



High Quality Service through Continuous Improvement *2017 2nd Quarter Performance Report*

TriMet Board Meeting, August 9, 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 2nd quarter target set by the Federal Transit Administration of 80%. Bus maintenance is below the previous Qtr 2 of 2016 but increased over Qtr 1 2017 from 80.1% to 93.5%. Rail Equipment Maintenance (REM) improved from 79.9% last year of the same quarter to 82.4%. Maintenance of Way (MOW) performance has increased slightly by .4% over the past year comparison. Fare equipment is tracking for the second straight quarter at 100% reliability levels.*
- *MAX light rail MDBF (Mean Distance Between Failure) performance has demonstrated a strong quarter of performance increasing by 32.3% over the previous year and down slightly from the past quarter. The overall trend is positive for the Type 5 vehicles, with the Types 3 and 4s either flat or a slight decline. The 32 year old Type 1 vehicles have continued to be challenging and are being reviewed to vehicle life, technology obsolescence of key components and cost effectiveness.*
- *Fixed route bus MDBF (Mean Distance Between Failure) has increased by 11.8% over the previous year as well as the past quarter.*
- *Maintenance attendance delivered an overall increase of 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.

- *MAX and bus OTP increased over the previous year and quarter overall.*
- *Bus OTP's efforts are showing a 1.9% increase over the previous year and quarter. The plan for bus OTP is different from rail because TriMet does not control the roads we travel on (whereas rail we do). Going forward, there will be a continued focus on reviewing routes for ways to improve effectiveness.*
- *MAX service OTP increased from 84.2% from Qtr 2, 2016 to the last 31-day average of 86.2% or a further 2 % increase. We will be developing the next round of identified opportunities to improve on the performance and enhance the safety and OTP culture.*
- *WES OTP Performance declined 2.6% from Qtr 2 of 2016 from 98.4% to 95.8%. This was due to rail signaling issues, reducing travel speeds due to some high temperatures and some freight disruption issues. The performance overall is still at a high level.*
- *Transportation employee attendance has shown a slight decline over the past quarter compared to the past year, but has improved by .9% over the past quarter.*
- *Boarding Rides per revenue hour overall declined by 4.4% compared to this past year and is essentially flat compared to the prior quarter. The Public Affairs team will be providing further in depth details to the board later today which summarizes an extensive review. Overall, bus boardings are flat compared to this past quarter and down 3.2% from the previous year. MAX is up over the past quarter but also down by 3.6% over the past year. Some of this is due to the significant Morrison and Yamhill construction project which lasted for three weeks in this quarter.*

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.

- *Bus and MAX operator annual training and recertification for this fiscal year is now complete and ahead of schedule. A review of overall training is being conducted with the results and recommendations anticipated this fall.*
- *Total bus collisions are down by 10.4% compared to last year and significantly down compared to the Qtr 1 of 2017. This is due to the Qtr 1 base being unusually high as a result of the challenging winter conditions. Bike incidents increased over the prior quarter and slightly above prior year. The increase over the prior quarter is due to far less bike travelers on the roads during the Qtr 1 winter weather. MAX collisions have increased by 110% from prior year however are down by 22% from the prior Quarter. Upon review, we are seeing an increase in the number of incidents in our new operators, particularly in the first 0-6 month period and a particular increase in collisions with*

vehicles in the downtown area and Steel Bridge vicinity. Work is underway to look into restriping selective street ways where personal vehicles have crossed over the lines and into the rail ROW. In the category of "Collision Other" there is an increase as a result of more general objects of debris left in the guideway. This will be monitored as there is currently no identified pattern and the amounts are relatively small for the scale of the service.

- Fixed Route Bus Complaints are flat overall compared to the past year and last quarter. Service Delivery complaints have decreased by 4.9% from the prior year and quarter also. Safety related complaints are up by 10.1% over the past year however, they are a relatively small number.*
- MAX operator complaints are down over the previous year by a significant 34% compared to this past year and down in all categories. These are mainly attributed to a significant increase in OTP improvements.*
- Bus operator commendations continue to show strong longer term performance trends despite being down slightly when comparing to past quarter and year at the same time frame. Max commendations are flat compared to the prior year and down slightly from the past quarter. When compared to "Per Million Boardings", this can fluctuate a great deal. Positive feedback has been received concerning some of our customer notifications during disruptions. More work is required in this area.*

