



High Quality Service through Continuous Improvement 2017 3rd Quarter Performance Report

TriMet Board Meeting, December 13, 2017

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 attendance.

- *Bus Maintenance and Rail Maintenance of Way all exceeded preventive maintenance objectives for the 2017 3rd quarter target set by the Federal Transit Administration of 80%. Bus maintenance is below the previous Qtr 3 of 2016 but increased over Qtr 2 2017 from 93.5% to 97.8%. Rail Equipment Maintenance (REM) declined slightly from 82.7% last year of the same quarter to 82.2%. Maintenance of Way (MOW) performance has declined by 3.2% over the past year comparison. Fare equipment is tracking for the seventh straight quarter at 100% reliability levels.*
- *MAX light rail MDBF (Mean Distance Between Failure) performance has demonstrated a strong quarter of performance increasing by 21.1% over the previous year and up from the past quarter as well. The overall trend is positive for the Type 5 vehicles, with the most recent report tracking at 26,000 miles MDBF. Vehicle Types 3 and 4 are either flat or show a slight decline. The 32 year old Type 1 vehicles have continued to be challenging and are up for consideration for replacement.*
- *Fixed route bus MDBF (Mean Distance Between Failure) has increased by 32.6%, to 14,131 miles, over the previous year as well as the past quarter.*
- *Maintenance attendance declined slightly by 0.6% over 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, operator attendance, and boarding rides per revenue hour.

- *Bus service OTP shows a 2.1% increase over the previous year and quarter. This is a result of many OTP initiatives and strategies.*
- *MAX service OTP decreased slightly from 84.4% in Qtr 3 2016 to 84.3% in Qtr 3 2017. This was due in part to significant heat-related delays in August. However, the most recent 31-day average for MAX is 88.8% with some days now tracking well over 92%. The next round of identified opportunities is now underway across the organization.*
- *WES OTP Performance declined 2.2% from Qtr 3 of 2016 from 95.7% to 93.5%. This was due to rail signaling issues and reducing travel speeds due to some high temperatures. Further investigation and review is underway.*
- *Transportation employee attendance has shown a slight decline over the past quarter compared to the past year, but has improved by 0.3% over the past quarter.*
- *Boarding Rides per revenue hour overall declined by 4.2% compared to this past year. Bus boardings per revenue hour are down 4.0% from the previous year. About half of this is accounted for by fewer boardings and the rest due to increased revenue hours. MAX is also down by 4.7% over the past year.*

3. Operator Support

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

Key Performance Indicators: Annual operator recertification training rate, collisions, complaints and commendations.

- *Total bus collisions are up by 28.5% compared to last year and showing an increase compared to the Qtr 2 of 2017. Bike and pedestrian incidents declined over the prior quarter but are higher from the prior year. In the category of "Collision Other" there was an increase from 4 incidents in the 2016 Qtr 3 to 21 incidents in 2017 Qtr 3. This category contains collisions with railroad gate arms, animals, rolling carts and other items. Further training is required with particular focus on our new operators where approximately 60% of the incidents occur through 20% of the operators. This area will be watched closely.*
- *MAX collisions have declined by 12% from prior year and are down by 29% from the prior Quarter. Collision vehicles are reduced by over 18% from the prior quarter.*
- *Total Fixed Route Bus Complaints are down 6.8% compared to the past year and flat compared to last quarter. Service Delivery complaints have decreased by 8.2% from the prior year but are up slightly from the previous quarter. Safety related complaints are up by 6.5% over the past year however, they are a relatively small number (less than 4 per 100,000 boardings).*

- *MAX operator complaints are essentially flat compared to the previous year. Public Relations complaints are up slightly, however the actual numbers are very small (1 per 100,000 boardings). Safety Related complaints were flat.*
- *Bus operator commendations continue to show consistent longer term upward performance trends despite being down when comparing to past quarter and year at the same time frame. Note that last year's figure was the highest on record. Max commendations are down compared to the prior year and down from the past quarter as well.*
- *MAX Rule Violations. The overall trend continues with a reduction of ~50% over the past year. Strong results have been achieved over the past year with further efforts required.*

