realistic estimate.</p>	<p>SFMTA</p>
<p><u>Finding 2</u> Muni has done a very poor job of meeting, or even nearing, the requirements of Proposition E.</p>	<p><u>Recommendation 2</u> SFMTA should hire an independent auditor to conduct an analysis of whether its internal goals and the requirements in Proposition E are realistic, why Muni has been unable to meet them, and what should be done to improve Muni's service levels.</p>	<p>SFMTA</p>
<p><u>Finding 3</u> Muni is not providing adequate service to its customers.</p>	<p><u>Recommendation 3</u> Either the City and SFMTA need to increase Muni's funding, or the City and SFMTA need to lower their expectations for Muni's performance.</p>	<p>SFMTA SFCTA Board of Supervisors Mayor</p>

<p><u>Finding 4</u> Muni has had financial troubles in recent years and, absent an unforeseen windfall, will continue to have financial troubles in the foreseeable future.</p> <p><u>Finding 5</u> Given the current and projected state of Muni's funding, difficult times lie ahead. This will impact the agency's ability to deliver the level of performance demanded by the charter.</p> <p><u>Finding 6</u> Raising passenger fares can only have a minimal impact on Muni's financial shortfalls.</p>	<p><u>Recommendation 4</u> The SFMTA should hire an outside auditor to evaluate the potential gains in revenue brought by higher fares against the potential loss in total ridership due to such higher prices.</p>	<p>SFMTA</p> <p>SFCTA</p> <p>Board of Supervisors</p> <p>Mayor</p>
<p><u>Finding 7</u> New financial stresses are adding to Muni's already-existing financial troubles. These stresses will potentially worsen the state of Muni service.</p>	<p><u>Recommendation 5</u> SFMTA should publicly explain if and when the remaining cuts to Muni service will be restored.</p>	<p>SFMTA</p>
<p><u>Finding 8</u> Maintenance of vehicles impacts the agency's ability to provide day-to-day service. Poorly maintained vehicles have negatively affected Muni's ability to operate as many vehicles as needed to meet peak demand.</p> <p><u>Finding 9</u> As a result of forcing maintenance demands to compete with other system demands, maintenance has regularly been underfunded.</p>	<p><u>Recommendation 6</u> Maintenance should be given a higher priority in the budget than it currently is.</p>	<p>SFMTA</p>
<p><u>Finding 10</u> Stripping wrecked vehicles for parts is an inefficient way to save money. It would be cheaper to repair the wrecked vehicle and buy new parts for other vehicles than to buy a completely new vehicle to replace the cannibalized one.</p>	<p><u>Recommendation 7</u> Muni should end its practice of cannibalizing wrecked vehicles to repair other vehicles.</p>	<p>SFMTA</p>

<p><u>Finding 11</u> Following the manufacturer's suggested preventive maintenance program is inadequate for maintaining Muni's fleet. This inadequate preventive maintenance negatively impacts Muni's ability to properly serve its riders.</p> <p><u>Finding 12</u> Mid-life overhauls are not enough to properly maintain Muni's fleet. Targeted component rebuilds are essential to their maintenance.</p>	<p><u>Recommendation 8</u> The Board of Supervisors, SFCTA, and SFMTA should determine how to fund adequate preventive maintenance and a targeted component rebuild program on an ongoing basis.</p>	<p>SFMTA</p> <p>SFCTA</p> <p>Board of Supervisors</p> <p>Mayor</p>
<p><u>Finding 13</u> While Muni has come close to or exceeded its goals for hours of bus use between failures, it is nowhere near achieving its goal for LRV hours. These failures, some due to a lack of maintenance, are impacting Muni's ability to deliver adequate service to its customers.</p>	<p><u>Recommendation 9</u> SFMTA should conduct a comparison of Muni's "mean time between failures" against other cities' to gauge the impact of Muni's current maintenance practices on its fleet. It should also take into account any unique aspects of San Francisco transit that might affect its "mean time between failures."</p>	<p>SFMTA</p>
<p><u>Finding 14</u> The SFMTA's inability to recognize the obvious need to allot time to train new operators causes this Jury to lose faith in the agency's ability to efficiently manage its own projects.</p>	<p><u>Recommendation 10</u> The SFMTA should explain when it plans to hire and train new operators to ensure a smooth rollout of the Central Subway.</p>	<p>SFMTA</p>
<p><u>Finding 15</u> Using the numbers supplied by SFMTA, it appears that the problem of insufficient LRV fleet size experienced during the T-Third rollout will also plague the Central Subway rollout. This will translate to either a delayed opening or further diminished service on the other LRV lines.</p>	<p><u>Recommendation 11</u> The SFMTA should look at the peak demand for vehicles at the time it proposes to conduct new operator training and ensure that such training will not impact its ability to meet peak LRV demand.</p>	<p>SFMTA</p>