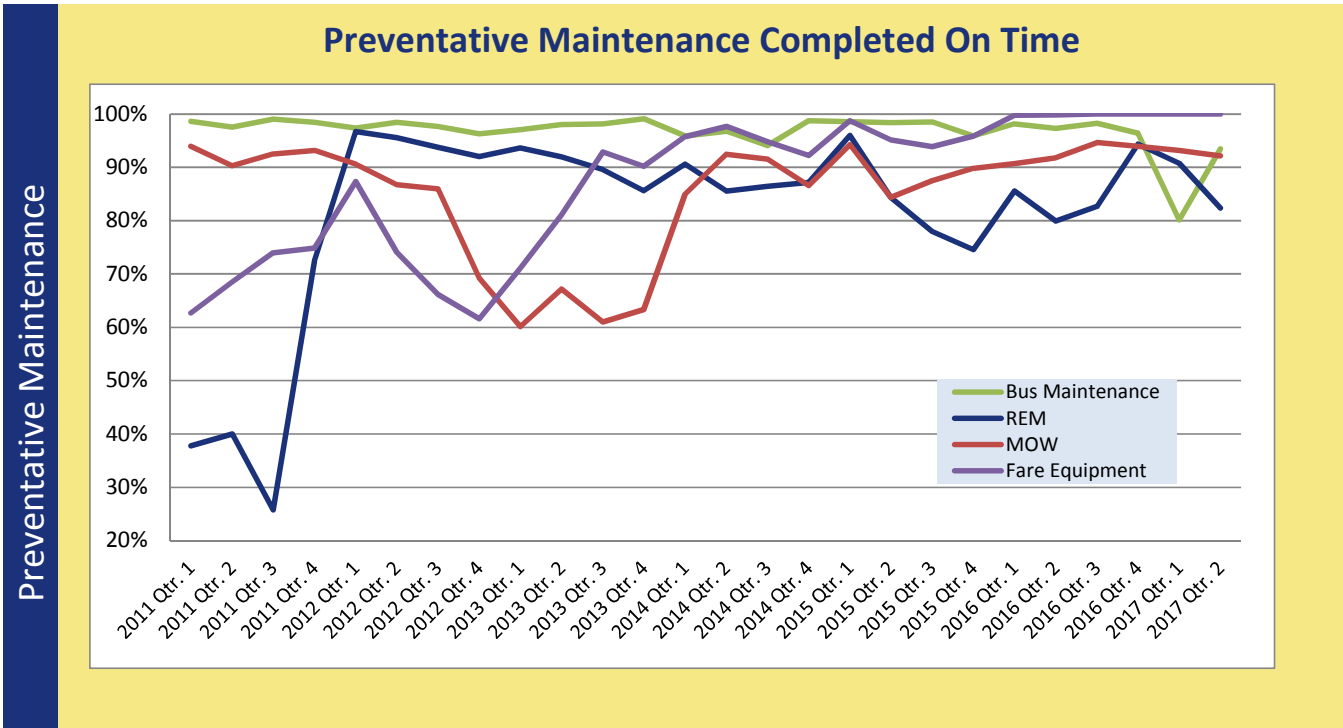


2017 2nd Quarter Report

Quarterly Performance Report

Preventative Maintenance Completed On Time

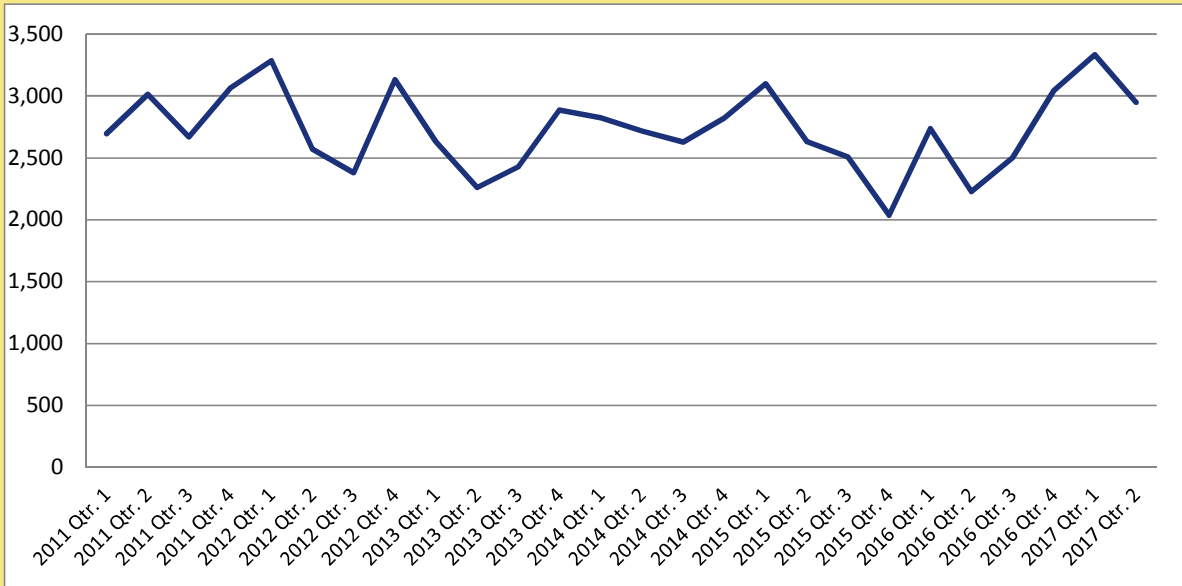
	<u>2017 Qtr. 2</u>	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 2</u>	<u>2017 - 2016</u> <u>Percent Pt. Change</u>
Bus Maintenance	93.5%	80.1%	97.4%	-3.9%
REM	82.4%	90.8%	79.9%	2.5%
MOW	92.2%	93.2%	91.8%	0.4%
Fare Equipment	100.0%	100.0%	99.8%	0.2%



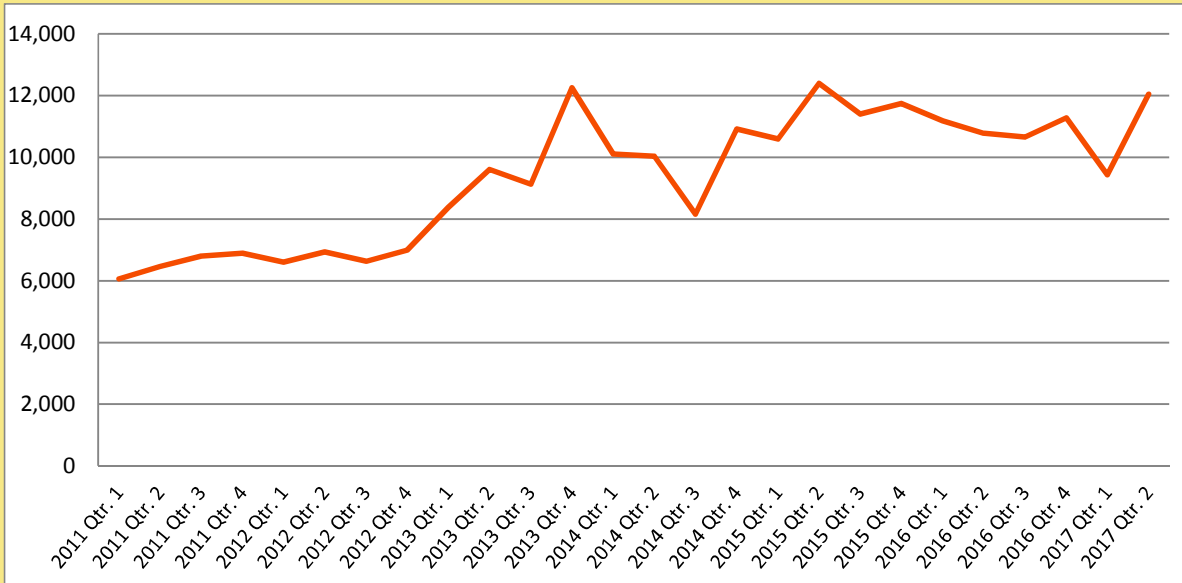
Mean Distance Between Failures (MDBF)

	<u>2017 Qtr. 2</u>	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 2</u>	<u>2017 - 2016 Percent Change</u>
MAX Light Rail	2,948	3,332	2,228	32.3%
Fixed Route Bus	12,042	9,426	10,773	11.8%

MAX Light Rail Car Miles / Service Related Repairs



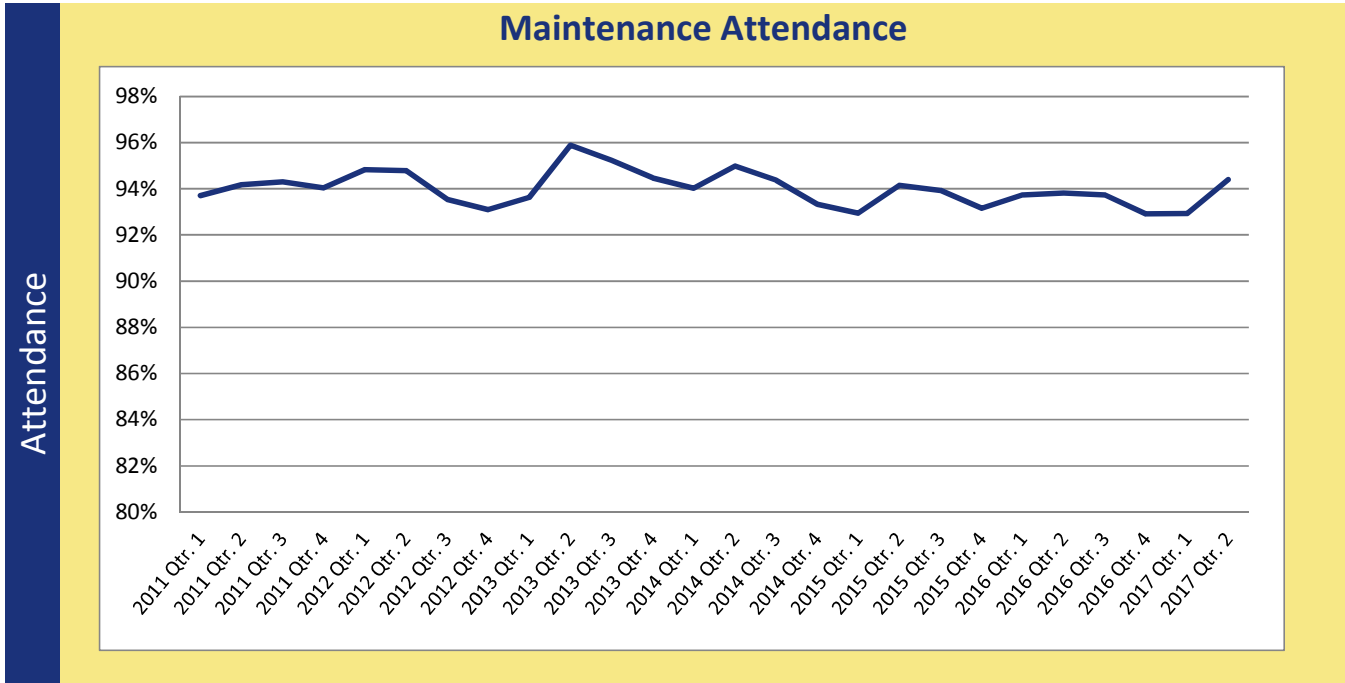
Fixed Route Bus Miles Between Mechanical Failures - Lost Service



