



MTA

Municipal Transportation Agency

Proposition E: Municipal Transportation Quality Review

July 1, 2002 – June 30, 2004

SUMMARY REPORT

INTRODUCTION

On November 2, 1999, the voters of San Francisco overwhelmingly approved Proposition E, instituting the most substantial structural, administrative, and financial reforms in Muni history. Recognizing the City's dependence on public transit and its need for efficient and reliable transit service that can compete with the private automobile, the drafters of the initiative sought to strengthen the San Francisco's Transit First policy by restructuring how it provides and administers transportation and parking services.

Proposition E (now Article VIII A of the San Francisco City Charter) created the Municipal Transportation Agency (MTA), combining the responsibility for street operation (Department of Parking and Traffic) with the dominant "user" of the streets – Muni. Article VIII A also established service standards and accountability measures, and required an independent, biennial quality review of transit operations. This document summarizes the findings of the second independent review of Muni's performance since the passage of Proposition E.

PROPOSITION E SERVICE STANDARDS

The service standards (or performance measures) adopted under Proposition E provide MTA and Muni management with information that helps shape decisions and policies. They are an important tool to help Muni become a world-class transit service. The service standards measure Muni performance in the following five areas:

- | | |
|--------------------------------|---------------------------------|
| A. System Reliability | D. Customer Service |
| B. System Performance | E. Employee Satisfaction |
| C. Staffing Performance | |

While Proposition E specifically stated the method of measurement and goals for several of the service standards, it allowed the MTA Board to determine methods of measurement and goals for most. Section 8A.104 of the City Charter also allows the MTA Board to vote to amend any of the service standards (after holding a public hearing on any such amendments).

Muni's Citizen's Advisory Committee (CAC) and the MTA Board review Muni's performance quarterly, and review the definitions of measurement, methods of measurement and the goals for each of the service standards annually.¹

AN INDEPENDENT TRANSPORTATION QUALITY REVIEW

The biennial Transportation Quality Review mandated by Proposition E provides yet another tool that Muni can use to continue to improve its performance. This review of Muni's performance during fiscal years 2003 and 2004 (July 1, 2002-June 30, 2004) has been conducted with the following goals in mind:

- Provide independent verification to the public that Muni is on track by auditing Muni's data collection and analysis procedures.
- Help Muni assess its progress toward the goals and objectives of Proposition E.
- Evaluate Muni's established goals and performance against the letter and intent of Proposition E.
- Assess whether specific implementation goals and methods and definitions of measurement are appropriate or could be improved.
- Recommend action plans for enhancing performance in areas where there may be some deficiency.

The FY2003-2004 Transportation Quality Review consists of four main elements:

- **Data review and verification of performance** – Auditors reviewed Muni's FY2003 and FY2004 Service Standards Reports to verify that data were collected according to the definitions and methods of measurement specified by the MTA and that reported service standards were computed correctly. Systematic spot checks of original source data and of automated tracking systems and procedures were used to determine the accuracy of reported service standards.

¹ Muni publishes quarterly Service Standards Reports which include a description of each of the service standards and a summary of Muni's performance. (These reports are available to the public via Muni's web site – www.sfmuni.com/cms/rptpub/sstdindx.htm.)

- **Trends analysis** – Auditors reviewed trends in data and performance achievement over the two-year audit period, as well as unaudited data and performance from fiscal years 2005 and 2006.
- **Auditor recommendations and action plans** – Auditor recommendations focus on ways to further refine or improve performance reporting to make it more relevant to the MTA, Muni management, and the public. Action plans and next steps were also suggested, which are similar in nature to auditors' more general recommendations, but focus on ways to improve performance or make reporting more accurate and relevant, particularly for those service standards where Muni has had difficulty meeting its performance goals. Both the recommendations and action plans were reviewed with Muni staff to ensure that all recommendations were in line with current budget and resource constraints.
- **Documentation and communication of results** – This report card summarizes the results of the review. A comprehensive transportation quality review report has also been prepared.