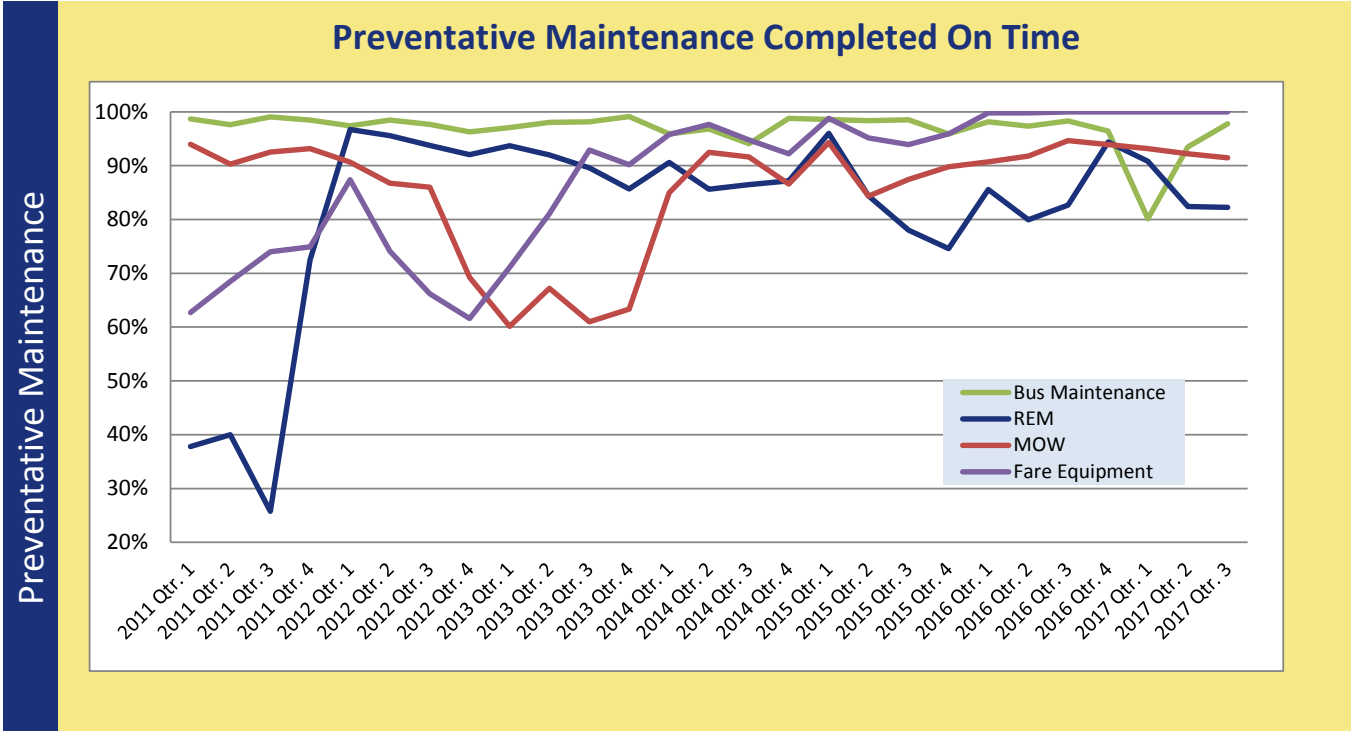


2017 3rd Quarter Report

Quarterly Performance Report

Preventative Maintenance Completed On Time

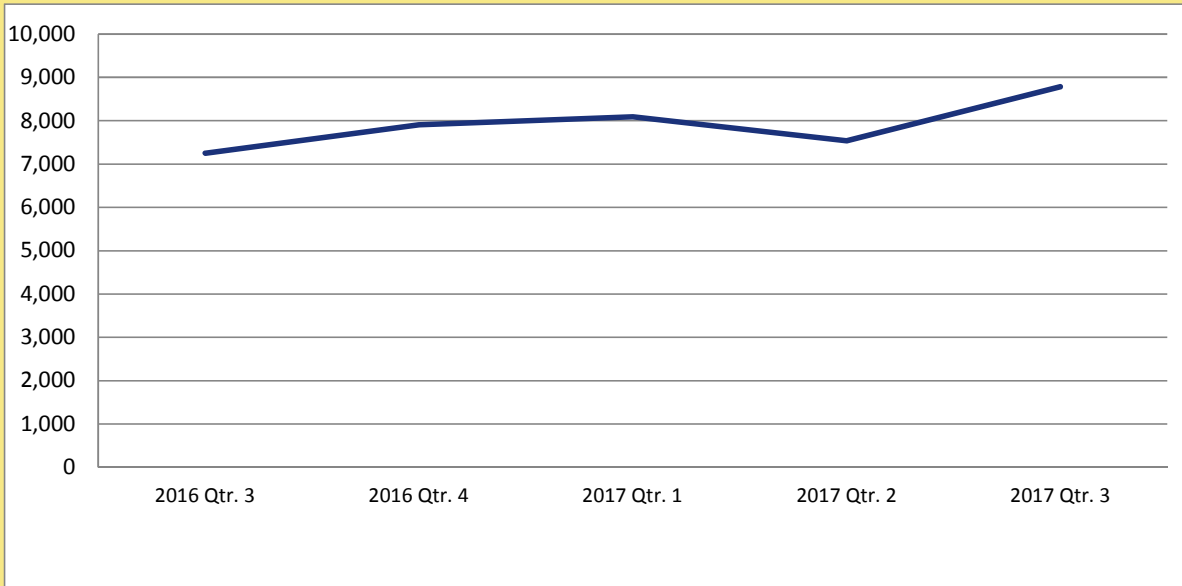
	<u>2017 Qtr. 3</u>	<u>2017 Qtr. 2</u>	<u>2016 Qtr. 3</u>	<u>2017 - 2016</u> <u>Percent Pt. Change</u>
Bus Maintenance	97.8%	93.5%	98.3%	-0.5%
REM	82.2%	82.4%	82.7%	-0.4%
MOW	91.5%	92.2%	94.7%	-3.2%
Fare Equipment	100.0%	100.0%	100.0%	0.0%



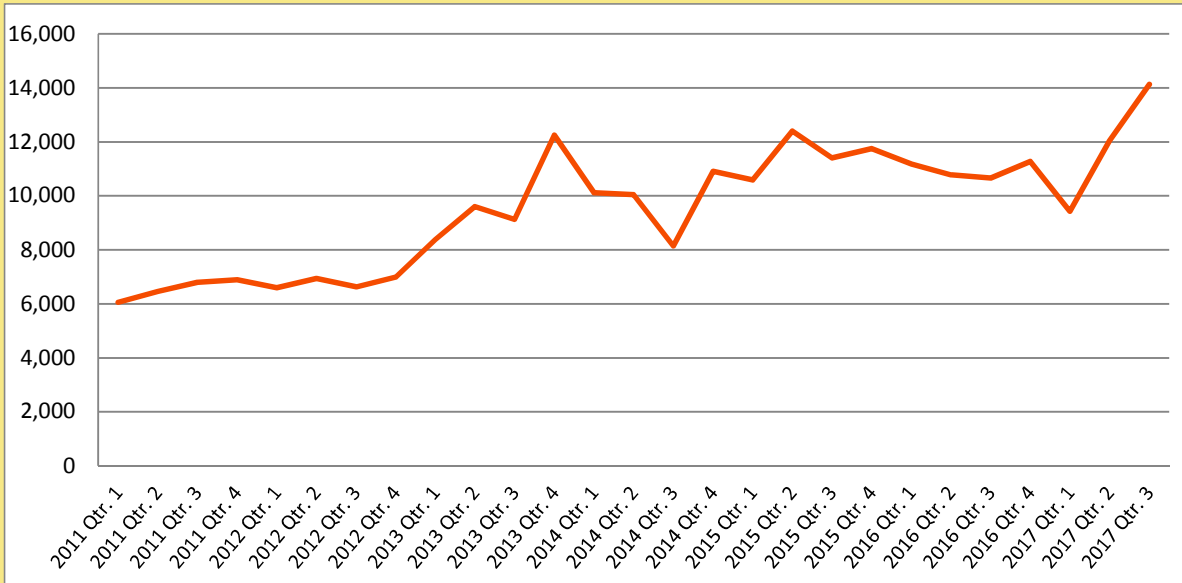
Mean Distance Between Failures (MDBF)

	<u>2017 Qtr. 3</u>	<u>2017 Qtr. 2</u>	<u>2016 Qtr. 3</u>	<u>2017 - 2016 Percent Change</u>
MAX Light Rail	8,785	7,541	7,252	21.1%
Fixed Route Bus	14,131	12,042	10,657	32.6%

