



High Quality Service through Continuous Improvement 2018 2nd Quarter Performance Report

TriMet Board Meeting, September 26, 2018

Quality is a never-ending quest and continuous improvement is a never-ending way to discover and eliminate the root causes of problems. It accomplishes this by using sustainable, incremental improvements rather than implementing one large change. It is a way of looking at how we can do our work better.

Key performance indicators are performance measurements that identify the level of progress toward attaining stated objectives.

APPROACH

Focus on TriMet's three primary areas for improvement:

1. Vehicle and System Reliability

Goal: Reduce service disruptions through effective preventive maintenance and asset management.

Key Performance Indicators: Preventive maintenance schedule compliance, mean distance traveled between mechanical failures, and maintenance employee attendance.

- *Preventive maintenance (PM) compliance for all disciplines exceeded 94% this quarter, exceeding the Federal Transit Administration's preventive maintenance target of 80%. Rail Equipment Maintenance (REM) increased by more than 16 percentage points to 99.0%. Bus Maintenance and Maintenance of Way (MOW) saw small year-over-year improvements, while Fare Equipment returned to 100% of PM work completed on time.*
- *MAX light rail MDBF (Mean Distance Between Failures) performance has increased by 9.4% over last year. A revised in-service MDBF methodology has been introduced resulting in improved figures for earlier quarters. The revised methodology provides a more consistent and accurate approach to identify failures, including automating the process and streamlining the performance reports.*
- *Fixed-route bus MDBF has increased by 19.4% over the previous year to 14,381 miles. Retirement of older, less-reliable buses continues to be a contributing factor.*
- *Maintenance attendance has remained steady at 94% compared to the previous year.*

2. Service Delivery

Goal: Ensure efficient service delivery by creating staffing levels and reporting structures that increase the ability to respond quickly to service and customer needs. Improve route design and service delivery through ongoing line reviews.

Key Performance Indicators: On time performance (OTP), operator attendance, and boarding rides per revenue hour.

- *At 86.3% bus service OTP improved by 3.2 percentage points over the previous year, but decreased ~1 percentage point from the past quarter. Qtr 1 generally has the best Bus OTP on an annual basis.*
- *MAX service OTP increased by 2.6 percentage points over the past year to 90.1% in Qtr 2 2018. The next round of OTP initiatives is currently being developed for both bus and rail. Infrastructure improvements to allow for fewer speed restrictions when temperatures exceed 90 degrees contributed.*
- *WES OTP remained stable at just under 96% compared to a year ago. A decrease in rail construction-related speed restrictions resulted in OTP improving by 3.7 percentage points from Qtr 1 2018.*
- *Transportation employee attendance increased to 90.3%, a slight improvement over the past year as well as the past quarter.*
- *Boarding rides per revenue hour overall declined by 2.3% compared to Qtr 2 2017 however they increased slightly from the past quarter.*
 - *Both bus boardings per revenue hour and MAX boardings per revenue hour are down by 3.0% compared to this time last year. However, the past quarter saw improvements of 0.8% for bus and 3.2% for MAX compared to Qtr 1.*
 - *WES boarding rides per revenue hour were down 7.3% from the past year. Year-on-year declines still reflect large employer closures and job losses in the corridor. While still declining, the rate of decline has slowed compared to the previous quarter.*

3. Operator Support

Goal: Improve safety and customer service through customized training programs for operators and supervisors.

Key Performance Indicators: Collisions, complaints, commendations, and rail rule violations.

- *Total bus collisions are up by 13.8% compared to last year and also up from the previous quarter. The increase was driven primarily by an increase in mirror strikes. A pilot project to reduce mirror strikes is currently underway with buses at Powell Garage. "Collision Other" had a high percentage increase but total numbers are relatively low. This category contains collisions with railroad gate arms, animals, shopping carts, and other items.*
- *The total number of MAX collisions remained comparable to the prior year and the prior quarter, though there were 2 fewer bike/pedestrian incidents. The overall number of MAX collisions is small, so a small increase or decrease can appear as a large percentage change.*

- *Total fixed-route bus complaints per 100,000 boarding rides are down 22.8% compared to the past year and down compared to last quarter as well. Per 100,000 boarding rides, this quarter saw 4.4 fewer Service Delivery complaints, a similar number of Public Relations complaints, and 0.3 more Safety Related complaints compared to one year ago.*
- *Total MAX complaints per 100,000 boarding rides are down ~25% compared to the previous year. Per 100,000 boarding rides, this quarter saw 1.6 fewer Service Delivery complaints, 0.3 more Public Relations complaints, and 0.4 more Safety Related complaints compared to one year ago. Most Safety Related complaints were regarding other riders. The overall occurrence per 100,000 boardings is very low indicating strong performance in this area.*
- *Bus operator commendations per 100,000 boardings were down from the prior year but unchanged from the previous quarter. MAX commendations per million boardings were up compared to the prior year as well as from the past quarter.*
- *MAX rule violations per million miles increased by 4.8% compared to last year, but have decreased from the previous two quarters. Transportation is working to continue this recent downward trend through improved training and communications. Training and supervisor support continues to focus on less-experienced rail operators and key locations on the rail network that have been identified as having higher incidents of rule violations.*

