

**CITY AND COUNTY OF SAN FRANCISCO
BOARD OF SUPERVISORS
BUDGET AND LEGISLATIVE ANALYST**

1390 Market Street, Suite 1150, San Francisco, CA 94102
(415) 552-9292 FAX (415) 252-0461

Policy Analysis Report

To: Supervisor Brown
From: Budget and Legislative Analyst's Office
Re: Transit Operator Staffing Shortages at the San Francisco Municipal Transportation Agency and the Twin Peaks Tunnel Closure
Date: December 5, 2018



Summary of Requested Action

Your office requested that we analyze Transit Operator staffing and training deficits at the San Francisco Municipal Transportation Agency (SFMTA) that may be impacting public transit service levels and schedules. You asked that we identify major factors affecting such shortages and their impact on transit system riders. You requested an assessment of absenteeism and vacancies how they compare to expected levels and how SFMTA has planned for and addressed these factors to minimize transit service impacts.

Considering the context of Transit Operator staffing deficits, you requested that we assess the impact of the Twin Peaks tunnel closure in 2018 and how its anticipated effects on service levels were planned for by SFMTA and communicated to the public and the Board of Supervisors.

Executive Summary

- The San Francisco Municipal Transportation Agency (SFMTA) has a structural Transit Operator staffing deficit. According to our independent analysis of SFMTA staffing data, as of October 2018, there were 2,557 Transit Operators on staff. The Agency reported they required 2,305 employees to be available to fully staff all planned transit service during that month. After adjusting for actual absenteeism of 663 positions, there were 1,894 full-time Transit Operator equivalent positions actually available for scheduled trains and buses. The result is an operating deficit of 411 positions, or 17.8 percent. A shortfall of this nature has been in place since at least September 2016, though the gap has increased since March 2018, increasing from 13.7 percent in March to 17.8 percent in October 2018.

Memo to Supervisor Brown
December 5, 2018

Exhibit A shows the gap in Transit Operator staffing for October 2018.

Exhibit A: Total demand for Transit Operators compared to actual Transit Operators on staff, October 2018

Total Transit Operators needed	2,305
Total Transit Operators on staff	2,557
Actual Transit Operators absenteeism	663
Actual absenteeism rate	25.9%
Actual Transit Operators available	1,894
Transit Operator surplus/deficit	411
Transit Operator surplus/deficit %	-17.8%

- SFMTA's Transit Operator staffing level includes positions to cover those who are on leave such as vacation, sick leave, jury duty, or other forms of leave. The Agency currently assigns approximately 20 percent of total drivers to "extra board" status (Transit Operators who are deployed to cover absentee shifts on an as-needed basis but do not have a fixed route assignment). However, actual absenteeism has been higher, on average, than the percentage of extra board operators available on any given day in most months since September 2016. In October 2018, for example, as shown in Exhibit A above, actual absenteeism was 25.9 percent.
- The gap between Transit Operators on staff and the Agency's planned service level results in a need for staff to perform extra shifts through overtime or gaps in service through missed runs.
- The Transit Operator staffing gap does not appear to be ending soon as the applicant pool for Transit Operator positions has been on the decline in recent years. There were 4,055 applicants for Transit Operator positions in 2014, for example, but only 2,135 so far in 2018. The Agency has taken steps such as lengthening the application period and shortening the time between applications being accepted and civil service examinations, but the trend has not changed. In fact, there has been an increase in the number of applicants invited to take the civil service examination who do not show up. Amongst those that have passed the exam, there has been an increase in the percentage of those who do not respond, or turn down, hiring offers.
- SFMTA records show there are a number of applicants who drop out as they are advanced to the various stages of testing, fulfilling hiring requirements, and training after being hired. Notably, a number of hired Transit Operators have left the Agency

Memo to Supervisor Brown
December 5, 2018

during their first year on the job. For example, 46 new hires out of 490 training graduates between September 2015 and April 2018 left their positions within their first year on the job, or 9.4 percent.

- In summary, the Agency is challenged to close its staffing gap due to a shrinking pool of applicants for Transit Operator positions and the number of applicants who drop out of the application and/or training process or leave their positions in the first year after hiring. When comparing new hires to normal turnover, there were 524 hires between November 2015 and October 2018 and 498 separations during the same period, resulting in a net gain of only 26 positions.
- Factors such as Transit Operator wages, an economic climate offering more job opportunities elsewhere, the high cost of housing in San Francisco relative to Transit Operator wages, and an unfavorable working environment at the Agency for Transit Operators have been cited by some Transit Operators and others as possible factors leading to the decline in applicants.

Twin Peaks tunnel closure

- In the context of SFMTA's Transit Operator staffing gap, the closure of the Twin Peaks tunnel in the summer of 2018 for a major construction project presented challenges.
- During the approximately two month closure of the Twin Peaks tunnel, SFMTA had to provide alternative service to light rail passengers on lines that normally use the tunnel (the K, L, and M lines). To do so, the Agency diverted a number of Transit Operators from their normal runs on some of the system's busier lines to provide alternative temporary service to the directly affected passengers. Agency management made the decision to take Transit Operators from busier lines with short headways to minimize adverse impacts on passengers on those lines. Though this arrangement would mean longer waits and more crowded buses on those lines, the Agency concluded that longer headways would not be as bad as they would be on less busy lines with already longer headways.
- Actual hours of MUNI service dropped during the summer of 2018 not just for light rail lines that normally use the Twin Peaks tunnel, but for all modes of service since Transit Operators were diverted from other lines throughout the system. Further, some additional Transit Operators were not available to provide service due to additional training being provided during the period of the tunnel closure to prepare them for new light rail vehicle equipment that was rolled out around the same time. This resulted in a further diminution of service throughout the system. SFMTA management did move some of the planned training to the period before and after the tunnel closure to reduce the impact on service during the tunnel closure period.
- SFMTA conducted an extensive outreach and communications program in advance of and during the Twin Peaks tunnel closure so that passengers and businesses directly affected by the closure were aware of it and the alternative transit services available

Memo to Supervisor Brown
December 5, 2018

during the closure. The Agency's efforts included website and media announcements, signage and paper announcements, staff "ambassadors" at stations and in business districts affected by the closure to provide assistance, and an active social media presence. SFMTA reports that information was provided to all members of the Board of Supervisors about the project and the affected lines.

- The communications campaign did not include a targeted approach of providing information to passengers on the lines from which Transit Operators were diverted to provide alternative service to replace service that normally uses the closed tunnel. Passengers on these other lines did not have information in advance about how their lines might be affected such as less frequent service and more crowded buses.
- As with the information provided to passengers, materials provided to the Board of Supervisors did not include information about the lines and passengers whose service was going to be indirectly negatively impacted by the project. This aspect of the communications plan likely explains why many passengers reportedly were caught unaware when the level of service on their transit lines declined during the tunnel closure.

Policy Options

Based on our review of the data provided by SFMTA, and our interviews with SFMTA personnel, we recommend the following steps for the Board of Supervisors to consider to improve SFMTA driver recruitment and retention, and to insure the future ability of SFMTA to meet its transit service goals.

The Board of Supervisors could recommend the following.

1. SFMTA, in collaboration with TWU 250A, should conduct a study of the current national labor shortages in the transportation and public transit industry. This study will review difficulties other locales are experiencing in recruiting and retaining qualified drivers; and assess the success of various strategies adopted to allow local transit agencies to reach hiring goals.
2. SFMTA should consider changes in Transit Operators' hourly wages using adjusted cost of living indexes that more accurately reflect the real cost of living in the Bay Area. In particular, wage levels need to reflect long-term trends in the cost of housing, child care, and long-distance commuting costs in order to enhance the attractiveness of SFMTA transit employment.
3. SFMTA should increase the starting pay to a higher percentage of the top step hourly rate as necessary to address recruitment and retention issues. In addition, SFMTA should reduce the time taken for new hires to reach the top-tier hourly wage rate in an effort to reduce separation rates for recent hires that have successfully obtained a Class B license.

Memo to Supervisor Brown
December 5, 2018

4. SFMTA, in partnership with the Mayor's Office of Economic and Workforce Development, should enter into negotiations with City College of San Francisco to establish a free course to prepare eligible applicants to pass the DMV Class B permit test.
5. SFMTA should conduct a comprehensive review of Agency-wide planning process to insure that hiring and staffing goals are fully integrated with the provision of necessary training resources. This includes insuring that long-term hiring plans will be supported by a sufficient number of qualified trainers, availability of training vehicles, and properly dedicated training facilities.
6. SFMTA needs to insure that operational costs and long-term staffing needs are factored into the Agency's overall budgeting process. Management should conduct a comprehensive review of whether current capital expenditure strategies are the most cost efficient ways to improve transit service, and assess the tradeoffs between current commitments to more expensive large-scale capital projects and light rail investments relative to bus route service increases and improvements; and determine the degree to which capital-intensive projects are placing pressure on the Agency's operating budgets.

Memo to Supervisor Brown
December 5, 2018

I. Introduction

We were asked to investigate the causes and consequences of Muni Transit Operator staffing and training deficits. Our office conducted a review of San Francisco Municipal Transportation Agency (SFMTA) staffing data; recent recruitment and training efforts; causes of separations during and after initial training; and MTA success in meeting planned service delivery targets over the last three years. The conclusions presented below are based on our review of this evidence, as well as interviews conducted with representatives from SFMTA management, and two focus groups conducted with a small number of Transit Operators. Our principle conclusions are the following.

One, MUNI has structural Transit Operator staffing deficits. Given recent trends related to hiring, retention and separations from active employment, we would expect these deficits to worsen in the coming period. While these deficits appear to be manageable at present, as they have not yet created serious impairments in the ability to deliver scheduled service under normal conditions, there is evidence that current staffing levels leave the system increasingly vulnerable to disruptions when faced with major construction projects and General Sign-Up training periods, and will, if not addressed, result in recurrent service delivery deficits.¹

Second, the ability to attract, recruit, and train Transit Operators is limited by multiple factors, some of which are, from the vantage point of management, non-discretionary, while some are subject to remedial improvement. Key non-discretionary factors include tight conditions in the Bay Area labor market; housing costs that may be limiting the pool of potential applications; and certain inherent features of Transit Operators' on-the-job employment that may limit the desirability of the job to otherwise eligible candidates.

Discretionary factors subject to corrective action by management includes current wage rates; the 5-year period that it currently takes before employees to reach the top hourly wage rate; and the overall state of labor-management relations. A key finding from our focus groups with Transit Operators is perceptions by at least some workers of poor treatment by management, and the impression that management is disinterested in engaging in genuine dialogue with Transit Operators regarding ways to improve transit service that explicitly recognizes and seeks to incorporate Transit Operators' on-the-ground experience and knowledge. While the focus groups were small and did not necessarily represent the opinions of all Transit Operators, the prevalence of these perceptions among Transit Operators should be further assessed by SFMTA management.

Third, current inefficiencies that may impact the training process are not the primary source of staffing deficits. While there is a fairly high rate of separation during training, the majority of these separations

¹ General Sign-Up occurs every two years, and is part of the contractual agreement with the union representing transit workers, TWU 250A, that allows operators to request reassignment between divisions, training on a different "rubber tire" vehicle (for instance, shifting from 40 ft. to 60 ft. vehicles), or to shift between operating modes – for instance, from bus to light rail or cable car service. Eligibility for transfer and re-training is determined on seniority basis.

Memo to Supervisor Brown
December 5, 2018

are due to the inability of recruits to satisfactorily pass the tests required to advance through the 8 week training sequence. Without extensive prior screening of applications, there may not be any straightforward means to remedy this deficit. Specific factors that could improve the efficiency and quality of the training process include better overall coordination between SFMTA's human resources, transit, and training divisions; increasing the number of qualified trainers; increasing the reliability of the stock of vehicles needed to conduct on-road training; and creation of a dedicated training facility.

Fourth, we find evidence of some deterioration in service delivery that appears to be independent of the Twin Peaks tunnel closure. While MUNI has generally met, or exceeded, the Agency's stated service delivery target of 98.5% in the period prior to December 2017, the period since shows evidence of a slight decline as service levels have failed to recover to desired levels in the months following the reopening of the Twin Peaks tunnel. It is too early to determine if this is indicative of a longer-term trend. However, Transit Operator deficits appear to be worsening, and recent open application periods have failed to yield a sufficient number of qualified candidates to increase workforce capacity to levels that would insure optimum service delivery, much less allow the Agency to expand transit services. Our conclusion is the system is currently vulnerable to service disruption due to unplanned stresses stemming from factors such as major construction, disruptions associated with General Sign Up training periods, and longer-term inability to attract sufficient numbers of new employees to address projected workforce attrition.