Mean Distance Between Failures (MDBF)

Maintenance Employee Attendance

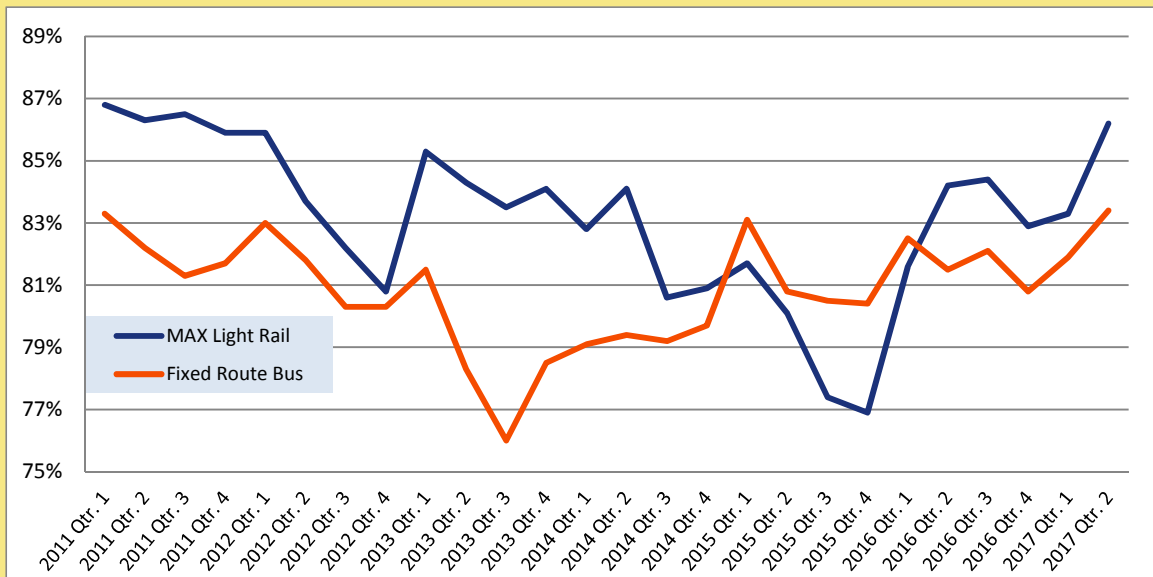
	<u>2017 Qtr. 2</u>	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 2</u>	<u>2017 - 2016</u> <u>Percent Pt. Change</u>
Maintenance	94.4%	92.9%	93.8%	0.6%



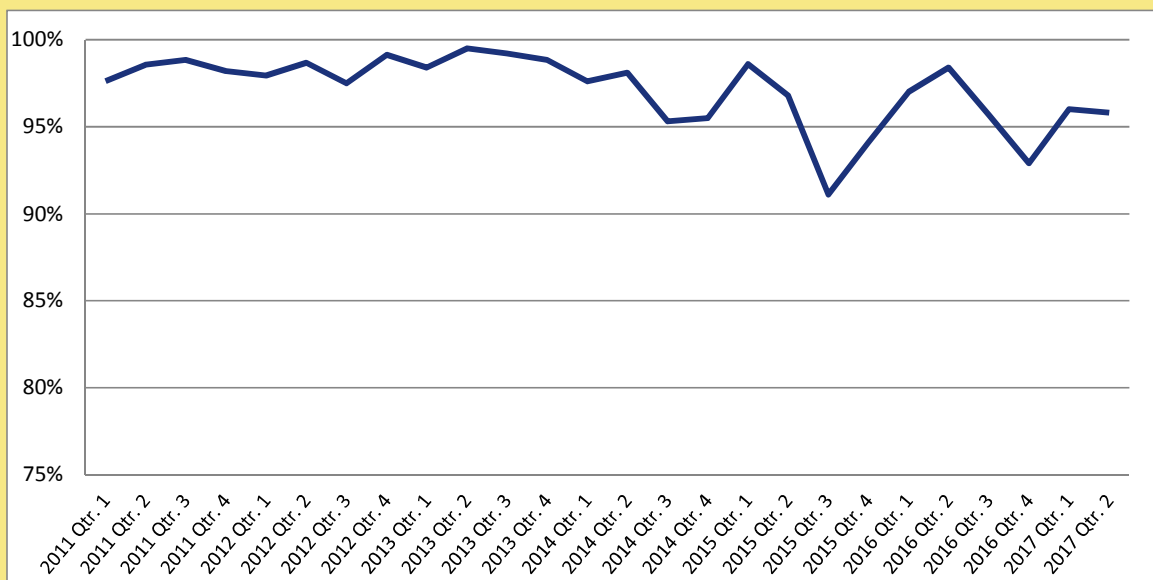
On Time Performance

	<u>2017 Qtr. 2</u>	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 2</u>	<u>2017 - 2016</u> <u>Percent Pt. Change</u>
Fixed Route Bus	83.4%	81.9%	81.5%	1.9%
MAX Light Rail	86.2%	83.3%	84.2%	2.0%
WES Commuter Rail	95.8%	96.0%	98.4%	-2.6%