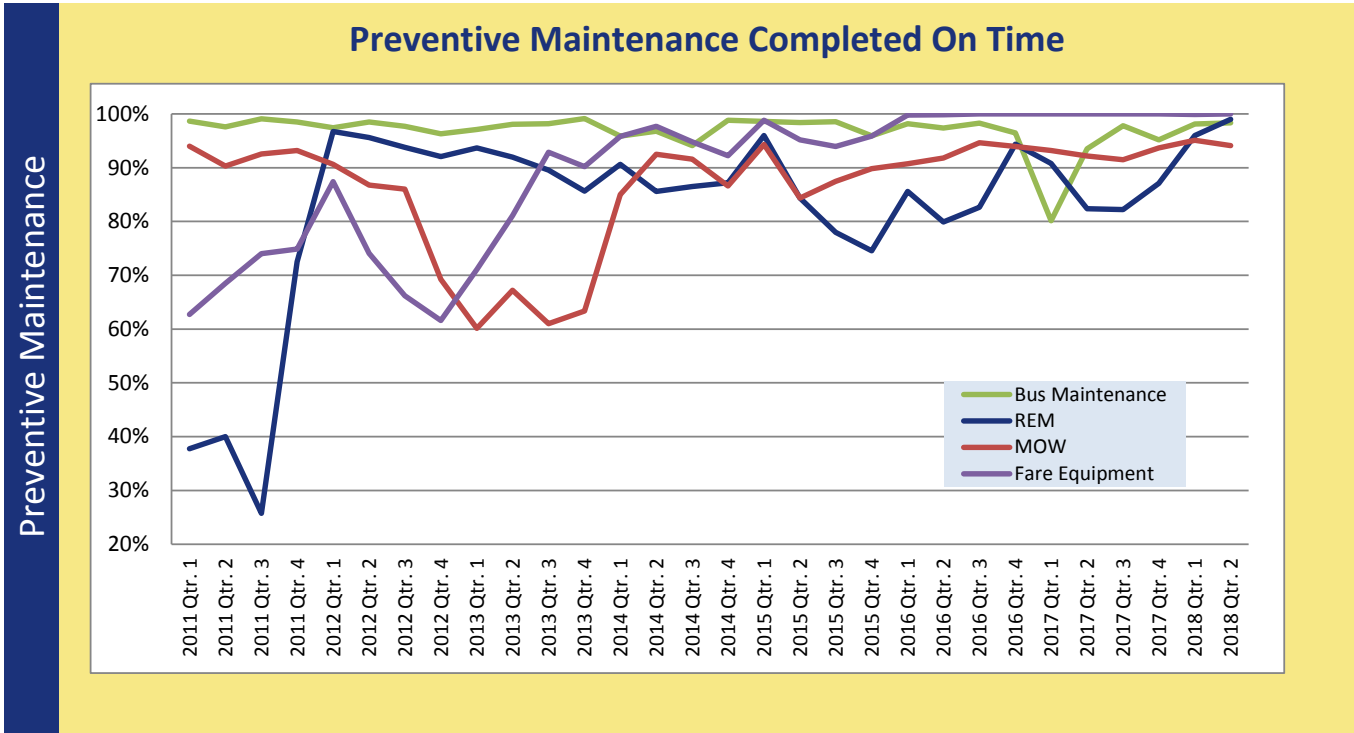


2018 2nd Quarter Report

Quarterly Performance Report

Preventive Maintenance Completed On Time

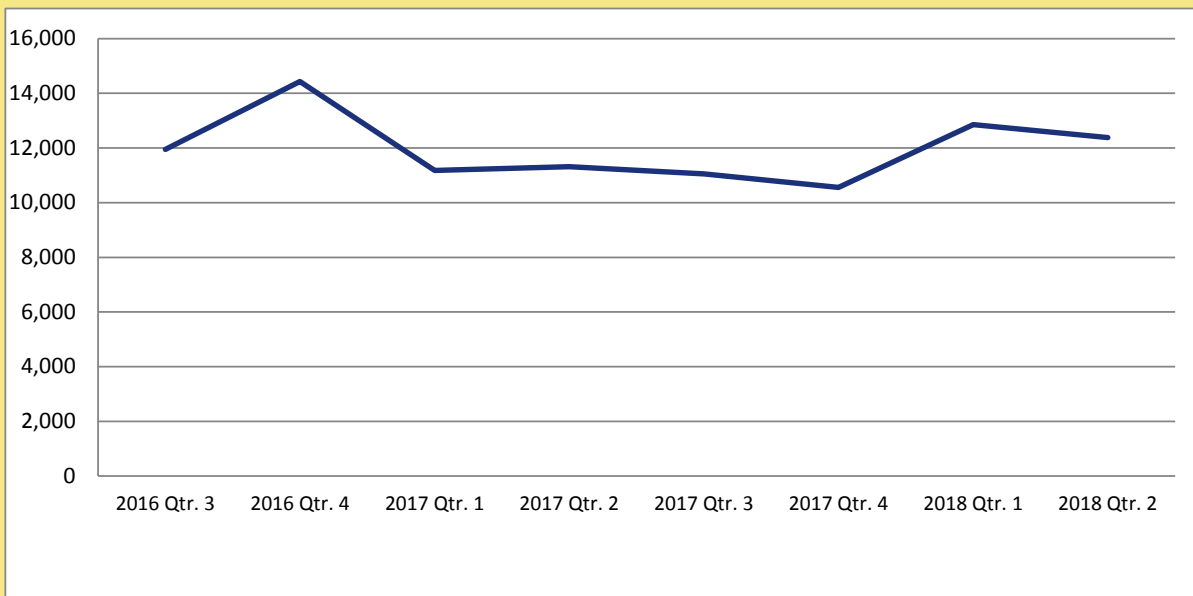
	2018 Qtr. 2	2018 Qtr. 1	2017 Qtr. 2	2018 - 2017 Percent Pt. Change
Bus Maintenance	98.3%	98.1%	93.5%	4.8
REM	99.0%	96.0%	82.4%	16.6
MOW	94.1%	95.1%	92.2%	1.9
Fare Equipment	100.0%	99.9%	100.0%	0.0



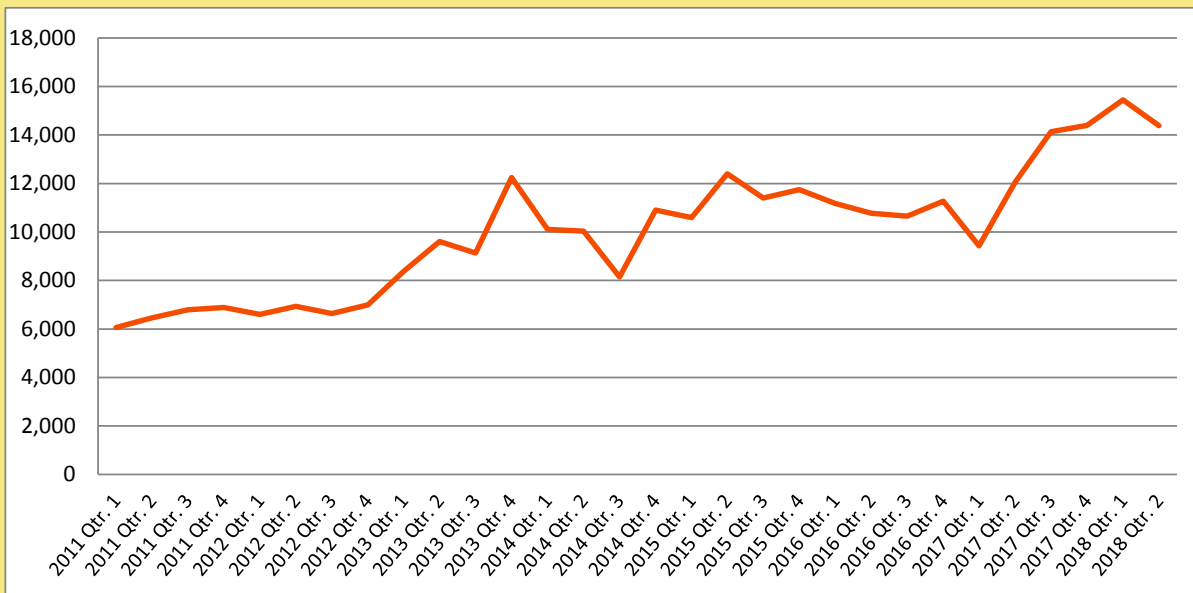
Mean Distance Between Failures (MDBF)