II. Summary overview of the hiring and training process for Muni Transit Operators

The recruitment, hiring and training process for Muni Transit Operators occurs through a series of stages each of which may serve as a potential point at which applicants may be disqualified from eligibility for further advancement, or may decide to voluntarily withdraw from pursuing permanent MTA employment. The recruitment and hiring process consists of the following four phases.

Phase one is the initial application during which the prospective candidate is applying to take the civil service exam in order to qualify for potential employment. To be deemed eligible to take the civil service exam, the candidate must meet the following criteria:

- 21 years of age
- High school graduate or GED holder
- Customer service experience (1 yr)
- Experience as a licensed driver (any license – 3 years)
- Good driving record (3 years)
- Pass conviction history (level of conviction review is the same as a school bus driver)
- Obtain a Class B permit prior to hiring/training

Memo to Supervisor Brown
December 5, 2018

Phase Two is where prospective candidates for training and employment are required to take and pass the civil service examination, which SFMTA will arrange some number of days after the close of the open application process.

In Phase Three, candidates that have taken and passed the civil service exam are “referred” or invited to the Training class. At this point, the candidate is given instructions to provide further documentation and is scheduled by SFMTA for a medical examination at San Francisco General Hospital (SFGH). All candidates that pass the medical exam are then required to obtain a Class B Permit (DMV requires prospective candidates to provide proof of having passed the medical exam before they will issue the permit). Candidates that pass the Class B permit test can move forward in the hiring process with a final driving record review, conviction history review, and drug testing. Once these requirements have been cleared, the candidate is hired and sent to a training class.

Phase Four is the 8 week training class during which applicants will qualify to receive a Class B driver license. Candidates that have successfully cleared all the requirements and are hired as new Transit Operators are sent to training class for both behind the wheel and classroom training. At about the 8th week, those with Class B permits are tested for the Class B license. After nine weeks, training is complete, and new Transit Operators are now given their reporting assignments (all new assignments are in bus divisions). We note that the vast majority of new hires are assigned to “extra board” which refers to full-time drivers who are on call and must be available as needed for temporary route assignment to backfill for Transit Operators when they are on leave.

Data on recruitment and hiring

Table 1 presents the various points in the outreach, application, testing and hiring process where SFMTA is experiencing particular barriers to increasing the pool of qualified trainees. Column 3 in Table 1 shows the total number of applications that were received for each recruitment period, while column 4 shows the number of days the application was posted on the City job portal website. As shown, a very significant decline in the total number of applications has occurred since 2012. In part, this is due to the fact that in 2014, 2015, 2016, and 2018, MTA had two open application periods, as opposed to one each in 2011 and 2012. However, by reviewing the total number of applicants by fiscal year, we find a generally downward trend can be seen, with a total of 4,055 persons applying in calendar year 2014, 2,830 in 2015, 1,832 in 2016, and a slight increase to 2,135 in 2018. While the time period is insufficient to establish a clear trend, SFMTA data discussed further below indicates that SFMTA is not attracting sufficient numbers of applicants to replace, much less expand, the current workforce.

Equally striking is the fact that the sharp decrease in the number of applicants has coincided with a significant lengthening of the posting period by SFMTA to encourage more applicants. As seen in Column 4 of Table 1, the average number of days the posting is open on the City’s jobs portal website has increased from 7 to 20 days over the last eleven open application periods. The longer application window has not had any evident effect in offsetting the decline in the pool of initial job applicants. In addition, SFMTA has sought to reduce applicant attrition by reducing the length of time between candidates’

Memo to Supervisor Brown
December 5, 2018

initial screening acceptance and the civil service exam from 49 days in 2011 to 27 days in the most recent application process in 2018 (column 6).

Table 1: Application and Initial Recruitment

1	2	3	4	5	6
Start Date	End Date	# of Applicants	Days Posted	Civil Service Exam Dates	Days to Civil Service exam
2/10/2011	2/16/2011	2,472	7	April, 6	49
5/25/2012	6/1/2012	2,828	8	Aug, 13,	73
3/12/2014	3/14/2014	2,389	3	June, 5	83
9/29/2014	10/3/2014	1,666	5	Dec. 15	73
4/21/2015	4/27/2015	1,602	7	June, 26	60
11/9/2015	11/20/2015	1,228	12	January, 22	63
6/13/2016	6/24/2016	1,003	12	August, 31	68
11/7/2016	11/21/2016	829	15	December, 16	25
7/21/2017	8/4/2017	1,081	15	September, 1	28
1/22/2018	2/9/2018	1,035	19	March, 5	22
9/20/2018	10/9/2018	1,100	20	November, 5	27

Source: SFMTA

As seen in Table 2 below, the percentage of applicants invited to take the civil service examination has risen from under half to nearly all those who passed the initial screening during the open application period (Column 3). The actual number of applicants that took the exam has nevertheless fallen (Column 4), due to the smaller size of the total application pool (Column 1) and the increase in the percentage of no-shows (column 6). In an apparent attempt to reduce applicant attrition in the interval between being invited to take the examination and the time of actually taking the exam, SFMTA has significantly accelerated this stage of the initial recruitment process, with the number of days to the exam falling from averages of 60-80 days between 2011 and 2016 to 22-28 in the last four recruitment periods. Despite this attempt to reduce attrition of the applicant pool by accelerating the testing process, the actual number of examinees (column 4) has failed to recover to prior levels. The net effect is seen in columns 7 and 8, which displays the number and percentage of the initial pool of applicants that take and pass the civil service exam and thus are designated as eligible to enter into the subsequent phase of the hiring process where they must undergo a medical exam and acquire a Class B permit.

Memo to Supervisor Brown
December 5, 2018

Table 2: Attrition during initial recruitment, 2011 – 2018

	1	2	3	4	5	6	7	8
Open application date	# of Applicants	Invited To Exam	% invited	# of Exam Takers	Days to exam	% No Show	Number of Eligible after exam	Elig as % applicants
2/10/2011	2,472	1,122	45.4%	886	49	21%	729	29%
5/25/2012	2,828	1,181	41.8%	993	73	16%	816	29%
3/12/2014	2,389	1,233	51.6%	958	83	22%	680	28%
9/29/2014	1,666	782	46.9%	628	73	20%	306	18%
4/21/2015	1,602	815	50.9%	682	60	16%	358	22%
11/9/2015	1,228	611	49.8%	487	63	20%	243	20%
6/13/2016	1,003	430	42.9%	332	68	23%	194	19%
11/7/2016	829	801	96.6%	439	25	45%	256	31%
7/21/2017	1,081	1,042	96.4%	565	28	46%	381	35%
1/22/2018	1,035	993	95.9%	527	22	47%	357	34%
9/20/2018	1,100	1,054	95.8%	496	27	53%	TBD	TBD

Source: SFMTA

Table 3 below provides data on the number of eligible applicants that are actually hired and authorized to enter into the MTA 8-week Transit Operator training class from a shorter time period: between 2015 and 2018 only. It can be seen that of applications deemed eligible (column 2), a smaller percentage of these individuals are actually hired and sent to training (column 4). Columns 5 and 6 show the percentage of those that take the civil service exam and total applicants that are eventually hired and referred to training. In both cases, a decline has occurred, indicating that SFMTA is not meeting its recruitment goals despite the lengthening of the application period, the significant increase in the percentage of applicants who are invited to take the exam and a reduction in the interval between screening of initial applications and invitations to take the civil service exam.

Examining the reason given for the decline in the percentage of eligible candidates that are actually referred for training (column 4), there is no evidence of any significant trend or increase in the percentage of individuals that are disqualified for failure to pass the medical exam, or for failure to obtain a Class B permit from the DMV (Column 7). By contrast, the percentage of eligible applicants that decline to enter training, or do not respond to the MTA offer, has risen (columns 10 through 14). We conclude this is the most significant change in applicants' responses that explains the increased difficulty MTA appears to be experiencing in meeting its staffing goals.

Memo to Supervisor Brown
 December 5, 2018

Table 3: Data on Hiring of Eligible Candidates (passed initial qualifications and CS exam)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Posting Start Date	Number of Eligible	HIRED	% HIRED from Eligs	% HIRED from Test Takers	% HIRED from Applicants	% disqual for medical or No B	% Disqual other	total % disqualified	Dedine /Refusal	% of Dedines from Elig	No Response	% of No Responses from Elig	% dedines and no response
11/9/2015	243	124	51%	25%	10%	26%	1%	27%	22	9%	33	14%	23%
6/13/2016	194	100	52%	30%	10%	29%	6%	35%	11	6%	23	12%	18%
11/7/2016	256	86	34%	20%	10%	22%	2%	25%	87	34%	24	9%	43%
7/21/2017	381	137	36%	24%	13%	14%	3%	17%	106	28%	79	21%	49%
1/22/2018	357	77	22%	15%	7%	26%	9%	35%	29	8%	148	41%	50%

Source: SFMTA

SFMTA management has confirmed the agency is experiencing significant problems attracting new applicants to drive MUNI buses. SFMTA’s Human Resources management reports that efforts have been made to broaden outreach and recruitment of a larger pool of applicants through social media and web-based outreach channels. According to management personnel, these efforts failed to yield any significant increase in interest or applications to become MUNI Transit Operators. At present, the primary means through which SFMTA announces job openings is on their website, and though the City and County jobs portal. There are currently no targeted outreach and publicity efforts through which SFMTA is seeking to increase recruitment of qualified Transit Operators.

Management pointed to several factors that create additional obstacles to increasing recruitment and training of qualified operators. For one, applicants that meet the initial qualifications and pass the civil service exam may not pass the medical exam. Common reasons are body mass index (BMI)² in excess of the upper limit allowed to operators of Class B driver permits; and related problems such as sleep apnea that are deemed to create potential risks that lead to disqualification from the recruitment and training process. In addition, management indicated they believe that failure to obtain a Class B permit is a major cause of the insufficient number of eligible candidates ultimately qualifying to enter into the 8-week training process.

SFMTA reports and data presented below confirm that the agency has a gap between actual Transit Operator staffing and needed Transit Operator staffing to provide its planned service level. To meet its hiring and ongoing staffing needs, SFMTA clearly will need to find ways to increase the initial pool of qualified applicants. This may prove challenging for the following reasons.

For one, the various criteria that applicants need to satisfy to advance through the hiring sequence will continue to result in a relatively high rate of disqualification of applicants from eligibility to participate in the 8 week training process. The 3 year clean driving record requirement was mentioned as a possible factor limiting the potential pool of applicants. In addition, long-standing issues such as ineligibility for health reasons, and failure to pass the Class B permit test, are likely to continue to result in significant numbers of applicants being disqualified at various stages of the recruitment and training process.

² A measure of body fat based on height and weight.

Memo to Supervisor Brown
December 5, 2018

Second, overall conditions in the regional labor market can limit the ability to increase worker recruitment during periods of low unemployment. Labor shortages are typically associated with increased employment options, including the rate and frequency of alternative job offers. Strong labor demand will similarly favor the ability of employees to negotiate for higher wages. While employment as a Transit Operator at SFMTA offers a relatively high wage given the level of educational qualifications required to obtain employment (high school graduate or GED equivalent), effective hourly wages at SFMTA have failed to keep pace with the rate of inflation over the last several years. This has resulted in a decline in real hourly wages of 2.3% through the end of FY 2017-2018, as seen Table 4. Combined with low unemployment, and the attendant greater ease in finding alternative sources of employment, this is a structural factor that will likely continue to impede SFMTA's ability to increase the future pool of potential applicants.

Table 4: Transport Workers Union 250A real wages, FY14-15 through FY 17-18

Fiscal Year	Wage increase	Increase in employee pension share	Effective wage increase	CPI (FY)	Real wage (+/-)
FY 14-15	1.75%		1.75%	2.75%	-1.00%
FY 15-16	1.50		1.50		
10/10/2015	3.18	-2.5	0.68		
Total FY15-16 increase			2.18	2.75	-0.57
FY16-17	1.50		1.50		
10/8/2016	3.16	-2.5	0.66		
1/14/2017	3.16	-2.5	0.66		
Total FY 16-17 increase			2.82	3.4	-0.58
FY17-18	3.00%			3.15%	-0.15%
Cumulative (FY 14-15 through FY 17-18)					-2.3%

Source: TWU 250A MOU; TWU 250A website; Bureau of Labor Statistics

Recruitment problems related to stagnant real wages are compounded by the fact that new MUNI Transit Operators do not reach the top tier pay scale until completing five years of satisfactory service. The top step hourly wage rate as of July 1, 2018 is \$36.03. New Transit Operators begin at 63% of top step hourly pay, and progress by 9.25% in each subsequent year of satisfactory service. For new hires, this translates into an hourly wage rate of \$22.70, and an annual gross (pre-tax) wage rate of \$47,213. Assuming the baseline marginal tax rate of 22% on a single earner reporting this level of gross annual income, the effective take-home pay per year for new TWU 250A employees is \$36,826. Transit Operators and SFMTA HR management both identified the low percentage of the top step pay earned in the first year, and the current five year progression ladder, as barriers to increasing recruitment. Transit Operators and HR also indicated they believe this is a factor that accounts for worker voluntary separations in the first several years of employment (see below). The combination of tight labor market conditions and rising hourly wages typically observed during mid-to late stages of economic expansions,

Memo to Supervisor Brown
December 5, 2018

which have prevailed during recent open application periods, suggests that SFMTA may need to offer higher base wages and various compensatory concessions to attract and retain adequately qualified workers if the Agency wants to be fully staffed, much less have the workforce that will allow the Agency to increase the level of available transit service.