<p><u>Finding 16</u> There was an 18-month delay on finishing the 3-year T-Third project. This represents a 50% delay. With a commensurate or fractional delay on the 7-year Central Subway project, it will exceed current cost and contingency projections.</p> <p><u>Finding 17</u> Individuals will sometimes make poor decisions. However, a good management and implementation process will catch and correct these decisions. The SFMTA has not shown that it has corrected the internal management and implementation problems from the T-Third project which allowed poor decision-making to go undetected.</p> <p><u>Finding 18</u> Though there are some differences between the T-Third project and the Central Subway project which suggest the latter might be better managed, such as federal oversight, this will be a more complex, and therefore harder to manage project.</p> <p><u>Finding 19</u> The SFMTA has allocated an appropriate amount of the budget for the Central Subway project to cover contingencies and cost overruns.</p> <p><u>Finding 20</u> The SFMTA is unreasonably optimistic that problems with the T-Third project will not reoccur during the Central Subway project.</p>	<p><u>Recommendation 12</u> The SFMTA should explain what changes to the internal decision-approval processes have been put into practice to prevent the types of problems that affected the T-Third project. It should be noted that merely changing staff does not suffice to fix these problems. If such changes have yet to be made, the SFMTA should hire an external management consultant to advise it on how best to change its processes.</p>	<p>SFMTA</p>
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<p><u>Finding 21</u> Simply having various employees in a common organization or reporting structure does not mean that they necessarily communicate with each other.</p> <p><u>Finding 22</u> Though the specific problems of interagency communication during the T-Third project can be avoided due to the creation of the SFMTA, the Central Subway's effect on a separate agency's system (BART) can pose new problems.</p> <p><u>Finding 23</u> SFMTA appears to be adequately in touch with BART regarding the Central Subway project.</p>	<p><u>Recommendation 13</u> The SFMTA should explain how its internal communication process will facilitate cooperation and discussion between various people and agencies involved in the Central Subway project.</p>	<p>SFMTA</p>
<p><u>Finding 24</u> It is imperative that the SFMTA ensure that all parties involved in the technical aspects of the Central Subway project have access to a unified, official Master Plan.</p>	<p><u>Recommendation 14</u> The SFMTA should maintain a single, unified Master Plan for the Central Subway project that can be accessed, though not changed, by all parties involved in the project.</p>	<p>SFMTA</p>
<p><u>Finding 25</u> Though it may appear pedantic for this Jury to point out incorrect factual details published by the SFMTA, the Jury sees this as a symptom of a bigger problem. The Jury finds that the lack of care in its public communications can lead to a lack of confidence in the SFMTA's ability to accurately communicate both internally and with outside entities.</p>	<p><u>Recommendation 15</u> All communications and publications regarding the Central Subway project should receive more accurate fact-checking.</p>	<p>SFMTA</p>

