



2016 4th Quarter Report

Quarterly Performance Report



High Quality Service through Continuous Improvement

2016 4th Quarter Performance Report

TriMet Board Meeting, February 22, 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 significantly exceeded preventive maintenance objectives for the 2016 4th Quarter target set by the Federal Transit Administration of 80%. Bus maintenance well exceeded the goal and is up over Qtr 4 of 2015 to 96.5%. Rail Equipment Maintenance (REM) for the quarter has made strong progress since Qtr 4 of 2015 of 74.6% and is now back over the FTA target of 80%. Performance has increased 19.8% and is now a noteworthy 94.4%. This is particularly noteworthy when you consider the significant weather challenges in December. The Maintenance of Way (MOW) results increased by just over 4% compared to the previous year. Last two quarters performance of TVM reliability has been at 100%. This is a strong performance.*
- *Fixed route bus MDBF (Mean Distance Between Failure) is showing a slight decrease from last year or 4% and a 5.8% improvement over the previous quarter.*
- *MAX light rail MDBF (Mean Distance Between Failure) performance has demonstrated a strong quarter of performance and has increased by 49.5% over the previous year and 22 % over the previous Quarter. This is attributed to several key initiatives now showing results particularly on the Type 5 vehicles in the areas of propulsion and friction brake performance. There has also been a recent upgrade of the selective software contributing to the performance along with an overall performance improvement in door failures.*
- *Maintenance attendance is overall flat with a decrease of 0.2% over the previous quarter.*

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, however, it has decreased over the previous Quarter. WES OTP has also decreased over the previous year and Quarter.*
- *Bus OTP has developed an improvement plan to build on a reasonably well performing OTP. This plan is now underway over the next several quarters to develop and implement improvements. Our goal is to improve it to a range of 84-85% for the end of 2nd Quarter of this fiscal year. For the current period bus performance was impacted as a result of the November public demonstrations and December weather issues which have continued on through this reporting period.*
- *MAX service OTP increased from 77% from Qtr 4, 2015 to the last 31-day average of 82.9%. This is a drop from the last quarter primarily related to the downtown Portland public demonstrations and significant weather of ice and snow experienced from the start of the first week in December. These weather and other challenges will continue into Qtr 1, 2017. However, a new round of rail OTP improvement initiatives are underway, including a goal in the range of 85.5-86.5 for the end of the second quarter of 2017.*
- *WES OTP Performance declined 1.2% from last Qtr of 2015 from 94.1% to 92.9% due to rail signaling and radio communications issues, selective few switch functioning issues and weather impacts. It is anticipated the weather issues will persist into January and part of February with the asset related breakdowns of the service improving and we are intending to increase the OTP to well over the 95% plus range.*
- *Transportation employee attendance has shown slight declines over the past two quarters of performance. Qtr 4 performance has been impacted from 91.2% to 87.9% or down 1.5% since Qtr 4, 2015. This is as a result of the continuous and intense weather systems that have caused some inability to get to work for some employees and general absenteeism in select areas. Overall, our front line staff performed admirably during this difficult period.*
- *Boarding Rides per revenue hour overall declined by 4.2% compared to this past year and 2.7% from the prior quarter. Specific work is underway by our Public Affairs team in analyzing any causal issues beyond the known impact of relatively low fuel prices which has impacted ridership. Further information will be available at a future date. Overall, bus boardings are down by 6% over last year and 1.9% over the last quarter to 36.7%. Max service is down 1.1% on a year over year basis. However, Max ridership is up over 3% on weekdays for October and November with a full year of service and related data now concluded. It is important to note, that for the full opening of the Orange Line in September of 2015, the base months of higher than normal public interest and ridership likely contributed to a higher than normal starting base.*
- *WES is overall steady with it incurring a slight increase of .3% with no additional service hour changes.*

3. Operator Support

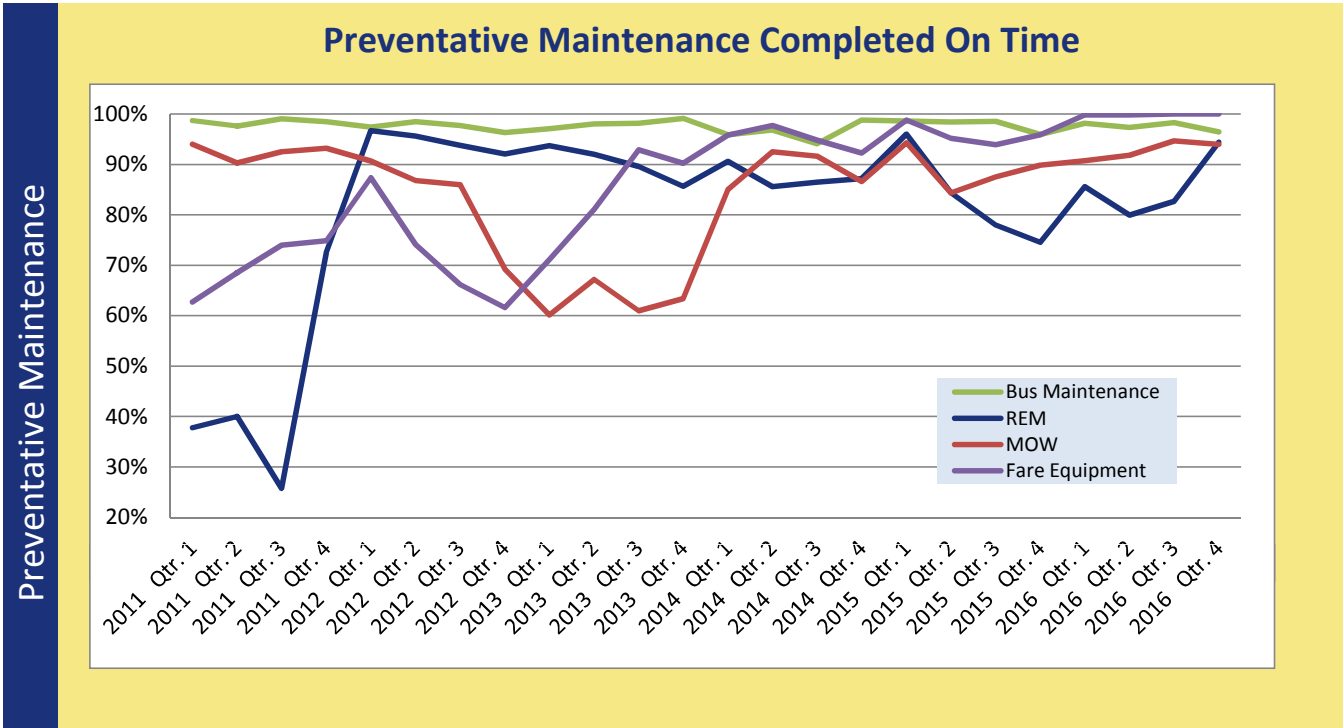
Goal: Improve safety and customer service through customized training programs for operators and supervisors.