Third, some Transit Operators and some SFMTA management representatives interviewed for this report have indicated that Transit Operators are frustrated by the inability to get vacations, and the difficulty in getting days off as needed to care for children and/or aging parents. Coupled with lack of control over scheduling during initial period of employment, during which new operators work on an on-call (extra board) basis, and certain inherent rigidities that pertain to on-the-job time usage (e.g. the inability to take phone calls while on-duty, difficulties managing bathroom breaks, etc.) may represent additional obstacles to increasing the number of qualified applicants as needed to meet desired service objectives.

Fourth, while MUNI workers are, by national standards, fairly well-paid relative to counterparts in other municipal and county transit districts, current wage rates are insufficient to allow employees to negotiate the San Francisco housing market. A significant portion – at least 45 percent, according to data provided by SFMTA - of Transit Operators reside outside San Francisco. Long commutes may be an additional factor limiting the ability of SFMTA to attract a sufficient number of qualified applicants, given that workers will factor in the cost and time of transportation as a factor in assessing the overall desirability of prospective employment.

Finally, the primary referral channel for Transit Operators appears to be word of mouth and social and professional networks, as well as potential applicants checking the City Job Board. Data from the recent recruitment cycles is shown in Table 5. Of all person that applied during the open application period, 34.7% of these applicants reported finding out about the position through a City employee (13.1%), City email notification (8.4%), a friend/relative (21.6%), or through posting by “friends” on Facebook (4.9%), which we here include as part of these individual’s social network. An additional 26.5% of applicants reported finding out of the position through the City Job Board. It seems reasonable to surmise that some percentage of these individuals may check the City job listing site due to information or suggestions provided by family, friends, or acquaintances. This indicates that upwards of approximately 74.5% of applicants most likely heard about the job, and/or were encouraged to apply by persons in their social networks. By contrast, only 9% of applicants found out about the job announcement through a non-City job-related online website.

Memo to Supervisor Brown
December 5, 2018

Table 5: Referral sources for recruitments 9/20/18 through 10/9/18

Type	Count	%
City Job Board/JobAps	292	26.50%
Friend/Relative	238	21.60%
City Employee	144	13.10%
City Employee Email Notification	92	8.40%
Indeed.com	90	8.20%
Other	78	7.10%
SFMTA Info Session	65	5.90%
Facebook	54	4.90%
City Phone Job Hotline/SFMTA Job Hotline	20	1.80%
Bulletin Board (SFMTA) - 1 SVN, 6th Floor	8	0.70%
Job Fair	7	0.60%
Glassdoor.com	5	0.50%
LinkedIn.com	3	0.30%
Board of Supervisors	3	0.30%
Bulletin Board (DHR) - 1 SVN, 4th Floor	1	0.10%
Twitter	0	0.00%
Total	1100	100%
Likely referral through social network	820	74.50%

Source: SFMTA

MUNI will remain dependent upon employee recommendations as a primary source of referral and recruitment. Perceptions of treatment by SFMTA management by a limited number of current Transit Operators interviewed for this report is not encouraging in this regard. Based on these employees' representations, current employees may be unlikely to convey positive impressions of SFMTA to members of their social networks.

Our focus groups conducted with Transit Operators (9 drivers in two focus group)s revealed perceptions of unfair treatment by management, arbitrary rule enforcement, and complaints of excessive disciplinary actions taken under the assumptions Transit Operators are "guilty as accused" prior to evaluation of available evidence. There is also little confidence among focus group participants that the labor-management consultation process is taken seriously by management, or used as a means to attempt to integrate workers on-the-ground experience and knowledge to devise means to improve transit service or improve the work environment. All the Transit Operators that participated in the focus groups described management's approach to workers as top-down, excessively concerned with punitive discipline, characterized by opaque decision-making processes, and showing little interest in mutual consultation. While the focus groups were with a small number of Transit Operators relative to the entire workforce and may not be representative of all Transit Operators, given SFMTA's continued

Memo to Supervisor Brown
December 5, 2018

reliance on referrals from current employees to recruit qualified applicants, the state of labor-management relations identified by these Transit Operators should be further reviewed by SFMTA management to ensure that, if they are widespread, they can be corrected and will not place a drag on future SFMTA recruitment efforts.

III. Operator Retention During and After Training

1. Separation during training

Our review of data provided by SFMTA's HR division indicates that MUNI loses a significant number of potential Transit Operators during the training process, and that the Agency is also suffering from loss of staff in the several years after completing training. While this factor is a less significant source of staffing deficits, the data is indicative of additional problems that impair the Agency's ability to retain an adequately qualified workforce sufficient to meet its planned service level.

As shown in Table 6, the targeted number of trainees over the last three years (corresponding to 23 training classes in total) was 762. MUNI fell short of this number by 82, as the total number of actual trainees was 684. Of the total persons hired and offered training, 15 of these individuals did not report for training. Of those that did enter the eight week training class, 117 were released for various reasons during the training process. Of those that entered but did not complete the training, 20 resigned on their own accord, six were released for disciplinary reasons ("Released-D") and the other 91 that experienced separation are reported as "Released - ND", which refer to employees that are released during the training for various unspecified non-disciplinary reasons, the most common of which is inability to progress through the necessary stages of the training process.

SFMTA staff reports there is no way to determine, prior to an otherwise qualified applicant entering into in-vehicle, on-the-road training, whether they will be able to successfully transition to driving a 40-60 ft. vehicle that has demands that are very different than ordinary driving. In addition, some trainees may fail to pass the training written exams, of which there are 25-30 administered over approximately 40 full-time training days.

Table 6: Total all Trainings Between 9/14/2015 and 7/16/2018 (23 classes total)

<u>Totals</u>	<u>Number</u>	<u>Reason for Separation during Training</u>	
Class Size Goal	762	Released-Disciplinary	6
Actual Class Size	684	Released-Non-Disciplinary	91
Graduates	567	Satisfactory Resignation	<u>20</u>
Training Release	117		117
Never Reported	15		

Source: SFMTA

Memo to Supervisor Brown
December 5, 2018

2. Separation post-graduation

Following graduation from training in recent years, there has been a significant rate of separation of Transit Operators during their first year of active service. As seen in Table 7, for all graduates that entered into active service between September 14, 2014 and April 12, 2018, the majority of separations, 46 or 75.4% of the 61 total separations reported over this period, occurred in the first year after entry into regular employment.

Table7: Post-graduate separations, graduating between 9/14/2015 through 4/12/2018

Graduates	Within first year	Year 1- 2	Year 2-3	Total Grads Separations
490	46	12	3	61

Source: SFMTA

The workforce attrition of 61 total workers represents a 12.4% loss of newly trained workforce for those that completed training between November 2015 and April 2018. The percentage of graduates who leave active service in the first year is therefore 9.4 percent. We conclude that MUNI has a high first year separation rate, most of which is due to employees deciding to voluntarily leave employment. We believe this may be indicative of problems within the workplace, as identified in our focus groups with a limited number of MUNI Transit Operators and review of prior summaries of interviews and discussion with MUNI operators reported in the 2006 Transit Effectiveness Briefing book (see below for additional discussion of these points). Table 8 provides the circumstances for the 46 employees who separated from SFMTA in their first year of employment as Transit Operators.

Table 8: First Year Separations for Graduates between 11/24/2015 and 4/12/2018

	Total Graduates	Accept CS or MTA	Released - D	Released - ND	Satisfactory Resignation	Unsatisfactory	Total
Totals	490	4	3	18	20	1	46
Percentage		0.82%	0.61%	3.67%	4.08%	0.20%	9.39%

Source: SFMTA

Our discussions with SFMTA employees involved in training of light rail and bus Transit Operators identified several issues that could be addressed to improve the quality and efficacy of the training process. When asked about a proposal to shorten training time for operators on LRV4 from 54 to 50 hours, and from 6 days to 5 days, training staff did not agree that either change was advisable as a general practice, or would result in any meaningful improvement in the efficiency of the LRV4 training process.³ We also asked about suggestions to shorten training times by reducing by half the training time spent with certified Transportation Safety Institute instructors (TSI), and to shift this portion of instruction to be provided by “expert operators”. All individuals present rejected this suggestion in

³ LRV4 is a new light rail vehicle being put into service in 2018.

Memo to Supervisor Brown
December 5, 2018

unequivocal terms. There was uniform agreement that shortening training times would result in lower quality instruction, and could result in increased accidents due to drivers being prematurely placed into active service. It was pointed out in our discussions with heads of training sub-departments (rail and rubber tire) that the term “expert operators” referred to individuals with very strong performance records, and that while these individuals were highly qualified and skilled Transit Operators, good Transit Operators do not necessarily make good instructors. We note there are differing opinions on this issue, as some SFMTA representatives support the use of expert operators to supplement the certified core trainers.

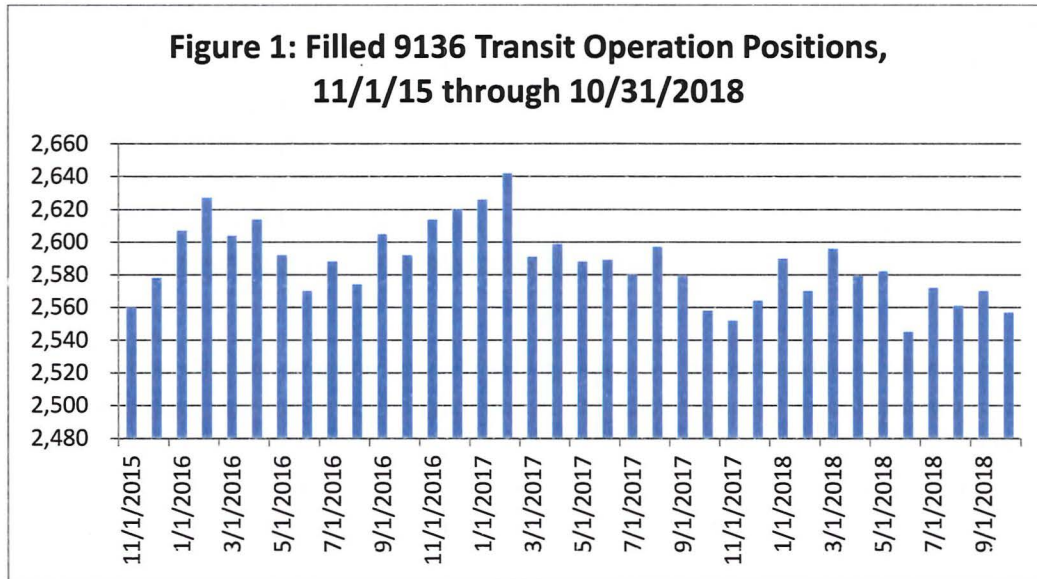
Improvement could be more readily achieved by insuring SFMTA is planning to identify and allocate sufficient resources to support future training needs. An overarching concern that was expressed, and that also surfaced in discussions with members of TWU 250A, is a perception of significant deficiencies in regards to longer-term assessment of the resources needed to meet future service targets. In addition, there needs to be better coordination between the various divisions and sub-divisions of the Agency. If the Agency is successful in expanding the future workforce, the training division believes it will be necessary to provide them with sufficient resources to meet longer-term goals related to future service. At the present time, the training division is managing to train the applicants that qualify to enter the 8 week initial Transit Operator training program. However, this may not be possible if SFMTA wants to expand the level of available public transit. To support any planned increase in total workforce, the training division believes the Agency will need to increase the number of qualified instructors, as failure to do so could lead to bottlenecks in the training process and increase attrition rates amongst new recruits.