<p><u>Finding 26</u> Direct connectivity from the T-Third line to the Muni Metro will be eliminated by the Central Subway alignment.</p>	<p><u>Recommendation 16</u> The SFMTA should consider a realignment of the Central Subway which allows for a more direct connection to the Muni Metro.</p>	<p>SFMTA</p>
<p><u>Finding 27</u> If the design of the Union Square/Market Street station does not allow for future connectivity of a possible Geary LRV corridor, the SFMTA made a serious design error.</p>	<p><u>Recommendation 17</u> The Union Square/Market Street station should be designed to allow a future Geary light rail vehicle line to access it.</p>	<p>SFMTA</p>
<p><u>Finding 28</u> A route that benefits both the Chinatown community and the Financial District is preferable to one that only benefits Chinatown.</p>	<p><u>Recommendation 18</u> The Central Subway should be redesigned to serve both the Financial District and Chinatown. If SFMTA thinks the current alignment already serves both neighborhoods, it should explain how.</p>	<p>SFMTA</p>
<p><u>Finding 29</u> There does not seem to be an SFMTA plan to address the current problems on existing bus lines that travel the Stockton corridor. Presumably the quality of service will not improve between now and 2019.</p>	<p><u>Recommendation 19</u> The SFMTA should enact a plan to improve service on the Stockton corridor prior to completing the Central Subway.</p>	<p>SFMTA</p>
<p><u>Finding 30</u> The transfer between the Union Square/Market Street station and Powell Street station is terrible. The 1,000 foot distance is an unreasonably long transfer, especially for the elderly and disabled.</p>	<p><u>Recommendation 20</u> SFMTA needs to fix the transfer between the Central Subway and Muni Metro.</p>	<p>SFMTA</p>

<p><u>Finding 31</u> The "Union Square/Market Street" station is incorrectly named because it is not on Market Street.</p>	<p><u>Recommendation 21</u> SFMTA should change the name of the "Union Square/Market Street" station to simply "Union Square" for an accurate description.</p>	<p>SFMTA</p>
<p><u>Finding 32</u> The SFMTA has designed a subpar escalator system for all three underground stations because they lack redundancy.</p>	<p><u>Recommendation 22</u> SFMTA should add escalator redundancy to all stations on the Central Subway.</p>	<p>SFMTA</p>
<p><u>Finding 33</u> It seems disingenuous that the SFMTA would point to the station design as the reason for not including moving sidewalks as they themselves designed the stations. Or, as a Central Subway manager attempted to explain, "Perceived design flaws were actually practical decisions."</p>		<p>SFMTA</p>
<p><u>Finding 34</u> Though designing the Central Subway for hybrid boarding gives SFMTA the benefit of uniformity of its LRV fleet, this benefit is outweighed by the long-term benefit of beginning a transformation to a system using a dedicated level-boarding vehicle.</p>	<p><u>Recommendation 23</u> SFMTA should purchase dedicated level-boarding vehicles for the Central Subway.</p>	<p>SFMTA</p>
<p><u>Finding 35</u> With proof-of-payment as the sole method of fare collection, there is no apparent justification for mezzanines in the Central Subway stations.</p>	<p><u>Recommendation 24</u> The SFMTA should consider eliminating the mezzanines from the Central Subway station designs.</p>	<p>SFMTA</p>

<p><u>Finding 36</u> Proof-of-payment is the preferred method of fare collection for the Central Subway.</p> <p><u>Finding 37</u> The SFMTA has not established that the use of barriers for fare collection instead of proof-of-payment in the Central Subway will reduce fare evasion.</p> <p><u>Finding 38</u> The SFMTA has not established that the use of barriers for fare collection provides a strong advantage in regard to giving passengers visual guidance.</p>	<p><u>Recommendation 25</u> The SFMTA should conduct an analysis of whether a proof-of-payment system is preferable to its planned hybrid fare collection system for the Central Subway.</p>	<p>SFMTA</p>
	<p><u>Recommendation 26</u> The SFMTA should redesign the Central Subway to better serve the San Francisco population.</p>	<p>SFMTA</p>