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 underway and early results are well ahead of schedule to ensure we maintain a strong service and safety focus.*
- *Total bus collisions are up significantly by 40% over the previous year as a result of the difficult and unprecedented weather the region has experienced over the month of December, January and now into February. These results are also significantly lower on the Bike/pedestrian incidents, as a result of less active travelers. Despite these challenging results the operators have demonstrated excellent service under the circumstances with many commendations received. MAX collisions with vehicles are down from over a year ago by 37% and are equal to the previous quarter. The "Collision Other" is down mainly attributed to far fewer yard derailments and a continued focus on safety. MAX is currently experiencing a significant number of vehicles in the ROW over previous years. Management has identified several high frequency locations and is implementing changes. There is now a further review underway to identify other locations and circumstances where collisions can reasonably be mitigated. This will take some time to develop this strategy further. Bus operator complaints are down slightly over the previous quarter and up by 2.9% over the previous year.*
- *Fixed Route Bus "Service Delivery" has an increase of 3.5% over the previous quarter and is being monitored. When compared to the Commendation increases shown later in this report, it is a relatively small number.*
- *MAX operator complaints are down over the previous year by 7.3%. These are mainly attributed to a significant increase in OTP improvements. However, the last quarter result has increased due to the demonstrations and December weather. The "Public Relations" is showing a 7% increase over the past quarter and year. This is a nominal amount of .1% increase on a small base*
- *Bus operator commendations continue to show strong performance results with a 19.8% increase over prior year and a positive long term upward trend. Max commendations are down by 22% from prior year but 60% increase over the prior quarter. When compared to "Per Million Boardings", this can fluctuate a great deal. We are striving to provide our customers with more and consistent information during unplanned events to ensure we maintain their support and confidence in our current and future services.*
- *Management has also undertaken a new operator announcement program that we are in the process of implementing. This is targeted initially at communicating more consistently with our customers about options and known system status information.*

Preventative Maintenance Completed On Time

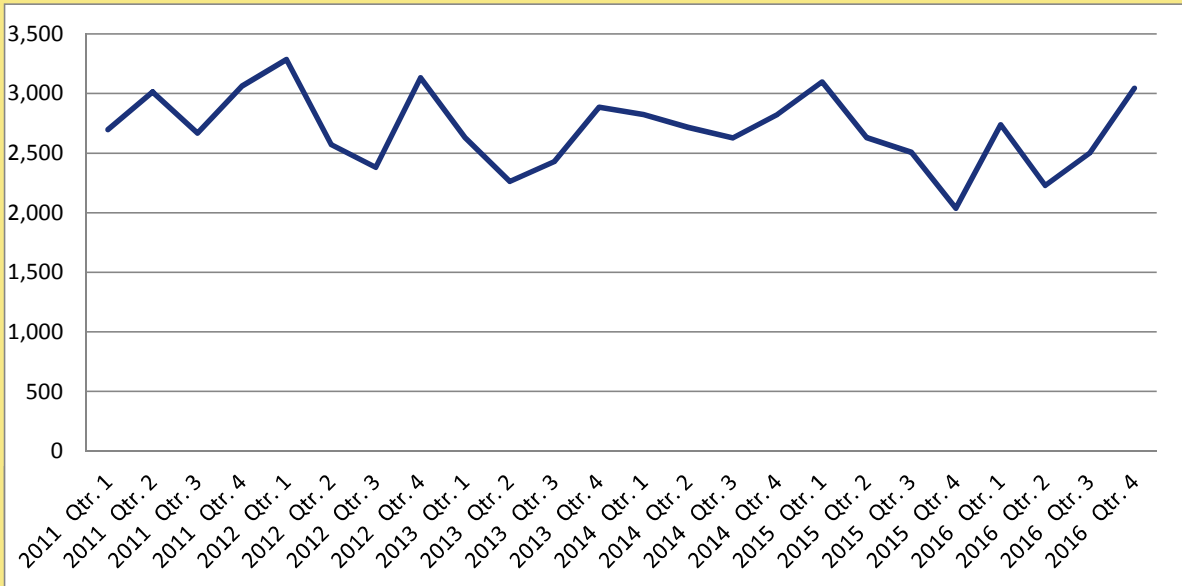
	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 3</u>	<u>2015 Qtr. 4</u>	<u>2016 - 2015</u> <u>Percent Pt. Change</u>
Bus Maintenance	96.5%	98.3%	95.9%	0.5%
REM	94.4%	82.7%	74.6%	19.8%
MOW	94.0%	94.7%	89.8%	4.1%
Fare Equipment	100.0%	100.0%	95.9%	4.1%



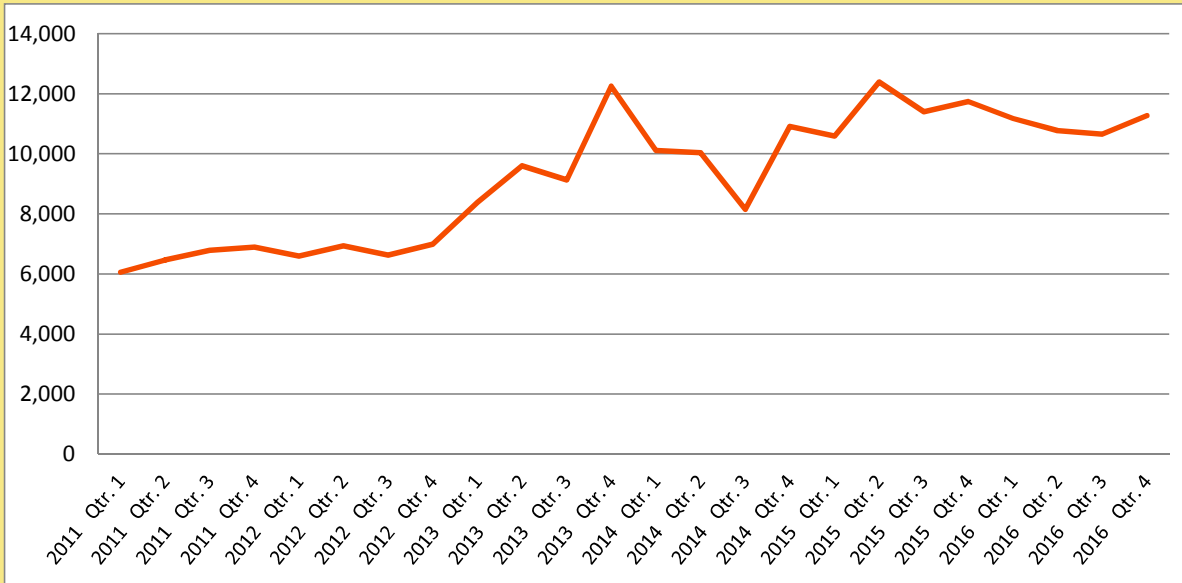
Mean Distance Between Failures (MDBF)

	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 3</u>	<u>2015 Qtr. 4</u>	<u>2016 - 2015 Percent Change</u>
MAX Light Rail	3,045	2,501	2,036	49.5%
Fixed Route Bus	11,273	10,657	11,746	-4.0%