	2018 Qtr. 2	2018 Qtr. 1	2017 Qtr. 2	2018 - 2017 Percent Change
MAX Light Rail	12,378	12,853	11,313	9.4%
Fixed Route Bus	14,381	15,449	12,042	19.4%

MAX Light Rail MDBF - Lost Service



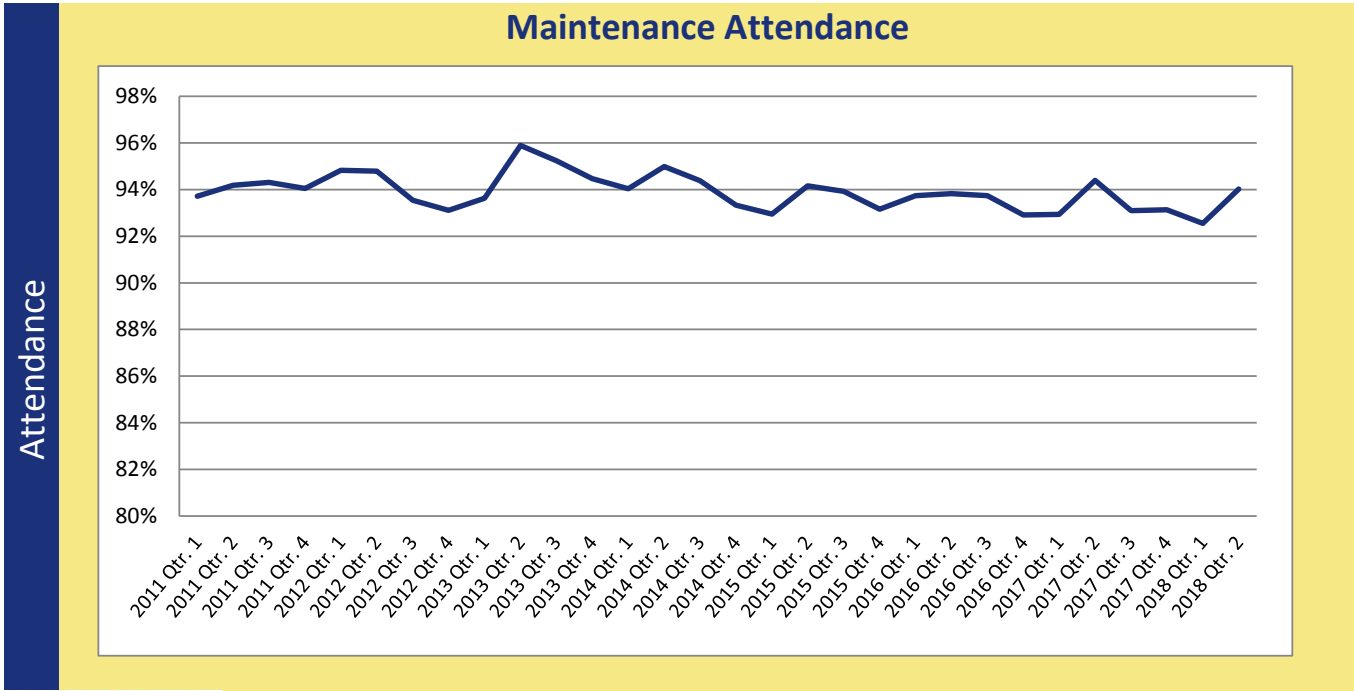
Fixed Route Bus MDBF - Lost Service



Mean Distance Between Failures (MDBF)

Maintenance Employee Attendance

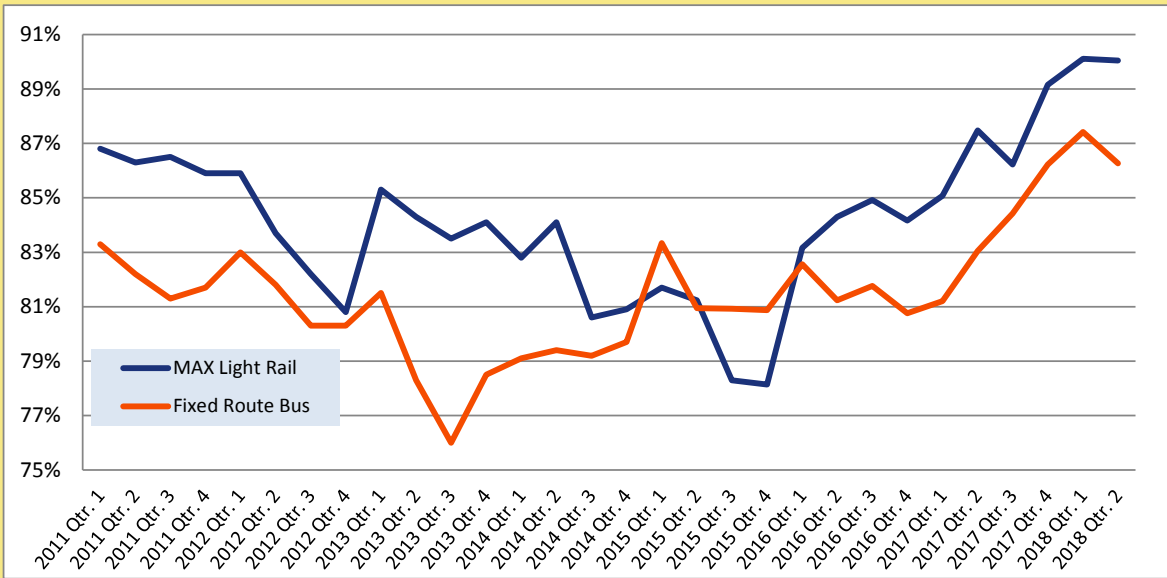
	2018 Qtr. 2	2018 Qtr. 1	2017 Qtr. 2	2018 - 2017 Percent Pt. Change
Maintenance	94.0%	92.5%	94.4%	-0.4