Bus and MAX Light Rail OTP



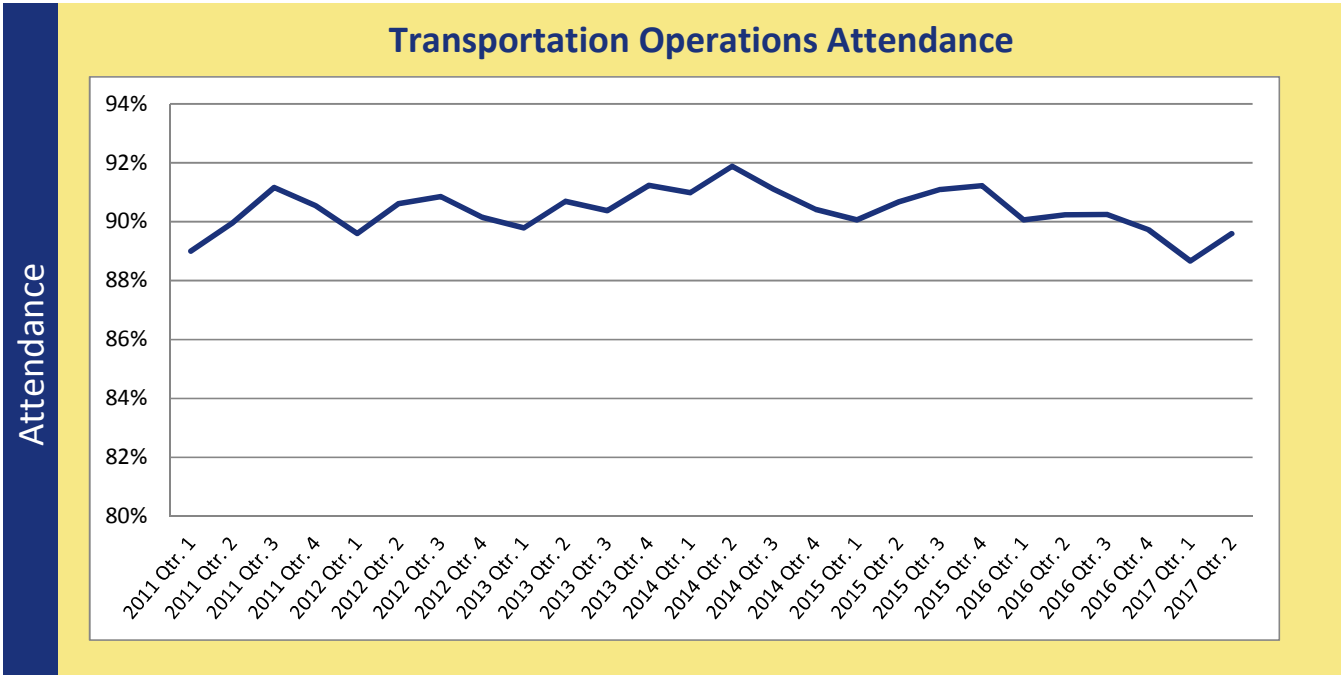
WES Commuter Rail OTP



On Time Performance

Transportation Operations Employee Attendance

	<u>2017 Qtr. 2</u>	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 2</u>	<u>2017 - 2016</u> <u>Percent Pt. Change</u>
TransOps	89.6%	88.7%	90.2%	-0.6%

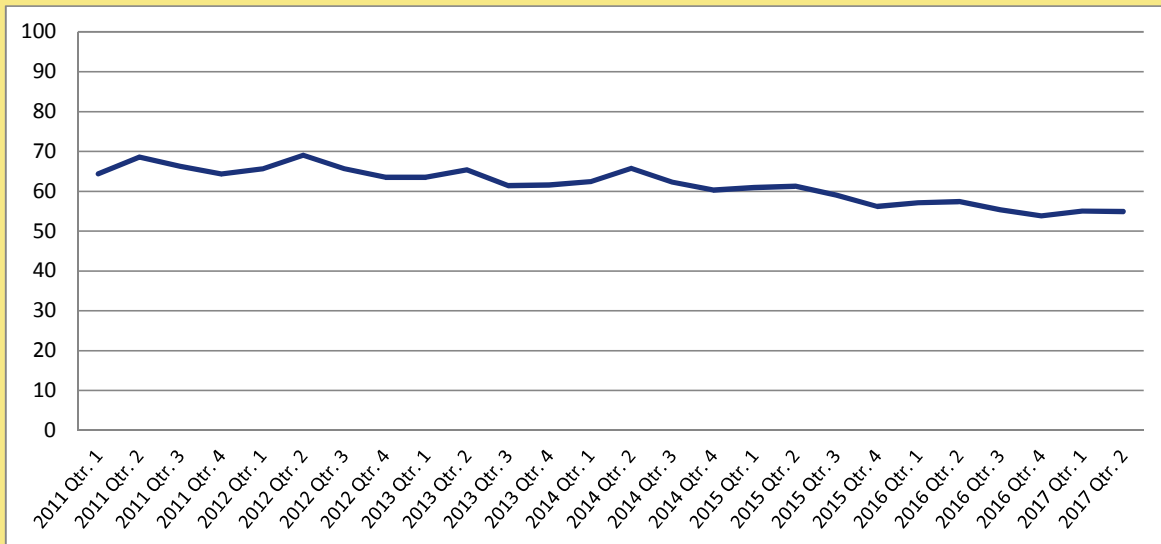


Boarding Rides Per Revenue Hour

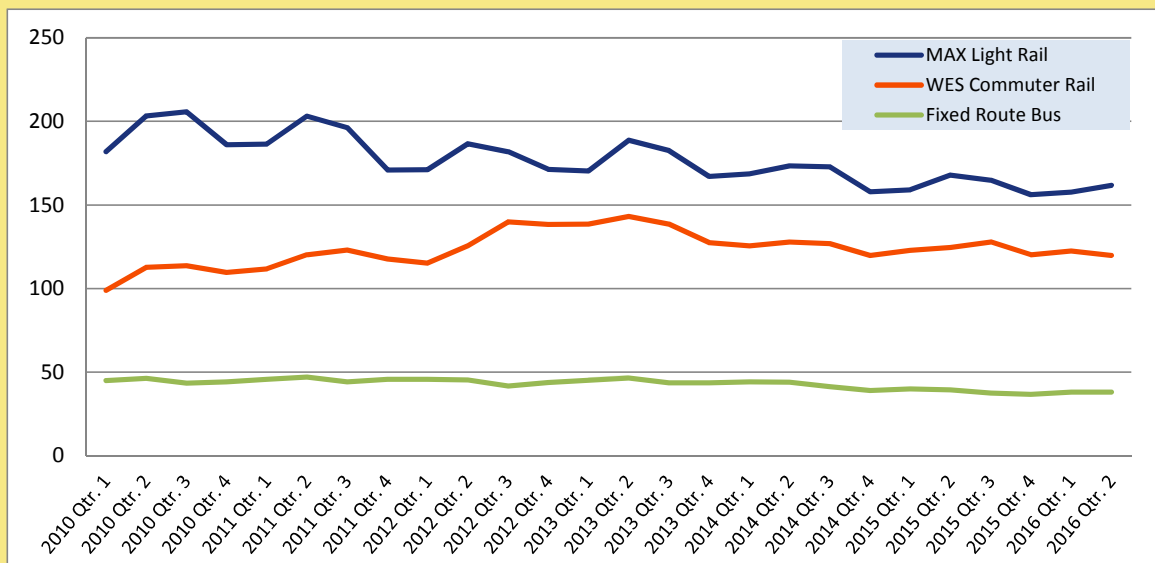
	<u>2017 Qtr. 2</u>	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 2</u>	<u>2017 - 2016</u> <u>Percent Change</u>
Total	54.9	55.0	57.4	-4.4%
Fixed Route Bus	38.1	38.1	39.4	-3.2%
MAX Light Rail	161.8	157.7	167.8	-3.6%
WES Commuter Rail	119.8	122.6	124.5	-3.8%