Finally, the training division reported they do not, at the present time, have sufficient staffing resources to provide the full scope of training identified as optimal for improving the skill levels and qualifications of current Transit Operators. Some Transit Operators may benefit from additional instruction on accident avoidance, or from participation in Professional Operator Development Classes (PODC). The effect is that ongoing instruction is not being offered at levels insufficient to insure optimal qualification of the Agency’s current workforce.

IV. Size of Force, Turnover, and Net Change in Transit Operators

Figures 1 and 2 provide a summary of the variation in the total Transit Operator workforce. There has been virtually no net change in the total Transit Operation workforce over the last three years. On October 31, 2015, SFMTA had a total of 2,560 Transit Operators in current employment. By October 2018, the number had fallen to 2,557, or a net loss of three Transit Operators. To provide more frequent service, SFMTA will need to hire and retain more Transit Operators than at present. It is clear that the Agency is nowhere near meeting the intended recruitment and hiring goals needed to provide increased future service, as current recruitment efforts are at best providing approximately enough new employees to replace separating employees each year.

Memo to Supervisor Brown
December 5, 2018

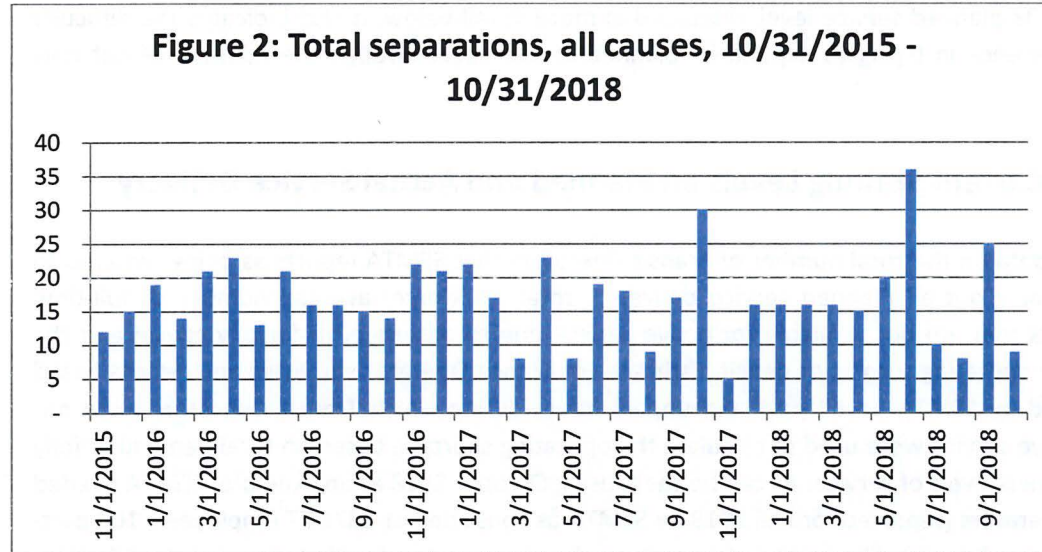


Source: SFMTA

Figure 2 shows total turnover, or the number of Transit Operators who underwent separation from employment for all causes between October 31, 2015 and October 31, 2018, or over a three year period. Table 9 reports the reason given for Transit Operator separations over the last three years for licensed (post-graduation) employees only (this number excludes separations of trainees). This includes promotion, shift or transfer due to disability, transfer, terminations, employee resignations, and retirements. The major reason for turnover, or loss of Transit Operators, is service retirement, employee resignation, disability transfer, and movement into a new job classification within SFMTA. The largest number of separations is due to retirement (178). This is followed by employee quits, or “satisfactory resignations” (109). An additional 90 Transit Operators left active employment to accept employment in a different civil service or SFMTA job classification, and 35 individuals left service due to disability. We note that of the total 605 operators (both licensed operators and trainees) who left active service during this period, SFMTA reported that 27 non-probationary employees that had passed probation were fired over the last three years, and 3 employees on probation were released for disciplinary reasons.

Overall, reduction in force due to turnover of existing employees and trainees has ranged from 7.7% for the period between November 2015 and October 2016, 8.2% for November 2016 to October 2017, and 7.5% for the same period ending on October 31, 2018. This loss of force is compensated to some degree by new hires that complete training and enter into active service, movement of employees back into operator positions due to ADA re-transfers, and the reversion caused by employees not passing probation when placed into new (non-Transit Operator) job classes.

Memo to Supervisor Brown
December 5, 2018



Source: SFMTA

Table 9. Transit Operator Separations (licensed post-graduate employees only)

Reason for separation	11/30/17 - 10/31/18	11/30/16 - 10/31/17	11/30/15 - 10/31/16	Total
Accept Civil Service Position	8	7	13	28
Accept MTA Position	19	18	9	46
Accept Temp Appt-MTA	2	14		16
Death	5	2	6	13
Disability Retire	0	1	0	1
Disability Transfer-Civil Service	2	0	0	2
Disability Transfer-MTA	4	18	10	32
Dismissal/Term	8	9	10	27
Medical Release	3	0	8	11
Released-Discipline	1	1	1	3
Released-Non-discipline	3	11	9	23
Satisfactory Resignation	31	37	41	109
Unsatisfactory Resignation	4	3	2	9
Service Retirement	67	58	53	178
TOTAL	157	179	162	498

Source: SFMTA

As discussed earlier in this report, SFMTA's recruiting and hiring process from November 2015 through January 2018 resulted in the hiring of 534 Transit Operators, or just slightly more than the 498 separations for the same period (see Table 3 earlier in this report for hiring data). This is another indication of the difficulty SFMTA will have in eliminating its gap between actual staffing and needed

Memo to Supervisor Brown
December 5, 2018

staffing to meet its planned service level, discussed in more detail below. It also indicates the difficulty SFMTA will experience in trying to expand its planned service level through the addition of net new positions.

V. Impact of Current Staffing Levels on Planned and Actual Service Delivery

Table 10 shows data on the total number of Transit Operators that SFMTA reports as being required to fully staff and carry out all planned service delivery; total workforce; average number of full-time Transit Operators that are not available for active service due to absenteeism for any cause; and the average monthly operating surplus or deficit. Estimates of Transit Operator surpluses and deficits based on data reported by SFMTA on all paid and unpaid hours during which Transit Operators were not available for active service were used to calculate the operating shortage based on total demand at fully operational planned levels of service. As can be seen, using October 2018 as an example, SFMTA needed 2,305 Transit Operators (reported for Fall 2018 by SFMTA as consisting of 1821 FT employees, 100 part-time, and 385 extra boards). The total number of employees reported for that month is 2,557. After accounting for actual absenteeism, only 1,894 of this total workforce were available on average throughout the month of October 2018 for active service. This resulted in a staffing deficit equivalent to 411 FTEs or an approximate 17.8 percent total staffing deficit.⁴ To the extent the needed 411 FTEs could not be filled by overtime, the staffing deficit represents planned service not provided, or missed runs.

SFMTA plans for an average rate of absenteeism of 20 percent on any given day for all leave except long-term leave. As shown in Table 10, actual absenteeism, including long-term leave, has exceeded 20 percent for all of the periods reported. For October 2018, for example, actual absenteeism amounted to 25.9 percent of available staff hours.

Table 10a: Total demand, total workforce, and operating deficits, October 2018 only

Total Transit Operators needed	2,305
Total Transit Operators on staff	2,557
Actual Transit Operators absenteeism	663
Actual absenteeism rate	25.9%
Actual Transit Operators available	1,894
Transit Operator surplus/deficit	411
Transit Operator surplus/deficit %	-17.8%

⁴ We note that the percentage staffing deficit numbers are estimates, as opposed to exact percentages, given that some percentage (generally a fairly small percentage) of Transit Operators is composed of part-time employees. Calculating the actual hours needed to fill all planned service, and comparing this to actual hours available on a monthly basis, would require a far more detailed an in-depth analysis that could not have been completed in the time frame allocated to this report.

Memo to Supervisor Brown
December 5, 2018

Table 10b: Total demand, total workforce, and operating deficits

	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17
Total Transit Operators needed	2310	2310	2310	2310	2310	2310	2310	2310	2310
Total Transit Operators on staff	2,605	2,592	2,614	2,620	2,626	2,642	2,591	2,599	2,588
Operator shortage (MTA)	342	339	339	343	320	303	308	336	329
Actual Transit Operators absenteeism (BLA)	530	538	483	569	544	454	569	544	570
Actual Transit Operators available (BLA)	2,075	2,054	2,131	2,051	2,082	2,188	2,022	2,055	2,018
Transit Operator surplus/deficit (BLA)	-235	-256	-179	-259	-228	-122	-288	-255	-292
Transit Operators surplus/deficit % (BLA)	-10.19%	-11.09%	-7.76%	-11.20%	-9.89%	-5.29%	-12.45%	-11.05%	-12.64%
Transit Operator surplus/deficit (% MTA)	-8.44%	-7.23%	-7.88%	-7.49%	-7.62%	-6.06%	-5.89%	-6.32%	-5.71%

	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18
Total Transit Operators needed	2310	2281	2281	2286	2286	2286	2286	2286	2287
Total Transit Operators on staff	2,589	2,580	2,597	2,579	2,558	2,552	2,564	2,590	2,570
Operator shortage (MTA)	350	349	350	359	350	317	320	326	323
Actual Transit Operators absenteeism (BLA)	617	591	632	582	631	528	577	593	533
Actual Transit Operators available (BLA)	1,972	1,989	1,965	1,997	1,927	2,024	1,987	1,997	2,037
Transit Operator surplus/deficit (BLA)	-338	-292	-316	-289	-359	-262	-299	-289	-250
Transit Operators surplus/deficit % (BLA)	-14.63%	-12.81%	-13.84%	-12.65%	-15.72%	-11.48%	-13.09%	-12.63%	-10.94%
Transit Operator surplus/deficit (% MTA)	-6.45%	-6.44%	-7.01%	-7.31%	-7.57%	-5.34%	-4.90%	-6.56%	-6.60%

	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
Total Transit Operators needed	2287	2287	2287	2324	2267	2267	2305	2305
Total Transit Operators on staff	2,596	2,579	2,582	2,545	2,572	2,561	2,570	2,557
Operator shortage (MTA)	342	370	376	379	373	310	273	
Actual Transit Operators absenteeism (BLA)	622	612	648	673	672	643	598	663
Actual Transit Operators available (BLA)	1,974	1,967	1,934	1,872	1,900	1,918	1,972	1,894
Transit Operator surplus/deficit (BLA)	-313	-320	-353	-452	-367	-349	-333	-411
Transit Operators surplus/deficit % (BLA)	-13.70%	-14.00%	-15.45%	-19.46%	-16.20%	-15.41%	-14.44%	-17.82%
Transit Operator surplus/deficit (% MTA)	-7.87%	-8.61%	-8.88%	-9.77%	-8.82%	-6.88%	-9.76%	-11%

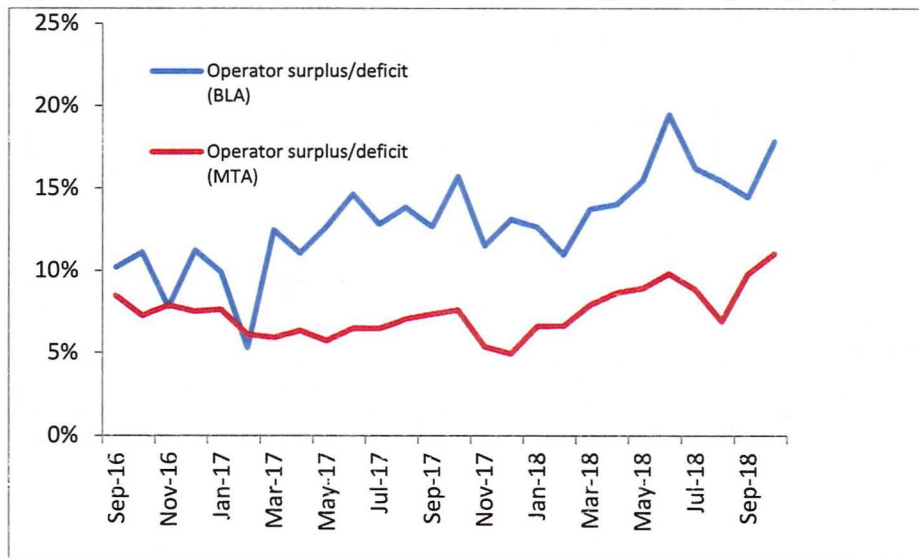
Source: SFMTA and BLA calculations

Figure 3 shows two data series that provide a picture of current structural staffing deficits confronting SFMTA. In response to our information request, SFMTA provided their estimate of the total monthly Transit Operator shortage, shown in Figure 3 as Operator surplus/deficit (MTA). The percentage of Transit Operator shortage is the Agency’s estimate of the staffing deficit based on MTA’s estimate of total Transit Operators actually available for active service in the given month relative to the number of Transit Operators who would be needed to fully staff all scheduled service. We were not provided with more detailed data that would allow us to evaluate how these numbers were derived. We have also calculated an independent estimate of the monthly staffing deficit, shown in Table 10, based on the actual payroll data on hours lost per month to absenteeism for all causes. To derive this number (BLA), we calculated the number of FTEs that are, on average, unavailable for service in each month due to absenteeism. We then subtracted this number of FTEs from the total Transit Operator workforce (assuming all current Transit Operators work full time), and compared this adjusted estimate to the total labor demand, or number of Transit Operators SFMTA reports are required to provide all scheduled

Memo to Supervisor Brown
December 5, 2018

transit services.⁵ Both series show evidence of a worsening trend in the percentage of uncovered service needs – the decline is more striking in the BLA estimate.⁶

Figure 3: Operator need, and estimated staffing deficits (in %), by month



Source: SFMTA and BLA calculations

Figure 4 plots the FTE base operating deficit and overtime usage expressed as number of FTEs. The “FTE base operating deficit” is the number of deficit FTE positions, or the FTEs that need to be covered to compensate for reductions in available workforce due to absenteeism for each reported month.⁷ Both series are shown as positive values - the increased staffing deficit, is displayed as a rise in total number of deficit FTEs. We have also calculated the FTEs for the monthly overtime hours reported by SFMTA.