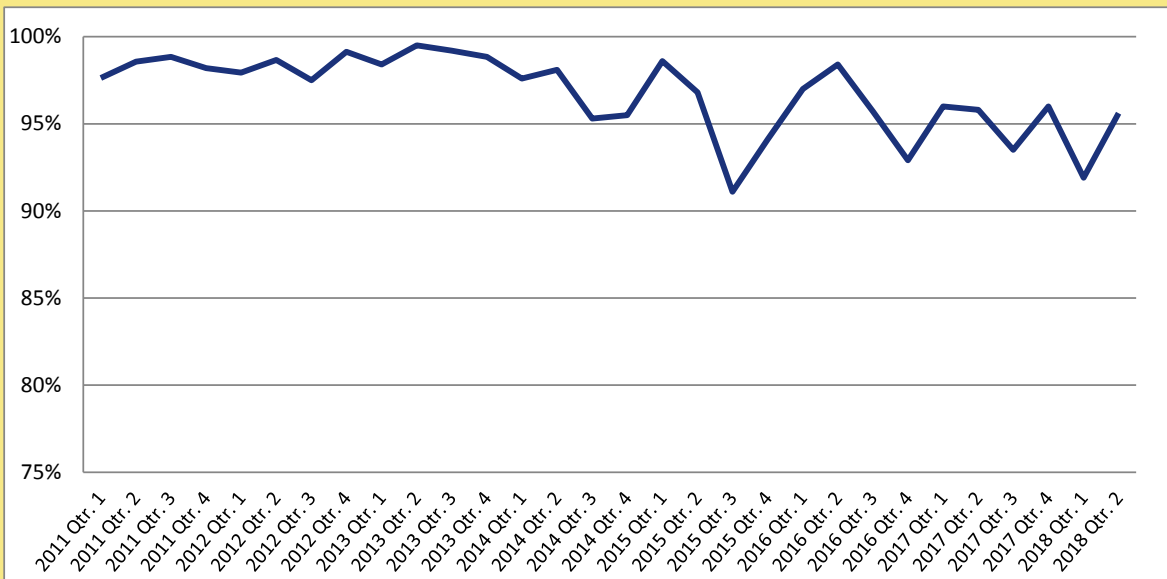
On Time Performance

	2018 Qtr. 2	2018 Qtr. 1	2017 Qtr. 2	2018 - 2017 Percent Pt. Change
Fixed Route Bus	86.3%	87.4%	83.1%	3.2
MAX Light Rail	90.1%	90.1%	87.5%	2.6
WES Commuter Rail	95.6%	91.9%	95.8%	-0.2

Bus and MAX Light Rail OTP



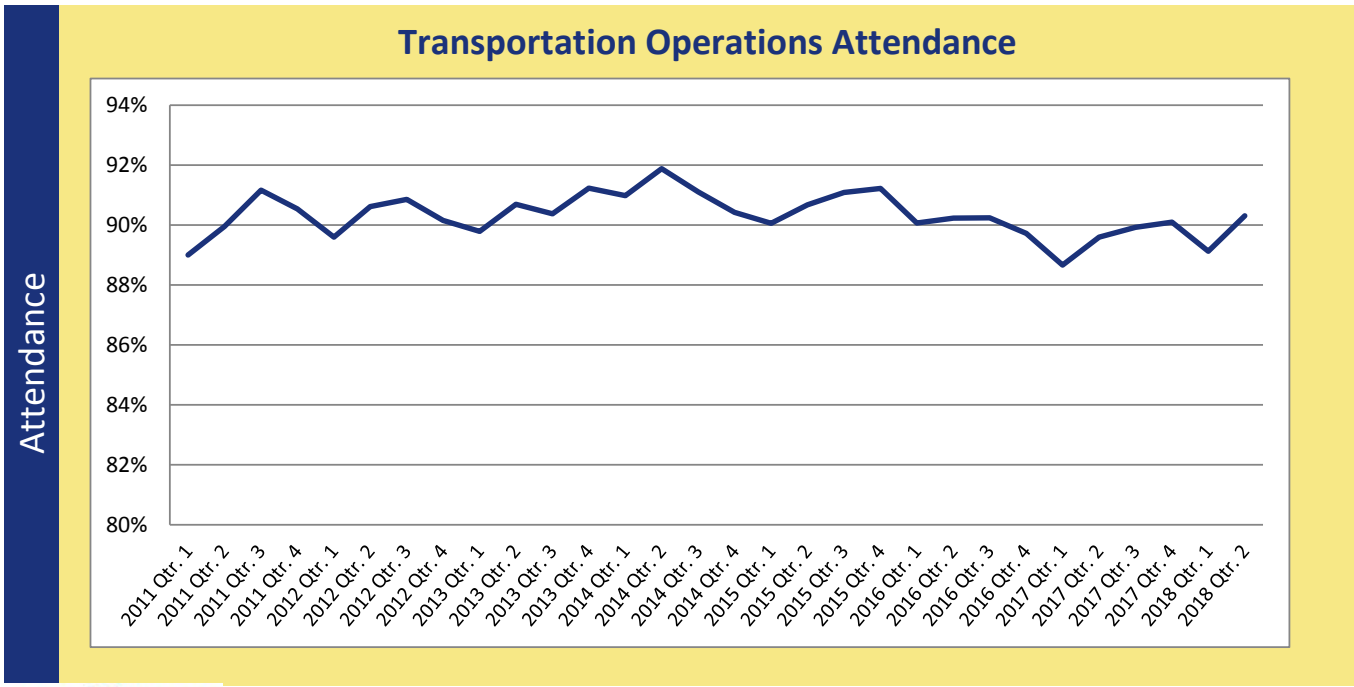
WES Commuter Rail OTP



On Time Performance

Transportation Operations Employee Attendance

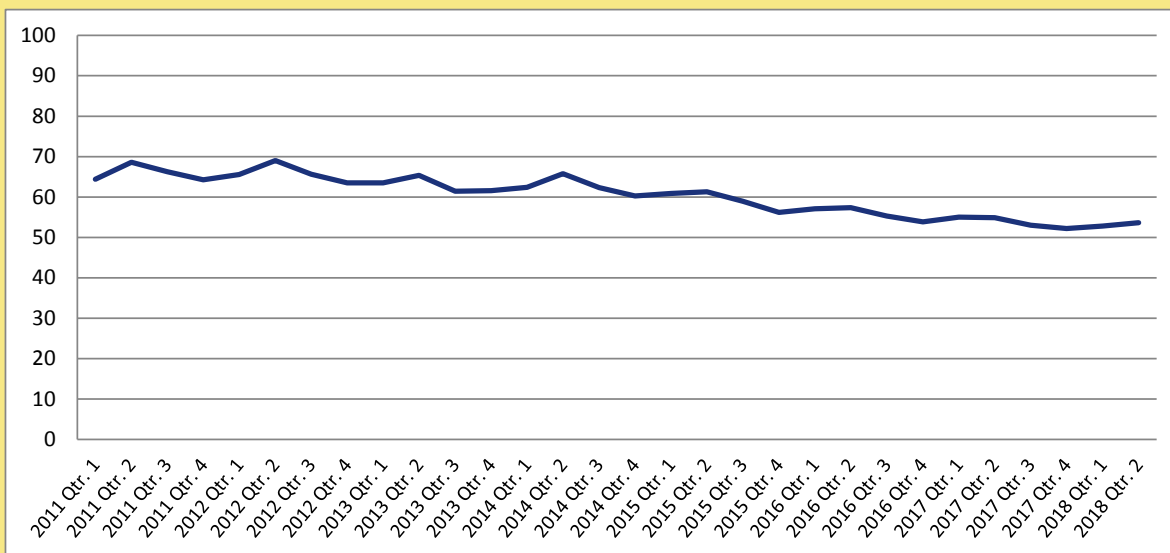
	2018 Qtr. 2	2018 Qtr. 1	2017 Qtr. 2	2018 - 2017 Percent Pt. Change
TransOps	90.3%	89.1%	89.6%	0.7