MAX Light Rail Car Miles / Service Related Repairs



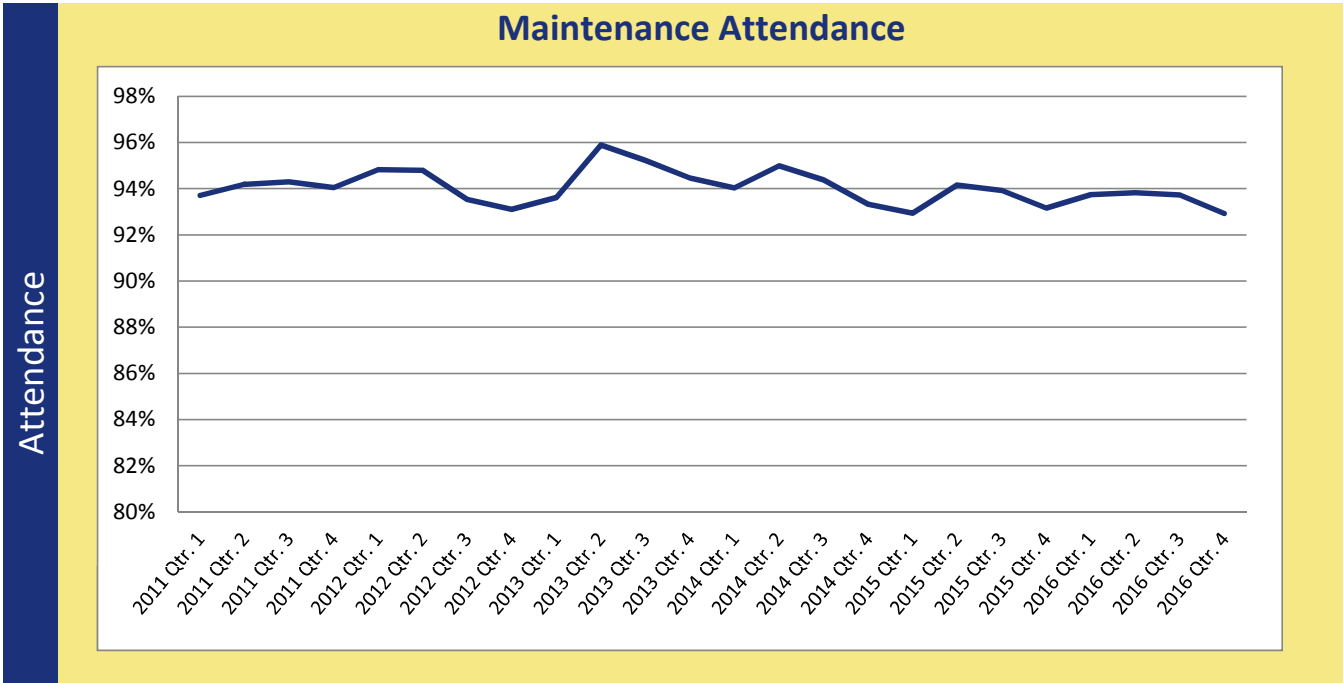
Fixed Route Bus Miles Between Mechanical Failures - Lost Service



Mean Distance Between Failures (MDBF)

Maintenance Employee Attendance

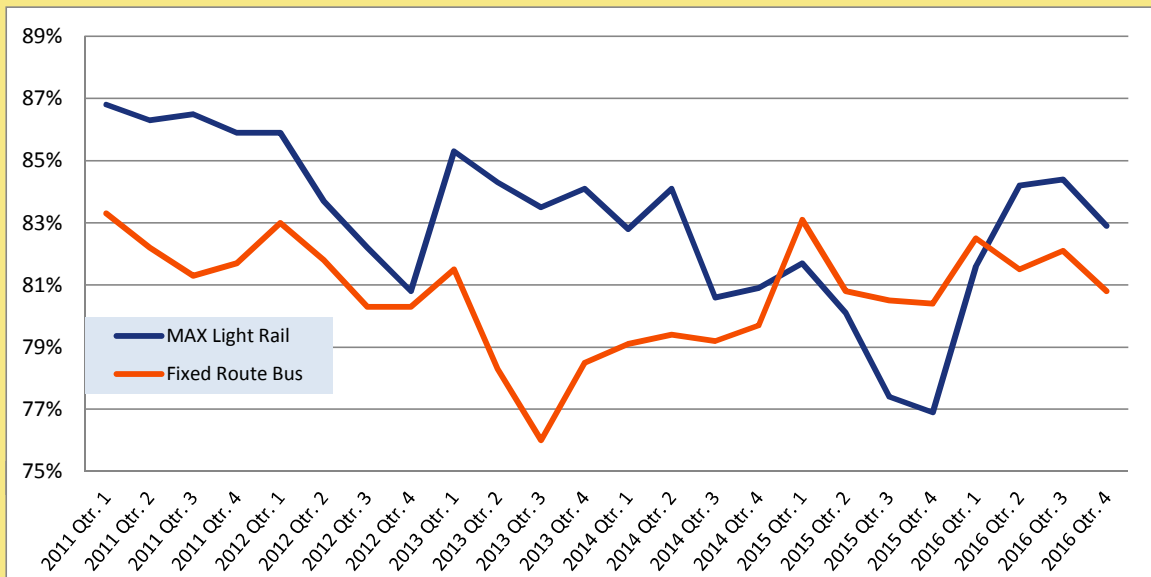
	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 3</u>	<u>2015 Qtr. 4</u>	<u>2016 - 2015</u> <u>Percent Pt. Change</u>
Maintenance	92.9%	93.7%	93.2%	-0.2%



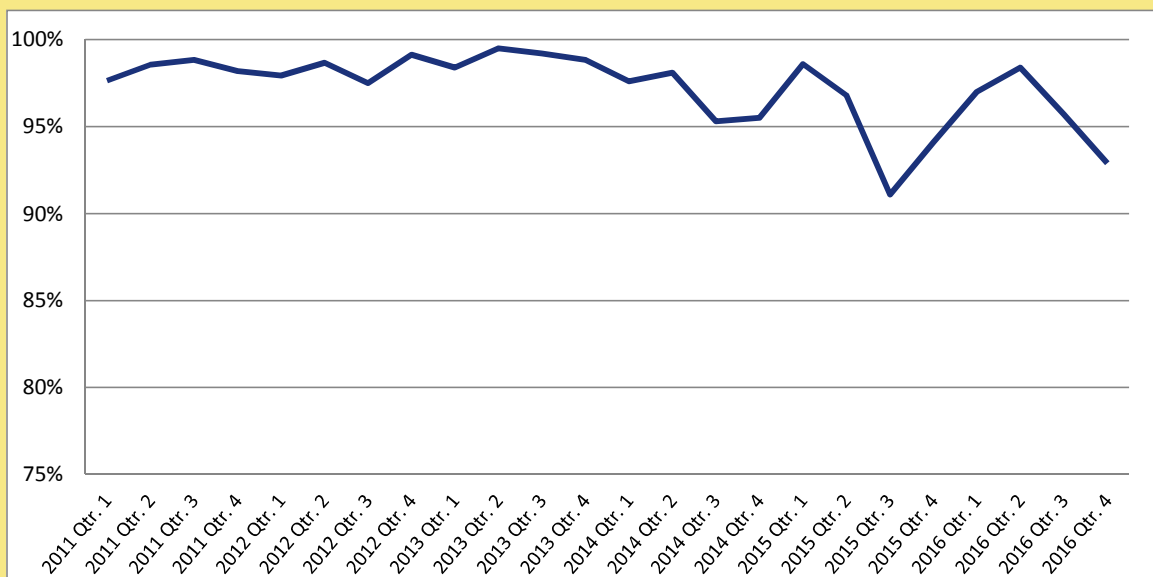
On Time Performance

	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 3</u>	<u>2015 Qtr. 4</u>	<u>2016 - 2015</u> <u>Percent Pt. Change</u>
Fixed Route Bus	80.8%	82.1%	80.4%	0.4%
MAX Light Rail	82.9%	84.4%	76.9%	6.0%
WES Commuter Rail	92.9%	95.7%	94.1%	-1.2%