MAX Light Rail Car Miles / Service Related Repairs



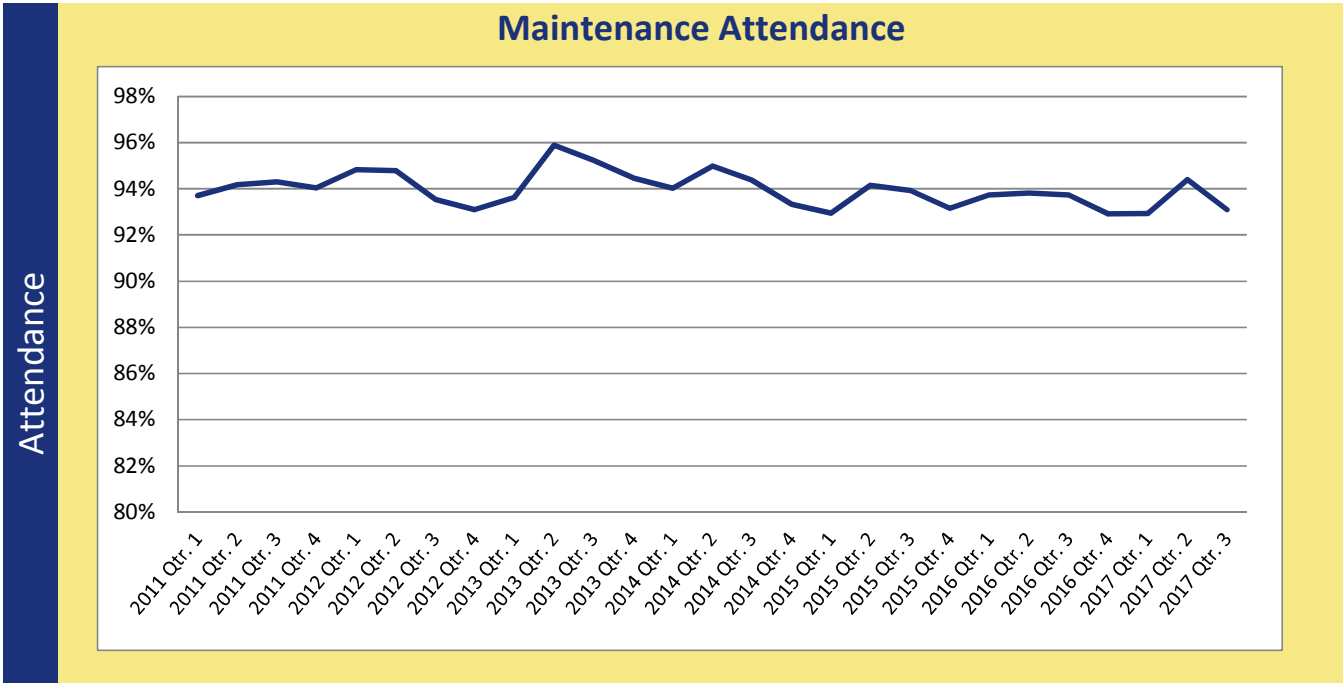
Fixed Route Bus Miles Between Mechanical Failures - Lost Service



Mean Distance Between Failures (MDBF)

Maintenance Employee Attendance

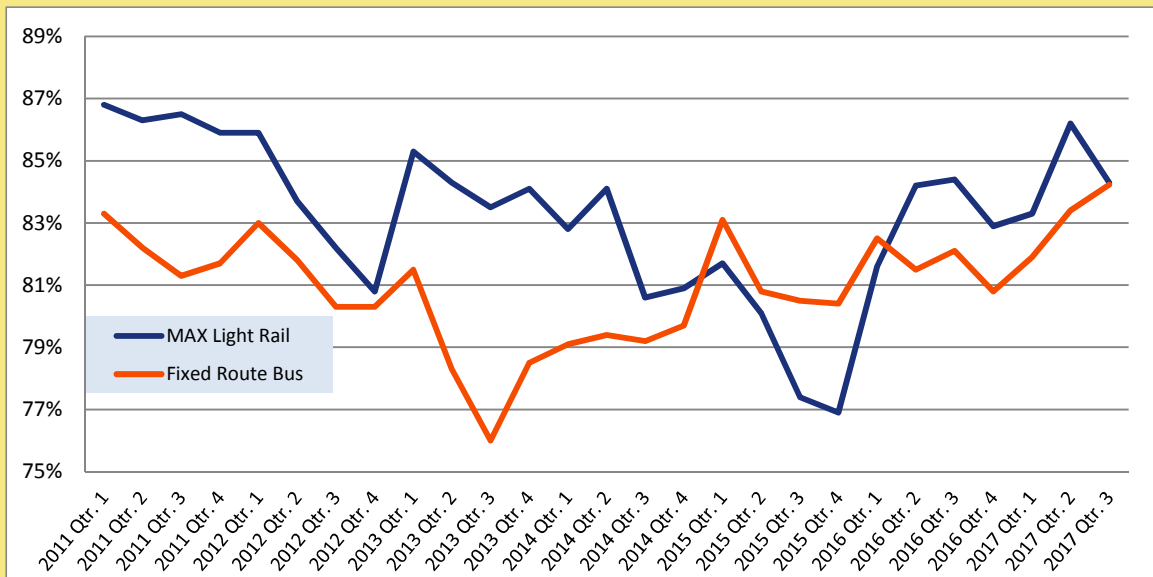
	<u>2017 Qtr. 3</u>	<u>2017 Qtr. 2</u>	<u>2016 Qtr. 3</u>	<u>2017 - 2016</u> <u>Percent Pt. Change</u>
Maintenance	93.1%	94.4%	93.7%	-0.6%



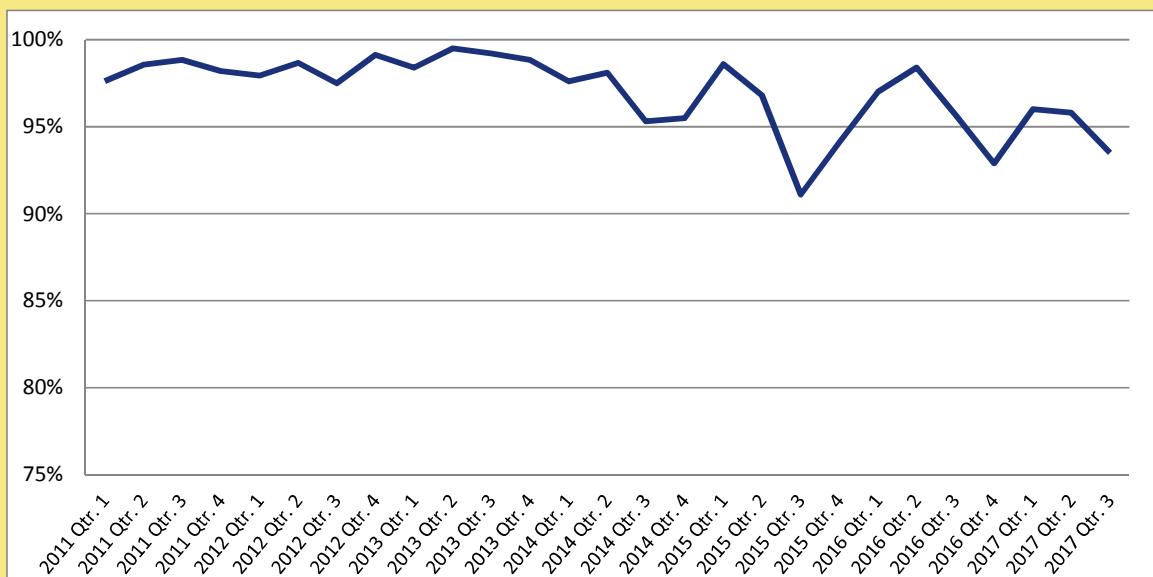
On Time Performance

	<u>2017 Qtr. 3</u>	<u>2017 Qtr. 2</u>	<u>2016 Qtr. 3</u>	<u>2017 - 2016</u> <u>Percent Pt. Change</u>
Fixed Route Bus	84.2%	83.4%	82.1%	2.1%
MAX Light Rail	84.3%	86.2%	84.4%	-0.1%
WES Commuter Rail	93.5%	95.8%	95.7%	-2.2%

