

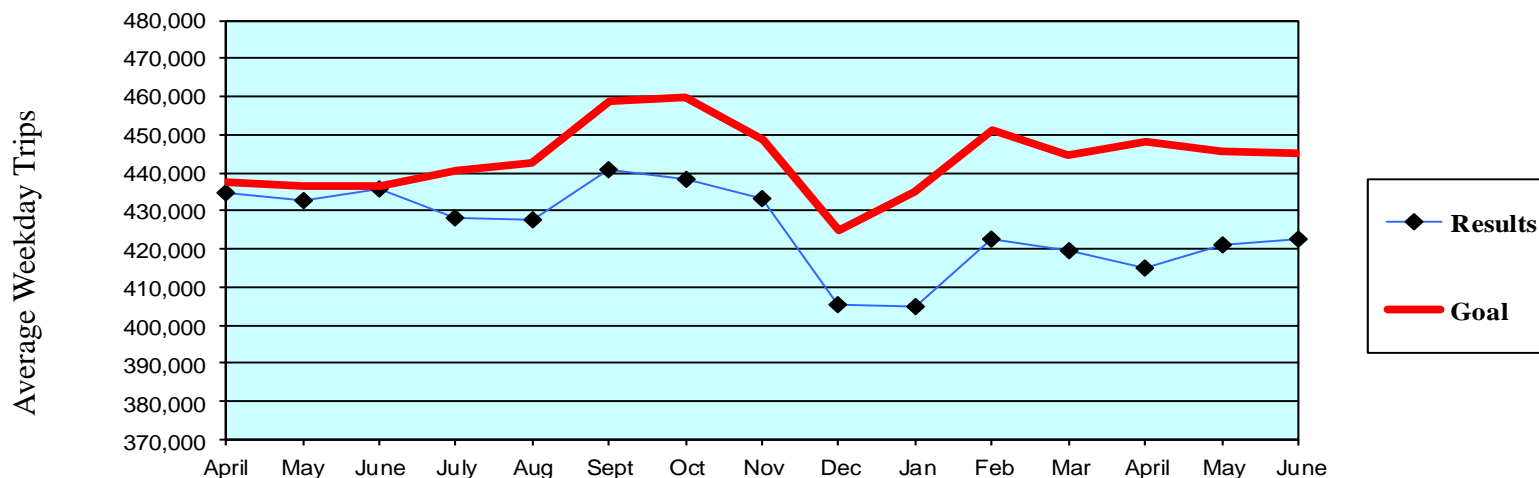
Quarterly Service Performance Review  
Fourth Quarter, FY 2017  
April - June, 2017

Operations & Safety Committee  
August 15, 2017

PERFORMANCE INDICATORS	SUMMARY CHART 4th QUARTER FY 2017						YEAR TO DATE			
	CURRENT QUARTER				PRIOR QTR ACTUALS					
	ACTUAL	STANDARD	STATUS		LAST QUARTER	THIS QTR LAST YEAR				
Average Ridership - Weekday	419,794	446,160	NOT MET		415,844	434,495	423,395	445,441	NOT MET	
Customers on Time										
Peak	83.46%	95.00%	NOT MET		82.28%	91.20%	85.82%	95.00%	NOT MET	
Daily	87.66%	95.00%	NOT MET		86.99%	92.74%	89.18%	95.00%	NOT MET	
Trains on Time										
Peak	73.79%	N/A	N/A		74.34%	88.29%	79.06%	N/A	N/A	
Daily	79.72%	92.00%	NOT MET		79.66%	89.43%	83.07%	92.0%	NOT MET	
Peak Period Transbay Car Throughput										
AM Peak	95.56%	97.50%	NOT MET		96.37%	98.42%	97.30%	97.50%	NOT MET	
PM Peak	96.15%	97.50%	NOT MET		97.10%	99.39%	98.03%	97.50%	MET	
Car Availability at 4 AM (0400)	573	595	NOT MET		583	577	586	591	NOT MET	
Mean Time Between Service Delays	4,723	4,000	MET		5,036	5,148	5,051	4,000	MET	
Elevators in Service										
Station	98.57%	98.00%	MET		98.90%	98.63%	98.55%	98.00%	MET	
Garage	96.60%	98.00%	NOT MET		92.43%	96.00%	95.57%	98.00%	NOT MET	
Escalators in Service										
Street	87.80%	95.00%	NOT MET		79.00%	87.37%	87.62%	95.00%	NOT MET	
Platform	94.73%	96.00%	NOT MET		95.77%	95.87%	96.00%	96.00%	MET	
Automatic Fare Collection										
Gates	99.21%	99.00%	MET		98.92%	99.43%	99.08%	99.00%	MET	
Vendors	95.55%	95.00%	MET		95.63%	96.02%	95.70%	95.00%	MET	
Wayside Train Control System	1.55	1.00	NOT MET		1.97	1.11	1.63	1.00	NOT MET	
Computer Control System	0.08	0.08	MET		0.015	0.013	0.070	0.08	MET	
Traction Power	0.13	0.20	MET		0.22	0.19	0.23	0.20	NOT MET	
Track	1.49	0.30	NOT MET		0.08	0.03	0.64	0.30	NOT MET	
Transportation	0.52	0.50	NOT MET		0.41	0.70	0.45	0.50	MET	
Environment Outside Stations	2.76	2.80	NOT MET		2.73	2.73	2.74	2.80	NOT MET	
Environment Inside Stations	2.62	3.00	NOT MET		2.62	2.68	2.63	3.00	NOT MET	
Station Vandalism	2.95	3.19	NOT MET		2.93	2.99	2.96	3.19	NOT MET	
Station Services	2.91	3.06	NOT MET		2.90	2.94	2.90	3.06	NOT MET	
Train P.A. Announcements	3.09	3.17	NOT MET		3.10	3.09	3.09	3.17	NOT MET	
Train Exterior Appearance	2.79	3.00	NOT MET		2.82	2.85	2.82	3.00	NOT MET	
Train Interior Appearance	2.85	3.00	NOT MET		2.86	2.94	2.89	3.00	NOT MET	
Train Temperature	3.11	3.12	NOT MET		3.13	3.09	3.11	3.12	NOT MET	
Customer Complaints										
Complaints per 100,000 Passenger Trips	8.89	5.07	NOT MET		8.14	6.30	7.74	5.07	NOT MET	
Safety										
Station Incidents/Million Patrons	1.64	5.50	MET		1.93	3.85	1.93	5.50	MET	
Vehicle Incidents/Million Patrons	0.35	1.30	MET		0.30	0.56	0.38	1.30	MET	
Lost Time Injuries/Illnesses/Per OSHA	7.25	7.50	MET		6.97	9.58	7.32	7.50	MET	
OSHA-Recordable Injuries/Illnesses/Per OSHA	10.12	13.30	MET		9.43	12.04	10.77	13.30	MET	
Unscheduled Door Openings/Million Car Miles	0.100	0.300	MET		0.370	0.050	0.145	0.300	MET	
Rule Violations Summary/Million Car Miles	0.460	0.500	MET		0.210	0.110	0.278	0.500	MET	
Police										
BART Police Presence	0.10	N/A	N/A		N/A	N/A	N/A	N/A	N/A	
Quality of Life per million riders	112.98	N/A	N/A		81.71	40.67	70.96	N/A	N/A	
Crimes Against Persons per million riders	3.28	2.00	NOT MET		3.19	2.28	2.72	2.00	NOT MET	
Auto Burglaries per 1,000 parking spaces	4.64	8.00	MET		4.25	2.21	4.51	8.00	MET	
Auto Thefts per 1,000 parking spaces	2.56	6.00	MET		1.98	3.51	2.30	6.00	MET	
Police Response Time per Emergency Incident (Minutes)	4.24	5.00	MET		5.16	5.95	5.53	5.00	NOT MET	
Bike Thefts (Quarterly Total and YTD Quarterly Average)	129	150.00	MET		109	159	128	150.00	MET	

LEGEND:      Goal met      Goal not met but within 5%      Goal not met by more than 5%

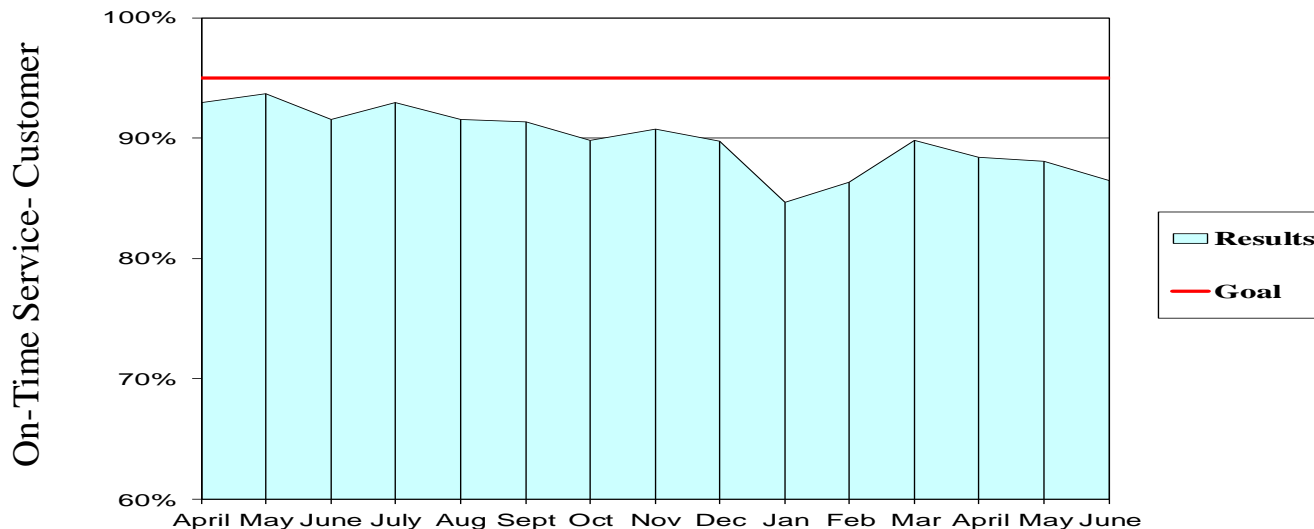
# Customer Ridership



- ✓ Total ridership decreased by 4.2% compared to same quarter last year
- ✓ Average weekday ridership (419,794) down by 3.4% from same quarter last year
- ✓ Core weekday ridership down by 3.0% from same quarter last year
- ✓ SFO Extension weekday ridership down by 6.1% from same quarter last year
- ✓ Average peak ridership down by 2.85% compared to same quarter last year
- ✓ During Q4 there were two Top 10 Ridership Days:
  - 6/15/2017: 518,743 – Warriors Championship Parade/Rally; A's vs. NY Yankees (#5 Weekday)
  - 6/25/2017: 243,933 – SF Pride Celebration & Parade; Giants vs. NY Mets (#7 Sunday)
- ✓ Saturday and Sunday down by 7.0% and 9.8%, respectively, from same quarter last year



# On-Time Service - Customer

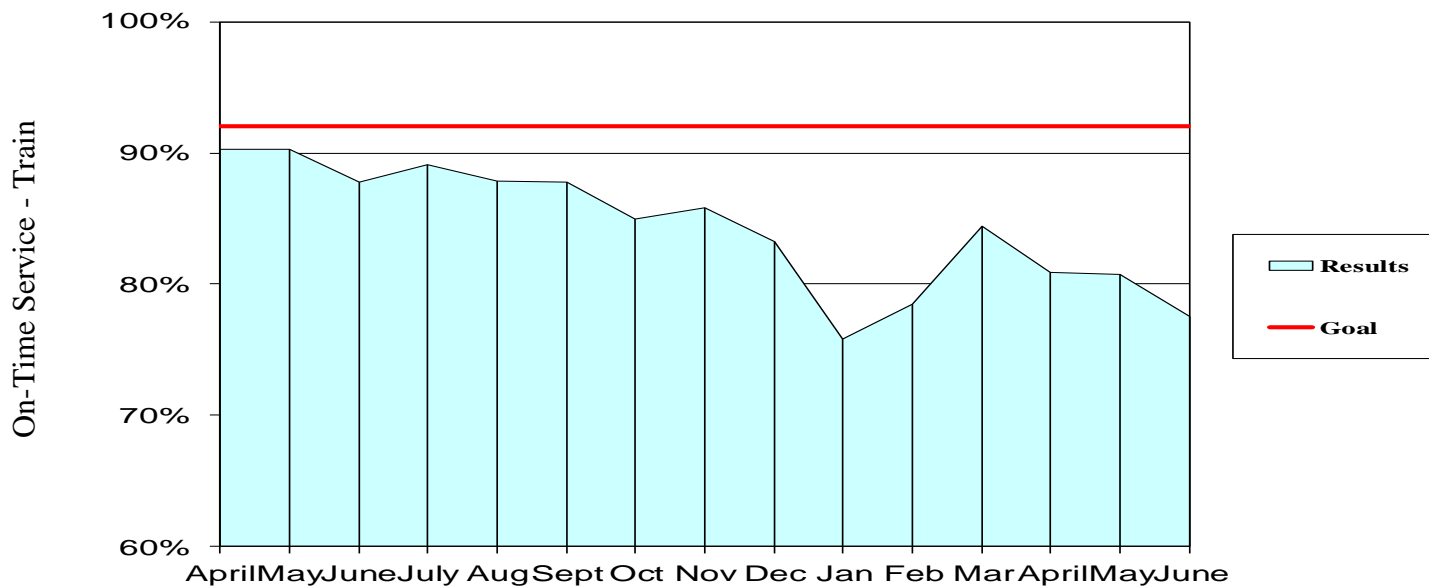


- ✓ 87.66%, 95.00% goal not met, up .67 %
- ✓ 5 of the 10 biggest delays due to “Procedures”
- ✓ Delay events causing the most late trains:

1	28-Apr-17	Lake Merritt	FOTF Test Train (Won't Move In Any Mode) (0437-1058) (Push Operation To A55 Spur)	Vehicle FOTF	180
2	30-May-17	W. Oak. I-Lk	Train Gapped (Train Would Not Move In Any Mode)(0628-1111) (Hostle Operation Required) (Train Had Been Diverted to M 15)	Wayside Misc.	151
3	15-Jun-17	Systemwide	Event Congestion (Warriors Championship Parade) (0743-1900) (Speed Restrictions on the A, K & M-lines Compounded Delays)	Misc. Event	150
4	12-Apr-17	T-Bay Tube	Brake (Brake Control Unit)(1530-1851)	Vehicle	130
5	30-May-17	Lake Merritt	Track Maint. Proc. (MUX Receiver Cable Wire Cut Off By Tamper)(0435-2154)(Crank Installed/Alternate Routing Required)	Wayside Track	120
6	20-May-17	D.C. I-Lock	Train Derailment (No Injuries/Bus Bridge Established 15:30)(1452-EOR) (Single Tracking Began 16:37)	Wayside Track	112
7	14-Apr-17	N. Concord	Overload 3rd Rail Power To Trains (Problems between Bay Point and N. Concord)(0942- 2226)(PL-6 Through Area)	Wayside Misc.	92
8	20-Apr-17	Montgomery	Track Work In Area (MUX Cable Damaged) (0450-1548) (Routing Impaired)	Wayside Track	83
9	23-Jun-17	T-Bay Tube	Smoking Debris on Trackway (Report of Smoke Under Train and(1744-2050) Around 3rd-Rail Insulator (/Single Tracking) (Trains Diverted in Oak. Wye)	Misc. Debris	77
10	03-Apr-17	H.Yd. I-lk SLd	Construction (Contractor Excavation Work Severed MUX Cable) (Routing Impaired/Multiple Cranks Installed)	Construction Contractor	69