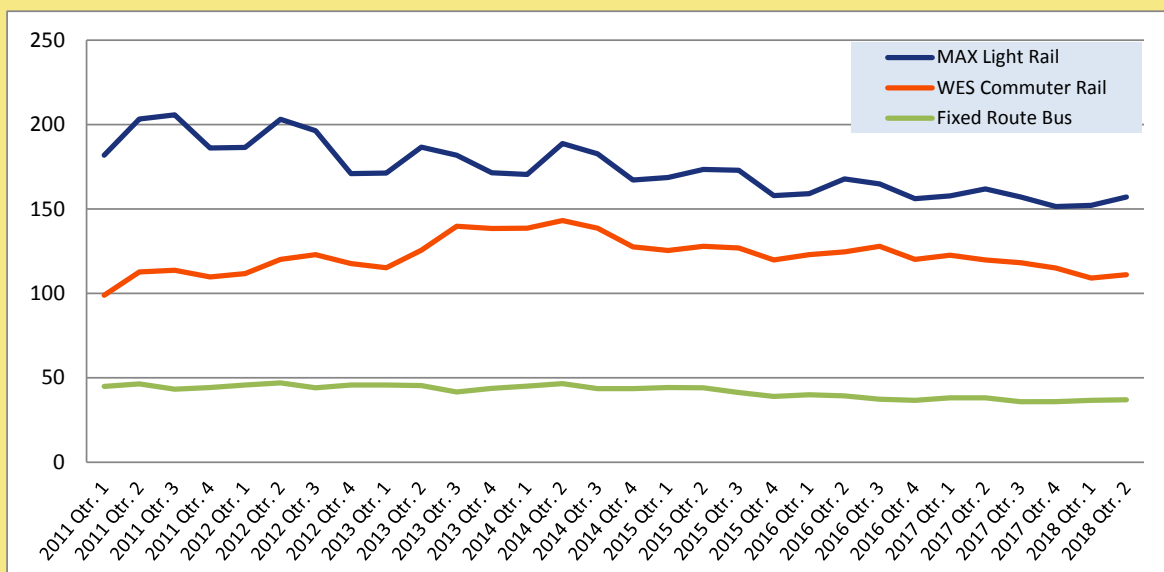
Boarding Rides Per Revenue Hour

	2018 Qtr. 2	2018 Qtr. 1	2017 Qtr. 2	2018 - 2017 Percent Change
Total	53.6	52.8	54.9	-2.3%
Fixed Route Bus	37.0	36.7	38.1	-3.1%
MAX Light Rail	157.1	152.2	161.8	-3.0%
WES Commuter Rail	111.1	109.0	119.8	-7.3%

Total Fixed Route Rides Per Revenue Hour



Rides Per Revenue Hour By Mode

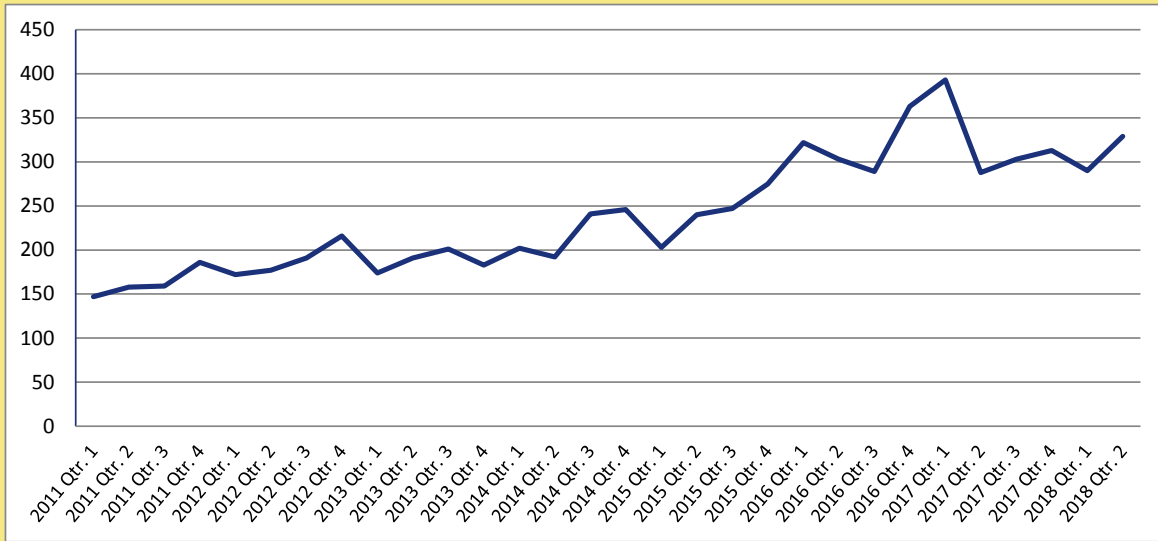


TriMet Boarding Rides Per Revenue Hour

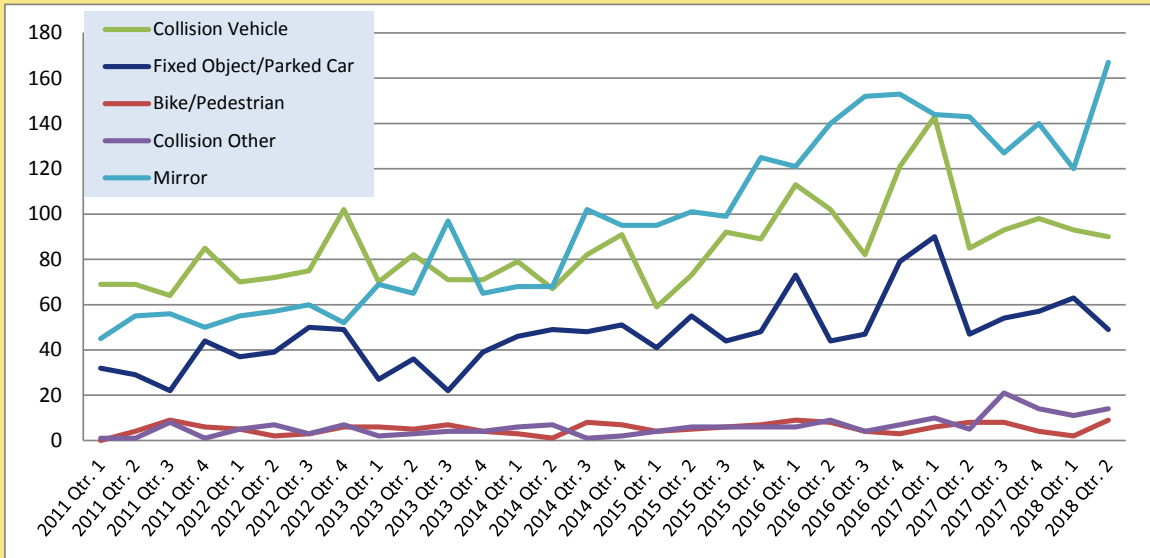
Fixed Route Bus Collisions

	2018 Qtr. 2	2018 Qtr. 1	2017 Qtr. 2	2018 - 2017 Percent Change
Total	329	290	288	14.2%
Collision Vehicle	90	93	85	5.9%
Fixed Object/Parked Car	49	63	47	4.3%
Bike/Pedestrian	9 (4/5)	2 (2/0)	8 (5/3)	12.5%
Collision Other	14	11	5	180.0%
Mirror	167	120	143	16.8%