Bus and MAX Light Rail OTP



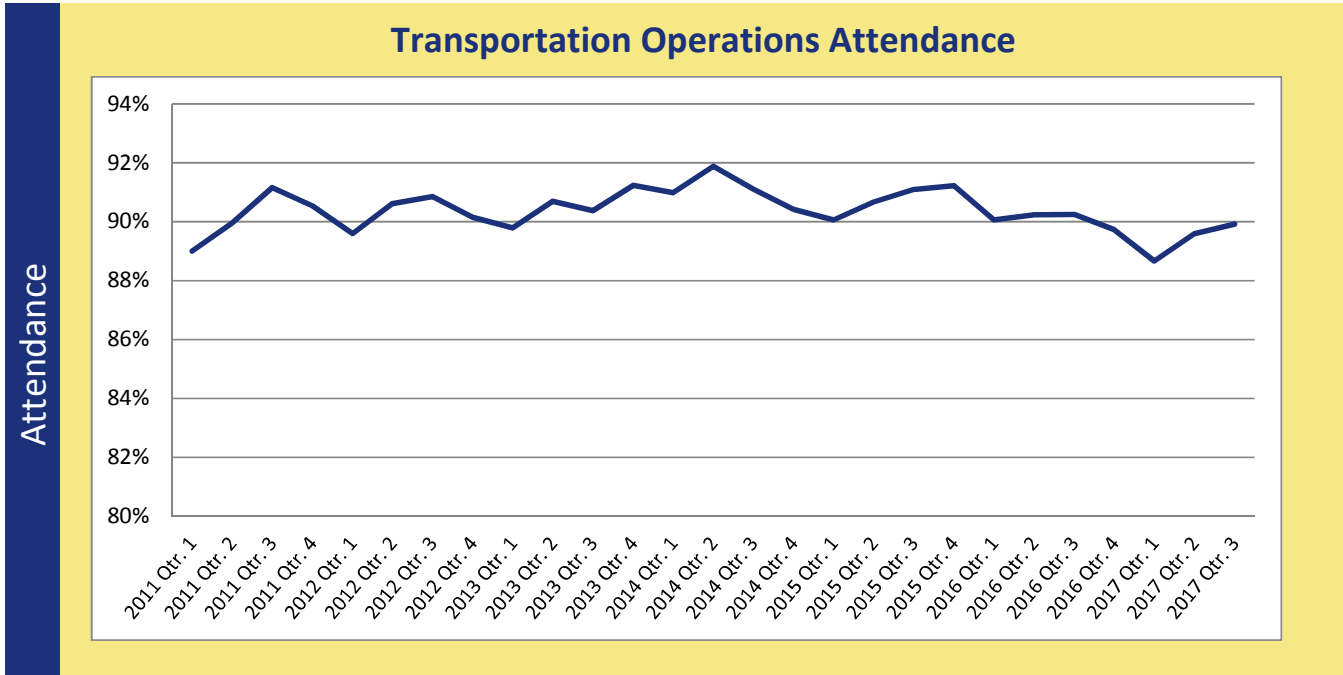
WES Commuter Rail OTP



On Time Performance

Transportation Operations Employee Attendance

	<u>2017 Qtr. 3</u>	<u>2017 Qtr. 2</u>	<u>2016 Qtr. 3</u>	<u>2017 - 2016</u> <u>Percent Pt. Change</u>
TransOps	89.9%	89.6%	90.2%	-0.3%