# On-Time Service - Train



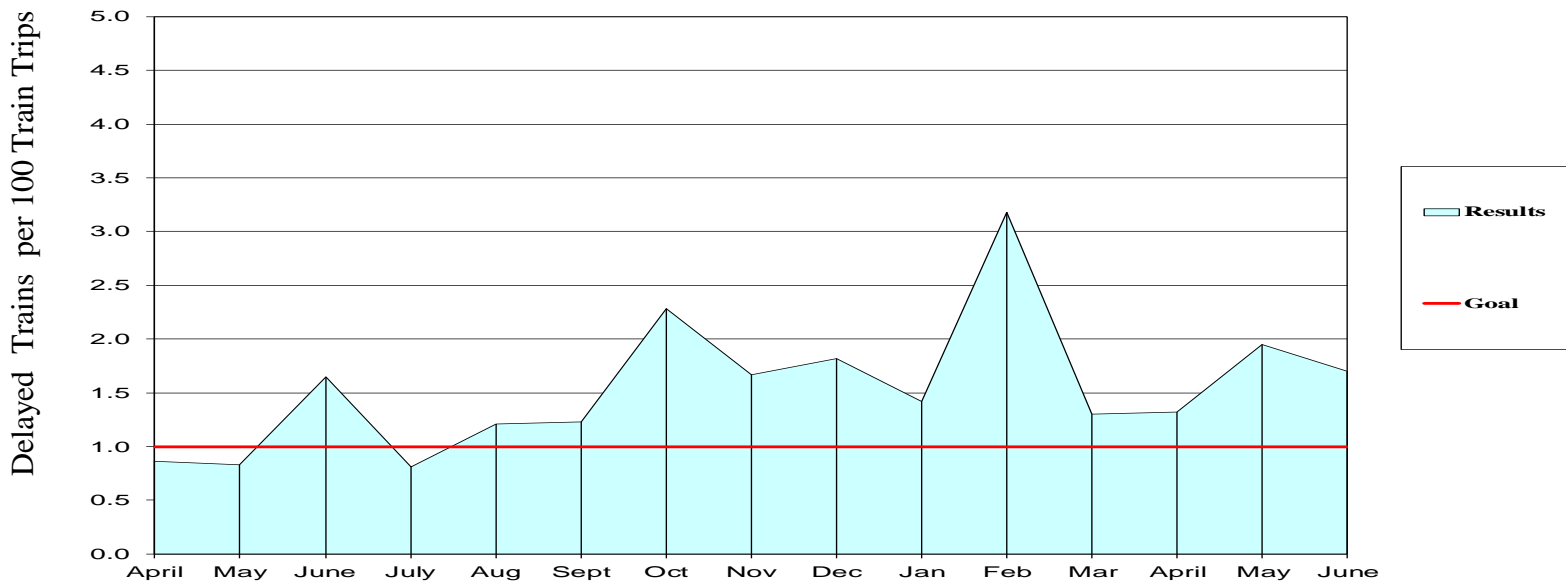
- ✓ 79.7%, 92.00% goal not met; unchanged from prior quarter
- ✓ 43.2% of late trains were late due to multiple small delays, each under 5 minutes
- ✓ Categorization of late trains due to a known delay event of 5 minutes or greater:

1 POLICE ACTIONS	17.3% of delayed trains
2 WAYSIDE OTHER: Post Derailment Adj.	12.3% of delayed trains
3 TRACK	10.0% of delayed trains
4 VEHICLE	9.4% of delayed trains
5 TRAIN CONTROL	8.9% of delayed trains



# Wayside Train Control System

**Includes False Occupancy & Routing, Delays Per 100 Train Runs**

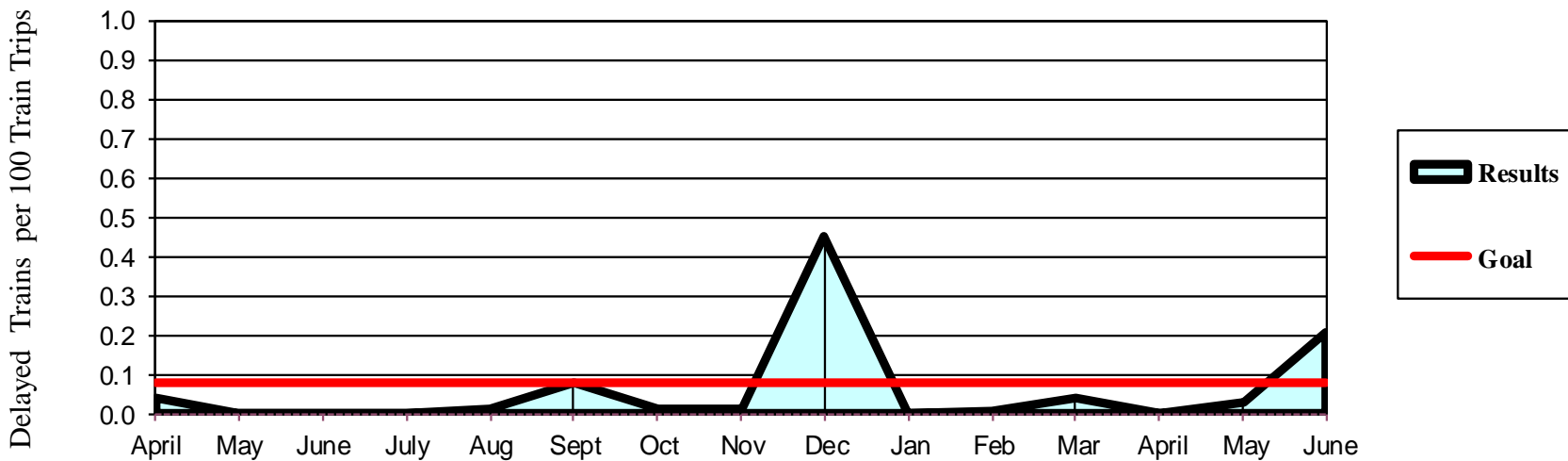


- ✓ Goal Not Met -Actual 1.55/Goal 1.00.
- ✓ 21% improvement from last quarter
- ✓ No Major Delays of 50+ trains
- ✓ Goal not met due to minor delays from minor component failures, repairs performed promptly.
- ✓ Switch Machine Motor Controllers upgrade project to stronger revision. Last quarter we installed 117 of 456 of the prematurely failing motor controllers. Prioritized with OCC to change most critical Interlockings first. Completed A05, A85, K23, K25, K35, M03, M87, M97 and all WSX/SVBX.
- ✓ Stray current study continues. August will see final testing at M55, M85 and M87 and a comprehensive report provided to BART.
- ✓ Prototype MUX LRUs continue to function flawlessly at the HTT. Anticipate a mainline installation in 2018.
- ✓ TCM continues to focus on PM's and Capital project replacing RX-Loop and RX-Coils.



# Computer Control System

**Includes ICS computer & SORS, Delays per 100 train runs**



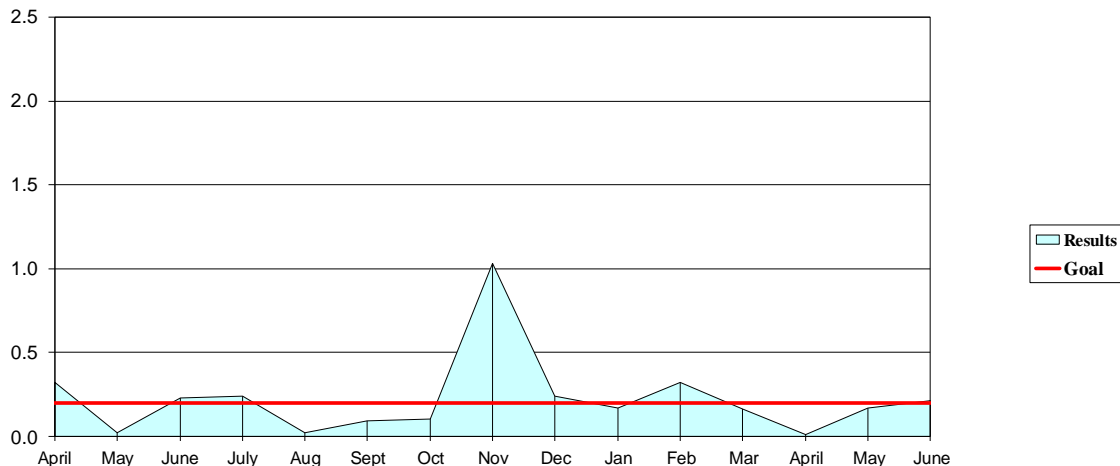
✓ Goal met



# Traction Power

**Includes Coverboards, Insulators,  
Third Rail Trips, Substations,  
Delays Per 100 Train Runs**

Delayed Trains per 100 Train Trips



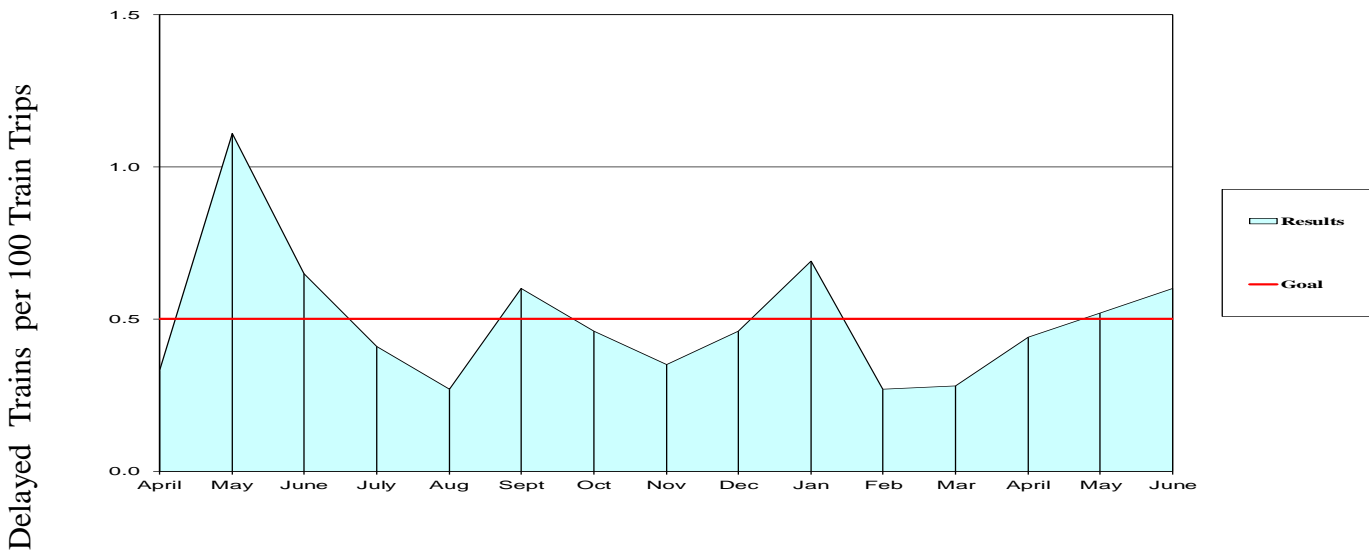
- ✓ Goal met
- ✓ Equipment failure on A Line, Identified as core BRK issue - resolved.  
Transfer Trip system works as designed.
- ✓ Quarterly Wayside PM Inspections (all lines) continue, CB issues mitigated ASAP





# Transportation

**Includes Late Dispatches, Controller-Train Operator-Tower Procedures and Other Operational Delays Per 100 Train Runs**



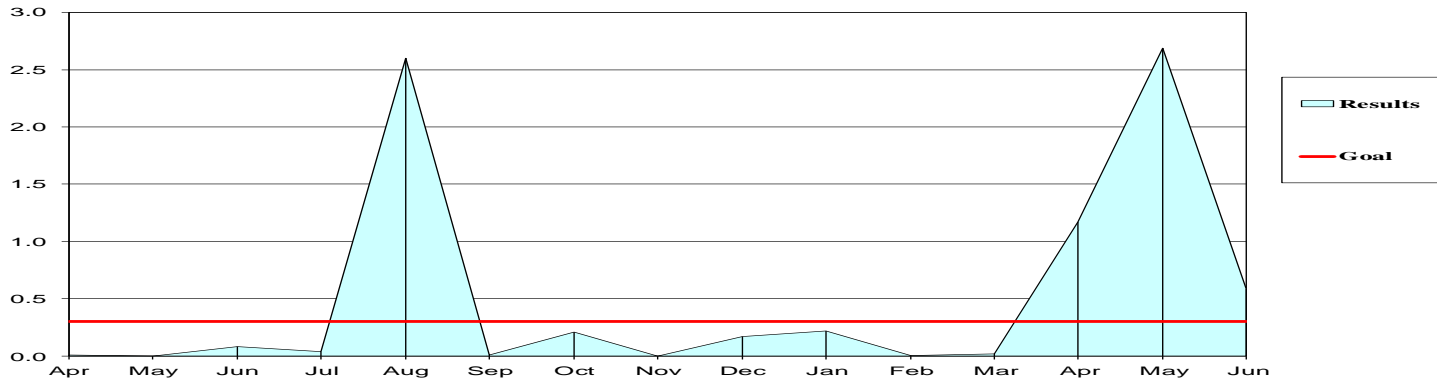
- ✓ Goal not met – Actual .52/Goal .50
- ✓ Increased Train Operator staffing shortages