Bus and MAX Light Rail OTP



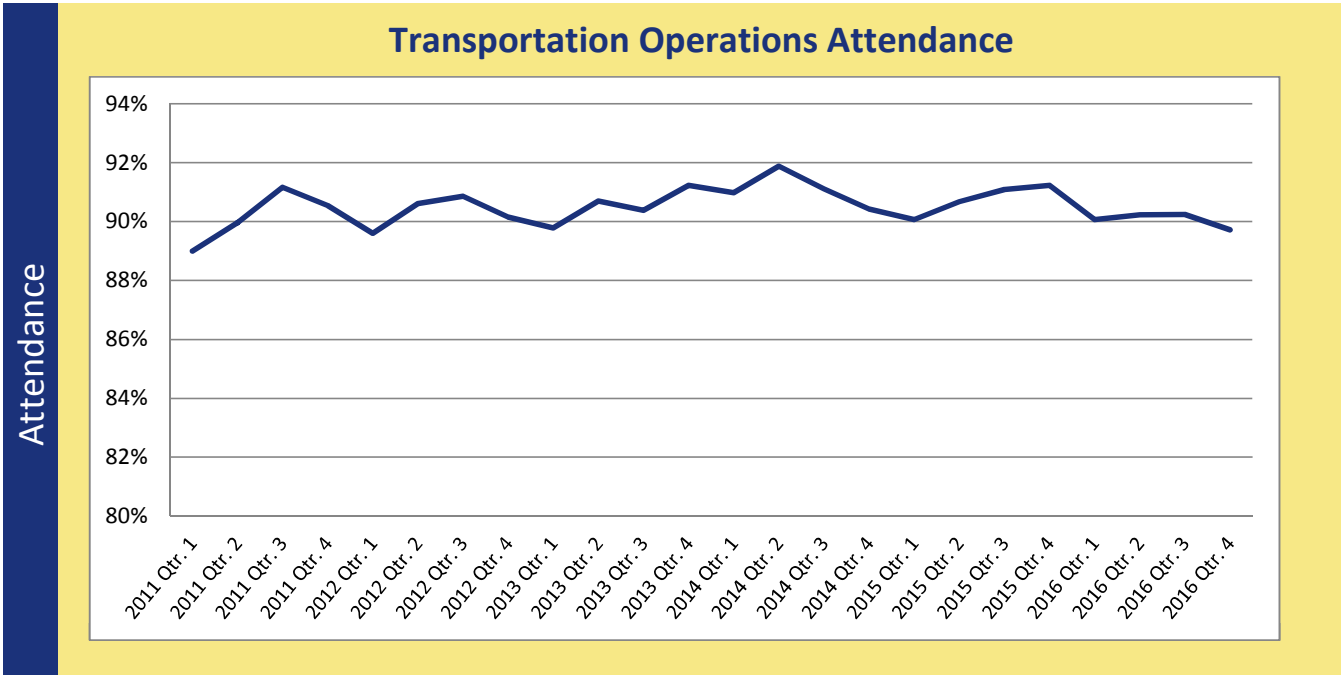
WES Commuter Rail OTP



On Time Performance

Transportation Operations Employee Attendance

	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 3</u>	<u>2015 Qtr. 4</u>	<u>2016 - 2015</u> <u>Percent Pt. Change</u>
TransOps	89.7%	90.2%	91.2%	-1.5%

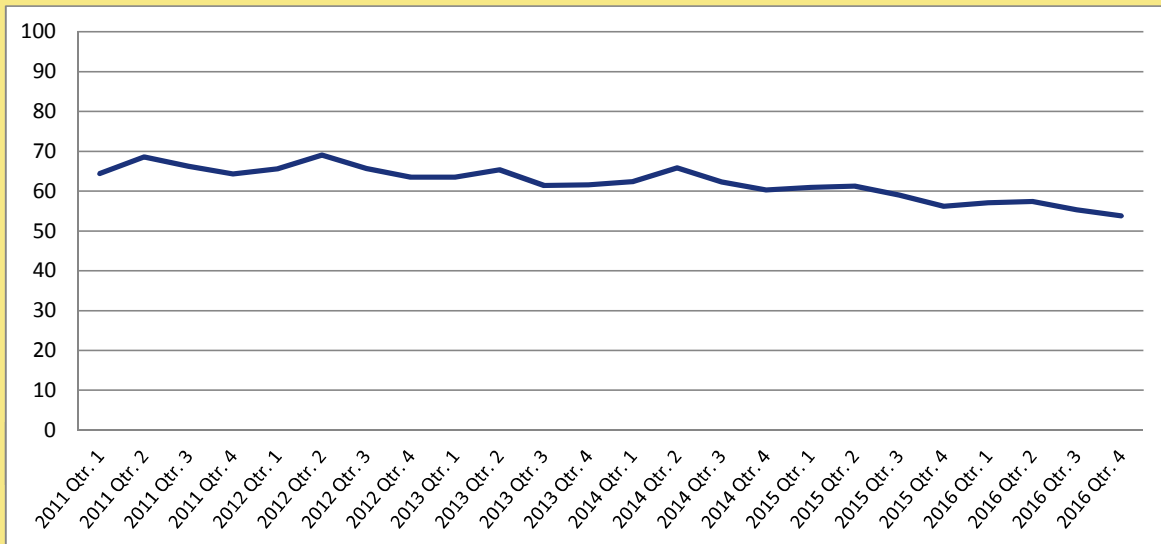


Boarding Rides Per Revenue Hour

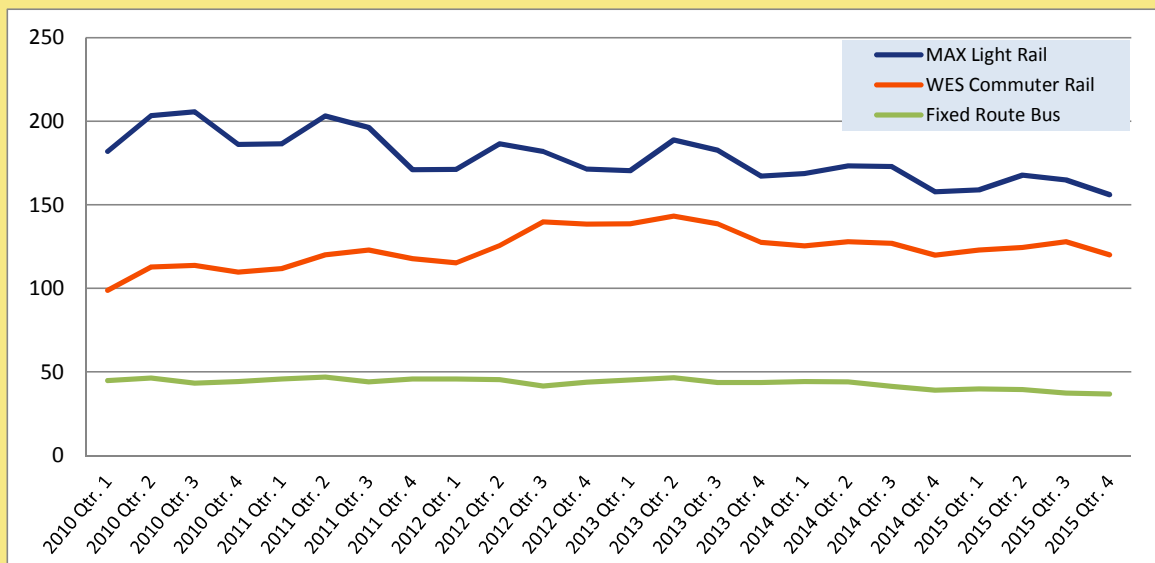
	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 3</u>	<u>2015 Qtr. 4</u>	<u>2016 - 2015</u> <u>Percent Change</u>
Total	53.8	55.3	56.2	-4.2%
Fixed Route Bus	36.7	37.4	39.1	-6.0%
MAX Light Rail	156.1	164.8	157.9	-1.1%
WES Commuter Rail	120.1	128.0	119.8	0.3%