TriMet Boarding Rides Per Revenue Hour

Total Fixed Route Rides Per Revenue Hour



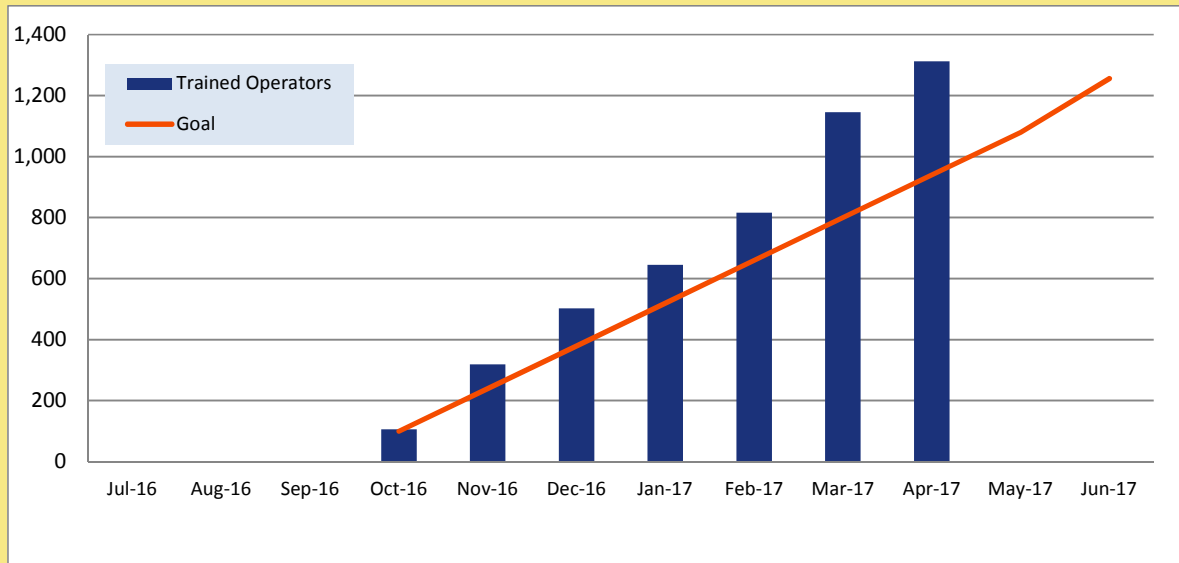
Rides Per Revenue Hour By Mode



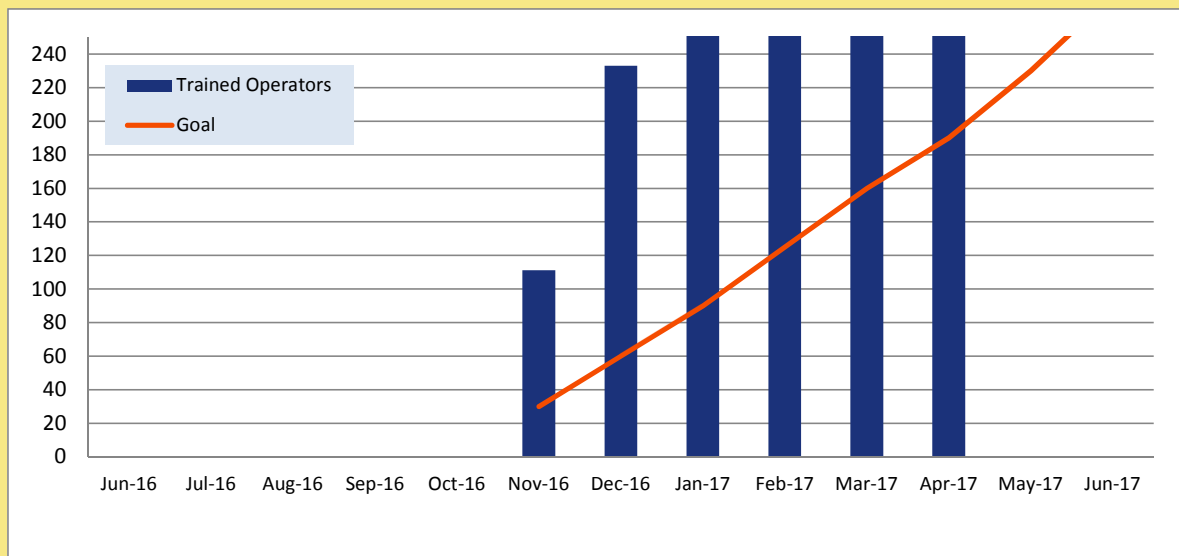
Annual Operator Recertification Training

	<u>Feb-17</u>	<u>Mar-17</u>	<u>Apr-17</u>	<u>Fiscal Year</u>
Bus Trained	816	1,146	1,312	1,312
Cumulative Goal	660	800	940	1,312
MAX Trained	266	266	266	266
Cumulative Goal	125	160	190	266