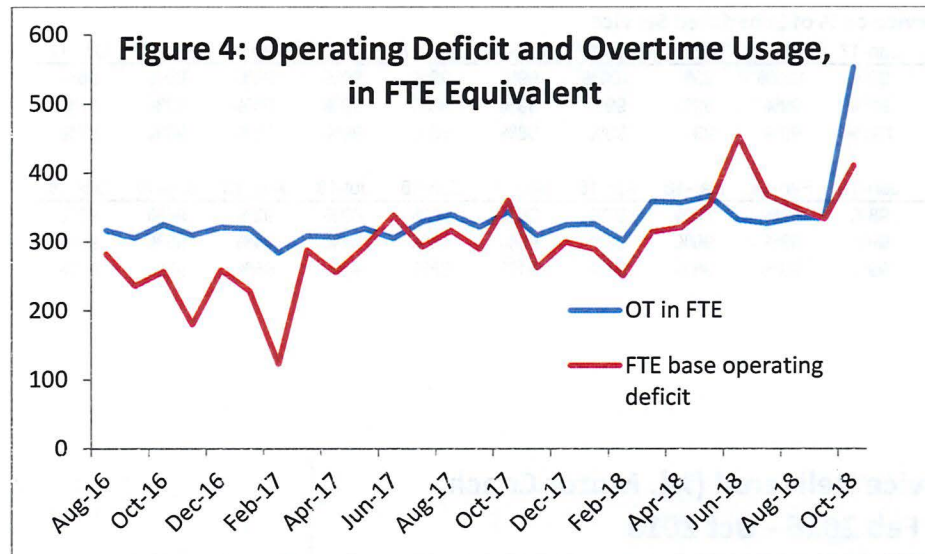
⁵ Our formula is calculated as $(\text{Total Employees} - \text{Total monthly absentee hours} / (2080/12)) - \text{Total monthly demand} / \text{Total monthly demand}$, using data reported by SFMTA. As noted, total monthly absentee hours was taken from payroll data provided by the HR Department.

⁶ Our calculation is intended for a very specific purpose, namely to highlight the structural staffing deficit under the assumption that operators work the normal 2080 annual working hours. It is based on the assumption of a ‘normal’ working year, and the actual data on total absenteeism per month, which we use to calculate the percentage of staffing needs that are not covered by FTE equivalents. To clarify - our number is not the actual number of operators (‘bodies’) that MTA is short, on average, per month. Nor is it intended to be. Rather, it is the number of FTE operators that MTA would be ‘short’ if operators were, in fact, working 2080 hours per year. This is a useful baseline from which to compare actual staffing practices required to maintain current levels of scheduled operation. Our normative assumption is that the Agency should be covering its staffing needs using FTE, rather than through extensive overtime in order to control costs, and to maintain enough “surplus overtime capacity” to accommodate stresses such as major construction or increased training needs without major service disruptions.

⁷ The formula in this case is $(\text{Total Employees} - \text{Total monthly absentee hours} / (2080/12)) - \text{Total demand}$.

Memo to Supervisor Brown
December 5, 2018

We see a moderate, yet steady increase in overtime usage over the entire reported period, the exception being the very sharp spike observed in October 2018.⁸



Source: SFMTA

Overall, Table 10 and Figures 3 and 4 provides clear evidence that SFMTA is faced with a chronic Transit Operator staffing deficit. We also observe evidence the structural deficit has worsened over the period covered, as seen in the rise in both the FTE operating base deficit and overtime usage shown in Figure 3. Overtime hours, here expressed as the number of FTE equivalents, constitute a very high percentage of total staffing coverage. As seen in Figure 4, slightly over 300 FTE hours of scheduled service is covered by overtime, on average, in most months over the last two year period. While the nature of operating a transit service requires that some overtime usage is built into expected staffing coverage, we believe this level is excessive. We note that, given the limited time period covered, we cannot adduce evidence of a clear long-term trend. However, the data confirms sentiments expressed by all the SFMTA representatives interviewed for this report, whom uniformly stated they believe the Agency is faced with a growing structural staffing deficit that could have deleterious impacts on future service.

Table 11 and Figures 4, 5, and 6 present the impact of staffing levels on MTA core transit service delivery over the last two year period. SFMTA has been able to meet planned service targets for core services (motor coach, trolley, and light rail) at between 98-100% of planned service for the months between November 2016 and March 2018. However, the data on specific service modes shows evidence of a decline in the percentage of scheduled service that is actually delivered beginning in early to mid-2016. All modes see a significant decline in the several months prior to the closure of the Twin Peaks tunnel, with a precipitous decline in June-August 2018 coinciding with the tunnel closure and corresponding replacement and reallocation of existing operatives and vehicles. What is striking is that current service

⁸ We have sent an inquiry to SFMTA as to why there is such a sharp spike in reported overtime usage in October 2018, and as of the time this draft is being completed we have not received a reply.

Memo to Supervisor Brown
December 5, 2018

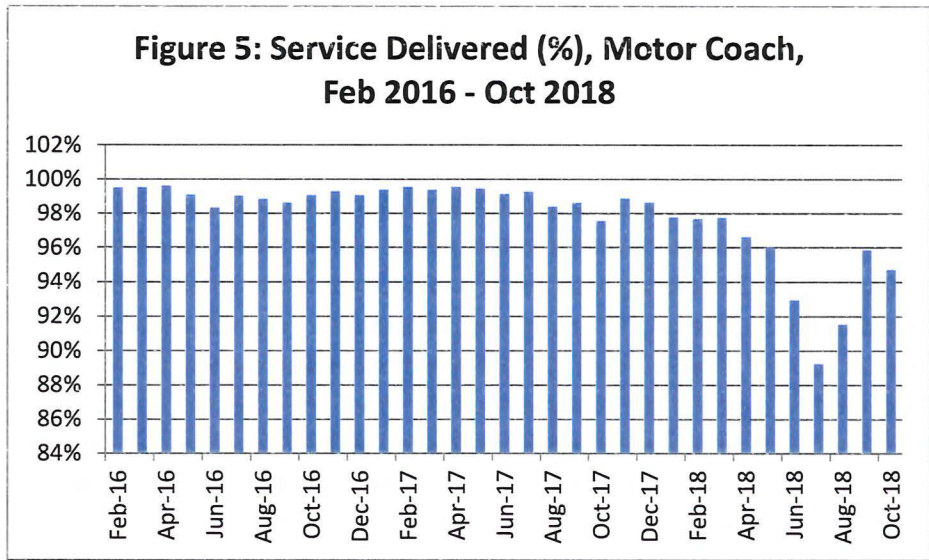
delivery levels remain well below prior averages from throughout the period prior to early 2018, indicating that MUNI motor and trolley bus service have, to date, not returned to prior levels observed in December 2017.

Table 11: Actual Hours of Service as % of Scheduled Service

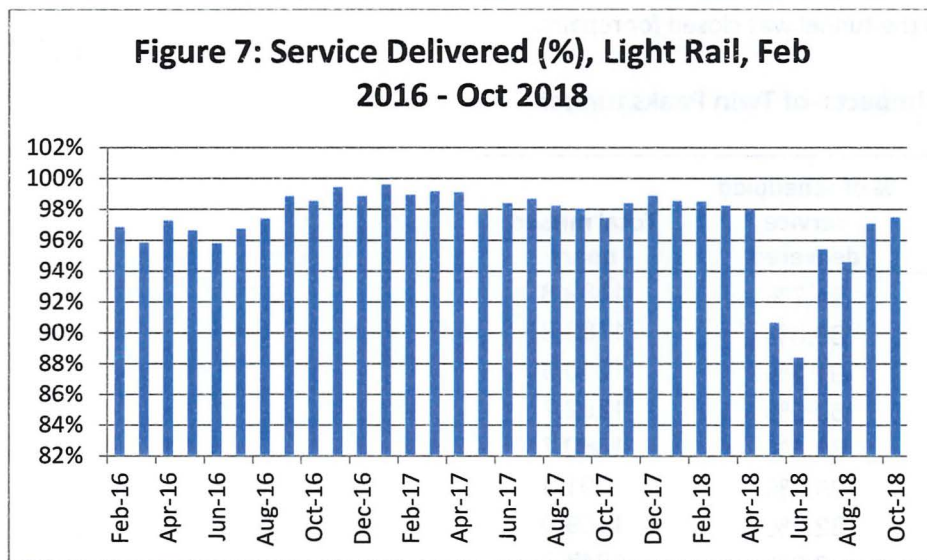
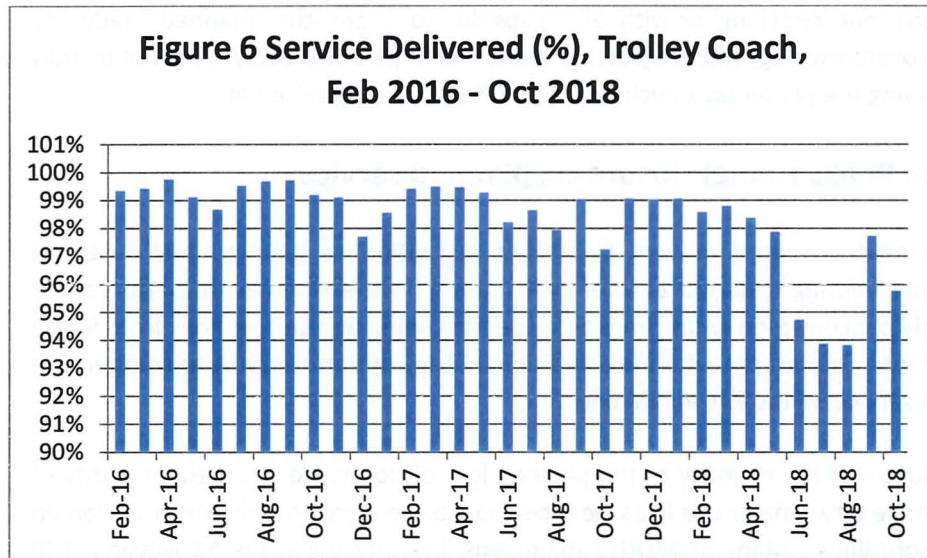
	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17
Motor Coach	99%	99%	99%	100%	99%	100%	99%	99%	99%	98%	99%	98%
Trolley Coach	99%	98%	99%	99%	99%	99%	99%	98%	99%	98%	99%	97%
Light Rail	99%	99%	100%	99%	99%	99%	98%	98%	99%	98%	98%	97%

	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
Motor Coach	99%	99%	98%	98%	98%	97%	96%	93%	89%	92%	96%	95%
Trolley Coach	99%	99%	99%	99%	99%	98%	98%	95%	94%	94%	98%	96%
Light Rail	98%	99%	99%	99%	98%	98%	91%	88%	95%	95%	97%	97%

Source: SFMTA



Memo to Supervisor Brown
 December 5, 2018



Source: SFMTA

The impact of failure to meet targeted service levels may not be fully apparent from immediate inspection of the data. For example, a 96% service level may not appear to be indicative of a significant deterioration in the reliability of the actually delivered transit service. What this can overlook, however, is that fairly small variances in service delivery capacity can have disproportionately larger effects on actual on-time performance and service quality. While the reasons are complex, the basic link between actual to planned service delivery to customers' actual "on-the-ground" transit experience is the fact that missed runs, even if limited, can create unexpected delays of between 5 to over 30 minutes, depending on the planned frequency of a given transit line. This will tend to impede the Agency's ability to maintain scheduled run times. Delays increase overcrowding, which creates further delays. This will in turn push actual arrival times further behind scheduled arrival times. The result is overcrowded buses

Memo to Supervisor Brown
December 5, 2018

and trains that run with recurrent ‘bunching’ or with large gaps due to longer -than planned headways. The cumulative impacts on overcrowding, and progressive and worsening service delays may not be fully captured from simply observing the percentage decline in actual-to-planned service time.