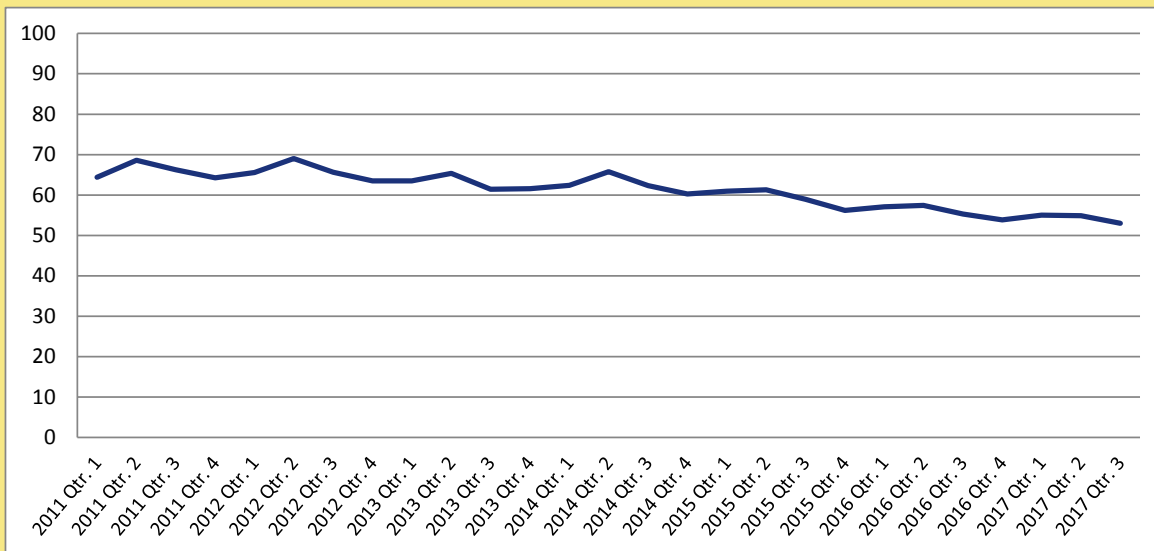


Boarding Rides Per Revenue Hour

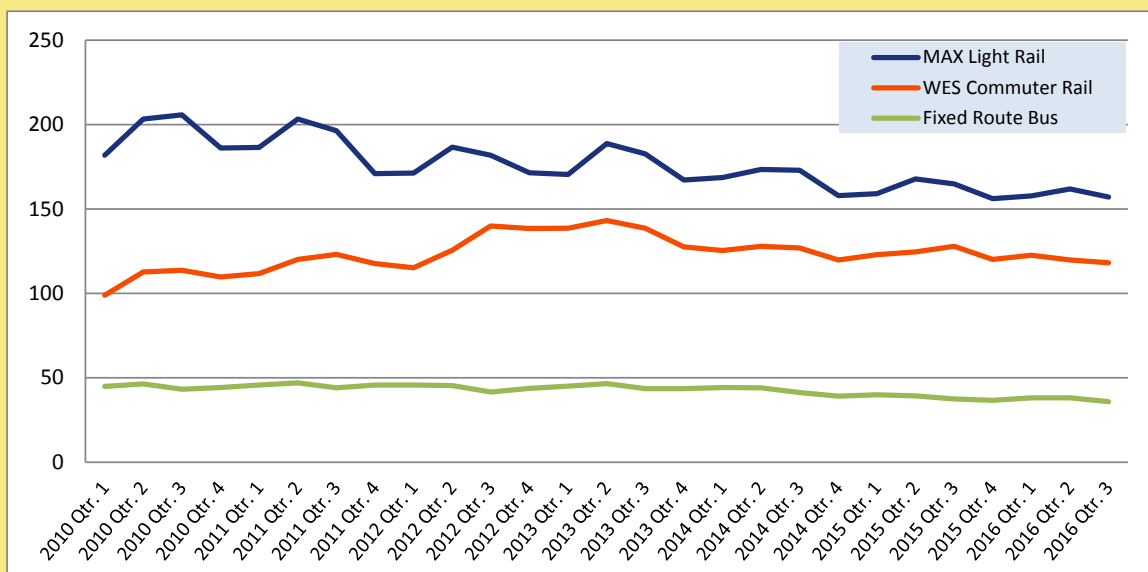
	<u>2017 Qtr. 3</u>	<u>2017 Qtr. 2</u>	<u>2016 Qtr. 3</u>	<u>2017 - 2016</u> <u>Percent Change</u>
Total	53.0	54.9	55.3	-4.2%
Fixed Route Bus	35.9	38.1	37.4	-4.0%
MAX Light Rail	157.1	161.8	164.8	-4.7%
WES Commuter Rail	118.2	119.8	128.0	-7.6%

TriMet Boarding Rides Per Revenue Hour

Total Fixed Route Rides Per Revenue Hour



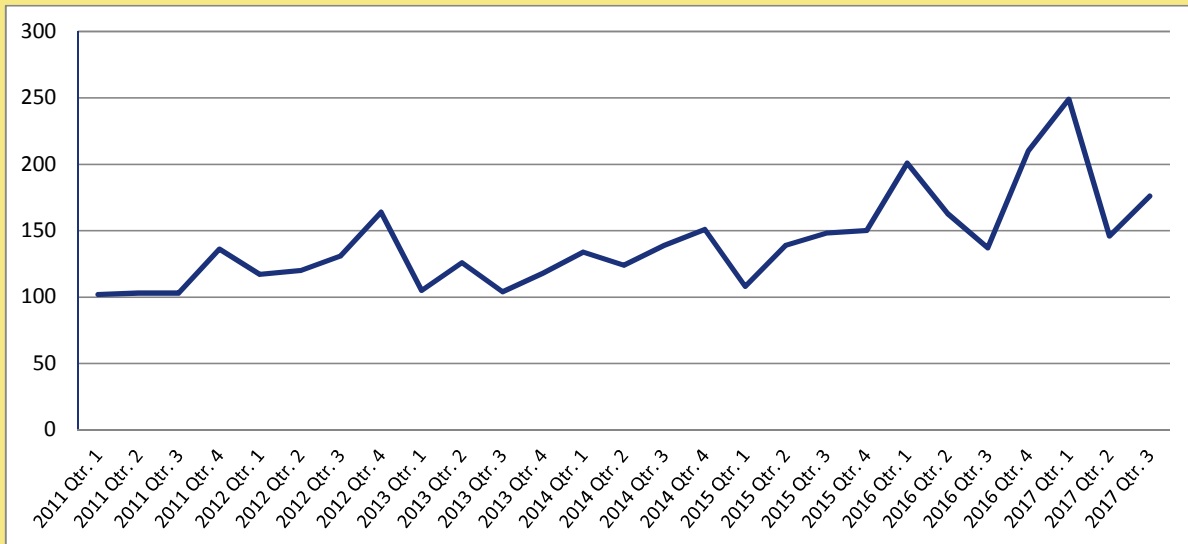
Rides Per Revenue Hour By Mode



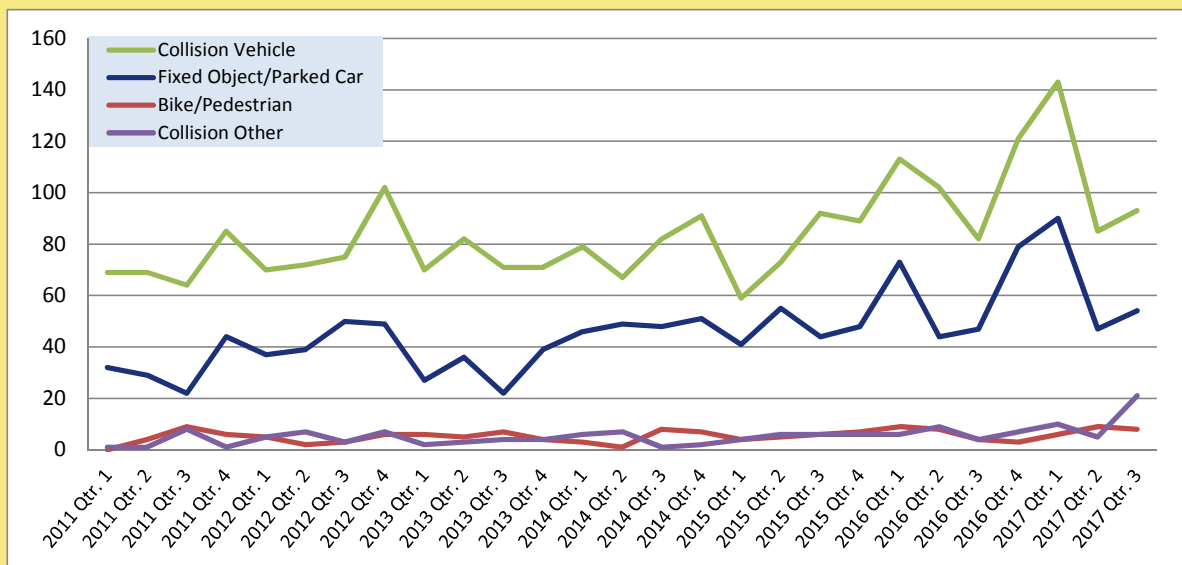
Fixed Route Bus Collisions

	<u>2017 Qtr. 3</u>	<u>2017 Qtr. 2</u>	<u>2016 Qtr. 3</u>	<u>2017 - 2016</u> <u>Percent Change</u>
Total	176	146	137	28.5%
Collision Vehicle	93	85	82	13.4%
Fixed Object/Parked Car	54	47	47	14.9%
Bike/Pedestrian	8	9	4	100.0%
Collision Other	21	5	4	425.0%