# Track

**Includes Rail, Track Tie,  
Misalignment, Switch,  
Delays Per 100 Train Runs**

Delayed Trains per 100 Train Trips



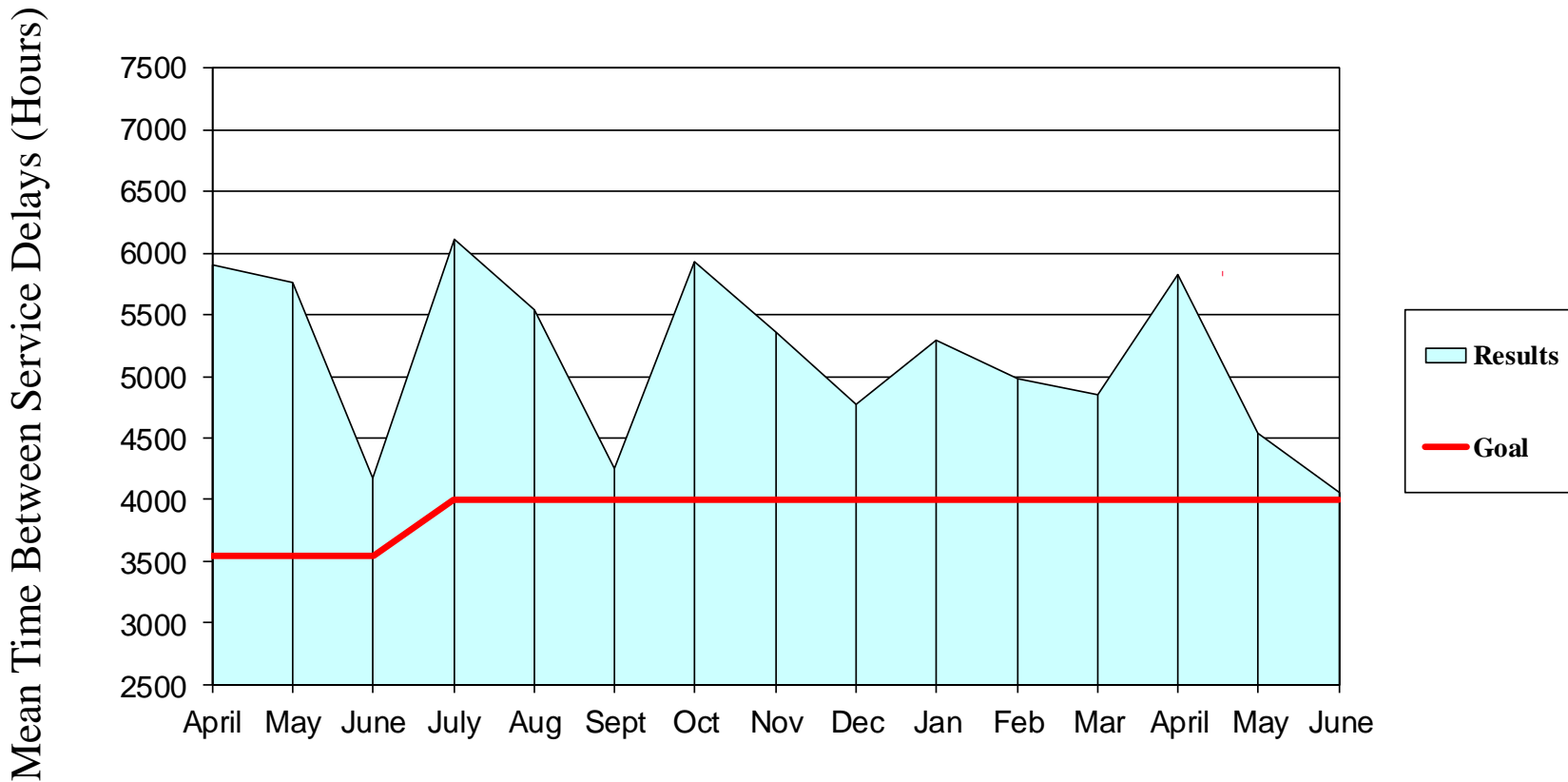
✓ Goal not met

Track contributed to (3) three major delays during this quarter.

- ✓ Number 1 on the list-the M87 derailment, is still under investigation as to cause-We are awaiting the final report from TTCI as to cause.
- ✓ Number 2 on the list-MUX receiver was most likely damaged during surfacing operations during the A15 weekend shut down-but did not manifest itself during return-to-service testing.
- ✓ Number 3 on the list-MUX cable damage was not a result of track work
- ✓ Number 4 on the list-Debris fire-was the result of debris in the West Sliding joint-PM's had been omitted during Earthquake Safety repairs and had not been returned to the PM schedule.



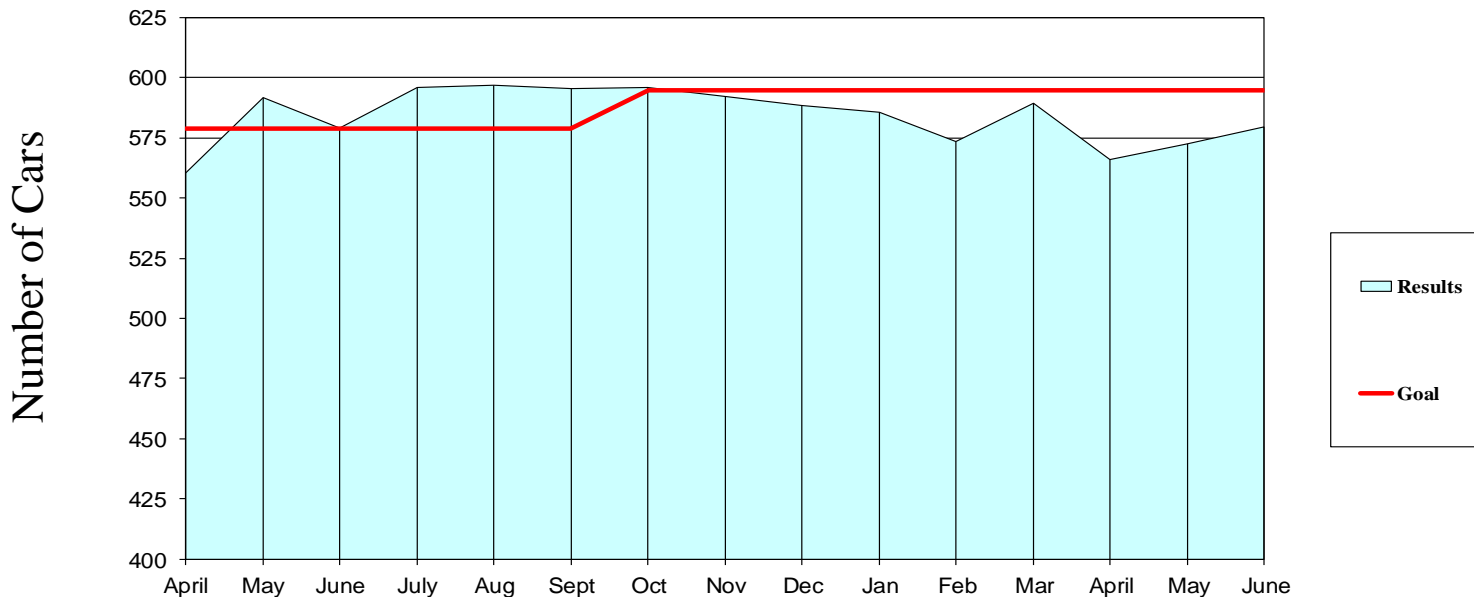
# Car Equipment - Reliability



✓ Goal met – MTBSD 4,723 hours



# Car Equipment – Availability @ 0400 hours

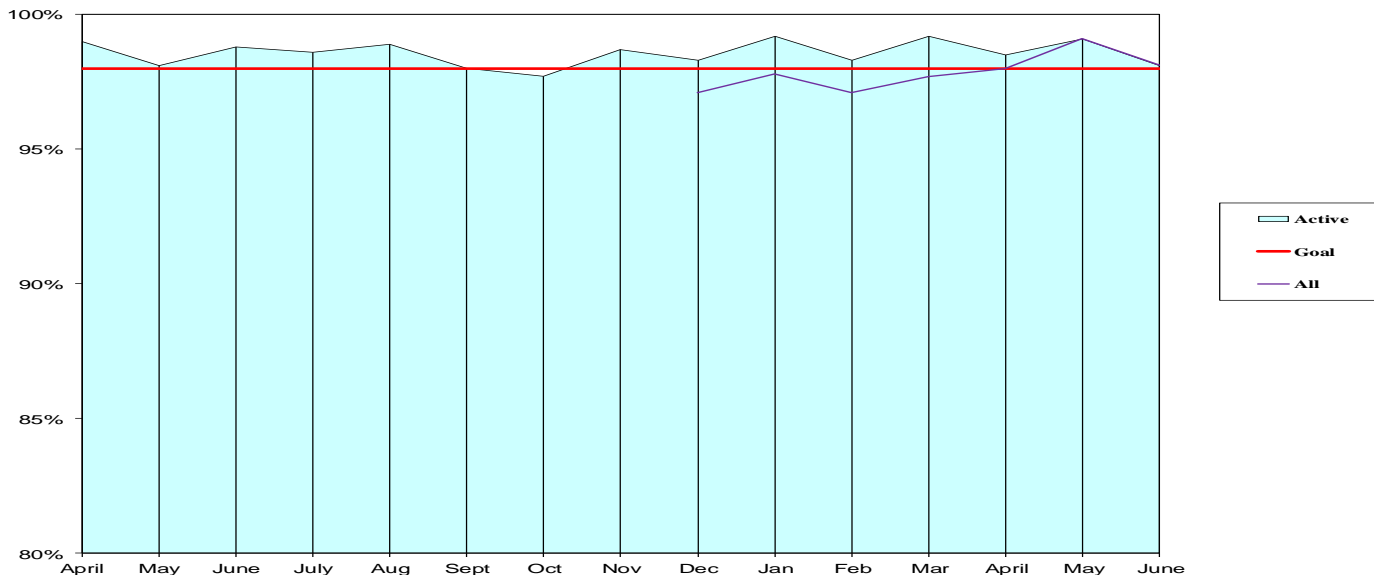


✓ Goal not met – 573 Actual vs. 595 Required

Still recovering from the power line problem on the C-line. We transferred cars to other shops for repair to help get out of the hole. Overloading the other shops had an impact on them meeting service but overall its improving service. Recently swapped C-cars to ORY for A-cars to give the shop some relief.



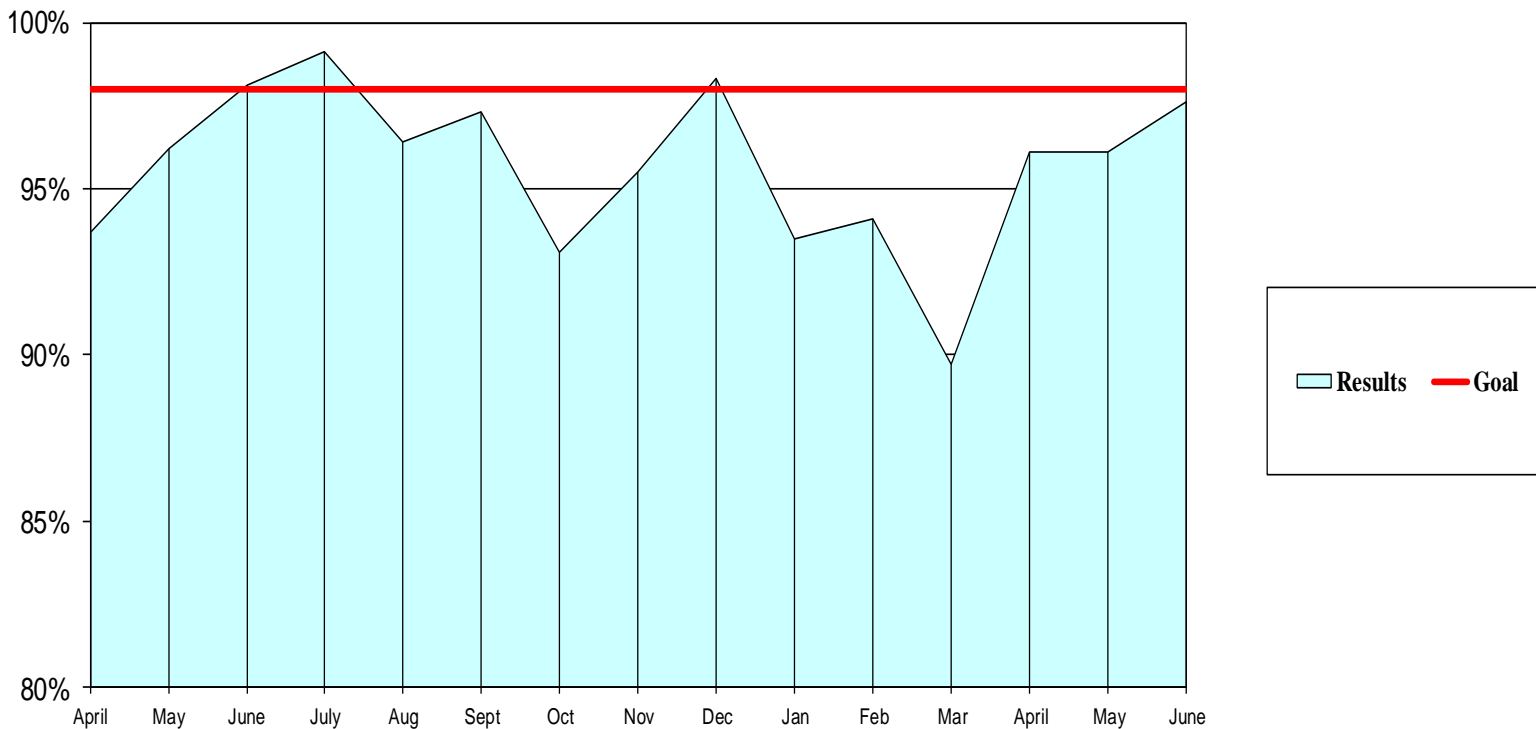
# Elevator Availability - Stations



- ✓ Goal 98%. Goal met – Actual 98.57%
- ✓ Blue line measures availability including planned project work (doors and floors)