VI. Impact of the Twin Peaks tunnel closure on planned service

The Twin Peaks tunnel closure resulted in very significant disruption to planned MUNI service throughout key transit routes during a period of over two months in the summer of 2018. Service disruptions were particularly concentrated within lines that use the tunnel and certain lines from which MTA managers diverted Transit Operators to staff the additional buses put into service to compensate for the disruptions light rail service on the K, L and M lines.

Table 12 shows the distribution of the majority of the planned loss of normal services, the majority of which was concentrated on the City’s major bus lines. Service impacts were particularly concentrated on the 38 Geary and 8 Bayshore lines. Many of MUNI’s major bus lines, including the 14 Mission, 14R Mission, 47 Van Ness, 49 Van Ness-Mission, and 1 California, all suffered significant diminution of operations over the period the tunnel was closed for repairs.

Table 12: Impacts of Twin Peaks tunnel closure

Bus Route	% of scheduled service delivered	Total missed hours
14	94.7%	1089.8
45	89.0%	1183.8
47	91.2%	1200.3
7	89.5%	1252.7
14R	88.3%	1360.7
19	86.2%	1391.1
21	82.2%	1609.0
9	86.3%	1647.2
9R	80.8%	1735.5
31	83.7%	1741.5
43	89.4%	1809.0
1	90.4%	1826.4
49	87.2%	2261.6
38R	87.1%	2304.1
38	80.5%	4004.3
8	82.3%	4907.0

Source: SFMTA

Memo to Supervisor Brown
December 5, 2018

Our office was asked to evaluate the decision making methods and criteria that were used to reallocate existing Transit Operators during the period immediately preceding and during the closure. In particular, we were asked to determine if MUNI vetted the full range of options, and whether sufficient analysis and planning was undertaken prior to the closure to insure minimum disruption to existing operations. We were also asked to evaluate the communications strategy of SFMTA pertaining to communications with the Board of Supervisors, other City officials, and the general public, as to the expected impact on service, and how MUNI would seek to provide supplemental services to minimize the significant inconvenience the tunnel closure created for regular transit riders.

The closure of the Twin Peaks tunnel occurred during a period in which the Agency was already planning for increased stress on current staffing resources that would require advanced planning to continue to meet the Agency's 98.5% service delivery target. For one, SFMTA had recently acquired two new vehicle models that management wanted to get into operation over the summer period. This included a new light rail model – the LRV4 - that required 5 full-time training days; and a new 40 ft. trolley coach that required one full training day. In addition, as per the MOU with TWU 250A, a General Sign-Up period took place in December 2017 and training of Transit Operators began in January 2018. General Sign-Ups allows eligible drivers to request a transfer between divisions, as well as new training to accommodate a requested mode shift or training to operate a new type of bus. General Sign-Ups typically create additional stresses on existing staffing resources, as Transit Operators who are approved for transfer and re-training are not available for regularly scheduled service.

SFMTA went forward with new bus training associated with the GSU. Changes in the schedule were not considered for all of the trainings, according to SFMTA staff, given that it takes months to set and schedule certain trainings, and delay past the point of the West Portal tunnel closure would have threatened to create a violation of the terms of the MOU agreement. However, a decision was made to delay the training of LRV4 operators, which was rescheduled to occur after the June 2018 implementation of post-training bus route reassignments. Additional training resources were provided through a one-time use of qualified operators from the Transit division. This change was apparently agreeable to TWU 250A.

To accommodate and mitigate the known and anticipated stresses that would be imposed on existing transit operations by the tunnel closure, SFMTA's Transit Division considered two general options for re-routing existing train service. The first was a train-bus-train option, wherein bus would provide a limited point-to-point shuttle service between end-points on the lines affected by the tunnel closure. The second was to have buses take over for all passenger transport beginning at the Castro station for the directly impacted rail lines. The latter option was adopted.

Management decided to pull ten runs from each division. A decision was made not to reduce any planned service on community connector routes that run with low frequency. Major bus lines such as the 8 Bayshore, the 38 Geary, and the 49 Mission-Van Ness, and the 1 California provided the majority of staffing resources and vehicle capacity that were diverted to provide the needed supplemental bus services. This decision was based on the greater number of staffing resources on these lines, and the

Memo to Supervisor Brown
December 5, 2018

fact they have far greater frequency, and can thus more easily accommodate a decrease in planned headways due to missed runs. In addition, lines such as the 38 Geary and the 8 Bayshore – which supplied a larger number of re-assigned staffing hours – are supported by various express lines. Our conclusion is that the options available were thoroughly vetted, and route and Transit Operator reassignments were based on a cogent assessment of the optimal means to accommodate the level of stress that SFMTA expected to occur as a result of the closure.

To inform riders of expected – and on-going – impacts of the closure on transit service, and to assist riders in accommodating the delays and re-routes that were well known in advance, SFMTA conducted extensive outreach to the neighborhood groups and core constituencies that were most immediately impacted by the loss of regular service. Extensive efforts were undertaken with the West Portal Merchant Association, as well as various neighborhood groups, who were visited prior to, and during, the tunnel closure. SFMTA also provide extensive “real-time” support to affected riders. Staff ambassadors were stationed at major transit stops along the immediately impacted rail corridors. Wayfaring signage was put at all stops. SFMTA sent out regular Twitter posts, and also sought to answer customer queries in real time. Approximately 80,000 rider guides were distributed, videos were created, and regular MUNI alerts were generated and disseminated through various on-line communication channels.

Our assessment of these efforts is that outreach to the most directly affected neighborhoods and rider groups was thorough and extensive. However, it was also revealed that SFMTA did not engage in efforts to reach out to users of other lines that would be impacted by the diverting of drivers and buses to provide the necessary tunnel-related supplemental transit service. No efforts were made to conduct direct outreach to these riders, and SFMTA staff did not mention or reference any direct line-specific outreach, or any efforts to inform riders through on-line communication of the anticipated impacts that was known in advance would result in a significant diminution of service to certain lines. SFMTA reports that they did respond in real-time and provided information to inquiring riders affected by the Transit Operator diversions once the project was underway and the impacts on certain lines became known.

SFMTA representatives stated that it was the opinion of the Agency that providing information on possible negative impacts on the transit system other than the directly affected lines would have eroded rider confidence, and could potentially lead to a longer-term loss of ridership. We do not agree with this assessment, and believe the known loss of service on major transit lines could have been appropriately handled by a Citywide, comprehensive communications effort, and by specific outreach and communications efforts being directed towards lines that the Agency knew in advance would suffer from significant reductions in service.

SFMTA reports that all members of the Board of Supervisors were provided with information about the tunnel closure project but, as with the information provided to passengers, this information did not include information about the lines and passengers whose service was going to be indirectly negatively impacted by the project.

TRANSIT OPERATOR STAFFING AND TRAINING DEFICITS

Policy Analysis Report to Supervisor Brown

Presentation to:

GOVERNMENT AUDIT AND OVERSIGHT COMMITTEE

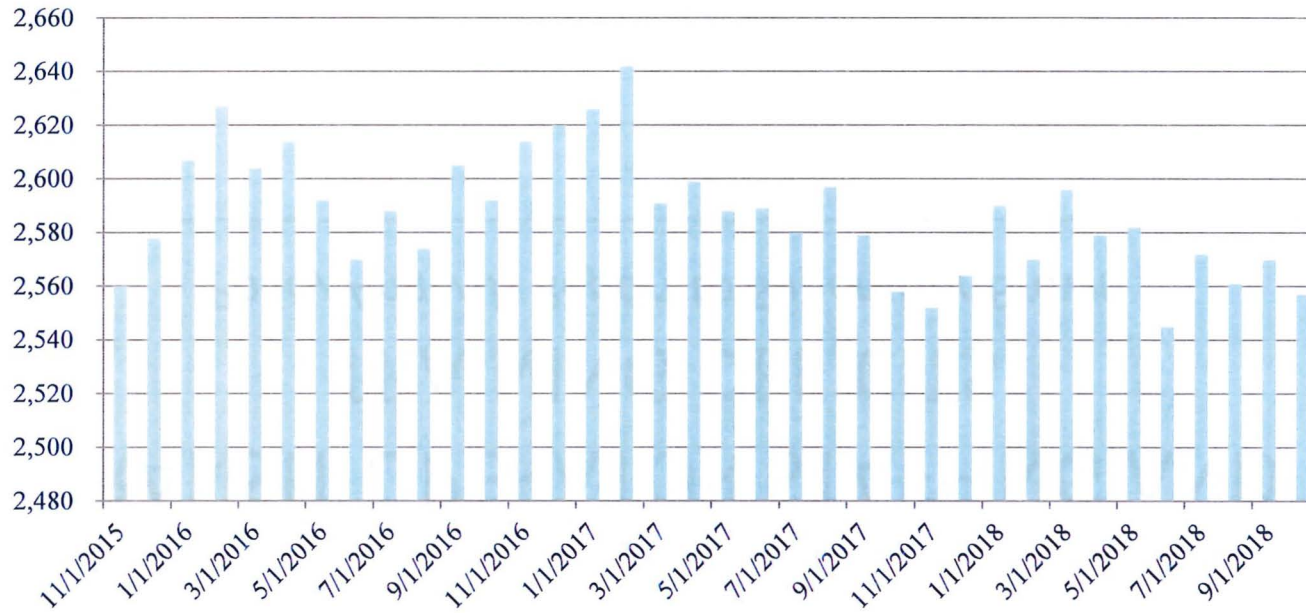
BOARD OF SUPERVISORS

CITY AND COUNTY OF SAN FRANCISCO

December 5, 2018

Transit Operator Staffing

Figure 1: Filled 9136 Transit Operation Positions, 11/1/15 through 10/31/2018



Transit Operator deficit: in place since at least Sept. 2016

October 2018

Total Transit Operators needed	2,305
Total Transit Operators on staff	2,557
Actual Transit Operators absenteeism	663
Actual absenteeism rate	25.9%*
Actual Transit Operators available	1,894
Transit Operator surplus/deficit	411
Transit Operator surplus/deficit %	-17.8%

*To cover short-term absences, SFMTA's goal is to assign 20% of its Transit Operator positions to "extra board", to fill in on absent Operators' routes.