TriMet Boarding Rides Per Revenue Hour

Total Fixed Route Rides Per Revenue Hour



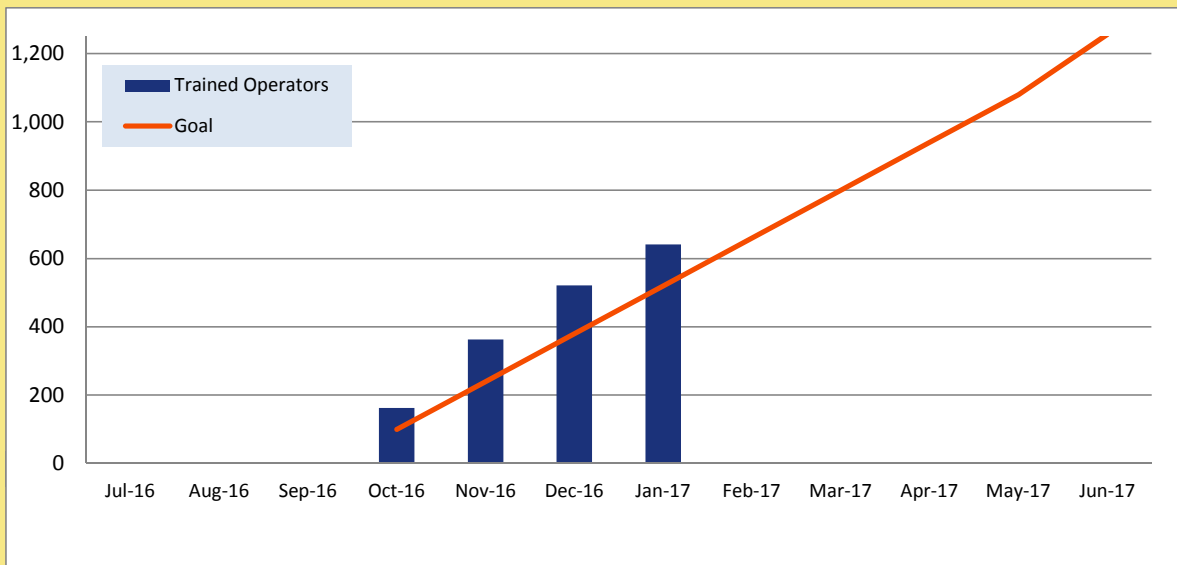
Rides Per Revenue Hour By Mode



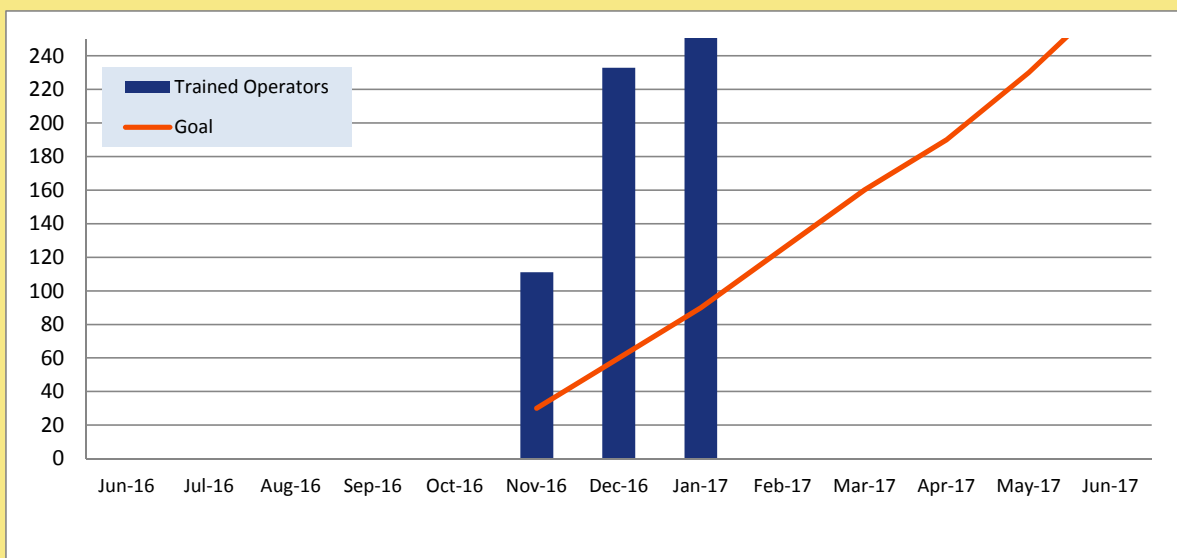
Annual Operator Recertification Training

	<u>Nov-16</u>	<u>Dec-16</u>	<u>Jan-17</u>	<u>Fiscal Year</u>
Bus Trained	363	521	641	641
Cumulative Goal	240	380	520	1,256
MAX Trained	111	233	266	266
Cumulative Goal	30	60	90	276