FY2003-2004 PERFORMANCE SUMMARY

Overall, Muni has made progress fulfilling its Proposition E mandate, though has fallen short on some key measures of service delivery. Highlights from the FY2003-2004 performance review:

- **Data were recorded and reported accurately.** Auditors found that nearly all data were accurately recorded and reported, and that reports were made available to the public and reviewed with the Citizens' Advisory Committee (CAC) and MTA Board quarterly. The one exception is accident data, and Muni staff had already started to implement a plan to rectify historical data from before April 2004.
- **Performance has generally improved since the previous audit, but has plateaued for measures of reliability.** Performance for many measures met or exceeded the more stringent goals for fiscal years 2003 and 2004, although some areas have resisted improvement, in particular for service reliability. These areas will need specific attention in order to achieve established goals.

RELIABILITY

Concerns with reliability are at the core of Proposition E. Reliability is listed first among the characteristics of a transit system that San Francisco residents require, and is the subject of the two performance measures specifically mandated by Proposition E: delivery of 98.5 percent of all scheduled service, of which 85 percent is on-time. Reliability is a complicated concept that has several dimensions that are influenced by many factors, six of which are reported in the Proposition E Service Standards Reports.

During FY2003 and FY2004, Muni’s performance for these measures of reliability largely improved, with the exception of the two measures of on-time performance (headway and schedule adherence), which have plateaued since gains realized in FY2002. However, though performance has stayed about the same for these two key measures of reliability, their corresponding goals increased aggressively over the audit period, from 70 to 75 percent on-time in FY2003, and then to an 85 percent on-time goal for FY2004. In relation to these goals, Muni’s on-time performance has declined.

Recommendations

If Muni is ever to meet this aggressive on-time performance goal, it must develop a specific action plan for improving reliability that is based on a more detailed diagnosis of the problem than this level of data can provide. Improving terminal management, avoiding removing vehicles from service and better matching scheduled time points to street conditions will all play a role in enhancing reliability. Muni’s Transit Effectiveness Project (TEP) is currently addressing reliability issues and is expected to result in several initiatives aimed at improving on-time performance. Until those initiatives have been implemented the current target of 85% on-time performance should remain.

In addition, Muni should develop a system for utilizing NextBus to collect data for Proposition E on-time reporting. Muni currently has the capability to collect, tabulate, and report all arrivals at schedule timepoints for the cable car, light rail, and trolley coach fleets. Using this automated data collection tool would free some Muni data collection staff for other types of data collection or additional data analysis.

On-time performance			
Measure	How measured	Goal	Achievement
Schedule adherence	Percent of vehicles that run on time according to published schedules.	85%	✘
Headway adherence	Percent of vehicles that are within 30% or 10 minutes of scheduled headway (whichever is lower)	85%	✘

Service delivery			
Measure	How measured	Goal	Achievement
Delivered service	Percent of scheduled service hours that are delivered; operator availability	98.5%	✘
Unscheduled absences	Unscheduled absences by operator and mechanical personnel.	Annual 5% reduction for maintenance staff, 10% reduction for operators	✘
Vehicle availability	Percent vehicle availability	Greater than 98.5% vehicle availability	✓
Miles between vehicle failure	Increase miles between roadcalls	Increase miles between roadcalls	✓

✚ = Goal Achieved ✘ = Goal Not Achieved ✓ = Goal Partially Achieved

CROWDING

Muni measures crowding two ways: passenger load factor and pass-ups. Passenger load factor is a measure of how crowded Muni vehicles are during the peak period. Pass-ups occur when vehicles are so crowded that they pass stops without being able to pick up passengers. During FY2003 and FY2004, Muni’s performance for passenger load has not met its standard; about 15% of routes exceeded Muni’s load standard. This crowding has not, however, resulted in numerous pass-ups—Muni exceeded its pass-up goal both years.