Total Bus Collisions



Bus Collision Types

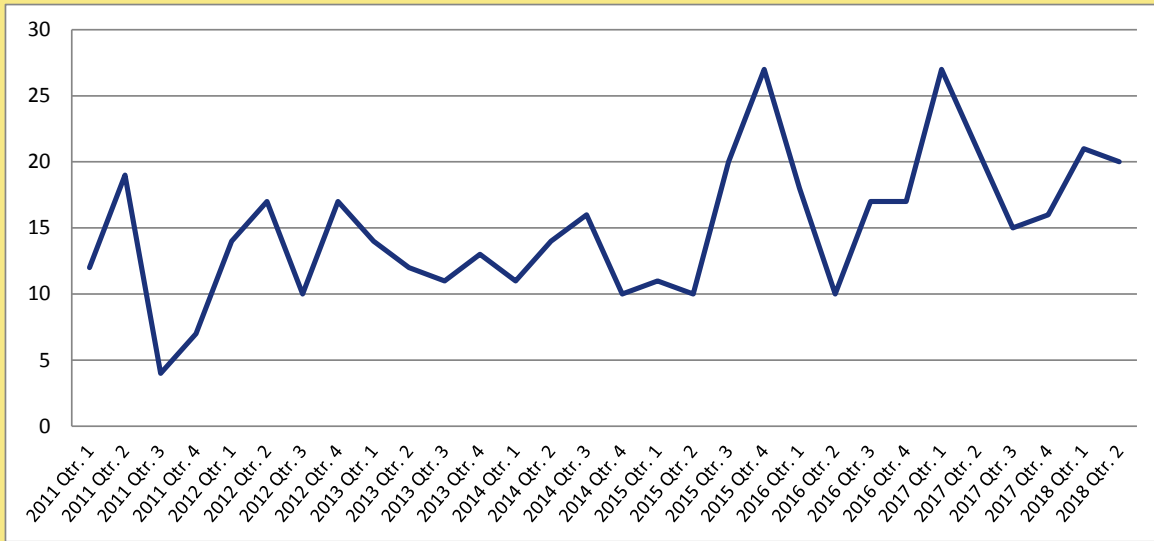


Fixed Route Bus

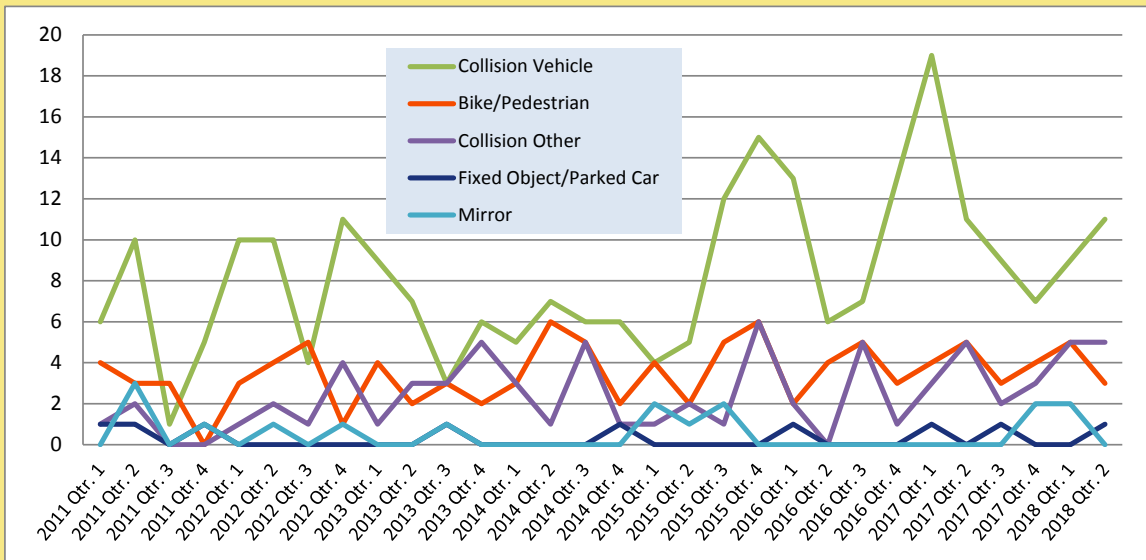
MAX Light Rail Collisions

	2018 Qtr. 2	2018 Qtr. 1	2017 Qtr. 2	2018 - 2017 Percent Change
Total	20	21	21	-5%
Collision Vehicle	11	9	11	0%
Fixed Object/Parked Car	1	0	0	-
Bike/Pedestrian	3 (1/2)	5 (2/3)	5 (1/4)	-40%
Collision Other	5	5	5	0%
Mirror	0	2	0	0%