Bus Operator Annual Recertification - Actual to Goal



MAX Light Rail Annual Recertification - Actual to Goal

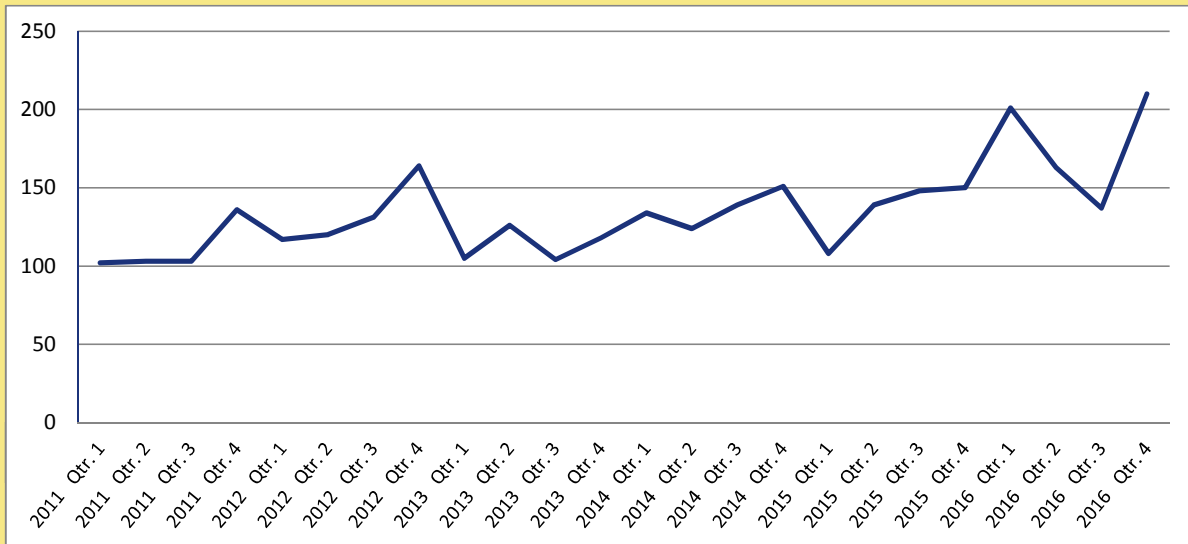


Operator Recertification Training

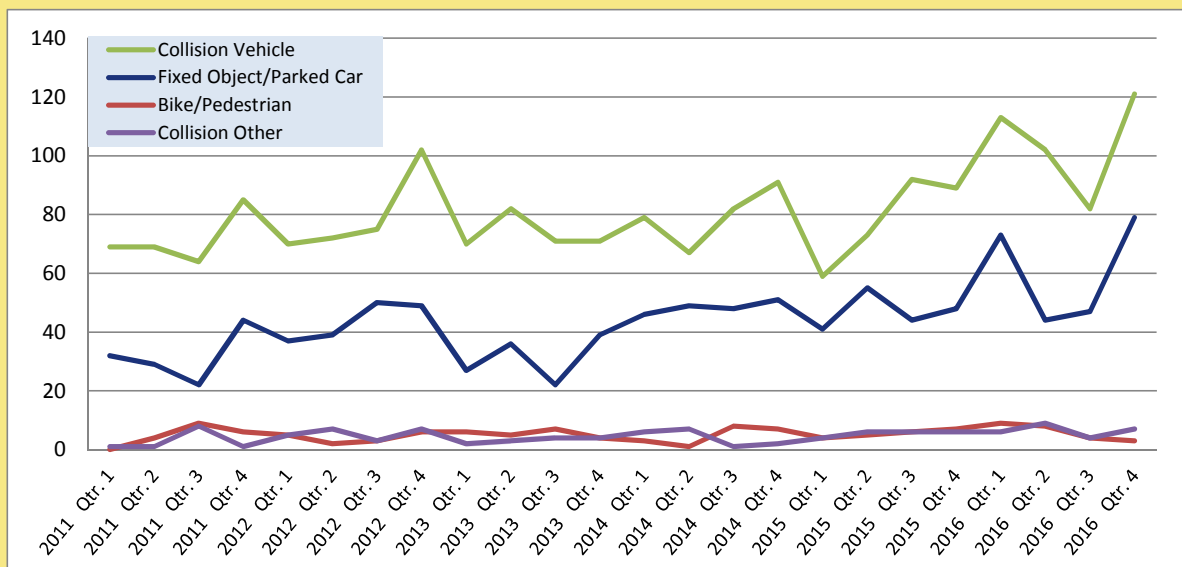
Fixed Route Bus Collisions

	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 3</u>	<u>2015 Qtr. 4</u>	<u>2016 - 2015</u> <u>Percent Change</u>
Total	210	137	150	40.0%
Collision Vehicle	121	82	89	36.0%
Fixed Object/Parked Car	79	47	48	64.6%
Bike/Pedestrian	3	4	7	-57.1%
Collision Other	7	4	6	16.7%

Total Bus Collisions



Bus Collision Types

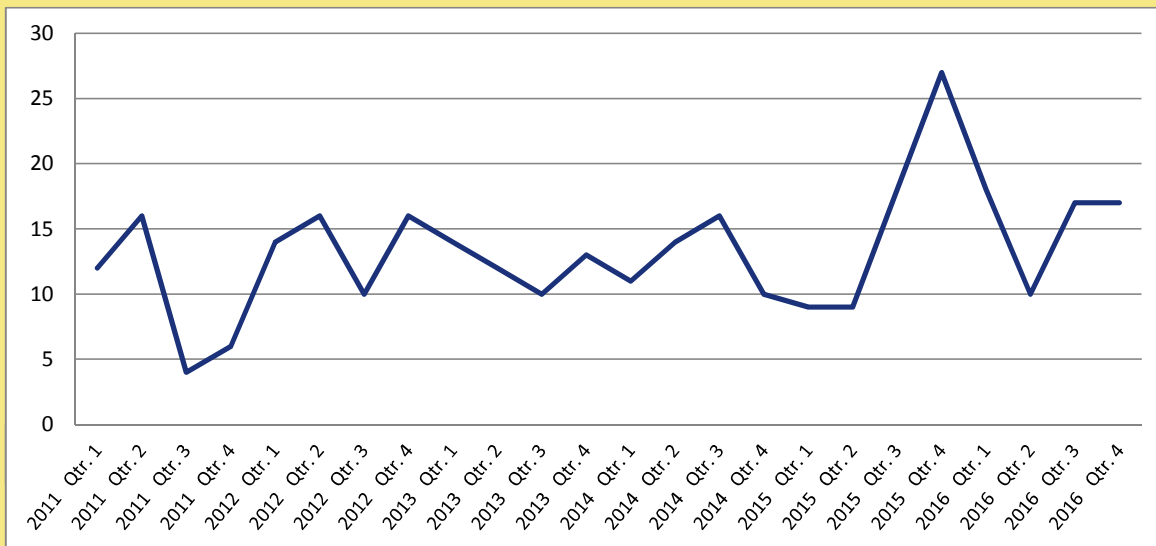


Fixed Route Bus

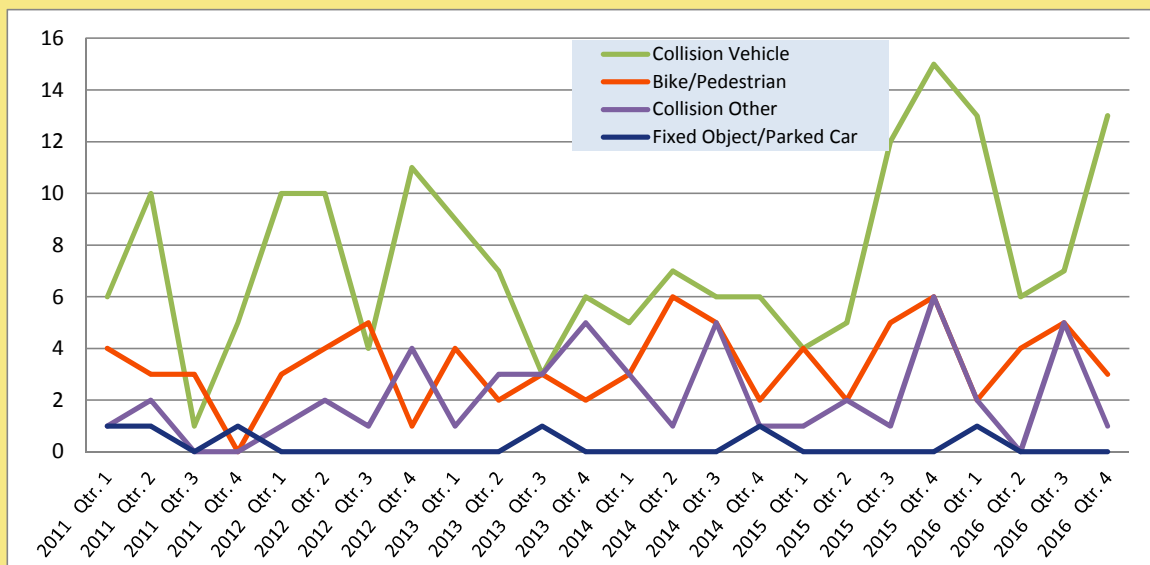
MAX Light Rail Collisions Per 100,000 Miles

	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 3</u>	<u>2015 Qtr. 4</u>	<u>2016 - 2015 Percent Change</u>
Total	17	17	27	-37%
Collision Vehicle	13	7	15	-13%
Fixed Object/Parked Car	-	-	-	0%
Bike/Pedestrian	3	5	6	-50%
Collision Other	1	5	6	-83%