Total Bus Collisions



Bus Collision Types

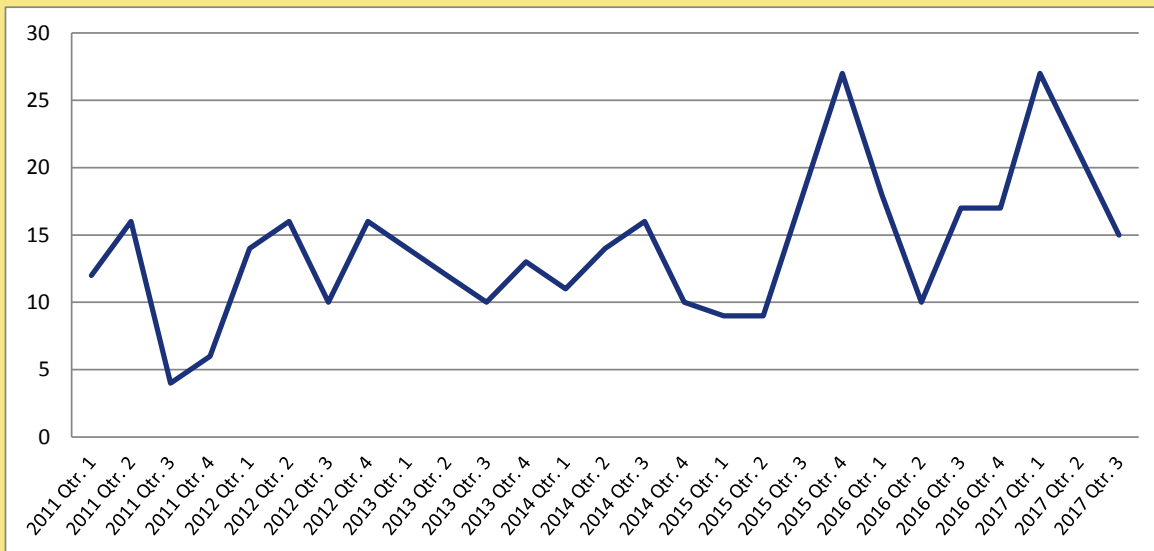


Fixed Route Bus

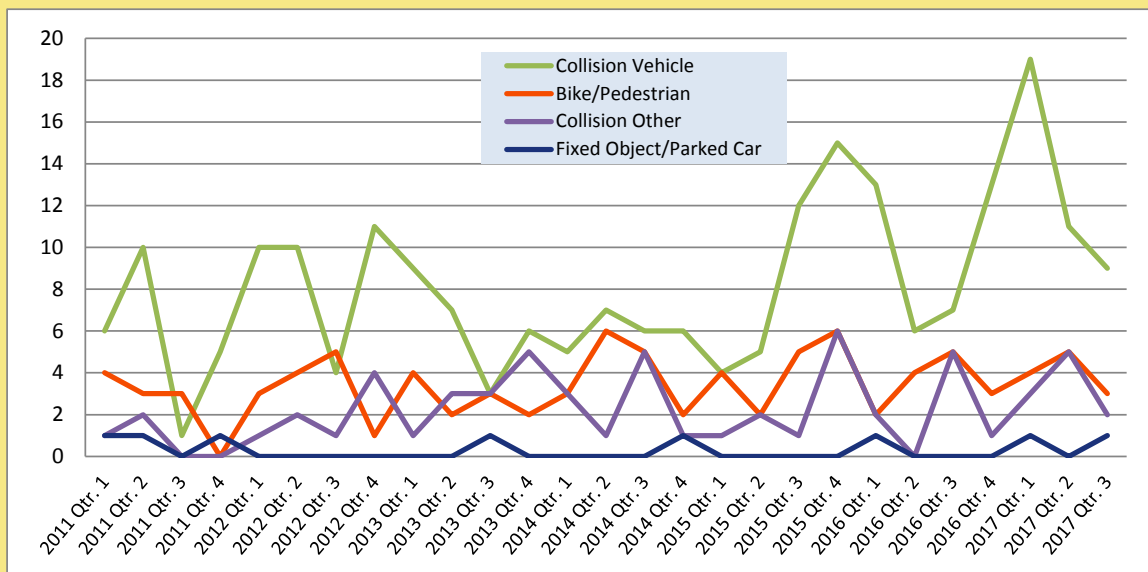
MAX Light Rail Collisions

	<u>2017 Qtr. 3</u>	<u>2017 Qtr. 2</u>	<u>2016 Qtr. 3</u>	<u>2017 - 2016</u> <u>Percent Change</u>
Total	15	21	17	-12%
Collision Vehicle	9	11	7	29%
Fixed Object/Parked Car	1	-	-	0%
Bike/Pedestrian	3	5	5	-40%
Collision Other	2	5	5	-60%