Crowding			
Measure	How measured	Goal	Achievement
Passenger load factor	Peak period passenger load factors.	Less than 85% total capacity filled	✘
Pass-ups	Percent of vehicles that pass stops unable to pick up passengers due to crowding without being followed within 3 minutes or less by another vehicle on the same route with space for all waiting passengers.	Less than 5%	+

⊕ = Goal Achieved ✘ = Goal Not Achieved ✓ = Goal Partially Achieved

Recommendations

Muni action to improve reliability will partially address concerns with passenger load by spreading the load among vehicles more evenly (because improving reliability means that vehicles will stay more evenly spaced). This is only a partial solution; service planning changes and additional service hours may be necessary to achieve Muni’s load standards on some routes, and these possibilities are being comprehensively considered as part of the Transit Effectiveness Project.

SYSTEM PERFORMANCE

Muni has three measures of its system performance: ridership, fare revenue, and whether or not it adheres to its budget. During FY2003 and FY2004, Muni stayed on budget, and nearly achieved its goals for the two closely related measures of ridership and fare revenue.

System Performance			
Measure	How measured	Goal	Achievement
Ridership	224 million passenger boardings per year	1.5% increase over prior year	✓
Fare revenues	FY2003: \$110M	1.5% increase over prior year	✘

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Recommendations

Two small recommendations have been made to refine current measures of system performance. The first is for Muni to use mode share goals to set ridership growth goals. The second is for Muni to report farebox recovery ratio data in addition to fare revenue and average fare per passenger.

In addition to these recommendations, three new measures have been recommended. These will help Muni more effectively assess how well Muni resources are utilized, how efficiently service is provided, how effectively transportation demand is met, and how well the agency is administered. The recommended additional system performance measures are:

- **Gross speed** – Muni’s speed by mode is a crucial aspect of Muni’s performance. A relatively gross measure has been recommended that has limitations, but is easily calculated and is a useful indicator of speed that will reflect, over the long-term, the effectiveness of steps that Muni takes to improve or defend the speed of its service.
- **Productivity** – the number of passengers carried per service hour – is an important measure that indicates how well the system is being utilized. Increasing ridership is one of Muni’s goals, as is carrying those passengers as cost effectively as possible.

- **Cost effectiveness** – Cost effectiveness, the cost to provide each passenger trip, is a bottom line measure of how effectively Muni provides service, and removes the effect of average fare (so it is a much more comparable measure than subsidy per passenger). Cost effectiveness is also easily calculated using existing data; annual operating budget is divided by annual ridership.

It has also been recommended that Muni consider two related Action Plans: developing speed standards and goals for its different types of service, and to develop a new service classification that would allow Muni to develop more sophisticated standards that are tailored to the different types of service that it offers. Speed standards provide a means for all responsible departments to manage transit speed in the City. Maintaining speed standards will also help Muni avoid the need to add more and more service hours and resources into the system just to maintain existing schedules.

MUNI CUSTOMER EXPERIENCE

In addition to reliability and crowding, two measures of service delivery, Muni currently has four other indicators for the customer experience: safety, crime incidents (security), passenger service reports (as a proxy for customer satisfaction), and customer information. Preliminary safety data (pending an internal audit of safety data to rectify reporting problems during the audit period) indicate that Muni did not achieve a 5% reduction in accidents. The number of crime incidents fell by 9.7% in FY2003, but fell just short of the 5% reduction goal in FY2004. For passenger service reports (PSRs), Muni has experienced at least a 10% reduction. For public notification, Muni did develop and implement annual plans to improve rider information, fulfilling the goal.

Customer Experience			
	How measured	Goal	Achievement
Safety	A) Number of accidents	A) 5% reduction in accidents	✘
	B) Total amount of driver training per year	B) 50,000 hours of driver training per year	+
Crime incidents	Number of crime incidents on Muni vehicles or in Muni facilities	5% reduction from previous year	✓
Passenger service reports	10% reduction of passenger service reports (PSRs) annually	10% reduction of PSRs annually	+
Public notification	Improve passenger information for vehicle delays and system changes	Develop and implement a plan to improve passenger information	+