Bus Operator Annual Recertification - Actual to Goal



MAX Light Rail Annual Recertification - Actual to Goal

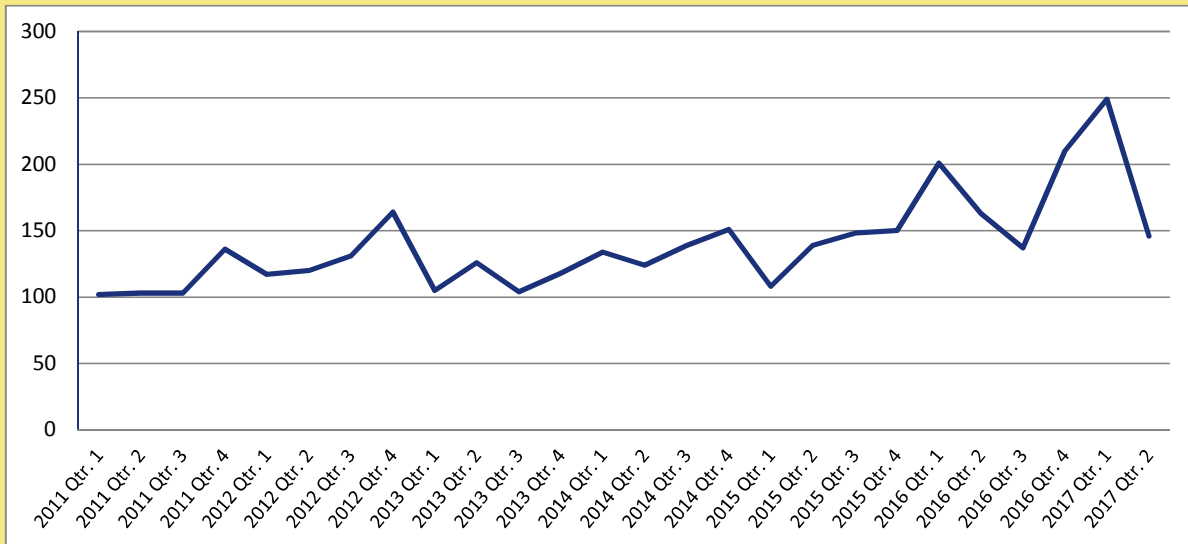


Operator Recertification Training

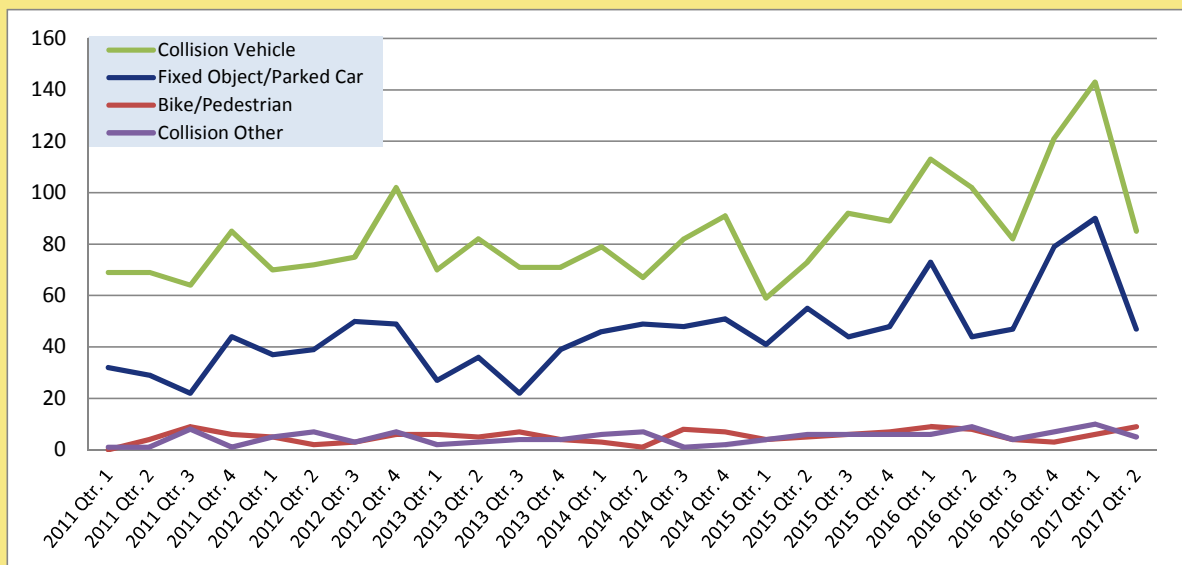
Fixed Route Bus Collisions

	<u>2017 Qtr. 2</u>	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 2</u>	<u>2017 - 2016</u> <u>Percent Change</u>
Total	146	249	163	-10.4%
Collision Vehicle	85	143	102	-16.7%
Fixed Object/Parked Car	47	90	44	6.8%
Bike/Pedestrian	9	6	8	12.5%
Collision Other	5	10	9	-44.4%

Total Bus Collisions



Bus Collision Types

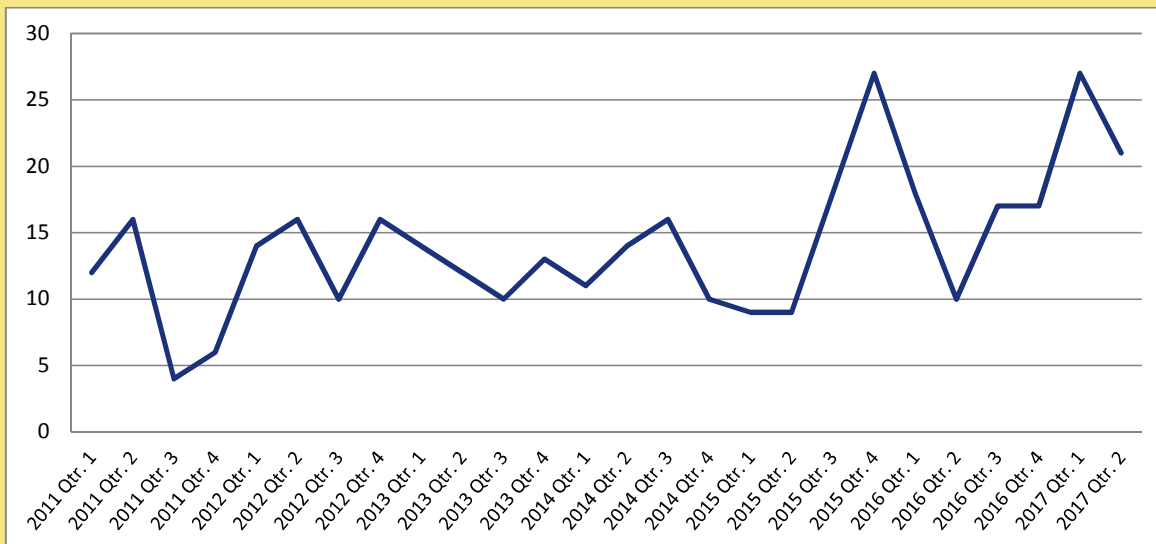


Fixed Route Bus

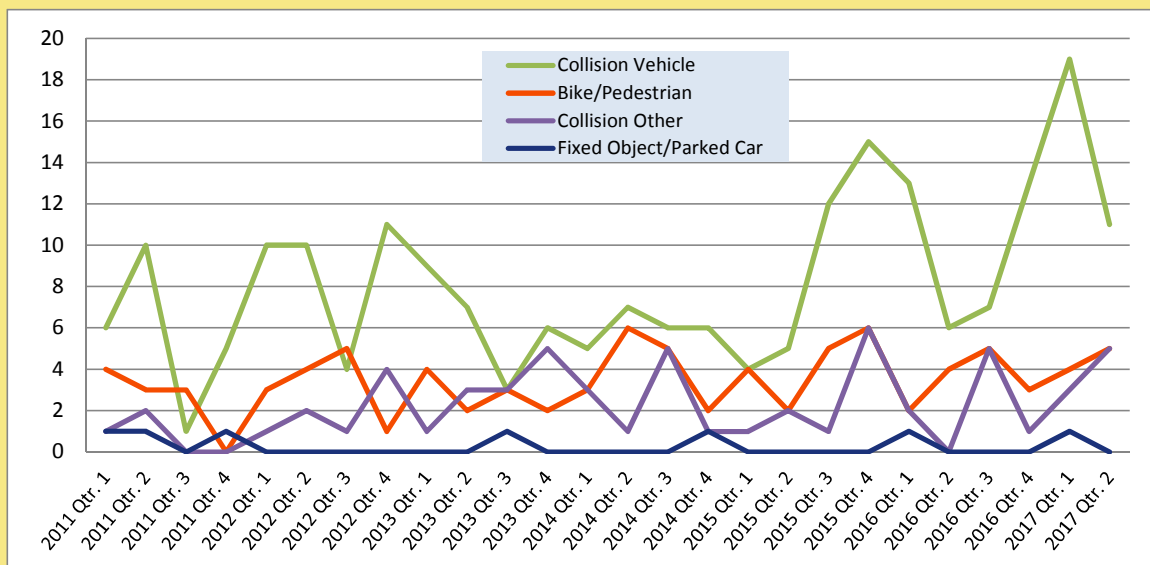
MAX Light Rail Collisions Per 100,000 Miles

	<u>2017 Qtr. 2</u>	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 2</u>	<u>2017 - 2016</u> <u>Percent Change</u>
Total	21	27	10	110%
Collision Vehicle	11	19	6	83%
Fixed Object/Parked Car	-	1	-	0%
Bike/Pedestrian	5	4	4	25%
Collision Other	5	3	-	-