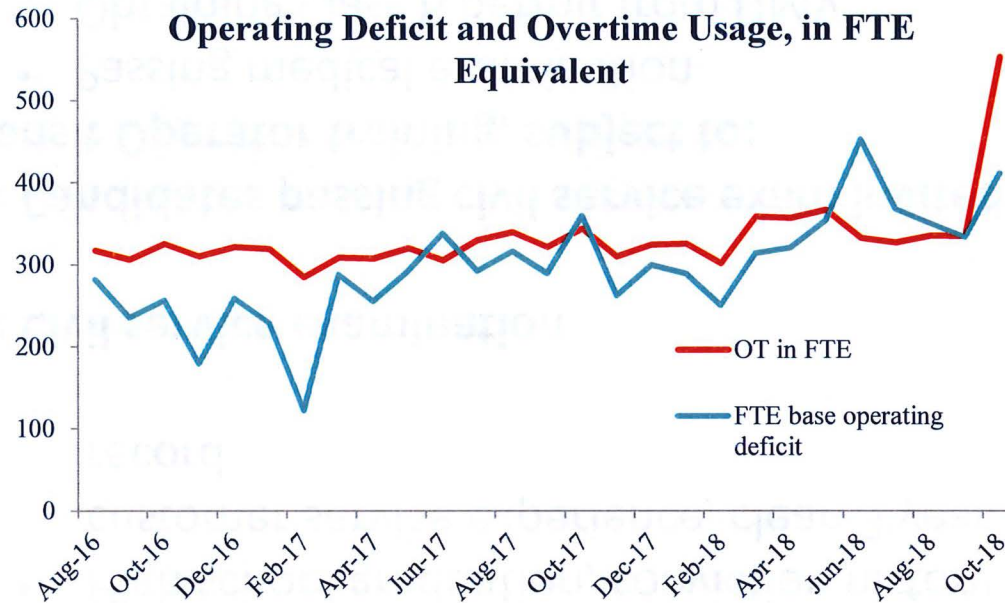
Applicant pool is shrinking

Start date	# applicants	Days posted
2/2011	2,472	7
5/2012	2,828	8
3/2014	2,389	3
9/2014	1,666	5
4/2015	1,602	7
11/2015	1,228	12
6/2016	1,003	12
11/2016	829	15
7/2017	1,081	15
1/2018	1,035	19
9/2018	1,100	20
	-55.5%	185.7%

Plus:

- *Increase in no-shows for civil service exam*
- *Increase in # turning down or not responding to hire offers*

Shortage mostly covered by overtime



Hurdles and attrition at each stage: recruitment and hiring

Phase 1: Initial application

- High school graduation, conviction history review, customer service experience, clean 3 year driving record

Phase 2: Civil service examination

Phase 3: Candidates passing civil service exam invited to SFMTA's 8 week Transit Operator training, subject to:

- Passing medical examination
- Obtaining Class B permit from DMV

Phase 4: 8 week training class: classroom & behind-the-wheel

- Must obtain Class B driver license

Pre- and post-hiring separations reduce workforce

Pre-hiring
(9/15 – 7/18)

<u>Totals</u>	<u>Number</u>	<u>Reason for Separation during Training</u>	
Class Size Goal	762	Released-Disciplinary	6
Actual Class Size	684	Released-Non-Disciplinary	91
Graduates	567	Satisfactory Resignation	<u>20</u>
Training Release	117		117
Never Reported	15		

Post-Hiring
(9/15 – 4/18)

Graduates	Year 1	Year 2	Year 3	Total	% Grads
490	46	12	3	61	9.4%

Transit Operator separations (licensed post-graduate employees only)

Reason for separation	11/30/17 - 10/31/18	11/30/16 - 10/31/17	11/30/15 - 10/31/16	Total	%
Service Retirement	67	58	53	178	35.7%
Satisfactory Resignation	31	37	41	109	21.9%
Accept MTA Position	19	18	9	46	9.2%
Disability Transfer-MTA	4	18	10	32	6.4%
Accept Civil Service Position	8	7	13	28	5.6%
Dismissal/Term	8	9	10	27	5.4%
Released-Non-discipline	3	11	9	23	4.6%
Accept Temp Appt-MTA	2	14		16	3.2%
Death	5	2	6	13	2.6%
Medical Release	3	0	8	11	2.2%
Unsatisfactory Resignation	4	3	2	9	1.8%
Released-Discipline	1	1	1	3	0.6%
Disability Transfer-Civil Service	2	0	0	2	0.4%
Disability Retire	0	1	0	1	0.2%
TOTAL	157	179	162	498	100.0%

New hires, same period = 524

Factors affecting recruitment and turnover

- Recruitment and hiring hurdles
- Compensation
 - Start at 63% of top step hourly wage
 - 2.3% real wage reduction: FY 2014-15 – 2017-18
- Competitive job market
- San Francisco cost-of-living vs. wages
- Work environment and morale
- Referrals rely heavily on word-of-mouth, social networks, and City Job Board

Twin Peaks tunnel closure, summer 2018

- SFMTA provided alternate services during closure: train-bus-train option considered, but selected all-bus from Castro.
- General Sign-Up training overlapped with closure, diverting some Transit Operators to training.
- To minimize service impacts, drivers for alternative service were diverted from busier lines throughout the system, reducing service and lengthening headways on those lines.
- 38 Geary and 8 Bayshore particularly impacted. Other major bus lines affected: 14 Mission, 14R Mission, 47 Van Ness, 49 Van Ness-Mission, and 1 California.

Tunnel closure impact, by line

Bus Line	% of scheduled service delivered	Total missed hours
14	94.7%	1,089.8
45	89.0%	1,183.8
47	91.2%	1,200.3
7	89.5%	1,252.7
14R	88.3%	1,360.7
19	86.2%	1,391.1
21	82.2%	1,609.0
9	86.3%	1,647.2
9R	80.8%	1,735.5
31	83.7%	1,741.5
43	89.4%	1,809.0
1	90.4%	1,826.4
49	87.2%	2,261.6
38R	87.1%	2,304.1
38	80.5%	4,004.3
8	82.3%	4,907.0

Tunnel closure communications plan

- SFMTA developed extensive communications plan for affected passengers, merchants, and neighborhoods
 - Electronic and paper messages, wayfinding signage, real-time communications, staff “ambassadors” at impacted stations.
 - Information about project provided to all members of the Board of Supervisors.

- Communications were not directed to passengers using indirectly affected lines such as the 38 Geary and 8 Bayshore, to warn them of degradation of service.

Policy Options

The Board of Supervisors could recommend the following.

1. SFMTA, with TWU 250A, should conduct a study of the current national labor shortages in the transportation and public transit industry to identify practices to address recruitment and hiring issues.
2. SFMTA should consider changes in Transit Operators' hourly wages using adjusted cost of living indexes that more accurately reflect the cost of living in the Bay Area.
3. SFMTA should increase the starting pay to a higher percentage of the top step hourly rate as necessary to address recruitment and retention issues.
4. SFMTA, in partnership with the Mayor's Office of Economic and Workforce Development, should enter into negotiations with City College of San Francisco to establish a free course to prepare eligible applicants to pass the DMV Class B permit test.
5. SFMTA should conduct a comprehensive review of Agency-wide planning process to insure that hiring and staffing goals are fully integrated with the provision of necessary training resources.
6. SFMTA needs to insure that operational costs and long-term staffing needs are factored into the Agency's overall budgeting process, particularly capital expenditures.

Questions and comments

TRANSIT OPERATOR STAFFING AND TRAINING DEFICITS *Policy Analysis Report to Supervisor Brown*

Presentation to:

GOVERNMENT AUDIT AND OVERSIGHT COMMITTEE
BOARD OF SUPERVISORS
CITY AND COUNTY OF SAN FRANCISCO

December 5, 2018

Project Staff : Karl Beitel
Fred Brousseau



Ed Reiskin, Director of Transportation

San Francisco Board of Supervisors

Government Audit and Accountability Committee

December 5, 2018

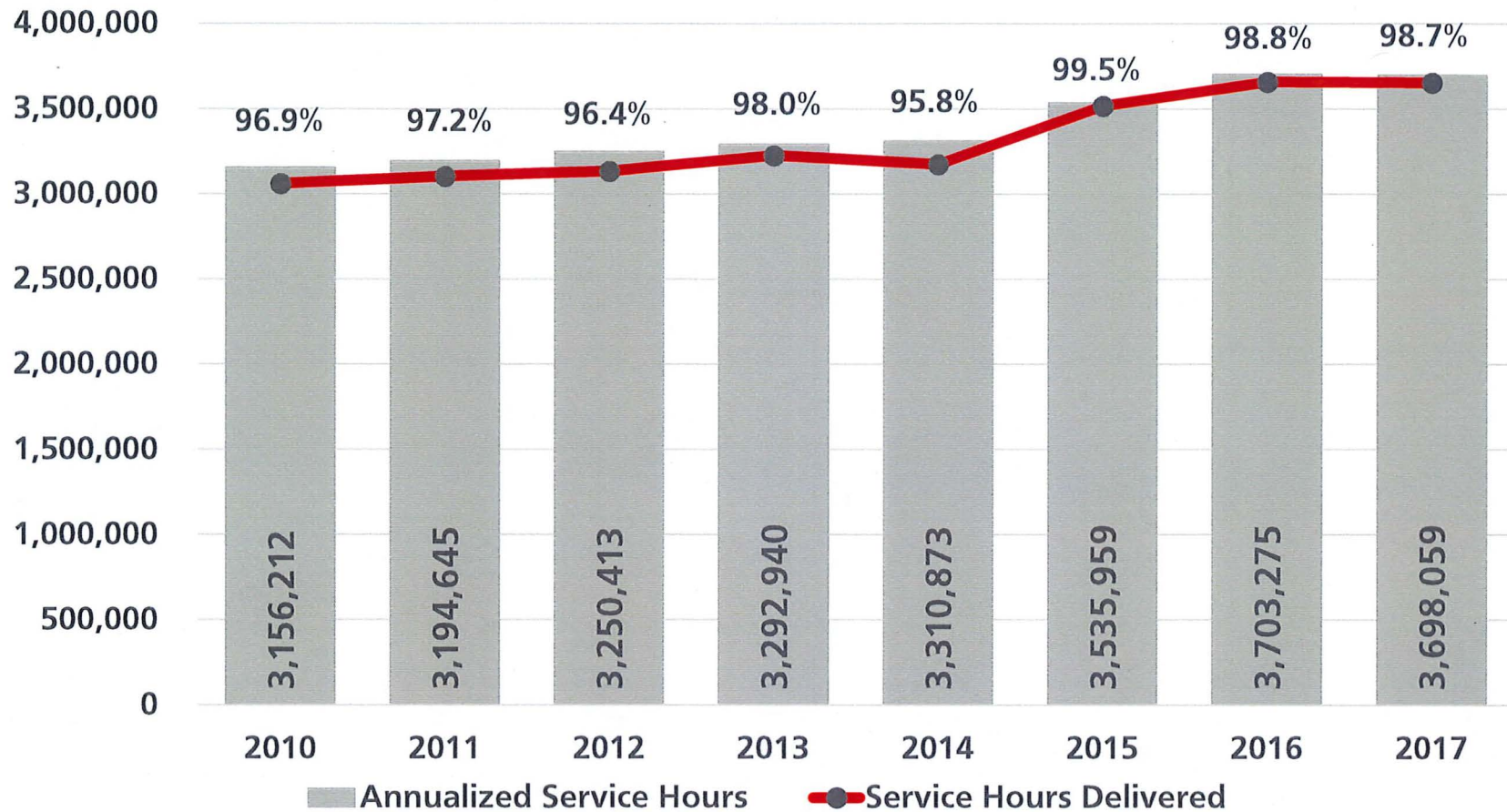
Public Transportation: How SF Rolls

Providing reliable Muni service has never been more essential to meeting the San Francisco's economic, quality of life, environmental and equity goals

Over the next two decades, the population of San Francisco is expected to swell by an additional 26 percent

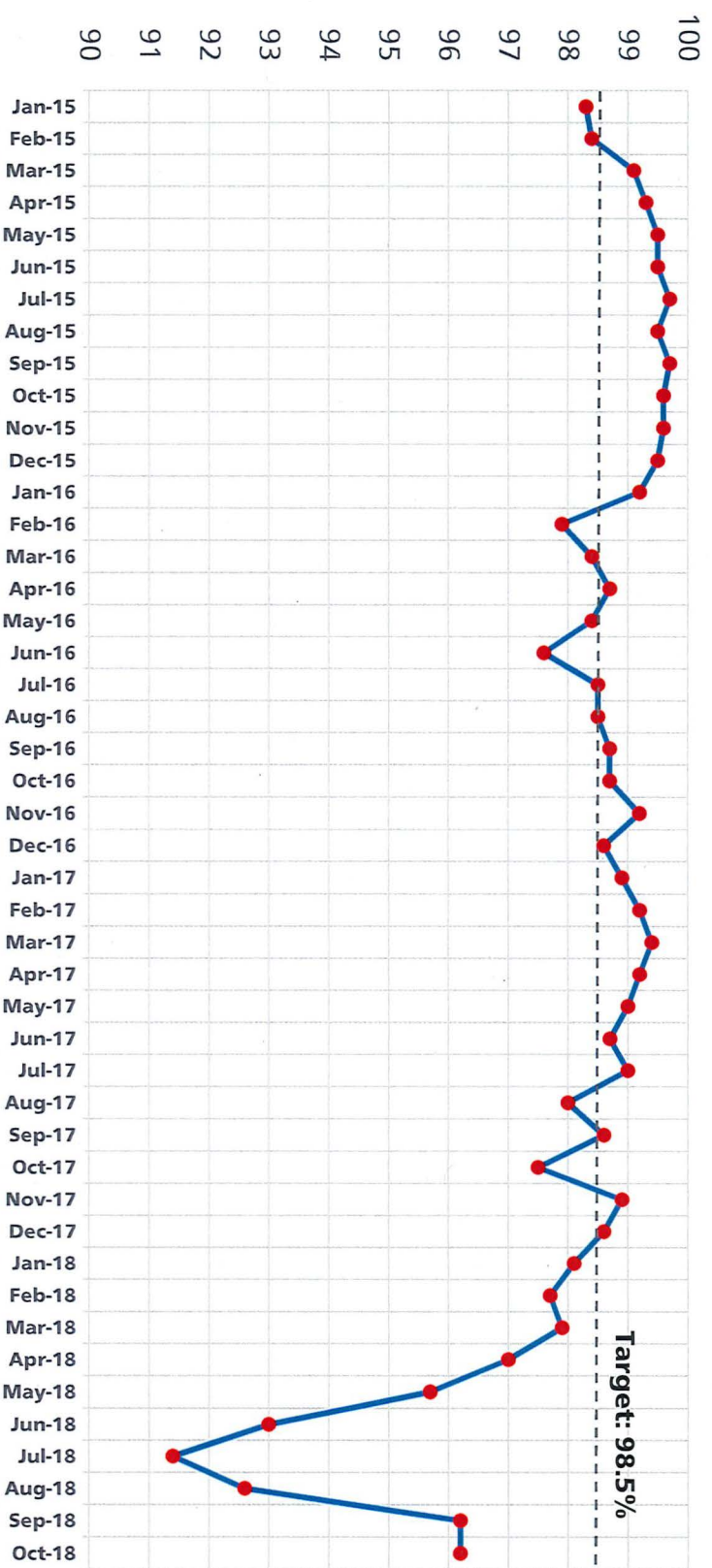


Scheduled Service vs. Delivery (2010-2017)