+ = Goal Achieved
 ✘ = Goal Not Achieved
 ✓ = Goal Partially Achieved

Recommendations

Several recommendations have been made to improve measurement of the customer experience. These include:

- **Refine safety measure by reporting different types of safety data in terms of incidents per 100,000 vehicle miles (including non-revenue miles).** The rate of accidents by type is much more meaningful and comparable over time than the absolute number of accidents. Reporting on the rate of all types of incidents, and breaking them down by type (e.g., major vs. non-major) and division, will increase accountability and help identify problem areas.
- **Measure the effectiveness of safety training rather than the amount.** The amount of training is not as important as how well it is targeted and how effectively it reduces overall accident rates. Muni should track the accident rate of the 10% of operators with the highest accident rates to help Muni effectively target its training, as well as track its effectiveness. If training is effective, then the accident rate of operators with the highest accident rates will fall.
- **Refine reporting of crime data.** Similarly, crime data is more meaningful over time if different types of incidents are reported as both a rate (per 100,000 passenger trips) and an absolute number. Muni should report the different types of crimes; felonious crimes are different than those that affect our quality of life, and those are different than fare evasion. Muni already tracks this data separately, and reporting it separately would make this measure more useful.
- **Improve measure of customer information.** Improving the amount and quality of information available to Muni riders, as well as the ease with which it can be accessed, is a worthy goal for the organization. However, simply developing a plan and implementing it, as specified by the current measure, does not effectively measure improvements in customer information. Because customers get information from Muni in so many ways, its amount and quality is difficult to measure. The percent of all passenger boardings that have real time transit vehicle arrival information is recommended as a proxy for customer information because it is easy to quantify and is one of the most important types of customer information. This could be complemented by a question about customer perceptions of Muni information, ease of use, and legibility in its annual rider survey.

In addition to these refinements to the current measures, several additional measures have been recommended. These include:

- **Operator courtesy.** Operator courtesy is a major factor in the Muni customer interface and Muni should attempt to measure it directly. Ideally, this would be measured in two ways: using Muni's annual rider survey to gauge rider's perception of operator courtesy, and complementing that with a "mystery rider" program that would evaluate operator courtesy on transit vehicles.
- **Cleanliness.** At present, Muni does not report on, as required by Proposition E, "vehicle cleanliness, including absence of graffiti." Muni should develop measures for cleanliness and graffiti, and then report them in its Service Standards Reports. One possible measure of cleanliness and graffiti is the percent of all vehicles that pull out that have any issues with graffiti and, as a separate measure, any issues with cleanliness. These measures should be complemented by measuring rider's perceptions of Muni cleanliness using Muni's annual rider survey.
- **Use the annual customer survey to replace the number of passenger service reports as a measure of customer satisfaction.** Passenger service reports (PSRs) are a poor metric for operator courtesy and customer satisfaction because so many subjective elements are involved in their reporting. The number of PSRs is not directly linked to customer satisfaction, and the numbers are incomparable from year to year as it becomes easier to log PSRs (as cell phones and email become more ubiquitous). Muni's annual customer survey (a statistically valid survey conducted annually by a professional independent surveying firm) would be a more effective measure of overall customer satisfaction.

EMPLOYEE SATISFACTION AND MANAGEMENT

Employee satisfaction and sound management are crucial ingredients to achieving other Proposition E goals. In addition to influencing overall system performance, these also affect customer service; dissatisfied employees are less likely to provide exceptional service. In FY2003 and FY2004, Muni exceeded or nearly achieved its goals for these measures, with two notable exceptions: attrition rates and non-operator employee training.