MAX Light Rail Collisions



MAX Collision Types

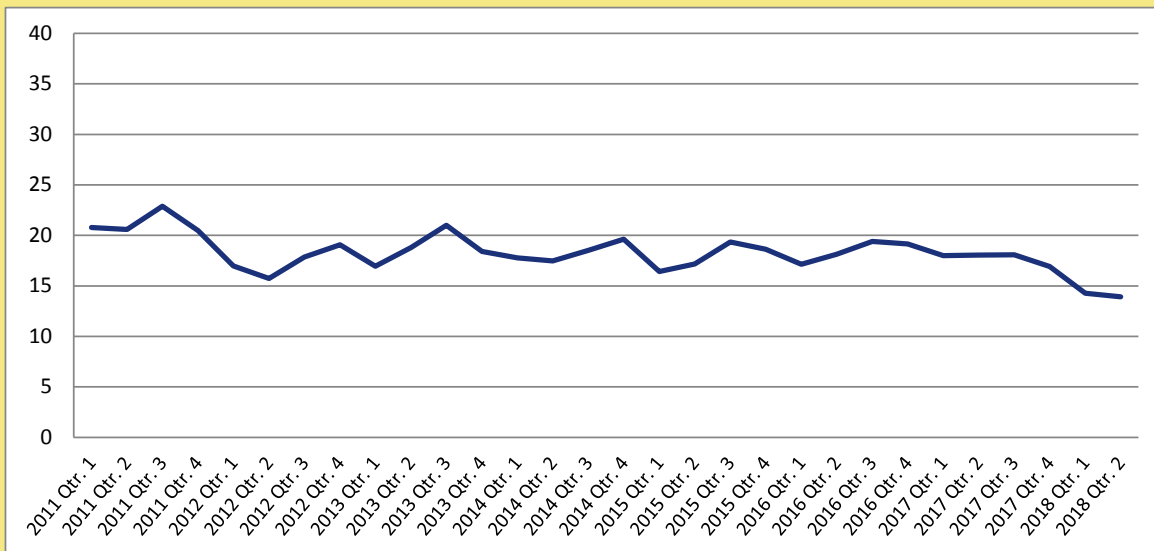


MAX Light Rail

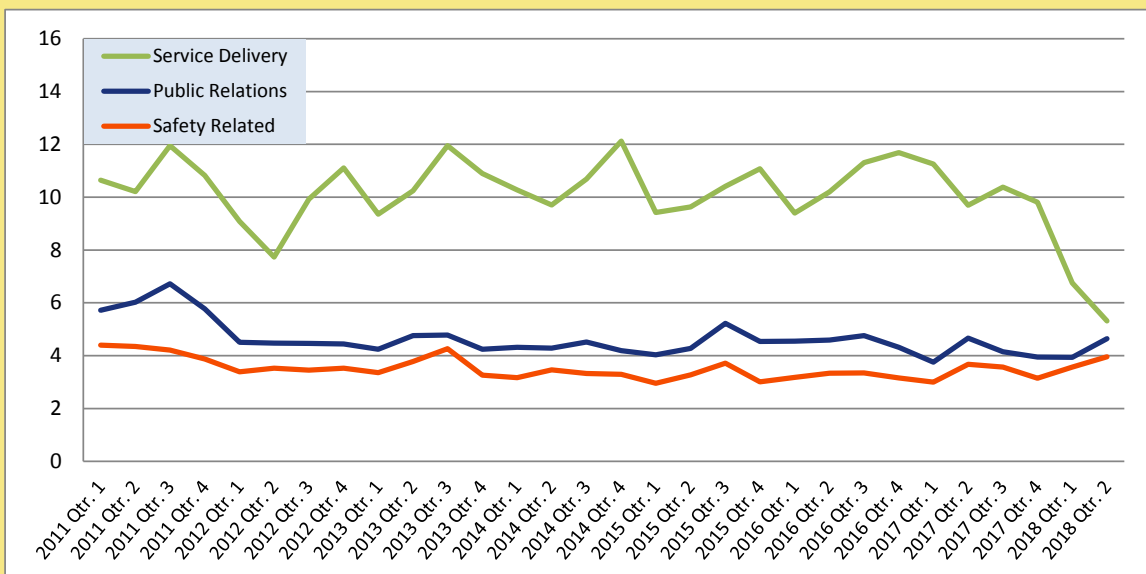
Fixed Route Bus Complaints Per 100,000 Boarding Rides

	2018 Qtr. 2	2018 Qtr. 1	2017 Qtr. 2	2018 - 2017 Percent Change
Total	13.9	14.3	18.0	-22.8%
Service Delivery	5.3	6.8	9.7	-45.2%
Public Relations	4.6	3.9	4.7	-0.3%
Safety Related	4.0	3.6	3.7	8%

Total Operator Complaints Per 100,000 Boarding Rides



Type of Operator Complaints Per 100,000 Boarding Rides

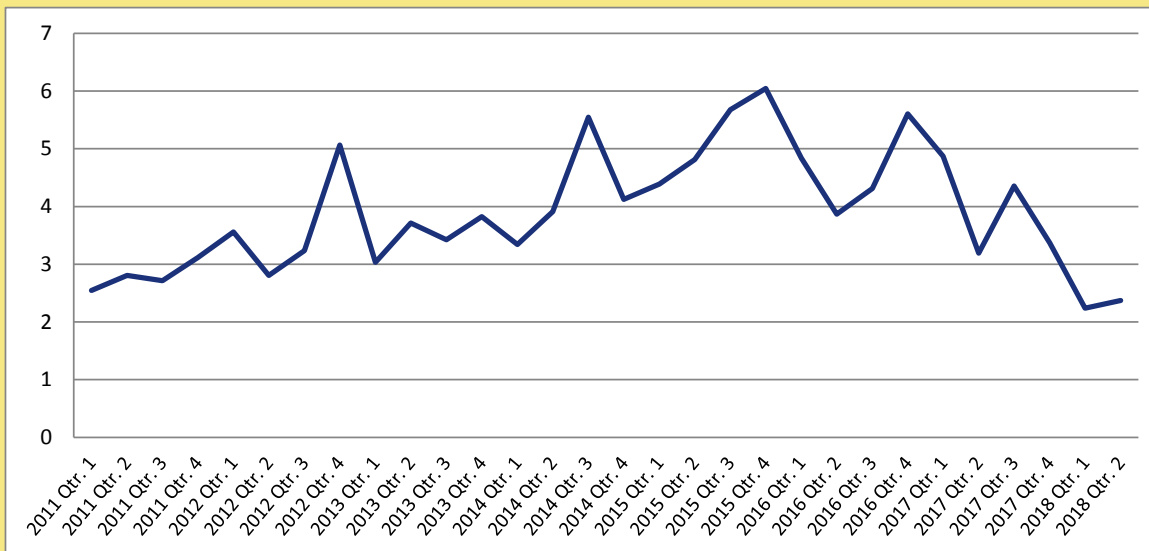


Fixed Route Bus

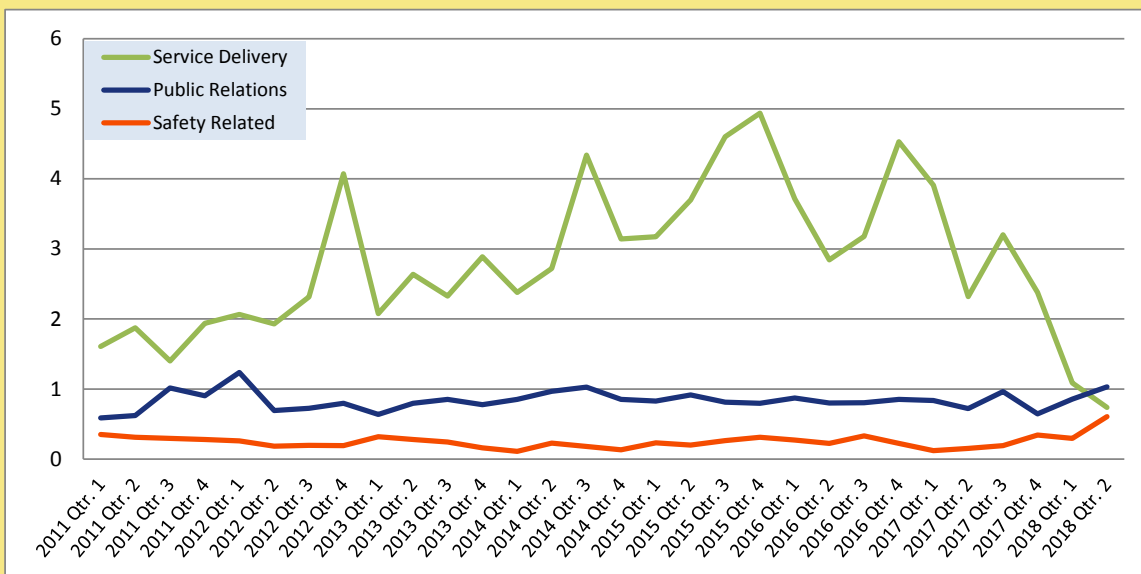
MAX Light Rail Complaints Per 100,000 Boarding Rides