MAX Light Rail Collisions Per 100,000 Miles



MAX Collision Types Per 100,000 Boarding Rides

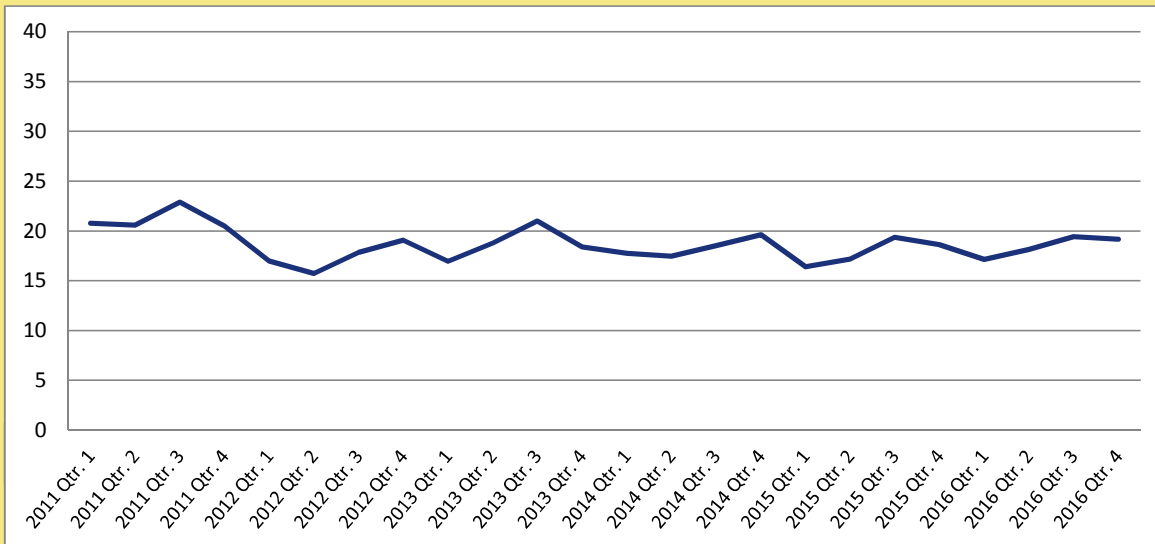


MAX Light Rail

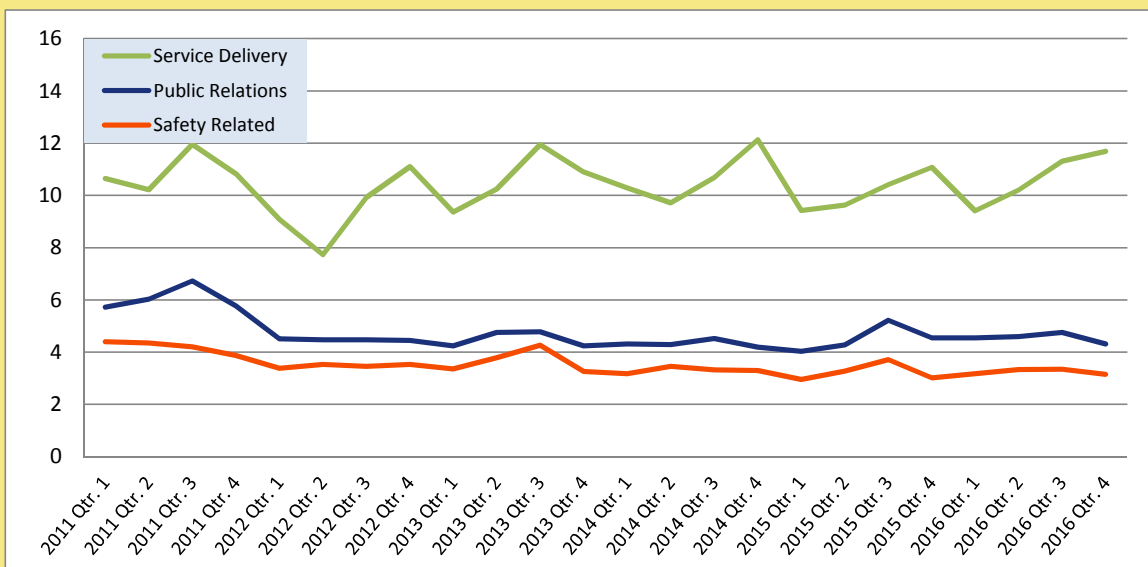
Fixed Route Bus Complaints Per 100,000 Boarding Rides

	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 3</u>	<u>2015 Qtr. 4</u>	<u>2016 - 2015</u> <u>Percent Change</u>
Total	19.2	19.4	18.6	2.9%
Service Delivery	11.7	11.3	11.1	5.6%
Public Relations	4.3	4.8	4.5	-5.0%
Safety Related	3.2	3.3	3.0	4.8%