Staffing			
	How measured	Goal	Achievement
Net vacancies by position	Vacancies remaining once promotions and new hires have been deducted from retirees or resignations for each division	Less than 5% vacancy rate	✘

Employee satisfaction			
	How measured	Goal	Achievement
Number of grievances	Quarterly grievance report	Quarterly grievance report	+
Speed of resolution of grievances	Resolve 75% of internal grievances within 30 days	Resolve 75% of internal grievances within 30 days	✓
Operator conduct complaints	75% of all Passenger Service Reports resolved in 30 days	75% of all Passenger Service Reports resolved in 30 days	+
Longevity of employment	Annual report of longevity of employment	Annual report of longevity of employment	+
Attrition rates	For new employees, by division and level	Less than 10%	✘
Employee recognition	Annual achievement of honorees in a number of programs	Annual achievement of honorees in a number of programs	Partially complete data

Training			
	How measured	Goal	Achievement
Employee education and training opportunities	Provide 50,000 annual hours of employee training or approximately 20 hours per full time employee	Provide approximately 20 hours per full time employee	✘

⊕ = Goal Achieved ✘ = Goal Not Achieved ✓ = Goal Partially Achieved

Recommendations

Measures of employee satisfaction and management are will help Muni meet its most crucial organizational goals, and it is recommended that Muni revamp this area to more effectively measure its performance. The first recommendation is to eliminate some measures that are do not measure Muni performance so much as confirm that Muni is performing two basic organizational tasks: employee recognition and the amount of employee training. Muni will recognize its employees as a matter of course and has well-established employee recognition programs.

For employee training, simply measuring the amount of training does not indicate anything about its performance. More important is for Muni to address real training deficiencies in non-operator employee training. An action plan has been suggested for Muni to develop a training group that would be responsible for providing internal training, so Muni would have the means to provide training and thereby increase the effectiveness of some of its organizational initiatives.

The second recommendation is to replace two measures – net vacancies by position and attrition rates – with more effective measures of staffing. Maintaining appropriate staffing levels is crucial for Muni to achieve its goals, but the number of budgeted positions is not necessarily a reflection of appropriate staffing levels. The on-going Muni Transit Effectiveness Project (TEP) will complete a benchmarking analysis that will establish appropriate staffing levels for major functions, and may identify more appropriate staffing levels for major functions, and may suggest improved measures for staffing.

As a measure of employee job satisfaction, attrition rate is not as effective as Muni's employee survey, a high quality survey conducted by an independent outside firm.

As evidenced by faulty calculations of attrition data in previous years, there are numerous difficulties in gathering, analyzing, and reporting attrition data. This new measure would report (annually) the results of the following questions from the Muni employee survey:

- Generally, how would you rate your overall satisfaction with your job?
- How would you rate your working relationship with your manager/supervisor?
- How proud are you of the work you do for Muni?

COMPLETION OF REQUIRED TASKS

Current performance standards require Muni to report on the completion of three tasks:

- Annual passenger and employee survey
- Marketing plan
- Schedule publication

These are unique performance measures, and do not measure quality or consequence of these tasks because they measure only completion. During FY2003 and FY2004, Muni did conduct its required annual surveys and developed a marketing plan. It did not print a timetable, but did make all schedule information available via the regional 511 service.

Organization Tasks		
	Goal	Achievement
Annual passenger and employee survey	Conduct a rider survey and an employee survey	+
Marketing plan	Develop marketing plan that will promote increased patronage by January 1 of each fiscal year	+
Schedule publication	Publish a complete timetable during each fiscal year	✓

+ = Goal Achieved **×** = Goal Not Achieved **✓** = Goal Partially Achieved

Recommendations

It is recommended that Muni eliminate these three service standard measures since they are not a measure of performance. This does not reduce the need to complete these tasks, but rather, suggests that successfully completing these tasks will influence other performance measures.

CONCLUSION

Muni has continued its persistent efforts to improve its performance, and implemented several recommendations from the previous audit in FY2005. Despite these efforts, Muni did not meet important service reliability targets, especially on-time performance. The on-going Transit Effectiveness Project (TEP) will work together with this quality review to comprehensively evaluate how Muni can more effectively provide service and meet its goals.

The majority of auditor recommendations as part of this quality review emphasize changes to the service standards and their reporting that would make the information they provide more useful and meaningful to Muni staff, the MTA Board, the CAC and the public. The full Proposition E Municipal Transportation Quality Review Report fully details Muni's performance under each of the service standards and includes all auditor recommendations and action plans.