	2018 Qtr. 2	2018 Qtr. 1	2017 Qtr. 2	2018 - 2017 Percent Change
Total	2.4	2.2	3.2	-25.6%
Service Delivery	0.7	1.1	2.3	-68.2%
Public Relations	1.0	0.9	0.7	42.8%
Safety Related	0.6	0.3	0.2	297.6%

Total Operator Complaints Per 100,000 Boarding Rides



Type of Operator Complaints Per 100,000 Boarding Rides

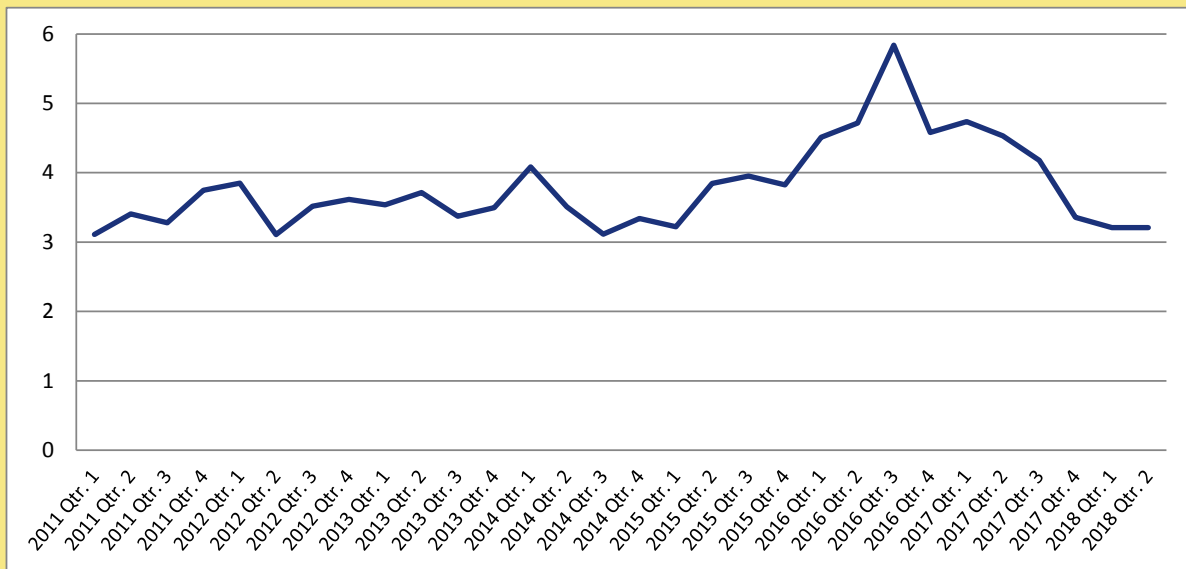


MAX Light Rail

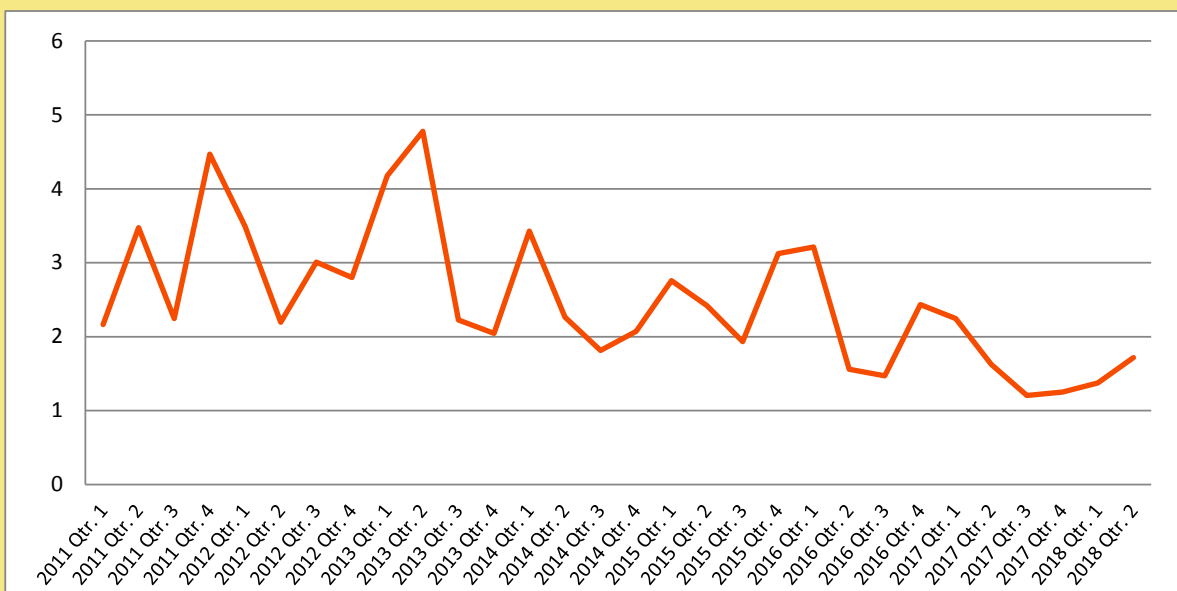
Fixed Route Bus and MAX Light Rail Commendations

	2018 Qtr. 2	2018 Qtr. 1	2017 Qtr. 2	2018 - 2017 Percent Change
Fixed Route Bus Per 100,000 Boardings	3.2	3.2	4.5	-29.2%
MAX Light Rail Per Million Boardings	1.7	1.4	1.6	5.6%

Total Bus Operator Commendations Per 100,000 Boarding Rides



Total MAX Light Rail Commendations Per Million Boarding Rides



TriMet Bus and MAX Commendations

Rail Rule Violations per Million Miles

	2018 Qtr. 2	2018 Qtr. 1	2017 Qtr. 2	2018-2017 Percent Change
Rail Rule Violation Rate	119.7	132.5	114.2	4.8%