Total Operator Complaints Per 100,000 Boarding Rides



Type of Operator Complaints Per 100,000 Boarding Rides

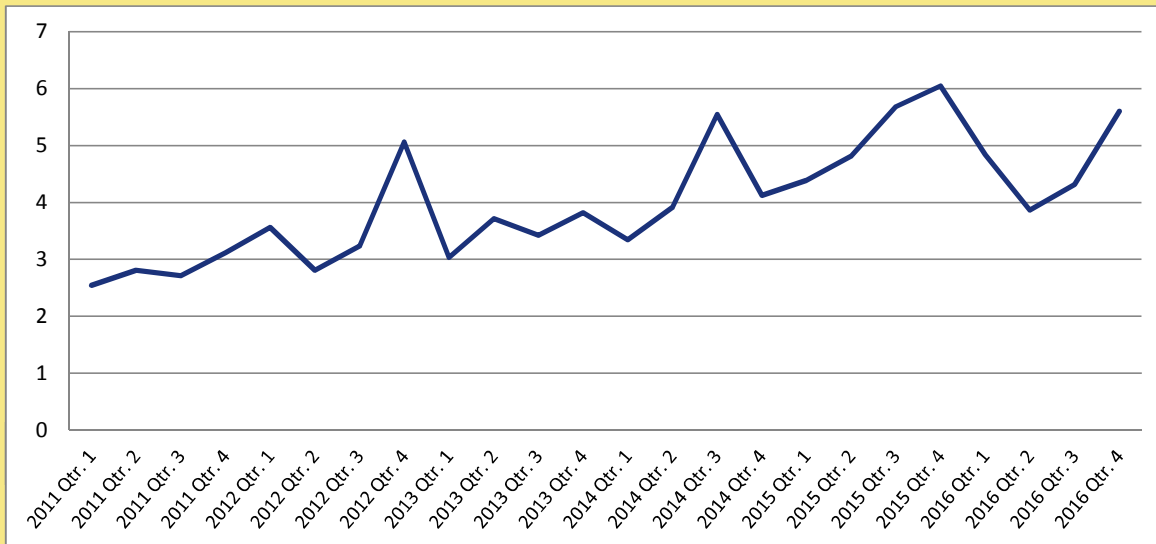


Fixed Route Bus

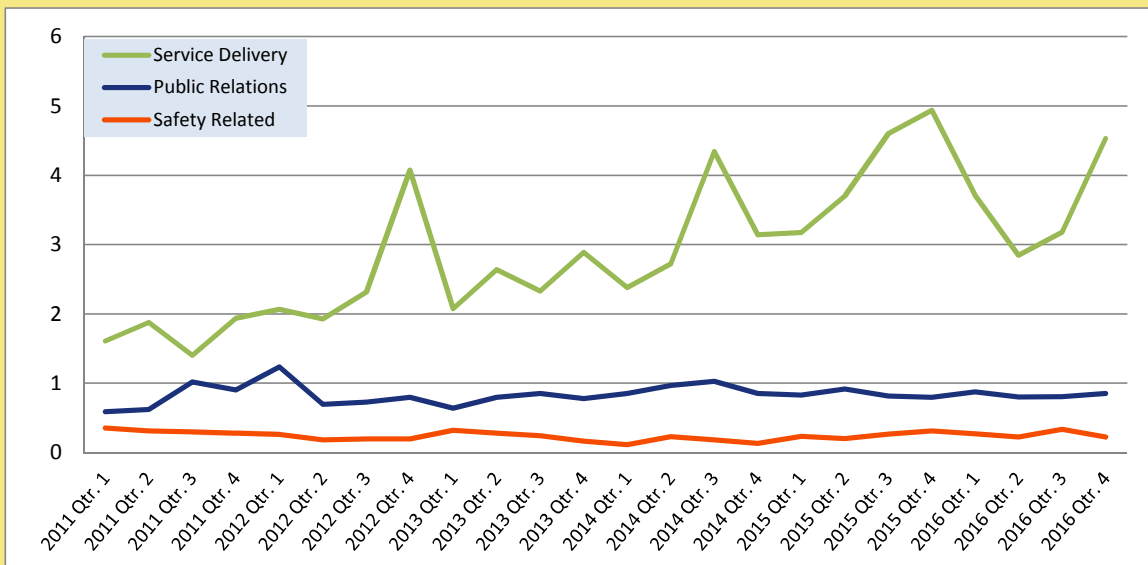
MAX Light Rail Complaints Per 100,000 Boarding Rides

	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 3</u>	<u>2015 Qtr. 4</u>	<u>2016 - 2015</u> <u>Percent Change</u>
Total	5.6	4.3	6.0	-7.3%
Service Delivery	4.5	3.2	4.9	-8.2%
Public Relations	0.9	0.8	0.8	7.0%
Safety Related	0.2	0.3	0.3	0.0%

Total Operator Complaints Per 100,000 Boarding Rides



Type of Operator Complaints Per 100,000 Boarding Rides

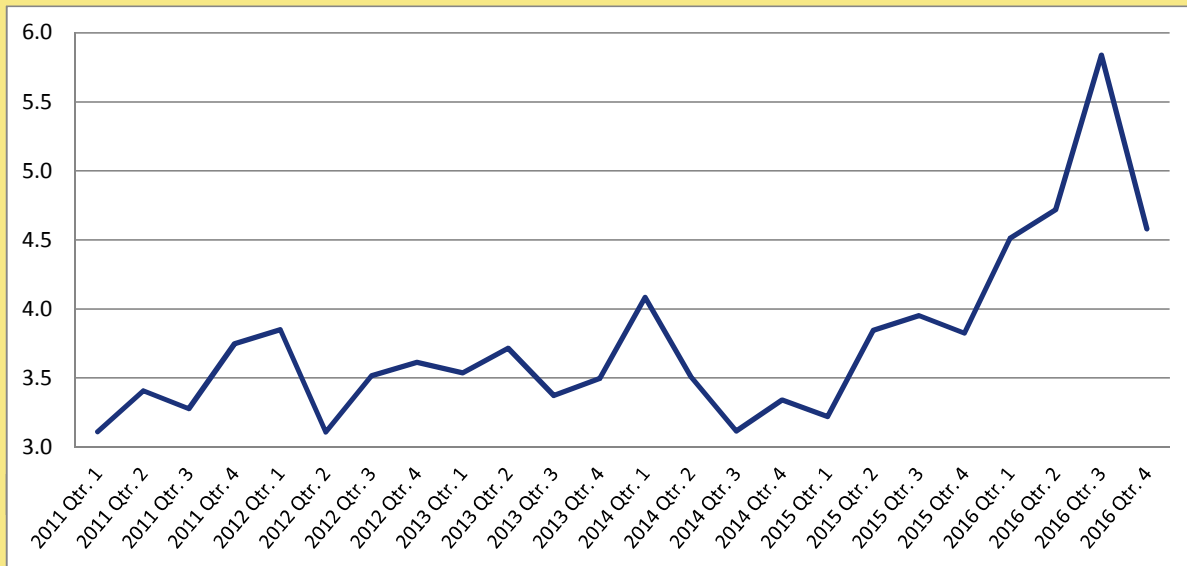


MAX Light Rail

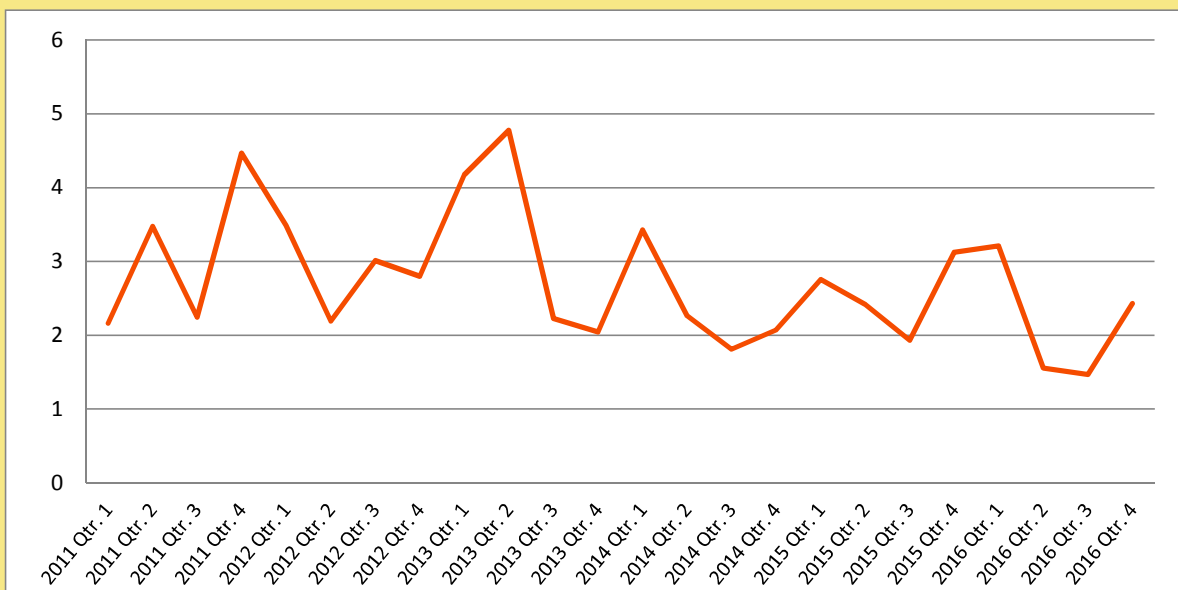
Fixed Route Bus and MAX Light Rail Commendations

	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 3</u>	<u>2015 Qtr. 4</u>	<u>2016 - 2015 Percent Change</u>
Fixed Route Bus Per 100,000 Boardings	4.6	5.8	3.8	19.8%
MAX Light Rail Per Million Boardings	2.4	1.5	3.1	-22.1%

Total Bus Operator Commendations Per 100,000 Boarding Rides



Total MAX Light Rail Commendations Per Million Boarding Rides



TriMet Bus and MAX Commendations