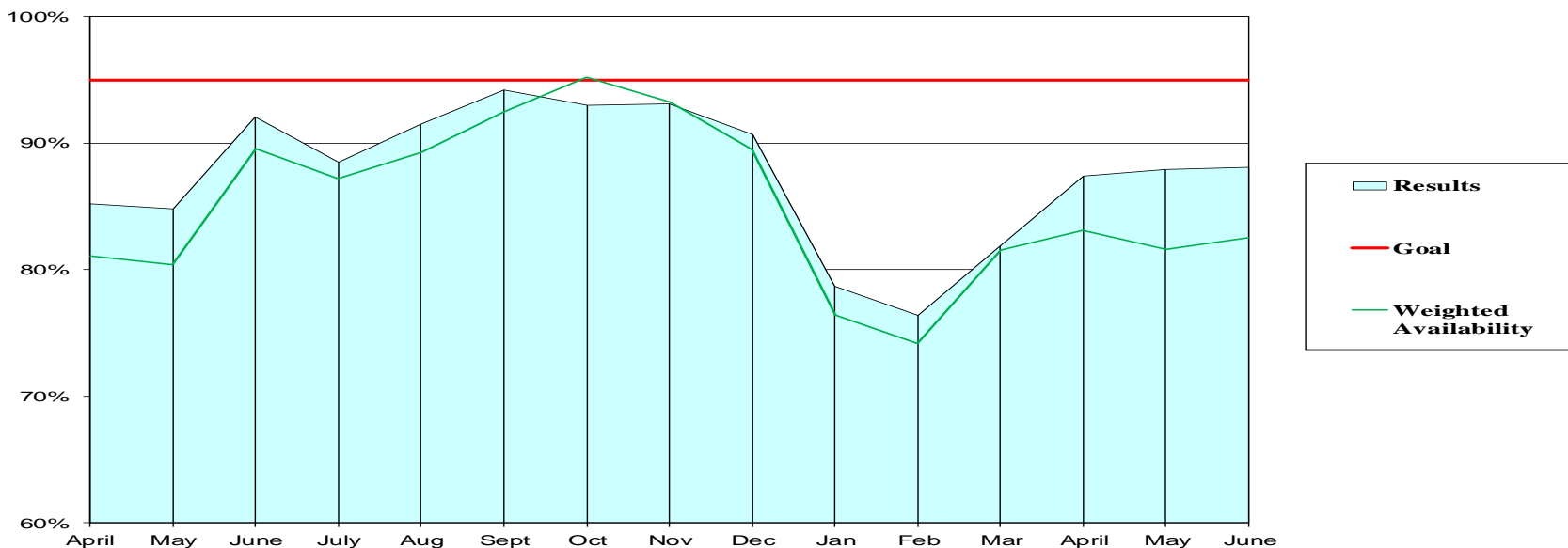
# Elevator Availability - Garage



- ✓ Goal 98% - Goal not met - Actual 96.6%
- ✓ Elevator Drives failures
- ✓ - M90 / R60 Vandalism



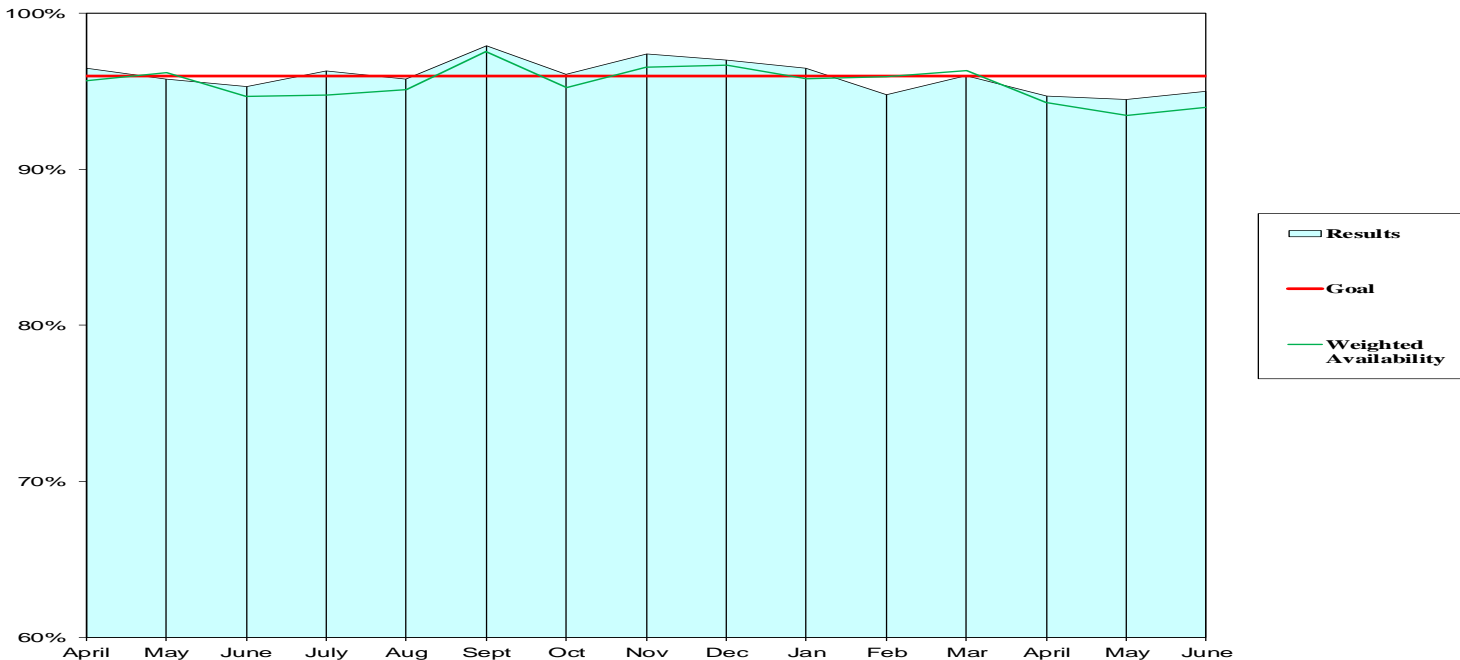
# Escalator Availability - Street



- ✓ Goal 95% - Goal not met - Actual **87.8%**
  - ✓ 5 Heavy Repairs throughout 4<sup>th</sup> Qtr. 4 have been completed (M50-S2 remains with a RTS date of 8/4)
  - ✓ 2 O&K Mod's are progressing, Anticipate completion end of Month.



# Escalator Availability - Platform

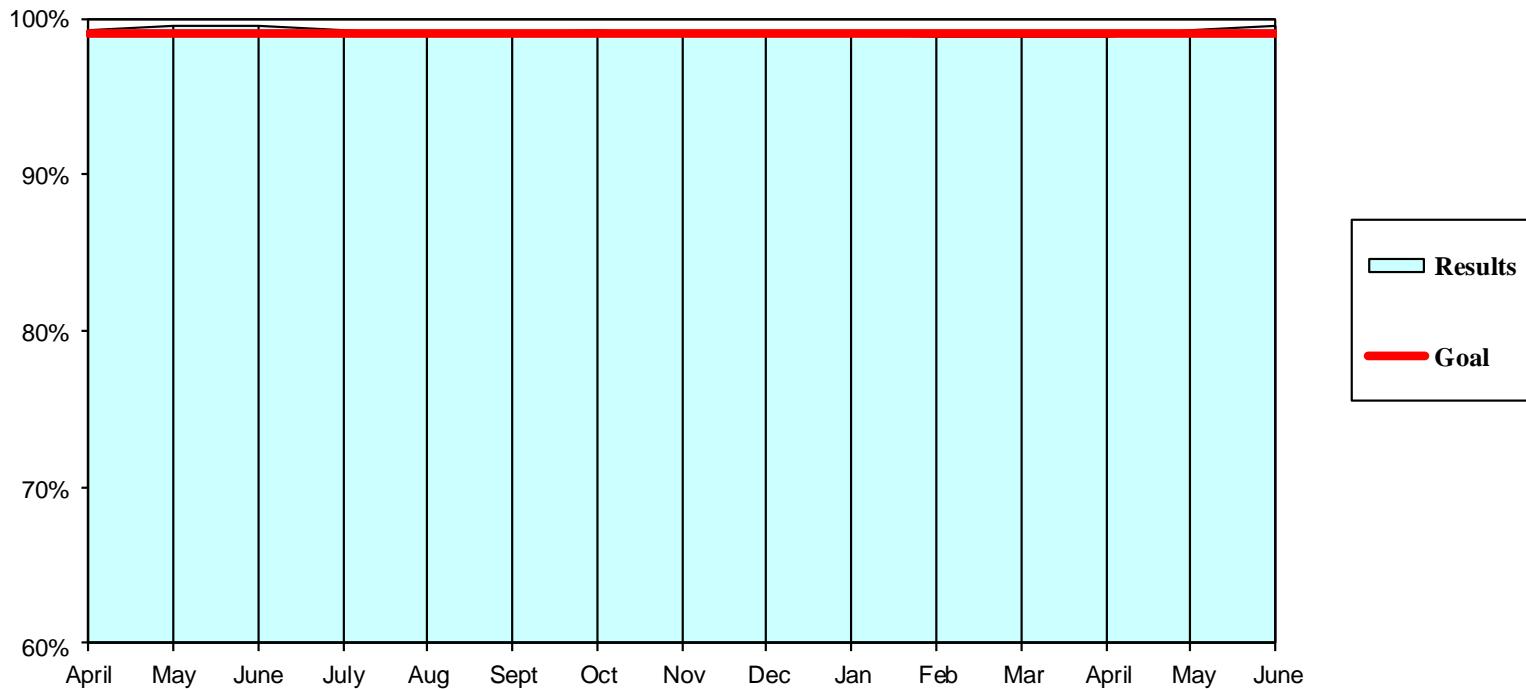


- ✓ Goal 96% - Goal not met - Actual 94.73%.
- ✓ - 6 Heavy repairs throughout 4<sup>th</sup> QTR – 1 (M40-P3) remains. Forecasted RTS 8/18.





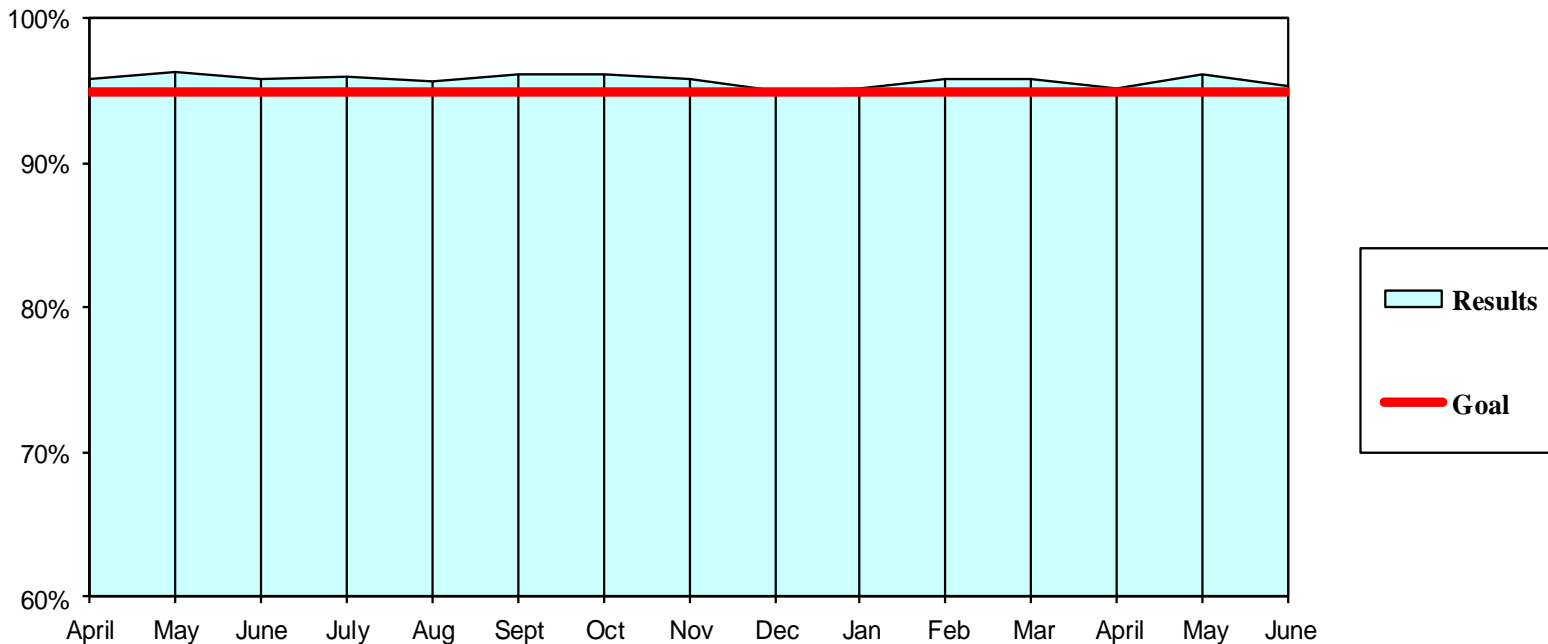
# AFC Gate Availability



✓ Goal met - 99.2%



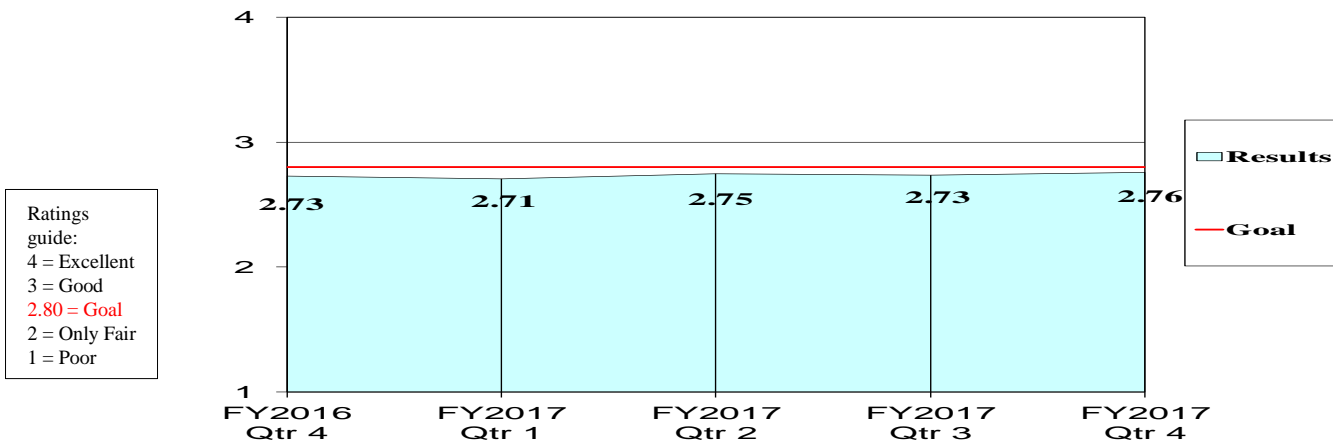
# AFC Vendor Availability



- ✓ Goal met, 95.55%
- ✓ Add Fare Availability – 98.6%
- ✓ Parking Validation Machines Availability – 99.93%



# Environment - Outside Stations



Ratings guide:  
 4 = Excellent  
 3 = Good  
 2.80 = Goal  
 2 = Only Fair  
 1 = Poor

<b>Composite rating of:</b>	
Walkways & Entry Plaza Cleanliness (50%)	2.64
BART Parking Lot Cleanliness (25%)	2.97 <sup>↑</sup>
Appearance of BART Landscaping (25%)	2.78