MAX Light Rail Collisions Per 100,000 Miles



MAX Collision Types Per 100,000 Boarding Rides

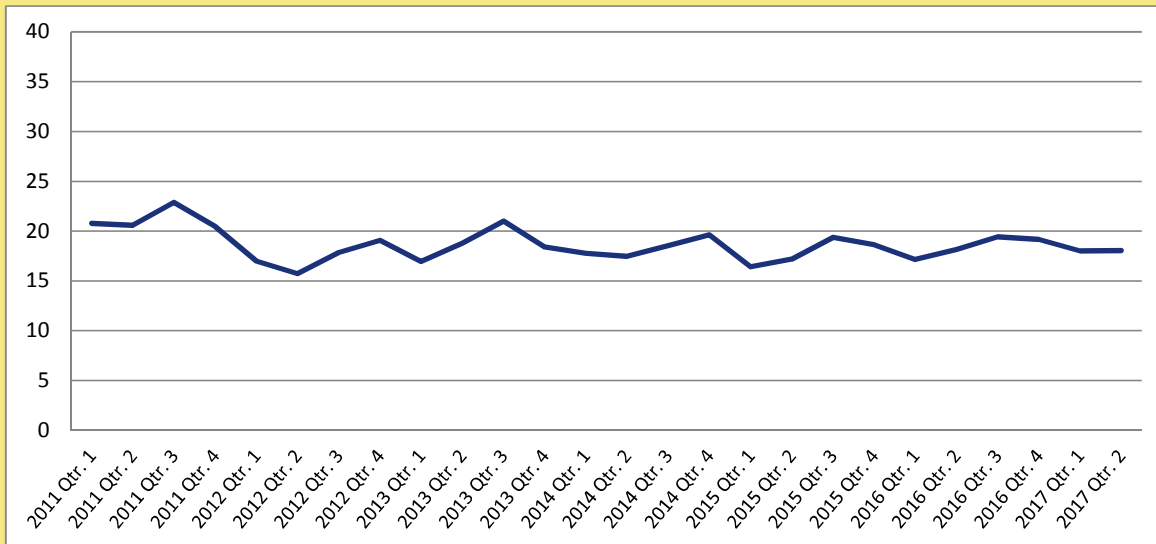


MAX Light Rail

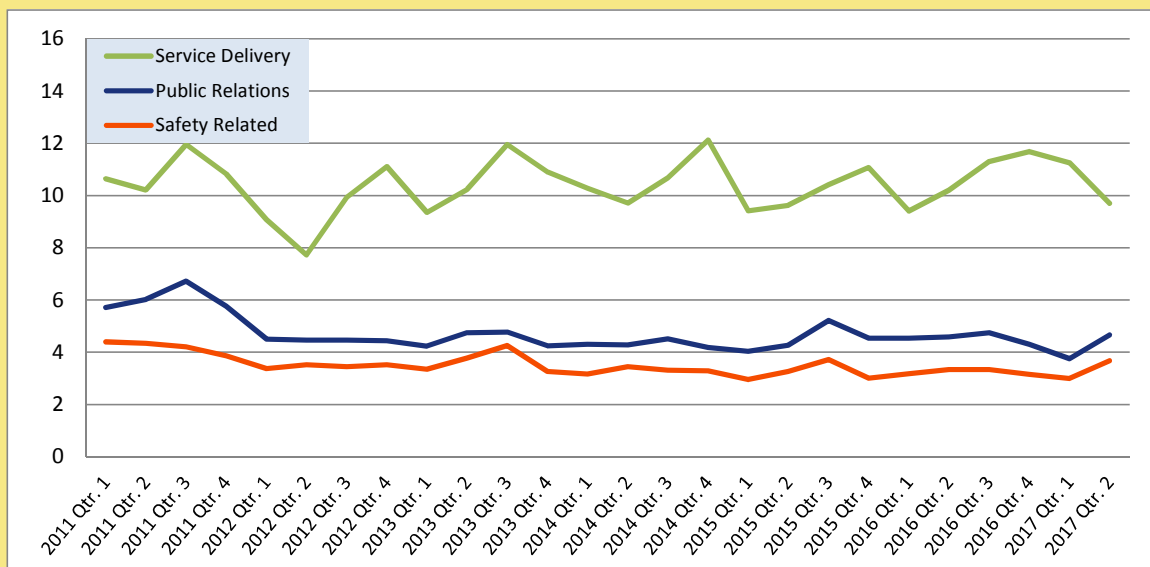
Fixed Route Bus Complaints Per 100,000 Boarding Rides

	<u>2017 Qtr. 2</u>	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 2</u>	<u>2017 - 2016</u> <u>Percent Change</u>
Total	18.0	18.0	18.1	-0.5%
Service Delivery	9.7	11.3	10.2	-4.9%
Public Relations	4.7	3.8	4.6	1.6%
Safety Related	3.7	3.0	3.3	10.1%