MAX Light Rail Collisions



MAX Collision Types

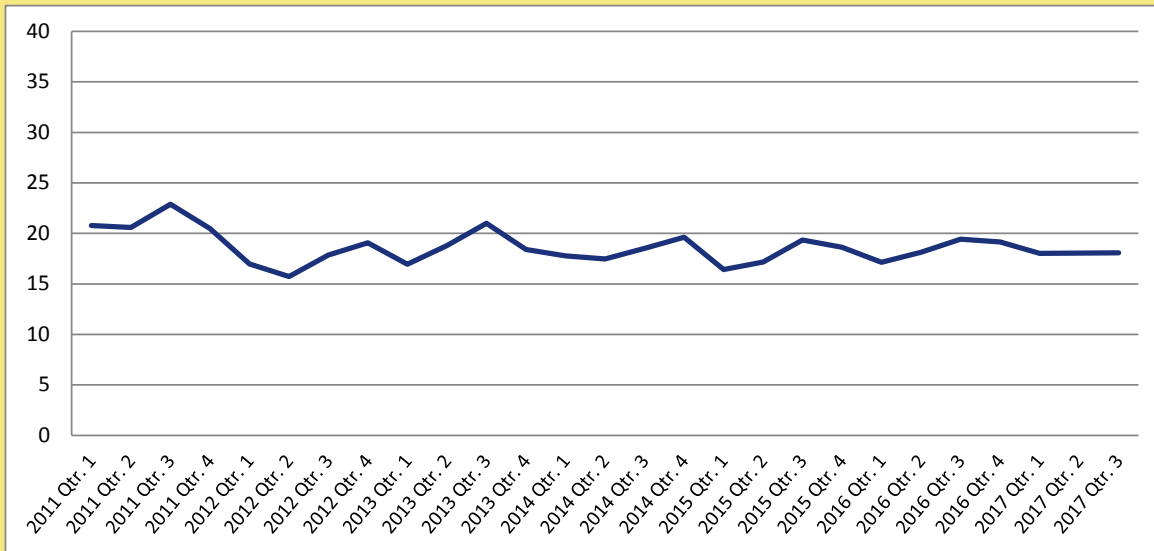


MAX Light Rail

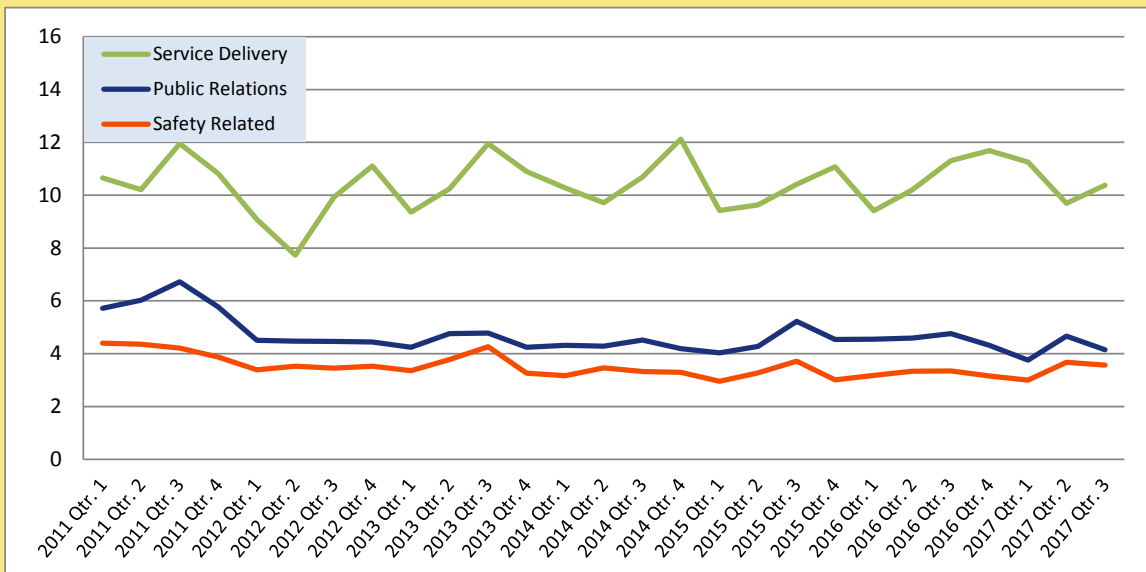
Fixed Route Bus Complaints Per 100,000 Boarding Rides

	<u>2017 Qtr. 3</u>	<u>2017 Qtr. 2</u>	<u>2016 Qtr. 3</u>	<u>2017 - 2016 Percent Change</u>
Total	18.1	18.0	19.4	-6.8%
Service Delivery	10.4	9.7	11.3	-8.2%
Public Relations	4.1	4.7	4.8	-12.9%
Safety Related	3.6	3.7	3.3	6.5%

Total Operator Complaints Per 100,000 Boarding Rides



Type of Operator Complaints Per 100,000 Boarding Rides

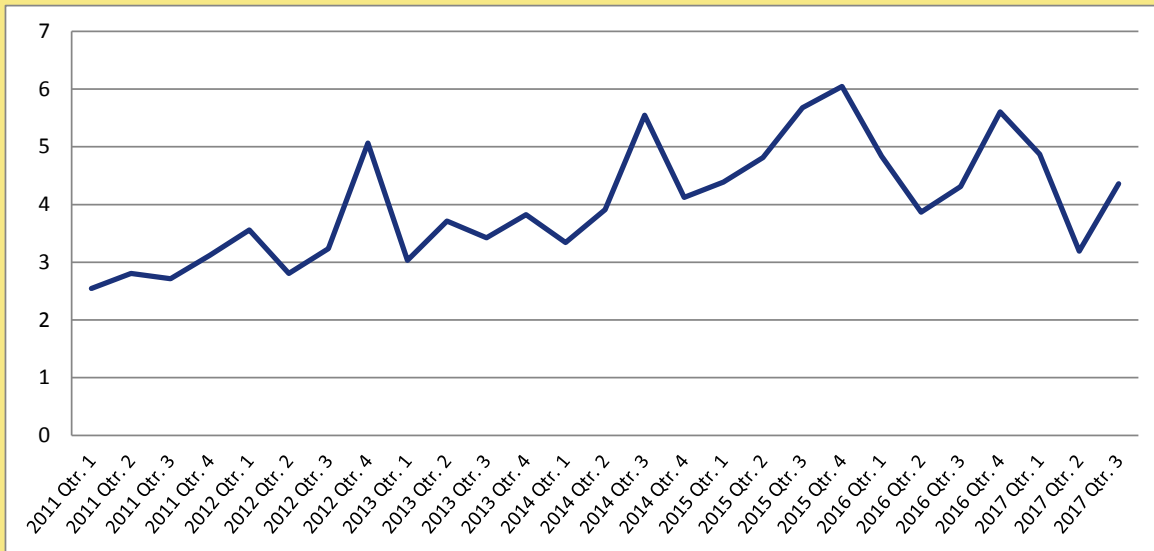


Fixed Route Bus

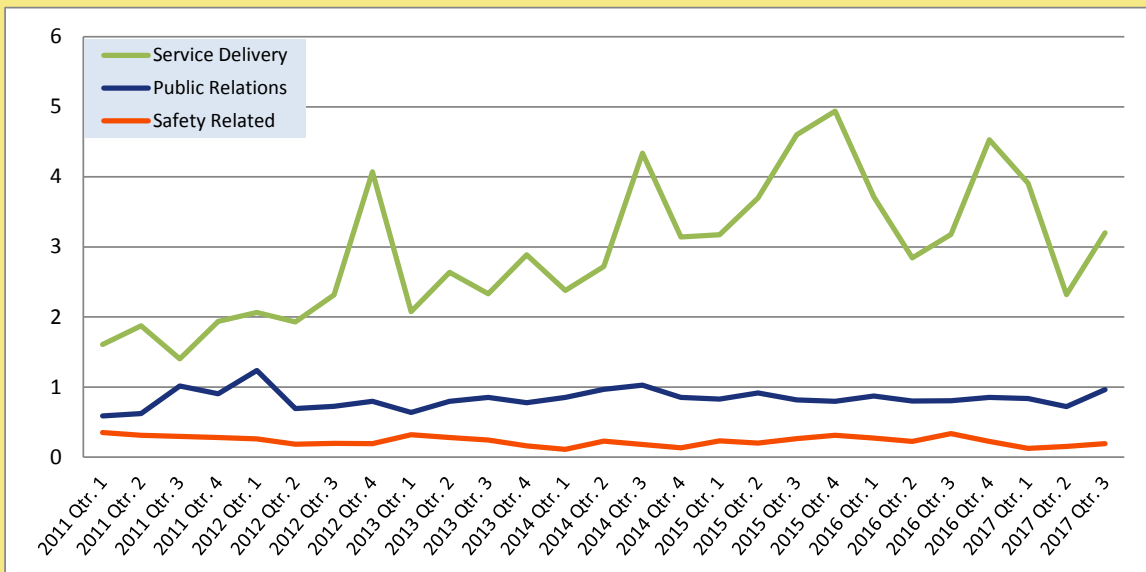
MAX Light Rail Complaints Per 100,000 Boarding Rides