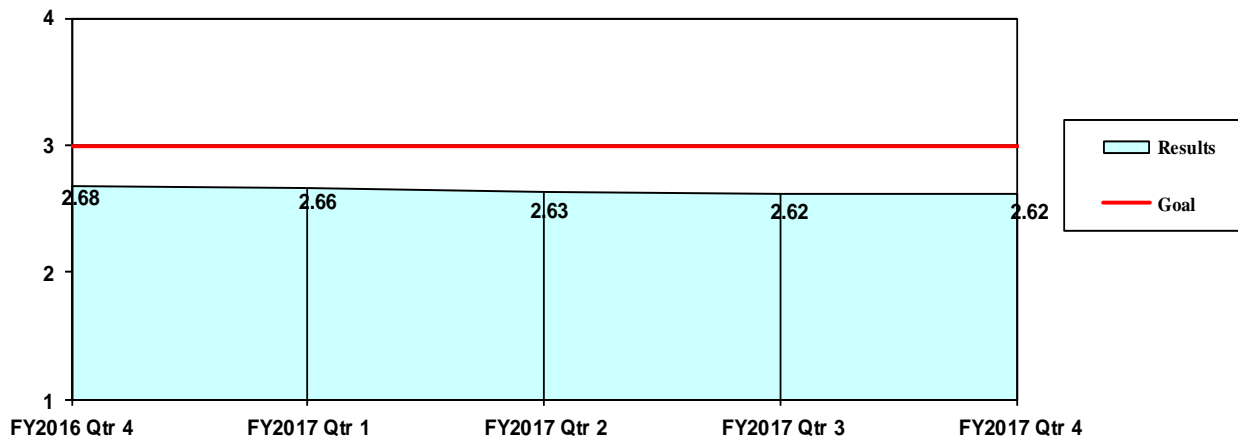
✓ Ratings of Excellent or Good

Walkways & Entry Plaza Cleanliness	60.9%
BART Parking Lot Cleanliness	77.6%
BART Parking Lot Cleanliness	67.7%

<sup>↑</sup> indicates a statistically significant increase from the prior quarter

# Environment - Inside Stations

Ratings guide:  
 4 = Excellent  
 3 = Good  
 3.00 = Goal  
 2 = Only Fair  
 1 = Poor



Composite rating for Cleanliness of:

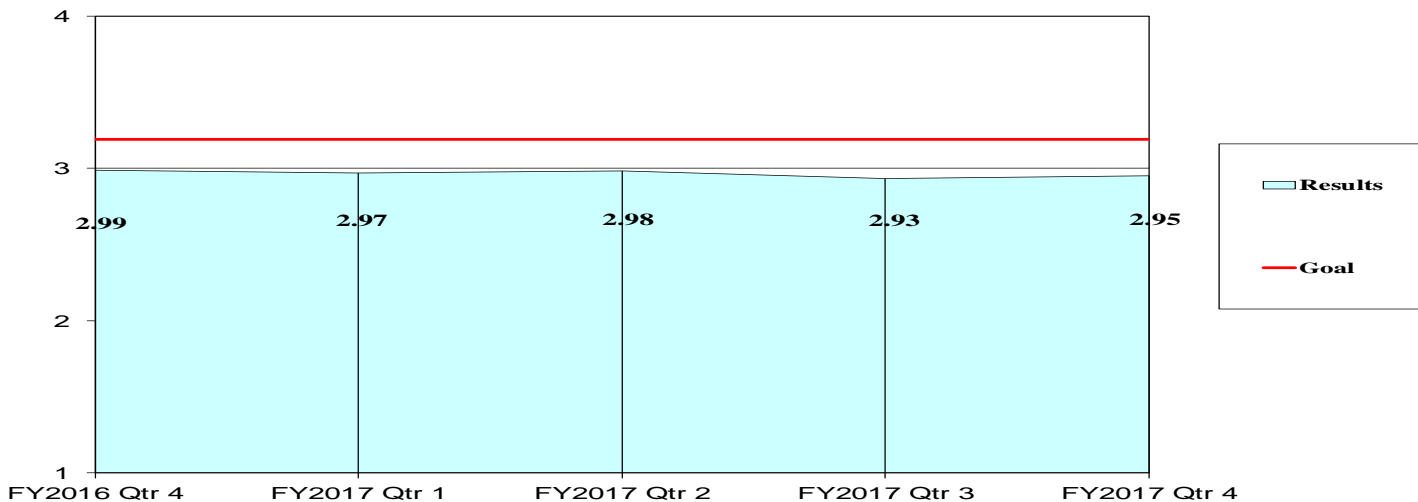
Station Platform (60%)	2.75
Other Station Areas (20%)	2.57
Restrooms (10%)	2.19
Elevator Cleanliness (10%)	2.39

✓ Ratings of Excellent or Good

Station Platform	66.8%
Other Station Areas	58.0%
Restrooms	41.0%
Elevator Cleanliness	51.4%

# Station Vandalism

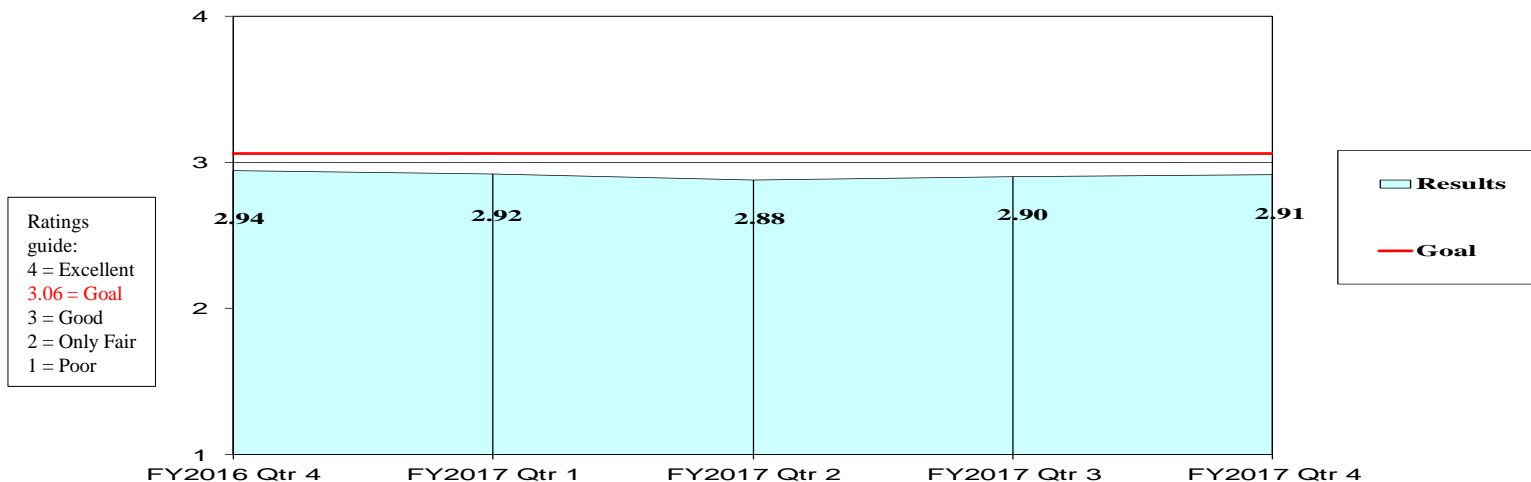
Ratings guide:  
 4 = Excellent  
 3.19 = Goal  
 3 = Good  
 2 = Only Fair  
 1 = Poor



✓ Goal not Met  
 Station Kept Free of Graffiti – 2.95  
 Ratings of Excellent or Good – 76.8%



# Station Services



Ratings guide:  
 4 = Excellent  
 3.06 = Goal  
 3 = Good  
 2 = Only Fair  
 1 = Poor

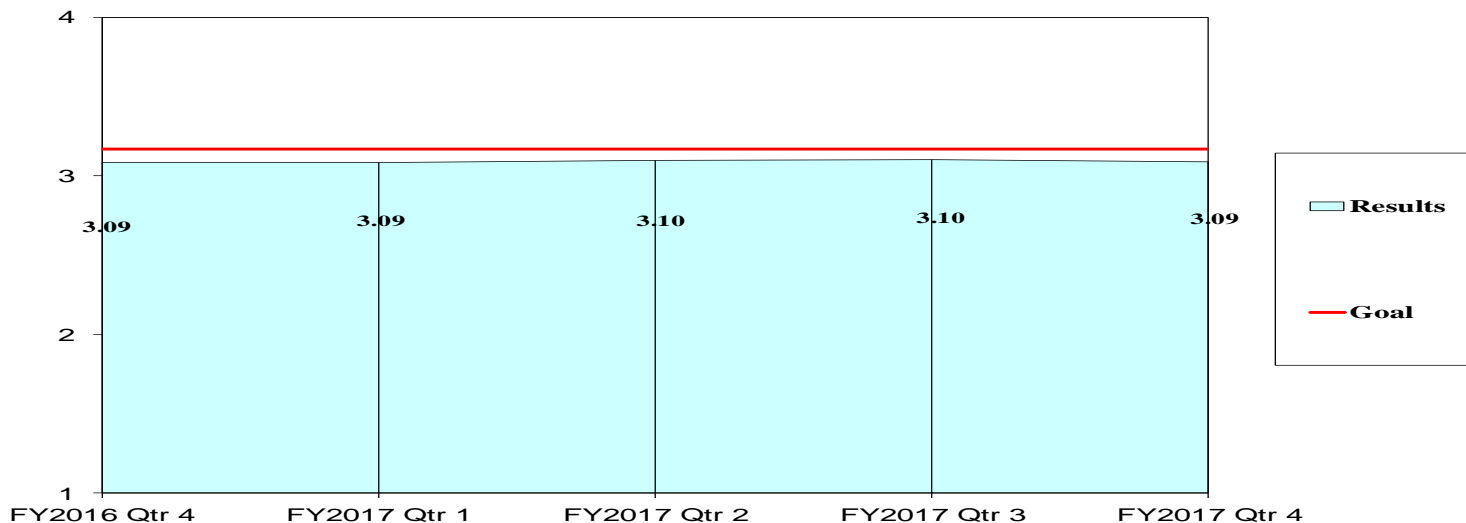
Results  
 Goal

Composite rating of:	
Station Agent Availability (65%)	2.89
Brochures Availability (35%)	2.96

✓ Ratings of Excellent or Good	
Station Agent Availability	72.5%
Brochures Availability	76.4%

# Train P.A. Announcements

Ratings guide:  
 4 = Excellent  
 3.17 = Goal  
 3 = Good  
 2 = Only Fair  
 1 = Poor



## Composite rating of:

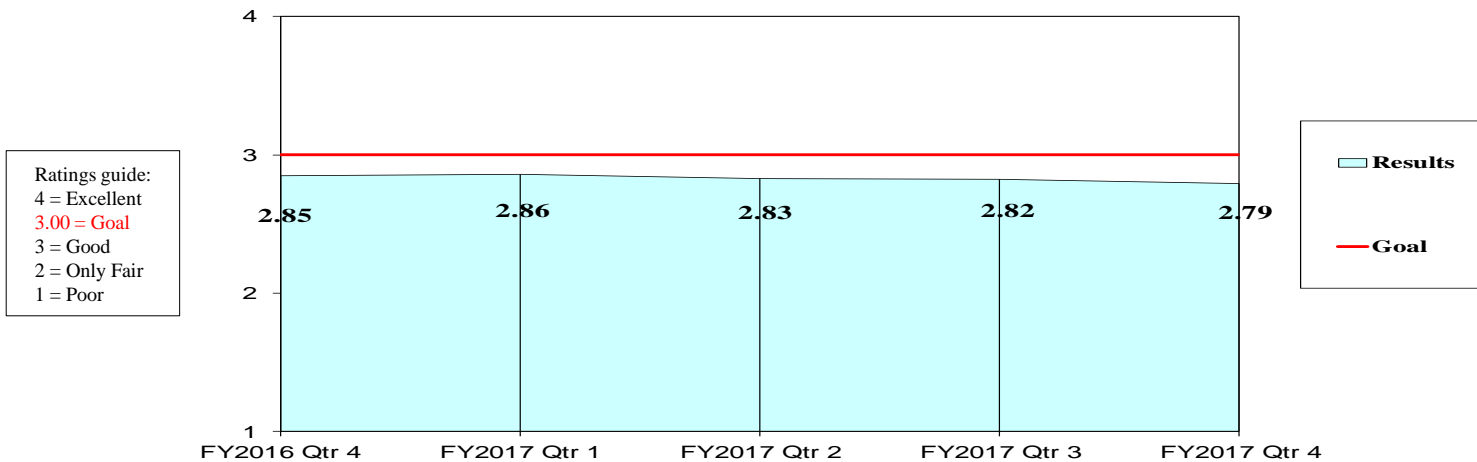
P.A. Arrival Announcements (33%)	3.06
P.A. Transfer Announcements (33%)	3.03
P.A. Destination Announcements (33%)	3.17

## ✓ Ratings of Excellent or Good

P.A. Arrival Announcements	78.2%
P.A. Transfer Announcements	77.0%
P.A. Destination Announcements	83.4%



# Train Exterior Appearance

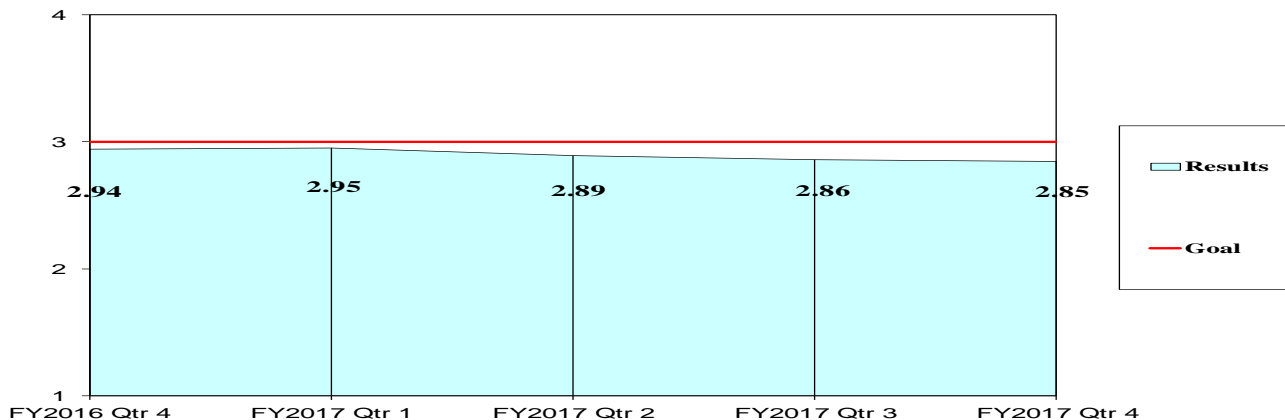


- ✓ Goal not met
- ✓ Significantly decrease since prior quarter 2.82 to 2.78
- ✓ Ratings of Excellent or Good 70.9%



# Train Interior Cleanliness

Ratings guide:  
 4 = Excellent  
 3 = Good  
 3.00 = Goal  
 2 = Only Fair  
 1 = Poor