Despite operator constraints and hiring challenges, Muni delivered 19.3% more service and almost 500,000 more hours in 2017 than in 2010

Service Delivery: 2015-2018

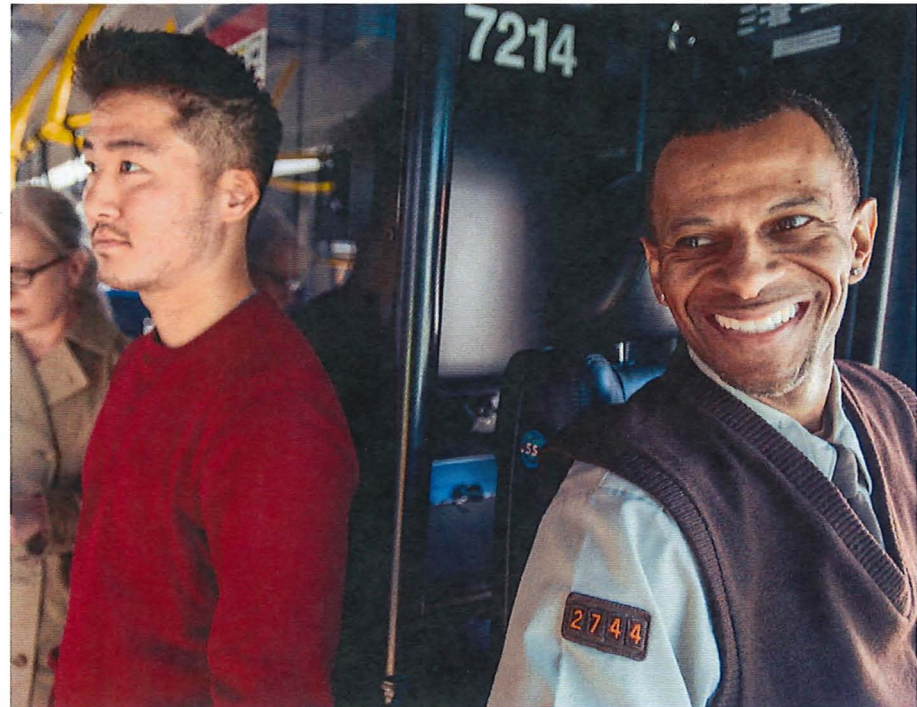


- Despite operator constraints, from February 2015 to December 2017: Muni delivered 98.5% of monthly scheduled services with only four exceptions when service delivery dipped slightly below the mandated level
- March 2018: service delivery began to slip, hitting a low point of 91.4% in July
- A confluence of factors, including diminished service delivery had significant impacts on Muni reliability for customers across the city



Building Blocks to Delivering Service

- Strong recruitment pipeline to replace operators who retire or are promoted
- Proactive attendance management of leave (both short and long-term) to encourage Operators to get back to work as quickly as possible after absences



By strengthening recruitment and better anticipating, and planning for, draws on our training resources, Muni will become more resilient to “perfect storm” scenarios similar to that we experienced this summer

Perfect Storm: Construction

Construction

- Twin Peaks construction began in late June
- Supporting service to cover major construction projects, like the Twin Peaks Tunnel

Improvement Projects increases the demand for Operators and taxes limited training resources

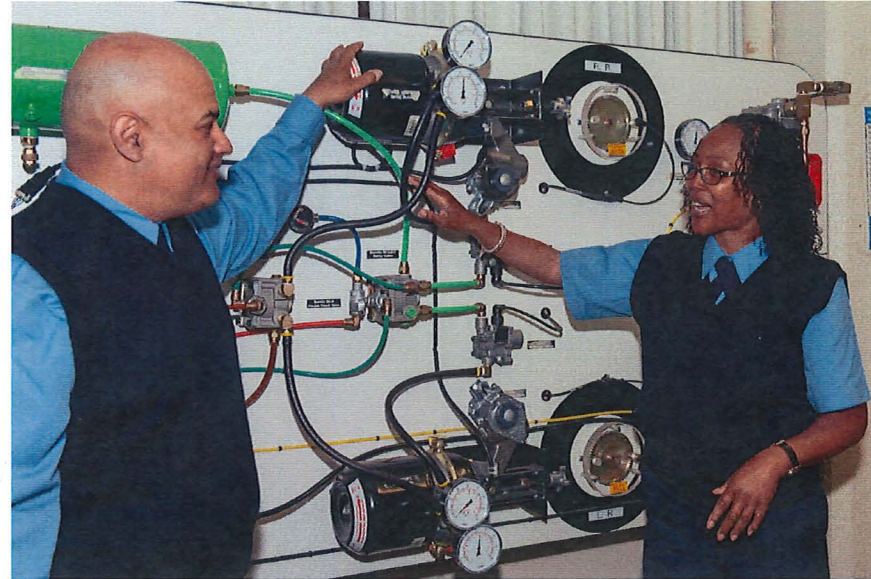


Every train taken out of service requires four buses to carry the same number of passengers

Perfect Storm: Training

New Technology

- Familiarizing Operators on new equipment takes them out of service and reduces the number of trainers available for *new* Operator training
- New LRV4s and trolley buses
- Technology upgrades, including new fare boxes and radio systems



General Sign-Up

- The 2018 General Signup took effect in June
- Every two years, Operators have an opportunity to transfer to different assignments, including to different vehicle types
- The SFMTA is required to train Operators on the new equipment
- Training takes experienced Operators out of service and reduces the number of trainers available for new Operator training

Perfect Storm: Recruitment

DECREASING # OF APPLICANTS

- 2,650 to 1,011 (2 yr. avg. from 2011 to 2018)



62%

SPIKE IN EXAMINATION "NO-SHOWS"

20% no-show jumps to 48% last 2 years



140%

SPIKE IN JOB OFFER DECLINES & NO-RESPONSES

- 2016, 20% declined or did not respond
- In 2017, 46% declined or did not respond



130%

Regional Trends: A Booming Economy

Historically Low Unemployment Rates

- 2.3% unemployment in San Francisco (October)
- 4.1 % unemployment in California
- 8 of 9 Bay Area counties are under 3% (Bay Area average: 2.6%)
- Solano is the only Bay Area county above 3% (3.6%)



49% of all San Francisco jobs are held by people who commute into the city, stretching the regional transit and road networks

National Trends: Fewer Drivers

Fewer Licensed Drivers

- Number of licensed drivers under age 45 declining since 2008 *
- Only age group where there was an increase was for those 70 years and older



Fewer Applicants to Public Sector Jobs (2012-2017)

- 21% decrease in overall applications for public sector jobs **
- Gap between public sector job postings and applicants has increased by 25%

* Source: University of Michigan, 2016

** Source: NEOGOV

Recruitment: Efforts Already Underway

Increased number of exams by 267%

- Pre 2014: 3 exams completed every 4 years (.75/yr.)
- 2014-2018: 8 exams every 4 years (2/yr.)

Streamlined Exam Process by 39%

- Pre-2014: 111 calendar days (avg.)
- 2014 to 2017: 84 days
- Last 5 exams: 68 days

Recruitment

- Promoting exams at relevant job fairs (examples: women, veterans and diversity-oriented job fairs)
- Expanded use of social media, including Facebook, LinkedIn, Indeed and Glassdoor
- Paid social media advertising
- Partnering with other transit agencies and city departments
 - VTA (Santa Clara County)
 - San Francisco Board of Supervisors
 - OEWD
- Holding job information sessions for prospective applicants to improve applicant understanding about requirements for the job and the path to employment

Internal Process Improvements

- Lean process review for 9163 exam and onboarding processes
- Improving data collection to understand how applicants are hearing about jobs

Next Steps: Recruitment

Recruitment/Workforce

- Regional transit agency workforce working group
- Partnering with OEWD on launch of a new “B-License” training program (scheduled for January)
- Identify new sources of workforce (in progress)
- Working with City College to develop career pathways to the commercial driving industry
- Holding job information sessions at public libraries
- Expanding paid advertisement campaigns



Internal Processes

- Develop and implement the Lean process recommendations
- Provide “B-Permit” seminars to those on the eligible list

Employee Engagement

Strategic Plan Goal 4: Create a workplace that delivers outstanding service

- Operator "round tables"
- Annual Employee Engagement Survey
- Outstanding Workplace Committee
- Employee resource groups



SFMTA Workplace Values

- Respect
- Inclusivity
- Integrity

Lessons Learned: Twin Peaks Communications

What Worked

- Extensive outreach helped shape robust communications plan
- Deployed 60+ ambassadors and Fare Inspectors each day to provide real-time customer support
- Onboard hangers and audio announcements
- Newspaper ads
- Rider Guide and animated video
- Social Media
- Website
- Press Releases



What Can Improve

- Internal coordination across divisions to understand and plan for the impacts of project-related service changes to the entire transit network

Next Steps: Communications

Improving Internal Coordination

- Monthly agency-wide operations coordinating meeting
- Transit communications team being formed to address service changes
- Closer monitoring of trends in customer complaint trends through 311 and Twitter
- Updated communications protocols for unplanned service disruptions



Agency Plan to Improve Muni: Progress Report

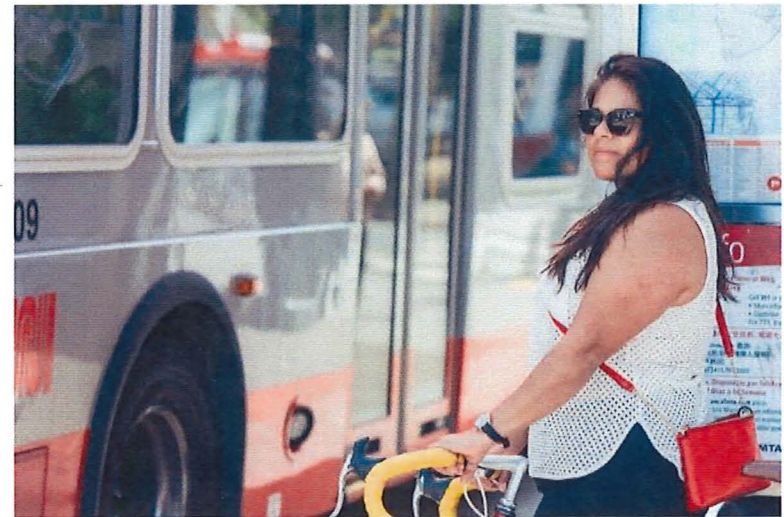
Increase service delivery by 5% (96% or above)	Almost Met: 95%
Reduce gaps on Rapid bus lines by 5% (12% or below)	Met: 12%
Reduce gaps on Metro rail by 3% (20% or below)	Almost Met: 21%
Improve on-time performance on low frequency routes by 5% (63% or above)	Not Met: 55%
Reduce preventable collisions by 5% (68 per month or fewer)	Met: 54*

*Final collision data is still pending (Data shown is for October), but is currently projected to meet the target

Next Steps: Transit Service

Continue breaking Strategic Plan goals into quarterly “bite-size pieces” with concrete actions and interim goals

- The next quarterly cycle will begin in the new year and will focus on our major challenges: Breda LRV reliability, subway infrastructure, and operator hiring
- Some ongoing actions will roll over from the last 90 days, while others will come from the SFMTA Plan to Improve Muni’s medium-term and long-term actions and staff input
- Metrics will be expanded to include days without a major subway delay
- We anticipate that service delivery will continue to be a challenge with upcoming construction projects, requiring persistent focus and planning



Thank You