	<u>2017 Qtr. 3</u>	<u>2017 Qtr. 2</u>	<u>2016 Qtr. 3</u>	<u>2017 - 2016 Percent Change</u>
Total	4.4	3.2	4.3	1.0%
Service Delivery	3.2	2.3	3.2	0.8%
Public Relations	1.0	0.7	0.8	19.9%
Safety Related	0.2	0.2	0.3	0.0%

Total Operator Complaints Per 100,000 Boarding Rides



Type of Operator Complaints Per 100,000 Boarding Rides

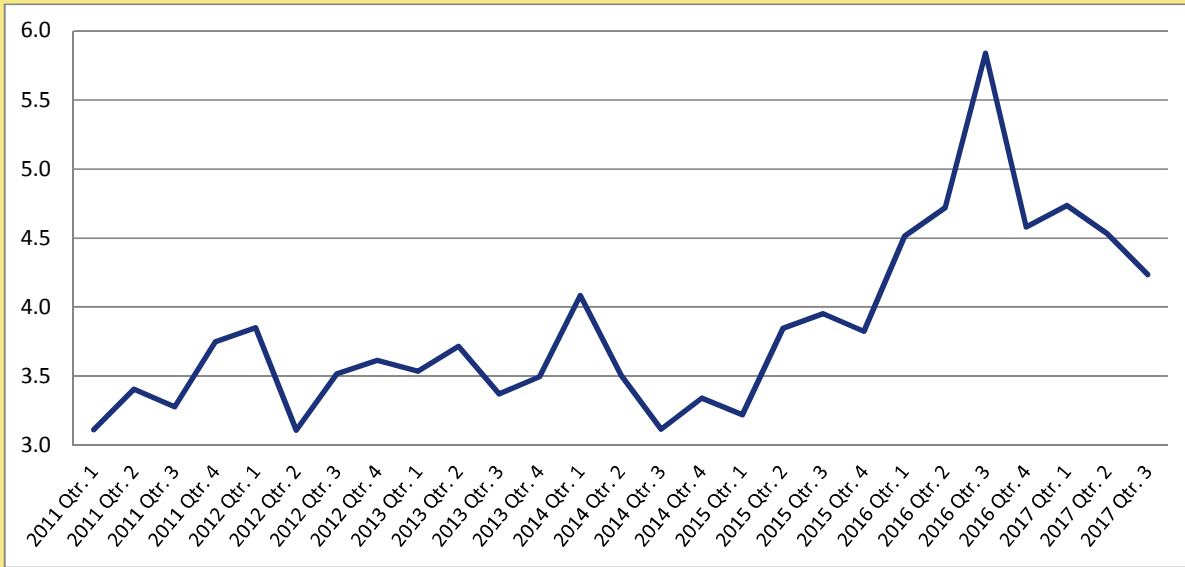


MAX Light Rail

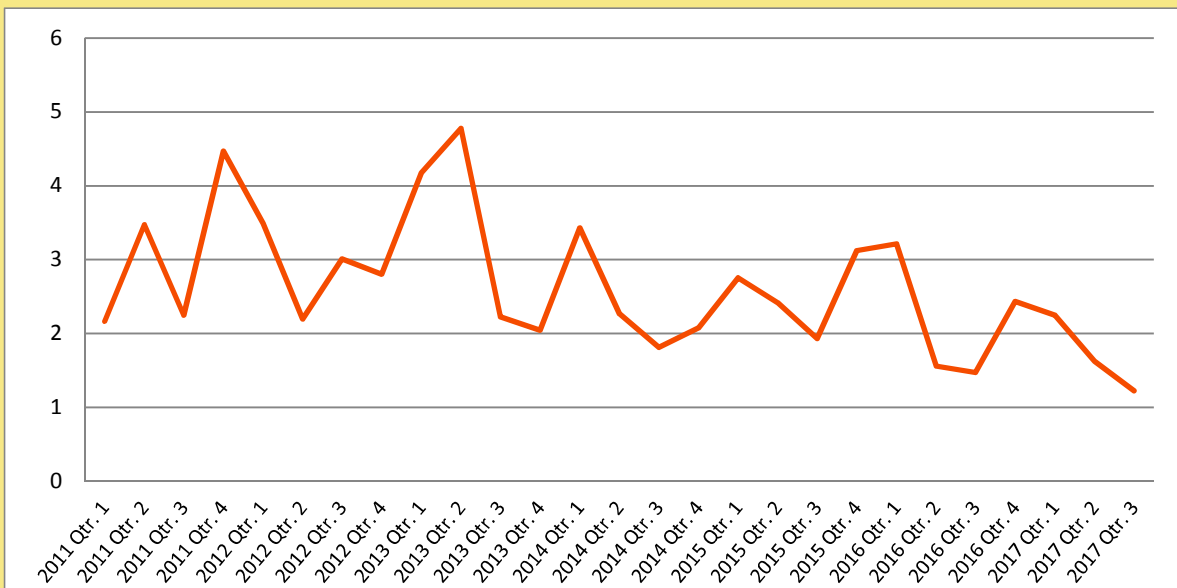
Fixed Route Bus and MAX Light Rail Commendations

	<u>2017 Qtr. 3</u>	<u>2017 Qtr. 2</u>	<u>2016 Qtr. 3</u>	<u>2017 - 2016 Percent Change</u>
Fixed Route Bus Per 100,000 Boardings	4.2	4.5	5.8	-27.5%
MAX Light Rail Per Million Boardings	1.2	1.6	1.5	-16.7%

Total Bus Operator Commendations Per 100,000 Boarding Rides



Total MAX Light Rail Commendations Per Million Boarding Rides



TriMet Bus and MAX Commendations

Total Rule Violations per Million Miles