## Composite rating of:

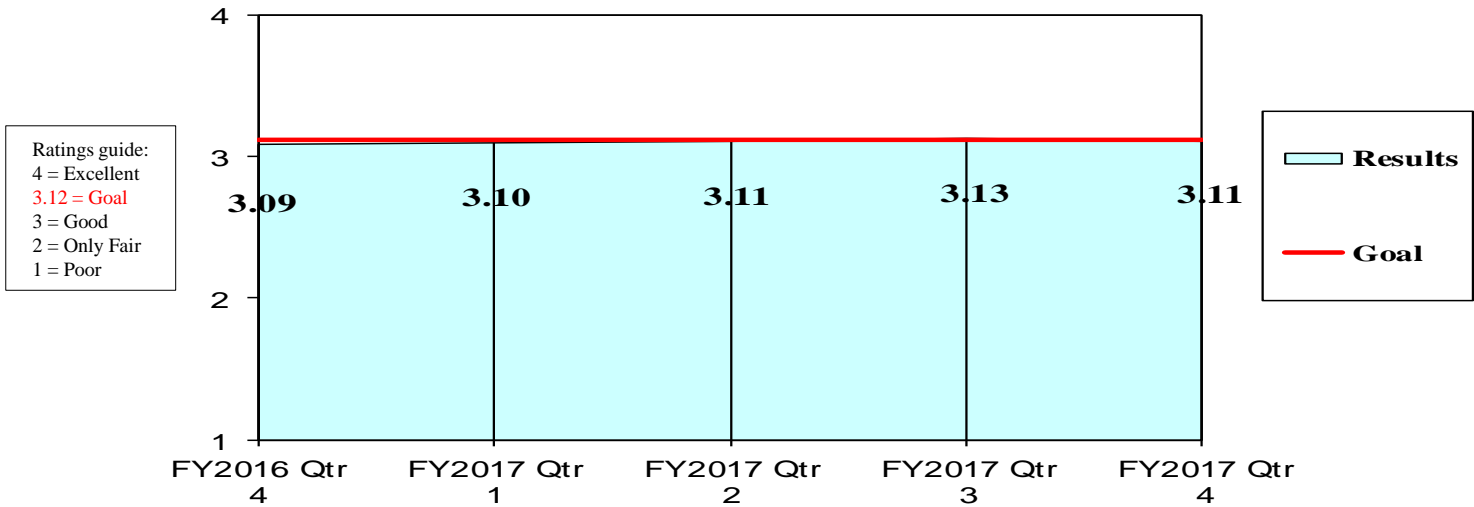
Train interior cleanliness (60%)	2.57
Train interior kept free of graffiti (40%)	3.26

✓ Goal not met

✓ Ratings of Excellent or Good

Train interior cleanliness	57.1%
Train interior kept free of graffiti	89.8%

# Train Temperature



Ratings guide:  
 4 = Excellent  
 3.12 = Goal  
 3 = Good  
 2 = Only Fair  
 1 = Poor

Results  
 Goal

**Comfortable Temperature Onboard Train – 3.11**

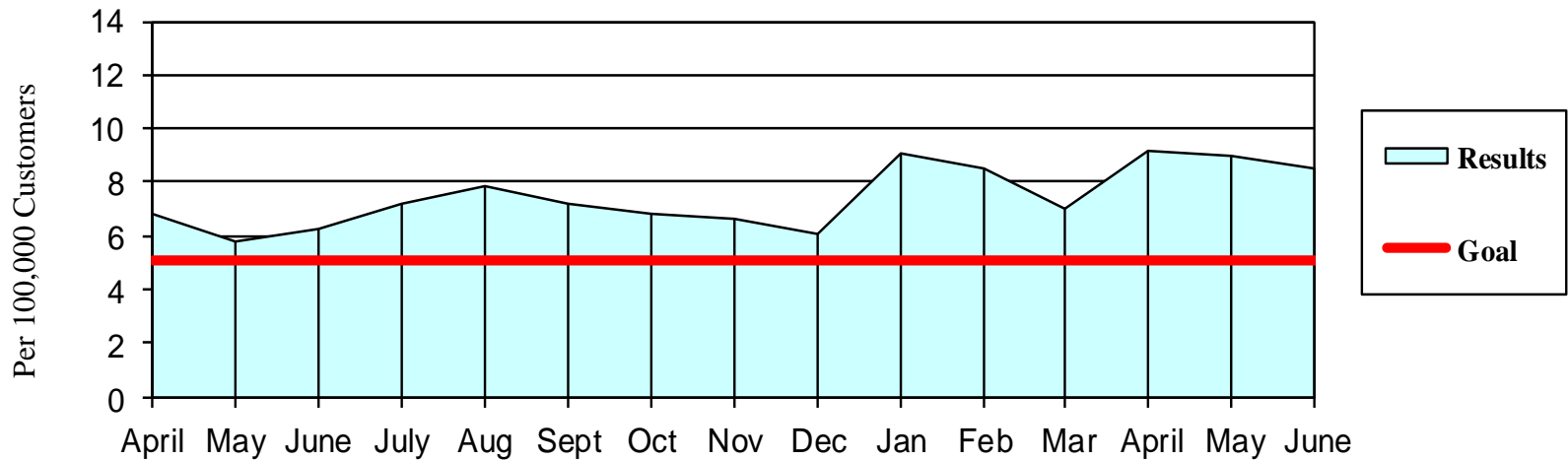
✓ Ratings of Excellent or Good

83.2%



# Customer Complaints

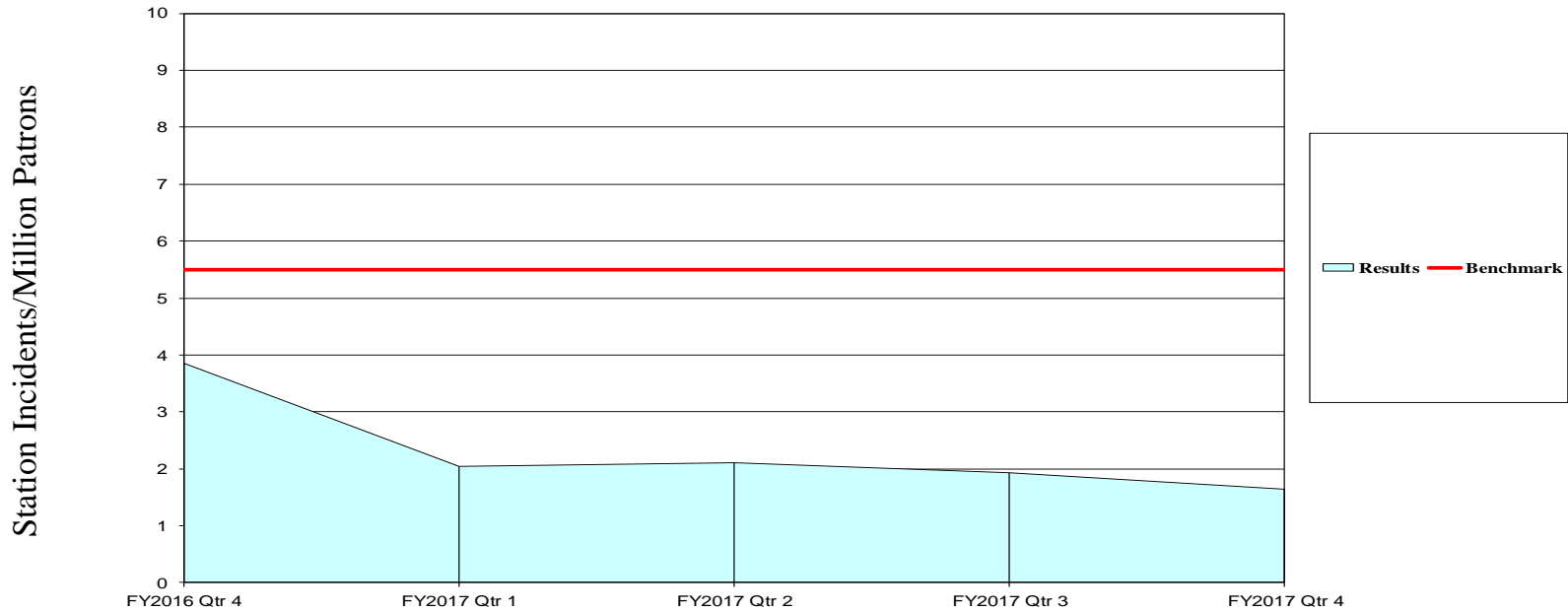
**Complaints Per 100,000 Customers**



- Total complaints lodged this period increased 313 (12.8%) from last quarter, up 654 (31%) when compared with the fourth quarter FY16.
- Complaint numbers increased in the categories: Service, Trains, Train Cleanliness, Station Cleanliness, Personnel, Police Services, Policies, and Quality of Life. Decreases are seen in AFC, Announcements, M&E, Parking, and Bike Program.
- “Compliments” are down at 127 from 157 last quarter (one year ago these numbered 139).

# Patron Safety:

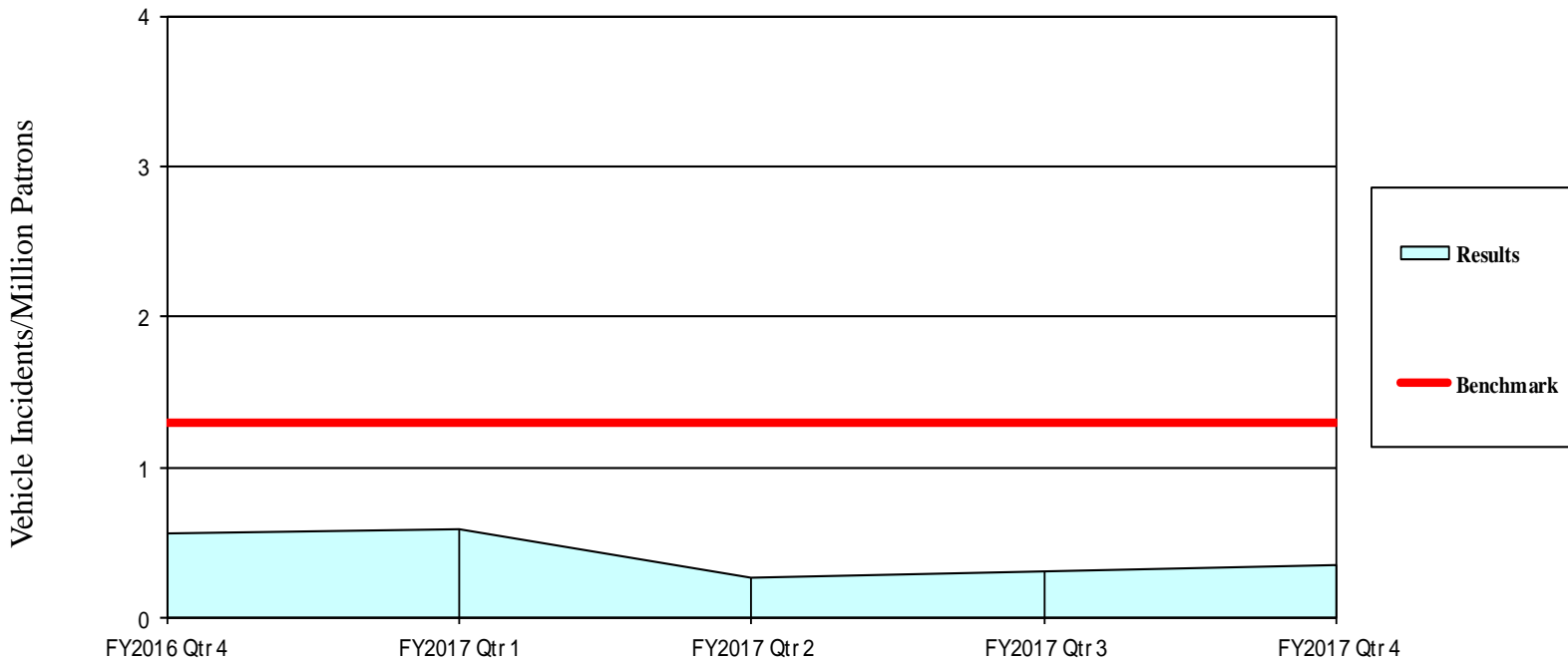
## Station Incidents per Million Patrons



✓ Goal met

# Patron Safety

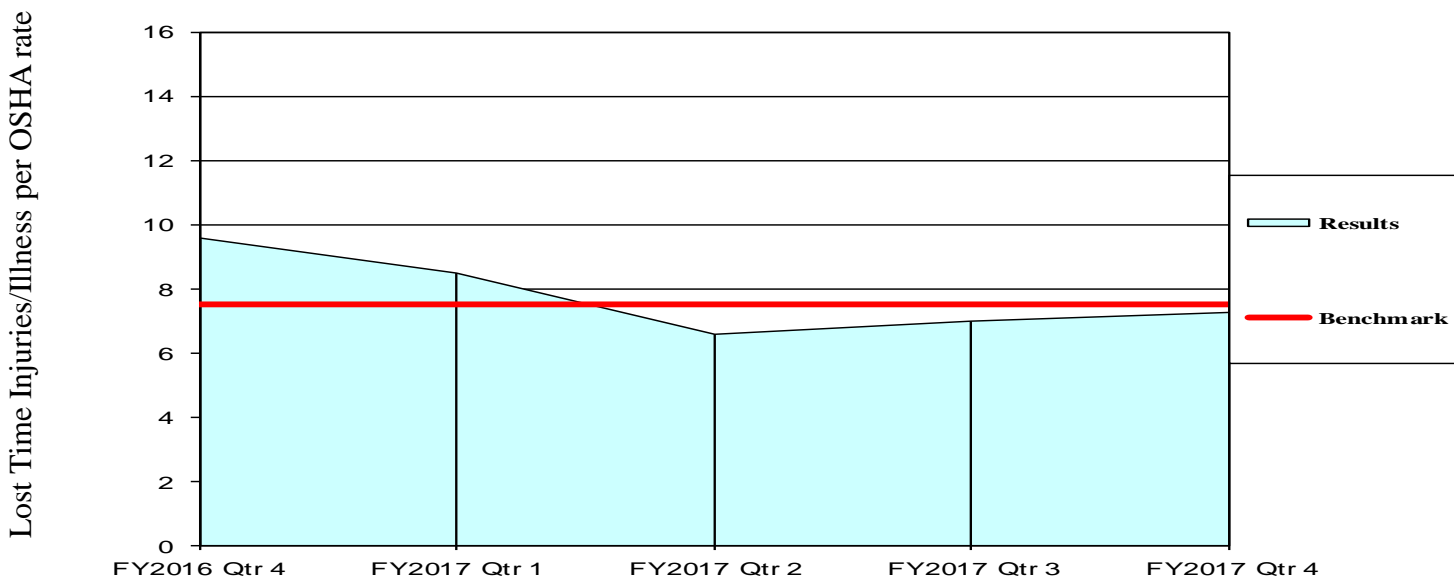
## Vehicle Incidents per Million Patrons