Total Operator Complaints Per 100,000 Boarding Rides



Type of Operator Complaints Per 100,000 Boarding Rides

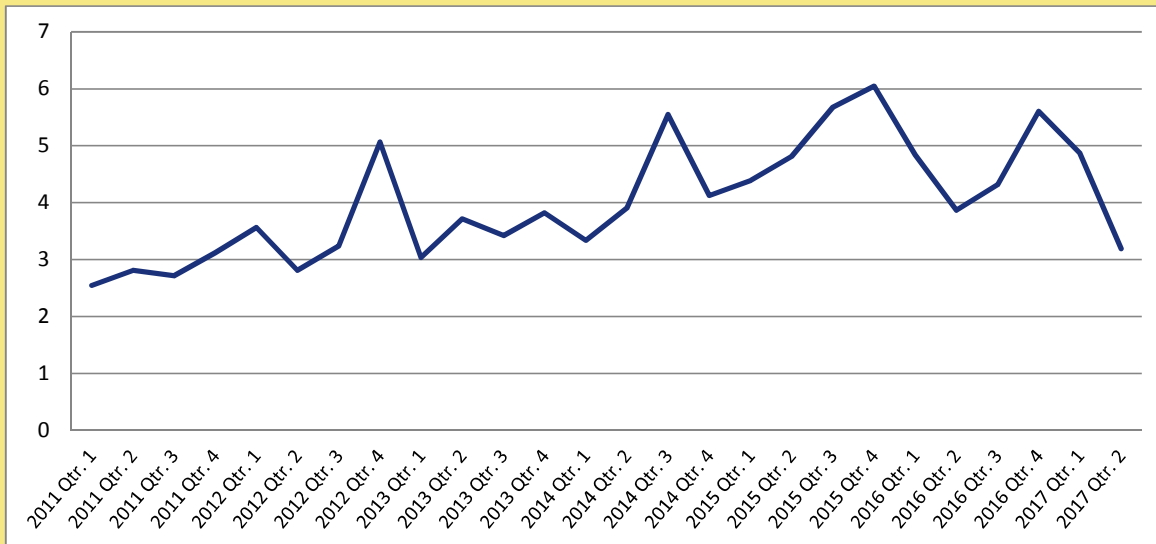


Fixed Route Bus

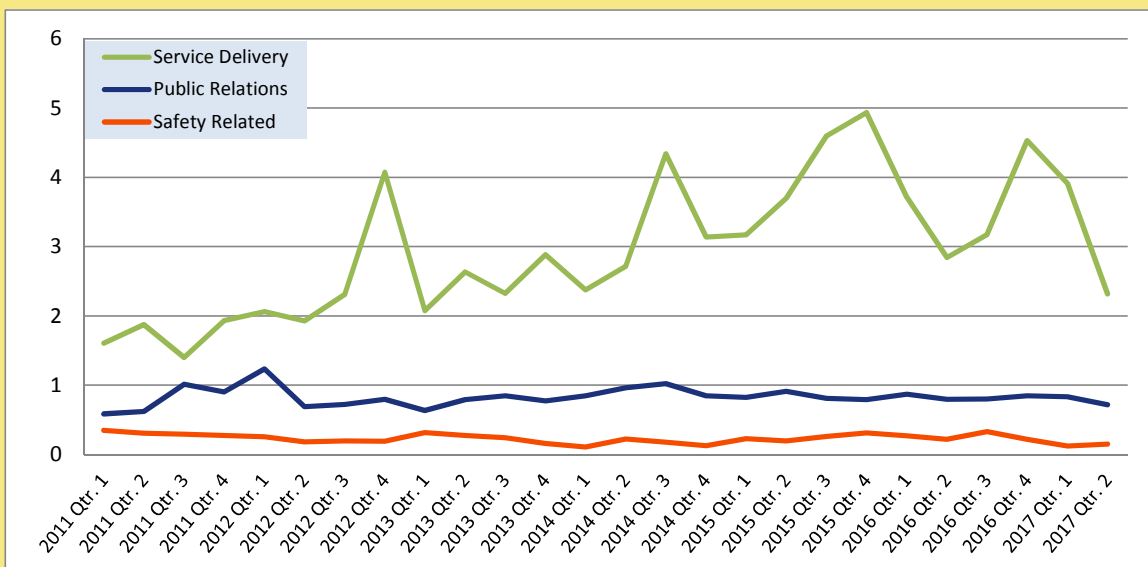
MAX Light Rail Complaints Per 100,000 Boarding Rides

	<u>2017 Qtr. 2</u>	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 2</u>	<u>2017 - 2016 Percent Change</u>
Total	3.2	5.6	4.8	-34.0%
Service Delivery	2.3	4.5	3.7	-37.6%
Public Relations	0.7	0.9	0.9	-17.4%
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

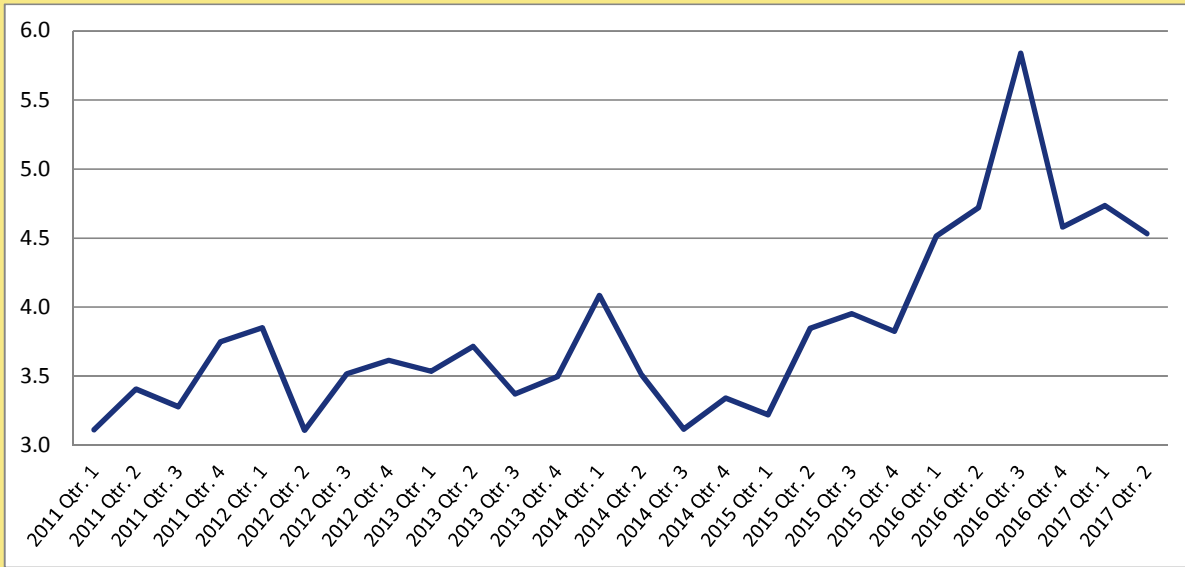


MAX Light Rail

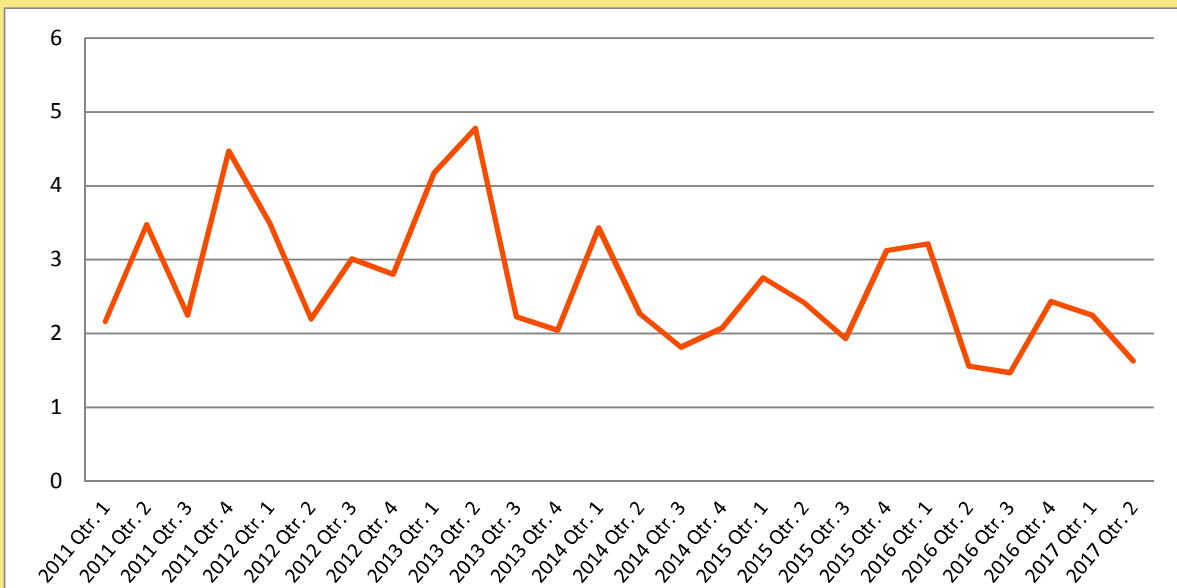
Fixed Route Bus and MAX Light Rail Commendations

	<u>2017 Qtr. 2</u>	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 2</u>	<u>2017 - 2016 Percent Change</u>
Fixed Route Bus Per 100,000 Boardings	4.5	4.7	4.7	-4.0%
MAX Light Rail Per Million Boardings	1.6	2.2	1.6	4.4%

Total Bus Operator Commendations Per 100,000 Boarding Rides



Total MAX Light Rail Commendations Per Million Boarding Rides



TriMet Bus and MAX Commendations