✓ Goal met

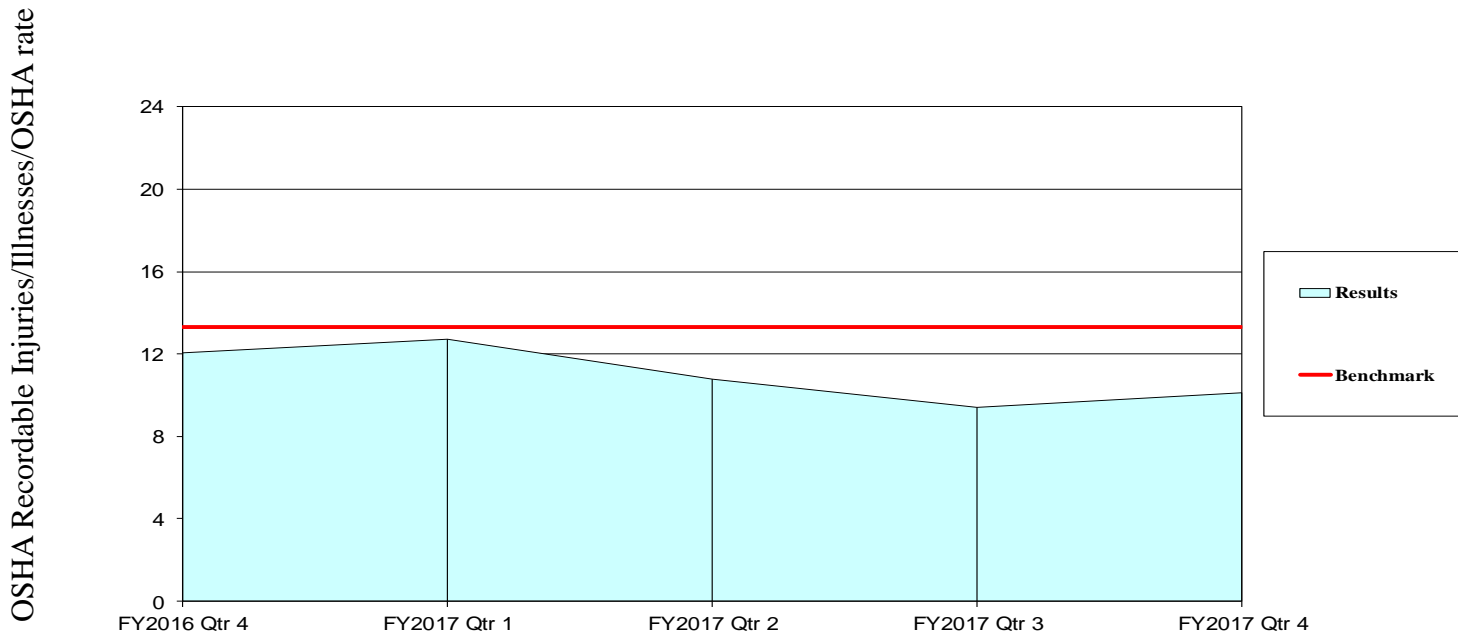


# Employee Safety: Lost Time Injuries/Illnesses per OSHA Incidence Rate



✓ Goal met

# Employee Safety: OSHA-Recordable Injuries/Illnesses per OSHA Incidence Rate

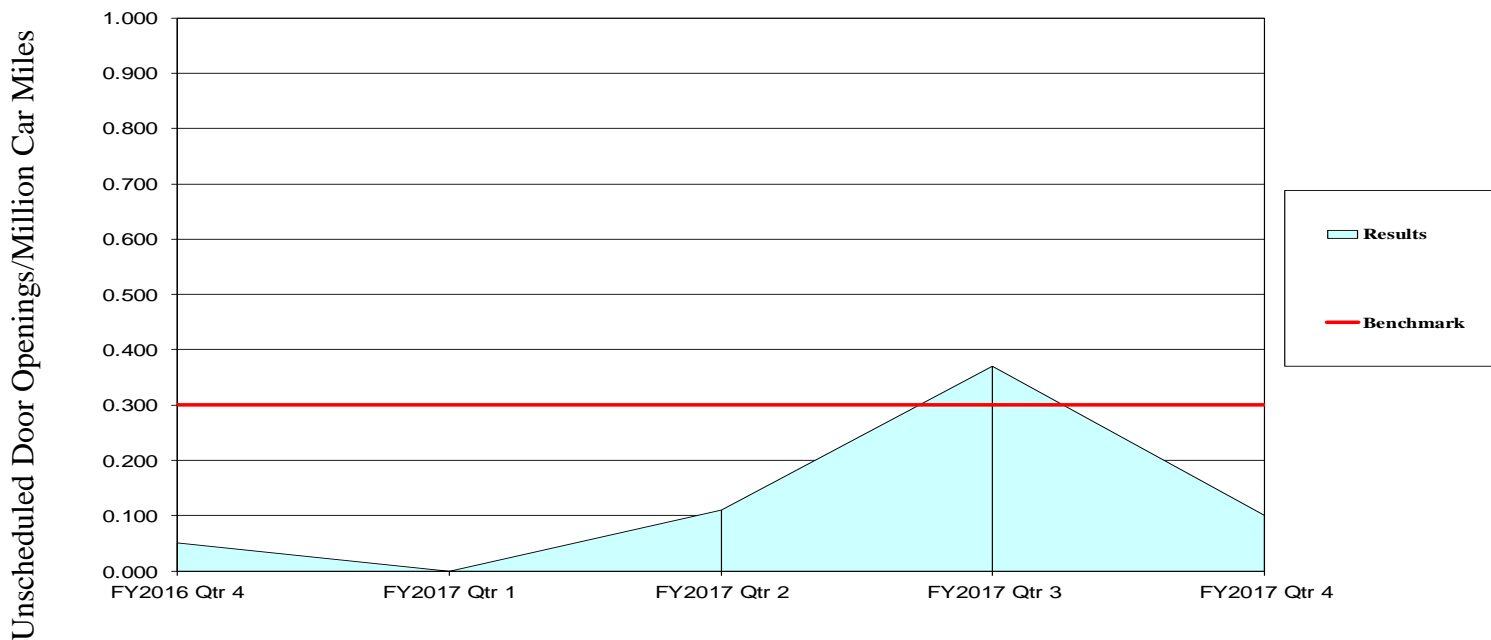


✓ Goal met



# Operating Safety:

## Unscheduled Door Openings per Million Car Miles

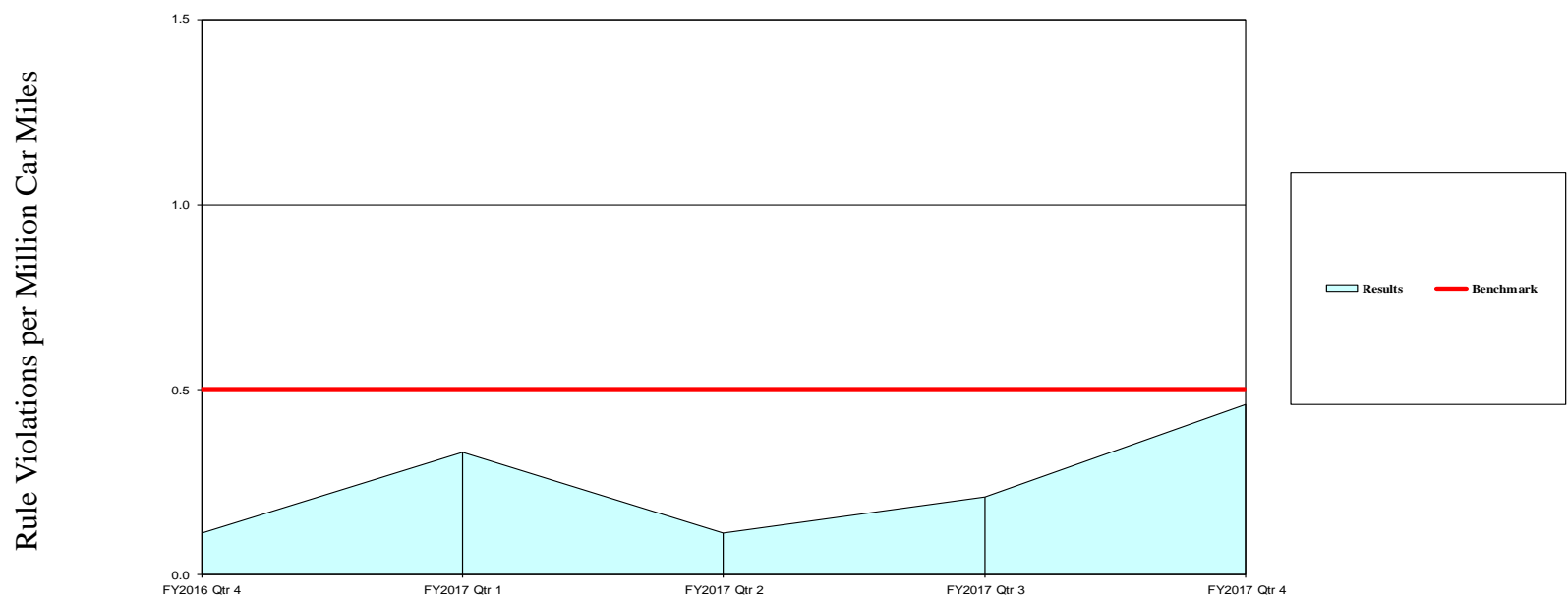


✓ Goal met



# Operating Safety:

## Rule Violations per Million Car Miles



✓ Goal met



# BART Police Presence

Starting FY17 Q2, the way BART Police Presence is measured was changed. The new questions are:

- Did you see BART Police on the Train? (Yes, No, Don't Know)
- Did you see BART Police Outside the Station? (Yes, No, Don't Know)
- Did you see BART Police in the Station? (Yes, No, Don't Know)

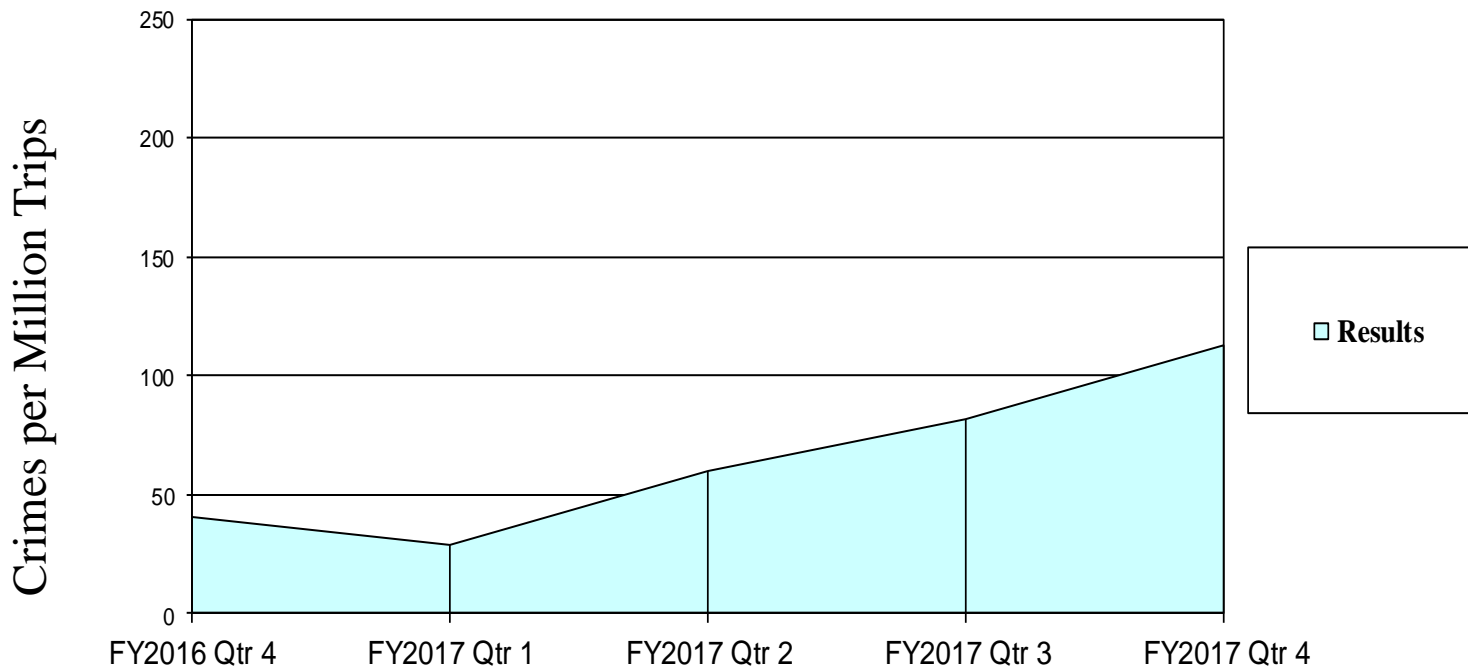
Results are reported for all revenue hours and for after 7:00 PM.

Goals will be set after approximately a year of using the new measures.

	FY 17 Q2		FY17 Q3		FY17 Q4	
BART Police Presence	Avg. 10.9%		Avg. 9.6%		Avg. 10.4%	
Rider saw Police on train	5.6%		5.6%		4.7%	
Rider saw Police outside the station	16.3%		15.6%		13.8%	
Rider saw Police in the station	11.1%		9.6%		9.7%	
Rider saw Police on train after 7:00PM	4.8%		3.8%		4.9%	
Rider saw Police outside the station aft 7:00PM	16.0%		13.5%		16.6%	
Rider Saw Police in the station after 7:00PM	11.4%		9.7%		12.9%	



# Quality of Life\*



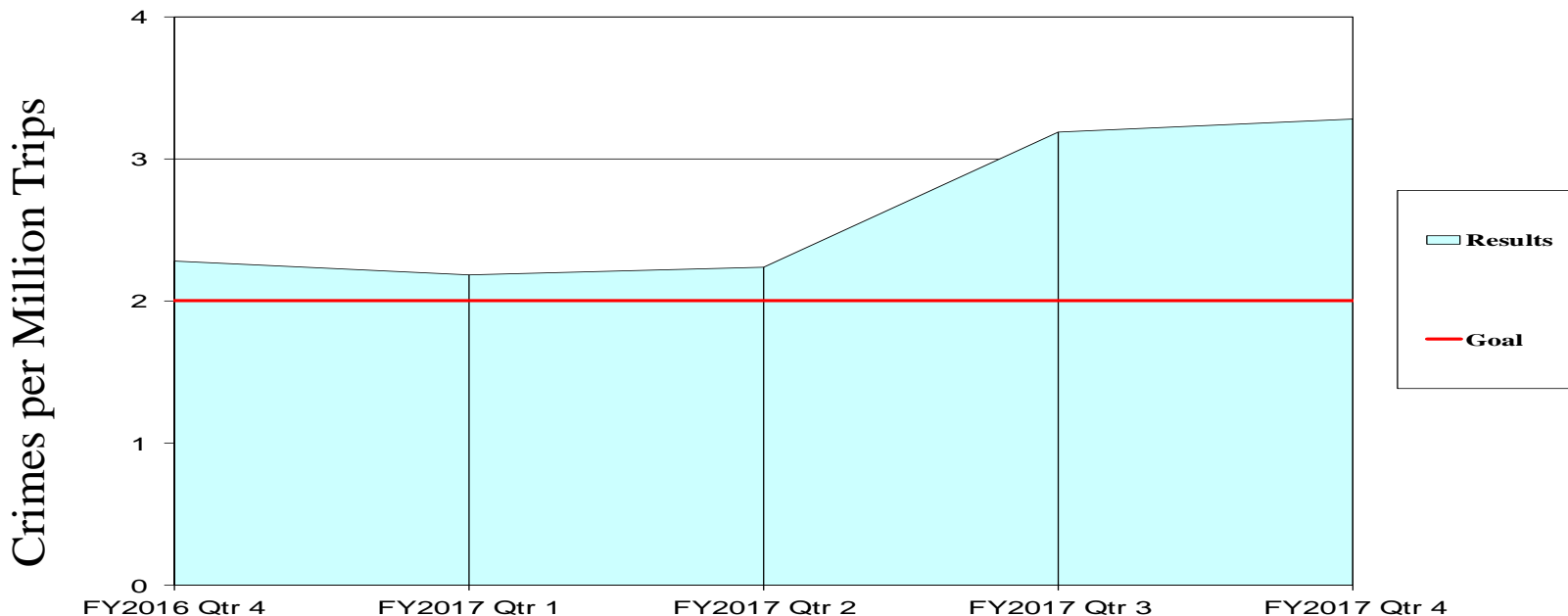
- ✓ Quality of Life incidents are up from the last quarter and up the corresponding quarter of the prior fiscal year.

\*Quality of Life Violations include: Disturbing the Peace, Vagrancy, Public Urination, Fare Evasion, Loud Music/Radios, Smoking, Eating/Drinking and Expectoration



# Crimes Against Persons

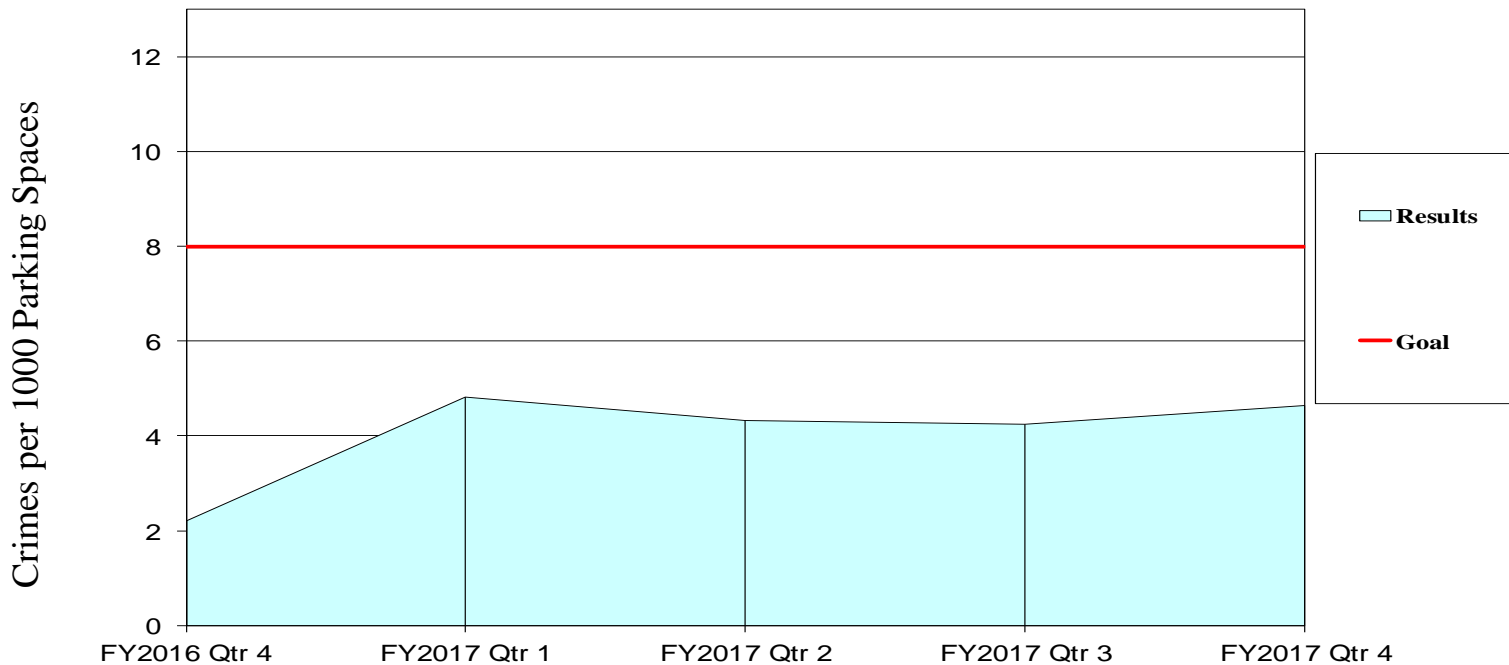
(Homicide, Rape, Robbery, and Aggravated Assault)



- ✓ Goal not met
- ✓ Crimes against persons are up from the last quarter and up from the corresponding quarter of the prior fiscal year.



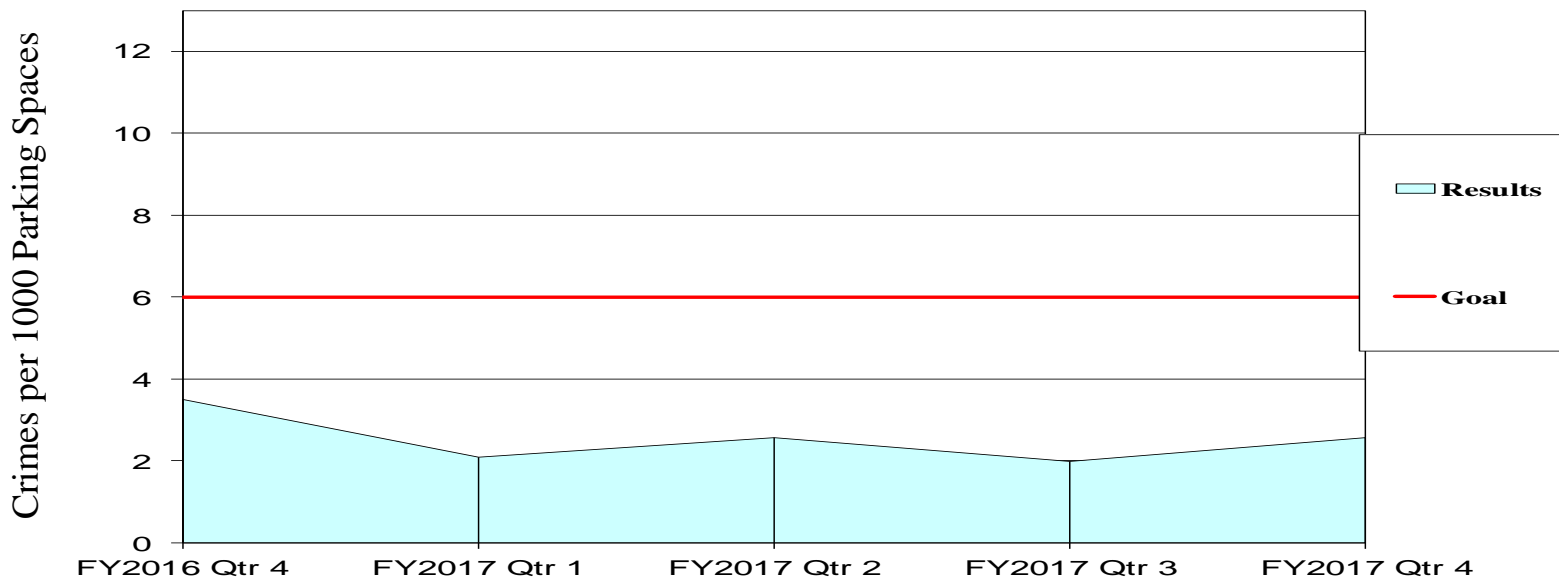
# Auto Burglary



- ✓ Goal met
- ✓ The number of incidents per thousand parking spaces are up from last quarter and up the corresponding quarter from the prior fiscal year.



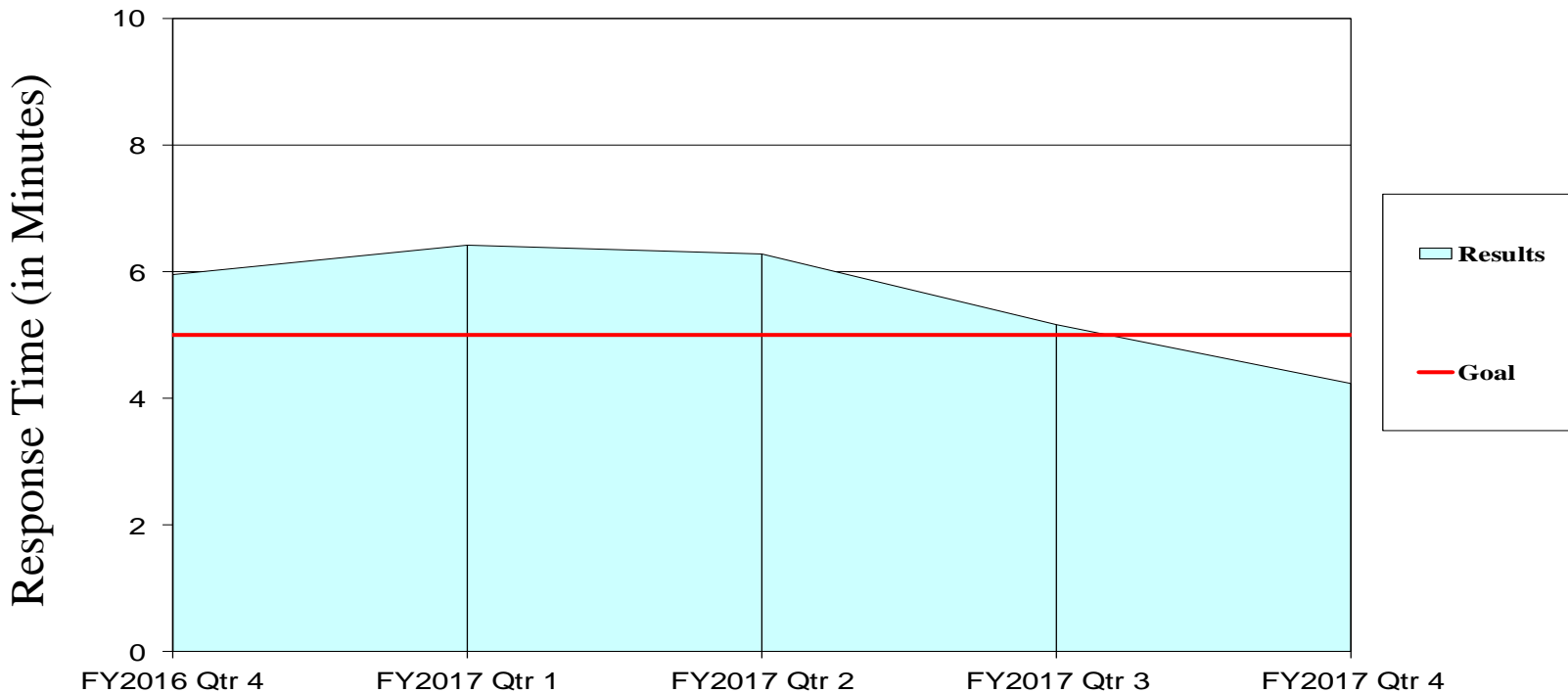
# Auto Theft



- ✓ Goal met
- ✓ The number of incidents per thousand parking spaces are up from last quarter and down the corresponding quarter from the prior fiscal year.



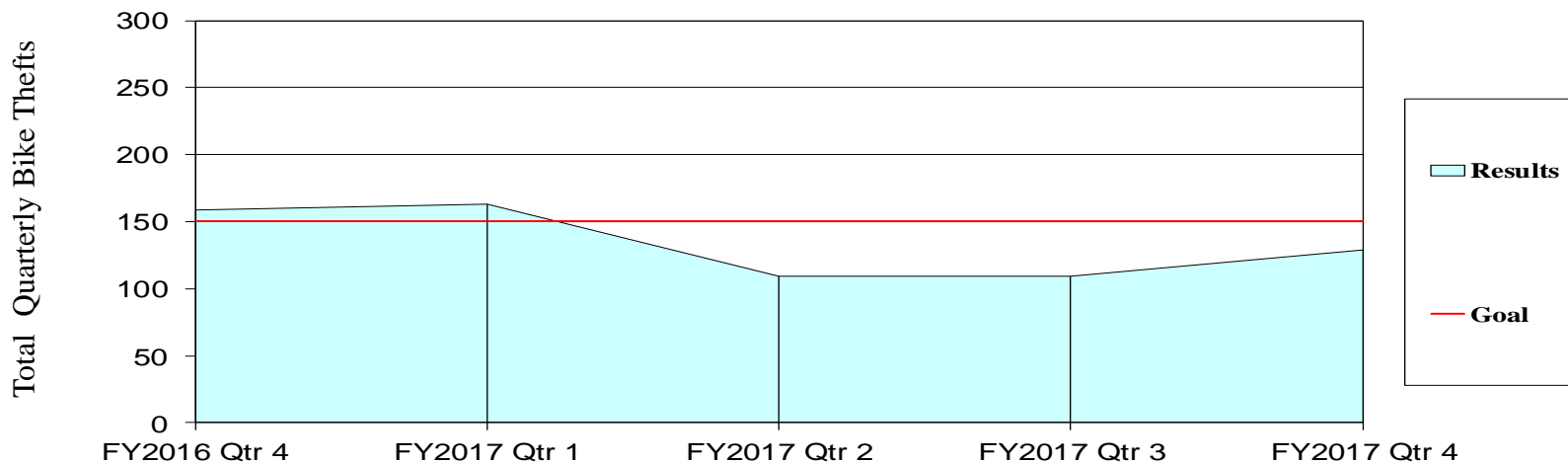
# Average Emergency Response Time



- ✓ The average Emergency Response Time goal was met for the quarter and improved over the previous 3 quarters.



# Bike Theft



- ✓ Goal met
- ✓ 129 bike thefts for current quarter, up 56 from last quarter.